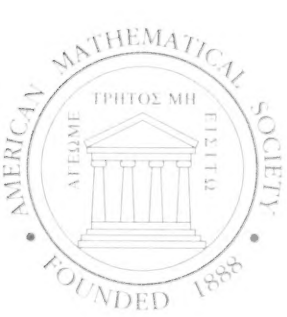

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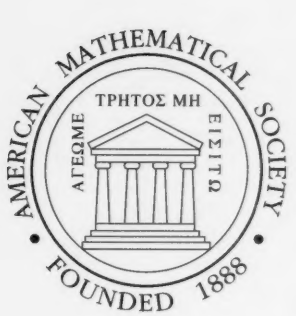

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Index of Mathematical Papers **Volume 31**
American Mathematical Society
Providence, Rhode Island USA
ISSN 0025-5629

Mathematical Reviews

Published by

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Typeset in TEX. *Printed by Cushing-Malloy, Inc., Ann Arbor, MI, USA.*
ISSN 0025-5629 ISBN 0-8218-2125-3
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PREFACE

This annual index of Mathematical Reviews (MR) is included with each subscription and is also available separately. It is also called Volume 31 of the Index of Mathematical Papers (IMP). Volumes 6–9 of IMP are the annual indexes of MR for the years 1974–77 and are available as a set. The 1978 annual index was the first to be included with each subscription. There are cumulative author indexes to MR that cover 1940–59 (Vols. 1–20), 1960–64 (Vols. 21–28) and 1965–72 (Vols. 29–44), subject indexes for 1940–58 (Vols. 1–19) and 1959–72 (Vols. 20–44), and author and subject indexes for 1973–79 (Vols. 45–58) and 1980–84.

The classification scheme used in the present index is the 1991 Mathematics Subject Classification (MSC). Starting in January 2000, a new version of this scheme, MSC2000, will be used in MR. A copy of the MSC2000 is printed in the back of the subject portion of this index.

The entries in the author, key and subject indexes are comprised of all items reviewed in MR during a given year and some items which will not be reviewed by MR but which have appeared in Current Mathematical Publications (CMP). A star (★) preceding a title indicates a book or other item that is reviewed as a whole. The symbol Ⓥ preceding a title indicates that the item is a videocassette.

Author index; separate key index

The entries in the author and key indexes give full bibliographic information. These entries are accompanied by review numbers {if available} and classification numbers; secondary classification numbers are given in parentheses. Entries are listed alphabetically by author; entries having several authors are listed in full under each author. Surnames consisting of more than one part (e.g., de Lucia, van der Vaart) are listed under the first capital letter. Collections of papers, proceedings, bibliographies, tables, etc. that are edited rather than authored are listed in the key index by title and by "key entry". For example, the publication entitled *Applied analysis* is listed under **Applied analysis** and is also listed under **Conference: Applied Analysis** and under the location of the conference. Some monographic series (e.g., Lecture Notes in Mathematics) have entries under the series title in this index.

Arrangement of entries in the author and key indexes

For a given heading (i.e., the primary name of an author, or a title), full entries are listed in order of nominal publication dates; the cross-references are in MR number order after the full entries. The arrangement of each entry is the same as in the heading of its review in MR. The general form for entries is as follows:

Books, Monographs. (Coauthors {if necessary}) ★Title. (Language of original {if necessary}. Summary languages {if necessary}) [English translation of title {if necessary}] Miscellaneous information {edition, editors, translators, series, etc.}. Publisher, city, date. Pagination. ISBN. (Reviewer's name) Review number {if available} Primary classification (Secondary classifications {if necessary}).

Journal article. (Coauthors {if necessary}) Title of article {in English translation if the original title is not in English, French or German}. (Language of original {if necessary}. Summary languages {if necessary}) [English translation of title {if necessary}] Journal abbreviation {including series number if necessary} Volume number(volume number in first series {if given}) (nominal date), issue number {if necessary}, pagination (imprint date {if necessary}). (Reviewer's name) Review number {if available} Primary classification (Secondary classifications {if necessary}).

The first three digits of the review number of an item refer to the MR issue in which the review is published and the last five digits refer to its position within that issue. The first two digits after the colon are the general subject classification of the item.

The phrase "EA 99m" after an MR number indicates that an MR erratum or addendum to the review appears at the end of the 99m issue.

Subject index

The entries in the subject index are arranged in classification order. For a given classification, all entries with that classification as a primary appear first, with authored entries appearing before unauthored entries. These are followed by entries with that classification as a secondary. Again, authored entries appear before unauthored entries. Each section under a given classification is arranged in alphabetical order. For each entry, the author(s), title, language, translated title {if necessary} and the review number {if available} appear at the first author only. The entries for subsequent authors are cross-references to the first author. Complete bibliographic information is available in the annual author and key indexes as well as in the MR review.

Cross-references

There are four kinds of cross-references in these indexes:

Name variations. An author's preferred name is the variation of the name that MR has chosen on the basis of frequency and currency of usage. Items by a given author are usually listed under the author's preferred name. In the author index, cross-references to the preferred form are given from sufficiently distinct alternative forms of the author's name.

Authors in other capacities. In the author index, the names of persons associated with an item in a capacity other than that of author (e.g., editor, translator, subject of a biography, etc.) are also listed. In the subject index, such names appear in parentheses. In both indexes these items occur only as cross-references to complete listings.

Key entries. Cross-references for such entries as bibliographies, obituaries and references to special events are made to the authors of the papers in which these items appear, e.g. **Bibliography: Atkin, A. O. L.** *see* **Birch, Bryan J., 99c:11002**.

Unreviewed entries. Some entries in these indexes have not been reviewed in MR (e.g., items that do not appear to be in final form, or that are at the fringes of MR's scope) although they have been listed in CMP. Unreviewed items appear in the author, key and subject indexes in a format similar to that of reviewed items. For unreviewed items that are part of a collection, the review number in parentheses is a cross-reference to the table-of-contents review, i.e. (see 99x:xxxxx) or (99x:xxxxx). For unreviewed items that are not part of a collection, there is no review number cross-reference.

Transliteration

Since 1983, MR has used the Cyrillic transliteration in use by ANSI, LC, Zbl ISI, and others. This is also the system used throughout this index. A Cyrillic transliteration table appears at the end of the author/key index.

Names of Chinese authors

The name of a Chinese author appears in the index in Western form. For example, Chen Wei Tian will be listed as Chen, Wei Tian, as though the author's name were Wei Tian Chen. The pinyin transliteration is used for mainland Chinese authors and the Wade-Giles transliteration is used for Taiwanese authors.

In an undertaking of this size, errors are inevitable, despite elaborate precautions and checks. The editors of Mathematical Reviews would be very glad to have their attention drawn to errors in this index and also in the earlier indexes.

Note: The annual index no longer includes a listing of the institution codes used in MR issues and in CMP (or of the associated addresses). A complete, searchable list is available on e-MATH, the AMS web site (http://www.ams.org/instcode/).

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— (*with* Fokkink, Robbert J.; Vermeer, Johannes) Coincidence theorems for involutions. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 3–8. (Zbigniew Karno) **99d:55001** 55M20 (54F45, 54H25, 55M10, 55M30)

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— Comportement asymptotique des solutions d'un système conservatif associé à une équation non linéaire singulière de Schrödinger. (English summary) [Asymptotic behavior of the solutions of a conservative system associated with a singular nonlinear Schrödinger equation] *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, 675–686. (Gianni Arioli) **99k:35029** 35J10 (35B40)

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— On a quasilinear wave equation with strong damping. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 67–78. (Mitsuhiro Nakao) **99g:35082** 35L70 (34G20, 35B35)

— Global existence and energy decay for a damped quasi-linear wave equation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1185–1194. (A. V. Perzhan) **99h:35134** 35L70 (35B40)

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— Asymptotic stability and decay rate of solutions for a nonlinear wave equation with variable coefficients. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 185–195. (Vladimir Georgiev) **99m:35158** 35L70 (35B45)

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— (*with* Barkve, T.; Bøe, Ø.; Mannseth, T.) Discretization on unstructured grids for inhomogeneous, anisotropic media. II. Discussion and numerical results. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1717–1736 (*electronic*). (Andrei I. Tolstykh) **99f:65139** 65M60 (76M25)

Abad, A. (*with* Elipe Sánchez, Antonio C.; Palacián, J.; San Juan, J. F.) ATESAT: a symbolic processor for artificial satellite theory. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 497–510. (Summary) **99a:70003** 70–08 (70–04, 70F15)

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vázquez-Abad, Felisa J. *see* **Vázquez-Abad, Felisa J.**

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Abad, Julio (*with* Sesma, Javier) Buchholz polynomials: a family of polynomials relating solutions of confluent hypergeometric and Bessel equations. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 237–241. (Summary) **99j:33007** 33C15 (26C05, 33C10)

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— (*with* Monteiro, Luiz F.; Savini, Sonia; Sewald, Julio) Finite free generating sets. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 177–189. (S. Comer) **99i:08004** 08B20 (03Gxx, 06D25, 06D30)

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Abadi, Martín (*with* Gordon, Andrew D.) Reasoning about cryptographic protocols in the spi calculus. (English summary) *CONCUR '97: concurrency theory (Warsaw)*, 59–73, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **99d:94020** 94A60 (68Q60)

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— (*with* Fournet, Cédric; Gonthier, Georges) Secure implementation of channel abstractions. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 105–116, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (94A60)

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Abalakin, I. V. (*with* Chetverushkin, B. N.) Kinetically consistent difference schemes as a model for describing flows of moderately rarefied gases. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 5, 61–70. 76M20 (76N15, 76P05)

Abalo, Koffi E. (*with* Niango, Donatien N.) Residual division, primary decompostion and filtrations. Application to Dedekind domains. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 811–820. (L. J. Ratliff, Jr.) **99m:13002** 13A15 (13F05)

Aban, Inmaculada B. (*with* Peña, Edsel A.) Ancillarity properties of generalized residuals with applications in failure time models. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 31–49. (Ramesh C. Gupta) **99j:62100** 62J12 (62N05)

Abanin, A. V. (*with* Tishchenko, E. S.) Spaces of ultra-differentiable functions, and a generalization of the Paley-Wiener-Schwartz theorem. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 5–8, 88. 46E10 (46F05)

Aban'kin, A. E. Method of H-hyperdifferential descent. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 50–55, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30

Abanov, A. G. (*with* Talstra, J. C.; Wiegmann, P. B.) Hierarchical structure of Azbel-Hofstadter problem: strings and loose ends of Bethe ansatz. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 571–596. (Rinat M. Kashaev) **99h:82020** 82B23 (81R50)

Abarbanel, Joseph On the Schur multiplier of augmented algebras. (English summary) *Israel J. Math.* **105** (1998), 197–202. (Summary) **99f:16012** 16E30 (16S15)

— (*with* Rosset, Shmuel) Some non-finitely presented Lie algebras. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 105–112. (Yun Gao) **99c:17034** 17B55

Abarbanel, Saul (*with* Gottlieb, David) On the construction and analysis of absorbing layers in CEM. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 331–340. (Summary) **99g:78016** 78A40

Abarzhi, S. I. Nonlinear three-dimensional Rayleigh-Taylor instability. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1729–1735. (Summary) **99j:76039** 76E15

Abascal, Ramón (*with* Chirino, Francisco) Dynamic and static analysis of cracks using the hypersingular formulation of the boundary element method. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 2, 365–388. (Summary) **99d:73094** 73V10 (73M25)

Abasov, R. F. (*with* Mamedov, I. T.) Boundary properties of solutions of elliptic equations in domains with special symmetry. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. S.r. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 126–134. (Vladimir Tulovsky) **99m:35084** 35J67 (35J25)

Abatangelo, Vito (*with* Korchmáros, Gábor) A generalization of a theorem of B. Segre on regular points with respect to an ellipse of an affine Galois plane. (Italian. English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 87–102. (J. W. P. Hirschfeld) **99g:51007** 51E21

Abate, J. (*with* Whitt, Ward) Calculating transient characteristics of the Erlang loss model by numerical transform inversion. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 663–680. (Summary) **99a:60097** 60K25 (90B22)

Abate, Marco (*with* Patrizio, Giorgio) Isometries of the Teichmüller metric. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 437–452. (James J. Faran, V) **99k:32036** 32G15 (32H15)

— The Julia-Wolff-Carathéodory theorem in polydisks. (English summary) *J. Anal. Math.* **74** (1998), 275–306. (Marek Jarnicki) **99e:32041** 32H40

— (*with* Patrizio, Giorgio) Convex-like properties of the Teichmüller metric. (English summary) *Complex geometric analysis in Pohang* (1997), 149–159, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (James J. Faran, V) **99k:32035** 32G15 (32H15)

— (*with* Tauraso, Roberto) The Julia-Wolff-Carathéodory theorem(s). (English summary) *Complex geometric analysis in Pohang* (1997), 161–172, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Steven George Krantz) **99i:32008** 32A40 (32A10, 32A30)

el Abbadi, Amr *see* **El Abbadi, Amr**

Abbaoui, K. (*with* Cherruault, Yves) The decomposition method applied to the Cauchy problem. (English summary) *Kybernetes* **28** (1999), *no.* 1, 68–74. 65L05 (34A45)

Abbas, Afsar Casimir operators of the quantum groups. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 65–72. (*see* **99b:00017**) 81R50

Abbas, Moncef (*with* Moulaï, Mustapha) Penalties method for integer linear fractional programs. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 4, 41–51 (1999). 90C10 (90C32)

Abbas, Nesrine (*with* Stewart, Lorna) Clustering bipartite and chordal graphs: complexity, sequential and parallel algorithms. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 1–23. (Summary) **99j:68097** 68R10 (05C85, 68Q25)

Abbas, Salman Hassan (*with* Bajpai, S. D.) An orthogonal type property of the Laguerre polynomials and computation of special functions. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 1–6. (Summary) **99e:33004** 33C45

— A parallel algorithm for ordinary differential equations. (English summary) *Proc. Pakistan Acad. Sci.* **33** (1996), *no.* 3-4, 159–163. 65L06 (65Y05)

— Derivation of new block methods for the numerical solution of first-order IVP's. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 235–244. (Summary) **99d:65200** 65L05 (65Y05)

Abbasbandy, S. (*with* Babolian, E.) An augmented Galerkin method for singular integral equations with Hilbert kernel. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 1–8, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 65R20 (45E05, 45L05)

— (*with* Babolian, E.) An augmented Galerkin method for singular integral equations with Hilbert kernel. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 60–64. 65R20 (45E05, 45L05)

— (*with* Babolian, E.) Interpolation of fuzzy data by natural splines. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 457–463. 65D07 (90C70)

Abbasi, G. Q. Certain metabelian nilpotent Lie algebras of maximal class. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 1–9. (Dietrich Burde) **99c:17017** 17B30

— Central decompositions of finite p-groups with abelian second centre and the centre of order p. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 11–20. (Sergey P. Strunkov) **99b:20049** 20E22

Abbes, Ahmed Hauteurs et discrétude (d'après L. Szpiro, E. Ullmo et S. Zhang). (French summary) [Heights and discreteness (after L. Szpiro, E. Ullmo and S. Zhang)] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 825, 4, 141–166. (Antoine Chambert-Loir) **99h:14029** 14G40 (11G35)

— (*with* Ullmo, Emmanuel) Auto-intersection du dualisant relatif des courbes modulaires $X_0(N)$. [Self-intersection of the relative dualizing sheaf of the modular curves $X_0(N)$] *J. Reine Angew. Math.* **484** (1997), 1–70. (Carlo Gasbarri) **99e:11077; EA 99m** 11G18 (11G30, 11G35, 14G40)

Abbey, C. K. (*with* Denny, J. L.) Partial sums of orthonormal bases preserving positivity—and martingales. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 151–157. (Summary) **99f:42056** 42C10 (60G46)

Abbondandolo, Alberto On the homotopy type of VMO. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 431–436. (Yi Hong Du) **99b:58038** 58D15 (46E35, 46M20)

— A new cohomology for the Morse theory of strongly indefinite functionals on Hilbert spaces. (English summary) *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 325–382. (Wojciech Kryszewski) **99f:58033** 58E05 (55N20)

Abbott, H. L. (*with* Hare, Donovan R.) Square critically 3-chromatic hypergraphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 3–13. (Summary) **99i:05150** 05C65 (05C15)

Abboud, Elias Exploring the structure of a finite group given an equation in its irreducible characters. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 189–196. (Jürgen Ritter) **99f:20011** 20C15

ben Abda, Amel *see* **Ben Abda, Amel**

Abd Al-Kader, G. M. (*with* Obada, A.-S. F.) Squeezed states and nondiagonal P-representation. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2207–2232. (Günter Braunss) **99k:81148** 81S30 (81R30)

— (*with* Obada, A.-S. F.) Linear amplifier and quasiprobability distribution functions for the squeezed displaced Fock states. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2233–2260. (Günter Braunss) **99k:81149** 81S30 (81R30)

Abd-Alla, A. M. Propagation of Rayleigh waves in an elastic half-space of orthotropic material. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 1, 61–69. (Summary) **99i:73030** 73D15 (73B40)

— On a generalized thermoelastic interaction in an unbounded body due to a line heat source. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 285–295. (Summary) **99k:73016** 73B30

Abdalla, M. Sebawe (*with* Ahmed, M. M. A.; Al-Homidan, Suliman) Quantum statistics of three modes coupled oscillators. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3117–3139. (K. Wódkiewicz) **99b:81293** 81V80

— (*with* Ahmed, M. M. A.; Al-Homidan, Suliman) Corrigenda: "Quantum statistics of three modes coupled oscillators" [J. Phys. A. **31** (1998), no. 14, 3117–3139; MR 99b:81293]. *J. Phys. A* **31** (1998), *no.* 41, 8405. 81V80

— (*with* Bashir, M. A.) Lie algebra treatment of three coupled oscillators. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 2, 415–423. (Summary) **99b:81294** 81V80 (81R05)

Abd-Alla, M. Z. (*with* El-Adawy, T. M.) Note on the essential maximal numerical range. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 23–30. (John Duncan) **99a:47009** 47A12

Abd-Allah, A. M. (*with* Al-Hajri, N. A.) Partial modules. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 31–55. (H.-J. Hoehnke) **99h:16005** 16D90 (08A05, 08A55, 20M18)

— (*with* Al-Hajri, N. A.) Direct product and direct sum of partial modules and free partial modules. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 65–79. (Robert Wisbauer) **99k:16003** 16D10

Abd-Allah, A. S. (*with* Gähler, Werner; Kandil, Ali) Extended fuzzy topologies. I. On fuzzy stacks. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 223–261. (Summary) **99a:54006** 54A40

— (*with* Gähler, Werner; Kandil, Ali) Extended fuzzy topologies. II. Characterizing notions. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 539–574. 54A40

— (*with* Gähler, Werner; Kandil, Ali) Extended fuzzy topologies. III. Closedness and compactness. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 575–608. 54A40

— (*with* Kandil, Ali; Nouh, A. A.) Operations and its applications on L-fuzzy bitopological spaces. I. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 255–274. 54A40 (54E55)

Abdallah, Chaouki T. (*with* Smith, Bradley J.; Heileman, Gregory L.) The exponential hash function. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 18 *pp.* (*electronic*). 68P10 (68P25)

— (*with* Dorato, Peter; Yang, Wei[2]) Robust multi-objective feedback design by quantifier elimination. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 153–159. (Summary) **99h:93049** 93B50 (68Q40, 90C29, 93D09)

— (*with* Haddad, Wassim M.; Kapila, Vikram) Stabilization of linear and nonlinear systems with time delay. (English summary) *Stability and control of time-delay systems*, 205–217, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

— (*with* Haddad, Wassim M.; Fausz, Jerry L.; Chellaboina, Vijaya-Sekhar) A unification between nonlinear-nonquadratic optimal control and integrator backstepping. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 879–906. (Emmanuel Delaleau) **99f:93039** 93B35 (93C10, 93D22)

— (*with* Haddad, Wassim M.; Chellaboina, Vijaya-Sekhar; Fausz, Jerry L.) Optimal discrete-time control for non-linear cascade systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 827–839. (Vũ Ngọc Phát) **99c:93071** 93C55 (93D21)

ben Abdallah, Naoufel *see* **Ben Abdallah, Naoufel**

ben Abdelaziz, F. *see* **Ben Abdelaziz, F.**

Abdel-Aziz, Mohammedi R. (*with* El-Sayed, Salah M.) Sensitivity analysis of the largest dependent eigenvalue functions of eigensystems. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 103–110. (F. Szidarovszky) **99m:65065** 65F15 (65G05)

— Solving constrained least squares problems parametrically. (English summary) *Far East J. Math. Sci. (FJMS)* **1** (1999), *no.* 1, 79–94. 90C20 (65K05)

Abd El-Baky, Rashad A. The relation among Darboux vectors of ruled surfaces in a line congruence. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 201–211 (1998). (V. Oproiu) **99d:53013** 53A25

— Ruled surfaces with constant breadth. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 149–155. (Basil J. Papantoniou) **99i:53006** 53A25 (53A05)

Abdelbar, Ashraf M. (*with* Hedetniemi, Sandra M.) Approximating MAPs for belief networks is NP-hard and other theorems. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 21–38. (Summary) **99i:68057** 68Q25 (68T30)

— An algorithm for finding MAPs for belief networks through cost-based abduction. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 331–338. (Summary) **99h:68158** 68T27 (68T30)

Abd-El-Barr, Mostafa I. (*with* Abd-El-Barr, Muhammad M.) A frontier algorithm for optimization of multiple-valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 245–249, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Abd-El-Barr, Muhammad M. (*with* Abd-El-Barr, Mostafa I.) A frontier algorithm for optimization of multiple-valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 245–249, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Abd È\u2032-Dzhafar, A. (*with* Kasymov, K. A.) Asymptotic solution of the Cauchy problem for singularly perturbed third-order differential equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1998**, *no.* 1, 13–21. 34E05 (34A12, 34E15)

Abdelfattah, Haily *see* **Haily, Abdelfattah**

Abdel-Gawad, H. I. An approach to solutions of systems of linear partial differential equations with applications. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 13–27. (Summary) **99e:35019** 35C99 (35A25, 86A20)

Abd El-Ghaffar, F. S. Stability in possibilistic fuzzy multiobjective programming problems. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 35–41. 90C70 (90C29)

Abdel-Ghaffar, Khaled A. S. (*with* El Abbadi, Amr) Optimal allocation of two-dimensional data (extended abstract). (English summary) *Database theory—ICDT '97 (Delphi)*, 409–418, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68P20)

— (*with* Ytrehus, Øyvind) Difference set codes: codes with squared Euclidean distance of six for partial response channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1593–1602. (Alexander M. Barg) **99m:94060** 94B60

— Long division for Laurent series matrices and the optimal assignment problem. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 189–197. (L. Berg) **99e:15022** 15A33 (41A58)

ben Abdelghani, Leila *see* **Ben Abdelghani, Leila**

Abd El-Hakeim, K. M. Fuzzy less strongly sets and fuzzy less strong semicontinuity in fuzzy bitopological spaces. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 187–202. 54A40

Abdel-Hameed, H. F. (*with* Abd-Eltwab, Y. A.) Curvature inheritance property in the homogeneous Gödel-type space-times. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 191–202. (Alicia M. Sintes) **99j:83018** 83C20 (83C15)

Abdel-Hameed, Mohamed S. (*with* Al-Mutairi, Dhaifalla K.; Al-Khamis, Talal M.) A Bayesian analysis of layered defense systems. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 449–457. (Bruno Betrò) **99c:62063** 62F15 (60J20)

Abdelkarim, F. (*with* Maroni, Pascal) The D_ω-classical orthogonal polynomials. (English summary) *Results Math.* **32** (1997), *no.* 1-2, 1–28. (R. A. Askey) **99b:33009** 33C45

Abdel-Khalek, Khaled Octonions and super-Lie algebra. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 223–231. (S. C. Althoen) **99a:81050** 81R05 (17A35, 17B81)

— (*with* De Leo, Stefano) Toward an octonionic world. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 1945–1985. (Waldyr Alves Rodrigues, Jr.) **99m:81103** 81R99 (81R05)

Abdellaoui, Taoufiq Optimal solution of a Monge-Kantorovitch transportation problem. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 149–161. (Juan A. Cuesta-Albertos) **99k:60030** 60E05 (60B11)

Abdelli, Hashem Bivariate interpolation of extension modified Akima procedure. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 151–161. (Summary) **99a:65028** 65D25

Abd-el-Malek, Mina B. (*with* Boutros, Y. Z.; El-Awadi, I. A.; El-Mansi, S. M. A.) Group method analysis of the potential equation in triangular regions. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 418–428, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35A30 (80A20)

— Application of the group-theoretical method to physical problems. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 314–330. (Summary) **99d:35012** 35A30 (76D10, 76M99, 80A99)

— (*with* Boutros, Y. Z.; El-Awadi, I. A.; El-Mansi, S. M. A.) Group method for temperature analysis of thermally stagnant lakes. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 131–144. (Summary) **99h:86004** 86A05 (86–08)

Abdel-Megied, M. (*with* Buchner, Klaus; Gad, R. M. M.) Topologie und Verklebung singulärer Raum-Zeiten. (English summary) [Topology and glueing of singular space-times] *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 57–68, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Wiesław Sasin) **99a:58006** 58A40 (83C99)

Abd El-Monsef, M. E. (*with* Kozae, A. M.; Abo Khadra, A. A.) Co-s-closed topologies. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 1–4. 54A10 (54C10, 54D10)

Abdel-Mottaleb, N. (*with* Beltagy, M.) On deformations product. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 143–152 (1998). (Summary) **99e:53017** 53B20

Abdelrahman, M. A. (*with* Moore, Kevin L.; Naidu, D. S.) Gas metal arc welding control. II. Control strategy. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 85–93. 93C95 (93C20)

Abd-El-Reheem, Zaki F. The inverse scattering problem for some singular Sturm-Liouville operator. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 233–246. (Carol Shubin) **99e:34123** 34L25 (34A55)

Abd-Eltwab, Y. A. (*with* Abdel-Hameed, H. F.) Curvature inheritance property in the homogeneous Gödel-type space-times. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 191–202. (Alicia M. Sintes) **99j:83018** 83C20 (83C15)

Abdennadher, Slim (*with* Schütz, Heribert) Model generation with existentially quantified variables and constraints. (English summary) *Algebraic and logic programming (Southampton, 1997)*, 256–272, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68T15 (03B10, 03B35)

Abdesselam, Abdelouahed (*with* Tahiri, M.) Generalized connection formalism and BRST cohomology structure for *BF* theories. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 23, 1837–1844. (Summary) **99d:81165** 81T70

Abdesselam, Boucif (*with* Katriel, Jacob; Chakrabarti, Amitabha[1]) On the fundamental invariant of the Hecke algebra $H_n(q)$. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 182–189, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 20C99

— (*with* Arnaudon, Daniel; Chakrabarti, Amitabha[1]) Non-minimal q-deformations and orthogonal symmetries: $\mathcal{U}_q(\mathrm{SO}(5))$ example. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 361–369, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81R50 (17B37)

— The twisted Heisenberg algebra $\mathcal{U}_{h,w}(\mathcal{H}(4))$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6045–6060. (Peter Prešnajder) **99e:81089** 81R50 (17B37)

— (*with* Arnaudon, Daniel; Bauer, Michel) Centre and representations of $\mathcal{U}_q(\mathrm{sl}(2|1))$ at roots of unity. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 867–880. (Summary) **99c:17022** 17B37 (81R50)

— (*with* Chakrabarti, Amitabha[1]; Chakrabarti, Ranabir) Towards a general construction of nonstandard R_h-matrices as contraction limits of R_q-matrices: the $\mathcal{U}_h(\mathrm{sl}(N))$ algebra case. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 779–790. (Roberto Casalbuoni) **99f:81087** 81R50 (17B37)

Abdikalikova, G. A. On an almost periodic solution of a system of quasilinear parabolic equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 3–7. (Alexander A. Pankov) **99e:35094** 35K55 (35B15)

Abdinazarov, S. On fundamental solutions of a nonclassical equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 3–9. 35A08 (35G05)

— (*with* Khashimov, A. R.) A nonlocal problem for a third-order equation with multiple characteristics. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1998), 3–7. 35K20

Abdiraham Global asymptotic stability of a periodic four-species Lotka-Volterra predator-prey model. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 43–48. 92D25 (34D20, 92D40)

Abdirishit, Abduwali *see* **Abduwaili, Abduwaili**

Abdollahi, A. The maximal ideal space of analytic Lipschitz algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 347–352. (Pamela Gorkin) **99d:46072** 46J15 (46J20)

Abdou, M. A. (*with* Mahmoud, S. A.; Darwish, M. A.) A numerical method for solving the Fredholm integral equation of the second kind. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 251–258. (Jose Cuminato) **99h:65211** 65R20 (45L05)

Abdoulaev, Gassan *see* **Abdulaev, G. S.**

Abdous, Belkacem (*with* Theodorescu, Radu) Mean, median, mode. IV. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 3, 356–359. (Summary) **99k:62031** 62E15

— L_2 version of the double kernel method. (English summary) *Statistics* **32** (1999), *no.* 3, 249–266. (Summary) **99k:62067** 62G05

Abdrakhmanov, M. A. On ε-regularization of the Cauchy problem and a half-space problem for a pseudo-parabolic equation in Sobolev classes. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 486–494, 573; *translation in Differential Equations* **34** (1998), *no.* 4, 484–492. (Summary) **99k:35105** 35K70 (35B25)

Abdukhalikov, K. S. (*with* Kim, Chul) Fuzzy multilinear mappings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 861–871. 15A99

Abdulaev, G. S. (*with* Achdou, Yves; Hontand, Jean-Claude; Kuznetsov, Yuriĭ Alekseevich[1]; Pironneau, Olivier; Prud'homme, Christophe) Nonmatching grids for fluids. *Domain decomposition methods, 10 (Boulder, CO, 1997)*, 3–22, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76103** 76M25 (65M50, 65N50)

Abdulhadi, Zayid (*with* Hengartner, Walter) Canonical point mappings in $H\overline{H}$. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 239–242. (William Ma) **99a:30011** 30C35

Abdulkadiroğlu, Atila (*with* Sönmez, Tayfun) Random serial dictatorship and the core from random endowments in house allocation problems. *Econometrica* **66** (1998), *no.* 3, 689–701. 90A06

Abdulla, Ugur G. Local structure of solutions of the Dirichlet problem for N-dimensional reaction-diffusion equations in bounded domains. (English summary) *Adv. Differential Equations* **4** (1999), *no.* 2, 197–224. (Summary) **99j:35100** 35K57

Abdullaev, A. A. On a control problem described by a system of integral equations of Volterra type. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 46–49 (1997). 49K22

Abdullaev, A. G. Weak convergence of an empirical process with a random sample size. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 3–7 (1996). 60F05

Abdullaev, B. I. (*with* Imomkulov, S. A.) Removable singularities of subharmonic functions in the classes L_p and L_p^1. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 10–14. (A. È. Djrbashian) **99j:31005** 31B05

Abdullaev, F. G. Approximation properties of generalized Bieberbach polynomials with a piecewise quasiconformal boundary. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 19–23. (D. M. Israfilov) **99b:30025** 30C62 (41A10)

Abdullaev, I. Z. (*with* Gbekha, M. V.) Lie ideals of real von Neumann algebras. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 3–9 (1997). (Cho Ho Chu) **99g:46099** 46L70 (46L10)

Abdullaev, R. Z. Classification of non-commutative Arens algebras associated with semi-finite traces. *Algebra and operator theory* (*Tashkent*, 1997), 177–181, *Kluwer Acad. Publ., Dordrecht*, 1998. (Camillo Trapani) **99j:46089** 46L89 (46K05)

— (*with* Chilin, V. I.) Arens algebras, associated with commutative von Neumann algebras. *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 1–12. (Camillo Trapani) **99g:46074** 46L05 (46J05)

— A criterion for the isomorphy of noncommutative Arens algebras. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 91–93. (Dimitri Y. Shlyakhtenko) **99m:46149** 46L50 (46L10)

Abdullaev, Ugur G. (*with* Savurbaev, A. S.) On the regularity of relaxation perturbations in nonstationary filtration theory. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaidzhana* **51(52)** (1995/96), *no.* 1-12, 33–36 (1997). 76S05 (35Q35)

— Local structure of solutions of the reaction-diffusion equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3153–3163. (Summary) **99a:35127** 35K57

— Instantaneous shrinking and exact local estimations of solutions in nonlinear diffusion absorption. *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 483–503. (Qi Xiao Ye) **99e:35103** 35K57 (35B40, 35R35)

— Instantaneous shrinking of the support of a solution of a nonlinear degenerate parabolic equation. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 323–331; *translation in Math. Notes* **63** (1998), *no.* 3-4, 285–292. (From the text) **99c:35086** 35K10 (35B45)

Abdullaev, Zh. I. On the multiplicity of the eigenvalues of the generalized Friedrichs model. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 3–10. (A. G. Baskakov) **99g:47045** 47B25 (47A10)

Abdullah, A. A. (*with* Hassanien, I. A.; Gorla, R. S. R.) Flow and heat transfer in a power-law fluid over a nonisothermal stretching sheet. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 105–116. 76D10 (80A20)

Abdullah, R. (*with* Evans, David John[1]) Communication analysis of the PIE and QIF algorithms on distributed memory architecture. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 293–313. (Summary) **99m:65056** 65F10 (65Y05, 68Q22)

— (*with* Evans, David John[1]) The computational complexity of the quadrant interlocking (QI) iterative methods on shared memory parallel computers. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 391–410. 65F10 (65Y05)

— (*with* Evans, David John[1]) The parallel QZ decomposition method for solving linear equations. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 441–460. 65F10 (65Y05)

Abdullin, R. Z. Stability of difference equations with impulse actions at moments of time that depend on the vector state. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 33–43; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1092–1100. (V. G. Kurbatov) **99f:39018** 39A11 (34A37)

Abdulrab, H. (*with* Makanin, G. S.; Goralcik, P.) Functions for the general solution of parametric word equations. (English summary) *Logical foundations of computer science* (*Yaroslavl*, 1997), 189–202, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Friedrich Otto) **99c:20078** 20M05 (03D40, 68R15)

Abduragimov, È. I. Uniqueness of the positive solution of a nonlinear two-point boundary value problem, and a numerical method for its determination. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 3–7. (From the text) **99i:34031** 34B15 (34A45, 65L06)

Abdurrahman, A. (*with* Bordes, J.) Relationship between the comma theory and Witten's string field theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086003, 14 *pp.* (Summary) **99k:81208** 81T30

Abdushukurov, A. *see* **Abdushukurov, A. M.**

Abdushukurov, A. A. Approximation theorems for likelihood ratio statistics in a model of competing risks. II. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 3–11. (I. N. Volodin) **99h:62018** 62F05 (62N05)

— Nonparametric estimation of the survival function from censored data based on relative risk function. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1991–2012. (Winfried Stute) **99i:62061** 62G05 (62N05)

Abdushukurov, A. M. On a Riemann-Hilbert problem for a vector that is holomorphic in an infinite cylinder. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 500–505, 574; *translation in Differential Equations* **33** (1997), *no.* 4, 501–507. (Galina P. Lopushanska) **99d:35043** 35J55 (35Q15)

Abdussattar (*with* Dwivedi, Babita) Fluid space-times and conharmonic symmetries. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3280–3295. (Alicia M. Sintes) **99d:83020** 83C20 (83C15)

Abdykalykov, A. D. (*with* Falaleev, L. P.) Euler and Riesz means of Fourier-Chebyshev series. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 16–23. 42C10 (42A10, 42A24)

Abe, Jair Minoro Some recent applications of paraconsistent systems to AI. (English summary) Contemporary Brazilian research in logic, Part II. *Logique et Anal.* (*N.S.*) **40** (1997), *no.* 157, 83–96. (*see* **99g:03003**) 68T27 (03B53, 03B70)

— (*with* Akama, Seiki) Many-valued and annotated modal logics. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 114–119, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B45)

Abe, Kanji (*with* Yoshida, Naoki; Nishinari, Katsuhiro; Satsuma, Junkichi) Dromion can be remote-controlled. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3325–3336. (Summary) **99a:35245** 35Q55 (76M25, 76X05)

Abe, Kenichi (*with* Xu, Li; Saito, Osami) Design of practically stable *n*-dimensional feedback systems: a state-space approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 29–39. 93D09 (93B51)

— (*with* Xu, Li; Saito, Osami) *n*D control systems in a practical sense. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 907–941. (Summary) **99c:93066** 93C30 (93B50)

— (*with* Honma, Noriyasu; Sato, Mitsuo; Takeda, Hiroshi[1]) Adaptive evolution of holon networks by an autonomous decentralized method. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 43–61. (From the summary) **99a:93024** 93B30 (93A14)

— (*with* Mori, Kazuyoshi) Feedback stabilization and robustness of stabilizability over integral domains. *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 19 *pp.* (*electronic*). (Han Sheng Wu) **99j:93082** 93D15 (93D21)

Abe, Makoto[2] On the union of 1-convex open sets. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 139–147. (Viorel Vâjâitu) **99b:32016** 32F10 (32E05)

Abe, Mitsuo (*with* Nakanishi, Noboru) Question on $D = 26$: string theory versus quantum gravity. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3081–3099. (Pavlos I. Porfyriadis) **99e:81169** 81T30 (81T70, 83C45, 83E30)

— (*with* Nakanishi, Noboru) Proof of gauge independence of the conformal anomaly of bosonic string in the sense of Kraemmer and Rebhan. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 411–421. (Pavlos I. Porfyriadis) **99m:81227** 81T50 (81T30)

— (*with* Nakanishi, Noboru) Anomaly problem in a simple model analogous to the lightcone-gauge two-dimensional quantum gravity. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 5, 1063–1075. (Summary) **99j:81174** 81T50 (81T10)

— (*with* Nakanishi, Noboru) $D = 26$ and exact solution to the conformal-gauge two-dimensional quantum gravity. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 521–536. (Summary) **99k:81286** 81T50 (81T30, 81T40)

Abe, Naoki (*with* Nakamura, Atsuyoshi; Takeuchi, Jun-ichi) Efficient distribution-free population learning of simple concepts. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 53–82. (Summary) **99m:68141** 68Q99 (68T05)

Abe, Naoto[1] Parallel displacements in a category of certain topological spaces. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 83–91. (Adrian C. Albu) **99b:57051** 57R10 (55R10, 57R22)

Abe, Sumiyoshi Nonextensive statistical mechanics of q-bosons based on the q-deformed entropy. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 229–236. (Summary) **99b:82007** 82B05 (81R50)

Abe, T. *see* **Abe, Tomoji**

Abe, Takehisa (*with* Gustafson, Karl) The third boundary condition—was it Robin's? *Math. Intelligencer* **20** (1998), *no.* 1, 63–71. (Thomas Archibald) **99e:01016** 01A55 (35–03)

— *see also* **Gustafson, Karl, 99b:00008**

Abe, Tomoji Slant surfaces in Kaehlerian space forms. *Math. J. Toyama Univ.* **20** (1997), 37–48. (Christos Baikoussis) **99c:53056** 53C40 (53C15)

— Isotropic slant submanifolds. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 203–208. (Bang-yen Chen) **99d:53052** 53C40 (53C42)

Abe, Yoshihiro Combinatorics for small ideals on $\mathscr{P}_\kappa\lambda$. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 541–549. (Summary) **99g:03048** 03E05 (03E55)

— Combinatorial characterization of Π^1_1-indescribability in $P_\kappa\lambda$. (English summary) *Arch. Math. Logic* **37** (1998), *no.* 4, 261–272. (N. H. Williams) **99h:03024** 03E05 (03E55)

— (*with* Shioya, Masahiro) Regularity of ultrafilters and fixed points of elementary embeddings. *Tsukuba J. Math.* **22** (1998), *no.* 1, 31–37. (O. V. Belegradek) **99h:03018** 03C20 (03C62, 03E10, 03E40)

— A variant of the diamond principle for combinatorial ideals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 847–849. (N. H. Williams) **99f:03070** 03E55 (03E05)

martínez-Abejón, Antonio *see* **Martínez-Abejón, Antonio**

Abel, Markus (*with* Flach, Sergej; Pikovskiĭ, A. S.) Localization in a coupled standard map lattice. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 4–21. (Summary) **99e:58128** 58F13 (58F27)

— (*with* Spicci, M.) Nonlinear localized periodic solutions in a coupled map lattice. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 22–33. (Esa A. Järvenpää) **99h:58150** 58F22 (58F30)

Abel, R. Julian R. (*with* Greig, Malcolm) Balanced incomplete block designs with block size 7. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 1, 5–30. (Frank E. Bennett) **99b:05015** 05B05

— (*with* Bennett, Frank E.) The existence of perfect Mendelsohn designs with block size 7. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 1–14. (Summary) **99c:05022** 05B05

— (*with* Bennett, Frank E.; Zhang, Hantao) Holey Steiner pentagon systems. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 41–56. (Charles C. Lindner) **99i:05053** 05B30

Abel, Ulrich On the asymptotic approximation with operators of Bleimann, Butzer and Hahn. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 1, 1–9. (Octavian Agratini) **99c:41044** 41A36 (41A60)

— Asymptotic approximation with Kantorovich polynomial. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 3, 106–116. (M. Lachance) **99m:41008** 41A10 (41A35, 41A60)

Abelard, Pierre *see* **Hamelin, Guy**

Abel-Hamid, A. H. (*with* Khater, A. H.; Shamardan, A. B.; Farag, M. H.) Analytical and numerical solutions of a quasilinear parabolic optimal control problem. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 29–43. (Summary) **99d:49012** 49J20 (49M30, 65K10)

Abell, Martha L. (*with* Braselton, James P.; Rafter, John A.) ★ Statistics with Mathematica®. (English summary) With 1 CD-ROM (Macintosh, Windows, DOS and UNIX) [ISBN: 0-12-041555-0]. *Academic Press, Inc., San Diego, CA*, 1999. *xiv*+632 *pp. ISBN* 0-12-041554-2 (Editors) **99m:62006** 62-04 (62-01, 65U05)

Abello, James (*with* Kumar, Krishna) On the complexity of some synthetic problems in combinatorial geometry. (English summary) *J. Comput. Inf.* **1** (1995), *no.* 2, 92–110 (*electronic*). (Summary) **99f:68101** 68Q25 (05E10, 51E24)

— (*with* Dolev, Shlomi) On the computational power of self-stabilizing systems. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 159–170. (Summary) **99f:68059** 68Q10 (68M10)

— (*with* Buchsbaum, Adam L.; Westbrook, Jeffery R.) A functional approach to external graph algorithms. (English summary) *Algorithms—ESA* '98 (*Venice*), 332–343, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85, 68Q20, 68Q25)

— (*with* Gansner, Emden) Short and smooth polygonal paths. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 151–162, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68U05 (65D17)

Abels, Herbert (*with* Tiemeyer, A.) Compactness properties of locally compact groups. (English summary) *Transform. Groups* **2** (1997), *no.* 2, 119–135. (M. Rajagopalan) **99f:22007** 22B05 (22B10, 57M07)
— A projection property for buildings. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 3–10. (Summary) **99j:18002** 18A20 (51B25, 51D20)
Abenda, Simonetta Solitary waves for Maxwell-Dirac and Coulomb-Dirac models. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 2, 229–244. (Thierry Cazenave) **99c:81023** 81Q05 (35Q40)
— Global action-angle variables and the characterization of one degree of freedom rational Hamiltonians. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1695–1711. (Christine Médan) **99c:70022** 70H05 (58F05)
— (*with* Moussa, Pierre; Osbaldestin, Andrew H.) Multifractal dimensions and thermodynamical description of nearly-circular Julia sets. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 19–40. (Lars Olsen) **99m:58126** 58F11 (30D05, 58F12, 58F23)
Aberbach, Ian (*with* Katzman, Mordechai; MacCrimmon, Brian) Weak F-regularity deforms in Q-Gorenstein rings. *J. Algebra* **204** (1998), *no.* 1, 281–285. (Irena Swanson) **99d:13003** 13A35 (13H10)
Abergal, Frédéric (*with* Temam, Roger) Optimal control of turbulent flows. *Optimal control of viscous flow*, 97–107, *SIAM, Philadelphia, PA*, 1998. (Tsvetomir Tsachev) **99f:49027** 49K20 (35Q35, 76D05, 76F99, 93C20)
Abergel, F. (*with* Hilhorst, D.; Issard-Roch, Françoise; Scheid, J. F.) Local existence and uniqueness of a Stefan problem with surface tension. *Appl. Anal.* **60** (1996), *no.* 3-4, 219–240. 35R35 (80A32)
Abeyaratne, Rohan (*with* Knowles, James K.) On an integrodifferential equation arising in a theory of phase transitions in solids. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 761–767. (Jaime E. Muñoz Rivera) **99a:73015** 73B30 (45J05)
— (*with* Vedantam, Srikanth) Propagation of a front by kink motion—from a discrete model to a continuum model. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 77–84, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73B30 (73D40)
Abgrall, Rémi (*with* Sonar, Thomas) On the use of Mühlbach expansions in the recovery step of ENO methods. (English summary) *Numer. Math.* **76** (1997), *no.* 1, 1–25. (Komali S. Sastri) **99c:65179** 65M60 (76M25)
— (*with* Harten, Amiram) Multiresolution representation in unstructured meshes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2128–2146 (*electronic*). (Fritz Keinert) **99k:94022** 94A29 (41A05, 65D99)
— (*with* Saurel, Richard) A multiphase Godunov method for compressible multifluid and multiphase flows. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 425–467. (Summary) **99m:76097** 76M25 (76N10, 76T05)
— (*with* Lantéri, S.; Sonar, Thomas) ENO approximations for compressible fluid dynamics. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 3–28. (Claus-Dieter Munz) **99k:76116** 76M25 (76N10)
Abha (*with* Chandra, Suresh) Non-differentiable symmetric duality in minimax integer programming. (English summary) *Opsearch* **34** (1997), *no.* 4, 232–241. (Ming Fang Ni) **99c:90081** 90C10 (49N15)
Abhyankar, S. S. ★ Resolution of singularities of embedded algebraic surfaces. (English summary) Second edition. Springer Monographs in Mathematics. *Springer-Verlag, Berlin*, 1998. *xii*+312 *pp. ISBN* 3-540-63719-2 (A. Sinan Sertöz) **99c:14021** 14E15 (14J17, 32S45)
Abia, Luis M. (*with* Martínez Rodríguez, Julia; López Marcos, Juan Carlos) Numerical blowup in discretizations of reaction-diffusion models. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 3 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M30
— (*with* Martínez Arcos, E.; López Marcos, Juan Carlos) A pseudospectral scheme for Zakharov equations. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 16 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (76M25, 76X05)
— (*with* López Marcos, Juan Carlos; Martínez Rodríguez, Julia) Blowup in semidiscretizations of reaction-diffusion models. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 365–370, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35K57 (35B99, 65M99)
— (*with* Martínez Arcos, E.; López Marcos, Juan Carlos) A semidiscrete finite difference scheme for the Zakharov equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 835–840, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M06
— (*with* López Marcos, Juan Carlos; Martínez Rodríguez, Julia) On the blow-up time convergence of semidiscretizations of reaction-diffusion equations. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 399–414. (Reinhard Redlinger) **99b:65108** 65M20 (65M12)
Abian, Alexander (*with* Kemp, Paula) A geometric proof of the Lebesgue differentiation theorem. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 8–17. 26A24
— (*with* Kemp, Paula) A special partition of the reals into nonmeasurable subsets. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 371–374. (Marek Balcerzak) **99k:28002** 28A05 (05A18)
— (*with* Hentzel, Irvin Roy) Cantor ternary set and measurability of Hamel bases. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 163–168. (Summary) **99b:28001** 28A05
— (*with* Sverchkov, Sergei) The solvability of infinite systems of linear equations over division modules. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 671–675. 17A99
— (*with* Wilson, James A.) Derivatives at boundary points. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 359–361. (Peter Boyadjiev) **99i:26005** 26A24
— How to remember and use Stokes theorem easily. *Math. Practice Theory* **28** (1998), *no.* 4, 336–339. 26–01
— (*with* Kemp, Paula) Sums of infinitely many sequences. *Octogon Math. Mag.* **6** (1998), *no.* 1, 37–39. 40A05
— Convolution product and Fourier transform. (English and Serbian summaries) *Zb. Rad.* (*Kragujevac*) *No.* 20 (1998), 31–34. 42A38
— Lebesgue integral defined in the manner of Riemann. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 127–130. 26A42
Abichou, A. (*with* Beji, L.) A singular perturbation approach for tracking control of a parallel robot including motor dynamics. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 689–707. 93C85 (70Q05)
Abikoff, William (*with* Ye, Taiping) Computing the Douady-Earle extension. (English summary) *Lipa's legacy* (*New York*, 1995), 1–8, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Carsten Lunde Petersen) **99e:30011** 30C62 (30F45, 32G15)
— *see also* **Bers, Lipman**, **99g:01041a** *and* **99g:01041b**
Abiteboul, Serge (*with* Hillebrand, Gerd) Space usage in functional query languages. (English summary) *Database theory—ICDT '95* (*Prague*), 439–454, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17)
— Querying semi-structured data. *Database theory—ICDT '97* (*Delphi*), 1–18, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (From the introduction) **99c:68065** 68P15
— (*with* Vianu, Victor) Queries and computation on the Web. (English summary) *Database theory—ICDT '97* (*Delphi*), 262–275, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68049** 68P15 (68T30)
— (*with* Cluet, Sophie; Milo, Tova) Correspondence and translation for heterogeneous data. *Database theory—ICDT '97* (*Delphi*), 351–363, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68T30)
— *see also* **ACM Symposium: Principles of Database Systems**, **99i:68001**
Ablaev, Farid M. (*with* Karpinski, Marek; Mubarakzyanov, R. G.) On BPP versus NP ∪ coNP for ordered read-once branching programs. (English summary) *Randomized algorithms* (*Brno*, 1998), 10 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q15 (68Q05)
Ablamowicz, Rafał Construction of spinors via Witt decomposition and primitive idempotents: a review. (English summary) *Clifford algebras and spinor structures*, 113–123, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Bertfried Fauser) **99b:15037** 15A66
— Matrix exponential via Clifford algebras. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 294–313. (Daniel B. Shapiro) **99e:15032** 15A66 (15–04)
Ablayev, Farid *see* **Ablaev, Farid M.**
Ablowitz, Mark J. (*with* Chakravarty, Sarbarish; Halburd, R.) The Darboux-Halphen system and the singularity structure of its solutions. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 408–412, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 34A25 (34A34)
— (*with* Ohta, Yasuhiro; Trubatch, A. David) On discretizations of the vector nonlinear Schrödinger equation. (English summary) *Phys. Lett. A* **253** (1999), *no.* 5-6, 287–304. (Summary) **99m:35215** 35Q55 (35A35, 65M06)
Aboav, David A. Kelvin's "division of space", and its aftermath. *Forma* **11** (1996), *no.* 3, 243–254. (Béla Uhrin) **99e:52032** 52B60
Abodayeh, K. (*with* Murphy, Gerard J.) Compact topological semigroups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 131–137. (Jimmie D. Lawson) **99g:22002** 22A15 (52A99)
— (*with* Pokrovskiĭ, A. V.) A spectral property for the symbolic dynamical system. *Irish Math. Soc. Bull. No.* 42 (1999), 11–14. 58F03 (54H20)
Abo Khadra, A. A. (*with* Abd El-Monsef, M. E.; Kozae, A. M.) Co-*s*-closed topologies. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 1–4. 54A10 (54C10, 54D10)
Abolghasem, Hossein (*with* Coley, Alan A.; Mc Manus, Des) Spherically symmetric solutions of Einstein's vacuum equations in five dimensions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1569–1608. (Alicia M. Sintes) **99i:83082** 83E15 (53C80, 83C20)
Abo-Sinna, Mahmoud A. Stability of multi-objective dynamic programming problems with fuzzy parameters. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 891–904. 90C70 (90C29)
Abou-Ali, Abdel-Latief H. (*with* Porter, William A.) Vector quantization for multiple classes. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 151–171. (Summary) **99a:94016** 94A29
Abouchabaka, J. (*with* Aboulaïch, R.; Souissi, A.) Numerical approach of a free boundary in the junction field effect transistor—MESFET. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 531–539. (Summary) **99i:78001** 78–08 (65N99, 78A55)
Abou-Dina, M. S. (*with* Helal, M. A.) Reduction for the nonlinear problem of fluid waves to a system of integro-differential equations with an oceanographical application. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 65–81. (Summary) **99g:76097** 76M25 (65R20, 76B15, 86A05)
Abou-El-Ata, M. O. (*with* Mousa, F. R.) Multi-item inventory model with varying order cost under two restrictions: a geometric programming approach. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 221–232. 90B05 (90C28)
Abou-El-Ela, A. M. A. (*with* Sadek, A. I.) On the boundedness of a certain system of fifth-order differential equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 1–10. (Narahari Parhi) **99f:34046** 34C11 (34D40)
Aboulaïch, R. (*with* Abouchabaka, J.; Souissi, A.) Numerical approach of a free boundary in the junction field effect transistor—MESFET. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 531–539. (Summary) **99i:78001** 78–08 (65N99, 78A55)
Abousleiman, Y. *see* **Poroelasticity**, **99f:73001**
Abou-Tair, I. A. (*with* Sulaiman, W. T.) Notes on convex functions. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 69–76. (Ion Raşa) **99d:26017** 26A51 (26D15)
Abou-Talbe, Naïma M. M. Cauchy problem for system of abstract evolution equations in a Wiener space. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 85–92. (N. U. Ahmed) **99e:60142** 60H20 (34F05, 34G10)
Abou-Zaid, Moheb S. (*with* El-Borai, Mahmoud M.) On invariance properties of the Cauchy problem. (English summary) *Proc. Pakistan Acad. Sci.* **33** (1996), *no.* 3-4, 147–150. 35L05 (35A30)
Abou Zeid, Mohab (*with* Hull, Christopher M.) The gauged (2, 1) heterotic sigma model. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 490–514. (Ahmet Satir) **99i:81219** 81T60 (81T30)

— (*with* Hull, Christopher M.) Large conformal invariance and duality in self-dual gravity and (2, 1) heterotic string theory. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 139–147. (Ilya Shapiro) **99c:83080** 83E30 (53C80, 81T30)

— D-brane actions, intrinsic geometry and duality. *Strings, branes and dualities (Cargèse, 1997)*, 431–436, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81T30 (83E30)

Abraham, Bovas (*with* Thavaneswaran, A.; Macpherson, B. D.) An application of filtering to statistical process control. (English summary) *Quality improvement through statistical methods (Cochin, 1996)*, 109–120, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99h:62122** 62M20 (62N10)

— *see also* **Quality improvement through statistical methods, 99f:62011**

Abraham, Romain (*with* Mazliak, Laurent) Branching properties of Brownian paths and trees. *Exposition. Math.* **16** (1998), *no.* 1, 59–73. (Xue Lei Zhao) **99f:60141** 60J65 (60J80)

Abraham-Frois, Gilbert *see* **Non-linear dynamics and endogenous cycles, 99d:90007**

Abrahams, Andrew M. (*with* Rupright, M. E.; Rezzolla, L.) Cauchy-perturbative matching and outer boundary conditions: methods and tests. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044005, 9 *pp.* (Summary) **99k:83001** 83–08 (83C05)

— (*with* Anderson, Arlen; Lea, Chris) Curvature-based gauge-invariant perturbation theory for gravity: a new paradigm. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064015, 15 *pp.* (Summary) **99m:83051** 83C25

Abrahams, I. David (*with* Lawrie, J. B.) Scattering of fluid loaded elastic plate waves at the vertex of a wedge of arbitrary angle. I. Analytic solution. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 1–23. (Summary) **99a:73054** 73D25 (73K70, 76Q05)

— On the non-commutative factorization of Wiener-Hopf kernels of Khrapkov type. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1719–1743. (V. S. Pilidi) **99d:47020** 47A68 (41A21, 45E10, 73K70, 76Q05)

Abrahams, Julia Generation of discrete distributions from biased coins. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 5, 1541–1546. (Summary) **99a:65017** 65C10

— Variable-length unequal cost parsing and coding for shaping. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1648–1650. 94A29 (94A45)

Abramchuk, V. S. Justification of the efficiency of directed search methods. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 7–12. 65F10 (65F30)

Abramenko, Peter ★ Twin buildings and applications to S-arithmetic groups. Lecture Notes in Mathematics, 1641. *Springer-Verlag, Berlin*, 1996. *x*+123 *pp. ISBN* 3-540-61973-9 (Curtis D. Bennett) **99k:20060** 20E42 (20G25, 51E24)

— (*with* Ronan, Mark) A characterization of twin buildings by twin apartments. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 1–9. (Antonio Pasini) **99m:51016** 51E24 (20E42, 51B25)

Abramov, A. A. (*with* Dyshko, A. L.; Konyukhova, N. B.; Levitina, T. V.) On numerical-analytic investigation of scalar scattering by ideal prolate spheroids and triaxial ellipsoids. (English summary) *Computational modelling and computing in physics (Dubna, 1996)*, 9–15, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M06 (76Q05, 78A45)

— (*with* Dyshko, A. L.; Konyukhova, N. B.; Levitina, T. V.; Ul′yanova, V. I.) Methods for solving some multiparameter spectral problems in mathematical physics. (Russian. Russian summary) *Computational modelling and computing in physics (Dubna, 1996)*, 293–299, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 35J25 (65N25)

— (*with* Ul′yanova, V. I.) A method for solving selfadjoint multiparameter spectral problems for weakly coupled systems of ordinary differential equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 5, 566–571; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 5, 552–557. (Summary) **99b:34037** 34B05 (34A45)

— On the convergence of an elimination method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 355–364; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 341–350. (C. Ilioi) **99d:65170** 65J10 (47A50)

— (*with* Yukhno, L. F.) An elimination method for linear problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 547–556; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 527–535. (J. B. Butler, Jr.) **99j:65100** 65J10 (47A50, 65F05)

— (*with* Yukhno, L. F.) On a method for finding the least eigenvalue of a nonlinear selfadjoint spectral problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1095–1105; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1046–1056. (V. L. Makarov) **99h:65060** 65F15

— (*with* Ul′yanova, V. I.) A method for solving selfadjoint multiparameter spectral problems for systems of equations with singularities. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1636–1640; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1566–1570. (Vladimir P. Maksimov) **99j:34019** 34B05 (34A45, 34B24, 65L10)

Abramov, A. I. On the limit distribution of the height of leaves in a plane planted tree. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 87–99, *VSP, Utrecht*, 1997. (Summary) **99g:60013** 60C05 (60F05)

Abramov, A. P. (*with* Dikusar, V. V.) Irregular points in a two-sector economic model of foreign debt. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1587–1591, 1725; *translation in Differential Equations* **33** (1997), *no.* 12, 1591–1595 (1998). 90A15

— ★ Connectedness and necessary conditions for an extremum. (English summary) Translated from the Russian and revised by the author. Mathematics and its Applications, 431. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+199 *pp. ISBN* 0-7923-4910-5 (Hubertus Th. Jongen) **99k:49059** 49K27 (90C48)

Abramov, S. M. (*with* Glück, Robert) Semantics modifiers: an approach to non-standard semantics of programming languages. (English summary) *Third Fuji International Symposium on Functional and Logic Programming (Kyoto, 1998)*, 247–270, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68Q55 (68N15)

Abramov, Sergei A. Rational solutions of linear difference and q-difference equations with polynomial coefficients. (Russian. Russian summary) *Programmirovanie* **1995**, *no.* 6, 3–11; *translation in Program. Comput. Software* **21** (1995), *no.* 6, 273–278. (L. M. Berkovich) **99c:68139** 68Q40 (39A10)

— (*with* Zima, E. V.) Ore polynomial rings and the reduction of linear systems. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 50–56; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 44–50. 34A05 (16U20, 34–04, 34A30, 65L12)

— (*with* Paule, Peter; Petkovšek, Marko) q-hypergeometric solutions of q-difference equations. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 3–22. (Alexei Zhedanov) **99f:39001** 39A10 (05A30, 33D15)

Abramov, V. *see* **Abramov, Viktor**

Abramov, V. S. (*with* Abramova, O. P.) A problem of Cauchy type for a fractal string. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 1, 1891–1895. 35A25 (35Q72)

Abramov, Viktor q-analogue of the supermodule of spinors. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 121–129, *PWN, Warsaw*, 1997. (Pierre Anglès) **99j:81058** 81R25 (15A66)

Abramova, O. P. (*with* Abramov, V. S.) A problem of Cauchy type for a fractal string. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 1, 1891–1895. 35A25 (35Q72)

Abramovich, D. (*with* de Jong, Aise Johan) Smoothness, semistability, and toroidal geometry. *J. Algebraic Geom.* **6** (1997), *no.* 4, 789–801. (Vincent Cossart) **99b:14016** 14E15 (14E05, 14L30)

Abramovich, F. (*with* Silverman, B. W.) Wavelet decomposition approaches to statistical inverse problems. (English summary) *Biometrika* **85** (1998), *no.* 1, 115–129. (Sidney J. Yakowitz) **99k:62068** 62G05

— (*with* Sapatinas, T.; Silverman, B. W.) Wavelet thresholding via a Bayesian approach. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 725–749. (P. A. Morettin) **99i:62080** 62G07

Abramovich, M. S. An estimate for the power of a spectral criterion for detecting the "change point" of time series. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 49–53, 80. 62M15

Abramovich, Shoshana Properties of ground states of some nondimensional Schrödinger equation and a comparison theorem. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 3, 307–312. (A. K. Prykarpat·skiĭ) **99g:34162** 34L40 (81Q05)

— (*with* Pečarić, Josip) On new majorization theorems. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 903–911. (Lars Erik Persson) **99b:26041** 26D15

— (*with* Pečarić, Josip; Varošanec, S.) New generalization of Gauss-Pólya's inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 331–342. (Zsolt Páles) **99f:26025** 26D15

Abramovich, Yuri A. (*with* Wickstead, A. W.) When each continuous operator is regular. II. *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 281–294. (Gerard Buskes) **99c:47046** 47B60 (47D15)

— (*with* Aliprantis, Charalambos D.; Burkinshaw, Owen) Multiplication and compact-friendly operators. (English summary) *Positivity* **1** (1997), *no.* 2, 171–180. (Gerard Buskes) **99k:47076** 47B60 (47A15, 47B65)

Abramovich, Yuri I. (*with* Gray, Douglas A.; Gorokhov, Alexei Y.; Spencer, Nicholas K.) Positive-definite Toeplitz completion in DOA estimation for nonuniform linear antenna arrays. I. Fully augmentable arrays. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2458–2471. 78–08 (78A50)

Abramowicz, Marek A. (*with* Sonego, Sebastiano) Maxwell equations and the optical geometry. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3158–3166. (János Kánnár) **99d:83054** 83C50 (78A25)

Abramsky, Samson (*with* McCusker, Guy) Linearity, sharing and state: a fully abstract game semantics for IDEALIZED ALGOL with active expressions. (English summary) *ALGOL-like languages, Vol. 2*, 297–329, *Progr. Theoret. Comput. Sci., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **99f:68129** 68Q55 (68N15)

— (*with* Pavlović, Duško) Specifying interaction categories. (English summary) *Category theory and computer science (Santa Margherita Ligure, 1997)*, 147–158, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q10 (68Q60)

— Semantics of interaction: an introduction to game semantics. *Semantics and logics of computation (Cambridge, 1995)*, 1–31, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 68Q55 (03B70, 68N15)

— (*with* Honda, Kohei; McCusker, Guy) A fully abstract game semantics for general references. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 334–344, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15

Abramson, David (*with* Randall, Marcus) A simulated annealing code for general integer linear programs. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 3–21. (*see* **99k:90002**) 90C10 (90–04)

Abramyan, Anna V. (*with* Nogin, V. A.) Complex powers of second-order hypoelliptic operators with constant coefficients in L_p-spaces. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1134–1135, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1141–1143 (1998). (Summary) **99d:35026** 35H05 (47F05)

Abrarova, E. V. On the steady motions of a system of two elastically connected bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 73–78; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 67–71. (Summary) **99c:70006** 70E15 (70K20, 70M20, 73K12)

Abrashin, V. N. On a domain decomposition method in the solution of problems in mathematical physics. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 5, 652–660, 718; *translation in Differential Equations* **32** (1996), *no.* 5, 658–667. (Włodzimierz Proskurowski) **99a:65172** 65N55 (65M55)

— (*with* Lèkhtikov, S. N.) On the combination of the alternating direction method and the finite element method for the solution of problems in mathematical physics. II. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 889–897, 1004; *translation in Differential Equations* **32** (1996), *no.* 7, 893–901 (1997). (Thomas Apel) **99c:65178** 65M55 (65M60)

— (*with* Zhadaeva, N. G.) A multicomponent alternating direction method for solving stationary problems of mathematical physics. I. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1212–1221, 1294; *translation in Differential Equations* **32** (1996), *no.* 9, 1213–1222 (1997). (Lutz Tobiska) **99a:65138** 65N22 (65N55)

— On an iterative domain decomposition method for solving problems of mathematical physics. I. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 899–908, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 902–911 (1998). (Lutz Tobiska) **99c:65227** 65N55 (65Y05)

— (*with* Zhadaeva, N. G.) A multicomponent alternating direction method for solving stationary problems of mathematical physics. II. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1211–1219, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1216–1225 (1998). (Lutz Tobiska) **99j:65223** 65N55 (65F10, 65N22)

— A decomposition method for solving first-order hyperbolic systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1699–1701, 1728; *translation in Differential Equations* **33** (1997), *no.* 12, 1703–1706 (1998). (Anton S. Mureşan) **99k:35112** 35L45

Ábrego Lerma, Bernardo Manuel The Sylvester theorem. (Spanish) *Miscelánea Mat. No.* 23 (1996), 17–26. (H. W. Guggenheimer) **99k:52027** 52C10 (51M04)

— ★ Problemas combinatorios sobre conjuntos finitos de puntos. (Spanish. Spanish summary) [Combinatorial problems on finite sets of points] Aportaciones Matemáticas: Comunicaciones [Mathematical Contributions: Communications], 19. *Sociedad Matemática Mexicana, México*, 1997. *ii*+177 *pp. ISBN* 968-36-5771-0 (Godofredo Iommi Amunátegui) **99h:05002** 05–02 (51Exx)

— (*with* Arocha Pérez, Jorge Luis; Fernández-Merchant, S.; Neumann-Lara, Víctor) Tightness problems in the plane. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 1–11. (Daniel Turzik) **99k:05121** 05C65

Abreu, Everton M. C. (*with* Braga, Nelson R. F.; Godinho, Cresus F. L.) Canonical transformations and gauge fixing in the triplectic quantization. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 779–790. (Summary) **99g:81217** 81T70 (58Z05)

Abreu, Miguel Kähler geometry of toric varieties and extremal metrics. (English summary) *Internat. J. Math.* **9** (1998), *no.* 6, 641–651. (Hansjörg Geiges) **99j:58047** 58E11 (14M25, 53C25, 53C55, 58F05)

— Topology of symplectomorphism groups of $S^2 \times S^2$. *Invent. Math.* **131** (1998), *no.* 1, 1–23. (Margaret F. Symington) **99k:57065** 57R50 (57R15, 58D05)

vila Abreu, Urbia *see* **Vila Abreu, Urbia**

pérez-Abreu, Víctor *see* **Pérez-Abreu, Víctor**

Abreu Blaya, Ricardo (*with* Bory Reyes, Juan) On an abstract singular integral operator on a Banach algebra of continuous functions. (Spanish. English and Spanish summaries) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 43–55. (Summary) **99k:47115** 47G10 (45E05, 45P05, 47A53)

— (*with* Bory Reyes, Juan) Solvability of a Riemann linear conjugation problem on a fractal surface. *Extracta Math.* **13** (1998), *no.* 2, 239–241. (Michael V. Shapiro) **99m:30097** 30G35 (30E25)

Abrevaya, Jason (*with* Hausman, J. A.; Scott-Morton, F. M.) Misclassification of the dependent variable in a discrete-response setting. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 239–269. (Summary) **99h:62141** 62P20

— Computation of the maximum rank correlation estimator. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 279–285. (Summary) **99m:62092** 62J05

Abrham, Jaromir (*with* Turgeon, Jean M.) Additive permutations with repeated elements. (English summary) *Ars Combin.* **48** (1998), 73–80. (Summary) **99a:05002** 05A05

Abrouk, Nacer E. (*with* Salehi, Habib; Yen, David H. Y.) Approximation of distribution laws in population genetics governed by Fokker-Planck equations. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 3–15. (Dominique Lépingle) **99b:60075** 60H10 (60J70, 92D10, 92D25)

Abrusci, V. Michele (*with* Fouqueré, Christophe; Vauzeilles, Jacqueline) Tree adjoining grammars in noncommutative linear logic (extended abstract). (English summary) *Logical aspects of computational linguistics (Nancy, 1996)*, 96–117, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (03F50, 68Q45)

Abry, Patrice (*with* Aldroubi, Akram; Unser, Michael) Construction of biorthogonal wavelets starting from any two multiresolutions. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1130–1133. 94A11 (42C15)

— (*with* Veitch, Darryl; Flandrin, Patrick) Long-range dependence: revisiting aggregation with wavelets. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 253–266. (P. A. Morettin) **99i:62192** 62M10 (60G18, 62M15)

— (*with* Veitch, Darryl) A wavelet-based joint estimator of the parameters of long-range dependence. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 878–897. (Summary) **99m:94017** 94A12 (62M09, 62M10)

Absava, R. (*with* Nadaraya, E.; Nadaraya, L.; Vezirishvili, M.) Testing the equality of two regression curves. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 193–195. (Atanu Biswas) **99g:62061** 62G10

Abt, Markus (*with* Liski, Erkki P.; Mandal, Nripes K.; Sinha, Bikas Kumar) Optimal designs in growth curve models. I. Correlated model for linear growth: optimal designs for slope parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 141–150. (Christine Hildegard Müller) **99c:62201** 62K05 (62J05)

— (*with* Welch, William J.) Fisher information and maximum-likelihood estimation of covariance parameters in Gaussian stochastic processes. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 127–137. (Summary) **99b:62127** 62M09 (62B10, 62F10)

— (*with* Gaffke, Norbert; Liski, Erkki P.; Sinha, Bikas Kumar) Optimal designs in growth curve models. II. Correlated model for quadratic growth: optimal designs for parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 287–296. (Christine Hildegard Müller) **99f:62086** 62K05

Abual-Rub, M. S. Long range diffusion reaction model on population dynamics. (English summary) *Doc. Math.* **3** (1998), 333–340 (*electronic*). (Summary) **99j:92012** 92D25

— An analysis to the travelling wave solution of a diffusive model of an epidemic. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 65–68. (Summary) **99d:92035** 92D30

Abu-Dayyeh, Walid (*with* Muttlak, Hassen A.) Using ranked set sampling for hypothesis tests on the scale parameter of the exponential and uniform distributions. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 131–138 62F03

— Local power of tests in the presence of nuisance parameters with an application. (English summary) *Egyptian Statist. J.* **41** (1997), *no.* 1, 1–9. 62F03 (62H15)

Abudurexiti, Abuduwaili A corrector local Crank-Nicolson method for the two-dimensional heat equation. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 267–276. (Summary) **99a:65104** 65M12

Abuelma'atti, Muhammad Taher A simple algorithm for computing the Fourier spectrum of experimentally obtained signals. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 229–239. 94A11

Abu Hlail, J. (*with* Saleh, Mohammad A.; Yousef, Hasan) The number of homomorphisms from $\mathbf{Z}_{m_1} \times \mathbf{Z}_{m_2} \times \cdots \times \mathbf{Z}_{m_r}$ into $\mathbf{Z}_{k_1} \times \mathbf{Z}_{k_2} \times \cdots \times \mathbf{Z}_{k_s}$. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 2, 326–329. 20K30 (13A99)

Abujabal, H. A. S. (*with* Khan, Moharram A.) Commutativity for a certain class of rings. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 301–314. (A. Yaqub) **99f:16035** 16U80

Abukhaled, M. I. (*with* Allen, Edward J.) A recursive integration method for approximate solution of stochastic differential equations. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 53–66. (Summary) **99c:65253** 65U05 (60H10)

— (*with* Allen, Edward J.) A class of second-order Runge-Kutta methods for numerical solution of stochastic differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 977–991. (E. S. Lee) **99j:65119** 65L06 (34F05, 60H10, 65U05)

Abul-Ez, M. A. (*with* Kakol, J.) Mode of increase of power similar sets of polynomials. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **23** (1994), *no.* 2, 55–65. (N. K. Govil) **99d:30003** 30C10 (30A10, 30D15)

— Exponential base of special monogenic polynomials. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 137–146. (Wolfgang Sprössig) **99e:30032** 30G35 (41A10)

— Bessel polynomial expansions in spaces of holomorphic functions. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 177–190. (Summary) **99c:46019** 46E10 (33C90)

Abu Muhanna, Yusuf Cauchy transforms and multipliers. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 106–116. (Nikolai Bozhinov) **99b:30059** 30E20 (44A15)

— (*with* Yallaoui, El-Bachir) On families of Cauchy transforms. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 2, 49–55 (*electronic*). (David J. Hallenbeck) **99k:30068** 30E20

Abu Muriefah, Fadwa S. *see* **Muriefah, Fadwa S. Abu**

Abundo, Mario On some properties of one-dimensional diffusion processes on an interval. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 277–310 (19*N*). (Věra Lánská) **99b:60124** 60J60 (58G32)

— (*with* Accardi, Luigi; Stella, L.; Rosato, N.) A stochastic model for the cooperative relaxation of proteins, based on a hierarchy of interactions between amino acidic residues. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 327–358. (Ming-Ying Leung) **99g:92020** 92D20 (60J70)

Aburawash, Usama A. (*with* Wiegandt, Richárd) The Rees and Steinfeld theorems for semigroups with involution. *Semigroup Forum* **57** (1998), *no.* 3, 440–444. (From the text) **99g:20106** 20M10

Abusalah, Salahalddin T. (*with* Park, Joseph C.) Symmetrization of information-theoretic error-measures applied to artificial neural network training. (English summary) *Complex Systems* **11** (1997), *no.* 2, 125–140. 68T05

Abu-Saris, Raghib (*with* Allan, Fathi) Periodic and nonperiodic solutions of the difference equation $x_{n+1} = \max\{x_n^2, A\}/x_n x_{n-1}$. (English summary) *Advances in difference equations (Veszprém, 1995)*, 9–17, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39002** 39A10

Abusev, R. A. Bayesian estimates for density and statistical classification in the case of a multivariate Student T-distribution. (Russian. Russian summary) *Vychisl. Sistemy No.* 157, *Iskusstv. Intell. i Èkspert. Sistemy* (1996), 218–230, 256. (Summary) **99m:62083** 62H12 (62F15)

— Point and interval estimation: unbiased estimation of distribution densities of sufficient statistics of the inverse Gaussian distribution. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci. (New York)* **88** (1998), *no.* 6, 814–818. (*see* **99b:62004**) 62F10 (62H30)

Abu-Sulayman, Ibtesam M. (*with* Hendi, Awatif A.) On some classes of analytic functions. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 2, 53–62. (Tom Carroll) **99g:30010** 30C45

Abzalilov, D. F. (*with* Aksent'ev, L. A.; Il'inskiĭ, N. B.) An inverse boundary value problem for an airfoil with a suction slot. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 80–87; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 75–82. (Summary) **99b:76006** 76B05

Acacio de Barros, J. *see* **de Barros, J. Acacio**

A'Campo-Neuen, Annette (*with* Hausen, Jürgen) Quotients of toric varieties by the action of a subtorus. (English summary) *Tohoku Math. J.* (2) **51** (1999), *no.* 1, 1–12. (Dmitrii A. Timashëv) **99m:14088** 14L30 (14M25)

Acanfora, Fausto (*with* Mortola, Stefano) Non-semicontinuous quadratic integral functionals with continuous coefficients. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 1–9 (1998). (Gary M. Lieberman) **99j:49019** 49J45 (49J10)

Acar, Tolga (*with* Koç, Çetin K.) Montgomery multiplication in GF(2^k). (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 57–69. (Summary) **99k:11189** 11T71 (94A60)

Acatrinei, Ciprian (*with* Fabbrichesi, Marco; Iengo, Roberto) D-particles in the space-time of the shock wave. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 24, 20 *pp.* (*electronic*). (Summary) **99k:81209** 81T30 (81T20)

Accardi, Alberto (*with* Belli, Andrea; Martellini, Maurizio; Zeni, Mauro) Topological Yang-Mills cohomology in pure Yang-Mills theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 127–134. (Summary) **99g:81218** 81T70 (81T13)

Accardi, Luigi (*with* Ohya, Masanori; Watanabe, Noboru) Dynamical entropy of quantum systems. (English summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 76–84. (*see* **99b:00018**) 82C10 (46L50, 46L55, 46L60)

— (*with* Lu, Yun Gang; Volovich, I. V.) Non-linear extensions of classical and quantum stochastic calculus and essentially infinite-dimensional analysis. *Probability towards 2000 (New York, 1995)*, 1–33, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (John E. Gough) **99f:81105** 81S25 (46G12, 46L50, 60H99)

— (*with* Hashimoto, Yukihiro; Obata, Nobuaki) Singleton independence. (English summary) *Quantum probability (Gdańsk, 1997)*, 9–24, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (S. Gudder) **99k:46111** 46L50 (46K99, 46N50, 81S25)

— (*with* Hashimoto, Yukihiro; Obata, Nobuaki) Notions of independence related to the free group. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1**

(1998), *no.* 2, 201–220. (Dietmar H. Bisch) **99g:46087** 46L50 (60F99, 81S25)

— (*with* Lu, Yun Gang; Mastropietro, Vieri) The semi-circle diagrams in the stochastic limit of the Anderson model. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 467–483. (John E. Gough) **99k:81139** 81S25 (82B44)

— (*with* Hashimoto, Yukihiro; Obata, Nobuaki) A role of singletons in quantum central limit theorems. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 675–690. (John E. Gough) **99m:81110** 81S25 (46N50, 60F99)

— (*with* Abundo, Mario; Stella, L.; Rosato, N.) A stochastic model for the cooperative relaxation of proteins, based on a hierarchy of interactions between amino acidic residues. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 327–358. (Ming-Ying Leung) **99g:92020** 92D20 (60J70)

— (*with* Kozyrev, S. V.; Volovich, I. V.) The hot free algebra. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 1–18. (John E. Gough) **99j:81087** 81S25 (46N50)

— *see also* **Probability towards 2000, 99b:60004**

Acciaro, Vincenzo (*with* Klüners, Jürgen) Computing automorphisms of abelian number fields. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1179–1186. (Michael E. Pohst) **99i:11099** 11R20 (11Y40)

lópez Acedo, G. *see* **López Acedo, G.**

Acerbi, Emilio (*with* Fonseca, Irene; Fusco, Nicola) Regularity of minimizers for a class of membrane energies. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 11–25 (1998). (Jean-Pierre Raymond) **99j:49078** 49N60 (35J20, 49J10, 73C50, 73V25)

Acerenza, Luis Periodic behavior and chaos in biochemical systems. (Spanish) *Chaos in Uruguay* (*Spanish*) (*Piriápolis*, 1996), 99–109, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 92C40 (58F13, 58F40, 92B05)

Aceto, Luca (*with* Fokkink, Willem Jan; Ingólfsdóttir, Anna) A Cook's tour of equational axiomatizations for prefix iteration. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 20–34, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q10 (68Q60)

— (*with* Fokkink, Willem Jan; Ingólfsdóttir, Anna) A menagerie of non-finitely based process semantics over BPA*—from ready simulation to completed traces. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 3, 193–230. (Wiesław Zielonka) **99k:68059** 68Q10 (68Q55, 68Q60)

Aceves, Alejandro B. (*with* Turitsyn, Sergei K.; Jones, Christopher K. R. T.; Zharnitsky, Vadim; Mezentsev, Vladimir K.) Hamiltonian averaging in soliton-bearing systems with a periodically varying dispersion. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3843–3846. (Summary) **99m:78012** 78A60 (35Q55)

Aceves de la Cruz, F. (*with* Torres del Castillo, G. F.) Connection between the Kepler problem and the Maxwell fish-eye. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 6, 546–549. (From the introduction) **99j:70012** 70F05 (78A05)

Acharya, Arjun Prasad A class of trigonometric series with positive partial sums. (English summary) *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 63–73. (Summary) **99h:42010** 42A32

Acharya, Belmannu Devadas (*with* Gupta, Purnima) A direct inductive proof of a conjecture due to E. Sampathkumar and L. Pushpa Latha on the weak domination number of a tree. (English summary) *Nat. Acad. Sci. Lett.* **21** (1998), *no.* 3-4, 84–90. 05C35

— A note on dominating functions of a graph. (English summary) *Nat. Acad. Sci. Lett.* **21** (1998), *no.* 9-10, 286–289. 05C35

Acharya, Bobby S. (*with* Figueroa-O'Farrill, José M.; Spence, Bill) Branes at angles and calibrated geometry. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 12, 18 *pp.* (*electronic*). (Krzysztof Galicki) **99f:53060** 53C42 (53C80, 81T30, 81T60)

— (*with* Figueroa-O'Farrill, José M.; Spence, Bill; O'Loughlin, M.) Euclidean D-branes and higher-dimensional gauge theory. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 583–602. (Héctor H. García-Compeán) **99j:58033** 58D27 (57R57, 58D29, 81T60)

— On mirror symmetry for manifolds of exceptional holonomy. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 269–282. (Bruce Hunt) **99m:53087** 53C25 (14J32, 32J81, 81T30)

— A mirror pair of Calabi-Yau four-folds in type II string theory. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 283–294. (Bruce Hunt) **99m:14073** 14J32 (53C80, 81T30)

Acharya, D. (*with* Pal, Pranabes Kanti) Effects of inhomogeneity on surface waves in anisotropic media. (English summary) *Sādhanā* **23** (1998), *no.* 3, 247–258. (Summary) **99g:73041** 73D20 (73B40)

Acharya, Krishna (*with* Sinha, Tushar Kumar) On eigenvalues of Riesz operator. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 249–252. 47B06 (47A10)

— (*with* Neogy, Dilip) On dual nuclear locally convex spaces. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 108–110. 46A11 (46A20)

Acharya, Sarat Kumar (*with* Tripathy, Chaitanya Kumar) Convergence of mixing transforms of random sequences. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 23–27. 60G50 (60G42)

Acharyya, S. K. (*with* Ghosh, Partha Pratim) Locally Hausdorff spaces. (English summary) *J. Pure Math.* **13** (1996), 40–45. 54D10 (54B10)

— (*with* Chattopadhyay, K. C.; Ray, G. G.) The maximal congruences on $C_+(X)$ and $C_+^*(X)$. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 5, 449–458 54C35 (46E10, 46H10)

Achcar, Jorge Alberto Some aspects of reparametrization for inferences of k-out-of-m system reliability in the independent exponential case. (English summary) *Estadística* **48** (1996), *no.* 150-151, 1–33 (1998). 62N05

— A generalized Moranda software reliability model: a Bayesian approach. (English summary) *Rev. Mat. Estatist.* **15** (1997), 115–130. (Summary) **99k:62183** 62N05 (62F15)

— (*with* Leandro, Roseli A.) Use of Markov chain Monte Carlo methods in a Bayesian analysis of the block and Basu bivariate exponential distribution. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 3, 403–416. 62F15

Achchab, Boujemaa (*with* Agouzal, Abdellatif; Baranger, Jacques; Oudin, Fabienne) Estimations d'erreurs en lois de comportement. (English and French summaries) [Error estimators using constitutive laws] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1007–1010. (Summary) **99h:65183** 65N15

Achdou, Yves (*with* Abdulaev, G. S.; Hontand, Jean-Claude; Kuznetsov, Yuriĭ Alekseevich[†]; Pironneau, Olivier; Prud'homme, Christophe) Nonmatching grids for fluids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 3–22, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76103** 76M25 (65M50, 65N50)

— (*with* Nataf, Frédéric) A Robin-Robin preconditioner for an advection-diffusion problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 377–383, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (76M25)

— (*with* Pironneau, Olivier; Valentin, Frederic G. C.) Shape control versus boundary control. (English summary) *Équations aux dérivées partielles et applications*, 1–18, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Pekka Neittaanmäki) **99j:49080** 49Q10 (35L05, 76M30)

— (*with* Mohammadi, Bijan; Pironneau, Olivier; Valentin, Frederic G. C.) Domain decomposition & wall laws. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 1–14, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76070** 76M25 (76D10)

— (*with* Le Tallec, Patrick; Valentin, Frederic G. C.; Pironneau, Olivier) Constructing wall laws with domain decomposition or asymptotic expansion techniques. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 215–232. (Tomás Chacón Rebollo) **99h:76027** 76D10 (65M55, 76F99, 76M25)

— (*with* Pironneau, Olivier; Valentin, Frederic G. C.) Effective boundary conditions for laminar flows over periodic rough boundaries. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 187–218. (Timothy Nigel Phillips) **99j:76086** 76M25

— (*with* Maday, Yvon; Widlund, Olof B.) Iterative substructuring preconditioners for mortar element methods in two dimensions. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 551–580 (*electronic*). (Ji Chun Li) **99m:65233** 65N55 (65F35, 65N30, 65N35)

Achenbach, J. D. Explicit solutions for carrier waves supporting surface waves and plate waves. (English summary) *Wave Motion* **28** (1998), *no.* 1, 89–97. (Summary) **99a:73051** 73D20 (73B40)

— (*with* Xu, Yong Lin) Use of elastodynamic reciprocity to analyze point-load generated axisymmetric waves in a plate. (English summary) *Wave Motion* **30** (1999), *no.* 1, 57–67. 73D15 (73K10)

Achenie, Luke E. K. (*with* Yuan, Lisong; Jiang, Wei-Sun) Linear quadratic optimal output feedback control for systems with poles in a specified region. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1151–1164. 49N10 (93B55)

Acheson, David ★ From calculus to chaos. (English summary) An introduction to dynamics. *Oxford University Press, Oxford*, 1997. x+269 *pp. ISBN* 0-19-850257-5 (Andrei Iacob) **99f:70001** 70–01 (00A69, 01A05, 34Cxx, 58F13, 70Kxx, 76D99)

Achhab, M. E. (*with* Wertz, V.) On reachable sets for a class of nonlinear systems with constraints. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 105–118. (M. Krastanov) **99k:93012** 93B03 (49J15, 93C15)

blas Achic, H. S. *see* **Blas Achic, H. S.**

Achilles, Rüdiger (*with* Manaresi, Mirella) A footnote to a result of Sturmfels-Trung-Vogel on the effective Nullstellensatz. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 1–7. (Joachim Apel) **99f:13022** 13F20 (13P99)

— (*with* Manaresi, Mirella) Multiplicities of a bigraded ring and intersection theory. *Math. Ann.* **309** (1997), *no.* 4, 573–591. (Marc Chardin) **99a:14005** 14C17 (13A30, 13H15)

Achs, Ágnes (*with* Kiss, Attila) A fuzzy extension of Datalog. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 111–138 (1999). (Summary) **99m:68028** 68N17 (03B52, 03B70)

Achtziger, Wolfgang (*with* Bendsøe, Martin P.; Taylor, John E.) Bounds on the effect of progressive structural degradation. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 6, 1055–1087. (Summary) **99b:73031** 73K40 (73K99, 73V20)

— Multiple-load truss topology and sizing optimization: some properties of minimax compliance. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 255–280. (Christian Zillober) **99f:73059** 73K40 (90C30, 90C90)

Achúcarro, Ana (*with* de Roo, Mees; Huiszoon, L.) Unstable vortices do not confine. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 288–292. (Summary) **99f:81228** 81V25 (81T30)

— (*with* Borrill, Julian; Liddle, Andrew R.) Semilocal string formation in two dimensions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3742–3748. 83F05

Achuthan, N. R. (*with* Caccetta, Louis; Hill, S. P.) Capacitated vehicle routing problem: some new cutting planes. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 109–123. (Summary) **99f:90157** 90C35 (90C27)

— (*with* Achuthan, Nirmala; Simanihuruk, M.) On the Nordhaus-Gaddum problem for the n-path-chromatic number of a graph. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 107–115. (Summary) **99a:05045** 05C15

Achuthan, Nirmala (*with* Achuthan, N. R.; Simanihuruk, M.) On the Nordhaus-Gaddum problem for the n-path-chromatic number of a graph. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 107–115. (Summary) **99a:05045** 05C15

Acid, Silvia (*with* de Campos Ibáñez, Luis Miguel) An algorithm for finding minimum d-separating sets in belief networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 3–10, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

ojeda Aciego, M. *see* **Ojeda Aciego, M.**

Açikgöz, I. (*with* Ünal, Nuri) Vacuum polarization in self-field quantum electrodynamics. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 815–828. (Summary) **99f:81218** 81V10

Acióly, Benedito Melo (*with* Bedregal, Benjamín R. Callejas) A quasi-metric topology compatible with inclusion monotonicity on interval space. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 305–313. (Summary) **99a:65060** 65G10

Acka, Joseph K. Finding the transfer function of time invariant linear system without computing $(sI - A)^{-1}$. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1517–1522. 93C05 (93C80)

Acker, Andrew On the existence of convex classical solutions to a generalized Prandtl-Batchelor free boundary problem. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 1–30. (Mahdi Boukrouche) **99a:35273** 35R35 (76C05, 76M30)

Ackerer, Philippe (*with* Younès, Anis; Mose, Robert; Chavent, Guy) Une résolution par les éléments finis mixtes à une inconnue par maille. (English and French summaries) [Solution using the mixed finite element method with one unknown per element] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 623–626. (Summary) **99m:65226** 65N30 (76M10, 76S05, 86–08)

— (*with* Younès, Anis; Mose, Robert; Chavent, Guy) A new formulation of the mixed finite element method for solving elliptic and parabolic PDE with triangular elements. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 148–167. (Summary) **99i:76133** 76M25 (76S05, 86–08, 86A05)

Ackermann, Nils Multiple single-peaked solutions of a class of semilinear Neumann problems via the category of the domain boundary. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 3, 263–292. (Xi Ping Zhu) **99j:35059** 35J65 (58E05)

Ackermann, Silke (*with* Cherry, John) Richard II, John Holland and three medieval quadrants. (English summary) *Ann. of Sci.* **56** (1999), *no.* 1, 3–23. 01A35

Ackermann, Thomas Dirac operators and Clifford geometry—new unifying principles in particle physics? (English summary) *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 1–10, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Bruno Iochum) **99d:58159** 58G03 (58G30, 81T13, 81V22)

Acketa, Dragan M. (*with* Matić-Kekić, Snežana; Žunić, Joviša D.) Limitations for the non-symmetric part of lattice convex n-gons with minimum L_∞ diameter. (English summary) *Filomat No.* 11 (1997), 19–28. (Rade Živaljević) **99c:52015** 52B20 (52A40, 52B55, 52C05)

— (*with* Mudrinski, Vojislav) Some designs with projective symplectic groups as automorphism groups. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 93–110. (Stanisław P. Radziszowski) **99k:05049** 05B30 (20B25)

— (*with* Matić-Kekić, Snežana) On minimal area augmentation of digital convex n-gons. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 87–99. (Summary) **99e:68162** 68U05 (52A41)

Ackleh, Azmy S. Estimation of rate distributions in generalized Kolmogorov community models. *Nonlinear Anal.* **33** (1998), *no.* 7, 729–745. (T. J. Mahar) **99i:92015** 92D25 (34A12, 92D40)

— (*with* Reich, Simeon) Parameter estimation in nonlinear evolution equations. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 933–947. (Gabriel Dimitriu) **99k:93038** 93B30 (34G20, 35K99, 49K27, 65K10)

calvario Acócal, J. L. *see* **Calvario Acócal, J. L.**

de Acosta, Alejandro D. (*with* Chen, Xia) Moderate deviations for empirical measures of Markov chains: upper bounds. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 1075–1110. (Miguel A. Arcones) **99k:60069** 60F10 (60J10)

Acosta, Eleonora (*with* Zambrano, Nancy) A method for constructing imperative programs starting from algebraic specifications. (Spanish. English and Spanish summaries) *Acta Cient. Venezolana* **48** (1997), *no.* 4, 199–210. (Summary) **99b:68130** 68Q65

pérez Acosta, Francisco *see* **Pérez Acosta, Francisco**

Acosta, Gabriel (*with* Piacquadio Losada, María) The minimum value of the α-concentration of Procaccia of elements in Fuchsian groups with zero-trace generators. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 1–13. (Remo Badii) **99d:58113** 58F12 (28A80, 58F13)

morales Acosta, J. Josué *see* **Morales Acosta, J. Josué**

Acosta, Lorenzo *see* **Acosta G., Lorenzo**

Acosta, María D. (*with* Ruiz Galán, Manuel) New characterizations of the reflexivity in terms of the set of norm attaining functionals. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 279–289. (G. J. O. Jameson) **99j:46015** 46B10 (46B22)

— On multilinear mappings attaining their norms. (English summary) *Studia Math.* **131** (1998), *no.* 2, 155–165. (Andreas Defant) **99k:46025** 46B28 (46B04, 46G20)

— (*with* Ruiz Galán, Manuel) A version of James' theorem for numerical radius. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 67–74. (P. Saphar) **99k:47009** 47A12 (46B10)

martinez-Acosta, R. R. *see* **Martinez-Acosta, R. R.**

Acosta G., Lorenzo (*with* Lozano, Epifanio) An adjunction between binary relations and topological spaces. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 1, 37–41. (Summary) **99f:18005** 18A40 (18B99)

Acosta García, Gerardo Hyperspaces and the Kelley property. (Spanish) *Miscelánea Mat. No.* 22 (1995), 61–63. 54B20

Acosta Rodríguez, G. *see* **Acosta, Gabriel**

Acquistapace, F. (*with* Andradas, C.; Broglia, Fabrizio) Classification of obstructions for separation of semialgebraic sets in dimension 3. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 27–49. (Summary) **99m:14108** 14P10

— (*with* Andradas, C.; Broglia, Fabrizio) Separation of semialgebraic sets. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 3, 703–728. (Victoria Powers) **99m:14109** 14P10

Acquistapace, P. (*with* Terreni, B.) Classical solutions of nonautonomous Riccati equations arising in parabolic boundary control problems. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 3, 361–409. (Mary Ann Horn) **99m:49037** 49K20 (34G20, 35K99, 47D06, 93C20)

Actor, A. A. (*with* Bender, I.) A property of the vacuum stress tensor in static Casimir theory. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6737–6741. (Summary) **99k:81194** 81T16

Acu, Dumitru On some exponential Diophantine equations of the form $a^x - b^y c^z = \pm 1$. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 167–171. (Nigel P. Smart) **99i:11020** 11D61

— Optimal combined quadrature formulas concerning the efficiency. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 139–146, *Transilvania, Cluj-Napoca*, 1997. (N. S. Kambo) **99b:65026** 65D32 (41A55)

— V-optimal quadrature formulas of Gauss-Christoffel type. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 125–133 (1998). (I. P. Mysovskikh) **99m:65045** 65D32 (41A55)

menéndez Acuña, Ernesto *see* **Menéndez Acuña, Ernesto**

Acworth, Peter (*with* Broadie, Mark; Glasserman, Paul) A comparison of some Monte Carlo and quasi-Monte Carlo techniques for option pricing. (English summary) *Monte Carlo and quasi-Monte Carlo methods 1996 (Salzburg)*, 1–18, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:90010** 90A09 (65C05)

Aczel, Amir D. *see* **Teebagy, Nicholas**

Aczél, János (*with* Maksa, Gyula) Solution of the rectangular $m \times n$ generalized bisymmetry equation and of the problem of consistent aggregation. *J. Math. Anal. Appl.* **203** (1996), *no.* 1, 104–126. (Author's review (J.A.) (Zbl 858.39013)) **99f:90022** 90A11 (39B52)

— (*with* Luce, R. Duncan; Maksa, Gyula) Solutions to three functional equations arising from different ways of measuring utility. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 451–471. (Summary) **99a:90049** 90A10 (39B52)

— (*with* Maksa, Gyula) Inequalities for selection probabilities. (English summary) *General inequalities, 7 (Oberwolfach, 1995)*, 271–284, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Claudi Alsina) **99c:90005** 90A05 (39B05, 90A06)

— What to do until (and when) the functional equationist arrives. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 247–274. (Summary) **99c:39027** 39B22 (90A10, 92J45)

Aczel, Peter Lectures on semantics: the initial algebra and final coalgebra perspectives. (English summary) *Logic of computation (Marktoberdorf, 1995)*, 1–33, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (Eric G. Wagner) **99h:68110** 68Q55 (03B70, 18B99)

Adachi, Jiro Generic knots in tight contact 3-manifolds. Theory of singularities for differentiable mappings: topology and applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 952 (1996), 119–130. (*see* **97m:58001**) 57M25 (57R15)

— Contact structures on an open solid torus. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 69–80. (Hansjörg Geiges) **99h:53034** 53C15 (57R15)

Adachi, Kei (*with* Miyazaki, Takeshi) Short-wavelength instabilities of waves in rotating stratified fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3168–3177. (Summary) **99g:76147** 76U05 (76E99, 76V05)

Adachi, Kenzō (*with* Cho, Hong Rae) Lipschitz and BMO extensions of holomorphic functions from subvarieties to a convex domain. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 465–473. (Summary) **99a:32003** 32A25 (32A10)

— (*with* Cho, Hong Rae) H^p and L^p extensions of holomorphic functions from subvarieties to certain convex domains. (English summary) *Math. J. Toyama Univ.* **20** (1997), 1–13. (Marek Jarnicki) **99b:32010** 32D15

— (*with* Cho, Hong Rae) Some Hölder estimates for $\overline{\partial}$ on convex domains in $\mathbf{C}^3$ with real analytic boundary. (English summary) *Sci. Bull. Fac. Ed. Nagasaki Univ. No.* 58 (1998), 1–7. (Der-Chen E. Chang) **99b:32017** 32F20 (35H05, 35N15)

— (*with* Hori, Hikaru) Note on the $\overline{\partial}$-problem on the complex ellipsoid. (English summary) *Sci. Bull. Fac. Ed. Nagasaki Univ. No.* 58 (1998), 9–13. (Der-Chen E. Chang) **99b:32018** 32F20 (35H05, 35N15)

Adachi, N. *see* **Adachi, Norio**

Adachi, Norihiko (*with* Hirashima, Youichi; Iiguni, Youji) An adaptive control system design using a memory based learning system. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1085–1102. 93C40 (93E35)

Adachi, Norio The history of the arithmetic of elliptic curves. (Japanese) Algebraic number theory and Fermat's problem (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 971 (1996), 30–39. (Masatoshi Yamauchi) **99a:11068** 11G05 (11–03)

Adachi, T. (*with* Jameson, Leland; Ukai, O.; Yuasa, A.) Wavelet-based numerical methods. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 4, 267–280. 76M25 (65–02, 65T20, 76M10)

Adachi, Tadayoshi Asymptotic observables for N-body Stark Hamiltonians. Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 76–93. (Serguei E. Tcheremchantsev) **99j:81197** 81U10 (35J10, 47N50, 81Q10)

— Asymptotic observables for N-body Stark Hamiltonians. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 3, 247–283. (Tohru Ozawa) **99b:35027** 35J10 (35P25, 35Q40, 47A40, 47N50, 81Q10)

Adachi, Takahiro Stability of flow within a rectangular pipe and its transition to turbulence. (Japanese) Structure of solutions to rectangular pipe flows (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1018 (1997), 1–13. (*see* **99d:76003**) 76E99 (76F99)

— (*with* Mizushima, Jiro) Instability of a flow in a rectangular pipe and its transition to turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 202–214. (*see* **99k:76004**) 76E99 (76F99)

Adachi, Toshiaki (*with* Maeda, Sadahiro) A construction of closed helices with self-intersections in a complex projective space by using submanifold theory. (English summary) *Hokkaido Math. J.* **28** (1999), *no.* 1, 133–145. (Bao Qiang Wu) **99m:53111** 53C42 (53C22)

Adak, Sudeshna Time-dependent spectral analysis of nonstationary time series. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1488–1501. (Summary) **99i:62193** 62M10

Adali, Sarp (*with* Sloss, J. M.; Bruch, J. C., Jr.; Sadek, Ibrahim S.) Maximum principle for optimal boundary control of vibrating structures with applications to beams. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 355–375. (L. P. Lebedev) **99k:49055** 49K20 (73K12, 73K50, 93D15)

— (*with* Sadek, Ibrahim S.; Sloss, J. M.; Bruch, J. C., Jr.) A maximum principle for optimal control using spatially distributed pointwise controllers. (English summary) *J. Vib. Control* **4** (1998), *no.* 4, 445–462. (Vadim Komkov) **99d:49043** 49K20 (73K50)

Adalsteinsson, D. (*with* Evans, Lawrence C.; Ishii, Hitoshi) The level set method for etching and deposition. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1153–1186. (Robert McOwen) **99a:35257** 35Q99 (35F25, 35K22, 49L25)

— (*with* Sethian, James A.) The fast construction of extension velocities in level set methods. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 2–22. (Summary) **99j:65189** 65N30 (73V20)

Adam, A. A. (*with* Mahomed, F. M.) Non-local symmetries of first-order equations. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 187–198. (Dušan Mamrilla) **99f:34006** 34A25

Adam, Brigitte Généralisation d'une famille de Shanks. [Generalization of a family of Shanks] *Acta Arith.* **84** (1998), *no.* 1, 43–58. (Franz Halter-Koch) **99d:11115** 11R16 (11R27)

Adam, Christoph (*with* Rossini, Gerardo L.) Schwinger terms in Weyl-invariant and diffeomorphism-invariant 2D scalar field theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4833–4838. (Summary) **99m:81228** 81T50 (81T20)

Adam, J. A. (*with* Bellomo, C.) Post-surgical passive response of local environment to primary tumor removal. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 7–17. (Summary) **99g:92013a** 92C50

— (*with* Bellomo, C.) Corrigendum to: "Post-surgical passive response of local environment to primary tumor removal". *Math. Comput. Modelling* **26** (1997), *no.* 12, 125–126. (Summary) **99g:92013b** 92C50

Adam, Mircea An algorithm for computing the optimal estimator of a regionalized variable in the presence of a drift. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 3–8. 86A32 (62P99)

Adam, Peter (*with* Janszky, J.; Kis, Z.) Star states. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 829–835. (*see* **99j:81007**) 81V80

Adamatskiĭ, A. I. Master-slave algebra: on the binary compositions of distributed beliefs. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 173–180. 03B45

— Reconstruction of non-logical axioms from the propositions of multi-agent doxastic logic. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 861, 952–961. 68T27 (03B45, 03B70)

— (*with* Holland, Owen) Voronoi-like nondeterministic partition of a lattice by collectives of finite automata. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 73–93. (Summary) **99h:68123** 68Q80 (68U05)

— Nonconstructible blocks in 1D cellular automata: minimal generators and natural systems. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 1, 77–91. (Summary) **99h:68124** 68Q80

Adamchik, V. S. (*with* Srivastava, Hari M.) Some series of the zeta and related functions. (English summary) *Analysis (Munich)* **18** (1998), *no.* 2, 131–144. (Jack Quine) **99d:11096** 11M06 (33B15)

— Polygamma functions of negative order. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 2, 191–199. (Summary) **99j:33001** 33B15 (33C60, 65D20)

Adamczak, Marek $C^{(n)}$-almost periodic functions. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 1–12. (A. Precupanu) **99e:42015** 42A75

Adamczyk, Gabriela On a generalization of the theorem on two constants. (English summary) *Transform methods & special functions, Varna '96*, 1–6, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99k:30013** 30C45

Adamczyk, K. (*with* Huet, S.; Denis, J.-B.) Bootstrap confidence intervals in nonlinear regression models when the number of observations is fixed and the variance tends to 0. Application to biadditive models. (English summary) *Statistics* **32** (1999), *no.* 3, 203–227. (Summary) **99k:62087** 62G09 (62J02)

Adamec, Ladislav Kinetical systems—local analysis. (English summary) *Appl. Math.* **43** (1998), *no.* 2, 111–117. (Tomáš Gedeon) **99a:34142** 34D05 (34C23)

Adámek, Jiří (*with* Rosický, Jiří) Apology: "A remark on accessible and axiomatizable categories" [Comment. Math. Univ. Carolin. **37** (1996), no. 2, 411–414; MR 98i:18001]. *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 203. (From the text) **99e:18005** 18B99

— (*with* Johnstone, Peter; Makowsky, Johann A.; Rosický, Jiří) Finitary sketches. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 699–707. (Leo Esakia) **99e:03044** 03G30 (03C75, 03C95. 18C10, 68Q65)

— A categorical generalization of Scott domains. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 419–443. (Guo-Qiang Zhang) **99f:68130** 68Q55 (03G30, 18B99)

Adami, R. (*with* Teta, A.) On the Aharonov-Bohm Hamiltonian. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 43–53. (Liu Yang) **99a:81030** 81Q10 (81U05)

Adami, S. (*with* Bianchi, Mariagrazia; Gillio Berta Mauri, Anna; Herzog, Marcel) On graph-complete groups. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 295–307 (1997). (David Chillag) **99b:20040** 20D60

Adamidis, K. (*with* Loukas, S.) A lifetime distribution with decreasing failure rate. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 35–42. (Ram Shanmugam) **99i:62234** 62N05 (62E15)

Adamopoulos, M. (*with* Goulianas, K.; Margaritis, Konstantinos G.) Structured artificial neural networks for fast batch LMS algorithms. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 549–563. (Summary) **99c:65053** 65F10

Adamović, Dražen On vertex algebras associated to representations of affine Lie algebras. (English summary) *IX. Mathematikertreffen Zagreb-Graz (Motovun, 1995)*, 1–10, *Grazer Math. Ber.*, 328, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Kilian Koepsell) **99c:17040** 17B69 (17B67)

— Vertex operator algebras and irreducibility of certain modules for affine Lie algebras. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 809–821. (Hai Sheng Li) **99f:17031** 17B69 (17B10, 17B67)

— Representations of vertex algebras. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 109–114. (Chong Ying Dong) **99j:17040** 17B69 (17B67, 17B68)

— Representations of the $N = 2$ superconformal vertex algebra. *Internat. Math. Res. Notices* **1999**, *no.* 2, 61–79. (Chong Ying Dong) **99m:17032** 17B69 (17B68)

Adamovich, A. M. The structure of cohomology modules of line bundles on G/B. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 10–17; *translation in Math. Notes* **62** (1997), *no.* 1-2, 8–14 (1998). (Boris È. Kunyavskiĭ) **99c:20054** 20G05 (14M15)

— The structure of cohomology modules of line bundles on G/B, and a weak order on the Weyl group. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 163–168; *translation in Math. Notes* **62** (1997), *no.* 1-2, 135–140 (1998). (Dmitrii A. Timashëv) **99b:14053** 14M15 (20G05)

Adamowicz, Zofia Hilbert's Tenth Problem. (Polish. English summary) *Hilbert's Problems (Polish) (Międzyzdroje*, 1993), 123–128, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 11–03 (01A60, 03–03, 03D25, 11U05)

Adams, C. *see* **Adams, Colin C.**

Adams, Carlisle M. Constructing symmetric ciphers using the CAST design procedure. (English summary) Selected areas in cryptography (Ottawa, ON, 1995). *Des. Codes Cryptogr.* **12** (1997), *no.* 3, 283–316. (Kaisa Nyberg) **99k:94029** 94A60

Adams, Colin C. Maximal cusps, collars, and systoles in hyperbolic surfaces. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 419–437. (Athanase Papadopoulos) **99j:57011** 57M50 (52A55)

— (*with* Hass, Joel; Scott, Peter) Simple closed geodesics in hyperbolic 3-manifolds. *Bull. London Math. Soc.* **31** (1999), *no.* 1, 81–86. (Sadayoshi Kojima) **99h:57031** 57N10 (53C22)

— (*with* Morgan, Frank) Isoperimetric curves on hyperbolic surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1347–1356. (Michel Coornaert) **99h:53080** 53C42 (30F45, 49Q10, 53A35)

— *see also* **Knot theory and its applications, 99a:57001**

Adams, David H. A note on the Faddeev-Popov determinant and Chern-Simons perturbation theory. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 3, 205–214. (Christian Grosche) **99c:58166** 58G26 (58D20, 81T13)

— The semiclassical approximation for the Chern-Simons partition function. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 53–60. (Esther Pérez) **99a:58151** 58G18 (58D30, 81T13)

Adams, David R. (*with* Lenhart, Suzanne; Yong, Jiong Min) Optimal control of the obstacle for an elliptic variational inequality. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 121–140. (Samir Adly) **99h:49004** 49J20 (31B05, 35J85, 49N60)

— Choquet integrals in potential theory. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 3–66. (Tero Kilpeläinen) **99g:31010** 31C15 (28C99, 35J85, 46N20)

Adams, Jeffrey (*with* Huang, Jing-Song) Kazhdan-Patterson lifting for $GL(n, \mathbf{R})$. *Duke Math. J.* **89** (1997), *no.* 3, 423–444. (From the introduction) **99e:22033** 22E47

— Character of the oscillator representation. (English summary) *Israel J. Math.* **98** (1997), 229–252. (Gestur Ólafsson) **99e:22026** 22E46 (22E47)

— (*with* Barbasch, Dan) Genuine representations of the metaplectic group. (English summary) *Compositio Math.* **113** (1998), *no.* 1, 23–66. (Tomasz Przebinda) **99h:22013** 22E45

— Lifting of characters on orthogonal and metaplectic groups. *Duke Math. J.* **92** (1998), *no.* 1, 129–178. (Tomasz Przebinda) **99h:22014** 22E45

— (*with* Huang, Jing-Song; Vogan, David A., Jr.) Functions on the model orbit in E_8. (English summary) *Represent. Theory* **2** (1998), 224–263 (*electronic*). (William M. McGovern) **99g:20077** 20G05 (22E47)

Adams, K. L. (*with* Chapman, S. J.; King, John Robert) Exponential asymptotics and Stokes lines in nonlinear ordinary differential equations. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2733–2755. (Summary) **99e:34073** 34E20

Adams, Malcolm R. (*with* McCrory, Clint; Shifrin, T.; Varley, Robert) Conic Lagrangian singularities. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 155–178. (Stanisław Janeczko) **99i:57049** 57R45 (58F05)

Adams, Michael J. Generalized orthogonal arrays: constructions and related graphs. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 31–39. (Sanpei Kageyama) **99k:05037** 05B15

Adams, Peter (*with* Bryant, Darryn E.; Khodkar, A.) On the number of repeated triples in balanced ternary designs with index two. (English summary) *Util. Math.* **55** (1999), 55–64. (Summary) **99m:05016** 05B05

Adams, Scot Another proof of Moore's ergodicity theorem for $SL(2, \mathbf{R})$. *Topological dynamics and applications (Minneapolis, MN*, 1995), 183–187, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Mahesh Nerurkar) **99a:28019** 28D15 (22D40, 54H20)

— (*with* Ballmann, Werner) Amenable isometry groups of Hadamard spaces. *Math. Ann.* **312** (1998), *no.* 1, 183–195. (Andrea Sambusetti) **99i:53032** 53C20

Adams, Terrence M. (*with* Nobel, Andrew B.) On density estimation from ergodic processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 794–804. (G. Roussas) **99m:62038** 62G05 (60G10)

— (*with* Petersen, Karl E.) Binomial-coefficient multiples of irrationals. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 269–278. (Karma Dajani) **99d:28026** 28D05

— Smorodinsky's conjecture on rank-one mixing. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 739–744. (Jan Kwiatkowski) **99e:28023** 28D05

Adams, Warren P. (*with* Sherali, Hanif D.) Reformulation-linearization techniques for discrete optimization problems. *Handbook of combinatorial optimization, Vol.* 1, 479–532, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C10)

— (*with* Bowers Lassiter, Julie; Sherali, Hanif D.) Persistency in 0-1 polynomial programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 359–389. (Jesús A. de Loera) **99d:90075** 90C09 (90C11, 90C30)

— (*with* Sherali, Hanif D.; Driscoll, Patrick J.) Exploiting special structures in constructing a hierarchy of relaxations for 0 – 1 mixed integer problems. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 396–405. 90C09 (90C11)

Adams, William W. (*with* Hoşten, Serkan; Loustaunau, Philippe; Miller, J. Lyn) SAGBI and SAGBI-Gröbner bases over principal ideal domains. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 31–47. (Karin Gatermann) **99j:13023** 13P99 (68Q40)

Adamson, Iain T. *see* **Hilbert, David[1], 99j:01027**

Adamy, Udo (*with* Seidel, Raimund) On the exact worst case query complexity of planar point location. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 609–618, *ACM, New York*, 1998. (Summary) **99g:68205** 68U05 (68Q25)

melik-Adamyan, F. È. *see* **Melik-Adamyan, F. È.**

Adamyan, V. M. (*with* Mennicken, R.; Saurer, J.) On the discrete spectrum of some selfadjoint operator matrices. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 3–41. (M. M. Malamud) **99g:47046** 47B25 (34L05, 47A10, 47E05)

Adan, I. J. B. F. (*with* van Houtum, G. J.; Zijm, W. H. M.; Wessels, Jaap) Bounds for performance characteristics: a systematic approach via cost structures. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 205–224. (Gerard Hooghiemstra) **99g:60170** 60K25

— (*with* Hooghiemstra, Gerard) The $M/M/c$ with critical jobs. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 341–353. (Srinivas Chakravarthy) **99g:60163** 60K25 (90B22)

— (*with* van Doorn, Erik A.; Resing, J. A. C.; Scheinhardt, W. R. W.) Analysis of a single-server queue interacting with a fluid reservoir. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 313–336. (Walter M. Böhm) **99j:60135** 60K20 (60K25, 90B22)

Adan Bante, Edith Mathieu groups. (Spanish) *Miscelánea Mat. No.* 21 (1994), 57–61. 20D08

Adaricheva, K. V. (*with* Gorbunov, V. A.; Dziobiak, Wiesław) Algebraic point lattices of quasivarieties. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 4, 363–386, 478; *translation in Algebra and Logic* **36** (1997), *no.* 4, 213–225. (A. A. Iskander) **99c:08013** 08C15

— (*with* Gorbunov, V. A.; Dziobiak, Wiesław) Algebraic point lattices of quasivarieties. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 295–297. 08C15

Adawi, Tom (*with* Cederwall, Martin; Gran, Ulf; Holm, Magnus; Nilsson, Bengt E. W.) Superembeddings, nonlinear supersymmetry and five-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4691–4715. (Sergey Nikolaevich Roshchupkin) **99j:81129** 81T30

— (*with* Cederwall, Martin; Gran, Ulf; Nilsson, Bengt E. W.; Razaznejad, Behrooz) Goldstone tensor modes. (English summary) *J. High Energy Phys.* **1999**, *no.* 2, *Paper* 1, 21 *pp.* (*electronic*). (Summary) **99k:81210** 81T30 (83E50)

el-Adawy, T. M. *see* **El-Adawy, T. M.**

ben Adda, Fayçal *see* **Ben Adda, Fayçal**

Adda, Josette Analyse logique de certains dysfonctionnements de l'enseignement des mathématiques. [Logical analysis of certain failures in the teaching of mathematics] Logique dans l'enseignement des mathématiques (Liège, 1996). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, *suppl.*, 1–6. (*see* **99g:00042**) 00A35

Adda-Bedia, M. (*with* Patricio da Silva, Pedro; Ben Amar, Martine) An elastica problem: instabilities of an elastic arch. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 285–295. (Summary) **99h:73042** 73K05 (73Hxx)

Addou, Idris (*with* Bouguima, Sidi Mohammed; Derhab, Mohammed; Raffed, Yazid Said) On the number of solutions of a quasilinear elliptic class of B.V.P. with jumping nonlinearities. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 575–600. (Michal Fečkan) **99m:34030** 34B15 (35J60)

Adelberg, Arnold 2-adic congruences of Nörlund numbers and of Bernoulli numbers of the second kind. (English summary) *J. Number Theory* **73** (1998), *no.* 1, 47–58. (L. Skula) **99m:11018** 11B68

Adeli, H. (*with* Saleh, A.) Integrated structural/control optimization of large adaptive/smart structures. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3815–3830. 93C85 (90C90)

Adell, José A. (*with* Pérez-Palomares, Ana) Best constants in preservation inequalities concerning the first modulus and Lipschitz classes for Bernstein-type operators. (English summary) *J. Approx. Theory* **93** (1998), *no.* 1, 128–139. (V. A. Baskakov) **99a:41038** 41A44 (41A17)

— (*with* Sangüesa, Carmen) Direct and converse inequalities for positive linear operators on the positive semi-axis. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 90–103. (J. Szabados) **99k:41033** 41A35 (41A25)

— (*with* Sangüesa, Carmen) Rates of uniform convergence in the real inversion theorem for Laplace transforms. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 139–149. (Wolfgang Preuss) **99j:60045** 60F99 (44A10)

Adelman, Omer (*with* Burdzy, Krzysztof; Pemantle, Robin) Sets avoided by Brownian motion. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 429–464. (Mathew D. Penrose) **99i:60152** 60J65

Adem, Alejandro Buildings, group extensions and the cohomology of congruence subgroups. *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 1–15, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Kevin P. Knudson) **99g:20095** 20J05 (20E42, 20G10, 55R35)

— (*with* Karagueuzian, Dikran; Milgram, R. James; Umland, Kristin) The cohomology of the Lyons group and double covers of alternating groups. *J. Algebra* **208** (1998), *no.* 2, 452–479. (David J. Green) **99m:20128** 20J06 (20D08)

— (*with* Benson, David John) Elementary abelian groups acting on products of spheres. *Math. Z.* **228** (1998), *no.* 4, 705–712. (Allan Edmonds) **99k:57033** 57M35 (57S17, 57S20)

Adem, Julián (*with* Skiba, Yu. N.) On the linear stability study of zonal incompressible flows on a sphere. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 649–665. (Stefan G. Llewellyn Smith) **99h:76040** 76E20 (76U05)

Adeniran, John Olusola On certain anticommutative algebras. (English and Serbian summaries) *Zb. Rad. (Kragujevac) No.* 20 (1998), 41–46. 17A30

— (*with* Solarin, A. R. T.) A note on automorphic inverse property loops. (English and Serbian summaries) *Zb. Rad. (Kragujevac) No.* 20 (1998), 47–52. (Summary) **99g:20123** 20N05

Adhikari, M. R. (*with* Das, Pratyayananda) An algebraic and fuzzy algebraic approach to vector bundles. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 29–36. (Summary) **99d:55009** 55R99 (16Y30)

— (*with* Mukhopadhyay, A.) A step towards incommensurability of π and Bhāskara (I). An episode of the sixth century AD. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 2, 119–129. (A. I. Volodarskiĭ) **99i:01012** 01A32

Adhikari, Narayan Chandra Primary and semiprimary Γ-semigroup. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 273–280 (1998). 20M99

— (*with* Dutta, Tapan Kumar[1]) On ΓS-act. (English summary) *J. Pure Math.* **13** (1996), 46–52. (Summary) **99f:20104** 20M30

— (*with* Dutta, Tapan Kumar[1]) Primitive Γ-semigroup. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 385–392. (H.-J. Hoehnke) **99g:20120** 20M99 (20N10)

Adhikari, Sukumar Das The average behaviour of the number of solutions of a Diophantine equation and an averaging technique. *Number theory* (*Eger*, 1996), 1–8, *de Gruyter, Berlin*, 1998. (Y.-F. S. Pétermann) **99d:11104** 11N37 (11P21)

Adhikari, Swapan Kumar Babylonian mathematics. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 1, 1–23. (H. W. Guggenheimer) **99h:01007** 01A17

Adhikary, Arun K. (*with* Chadhury, Arijit; Maiti, Tapabrata) A note on non-negative mean square error estimation of regression estimators in randomized response surveys. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 409–415. 62D05

Adhirkary, D. B. A Cauchy problem solution of a Sobolev type system. (English summary) *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 23–30. 35Q35 (76C99)

yaḥyā ibn 'Adī, Abū Zakarīyā' *see* **Yaḥyā ibn 'Adī, Abū Zakarīyā'**

Adiga, Chandrashekar (*with* Somashekara, D. D.) On some Rogers-Ramanujan type continued fraction identities. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 37–45. (Summary) **99j:33021** 33D15 (11A55, 11B65)

— (*with* Bhargava, Srinivasamurthy; Somashekara, D. D.) Ramanujan's ${}_1\psi_1$ summation and an interesting generalization of an identity of Jacobi. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 39–42. (Summary) **99j:33008** 33C15

Adimari, Gianfranco Empirical likelihood type confidence intervals under random censorship. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 447–466. (Daijin Ko) **99b:62088** 62G30 (62G15, 62G20, 62N05)

Adimurthi (*with* Yadava, S. L.) Nonexistence of positive radial solutions of a Neumann problem with critical exponent. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 259–266. (*see* **99g:00038**) 35J65 (34B15, 35B05)

— (*with* Pacella, Filomena; Yadava, S. L.) On the number of positive solutions of some semilinear Dirichlet problems in a ball. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1157–1170. (C. A. Swanson) **99b:35061** 35J65 (34B15, 34C23, 35B32, 35P30)

— Uniqueness of positive solutions of a quasilinear Dirichlet problem with exponential nonlinearity. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 895–906. (Summary) **99g:35040** 35J65 (35B05)

Adimy, Mostafa (*with* Ezzinbi, Khalil) Local existence and linearized stability for partial functional-differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 389–403. (Eugenio Sinestrari) **99m:34181** 34K30 (34K20, 47D06)

— (*with* Ezzinbi, Khalil) A class of linear partial neutral functional-differential equations with nondense domain. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 285–332. (Jian Hong Wu) **99f:35214** 35R10 (34K30, 47D06)

— (*with* Ezzinbi, Khalil) Strict solutions of nonlinear hyperbolic neutral differential equations. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 107–112. (Ti Jun Xiao) **99j:34115** 34K30 (34K40, 47D06)

Adiri, I. (*with* Hamberg, O.) Openshop scheduling under linear resources constraints. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 51–66. (Summary) **99a:90105** 90B35

Adirov, T. Kh. (*with* Gafurov, M. U.; Khamdamov, I. M.) Asymptotic analysis of a Hill-type statistical estimator for the parameter of the generalized Weibull distribution. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 11–22. (Summary) **99f:62030** 62F10 (62G05)

Adjamagbo, Kossivi (*with* Rigal, Laurent) Sur les vecteurs cycliques et les éléments primitifs différentiels. [On cyclic vectors and differential primitive elements] *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 117–133, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (María-Angeles Zurro) **99f:12004** 12H05

Adji, Sriwulan Invariant ideals of crossed products by semigroups of endomorphisms. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 1–8, *Springer, Singapore*, 1997. (Summary) **99h:46123** 46L55 (46L40)

Adjiman, C. S. (*with* Schweiger, Carl A.; Floudas, Christodoulos A.) Mixed-integer nonlinear optimization in process synthesis. (English summary) *Handbook of combinatorial optimization, Vol.* 1, 1–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C11 (90–02, 90C27)

Adkins, Laura (*with* Fligner, Michael) A non-iterative procedure for maximum likelihood estimation of the parameters of Mallows' model based on partial rankings. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2199–2220. (Summary) **99i:62062** 62G05

Adlakha, V. G. (*with* Arsham, Hossein) A combined gradient and feasible direction pivotal solution algorithm for general LP. (English and Spanish summaries) *Investigación Oper.* **19** (1998), *no.* 1, 3–19. 90C05

— (*with* Arsham, Hossein) A warm-start dual simplex solution algorithm for the minimum flow networks with postoptimality analyses. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 12, 85–115. (Xue Liang Li) **99c:90042** 90B10 (90B12)

— (*with* Arsham, Hossein) Distribution-routes stability analysis of the transportation problem. (English summary) *Optimization* **43** (1998), *no.* 1, 47–72. (Summary) **99a:90088** 90B06 (90C05, 90C31)

Adleman, Leonard M. (*with* Demarrais, Jonathan; Huang, Ming-Deh A.) Quantum computability. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1524–1540. (Robert M. Baer) **99e:68035** 68Q05 (03D10, 03D15, 68Q15, 81P99)

— (*with* Roweis, Sam; Winfree, Erik; Burgoyne, Richard; Chelyapov, Nickolas V.; Goodman, Myron F.; Rothemund, Paul W. K.) A sticker based model for DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 1–29, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68059** 68Q05 (92D20)

— (*with* Rothemund, Paul W. K.; Roweis, Sam; Winfree, Erik) On applying molecular computation to the data encryption standard. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 31–44, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:94034** 94A60 (68Q05, 92D20)

Adler, André Unusual laws of large numbers for l_p random elements. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 3, 163–178. (Andrew Rosalsky) **99g:60042** 60F05 (60B11, 60B12, 60F15)

Adler, Friedrich *see* **Duhem, Pierre**, **99g:01043**

Adler, Irving The role of continued fractions in phyllotaxis. *J. Algebra* **205** (1998), *no.* 1, 227–243. (Roger V. Jean) **99g:92012** 92C15 (40A15)

Adler, M. *see* **Adler, Micah**

Adler, Mark (*with* Shiota, T.; van Moerbeke, P.) Random matrices, Virasoro algebras, and noncommutative KP. *Duke Math. J.* **94** (1998), *no.* 2, 379–431. (Kazuhiro Hikami) **99e:58088** 58F07 (17B68, 60H25)

— (*with* van Moerbeke, P.) Toda-Darboux maps and vertex operators. (English summary) *Internat. Math. Res. Notices* **1998**, *no.* 10, 489–511. (Iskander A. Taimanov) **99h:58075** 58F07 (17B69)

Adler, Micah (*with* Berenbrink, Petra; Schröder, Klaus) Analyzing an infinite parallel job allocation process. (English summary) *Algorithms—ESA '98 (Venice)*, 417–428, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68M20 (90B35)

— (*with* Chakrabarti, Soumen; Mitzenmacher, Michael; Rasmussen, Lars Eilstrup) Parallel randomized load balancing. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 2, 159–188. (Mukkai S. Krishnamoorthy) **99m:68021** 68M20

— Asynchronous shared memory search structures. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 377–401. (Summary) **99b:68088** 68Q22 (68P05)

Adler, Robert J. (*with* Epstein-Feldman, Raisa; Gallagher, Colin) Analysing stable time series. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 133–158, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10

— (*with* Tribe, Roger) Uniqueness for a historical SDE with a singular interaction. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 515–533. (Luis G. Gorostiza) **99g:60181** 60K35 (60G57, 60H20, 60J80)

— *see also* **Practical guide to heavy tails, 99f:62010**

Adler, Roy (*with* Kitchens, Bruce; Shub, Michael) Errata to: "Stably ergodic skew products" [Discrete Contin. Dynam. Systems **2** (1996), no. 3, 349–350; MR 97d:58113]. *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 456. (From the text) **99k:58110** 58F11 (58F15)

Adler, Stephen L. Generalized quantum dynamics: a formalism encompassing both classical & quantum theory. *Quantum classical correspondence (Philadelphia, PA, 1994)*, 203–212, *Internat. Press, Cambridge, MA*, 1997. (Władysław Adam Majewski) **99f:81116** 81S99 (81Q99)

— (*with* Emch, Gérard G.) A rejoinder on quaternionic projective representations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4758–4762. (Summary) **99c:81055** 81R05 (22E99)

— (*with* Horwitz, Lawrence P.) Equilibrium statistical ensembles and structure of the entropy functional in generalized quantum dynamics. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 519–529. (Robert Alicki) **99k:82048** 82C10 (82C03)

— Gauge fixing in the partition function for generalized quantum dynamics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1723–1729. (Mariano A. del Olmo) **99k:82007** 82B10 (81T99)

— (*with* Kempf, Achim) Corrections to the emergent canonical commutation relations arising in the statistical mechanics of Matrix models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5083–5097. (Nicolaas P. Landsman) **99j:81076** 81S05 (82B05)

Adly, Samir (*with* Goeleven, D.; Motreanu, Dumitru) Unilateral Hamiltonian systems: a survey on the inequality approach. *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 1, 11–26. (Maria Letizia Bertotti) **99b:58048** 58E05 (47H19, 49J40, 49J52)

— (*with* Buttazzo, Giuseppe; Théra, Michel) Critical points for nonsmooth energy functions and applications. *Nonlinear Anal.* **32** (1998), *no.* 6, 711–718. (Vitaly B. Moroz) **99b:49013** 49J52 (35J85, 35R05, 46N20, 58E35)

— (*with* Oettli, Werner) Solvability of generalized nonlinear symmetric variational inequalities. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 289–300. (Muhammad Aslam Noor) **99m:49011** 49J40 (47H19)

Adolfsson, Vilhelm (*with* Pipher, Jill) The inhomogeneous Dirichlet problem for Δ^2 in Lipschitz domains. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 137–190. (Philip W. Schaefer) **99m:35048** 35J40 (35J65)

Adolphson, Alan (*with* Sperber, Steven) A remark on local cohomology. (English summary) *J. Algebra* **206** (1998), *no.* 2, 555–567. (Santiago Zarzuela Armengou) **99g:13027** 13D45 (13B15, 33C70)

Adomian, George A. On exact solutions of nonlinear P.D.E. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 2, 179–181. 35C05

— Nonlinear stochastic dynamics with colored noise. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 2, 182–184. 35R60 (60H99)

Adrian, Duma (*with* Alexandru, Leonte) A surjective topological degree for discontinuous functions. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 26–28 (1994). 55M25 (26A15)

Adrian, R. J. (*with* Zhou, Jigen; Balachandar, S.; Kendall, T. M.) Mechanisms for generating coherent packets of hairpin vortices in channel flow. (English summary) *J. Fluid Mech.* **387** (1999), 353–396. 76F99

— (*with* Kim, Kyung Chun) Very large-scale motion in the outer layer. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 417–422. (Summary) **99j:76061** 76F99

Adrián de Pérez, Trina (*with* Juanatey, Margarita; Urbano, Luis; Banchs, Rafael) Wavelet transform and filter banks theory relationship. A revision. (English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 107–123. 42C15

Adrianov, Nikolai (*with* Shabat, G. B.) Unicellular cartography and Galois orbits of plane trees. *Geometric Galois actions*, 2, 13–24, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Helmut Völklein) **99h:12004** 12F12 (20B25)

— (*with* Zvonkin, Alexander) Composition of plane trees. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 239–245. (Theresa P. Vaughan) **99h:05026** 05C10 (12E10)

Adukov, V. M. Generalized inversion of block Toeplitz matrices. (English summary) *Linear Algebra Appl.* **274** (1998), 85–124. (Israel Koltracht) **99e:47030** 47B35 (15A09, 15A57)

Adygezalov, A. A. (*with* Baĭramogly, M.) On a regularized trace formula for the Sturm-Liouville operator with a bounded operator coefficient and with a singularity. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1587–1592, 1724; *translation in Differential Equations* **32** (1996), *no.* 12, 1581–1585 (1997). (Vladimir Vasil'evich Dubrovskiĭ) **99a:34228** 34L40 (34B24)

Adzhemyan, Loran Ts. (*with* Antonov, N. V.; Vasil'ev, A. N.) Renormalization group, operator product expansion, and anomalous scaling in a model of advected passive scalar. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1823–1835. (Summary) **99f:76073** 76F99 (81T17)

— (*with* Antonov, N. V.) Renormalization group and anomalous scaling in a simple model of passive scalar advection in compressible flow. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7381–7396. (Mohammad R. Rahimi Tabar) **99k:76075** 76F99 (81T17)

Adzhiev, S. S. Characterization of the function spaces $B^s_{p,q}(G)$, $L^s_{p,q}(G)$ and $W^s_p(G)$, and embeddings into BMO(G). (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 7–24. (J. Musielak) **99g:46036a** 46E35

— Errata: "Characterization of the function spaces $B^s_{p,q}(G)$, $L^s_{p,q}(G)$, and $W^s_p(G)$, and embeddings into BMO(G)". (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 463. (J. Musielak) **99g:46036b** 46E35

Adžić, Nevenka Some nonlinear SPP and spectral approximation. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 37–46. (Summary) **99h:65141** 65L60 (65L10)

— Spectral approximation for inner and outer solution of some SPP. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 1–9. (Summary) **99h:65142** 65L60 (65L10)

Aèro, È. L. (*with* Bessonov, N. M.; Bulygin, A. N.) Dynamics of a momentum anisotropic fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 778–785; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 769–775. (Summary) **99c:76033** 76D08 (76A99)

— (*with* Vakulenko, S. A.) Kinematics of nonlinear oriented deformations in nematic liquid crystals in a homogeneous magnetic field. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 479–490; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 463–473. (Summary) **99c:76004** 76A15 (76E99, 82D30)

Aerts, Marc (*with* Claeskens, Gerda) Local polynomial estimation in multiparameter likelihood models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1536–1545. (Thomas A. Severini) **99d:62026** 62G05 (62J12)

Aerts, Sven Interactive probability models: inverse problems on the sphere. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 305–309. (Summary) **99f:81007** 81P05

Aeyels, Dirk (*with* Peuteman, Joan) A new asymptotic stability criterion for nonlinear time-variant differential equations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 968–971. (Vũ Ngọc Phát) **99d:34093** 34D10 (93D15)

— (*with* Sepulchre, Rodolphe; Peuteman, Joan) Asymptotic stability for time-variant systems and observability: uniform and nonuniform criteria. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 1–27. (Zvi Artstein) **99e:34064** 34D20 (93D05)

Afanas'ev, A. P. A second-order local variational problem for linear optimal control problems with mixed constraints. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1452–1456, 1580; *translation in Differential Equations* **32** (1996), *no.* 11, 1447–1451 (1997). (Urszula Ledzewicz) **99c:49005** 49J15 (49K15)

Afanas'ev, G. N. (*with* Eliseev, S. M.; Stepanovskiĭ, Yu. P.) Transition of the light velocity in the Vavilov-Čerenkov effect. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1049–1072. (Summary) **99d:78019** 78A35 (78A40)

Afanas'ev, V. I. A new limit theorem for a critical branching process in a random environment. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 52–67; *translation in Discrete Math. Appl.* **7** (1997), *no.* 5, 497–513. (I. Rakhimov) **99e:60185** 60J80 (60F05)

Afanas'ev, Ya. D. (*with* Peltier, W. R.) Three-dimensional instability of anticyclonic swirling flow in rotating fluid: laboratory experiments and related theoretical predictions. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3194–3202. 76–05 (76C05, 76E20, 86A05, 86A10)

Afanasiev, G. N. *see* **Afanas'ev, G. N.**

Afanasjev, Vsevolod V. (*with* Pelinovsky, Dmitry E.; Kivshar, Yu. S.) Internal modes of envelope solitons. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 121–142. (Summary) **99a:35243** 35Q55 (35Q51)

Afanassieva, L. G. (*with* Delcoigne, F.; Fayolle, G.) On polling systems where servers wait for customers. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 527–545. (John P. Lehoczky) **99g:60164** 60K25 (68M20, 90B22)

Afanasyev, Ya. D. *see* **Afanas'ev, Ya. D.**

Afek, Yehuda (*with* Bremler, Anat) Self-stabilizing unidirectional network algorithms by power supply. (English summary) *Chicago J. Theoret. Comput. Sci.* **1998**, *Article* 3, 48 *pp.* (*electronic*). (Summary) **99g:68076** 68Q20 (68Q10)

— (*with* Weisberger, Eytan) The instancy of snapshots and commuting objects. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 68–105. (Summary) **99j:68035** 68Q10

— (*with* Mansour, Yishay; Ostfeld, Zvi) Convergence complexity of optimistic rate-based flow-control algorithms. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 106–143. (Jian-Min Li) **99i:90049** 90B12 (68M20, 68Q25, 90C35, 90C60)

Afendikov, Andrei (*with* Mielke, Alexander) Instability of standing waves in large wavelength in problems with O(2) symmetry. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 133–138, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:35192** 35Q35 (35B35, 76E30)

Affleck, Ian (*with* Oshikawa, Masaki; Saleur, Hubert) Boundary critical phenomena in the three-state Potts model. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5827–5842. (Summary) **99d:82026** 82B27 (82B20, 82B28)

— (*with* Barzykin, Victor) Finite-size scaling for the spin-$\frac{1}{2}$ Heisenberg antiferromagnetic chain. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 867–874. 82B20

el-Afifi, M. M. *see* **El-Afifi, M. M.**

Afraimovich, Valentin (*with* Zaslavskiĭ, G. M.) Sticky orbits of chaotic Hamiltonian dynamics. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas (Carry-Le Rouet, 1997)*, 59–82, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Guido Gentile) **99j:58138** 58F13 (58F05)

— (*with* Rodrigues, Hildebrando Munhoz) Uniform dissipativeness and synchronization on nonautonomous equations. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 3–17, *World Sci. Publishing, River Edge, NJ*, 1998. (Peter Ashwin) **99i:34052** 34C11 (34D20, 34D45, 58F10)

— (*with* Lin, Wen-Wei) Synchronization in lattices of coupled oscillators with Neumann/periodic boundary conditions. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 3, 237–264. (Volker Matthias Gundlach) **99f:34049** 34C15 (34D45, 70K20)

— (*with* Young, Todd R.) Relative density of irrational rotation numbers in families of circle diffeomorphisms. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998),

no. 1, 1–16. (Lorenzo J. Díaz) **99d:58056** 58F03 (58F99)

Afrati, Foto N. (*with* Guessarian, Irène; de Rougemont, Michel) The expressiveness of Datalog circuits (DAC). (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 119–128, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68060** 68P15 (68N17)

— Bounded arity Datalog ($\neq$) queries on graphs. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 210–228. (Lawrence V. Saxton) **99a:68038** 68P15

— *see also* **Database theory—ICDT '97, 99a:68007**

Afrouzi, G. A. (*with* Brown, K. J.) On a diffusive logistic equation. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 326–339. (Summary) **99g:35130** 35Q80 (35K57, 92D25)

— (*with* Brown, K. J.) Positive solutions for a semilinear elliptic problem with sign-changing nonlinearity. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 507–510. 35J65 (34B15, 35B05)

— (*with* Brown, K. J.) On principal eigenvalues for boundary value problems with indefinite weight and Robin boundary conditions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 125–130. (Summary) **99b:35035** 35J25

Afsharnezhad, Z. Periodic solutions of differential equations and automorphisms. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 9–15, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Michael K. Kinyon) **99h:34061** 34C25 (34A34)

Aftalion, Amandine (*with* Busca, Jérôme) A Serrin type result for infinite cylinders. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 1–6, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (*see* **99d:35003**) 35J65 (35B05, 35N10)

— (*with* Busca, Jérôme) Radial symmetry of overdetermined boundary-value problems in exterior domains. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 2, 195–206. (Summary) **99h:35057** 35J65 (35B05, 35N10)

Agaev, F. T. On methods for reconstructing images from projections. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 125–128 (1997). 65T20 (44A12)

Agafonov, S. I. Linearly degenerate reducible systems of hydrodynamic type. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 15–37. (Yu. G. Rykov) **99d:35133** 35Q35 (35L60)

Agafonova, N. K. On the rate of approximation of differentiable functions by rational operators with prescribed poles. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1997,** *no.* 3, 66–68, 77. 41A25

Agalarov, D. G. (*with* Gumbataliev, M. A.; Nabiev, I. M.) Quasisteady motion of a filament in a space. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 178–183. 73K03

Agalovyan, M. L. On an eigenvalue problem that arises in seismology. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 23–28 (1997). 73D15 (86A15)

Agam, Oded (*with* Fishman, Shmuel) Spectral statistics of chaotic and disordered systems. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 122–153, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q50

Agamennoni, Osvaldo (*with* Julián, Pedro; Desages, Alfredo) High-level canonical piecewise linear representation using a simplicial partition. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 4, 463–480. (Summary) **99m:65051** 65D99 (94C05)

Aganović, Ibrahim (*with* Tutek, Zvonimir) Nonstationary micropolar fluid flow through porous medium. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3171–3178. (From the text) **99b:76082** 76S05 (76A99)

— (*with* Jurak, M.; Marušić-Paloka, Eduard; Tutek, Zvonimir) Moderately wrinkled plate. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 273–297. (Veronique Lods) **99d:73053** 73K10 (35B27)

Agaoka, Yoshio (*with* Kaneda, Eiji) Local isometric imbeddings of symplectic groups. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 75–82. (Maria Luiza Leite) **99d:53062** 53C42 (53B25)

Agapito, Julius Caesar C. (*with* Ôtani, Mitsuharu; Paredes, Lorna I.; Rey, Reynaldo M.; Sy, Polly Wee) Approximation of some elliptic equations in Banach spaces. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 9–13, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60 (35A35, 47H17)

— (*with* Paredes, Lorna I.; Rey, Reynaldo M.; Sy, Polly Wee) On the asymptotic behavior of solutions to $-\Delta_p u = \lambda |u|^{p-2}u$. (English summary) *Matimyás Mat.* **20** (1997), *no.* 1, 1–7. (Summary) **99m:35071** 35J65 (34B15, 35B40)

Agapov, V. (*with* Kovalyov, M.) Linear spaces of solutions of KdV. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 3, 313–318. (From the text) **99g:35114** 35Q53 (46E99, 46N20)

Agarawal, A. K. *see* **Agarwal, Ashok Kumar[2]**

Ağargün, A. G. (*with* Fletcher, C. R.) Unique factorisation for commutative rings without identity. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 401–408. (Daniel D. Anderson) **99c:13001** 13A05 (13F99)

Agarwal, A. (*with* Ananthkrishnan, N.; Sudhakar, K.; Sudershan, S.) Application of secondary bifurcations to large-amplitude limit cycles in mechanical systems. *J. Sound Vibration* **215** (1998), *no.* 1, 183–188. (From the text) **99i:70027** 70K10 (34C05, 34C23)

Agarwal, A. K. *see* **Agarwal, Ashok Kumar[2]**

Agarwal, Ashok Kumar[1] (*with* Balasubramanian, Ramachandran) *n*-color partitions with weighted differences equal to minus two. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 759–768. (Christian Krattenthaler) **99a:05004** 05A17 (05A15, 05A19, 05A30, 11P81)

— A note on self-conjugate *n*-color partitions. Corrigendum: "*n*-color partitions with weighted differences equal to minus two" [Internat. J. Math. Math. Sci. **20** (1997), no. 4, 759–768; MR 99a:05004] by Agarwal and R. Balasubrananian. *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 694. 05C15

— Lattice paths and *n*-color partitions. (English summary) *Util. Math.* **53** (1998), 71–80. (Summary) **99a:05005** 05A30 (05A17, 05A19)

Agarwal, Ashok Kumar[2] (*with* Husain, Zegham) Some remarks on fixed point theorem in Banach space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 219–221. 47H10

— (*with* Agarwal, B. C.) Some theorems on Sasakian manifolds with recurrent tensors. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 314–316. 53C25

— (*with* Ahmed, Abrar) Some results on fixed points in pseudo-compact Tichonov space. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 421–422. 54H25

— (*with* Ahmed, Abrar) Some remarks on a fixed point theorem in a Banach space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 439–442. 47H10

— (*with* Husain, Zegham) Some remarks on fixed point theorems. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 443–444. 54H25

— (*with* Ahmed, Abrar) Some remarks on a fixed point theorems. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 445–448. 54H25

— (*with* Husain, Zegham) Common fixed point theorems for three maps. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 495–497. 54H25

Agarwal, B. C. (*with* Agarwal, Ashok Kumar[2]) Some theorems on Sasakian manifolds with recurrent tensors. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 314–316. 53C25

Agarwal, J. P. (*with* Kumar, Anil[1]) Duality in nondifferentiable programming involving invexity. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 151–152. 49N15 (90C26)

Agarwal, Pankaj K. (*with* Har-Peled, Sariel; Sharir, Micha; Varadarajan, Kasturi R.) Approximating shortest paths on a convex polytope in three dimensions. (English summary) *J. ACM* **44** (1997), *no.* 4, 567–584. (Ruth Silverman) **99c:68241** 68U05

— (*with* Murali, T. M.; Vitter, Jeffrey Scott) Constructing binary space partitions for orthogonal rectangles in practice. (English summary) *Algorithms—ESA '98* (*Venice*), 211–222, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68214** 68U05

— (*with* Erickson, Jeff; Guibas, Leonidas J.) Kinetic binary space partitions for intersecting segments and disjoint triangles (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 107–116, *ACM, New York*, 1998. (*see* **99d:68011**) 68U05

— (*with* Arge, Lars; Murali, T. M.; Varadarajan, Kasturi R.; Vitter, Jeffrey Scott) I/O-efficient algorithms for contour-line extraction and planar graph blocking (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 117–126, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68P20)

— (*with* Procopiuc, Cecilia-Magdalena) Exact and approximation algorithms for clustering (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 658–667, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (62H30)

— (*with* van Kreveld, Marc; Suri, Subhash) Label placement by maximum independent set in rectangles. (English summary) International Workshop on Algorithms and Data Structures (Halifax, NS, 1997). *Comput. Geom.* **11** (1998), *no.* 3-4, 209–218. (Summary) **99m:68202** 68U05

— (*with* Amenta, Nina; Sharir, Micha) Largest placement of one convex polygon inside another. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 95–104. (E. Hertel) **99c:52026** 52C15 (52B55, 68U05)

— (*with* Aronov, Boris; Chan, Timothy M.; Sharir, Micha) On levels in arrangements of lines, segments, planes, and triangles. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 315–331. (Summary) **99b:52029** 52B55 (68U05)

— (*with* Sharir, Micha; Welzl, Emo) The discrete 2-center problem. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 287–305. (Evangelos Kranakis) **99i:68117** 68U05 (52B55)

— (*with* O'Rourke, Joseph) Computational geometry column 34. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 637–642. (Summary) **99f:52018** 52B55 (68U05)

— (*with* Matoušek, Jiří; Schwarzkopf, Otfried) Computing many faces in arrangements of lines and segments. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 491–505 (*electronic*). (Summary) **99a:68079** 68Q20 (68R05, 68U05)

— (*with* de Berg, Mark; Matoušek, Jiří; Schwarzkopf, Otfried) Constructing levels in arrangements and higher order Voronoi diagrams. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 654–667 (*electronic*). (Summary) **99c:68242** 68U05 (52B55, 68Q25)

— (*with* Suri, Subhash) Surface approximation and geometric partitions. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1016–1035 (*electronic*). (Summary) **99c:68114** 68Q25 (68U05)

— (*with* Erickson, Jeff) Geometric range searching and its relatives. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 1–56, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Hans-Dietrich Hecker) **99m:68203** 68U05

— (*with* O'Rourke, Joseph) Open problems presented at SCG'98. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 449–453. 68U05

— *see also* **Robotics: the algorithmic perspective, 99m:68012**

Agarwal, R. P. *see* **Agarwal, Ratan Prakash**

Agarwal, Rama R. On the properties of a class of q-functions satisfying the q-differential-difference equation $D_{q,z}F(z,\alpha) = F(z,\alpha+1)$. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **67** (1997), *no.* 3, 265–284. (Mizan Rahman) **99b:33033** 33D15 (39A10)

— On further properties of a class of q-functions satisfying the q-differential-difference equation $D_{q,z}F(z,\alpha) = F(z,\alpha+1)$. II. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 1, 69–86. (Summary) **99i:33019** 33D15 (39A10)

Agarwal, Ramesh K. A compact fourth-order finite-volume time-domain/frequency-domain method for electromagnetic scattering. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 33–67, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99c:78002** 78–08 (65N30, 78A45)

— (*with* Shi, Peng; Shue, Shyh-Pyng) Robust disturbance attenuation with stability for a class of uncertain singularly perturbed systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 873–891. (Vasile Drăgan) **99f:93096** 93C70 (93D21)

Agarwal, Ratan Prakash The discovery of Ramanujan's treasure. I. *Math. Ed.* **9** (1993), *no.* 4, 247–254. 11B65
— ★ Resonance of Ramanujan's mathematics. Vol. I. (English summary) *New Age International Publishers Limited, New Delhi*, 1996. *viii+259 pp. ISBN* 81-224-0990-3 (Bruce C. Berndt) **99h:11001a** 11–03 (01A60, 33–03)
— ★ Resonance of Ramanujan's mathematics. Vol. II. (English summary) *New Age International Publishers Limited, New Delhi*, 1996. *x+222 pp. ISBN* 81-224-0991-1 (Bruce C. Berndt) **99h:11001b** 11–03 (01A60, 33–03)
— A note on the Mellin and Laplace transform of beta functions. (English summary) *Gaṇita Sandesh* **10** (1996), *no.* 2, 57–61. (Summary) **99h:44001** 44A10 (33B15)
— Ramanujan's mock theta functions—problems and prospects. *Special functions and differential equations (Madras*, 1997), 31–49, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 33D10
Agarwal, Ravi P. (*with* Henderson, Johnny) Superlinear and sublinear focal boundary value problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 189–200. 34B15
— (*with* Wong, Fu-Hsiang; Lian, Wei-Cheng) Existence of positive solutions of nonlinear second order differential systems. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 375–387. (Summary) **99b:34041** 34B15
— (*with* Pang, Peter Y. H.) Discrete polar coordinates and a new discrete inequality. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **2** (1996), *no.* 2, 181–191. (Editors) **99b:39022** 39A12
— Variation of parameter methods for difference equations and applications. (English summary) *Advances in difference equations (Veszprém*, 1995), 19–38, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39003** 39A10
— (*with* Pandian, Subbiah; Thandapani, E.) Oscillatory property for second-order nonlinear difference equations via Lyapunov's second method. *Advances in nonlinear dynamics*, 11–21, *Stability Control Theory Methods Appl., 5, Gordon and Breach, Amsterdam*, 1997. (Binggen Zhang) **99a:39001** 39A10
— (*with* Wong, Patricia J. Y.) Existence and estimates of twin positive solutions for two-point right focal boundary value problems. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 99–120. (Summary) **99a:34064** 34B15
— (*with* Wong, Fu-Hsiang) Existence of positive solutions for higher order difference equations. (English summary) *Appl. Math. Lett.* **10** (1997), *no.* 5, 67–74. (Summary) **99a:39002** 39A10
— (*with* Sambandham, M.) Multipoint boundary value problems for general discrete systems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 469–492. (P. W. Eloe) **99b:39001** 39A10
— (*with* Qu, Rui Bin) An iterative scheme for solving nonlinear two-point boundary value problems. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 285–302. (Summary) **99d:65227** 65L10 (65L60)
— (*with* Qu, Rui Bin) A collocation method for solving a class of singular nonlinear two-point boundary value problems. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 147–163. (Ekkehard Wagenführer) **99a:65094** 65L10
— (*with* Wong, Patricia J. Y.) Nonexistence of unbounded nonoscillatory solutions of partial difference equations. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 503–523. (Sui Sun Cheng) **99c:39010** 39A10
— (*with* Wong, Patricia J. Y.) On the existence of positive solutions of higher order difference equations. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 339–351. (V. Sree Hari Rao) **99m:39012** 39A10
— ★ Focal boundary value problems for differential and difference equations. (English summary) Mathematics and its Applications, 436. *Kluwer Academic Publishers, Dordrecht*, 1998. *x+289 pp. ISBN* 0-7923-4978-4 (Allan C. Peterson) **99b:34036** 34Bxx (34C10, 34K10, 39A10)
— (*with* Wong, Patricia J. Y.) Error bounds for the derivatives of Lidstone interpolation and applications. (English summary) *Approximation theory*, 1–41, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41019** 41A15
— (*with* Wong, Patricia J. Y.) Error inequalities for discrete Hermite and spline interpolation. (English summary) *Recent progress in inequalities (Niš*, 1996), 397–422, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Manfred Tasche) **99c:65022** 65D07 (41A15, 65D05)
— (*with* Wong, Patricia J. Y.) On the oscillation of partial difference equations generated by deviating arguments. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 1–29. (Guang Zhang) **99c:39012** 39A10
— (*with* Čuljak, Vera; Pečarić, Josip) On discrete and continuous Wirtinger inequalities. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 195–204. 26D10
— (*with* Qu, Rui Bin) Improved error bounds for freezing solutions of linear boundary value problems. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 97–112. (Martin Hermann) **99h:65133** 65L10 (34A45)
— (*with* Wong, Patricia J. Y.) Asymptotic behaviour of solutions of higher order difference and partial difference equations with distributed deviating arguments. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 139–164. (I. P. Stavroulakis) **99k:39040** 39A10 (39A12)
— (*with* Romanenko, E. Yu.) Stable periodic solutions of difference equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 81–84. (Summary) **99a:39003** 39A10
— (*with* Dragomir, Sever Silvestru) Two inequalities for differentiable mappings and applications to special means of real numbers and to trapezoidal formula. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 91–95. (Summary) **99c:26015** 26D15
— (*with* Dragomir, Sever Silvestru) The property of supermultiplicity for some classical inequalities and applications. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 105–118. (J. Sándor) **99b:26032** 26D15
— (*with* Hong, Huei-Lin; Yeh, Cheh-Chih) The existence of positive solutions for the Sturm-Liouville boundary value problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 89–96. (Summary) **99a:34044** 34B15 (47H15)
— (*with* O'Regan, Donal) Discrete systems on infinite intervals. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 97–105. (B. G. Pachpatte) **99g:39018** 39A12 (47H15)
— (*with* Qu, Rui Bin) A subdivision approach to the construction of approximate solutions of boundary-value problems with deviating arguments. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 121–135. (Martin Hermann) **99h:65134** 65L10 (34A45)
— (*with* Wong, Patricia J. Y.) Oscillations and nonoscillations of half-linear difference equations generated by deviating arguments. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 11–26. (Shao Zhu Chen) **99k:39043** 39A10 (39A12)
— (*with* O'Regan, Donal) A fixed-point approach for nonlinear discrete boundary value problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 115–121. (P. W. Eloe) **99k:39003** 39A10 (47H10)
— (*with* Henderson, Johnny) Positive solutions and nonlinear eigenvalue problems for third-order difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 347–355. (Summary) **99j:39001** 39A10
— (*with* Pituk, Michal) Convergence to equilibria in recurrence equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 357–368. (Sui Sun Cheng) **99k:39004** 39A10
— (*with* Pang, Peter Y. H.) Stability of a general class of difference systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 423–429. (Allan C. Peterson) **99k:39057** 39A11
— (*with* Wong, Patricia J. Y.) Eigenvalues of an nth order difference equation with (n, p) type conditions. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 149–172. (Johnny Henderson) **99j:39012** 39A10 (47N20)
— (*with* Wong, Fu-Hsiang) An application of topological transversality to non-positive higher order BVP's. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 319–328. (Anna Capietto) **99h:34027** 34B15 (47H15, 47N20)
— (*with* O'Regan, Donal) Difference equations in abstract spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 277–284. (Olusola Akinyele) **99d:39002** 39A10
— (*with* Wong, Fu-Hsiang) Existence of positive solutions for non-positive higher-order BVPs. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 3–14. (Summary) **99a:34046** 34B15
— (*with* Wong, Patricia J. Y.) On eigenvalue intervals and twin eigenfunctions of higher-order boundary value problems. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 15–43. (Summary) **99a:34047** 34B15
— (*with* O'Regan, Donal) Positive solutions to superlinear singular boundary value problems. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 129–147. (Ben Dong Lou) **99a:34045** 34B15
— (*with* O'Regan, Donal) Positive solutions for $(p, n-p)$ conjugate boundary value problems. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 462–473. (Alexander Haščák) **99k:34040** 34B15
— (*with* O'Regan, Donal) Second-order boundary value problems of singular type. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 414–430. (Johnny Henderson) **99g:34046** 34B15
— (*with* Wong, Patricia J. Y.) Singular differential equations with (n, p) boundary conditions. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 37–44. (Summary) **99d:34040** 34B15
— (*with* O'Regan, Donal) Positive solutions to singular initial value problems with sign changing nonlinearities. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 31–39. (Johnny Henderson) **99f:34002** 34A12
— (*with* Wong, Patricia J. Y.) Multiple positive solutions of two-point right focal boundary value problems. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 41–49. (Johnny Henderson) **99f:34032** 34B15
— (*with* Čuljak, Vera; Pečarić, Josip) Some integral inequalities involving bounded higher order derivatives. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 51–57. (Summary) **99f:26021** 26D10
— (*with* Wong, Fu-Hsiang; Yu, Shiueh-Ling) Existence of solutions to $(k, n-k-2)$ discrete boundary value problems. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 7–20. (Johnny Henderson) **99k:39001** 39A10 (39A70)
— (*with* Wong, Patricia J. Y.) On the oscillation of second order nonlinear difference equations. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 349–365. (Sui Sun Cheng) **99k:39002** 39A10
— (*with* Wong, Fu-Hsiang) Upper and lower solutions method for higher-order discrete boundary value problems. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 551–557. (Summary) **99i:39027** 39A12 (39A10)
— (*with* Bohner, Martin) Quadratic functionals for second order matrix equations on time scales. *Nonlinear Anal.* **33** (1998), *no.* 7, 675–692. (Allan C. Peterson) **99f:34040** 34C10 (39A10, 49J10)
— (*with* Wong, Patricia J. Y.) Extension of continuous and discrete inequalities due to Eloe and Henderson. *Nonlinear Anal.* **34** (1998), *no.* 4, 479–487. (Roland Lemmert) **99h:34019** 34A40 (34B27, 39A12)
— (*with* Wong, Fu-Hsiang) Existence of positive solutions for higher order boundary value problems. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 15–24. (Johnny Henderson) **99e:34024** 34B15
— (*with* Wong, Patricia J. Y.) On the eigenvalues of boundary value problems for higher order difference equations. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 767–791. (Sui Sun Cheng) **99k:39042** 39A10
— (*with* Bohner, Martin; Wong, Patricia J. Y.) Sturm-Liouville eigenvalue problems on time scales. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 153–166. (Allan C. Peterson) **99k:34184** 34L05 (34B24, 93C70)
— (*with* Wong, Fu-Hsiang) An application of topological transversality to non-positive higher order difference equations. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 167–178. (V. G. Kurbatov) **99m:39001** 39A10 (47H15)
— (*with* Wong, Patricia J. Y.) Eigenvalue intervals and double positive solutions of certain discrete boundary value problems. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 189–217. (Johnny Henderson) **99m:39013** 39A10 (34B15, 39A12)
— (*with* Grace, S. R.) Oscillation of certain systems of functional-differential equations. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 45–52. (M. K. Grammatikopoulos) **99m:34154** 34K15
— (*with* O'Regan, Donal) Second-order initial value problems of singular type. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 441–451. (L. E. Bobisud) **99j:34002** 34A12

— (*with* Popenda, Jerzy) On the oscillation of recurrence equations. *Nonlinear Anal.* **36** (1999), *no.* 2, *Ser. A: Theory Methods*, 231–268. (Shao Zhu Chen) **99m:39002** 39A10 (39A12)

— (*with* Bohner, Martin) Basic calculus on time scales and some of its applications. (English summary) *Results Math.* **35** (1999), *no.* 1-2, 3–22. (L. Berg) **99m:41030** 41A30 (39A12, 41A05)

— *see also* **Equadiff, 99a:00025**; **Thandapani, E., 99g:39015** *and* **Advances in difference equations, 99h:39001**

Agathoklis, Panajotis (*with* Marquez, Horacio J.) On the existence of robust strictly positive real rational functions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 962–967. (Summary) **99h:93039** 93B36 (30C15)

Agayan, S. S. Successes and problems of fast orthogonal transforms (for signal-image processing). II. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 99–145, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 94A11 (94A12)

Agazzi, Evandro Introduction. *Realism and quantum physics*, 7–28, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 00A30

— On the criteria for establishing the ontological status of different entities. *Realism and quantum physics*, 40–73, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 03A05 (00A30)

— *see also* **Realism and quantum physics, 99k:81012**

Agboola, A. (*with* Burns, David J.) On the Galois structure of equivariant line bundles on curves. (English summary) *Amer. J. Math.* **120** (1998), *no.* 6, 1121–1163. (Nigel Byott) **99k:11177** 11R33 (14G15, 14H60)

Agee, Ernest (*with* Glukhovskiĭ, A. B.) LES model sensitivities to domains, grids, and large-eddy timescales. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 599–604. 76F99 (76M25)

Ageev, A. A. Every circle graph of girth at least 5 is 3-colourable. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 229–233. (Summary) **99i:05073** 05C15

Ageev, D. A. (*with* Istratov, A. Yu.) Neural network implementation of the problem of the search for an optimal path. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 124–132. 90C30 (90B40, 90C35, 93C85)

Ageev, O. N. Dynamical systems with an arbitrary spectral multiplicity function. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 5(323), 223–224. 28D15 (58F11)

— On ergodic transformations with homogeneous spectrum. (English summary) *J. Dynam. Control Systems* **5** (1999), *no.* 1, 149–152. (Summary) **99m:28034** 28D05 (47A35)

Ageev, S. M. (*with* Repovš, Dušan D.; Shchepin, E. V.) On the softness of the Dranishnikov resolution. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 7–32. (Š. Ungar) **99h:54021** 54C10 (54C60, 55R65, 57N20)

— (*with* Bogatyĭ, Semen A.) On obstacles to the extension of partial mappings. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 803–812; *translation in Math. Notes* **62** (1997), *no.* 5-6, 675–682 (1998). (Summary) **99f:54016** 54C20

— (*with* Bogatyĭ, Semen A.; Repovš, Dušan D.; Fabel, Paul) Extensors of noncompact Lie groups. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 151–154. 22E99 (46B99, 54H11)

— (*with* Repovš, Dušan D.) A unified finite-dimensional selection theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 971–981, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 835–843. (Stoyan Nedev) **99h:54030** 54C65 (54C20, 54D20, 54F45)

— (*with* Bogatyĭ, Semen A.) On the nonhomeomorphicity of the Banach-Mazur compactum to the Hilbert cube. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 209–210; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 205–207. (Taras Banakh) **99d:57014** 57N20 (46B20, 54F55)

— (*with* Bogatyĭ, Semen A.; Fabel, Paul) The Banach-Mazur compactum $Q(n)$ is an absolute retract. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 11–13, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 10–12. (Michael Tkačenko) **99d:54010** 54C55 (54C15)

Ageron, P. Catégories accessibles à produits fibrés. (English, French and German summaries) [Accessible categories with pullbacks] *Diagrammes* **36** (1996), 1–11. (Summary) **99k:18004** 18B05

— Limites projectives conditionnelles dans les catégories accessibles. (English, French and German summaries) [Conditional projective limits in accessible categories] *Diagrammes* **38** (1997), 3–18. (Summary) **99m:18004** 18C10 (18A30, 18D15)

Aggarwal, Alok (*with* Tokuyama, Takeshi) Consecutive interval query and dynamic programming on intervals. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 1–24. (Mechthild Opperud) **99d:90135** 90C39 (05C85, 68Q25, 68R10)

Aggarwal, Charu C. (*with* Orlin, James B.; Tai, Ray P.) Optimized crossover for the independent set problem. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 226–234. (Summary) **99d:90088** 90C27

— (*with* Ahuja, Ravindra K.; Hao, Jianxiu; Orlin, James B.) Diagnosing infeasibilities in network flow problems. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 263–280. (Summary) **99b:90043** 90B10 (90C35)

Aggarwal, K. K. (*with* Aggarwal, S. P.; Jaggi, C. K.) Impact of inflation and credit policies on economic ordering. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 93–100. 90A09

Aggarwal, S. P. (*with* Aggarwal, K. K.; Jaggi, C. K.) Impact of inflation and credit policies on economic ordering. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 93–100. 90A09

Aggarwala, B. D. Three collinear cracks in plane elasticity and a related problem. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 855–860. 73C35 (73M25)

Aggarwala, Rita (*with* Balakrishnan, Narayanaswamy) Some properties of progressive censored order statistics from arbitrary and uniform distributions with applications to inference and simulation. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 35–49. (Summary) **99i:62115** 62G30

Aggoun, Lakhdar (*with* Elliott, Robert J.; Moore, John Barratt) A measure change derivation of continuous state Baum-Welch estimators. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 12 *pp.* (*electronic*). (Summary) **99g:93078** 93E10

— (*with* Benkherouf, Lakdere; Tadj, Lotfi) A stochastic inventory model with perishable and aging items. (English summary) *J. Appl. Math. Stochastic Anal.* **12** (1999), *no.* 1, 23–29. 90B05 (60J10, 60K30)

Aggoune, Woihida (*with* Verriest, Erik I.) Stability of nonlinear differential delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 257–267. (Summary) **99c:93083** 93D09 (34K20)

Aghamohammadi, A. (*with* Khorrami, Mohammad; Rahimi Tabar, M. R.) Logarithmic conformal field theories with continuous weights. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 179–185. (Michael A. I. Flohr) **99j:81167** 81T40 (17B68, 81R10)

— (*with* Khorrami, Mohammad; Ghezelbash, Amir M.) Logarithmic $N = 1$ superconformal field theories. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 283–288. (Summary) **99g:81200** 81T40

Agiza, H. N. Explicit stability zones for Cournot game with 3 and 4 competitors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 12, 1955–1966. (Gian-Italo Bischi) **99m:90050** 90A53 (90D10, 90D40)

— (*with* Ahmed, Elsayed Mohamed; Hassan, S. Z.) On modelling advertisement in Cournot duopoly. (English summary) *Chaos Solitons Fractals* **10** (1999), *no.* 7, 1179–1184. (Summary) **99m:90051** 90A53 (58F13, 58F40)

Agler, Jim (*with* McCarthy, John E.) Operators that dominate normal operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 2, 385–407. (Warren R. Wogen) **99i:47038** 47B20 (47A15)

— (*with* Helton, J. William; Stankus, Mark) Classification of hereditary matrices. (English summary) *Linear Algebra Appl.* **274** (1998), 125–160. (Summary) **99m:15009** 15A24

— (*with* Young, Nicholas J.) Functions which are almost multipliers of Hilbert function spaces. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 2, 453–475. (Barbara D. MacCluer) **99g:46027** 46E20 (46E22, 47A57)

— (*with* Young, Nicholas J.) A converse to a theorem of Adamyan, Arov and Krein. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 305–333. (D. Sarason) **99k:47031** 47A57 (46E22, 47B38)

Agliano, P. On subtractive weak Brouwerian semilattices. *Algebra Universalis* **38** (1997), *no.* 2, 214–220. (Joel Berman) **99g:08006** 08B10 (03G25, 06A12, 08B05)

— (*with* Ursini, A.) On subtractive varieties. IV. Definability of principal ideals. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 355–389. (A. A. Iskander) **99j:08002** 08B05

Agliardi, R. (*with* Mari, D.) On the Cauchy problem for some non-Kowalewskian equations in $\mathcal{D}'^{\{\sigma\}}_{L^2}$. (English summary) *Ann. Mat. Pura Appl.* (4) **170** (1996), 89–101. (Todor V. Gramchev) **99b:35226** 35S10 (35A08, 35S30)

Agmon, Shmuel A perturbation theory of resonances. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1255–1309. (Maciej Zworski) **99i:47023** 47A55 (47B25, 47N50, 81Q10, 81Q15)

thomas-Agnan, Christine *see* **Thomas-Agnan, Christine**

Agnese, A. G. (*with* La Camera, M.) Geometrical features of $4 + d$ gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087504, 4 *pp.* (Summary) **99m:83175** 83E15

— (*with* Billyard, Andrew; Liu, Hong Ya; Wesson, Paul S.) Possible wormhole solutions in $(4 + 1)$ gravity. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 527–535. 83E15

Agnon, Yehuda (*with* Pelinovskiĭ, E. N.; Sheremet, Alexandru) Disintegration of cnoidal waves over smooth topography. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 1, 49–71. (Summary) **99b:76016** 76B25

— Linear and nonlinear refraction and Bragg scattering of water waves. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, *R*1319–*R*1322. 76B15

Agoh, Takashi (*with* Erdős, Paul[1]; Granville, Andrew) Primes at a (somewhat lengthy) glance. *Amer. Math. Monthly* **104** (1997), *no.* 10, 943–945. (S. W. Graham) **99g:11012** 11A41

— (*with* Shoji, Toshiaki) Quadratic equations over finite fields and class numbers of real quadratic fields. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 279–292. (Franz Lemmermeyer) **99b:11120** 11R29 (11D79, 11R11)

Agoshkov, V. I. (*with* Buleev, S. N.) Numerical solution of the convection-diffusion equation with a small "viscosity" coefficient. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1670–1677, 1726; *translation in Differential Equations* **32** (1996), *no.* 12, 1663–1670 (1997). (Reinhard Redlinger) **99c:65192** 65N12 (35B25, 65M60, 65N30, 76M10)

— ★ Boundary value problems for transport equations. Modeling and Simulation in Science, Engineering, & Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xviii*+278 *pp. ISBN* 0-8176-3986-1 (Giuliana Lauro) **99j:45007** 45K05 (35Q99, 46N20, 47N20, 76P05, 82C70)

de Agostino, Sergio *see* **De Agostino, Sergio**

Ágoston, István (*with* Dlab, Vlastimil; Lukács, Erzsébet) Stratified algebras. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 1, 22–28. (Eduardo do Nascimento Marcos) **99h:16031** 16G60 (16E10, 16G70)

— (*with* Lukács, Erzsébet; Ringel, Claus Michael) Realizations of Frobenius functions. (English summary) *J. Algebra* **210** (1998), *no.* 2, 419–439. (V. V. Sergeichuk) **99j:16007** 16G70

— (*with* Dlab, Vlastimil; Lukács, Erzsébet) Well-filtered algebras. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 3–21. (Steffen König) **99k:16020** 16E60 (17B10)

Agouzal, Abdellatif (*with* Debit, N.) Equilibrium method to approximate elliptic problems with non-standard boundary conditions. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 165–171. (M. K. Kadalbajoo) **99j:65190** 65N30

— (*with* Achchab, Boujemaa; Baranger, Jacques; Oudin, Fabienne) Estimations d'erreurs en lois de comportement. (English and French summaries) [Error estimators using constitutive laws] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1007–1010. (Summary) **99h:65183** 65N15

Agrachev, Andrei (*with* El Alaoui, El-Houcine Chakir; Gauthier, J. P.) Sub-Riemannian metrics on $\mathbf{R}^3$. (English summary) *Geometric control and non-holonomic mechanics* (*Mexico City*, 1996), 29–78, *CMS Conf. Proc.*, 25, *Amer. Math. Soc., Providence, RI*, 1998. (Fernand Pelletier) **99j:53029** 53C15 (53C20, 93B29)

— (*with* Gamkrelidze, Revaz Valerianovich) Symplectic methods for optimization and control. (English summary) *Geometry of feedback and optimal control*, 19–77, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93B29 (93-02)

— (*with* Stefani, Gianna; Zezza, Pierluigi) An invariant second variation in optimal control. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 689–715. (Kevin A. Grasse) **99k:49040** 49K15 (49K27, 49N05, 58E25)

— (*with* Sarychev, Andrei V.) On abnormal extremals for Lagrange variational problems. *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 87–118. (Heinz Schättler) **99k:49041** 49K15 (93B29)

— (*with* Stefani, Gianna; Zezza, Pierluigi) A Hamiltonian approach to strong minima in optimal control. (English summary) *Differential geometry and control (Boulder, CO, 1997)*, 11–22, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Peter R. Wolenski) **99i:49020** 49K15 (58E25)

Agrafiotou, X. (*with* Tsagas, Grigorios T.) Construction of system of differential equations by means of special Lie algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 197–200. 17B30 (34A30)

— Methods for solving some systems of linear PDE's. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **60** (1998), *no.* 3-4, 107–114. 35A25 (35F30)

Agranovich, Mikhail Elliptic boundary problems. Translated from the Russian by the author. *Partial differential equations, IX*, 1–144, 275–281, *Encyclopaedia Math. Sci.*, 79, *Springer, Berlin*, 1997. (Norbert Weck) **99a:35056** 35J40 (35J55, 35P20, 47F05, 58G03)

— (*with* Denk, Robert; Faierman, Melvin) Weakly smooth nonselfadjoint spectral elliptic boundary problems. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 138–199, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Jan Bochenek) **99a:35193** 35P20 (35J40, 35P05, 47F05)

Agranovich, P. Z. On functions of completely regular growth with respect to a distinguished variable. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 363–379. (J. Siciak) **99c:32017** 32F05 (31C10)

— Polynomial asymptotic representations of subharmonic functions with masses on a finite system of rays. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 219–230. (Alexander I. Kheyfits) **99c:30053** 30D15 (31A30)

Agranovich, Yu. Ya. (*with* Sobolevskiĭ, Pavel E.) Motion of nonlinear visco-elastic fluid. *Nonlinear Anal.* **32** (1998), *no.* 6, 755–760. (Adélia Sequeira) **99g:76008** 76A10 (35Q35)

— The theory of operators with dominant main diagonal. I. (English summary) *Positivity* **2** (1998), *no.* 2, 153–164. (Jor-Ting Chan) **99i:15008** 15A12 (15A22, 15A42, 47B99)

Agranovskiĭ, M. L. (*with* Berenstein, Carlos A.; Kuchment, Peter) Approximation by spherical waves in L^p-spaces. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 365–383 (1997). (Paşc Găvruţa) **99c:41038** 41A30 (44A12, 46E99)

Agratini, Octavian A class of Bleimann, Butzer and Hahn type operators. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 173–180. (Summary) **99i:41022** 41A36

— Application of divided differences to the study of monotonicity of a sequence of D. D. Stancu polynomials. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 3–10. (L. G. Labsker) **99d:41008** 41A10 (41A36)

— On the monotonicity of a sequence of Stancu-Bernstein type operators. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 17–23. (Summary) **99c:41045** 41A36

— Approximation theorem in L_p for a class of operators constructed by wavelets. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 11–16. (Sarjoo Prasad Yadav) **99i:41018** 41A25 (41A35, 42C15)

— On a class of linear approximating operators. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 407–412. (V. A. Baskakov) **99j:41038** 41A35

— Properties of a new class of recursively defined Baskakov-type operators. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 3, 353–359. (Francesco Altomare) **99k:41040** 41A36 (41A25)

— Approximation properties of a generalization of Bleimann, Butzer and Hahn operators. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 165–171. (A. Meir) **99j:41039** 41A35

— Asymptotic formulae for recursively defined Baskakov-type operators. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 152–162. (Galimzian G. Islamov) **99f:41026** 41A35 (26A15)

Agrawal, Anil Kumar[3] (*with* Yang, Jann N.; Wu, Jong-Cheng) Non-linear control strategies for Duffing systems. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 829–841. (Summary) **99h:93064** 93C83 (70K99, 70Q05, 73K12)

Agrawal, B. D. (*with* Sarathi, M. R. M.) Some generating functions for discrete double hypergeometric functions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 395–398. (Summary) **99c:33023** 33C70

Agrawal, B. M. (*with* Gupta, S. C.) Transformations of hypergeometric series. I. *J. Indian Acad. Math.* **18** (1996), *no.* 1, 13–23. (Dharma P. Gupta) **99c:33011** 33C20 (39A70)

Agrawal, D. C. (*with* Menon, V. J.) Comment on: "The Stefan-Boltzmann constant in n-dimensional space" [J. Phys. A **22** (1989), no. 8, 1073–1084; MR 90b:83052] by P. T. Landsberg and A. De Vos. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1109–1110. (Summary) **99c:83038** 83C47 (81T20, 82B99, 83E30)

Agrawal, Harish Chandra On NCm type PBIB designs. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 6–11. (Summary) **99g:62116** 62K15 (05B05)

Agrawal, Manindra (*with* Thierauf, Thomas) The satisfiability problem for probabilistic ordered branching programs. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 81–90, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68039** 68Q15

Agrawal, Manju Rani (*with* Tewari, U. B.) On existence of finite universal Korovkin sets in Segal algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 81–90. (Francesco Altomare) **99e:41018** 41A36 (41A15, 43A15, 46J10)

Agrawal, Manoj Kumar Fractional integral operators involving I-functions. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 7–10. (Summary) **99e:33014** 33C60

— On the generalized I-function of two variables and some infinite integrals. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 19–24. (Summary) **99g:33037** 33C60

Agrawal, Om Prakash (*with* Gregory, John[1]) The complete solution for constrained delay problems in the calculus of variations by unconstrained methods. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 127–135. (O. V. Vasil'ev) **99d:49016** 49J25 (49K25, 49M05)

Agrawal, Purshottam Narain (*with* Gupta, Vijay) Inverse theorem in simultaneous approximation by Szász-Durrmeyer operators. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 99–113. (Radu Păltănea) **99d:41042** 41A36 (41A10, 41A25)

— Inverse theorem in simultaneous approximation by Micchelli combination of Bernstein polynomials. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 55–62. (Joseph M. Lambert) **99c:41036** 41A28 (41A65)

— (*with* Thamer, Kareem J.) Approximation of unbounded functions by a new sequence of linear positive operators. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 660–672. (Shun Sheng Guo) **99f:41017** 41A25 (41A28, 41A36)

Agrawal, R. C. *see* **Agrawal, Ramesh Chandra**

Agrawal, R. D. (*with* Shrivastava, Rajeev P.; Goyal, Anil) Some finite integrals involving the I-function of two variables. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 87–92. 33C60

— (*with* Shrivastava, Rajeev P.; Goyal, Anil) Application of I-function of two variables in problem of vibration in a string. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 163–168. 73D30

Agrawal, Rajeev (*with* Rajan, Rajendran) Concavity of queueing systems with NBU service times. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 551–567. (Vladimir V. Kalashnikov) **99j:60148** 60K25 (68M20, 90B22)

Agrawal, Ramesh Chandra (*with* Mishra, Anju) Characterization of commutative quasi-groups and Boolean groups. *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 75–79. 20N05

Agrawal, S. K. (*with* Faiz, N.) Optimization of a class of nonlinear dynamic systems: new efficient method without Lagrange multipliers. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 11–28. (Summary) **99a:49028** 49K15 (49M29, 93B40)

— (*with* Veeraklaew, T.; Fabien, B. C.) Direct and indirect optimization of linear time-invariant dynamic systems using transformations. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 393–410. 49M30 (49N10)

Agrawal, Sanjeev (*with* Singh, Dinesh[1]) De Branges modules in $H^2(\mathbf{C}^k)$. *Harmonic analysis and hypergroups (Delhi, 1995)*, 1–11, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (J. Rovnyak) **99c:47031** 47B37 (46E20, 46H25, 47A15)

Agrawal, Sushama (*with* Kulkarni, S. H.) Some applications of a special theorem for a normal operator on a real Hilbert space. (English summary) *Math. Today (Ahmedabad)* **16** (1998), 65–76. (Thomas Hoover) **99k:47049** 47B15 (46L99)

Agrawal, Vishwani D. (*with* Lee, David[2]; Woźniakowski, Henryk) Numerical computation of characteristic polynomials of Boolean functions and its applications. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 261–278. (Summary) **99h:94087** 94C10 (94C05)

Agrell, Erik (*with* Eriksson, Thomas) Optimization of lattices for quantization. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1814–1828. (Summary) **99h:94003** 94A05 (94A29)

— On the Voronoi neighbor ratio for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3064–3072. (Summary) **99j:94063** 94B05

Agrell, Per J. A new conflict-based redundancy measure. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 272–282, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C05 (90C29)

Agresar, G. (*with* Linderman, J. J.; Tryggvason, G.; Powell, K. G.) An adaptive, Cartesian, front-tracking method for the motion, deformation and adhesion of circulating cells. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 346–380. (Summary) **99b:92013** 92C40 (76M25, 92C05)

Agricola, Ilka Covering groups and the standard elementary particle model. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 729–744. (Karl-Hermann Neeb) **99h:81061** 81R05 (22E46, 81V25)

Agronsky, S. J. (*with* Ceder, J. G.; Pearson, T. L.) Some characterizations of Darboux Baire 1 functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 421–430. (Władysław Wilczyński) **99h:26008** 26A21 (26A15)

Aguado, L. E. (*with* Farrell, P. G.) On hybrid stack decoding algorithms for block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 398–409. (Summary) **99a:94055** 94B35

Aguarte, Glenn (*with* Bernido, Christopher C.) Summation over histories for a particle in spherical orbit around a black hole. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2445–2448. (Enric Verdaguer) **99d:83049** 83C47 (81T20, 83C57)

Aguayo, José (*with* De Grande-De Kimpe, N.; Navarro, Samuel) Zero-dimensional pseudocompact and ultraparacompact spaces. *p-adic functional analysis (Nijmegen, 1996)*, 11–17, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (S. Swaminathan) **99f:54030** 54D20 (46E25, 46S10)

— Strict topologies on spaces of continuous functions and u-additive measure spaces. *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 77–89. (J. Schmets) **99c:46033** 46E40 (46A03)

vigo-Aguiar, Jesús *see* **Vigo-Aguiar, Jesús**

Aguiar, Marcelo Braids, q-binomials, and quantum groups. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 3, 323–365. (István Heckenberger) **99b:05007** 05A30 (05A10, 11B65, 16W30, 20F36)

del Águila, F. (*with* Culatti, A.; Muñoz Tapia, R.; Pérez-Victoria, M.) Techniques for one-loop calculations in constrained differential renormalization. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 561–585. (Summary) **99h:81136** 81T15

herrera-Aguilar, Alfredo *see* **Herrera-Aguilar, Alfredo**

mancilla Aguilar, J. L. *see* **Mancilla Aguilar, J. L.**

Aguilar, Jean-Christophe (*with* Zolésio, Jean-Paul) Coque fluide intrinsèque sans approximation géométrique. (English and French summaries) [Intrinsic fluid shell without geometrical approximation] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1341–1346. (Veronique Lods) **99g:76047** 76D99 (73K15)

Aguilar, Juan Antonio *see* **Aguilar Crespo, J. A.**

arévalo-Aguilar, Luis M. *see* **Arévalo-Aguilar, Luis M.**

Aguilar, Marcelo A. (*with* Socolovsky, Miguel) Reductions and extensions in bundles and homotopy. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 487–494. (Jürgen Eichhorn) **99k:55014** 55R10 (55R15, 55R35)

— (*with* Seade, José; Verjovsky, Alberto) Indices of vector fields and topological invariants of real analytic singularities. (English summary) *J. Reine Angew. Math.* **504** (1998), 159–176. (David B. Massey) **99k:32058** 32S20 (32S55)

Aguilar Andrade, Filadelfo (*with* Aleksandrov, Vladimir Vasil'evich; Salazar Ibargüen, Humberto; Guerra, Francisco) Stability and stabilization of a active surface. *Proceedings of the 3rd International Conference on Approximation and Optimization in the*

Caribbean (*Puebla*, 1995), 10 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 93D15 (93C95)

Aguilar Crespo, J. A. (*with* Peral Alonso, Ireneo) Positive radial solutions of quasilinear equations involving supercritical growth. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 309–331. (Michael A. Karls) **99j:35060** 35J65 (34B15, 35B05)

Aguilar-Ortiz, Jaime (*with* Gorostiza, Luis G.) A nuclear space of distributions on a space of incomplete continuous functions. *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 357–382. (Zhiyuan Huang) **99j:60074** 60H07 (46F25)

Aguilar Q., Gonzalo Abel's mechanics problem: a simple application of the convolution theorem. (Spanish. Spanish summary) *Miscelánea Mat. No.* 24 (1996), 1–14. 49–03 (58–03, 58E10)

Aguilar Sánchez, J. (*with* Bretón Báez, Nora; Manko, Vladimir S.) On the equilibrium of charged masses in general relativity: the electrostatic case. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3071–3083. (Leonardo Fernández-Jambrina) **99i:83012** 83C15

Aguilera, Gabriel (*with* de Guzmán, I. P.; Ojeda Aciego, M.) A reduction-based theorem prover for 3-valued logic. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 99–127. (Henry Africk) **99h:03008** 03B50 (03B35, 68T15)

pedraza-Aguilera, M. C. *see* **Pedraza-Aguilera, M. C.**

Aguilera, Marcos Kawazoe (*with* Toueg, Sam) Failure detection and randomization: a hybrid approach to solve consensus. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 890–902 (*electronic*). (Summary) **99h:68062** 68Q22 (68M15, 68Q10)

— (*with* Chen, Wei[6]; Toueg, Sam) Using the heartbeat failure detector for quiescent reliable communication and consensus in partitionable networks. (English summary) *Theoret. Comput. Sci.* **220** (1999), *no.* 1, 3–30. 68M15

Aguilera Venegas, G. *see* **Aguilera, Gabriel**

Aguirre, Julián (*with* Pérez Pinilla, Martín-Blas) A pseudospectral method for the numerical solution of a nonlinear convection-diffusion equation in the whole space. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70

Aguirre, L. *see* **Aguirre Castillo, Luis**

Aguirre, Luis A. (*with* Mendes, Eduardo M. A. M.; Billings, S. A.) Smoothing data with local instabilities for the identification of chaotic systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 483–505. (Summary) **99f:93137** 93E14 (93C10)

Aguirre Castillo, Luis (*with* Seibert, P.) Bifurcations from unstable equilibria. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 165–171, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 58F14 (34C23, 54H20)

— (*with* Seibert, P.; Arredondo Ruiz, J. H.; Delgado Fernández, Joaquín) A general reduction principle in the stability theory of nonlinear systems. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 245–255, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:54050** 54H15

Aguirre Estibalez, Julián *see* **Aguirre, Julián**

Aguirregabiria, J. M. (*with* Bel, Lluís; Hernández Martin, Aníbal; Rivas, M.) Regular order reductions of ordinary and delay-differential equations. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 1, 95–105. 65–04 (65L99)

Aguirre Téllez, Manuel Antonio (*with* Cerutti, Rubén Alejandro; Trione, Susana Elena) Tables of Fourier, Laplace and Hankel transforms of n-dimensional generalized functions. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 235–284. (Gopi Ahuja) **99b:46062** 46F12 (44A10)

— A generalization of Pizetti's formula. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 41–50 (1998). (B. D. Agrawal) **99k:33060** 33E05 (78A25)

— The multiplicative product $(\delta(x_0 - |x|)/|x|^{(n-2)/2})(\delta(x_0 + |x|)/|x|^{(n-2)/2})$. (English summary) *J. Math. Chem.* **22** (1997), *no.* 2-4, 149–160 (1998). (Qing Yi Chen) **99f:46055** 46F10 (81T08)

— (*with* Cerutti, Rubén Alejandro) Causal (anticausal) Bessel derivative and the ultrahyperbolic Bessel operator. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 345–356 (1998). (N. Hayek Calil) **99g:33006** 33C10

Agur, S. *see* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**

Agure, John Ogonji Alternative proof of the Toeplitz-Hausdorff theorem. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 517–522. (M. J. Crabb) **99d:47005** 47A12

Agwo, Hassan A. (*with* Ibrahim, Sobhy El-Sayed) Boundedness for solutions of general quasi-integro differential equation. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 75–90. (From the introduction) **99i:45015** 45J05 (45M99, 47G20)

— On the asymptotic behavior of solutions of a second order differential equation with infinite delay. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 91–96. (Tibor Krisztin) **99c:34177** 34K25

Agwu, Nwojo N. (*with* Martin, Clyde F.) Optimal control of dynamic systems: application to spline approximations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 99–138. (Summary) **99d:41012** 41A15 (49N10)

Aha, David W. (*with* Kasif, Simon; Salzberg, Steven; Waltz, David; Rachlin, John) A probabilistic framework for memory-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 287–311. 68T30 (68T27)

Ahara, Kazushi (*with* Yamada, Kinji) Shapes of hexagrams. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 201–220. (Yu. A. Shashkin) **99k:52002** 52A10 (52B10)

— How to draw a simple closed curve on a picture of Riemann surface. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 7–19. (*see* **99e:30001**) 57M05 (30F99)

Aharoni, Ron (*with* Holzman, Ron) Fractional kernels in digraphs. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 1, 1–6. (Hortensia Galeana-Sánchez) **99e:05058** 05C20

— (*with* Ziv, Ran) The intersection of two infinite matroids. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 3, 513–525. (Talmage J. Reid) **99m:05042** 05B35

Aharonov, Dov An invariant generalization of the Mauldon inclination theorem. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 23–25, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (H. W. Guggenheimer) **99b:51003** 51B10

— The sharp constant in the ring lemma. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 27–31. (Summary) **99c:30008** 30C30

Aharonov, Y. (*with* Oppenheim, J.; Popescu, Sandu; Reznik, B.; Unruh, W. G.) Measurement of time of arrival in quantum mechanics. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 6, 4130–4139. (Michael B. Mensky) **99h:81019** 81P15

— (*with* Kaufherr, T.; Popescu, Sandu; Reznik, B.) Quantum measurement backreaction and induced topological phases. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 10, 2023–2026. (Péter Pál Lévay) **99b:81018** 81P15 (81S99)

Aharony, Ofer (*with* Berkooz, Micha; Kachru, Shamit; Seiberg, Nathan; Silverstein, Eva) Matrix description of interacting theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 148–157. (David S. Berman) **99b:81226** 81T60 (81T13, 81T30)

— (*with* Hanany, Amihay; Intriligator, Kenneth; Seiberg, Nathan; Strassler, Matthew J.) Aspects of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 67–99. (Gustavo Dotti) **99b:81227** 81T60 (81T13)

— (*with* Hanany, Amihay) Branes, superpotentials and superconformal fixed points. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 239–271. (Angel Maria Uranga) **99c:81225** 81T60 (81T13, 81T17, 81T30)

— (*with* Berkooz, Micha; Seiberg, Nathan) Light-cone description of (2, 0) superconformal theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 119–153. (Marco Spaans) **99k:81211** 81T30

— (*with* Fayyazuddin, Ansar; Maldacena, Juan M.) The large N limit of $\mathcal{N} = 2, 1$ field theories from threebranes in F-theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 13, 22 *pp.* (*electronic*). (Marco Spaans) **99d:81103** 81T30 (81T60, 83E30)

— (*with* Berkooz, Micha; Kachru, Shamit; Silverstein, Eva) Matrix description of (1, 0) theories in six dimensions. (English summary) *Phys. Lett. B* **420** (1998), *no.* 1-2, 55–63. (Summary) **99a:81166** 81T60 (81T30)

— (*with* Oz, Yaron; Yin, Zheng) M theory on $AdS_p \times S^{11-p}$ and superconformal field theories. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 87–93. (Summary) **99c:81157** 81T30 (81T40, 83E30)

Ahearn, Stephen T. (*with* Huber, Mark L.; Sherman, Gary J.) Finite groups can be arbitrarily Hamiltonian. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1013–1016. (Summary) **99k:20048** 20D60

Aherne, Frank J. (*with* Thacker, Neil A.; Rockett, Peter I.) The Bhattacharyya metric as an absolute similarity measure for frequency coded data. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 4, 363–368. 62B10

Ahlbrandt, Calvin D. (*with* Harmsen, Betty Jean) Discrete versions of continuous isoperimetric problems. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 449–462. (Summary) **99c:49003** 49J10 (39A12, 49M30, 65L12, 65N06)

Ahlfors, Lars Valerian Autobiography of Lars V. Ahlfors [reprinted from MR 84k:01066a]. *Fields Medallists' lectures*, 2–7, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70

— Commentary on: "Zur theorie der Überlagerungsflächen" (1935) [reprinted from MR 84k:01066a]. *Fields Medallists' lectures*, 8–9, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 30D35

— Quasiconformal mappings, Teichmüller spaces, and Kleinian groups [MR 81c:30002]. *Fields Medallists' lectures*, 10–23, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 30C65 (30F40, 30F60)

— *see also* **Lehto, Olli E., 99k:01065**

Ahlgren, Scott D. The set of solutions of a polynomial-exponential equation. *Acta Arith.* **87** (1999), *no.* 3, 189–207. (Yann Bugeaud) **99m:11031** 11D61

— *see also* **Topics in number theory, 99m:11004**

Ahlip, Rehez (*with* Anh, Vo) Nonlinear filtering of a system of logistic equations. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 219–238. (Federico Marchetti) **99b:60054** 60G35 (93E11)

Ahlswede, Rudolf (*with* Cai, Ning) Shadows and isoperimetry under the sequence-subsequence relation. *Combinatorica* **17** (1997), *no.* 1, 11–29. (Hugo S. Sun) **99d:04003** 04A20 (05A20, 05D05, 68R15)

— (*with* Yang, En-hui; Zhang, Zhen[1]) Identification via compressed data. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 1, 48–70. (Summary) **99a:94018** 94A34 (94A29)

— (*with* Cai, Ning) Models of multi-user write-efficient memories and general diametric theorems. (English summary) *Inform. and Comput.* **135** (1997), *no.* 1, 37–67. (Summary) **99a:68050** 68P20 (68R05)

— (*with* Khachatrian, Levon H.) The diametric theorem in Hamming spaces—optimal anticodes. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 4, 429–449. (Zhen Zhang) **99b:05140** 05D05

— (*with* Cai, Ning) Isoperimetric theorems in the binary sequences of finite lengths. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 121–126. (Summary) **99c:05018** 05A99

— (*with* Zhang, Zhen[1]) Code pairs with specified parity of the Hamming distances. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 1–11. (Summary) **99c:94060** 94B60

— (*with* Aïdinyan, A. K.; Khachatrian, Levon H.) The intersection theorem for direct products. *European J. Combin.* **19** (1998), *no.* 6, 649–661. (Miklós Bóna) **99c:05122** 05D05

— (*with* Csiszár, Imre) Common randomness in information theory and cryptography. II. CR capacity. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 225–240. (Summary) **99b:94021** 94A40

— (*with* Cai, Ning) Information and control: matching channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 542–563. (Summary) **99f:94009** 94A40

— (*with* Balakirskiĭ, V. B.) Construction of uniquely decodable codes for the two-user binary adder channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 326–330. 94A24 (94A40)

Ahluwalia, Daljit S. (*with* Keller, Joseph B.; Knessl, Charles) Advection-diffusion around a curved obstacle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3694–3710. (Summary) **99b:76081** 76R50

Ahmad, A. R. (*with* Evans, David John[1]) The smart alternating group explicit (SMAGE) method. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 263–271. 65L10 (65Y05)
— (*with* Evans, David John[1]) The Numerov alternating group explicit (numage) method. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 381–397. 65L10
Ahmad, Abd EL-Baset A. Recurrence relations for single and product moments of record values from Burr type XII distribution and a characterization. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 7–15. (Summary) **99b:62014** 62E15
Ahmad, Aqeel (*with* Khan, A. Rauf) Coincidence and fixed point theorem for hybrid contractions. (English summary) *Southeast Asian Bull. Math.* **22** (1998), *no.* 1, 11–15. 54H25 (54C60, 54E40)
Ahmad, Aquil (*with* Gupta, Vijay) Simultaneous approximation by modified beta operators. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 11–22 (1997). (Mircea Ivan) **99a:41026** 41A30 (41A36)
Ahmad, B. (*with* Khalid, H. M.) Regular fuzzy ideals in BCI-algebras. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 167–176. (Yishu Pu) **99m:06037** 06F35 (03G25, 04A72)
— (*with* Khalid, H. M.) Fuzzy prime ideals in BCK-algebras. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 113–124. (Summary) **99e:06010** 06F35 (03E72)
— (*with* Khalid, H. M.) Fuzzy H-ideals in BCI-algebras. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 153–158. 06F35
Ahmad, Faiz The orthogonal polynomials and the Padé approximation. (English summary) Chinese translation in Appl. Math. Mech. **19** (1998), no. 7, 619–623. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 7, 663–668. 41A21 (33B10, 33C45, 42C05)
Ahmad, Hamza (*with* Hajja, Mowaffaq; Kang, Ming-chang) Negligibility of projective linear automorphisms. (English summary) *J. Algebra* **199** (1998), *no.* 1, 344–366. (Frank D. Grosshans) **99c:13008** 13A50 (12F99, 15A72)
Ahmad, Ibrahim A. Modification of some goodness of fit statistics. II. Two-sample and symmetry testing. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 3, 464–472. (Thomas W. Epps) **99m:62069** 62G10
Ahmad, Izhar (*with* Gulati, T. R.) Multiobjective duality using Fritz John conditions. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 63–74. (Dorel Duca) **99g:90110** 90C29 (49N15)
— (*with* Gulati, T. R.; Husain, I.) Symmetric duality for minimax variational problems. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 81–95. (Fuan Zhao) **99i:49025** 49K35 (49N15)
Ahmad, K. E. (*with* Fakhry, M. E.; Jaheen, Zeinhum F.) Empirical Bayes estimation of $P(Y < X)$ and characterizations of Burr-type X model. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 297–308. (Summary) **99c:62015** 62C12 (62F15)
Ahmad, Khader (*with* Hamoui, Adnan) Dynamical systems of proper characteristic 0 and Poisson stability. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 241–244. (L. Janos) **99c:58136** 58F25 (54H20)
Ahmad, Khalil (*with* Khan, Akhtar A.) Solution of variational inequalities by operator method of regularization. *Functional analysis*, 140–151, *Narosa, New Delhi*, 1998. (R. Tichatschke) **99k:49019** 49J40 (47H17, 47H19, 65J20)
Ahmad, Khursheed (*with* Khan, Mumtaz Ahmad) On a generalization of Bessel polynomials suggested by the polynomials $I_n^{\alpha,\beta}(x)$ of Prabhakar and Rekha. (English summary) *J. Anal.* **6** (1998), 151–161. (V. L. Deshpande) **99m:33006** 33C45 (33C15)
Ahmad, M. K. (*with* Siddiqi, A. H.; Mukheimer, A.) Current developments in fractal image compression. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 304–331, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (*see* **98i:00018**) 94A12 (28A80)
Ahmad, M. Omair (*with* Sundararajan, Duraisamy) Fast computation of the discrete Walsh and Hadamard transforms. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 898–904. 65T20
Ahmad, Rais (*with* Siddiqi, A. H.; Khan, Mohammad Firdosh) Generalized multivalued vector variational inequalities. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 471–476. (Summary) **99c:47114** 47H19 (49J40)
— (*with* Siddiqi, A. H.; Khan, Mohammad Firdosh) Sensitivity analysis of generalized multivalued variational inequalities. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 125–128. 49K40 (90C31)
— (*with* Siddiqi, A. H.; Firdosh Khan, M.) Generalized multivalued η-mixed vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 137–144. (George Isac) **99j:47102** 47H19 (47H04, 49J40)
— (*with* Siddiqi, A. H.; Khan, Mohammad Firdosh) An iterative scheme for general mixed multivalued mildly non-linear variational inequalities. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 583–588. 49J40 (65J15)
Ahmad, Rashid (*with* Kateri, Maria; Papaioannou, Takis) New features in the class of association models. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 2, 125–136. 62H17
Ahmad, Shair (*with* Tineo, Antonio) Almost periodic solutions of second order systems. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 389–395. (Summary) **99a:34127** 34C27 (34C11)
— (*with* Lazer, Alan C.) Necessary and sufficient average growth in a Lotka-Volterra system. *Nonlinear Anal.* **34** (1998), *no.* 2, 191–228. (Stanisław Sędziwy) **99e:34058** 34D05 (34C99, 92D25)
Ahmad, Tauqueer A resampling technique for complex survey data. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **50** (1997), *no.* 3, 364–379, *v–vi*. 62D05
Ahmad, Z. U. (*with* Rahiman, P. M. Abdul.) b-translativity of (J, p_n)-method. *J. Nat. Acad. Math. India* **8** (1990), *no.* 2, 105–108. (Jozef Antoni) **99e:40008** 40G10
— Applications of summability. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 1–27, *New Age, New Delhi*, 1997. (Summary) **99e:40001** 40–02
— (*with* Jalal, H. T.) Invariant means and some matrix transformations. (English summary) *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 17–21. (V. K. Srinivasan) **99f:40002** 40C05 (40J05)
— *see also* **Fourier analysis, approximation theory and applications**, **99d:00019**
Ahmadi, Davood (*with* Rabii, Maryam) A combinatorial model for the dynamics of the family $z(z^n - b)$. (English summary) *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 3–11, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (I. N. Baker) **99b:58195** 58F23 (30D05)
Ahmadi, M. H. (*with* Bleicher, M. N.) On the conjectures of Erdös and Straus, and Sierpiński on Egyptian fractions. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 169–185. (Štefan Porubský) **99k:11049** 11D68 (11N36)
Ahmadi-Amoli, Kh. Local cohomology and cohomology of certain generalized Hughes complexes. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1305–1317. (P. Schenzel) **99e:13021** 13D45 (13D25, 14B15)
Ahmed, A. R. (*with* Sharkawi, I. E.; El-Afifi, M. M.) On the operational exponential function. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 187–192 (1997). (Summary) **99a:44005** 44A40
Ahmed, Abrar (*with* Agarwal, Ashok Kumar[2]) Some results on fixed points in pseudo-compact Tichonov space. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 421–422. 54H25
— (*with* Agarwal, Ashok Kumar[2]) Some remarks on a fixed point theorem in a Banach space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 439–442. 47H10
— (*with* Agarwal, Ashok Kumar[2]) Some remarks on a fixed point theorems. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 445–448. 54H25
Ahmed, Aqeel *see* **Ahmad, Aqeel**
Ahmed, Elsayed Mohamed (*with* Agiza, H. N.; Hassan, S. Z.) On modelling advertisement in Cournot duopoly. (English summary) *Chaos Solitons Fractals* **10** (1999), *no.* 7, 1179–1184. (Summary) **99m:90051** 90A53 (58F13, 58F40)
Ahmed, M. A. (*with* Rashwan, R. A.) Coincidence points of compatible multivalued mappings. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 20–28 (*electronic*). 54H25 (54C60, 54E40)
— (*with* Rashwan, R. A.) Fixed points of single and set-valued mappings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 29–37. 54H25 (54C60)
— (*with* Rashwan, R. A.) Common fixed points for generalized contraction mappings in convex metric spaces. (English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 15–21. 54H25
Ahmed, M. M. A. (*with* Abdalla, M. Sebawe; Al-Homidan, Suliman) Quantum statistics of three modes coupled oscillators. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3117–3139. (K. Wódkiewicz) **99b:81293** 81V80
— (*with* Abdalla, M. Sebawe; Al-Homidan, Suliman) Corrigenda: "Quantum statistics of three modes coupled oscillators" [J. Phys. A. **31** (1998), no. 14, 3117–3139; MR 99b:81293]. *J. Phys. A* **31** (1998), *no.* 41, 8405. 81V80
Ahmed, M. S. *see* **Ahmed, Mohammed Shahgir**
Ahmed, Md. Saleh (*with* Islam, M. L.; Ali, Md. Almech) Almost unbiased ratio type estimators using two phase sampling. (English summary) *J. Stat. Stud.* **17** (1997), 39–44. 62D05
— A note on regression-type estimators using multiple auxiliary information. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 373–376. 62D05
Ahmed, Mohamed A. (*with* Al-Khamis, Talal M.; Miller, Douglas R.) Time-inhomogeneous discrete stochastic search methods for optimal Bernoulli parameters. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 199–217. (Summary) **99i:62231** 62M99
Ahmed, Mohammed Shahgir (*with* Farooq Anjum, M.) Neural-net-based direct self-tuning control of nonlinear plants. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 85–104. 93C83 (93C10)
Ahmed, Mubarak Stability of black holes in two-dimensional dilaton gravity. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 12, 1675–1682. (Michael O. Katanaev) **99c:83042** 83C57
Ahmed, N. U. (*with* Kerbal, S.) Linear quadratic regulator for systems governed by B-evolutions. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 527–537. (Gabriel Dimitriu) **99k:49074** 49N10 (49K20, 93B52)
— Optimal control of turbulent flow as measure solutions. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 169–180. (Summary) **99m:49003** 49J20 (49N55, 76F99)
— (*with* Harbi, H.) Mathematical analysis of dynamic models of suspension bridges. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 853–874 (*electronic*). (Kirsten Anna Morris) **99d:73050** 73K05 (73D30, 73K12, 93C95)
— Measure solutions for semilinear systems with unbounded nonlinearities. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 487–503. (Jacek Banasiak) **99k:34132** 34G20 (35K57, 35Q30, 47H20)
Ahmed, S. E. (*with* Mahdi, T. N.) Improved prediction in a simple regression model. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 201–213. (Summary) **99m:62093** 62J05
— Improved R-estimation of regression coefficients. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 53–73. (Summary) **99c:62175** 62J05 (62J07)
— (*with* Kibria, B. M. Golam) Shrinkage estimation for the multicollinear observations in a regression model with multivariate t disturbances. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 83–102. (Summary) **99c:62197** 62J07
— Improved pretest nonparametric estimation in a multivariate regression model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2391–2421. (Summary) **99f:62048** 62G05
— Large-sample estimation strategies for eigenvalues of a Wishart matrix. (English summary) *Metrika* **47** (1998), *no.* 1, 35–45. (V. I. Serdobol'skiĭ) **99g:62073** 62H12
— (*with* Joarder, Anwarul H.) Estimation of the scale matrix of a class of elliptical distributions. (English summary) *Metrika* **48** (1998), *no.* 2, 149–160. (Summary) **99j:62076** 62H12 (62C15)
— *see also* **Applied statistical science**, **99j:62001**
Ahmed, S. M. Influence of gravity on the propagation of waves in granular medium. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 269–280. (Summary) **99k:73067** 73E50 (73D99, 76A99)
Ahmed, Shafiq U. (*with* Dudewicz, Edward J.) New exact and asymptotically optimal solution to the Behrens-Fisher problem, with tables. (English summary) *Amer. J. Math. Management Sci.* **18** (1998), *no.* 3-4, 359–426. (Summary) **99k:62038** 62F03
Ahmed-Ali, Tarek (*with* Lamnabhi-Lagarrigue, Françoise) Dynamical robust adaptive tracking for uncertain nonlinear systems. (English summary) *Internat. J. Control* **70**

(1998), *no.* 6, 921–939. (B. I. Anan′ev) **99g:93050** 93C40 (93C41)
— (*with* Lamnabhi-Lagarrigue, Françoise) Sliding observer-controller design for uncertain triangular nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1244–1249. 93B50 (93B12)
Ahmedov, Hadji (*with* Duru, I. H.) Green function on the q-symmetric space $SU_q(2)/U(1)$. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 131–136, *PWN, Warsaw*, 1997. (Alexei Zhedanov) **99j:81066** 81R50
— (*with* Duru, I. H.) On the invariant distance and Green function for $SU_q(2)$. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1069–1074. (Marcelo R. Ubriaco) **99h:81079** 81R50 (17B37)
— (*with* Duru, I. H.) Scattering from the potential barrier $V = \cosh^{-2}\omega x$ from the path integration over SO(1, 2). (English summary) *J. Phys. A* **30** (1997), *no.* 1, 173–184. (Summary) **99d:81171** 81U05 (81S40)
— (*with* Duru, I. H.) Green function on the q-symmetric space $SU_q(2)/U(1)$. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5741–5754. (Alexei Zhedanov) **99j:81067** 81R50
Ahmitzyanov, R. R. Limits of weak interaction for stochastic particle system. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 19–33, *TEV, Vilnius*, 1994. (Summary) **99f:60164** 60K35 (60J15, 82C22)
Ahn, Byung Moo (*with* Johnson, Gerald W.) Path integrals, Fourier transforms, and Feynman's operational calculus. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 189–203. (Dong M. Chung) **99d:28020** 28C20 (42A38, 47N50)
Ahn, C. *see* **Ahn, Changrim**
Ahn, Changhyun Geometry, D-branes and $N = 1$ duality in four dimensions. II. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 91–98. (Summary) **99a:81121** 81T30 (14J32, 32J81)
— (*with* Nam, Soonkeon) Compactifications of F-theory on Calabi-Yau threefolds at constant coupling. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 132–138. (Gonzalo Violero) **99f:81138** 81T30 (14J32, 32J81)
— Confining phase of $N = 1$ $Sp(N_c)$ gauge theories via M theory fivebrane. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 306–314. (Summary) **99b:81228** 81T60 (81T13, 81T30)
— (*with* Oh, Kyungho; Tătar, Radu) Orbifolds of $AdS_7 \times S^4$ and six-dimensional (0, 1) SCFT. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 109–116. (Summary) **99i:83085** 83E30 (81T30, 81T40)
— (*with* Oh, Kyungho; Tătar, Radu) $Sp(N_c)$ gauge theories and the M theory fivebrane. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086002, 12 *pp.* (Summary) **99k:81289** 81T60 (81T13, 81T30)
— (*with* Oh, Kyungho; Tătar, Radu) Comments on SO/Sp gauge theories from brane configurations with an O6 plane. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046001, 8 *pp.* (Summary) **99m:81233** 81T60 (81T13, 81T30)
Ahn, Changrim (*with* Koo, W. M.) Boundary Yang-Baxter in the RSOS/SOS representation. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 3–12, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23
— (*with* You, Choong-Ki) Complete non-diagonal reflection matrices of RSOS/SOS and hard hexagon models. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2109–2121. (Summary) **99c:82022** 82B23 (82B20)
Ahn, Hyungsok (*with* Dayal, Mohit; Grannan, Eric; Swindle, Glen) Option replication with transaction costs: general diffusion limits. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 676–707. (Rüdiger Kiesel) **99j:90007** 90A09 (60G44, 60H99)
Ahn, Jae Moon L_1 analytic Fourier-Feynman transform on the Fresnel class of abstract Wiener space. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 99–117. (Denis R. Bell) **99i:28020** 28C20 (46F12, 46G12)
Ahn, Jong Su The characterizations of Stein spaces by cohomology groups. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 49–57. (Zhihua Chen) **99j:32017** 32E10
Ahn, Mi Kyung (*with* Kim, Dae Kyung; Park, Dong Ho) Bootstrap confidence interval for mean time between failures of a repairable system. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 53–64. 62G09
Ahn, Sang Chul (*with* Kwon, Wook Hyun; Moon, Young Soo) Bounds in algebraic Riccati and Lyapunov equations: a survey and some new results. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 377–389. 93C05 (93B40)
Ahn, Seong Soo (*with* Lee, Sung-Baik; Kim, In-Bae; Kim, Nam-Gil) A rigidity theorem for real hypersurfaces in a complex projective space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1007–1013. (Jürgen Berndt) **99g:53065** 53C42 (53C40)
— A characterization of horospheres and geodesic hyperspheres in a complex hyperbolic space in terms of Ricci tensors. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 503–514. (Jürgen Berndt) **99h:53071** 53C40 (53C15)
Ahn, Sun Shin (*with* Kim, Hee Sik) A note on Noetherian and Artinian BCK-algebras. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 1, 61–65. 06F35
— (*with* Dvurečenskij, Anatolij; Kim, Hee Sik) The Ker-Coker sequence in BCI-algebras. *Demonstratio Math.* **30** (1997), *no.* 4, 843–850. (Yishu Pu) **99i:06020** 06F35
— Permanents over inclines and other semirings. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 147–154. (Natalia Bebiano) **99g:15007** 15A15 (06F99)
Ahn, Sung Jin (*with* Sung, Chang Sup) A proportional-reduction-in-impurity measure of association for categorical variables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2083–2110. (Jiří Anděl) **99h:62013** 62C99
Ahn, Sung K. (*with* Lee, Eui Yong) P_t^M-policy for a dam with input formed by a compound Poisson process. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 482–488. (Summary) **99e:60210** 60K30
Ahn, Taehoon Multisite oscillations in networks of weakly coupled autonomous oscillators. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 965–989. (Jochen Denzler) **99f:58167** 58F22 (34C15, 34C25, 58F10)
Ahn, Y. J. (*with* Kim, Hong Oh) Curvatures of the quadratic rational Bézier curves. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 71–83. (Yu Yu Feng) **99j:65021** 65D17 (65Y25)
Ahn, Youngho (*with* Choe, Geon Ho) On normal numbers mod 2. *Colloq. Math.* **76** (1998), *no.* 2, 161–170. (V. Drobot) **99b:11082** 11K16 (28D05)
Aho, Isto (*with* Mäkinen, Erkki; Systä, Tarja) Remarks on the thickness of a graph. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 1–4. (Summary) **99b:05080** 05C35 (68R10)
matala-Aho, Tapani *see* **Matala-Aho, Tapani**
Aho, Tuomo Frege and his groups. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 3, 137–151. (Kai F. Wehmeier) **99m:01017** 01A55 (03-03, 20-03)
Ahsan, Javed (*with* Shabir, Muhammad; Weinert, H. J.) Characterizations of semirings by P-injective and projective semimodules. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2199–2209. (C. J. Maxson) **99d:16053** 16Y60
— Semirings characterized by their fuzzy ideals. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 181–192. (C. J. Maxson) **99b:16071** 16Y60
Ahsanullah, M. The generalized order statistics. *Applied statistical science, II* (*Malang*, 1996), 57–75, *Nova Sci. Publ., Commack, NY*, 1997. (Introduction) **99c:62147** 62G30
— *see also* **Applied statistical science, 99j:62001**
Ahsanullah, T. M. G. (*with* Khodadad Khan, A. F. M.) Net-convergence in fuzzy neighborhood spaces. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 197–203. (Summary) **99h:54009** 54A40
Ahues, Mario (*with* Limaye, Balmohan V.) On error bounds for eigenvalues of a matrix pencil. (English summary) *Linear Algebra Appl.* **268** (1998), 71–89. (William Watkins) **99c:15016** 15A22 (15A42)
— *see also* **Proceedings: Congress of Numerical Analysis, 99e:00012**
Ahuja, Gopi (*with* Rizvi, S. M. Kamil) The extended Hankel transformation on M'_α-space and its representation. *J. Maulana Azad College Tech.* **30** (1997), 83–92. 44A15
— Lipschitz conditions satisfied by extended Hankel transformation. (English summary) *Ganita* **49** (1998), *no.* 2, 107–112. (L. Debnath) **99m:44004** 44A15
Ahuja, Mangho (*with* Palmer, Leonard; Tikoo, Mohan) Finding Pythagorean triple preserving matrices. *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 99–105. (Morris Newman) **99b:11021** 11C20 (11D09)
Ahuja, O. P. (*with* Jahangiri, Jay M.) Integral means for prestarlike and some related univalent functions. *Mathematica* **39(62)** (1997), *no.* 2, 157–164. (Herb Silverman) **99f:30015** 30C45
— (*with* Jahangiri, Jay M.) On a class of bounded analytic functions. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 85–88 (*electronic*). (Summary) **99m:30014** 30C45
— (*with* Jahangiri, Jay M.; Silverman, Herb) Subclasses of starlike functions related to a multiplier family. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 65–72. (F. W. Hartmann) **99m:30015** 30C45 (30C50)
— (*with* Jahangiri, Jay M.) Unified classes of analytic functions defined by subordination. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 131–138. (Paul Eenigenburg) **99m:30048** 30C80 (30C45)
Ahuja, Ravindra K. (*with* Sokkalingam, P. T.; Sharma, Prabha) A new pivot selection rule for the network simplex algorithm. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 149–158. (Summary) **99j:90106** 90C35 (90C27)
— (*with* Aggarwal, Charu C.; Hao, Jianxiu; Orlin, James B.) Diagnosing infeasibilities in network flow problems. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 263–280. (Summary) **99b:90043** 90B10 (90C35)
Ai, Wen Bao (*with* Liang, Xi Ming) A variant of Gay's linear programming algorithm and its complexity analysis. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 84–88. 90C05
— (*with* Peng, Ji Gen) An equivalent characterization of the Hille-Yosida condition. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 135–140. (Shu Chun Gao) **99c:47057** 47D06
— A projective scaling interior-point algorithm for linear programming. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 4, 80–83. 90C05
Aibeche, Aissa Fold-completeness of generalized eigenvectors of a class of elliptic problems. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 1–8. (Abdumalik A. Rakhimov) **99c:35176** 35P10 (34L10, 35J25, 47A56, 47F05)
Aicardi, Francesca Discriminants and local invariants of planar fronts. *The Arnold-Gelfand mathematical seminars*, 1–76, *Birkhäuser Boston, Boston, MA*, 1997. (From the introduction) **99k:58021** 58C27 (57R42)
Aich, A. B. (*with* Nandi, S. B.) A note on testing hypothesis regarding $P(X > Y)$ in bivariate normal samples. (English summary) *IAPQR Trans.* **21** (1996), *no.* 2, 149–153. 62H15
— (*with* Nandi, S. B.) Optimal stratified sampling—an information-theoretic approach. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 260–266, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05
Aichelburg, P. C. (*with* Schein, F.) Wormholes and timetravel. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1025–1032. (Summary) **99k:83108** 83E05 (83C99)
— (*with* Lechner, Ch.) σ model on de Sitter space. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6176–6180. (Summary) **99m:81157** 81T20 (81T10, 83C15)
Aichholzer, Oswin (*with* Aurenhammer, Franz; Rote, Günter; Xu, Yin-Feng) Constant-level greedy triangulations approximate the MWT well. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 361–369. (Summary) **99m:65260** 65Y25
Aichinger, Erhard Local polynomial functions on the integers. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 169–177 (1998). (Vladimir S. Anashin) **99f:13009** 13B25 (11U99)
Aickin, Mikel A logical foundation for the minimal sufficient cause model. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 271–281. (Summary) **99f:62122** 62P10
Aida, Shigeki On the irreducibility of certain Dirichlet forms on loop spaces over compact homogeneous spaces. *New trends in stochastic analysis* (*Charingworth*, 1994), 3–42, *World Sci. Publishing, River Edge, NJ*, 1997. (Ana Bela Cruzeiro) **99k:58193** 58G32 (60J45)
— Stochastic analysis on loop spaces. (Japanese) *Sūgaku* **50** (1998), *no.* 3, 265–281. (Elton Pei Hsu) **99i:58155** 58G32 (60H07)
Aĭdinyan, A. K. (*with* Ahlswede, Rudolf; Khachatrian, Levon H.) The intersection theorem for direct products. *European J. Combin.* **19** (1998), *no.* 6, 649–661. (Miklós Bóna) **99e:05122** 05D05

Aiello, William A. (*with* Bellare, Mihir; Di Crescenzo, Giovanni; Venkatesan, Ramarathnam) Security amplification by composition: the case of doubly-iterated, ideal ciphers. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA, 1998*), 390–407, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94035** 94A60

— (*with* Rajagopalan, S. Raj; Venkatesan, Ramarathnam) Design of practical and provably good random number generators. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 358–389. (Gheorghe Barbu) **99m:65013** 65C10 (68P25, 68Q10)

Aiena, Pietro (*with* Laursen, Kjeld B.) On Riesz theory of multipliers in commutative Banach algebras. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 185–193. (A. G. Myasnikov) **99g:46068** 46J05 (47B06, 47B48)

— (*with* González, Manuel) On inessential and improjective operators. (English summary) *Studia Math.* **131** (1998), *no.* 3, 271–287. (Hans-Olav Tylli) **99i:47021** 47A53 (47D50)

Aigner, Martin Ulams Millionenspiel. (German summary) [Ulam's million game] *Math. Semesterber.* **42** (1995), *no.* 1, 71–80. (J. E. Cigler) **99c:05019** 05A99

— (*with* Schmidt, Vasco Alexander) Lebensspuren in und nach der DDR. Interviews mit Horst Sachs und Gustav Burosch. (German summary) [Life in and after the GDR. Interviews with Horst Sachs and Gustav Burosch] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 3, 23–33. (Summary) **99b:01023** 01A70

— Motzkin numbers. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 663–675. (Louis Shapiro) **99m:05003** 05A10 (11B75, 11B83, 82B41)

— Geometric representations of graphs and the 4-color theorem. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 9–13. (Summary) **99g:05070** 05C15 (05C10)

— (*with* Schulze, Volker) Sum-difference sequences and Catalan numbers. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 89–99. (F. T. Howard) **99m:11022** 11B75 (05A15)

— *see also* **Wildenhain, Günther**, **99b:01024a**; **Franz, Uwe**[2], **99b:01024b** *and* **Nollau, Volker**, **99b:01024c**

Aĭgunov, G. A. On a condition for the uniform boundedness of the set of normalized eigenfunctions of the Sturm-Liouville operator on a finite interval. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 1, 15–17, 85–86. (Summary) **99i:34121** 34L40

— On the eigenfunctions of a class of Schrödinger operators with null range potential. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 1, 80–81, 88. (Summary) **99j:34125** 34L40 (47E05, 81Q05)

— On estimates of S. N. Bernstein type for eigenfunctions of differential operators. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 2, 3–6, 98. (Summary) **99e:34116** 34L05

— (*with* Gekhtman, Moiseĭ Meerovich) On sharp estimates for normalized eigenfunctions of the Sturm-Liouville operator on a finite interval with a continuous positive weight function. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 4, 3–10, 101. (Summary) **99e:34122** 34L20

— On the spectrum of a class of one-dimensional operators of Schrödinger type with generalized potential. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 617–619; *translation in Math. Notes* **62** (1997), *no.* 3-4, 513–515 (1998). (P. A. Mishnayevskiy) **99e:34125** 34L40 (34L05, 47E05)

— On the asymptotics of normalized eigenfunctions of the Sturm-Liouville operator on a finite interval. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 147–148; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1283–1284. (Vladimir Vasil'evich Dubrovskiĭ) **99b:34135** 34L20

— On the boundedness of orthonormal eigenfunctions of an operator in a Sturm-Liouville class with a bounded weight function of unbounded variation on a finite segment. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 2, 3–12, 101. (Summary) **99e:34126** 34L40 (34B24)

Aihara, Kazuyuki Chaos in neural networks. (English summary) *The impact of chaos on science and society* (*Tokyo*, 1991), 110–126, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92B20 (58F13)

— (*with* Tokuda, Isao; Nagashima, Tomomasa) Adaptive annealing for chaotic optimization. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5157–5160. 90C27 (90B10)

Aihara, Shin Ichi (*with* Bagchi, Arunabha) A MAP recursive nonlinear filtering. *Statistical methods in control and signal processing*, 217–237, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (A. F. Gualtierotti) **99j:93099** 93E11 (60G35, 93E20)

— Identification of a discontinuous parameter in stochastic parabolic systems. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 43–69. (Michael A. Kouritzin) **99a:93103** 93E12 (60H15, 62M20, 93C20)

— Consistency property of extended least-squares parameter estimation for stochastic diffusion equation. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 249–256. (Věra Lánská) **99f:93130** 93E10 (60G35, 62M20, 93E11)

Aihara, Tohru (*with* Ishigame, Atsushi; Yuasa, Hidetaka) Optimization with constraints using the chaos steepest descent method. (Japanese) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 316–318. 90C30 (65K05)

Aihara, Yoshihiro Finiteness theorems for meromorphic mappings. *Osaka J. Math.* **35** (1998), *no.* 3, 593–616. (Seiki Mori) **99j:32030** 32H25

Aikawa, Hiroaki Capacity and Hausdorff content of certain enlarged sets. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **30** (1997), 1–21. (David Singman) **99b:31004** 31B15 (31B25)

— Norm estimate of Green operator, perturbation of Green function and integrability of superharmonic functions. *Math. Ann.* **312** (1998), *no.* 2, 289–318. (Minoru Murata) **99m:35042** 35J15 (31B05, 31B35, 31C35, 35B20)

— Semibounded perturbation of Green function in an NTA domain. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **31** (1998), 1–7. (Noriaki Suzuki) **99c:31007** 31B05 (31C35, 35B20, 35J10)

— Generalized Cranston-McConnell inequalities for discontinuous superharmonic functions. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 127–135. (Tom Carroll) **99g:31001** 31A05

Aiki, Toyohiko (*with* Imai, Hitoshi) Some results on behavior of solutions to one-phase Stefan problems for a semilinear parabolic equation. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 60–78. (Domingo A. Tarzia) **99g:35144** 35R35 (35K60, 80A22)

— (*with* Sato, Naoki) ω-limit sets for solutions to phase field equations with constraints under nonlinear dynamic boundary conditions. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 253–256, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35Q99

— Large-time behavior of one-dimensional two-phase Stefan problems. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 7–17, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Yoshio Yamada) **99g:35145** 35R35 (35B40, 35K60)

Aikou, Tadashi A partial connection on complex Finsler bundles and its applications. *Illinois J. Math.* **42** (1998), *no.* 3, 481–492. (James J. Faran, V) **99j:53090** 53C56 (32L20, 53C60)

Ailon, Amit (*with* Gil', M. I.) On global feedback stabilization of nonlinear non-autonomous systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 935–941. 93D15

— (*with* Gil', M. I.) On global feedback stabilization of nonlinear retarded systems. (Englisn summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 195–202. (Jacob Hammer) **99e:93065** 93D15 (34K35)

— (*with* Gil', M. I.) The input-output version of Aizerman's conjecture. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 14, 1219–1226. (Sauro Longhi) **99k:93085** 93D25 (93C10)

— (*with* Gil', M. I.) On exponential stabilization of non-linear non-autonomous systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 430–434. (Rabah Rabah) **99m:93083** 93D15

— (*with* Gil', M. I.; Choi, Eun-Seok) A simple linear stabilizing controller for a RLED robot with uncertain parameters and some related applications. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 546–559. 93D15 (70Q05, 93C20)

Aimar, H. (*with* Forzani, Liliana; Toledano, R.) Balls and quasi-metrics: a space of homogeneous type modeling the real analysis related to the Monge-Ampère equation. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 377–381. (Wen Xiong Chen) **99j:35043** 35J60 (42B25)

Aimi, A. (*with* Carini, Angelo; Diligenti, M.; Monegato, G.) Numerical integration schemes for evaluation of (hyper)singular integrals in 2D BEM. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 1–11. (Summary) **99e:65034** 65D30

Aingworth, Donald (*with* Motwani, Rajeev; Harary, Frank) The difference between a graph and its square. (English summary) *Util. Math.* **54** (1998), 223–228. (Summary) **99f:05056** 05C35

Ainola, Leo Isospectral vibration of quasi-uniform rods and strings. (English and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **2** (1996), *no.* 2, 224–232. (Summary) **99e:73046** 73D30 (34B24, 34L10, 73K03, 73K05, 73K12)

azreg-Aïnou, Mustapha *see* **Azreg-Aïnou, Mustapha**

Ainouche, A. Quasi-claw-free graphs. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 13–26. (Zdeněk Ryjáček) **99c:05119** 05C45 (05C75)

— (*with* Favaron, Odile; Li, Hao[1]) Global insertion and Hamiltonicity in DCT-graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 1–13. (Zdeněk Ryjáček) **99c:05120** 05C45

Ainsworth, Mark (*with* Arnold, Mark Edward) A reliable a posteriori error estimator for adaptive hierarchic modelling. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 101–114, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (73V05)

— (*with* Grigorieff, R. D.; Sloan, Ian H.) Semi-discrete Galerkin approximation of the single layer equation by general splines. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 157–174. (Juhani Pitkäranta) **99d:65308** 65N30 (65R20)

— A posteriori error estimation for fully discrete hierarchic models of elliptic boundary value problems on thin domains. (English summary) *Numer. Math.* **80** (1998), *no.* 3, 325–362. (Anna-Margarete Sändig) **99i:65119** 65N15 (65N30, 73V05, 80A20)

— (*with* Babuška, Ivo M.) Reliable and robust a posteriori error estimating for singularly perturbed reaction-diffusion problems. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 331–353 (*electronic*). (Martin Stynes) **99k:65083** 65M15 (65M60)

Airapetyan, G. M. On the Hilbert problem in the sense of L^p-convergence. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 54–61 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 42–49. (Yuri I. Cherskiĭ) **99f:30038** 30C70 (35Q15, 45Exx)

Airapetyan, R. G. (*with* Zhidkov, E. P.; Shakhbagyan, R. L.) Regularizing numerical method for solving the inverse scattering problem. *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 1–7, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 65N99 (35J10, 81U40)

— (*with* Busha, J.; Zhidkov, E. P.) Numerical method for solving the inverse problem of quantum scattering theory. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 27–31, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 81U40 (34L25, 65R20)

Airault, Helene The Heisenberg group H_3 in terms of the orthonormal frame bundle $O(\mathbf{R}^2)$ and the control of variation of the Heisenberg diffusion. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 23–46, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Vivek S. Borkar) **99j:58225** 58G32 (60H07, 93E20)

Aĭsagaliev, S. A. Optimal control of linear systems with fixed trajectory endpoints and bounded control. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1011–1017, 1148; *translation in Differential Equations* **32** (1996), *no.* 8, 1017–1023 (1997). (E. S. Chichkin) **99a:49006** 49J15 (49M07)

— (*with* Dzhenaliev, M. T.; Dzhenalieva, M. M.) On the heat equation with integral averages. I. Averaging with respect to the space variable. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 3–8. (Alexander A. Pankov) **99e:35085** 35K05 (35B27)

— (*with* Zlobina, E. B.) On the absolute stability of controllable systems with differentiable nonlinearities. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 3–12. (T. K. Sirazetdinov) **99g:93058** 93D05 (34D99, 34H05)

— (*with* Dzhenaliev, M. T.; Dzhenalieva, M. M.) On the heat equation with integral averages. II. Averaging with respect to the time variable. (Russian. English, Russian and

Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 24–32. (Alexander A. Pankov) **99e:35086** 35K05 (35B27)

— (*with* Aïsagaliev, T. S.) A constructive theory for obtaining periodic solutions of ordinary differential equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 3–9. (V. A. Sobolev) **99f:34058** 34C25 (34H05)

Aïsagaliev, T. S. (*with* Aïsagaliev, S. A.) A constructive theory for obtaining periodic solutions of ordinary differential equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 3–9. (V. A. Sobolev) **99f:34058** 34C25 (34H05)

Aissani, A. (*with* Asselin de Beauville, J. P.) Queuing analysis of a sequential recognizer of patterns. (English summary) *Top* **6** (1998), *no.* 1, 45–66. 90B22

Aiston, A. K. (*with* Morton, H. R.) Young diagrams, the Homfly skein of the annulus and unitary invariants. *KNOTS '96 (Tokyo)*, 31–45, *World Sci. Publishing, River Edge, NJ*, 1997. (Introduction) **99k:57027** 57M25 (20C35)

— (*with* Morton, H. R.) Idempotents of Hecke algebras of type *A*. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 463–487. (J. S. Birman) **99h:57002** 57M25 (17B37)

Aït Amrane, Samir Sur le schéma de Hilbert des courbes de degré d et genre $(d-3)(d-4)/2$ de $\mathbf{P}^3_k$. (English and French summaries) [On the Hilbert scheme of space curves of degree d and genus $(d-3)(d-4)/2$ of $\mathbf{P}^3_k$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 851–856. (Allen Tannenbaum) **99k:14006** 14C05 (14H10, 14H50)

Aitchison, I. R. (*with* Rubinstein, Joachim H.) Polyhedral metrics and 3-manifolds which are virtual bundles. *Bull. London Math. Soc.* **31** (1999), *no.* 1, 90–96. (G. Peter Scott) **99h:57024** 57M50 (57N10, 57R30)

— (*with* Matsumoto, Saburo; Rubinstein, Joachim H.) Dehn surgery on the figure 8 knot: immersed surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2437–2442. (Kimihiko Motegi) **99j:57012** 57M50 (57M25, 57N10, 57N35, 57Q35)

Aitchison, J. M. (*with* Poole, M. W.) A numerical algorithm for the solution of Signorini problems. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 55–67. (Summary) **99d:65334** 65N38 (35R35)

Aitchison, Peter (*with* Li, Henian; Woodbury, Allan) Methods for overcoming breakdown problems in the unsymmetric Lanczos reduction method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 389–408. (Summary) **99b:65117** 65M60 (65F25)

— (*with* Li, Henian; Woodbury, Allan) Eigenvalue translation method for stabilizing an unsymmetric Lanczos reduction process. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 2, 221–239. (Summary) **99d:65131** 65F30

— (*with* Li, Henian; Woodbury, Allan) Application of the unsymmetric Lanczos method to radionuclide decay-chain transport in porous media. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 3, 355–372. (Summary) **99k:86002** 86A05 (76S05, 80A99)

Aït Dads, E. (*with* Ezzinbi, Khalil; Fatajou, S.) Weakly almost periodic solutions for some differential equations in a Banach space. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 157–170. (C. Corduneanu) **99h:34079** 34Gxx (34C27, 47D06)

— (*with* Ezzinbi, Khalil) Existence of periodic solutions of nonautonomous retarded functional-differential equations. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 25–34. (Ovide Arino) **99i:34094** 34K15

Aït Haddadène, Hacène (*with* Gravier, Sylvain; Maffray, Frédéric) An algorithm for coloring some perfect graphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 1–16. (Olivia M. Carducci) **99b:05051** 05C15 (05C85)

Aitken, A. C. *see* **Wimp, Jet**, **99e:01031**

Aitken, Wayne On value sets of polynomials over a finite field. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 441–449. (S. D. Cohen) **99h:11138** 11T06

— An explicit sign formula for the determinant of cohomology. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 703–723. (Claus Scheiderer) **99m:14038** 14F99

Aït-Tahar, S. (*with* Nedjadi, Y.; Barrett, R. C.) An extended relativistic quantum oscillator for $S = 1$ particles. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3867–3874. (Summary) **99b:81086** 81R20

Aït Taleb, A. (*with* Hanebaly, E.) A fixed point theorem and its application to integral equations in modular function spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2335–2342. (K. Goebel) **99j:47082** 47H10 (45G10, 47N20)

Aïvazyan, A. V. (*with* Lyubimova, M. L.) On the spectrum of stochastic motion in magnetic billiards that are close to circular. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 467–471; *translation in Phys. Dokl.* **42** (1997), *no.* 12, 641–645. (András Krámli) **99e:58116** 58F11 (81Q50)

morcillo Aixelá, Carmen *see* **Morcillo Aixelá, Carmen**

Aiyama, Reiko (*with* Akutagawa, Kazuo) Representation formulas for surfaces of constant mean curvature in 3-dimensional spaces of constant curvature. (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 11–27. (*see* **99a:58003**) 53A10

— (*with* Akutagawa, Kazuo) Kenmotsu-Bryant type representation formula for constant mean curvature spacelike surfaces in $\mathbf{H}^3(-c^2)$. (English summary) *Differential Geom. Appl.* **9** (1998), *no.* 3, 251–272. (Rafael López) **99m:53015** 53A10 (53C42, 53C50)

Aiyub, M. (*with* Khan, Mushir A.) A class of matrix transformations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 429–434. (Summary) **99j:40017** 40H05 (40C05)

— (*with* Khan, F. M.; Khan, Mushir A.) Matrix transformations and almost boundedness. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 35–42. (Summary) **99h:40005** 40C05 (40H05, 46A45)

Aizawa, Naruhiko (*with* Kobayashi, Tatsuo; Sato, Haru-Tada) Notes on Curtright-Zachos deformations of osp(1, 2) and super Virasoro algebras. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5867–5883. (Summary) **99i:81086** 81R50 (17B68, 81R10)

— (*with* Sato, Haru-Tada) Isospectral Hamiltonians and $W_{1+\infty}$ algebra. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 3, 707–718. (Josep Herrero) **99e:81071** 81R10 (17B68, 81Q60)

— Tensor operators for $\mathcal{U}_h(\mathrm{sl}(2))$. (English summary) *J. Phys. A* **31** (1998), *no.* 24, 5467–5475. (Jintai Ding) **99g:81080** 81R50 (17B37)

Aizawa, Yoji (*with* Kurosaki, Satoru) Breakup process and geometrical structure of high-dimensional KAM tori. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 4, 783–793. (Ugo Locatelli) **99h:58165** 58F27 (70H05, 70K50)

— (*with* Shinohara, Susumu) Indicators of reconnection processes and transition to global chaos in nontwist maps. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 219–233. (Summary) **99h:58127** 58F13

Aizenberg, Lev (*with* Fedosov, Boris V.; Tarkhanov, Nikolai N.) Residues of closed differential forms. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 1–19. (D. Lehmann) **99k:58005** 58A12 (55R40, 57R20)

— (*with* Tumanov, Alexander; Vidras, Alekos) The class of holomorphic functions representable by Carleman formula. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 1, 93–105 (1999). (Eleonora A. Storozhenko) **99j:30040** 30E20 (32A25, 32A35)

Aizenman, Michael Scaling limit for the incipient spanning clusters. (English summary) *Mathematics of multiscale materials (Minneapolis, MN, 1995–1996)*, 1–24, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Daniel Ueltschi) **99g:82034** 82B43 (60D05, 60K35, 82B27)

Aizenstein, Howard (*with* Hegedűs, Tibor; Hellerstein, Lisa; Pitt, Leonard) Complexity-theoretic hardness results for query learning. (English summary) *Comput. Complexity* **7** (1998), *no.* 1, 19–53. (Mark R. Jerrum) **99e:68048** 68Q15 (68Q25, 68T05)

Aizicovici, Sergiu (*with* Aron, M.) On a class of deformations of compressible, isotropic, nonlinearly elastic solids. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 175–185. (Summary) **99d:73026** 73C50

— (*with* Chen, Yu Qing) Note on the topological degree of the subdifferential of a lower semi-continuous convex function. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2905–2908. (Vesa Mustonen) **99a:47090** 47H11 (47H15, 47H17, 55M25, 58C30)

— (*with* Reich, Simeon) Anti-periodic solutions to a class of non-monotone evolution equations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 35–42. (Piotr Biler) **99k:34133** 34G20 (35K55, 35R70)

— (*with* Chen, Yu Qing; Reich, Simeon) Accretive operators in locally convex spaces. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 1–10. (Vladimir E. Fedorov) **99k:47133** 47H06 (34A60, 34G20)

Ajayi, Deborah O. (*with* Ilori, Samuel A.) Non-embeddings of the real flag manifolds $\mathbf{RF}(1, 1, n-2)$. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 51–55. (R. E. Stong) **99k:57061** 57R40 (57R20, 57R42)

Ajitabh, K. (*with* Smith, S. Paul; Zhang, James J.) Auslander-Gorenstein rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2159–2180. (John Clark) **99g:16010** 16E10 (16D50, 16P40)

— (*with* van den Bergh, Michel) Presentation of critical modules of GK-dimension 2 over elliptic algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1633–1639. (Summary) **99i:16046** 16P90 (16D50, 16E10)

Ajmal, Naseem (*with* Thomas, K. V.) The join of fuzzy algebraic substructures of a group and their lattices. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 213–224. (H. V. Kumbhojkar) **99k:20126** 20N25

Ajuria, Goizalde (*with* Avilés, Rafael; Bilbao, Armando; Vallejo, Javier) Lagrange multipliers and the primal-dual method in the non-linear static equilibrium of multibody systems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 463–472. (Summary) **99a:70007** 70B15 (70–08, 73K99, 73V25)

Akahira, Masafumi (*with* Takeuchi, Kei) The existence of a test with the largest order of consistency in the case of a two-sided gamma type distribution. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 93–107 (1998). (J. A. Melamed) **99f:62029** 62F05 (62F12)

— (*with* Tanaka, Hidekazu) The comparison of estimators of a reliability function in the Weibull case. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 1–10. (*see* **99a:62005**) 62N05

— (*with* Takahashi, Kunihiko) An approximation to a percentage point of the distribution of the kurtosis statistic b_2. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 173–185. (*see* **99a:62005**) 62E15 (62E20)

— (*with* Koike, Ken-ichi) On the properties of statistical sequential decision procedures [translation of Sūgaku **48** (1996), no. 2, 184–195; MR 97e:62105]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 197–213. (*see* **99h:00040**) 62L12 (62F12)

— (*with* Takahashi, Kunihiko) Large-deviation approximations for the discrete distribution. (Japanese) Large deviation and statistical inference (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1055 (1998), 45–67. (*see* **99m:62007**) 62E20 (60F10)

— Confidence intervals for the difference of means based on two independent samples. (Japanese) Large deviation and statistical inference (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1055 (1998), 111–116. (*see* **99m:62007**) 62F25

Akahori, Katsumi Classification of projective surfaces and projective normality. *Tsukuba J. Math.* **22** (1998), *no.* 1, 213–225. (Marco Andreatta) **99h:14040** 14J25 (14E25)

Akahori, Koji (*with* Yoden, Shigeo) Rossby breakers in the vicinity of the mid-latitude convective tropopause. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 231–241. (*see* **99a:00032**) 76C20 (86A10)

Akahori, Takao Deformation theory of CR-structures and its application to deformations of isolated singularities. I. *CR-geometry and overdetermined systems (Osaka, 1994)*, 1–40, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (Aleksandr G. Aleksandrov) **99d:32023** 32G07 (32C16, 32S30)

— Real analyticity of the canonical versal deformations of CR-structures. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 33–45. (Kimio Miyajima) **99k:32029** 32G07 (32F20)

Akaike, Hirotugu ★ Selected papers of Hirotugu Akaike. (English summary) Edited by Emanuel Parzen, Kunio Tanabe and Genshiro Kitagawa and with a foreword by Parzen. Springer Series in Statistics: Perspectives in Statistics. *Springer-Verlag, New York*, 1998. viii+434 *pp. ISBN* 0-387-98355-4 (I. J. Good) **99h:01040** 01A75 (62-03)

Akaike, Yōji Homeomorphic neighborhoods in μ^{*+1} manifolds. *Colloq. Math.* **77** (1998), *no.* 2, 245–250. (Francisco R. Ruiz del Portal) **99h:54027** 54C56 (55P55)

— Proper n-shape and the Freudenthal compactification. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 393–406. (Götz Brunner) **99k:55010** 55P55 (54C56, 54D35, 57N60)

Akal, M. (*with* Begehr, Heinrich G. W.) On nonlinear Riemann-Hilbert boundary value problems for second order elliptic systems in the plane. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 331–351. (Summary) **99b:35047** 35J55 (30E25, 35Q15)

Akama, Seiki (*with* Abe, Jair Minoro) Many-valued and annotated modal logics. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998)*, 114–119, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B45)

Akama, Yohji A λ-to-CL translation for strong normalization. (English summary) *Typed lambda calculi and applications (Nancy, 1997)*, 1–10, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **99a:03016** 03B40 (68N15, 68Q55)

— SN combinators and partial combinatory algebras. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 302–316, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03011** 03B40 (68N15)

— SN combinators and partial combinatory algebras. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 92–111. (*see* **99d:68014**) 03B40

Akao, Hideki (*with* Watanabe, Tsuguhiro) An automatic root-finding method for simultaneous systems of nonlinear equations (the δ function method). (Japanese. Japanese summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 1–8. (*see* **99i:00028**) 65H10

Akasaka, Tatsuya (*with* Kashiwara, Masaki) Finite-dimensional representations of quantum affine algebras. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 839–867. (H. H. Andersen) **99d:17017** 17B37 (17B10, 17B67)

Akashi, Shigeo Quantum entropy theoretic aspects of the 13th problem formulated by Hilbert. (English summary) *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 135–145. (Matthew J. Donald) **99b:46095** 46L30 (26B40, 46N50, 82B10)

— Embedding of expansive dynamical systems into message systems and its application to entropy theory. Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 1–8. (Romeo F. Thomas) **99j:58061** 58F03 (54H20, 58F11)

— Topological classification of nuclear operators and its application to the theory of continuously differentiable function spaces. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 89–96. (Yu. A. Brudnyĭ) **99i:47037** 47B10 (46E15)

— Application of the quantum entropy-theoretic methods to homeomorphism problems of operator algebra. (English summary) *Rep. Math. Phys.* **42** (1998), *no.* 3, 385–388. (N. N. Ganikhodzhaev) **99m:46156** 46L55 (82C10)

— Nonlinear analytic methods in entropy analysis. (Japanese) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 182–186. (*see* **99f:00024**) 94A17 (94A15)

Akatsuka, Takeaki (*with* Nishitani, Hirokazu) Modeling and simulation of discrete events in chemical plants. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 447–453. (*see* **99g:93006**) 93C95 (93C83)

Akbar, Md. Mostofa (*with* Kaykobad, M.; Hoque, Md. Sanaul; Nath, Suman Kumar) An efficient preprocessor for solving systems of linear equations. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 309–315. (Summary) **99f:65044** 65F05

jodayree Akbarfam, Aliasghar *see* **Jodayree Akbarfam, Aliasghar**

Akbarfam, Aliasghar Jodayree *see* **Jodayree Akbarfam, Aliasghar**

Akbari-Feyzaabaadi, S. (*with* Behzad, M.; Hajiabolhassan, H.; Mahmoodian, E. S.) Uniquely total colorable graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 305–314. (Mirosław Truszczyński) **99b:05052** 05C15

Akbarov, D. E. (*with* Mel′nik, V. S.; Yasinskiĭ, V. V.) On optimization problems for mixed systems. I. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 87–96, 155. 49K27

— (*with* Mel′nik, V. S.; Yasinskiĭ, V. V.) On optimization problems for mixed systems. II. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 23–28, 151. 49K27

— Regularization of noncoercive operator equations and the stability of solutions in Banach spaces. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 94–99. (V. V. Vasin) **99m:47078** 47H17 (65J15)

— Regularization of objects described by a system of nonlinear noncoercive operator equations, and their stability. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 75–82, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 516–523 (1998). (Andrey Ponomaryov) **99c:47099** 47H15

— (*with* Mel′nik, V. S.; Modebadze, T. A.; Yasinskiĭ, V. V.) On optimization problems for mixed systems. III. Necessary conditions for optimality, and finite-dimensional approximations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 52–63, 156. 49K27

— Regularization of objects described by nonlinear noncoercive operator equations of Hammerstein type. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 70–78, 152. (From the text) **99j:47103** 47H30 (47H17)

Akbar-Zadeh, H. Generalized Einstein manifolds. (English summary) *J. Geom. Phys.* **17** (1995), *no.* 4, 342–380. (David Bao) **99m:53130** 53C60 (53C25)

— *see also* **Panahi, Mehrdad**, **99m:53131**

Akbaş, M. (*with* Başkan, T.) Suborbital graphs for the normalizer of $\Gamma_0(N)$. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 379–387. (Peter J. Nicholls) **99a:11050** 11F06 (20B99)

Akbulut, Selman (*with* Matveyev, Rostislav) A convex decomposition theorem for 4-manifolds. *Internat. Math. Res. Notices* **1998**, *no.* 7, 371–381. (John B. Etnyre) **99f:57030** 57R15 (57N13)

— (*with* Matveyev, Rostislav) A note on contact structures. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 201–204. (John B. Etnyre) **99b:57033** 57N10 (57R15)

Akbulut, Sezgin (*with* Özdemir, Murat) On the subsheaves of the sheaf of the homology groups. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 99–107. (Summary) **99b:55006** 55N30

Akca, Haydar (*with* Berezanskiĭ, L. M.; Maksimov, V. I.) On dynamical reconstruction of a pair "control-trajectory" in a system unresolved with respect to derivative. (English summary) *Funct. Differ. Equ.* **5** (1998), *no.* 1-2, 3–19. (Alexander M. Kovalev) **99m:49060** 49N50 (34K35, 93B30)

— (*with* Byszewski, Ludwik) Existence of solutions of a semilinear functional-differential evolution nonlocal problem. *Nonlinear Anal.* **34** (1998), *no.* 1, 65–72. (Ti Jun Xiao) **99c:34180** 34K30

Akça, Ziya (*with* Kaya, Rüstem) On the taxicab trigonometry. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 151–159. (Summary) **99c:51022** 51K99

Akçay, Hüseyin Algorithms for robust identification in $\mathscr{H}_\infty$ with nonuniformly spaced frequency response data. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 2, 161–181. (Jacob Hammer) **99f:93040** 93B36 (93B40)

Akcoglu, Mustafa A. (*with* Jones, Roger L.; Schwartz, Peter O.) Variation in probability, ergodic theory and analysis. *Illinois J. Math.* **42** (1998), *no.* 1, 154–177. (Michael T. Lacey) **99a:60048** 60G46 (28D05, 42B25)

Akdeniz, F. (*with* Sakallıoğlu, S.) Generalized inverse estimator and comparison with least squares estimator. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 77–84. (Goetz Trenkler) **99f:62083** 62J05 (62J07)

Akdoğu, Evrim (*with* Bricher, Stephen) The asymptotic behavior for gaseous ignition models. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 23–37. (Summary) **99h:35083** 35K55 (35B40, 76N10, 80A25)

Akemann, Charles A. (*with* Eilers, Søren) Noncommutative end theory. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 47–88. (Catalin Badea) **99h:46133** 46L85 (46L89)

Akemann, G. (*with* Damgaard, Poul Henrik; Magnea, U.; Nishigaki, Shinsuke M.) Multicritical microscopic spectral correlators of Hermitian and complex matrices. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 682–714. (Summary) **99b:82044** 82B44

— (*with* Cicuta, G. M.; Molinari, Luca; Vernizzi, G.) Compact support probability distributions in random matrix theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1489–1497. (Summary) **99j:82038** 82B41

Åkerlund-Biström, Cecilia A generalization of the Hutchinson distance and applications. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 2-3, 159–176. (S. Dubuc) **99e:28011** 28A80 (58F12)

Akeroyd, John Harmonic measures on complementary subregions of the disk. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 183–187. (Summary) **99f:31002** 31A15 (31A05)

— (*with* Saleeby, Elias G.) A class of $P^t(d\mu)$ spaces whose point evaluations vary with t. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 537–542. (Summary) **99c:46020** 46E15 (30E10)

Akers, Robert L. (*with* Baffes, Paul; Kant, Elaine; Randall, Curt; Steinberg, Stanly; Young, Robert L.) Automatic synthesis of numerical codes for solving partial differential equations. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 3–22. (*see* **99a:00035**) 35-04

Akesbi, Samir (*with* Nicolet, Martial) Nouveaux algorithmes performants en théorie du transport. (English and French summaries) [New performing algorithms in transport theory] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 3, 341–358. (Summary) **99c:82063** 82C70 (65M70, 82–08)

Akhatov, I. Sh. (*with* Vakhitova, N. K.; Galeeva, G. Ya.; Nigmatulin, R. I.; Khismatullin, D. B.) On weak oscillations of a gas bubble in a spherical volume of a compressible fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 952–962; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 921–930 (1998). (Summary) **99c:76090** 76N10

Akhiev, S. S. (*with* Oruçoğlu, Kamil) The Riemann function for the third-order one-dimensional pseudoparabolic equation. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 3, 353–370. (Dao Qing Dai) **99m:35136** 35K70 (35C15)

Akhiezer, A. I. The unity of physical theory and its mathematical formalism. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 12, 1594–1600; *translation in Ukrainian Math. J.* **49** (1997), *no.* 12, 1791–1797 (1998). 00A79 (00A30)

Akhiezer, D. N. Group actions on the Dolbeault cohomology of homogeneous manifolds. *Math. Z.* **226** (1997), *no.* 4, 607–621. (V. V. Chueshev) **99a:32044** 32M10 (32C35, 32M05)

— (*with* Loeb, Jean-Jacques) Enveloppes holomorphiquement convexes invariantes. (English and French summaries) [Invariant holomorphically convex hulls] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1279–1282. (Marshall A. Whittlesey) **99m:32014** 32E05 (22E30, 32E20)

Akhiezer, N. I. Function theory according to Chebyshev. *Mathematics of the 19th century*, 1–81, *Birkhäuser, Basel*, 1998. (*see* **99d:01022**) 01A55

Akhmadeev, A. F. (*with* Sineglazov, V. M.) Identification of the elastic-mass characteristics of an airplane from the results of frequency tests. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 79–86, 155. 93B30 (93C95)

Akhmediev, N. N. (*with* Miller, Peter D.) Modal expansions and completeness relations for some time-dependent Schrödinger equations. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 513–524. (Peter N. Zhevandrov) **99m:81046** 81Q05 (35Q55, 42C30)

— (*with* Ankiewicz, Adrian; Grimshaw, R. H. J.) Hamiltonian-versus-energy diagrams in soliton theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part B*, 6088–6096. 35Q55

Akhmedov, A. A. On spectral expansions of the Laplace-Beltrami operator on a sphere. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 10–17 (1997). (Roman V. Romanov) **99f:42053** 42C10 (58G25)

— On the convergence almost everywhere of spectral expansions of a function from $L_1^a(S^N)$. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 20–26. (Nikolai Bozhinov) **99i:47083** 47F05 (35P10)

Akhmedov, A. M. On generalised spectral operators. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 17–20, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Henry R. Dowson) **99f:47043** 47B40 (47A10)

Akhmedov, E. T. A remark on the AdS/CFT correspondence and the renormalization group flow. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 152–158. (Summary) **99h:81147** 81T30 (81T17, 81T60)

Akhmedov, N. K. Analysis of a boundary layer in an axially symmetric problem of elasticity theory for a radially layered cylinder and of axisymmetric wave propagation. (Russian.

Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 863–872; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 833–842 (1998). (Summary) **99c:73019** 73C99 (73B40, 73D15)

Akhmedov, Saĭdamir Akhmedovich On the rate of vanishing of a bounded generalized analytic function. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 8–15. (Igor M. Mitelman) **99h:30049** 30G20

— On multivalent solutions of the Carleman equation with discontinuous coefficients. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 21–24. (Yuri I. Cherskiĭ) **99f:30039** 30C70 (35Q15, 45E05)

— On the supremum of a functional in the class of bounded solutions of a first-order elliptic complex equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1998), 3–14. 35J45 (35B50)

Akhmetov, D. R. On an isomorphism generated by the heat equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 243–260, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 209–225. (Summary) **99c:35084** 35K05 (35B45)

Akhmetov, M. U. (*with* Zafer, A.) The controllability of boundary-value problems for quasilinear impulsive systems. *Nonlinear Anal.* **34** (1998), *no.* 7, 1055–1065. (Georgi K. Kulev) **99g:93009** 93B05 (34A37, 34H05)

Akhmetov, R. G. Asymptotic behavior of the solution of a boundary value problem for an elliptic equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1552–1554, 1583; *translation in Differential Equations* **33** (1997), *no.* 11, 1556–1559 (1998). (Summary) **99i:35023** 35J25 (35B40, 35C20)

— Asymptotic behavior of the solution of the problem of convective diffusion around a sphere. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 801–806; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 771–776. (Summary) **99c:76103** 76R50

Akhobadze, T. On the summability of multiple trigonometric series by the Bochner-Riesz method. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 169–171. 42A24

— On some analogies of Riemann-Lebesgue theorem for functions of multiple variables. I. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 17–19. 42B10

— On some analogies of Riemann-Lebesgue theorem for functions of multiple variables. II. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 190–192. 28A35 (28A20)

— On some analogies of Cantor-Lebesgue theorem. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 7–8. 42A20

Aki, Sigeo (*with* Han, Qing[3]) Formulae and recursions for the joint distributions of success runs of several lengths in a two-state Markov chain. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 203–214. (From the summary) **99e:60148** 60J10 (60C05)

Akian, Marianne (*with* Bapat, Ravindra; Gaubert, Stéphane) Asymptotics of the Perron eigenvalue and eigenvector using max-algebra. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 927–932. (Rafael Canto) **99k:15012** 15A18 (15A03, 15A04, 15A54)

Akiba, Hiroshi (*with* Yagawa, Genki) Recursive distribution method for probabilistic structural integrity analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 135–154. (Summary) **99k:73097** 73M25 (73V30)

Akiba, Ken Nominalistic metalogic. (English summary) *J. Philos. Logic* **27** (1998), *no.* 1, 35–47. (Jon M. Cogburn) **99k:03006** 03A05

Akimenko, V. V. On quadrature and cubature formulas for a class of multiple singular integrals. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 12, 1677–1683; *translation in Ukrainian Math. J.* **49** (1997), *no.* 12, 1891–1898 (1998). (V. I. Polovinkin) **99m:41047** 41A55 (65D32)

Akin, Ethan (*with* Auslander, Joseph; Berg, K.) Almost equicontinuity and the enveloping semigroup. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 75–81, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99k:54032** 54H20

— (*with* Miller, Walter M.) Invariant measures for set-valued dynamical systems. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1203–1225. (Douglas P. Dokken) **99g:54040** 54H20 (58F11)

Akin, Kaan (*with* Weyman, Jerzy) Minimal free resolutions of determinantal ideals and irreducible representations of the Lie superalgebra $\mathrm{gl}(m|n)$. *J. Algebra* **197** (1997), *no.* 2, 559–583. (Hartmut Schlosser) **99c:17011** 17B10 (13D25)

Akin, Omer On some properties of the positive solutions of the generalized Weinstein equation. (Russian and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 14–20. (Summary) **99d:35063** 35J70 (35B05)

Akinsete, A. A. Departure process in the interchangeability of tandem queues with withdrawals. (English and Serbian summaries) *Zb. Rad.* (*Kragujevac*) *No.* 20 (1998), 97–103. (John P. Lehoczky) **99i:60164** 60K25 (90B22)

Akinyele, Olusola Cone-valued Lyapunov functions and stability of non-linear boundary value problems. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 4, 581–587. (Xin-Zhi Liu) **99d:34094** 34D20 (34B15, 34C10)

Akishin, P. G. (*with* Vinitskiĭ, S. I.) Green function method for plane periodical Helmholtz problem. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 14–21, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 65N35 (35A08, 35J05)

Akivis, Maks A. (*with* Goldberg, Vladislav V.) The Darboux mapping of canal hypersurfaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 395–411. (Hans Sachs) **99g:53008** 53A07 (51N30)

— (*with* Goldberg, Vladislav V.) Conformal and Grassmann structures. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 2, 177–203. (A. Rod Gover) **99f:53012** 53A30 (53A40, 53A60)

— (*with* Goldberg, Vladislav V.) On geometry of hypersurfaces of a pseudoconformal space of Lorentzian signature. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 112–126. (Marek Kossowski) **99e:53095** 53C50

— (*with* Goldberg, Vladislav V.) Singular points of lightlike hypersurfaces of the de Sitter space. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 81–101. (Marek Kossowski) **99e:53096** 53C50

Akiyama, Shigeki A remark on almost uniform distribution modulo 1. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 49–55. (Michael Drmota) **99b:11081** 11K06 (11K36)

— Pisot numbers and greedy algorithm. (English summary) *Number theory* (*Eger*, 1996), 9–21, *de Gruyter, Berlin*, 1998. (D. Boyd) **99d:11007** 11A67 (11R06)

— Almost uniform distribution modulo 1 and the distribution of primes. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 39–44. (Štefan Porubský) **99b:11083** 11K31 (11N64)

— (*with* Tanigawa, Yoshio) Calculation of values of L-functions associated to elliptic curves. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1201–1231. (Joe P. Buhler) **99m:11070** 11G40 (11G05, 11Y35)

Akiyoshi, Hirotaka (*with* Nakagawa, Yoshiyuki; Sakuma, Makoto) Shortest vertical geodesics of manifolds obtained by hyperbolic Dehn surgery on the Whitehead link. (English summary) *KNOTS '96* (*Tokyo*), 433–448, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57034** 57M50 (57N10)

— On the hyperbolic manifolds obtained from the Whitehead link. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 213–224. (L. Neuwirth) **99h:57032** 57N10 (57M25)

Akkar, Mohamed (*with* Tajmouati, A.) Sur les diviseurs topologiques de zéro dans les algèbres localement convexes métrisables. (English summary) [Topological divisors of zero in metrizable locally convex algebras] Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 213–218. (José E. Galé) **99c:46051** 46H05

Akkiraju, Nataraj Approximating spheres and sphere patches. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 739–756. (Summary) **99c:65259** 65Y25 (52B55)

Akkouchi, Mohamed (*with* Bakali, Allal; Khalil, Idriss) A class of functional equations on a locally compact group. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 694–705. (Walter R. Bloom) **99k:43015** 43A99 (39B22)

Akl, Selim G. (*with* Fragopoulou, Paraskevi) Spanning subgraphs with applications to communication on a subclass of the Cayley-graph-based networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 79–96. (Luisa Gargano) **99h:68130** 68R10 (05C90, 68M10, 90B12)

Akopyan, A. A. (*with* Gevorgyan, O. V.; Sahakian, Artur A.) Numerical curves and their applications to algebraic curves. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 97–111, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D17)

— Regularity of multivariate Hermite interpolation. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 113–121, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (*see* **99a:41001**) 41A05

Akopyan, G. S. (*with* Shakhbagyan, R. L.) Attractors of evolution systems of Sobolev type. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 27–37 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 21–30. (Sergei A. Vakulenko) **99i:35061** 35K55 (35B40, 58F39)

— (*with* Shakhbagyan, R. L.) A mixed boundary value problem for higher-order degenerate nonlinear equations of Sobolev type. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 1, 21–38 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 1, 17–32. (Siegfried Carl) **99i:35080** 35K65 (34D20, 34D45, 34G20, 35K55, 47N20)

Akopyan, M. T. On an integral equation of convolution type in an unbounded plane domain. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 29–37; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 25–32. (N. K. Karapetyants) **99h:45004** 45E10

Akopyan, R. R. Bernstein inequality in H_2 for algebraic polynomials with restriction on the zeros. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 333–349. (Michael Felten) **99d:41023** 41A17

Aközbek, Neşet (*with* John, Sajeev) Self-induced transparency solitary waves in a doped nonlinear photonic band gap material. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3876–3895. 78A60 (35Q60)

Akpan, Edet P. Iterative solutions of nonlinear equations in uniformly smooth Banach spaces. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 33–43. (Charles Ejike Chidume) **99h:47075** 47H15 (47H17, 65J15)

Akra, Mohamad (*with* Bazzi, Louay) On the solution of linear recurrence equations. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 195–210. (Renzo Sprugnoli) **99c:68115** 68Q25 (11B37)

Akramov, T. A. On the behavior of solutions of a hyperbolic problem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 3–19, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 1–17. (Dian K. Palagachev) **99d:35095** 35L60 (35B05, 35B32)

Akritas, Michael G. (*with* LaValley, Michael P.) Statistical analysis with incomplete data: a selective review. *Robust inference*, 551–632, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G05

— (*with* Torbeyns, A. F.) Pearson-type goodness-of-fit tests for regression. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 359–374. (Arnold Janssen) **99c:62130** 62G10 (62J05)

Akrivis, Georgios Finite difference methods for the wide-angle "parabolic" equation. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 317–329 (*electronic*). (Jacques Rappaz) **99k:65070** 65M06 (76M20, 76Q05)

Aksel'son, O. *see* **Axelsson, Owe**

Aksenov, N. N. (*with* Gubarev, V. F.) On an approach to the identification of dynamical systems under uncertainty conditions. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 41–51, 149–150. (Summary) **99k:93039** 93B30 (93C41)

Aksenova, E. I. An efficient scheme for a parabolic equation in cylindrical coordinates in a domain with a small aperture. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 220–227; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 211–218. (Meng Zhao Qin) **99c:65152** 65M06 (65M15)

Aksenova, E. V. (*with* Romanov, V. P.; Val'kov, A. Yu.) Green's function of wave field in media with one-dimensional large-scale periodicity. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 1184–1192. (Summary) **99k:78019** 78A40 (34E20, 35J05)

Aksent'ev, L. A. (*with* Bil'chenko, G. G.) On an inverse problem for Christoffel-Schwarz integrals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 72–76; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 8, 68–72 (1998). (S. R. Nasyrov) **99b:30009** 30C35 (30C45, 30E20)

— (*with* Abzalilov, D. F.; Il′inskiĭ, N. B.) An inverse boundary value problem for an airfoil with a suction slot. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 80–87; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 75–82. (Summary) **99b:76006** 76B05

— (*with* Kazantsev, A. V.; Popov, Nikolaĭ Ivanovich) Uniqueness theorems for an exterior inverse boundary value problem in subclasses of univalent functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 3–13; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 8, 1–11 (1999). (S. R. Nasyrov) **99m:30016** 30C45 (30E25)

Aksenyushkina, E. V. The method of needle-shaped linearization in optimal control problems with functional constraints. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 93–97. 49K15 (49J15)

Aksomaitis, A. Rate of convergence in the limit transfer theorem of the maximum and minimum. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 35–42, *TEV, Vilnius*, 1994. (Summary) **99f:60094** 60G70 (60F05)

— (*with* Jokimaitis, A.) Rate of convergence for the density of the distribution of the maximum of independent random variables. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 133–138; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 103–107 (1998). (R. J. Tomkins) **99c:60037** 60F05 (60G70)

Aktosun, Tuncay (*with* Klaus, Martin; van der Mee, C. V. M.) Wave scattering in 1-D nonconservative media. (English summary) *Spectral and scattering theory (Newark, DE, 1997)*, 1–18, *Plenum, New York*, 1998. (Vyacheslav N. Pivovarchik) **99d:34163** 34L25 (34A55, 34L40, 35J10, 35P25)

— (*with* Klaus, Martin; van der Mee, C. V. M.) Inverse scattering in one-dimensional nonconservative media. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 279–316. (Vyacheslav N. Pivovarchik) **99b:34136** 34L25 (34A55, 34L40)

— (*with* Klaus, Martin; van der Mee, C. V. M.) Wave scattering in one dimension with absorption. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1957–1992. (Vyacheslav N. Pivovarchik) **99b:34137** 34L25 (34L40, 35P25, 81U05)

— (*with* Klaus, Martin; van der Mee, C. V. M.) On the number of bound states for the one-dimensional Schrödinger equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4249–4256. (Summary) **99j:81026** 81Q05

Akueson, P. (*with* Gurevich, Dmitriĭ I.) Dual quasitriangular structures related to the Temperley-Lieb algebra. (English summary) *Lie groups and Lie algebras*, 1–16, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Richard M. Green) **99g:17024** 17B37 (81R50)

Akulenko, L. D. (*with* Nesterov, S. V.) Determination of natural frequencies of internal waves in an essentially inhomogeneous fluid. *Fluid Dynam.* **32** (1997), *no.* 6, 850–856 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 6, 112–119 (*Russian. Russian summary*). (Summary) **99b:76020** 76C10 (76V05)

— (*with* Nesterov, S. V.) An effective method for studying the oscillations of essentially inhomogeneous distributed systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 466–478; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 451–461. (Summary) **99c:73023** 73D30 (34A45, 73K03, 73K12)

— (*with* Nesterov, S. V.) Determination of the frequencies and forms of oscillations of nonhomogeneous distributed systems with boundary conditions of the third kind. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 547–555; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 531–538. (Summary) **99d:73057** 73K12 (34C10)

— (*with* Shmatkov, A. M.) Synthesis of a control in the time-optimal problem of bringing a mass point to a specified position at zero velocity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 129–138; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 123–131. (Summary) **99d:49065** 49N35 (93B52)

Akulov, Vladimir P. (*with* Gumenchuk, A. I.) About differential calculi on $GL_q(1|1)$. *Problems of quantum field theory (Alushta, 1996)*, 95–99, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81R50 (58B30)

— (*with* Chitov, V. V.; Dupliĭ, S. A.) q-differential calculus and deformed light-cone. (English summary) *Supersymmetry and quantum field theory (Kharkov, 1997)*, 317–323, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 58B30 (81R50)

— *see also* **Supersymmetry and quantum field theory, 99k:81010**

Akutagawa, Kazuo (*with* Aiyama, Reiko) Representation formulas for surfaces of constant mean curvature in 3-dimensional spaces of constant curvature. (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 11–27. (*see* **99a:58003**) 53A10

— (*with* Aiyama, Reiko) Kenmotsu-Bryant type representation formula for constant mean curvature spacelike surfaces in $\mathbf{H}^3_1(-c^2)$. (English summary) *Differential Geom. Appl.* **9** (1998), *no.* 3, 251–272. (Rafael López) **99m:53015** 53A10 (53C42, 53C50)

Akutsu, Tatsuya (*with* Yagiura, Mutsunori) On the complexity of deriving score functions from examples for problems in molecular biology. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 832–843, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68073** 68Q25 (92C40)

— (*with* Kuhara, Satoru; Maruyama, Osamu; Miyano, Satoru) Identification of gene regulatory networks by strategic gene disruptions and gene overexpressions. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 695–702, *ACM, New York*, 1998. (*see* **99d:68011**) 92D10 (68T05, 92D20)

— (*with* Tamaki, Hisao; Tokuyama, Takeshi) Distribution of distances and triangles in a point set and algorithms for computing the largest common point sets. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 307–331. (Stelian S. Dumitrascu) **99k:68190** 68U05 (52C99, 65Y25)

Akuzawa, Toshinao (*with* Wadati, Miki) Diffusions on symmetric spaces of type A III and random matrix theories for rectangular matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1713–1732. (Alexei Khorunzhy) **99h:60127** 60H25 (60J70, 82C31)

— (*with* Wadati, Miki) Diffusion on $GL(N, \mathbf{C})/U(N)$ and eigenvalue density for $N \to \infty$ limit. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 2, 421–425. (Summary) **99a:82082** 82C41

— (*with* Wadati, Miki) Effective QCD partition function in sectors with non-zero topological charge and Itzykson-Zuber type integral. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2151–2154. (Summary) **99i:81264** 81V05 (58C35)

Akyar, B. (*with* Köse, Ömer) An algebraic approach to the mathematical methods in spatial kinematics. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 1–13. (Hans Sachs) **99f:53010** 53A17

Akyıldız, Ersan (*with* Güloğlu, İsmail Ş.; Ikeda, Masatoshi G.) Weight equations for binary linear codes and their applications. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 1–14. (Raymond Hill) **99f:94014** 94B05

Akyildiz, Y. (*with* Markov, Svetoslav M.) Curve fitting and interpolation of biological data under uncertainties. (English summary) *J.UCS* **2** (1996), *no.* 2, 58–68 (*electronic*). (Summary) **99e:65010** 65D05 (65D10, 65G10, 92C45)

Akzhigitov, E. A. (*with* Muratbekov, M. B.) Smoothness of solutions of degenerate elliptic equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 3–11. (Nguyễn Minh Trí) **99g:35049** 35J70 (35B65)

— The Dirichlet problem for a class of degenerate equations of odd order. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1998**, *no.* 1, 3–9. 35G15

Alabau, Fatiha (*with* Hamdache, K.; Peng, Yue-Jun) Asymptotic analysis of the transient Vlasov-Poisson system for a plane diode. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 25–48. (Olivier Lafitte) **99d:78020** 78A35 (35Q99, 76X05, 78A55)

— On the existence of multiple steady-state solutions in the theory of electrodiffusion. I. The nonelectroneutral case. II. A constructive method for the electroneutral case. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4709–4756. (Summary) **99c:34030** 34B15 (35J25, 35Q99, 78A99)

— (*with* Komornik, Vilmos) Boundary observability, controllability, and stabilization of linear elastodynamic systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 521–542 (*electronic*). (Werner Horn) **99m:93050** 93C20 (35Q72, 73K50, 93D15)

Alabdullatif, M. Extremal graphs which contain no cycles or paths of specific lengths. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 41–52. (Summary) **99i:05101** 05C35 (05C38)

Alaca, Ayşe (*with* Mingarelli, Angelo B.) An inverse matrix eigenvalue problem. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN, 1996)*, 135–148, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Summary) **99a:39004** 39A10 (15A18)

Alaev, P. E. Scott ranks of Boolean algebras [translation of Trudy Instituta Matematiki, Vol. 30, 3–25, Izdat. Ross. Akad. Nauk Sibirsk. Otdel., Inst. Mat., Novosibirsk, 1996]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 1–35. (Summary) **99i:03080** 03G05 (03C75, 06E05)

Alaev, R. D. (*with* Blokhin, A. M.) ★ Интегралы энергии и их приложения к исследованию устойчивости разностных схем. (Russian. Russian summary) [Energy integrals and their applications to the study of the stability of difference schemes] *Izdatel′stvo Novosibirskogo Universiteta, Novosibirsk*, 1993. 212 *pp. ISBN* 5-7615-0014-0 65M12 (65N12, 76M20)

Alahmadi, Abdulhadi M. (*with* Khidr, A. M.) Matching of artificial order statistics. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 7–17. 62G30

Alain, Brillard *see* **Brillard, Alain**

Alajaji, Fady (*with* Chen, Po-Ning) A rate-distortion theorem for arbitrary discrete sources. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1666–1668. 94A34

— (*with* Chen, Po-Ning) Generalized source coding theorems and hypothesis testing. I. Information measures. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 3, 283–292. (Robert M. Gray) **99m:94022a** 94A29

— (*with* Chen, Po-Ning) Generalized source coding theorems and hypothesis testing. II. Operational limits. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 3, 293–303. (Robert M. Gray) **99m:94022b** 94A29

Al-Ali, M. I. M. M. Hypergraphs, hypergroupoids and hypergroups. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 627–634. (Mario Gionfriddo) **99i:05151** 05C65

Alalouf, Amir (*with* David, Israel) On optimal aiming to hit a linear target. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 3, 323–333. 90B06 (90C90)

Alam, M. S. (*with* Rahman, Md. Shafiqur) Family of discrete mixture distributions. (English summary) *J. Stat. Stud.* **17** (1997), 53–62. (Summary) **99f:62025** 62E15

Alam, Meheboob (*with* Nott, Prabhu R.) Stability of plane Couette flow of a granular material. (English summary) *J. Fluid Mech.* **377** (1998), 99–136. (Summary) **99i:76062** 76E99 (73Q05, 76A99)

Alam, Rafikul On spectral approximation of linear operators. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 229–244. (Atsushi Yagi) **99j:65101** 65J10 (47A50, 47A75)

— (*with* Kulkarni, Rekha P.; Limaye, Balmohan V.) Accelerated spectral approximation. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1401–1422. (Alan L. Andrew) **99a:47026** 47A58 (47A10, 47A75, 65B99, 65J99)

Alam, S. M. K. (*with* Nandi, K. K.; Bhattacharjee, B.; Evans, James Carl) Modified no-hair conjecture and the limiting process. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 877–885. (Gil De Oliveira-Neto) **99d:83064** 83C57 (83C15, 83D05)

— (*with* Nandi, K. K.) Stringy wormholes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1331–1340. 83E05 (83E30)

Al-Amir, A. E. (*with* Youssif, Y. G.; Allam, M. N. M.) Optimal stabilization of a compressed elastic shallow shell. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 233–244. 73K50 (73K15, 93D15)

Al-Amiri, Hassoon (*with* Mocanu, Petru T.) Some simple criteria of starlikeness and convexity for meromorphic functions. *Mathematica* **37(60)** (1995), *no.* 1-2, 11–20. (R. Parvatham) **99c:30011** 30C45

Alamo, J. A. (*with* Rodríguez Expósito, José) An operational calculus for the fractional operator $B_{\rho,\alpha,\beta}$. (Spanish. English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 1, 59–66. (Summary) **99g:44009** 44A40

gutiérrez del Alamo, Joaquín M. *see* **Gutiérrez del Alamo, Joaquín M.**

Al-Amri, Ibraham R. Symmetric and permutational generating set of the groups A_{kn+1} and S_{kn+1} using S_n and an element of order k. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 489–492. (Summary) **99a:20029** 20F05 (20B35)

Alanyali, Murat (*with* Hajek, Bruce) On large deviations of Markov processes with discontinuous statistics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 45–66.

(R. Sh. Liptser) **99g:60053** 60F10 (60J40)
— (*with* Hajek, Bruce) On large deviations in load sharing networks. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 67–97. (Peter Gerrard Taylor) **99m:60141** 60K25 (60F10, 68M20, 90B22)
elhilali Alaoui, A. *see* **Elhilali Alaoui, A.**
Alaoui, Assia On fuzzification of some concepts of graphs. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 363–389. (T. Thrivikraman) **99m:05153** 05C99
el Alaoui, El-Houcine Chakir *see* **El Alaoui, El-Houcine Chakir**
Alaoui, Larbi Age-dependent population dynamics and translation semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 2, 186–207. (Silvia Totaro) **99e:35221** 35Q80 (47D06, 47N60, 92D25)
Alaoui Soulimani, A. (*with* Hassani, Seddiq; Ehrlacher, A.) A nonlinear viscoelastic model: the pseudo-linear model. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 567–598. (Summary) **99c:73032** 73F99 (73F05)
Alarcon, Eberth An extremal result on convex lattice polygons. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 227–234. (Jenő Lehel) **99h:52018** 52C05 (11H06)
Alart, Pierre (*with* Jourdan, Franck; Jean, Michel) A Gauss-Seidel like algorithm to solve frictional contact problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 31–47. (Summary) **99a:73134** 73V20 (73T05)
— (*with* Pagano, S.; Maisonneuve, O.) Solid-solid phase transition modelling. Local and global minimizations of non-convex and relaxed potentials. Isothermal case for shape memory alloys. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 10, 1143–1172. (Summary) **99f:73017** 73B30 (49J20, 73V20, 73V25)
Alas, O. T. (*with* Protasov, I. V.; Tkachenko, M. G.; Tkachuk, Vladimir V.; Wilson, Richard Gordon; Yashchenko, I. V.) Almost all submaximal groups are paracompact and σ-discrete. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 241–260. (Klaas Pieter Hart) **99c:54050** 54H11 (54D20, 54G05)
— (*with* Di Concilio, A.) Uniformly continuous homeomorphisms. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 33–42. (Michael Tkačenko) **99b:54037** 54E15 (54E40, 54E45)
Al-Ashhab, S. Computer-solution of the magic 4 × 4 squares and semi-magic 4 × 4 squares problem. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 3, 445–450. 05B15
Al-Assadi, Salem A. K. Disturbance rejection in multivariable systems by state feedback controller. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 6, 1125–1144. (Summary) **99a:93045** 93B52 (93D15)
Alassar, R. S. (*with* Badr, H. M.) The impulsively started flow over oblate spheroids. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 2, 193–205. 76D15
Al-attas, Ali Omer (*with* Vanaja, N.) Direct sum of local modules with extending factor modules. *Osaka J. Math.* **34** (1997), *no.* 2, 381–409. (Mamoru Kutami) **99b:16004** 16D70 (16D50)
Al-Awadhi, Shafeeqah A. (*with* Garthwaite, Paul H.) An elicitation method for multivariate normal distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1123–1142. (Summary) **99a:62033** 62F25 (62H10)
Alaya, Jilani L'adjonction d'une mesure de Dirac à une forme de Laguerre-Hahn. (English, French and Arabic summaries) [Adding a Dirac measure to a Laguerre-Hahn form] *Maghreb Math. Rev.* **6** (1997), *no.* 2, 57–76. (Sven Ehrich) **99h:42041** 42C05
Alaya, Mohamed Ben (*with* Pagès, Gilles) Rate of convergence for computing expectations of stopping functionals of an α-mixing process. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 425–448. (Jean-Claude Massé) **99h:60039** 60F05 (60F15, 60F17, 60G10, 60J10)
Al-Ayyoub, Abdel-Elah (*with* Day, Khaled) Block-cyclic matrix triangulation on the Cartesian product of star graphs. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 113–126. (Summary) **99d:68016** 68M10 (05C85, 90B12)
— (*with* Day, Khaled) Efficient algorithms on the hyperstar network. (English summary) *Parallel Algorithms Appl.* **14** (1999), *no.* 1, 79–88. 90B10 (90C35)
Alazard, Daniel (*with* Apkarian, Pierre) Exact observer-based structures for arbitrary compensators. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 2, 101–118. 93B07 (93B36)
Alba, David (*with* Lusanna, Luca) The Liénard-Wiechert potential of charged scalar particles and their relation to scalar electrodynamics in the rest-frame instant form. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2791–2831. (C. A. Hurst) **99h:78015** 78A35 (70F10, 70H40, 81V10)
— (*with* Lusanna, Luca) The classical relativistic quark model in the rest frame Wigner-covariant Coulomb gauge. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3275–3346. (Summary) **99c:81264** 81V05 (81T13)
Alba, Enrique (*with* Troya, José M.) A survey of parallel distributed genetic algorithms: a structured and extensive overview on an up-to-date search paradigm. (English summary) *Complexity* **4** (1999), *no.* 4, 31–52. 68T05 (68Q22, 90C27)
Al-Baali, M. Global and superlinear convergence of a restricted class of self-scaling methods with inexact line searches, for convex functions. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 2, 191–203. (Armin Hoffmann) **99a:90148** 90C25 (65B05, 65K05)
— Numerical experience with a class of self-scaling quasi-Newton algorithms. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 533–553. (Summary) **99a:65080** 65K10
Alba Cabrera, Eduardo A concept of testor for any analogy function with image in a totally ordered set. (Spanish. Spanish summary) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 2, 75–83 (1997). (Summary) **99a:68148** 68T10
— (*with* Lazo Cortés, Manuel) A global solution for the use of testers in pattern recognition problems. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition (Spanish)* (*México City*, 1998), 209–218, *Inst. Cibern. Mat. Fis., Havana*, 1998. (*see* **99k:68016**) 68T10
Al-Badawi, A. (*with* Halilsoy, M.) Modified Reissner-Nordström metric in an external electrostatic field. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 6, 761–766. (Serguey M. Pokas') **99f:83047** 83C57 (83C15, 83C50)
ardanuy Albájar, Ramón *see* **Ardanuy Albájar, Ramón**
puerto Albandoz, Justo *see* **Puerto Albandoz, Justo**
Albanese, Angela A. Montel subspaces of Fréchet spaces of Moscatelli type. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 345–350. (José Bonet) **99a:46004** 46A04 (46E40)
— (*with* Moscatelli, V. B.) A method of construction of Fréchet spaces. *Functional analysis*, 1–8, *Narosa, New Delhi*, 1998. (José Bonet) **99m:46002** 46A04 (46A11)
Albanese, Raffaele (*with* Fresa, R.) Upper and lower bounds for local electromagnetic quantities. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 499–515. (Summary) **99a:78002** 78–08
Albano, Giovannina Computing the conductor of algebraic curves and ideals of points. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 11–14. 14H99
Albano, Paolo (*with* Cannarsa, Piermarco) Singularities of the minimum time function for semilinear parabolic systems. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 59–72 (*electronic*), *ESAIM Proc.*, **4**, *Soc. Math. Appl. Indust., Paris*, 1998. (Ovidiu Cârjă) **99k:49010** 49J20 (35K55, 49K20, 49K40)
Albar, Muhammad A. (*with* Al-Hamed, M. A.; Al-Saleh, Norah) The growth of Coxeter groups. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 417–428. (Stephen P. Humphries) **99f:20066** 20F55
— (*with* Al-Saleh, Norah) Some remarks on the algebraic structure of the finite Coxeter group F_4. (English summary) *Int. J. Math. Math. Sci.* **22** (1999), *no.* 1, 81–84. 20F55
Albar, Sahl Fadul Preduals of Hopf von Neumann algebras. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 29–35, *New Age, New Delhi*, 1997. (Paul Jolissaint) **99g:46085** 46L10
Albà Soler, Gerard (*with* Palanques Mestre, August) Chaotic mixing in the vicinity of a bubble. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 518–524, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 76F20 (58F40)
— (*with* Palanques Mestre, August) Transport in an open chaotic flow. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 345–350, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76F20 (58F40)
Al-Bayati, A. Y. (*with* Hamed, E. T.) New self-scaling sequential algorithms for the minimization of constrained nonlinear functions. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 2, 339–351. 90C30 (65K05)
Albayrak, Can Adam (*with* Noll, Thomas) The WHILE hierarchy of program schemes is infinite. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 35–47, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99d:68035** 68N15
Albeanu, Grigore On the modified Gauss-Newton method. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 3-4, 147–153. 65H10 (65J10)
— On the convergence of the quasi-Gauss-Newton methods for solving nonlinear systems. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 93–99. (Summary) **99c:65099** 65H10
martinez-de-Albeniz, F. Javier *see* **Martinez-de-Albeniz, F. Javier**
Alber, Hans-Dieter ★ Materials with memory. Initial-boundary value problems for constitutive equations with internal variables. Lecture Notes in Mathematics, 1682. *Springer-Verlag, Berlin*, 1998. x+166 *pp. ISBN* 3-540-64066-5 (R. C. MacCamy) **99i:73040** 73E50 (35Q72, 73B99, 73Exx)
Alber, Ya. I. (*with* Iusem, Alfredo N.; Solodov, Michael V.) Minimization of nonsmooth convex functionals in Banach spaces. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 235–255. (W. W. Breckner) **99g:90158** 90C48 (46N10, 65K05)
— (*with* Iusem, Alfredo N.; Solodov, Michael V.) On the projected subgradient method for nonsmooth convex optimization in a Hilbert space. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 23–35. (Lionel Thibault) **99k:90114** 90C25 (49J52, 90C48)
Alberghi, G. L. (*with* Casadio, Roberto; Vacca, Gian Paolo; Venturi, Giovanni) Gravitational collapse of a shell of quantized matter. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 131–147. 83C55 (83C47)
Alberigo, Paola Singular delay equations with stabilizable operators. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 253–266. (Summary) **99k:34175** 34K30 (47D06, 47N20)
Alberink, Ivo B. (*with* Pestman, Wiebe R.) ★ Mathematical statistics. (English summary) Problems and detailed solutions. de Gruyter Textbook. *Walter de Gruyter & Co., Berlin*, 1998. x+325 *pp. ISBN* 3-11-015358-0 (Publisher's description) **99e:62001b** 62–01
Albers, Gerhard (*with* Guibas, Leonidas J.; Mitchell, Joseph S. B.; Roos, Thomas) Voronoi diagrams of moving points. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 365–379. (Summary) **99b:68192** 68U05 (52B55)
Albers, Susanne On the influence of lookahead in competitive paging algorithms. (English summary) First European Symposium on Algorithms (Bad Honnef, 1993). *Algorithmica* **18** (1997), *no.* 3, 283–305. (Summary) **99h:68033** 68N25
— (*with* Westbrook, Jeffery R.) Self-organizing data structures. *Online algorithms* (*Schloss Dagstuhl*, 1996), 13–51, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68P05
— (*with* Mitzenmacher, Michael) Average-case analyses of first fit and random fit bin packing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 290–299, *ACM, New York*, 1998. (Summary) **99h:68070** 68Q25 (90C27)
— (*with* Mitzenmacher, Michael) Average case analyses of list update algorithms, with applications to data compression. (English summary) *Algorithmica* **21** (1998), *no.* 3, 312–329. (Summary) **99c:68060** 68P10 (68Q25, 94A29)
— Improved randomized on-line algorithms for the list update problem. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 682–693 (*electronic*). (Summary) **99b:68040** 68P05 (68P10, 68Q20, 68Q25)
— A competitive analysis of the list update problem with lookahead. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 95–109. (Ricardo Baeza-Yates) **99c:68024** 68P05 (68Q25)
Albers, Willem (*with* Kallenberg, Wilbert C. M.; Otten, Gertjan D.) Accurate test limits under nonnormal measurement error. (English summary) *Metrika* **47** (1998), *no.* 1, 1–33. (Kailash C. Kapur) **99g:62147** 62N10 (62G10)
— (*with* Arts, Gerda R. J.; Kallenberg, Wilbert C. M.) Test limits using correlated measurements. (English summary) *Statistics* **30** (1998), *no.* 4, 307–330. (Summary)

99k:62196 62N10

Albert, David Z. On the phenomenology of quantum-mechanical superpositions. *Realism and quantum physics*, 196–215, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P05 (81P15)

Albert, J. *see* **Albert, Jesus V.**

leach Albert, Javier *see* **Leach Albert, Javier**

Albert, Jesus V. (*with* Díaz, M. E.; Ayala, G.; Ferri, F. J.; Domingo, Juan M.) Accurate detection and characterization of corner points using circular statistics and fuzzy clustering. (English summary) *Advances in pattern recognition (Sydney, 1998)*, 687–696, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30

Albert, John P. (*with* Bona, Jerry L.; Saut, Jean-Claude) Model equations for waves in stratified fluids. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1233–1260. (Shu Ming Sun) **99g:76013** 76B15 (35Q35, 76B25, 76V05)

— (*with* Linares, Felipe) Stability of solitary-wave solutions to model systems for internal waves. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 200–204, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q53 (76C10)

— (*with* Linares, Felipe) Stability of solitary-wave solutions to long-wave equations with general dispersion. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 1–19. (Paolo Secchi) **99m:35140** 35L60 (35B35, 35Q51, 76B15, 76B25)

— Concentration compactness and the stability of solitary-wave solutions to nonlocal equations. (English summary) *Applied analysis (Baton Rouge, LA, 1996)*, 1–29, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Anatoly M. Kamchatnov) **99m:35199** 35Q53 (35B35, 76B25)

payá-Albert, Rafael *see* **Payá-Albert, Rafael**

Albert, T.-D. (*with* Flume, R.; Ruhlig, K.) Multimagnon scattering in the ferromagnetic *XXX*-model with inhomogeneities. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1667–1683. (Summary) **99e:82012** 82B20

Alberti, Giovanni (*with* Bouchitté, Guy; Seppecher, Pierre) Phase transition with the line-tension effect. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 1, 1–46. (Matthias Wilhelm Winter) **99j:76104** 76M30 (49Q20, 58E50, 76B45)

— (*with* Bellettini, Giovanni) A non-local anisotropic model for phase transitions: asymptotic behaviour of rescaled energies. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 261–284. (Matthias Wilhelm Winter) **99e:80003** 80A22 (49S05, 73B40, 73V25, 82B26)

Albertini, Francesca (*with* Dai Pra, Paolo) Small parameter limit for discrete-time partially observed risk-sensitive control problems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 1–32 (*electronic*). (Daniel Hernández-Hernández) **99h:93095** 93E03 (60F10)

Albert of Saxony *see* **Sarnowsky, Jürgen**

cuesta-Albertos, J. A. *see* **Cuesta-Albertos, J. A.**

Alberts, David (*with* Cattaneo, Giuseppe; Italiano, Giuseppe F.) An empirical study of dynamic graph algorithms. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 40 *pp.* (*electronic*). (Summary) **99g:68148** 68R10 (05C85)

Albertsen, Niels Christian (*with* Chesneaux, Jean-Marie; Christiansen, Søren; Wirgin, Armand) Comparison of four software packages applied to a scattering problem. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 307–317. 65–04 (65G10)

Albertson, Michael O. (*with* Collins, Karen L.) An introduction to symmetry breaking in graphs. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 6–7. (*see* **99g:05001**) 05C25 (05C15)

— You can't paint yourself into a corner. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 189–194. (Steve Fisk) **99h:05036** 05C15

Albeverio, Sergio (*with* Jost, Jürgen; Paycha, Sylvie; Scarlatti, Sergio) ★ A mathematical introduction to string theory. (English summary) Variational problems, geometric and probabilistic methods. London Mathematical Society Lecture Note Series, 225. *Cambridge University Press, Cambridge*, 1997. viii+135 *pp. ISBN* 0-521-55610-4 (Steven Rosenberg) **99d:58178** 58G26 (14C40, 32G15, 58D30, 81T30)

— (*with* Makarov, Konstantin A.) Nontrivial attractors in a model related to the three-body quantum problem. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 2, 113–184. (Lech Zielinski) **99a:47033** 47B25 (47A20, 47N50, 81Q10, 81U10)

— (*with* Kurasov, P.) Pseudo-differential operators with point interactions. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 79–92. (Vladimir Ryzhov) **99a:47075** 47G30 (35S05, 47A40, 47B25, 81Q10, 81U10)

— (*with* Gielerak, R.; Russo, Francesco) Constructive approach to the global Markov property in Euclidean quantum field theory. I. Construction of transition kernels. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 275–322. (A. L. Rebenko) **99c:60105** 60G60 (60H15, 81T08)

— (*with* Kondrat'ev, Yu. G.; Röckner, Michael; Tsikalenko, T. V.) Uniqueness of Gibbs states for quantum lattice systems. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 193–218. (Summary) **99d:82009** 82B10 (60H30, 60K35, 82B31)

— (*with* Gottschalk, Hanno; Wu, Jiang Lun) Remarks on some new models of interacting quantum fields with indefinite metric. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 385–394. (Giovanni Morchio) **99d:81071** 81T08 (46N50)

— (*with* Kolokol'tsov, V. N.; Smolyanov, Oleg G.) Continuous quantum measurement: local and global approaches. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 907–920. (Michael B. Mensky) **99a:81015** 81P15 (81S40)

— (*with* Khrennikov, Andrei; Cianci, Roberto) A representation of the quantum field Hamiltonian in a p-adic Hilbert space. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 355–374; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1081–1096 (1998). (Eugen Belokolos) **99e:81125** 81S99 (46N50, 47N50)

— A survey of some developments in loop spaces: associated stochastic processes, statistical mechanics, infinite-dimensional Lie groups, topological quantum fields. *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel' i Gruppy Diffeomorf.*, 209–234. (Rémi Léandre) **99i:58011** 58B20 (58G32, 60H07, 81T13)

— (*with* Makarov, Konstantin A.) Limit behaviour in a singular perturbation problem, regularized convolution operators and the three-body quantum problem. (English summary) *Differential and integral operators (Regensburg, 1995)*, 1–10, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Ghias Hachem) **99i:81261** 81U10 (35B25, 47A55, 47G30, 47N50, 81Q10)

— (*with* Khrennikov, Andrei) A regularization of quantum field Hamiltonians with the aid of p-adic numbers. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 3, 225–251. (Eugen Belokolos) **99f:81117** 81S99 (11S99, 11Z05, 46S10, 81T99)

— (*with* Bogachev, Leonid V.; Yarovaya, Elena B.) Asymptotics of branching symmetric random walk on the lattice with a single source. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 975–980. (George P. Yanev) **99j:60126a** 60J80

— (*with* Bogachev, Leonid V.; Yarovaya, Elena B.) Erratum: "Asymptotics of branching symmetric random walk on the lattice with a single source". *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 585. (George P. Yanev) **99j:60126b** 60J80

— (*with* Kondrat'ev, Yu. G.; Kozitskiĭ, Yu. V.) Suppression of critical fluctuations by strong quantum effects in quantum lattice systems. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 493–512. (Roman Gielerak) **99m:82003** 82B10 (82B27)

— (*with* Fei, Shao-Ming) An integral representation for Ising models. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 23, 2393–2407. (Nicolae Angelescu) **99j:82011** 82B20

— (*with* Brasche, Johannes; Neidhardt, Hagen) On inverse spectral theory for self-adjoint extensions: mixed types of spectra. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 130–173. (Vladimir Derkach) **99h:47029** 47B25 (47A10, 47E05, 47F05, 81U40)

— (*with* Kondrat'ev, Yu. G.; Röckner, Michael) Analysis and geometry on configuration spaces. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 444–500. (David Nualart) **99d:58179** 58G32 (60J60, 60J65)

— (*with* Kondrat'ev, Yu. G.; Röckner, Michael) Analysis and geometry on configuration spaces: the Gibbsian case. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 242–291. (Vladimir I. Bogachev) **99f:58219** 58G32 (31C25, 60H30, 60J60)

— (*with* Fei, Shao-Ming) Current algebras over manifolds: Poisson algebras, q-deformations and quantization. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 1-2, 30–48. (Pavel Šťovíček) **99j:58014** 58B20 (58F05, 81R10)

— (*with* Fei, Shao-Ming) Integrable Poisson algebras and two-dimensional manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1211–1218. (Jeffrey K. Lawson) **99f:58073** 58F05 (53C15)

— (*with* Kondratiev, A. Yu.; Rebenko, A. L.) Peierls argument and long-range order behavior of quantum lattice systems with unbounded spins. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1137–1152. (From the text) **99k:82008** 82B10 (82B26)

— (*with* Kondrat'ev, Yu. G.; Minlos, R. A.; Rebenko, A. L.) Small-mass behavior of quantum Gibbs states for lattice models with unbounded spins. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1153–1172. (Summary) **99j:82008** 82B10

— (*with* Lakaev, Saidachmat; Makarov, Konstantin A.) The Efimov effect and an extended Szegő-Kac limit theorem. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 73–85. (Estelle L. Basor) **99e:47031** 47B35 (47N50, 81S99)

— (*with* Dąbrowski, Ludwik; Kurasov, P.) Symmetries of Schrödinger operators with point interactions. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 33–47. (Alexander A. Kiselev) **99f:34121** 34L40 (47A55, 47E05, 81Q10)

— (*with* Morato, Laura M.; Ugolini, S.) Non-symmetric diffusions and related Hamiltonians. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 195–204. (J. A. Van Casteren) **99j:60117** 60J60 (35Q40, 81P20, 81Q10)

— (*with* Brzeźniak, Zdzisław; Haba, Z.) On the Schrödinger equation with potentials which are Laplace transforms of measures. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 65–82. (Summary) **99k:35152** 35Q40 (58D30, 81Q05)

— (*with* Bogachev, Leonid V.) Brownian survival in a clusterized trapping medium. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 2, 147–189. (Wei-Shih Yang) **99b:60132** 60J65 (60F05, 60K35)

— (*with* Fei, Shao-Ming) Symmetry, integrable chain models and stochastic processes. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 723–750. (Murray T. Batchelor) **99h:82021** 82B23 (82C23)

— (*with* Wu, Jiang Lun; Zhang, Tu Sheng) Parabolic SPDEs driven by Poisson white noise. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 21–36. (Fred Espen Benth) **99c:60124** 60H15 (35R60, 60H20)

— (*with* Zhang, Tu Sheng) Approximations of Ornstein-Uhlenbeck processes with unbounded linear drifts. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 303–312. (Summary) **99f:60077** 60G15 (31C25, 60J60)

— (*with* Kurasov, P.) Finite rank perturbations and distribution theory. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1151–1161. (Hendrik S. V. de Snoo) **99m:47012** 47A55 (34L40, 46F10, 47B25, 47E05)

— (*with* Kondrat'ev, Yu. G.; Röckner, Michael) Diffeomorphism groups and current algebras: configuration space analysis in quantum theory. (English summary) *Rev. Math. Phys.* **11** (1999), *no.* 1, 1–23. (A. L. Rebenko) **99m:81127** 81T08 (58D05, 60J99, 81R10)

Albin, J. M. P. On extremal theory for self-similar processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 743–793. (Makoto Maejima) **99d:60049** 60G18 (60F10, 60G70)

— Extremes of totally skewed α-stable processes. (English summary) *Stochastic Process. Appl.* **79** (1999), *no.* 2, 185–212. (J. Hüsler) **99k:60131** 60G70 (60G60)

Al-Bīrūnī *see* **al-Bīrūnī**

Alboth, Dirk Individual asymptotics of C_0-semigroups: lower bounds and small solutions. *J. Differential Equations* **143** (1998), *no.* 2, 221–242. (C. J. K. Batty) **99a:47060** 47D06 (34G10, 35K15)

Albrecht, David (*with* Crossley, John N.; Jeavons, John S.) New Curry-Howard terms for full linear logic. (English summary) *Theoret. Comput. Sci.* **185** (1997), *no.* 2, 217–235. (R. Gylys) **99a:03058** 03F50 (03B70)

— (*with* Franks, Edwin; McIntosh, Alan G. R.) Holomorphic functional calculi and sums of commuting operators. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 291–305. (Christian Le Merdy) **99j:47018** 47A60 (47A13)

Albrecht, Ernst (*with* Ricker, Werner J.) Commutant algebras for certain differential operators in $L^p(\mathbf{R})$. (English summary) *Banach algebras '97 (Blaubeuren)*, 27–42, *de Gruyter, Berlin*, 1998. (Michael M. Neumann) **99i:47080** 47E05 (47A11, 47D99)

— (*with* Ptak, Marek) Invariant subspaces for doubly commuting contractions with rich Taylor spectrum. (English summary) *J. Operator Theory* **40** (1998), *no.* 2, 373–384. (Hari Bercovici) **99g:47010** 47A15 (47A13, 47A20, 47D27)

— (*with* Ricker, Werner J.) On p-dependent local spectral properties of certain linear differential operators in $L^p(\mathbf{R}^N)$. (English summary) *Studia Math.* **130** (1998), *no.* 1, 23–52. (Robert Lauter) **99d:47018** 47A60 (35E20, 46J99, 47B40, 47F05)

— *see also* **Banach algebras '97, 99f:46002**

Albrecht, Gudrun A practical classification method for rational quadratic Bézier triangles with respect to quadrics. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 1–8, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65387** 65Y25

— Determination and classification of triangular quadric patches. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 675–697. (Antonio López-Carmona) **99e:65190** 65Y25 (51N35, 65D17)

Albrecht, Rudolf F. On the structure of knowledge base systems. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 114–120. 68T30

— *see also* **Systems: theory and practice, 99g:93002**

Albrecht, Ulrich F. (*with* Jeong, Jong-Woo) Homomorphisms between A-projective abelian groups and left Kasch-rings. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 31–43. (William J. Wickless) **99b:20088** 20K21 (20K30)

— (*with* Goeters, H. Pat) Butler theory over Murley groups. *J. Algebra* **200** (1998), *no.* 1, 118–133. (C. Vinsonhaler) **99c:20074** 20K15 (20K26)

Al'brekht, È. G. (*with* Ermolenko, E. A.) Synthesis of a time-optimal control in linear systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1443–1450, 1580; *translation in Differential Equations* **33** (1997), *no.* 11, 1449–1456 (1998). (Alexander J. Zaslavski) **99k:49079** 49N35 (49J15)

— (*with* Ermolenko, E. A.) On the optimal control of a second-order quasilinear system. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 50–55. 49K15 (49K40)

Al'brekht, P. V. On differentiable ε-selections. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 23–26, 103; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 2, 19–22. (Summary) **99h:41038** 41A65

ALBToush, R. H. (*with* Zhang, Pei Xuan) An asymptotic expression for the kernel functions of Legendre series. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 405–411. (Summary) **99b:33023** 33C45

Albu, I. D. (*with* Opriş, Dumitru) Geometrical objects associated to special cotangent transformations. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **57/58** (1995/96), *no.* 1-4, 29–42. (Juan Carlos Marrero Gonzalez) **99c:53021** 53C15 (53C05, 58F05)

— (*with* Opriş, Dumitru) Mathematical model for diamond-type crystals with impurities or defects. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 73–88. (Summary) **99j:70024** 70H35 (70H33, 73B99, 82D25)

— (*with* Opriş, Dumitru) Geometrical aspects of the covariant dynamics of higher order. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 395–412. (Jaime Muñoz Masqué) **99e:58004** 58A20 (53B15, 70H35, 73B99)

Albu, Toma (*with* Lenagan, T. H.; Smith, Patrick F.) Ascending chains of submodules in modules having Krull dimension. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 567–581. (J. C. Robson) **99i:16044** 16P60

— (*with* Wisbauer, Robert) Kasch modules. (English summary) *Advances in ring theory (Granville, OH, 1996)*, 1–16, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (G. Krause) **99b:16007** 16D90 (16D50, 16S90)

— (*with* Wisbauer, Robert) M-density, M-adic completion and M-subgeneration. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 141–159. (K. R. Fuller) **99d:16050** 16W80 (16D90)

— (*with* Vámos, Peter) Global Krull dimension and global dual Krull dimension of valuation rings. *Abelian groups, module theory, and topology (Padua, 1997)*, 37–54, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Marco Fontana) **99k:13012** 13C15 (13F30, 16D90)

— Classes of lattices (co)generated by a lattice and their global (dual) Krull dimension. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 1–18. (Summary) **99j:06006** 06C05

de Albuquerque, Luiz C. (*with* Farina de Souza, Carlos; Rabello, S.) Schwinger's method and the computation of determinants. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 6, 524–528. (Summary) **99b:58235** 58G26 (81T16)

Albuquerque, Paul Uniqueness of conformal densities and the semiflow of Weyl chambers. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1105–1110. (Dmitry Y. Kleinbock) **99k:58141** 58F17 (53C21, 53C35)

Alcaide, David (*with* Riera, J.; Sicilia Rodríguez, J.) Approximate algorithms for the $P\|C_{\max}$ problem. (English summary) *Top* **4** (1996), *no.* 2, 345–359. (Summary) **99c:90069** 90B35 (90C90)

— (*with* Sicilia Rodríguez, J.; Vigo, Daniele) A tabu search algorithm for the open shop problem. (English summary) *Top* **5** (1997), *no.* 2, 283–296. (Summary) **99b:90068** 90B30 (90C27)

díaz Alcaide, Juan Carlos *see* **Díaz Alcaide, Juan Carlos**

Alcalá, J. T. (*with* Cristóbal Cristóbal, José Antonio) Error process indexed by bandwidth matrices in multivariate local linear smoothing. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 207–236. (Noël Veraverbeke) **99i:62085** 62G07

— (*with* Cristóbal Cristóbal, José Antonio; González-Manteiga, Wenceslao) Goodness-of-fit test for linear models based on local polynomials. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 39–46. (Summary) **99i:62101** 62G10

Alcantud, J. C. R. (*with* Gutiérrez Díez, José Manuel) Preference through indifference: a topological approach. (English summary) *J. Math. Econom.* **31** (1999), *no.* 4, 543–551. (Summary) **99m:90012** 90A06

Alcaraz, F. C. (*with* Salinas, S. R.; Wreszinski, W. F.) Quantum domains in ferromagnetic anisotropic Heisenberg chains. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 13–19, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* Dasmahapatra, Srinandan; Rittenberg, Vladimir) N-species stochastic models with boundaries and quadratic algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 845–878. (Summary) **99h:82034** 82B31 (82B20)

— (*with* Bariev, R. Z.) Exact solution of a vertex model with unlimited number of states per bond. (English summary) *J. Phys. A* **32** (1999), *no.* 3, *L25–L31*. (Gunter Schütz) **99k:82018** 82B23 (82B20)

fernández-Alcober, Gustavo A. *see* **Fernández-Alcober, Gustavo A.**

Alcuin of York *see* **Leff, Gordon, 99j:01004** *and* **Borndörfer, Ralf et al., (99i:00015)**

Al-Dabass, D. (*with* Cheetham, A.; Evans, David John[1]) Simulation of a multi-dimensional pattern classifier. (English summary) *Int. J. Comput. Math.* **71** (1999), *no.* 2, 197–233. 68T10

Aldabe, Fermin (*with* Larsen, Arne Lykke) The SO(32) heterotic and type IIB membranes. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 12, 9 *pp.* (*electronic*). (Summary) **99i:81165** 81T30 (81T50)

— Breaking E_8 to SO(16) in M-theory and F-theory. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 209–220. (Gonzalo Violero) **99f:81139** 81T30 (83E30)

extremiana Aldana, J. Ignacio *see* **Extremiana Aldana, J. Ignacio**

Al-Dargazelli, Shetha S. (*with* Fatoohi, Louay J.; Stephenson, F. Richard) The Babylonian first visibility of the lunar crescent: data and criterion. *J. Hist. Astronom.* **30** (1999), *no.* 1, 51–72. 01A17

Aldashev, S. A. Some boundary value problems for second-order multidimensional hyperbolic equations. (Russian) *Algebra and mathematical analysis (Russian)*, 66–74, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 35L20

— On the multidimensional Dirichlet and Tricomi problems for a class of hyperbolic-elliptic equations. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 12, 1587–1593; *translation in Ukrainian Math. J.* **49** (1997), *no.* 12, 1783–1790 (1998). (Summary) **99m:35175** 35M10

— On multidimensional Darboux problems for linear hyperbolic equations. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997**, *no.* 4, 55–57. 35L10

— On Darboux problems for a class of multidimensional hyperbolic equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 64–68, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 65–69. (Summary) **99i:35088** 35L10

Aldaya, V. (*with* Becerra Guerrero, Julio; Marmo, Giuseppe) Quantization on a Lie group: higher-order polarizations. *Symmetries in science, X (Bregenz, 1997)*, 1–36, *Plenum, New York*, 1998. (Ivailo M. Mladenov) **99j:58083** 58F06 (81S10)

— (*with* Calixto, M.; Becerra Guerrero, Julio) Generalized conformal symmetry and extended objects from the free particle. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 28, 4889–4911. (Anton V. Galajinsky) **99k:81130** 81S10 (81R99)

Aldaz, J. M. Borel extensions of Baire measures. (English summary) *Fund. Math.* **154** (1997), *no.* 3, 275–293. (Robert F. Wheeler) **99c:28036** 28C15 (03E35, 54C50, 54D20)

— Remarks on the Hardy-Littlewood maximal function. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 1–9. (Javier Soria) **99b:42020** 42B25

Aldaz, Mikel (*with* Heintz, Joos; Matera, Guillermo; Montaña, José Luis; Pardo, Luis Miguel) Combinatorial hardness proofs for polynomial evaluation (extended abstract). (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 167–175, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q40 (68Q25)

— (*with* Heintz, Joos; Matera, Guillermo; Montaña, José Luis; Pardo, Luis Miguel) Time-space tradeoffs for polynomial evaluation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 907–912. (Summary) **99j:68047** 68Q25 (68Q40)

Aldeen, Mohammad (*with* Gong, Zhiming) Stabilization of decentralized control systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 16 *pp.* (*electronic*). (Summary) **99h:93083** 93D15 (93A14)

— (*with* Hu, Jiankun) Comments on: "Design of decentralized control for symmetrically interconnected systems" [Automatica J. IFAC **32** (1996), no. 3, 475–476] by A. El Kashlan and M. El Geneidy. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 925–927. 93A14 (93B60)

Aldemir, M. Ş. (*with* Bakoğlu, H.) On the extremum numbers of k-circuits in a T_n tournament. (English and Turkish summaries) *Ege Univ. J. Fac. Sci.* **21** (1998), *no.* 2, 71–77. 05C38 (05C20, 05C35)

Alder, Berni J. (*with* McNamara, Guy R.; Garcia, Alejandro L.) A hydrodynamically correct thermal lattice Boltzmann model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1111–1121. (Summary) **99f:82055** 82C40 (76P05)

Alderton, I. W. α-compactness of fuzzy topological spaces: a categorical approach. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 269–282. (Summary) **99g:54002** 54A40 (18A32, 18B30, 54D30)

— (*with* Castellini, G.) Closure operators and fuzzy connectedness. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 397–405. (*see* **99m:03114**) 54A40

Aldhaheri, Rabah W. Decomposition of two-time-scale linear systems via the relevant eigenspace. (English summary) *Internat. J. Control* **61** (1995), *no.* 3, 549–557. (Summary) **99a:93066** 93C70 (93B11)

Aldibekov, T. M. On the Baire class of central exponents of a family of automorphisms of a vector bundle. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 11–16. (J. S. Joel) **99f:58113** 58F10 (54H20)

Al Dihan, Nailah A. Certain classes related to functions of bounded boundary rotation. (English summary) *Arab J. Math. Sci.* **4** (1998), *no.* 2, 19–30. (Summary) **99h:30010** 30C45

Aldous, David J. Tree-valued Markov chains and Poisson-Galton-Watson distributions. (English summary) *Microsurveys in discrete probability (Princeton, NJ, 1997)*, 1–20, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Robert P. Dobrow) **99k:60212** 60J80 (60C05, 60J27)

— On the critical value for "percolation" of minimum-weight trees in the mean-field distance model. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 1–10. (H. Kesten) **99c:60220** 60K99 (05C05, 60D05, 60K35)

— Stochastic coalescence. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 205–211 (*electronic*). (Endre Csáki) **99i:60171** 60K35 (60J25)

— Brownian excursion conditioned on its local time. *Electron. Comm. Probab.* **3** (1998), 79–90 (*electronic*). (Ingemar Kaj) **99m:60115** 60J55 (60J65)

— (*with* Limic, Vlada) The entrance boundary of the multiplicative coalescent. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 3, 59 *pp.* (*electronic*). (M. G. Shur) **99d:60086** 60J50 (60J75)

— Emergence of the giant component in special Marcus-Lushnikov processes. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 2, 179–196. (Lyuben R. Mutafchiev) **99g:60128** 60J27 (05C80)

— *see also* **Microsurveys in discrete probability**, **99b:60003**

Aldred, M. P. (*with* Armitage, David H.) Inequalities for surface integrals of non-negative subharmonic functions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 101–113. (Matts Essén) **99h:31010** 31B05

— (*with* Armitage, David H.) Harmonic analogues of G. R. MacLane's universal functions. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 148–156. (A. Yu. Rashkovskiĭ) **99g:31006** 31B05 (30D15)

— (*with* Armitage, David H.) Harmonic analogues of G. R. Mac Lane's universal functions. II. *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 382–395. (A. Yu. Rashkovskiĭ) **99g:31007** 31B05 (30D15)

Aldred, R. E. L. (*with* Wormald, Nicholas C.) More on the linear k-arboricity of regular graphs. (English summary) *Australas. J. Combin.* **18** (1998), 97–104. (Summary) **99g:05051** 05C05

— (*with* McKay, Brendan D.) Graceful and harmonious labellings of trees. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 69–72. (Summary) **99c:05170** 05C78 (05C05)

Aldridge, J. E. (*with* Prince, G. E.) Computer algebra solution of the inverse problem in the calculus of variations. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 489–509. (Summary) **99h:49049** 49N45

— (*with* Prince, G. E.; Byrnes, G. B.) A universal Hamilton-Jacobi equation for second-order ODEs. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 827–844. (Paola Morando) **99m:58097** 58F05 (34A26, 58E30, 70H20)

Aldroubi, Akram (*with* Papadakis, Manos) Characterization and parameterization of multiwavelet bases. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 97–116, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:42010** 42A38 (42C15, 47B37)

— (*with* Abry, Patrice; Unser, Michael) Construction of biorthogonal wavelets starting from any two multiresolutions. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1130–1133. 94A11 (42C15)

— (*with* Unser, Michael; Thévenaz, Philippe) Shift-orthogonal wavelet bases. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 1827–1836. (Summary) **99i:94004** 94A11 (42C15, 94A12)

— (*with* Feichtinger, Hans) Exact iterative reconstruction algorithm for multivariate irregularly sampled functions in spline-like spaces: the L^p-theory. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2677–2686. (R. L. Stens) **99h:42054** 42C15 (41A15, 46E99, 47B37, 94A12)

Aldrovandi, Ettore (*with* Falqui, Gregorio) Toda field theory as a clue to the geometry of W_n-gravity. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 155–171, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:81193** 81T40 (14D20, 14H60, 32J25)

Aldrovandi, R. (*with* Saeger, L. A.) Projective Fourier duality and Weyl quantization. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 3, 573–612. (Nicolaas P. Landsman) **99b:81123** 81S30 (43A40, 46L05)

— (*with* Barbosa, A. L.; Freitas, L. P.) Closed expressions for Lie algebra invariants and finite transformations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3021–3050. (Edson Stédile) **99a:81051** 81R05 (17B81)

— Forms and fields: applications of differential forms to field theory. *Particles and fields* (*Campos do Jordão*, 1997), 1–132, *World Sci. Publishing, River Edge, NJ*, 1998. (Jaime Muñoz Masqué) **99j:58001** 58–02 (53–02, 53C80, 58A10, 58E30)

— (*with* Freitas, L. P.) Continuous iteration of dynamical maps. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5324–5336. (Remo Badii) **99h:58120** 58F13 (26A18, 58F03)

Alduncin, Gonzalo Numerical resolvent methods for macro-hybrid mixed variational inequalities. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 667–696. (Gabriel Dimitriu) **99j:65153** 65M55 (49J40)

Aldushin, A. P. (*with* Matkowsky, Bernard J.) Selection in the Saffman-Taylor finger problem and the Taylor-Saffman bubble problem without surface tension. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 57–62. (Summary) **99e:76116** 76S05 (76D99)

Alefeld, G. E. (*with* Potra, Florian A.; Völker, W.) Modifications of the interval-Newton-method with improved asymptotic efficiency. (English summary) *BIT* **38** (1998), *no.* 4, 619–635. (E. R. Hansen) **99m:65100** 65G10 (65H05)

— (*with* Claudio, D.) The basic properties of interval arithmetic, its software realizations and some applications. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 3–8. (Summary) **99c:65091** 65G10 (65–04)

— (*with* Kreinovich, Vladik; Mayer, Günter) The shape of the solution set for systems of interval linear equations with dependent coefficients. (English summary) *Math. Nachr.* **192** (1998), 23–36. (Summary) **99c:15004** 15A06 (14Q99, 65G10)

Alegre Gil, Carmen (*with* Ferrer, Jesús; Gregori, Valentin) On a class of real normed lattices. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 785–792. (Summary) **99i:54042** 54F05 (54E15, 54E52, 54E55)

Alegría Ezquerra, Pedro (*with* Cotlar, Mischa) Generalized Toeplitz forms and interpolation colligations. (English summary) *Math. Nachr.* **190** (1998), 5–29. (Dmitriy S. Kalyuzhniy) **99g:47019** 47A48 (15A63, 47A57, 47B35)

Alejandre, J. L. (*with* Allueva Pinilla, Ana) The dual posynomial problem from the perspective of polynomial algorithms. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1027–1032, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90C30 (90C08)

Alekhina, A. È. (*with* Ivanov, N. N.) Properties of the dynamic Leontief model for fuzzy data. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 32–33, 139. 90A14 (90A16)

Alekhno, A. G. On the solvability of the homogeneous Riemann boundary value problem with an infinite index. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 37–44, 124. (Irina Yu. Dmitrieva) **99c:30068** 30E25

— The inhomogeneous Riemann boundary value problem with an infinite index in the case of multilateral vorticity. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 35–43, 123. (R. V. Duduchava) **99m:30081** 30E25

— On a Riemann boundary value problem with a coefficient that has an arbitrary finite oscillation of the argument. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 46–49, 77. (R. V. Duduchava) **99m:30082** 30E25

Alekhnovich, Michael (*with* Buss, Samuel R.; Moran, Shlomo; Pitassi, Toniann) Minimum propositional proof length is NP-hard to linearly approximate (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 176–184, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (03F20, 68Q15)

Alekhnovich, O. A. (*with* Demin, V. G.) On the stability of pseudo-regular precession of a gyrostat. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 714–716; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 693–695. (Summary) **99d:70011** 70E15 (70K20)

Aleksandrov, A. G. *see* **Aleksandrov, Albert Georgievich**

Aleksandrov, A. V. The Poincaré problem for second-order elliptic systems on a plane in Hardy-type classes. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1069–1075, 1150; *translation in Differential Equations* **33** (1997), *no.* 8, 1075–1081 (1998). (Summary) **99d:35044** 35J55

Aleksandrov, A. Yu. Some classes of asymptotically recurrent oscillations of dynamical systems. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 5–11, 238, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 34C27 (34C28, 58F99)

— The effect of unbounded perturbations on the stability of systems of differential equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 279–281, 288; *translation in Differential Equations* **34** (1998), *no.* 2, 283–286. (Summary) **99k:34107** 34D10 (34A30)

— On a method for constructing Lyapunov functions for nonlinear nonautonomous systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 3–10; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 1, 1–8. (Pinia G. Aĭzengendler) **99a:34146** 34D20

— Erratum: "On a method for constructing Lyapunov functions for nonlinear nonautonomous systems" [Izv. Vyssh. Uchebn. Zaved. Mat. **1998**, no. 1, 3–10; MR 99a:34146]. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. 34D20

— On the stability of solutions of nonlinear systems with unbounded perturbations. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 3–8; *translation in Math. Notes* **63** (1998), *no.* 1-2, 3–8. (Denis Khusainov) **99f:34077** 34D10

— On the asymptotic stability of the equilibrium of nonautonomous systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 35–40; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 31–36. (Summary) **99c:34095** 34D05

Aleksandrov, Albert Georgievich (*with* Chestnov, V. N.) Synthesis of multidimensional systems of given accuracy. I. Application of LQ-optimization procedures. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 83–95; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 973–983. (Summary) **99j:93090** 93D21 (93B51)

Aleksandrov, G. A. (*with* Kutzarova, Denka; Plichko, A. N.) A separable space with no Schauder decomposition. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2805–2806. (Summary) **99m:46020** 46B15

Aleksandrov, I. A. (*with* Sadritdinova, G. D.) Mappings with rotation symmetry. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 10, 3–6. (Kazimierz Włodarczyk) **99j:30007** 30C45

Aleksandrov, Pavel Sergeevich ★ Combinatorial topology. Vol. 1, 2 and 3. (English summary) Translated from the Russian. Reprint of the 1956, 1957 and 1960 translations. *Dover Publications, Inc., Mineola, NY*, 1998. 650 *pp. ISBN* 0-486-40179-0 (Editors) **99g:55001** 55–01 (01A60, 54–01)

— *see also* **Petrovskiĭ, Ivan Georgievich**, **99m:01106b** *and* **Shchepin, E. V.**

Aleksandrov, V. A. Sufficient conditions for the extendibility of an n-th order flex of polyhedra. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 367–378. (Tiong Seng Tay) **99k:52035** 52C25

— Flexible polyhedral surfaces. *Quantum* **9** (1998), *no.* 1, 4–6. (Ren Ding) **99i:52012** 52B10 (52B70)

Aleksandrov, V. M. *see* **Aleksandrov, Viktor Mikhaĭlovich**

Aleksandrov, V. N. Efficient parallel Monte Carlo methods for matrix computations. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 113–122. (Summary) **99d:65011** 65C05 (65F05, 65Y05)

— (*with* Dimov, Ivan T.) A new highly convergent Monte Carlo method for matrix computations. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 165–181. (Sergei A. Nemnyugin) **99j:65006** 65C05 (65F30)

Aleksandrov, Viktor Mikhaĭlovich On the solution of integral equations arising in periodic problems with mixed boundary conditions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 838–844; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 811–816 (1998). (Summary) **99f:45003** 45E05 (73C35, 73T05)

— Asymptotic methods in contact mechanics. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 29–35. (Summary) **99f:73069** 73T05

Aleksandrov, Vladimir Vasil'evich (*with* Salazar Ibargüen, Humberto; Guerra, Francisco; Aguilar Andrade, Filadelfo) Stability and stabilization of a active surface. *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 10 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 93D15 (93C95)

Aleksandrova, E. V. (*with* Bochkareva, O. V.; Podol'skiĭ, V. E.) Summation of regularized traces of the singular Sturm-Liouville operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 291–295, 428; *translation in Differential Equations* **33** (1997), *no.* 3, 287–291. (Vladimir Vasil'evich Dubrovskiĭ) **99c:34197** 34L40 (47E05)

— A trace formula for the equation of the oscillations of an elastic rod. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 583–586. (Vladimir Vasil'evich Dubrovskiĭ) **99a:34217**

34L05 (34B05, 34L40, 73D30, 73K12)

Aleksanyan, A. A. On a class of linearized logical separators for heuristic recognition procedures. (Russian. Russian summary) *Pattern recognition. Classification. Prediction (Russian)*, 5–15, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68T10

Alekseenko, S. V. (*with* Kuibin, P. A.; Okulov, V. L.; Shtork, S. I.) Helical vortices in swirl flow. (English summary) *J. Fluid Mech.* **382** (1999), 195–243. (Summary) **99m:76034** 76C05 (76–05, 76D99)

Alekseev, Anton Yu. (*with* Schomerus, Volker) The Chern-Simons theory and quantized moduli spaces of flat connections. *Low-dimensional models in statistical physics and quantum field theory (Schladming*, 1995), 1–26, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Ruth Lawrence) **99e:58031** 58D29 (57M25, 57R57, 81R50)

— (*with* Panafidin, S. A.) On Poisson actions of quasi-triangular Poisson-Lie groups. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz*, 1996), 271–276, *PWN, Warsaw*, 1997. (Alberto Medina) **99k:58079** 58F07

— (*with* Schomerus, Volker) Non-commutative gauge fields from quantum groups. (English summary) *Quantum fields and quantum space time (Cargèse*, 1996), 1–19, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Mathias Pillin) **99a:81119** 81T25 (17B37, 58B30, 81R50)

— On Poisson actions of compact Lie groups on symplectic manifolds. (English summary) *J. Differential Geom.* **45** (1997), *no.* 2, 241–256. (Charles-Michel Marle) **99b:58086** 58F05 (57S99)

— (*with* Faddeev, Lyudvig Dmitrievich; Fröhlich, Jürg; Schomerus, Volker) Representation theory of lattice current algebras. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 31–60. (Stephen J. Summers) **99b:81072** 81R10 (18D10, 81R50, 81T40)

— (*with* Malkin, Anton Z.) The hyperbolic moduli space of flat connections and the isomorphism of symplectic multiplicity spaces. *Duke Math. J.* **93** (1998), *no.* 3, 575–595. (Valentino Zocca) **99g:58020** 58D29 (58F05)

— (*with* Malkin, Anton Z.; Meinrenken, Eckhard) Lie group valued moment maps. (English summary) *J. Differential Geom.* **48** (1998), *no.* 3, 445–495. (Johannes Huebschmann) **99k:58062** 58F05 (55N91, 57S25)

Alekseev, G. A. (*with* Griffiths, J. B.) Some unpolarized Gowdy cosmologies and noncolinear colliding plane wave spacetimes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 237–247. (Nora Bretón Báez) **99m:83041** 83C20 (83C15)

Alekseev, G. V. Stationary problems of boundary control for heat convection equations. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 174–177. 93C20 (35Q35, 76R05)

— Solvability of stationary problems of boundary control for thermal convection equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 982–998, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 844–858. (Shuzi Zhou) **99i:49006** 49J20 (35Q99, 49K20, 76D05, 80A20)

Alekseev, N. K. On the controllability of auto-oscillatory systems. (Russian) *Dynamics of control systems, and computational processes (Russian)*, 4–13, *Yakut·sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 93B05 (34H05, 93C15)

Alekseev, P. A. (*with* Golovanov, M. I.) On admissible rules for the polymodal logic $S5_nC$. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 5, 483–493, 599; *translation in Algebra and Logic* **36** (1997), *no.* 5, 281–287. (Branislav Boričić) **99b:03028** 03B45

Alekseev, V. B. From Karatsuba's method for fast multiplication of numbers to fast algorithms for discrete functions. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 20–27. (Igor E. Shparlinski) **99g:11147** 11Y16

— (*with* Krivenko, M. M.) On the complexity of the recognition of the completeness of systems of functions in the class P_3^*. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 6–9, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 5–8. (Summary) **99i:03046** 03D15 (03B50, 68Q25)

Alekseev, V. E. (*with* Lozin, V. V.) On local transformations of graphs that preserve the independence number. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **5** (1998), *no.* 1, 3–19, 104. (Peter Mihók) **99j:05094** 05C35 (05C85)

Alekseev, V. G. New modifications of periodograms of the second and third orders. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 657–667. (A. Ya. Olenko) **99d:62081** 62M10 (60G10, 62M15)

Alekseeva, S. A. (*with* Shil'nikov, L. P.) Bifurcations of periodic motions in systems with a homoclinic saddle-focus loop. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 440–447, 573; *translation in Differential Equations* **33** (1997), *no.* 4, 439–446. (Michal Fečkan) **99b:34080** 34C37 (34C23, 34C25, 58F14)

Alekseeva, S. M. (*with* Yurchuk, Nikolai I.) The quasi-reversibility method for the problem of the control of an initial condition for the heat equation with an integral boundary condition. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 495–502, 573; *translation in Differential Equations* **34** (1998), *no.* 4, 493–500. (Summary) **99j:35085** 35K20 (93C20)

Alekseevskaya, T. V. (*with* Gel'fand, Izrail' Moiseevich) Incidence matrices, geometrical bases, combinatorial prebases and matroids. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 23–44. (Charles A. Semple) **99m:05043** 05B35

Alekseevskiĭ, D. V. (*with* Podestà, F.) Compact cohomogeneity one Riemannian manifolds of positive Euler characteristic and quaternionic Kähler manifolds. (English summary) *Geometry, topology and physics (Campinas*, 1996), 1–33, *de Gruyter, Berlin*, 1997. (María Laura Barberis) **99f:53045** 53C25 (53C30)

— (*with* Cortés Suárez, Vicente) Classification of N-(super)-extended Poincaré algebras and bilinear invariants of the spinor representation of $\mathrm{Spin}(p, q)$. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 477–510. (Waldyr Alves Rodrigues, Jr.) **99b:17004** 17B05 (15A66)

— (*with* Grabowski, Janusz; Marmo, Giuseppe; Michor, Peter W.) Completely integrable systems—a generalization. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1637–1648. (Charles-Michel Marle) **99f:58089** 58F07 (22E70, 58F05, 70H05)

— Flag manifolds. 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Zb. Rad. Mat. Inst. Beograd. (N.S.)* **6(14)** (1997), 3–35. (A. L. Onishchik) **99b:53073** 53C30 (17B20, 32M10, 53C55)

— (*with* Cortés Suárez, Vicente; Devchand, Chandrashekar; Semmelmann, U.) Killing spinors are Killing vector fields in Riemannian supergeometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 37–50. (Frans Cantrijn) **99k:58025** 58C50 (53C50, 58A50)

— (*with* Grabowski, Janusz; Marmo, Giuseppe; Michor, Peter W.) Poisson structures on double Lie groups. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 340–379. (Johannes Huebschmann) **99g:58048** 58F05 (17B45, 53C15, 58F07)

— Isotropy representation of flag manifolds. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 13–24. (Paul D. Friedman) **99j:22019** 22E46 (17B20, 53C30)

— (*with* Marchiafava, S.; Pontecorvo, Massimiliano) Compatible complex structures on almost quaternionic manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 997–1014. (Luis Ugarte) **99e:53028** 53C10 (53C15, 53C56)

Alekseyevskaya, T. V. *see* **Alekseevskaya, T. V.**

Aleman, Alexandru (*with* Richter, Stefan) Simply invariant subspaces of H^2 of some multiply connected regions. *Integral Equations Operator Theory* **24** (1996), *no.* 2, 127–155. (D. Sarason) **99b:47010a** 47A15 (30D55, 46E20, 47B38)

— (*with* Siskakis, Aristomenis G.) Integration operators on Bergman spaces. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 337–356. (Daniel H. Luecking) **99b:47039** 47B38 (30E99, 47B07, 47B10)

— (*with* Richter, Stefan) Erratum: "Simply invariant subspaces of H^2 of some multiply connected regions". *Integral Equations Operator Theory* **29** (1997), *no.* 4, 501–504. (D. Sarason) **99b:47010b** 47A15 (30D55, 46E20, 47B38)

Alemany, A. (*with* Plunian, F.; Marty, Ph.) Chaotic behaviour of the Rikitake dynamo with symmetric mechanical friction and azimuthal currents. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1835–1842. (Summary) **99d:76102** 76W05 (76E25, 86A25)

— (*with* Plunian, F.; Marty, Ph.) Kinematic dynamo action in a network of screw motions; applications to the core of a fast breeder reactor. (English summary) *J. Fluid Mech.* **382** (1999), 137–154. (Summary) **99m:76128** 76W05

— *see also* **Transfer phenomena in magnetohydrodynamic and electroconducting flows**, **99k:76007**

Alemdar, Nedim M. (*with* Özyıldırım, Süheyla) A genetic game of trade, growth and externalities. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 6, 811–832. 90A15 (90D40)

Alencar, A. P. (*with* Dorea, Chang Chung Yu; Galves, A.; Kira, E.) Markovian modeling of the stress contours of Brazilian and European Portuguese. (English summary) *Rebrape* **11** (1997), *no.* 2, 161–173. (Summary) **99a:62124** 62M05

Alencar, Hilario (*with* Colares, A. Gervasio) Integral formulas for the r-mean curvature linearized operator of a hypersurface. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 203–220. (M. Elisa G. G. de Oliveira) **99k:53075** 53C21 (53C40, 53C42, 53C65)

Aleroev, T. S. On a boundary value problem for a fractional-order differential operator. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 123, 144; *translation in Differential Equations* **34** (1998), *no.* 1, 126. (From the text) **99j:34020** 34B05 (26A33)

Alëshin, M. V. On the variational method for solving magnetostatic problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1349–1354. (Summary) **99j:78001** 78–08 (78A30)

Aleshkov, Y. Yu. Unsteady motion of a body under a free surface. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 12–19, 238–239, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 76B99

Aleshkov, Yu. Z. *see* **Mathematical methods for modeling and analysis of controlled processes**, **99a:00014**

Alesina, Alberto[1] (*with* Galuzzi, Massimo) A new proof of Vincent's theorem. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 3-4, 219–256. (A. J. van der Poorten) **99j:11021** 11B75

Alesker, Semyon Continuous valuations on convex sets. *Geom. Funct. Anal.* **8** (1998), *no.* 2, 402–409. (From the introduction) **99b:52027** 52B45

— Integrals of smooth and analytic functions over Minkowski's sums of convex sets. *Convex geometric analysis (Berkeley, CA*, 1996), 1–15, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (G. Ewald) **99m:52006** 52A38 (26B15, 52A20)

— Localization technique on the sphere and the Gromov-Milman theorem on the concentration phenomenon on uniformly convex sphere. (English summary) *Convex geometric analysis (Berkeley, CA*, 1996), 17–27, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (G. Ewald) **99k:52015** 52A40 (46B09, 52A20)

Aleškevičienė, Aldona Kazio (*with* Statulyavichus, Vitautas Antanovich) Large deviations in approximation by Poisson law. (English summary) *Probability theory and mathematical statistics (Vilnius*, 1993), 1–18, *TEV, Vilnius*, 1994. (Summary) **99f:60055** 60F10

— (*with* Statulyavichus, Vitautas Antanovich) Probabilities of large deviations for the χ^2 approximation. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 401–412; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 301–309 (1998). (S. A. Book) **99j:60034** 60F10 (60G50)

Alessandri, A. (*with* Parisini, T.; Zoppoli, R.) Neural approximators for nonlinear finite-memory state estimation. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 275–301. 93E10 (93C85)

Alessandri, Pascal (*with* Berthé, Valérie) Three distance theorems and combinatorics on words. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 103–132. (Jeffrey O. Shallit) **99i:11056** 11J71 (11K06, 68R15)

Alessandrini, Giovanni On Courant's nodal domain theorem. (English summary) *Forum Math.* **10** (1998), *no.* 5, 521–532. (Günter Berger) **99g:35091** 35P05 (35B50, 35J15)

— (*with* Rosset, Edi) The inverse conductivity problem with one measurement: bounds on the size of the unknown object. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1060–1071 (*electronic*). (Gottfried Anger) **99j:35227** 35R30 (31B20, 35J25)

Alessandrini, Stephen M. A motivational example for the numerical solution of the algebraic eigenvalue problem. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 935–940 (*electronic*). (Summary) **99h:65061** 65F15 (15A18)

d'Alessandro, Paolo (*with* De Santis, Elena) General closed loop optimal solutions for linear dynamic systems with linear constraints and functional. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99i:49040a** 49N35 (93B50)

— (*with* De Santis, Elena) Errata: "General closed loop optimal solutions for linear dynamic systems with linear constraints and functional". *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 127. (Editors) **99i:49040b** 49N35 (93B52)

Alessio, Francesca (*with* Caldiroli, Paolo; Montecchiari, Piero) On the existence of infinitely many solutions for a class of semilinear elliptic equations in $\mathbf{R}^N$. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 3, 157–165. (Summary) **99m:35055** 35J60 (35B99)

— (*with* Montecchiari, Piero) Multibump solutions for a class of Lagrangian systems slowly oscillating at infinity. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **16** (1999), *no.* 1, 107–135. (Maria Letizia Bertotti) **99m:58042** 58E05 (34C37, 58F05, 58F15, 70H35)

Alev, J. (*with* Dumas, F.) Invariants du corps de Weyl sous l'action de groupes finis. (English summary) [Invariants of the Weyl field under the action of finite groups] *Comm. Algebra* **25** (1997), *no.* 5, 1655–1672. (Michel Van den Bergh) **99c:16030** 16W20

— (*with* Lambre, T.) Comparaison de l'homologie de Hochschild et de l'homologie de Poisson pour une déformation des surfaces de Klein. (English summary) [Comparison of the Hochschild homology and the Poisson homology for a Klein surface deformation] *Algebra and operator theory* (*Tashkent*, 1997), 25–38, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:16013** 16E40 (13A50, 19D55)

— (*with* Dumas, F.) Sur les invariants des algèbres de Weyl et de leurs corps de fractions. [Invariants of Weyl algebras and of their fields of fractions] *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 1–10, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Philippe Revoy) **99g:16042** 16W20 (16S32)

Alex, Leo J. *see* **Wang, Xiu Lin**

Alex, Stelios (*with* Kehayopulu, Niovi) The determination of finite non-isomorphic ordered semigroups using turbo Pascal 6.0. (English summary) *Sci. Math.* **1** (1998), *no.* 3, 283–286 (*electronic*). 06–04 (06F05)

Alexander, Amir Lunar maps and coastal outlines: Thomas Hariot's mapping of the moon. *Stud. Hist. Philos. Sci.* **29** (1998), *no.* 3, 345–368. 01A45

Alexander, Francis J. (*with* Eyink, Gregory L.) Predictive turbulence modeling by variational closure. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 221–283. (Richard K. Jordan) **99e:76068** 76F99 (76M35, 82C31)

Alexander, Geoffrey D. (*with* Plaisted, David A.) Propositional search efficiency and first-order theorem proving. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 335–350, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Alexander Leitsch) **99c:68223** 68T15 (03B35, 03F20)

Alexander, Herbert Hulls of subsets of the torus in $\mathbf{C}^2$. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 3, 785–795. (Marshall A. Whittlesey) **99g:32022** 32E20 (32B15)

Alexander, Kenneth S. (*with* Chayes, L.) Non-perturbative criteria for Gibbsian uniqueness. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 447–464. (Roberto Fernández) **99j:82005** 82B05 (60K35, 82B20, 82B43)

— Bounded and unbounded level lines in two-dimensional random fields. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 25–35, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 60K35 (82B43)

— (*with* Cesi, F.; Chayes, L.; Maes, Christian; Martinelli, Fabio) Convergence to equilibrium of random Ising models in the Griffiths phase. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 337–351. (Aernout C. D. van Enter) **99i:82037** 82C44 (60K35, 82B44, 82C22)

— On weak mixing in lattice models. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 441–471. (Yvan Velenik) **99e:60211** 60K35 (82B05)

Alexander, Paul D. (*with* Grant, Alex J.) Random sequence multisets for synchronous code-division multiple-access channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2832–2836. 94A40

— (*with* Schlegel, Christian; Roy, Sumit) Coded asynchronous CDMA and its efficient detection. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2837–2847. 94A05

Alexander, Robert R. (*with* Bhat, Mahadev G.; English, Burton C.) Toward controlling nonpoint source pollution of groundwater: a hierarchical policy formulation game. (English summary) *Natur. Resource Modeling* **11** (1998), *no.* 4, 379–403. 90D40

Alexander, Stephanie B. (*with* Bishop, Richard L.) Warped products of Hadamard spaces. (English summary) *Manuscripta Math.* **96** (1998), *no.* 4, 487–505. (Joseph E. Borzellino) **99g:53070** 53C70 (53C20)

— (*with* Bishop, Richard L.) Thin Riemannian manifolds with boundary. *Math. Ann.* **311** (1998), *no.* 1, 55–70. (Zhongmin Shen) **99e:53037** 53C20

— (*with* Bishop, Richard L.) The Fary-Milnor theorem in Hadamard manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3427–3436. (Wolfgang Kühnel) **99a:53049** 53C22 (53C40, 57M25)

Alexandersson, Lars On holomorphic factorization and meromorphic selectors. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 1, 67–82. (Shanyu Ji) **99c:30069** 30E25 (32F99)

Alexandre, P. (*with* Nguyen, Van Hien; Tossings, P.) The perturbed generalized proximal point algorithm. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 223–253. (De Ren Wang) **99e:65095** 65J15 (47H17, 49M99, 65K10)

Alexandre, Radjesvarane Sur l'opérateur de Boltzmann linéaire en dimension 3 sans troncature angulaire. (English and French summaries) [On the 3D linear Boltzmann operator without cutoff] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 959–962. (Rossana Marra) **99c:82055** 82C40 (35Q99, 45K05, 76P05)

— Sur l'opérateur de Boltzmann non linéaire 3D sans troncature angulaire. (English and French summaries) [On the 3D Boltzmann nonlinear operator without cutoff] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 165–168. (C. R. Garibotti) **99i:82031** 82C40 (76P05)

— Sur le taux de dissipation d'entropie sans troncature angulaire. (English and French summaries) [Entropy dissipation rate without cutoff] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 311–315. (Carlo Cercignani) **99h:82058** 82C40 (76P05)

— Une définition des solutions renormalisées pour l'équation de Boltzmann sans troncature angulaire. (English and French summaries) [A definition of renormalized solutions for the Boltzmann equation without cutoff] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 11, 987–991. 35Q99 (76P05, 82C40)

ptolemy of Alexandria *see* **Ptolemy of Alexandria**

Alexandridis, A. T. (*with* Iracleous, Dimitris P.) New results to the inverse optimal control problem for discrete-time linear systems. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 517–528. (Summary) **99g:49034** 49N50 (93B55)

Alexandrou Himonas, A. *see* **Himonas, Alexandros Alexandrou**

Alexandrov, B. (*with* Grantcharov, G.; Ivanov, Stefan P.) An estimate for the first eigenvalue of the Dirac operator on compact Riemannian spin manifold admitting parallel one-form. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 263–270. (Jean-Louis Milhorat) **99k:58182** 58G25 (53C25)

Alexandrov, Dmitri (*with* Kochetov, Yu. A.) Simple plant location problem with partial external finance: lower bound, heuristic and exact solution. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 90–94, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B80 (90C09)

Alexandrov, P. S. *see* **Aleksandrov, Pavel Sergeevich**

Alexandrov, Sergei (*with* Grigentch, I. P.; Vasilevich, D. V.) SU(2)-invariant reduction of $(3+1)$-dimensional Ashtekar gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 573–580. (Jorge A. Pullin) **99g:83030** 83C45

— (*with* Vasilevich, D. V.) Path integral for the Hilbert-Palatini and Ashtekar gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124029, 13 *pp.* (Summary) **99k:83038** 83C45 (81T70)

— Effective action and quantum gauge transformations. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 12, 125016, 8 *pp.* 81T13

Alexandrov, V. A. *see* **Aleksandrov, V. A.**

Alexandrov, V. M. *see* **Aleksandrov, Viktor Mikhallovich**

Alexandrov, V. N. *see* **Aleksandrov, V. N.**

Alexandrov, Victor *see* **Aleksandrov, V. A.**

Alexandrov, Vladimir V. *see* **Aleksandrov, Vladimir Vasil'evich**

Alexandru, Leonte (*with* Adrian, Duma) A surjective topological degree for discontinuous functions. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 26–28 (1994). 55M25 (26A15)

Alexandru, Victor (*with* Popescu, Nicolae) The Lüroth's theorem for some complete valued fields. *Abelian groups, module theory, and topology* (*Padua*, 1997), 55–58, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Andrzej Sładek) **99h:12007** 12J10 (12F20, 12J20)

— (*with* Popescu, Nicolae; Zaharescu, Alexandru) On the closed subfields of $\mathbf{C}_p$. *J. Number Theory* **68** (1998), *no.* 2, 131–150. (J. Browkin) **99k:11182** 11S15 (12F20, 12J25)

— (*with* Popescu, A.; Popescu, Nicolae) Completion of r.t. extensions of local fields. II. *Rend. Sem. Mat. Univ. Padova* **100** (1998), 57–66. (Joachim Gräter) **99m:12006** 12F20 (12J25)

Alexandru Rugina, D. L_p-integrabilité des formes harmoniques K-finies sur les espaces hyperboliques réels et complexes. (English and French summaries) [L_p-integrability of K-finite harmonic forms on real and complex hyperbolic spaces] *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 1, 75–87. (Vasily A. Chernecky) **99g:58004** 58A10 (53C65)

Alexeev, Valery Moduli spaces $M_{g,n}(W)$ for surfaces. *Higher-dimensional complex varieties* (*Trento*, 1994), 1–22, *de Gruyter, Berlin*, 1996. (Wolfgang K. Seiler) **99b:14010** 14D20 (14D22, 14J10)

Alexeeva, N. V. (*with* Barashenkov, I. V.; Pelinovsky, Dmitry E.) Dynamics of the parametrically driven NLS solitons beyond the onset of the oscillatory instability. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 103–140. (Summary) **99j:35197** 35Q55 (78A60)

Alexeyev, S. O. (*with* Sazhin, M. V.) Four-dimensional dilatonic black holes in Gauss-Bonnet extended string gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1187–1201. (Summary) **99c:83081** 83E30 (83C57)

Alexopoulos, Aris (*with* Choy, T. C.; Thorpe, M. F.) Dielectric function for a material containing hyperspherical inclusions to $O(c^2)$. I. Multipole expansions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1973–1992. (Summary) **99g:78013** 78A30 (73B27, 78–08)

— (*with* Choy, T. C.; Thorpe, M. F.) Dielectric function for a material containing hyperspherical inclusions to $O(c^2)$. II. Method of images. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1993–2013. (Summary) **99g:78014** 78A30 (73B27, 78–08)

Alexopoulos, Christos (*with* Provan, J. Scott; Ratliff, H. Donald; Stutzman, Bryan R.) Minimal connected enclosures on an embedded planar graph. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 25–38. (Summary) **99j:68098** 68R10 (05C10, 05C85)

Alexopoulos, Georges Sous-laplaciens et densités centrés sur les groupes de Lie à croissance polynomiale du volume. (English and French summaries) [Centered sub-Laplacians and densities in Lie groups of polynomial volume growth] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 539–542. (Thierry Coulhon) **99i:43011** 43A80 (58G11)

Alfa, Attahiru Sule (*with* Sengupta, Bhaskar; Takine, Tetsuya) The use of non-linear programming in matrix analytic methods. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 351–367. (Summary) **99c:90050** 90B22 (60K25, 90C30)

— Discrete time analysis of $MAP/PH/1$ vacation queue with gated time-limited service. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 35–54. (Carl M. Harris) **99g:60165** 60K25 (90B22)

Alfakih, Abdo Y. (*with* Murty, Katta G.) Adjacency on the constrained assignment problem. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 269–274. (Summary) **99g:90092** 90C27 (90C10)

Alfares, Hesham K. An efficient two-phase algorithm for cyclic days-off scheduling. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 913–923. 90B35 (90C10)

martínez Alfaro, J. *see* **Martínez Alfaro, J.**

de Alfaro, Luca Stochastic transition systems. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 423–438, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68M20, 68Q60)

— How to specify and verify the long-run average behavior of probabilistic systems. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 454–465, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60 (68M20)

Alfaro, Manuel (*with* Marcellán, Francisco) Carathéodory functions and orthogonal polynomials on the unit circle. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 1–22, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Franz Peherstorfer) **99i:42034** 42C05 (42–02)

— (*with* Marcellán, Francisco; Rezola, M. L.) Estimates for Jacobi-Sobolev type orthogonal polynomials. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 157–174. (Summary) **99c:42040** 42C05 (33C45)

— (*with* Cantero, María José; Moral, Leandro) Semiorthogonal functions and orthogonal polynomials on the unit circle. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 3–14. (Pascal Maroni) **99k:33016** 33C45 (42C05)

de Alfaro, Vittorio (*with* Cavaglià, Marco; Filippov, A. T.) Definition of time in quantum cosmology. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 375–380, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C45

— (*with* Cavaglià, Marco; Filippov, A. T.) Quantization of the string inspired dilaton gravity and the Birkhoff theorem. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 265–270. (Summary) **99b:83032** 83C45 (83E30)

Al-Fawzan, M. A. (*with* Al-Sultan, K. S.) A tabu search approach to the uncapacitated facility location problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 91–103. (*see* **99k:90002**) 90B80 (90C35)

Alferes, José Júlio (*with* Pereira, Luís Moniz; Przymusinski, Teodor C.) "Classical" negation in nonmonotonic reasoning and logic programming. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 107–142. (Zoran Ognjanović) **99d:68039** 68N17 (03B35, 03B60, 03B70, 68T27)

Alferieff, M. E. *see* **Kostrikin, Alekseĭ Ivanovich, 99k:15001**

Alfimov, G. L. (*with* Eleonskiĭ, V. M.; Lerman, L. M.) Solitary wave solutions of nonlocal sine-Gordon equations. (English summary) *Chaos* **8** (1998), *no.* 1, 257–271. (Summary) **99a:35220** 35Q53 (35L70)

Alfinito, E. (*with* Grassi, V.; Leo, R. A.; Profilo, Gabriella; Soliani, Giulio) Equations of the reaction-diffusion type with a loop algebra structure. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1387–1401. (Oktay K. Pashaev) **99m:58106** 58F07 (35K57, 58F35)

— (*with* Causo, M. S.; Profilo, Gabriella; Soliani, Giulio) A class of nonlinear wave equations containing the continuous Toda case. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2173–2189. (Summary) **99c:35157** 35L70 (35A30, 35Q58, 70G99)

Alfonsi, Giancarlo (*with* Passoni, Giuseppe; Pancaldo, Lea; Zampaglione, Domenico) A spectral-finite difference solution of the Navier-Stokes equations in three dimensions. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 129–142. (Summary) **99d:76065** 76M20 (76M25)

— (*with* Passoni, Giuseppe; Tula, Giovanni; Cardu, Umberto) A wavenumber parallel computational code for the numerical integration of the Navier-Stokes equations. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 593–611. 65M06 (65Y05)

ramírez Alfonsín, Jorge L. *see* **Ramírez Alfonsín, Jorge L.**

Alfonzetti, S. (*with* Borzì, G.; Salerno, N.) Iteratively-improved Robin boundary conditions for the finite element solution of scattering problems in unbounded domains. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 4, 601–629. (Summary) **99b:78001** 78–08 (76Q05, 78A45)

Alford, Gordon Explicitly constructing universal extended H systems. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 108–117, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05 (68Q45, 92D20)

Alfsen, Erik M. (*with* Shultz, Frederic W.) On orientation and dynamics in operator algebras. I. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 87–108. (Khristo N. Boyadzhiev) **99h:46129** 46L70 (46H70)

— (*with* Shultz, Frederic W.) Orientation in operator algebras. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 12, 6596–6601 (*electronic*). (Khristo N. Boyadzhiev) **99h:46128** 46L70 (46H70)

Algaba, A. (*with* Gamero, E.; Freire Macías, Emilio; Rodríguez-Luis, A. J.) Simplified normal forms for nonhyperbolic equilibria in $\mathbf{R}^3$. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C20 (34C23, 58F36)

— (*with* Gamero, E.; Freire Macías, Emilio; Rodríguez-Luis, A. J.) Normal forms for the Hopf-zero degeneracy in reversible systems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 356–363, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C20 (58F14)

— (*with* Freire Macías, Emilio; Gamero, E.) Hypernormal forms of the Hopf-pitchfork interaction. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 133–137, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 58F14

— (*with* Merino, M.; García, Cristóbal; Maestre, M.) Resonance phenomena in an electronic circuit. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 139–144, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C15 (94C05)

— (*with* Freire Macías, Emilio; Gamero, E.; Rodríguez-Luis, A. J.) Analysis of Hopf and Takens-Bogdanov bifurcations in a modified van der Pol-Duffing oscillator. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 4, 369–404. (Stephan A. van Gils) **99g:34084** 34C23 (34C15, 58F14)

Al-Gahtani, H. J. Integral-based solution for a class of second order boundary value problems. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 1, 43–48. 65L10 (34A45, 34B15)

Al-Ghonaim, S. S. (*with* Chawla, M. M.; Al-Zanaidi, M. A.) Singly-implicit stabilized extended one-step methods for second-order initial-value problems with oscillating solutions. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 2, 63–72. (Summary) **99m:65127** 65L05

Al-Ghoul, Mazen (*with* Eu, Byung Chan) Generalized hydrodynamics and shock waves. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2981–2992. (Summary) **99a:82072** 82C40 (76L05, 76M35)

Alghoussein, Ahmad (*with* Hassan, Mouna) A note on modular spaces over a field with valuation. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 6, 23–28. (Summary) **99d:46101** 46S10 (46A80)

Algoet, P. H. (*with* Kontoyiannis, Ioannis; Sukhov, Yu. M.; Wyner, Abraham J.) Nonparametric entropy estimation for stationary processes and random fields, with applications to English text. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1319–1327. (Summary) **99c:94015** 94A29 (62G05, 68P99, 92K20)

Al-Gwaiz, M. A. (*with* Shalaby, Nabil) Generalized hooked, extended, and near-Skolem sequences. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 113–128. (A. Rosa) **99d:05021** 05B99

Al-Hajri, N. A. (*with* Abd-Allah, A. M.) Partial modules. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 31–55. (H.-J. Hoehnke) **99h:16005** 16D90 (08A05, 08A55, 20M18)

— (*with* Abd-Allah, A. M.) Direct product and direct sum of partial modules and free partial modules. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 65–79. (Robert Wisbauer) **99k:16003** 16D10

Al-Hallaq, Abdulraouf Y. Classifying and counting the permutations passable by the extra-stage multistage interconnection networks. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 2, 240–248. 68M10 (68M15, 94C10)

Al-Hamed, M. A. (*with* Albar, Muhammad A.; Al-Saleh, Norah) The growth of Coxeter groups. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 417–428. (Stephen P. Humphries) **99f:20066** 20F55

Al-Hammadi, A. S. A. Asymptotic theory for a general third-order differential equations. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 217–225. (From the introduction) **99k:34117** 34E05

— Asymptotic theory for a class of third-order differential equations. *Demonstratio Math.* **31** (1998), *no.* 1, 63–70. (Bernard J. Harris) **99d:34108** 34E99 (34C99)

— Asymptotic theory for a critical case for a general fourth-order differential equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 479–488. (Éric Delabaere) **99c:34115** 34E05 (34C11, 34E99)

— Asymptotic formulae of Liouville-Green type for a general fourth-order differential equation. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 801–812. (Bernard J. Harris) **99i:34074** 34E05

Alhanadwah, A. A. (*with* El-Naggar, A. M.) Periodic oscillations of a single degree of freedom system with cubic and quartic non-linearities under bi-harmonic excitation. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 81–112. (Summary) **99a:70032** 70K40 (34C15, 34C25)

Al-Harbey, A. H. (*with* Samiuddin, S.; Jones, Michael C.; Maatouk, T. A. H.) Simple smoothed histograms. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 113–129. (Summary) **99m:62065** 62G07

— (*with* Jones, Michael C.; Samiuddin, M.; Maatouk, T. A. H.) The edge frequency polygon. (English summary) *Biometrika* **85** (1998), *no.* 1, 235–239. (Summary) **99b:62058** 62G05

Al-Hasan, Abdelnaser J. (*with* Fan, Da Shan) L^p-boundedness of a singular integral operator. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 404–412. (William T. Sledd) **99k:42027** 42B20 (47G10)

Al-Homidan, Suliman Hybrid methods for solving the educational testing problem. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 31–45. (S. Zlobec) **99d:65124** 65F30 (15A48, 65K05, 90C20)

— (*with* Abdalla, M. Sebawe; Ahmed, M. M. A.) Quantum statistics of three modes coupled oscillators. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3117–3139. (K. Wódkiewicz) **99b:81293** 81V80

— (*with* Abdalla, M. Sebawe; Ahmed, M. M. A.) Corrigenda: "Quantum statistics of three modes coupled oscillators" [J. Phys. A. **31** (1998), no. 14, 3117–3139; MR 99b:81293]. *J. Phys. A* **31** (1998), *no.* 41, 8405. 81V80

Al-Hussaini, Essam K. (*with* Jaheen, Zeinhum F.) Parametric prediction bounds for the future median of the exponential distribution. (English summary) *Statistics* **32** (1999), *no.* 3, 267–275. (Summary) **99k:62053** 62F15

abou-Ali, Abdel-Latief H. *see* **Abou-Ali, Abdel-Latief H.**

Ali, Agha Iqbal (*with* Han, Hyun-Soo) Reformulation of the set partitioning problem as a pure network with special order set constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 233–249. (*see* **99b:90006**) 90C35

Ali, Ali A. (*with* Sharaf, Khidir R.) Average distance in weighted graphs with removed edges. (English summary) *Ars Combin.* **49** (1998), 310–314. (Summary) **99d:05025** 05C12

Ali, Asad Ali (*with* Staton, William) The extremal question for cycles with chords. (English summary) *Ars Combin.* **51** (1999), 193–197. (Summary) **99k:05086** 05C35 (05C38)

Ali, Asif Groups of p-length one for all primes p. *Comm. Algebra* **26** (1998), *no.* 9, 2895–2904. (R. Bryce) **99h:20022** 20D10 (20D25, 20D35)

Ali, Asma (*with* Quadri, Murtaza A.; Kumari, Achlesh) Structure of rings with some polynomial constraints. (English summary) *Indian J. Math.* **40** (1998), *no.* 2, 177–182. 16U80

Ali, Baklouti On the cortex of connected simply connected nilpotent Lie groups. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 281–294 (1998). (Chal Benson) **99b:22013** 22E25

— Nouvelle désintégration lisse de $L^2(G)$ pour les groupes résolubles exponentiels. (French summary) [A new smooth decomposition of $L^2(G)$ for exponential solvable groups] *J. Lie Theory* **8** (1998), *no.* 1, 25–50. (Chal Benson) **99f:22012** 22E30 (22E25)

Ali, Faryad (*with* Minhas, Tahira Yasmeen) Some fixed point theorems for expansive mappings on Riesz spaces. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 147–153. (Da Jun Guo) **99j:47083** 47H10

Ali, Fatma M. Technique for solving multiobjective nonlinear programming using differential equations approach. (English summary) *J. Inform. Optim. Sci.* **18** (1997), *no.* 3, 351–357. (Summary) **99a:90167** 90C29 (90C30)

— A differential equation approach to fuzzy non-linear programming problems. (English summary) *Fuzzy Sets and Systems* **93** (1998), *no.* 1, 57–61. (Róbert Fullér) **99b:90157** 90C70 (04A72)

Ali, Ismail (*with* Valbuena M., Magdely; Galué, Leda) Some properties of the finite Laplace transform. (English summary) *Transform methods & special functions, Varna '96*, 517–522, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:44002** 44A10

— (*with* Kalla, Shyam L.) Solution of a class of integro-differential equations by fractional calculus. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 2, 213–228. (R. K. Raina) **99m:45010** 45J05 (26A33)

— (*with* Kalla, Shyam L.; Khajah, H. G.) A partial differential equation related to a problem in atmospheric pollution. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 1–6. 35Q80 (76R50, 86A10)

Ali, J. M. (*with* Tookey, R. M.; Ball, J. V.; Ball, A. A.) The generalised Cornu spiral and its application to span generation. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 37–47. (Summary) **99j:65259** 65Y25 (65D15)

mohamed Ali, M. A. *see* **Mohamed Ali, M. A.**

Ali, M. I. *see* **Al-Ali, M. I. M. M.**

al-Ali, M. I. M. M. *see* **Al-Ali, M. I. M. M.**

Ali, Md. Almech (*with* Khan, Abdul Hamid) Recurrence relations for the expectations of a function of single order statistic from general class of distributions. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 1–9. (Summary) **99e:62086** 62G30 (62E15)

— (*with* Islam, M. L.; Ahmed, Md. Saleh) Almost unbiased ratio type estimators using two phase sampling. (English summary) *J. Stat. Stud.* **17** (1997), 39–44. 62D05

— Characterization of Weibull and exponential distributions. (English summary) *J. Stat. Stud.* **17** (1997), 103–106. (C. D. Lai) **99i:62018** 62E10 (60E10)

— (*with* Khan, Abdul Hamid) Characterization of some types of distributions. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 2, 1–9. (Summary) **99e:62011** 62E10

— (*with* Khan, Abdul Hamid) Recurrence relations for expected values of certain functions of two order statistics. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 107–119. 62G30

Ali, Mir Masoom (*with* Woo, Jungsoo) The jackknife quasi-ranges for a truncated arcsine distribution. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 35–41. (Summary) **99b:62030** 62F10

— (*with* Roy, Manindra Kumar; Sinha, Sanjoy Kumar) Some negative binomial mixtured distributions. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 285–302. 62E15

— (*with* Umbach, Dale) Conservative spacing for the Fréchet distribution. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 1, 1–9. (Summary) **99h:62068** 62G30 (62G05)

Ali, Nasr Mostafa (*with* Kubiaczyk, Ireneusz) On the existence of weak solutions of the Darboux problem for the hyperbolic partial differential equations in Banach spaces. (English summary) *Fasc. Math. No.* 28 (1998), 93–99. (Summary) **99f:35219** 35R20 (35L70)

Ali, S. Twareque Systems of covariance in relativistic quantum mechanics. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 365–373. (Summary) **99f:81111** 81S30

— A general theorem on square-integrability: vector coherent states. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3954–3964. (Wojciech Lisiecki) **99h:22015** 22E45 (22E70, 81R30)

— *see also* **Coherent states, differential and quantum geometry, 99k:81004**

jaker Ali, Sk. *see* **Jaker Ali, Sk.**

Ali, Syed Anwer An alternate proof for the non-existence of symmetrical incomplete block design for some values of parameters. (English summary) *Karachi Univ. J. Sci.* **25** (1997), *no.* 2, 37–43. (Summary) **99j:05019** 05B05

ahmed-Ali, Tarek *see* **Ahmed-Ali, Tarek**

Ali, Wehbe Boundary stabilization of the equation of Kirchhoff plates. *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 174–188, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Kenneth B. Hannsgen) **99f:35130** 35L70 (35B40, 35Q72, 73H10, 73K10, 73K50, 93D15)

bashir-Ali, Z. *see* **Bashir-Ali, Z.**

Ali, Zafar (*with* Majeed, Abdul) On the laws of nilpotent pointed-groups. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 777–783. (Thomas A. Fournelle) **99m:20073** 20F18 (20E10)

Ali, Zulfikar (*with* Shinohara, Yoshitane; Imai, Hitoshi; Sakaguchi, Hideo; Okamoto, Kuniya) Existence and uniqueness of quasiperiodic solutions to perturbed nonlinear oscillators. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 279–293. (Jialin Hong) **99c:34085** 34C27

Aliabadi, M. H. (*with* Wen, P. H.; Rooke, D. P.) A new method for transformation of domain integrals to boundary integrals in boundary element method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 11, 1055–1065. 73V10 (45L05, 65R20)

— *see also* **Boundary elements, 99c:65003**

Aliaga, José Ignacio (*with* Hernández, Vicente G.; Pérez, José Luis) Approximation of the general Lanczos method. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 31–38, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65Fxx

Aliakbarov, S. M. (*with* Vasil'ev, F. P.; Mukhamadiev, È. M.) Justification of the dynamic programming method for problems of standardization type. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 740–748; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 711–718. (Summary) **99c:90153** 90C39 (49L20)

Alías, Luis J. (*with* Palmer, Bennett) Deformations of stationary surfaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2107–2111. (Udo Hertrich-Jeromin) **99b:53086** 53C50 (53C42)

— (*with* Romero, Alfonso; Sánchez, Miguel) Spacelike hypersurfaces of constant mean curvature in certain spacetimes. Proceedings of the Second World Congress of Nonlinear Analysts, Part I (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 655–661. (Ramesh Sharma) **99c:53058** 53C42 (53C50)

— (*with* Pastor, José A.) Constant mean curvature spacelike hypersurfaces with spherical boundary in the Lorentz-Minkowski space. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 85–93. (Rafael López) **99h:53081** 53C42 (53A10, 53C50)

— (*with* Palmer, Bennett) Curvature properties of zero mean curvature surfaces in four-dimensional Lorentzian space forms. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 315–327. (Francisco J. M. Estudillo) **99f:53061** 53C42 (53C50)

— (*with* López, Rafael; Pastor, José A.) Compact spacelike surfaces with constant mean curvature in the Lorentz-Minkowski 3-space. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 491–501. (Mehmet Erdoğan) **99k:53122** 53C50 (53C42)

— (*with* Ferrández, Angel; Lucas, Pascual; Meroño, Miguel A.) On the Gauss map of B-scrolls. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 371–377. (Christos Baikoussis) **99k:53123** 53C50 (53A40)

— (*with* López, Rafael; Palmer, Bennett) Stable constant mean curvature surfaces with circular boundary. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1195–1200. (Fei-Tsen Liang) **99f:53006** 53A10

Aliashvili, T. On the estimation of the root number of a polynomial endomorphism over an $\overline{R}$-field. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 1, 32–35. 12D05

— Signature method for counting point in semi-algebraic subsets. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 34–36. 14P10 (68Q25)

Alibert, J.-J. (*with* Bouchitté, Guy) Non-uniform integrability and generalized Young measures. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 129–147. (Michel Valadier) **99i:28007** 28A33 (49Q20)

— (*with* Raymond, J.-P.) A Lagrange multiplier theorem for control problems with state constraints. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 697–704. (Pier Luigi Zezza) **99k:49053** 49K20 (49K27)

Alić, M. (*with* Bullen, P. S.; Pečarić, Josip; Volenec, Vladimir) Gerber's inequality and some related inequalities. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 507–516. (L. Losonczi) **99i:26020** 26D15

Alicki, Robert Quantum geometry of noncommutative Bernoulli shifts. (English summary) *Quantum probability* (*Gdańsk*, 1997), 25–29, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99g:46090** 46L55 (46L87, 58F03)

— Quantum mechanical tools in applications to classical dynamical systems. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 10, 2040–2043. (Matthew J. Donald) **99g:82050** 82C10 (28D20, 58F40)

— *see also* **Quantum probability, 99d:00029**

Alidema, R. I. (*with* Leonov, G. A.; Filina, M. Yu.) On the movements of Froude-Zhukovskii pendulum. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **1** (1994), *no.* 4, 481–486. (Bozhidar Cheshankov) **99c:34067** 34C15 (70K10)

Aliev, A. N. (*with* Kalaycı, J.; Nutku, Y.) General minimal surface solution for gravitational instantons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1332–1333. (Summary) **99d:83041** 83C45 (53A10, 53C80)

— (*with* Özdemir, N.) Semiclassical corrections to the metric of multiple cosmic strings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3937–3940. (Summary) **99h:83028** 83C47 (83E30)

Aliev, B. G. The A-integral and its applications in the theory of functions. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 3–10. (Faizo A. Shamoyan) **99m:30078** 30E20

Aliev, Fakhraddin Abbasoglu On the global solvability and decay of solutions of an initial-boundary value problem for some nonlinear hyperbolic equations with dissipation on the boundary. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 11–23. (Vladimir Tulovsky) **99m:35172** 35L75 (35B40)

— Nonexistence of global solutions of some nonlinear hyperbolic equations. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 21–24, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 35L70

Aliev, Fazil A. (*with* Baĭramov, I. G.) On the characterization of distributions through order statistics and record values. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 249–253. 62E10

— Characterization of distributions through weak records. (English summary) *J. Appl. Statist. Sci.* **8** (1998), *no.* 1, 13–16. (Summary) **99m:62017** 62E10

Aliev, Fikret A. (*with* Velieva, N. I.) The algorithms of solving of the safe stabilization problem with constant output feedback for linear multivariable systems. (English, Russian and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 24–30. 93D15 (93B40)

— (*with* Larin, Vladimir B.; Kavranoğlu, Davut) Factorization of a polynomial matrix with respect to the unit circle. *Arab. J. Sci. Eng. Sect. B Eng.* **23** (1998), *no.* 2, 319–323. (Petko Petkov) **99m:93080** 93D15 (15A23, 93B40)

Aliev, Iskander (*with* Kanemitsu, Shigeru; Schinzel, Andrzej) On the metric theory of continued fractions. *Colloq. Math.* **77** (1998), *no.* 1, 141–146. (Marc Deléglise) **99d:11087** 11K50

Aliev, M. A. (*with* Kuchanov, S. I.) Correlation functions in a one-dimensional kinetic Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8479–8496. (Muthusamy Lakshmanan) **99c:82046** 82C20 (82C23)

— Exact solution for the generating function of correlators of the kinetic Glauber-Ising model. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 19–27. (Summary) **99b:82067** 82C20

Aliev, M. P. (*with* Iskenderov, B. A.) The limiting absorption and limiting amplitude principles for an equation with periodic coefficients that is well-posed in the sense of I. G. Petrovskiĭ. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaĭdzhana* **51(52)** (1995/96), *no.* 1-12, 3–8 (1997). 35J30 (35B99)

Aliev, N. A. (*with* Kavei, G.) An analytical method to the solution of the time-dependent Schrodinger equation using half cylinder space system. I. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 253–263. (M. Znojil) **99f:81039** 81Q05

Aliev, T. A. (*with* Amirov, Z. A.) An algorithm for selecting regularization parameters for statistical identification. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 6, 130–139; *translation in Automat. Remote Control* **59** (1998), *no.* 6, *part* 2, 859–866. 93E12

Alieva, T. (*with* Barbé, André M.) About quantum state characterization. (English summary) *J. Phys. A* **31** (1998), *no.* 39, *L*685–*L*688. (S. Gudder) **99h:81110** 81S30 (81P15)

— (*with* Barbé, André M.) Self-fractional Fourier images. (English summary) *J. Modern Opt.* **46** (1999), *no.* 1, 83–99. (Summary) **99j:78007** 78A10

Alikakos, Nicholas D. (*with* Chen, Xinfu; Fusco, Giorgio) Motion by surface tension along a fixed boundary. *Differential equations and applications* (*Hangzhou*, 1996), 1–13,

Internat. Press, Cambridge, MA, 199?. (Barbara Priwitzer) **99b:35171** 35Q35 (49Q10, 76D45)

— (*with* Fusco, Giorgio) Slow dynamics for the Cahn-Hilliard equation in higher space dimensions: the motion of bubbles. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 1, 1–61. (Xiang Sheng Xu) **99d:35013** 35B25 (35K10, 35Q80, 35R35, 80A22)

— (*with* Bronsard, Lia; Fusco, Giorgio) Slow motion in the gradient theory of phase transitions via energy and spectrum. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 1, 39–66. (Stanislaus Maier-Paape) **99d:82025** 82B26 (35Q72, 73B30)

— (*with* Bates, Peter W.; Chen, Xinfu) Periodic traveling waves and locating oscillating patterns in multidimensional domains. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2777–2805. (Gunter Bengel) **99j:35101** 35K57 (35B10, 35B25)

Ali Khan, M. *see* **Khan, M. Ali**

Alikhani-Koopaei, Aliasghar On common fixed and periodic points of commuting functions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 269–276. (J. Matkowski) **99g:26009** 26A18 (54E40, 54H25)

— A counter example on common periodic points of functions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 823–827. 54H25 (26A16)

Alili, Larbi On some hyperbolic principal values of Brownian local times. (English summary) *Exponential functionals and principal values related to Brownian motion*, 131–154, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (F. B. Knight) **99h:60152** 60J65 (60J55)

— (*with* Donati-Martin, Catherine; Yor, Marc) Une identité en loi remarquable pour l'excursion brownienne normalisée. [A remarkable identity in law for a normalized Brownian excursion] *Exponential functionals and principal values related to Brownian motion*, 155–180, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (Zhan Shi) **99i:60153** 60J65 (11B68)

Ali Mehmeti, Felix (*with* Nicaise, Serge) Banach algebras of functions on nonsmooth domains. (English summary) *Differential and integral operators (Regensburg*, 1995), 11–20, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Luigi Rodino) **99f:46074** 46J15 (35K35, 46E35)

— (*with* Nicaise, Serge) Non-autonomous evolution equations on nonsmooth domains. (English summary) *Math. Nachr.* **192** (1998), 37–70. (Russell M. Brown) **99j:35124** 35L10 (34G10, 47N20)

Alimi, J. M. (*with* Serna, A.) Baryonic density and scalar-tensor gravity theories. (English summary) Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology, Part II (Beer Sheva, 1997). *Hadronic J.* **21** (1998), *no.* 2, 192–201. (*see* **99m:83002**) 83F05 (83D05)

— (*with* Navarro, A.; Serna, A.) Asymptotic and exact solutions of perfect-fluid scalar-tensor cosmologies. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 12, 124015, 16 *pp.* 83D05

Alimohammadi, M. (*with* Karimipour, V.; Khorrami, Mohammad) Exact solution of a one-parameter family of asymmetric exclusion processes. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6370–6376. (Summary) **99c:82048** 82C22 (60K35)

Alimonti, Paola Non-oblivious local search for MAX 2-CCSP with application to MAX DICUT. (English summary) *Graph-theoretic concepts in computer science (Berlin*, 1997), 2–14, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68Q25 (68R10, 68T20)

Ali Mousa, M. A. M. (*with* Jaheen, Zeinhum F.) Bayesian prediction bounds for the two parameters Burr type XII model based on doubly censored data. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 103–111. 62F15

Alimov, A. R. Chebyshev compact sets on the plane. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 8–26. (S. Cobzaş) **99m:41044** 41A50 (46B99, 52A21)

— Solstice property for a system of 2-spaces. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 25–34. (S. Cobzaş) **99d:41061** 41A65 (46B99)

Alimov, M. M. (*with* Kornev, K.; Mukhamadullina, G.) Hysteretic effects in the problems of artificial freezing. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 387–410 (*electronic*). (Summary) **99g:80006** 80A22 (76S05, 80A20)

Alinhac, Serge Explosion de solutions classiques d'équations d'ondes quasi-linéaires en deux dimensions d'espace. [Blowup of classical solutions of quasilinear wave equations in two space dimensions] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. II*, 11 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35L70 (35B05)

Aliprantis, Charalambos D. ★ Problems in equilibrium theory. (English summary) *Springer-Verlag, Berlin*, 1996. viii+248 *pp. ISBN* 3-540-60753-6 (Jeffrey L. Coles) **99c:90026** 90A14 (46N10)

— (*with* Border, Kim C.; Burkinshaw, Owen) Market economies with many commodities. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 113–185. (Diethard Pallaschke) **99i:90025** 90A14 (46N10)

— Separable utility functions. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 415–444. (K. Zimmermann) **99a:90050** 90A10

— (*with* Abramovich, Yuri A.; Burkinshaw, Owen) Multiplication and compact-friendly operators. (English summary) *Positivity* **1** (1997), *no.* 2, 171–180. (Gerard Buskes) **99k:47076** 47B60 (47A15, 47B65)

— (*with* Burkinshaw, Owen) ★ Problems in real analysis. (English summary) A workbook with solutions. Second edition. *Academic Press, Inc., San Diego, CA*, 1999. *viii*+403 *pp. ISBN* 0-12-050253-4 (Editors) **99c:28001** 28–01 (00A07, 26–01)

Alishahiha, Mohsen Simple derivation of the Picard-Fuchs equations for the Seiberg-Witten models. (English summary) *Phys. Lett. B* **418** (1998), *no.* 3-4, 317–323. (Tomasz Brzeziński) **99c:81226** 81T60 (14D05, 14H45, 81T13)

sanz Alix, Miguel A. *see* **Sanz Alix, Miguel A.**

Aljadeff, Eli (*with* Sonn, Jack) Bounds on orders of finite subgroups of $\mathrm{PGL}_n(K)$. (English summary) *J. Algebra* **210** (1998), *no.* 1, 352–360. (Morris Newman) **99m:20117** 20H05

Al-Jarrah, Ali A. (*with* Glasser, M. Lawrence) Some Sonine-Gegenbauer integrals. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 271–278. (Harold Exton) **99k:33012** 33C20 (33C10)

abd Al-Kader, G. M. *see* **Abd Al-Kader, G. M.**

Alkadhimi, K. (*with* Chen, Sheng^2; Chng, E. S.) Regularized orthogonal least squares algorithm for constructing radial basis function networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 829–837. 93B40 (93B30)

Alkahby, Hadi Yahya (*with* Mahrous, M. A.) Reflection and dissipation of oblique Alfvén waves in an isothermal atmosphere. (English summary) *Int. J. Math. Math. Sci.* **22** (1999), *no.* 1, 161–169. (Summary) **99m:85003** 85A30 (76W05)

Al-Khalidi, Hussein R. (*with* Shen, Larry Z.) Application of boundary calculation methodologies to group sequential testing in general parametric models. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2173–2190. (Summary) **99c:62224** 62L10

Al-Khamees, Yousif (*with* Mordeson, John N.) Local examination of fuzzy intersection equations. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 249–254. (Summary) **99d:13005** 13A99

— Fuzzy direct product of fuzzy subgroups of subgroups. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 307–318. (Summary) **99c:20099** 20N25

Al-Khamis, Talal M. (*with* Al-Mutairi, Dhaifalla K.; Abdel-Hameed, Mohamed S.) A Bayesian analysis of layered defense systems. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 449–457. (Bruno Betrò) **99c:62063** 62F15 (60J20)

— (*with* Ahmed, Mohamed A.; Miller, Douglas R.) Time-inhomogeneous discrete stochastic search methods for optimal Bernoulli parameters. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 199–217. (Summary) **99i:62231** 62M99

Al-Kharsani, H. A. On a subclass of close-to-convex functions with negative coefficients. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **23** (1998), *no.* 1, 61–78. (Wolfram Koepf) **99d:30012** 30C45

Al-Khayat, Isa A. (*with* Bajpai, S. D.) Some hypergeometric solutions of a partial differential equation related to quantum mechanics, heat conduction and other applied sciences. (English summary) *J. Indian Acad. Math.* **17** (1995), *no.* 2, 219–226. (From the introduction) **99f:33003** 33C15

— Fourier Bessel expansion for the Fox's H-function of several variables. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 216–218. 33C70 (42C10)

— Heat conduction and quantum mechanics. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 185–188. (Summary) **99b:80004** 80A20 (81Q99)

Al-Khayyal, F. A. (*with* Sherali, Hanif D.; Krishnamurthy, R. S.) Enumeration approach for linear complementarity problems based on a reformulation-linearization technique. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 481–507. (Romesh Saigal) **99k:90180** 90C33

Al-Khouja, E. A. (*with* Nakkar, H. M.) On Laskerian lattices and Q-lattices. *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 363–368. (Johnny A. Johnson) **99c:06018** 06F10

Alkhutov, Yu. A. The Harnack inequality and the Hölder property of solutions of nonlinear elliptic equations with a nonstandard growth condition. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1651–1660, 1726; *translation in Differential Equations* **33** (1997), *no.* 12, 1653–1663 (1998). (Ya Zhe Chen) **99k:35042** 35J60 (35B65, 35J70)

— L_p-estimates for the solution of the Dirichlet problem for second-order elliptic equations. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 3–20; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 1–17. (Dian K. Palagachev) **99c:35042** 35J25 (35B45)

Al-Kūhī, Abū Sahl Waijan ibn Rustam *see* **al-Kūhī, Abū Sahl Waijan ibn Rustam**

abd-Alla, A. M. *see* **Abd-Alla, A. M.**

abd-Alla, M. Z. *see* **Abd-Alla, M. Z.**

Alladi, Krishnaswami On a partition theorem of Göllnitz and quartic transformations. (English summary) With an appendix by Basil Gordon. *J. Number Theory* **69** (1998), *no.* 2, 153–180. (Christian Krattenthaler) **99d:11112** 11P83 (05A17, 05A30, 33D10, 33D20)

— A variation on a theme of Sylvester—a smoother road to Göllnitz's (big) theorem. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 1–11. (David M. Bressoud) **99k:11159** 11P81 (11P83)

abd-Allah, A. M. *see* **Abd-Allah, A. M.**

abd-Allah, A. S. *see* **Abd-Allah, A. S.**

Allahverdi, Ali (*with* Savsar, Mehmet) Algorithms for scheduling jobs on two serial duplicate stations. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 4, 411–422. 93B35

Allaire, Grégoire (*with* Francfort, Gilles) Existence of minimizers for non-quasiconvex functionals arising in optimal design. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 3, 301–339. (António Ornelas) **99d:49010** 49J20 (49Q20)

— (*with* Conca, Carlos; Planchard, Jacques) Homogenization and Bloch wave method for fluid tube bundle interaction. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 333–361. (Taras A. Mel'nyk) **99j:73077** 73K70 (35B27, 73B27, 73D30)

— (*with* Conca, Carlos) Bloch wave homogenization and spectral asymptotic analysis. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 2, 153–208. (Ma. Eugenia Pérez Martinez) **99d:35017** 35B27 (35J15, 35P05, 47F05, 73B27)

— (*with* Conca, Carlos) Boundary layers in the homogenization of a spectral problem in fluid-solid structures. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 343–379 (*electronic*). (Ma. Eugenia Pérez Martinez) **99e:73009** 73B27 (35B27, 35Q72, 47F05, 73K70)

— (*with* Jouve, François) Structural optimization by the homogenization method. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris*, 1997), 293–300, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73054** 73K40 (73B27, 73V20, 90C90)

Allais, Maurice *see* **Munier, Bertrand R., 99c:01022**

Allakhverdiev, B. P. On selfadjoint and nonselfadjoint extensions of a Schrödinger-type symmetric operator with a matrix potential. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 31–35. (Vjacheslav A. Yurko) **99j:47067** 47E05 (34L40)

Allam, M. N. M. (*with* Youssif, Y. G.; Al-Amir, A. E.) Optimal stabilization of a compressed elastic shallow shell. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 2, 233–244. 73K50 (73K15, 93D15)

Allan, Fathi (*with* Abu-Saris, Raghib) Periodic and nonperiodic solutions of the difference equation $x_{n+1} = \max\{x_n^2, A\}/x_n x_{n-1}$. (English summary) *Advances in difference equations (Veszprém*, 1995), 9–17, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39002** 39A10

Allan, Graham R. (*with* Kakiko, Grayson; O'Farrell, Anthony G.; Watson, R. O.) Algebras of smooth functions. (English summary) *Banach algebras '97* (*Blaubeuren*), 43–53, *de Gruyter, Berlin*, 1998. (W. J. Kotzé) **99k:46090** 46J30 (41A10, 46E25, 46J15)
— (*with* Kakiko, Grayson; O'Farrell, Anthony G.; Watson, R. O.) Finitely-generated algebras of smooth functions, in one dimension. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 458–474. (S. J. Sidney) **99m:46127** 46J15 (46E10, 46E25)
— Stable elements of Banach and Fréchet algebras. (English summary) *Studia Math.* **129** (1998), *no.* 1, 67–96. (Maria Fragoulopoulou) **99f:46072** 46J05 (46M15, 46M40)
Allaoui, C. (*with* Porter, Brian) Evolutionary robustification of digital trajectory-tracking controllers for robotic manipulators. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 277–297. 93C85 (70B15, 70Q05, 93B35)
Allauzen, Cyril *see* **Börger, Egon et al., 99b:03004**
Al-Lawatia, Mohamed (*with* Wang, Hong[9]; Sharpley, Robert C.) A characteristic domain decomposition and space-time local refinement method for first-order linear hyperbolic equations with interfaces. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 1–28. (Beny Neta) **99m:65180** 65M55
Allcock, Daniel An isoperimetric inequality for the Heisenberg groups. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 2, 219–233. (Michel Coornaert) **99g:53038** 53C20 (22E30)
— (*with* Gersten, S. M.) A homological characterization of hyperbolic groups. (English summary) *Invent. Math.* **135** (1999), *no.* 3, 723–742. (Igor Belegradek) **99m:20078** 20F32 (20F05, 57M07)
— Spotting infinite groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 39–42. (F. Levin) **99h:20054** 20F05 (20F32)
Allday, Christopher Invariant Sullivan-de Rham forms on cyclic sets. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 478–490. (Mark Hovey) **99g:55015** 55P62 (55N91, 55P91)
Alleche, Boualem (*with* Calbrix, Jean) Multifunctions and Čech-complete spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 30–36 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C65 (54C60, 54E30, 54E35)
Allegretto, Walter (*with* Barabanova, A.) Existence of positive solutions of semilinear elliptic equations with nonlocal terms. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 395–409. (Jesús Hernández) **99c:35066** 35J65 (35B45, 35P30, 47H12)
— (*with* Lin, Yanping; Zhou, Ai Hui) Hölder solutions for the amorphous silicon system and related problems. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations* (*Mississippi State, MS*, 1997), 1–9 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:35179** 35Q99 (78A35, 82D99)
— (*with* Huang, Yin Xi) A Picone's identity for the p-Laplacian and applications. *Nonlinear Anal.* **32** (1998), *no.* 7, 819–830. (P. Lindqvist) **99c:35051** 35J60 (35P30)
— (*with* Nistri, Paolo) On a class of nonlocal problems with applications to mathematical biology. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 1–14, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (C. A. Swanson) **99k:35176** 35Q80 (35B05, 35J65)
— (*with* Nistri, Paolo) Existence and optimal control for periodic parabolic equations with nonlocal terms. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 43–58. (Marie-Françoise Bidaut-Véron) **99m:49004** 49J20 (35B37, 35K60)
Allen, Allen D. A coin-tossing experiment that demonstrates stochastic interactions between statistically independent events. (English summary) *Phys. Essays* **11** (1998), *no.* 4, 579–584. 60C05
Allen, Beth A simple model of partial information exchange among individuals with different subjective probabilities. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 163–170, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A05 (90A56)
Allen, Brian M. (*with* Rosenthal, Joachim) A matrix Euclidean algorithm induced by state space realization. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 105–121. (Summary) **99k:93033** 93B15 (15A99, 65F30)
Allen, D. H. (*with* Yoon, C.) Homogenization techniques for thermoviscoelastic solids containing cracks. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 31-32, 4035–4053. (Summary) **99c:73002** 73B27 (73M25)
Allen, Edward J. (*with* Abukhaled, M. I.) A recursive integration method for approximate solution of stochastic differential equations. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 53–66. (Summary) **99c:65253** 65U05 (60H10)
— (*with* Abukhaled, M. I.) A class of second-order Runge-Kutta methods for numerical solution of stochastic differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 977–991. (E. S. Lee) **99j:65119** 65L06 (34F05, 60H10, 65U05)
— (*with* Novosel, S. J.; Zhang, Zhimin) Finite element and difference approximation of some linear stochastic partial differential equations. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 117–142. (Summary) **99d:60067** 60H15 (65U05)
— (*with* Allen, Linda J. S.; Atkinson, David N.) Integrodifference equations applied to plant dispersal, competition, and control. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 15–30, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92038** 92D40 (39A10, 92D25)
Allen, Jeffery C. (*with* Schwartz, David F.) H^∞ approximation with point constraints applied to impedance estimation. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 507–522. (Sergei Treil) **99a:78029** 78A50 (41A05, 47B35, 65D05)
Allen, Linda J. S. (*with* Allen, Edward J.; Atkinson, David N.) Integrodifference equations applied to plant dispersal, competition, and control. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 15–30, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92038** 92D40 (39A10, 92D25)
Allen, Michael R. (*with* Datta, Somnath) Estimation of the index parameter for autoregressive data using the estimated innovations. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 315–324. (Summary) **99i:62194** 62M10
Allen, S. M. (*with* Smith, Derek Howard; Hurley, Steve) Lower bounding techniques for frequency assignment. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 41–52. (Summary) **99i:90105** 90C35 (05C90, 90C27)
Allen, Seth (*with* Dutta, Debasish) Wall thickness control in layered manufacturing for surfaces with closed slices. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 223–238. (Summary) **99d:68226** 68U05 (52B55, 68U30)
Allende, Héctor (*with* Galbiati, Jorge) Robust tests in time series modeling. (English summary) *Estadística* **48** (1996), *no.* 150-151, 35–79 (1998). (Summary) **99e:62150** 62M10 (62F35)
Allende Alonso, Sira (*with* Bouza Herrera, Carlos N.; Garcet Rodríguez, Sandra A.; Suárez Fariñas, Mayte) A parametric programming algorithm for learning in artificial neural networks through linear regression curve fitting. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 55–60. 90C31 (65K05)
— (*with* Bouza Herrera, Carlos N.) Bounds of the expected approximation error in optimal inventory policies. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 8 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 90B05
— (*with* Suárez Fariñas, Mayte; Garcet Rodríguez, Sandra A.; Bouza Herrera, Carlos N.) The parametric problem of linear complementarity. Solution algorithms. Application to the fit of a multivariate linear regression model with LS-LAD criterion. (Spanish. English and Spanish summaries) *Investigación Oper.* **18** (1997), *no.* 1-3, 11–56. (Summary) **99j:62097** 62J05 (90C33)
Allender, Eric (*with* Mundhenk, Martin; Goldsmith, Judy) The complexity of policy evaluation for finite-horizon partially-observable Markov decision processes. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 129–138, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99f:90179** 90C40 (68Q25)
— (*with* Zhou, Shiyu) Uniform inclusions in nondeterministic logspace. (English summary) *Randomized algorithms* (*Brno*, 1998), 7 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (Summary) **99g:68069** 68Q15
— (*with* Reinhardt, Klaus) Isolation, matching, and counting. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 92–100, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68040** 68Q15
— News from the isomorphism front. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 73–82. 68Q15
Alléon, Guillaume (*with* Benzi, Michele; Giraud, Luc) Sparse approximate inverse preconditioning for dense linear systems arising in computational electromagnetics. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 1–15 (1998). (*see* **99a:65006**) 65F35 (65F50)
Allexandrov, G. *see* **Aleksandrov, G. A.**
Alleyne, Andrew A variable structure gradient adaptive algorithm for a class of dynamical systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 171–186. (Edward Jezierski) **99e:93013** 93B12 (93C40)
Allgower, Eugene L. (*with* Georg, Kurt) Numerical exploitation of symmetry in integral equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 1–20. (Javad Abdalkhani) **99m:65243** 65R20 (45L05, 65F30)
— (*with* Georg, Kurt; Miranda, Rick; Tausch, Johannes) Numerical exploitation of equivariance. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 795–806. (Summary) **99h:65226** 65T20 (47H15, 58E40)
Allibert, Brice Contrôle analytique de l'équation des ondes et de l'équation de Schrödinger sur des surfaces de revolution. (English and French summaries) [Analytic control of the wave equation and the Schrödinger equation on surfaces of revolution] *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1493–1556. (Enrique Zuazua) **99h:93009** 93B05 (35L05, 58G40, 93C20)
Allie, Stuart P. (*with* Walker, David McPetrie; Mees, Alistair I.) Exploiting the periodic structure of chaotic systems for noise reduction of nonlinear signals. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 63–73. (Summary) **99a:94008** 94A12 (58F13)
Alligood, Kathleen T. (*with* Robert, Carl; Ott, Edward; Yorke, James A.) Outer tangency bifurcations of chaotic sets. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 22, 4867–4870. (Summary) **99b:58165** 58F13
Allili, Madjid (*with* Kaczyński, Tomasz) Stability of index pairs for flows. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4113–4122. (James F. Reineck) **99b:58204** 58F25 (34C35)
— (*with* Kaczyński, Tomasz) Stability of index pairs for flows. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 173–175. (*see* **99f:58002**) 58F25
Alliot, J. C. (*with* Ferrieres, X.; Grando, J.) Using time domain methods (FDTD, MOT) for radar cross section (RCS) predictions on perfectly conducting objects. *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 375–390, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08
Allison, Bruce N. (*with* Faulkner, John R.) Elementary groups and invertibility for Kantor pairs. *Comm. Algebra* **27** (1999), *no.* 2, 519–556. (Alain D'Amour) **99k:17002** 17A40 (17B60, 17C30, 17C50)
Allman, Elizabeth S. (*with* Hamilton, Emily) Abelian subgroups of finitely generated Kleinian groups are separable. *Bull. London Math. Soc.* **31** (1999), *no.* 2, 163–172. (G. M. Lyan) **99m:20118** 20H10 (57M05)
Allouba, Hassan A non-nonstandard proof of Reimers' existence result for heat SPDEs. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 29–41. (Summary) **99d:60068** 60H15 (60G46, 60G48)
— Different types of SPDEs in the eyes of Girsanov's theorem. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 787–810. (Björn Schmalfuss) **99i:60119** 60H15 (35K99, 35R60)
Allouche, Jean-Paul Note on the transcendence of a generating function. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 461–465, *VSP, Utrecht*, 1997. (M. Mendès France) **99k:11038** 11B85 (68Q45, 68R15)
— (*with* von Haeseler, Fritz; Lange, Ehler; Petersen, Antje; Skordev, Gencho S.) Linear cellular automata and automatic sequences. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1577–1592. (Valérie Berthé) **99a:11023** 11B85 (11T06, 12Y05, 68Q80)

— (*with* Peyrière, J.; Wen, Zhi Xiong; Wen, Zhi Ying) Hankel determinants of the Thue-Morse sequence. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 1–27. (Valérie Berthé) **99a:11024** 11B85 (68R15)

— (*with* Currie, James; Shallit, Jeffrey) Extremal infinite overlap-free binary words. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 27, 11 *pp.* (*electronic*). (Jennifer R. Galovich) **99d:68201** 68R15 (05A99)

— (*with* Shallit, Jeffrey) Generalized perturbed symmetry. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 401–411. (Valérie Berthé) **99f:11027** 11B85 (54H20, 68R15)

— (*with* Zamboni, Luca Q.) Algebraic irrational binary numbers cannot be fixed points of non-trivial constant length or primitive morphisms. (English summary) *J. Number Theory* **69** (1998), *no.* 1, 119–124. (Patrice Séébold) **99e:11104** 11J99

— (*with* Thakur, Dinesh S.) Automata and transcendence of the Tate period in finite characteristic. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1309–1312. (M. Mendès France) **99h:11056** 11G07 (11B85, 11J81)

Allueva Pinilla, Ana (*with* Alejandre, J. L.) The dual posynomial problem from the perspective of polynomial algorithms. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1027–1032, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90C30 (90C08)

— (*with* Boal, N.) Study of the stochastic posynomial model by numerical procedures. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1033–1038, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90C15 (90C08)

Allwright, John C. (*with* Zhou, Yu-Hong) The solution of an affine problem and its application in control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 826–829. 90C30 (93B40)

Alm, Sven Erick A note on a problem by Welsh in first-passage percolation. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 11–15. (Yu Zhang) **99a:60112** 60K35

— Approximation and simulation of the distributions of scan statistics for Poisson processes in higher dimensions. (English summary) *Extremes* **1** (1998), *no.* 1, 111–126. (Summary) **99j:62010** 62E15

valdéz Almaguer, Alejandra *see* **Valdéz Almaguer, Alejandra**

ibn al-bannā' al-Marrākushī *see* **Ibn al-Bannā' al-Marrākushī**

Almási, B. (*with* Sztrik, J.) A queueing model for a nonreliable multiterminal system with polling scheduling. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 3974–3981. (Joseph Kreimer) **99k:90074** 90B22 (60K25)

Almeida, A. *see* **Almeida Rodriguez, Angel Jose**

ozorio de Almeida, Alfredo M. *see* **Ozorio de Almeida, Alfredo M.**

Almeida, António (*with* Faria, Luis; Febra, Renato) Refined two-dimensional models for the analysis of free boundary flows between parallel plates. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 163–180. (Peter A. McCoy) **99d:76072** 76M25 (76D07)

de Almeida, David Agrégation des données pour l'évaluation des performances de systèmes flexibles de production par modèles à réseaux de files d'attente. (English and French summaries) [Data aggregation for evaluating the performance of flexible manufacturing systems using queueing network models] *RAIRO Rech. Opér.* **32** (1998), *no.* 2, 145–192. (Summary) **99b:90051** 90B22 (90B10)

Almeida, J. *see* **Almeida, Jorge**

moitinho de Almeida, J. P. *see* **Moitinho de Almeida, J. P.**

Almeida, Jorge Implicit operations and Knast's theorem. (English summary) *Semigroups* (*Luino*, 1992), 1–16, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35, 68Q70)

— (*with* Zeitoun, Marc) The pseudovariety **J** is hyperdecidable. (English summary) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 5, 457–482. (A. A. Iskander) **99g:03010** 03B25 (08C15, 20M07, 68Q70)

— (*with* Silva, Pedro V.) On the hyperdecidability of semidirect products of pseudovarieties. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4065–4077. (Shelly L. Wismath) **99m:20136** 20M07 (20A15)

— (*with* Volkov, Mikhail V.) The gap between partial and full. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 399–430. (P. M. Higgins) **99g:20102** 20M07 (20M20)

— (*with* Weil, Pascal) Profinite categories and semidirect products. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 1–50. (P. M. Higgins) **99c:20080** 20M07

de Almeida, Luís Manuel Lopes Neves (*with* Bethuel, Fabrice) Topological methods for the Ginzburg-Landau equations. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 1–49. (Song Mu Zheng) **99f:35183** 35Q55 (58E50)

Almeida, Manoel de Campos ★ Origens da matemática. (Portuguese. Portuguese summary) [Origins of mathematics] *Editora Universitária Champagnat, Curitiba*, 1998. 203 *pp. ISBN* 85-7292-037-4 (J. S. Joel) **99m:01001** 01A05

de Almeida, Sebastião Carneiro (*with* Brito, Fabiano Gustavo Braga) Closed hypersurfaces of S^4 with two constant symmetric curvatures. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 187–202. (Ricardo Sa Earp) **99a:53075** 53C42 (53C40)

Almeida, V. M. (*with* Rodríguez Expósito, José) An algebraic derivative and some of its applications. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 247–254. (Mridula Garg) **99k:26007** 26A33

— (*with* Rodríguez Expósito, José) Applications of the algebraic derivatives to solving some differential equations of fractional order. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 243–250. (K. S. Miller) **99k:34009** 34A25 (26A33, 44A40)

de Almeida, Valmor F. Domain deformation mapping: application to variational mesh generation. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 4, 1252–1275 (*electronic*). (Summary) **99k:65089** 65M50 (65L50, 73C50, 73V05)

Almeida Benítez, Pedro R. (*with* Franco Brañas, José R.) The go-away algorithm for block factorization of a sparse matrix. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 107–117, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 05C15 (05C85, 15A23, 65F50)

Almeida Pereira, O. J. B. (*with* Moitinho de Almeida, J. P.; Maunder, E. A. W.) Adaptive methods and related issues from the viewpoint of hybrid equilibrium finite element models. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 427–441, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Almeida Rodriguez, Angel Jose (*with* Garcia-Cortí, J. L.; Pacheco Castelao, José Miguel) Morphogenesis in reaction-diffusion systems with catalytic-dependent diffusion coefficients. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 23 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35K57 (35Q80)

Almeida Santos, M. H. Inverse transversal congruence extensions. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 889–898. (Heng Wu Zheng) **99a:20064** 20M17 (20M18)

Almenar, P. (*with* Jódar, Lucas; Goberna, D.) Exact and approximate solutions with a priori error bounds for systems of time-dependent wave equations. *Math. Comput. Modelling* **26** (1997), *no.* 7, 11–28. (A. O. Oganesyan) **99a:65106** 65M15 (35A35, 35L05, 65N15)

— (*with* Goberna, D.; Jódar, Lucas) Constructive approximations of mixed variable coefficient diffusion problems. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 6, 33–44. (Summary) **99m:35093** 35K10 (35C10)

— *see also* **Jódar, Lucas, 99g:65101**

Almendra, Genaro (*with* Wawrzyńczyk, Antoni) Maximal ideals and multiplicative functionals in the algebras of holomorphic functions. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 3–11, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 46J20 (46H15)

— On the spectra of invariant spaces of smooth functions. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 3–11, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:46012** 46E10 (46J15, 47B38)

— (*with* Wawrzyńczyk, Antoni) The spectra of translation invariant spaces of smooth functions. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 13–22. (A. G. Baskakov) **99c:43008** 43A45 (47A13, 47B38)

Almendros-Jiménez, J. M. (*with* Gil-Luezas, A.) Lazy narrowing with parametric order sorted types. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 159–173, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15

Almgren, Ann S. (*with* Bell, John B.; Colella, Phillip; Howell, Louis H.; Welcome, Michael L.) A conservative adaptive projection method for the variable density incompressible Navier-Stokes equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 1–46. (Jian Guo Liu) **99k:76096** 76M20

— (*with* Sussman, Mark; Bell, John B.; Colella, Phillip; Howell, Louis H.; Welcome, Michael L.) An adaptive level set approach for incompressible two-phase flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 81–124. (Małgorzata Peszyńska) **99m:76098** 76M25 (76T05)

Almgren, Fred (*with* Taylor, Jean E.) Soap bubble clusters. *Forma* **11** (1996), *no.* 3, 199–207. (J. E. Brothers) **99e:49052** 49Q05 (53A10, 58E12)

Almira Picazo, J. M. (*with* Pérez Acosta, Francisco) Some extremal properties of generalized Tchebyshev polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 379–385 (1998). (Alexander Alipkanovich Zhensykbaev) **99f:41006** 41A10 (41A50)

— (*with* Pérez Acosta, Francisco) Convergence and compactness in Besov spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1073–1082. 46E35 (46B20)

— (*with* Pérez Acosta, Francisco) Comparison of inequalities for the minimax series via Tchebychev polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 319–325. (Dumitru Acu) **99k:26026** 26D15 (41A10, 41A17)

Almog, Joseph The subject verb object class. I, II. *Language, mind, and ontology*, 1998, 39–76, 77–104, *Philos. Perspect.*, 12, *Blackwell, Boston, MA*, 1997. (*see* **99k:03028**) 03B65

Almog, Y. Arbitrary n-vortex self-duality solutions to the Ginzburg-Landau equations satisfying normal state conditions at infinity. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 4, 267–278. (Xian Guo Geng) **99m:35216** 35Q55 (58E50)

— (*with* Frankel, I.) Rheology of dilute suspensions of Brownian dipolar axisymmetric particles. (English summary) *J. Fluid Mech.* **366** (1998), 289–310. (Summary) **99c:76109** 76T05 (76A05, 76Z10)

Al-Mohamad, H. A. An efficient algorithm to compute the distance between two line segments. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. B Eng.* **23** (1998), *no.* 2, 243–251. 90C20 (90C90)

— (*with* Sadek, Ibrahim S.; Jamiiru, L.) Optimal boundary control of one-dimensional multi-span vibrating systems. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 39–54. (S. Bhargava) **99h:49052** 49N55 (49K20, 73K50)

Al-Musallam, Fadhel (*with* Heinig, Georg) Lagrange's formula for tangential interpolation with application to structured matrices. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 83–100. (Mariano Gasca) **99c:65015** 65D05 (15A09, 41A05, 65F05)

Al-Mutairi, Dhaifalla K. (*with* Al-Khamis, Talal M.; Abdel-Hameed, Mohamed S.) A Bayesian analysis of layered defense systems. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 2, 449–457. (Bruno Betrò) **99c:62063** 62F15 (60J20)

— (*with* Chen, Yiping; Singpurwalla, Nozer D.) An adaptive concatenated failure rate model for software reliability. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1150–1163. 62N05

Al-Nachawati, H. M. On new better than used in average at specific interval. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 35–46. 62N05 (60K10)

— (*with* Alwasel, I. A.) Shock models with exponential better than renewal in expectation property. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 139–150. (Summary) **99m:62149** 62N05

— (*with* Alwasel, I. A.) On used-better-than-aged in convex ordering class of life distributions. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 123–130. (Summary) **99c:62277** 62N05

— (*with* Hendi, M.; Montasser, M.; Alwasel, I. A.) An exact test for HNBUE class of life distributions. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 3, 261–275. (Summary) **99i:62104** 62G10 (62N05)

Al-Naggar, Ibtesam M. A. (*with* Noor, Khalida Inayat) On the Hankel determinant problem. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 2, 133–140. (Summary) **99c:30021** 30C45

Alnasr, M. H. (*with* Ibrahim, M. A.-K.) Quadrature methods with regularization technique for singularly perturbed Volterra integral equations. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 285–299. (Summary) **99m:65248** 65R20 (45L05, 65D32)

Al-Nayef, A. A. (*with* Kloeden, Peter E.; Pokrovskiĭ, A. V.) Semi-hyperbolic mappings, condensing operators, and neutral delay equations. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 320–339. (Introduction) **99c:34185** 34K40 (34K15, 47H09, 47N20, 58F15)

Alok, B. N. (*with* Ansari, Md. Jamalluddin) A study of dual barrelled spaces and dual summing mappings. *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 218–219. 46A08 (47A05)

Alon, Noga Independence numbers of locally sparse graphs and a Ramsey type problem. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 3, 271–278. (Richard C. Brewster) **99c:05137** 05C55

— (*with* Ben-David, Shai; Cesa-Bianchi, Nicolò; Haussler, David) Scale-sensitive dimensions, uniform convergence, and learnability. (English summary) *J. ACM* **44** (1997), *no.* 4, 615–631. (Mark R. Jerrum) **99b:68154** 68T05 (05B40, 54E35, 60F15, 62G05)

— (*with* Kozlov, Dmitry N.) Coins with arbitrary weights. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 162–176. (Richard J. Nowakowski) **99f:05011** 05A99 (68Q25)

— (*with* Gutin, Gregory) Properly colored Hamilton cycles in edge-colored complete graphs. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 179–186. (Hari Pulapaka) **99b:05091** 05C45 (05C15)

— Spectral techniques in graph algorithms (invited paper). (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 206–215, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68180** 68R10 (05C50, 05C85)

— (*with* Krivelevich, Michael; Sudakov, Benjamin) Finding a large hidden clique in a random graph. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 594–598, *ACM, New York*, 1998. (Summary) **99e:68114** 68R10 (05C35, 05C80, 68Q25)

— (*with* Azar, Yossi; Csirik, János; Epstein, Leah; Sevast'yanov, S. V.; Vestjens, Arjen P. A.; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 104–118. (Editors) **99c:68116** 68Q25 (90C27)

— (*with* Zaks, Ayal) T-choosability in graphs. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 1–13. (David M. Berman) **99d:05027** 05C15

— Piercing d-intervals. Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 333–334. (András Gyárfás) **99c:05192** 05D15 (52A35, 52C99)

— On the capacity of digraphs. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 1–5. (Willem H. Haemers) **99b:05070** 05C20

— (*with* Boppana, Ravi B.; Spencer, Joel H.) An asymptotic isoperimetric inequality. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 3, 411–436. (Xue Rong Mao) **99i:60003** 60B05 (26D15, 60F10)

— (*with* Marshall, T. H.) Homomorphisms of edge-colored graphs and Coxeter groups. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 5–13. (Richard C. Brewster) **99i:05074** 05C15 (05C10, 05C25, 20F55)

— (*with* Caro, Yair; Yuster, Raphael) Packing and covering dense graphs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 451–472. (Chris Rodger) **99i:05156** 05C70 (05B40)

— (*with* Zaks, Ayal) Progressions in sequences of nearly consecutive integers. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 99–109. (Georges Grekos) **99g:11018** 11B25

— (*with* Azar, Yossi; Woeginger, Gerhard J.; Yadid, Tal) Approximation schemes for scheduling on parallel machines. (English summary) *J. Sched.* **1** (1998), *no.* 1, 55–66. (Summary) **99e:90038** 90B22 (90C27)

— (*with* Kahale, Nabil) Approximating the independence number via the θ-function. (English summary) *Math. Programming* **80** (1998), *no.* 3, *Ser. A*, 253–264. (S. R. Arora) **99b:90142** 90C35 (05C85)

— (*with* Krivelevich, Michael; Sudakov, Benjamin) Finding a large hidden clique in a random graph. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 457–466. (Mark R. Jerrum) **99k:05144** 05C80 (05C85, 60C05, 68Q25, 68R10)

Alon, U. (*with* Ofer, D.; Shvarts, Dov) Rayleigh-Taylor instability under a time dependent driving acceleration. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 1–7, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99

— (*with* Ofer, D.; Shvarts, Dov) Scaling laws of nonlinear Rayleigh-Taylor and Richtmyer-Meshkov instabilities. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 8–13, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99

— (*with* Shvarts, Dov) Two-phase flow model for Rayleigh-Taylor and Richtmyer-Meshkov mixing. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 14–22, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 16E99

Alonso, Alberto (*with* Brambila-Paz, Fernando) L^p-continuity of conditional expectations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 161–176. (M. M. Rao) **99d:60047** 60G05 (28A20, 60A10)

Alonso, Ana *see* **Alonso Rodríguez, Ana**

Alonso, Ana I. A differentiation criterion for the measurable and topological structures of a linear projective flow. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 58F25 (34C35)

— (*with* Hong, Jialin; Rojo, Jesús) A class of ergodic solutions of differential equations with piecewise constant arguments. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 561–574. (Russell A. Johnson) **99m:34155** 34K15 (34C28)

dacal Alonso, Angel *see* **Dacal Alonso, Angel**

Alonso, Antonio J. (*with* Escudero, Laureano F.) 0-1 equivalent model representations for air traffic management. (English summary) *Top* **6** (1998), *no.* 1, 19–36. 90C09 (90B35)

Alonso, Cesar (*with* Gutierrez, Jaime; Recio, Tomas) A note on separated factors of separated polynomials. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 217–222. (Wolfgang Michael Ruppert) **99f:12001** 12E05 (12E10)

Alonso, Francisco J. (*with* Mardia, Kanti V.; Goodall, Colin; Redfern, Edwin J.) The Kriged Kalman filter. (English summary) With comments and a rejoinder by the authors. *Test* **7** (1998), *no.* 2, 217–285. (Summary) **99i:62227** 62M20

peral Alonso, Ireneo *see* **Peral Alonso, Ireneo**

hermida-Alonso, J. A. *see* **Hermida-Alonso, J. A.**

Alonso, J. M. *see* **Alonso, Juan Manuel**

Alonso, Javier Some properties of Birkhoff and isosceles orthogonality in normed linear spaces. *Inner product spaces and applications*, 1–11, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (L. Gehér) **99d:46010** 46B20

Alonso, José Miguel (*with* Ortega, Rafael) Roots of unity and unbounded motions of an asymmetric oscillator. *J. Differential Equations* **143** (1998), *no.* 1, 201–220. (Jochen Denzler) **99a:34102** 34C11 (34C15, 34C35, 34D05)

Alonso, Juan Manuel (*with* Bogley, W. A.; Burton, Robert M., Jr.; Pride, Stephen J.; Wang, Xiao Feng[1]) Second order Dehn functions of groups. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 1–30. (Athanase Papadopoulos) **99c:20047** 20F32 (57M07)

Alonso, Laurent (*with* Schott, René) Random unlabelled rooted trees revisited. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 1352–1367 (*electronic*). (*see* **99f:68006**) 68Q25 (68R05)

— (*with* Chassaing, Philippe; Schott, René) The average complexity of a coin-weighing problem. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 1–14. (Mukkai S. Krishnamoorthy) **99d:05007** 05A99

martínez Alonso, Luis *see* **Martínez Alonso, Luis**

Alonso, Luis Martínez *see* **Martínez Alonso, Luis**

Alonso, M. A. (*with* Forbes, G. W.) Asymptotic estimation of the optical wave propagator. I. Derivation of a new method. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1329–1340. (I. Kay) **99e:78012** 78A05 (78–08, 78A40)

— (*with* Forbes, G. W.) Asymptotic estimation of the optical wave propagator. II. Relative validity. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1341–1354. (I. Kay) **99e:78013** 78A05 (78–08, 78A40)

zoroa Alonso, Noemí *see* **Zoroa Alonso, Noemí**

Alonso, P. (*with* Gasca, Mariano; Peña, J. M.) Scaled pivoting and error bounds for totally positive linear systems. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 9–16, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 65F05

fernández-Alonso, Rogelio *see* **Fernández-Alonso, Rogelio**

allende Alonso, Sira *see* **Allende Alonso, Sira**

Alonso, Vidal (*with* De Vincenzo, Salvatore) General boundary conditions for a Dirac particle in a box and their non-relativistic limits. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8573–8585. (Peter N. Zhevandrov) **99d:81029** 81Q05 (34L40, 47E05)

Alonso Alvárez, J. N. (*with* Fernández Vilaboa, J. M.; López López, M. P.; Villanueva Novoa, E.; González Rodríguez, R.) A Picard-Brauer five term exact sequence for braided categories. (English summary) *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 11–41, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Summary) **99b:18011** 18D10

— (*with* Fernández Vilaboa, J. M.; Villanueva Novoa, E.) Yetter-Drinfel'd H-Azumaya monoids in closed categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 239–265. (R. Gylys) **99f:18011** 18D10 (16W30)

Alonso Izquierdo, A. (*with* González León, M. A.; Mateos Guilarte, Juan) Kink manifolds in $(1+1)$-dimensional scalar field theory. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 209–229. (Luigi Martina) **99e:81141** 81T10 (35Q51, 70G50)

Alonso Mallo, Isaías (*with* Palencia de Lara, C.) Runge-Kutta methods for partial differential equations and fractional orders of convergence. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 551–556, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L06 (65M99)

Alonso Pardo, Miguel Á. (*with* Vilares Ferro, Manuel) An LALR extension for DCGs in dynamic programming. (English summary) *Mathematical and computational analysis of natural language (Tarragona, 1996)*, 267–278, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (68Q52)

Alonso Quesada, Santiago (*with* de la Sen, Manuel) Robust adaptive tracking with pole placement of first-order potentially inversely unstable continuous-time systems. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 3, 259–278. (Vladimir G. Sragovich) **99k:93059** 93C40 (93B55)

— (*with* de la Sen, Manuel) Robust adaptive regulation of potentially inversely unstable first-order hybrid systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 627–648. (Summary) **99m:93060** 93C40 (93D21)

Alonso Rasgado, M. T. (*with* Davey, Keith; Rosindale, I.) The 3-D elastodynamic boundary element method: semi-analytical integration for linear isoparametric triangular elements. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1031–1054. (Summary) **99k:73118** 73V10 (73D99)

Alonso Rodríguez, Ana (*with* Valli, Alberto) Finite element approximation of heterogeneous time-harmonic Maxwell equations via a domain decomposition approach. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 227–232, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65M60 (78–08)

— (*with* Trotta, R. Loredana; Valli, Alberto) Coercive domain decomposition algorithms for advection-diffusion equations and systems. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 51–76. (Tsorng-Whay Pan) **99j:65224** 65N55 (76M25)

— (*with* Valli, Alberto) Unique solvability for high-frequency heterogeneous time-harmonic Maxwell equations via the Fredholm alternative theory. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 463–477. (Ioannis G. Stratis) **99c:35238** 35Q60 (78A40)

— (*with* Valli, Alberto) An optimal domain decomposition preconditioner for low-frequency time-harmonic Maxwell equations. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 607–631. (Muthusamy Vanninathan) **99i:78002** 78–08 (65N30, 65N55)

Alòs, Elisa (*with* Nualart, David) An extension of Itô's formula for anticipating processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 493–514. (Daniel Ocone) **99k:60137** 60H05 (60H07)

Al-oushoush, Nizar (*with* Mu, Le Hua) The equiconvergence theorem for Bessel series on the unit circle. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 21–25. (Summary) **99i:30057** 30E10 (33C10)

Aloyan, A. E. Mesoscale modelling of wet convection and gas-aerosol interaction. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 6, 447–452. (Summary) **99m:86006** 86A10 (76R99)

Alpaslan, F. (*with* Shahbazov, A. A.) An analysis and optimization of stochastic service system with heterogeneous channel and Poisson arrival. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 15–20. (Summary) **99b:90052** 90B22

Alpay, Daniel (*with* Gohberg, Israel) Potentials associated to rational weights. (English summary) *New results in operator theory and its applications*, 23–40, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (M. M. Malamud) **99a:34218** 34L05 (15A18, 34A55, 34L25, 93B25)

— (*with* Bolotnikov, Vladimir) On tangential interpolation in reproducing kernel Hilbert modules and applications. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 37–68, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Boris Petrovich Osilenker) **99b:30055** 30E05 (46E22, 47A57)

— ★ Algorithme de Schur, espaces à noyau reproduisant et théorie des systèmes. (French. English and French summaries) [The Schur algorithm, reproducing kernel spaces and systems theory] Panoramas et Synthèses [Panoramas and Syntheses], 6. *Société Mathématique de France, Paris*, 1998. *viii+189 pp. ISBN* 2-85629-067-1 (Joseph A. Ball) **99g:47016** 47A45 (30E05, 46E22, 47A48, 47A57, 47N70, 93B40)

— (*with* Dijksma, Aad; Rovnyak, James; de Snoo, Hendrik S. V.) Reproducing kernel Pontryagin spaces. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 425–444, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Stefania A. M. Marcantognini) **99g:46028** 46E22 (46C20, 47A57, 47B50)

— (*with* Bolotnikov, Vladimir; Dijksma, Aad; Rovnyak, James; Sadosky, Cora) Espaces de Hilbert inclus contractivement dans l'espace de Hardy du bi-disque. (English and French summaries) [Hilbert spaces contractively included in the Hardy space of the bidisk] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1365–1370. (Emil Straube) **99g:46029** 46E22 (32A35, 46J15, 47A45)

— (*with* Gohberg, Israel) Inverse problem for Sturm-Liouville operators with rational reflection coefficient. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 317–325. (Hendrik S. V. de Snoo) **99m:34022** 34A55 (34L25)

— (*with* Bolotnikov, Vladimir; Dijksma, Aad) On the Nevanlinna-Pick interpolation problem for generalized Stieltjes functions. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 379–408. (Adolf A. Nudelman) **99k:47032** 47A57 (30E05)

— (*with* Bolotnikov, Vladimir) On two-sided interpolation for upper triangular Hilbert-Schmidt operators. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 3, 259–286. (Joseph A. Ball) **99c:47010** 47A57 (47B10)

— (*with* Bolotnikov, Vladimir; Rodman, Leiba) Tangential interpolation with symmetries and two-point interpolation problem for matrix-valued H_2-functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 1–28. (Joseph A. Ball) **99h:47021** 47A57 (30D55)

— A structure theorem for reproducing kernel Pontryagin spaces. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 413–422. (Gong Ning Chen) **99k:46037** 46E22 (30C40, 42C05, 46C20)

— (*with* Bolotnikov, Vladimir) Carathéodory-Fejér problem for pairs of meromorphic functions. (English summary) *Math. Nachr.* **199** (1999), 17–69. (Joseph A. Ball) **99m:47015** 47A57 (30E05)

— (*with* Rovnyak, James) Loewner's theorem for kernels having a finite number of negative squares. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1109–1117. (Adolf A. Nudelman) **99m:47013** 47A57 (30E05, 47B50)

— (*with* Bolotnikov, Vladimir) On the tangential interpolation problem for matrix-valued H_2-functions of two variables. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1789–1799. (Adolf A. Nudelman) **99i:47024** 47A57 (30E05, 32A35)

Alpay, Mehmet Emin (*with* Shor, Molly H.) Multiple solutions to the l^1-optimal control problem and its dual linear programming problem. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1089–1093. 93B36 (93B40)

Alper, Joseph S. (*with* Bridger, Mark) Newtonian supertasks: a critical analysis. (English summary) *Synthese* **114** (1998), *no.* 2, 355–369. (Summary) **99e:03010** 03B30 (70A05, 70D05)

Alperin, J. L. (*with* Covington, Jacinta; Macpherson, Dugald) Automorphisms of quotients of symmetric groups. (English summary) *Ordered groups and infinite permutation groups*, 231–247, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (Fred Richman) **99a:20002** 20B27 (20B30)

— (*with* Glauberman, G.) Limits of abelian subgroups of finite p-groups. *J. Algebra* **203** (1998), *no.* 2, 533–566. (Avinoam Mann) **99m:20033** 20D15

Alpern, Steve (*with* Lim, Wei Shi; Beck, Anatole) Rendezvous search on the line with more than two players. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 357–364. (Summary) **99k:90207** 90D05

— (*with* Lim, Wei Shi) The symmetric rendezvous-evasion game. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 948–959 (*electronic*). (Summary) **99b:90159** 90D05 (90D10)

Alpers, Karsten (*with* Quaisser, Erhard) Lattices in the pseudo-Euclidean plane. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 129–141. (John R. Reay) **99g:52027** 52C05

Alpert, Charles J. (*with* Kahng, Andrew B.; Yao, So-Zen) Spectral partitioning with multiple eigenvectors. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 3–26. (Summary) **99m:68145** 68R10 (05C50, 05C85, 68Q35)

Alpin, Yu. A. (*with* Kolotilina, L. Yu.) Inequalities for the Perron root related to Levinger's theorem. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 99–113. (Marc Artzrouni) **99i:15028** 15A48 (15A42, 15A45)

Alpuente, M. (*with* Falaschi, M.; Moreno Socías, Guillermo; Vidal, Germán) Safe folding/unfolding with conditional narrowing. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 1–15, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N17 (68N15)

Alquézar, René (*with* Sanfeliu, Alberto; Serratosa, Francesc) Synthesis of function-described graphs. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 112–121, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68R10 (68T10)

Al-Rawaf, A. S. A cosmological model with a generalized cosmological constant. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 6, 429–432. 83F05

Al-Rhayyel, Ahmad (*with* Jaradat, Mohammed M.) On the basis number of the direct product of some graphs. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 509–516. (Summary) **99d:05043** 05C35

Al-Said, Eisa A. Quadratic spline solutions of two-point boundary value problem. (English summary) *J. Natur. Geom.* **12** (1997), *no.* 2, 125–134. (Gh. Adam) **99a:65092** 65L10 (65D07)

— (*with* Noor, Muhammad Aslam; Rassias, Themistocles M.) Numerical solutions of third-order obstacle problems. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 75–84. 49J40 (65K10)

— (*with* Noor, Muhammad Aslam) Multivalued quasi variational inequalities for fuzzy operators. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 659–672. (Summary) **99d:49025** 49J40 (90C70)

— (*with* Noor, Muhammad Aslam) Algorithms for nonlinear mixed variational inequalities. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 271–286. (Summary) **99b:47096** 47H19 (47H17, 49J40, 49M99, 90C20)

— (*with* Noor, Muhammad Aslam) Generalized mildly nonlinear complementarity problems for fuzzy mappings. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 569–578. (J. J. Buckley) **99g:90142** 90C33 (90C70)

— (*with* Noor, Muhammad Aslam; Al-Shejari, A. A.) Numerical solutions for system of second order boundary value problems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 659–667. 65L06 (65D07)

— Cubic spline method for solving two-point boundary-value problems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 669–680. (Henning Esser) **99h:65132** 65L10 (65D07)

— (*with* Noor, Muhammad Aslam) Monotone nonlinear variational inequalities. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 43–54. 49J40 (47H19)

— (*with* Noor, Muhammad Aslam) An iterative technique for generalized strongly nonlinear complementarity problems. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 75–79. 90C33 (65K05)

— Smooth spline solutions for a system of second order boundary value problems. (English summary) *J. Nat. Geom.* **16** (1999), *no.* 1-2, 19–28. 65L10 (49J40, 49M99)

— (*with* Noor, Muhammad Aslam) Change of variable method for generalized complementarity problems. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 389–395. (Summary) **99k:90177** 90C33 (47N10, 49J40)

Al-Salam, Waleed *see* **Chihara, T. S., 99m:01049**

Al-Saleh, Norah (*with* Albar, Muhammad A.; Al-Hamed, M. A.) The growth of Coxeter groups. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 417–428. (Stephen P. Humphries) **99f:20066** 20F55

— (*with* Albar, Muhammad A.) Some remarks on the algebraic structure of the finite Coxeter group F_4. (English summary) *Int. J. Math. Math. Sci.* **22** (1999), *no.* 1, 81–84. 20F55

Al-Saqabi, Bader (*with* Kiryakova, Virginia S.) Explicit solutions of fractional integral and differential equations involving Erdélyi-Kober operators. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 1–13. (Summary) **99b:34001** 34A05 (26A33, 34A25, 45D05)

Alsardary, Salar Y. Further results on vertex covering of powers of complete graphs. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 261–283. (H. L. Abbott) **99i:05155** 05C70

— (*with* Wojciechowski, Jerzy) The basis number of the powers of the complete graph. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 13–25. (Andreas Huck) **99f:05067** 05C38

Alscher, Christian (*with* Beyn, Wolf-Jürgen) Simulating the motion of the leech: a biomechanical application of DAEs. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 1–12. (Summary) **99j:73088** 73P20 (34A09, 73F15, 73V20, 92C10)

Alsedà, Lluís (*with* Paraños, J.; Rodríguez, José Angel) The full periodicity kernel for a class of graph maps. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 313–320. (José Miguel Moreno) **99d:58133** 58F20 (54H20, 58F03)

— (*with* Guaschi, John; Los, Jérôme; Mañosas, Francesc; Mumbrú, Pere) Canonical representatives for patterns of tree maps. (English summary) *Topology* **36** (1997), *no.* 5, 1123–1153. (Francisco Balibrea) **99f:58062** 58F03 (58F08)

— (*with* Falcó, Antonio) On the structure of the kneading space of bimodal degree one circle maps. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 145–149, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Víctor Jiménez López) **99j:58062** 58F03 (58F08)

— (*with* Jiménez López, Víctor; Snoha, Ľubomír) All solenoids of piecewise smooth maps are period doubling. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 121–138. (Alexander Loskutov) **99f:58063** 58F03 (58F08, 58F13)

— (*with* Kolyada, S. F.; Llibre, Jaume; Snoha, Ľubomír) Entropy and periodic points for transitive maps. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1551–1573. (Frederick R. Marotto) **99f:58117** 58F11 (54H20, 58F20)

Al'sevich, L. A. (*with* Kastritsa, O. A.) Linear systems with an orthogonal reflection matrix. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 3, 61–63, 80. (Summary) **99k:34100** 34D05

Al'shanskiĭ, M. A. (*with* Mel'nikova, I. V.) Well-posedness of the Cauchy problem in a Banach space: regular and degenerate cases. Analysis, 9. *J. Math. Sci.* (*New York*) **87** (1997), *no.* 4, 3732–3780. (Kiyoko Furuya) **99a:34162** 34G10 (34A09, 47D06, 47N20)

Al'-Sharo, Khaled On the intersection of a family of maximal subgroups of a finite group. (Russian. English summary) *Problems in algebra, No. 9 (Russian)*, 144–151, *Gomel. Gos. Univ., Gomel'*, 1996. (Summary) **99h:20038** 20D20 (20E28)

Al-Shejari, A. A. (*with* Al-Said, Eisa A.; Noor, Muhammad Aslam) Numerical solutions for system of second order boundary value problems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 659–667. 65L06 (65D07)

Al-Shemas, Eman H. On complementarity problems. (English summary) *Far East J. Math. Sci.* **1997**, *Special Volume, Part II*, 233–244. (Summary) **99k:47166** 47H19 (47N10, 47S40, 90C33, 90C70)

Al-Shiha, A. A. (*with* Huda, S.) Minimax designs for estimating the slope of a third-order response surface in a hypercubic region. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 345–356. (Summary) **99a:62106** 62K05

Al'shin, A. B. (*with* Pletner, Yu. D.; Sveshnikov, A. G.) On the solvability of a nonstationary analogue of the Lavrent'ev-Sedov-Keldysh problem for the ion-acoustic wave equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1520–1525; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1474–1479. (Piotr P. Goldstein) **99i:35161** 35Q99 (76X05, 82D10)

— (*with* Pletner, Yu. D.; Sveshnikov, A. G.) Unique solvability of the Dirichlet problem for the equation of ion-acoustic waves in a plasma. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 6, 749–751. 35L99 (35Q35, 76X05)

— (*with* Pletner, Yu. D.; Sveshnikov, A. G.) On the Dirichlet problem for the two-dimensional ion-acoustic wave equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1743–1750; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1672–1679. (From the text) **99g:76154** 76X05 (35M20, 35Q35)

Alshits, V. I. (*with* Darinskii, A. N.; Lothe, J.; Lyubimov, V. N.; Shuvalov, A. L.) An existence criterion for the branch of two-component surface waves in anisotropic elastic media. (English summary) *Wave Motion* **28** (1998), *no.* 3, 241–257. (Summary) **99e:73044** 73D20 (73B40)

Alsina, Claudi (*with* Guijarro Carranza, Piedad; Tomás, Maria Santos) Some remarkable lines of triangles in real normed spaces and characterizations of inner product structures. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 234–241. (Nicole Brillouët-Belluot) **99b:39031** 39B52 (39B05, 46B20, 46C15)

— On a generalized Lagrange's identity characterizing inner product spaces. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 275–280. (Summary) **99d:46031** 46C15 (39B52)

— (*with* Cruells, P.; Tomás, Maria Santos) Isosceles trapezoids, norms and inner products. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 3, 233–240. (Wolfgang Lusky) **99m:46060** 46C50 (46B20, 46C15, 51F20)

Alson, Pedro A unified representation for admissible linear estimators. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 171–177. (Kurt Hoffmann) **99k:62013** 62C15 (62J05)

Alspach, Brian Isomorphism and Cayley graphs on abelian groups. (English summary) *Graph symmetry (Montreal, PQ, 1996)*, 1–22, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (Martin Škoviera) **99c:05088** 05C25 (05C60)

Alspach, Dale E. Tensor products and independent sums of $\mathscr{L}_p$-spaces, $1 < p < \infty$. (English summary) *Mem. Amer. Math. Soc.* **138** (1999), *no.* 660, *viii*+77 *pp.* (Dirk Werner) **99h:46009** 46B20 (46B28, 46E30, 46M05)

Alster, K. Some remarks on metric spaces whose product with every Lindelöf space is Lindelöf. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2469–2473. (George M. Rassias) **99j:54012** 54B10 (54D20, 54E35)

Alstrøm, Preben (*with* Lyngshansen, Per) Perturbation theory of parametrically driven capillary waves at low viscosity. (English summary) *J. Fluid Mech.* **351** (1997), 301–344. (Frédéric Dias) **99e:76011** 76B15 (35Q99, 58F39, 76B45, 76D33)

Alstrup, Stephen (*with* Holm, Jacob; de Lichtenberg, Kristian; Thorup, Mikkel) Direct routing on trees (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 342–349, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (68R10)

Al-Sultan, K. S. (*with* Al-Fawzan, M. A.) A tabu search approach to the uncapacitated facility location problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 91–103. (*see* **99k:90002**) 90B80 (90C35)

AL-Sunni, Fouad M. (*with* Lewis, Frank L.) Simultaneous output-feedback stabilization for continuous systems. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 2, 199–202. (Summary) **99a:93083** 93D15

Alt, Franz L. *see* **Menger, Karl**, **99j:01028**

Alt, H. *see* **Alt, Helmut**

Alt, Hans Wilhelm (*with* Pawlow, I.) Thermodynamical models of phase transitions with multicomponent order parameter. *Trends in applications of mathematics to mechanics (Lisbon, 1994)*, 87–98, *Pitman Monogr. Surveys Pure Appl. Math.*, 77, *Longman, Harlow*, 1995. (From the text) **99h:80008** 80A22

— An evolution principle and the existence of entropy. ODE case. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 2, 61–79. (Vittorio Romano) **99g:80002** 80A05 (34C99, 35L65)

— An evolution principle and the existence of entropy. First order systems. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 2, 81–106. (Vittorio Romano) **99g:80003** 80A05 (35L65)

Alt, Helmut (*with* Fuchs, Ulrich; Kriegel, Klaus) On the number of simple cycles in planar graphs. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 15–24, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68181** 68R10 (05C35, 05C38, 68Q35)

— (*with* Fuchs, Ulrich; Rote, Günter; Weber, Gerald) Matching convex shapes with respect to the symmetric difference. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 89–103. (Rephael Wenger) **99i:68118** 68U05 (52B55)

Alt, René *see* **Cherruault, Yves**, **99e:92001**

Alt, Wolfgang *see* **Dynamics of cell and tissue motion**, **99a:92008**

ruiz-Altaba, Martí *see* **Ruiz-Altaba, Martí**

Altaĭsky, M. V. On some geometrical consequences of the incorporation of resolution in the definition of a coordinate system. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 267–274. (Summary) **99h:81023** 81P99

Altanhan, T. (*with* Bilge, S.) Squeezed spin states and Heisenberg interaction. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 115–121. 81V80 (81R30)

Altas, Irfan (*with* Gupta, Murli M.) Iterative methods for fixed point problems on high performance computing environment. (English summary) *Complex. Int.* **3** (1996), 9 *HTML documents (electronic)*. 65Y20 (65F30)

— (*with* Hegland, Markus; Roberts, Stephen G.) Finite element thin plate splines for data mining applications. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 245–252, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65031** 65D07 (62–07, 65U05, 65Y25)

aşkar Altay, G. *see* **Aşkar Altay, G.**

Altay, G. Aşkar *see* **Aşkar Altay, G.**

Altay, Sezgin (*with* Uysal, S. Aynur) The equi-conjugate pair of curves relative to the congruence (λ) in a Weyl hypersurface. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 24–29. (D. I. Papuc) **99k:53021** 53B25

Altekar, Shirish A. (*with* Berggren, Magnus; Moision, Bruce E.; Siegel, Paul H.; Wolf, Jack K.) Error-event characterization on partial-response channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 241–247. (Summary) **99k:94019** 94A13 (94A14, 94A40)

Althaler, Joachim (*with* Dür, Arne) Finite linear recurring sequences and homogeneous ideals. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 5, 377–390. (Summary) **99e:94026** 94A55

— (*with* Dür, Arne) A generalization of the Massey-Ding algorithm. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 1, 1–14. (Wende Chen) **99i:94038** 94A55 (94B99)

Althaus, Ernst (*with* Mehlhorn, Kurt) Maximum network flow with floating point arithmetic. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 109–113. (Summary) **99c:68187** 68R10 (68Q20, 90C35)

winter Althaus, Gabriel *see* **Winter Althaus, Gabriel**

Althoen, S. C. (*with* Hansen, K. D.; Kugler, L. D.) Four-dimensional real algebras satisfying left or right **C**-associativity. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 565–587. (Sebastian Walcher) **99c:17002** 17A35

Althöfer, Ingo (*with* Wenzel, Walter) Two-best solutions under distance constraints: the model and exemplary results for matroids. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 2, 155–185. (Winfried Hochstättler) **99k:90124** 90C27 (05B35, 90C25)

Althorpe, S. C. (*with* Wei, Guo Wei[2]; Zhang, De Sheng; Kouri, Donald J.; Hoffman, David K.) Wavelet-distributed approximating functional method for solving the Navier-Stokes equation. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 18–24. (Summary) **99h:76077** 76M25 (65M70, 76D05)

Altın, Abdullah (*with* Kaya, Meryem) Polynomial solutions for a class of singular partial differential equations. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 183–189 (1998). (Summary) **99c:35027** 35C10

Altin, Yilmaz (*with* Bilgin, Tunay) On certain sequence spaces and infinite matrices. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 217–224. (Summary) **99h:40011** 40H05

Altınel, İ. Kuban (*with* Özekici, Süleyman) Reliability testing and semi-infinite linear programming. (English summary) *Semi-infinite programming*, 297–322, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99b:90141**) 90B25 (90C05, 90C34)

Altinel, Tuna (*with* Cherlin, Gregory; Corredor, Luis-Jaime; Nesin, Ali) A Hall theorem for ω-stable groups. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 385–397. (O. V. Belegradek) **99f:20057** 20F16 (03C60, 20A15, 20F17, 20F50)

Altinkemer, Kemal (*with* Bose, Indranil; Pal, Raktim) Average waiting time of customers in an $M/D/k$ queue with nonpreemptive priorities. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 317–328. (Summary) **99g:60166** 60K25 (90B22)

Altıntaş, O. (*with* Irmak, H.) On a family of multivalently analytic functions with negative coefficients. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 83–94. (Summary) **99a:30013** 30C45 (30C50)

Altman, Eitan (*with* Koole, Ger) On submodular value functions and complex dynamic programming. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1051–1072. (Summary) **99g:90102** 90C29 (93E20)

— Constrained Markov decision processes with total cost criteria: Lagrangian approach and dual linear program. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 3, 387–417. (Aleksey B. Piunovskiĭ) **99k:90194** 90C40 (90C29)

— (*with* Avrachenkov, Konstantin E.; Filar, Jerzy A.) Asymptotic linear programming and policy improvement for singularly perturbed Markov decision processes. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 97–109. (Andris Abakuks) **99m:90156** 90C40

Altman, Naomi (*with* MacGibbon, K. Brenda) Consistent bandwidth selection for kernel binary regression. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 121–137. (Summary) **99e:62036** 62G05

Altmann, Klaus P-resolutions of cyclic quotients from the toric viewpoint. *Singularities (Oberwolfach, 1996)*, 241–250, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (G. Ewald) **99i:14062** 14M25 (14E15)

— (*with* Sletsjøe, Arne B.) André-Quillen cohomology of monoid algebras. (English summary) *J. Algebra* **210** (1998), *no.* 2, 708–718. (Cristodor Ionescu) **99k:13018** 13D03 (13D10, 14M25)

Altobelli, Joseph A. The word problem for Artin groups of FC type. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 1–22. (John Meier) **99f:20064** 20F36 (20F10, 20F32)

Altomare, Francesco (*with* Raşa, Ion) Towards a characterization of a class of differential operators associated with positive projections. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 3–38. (Maurizio Chicco) **99h:35072** 35J70 (35J15, 47B65, 47N20)

Altschüler, Daniel (*with* Freidel, Laurent) Vassiliev knot invariants and Chern-Simons perturbation theory to all orders. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 261–287. (David H. Adams) **99c:57008** 57M25 (57R57, 58G18, 81T18)

Altshuler, Boris L. Can classicality serve as a dynamical selection rule? (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 201–204, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81154** 81T16 (83C45)

Aluffi, Paolo Characteristic classes of discriminants and enumerative geometry. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3165–3193. (Gary P. Kennedy) **99m:14103** 14N10
— *see also* **Quantum cohomology at the Mittag-Leffler Institute, 99m:14002**
gil Aluja, Jaime *see* **Gil Aluja, Jaime**
Alur, Rajeev (*with* McMillan, Ken; Peled, Doron) Deciding global partial-order properties. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 41–52, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B45)
— (*with* Henzinger, Thomas A.; Kupferman, Orna; Vardi, Moshe Y.) Alternating refinement relations. (English summary) *CONCUR'98: concurrency theory (Nice)*, 163–178, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68116** 68Q60 (68Q10)
— (*with* Fix, Limor; Henzinger, Thomas A.) Event-clock automata: a determinizable class of timed automata. (English summary) *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 253–273. (Summary) **99k:68104** 68Q60 (68Q45, 68Q68)
martín Alustiza, J. A. *see* **Martín Alustiza, J. A.**
Aluthge, Ariyadasa (*with* Wang, Derming) An operator inequality which implies paranormality. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 113–119. (Summary) **99j:47029** 47B20 (47A63)
Alvarenga, Flávio G. (*with* Fabris, Júlio C.) Coupling gravity non-minimally to two scalar fields. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995)*, 520–525, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83C99
— (*with* Lemos, Nivaldo A.) Dynamical vacuum in quantum cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 5, 681–694. (Viqar Husain) **99d:83042** 83C45
martínez Alvarez, Clotilde *see* **Martínez Alvarez, Clotilde**
garcia Alvarez, Edgardo T. *see* **Garcia Alvarez, Edgardo T.**
Álvarez, Enrique (*with* Meessen, Patrick; Ortín, Tomás) Transformation of black-hole hair under duality and supersymmetry. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 181–218. (Summary) **99i:83054** 83C57 (81T60, 83E30)
— Mathematics and physics: intersections and separations. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 3, 372–381. 01A60 (00A79)
— (*with* Borlaf González, Javier; León, José H.) Killings, duality and characteristic polynomials. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 162–168. (Summary) **99a:81122** 81T30 (53C80)
— (*with* Meessen, Patrick) Newtonian M(atrix) cosmology. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 282–286. (Summary) **99b:81168** 81T30
Alvarez, Felipe (*with* Pérez-Cerda, José Manuel) A dynamical system associated with Newton's method for parametric approximations of convex minimization problems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 193–217. (Bernard Lemaire) **99f:90076** 90C25 (34C35, 35B37, 49M15)
Alvarez, Fernando (*with* Stokey, Nancy L.) Dynamic programming with homogeneous functions. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 167–189. (J. V. Greenman) **99m:90155** 90C39 (49L20)
Álvarez, Gonzalo (*with* Romera, Miguel; Pastor, Gerardo; Montoya, Fausto V.) Ordering of the Mandelbrot-like set of the exponential map. (English summary) *Chaos* **8** (1998), *no.* 4, 739–740. (Summary) **99h:58160** 58F23
alonso Alvárez, J. N. *see* **Alonso Alvárez, J. N.**
Alvarez, Jesús (*with* Suárez, Rodolfo; Álvarez-Ramírez, José) Regions of attraction of closed-loop linear systems with saturated linear feedback. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 22 *pp.* (*electronic*). (Summary) **99g:93060** 93D05 (93B52)
Alvarez, Jorge (*with* Rojo, Jesús) A new family of explicit two-stage methods of order three for the scalar autonomous IVP. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1999), *no.* 3, 246–251. 65L05
Alvarez, José *see* **Álvarez-Ramírez, José**
Alvarez, Josefina Continuity properties for linear commutators of Calderón-Zygmund operators. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 17–31. (Richard Rochberg) **99h:42024** 42B20 (47B38, 47B47)
— (*with* Hounie, Jorge) An oscillatory singular integral operator with polynomial phase. (English summary) *Studia Math.* **133** (1999), *no.* 1, 1–18. (Dashan Fan) **99k:42028** 42B20 (42B30, 47G10)
Alvarez, L. *see* **Álvarez Díaz, Lilliam**
Alvarez, Luis H. R. (*with* Shepp, Lawrence A.) Optimal harvesting of stochastically fluctuating populations. (English summary) *J. Math. Biol.* **37** (1998), *no.* 2, 155–177. (Alexander Abakumov) **99m:90047** 90A30 (60J70, 92D25, 92D40)
— Optimal harvesting under stochastic fluctuations and critical depensation. (English summary) *Math. Biosci.* **152** (1998), *no.* 1, 63–85. (Goran Peskir) **99m:90048** 90A30 (60G35, 92D25, 93E20)
Alvarez, M. *see* **Alvarez, Marcos**
Alvarez, M. M. (*with* Hobbs, D. M.; Muzzio, F. J.) Mixing in globally chaotic flows: a self-similar process. (English summary) *Fractals* **5** (1997), *no.* 3, 395–425. (Vered Rom-Kedar) **99b:76040** 76F20 (58F40)
Alvarez, Marcos Hamiltonian reduction of non-linear waves. (English summary) *Ann. Physics* **261** (1997), *no.* 2, 163–179. (Jaime Muñoz Masqué) **99c:81108** 81S10 (70G50)
— (*with* Labastida, J. M. F.; Pérez, Esther) Vassiliev invariants for links from Chern-Simons perturbation theory. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 677–718. (Summary) **99a:58152** 58G18 (57M25, 81Q30, 81T13, 81T15, 81T18)
Alvarez, Orlando (*with* Ferreira, Luiz A.; Sánchez Guillén, Joaquín) A new approach to integrable theories in any dimension. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 689–736. (Henrik Aratyn) **99e:58089** 58F07 (81T40)
Alvarez, Rosa M. (*with* Barrera Sánchez, Pablo; Castellanos, Longina) ★ Un punto de vista sobre el desarrollo de los métodos de gradiente conjugado no lineal. (Spanish. Spanish summary) [A look at the development of nonlinear conjugate gradient methods] *Editorial Academia, Havana*, 1992. *iv*+60 *pp. ISBN* 959-02-0013-3 90C30 (65K05)
Alvarez, Sebastián Probabilistic causality and the difficulties of the Humean approach. (Spanish. English and Spanish summaries) *Theoria (San Sebastián)* (2) **13** (1998), *no.* 33, 521–542. 03B48
macías Alvarez, Sergio *see* **Macías Alvarez, Sergio**
Alvarez-Andrade, Sergio Small deviations for the Poisson process. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 195–201. (Summary) **99a:60033** 60F17
— Small deviations for the Poisson process. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 279–285. (Summary) **99c:60038** 60F05 (60F15)
Alvarez D., F. *see* **Alvarez, Felipe**
Álvarez de Morales, María (*with* Pérez, Teresa E.; Piñar, Miguel A.; Ronveaux, André) Orthogonal polynomials associated with a nondiagonal Sobolev inner product with polynomial coefficients. (English summary) *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996)*, 343–358, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (A. N. Srivastava) **99k:33017** 33C45 (33C80, 42C05)
— (*with* Pérez, Teresa E.; Piñar, Miguel A.) Sobolev orthogonality for the Gegenbauer polynomials $\{C_n^{(-N+1/2)}\}_{n\geq 0}$. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 111–120. (B. D. Agrawal) **99k:33019** 33C45
Álvarez Díaz, Lilliam (*with* Orozco Gómez, María M.; Morales Acosta, J. Josué) The method of lines and its application to some partial differential equation problems. (Spanish. English and Spanish summaries) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 83–92. 65M20
— (*with* Cunha, Cristina) Numerical solution of the Rapoport-Leas equation using the method-of-lines and the DASSL code. (English summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1928–1935; *reprinted in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1851–1858. (Summary) **99h:65160** 65M20
Alvarez Dios, José A. (*with* Viaño Rey, Juan M.) An asymptotic model for the bending of warped beams. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 881–885, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05
— (*with* Viaño Rey, Juan M.) Mathematical justification of a one-dimensional model for general elastic shallow arches. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 4, 281–325. (I. Aganović) **99a:73078** 73K05 (73B27, 73C02)
Alvarez-Gallegos, Joaquín (*with* Cruz-Hernández, César; Castro-Linares, Rafael) On the effect of perturbations on the stability of input-output linearizing controllers for a class of discrete-time nonlinear systems. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 955–964. (Summary) **99h:93076** 93D09 (93B18)
— (*with* Cruz-Hernández, César; Castro-Linares, Rafael) Stability of discrete nonlinear systems under nonvanishing perturbations: application to a nonlinear model-matching problem. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 23–41. (Éva Gyurkovics) **99m:93069** 93D05 (93C55)
Álvarez-Gaumé, Luis (*with* Vázquez-Mozo, M. A.) Topics in string theory and quantum gravity. *Gravitation et quantifications (Les Houches, 1992)*, 481–635, *North-Holland, Amsterdam*, 1995. (Isabel P. Ennes) **99b:81169** 81T30 (83C45, 83E30)
— (*with* Hassan, S. F.) Introduction to S-duality in $N = 2$ supersymmetric gauge theories (a pedagogical review of the work of Seiberg and Witten). (English summary) *Fortschr. Phys.* **45** (1997), *no.* 3-4, 159–236. (Claus Montonen) **99f:81190** 81T60 (81T13)
— (*with* Zamora, Frederic) Duality in quantum field theory (and string theory). (English summary) *Trends in theoretical physics (La Plata, 1997)*, 1–53, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Marco Spaans) **99g:81207** 81T60 (81T13, 81T30)
— (*with* Mariño, Marcos; Zamora, Frederic) Softly broken $N = 2$ QCD with massive quark hypermultiplets. I. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 403–430. (Summary) **99e:81229a** 81T60 (81R40, 81T13, 81V05)
— (*with* Mariño, Marcos; Zamora, Frederic) Softly broken $N = 2$ QCD with massive quark hypermultiplets. II. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1847–1880. (Summary) **99e:81229b** 81T60 (81R40, 81T13, 81V05)
Alvarez-Manilla, M. (*with* Edalat, Abbas; Saheb-Djahromi, N.) An extension result for continuous valuations. (English summary) *Third Workshop on Computation and Approximation (Comprox III) (Birmingham, 1997)*, 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 13, *Elsevier, Amsterdam*, 1998. (*see* **99i:00013**) 06B35 (28A99)
Alvarez Marín, Luz del Carmen (*with* Fernández Muñiz, José L.) The R_F-convergence and theorems of Banach-Steinhaus type. (English summary) *Complex methods in approximation theory (Almería, 1995)*, 33–54, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (D. E. Wulbert) **99h:28006** 28A20 (26A42, 41A55, 46G99)
Álvarez-Nodarse, Renato (*with* Marcellán, Francisco) A generalization of the class Laguerre polynomials: asymptotic properties and zeros. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 349–366. (Summary) **99b:33010** 33C45
— (*with* Marcellán, Francisco; Petronilho, J.) On some polynomial mappings for measures. Applications. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics (Leganés, 1996)*, 1–21, *Univ. Carlos III Madrid, Leganés*, 1997. (Summary) **99a:33003** 33C45 (42C05)
— (*with* Marcellán, Francisco) Limit relations between generalized orthogonal polynomials. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 295–316. (Paolo Emilio Ricci) **99g:33015** 33C45 (39A12)
— (*with* Buendía, Enrique[1]; Dehesa, Jesús S.) The distribution of zeros of general q-polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6743–6768. (Mizan Rahman) **99a:33011** 33D45
— (*with* Marcellán, Francisco; Petronilho, J.) WKB approximation and Krall-type orthogonal polynomials. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 27–58. (Pascal Maroni) **99k:42049** 42C05 (33C45)
— (*with* Yáñez, Rafael J.; Dehesa, Jesús S.) Modified Clebsch-Gordan-type expansions for products of discrete hypergeometric polynomials. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 171–197. (Summary) **99h:33058** 33D45 (33E30, 39A10, 39A12)
— (*with* Arvesú, J.; Marcellán, Francisco; Pan, K. C.) Jacobi-Sobolev-type orthogonal polynomials: second-order differential equation and zeros. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 135–156. (Summary) **99h:33029** 33C45
Álvarez Paiva, J. C. (*with* Fernandes, E.) Crofton formulas in projective Finsler spaces. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 91–100 (*electronic*). (Daniel Hug) **99j:53097** 53C65 (53C60)
Álvarez-Ramírez, José (*with* Suárez, Rodolfo; Alvarez, Jesús) Regions of attraction of closed-loop linear systems with saturated linear feedback. (English summary) *J. Math.*

Systems Estim. Control **5** (1995), *no.* 4, 22 *pp.* (*electronic*). (Summary) **99g:93060** 93D05 (93B52)

— (*with* Garcia, Germain; Tabouriech, Sophie; Suárez, Rodolfo) Nonlinear bounded control for norm-bounded uncertain systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1254–1258. 93B36 (93C42)

Alvarez Vázquez, L. J. (*with* Viaño Rey, Juan M.) Modeling and optimization of a non-symmetric plate. (English summary) *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 215–224 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Pekka Neittaanmäki) **99e:73066** 73K10 (35Q72, 49Q10, 73K40)

— (*with* Rodríguez-Rodríguez, A. R.; Viaño Rey, Juan M.) Genuinely clamped beams. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 887–892, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05

— (*with* Martínez Varela, A. M.) Natural convection in canned foods: modelling and control. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1039–1044, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76R10 (35Q35)

— (*with* Rodríguez-Rodríguez, A. R.; Viaño Rey, Juan M.) Genuinely clamped beams. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 375–388. (Zvonimir Tutek) **99f:73048** 73K05

Alvarez Vigil, A. (*with* Suárez Rodríguez, P.; Bayón Arnáu, L.) Pollution emissions optimization of hydro-thermal systems. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 15 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 90C90 (76M25)

Alves, C. O. (*with* Gonçalves, José Valdo Abreu) Existence of positive solutions for m-Laplacian equations in $\mathbf{R}^N$ involving critical Sobolev exponents. *Nonlinear Anal.* **32** (1998), *no.* 1, 53–70. (Xin Kang Guo) **99a:35067** 35J60 (35B05, 58E05)

Alves, Carlos J. S. (*with* Ha-Duong, Tuong) On the far field amplitude for elastic waves. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 49–67, *Methoden Verfahren Math. Phys.*, 42, *Lang, Frankfurt am Main*, 1997. (Summary) **99i:73034** 73D25 (35Q72)

Alves, Marcelo Muniz Silva (*with* Rodrigues Costa, Sueli I.; Gerônimo, João Roberto; Palazzo, Reginaldo, Jr.; Interlando, J. Carmelo) The symmetry group of $\mathbf{Z}_q^n$ in the Lee space and the $\mathbf{Z}_{q^s}$-linear codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 66–77, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94035** 94B05

Alvino, Angelo (*with* Ferone, Vincenzo; Trombetti, Guido) A remark on the regularity of solutions of nonlinear elliptic equations. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 2, 459–472 (1997). (Xi Ping Zhu) **99a:35079** 35J65 (35B65)

— (*with* Ferone, Vincenzo; Trombetti, Guido) A priori estimates for a class of non-uniformly elliptic equations. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 381–391. (Summary) **99f:35034** 35J25 (35B45)

— (*with* Ferone, Vincenzo; Trombetti, Guido) On the properties of some nonlinear eigenvalues. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 437–451 (*electronic*). (Maria J. Esteban) **99d:35119** 35P30 (35J05, 49R05)

Alwasel, I. A. (*with* Al-Nachawati, H. M.) Shock models with exponential better than renewal in expectation property. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 139–150. (Summary) **99m:62149** 62N05

— Test for exponential better than renewal in expectation class of life distribution. (English summary) *Egyptian Statist. J.* **41** (1997), *no.* 1, 69–81. (Summary) **99e:62171** 62N05

— (*with* Al-Nachawati, H. M.) On used-better-than-aged in convex ordering class of life distributions. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 123–130. (Summary) **99c:62277** 62N05

— (*with* Hendi, M.; Al-Nachawati, H. M.; Montasser, M.) An exact test for HNBUE class of life distributions. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 3, 261–275. (Summary) **99i:62104** 62G10 (62N05)

Alwash, M. A. M. On the center conditions of certain cubic systems. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3335–3336. (Henryk Żołądek) **99a:34073** 34C05

de Alwis, S. P. Coupling of branes and normalization of effective actions in string or M theory. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7963–7977. (From the text) **99j:81130** 81T30 (83E30)

— Matrix models and string world sheet duality. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 59–63. (From the text) **99d:81104** 81T30 (83E30)

— Supergravity, the DBI action and black hole physics. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 31–38. (Gagik T. Ter-Kazarian) **99j:83065** 83E30 (83C57, 83E50)

Aly, Emad-Eldin A. A. Testing for change points expressed in terms of the mean residual life function. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 363–369, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99k:62089** 62G10

Alyashkyavichene, A. *see* **Aleškevičienė, Aldona Kazio**

Alyass, Kussiy K. (*with* Sun, Tze-Chien) Asymptotic distribution of the quadratic norms of the deviation of orthogonal series type density estimates. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 238–264. (Lin-Cheng Zhao) **99k:62081** 62G07

Aly Hassan, Soad Higher order Gaussian curvatures of parallel hypersurfaces. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 67–76 (1998). (Mehmet Erdoğan) **99g:53021** 53B25

Al Zamel, A. (*with* Galué, Leda; Kalla, Shyam L.) Evaluation of fractional integrals involving hypergeometric functions. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 303–312. (J. P. Singhal) **99k:44001** 44A10 (33C20)

Al-Zanaidi, M. A. (*with* Chawla, M. M.) Double-stride methods for oscillatory problems. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 535–547. (Summary) **99c:65125** 65L05

— (*with* Chawla, M. M.) Non-dissipative extended one-step methods for oscillatory problems. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 85–100. (Summary) **99h:65123** 65L05

— (*with* Chawla, M. M.; Al-Ghonaim, S. S.) Singly-implicit stabilized extended one-step methods for second-order initial-value problems with oscillating solutions. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 2, 63–72. (Summary) **99m:65127** 65L05

— *see also* **Van Hecke, T. et al.**

Alzer, Horst On an additive analogue of Ky Fan's inequality. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 1–6. (Summary) **99c:26013** 26D15

— A harmonic mean inequality for the gamma function. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 195–198. (Summary) **99b:33001a** 33B15 (26D07)

— A new refinement of the arithmetic mean–geometric mean inequality. *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 663–667. (Hrvoje Šikić) **99a:26015** 26D20

— Inequalities for the gamma and polygamma functions. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 363–372. (P. Anandani) **99k:33002** 33B15

— A refinement of Carleman's inequality. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 497–499. (Summary) **99h:26023** 26D15

— Corrigendum: "A harmonic mean inequality for the gamma function". *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 265. (Editors) **99b:33001b** 33B15 (26D07)

— Inequalities for the chi square distribution function. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 151–157. (Summary) **99d:60014** 60E15 (26D10, 62E15)

— Sharp inequalities for the complete elliptic integral of the first kind. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 309–314. (M. K. Vamanamurthy) **99k:26021** 26D15 (33E05)

— Corrigendum: "A harmonic mean inequality for the gamma function". *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 265. (Editors) **99b:33001b** 33B15 (26D07)

— Inequalities for the chi square distribution function. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 151–157. (Summary) **99d:60014** 60E15 (26D10, 62E15)

— Sharp inequalities for the complete elliptic integral of the first kind. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 309–314. (M. K. Vamanamurthy) **99k:26021** 26D15 (33E05)

— (*with* Wells, Jim) Inequalities for the polygamma functions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1459–1466 (*electronic*). (Aurelio Cannizzo) **99k:33003** 33B15 (26D07)

— (*with* Ruehr, O. G.) A submultiplicative property of the psi function. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 53–60. (Summary) **99j:33002** 33B15 (26D15)

Alziary, Bénédicte (*with* Cardoulis, Laure; Fleckinger, Jacqueline) Maximum principle and existence of solutions for elliptic systems involving Schrödinger operators. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 47–52. (Summary) **99f:35040** 35J45 (35B50, 35J10)

Amadio, Roberto M. (*with* Prasad, Sanjiva) Modelling IP mobility. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 301–316, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

— (*with* Coupet-Grimal, Solange) Analysis of a guard condition in type theory (extended abstract). (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 48–62, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68N15 (03B40, 03B70)

Amadori, Debora (*with* Colombo, Rinaldo M.) Viscosity solutions and standard Riemann semigroup for conservation laws with boundary. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 219–245. (Christophe Cheverry) **99h:35122** 35L65 (35D05, 47H20)

Amahroq, T. (*with* Jourani, Abderrahim; Thibault, L.) A general metric regularity in Asplund Banach spaces. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 215–226. (Ada Bottaro Aruffo) **99h:49021** 49J52 (46A99, 46G99, 90C48)

Amaldi, Edoardo (*with* Kann, Viggo) On the approximability of minimizing nonzero variables or unsatisfied relations in linear systems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 237–260. (Ding Zhu Du) **99m:68074** 68Q25 (90C08)

Åman, J. E. (*with* Fonseca-Neto, J. B.; MacCallum, Malcolm A. H.; Rebouças, M. J.) Riemann-Cartan spacetimes of Gödel type. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1089–1101. (Alberto Saa Vazquez) **99b:83063** 83D05 (53C80)

Amandosova, R. S. (*with* Seĭtbekova, L. R.) Separability of a higher-order differential operator. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 17–26. (Vladimir B. Vasilyev) **99g:47112** 47F05 (35J40)

Amann, Anton (*with* Atmanspacher, Harald) Positive-operator-valued measures and projection-valued measures of noncommutative time operators. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 629–650. (M. J. Mączyński) **99c:81004** 81P05 (81P15)

— (*with* Atmanspacher, Harald) Fluctuations in the dynamics of single quantum systems. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 2, 151–182. (S. Gudder) **99h:81102** 81S20 (81P15, 82C10)

Amann, Herbert (*with* Fila, M.) A Fujita-type theorem for the Laplace equation with a dynamical boundary condition. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 321–328. (Rodolfo Salvi) **99e:35036** 35J25 (35B35, 35K50)

— (*with* Escher, Joachim) ★ Analysis. I. (German. German summary) Grundstudium Mathematik. [Basic Study of Mathematics] *Birkhäuser Verlag, Basel*, 1998. *xvi*+445 *pp. ISBN* 3-7643-5976-5; 3-7643-5974-9 (Editors) **99k:00001** 00-01 (26-01)

— (*with* López-Gómez, Julián) A priori bounds and multiple solutions for superlinear indefinite elliptic problems. (English summary) *J. Differential Equations* **146** (1998), *no.* 2, 336–374. (Boris Buffoni) **99e:35057** 35J65 (35B45, 47H15, 58E05)

— *see also* **Progress in partial differential equations, 99d:35003; 99d:35004** *and* **Navier-Stokes equations and related nonlinear problems, 99m:35004**

Amann, Notker (*with* Owens, David H.; Rogers, Eric) Iterative learning control using optimal feedback and feedforward actions. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 277–293. 93E35 (93C40)

Amano, Kaname A charge simulation method for numerical conformal mapping onto circular and radial slit domains. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1169–1187 (*electronic*). (Summary) **99b:30007** 30C30 (65E05)

— (*with* Okano, Dai; Ogata, Hidenori; Inoue, Tetsuo) A method of approximating real functions using the charge simulation method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3337–3340. 65D15 (41A30)

— (*with* Okano, Dai) On the numerical conformal mapping of multiply-connected domains. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 17–25. (*see* **99h:65005**) 65E05 (65D15)

Amano, Kazuo (*with* Syarif, Admi) A construction of approximate general solutions to a degenerate parabolic equation and its error estimate. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 75–84. (*see* **99h:00034**) 65M06 (65M12)

Amanzhaev, G. G. Discrete analogues of infinitely smooth functions. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 3, 3–39, 111. (Gheorghe Coman) **99e:46045** 46E39 (41A30, 46N40, 65Y20)

— On discrete analogues of functions of fractional smoothness. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 3–7, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 1–5. (Summary) **99e:26001** 26A15 (39A12, 41A30, 46E39)

— Approximate tabulation of discrete analogues of functions of finite smoothness in the L^p metric. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 20–23, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 20–23. (Summary) **99c:41002** 41A05 (41A30)

Amar, D. (*with* Togni, O.) Irregularity strength of trees. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 15–38. (R. H. Schelp) **99g:05157** 05C78 (05C05)

Amar, M. *see* **Amar, Micol**

Amar, Makhlouf (*with* Tounsi, Bahloul) Study of the Ince equation. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 1–8, *VSP, Utrecht*, 1998. (Summary) **99g:34002** 34A05 (70F05)

ben Amar, Martine *see* **Ben Amar, Martine**

Amar, Micol Two-scale convergence and homogenization on BV(Ω). (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 65–84. (Alexander A. Kovalevsky) **99b:49040** 49Q99 (35B27, 49J45, 73B27)

— (*with* Vitali, E.) Homogenization of periodic Finsler metrics. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 171–186. (Paolo Marcellini) **99k:49026** 49J45 (53C60)

— (*with* Bellettini, Giovanni; Venturini, Sergio) Integral representation of functionals defined on curves of $W^{1,p}$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 193–217. (Pablo Pedregal) **99c:49042** 49Q15 (49J45)

Amara, M. (*with* Ben Younes, Meriem; Bernardi, Christine) Error indicators for the Navier-Stokes equations in stream function and vorticity formulation. (English and French summaries) *Numer. Math.* **80** (1998), *no.* 2, 181–206. (Nikolay P. Moshkin) **99f:65159** 65N30 (65M60, 76D05, 76M25)

do Amaral, R. L. P. G. (*with* Carvalhaes, C. G.; Belvedere, L. V.; Bastos, [illegible] Cardillo A.) Structural aspects of two-dimensional anomalous gauge theories. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 1–25. (Giovanni Morchio) **99j:81108** 81T10 (81T40)

— (*with* Natividade, C. P.) Relations between two-dimensional models from dimensional reduction. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 127701, 4 pp. (Summary) **99k:81179** 81T13 (81T10, 81T40)

Amaral, Wagner C. (*with* da Silva, Ivan N.; de Arruda, Lucia V. R.) A novel approach to robust parameter estimation using neurofuzzy systems. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 251–268. 93E12 (93C42)

Amaranath, T. (*with* Nigam, S. D.) On compatible systems of first-order equations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 835–836. 35F20

— (*with* Padmavathi, B. S.; Raja Sekhar, G. P.) A note on complete general solutions of Stokes equations. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 383–388. (Paolo Maremonti) **99g:76040** 76D07 (35Q30, 76D05)

Amaratunga, K. (*with* Williams, J. R.) Wavelet-Galerkin solution of boundary value problems. (English summary) *Arch. Comput. Methods Engrg.* **4** (1997), *no.* 3, 243–285. (Ruud van Damme) **99d:65276** 65M60 (42C15)

Amari, Shun-ichi (*with* Kawanabe, Motoaki) Information geometry of estimating functions in semi-parametric statistical models. (English summary) *Bernoulli* **3** (1997), *no.* 1, 29–54. (C. R. Rao) **99a:62037** 62G05 (62F10)

— The natural gradient learning algorithm for neural networks. (English summary) *Theoretical aspects of neural computation (Hong Kong, 1997)*, 1–15, *Springer, Singapore*, 1998. (Summary) **99g:68164** 68T05

— (*with* Hiraoka, Kazuyuki) Strategy under the unknown stochastic environment: the nonparametric lob-pass problem. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 138–156. (John C. Gittins) **99k:90206** 90D05 (62L15, 68T05, 90D20)

— (*with* Han, Te Sun) Statistical inference under multiterminal data compression. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2300–2324. (Summary) **99h:94033** 94A29 (62F03, 62F30, 94A15)

Amassad, Amina (*with* Sofonea, Mircea) On a quasistatic rate-type viscoplastic problem with friction. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 1–12. (Kenneth Kuttler) **99a:73065** 73E60 (35Q72, 73T05)

— A fixed point method in dynamic processes for a class of elastic-viscoplastic materials. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 237–247. (Weimin Han) **99a:73066** 73E60 (35Q72, 47N20)

— (*with* Shillor, Meir; Sofonea, Mircea) A quasistatic contact problem with slip-dependent coefficient of friction. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 3, 267–284. (Alain Brillard) **99k:73108** 73T05 (35Q72, 73F99, 73V25)

— (*with* Shillor, Meir; Sofonea, Mircea) A quasistatic contact problem for an elastic perfectly plastic body with Tresca's friction. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 95–109. (Alain Brillard) **99f:73070** 73T05 (34G20, 35Q72, 73E99)

Amat, Sergio (*with* Busquier, Sonia; Candela, Vicente F.) Comparison of stability in the extrapolation of various solution methods for ordinary differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 557–562, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L20

gori nicolò-Amati, Laura *see* **Gori Nicolò-Amati, Laura**

Amato, Umberto (*with* De Feis, Italia) Convergence for the regularized inversion of Fourier series. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 261–284. (B. P. Parashar) **99c:65240** 65R10 (62J02, 65T10)

— (*with* Vuza, Dan Tudor) Besov regularization, thresholding and wavelets for smoothing data. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 461–493. (Don Hong) **99b:65180** 65R30 (41A60)

— (*with* Vuza, Dan Tudor) Wavelet simultaneous approximation from samples affected by noise. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 101–111. (Summary) **99f:41021** 41A28 (65D15, 94A11)

— (*with* De Feis, Italia) Retrieving a function from Hermite-Fourier coefficients affected by noise. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 193–206. (Introduction) **99d:42009** 42A28 (42A10)

— (*with* Occorsio, Mario Rosario; Vuza, Dan Tudor) Fully adaptive wavelet regularization for smoothing data. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 207–222. (*see* **99d:00027**) 42C40 (62G05)

el-Amawy, A. *see* **El-Amawy, A.**

vega-Amaya, Oscar *see* **Vega-Amaya, Oscar**

Amaziane, B. (*with* Bourgeat, Alain; El Amri, H.) Existence of solutions to various rock types model of two-phase flow in porous media. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 121–132. (Summary) **99a:76141** 76S05 (35K60, 35Q35, 76T05)

Amazigo, J. C. (*with* Budiansky, Bernard; Fleck, N. A.) On kink-band propagation in fiber composites. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 9, 1637–1653. 73D99 (73E70, 73K20, 73M25)

Ambainis, Andris Randomization in learning theory. (English summary) *Randomized algorithms (Brno, 1998)*, 9 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q99 (03D20, 68T05)

Ambartsumyan, O. A. On the algorithmic complexity of two problems relating to distribution of intervals. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 1, 13–15 (1997). 65Y20 (68Q25)

Ambartsumyan, R. V. (*with* Oganyan, V. K.) Finite-additive functionals in the space of planes. I. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 4, 7–63 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 4, 3–51. (Ilya S. Molchanov) **99i:52006** 52A22 (28C10, 51M30, 60D05)

— (*with* Oganyan, V. K.) Parametric versions of Hilbert's fourth problem. (English summary) *Israel J. Math.* **103** (1998), 41–65. (Daniel Hug) **99e:53106** 53C65 (52A20, 53C60)

Ambartsumyan, S. A. (*with* Belubekyan, M. V.; Minasyan, M. M.) Axisymmetric oscillations of a nonlinearly elastic cylindrical shell in a longitudinal magnetic field. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 2, 3–12. 73K15 (73R05)

Ambartzumian, R. V. *see* **Ambartsumyan, R. V.**

Amberg, Bernhard (*with* Dickenschied, O.; Sysak, Yaroslav P.) Subgroups of the adjoint group of a radical ring. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 3–15. (Silvana Franciosi) **99d:20055** 20F19 (16N20)

— (*with* Kazarin, Lev S.) On finite products of soluble groups. (English summary) *Israel J. Math.* **106** (1998), 93–108. (Franco Migliorini) **99m:20026** 20D10

Ambjørn, Jan (*with* Makeenko, Yu. M.; Zarembo, K.) Supersymmetric matrix models and branched polymers. (English summary) *Nuclear Phys. B* **482** (1996), *no.* 3, 660–674. (Summary) **99c:82034** 82B44 (82D30)

— Quantum geometry: the fractal structure of space-time. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 205–209, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C45

— (*with* Nielsen, Jakob L.; Rolf, Juri; Savvidy, George) Spikes in quantum Regge calculus. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3225–3241. (Annalisa Marzuoli) **99f:83023** 83C27 (83C45)

— (*with* Harris, Martin Guy; Weis, M.) On the connection between 2d topological gravity and the reduced Hermitian matrix model. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 482–510. (Francois Vanderseypen) **99d:81137** 81T40

— (*with* Nielsen, Jakob L.; Rolf, Juri; Boulatov, Dimitri V.; Watabiki, Yoshiyuki) The spectral dimension of 2D quantum gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 10, 8 *pp.* (*electronic*). (Summary) **99c:83026** 83C45

— (*with* Anagnostopoulos, Konstantinos N.; Jurkiewicz, Jerzy Władysław; Kristjansen, Charlotte F.) The concept of time in 2D gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 16, 14 *pp.* (*electronic*). (Summary) **99b:83028** 83C45 (82B20)

— (*with* Anagnostopoulos, Konstantinos N.; Jensen, Lars; Ichihara, Takashi; Watabiki, Yoshiyuki) Quantum geometry and diffusion. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 22, 16 *pp.* (*electronic*). (Summary) **99m:83059** 83C45 (83C27)

— (*with* Koutsoumbas, G.; Savvidy, George) Four-dimensional gonihedric gauge spin system. (English summary) *Europhys. Lett.* **46** (1999), *no.* 3, 319–325. (Summary) **99m:81272** 81T80 (82B80)

— (*with* Makeenko, Yu. M.; Semenoff, Gordon) Thermodynamics of D0-branes in Matrix theory. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 307–315. (Summary) **99k:81212** 81T30

Ambos-Spies, Klaus (*with* Cooper, S. Barry; Lempp, Steffen) Initial segments of recursive linear orders. (English summary) *Order* **14** (1997/98), *no.* 2, 101–105. (Victor Selivanov) **99m:03087** 03D45 (03C57, 06A05)

— (*with* Lempp, Steffen; Mainhardt, Gunther) Randomness vs. completeness: on the diagonalization strength of resource-bounded random sets. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 465–473, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15 (03D15)

— *see also* **Conference: Computability Theory, 99b:03006**

Ambroladze, Amiran On the spherical convergence of multiple series. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 23–24. 42A24

— (*with* Wallin, Hans) Extremal polynomials with preassigned zeros and rational approximants. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 209–229. (A. J. Rodrigues) **99a:41016** 41A21 (30E10)

— (*with* Wallin, Hans) Rational interpolants with preassigned poles, theoretical aspects. (English summary) *Studia Math.* **132** (1999), *no.* 1, 1–14. (Serguey V. Shvedenko) **99m:41022** 41A21 (30E10)

Ambrose, H. (*with* Qu, Zhihua) Model reference robust control for MIMO systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 599–623. 93B35

Ambrosetti, Antonio (*with* Badiale, Marino) Homoclinics: Poincaré-Melnikov type results via a variational approach. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 233–252. (Vittorio Coti Zelati) **99h:58135** 58F15 (34C37, 58E07, 58F05, 58F30)

— Variational methods to find homoclinics for differential equations under perturbation. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 39–49. (Boris Buffoni) **99i:58025** 58E05 (34C37, 35K99, 81Q20)

— (*with* Berti, Massimiliano) Homoclinics and complex dynamics in slowly oscillating systems. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 393–403. (Patricio L. Felmer) **99g:34101** 34C37 (58E05, 58F30)

— Branching points for a class of variational operators. *J. Anal. Math.* **76** (1998), 321–335. (Viktor G. Zvyagin) **99m:58049** 58E07 (47H15, 49J10)

— (*with* Arcoya, David; Gámez, J. L.) Asymmetric bound states of differential equations in nonlinear optics. *Rend. Sem. Mat. Univ. Padova* **100** (1998), 231–247. (Boris Buffoni) **99m:34103** 34C37 (34B15, 58E05, 58F99, 78A60)

— Poincaré-Melnikov theory of homoclinics and chaos: a variational approach. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 1–4. (*see* **99d:35005**) 58E05 (34C37, 58F13)

gómez-Ambrosi, Carlos *see* **Gómez-Ambrosi, Carlos**

Ambrosi, D. (*with* Quartapelle, L.) A Taylor-Galerkin method for simulating nonlinear dispersive water waves. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 546–569. (Summary) **99f:76084** 76M10 (76B15, 76B25)

Ambrosimov, A. S. On the distribution of the weights of the random Reed-Muller codewords. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 101–102, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 94B05

Ambrosini, S. (*with* Gori, Franco[1]; Vicalvi, S.; Santarsiero, M.; Frezza, F.; Schettini, G.; Borghi, Riccardo) An elementary approach to spinors. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 256–262. (Summary) **99c:81073** 81R25 (15A66, 53A50)

Ambrosio, Luigi (*with* Soner, Halil Mete) A measure-theoretic approach to higher codimension mean curvature flows. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 27–49 (1998). (Linghai Zhang) **99m:35217** 35Q55 (35K55, 49Q20, 58E99)

— Free discontinuity problems and special functions with bounded variation. *European Congress of Mathematics, Vol. I (Budapest, 1996)*, 15–35, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Anna Salvadori) **99j:49081** 49Q20

— (*with* Braides, Andrea; Garroni, Adriana) Special functions with bounded variation and with weakly differentiable traces on the jump set. *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 219–243. (Giovanni Bellettini) **99d:49075** 49Q15 (49J52)

Ambrozie, Călin-Grigore A note on pairs of subspaces. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 367–373. (Summary) **99m:46026** 46B20 (47A55)

— A stability result on mixed manifolds. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 439–449. (Summary) **99f:32050** 32L10 (58G05)

— Contributions to the study of perturbations of Fredholm complexes. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **48** (1996), *no.* 3-4, 155–234. (Mihai Putinar) **99m:47010** 47A53 (46M20, 47A55)

— Noncompactness measure invariance of the index. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 225–242. (Hans-Olav Tylli) **99d:47011** 47A53 (46M20, 47A55)

Amdeberhan, Tewodros (*with* Zeilberger, Doron) Hypergeometric series acceleration via the WZ method. (English summary) The Wilf Festschrift (Philadelphia, PA, 1996). *Electron. J. Combin.* **4** (1997), *no.* 2, *Research Paper* 3, *approx.* 4 *pp.* (*electronic*). (Peter Paule) **99e:33018** 33C99 (05A10, 68R05)

— (*with* Zeilberger, Doron) q-Apéry irrationality proofs by q-WZ pairs. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 275–283. (G. Ramharter) **99d:11074** 11J72 (11J82, 33D15)

Ameduri, Marco (*with* Efthimiou, Costas J.) Is the classical Bukhvostov-Lipatov model integrable? A Painlevé analysis. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 132–139. (Claire R. Gilson) **99c:35244** 35Q99 (35A25)

Amelino-Camelia, Giovanni (*with* Lukierski, Jerzy; Nowicki, Anatol) On the uncertainty relations of κ-deformed quantum phase space. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1099–1112. (Summary) **99k:81105** 81R50 (81P05)

— Could we observe the discreteness of quantum-gravity length and area operators? (English summary) Quantum groups and integrable systems (Prague, 1998). *Czechoslovak J. Phys.* **48** (1998), *no.* 11, 1279–1284. (Summary) **99m:83060** 83C45

— On the area operators of the Husain-Kuchař-Rovelli model and canonical/loop quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 14, 1155–1161. (José A. Zapata) **99e:83023** 83C45

— (*with* Lukierski, Jerzy; Nowicki, Anatol) κ-deformed covariant phase space and quantum-gravity uncertainty relations. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1811–1815. (Summary) **99j:83030** 83C45 (81R50)

Amel'kin, V. V. (*with* Levin, A. V.) Convergent trajectories of two-dimensional dynamical systems. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 1, 64–67, 76. (Alexandru Şubă) **99a:34074** 34C05 (58F21)

— (*with* Kalitin, B. S.) An ideal "two-shock" model of a clock with an analytic strongly isochronic oscillator of free oscillations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 92–99; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 87–94. (Summary) **99d:70032** 70K25 (34C15)

Amen, Matthias Ein exaktes Verfahren zur kostenorientierten Fließbandabstimmung. (English and German summaries) [An exact method for cost-oriented assembly line balancing] *Operations Research Proceedings* 1996 (*Braunschweig*), 224–229, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35

Amendinger, Jürgen (*with* Imkeller, Peter; Schweizer, Martin) Additional logarithmic utility of an insider. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 263–286. (Rüdiger Kiesel) **99j:90008** 90A09 (60G44, 60H30)

Amendola, Giovambattista (*with* Lazzari, Barbara) Stability and energy decay rates in linear thermoelasticity. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 19–33. (Summary) **99i:73006** 73B30

— (*with* Manes, Adele) Finite spherical deformations in elastic materials. (Italian. English and Italian summaries) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 165–176. (Summary) **99c:73016** 73C50 (73G05)

— Asymptotic behaviour in linear thermoelastic materials. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 3, 233–250. (Jaime E. Muñoz Rivera) **99c:73007** 73B30 (35B35, 35B40, 35Q72)

Amenta, Nina (*with* Agarwal, Pankaj K.; Sharir, Micha) Largest placement of one convex polygon inside another. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 1, 95–104. (E. Hertel) **99c:52026** 52C15 (52B55, 68U05)

— (*with* Bern, Marshall; Eppstein, David) Optimal point placement for mesh smoothing. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 302–322. (I. Norman Katz) **99m:65028** 65D17 (65N30, 90C05)

Amer, K. A. (*with* Kostin, A. V.) On the asymptotic representation of solutions of a linear differential equation with small parameters multiplying highest derivatives and with slowly changing coefficients. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 400–404 (1996). 34E05

— (*with* Kostin, A. V.) Asymptotic representations on the half-axis of solutions of linear homogeneous systems with small parameters multiplying the derivatives. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 1, 19–23 (1996). 34E05

Amer, Mustafa A. Constructive solutions for nonlinear multiparameter eigenvalue problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 83–90. (Summary) **99c:47097** 47H12 (47H17, 65J10)

Amer, Rafel (*with* Carreras, Francesc) Cooperation indices and weighted Shapley values. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 955–968. (D. Marc Kilgour) **99a:90250** 90D12

— (*with* Carreras, Francesc; Magaña, Antonio) Extension of values to games with multiple alternatives. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 63–78. (Summary) **99i:90122** 90D12

Amer, T. S. (*with* El-Barki, F. A.; Ismail, A. I.; Shaker, M. O.) On the motion of the pendulum on an ellipse. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 65–72. 70K99

Amer, Y. A. (*with* Mohamed, Adel Samy) Separation of a nonlinear Dirac operator in the Hilbert space $H = L_2(\mathbf{R})^l$. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 37–48. (Gerhard Freiling) **99d:47043** 47E05 (34L40)

Amerbaev, V. M. (*with* Bagautdinov, G. N.) In memory of the founder of the scientific mathematical school in Kazakhstan [Konstantin Petrovich Persidskiĭ]. (Russian) *Vestnik Nats. Akad. Respub. Kazakhstan* **1994**, *no.* 4, 102–104. 01A70

Ameri, R. (*with* Zahedi, M. M.) Hypergroup and join space induced by a fuzzy subset. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 33–39, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99c:20098** 20N20 (03E72, 20N25)

— (*with* Zahedi, M. M.) Hypergroup and join space induced by a fuzzy subset. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 155–168. (P. Corsini) **99d:20108** 20N20 (20N25)

Amerik, Ekaterina On a problem of Noether-Lefschetz type. (English summary) *Compositio Math.* **112** (1998), *no.* 3, 255–271. (Yuri G. Prokhorov) **99f:14059** 14J70 (14J45)

Ames, Karen A. (*with* Clark, Gordon W.; Epperson, James F.; Oppenheimer, Seth F.) A comparison of regularizations for an ill-posed problem. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1451–1471. (Summary) **99b:65111** 65M30

— (*with* Payne, Lawrence E.) Asymptotic behavior for two regularizations of the Cauchy problem for the backward heat equation. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 187–202. (Galina I. Bizhanova) **99c:35085** 35K05 (35B25, 35B40)

— (*with* Straughan, Brian) Stability and Newton's law of cooling in double diffusive flow. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 57–69. (Vladimir Mityushev) **99k:76136** 76R99 (35Q35, 80A20)

ben Ameur, Hend *see* **Ben Ameur, Hend**

Amézíane, S. (*with* Costa, Douglas L.; Kabbaj, Salah-Eddine; Zarzuela Armengou, Santiago) On the spectrum of the group ring. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 387–403. (L. J. Ratliff, Jr.) **99k:13013** 13C15 (13A15, 13F20)

Amézíane Hassani, Souad (*with* Dobbs, David E.; Kabbaj, Salah-Eddine) On the prime spectrum of commutative semigroup rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2559–2589. (Marco Fontana) **99g:13002** 13A15 (13C15, 16S36)

Amici, Oriella (*with* Casciaro, Biagio; Francaviglia, Mauro) Relations between variational derivatives of functions and scalar densities. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 207–220. (Victor Tapia) **99e:58054** 58E30 (49Q20)

Amicucci, G. L. (*with* Monaco, Salvatore) On nonlinear detectability. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 6, 1105–1123. (Summary) **99c:93013** 93B07 (93C10)

Amiet, Jean-Pierre (*with* Weigert, Stefan) Reconstructing the density matrix of a spin s through Stern-Gerlach measurements. (English summary) *J. Phys. A* **31** (1998), *no.* 31, *L*543–*L*548. (Summary) **99e:81021** 81P15 (81P05)

Amigues, Jean-Pierre (*with* Favard, Pascal; Gaudet, Gérard; Moreaux, Michel) On the optimal order of natural resource use when the capacity of the inexhaustible substitute is limited. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 153–170. 90A30

Amilhastre, J. (*with* Vilarem, M. C.; Janssen, Philippe) Complexity of minimum biclique cover and minimum biclique decomposition for bipartite domino-free graphs. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 125–144. (Xiao Tie Deng) **99d:05068** 05C70 (05C85)

montesinos Amilibia, Angel *see* **Montesinos Amilibia, Angel**

montesinos Amilibia, José María *see* **Montesinos Amilibia, José María**

Amin, Adnan *see* **Advances in pattern recognition, 99k:68002**

Amin, Ashok T. (*with* Clark, Lane H.; Slater, Peter J.) Parity dimension for graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 1–17. (Anthony E. Barkauskas) **99f:05057** 05C35

el Amin, Kaidi *see* **El Amin, Kaidi**

Amin, Shara Simulated jumping. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 23–38. (*see* **99k:90002**) 90C10 (90C27)

Amin, Wael A. (*with* Raqab, Mohammad Zayed) Some ordering results on order statistics and record values. (English summary) *IAPQR Trans.* **21** (1996), *no.* 1, 1–8. (Summary) **99i:62117** 62G30

Amini, S. (*with* Maines, N. D.) Preconditioned Krylov subspace methods for boundary element solution of the Helmholtz equation. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 5, 875–898. (Tsorng-Whay Pan) **99c:65223** 65N38

Åminneborg, Stefan (*with* Bengtsson, Ingemar; Brill, Dieter; Holst, Sören; Peldán, Peter) Black holes and wormholes in $2+1$ dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 627–644. (Kirill V. Krasnov) **99c:83043** 83C57 (83C75)

Aminov, Yu. A. (*with* Rabelo, M. L.) On toroidal submanifolds of constant negative curvature. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 275–283. (Maria J. Druetta) **99c:53059** 53C42 (53C40)

— (*with* Manzhos, N. V.) Closed surfaces in E^4 with a nonvanishing Whitney invariant. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 139–148. (Vladislav Goldberg) **99k:53005** 53A07

Aminova, A. V. (*with* Kalinin, D. A.) H-projective mappings of four-dimensional Kähler manifolds. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 3–14; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 1–11. (Valery Marenich) **99h:53093** 53C55 (53B35)

Aminpour, A. M. Free semigroups and idempotents in T^∞. (English summary) *J. Sci. Islam. Repub. Iran* **9** (1998), *no.* 1, 48–50. (N. Hindman) **99f:22003** 22A15 (20M05, 54H99)

al-Amir, A. E. *see* **Al-Amir, A. E.**

Amir, Amihood (*with* Landau, Gad M.; Lewenstein, Moshe; Lewenstein, Noa) Efficient special cases of pattern matching with swaps. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 209–220, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68048** 68Q25

— (*with* Koren, Gilad; Dar, Emanuel) The power of migration in multi-processor scheduling of real-time systems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 226–235, *ACM, New York*, 1998. (*see* **99d:68011**) 68M20

— (*with* Benson, Gary; Farach-Colton, Martin) Optimal parallel two-dimensional text searching on a CREW PRAM. (English summary) *Inform. and Comput.* **144** (1998), *no.* 1, 1–17. (Summary) **99b:68089** 68Q22 (68Q25)

— (*with* Landau, Gad M.; Lewenstein, Moshe; Lewenstein, Noa) Efficient special cases of pattern matching with swaps. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 125–132. (Summary) **99h:68071** 68Q25

— (*with* Benson, Gary) Two-dimensional periodicity in rectangular arrays. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 90–106 (*electronic*). (Rani Siromoney) **99g:68086** 68Q25

Amir, B. (*with* Maniar, L.) Application de la théorie d'extrapolation pour la résolution des équations différentielles à retard homogènes. [Application of extrapolation theory for the solution of homogeneous delay differential equations] *Extracta Math.* **13** (1998), *no.* 1, 95–105. (From the introduction) **99k:34176** 34K30 (47D06)

Amir, Rabah A new look at optimal growth under uncertainty. (English summary) *J. Econom. Dynam. Control* **22** (1997), *no.* 1, 67–86. (Oscar F. Orellana) **99a:90062** 90A16

— (*with* Grilo, Isabel) Stackelberg versus Cournot equilibrium. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 1, 1–21. (Summary) **99k:90204** 90D05 (90A14)

Amira, Haroun (*with* Coecke, Bob; Stubbe, Isar) How quantales emerge by introducing induction within the operational approach. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 5, 554–572. (R. Gylys) **99k:81028** 81P10 (03G12, 06A23, 18B30)

Amirat, Youcef (*with* Ziani, Abdelhamid) Global weak solutions for a parabolic system modeling a one-dimensional miscible flow in porous media. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 697–718. (Vladimir Grebenev) **99c:35096** 35K50 (35D05, 76S05)

Amiri, Ali (*with* Rolland, Erik; Barkhi, Reza) Queueing delay guarantees in bandwidth packing. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 9, 921–935. (Summary) **99m:90071** 90B12 (90B22)

al-Amiri, Hassoon *see* **Al-Amiri, Hassoon**

Amir-Moéz, Ali R. ★ Notes on geometric transformations. *Polygonal Publ. House, Washington, NJ*, 1998. *vi*+121 *pp. ISBN* 0-936428-16-3 (George E. Martin) **99e:51022** 51M15

Amirov, A. Kh. (*with* Hacısalihoğlu, H. Hilmi) Finding a metric in three-dimensional Riemannian space with respect to Ricci and Einstein tensors. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 205–215. (Valery Marenich) **99m:53031** 53B20 (35R30)

— (*with* Hacısalihoğlu, H. Hilmi) On the interrelations between the metric and curvature tensor in an n-dimensional Riemannian space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1005–1012, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 864–871. (Josef Mikeš) **99k:53020** 53B21 (53B20)

Amirov, R. Kh. (*with* Çakmak, Y.) Trace formula for the Sturm-Liouville operator with singularity. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 9–16, *VSP, Utrecht*, 1998. (Summary) **99g:34163** 34L40 (34B24, 34L20, 81Q05)

— (*with* Gülyaz, S.) Inverse spectral problem for the differential equation of the second order with singularity. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 17–24, *VSP, Utrecht*, 1998. (Summary) **99g:34037** 34A55 (34B24, 34L40)

Amirov, Z. A. (*with* Aliev, T. A.) An algorithm for selecting regularization parameters for statistical identification. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 6, 130–139; *translation in Automat. Remote Control* **59** (1998), *no.* 6, *part* 2, 859–866. 93E12

Amitai, Dganit (*with* Averbuch, Amir; Israeli, Moshe; Itzikowitz, Samuel) Implicit-explicit parallel asynchronous solver of parabolic PDEs. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1366–1404 (*electronic*). (Dao Qi Yang) **99f:65137** 65M55 (65M06, 65Y05)

Amitsur, Shimshon A. *see* **Sfard, Anna**, **(99a:00011)**

Amleh, A. M. (*with* Hoag, Jeffrey T.; Ladas, G.) A difference equation with eventually periodic solutions. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 401–404. (Summary) **99j:39002** 39A10

— (*with* Grove, E. A.; Kent, C. M.; Ladas, G.) On some difference equations with eventually periodic solutions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 196–215. (Saber Elaydi) **99f:39002** 39A10

Amman, Hans M. (*with* Kendrick, David A.) Computing the steady state of linear quadratic optimization models with rational expectations. (English summary) *Econom. Lett.* **58** (1998), *no.* 2, 185–191. (Summary) **99a:90063** 90A16 (49N10)

Ammann, Bernd The Dirac operator on collapsing S^1-bundles. (English summary) *Séminaire de Théorie Spectrale et Géométrie, Vol.* 16, *Année* 1997–1998, 33–42, *Sémin. Théor. Spectr. Géom.*, 16, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Józef Dodziuk) **99m:58191** 58G25 (53C20)

— Minimal geodesics and nilpotent fundamental groups. (English summary) *Geom. Dedicata* **67** (1997), *no.* 2, 129–148. (Michel Coornaert) **99a:53050** 53C22 (20F18)

— (*with* Bär, Christian) The Dirac operator on nilmanifolds and collapsing circle bundles. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 221–253. (Uwe Semmelmann) **99h:58194** 58G25 (53C25, 53C30, 58G30)

Ammar, Elsaid Ebrahim On some basic notions of fuzzy parametric nonsmooth multiobjective nonlinear fractional programming problems. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 291–301. 90C70 (90C29)

— On fuzzy approaches to solve the vector optimization problems. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 43–50. 90C70 (90C29)

Ammar, Gregory S. Classical foundations of algorithms for solving positive definite Toeplitz equations. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 99–113 (1998). (Israel Koltracht) **99h:65047** 65F05 (15A57, 65F30)

— (*with* Mehl, Christian; Mehrmann, Volker) Schur-like forms for matrix Lie groups, Lie algebras and Jordan algebras. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 11–39. (Morris Newman) **99k:17007** 17B05 (17C10)

ben Ammar, Mabrouk *see* **Ben Ammar, Mabrouk**

Ammari, Habib (*with* Ferreira, Pedro Alexandre) Numerical methods for scattering problems by curved gratings at high frequencies. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 17, 1531–1549. (Charles I. Goldstein) **99g:78003** 78-08 (65N06, 78A45)

— (*with* Nédélec, Jean-Claude) Couplage éléments finis/équations intégrales pour la résolution des équations de Maxwell en milieu hétérogène. (French summary) [Coupling finite elements and integral equations to solve the Maxwell equations in a heterogeneous medium] *Équations aux dérivées partielles et applications*, 19–33, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (P. Rochus) **99i:65122** 65N30 (35Q60, 45L05, 78-08, 78A25)

— (*with* Latiri-Grouz, C.) Approximate boundary conditions for thin periodic coatings. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 297–301, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Qxx (78A45)

— (*with* Bao, Gang[1]) Analysis of the diffraction from periodic chiral structures. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1371–1376. (Summary) **99f:35199** 35Q60 (78A25, 78A45)

— (*with* Bao, Gang[1]) Une étude mathématique de la localisation d'une tumeur cancéreuse dans le cerveau humain. (English and French summaries) [Mathematical analysis of the determination of locations of epileptic foci in the living human brain] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 601–606. (Summary) **99i:92006** 92C50 (78-08, 78A45)

— Scattering of waves by thin periodic layers at high frequencies using the on-surface radiation condition method. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 199–214. (Youri G. Smirnov) **99i:35017** 35J05 (65N99, 76Q05, 78A45)

— (*with* Nédélec, Jean-Claude) Propagation d'ondes électromagnétiques à basses fréquences. (English and French summaries) [Propagation of low-frequency electromagnetic waves] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 8, 839–849. (Rainer Picard) **99k:78024** 78A45 (35Q60, 78A40)

— (*with* Nédélec, Jean-Claude) Small chirality behaviour of solutions to electromagnetic scattering problems in chiral media. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 4, 327–359. (Brian D. Sleeman) **99a:78022** 78A45 (35Q60)

— (*with* Laouadi, M.; Nédélec, Jean-Claude) Low frequency behavior of solutions to electromagnetic scattering problems in chiral media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 1022–1042 (*electronic*). (Ioannis G. Stratis) **99c:35239** 35Q60 (35B40, 35C15, 45B05, 78A45)

— (*with* Nédélec, Jean-Claude) Time-harmonic electromagnetic fields in thin chiral curved layers. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 395–423 (*electronic*). (Hideo Soga) **99h:78018** 78A45 (35Q60, 45B05, 45L05)

— (*with* Nédélec, Jean-Claude) Full low-frequency asymptotics for the reduced wave equation. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 127–131. 35C20 (35J05, 76Q05, 78A45)

Ammar-Khodja, Farid (*with* Benabdallah, Assia; Teniou, Djamal E.) Stability of coupled systems. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 327–340. (Angelo Favini) **99b:34097** 34G10 (34D05, 35B35, 47D06, 47N20, 93C20)

— (*with* Mokhtar-Kharroubi, Mustapha) On the exponential stability of advection semigroups with boundary operators. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 95–106. (Hassan Emamirad) **99b:47057** 47D06 (47N55, 82C70)

Ammi, Madani (*with* Le Pennec, Thierry; Måløy, Knut Jørgen; Flekkøy, Eirik G.; Messager, Jean Claude) Silo hiccups: dynamic effects of dilatancy in granular flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3072–3079. 76-05 (73E99, 76A99)

de Amo, S. *see* **De Amo, S.**

Amochkina, T. V. (*with* Vasil'ev, F. P.; Nedić, Anđelija) On a regularized variant of the second-order continuous gradient projection method. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 39–46; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 33–39. 90C30 (65K05)

— (*with* Antipin, A. S.; Vasil'ev, F. P.) Continuous regularized variable-metric proximal minimization method. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 314–321. (Vera V. Kovačević-Vujčić) **99j:90078** 90C30 (90C25)

— A second-order continuous gradient projection method with a variable metric. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 10, 1174–1182; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 10, 1134–1142. (Vera V. Kovačević-Vujčić) **99b:90116** 90C30

— (*with* Antipin, A. S.; Vasil'ev, F. P.) A continuous linearization method with a variable metric for convex programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1459–1466; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1415–1421. (Vera V. Kovačević-Vujčić) **99c:90086** 90C25

Amodei, Luca Reproducing kernels of vector-valued function spaces. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 17–26, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65112** 65J10 (46E22, 46N40, 65D15, 65M99)

Amodio, Pierluigi (*with* Brugnano, Luigi) A note on the efficient implementation of implicit methods for ODEs. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 1–9. (Gabriela Kirlinger) **99b:65084** 65L06 (65F30, 65H10, 65L05)
— (*with* Mazzia, Francesca) Numerical solution of differential algebraic equations and computation of consistent initial/boundary conditions. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 135–146. (Alexander Alenitsyn) **99b:65078** 65L05 (34A09, 65L10)
— (*with* Brugnano, Luigi) ParalleloGAM: a parallel code for ODEs. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 95–106. (Summary) **99j:65112** 65L05 (65Y05)
— (*with* Mazzia, Francesca) An algorithm for the computation of consistent initial values for differential-algebraic equations. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 13–23. (Summary) **99k:65067** 65L99 (34A09, 34A45, 65L05)
ahmadi-Amoli, Kh. *see* **Ahmadi-Amoli, Kh.**
d'Amore, Fabrizio (*with* Iacobini, Fabio) On-line algorithms for networks of temporal constraints. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 144–156, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68T20
martínez-Amores, Pedro *see* **Martínez-Amores, Pedro**
Amorim, R. (*with* Barcelos-Neto, J.) Axial and gauge anomalies in a theory with one- and two-form gauge fields. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 329–333. (Summary) **99a:81164** 81T50
— (*with* Braga, Nelson R. F.; Thibes, R.) Axial and gauge anomalies in the field-antifield quantization of the generalized Schwinger model. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 325–330. (Mohamed Kachkachi) **99k:81287** 81T50 (81T13, 81T70)
Amor Montaño, José Alfredo Induction and recursion. (Spanish. Spanish summary) *Miscelánea Mat. No.* 26 (1997), 1–16. 04A05
Amoroso, Francesco A remark on a theorem of Szegő. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 357–362. (Maurice Mignotte) **99a:11118** 11R09 (11C08)
— Upper bounds for the resultant and Diophantine applications. (English summary) *Number theory* (*Eger*, 1996), 23–36, *de Gruyter, Berlin*, 1998. (Maurice Mignotte) **99g:11030** 11C08 (11J99)
— (*with* David, Sinnou) Le théorème de Dobrowolski en dimension supérieure. (English and French summaries) [Dobrowolski's theorem in higher dimension] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1163–1166. (Michel Waldschmidt) **99g:11087** 11J25
Amos, Martyn (*with* Wilson, Steve D.; Hodgson, David A.; Owenson, Gerald; Gibbons, Alan) Practical implementation of DNA computations. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 1–18, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05
— (*with* Gibbons, Alan; Dunne, Paul E.) Toward feasible and efficient DNA computation. (English summary) *Complexity* **4** (1998), *no.* 1, 20–24. (Robert M. Baer) **99m:68047** 68Q05 (92D20)
— (*with* Gibbons, Alan; Hodgson, David A.) Error-resistant implementation of DNA computations. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 151–161, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)
Amosov, A. A. On the weak convergence of a class of rapidly oscillating functions. (Russian) *Mat. Zametki* **62** (1997), *no.* 1, 145–150; *translation in Math. Notes* **62** (1997), *no.* 1-2, 122–126 (1998). (Alexander A. Kovalevsky) **99d:49027** 49J45 (46E99)
— (*with* Zlotnik, A. A.) Stability of generalized solutions of the one-dimensional motion of a viscous heat-conducting gas. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 6, 835–846. (Summary) **99k:76067** 76E99 (35Q35, 76N15)
— (*with* Zlotnik, A. A.) On the quasi-averaging of a system of equations of the one-dimensional motion of a viscous heat-conducting gas with rapidly oscillating data. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1204–1219; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1152–1167. (Summary) **99g:76125** 76N15 (35Q35)
Amosov, G. G. (*with* Bulinskiĭ, A. V.) The Powers-Arveson index for quasifree dynamical semigroups. (Russian) *Mat. Zametki* **62** (1997), *no.* 6, 933–936; *translation in Math. Notes* **62** (1997), *no.* 5-6, 781–784 (1998). (Aldo J. Lazar) **99g:46091** 46L55 (46L57)
Amour, Laurent (*with* Ben-Artzi, Matania) Global existence and decay for viscous Hamilton-Jacobi equations. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 621–628. (Zi Qian Yan) **99c:35098** 35K55 (35B40, 35B50)
— (*with* Guillot, J.-C.) Examples of discrete operators with a pure point spectrum of finite multiplicity. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 170–183. (Frédéric Klopp) **99k:47071** 47B39 (58F27)
Amoura, A. K. (*with* Bampis, E.; Kenyon, Claire M.; Manoussakis, Y.) Scheduling independent multiprocessor tasks. (English summary) *Algorithms—ESA '97* (*Graz*), 1–12, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68M20
— (*with* Bampis, E.; Manoussakis, Y.; Tuza, Zsolt) A comparison of heuristics for scheduling multiprocessor tasks on three dedicated processors. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 49–61. 68M20
Amouzegar, Mahyar A. (*with* Moshirvaziri, Khosrow) A penalty method for linear bilevel programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 251–271, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:90133** 90C08
— (*with* Moshirvaziri, Khosrow) A subdivisional scheme for linear programs with an additional reverse convex constraint. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 179–192. (Summary) **99j:90045** 90C05 (90C08)
aït Amrane, Samir *see* **Aït Amrane, Samir**
Amrani, Allal Lemme de Fatou pour l'intégrale de Pettis. (English summary) [Fatou lemma for the Pettis integral] *Publ. Mat.* **42** (1998), *no.* 1, 67–79. (Heinz-Albrecht Klei) **99h:28027** 28B20 (26E25, 46E99)
Amrani, Ofer (*with* Be'ery, Yair) Bounded-distance decoding: algorithms, decision regions, and pseudo nearest neighbors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3072–3082. (Summary) **99k:94058** 94B35
Amrhein, Beatrice (*with* Bündgen, Reinhard; Küchlin, Wolfgang) Parallel completion techniques. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 1–34, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Summary) **99b:68107** 68Q42 (68Q40)
el Amri, H. *see* **El Amri, H.**
al-Amri, Ibraham R. *see* **Al-Amri, Ibraham R.**
Amrouche, C. (*with* Bernardi, Christine; Dauge, Monique; Girault, Vivette) Vector potentials in three-dimensional non-smooth domains. (English and French summaries) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 823–864. (Juha H. Videman) **99e:35037** 35J25 (35Q30, 65N30, 76D07)
el Amrouss, A. R. *see* **El Amrouss, A. R.**
Amundson, N. R. (*with* Morano, Eric; Sanders, Richard) Techniques for the numerical solution of steady reaction-diffusion systems employing Stefan-Maxwell diffusion. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 9–25. (Reinhard Redlinger) **99f:65140** 65M60 (76M25, 80A32)
Amyeen, M. E. (*with* Kaykobad, M.; Islam, Md. M.; Murshed, M. M.) 3 is a more promising algorithmic parameter than 2. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 19–24. 68Q25 (68M07)
le thi hoai An *see* **Le Thi Hoai An**
An, Chang *see* **Chang, An**
An, Gang (*with* Pavel, N. H.) Periodic solutions to nonlinear one-dimensional wave equation with Neumann-Dirichlet boundary conditions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 1–18. (Pavel Krejčí) **99a:35178** 35L70 (35B10)
An, Hong-Zhi (*with* Hickernell, Fred J.; Zhu, Li-Xing) A new class of consistent estimators for stochastic linear regressive models. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 242–258. (Jiří Anděl) **99b:62098** 62J02 (62F12)
— (*with* Chen, Min[4]; Huang, Fuchun) The geometric ergodicity and existence of moments for a class of non-linear time series model. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 213–224. (Juan Carlos Abril) **99a:62126** 62M10 (62J02)
— (*with* Chen, Min[4]) The existence of moments of nonlinear autoregressive model. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 328–332. (Summary) **99g:62133** 62M10 (60J05)
— (*with* Chen, Min[4]) A note on the stationarity and the existence of moments of the GARCH model. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 505–510. (Summary) **99a:62127** 62M10
An, Jeong Hyang (*with* Oh, Young Sun) On $\varphi(t)$-stability for the comparison differential system. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 161–166. (L. Hatvani) **99c:34108** 34D20
— (*with* Oh, Young Sun; Lee, Jae Don) On asymptotic stability for perturbed differential equation. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 167–173. (L. Hatvani) **99c:34109** 34D20
An, Jianbei The Alperin and Dade conjectures for Ree groups ${}^2F_4(q^2)$ in non-defining characteristics. (English summary) *J. Algebra* **203** (1998), *no.* 1, 30–49. (Jürgen Müller) **99e:20017** 20C33 (20C15, 20D06)
— (*with* O'Brien, E. A.) A local strategy to decide the Alperin and Dade conjectures. (English summary) *J. Algebra* **206** (1998), *no.* 1, 183–207. (J. L. Alperin) **99d:20015** 20C20 (20C15, 20D08)
An, Jianye (*with* Sun, Jiong) On self-adjointness of the product of two n-order differential operators on $[a, b)$. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 48–55. (Anton Zettl) **99e:47059** 47E05 (34B05, 34L99)
An, Jong Soo A certain functional equation. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 198–202. (F. J. Papp) **99d:39025** 39B32
An, Myoung (*with* Tolimieri, Richard) ★ Time-frequency representations. (English summary) Applied and Numerical Harmonic Analysis. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xiv+284 *pp. ISBN* 0-8176-3918-7 (Lars F. Villemoes) **99e:94013** 94A12 (20K01, 42C15, 43A25, 94A11)
An, Tianqing (*with* Long, Yi Ming) On the index theories for second order Hamiltonian systems. *Nonlinear Anal.* **34** (1998), *no.* 4, 585–592. (Jean Mawhin) **99h:58151** 58F22 (34B05, 34C25, 58E05, 58F05, 70H05)
An, V. V. *see* **Anh, Vo**
Anacker, Steven E. (*with* Woldar, Andrew J.) Reconstructibility of graphs with a large branch: permutation group theory and graph reconstruction. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 19–30. (J. Lauri) **99j:05146** 05C60
Anagnostopoulos, Konstantinos N. (*with* Ambjørn, Jan; Jurkiewicz, Jerzy Władysław; Kristjansen, Charlotte F.) The concept of time in 2D gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 16, 14 *pp.* (*electronic*). (Summary) **99b:83028** 83C45 (82B20)
— (*with* Ambjørn, Jan; Jensen, Lars; Ichihara, Takashi; Watabiki, Yoshiyuki) Quantum geometry and diffusion. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 22, 16 *pp.* (*electronic*). (Summary) **99m:83059** 83C45 (83C27)
Anai, Hirokazu On solving semidefinite programming by quantifier elimination. (English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 154–162. (*see* **99h:00034**) 90C34 (03C10, 65K05)
Anand, Christopher Kumar A closed form for unitons. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 737–751. (Yu Xin Dong) **99j:58052** 58E20 (32L25)
Anand, Lakshmanan (*with* Ghose, Debasish; Mani, V.) Probabilistic load scheduling with priorities in distributed computing systems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 10, 839–856. (Summary) **99g:68022** 68M20 (90C35)
Anand, Paul Should we use simultaneous equations to model decision-making? A methodological note. (English summary) *Ann. Oper. Res.* **80** (1998), 253–262. 90A05
Anand, Renu (*with* Sharma, Som Datt; Raj, Jagdish) Composition operators on Bergman-Orlicz type spaces. (English summary) *Indian J. Math.* **40** (1998), *no.* 2, 227–235. (Wayne Stewart Smith) **99m:47039** 47B38 (46E30)
Anand, Tirunelveli (*with* Minai, Ali A.) Synchronizing multiple chaotic maps with a randomized scalar coupling. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 241–259. 58F13 (58F40)
Ananda, Malwane M. A. Bayesian and non-Bayesian solutions to analysis of covariance models under heteroscedasticity. (English summary) *J. Econometrics* **86** (1998), *no.* 1,

177–192. 62P20
— (*with* Singh, Ashok K.) Performance assessment of multiple engineered barrier systems. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 1, 25–33. 90B25
Anandam, Victor (*with* Damlakhi, Moustafa) Harmonic singularity at infinity in $\mathbf{R}^n$. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 471–476. (Alexander I. Kheyfits) **99f:31008** 31B05
— Bipotential elliptic differential operators. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 329–336. (Henrik Shahgholian) **99f:35031** 35J15 (31B35, 31D05)
— (*with* Damlakhi, Moustafa) Biharmonic Green domains in $\mathbf{R}^n$. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 669–680. (Alain Brillard) **99j:31012** 31B30 (31B05)
— Positive harmonic singularity at infinity. (English summary) *Potential Anal.* **9** (1998), *no.* 2, 173–180. (Sirkka-Liisa Eriksson-Bique) **99k:31013** 31D05
Anandan, Jeeva Quantum measurement problem and the gravitational field. *The geometric universe* (*Oxford*, 1996), 357–368, *Oxford Univ. Press, Oxford*, 1998. (S. Gudder) **99d:81015** 81P15 (81V17)
— Global topology and local violation of discrete symmetries. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 7, 1363–1366. (Summary) **99e:83062** 83F05
Anan′ev, B. I. Minimax estimation of statistically uncertain systems under the choice of a feedback parameter. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 17 *pp.* (*electronic*). (Summary) **99g:93079** 93E11 (93E12)
— A guaranteed filtering scheme for hereditary linear systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 20 *pp.* (*electronic*). (Jan H. van Schuppen) **99m:93100** 93E11
Anan′evskiĭ, I. M. Control of a linear mechanical system with elastic elements under uncertainty conditions. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 60–68. 93C85 (70Q05, 93C41)
— Control of a mechanical system with unknown parameters by a bounded force. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 52–62; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 49–58. (Summary) **99b:70029** 70Q05 (49J15, 70H35, 93C15)
— Control of flexible mechanical systems under uncertainty conditions. (Russian. Russian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 103–105, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 70Q05 (49N55, 73K50)
— Bounded control of a mechanical system under uncertainty conditions. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 607–609. 93C85 (70Q05)
— Control of a two-mass system with unknown parameters. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 72–82. 93C85 (70Q05, 93C95)
Ananikyan, N. S. (*with* Dallakian, S. K.; Hu, Bambi) Chaotic properties of the Q-state Potts model on the Bethe lattice: $Q < 2$. (English summary) *Complex Systems* **11** (1997), *no.* 3, 213–222. 82B20
Añaños, G. N. J. (*with* Malbouisson, A. P. C.; Svaiter, N. F.) Analytic regularization of the $(\overline{\psi}_i\psi_i)^2_D$ model at finite temperature and density. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3515–3521. (Summary) **99c:81140** 81T15
Anantharam, Venkat (*with* Venkatesan, Sivarama) The common randomness capacity of a pair of independent discrete memoryless channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 215–224. (Summary) **99c:94018** 94A40
— (*with* Vamvakos, Socrates) On the departure process of a leaky bucket system with long-range dependent input traffic. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 191–214. (Summary) **99c:60210** 60K25
— (*with* Konstantopoulos, Takis) A methodology for the design of optimal traffic shapers in communication networks. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 583–586. (Summary) **99m:90068** 90B12 (90B06)
Anantharaman-Delaroche, Claire (*with* Kirillov, Aleksandr Aleksandrovich) Sur les relations entre l'espace dual d'un groupe et la structure de ses sous-groupes fermés (d'après D. A. Kajdan). (French summary) [Relations between the dual space of a group and the structure of its closed subgroups (after D. A. Kazhdan)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 343, 507–528, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 22E40
— Classification des C^*-algèbres purement infinies nucléaires (d'après E. Kirchberg). (French summary) [Classification of nuclear purely infinite C^*-algebras (following E. Kirchberg)] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 805, 3, 7–27. (Judith A. Packer) **99g:46075** 46L05 (46L80)
— Purely infinite C^*-algebras arising from dynamical systems. (English and French summaries) *Bull. Soc. Math. France* **125** (1997), *no.* 2, 199–225. (Judith A. Packer) **99i:46051** 46L55 (46L05, 54H20, 58F03)
Ananthkrishnan, N. (*with* Sudhakar, K.; Sudershan, S.; Agarwal, A.) Application of secondary bifurcations to large-amplitude limit cycles in mechanical systems. *J. Sound Vibration* **215** (1998), *no.* 1, 183–188. (From the text) **99i:70027** 70K10 (34C05, 34C23)
Ananth Raj, P. (*with* Parthasarathy, G.) A recurrent neural network approach for ill-posed problems in computer vision. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 149–158. (*see* **99g:00043**) 68U10 (68T05)
Anashkin, O. V. The averaging method in the theory of stability of functional-differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 448–457, 573; *translation in Differential Equations* **33** (1997), *no.* 4, 447–456. (L. Hatvani) **99c:34172** 34K20 (34C29)
— Stability theorems for nonlinear functional-differential equations. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 2, 25–35. (Bogdan Przeradzki) **99e:34103** 34K20
Anastasiei, Mihai (*with* Bucătaru, Ioan) A notable submersion in the higher order geometry. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 1–10, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Vladimir Balan) **99h:53097** 53C60
— (*with* Čomić, Irena) Geometry of k-Lagrange spaces of second order. 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Mat. Vesnik* **49** (1997), *no.* 1, 15–22. (Ramhit Ojha) **99d:53020** 53B40
— Academician Radu Miron on his 70th birthday. Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 673–687. (Editors) **99m:01031** 01A70
— (*with* Bucătaru, Ioan) Jacobi fields in generalized Lagrange spaces. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 689–695. (Zoltan Kovacs) **99k:53024** 53B40 (53C99)
Anastassiou, George A. Optimal bounds on the average of a rounded off observation in the presence of a single moment condition. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 1–13, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99c:60035** 60E99 (44A60)
— Differentiated shift-invariant integral operators, multivariate case. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 4, 243–275. (Heinz H. Gonska) **99b:41013** 41A35 (26B05)
— (*with* Bendikov, A. D.) A discrete analog of Kac's formula and optimal approximation of the solution of the heat equation. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1367–1389. (Alexander Ostermann) **99c:65173** 65M15 (65M06, 65M20)
— (*with* Yu, Xiang Ming) Multivariable probabilistic scale approximation. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 41–57. (P. N. Rathie) **99d:41033** 41A29 (41A63)
— Weak convergence of squashing neural network operators studied asymptotically. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 439–448. (Summary) **99c:41059** 41A60 (68T05)
— Higher order univariate wavelet type approximation. (English summary) *Approximation theory*, 43–60, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99b:41014** 41A35
— (*with* Rychlik, Tomasz) Moment problems on random rounding rules subject to two moment conditions. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 9–19. (Summary) **99b:60026** 60E15 (44A60)
— Opial type inequalities for linear differential operators. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 193–200. (B. G. Pachpatte) **99m:34016** 34A40 (26D10, 34B27)
— Weak convergence of Cardaliaguet-Euvrard neural network operators studied asymptotically. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 214–223. (Andrei Martínez Finkelshtein) **99h:41031** 41A35 (41A25)
— (*with* Bendikov, A. D.) A sharp error estimate for the numerical solution of multivariate Dirichlet problem. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 403–422. (A. V. Dzhishkariani) **99m:65203** 65N15 (31B35, 65N06)
Anastopoulos, C. Preferred consistent history sets. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2261–2272. (Frank Antonsen) **99k:81013** 81P05
— (*with* Zoupas, A.) Nonequilibrium quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105006, 12 *pp.* 81V10
Anatolyev, Stanislav Nonparametric estimation of nonlinear rational expectation models. (English summary) *Econom. Lett.* **62** (1999), *no.* 1, 1–6. (Summary) **99j:62040** 62G05 (62P20)
salazar-Anaya, Gelasio *see* **Salazar-Anaya, Gelasio**
fernández Anaya, Guillermo *see* **Fernández Anaya, Guillermo**
Anbil, Ranga (*with* Forrest, John J.; Pulleyblank, William R.) Column generation and the airline crew pairing problem. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 677–686 (*electronic*). (Uwe Zimmermann) **99g:90163** 90C90 (90B25, 90C10)
Ancel, Lauren W. (*with* Hero, Michael W.) One-way intervals of circle maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1191–1197. (Louis Block) **99a:58054** 58F03 (54H20)
Anchordoqui, Luis A. (*with* Birman, Graciela S.) Metric tensors for homogeneous, isotropic, 5-dimensional pseudo-Riemannian models. (English summary) *Rev. Colombiana Mat.* **32** (1998), *no.* 1, 73–79. (Mark D. Roberts) **99m:83176** 83E15 (83C15, 83F05)
Anchouche, Boudjemâa Sur la dimension logarithmique de Kodaira des variétés kählériennes complètes de courbure de Ricci positive. [On the logarithmic Kodaira dimension of complete Kähler manifolds of positive Ricci curvature] *Math. Z.* **227** (1998), *no.* 3, 403–421. (Thierry Bouche) **99f:32052** 32L20 (53C55)
Anco, Stephen C. Nonlinear gauge theories of a spin-two field and a spin-three-halves field. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 52–125. (Jaime Muñoz Masqué) **99i:53074** 53C80 (53C07, 81R25, 81T13)
— (*with* Bluman, George) Integrating factors and first integrals for ordinary differential equations. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 245–259. (Luis P. Chimento) **99h:34008** 34A34
Ancochea Bermudez, J. M. (*with* Goze, Michel) On the nonrationality of rigid Lie algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2611–2618. (Roger Carles) **99m:17036** 17B99
Ancona, Alano A note on the Rellich formula in Lipschitz domains. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 223–237. (P. Lindqvist) **99d:35037** 35J15 (31C99)
Ancona, Davide (*with* Zucca, Elena) An algebra of mixin modules. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 92–106, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68N15
— (*with* Zucca, Elena) A theory of mixin modules: basic and derived operators. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 4, 401–446. (Summary) **99d:68036** 68N15 (68Q55)
Ancona, Fabio (*with* Marson, Andrea) On the attainable set for scalar nonlinear conservation laws with boundary control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 290–312 (*electronic*). (Philippe G. LeFloch) **99h:93008** 93B03 (35L65, 49J20, 90B20)
— (*with* Marson, Andrea) Scalar non-linear conservation laws with integrable boundary data. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 687–710. (Yu. G. Rykov) **99m:35149** 35L65 (49J20)
Andalafte, Edward (*with* Freese, Raymond) Strong additivity of metric isosceles orthogonality. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 121–128. (Summary) **99f:51023** 51F20
Andary, Philippe Finely homogeneous computations in free Lie algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 101–114. (Aleksandr A. Mikhalev) **99g:17010** 17B01 (68R15)

Anděl, Jiří On residual analysis for time series models. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 2, 161–170. (Juan Carlos Abril) **99i:62195** 62M10 (90A20)
— An estimator for parameters of a nonlinear nonnegative multidimensional AR(1) process. (English summary) *Appl. Math.* **43** (1998), *no.* 5, 389–398. (Sat Narain Gupta) **99m:62130** 62M10
— (*with* Neuhaus, Georg) Extrapolation in fractional autoregressive models. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 3, 309–316. (P. A. Morettin) **99j:62121** 62M10 (62M20)
— (*with* Antoch, Jaromír) On Bartlett's test for correlation between time series. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 5, 545–554. (Summary) **99i:62196** 62M10
Andereck, C. David (*with* Colovas, Peter W.; Degen, Michael M.; Renardy, Yuriko Yamamuro) Instabilities in two layer Rayleigh-Bénard convection: overview and outlook. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1451–1470. (Summary) **99i:76052** 76E15 (86A10)
An der Heiden, Uwe *see* **an der Heiden, Uwe**
Andersen, Anders Holst (*with* Korsgaard, Inge Riis) The additive genetic gamma frailty model. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 255–269. (Ramesh C. Gupta) **99i:62249** 62P10
Andersen, Erling D. (*with* Gondzio, Jacek; Mészáros, Csaba; Xu, Xiaojie) Implementation of interior-point methods for large scale linear programs. (English summary) *Interior point methods of mathematical programming*, 189–252, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05 (90C06)
— (*with* Ye, Yinyu) A computational study of the homogeneous algorithm for large-scale convex optimization. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 3, 243–280. (M. Teboulle) **99e:90065** 90C25 (90C33)
— (*with* Damgaard, Anders) Utility based option pricing with proportional transaction costs and diversification problems: an interior-point optimization approach. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 395–422. (Fabio Antonelli) **99m:90022** 90A09 (90C08)
Andersen, Heidi H. (*with* Højbjerre, M.; Sørensen, Dorte; Eriksen, P. S.) ★ Linear and graphical models. For the multivariate complex normal distribution. Lecture Notes in Statistics, 101. *Springer-Verlag, New York*, 1995. x+183 *pp. ISBN* 0-387-94521-0 (M. Studený) **99a:62002** 62–01 (05C90, 62H12, 62H15)
Andersen, Henning Haahr Tilting modules for algebraic groups. *Algebraic groups and their representations (Cambridge*, 1997), 25–42, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (James E. Humphreys) **99k:20086** 20G05 (16W30, 17B37)
Andersen, Jakob Dahl (*with* Justesen, Jørn) Critical lengths of error events in convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1608–1611. 94B12
søgaard-Andersen, Jørgen *see* **Søgaard-Andersen, Jørgen**
Andersen, Jørgen Ellegaard New polarizations on the moduli spaces and the Thurston compactification of Teichmüller space. (English summary) *Internat. J. Math.* **9** (1998), *no.* 1, 1–45. (Jonathan A. Poritz) **99e:58029** 58D27 (32G15, 57M50, 57R30, 58D29)
— (*with* Mattes, Josef; Reshetikhin, N. Yu.) Quantization of the algebra of chord diagrams. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 451–467. (Justin D. Roberts) **99m:58040** 58D29 (57M25, 58F06)
Andersen, Kenneth F. Weighted inequalities for iterated convolutions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2643–2651. (Nikolai Bozhinov) **99m:42018** 42B10 (26D15, 44A35)
Andersen, Knud D. (*with* Christiansen, Edmund) Minimizing a sum of norms subject to linear equality constraints. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 65–79. (M. Teboulle) **99h:90076** 90C25 (65K05)
— (*with* Christiansen, Edmund; Overton, Michael L.) Computing limit loads by minimizing a sum of norms. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 1046–1062 (*electronic*). (Summary) **99a:73059** 73E20 (65K10, 65N30, 73V05)
Andersen, Kurt Munk (*with* Sandqvist, Allan) A necessary and sufficient condition for a linear differential system to be strongly monotone. *Bull. London Math. Soc.* **30** (1998), *no.* 6, 585–588. (Janusz Mierczyński) **99g:34098** 34C35 (34A30, 34C11)
— (*with* Sandqvist, Allan) Existence of closed solutions of an equation $\dot{x} = f(t, x)$, where $f'_x(t, x)$ is weakly convex or concave in x. *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 480–500. (Armengol Gasull) **99m:34086** 34C25 (34A12)
Andersen, Lars Døvling (*with* Fleischner, Herbert; Regner, Susanne) Algorithms and outerplanar conditions for A-trails in plane Eulerian graphs. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 2, 99–112. (Cun-Quan Zhang) **99c:05121** 05C45 (05C85)
Andersen, Nils Linear time simulation of invertible non-deterministic stack algorithms. (English summary) *J.UCS* **3** (1997), *no.* 3, 148–171 (*electronic*). 68N20
Andersen, Nils Byrial Invariant fundamental solutions and solvability for symmetric spaces of type G_C/G_R with only one conjugacy class of Cartan subspaces. *Ark. Mat.* **36** (1998), *no.* 2, 191–200. (Li Min Sun) **99j:42011** 42A75 (22E30)
— Solutions élémentaires invariantes pour les opérateurs différentiels invariants sur les espaces symétriques réductifs de type G_C/G_R. (English and French summaries) [Invariant fundamental solutions for invariant differential operators on reductive symmetric spaces of type G_C/G_R] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 123–126. (Alexander Isaakovich Shtern) **99i:22012** 22E30 (17B35)
Andersen, Per Kragh (*with* Klein, John P.; Knudsen, Kim M.; Tabanera y Palacios, René) Estimation of variance in Cox's regression model with shared gamma frailties. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1475–1484. (Jack Cuzick) **99f:62049** 62G05 (62N05)
Anderson, Arlen (*with* Abrahams, Andrew M.; Lea, Chris) Curvature-based gauge-invariant perturbation theory for gravity: a new paradigm. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064015, 15 *pp.* (Summary) **99m:83051** 83C25
— (*with* York, James W., Jr.) Hamiltonian time evolution for general relativity. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 6, 1154–1157. (Simonetta Frittelli) **99g:83009** 83C05
Anderson, Brian D. O. (*with* Mita, Tsutomu; Matson, Jeremy B.) A complete and simple parametrization of controllers for a nonstandard H_∞ control problem. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 369–374. (Ian Petersen) **99k:93047** 93B36 (93D21)
— (*with* Linard, Natasha; De Bruyne, Franky) Coprimeness properties of nonlinear fractional system realizations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 265–271. (Summary) **99e:93017** 93B15 (93B28)
— (*with* Chongsrid, K.; Limebeer, D. J. N.; Hara, Shinji) Direct reduced order discretization of continuous-time controller. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 143–155. (*see* **99k:93005**) 93B11 (93C57)
Anderson, Bruce B. (*with* Jackson, Jeffrey C.; Sitharam, Meera) Descartes' rule of signs revisited. *Amer. Math. Monthly* **105** (1998), *no.* 5, 447–451. (D. Boyd) **99e:12001** 12D10 (01A45, 26C10)
Anderson, C. Anthony Alonzo Church's contributions to philosophy and intensional logic. *Bull. Symbolic Logic* **4** (1998), *no.* 2, 129–171. (Jon M. Cogburn) **99i:01030** 01A70 (00A30, 01A60, 03–03, 03A05, 03B45, 03B65)
Anderson, Clive W. (*with* Coles, Stuart G.; Hüsler, Jürg) Maxima of Poisson-like variables and related triangular arrays. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 953–971. (Toshio Mori) **99c:60108** 60G70
Anderson, D. *see* **Anderson, Douglas Robert**
Anderson, D. D. (*with* Camillo, Victor) Armendariz rings and Gaussian rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2265–2272. (J. W. Brewer) **99e:16041** 16U99 (13A99)
— (*with* Kang, Byung Gyun; Park, Mi Hee) Anti-Archimedean rings and power series rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3223–3238. (Valentina Barucci) **99h:13023** 13F05 (13F25)
— (*with* Kang, Byung Gyun) Formally integrally closed domains and the rings $R((X))$ and $R\{\{X\}\}$. (English summary) *J. Algebra* **200** (1998), *no.* 1, 347–362. (Muhammad Zafrullah) **99a:13012** 13F25 (13A15)
— (*with* Chapman, Scott T.; Halter-Koch, Franz; Zafrullah, Muhammad) Criteria for unique factorization in integral domains. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 205–218. (David E. Rush) **99h:13026** 13F15 (13G05, 20M14)
— (*with* Chapman, Scott T.; Kwak, Dong Je) Integral domains with highly nonunique factorization. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 22–29. (Muhammad Zafrullah) **99b:13002** 13A05 (13G05, 20M14)
Anderson, Daniel Michael (*with* McFadden, G. B.; Wheeler, A. A.) Diffuse-interface methods in fluid mechanics. (English summary) *Annual review of fluid mechanics, Vol.* 30, 139–165, *Annu. Rev. Fluid Mech.*, 30, *Annual Reviews, Palo Alto, CA*, 1998. (Summary) **99a:76048** 76D99
Anderson, David F. (*with* Dobbs, David E.) Root closure in integral domains. III. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 3–9. (Salah-Eddine Kabbaj) **99c:13042** 13G05 (13F25)
— (*with* Park, Jeanam; Kim, Gi-Ik; Oh, Heung-Joon) Splitting multiplicative sets and elasticity. *Comm. Algebra* **26** (1998), *no.* 4, 1257–1276. (William W. Smith) **99c:13002** 13A05 (13B30, 13F15)
Anderson, Douglas Robert Discrete trigonometric matrix functions. (English summary) *Panamer. Math. J.* **7** (1997), *no.* 1, 39–54. (Summary) **99e:39004** 39A10
— A 2*n*th order linear difference equation. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 521–529. (Shao Zhu Chen) **99k:39005** 39A10 (39A12)
— (*with* Avery, Richard I.; Peterson, Allan C.) Three positive solutions to a discrete focal boundary value problem. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 103–118. (Allan C. Peterson) **99b:39002** 39A10
— Multiple positive solutions for a three-point boundary value problem. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 49–57. (Ben Dong Lou) **99b:34040** 34B10 (34B15)
— Green's function for an *n*-point discrete right focal boundary value problem. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 2, 45–70. (P. W. Eloe) **99e:39005** 39A10
Anderson, G. D. (*with* Qiu, Songliang; Vuorinen, Matti K.) Precise estimates for differences of the Gaussian hypergeometric function. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 212–234. (J. M. H. Peters) **99k:33010** 33C20 (26D07, 26D15, 26D20, 33B10, 33C05)
— (*with* Qiu, Songliang; Vamanamurthy, Mavina K.) Elliptic integral inequalities, with applications. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 195–207. (J. M. H. Peters) **99k:33061** 33E05 (26A48, 26A51, 26D07)
Anderson, Greg W. A double complex for computing the sign-cohomology of the universal ordinary distribution. *Recent progress in algebra (Taejon/Seoul*, 1997), 1–27, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Yoshinori Hamahata) **99k:11169** 11R18 (11R27)
Anderson, Ian ★ Combinatorial designs and tournaments. (English summary) Oxford Lecture Series in Mathematics and its Applications, 6. *The Clarendon Press, Oxford University Press, New York*, 1997. *xii*+237 *pp. ISBN* 0-19-850029-7 (W. D. Wallis) **99h:05008** 05B05 (05B07, 05B15)
— On the construction of balanced Room squares. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 53–60. (Summary) **99i:05037** 05B15
— (*with* Griggs, Terry) Anstice and Kirkman: mathematical clerics. (English summary) *Math. Intelligencer* **21** (1999), *no.* 2, 44–46. 01A70 (01A55)
— *see also* **Conference: Combinatorial, 99h:00023**
Anderson, J. M. *see* **Anderson, James Milne**
Anderson, James Andrew The tensor product of a semilattice with a semilattice generated by a poset. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 53–56. (Summary) **99f:06006** 06A12
— Tensor product of commutative regular semigroups generated by posets of groups. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 181–186. (Attila Nagy) **99m:20142** 20M14 (20M17)
Anderson, James L. Thomson scattering in an expanding universe. (English summary) *On Einstein's path (New York*, 1996), 15–21, *Springer, New York*, 1999. (Summary) **99i:83048** 83C50 (83F05)

Anderson, James Milne (*with* Pitt, Loren D.) Large time asymptotics for Brownian hitting densities of transient concave curves. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 921–934. (Aimé Lachal) **99b:60133** 60J65 (60G17, 60J25)
— (*with* Cantón, Alicia; Fernández-Pérez, José L.) On smoothness of symmetric mappings. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 161–169. 30C62
— (*with* Drasin, David; Sons, Linda R.) Wolfgang Heinrich Johannes Fuchs (1915–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 11, 1472–1478. (Editors) **99k:01042** 01A70 (30-03)
— (*with* Hinkkanen, Aimo) Unbounded domains of normality. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3243–3252. (F. W. Carroll) **99a:30034** 30D45 (58F23)
— *see also* **Harmonic analysis and hypergroups, 99a:43001**
Anderson, James W. (*with* Rocha, André C.) Analyticity of Hausdorff dimension of limit sets of Kleinian groups. (English summary) *Ann. Acad. Sci. Fenn. Math.* **22** (1997), *no.* 2, 349–364. (B. N. Apanasov) **99a:30039** 30F40 (58F20)
— A brief survey of the deformation theory of Kleinian groups. (English summary) *The Epstein birthday schrift*, 23–49 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (Igor Belegradek) **99m:30086** 30F40 (57M50, 57M60, 57S30)
— Closed essential surfaces in hyperbolizable acylindrical 3-manifolds. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 1–19. (Colin C. Adams) **99c:57034** 57M50 (57N10)
Anderson, Laura Topology of combinatorial differential manifolds. (English summary) *Topology* **38** (1999), *no.* 1, 197–221. (Wolfgang Kühnel) **99k:57052** 57Q15 (52B40, 57Q25)
Anderson, Norman H. (*with* Arthurs, A. M.) Hamilton-Jacobi results for the brachistochrone. (English summary) *European J. Phys.* **20** (1999), *no.* 2, 101–104. 49J05 (70H20)
Anderson, Oliver D. (*with* Chen, Zhao-Guo) Increment-vector methodology: transforming non-stationary series to stationary series. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 64–77. (V. V. Anh) **99c:62244** 62M10
Anderson, P. D. (*with* Galaktionov, O. S.; Peters, G. W. M.; van de Vosse, F. N.; Meijer, H. E. H.) Analysis of mixing in three-dimensional time-periodic cavity flows. (English summary) *J. Fluid Mech.* **386** (1999), 149–166. 76R99
Anderson, Peter G. (*with* Bruckman, Paul S.) Conjectures on the Z-densities of the Fibonacci sequence. *Fibonacci Quart.* **36** (1998), *no.* 3, 263–271. (Sergeĭ V. Konyagin) **99i:11007** 11B05 (11B39, 11N25)
Anderson, R. *see* **Anderson, Ronald**
Anderson, Robert Frank (*with* Molchanov, Stanislav Alekseevich) One-dimensional random walk in a random medium. *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 25–56, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Wan Ding Ding) **99c:60146** 60J15 (60F05, 60F15, 82B41)
Anderson, Robert M. Convergence of the Aumann-Davis-Maschler and Geanakoplos bargaining sets. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 1–37. (Akira Okada) **99e:90025** 90A60 (90A14, 90D12, 90D13)
— (*with* Zame, William R.) Edgeworth's conjecture with infinitely many commodities: commodity differentiation. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 331–377. (Jacques F. Bair) **99a:90073** 90A40
Anderson, Ronald (*with* Vetharaniam, I.; Stedman, G. E.) Conventionality of synchronisation, gauge dependence and test theories of relativity. (English summary) *Phys. Rep.* **295** (1998), *no.* 3-4, 93–180. (Jaume J. Carot) **99b:83004** 83A05 (83–02, 83B05)
Anderson, Ross (*with* Ding, Cunsheng; Helleseth, Tor; Kløve, Torleiv) How to build robust shared control systems. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 111–124. (Summary) **99i:94039** 94A60
Anderson, T. W. Goodness-of-fit tests for autoregressive processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 4, 321–339. (Raúl Pedro Mentz) **99c:62239** 62M10
— (*with* Laake, Petter) Exact and approximate distributions of the maximum likelihood estimate in a simple factor analysis model. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 39–51. (Imbi Traat) **99e:62094** 62H10 (62H12, 62H25)
Anderson, Terry G. Relatively bounded and compact perturbations of Nth order differential operators. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 47–68. (Robert M. Kauffman) **99d:47042** 47E05 (34L99, 47A55)
Anderson-Cook, C. M. Analysis of location and dispersion effects from factorial experiments with a directional response. *Design and analysis of experiments*, 241–259, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K15
Anderssen, Robert S. (*with* Latham, S.) Computational alternatives for depth-averaged modelling of flow. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 447–454, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (76B15, 86–08)
— (*with* Hegland, Markus) A mollification framework for improperly posed problems. *Numer. Math.* **78** (1998), *no.* 4, 549–575. (Charles W. Groetsch) **99d:65190** 65J20 (47A50, 65J10)
— (*with* Götz, Ivan G.; Hoffmann, Karl-Heinz[1]) The global behavior of elastoplastic and viscoelastic materials with hysteresis-type state equations. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 703–723 (*electronic*). (Martin Brokate) **99a:73062** 73E50 (35Q72, 47H20, 47H30, 73F15)
— The pragmatics of solving industrial (real-world) inverse problems with exemplification based on the molecular weight distribution problem. (English summary) *Inverse Problems* **15** (1999), *no.* 2, *R*1–*R*40. 00A69 (76A99)
— (*with* Hegland, Markus) For numerical differentiation, dimensionality can be a blessing! (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1121–1141. (De Hui Chen) **99i:65019** 65D25
Andersson, Arne (*with* Hagerup, Torben; Nilsson, Stefan; Raman, Rajeev) Sorting in linear time? (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 74–93. (Friedhelm Meyer auf der Heide) **99k:68034** 68P10 (68Q25)
— (*with* Larsson, N. J.; Swanson, Kurt) Suffix trees on words. (English summary) *Algorithmica* **23** (1999), *no.* 3, 246–260. (Ricardo Baeza-Yates) **99k:68032** 68P05 (68P20)
Andersson, Bo ★ The Lund model. (English summary) Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology, 7. *Cambridge University Press, Cambridge*, 1998. *xii*+471 *pp. ISBN* 0-521-42094-6 (Massimo Di Pierro) **99k:81338** 81V05 (81T80, 81V35)
Andersson, F. (*with* Edgar, S. Brian) Curvature-free asymmetric metric connections and Lanczos potentials in Kerr-Schild spacetimes. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2859–2861. (János Kánnár) **99d:83009** 83C15 (53C80, 83C60)
Andersson, Gunnar (*with* Engebretsen, Lars) Better approximation algorithms for Set Splitting and Not-All-Equal Sat. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 305–311. (Summary) **99a:90215** 90C34 (68Q25)
Andersson, Håkan (*with* Djehiche, Boualem) Limit theorems for the total size of a spatial epidemic. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 698–710. (Dominique Lépingle) **99b:92054** 92D30 (60F05, 60J27)
— (*with* Britton, Tom) Heterogeneity in epidemic models and its effect on the spread of infection. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 3, 651–661. (Summary) **99m:92045** 92D30
— (*with* Djehiche, Boualem) A threshold limit theorem for the stochastic logistic epidemic. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 3, 662–670. (Summary) **99m:92046** 92D30 (60J27)
Andersson, Helge I. (*with* Valnes, Ole Andreas) Slip-flow boundary conditions for non-Newtonian lubrication layers. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 4, 211–217. 76D08 (76D10)
Andersson, L.-E. (*with* Peters, T. J.; Stewart, N. F.) Selfintersection of composite curves and surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 507–527. (Summary) **99b:65190** 65Y25 (68U05)
Andersson, Lars Åke (*with* Dahl, Mattias) Scalar curvature rigidity for asymptotically locally hyperbolic manifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 1–27. (Santiago R. Simanca) **99d:53035** 53C21 (58G30)
— (*with* Galloway, Gregory J.; Howard, Ralph) The cosmological time function. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 309–322. (Robert J. Low) **99b:53087** 53C50 (83C75)
— (*with* Galloway, Gregory J.; Howard, Ralph) A strong maximum principle for weak solutions of quasi-linear elliptic equations with applications to Lorentzian and Riemannian geometry. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 6, 581–624. (Wen Xiong Chen) **99d:35045** 35J60 (35B50, 35D10, 53C21, 58E15)
Andersson, Lennart (*with* Rantzer, Anders; Beck, Carolyn) Model comparison and simplification. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 157–181. (*see* **99k:93005**) 93B11 (93B17)
Andersson, Martin (*with* Sandholm, Tuomas; Larson, Kate; Shehory, Onn; Tohmé, Fernando) Anytime coalition structure generation with worst case guarantees. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 46–53, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90B12
Andersson, Mats Erik Das Flaviussche Sieb. [The Flavius sieve] *Acta Arith.* **85** (1998), *no.* 4, 301–307. (G. Greaves) **99g:11113** 11N35
— On the vector valued Hausdorff-Young inequality. (English summary) *Ark. Mat.* **36** (1998), *no.* 1, 1–30. (Mario Milman) **99i:43005** 43A25 (42B99, 46E40)
— Integral means on radially weighted spaces of analytic functions. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 68–83. (Richard Rochberg) **99j:46031** 46E20 (30H05, 46M35)
Andersson, N. *see* **Frolov, Valery P., 99m:83110**
Andersson, Paul (*with* Berggren, Martin; Henningson, Dan S.) Optimal disturbances in boundary layers. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 1–26, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 49Q10 (49R10, 76D10)
— (*with* Henningson, Dan S.; Hanifi, A.) On a stabilization procedure for the parabolic stability equations. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 311–332. (Sharon O. Seddougui) **99d:76042** 76E99 (76D05)
— (*with* Berggren, Martin; Henningson, Dan S.) Optimal disturbances and bypass transition in boundary layers. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 134–150. (Summary) **99h:76047** 76F99 (76D10, 76M25)
Andersson, Roger Smooth convex surfaces within tolerance from given points. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 231–240, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A29)
Andersson, Steen A. (*with* Madigan, David; Perlman, Michael D.) An alternative Markov property for chain graphs. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 40–48, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30
— (*with* Madigan, David; Perlman, Michael D.) A characterization of Markov equivalence classes for acyclic digraphs. (English summary) *Ann. Statist.* **25** (1997), *no.* 2, 505–541. (M. Studený) **99a:62076** 62H05 (05C90, 60K99, 68T30)
— (*with* Madsen, Jesper) Symmetry and lattice conditional independence in a multivariate normal distribution. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 525–572. (Truc Nguyen) **99g:62074** 62H12 (62H15)
— (*with* Perlman, Michael D.) Normal linear regression models with recursive graphical Markov structure. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 133–187. (Jack C. Lee) **99i:62126** 62H12 (62J05)
Andersson, Sten (*with* Jacob, Michael) ★ The nature of mathematics and the mathematics of nature. *Elsevier Science B.V., Amsterdam*, 1998. *viii*+345 *pp. ISBN* 0-444-82994-6 (J. S. Joel) **99k:00005** 00A06 (00A69)
Andjel, E. (*with* Mountford, T.) A coupling of infinite particle systems. II. *J. Math. Kyoto Univ.* **38** (1998), *no.* 4, 635–642. (Rinaldo Schinazi) **99k:60240** 60K35
Andler, Martin (*with* Manchon, Dominique) Opérateurs aux différences finies, calcul pseudo-différentiel et représentations des groupes de Lie. (English summary) [Finite difference operators, pseudodifferential calculus and representations of Lie groups] *J. Geom. Phys.* **27** (1998), *no.* 1-2, 1–29. (Joachim Hilgert) **99i:22011** 22E27 (58G15)
Ando, Hiromi Some problems concerning the history of the classical theory of probability. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 40–60. (*see* **99d:01002**) 01A05 (60-03)
Ando, Hiroshi The Cauchy problem for Schrödinger type equation with degeneracy. *Tsukuba J. Math.* **21** (1997), *no.* 3, 785–794. (Nicolai N. Tarkhanov) **99a:35107** 35K15 (35J10)
Ando, Kazuaki (*with* Kinoshita, Toshiharu; Shishibori, Masami; Aoe, Jun-ichi) An improvement of the Aho-Corasick machine. (English summary) *Inform. Sci.* **111** (1998),

no. 1-4, 139–151. (Summary) **99f:68076** 68Q20 (68Q45)
— (*with* Mizobuchi, Shoji; Shishibori, Masami; Aoe, Jun-ichi) Efficient multi-attribute pattern matching. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 21–38. (Summary) **99c:68105** 68Q20 (68Q25)
Ando, Matthew (*with* Morava, Jack; Sadofsky, Hal) Completions of $\mathbf{Z}/(p)$-Tate cohomology of periodic spectra. (English summary) *Geom. Topol.* **2** (1998), 145–174 (*electronic*). (Edgar H. Brown, Jr.) **99e:55016** 55P60 (14L05, 55N22)
Ando, Naoya Strict convexity of hypersurfaces in spheres. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 3, 423–433. (Oguz C. Durumeric) **99k:53105** 53C40
Ando, Toshihiko (*with* Takahashi, Kaoru; Sugawara, Kana; Kato, Yasushi; Shiratori, Norio) Specification of a concurrent system based on propositional logic. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 322–332. (Summary) **99m:68124** 68Q60 (03B70)
Ando, Tsuyoshi (*with* Hiai, Fumio) Hölder type inequalities for matrices. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 1–30. (Linda J. Patton) **99b:15021** 15A45 (15A60, 47A63)
— (*with* Shih, Mau-Hsiang) Simultaneous contractibility. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 487–498 (*electronic*). (Sivaram K. Narayan) **99c:15046** 15A60 (47A30)
— Subadditivity and superadditivity. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 11–19. (*see* **99f:47002**) 47A63
— (*with* Hiai, Fumio) Matrix Hölder inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 126–134. (*see* **99f:47002**) 15A45
Ando, Yoshifumi The homotopy type of the space consisting of regular jets and folding jets in $J^2(n,n)$. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 1, 169–181. (Enrique Outerelo Domínguez) **99e:58019** 58C27 (55P15, 58A20)
Ando, Yoshinori (*with* Suzuki, Masayuki) Trends in the singular perturbation method and in robust control of singularly perturbed systems. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 12, 653–660. 93–02 (34E15, 93C70)
Andoh, Hiromi *see* **Ando, Hiromi**
Andon, F. I. (*with* Borovaya, È. N.) ★ Методы представления и обработки некорректных данных и знаний в интеллектуальных информационных системах. (Russian. Russian summary) [Methods for the representation and processing of incorrect data and knowledge in intelligent information systems] Препринт. Институт Кибернетики имени В. М. Глушкова. Национальная Академия Наук Украины [Preprint. V. M. Glushkov Institute of Cybernetics. National Academy of Sciences of Ukraine], 95-24. *Natsional'naya Akademiya Nauk Ukrainy, Institut Kibernetiki im. V. M. Glushkova, Kiev*, 1995. 29 *pp.* 68P15
Andonov, Rumen (*with* de Dinechin, Florent; Wilde, Doran K.; Rajopadhye, Sanjay) A regular VLSI array for an irregular algorithm. (English summary) *Parallel algorithms for irregularly structured problems (Santa Barbara, CA, 1996)*, 195–200, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 68Q35
Andor, László (*with* Lukács, Gábor) Computing natural division lines on free-form surfaces based on measured data. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 319–326, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 41A63 (65D17)
Andrä, Heiko (*with* Schnack, E.) Galerkin-type boundary element analysis for 3D elasticity problems. *Boundary element topics (Stuttgart, 1995)*, 221–242, *Springer, Berlin*, 1997. (Xiaoguang Allan Zhong) **99j:73104** 73V10 (65N38)
— Integration of singular integrals for the Galerkin-type boundary element method in 3D elasticity. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 239–249. (*see* **99b:73001**) 73V10
Andradas, C. (*with* Acquistapace, F.; Broglia, Fabrizio) Classification of obstructions for separation of semialgebraic sets in dimension 3. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 27–49. (Summary) **99m:14108** 14P10
— (*with* Díaz-Cano, A.) Stability index of closed semianalytic set germs. *Math. Z.* **229** (1998), *no.* 4, 743–751. (Zbigniew Szafraniec) **99k:32011** 32B20 (14P15)
— (*with* Acquistapace, F.; Broglia, Fabrizio) Separation of semialgebraic sets. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 3, 703–728. (Victoria Powers) **99m:14109** 14P10
de Andrade, Antonio Aparecido (*with* Palazzo, Reginaldo, Jr.) Construction and decoding of BCH codes over finite commutative rings. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 69–85. (Margreet Kuijper) **99j:94070** 94B15 (94B35)
Andrade, Doherty (*with* Ma, T. F.) An operator equation suggested by a class of nonlinear stationary problems. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 65–71. (Sergiu Aizicovici) **99a:47091** 47H15 (35L70, 47N20)
de Andrade, Eliana X. L. (*with* Dimitrov, Dimitar K.) Chebyshev-Laurent polynomials and weighted approximation. (English summary) *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996)*, 1–14, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Günther Nürnberger) **99k:41001** 41A05 (41A10, 41A50)
— (*with* Dimitrov, Dimitar K.; Sri Ranga, Alagacone) Characterization of generalized Bessel polynomials in terms of polynomial inequalities. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 538–543. (H. M. Srivastava) **99b:33011** 33C45
aguilar Andrade, Filadelfo *see* **Aguilar Andrade, Filadelfo**
soto-Andrade, Jorge *see* **Soto-Andrade, Jorge**
garcia de Andrade, L. C. *see* **Garcia de Andrade, L. C.**
Andrade, Lenimar N. (*with* Wu, Shin-Ting) Marching along a regular surface/surface intersection with circular steps. *Comput. Aided Geom. Design* **16** (1999), *no.* 4, 249–268. 65D17 (65Y25)
Andrade, Raul (*with* Labra, Alicia; Basso, Ivo) Derivations in some Bernstein algebras of order 2. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 1, 31–40. (Santos González) **99m:17042** 17D92 (17A36)
alvarez-Andrade, Sergio *see* **Alvarez-Andrade, Sergio**
Andrade de Fuenmayor, Carmen (*with* Garrido de Barrios, Ninfa) Two generalizations of the Hubbell integral. (Spanish. English and Spanish summaries) *Lect. Mat.* **16** (1995), *no.* 2, 187–207. (S. L. Kalla) **99b:33045** 33E20 (33C65)
Andradóttir, Sigrún A stochastic approximation algorithm with varying bounds. (English summary) *Oper. Res.* **43** (1995), *no.* 6, 1037–1048. (Vlasta Kaňková) **99c:65119** 65K10 (62L20, 90C99, 93E25)
András, Domokos Equivalence between implicit function theorems. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 41–46. (Asen L. Dontchev) **99g:47124** 47H05 (46G05, 49J52)
Andraši, A. (*with* Taylor, John Clayton) Renormalization of Wilson operators in Minkowski space. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 417–425. (Summary) **99a:81107** 81T15
André, Johannes Correction: "On generalized projective spaces operating on sets" [J. Geom. **59** (1997), no. 1-2, 15–31; MR 98g:51001]. *J. Geom.* **62** (1998), *no.* 1-2, 200. (From the text) **99e:51002** 51A05 (51D10)
André, Michel Anneaux de valuation discrète et modules des différentielles. (English summary) [Discrete valuation rings and modules of differentials] *J. Algebra* **206** (1998), *no.* 1, 135–169. (Tiberiu Dumitrescu) **99h:13032** 13N05 (13D03, 13F30)
André, Nelly (*with* Shafrir, Itai) Minimization of a Ginzburg-Landau type functional with nonvanishing Dirichlet boundary condition. *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 3, 191–217. (Vitaly B. Moroz) **99k:35161** 35Q55 (35B40, 49J10, 58E50)
André, Robert Adolphe Quetelet, académicien. (English, French and Dutch summaries) [Adolphe Quetelet, Academician] Actualité et universalité de la pensée scientifique d'Adolphe Quetelet (Brussels, 1996). *Acad. Roy. Belg. Cl. Sci. Mém. Collect.* 8° (3) **13** (1997), 23–45. (*see* **99a:01002**) 01A70
André, Robert P. When does the family of singular compactifications form a complete lattice? (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 979–1007. (Summary) **99c:54035** 54D35 (54D40)
— On the supremum of a family of singular compactifications. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 1–24. (Summary) **99h:54038** 54D35
André, Yves[1] (*with* Baldassarri, Francesco) Geometric theory of G-functions. (English summary) *Arithmetic geometry (Cortona, 1994)*, 1–22, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Alexandru Buium) **99c:12011** 12H25
Andreadis, Ioannis (*with* Pnevmatikos, Spyros; Pliakis, Dimitris) Singularités régularisables des équations d'Euler-Lagrange sur une variété hilbertienne. (English and French summaries) [Removable singularities of the Euler-Lagrange equations on a Hilbert manifold] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 877–882. (Harald Upmeier) **99b:58100** 58F05 (58B20, 58E30)
— (*with* Argyris, John; Pavlos, Georgios; Athanasiou, Michalis) On the influence of noise on the largest Lyapunov exponent and on the geometric structure of attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 947–958. (Summary) **99h:58115** 58F12 (34C35, 34D08, 34D45, 34F05)
— (*with* Argyris, John) On the influence of noise on the largest Lyapunov exponent of attractors of stochastic dynamic systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 959–963. (Summary) **99h:58116** 58F12 (34C35, 34D08, 34D45, 34F05)
— (*with* Argyris, John; Ciubotariu, Corneliu) Complexity in spacetime and gravitation. I. From chaos to superchaos. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1651–1701. (Simonetta Frittelli) **99k:83097** 83C99 (58F13, 58F40, 83C57)
— (*with* Argyris, John; Ciubotariu, Corneliu) On the influence of noise on the Bianchi IX and VIII cosmological models. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1813–1825. 83C15 (58F13)
— (*with* Argyris, John; Ciubotariu, Corneliu) A metric for an Evans-Vigier field. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 141–163. (Summary) **99a:83039** 83C50
Andreae, Thomas (*with* Hintz, Martin; Nölle, Michael; Schreiber, Gerald; Schuster, Gerald W.; Seng, Hajo) Cartesian products of graphs as subgraphs of de Bruijn graphs of dimension at least three. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 3–34. (Jean-Claude Bermond) **99a:05116** 05C75
— On the clique-transversal number of chordal graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 3–11. (Summary) **99g:05107** 05C35
— (*with* Hintz, Martin) On hypercubes in de Bruijn graphs. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 259–268. (Summary) **99i:68088** 68R10 (05C99)
Andreani, Roberto (*with* Martínez, José Mario) On the solution of the extended linear complementarity problem. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 247–257. (S. R. Mohan) **99g:90143** 90C33 (49J40)
Andreas, Björn (*with* Curio, Gottfried; Lüst, Dieter) $N = 1$ dual string pairs and their massless spectra. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 175–196. (Summary) **99j:81131** 81T30 (14J32, 32G81, 32J81)
— A note on a class of cosmological string backgrounds. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 24, 10 *pp.* (*electronic*). (Sergey Nikolaevich Roshchupkin) **99m:83180** 83E30 (81T30)
— (*with* Curio, Gottfried) Three-branes and five-branes in $N = 1$ dual string pairs. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 41–44. (Gerardo Marcelo Aldazabal) **99b:81170** 81T30 (14J32, 32J81)
Andreas, Edgar L. (*with* Treviño, George) Detrending turbulence time series with wavelets. (English summary) *Current topics in nonstationary analysis (San Diego, CA*, 1995), 35–73, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:86011** 86A10 (42C15, 62M10, 76F99)
— *see also* **Current topics in nonstationary analysis, 99g:60003**
Andreasen, Jesper (*with* Jensen, Bjarke; Poulsen, Rolf) Eight valuation methods in financial mathematics: the Black-Scholes formula as an example. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 18–40. (Summary) **99d:90017** 90A09 (60G35)
Andreasen, Viggo (*with* Lin, Juan; Levin, Simon A.) The dynamics of cocirculating influenza strains conferring partial cross-immunity. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 825–842. (Summary) **99a:92013** 92C60
Andreassen, Øyvind (*with* Hvidsten, Per Øyvind; Fritts, David C.; Arendt, Steve) Vorticity dynamics in a breaking internal gravity wave. I. Initial instability evolution. (English summary) *J. Fluid Mech.* **367** (1998), 27–46. (From the summary) **99d:76021a** 76C10 (76E99, 76V05)
— (*with* Fritts, David C.; Arendt, Steve) Vorticity dynamics in a breaking internal gravity wave. II. Vortex interactions and transition to turbulence. (English summary) *J. Fluid Mech.* **367** (1998), 47–65. (From the summary) **99d:76021b** 76C10 (76E99, 76F99, 76V05)

Andreatta, Marco (*with* Wiśniewski, Jarosław A.) A view on contractions of higher-dimensional varieties. *Algebraic geometry—Santa Cruz* 1995, 153–183, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (M. Kh. Gizatullin) **99f:14020** 14E30 (14J45)
— (*with* Wiśniewski, Jarosław A.) Contractions of smooth varieties. II. Computations and applications. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 343–360. (János Kollár) **99f:14021b** 14E30 (14E05, 14J35)
— (*with* Wiśniewski, Jarosław A.) On contractions of smooth varieties. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 2, 253–312. (János Kollár) **99f:14021a** 14E30 (14E05, 14J35)
Andreaus, Ugo A. (*with* Ruta, Giuseppe C.) A review of the problem of the shear centre(s). (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 369–380. (Summary) **99j:73034** 73C99 (73K99)
— (*with* Casini, P.) Rocking-sliding of a rigid block: friction influence on free motion. (English summary) *Engrg. Trans.* **46** (1998), *no.* 2, 143–164. 70F99
Andrecut, M. Logistic map as a random number generator. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 9, 921–930. (Summary) **99c:65008** 65C10
Andreev, A. E. (*with* Chasovskikh, A. A.) Complexity of automata that compute the values of formulas. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 22–24, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 18–20. (Summary) **99f:68134** 68Q68 (68Q25)
— (*with* Solov′ev, S. V.) A deciding algorithm for linear isomorphism of types with complexity $O(n \log^2(n))$. (English summary) *Category theory and computer science (Santa Margherita Ligure*, 1997), 197–209, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99e:03014** 03B40 (03D15, 68Q65)
— (*with* Clementi, Andrea E. F.; Rolim, José D. P.) Optimal bounds for the approximation of Boolean functions and some applications. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 243–268. (Summary) **99j:94083** 94C10 (68Q25)
— (*with* Bolotov, A. A.) On linear hashing of binary sets. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 22–25, 62; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 23–25. (Summary) **99d:94021** 94A60 (94C10)
— (*with* Clementi, Andrea E. F.; Crescenzi, P.; Dahlhaus, Elias; De Agostino, Sergio; Rolim, José D. P.) The parallel complexity of approximating the high degree subgraph problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 261–282. (Mukkai S. Krishnamoorthy) **99g:68087** 68Q25 (05C85, 68Q15, 68Q22)
Andreev, A. F. *see* **Reminiscences about Il′ya Mikhaĭlovich Lifshits**
Andreev, Aleksandr Sergeevich (*with* Khusanov, D. Kh.) Limit equations in the problem of the stability of a functional-differential equation. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 435–440, 572; *translation in Differential Equations* **34** (1998), *no.* 4, 431–436. (Arkadii V. Kim) **99m:34172** 34K20 (34K05)
Andreev, Alexander E. *see* **Andreev, A. E.**
Andreev, F. V. On special solutions of the fifth Painlevé equation. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 10–18, 338. (Summary) **99b:34004** 34A20 (34E20)
— (*with* Kitaev, A. V.) On connection formulas for the asymptotics of some special solutions of the fifth Painlevé equation. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 19–29, 338. (From the introduction) **99g:34013** 34A20 (34E05)
Andreev, Nikolaĭ N. Location of points on a sphere with minimal energy. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 27–31. (S. Kutateladze) **99i:52019** 52C10
Andreev, Oleg Touching random surfaces, two-dimensional quantum gravity, and noncritical string theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3725–3735. (Summary) **99m:83061** 83C45 (83E30)
— (*with* Bars, Itzhak; Deliduman, C.) Gauged duality, conformal symmetry, and spacetime with two times. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066004, 10 *pp.* (Summary) **99m:81117** 81S30 (81S10)
Andreev, V. K. (*with* Ryabitskiĭ, E. A.) On the stability of a spherical layer of a viscous fluid. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 93–109. 76E99
— Stability of steady motion of a fluid layer. (English summary) *Dal′nevost. Mat. Sb. No.* 2 (1996), 11–14, 197. (Summary) **99h:76037** 76E05
— (*with* Frank, A. M.) On the stability of the Couette flow of an ideal fluid with free boundaries. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 5, 99–105. (Summary) **99j:76049** 76E99 (76M25)
Andreeva, I. Yu. (*with* Sesekin, A. N.) A degenerate linear-quadratic optimization problem with time delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 43–54; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1101–1109. (Vladimir Veliov) **99e:49044** 49N10 (49K40)
Andreeva, N. V. (*with* Serova, M. M.) Evolution equations invariant under the conformal algebra. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 217–221, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35A30
Andrei, Ştefan (*with* Kudlek, Manfred) Morphological grammars. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform.* (*N.S.*) **5/6** (1996/97), 85–113 (1998). (Summary) **99c:68148** 68Q45 (68S05)
— (*with* Masalagiu, Cristian) About the Collatz conjecture. (English summary) *Acta Inform.* **35** (1998), *no.* 2, 167–179. (Renzo Sprugnoli) **99d:68097** 68Q25 (03D15, 11B83)
Andreian Cazacu, Cabiria (*with* Rassias, Themistocles M.) On Stoilow's work and its influence. *Analysis and topology*, 9–39, *World Sci. Publishing, River Edge, NJ*, 1998. (Michael von Renteln) **99m:01032** 01A70
— *see also* **Analysis and topology, 99h:00035**
Andreĭtsev, A. Yu. To separation of variables in a (1 + 2)-dimensional Fokker-Planck equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 211–213, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q99 (82C35)
André-Jeannin, Richard On the integrity of certain infinite series. *Fibonacci Quart.* **36** (1998), *no.* 2, 174–180. (Péter Kiss) **99c:11014** 11B39
Andrĕka, Hajnal (*with* Givant, Steven; Németi, István; Simon, András) Persistent properties and an application to algebras of logic. *Algebra Universalis* **38** (1997), *no.* 2, 141–149. (Ivo Düntsch) **99g:03065** 03G15
— Complexity of equations valid in algebras of relations. I. Strong non-finitizability. (English summary) *Ann. Pure Appl. Logic* **89** (1997), *no.* 2-3, 149–209. (Szabolcs Mikulás) **99b:03078** 03G15
— Complexity of equations valid in algebras of relations. II. Finite axiomatizations. (English summary) *Ann. Pure Appl. Logic* **89** (1997), *no.* 2-3, 211–229. (Szabolcs Mikulás) **99b:03079** 03G15
— (*with* Givant, Steven; Mikulás, Szabolcs; Németi, István; Simon, András) Notions of density that imply representability in algebraic logic. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 2-3, 93–190. (Ivo Düntsch) **99f:03089** 03G15 (03C05, 06E25, 08B05)
— (*with* Goldblatt, Robert; Németi, István) Relativised quantification: some canonical varieties of sequence-set algebras. *J. Symbolic Logic* **63** (1998), *no.* 1, 163–184. (Ivo Düntsch) **99j:03054** 03G25
Andreoiu-Banica, Georgiana Les équations de Marguerre-von Kármán en coordonnées curvilignes. (English and French summaries) [The Marguerre-von Kármán equations in curvilinear coordinates] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 319–322. (Summary) **99h:73049** 73K15 (35Q72, 73C99)
gouli-Andreou, Florence *see* **Gouli-Andreou, Florence**
martín Andrés, A. *see* **Martín Andrés, A.**
Andres, Jan (*with* Turský, Tomáš) On the method of Esclangon. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 7–20 (1997). (Boris Zadvorní) **99f:34008** 34A30
— Splay-phase and anti-splay-phase orbits for equivariant set-valued flows on tori. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 89–98. (Patricio L. Felmer) **99i:34059** 34C25 (34A60, 34C35, 54H25, 58F20, 58F25)
— (*with* Krajc, Bohumil) Unified approach to bounded, periodic and almost periodic solutions of differential systems. (English summary) *Ann. Math. Sil. No.* 11 (1997), 39–53. (Mauro Marini) **99b:34042** 34B15 (34C11, 34C25, 34C27)
— A target problem for differential inclusions with state-space constraints. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 783–790. (Marc Quincampoix) **99h:34091** 34H05 (34A60, 49J52)
— On the multivalued Poincaré operators. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 171–182. (Wojciech Kryszewski) **99k:34030** 34A60 (34C25, 47H04, 47H11, 58C06)
— Ważewski-type results without transversality. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 233–238, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C25 (58F22)
fernández Andrés, Manuel *see* **Fernández Andrés, Manuel**
Andresen, Bjarne (*with* Nourani, Yaghout) Exploration of NP-hard enumeration problems by simulated annealing—the spectrum values of permanents. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 51–68. (Summary) **99m:68090** 68Q25 (65C05)
Andreu, F. (*with* Mazón, J. M.; Segura de León, Sergio; Toledo, Julián) Entropy solutions for a degenerated parabolic equation. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida*, 1996), 151–161, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:35148** 35K65 (35R70)
— (*with* Mazón, J. M.; Toledo, Julián; Simondon, F.) Attractor for a degenerate nonlinear parabolic equation with a nonlinear flux. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona*, 1998), 1–7, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 35K60 (34G20, 35B40, 47H20, 58F39)
— (*with* Mazón, J. M.; Simondon, F.; Toledo, Julián) Attractor for a degenerate nonlinear diffusion problem with nonlinear boundary condition. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 347–377. (Sergei A. Vakulenko) **99j:35102** 35K57 (35B40)
— (*with* Mazón, J. M.; Segura de León, Sergio; Toledo, Julián) Existence and uniqueness for a degenerate parabolic equation with L^1-data. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 285–306. (Ya Zhe Chen) **99c:35125** 35K65 (35K60)
Andreucci, D. (*with* Fasano, Antonio; Ricci, Riccardo) A continuous model for Ziegler-Natta polymerization. *Variations of domain and free-boundary problems in solid mechanics (Paris*, 1997), 219–226, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 80A32
Andrew, Alan L. Solution of nonlinear and multiparameter eigenvalue problems. *Computational techniques and applications: CTAC95 (Melbourne*, 1995), 97–104, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65F15
— (*with* Tan, Roger C. E.) Computing derivatives of eigenvectors corresponding to multiple eigenvalues of nonsymmetric matrix functions. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv*, 1997), 409–414, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65F15 (15A18)
— Centrosymmetric matrices. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 697–698 (*electronic*). 15A18
— (*with* Tan, Roger C. E.) Computation of derivatives of repeated eigenvalues and the corresponding eigenvectors of symmetric matrix pencils. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 78–100 (*electronic*). (S. F. McCormick) **99g:65044** 65F15 (15A22)
Andrews, Ben Monotone quantities and unique limits for evolving convex hypersurfaces. *Internat. Math. Res. Notices* **1997**, *no.* 20, 1001–1031. (Xiao Wei Peng) **99a:58041** 58E15 (35K55, 58G11)
— Evolving convex curves. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 4, 315–371. (Dong-Ho Tsai) **99k:58038** 58E10 (35K10, 53A04)
Andrews, Donald W. K. A conditional Kolmogorov test. (English summary) *Econometrica* **65** (1997), *no.* 5, 1097–1128. (M. Hušková) **99b:62020** 62E20 (62G15, 62P20)
— Hypothesis testing with a restricted parameter space. (English summary) *J. Econometrics* **84** (1998), *no.* 1, 155–199. (Summary) **99b:62023** 62F03
— (*with* Schafgans, Marcia M. A.) Semiparametric estimation of the intercept of a sample selection model. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 3, 497–517. (M. Hušková) **99j:62041** 62G05
Andrews, George E. Simplicity and surprise in Ramanujan's "lost" notebook. *Amer. Math. Monthly* **104** (1997), *no.* 10, 918–925. (Mizan Rahman) **99c:11016** 11B65 (33D15)
— The well-poised thread: an organized chronicle of some amazing summations and their implications. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 7–23. (Mizan Rahman)

99a:11116 11P82 (11B65, 33D15)

— ★ The theory of partitions. (English summary) Reprint of the 1976 original. Cambridge Mathematical Library. *Cambridge University Press, Cambridge*, 1998. *xvi*+255 *pp. ISBN* 0-521-63766-X (Editors) **99c:11126** 11P81 (05A17, 11P82, 11P83)

— MacMahon's partition analysis. I. The lecture hall partition theorem. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 1–22, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Dennis A. Eichhorn) **99j:05012** 05A17 (11P81, 11P82)

— Mathematics education: reform or renewal? Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 719–721 (*electronic*). (*see* **99e:00025**) 00A35

— (*with* Stanton, Dennis W.) Determinants in plane partition enumeration. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 273–282. (Christian Krattenthaler) **99f:05002** 05A15 (05A10, 05A17, 05A30, 05E10, 33C20)

— *see also* **Topics in number theory**, **99m:11004**

Andrews, J. G. (*with* Morton, K. W.) A posteriori error estimation based on discrepancies in an entropy variable. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 3, 183–198. (Summary) **99g:76098** 76M25 (65M99)

Andrews, Kevin T. (*with* Wright, Stephen James) Stochastic homogenization of elliptic boundary-value problems with L^p-data. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 3, 165–184. (Gérard Michaille) **99m:35021** 35B27 (35J15, 35R60, 60H30, 73B27)

— (*with* Shillor, Meir; Wright, Stephen James) A model for heat transfer in grinding. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 233–246. (Anders Klarbring) **99h:73005** 73B30 (35Q72, 73T05, 80A20)

Andrews, Larry C. ★ Special functions of mathematics for engineers. (English summary) Reprint of the 1992 second edition. *SPIE Optical Engineering Press, Bellingham, WA*; *Oxford University Press, Oxford*, 1998. xx+480 *pp. ISBN* 0-8194-2616-4 (Khélifa Trimèche) **99a:33001** 33–01

Andriano, Valeria Some results on global and semiglobal stabilization of affine-systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 259–263. (V. M. Marchenko) **99e:93059** 93D15

Andrianopoli, Laura (*with* D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Trigiante, Mario) R-R scalars, U-duality and solvable Lie algebras. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 617–629. (Summary) **99f:81140** 81T30 (81R05)

— (*with* D'Auria, Riccardo; Ferrara, Sergio; Fré, Pietro; Trigiante, Mario) $E_{7(7)}$ duality, BPS black-hole evolution and fixed scalars. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 463–518. (Krzysztof Galicki) **99e:83061** 83E50 (81T60, 83C57, 83E30)

— (*with* D'Auria, Riccardo; Ferrara, Sergio) Duality, central charges and entropy of extremal BPS black holes. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 185–196. (Summary) **99e:83049** 83E30 (81T30, 83C57)

— (*with* Ferrara, Sergio) K-K excitations on $AdS_5 \times S^5$ as $N = 4$ "primary" superfields. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 248–253. (Summary) **99c:81158** 81T30 (83E30)

Andrianov, A. A. (*with* Ioffe, M. V.; Nishnianidze, D. N.) Polynomial supersymmetry and dynamic symmetries in quantum mechanics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 463–478; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1129–1140 (1996). (Stanislav V. Spichak) **99c:81049** 81Q60

— (*with* Cannata, Francesco; Dedonder, J.-P.; Ioffe, M. V.) Deformed supersymmetry, q-oscillator algebra and the scattering problem in quantum mechanics. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 22–48, 282–283. (Pavel Šťovíček) **99i:81050** 81Q60 (81R50)

— (*with* Soldati, Roberto; Sorbo, Lorenzo) Dynamical Lorentz symmetry breaking from a $(3 + 1)$-dimensional axion-Wess-Zumino model. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 025002, 13 *pp.* 81T13 (81R40)

Andrianov, A. V. (*with* Temlyakov, V. N.) On two methods for generalizing the properties of systems of functions of one variable to their tensor product. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 32–43. (Kirill A. Kopotun) **99k:41052** 41A63 (41A17, 41A35)

— On some open problems for algebraic polynomials on bounded convex bodies. *East J. Approx.* **5** (1999), *no.* 1, 117–123. 41A10 (41A63)

Andrianov, A. Yu. Description of transfer functions of an inverse problem for a class of Sturm-Liouville operators. (Russian) *Math. Montisnigri* **8** (1997), 5–14. (Vjacheslav A. Yurko) **99c:34021** 34A55 (34B24, 34L20, 47E05)

Andrianov, Igor V. (*with* Awrejcewicz, Jan; Manevich, L. I.) ★ Asymptotic approaches in nonlinear dynamics. (English summary) New trends and applications. Springer Series in Synergetics. *Springer-Verlag, Berlin*, 1998. *xii*+310 *pp. ISBN* 3-540-63894-6 (Peter Ashwin) **99j:70028** 70K99 (34C29, 34E05, 70K30, 73B27, 73D35)

— (*with* Olevskiĭ, V. I.; Tokarzewski, Stanisław) A modified Adomian decomposition method. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 334–339; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 309–314. (Summary) **99m:34017** 34A45 (73K10, 73V99)

Andrianov, Serge Nonlinear dynamics of particle beams with space charge. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 55–59, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 78A35

Andrianov, Yu. A. On two-dimensional local fields. (Russian. Russian summary) *Algebras, groups and varieties* (*Russian*), 3–13, 81, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 11S31

— On the Galois group of the maximal abelian p-extension of a multidimensional local field of characteristic p. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 3, 1–30. (Chr. U. Jensen) **99e:12002** 12F10 (19D45)

Andrica, Dorin (*with* Mare, Liviu) An inequality concerning symmetric functions and some applications. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 425–431, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ion Raşa) **99d:26027** 26D20 (26A51)

Andrienko, V. A. Rate of approximation by rectangular partial sums of double orthogonal series. (Russian summary) *Anal. Math.* **22** (1996), *no.* 4, 243–266. (Boris Petrovich Osilenker) **99f:42059** 42C15 (41A25)

— Estimates for the rectangular partial sums of multiple orthogonal series. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1998**, *no.* 6, 7–10. 42C15

Andries, Johan (*with* De Cock, Mieke) Dynamical entropy of a non-commutative version of the phase doubling. (English summary) *Quantum probability* (*Gdańsk*, 1997), 31–40, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99g:46092** 46L55

— (*with* De Cock, Mieke; Fannes, Mark) The entropy of an irreversible quantum dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5989–6005. (Matthew J. Donald) **99g:82051** 82C10

Andries, Marc (*with* Engels, Gregor; Habel, Annegret; Hoffmann, Berthold; Kreowski, Hans-Jörg; Kuske, Sabine; Plump, Detlef; Schürr, Andy; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Andriesh, G. (*with* Zolotarevskiĭ, V. A.) The approximation of functions in generalized Hölder spaces. (English summary) *Comput. Sci. J. Moldova* **3** (1995), *no.* 3, 300–306. (John G. Stalker) **99c:41018** 41A10

Andrieux, Stéphane (*with* Ben Abda, Amel; Jaoua, Mohamed) On the inverse emergent plane crack problem. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 10, 895–906. (Yongzhi Xu) **99d:35176** 35R30 (35Q72, 73C99)

— (*with* Ben Abda, Amel; Bui, Huy Duong) Reciprocity principle and crack identification. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 59–65. (Summary) **99k:35186** 35R30 (35Q72, 73C02, 73M25)

Andrievskii, Vladimir V. (*with* Blatt, H.-P.; Kovacheva, R. K.) Approximation on an unbounded interval. (English summary) *Analysis* **17** (1997), *no.* 2-3, 197–218. (D. J. Leeming) **99a:41014** 41A20 (31A15)

— (*with* Blatt, H.-P.) On the distribution of zeros of polynomials on an analytic curve. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 485–493. (H.-J. Runckel) **99d:30006** 30C15 (30C85)

— (*with* Ruscheweyh, Stephan) Complex polynomials and maximal ranges: background and applications. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 31–54, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Stephen M. Zemyan) **99i:30007** 30C10 (30A10, 41A10)

Andrillat, Henri L'astronomie égyptienne. (English summary) [Egyptian astronomy] *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **8** (1997), *no.* 1-6, 71–89. 01A16

Andriotaki-Panayotounakou, P. (*with* Panayotounakos, D. E.; Papandonopoulos, G.) Ad hoc exact solutions for the stress and velocity fields in rigid perfectly plastic materials under plane-stress conditions. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 71–84. (From the summary) **99g:73058** 73E99

Andronikof, Emmanuel An application of symbol calculus. *New trends in microlocal analysis* (*Tokyo*, 1995), 159–164, *Springer, Tokyo*, 1997. (Jean-Pierre Schneiders) **99g:58117** 58G07 (35A27, 35S05)

— (*with* Tose, Nobuyuki) Elliptic boundary value problems in the space of distributions. *New trends in microlocal analysis* (*Tokyo*, 1995), 165–169, *Springer, Tokyo*, 1997. (Andrea D'Agnolo) **99i:58139** 58G07 (35D05, 35J99, 46F10)

Andronov, Ivan V. (*with* Belinskiĭ, B. P.) Scattering of hydroacoustic waves by a narrow gap in an elastic plate. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 202–209; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 195–202. (Summary) **99c:76098** 76Q05 (73D25, 73K70)

— Zero-range potentials in boundary-contact problems of acoustics. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 3–29. (Summary) **99a:76135** 76Q05 (73K70)

— (*with* Belinskiĭ, B. P.) Sommerfeld's formula and uniqueness for the boundary value contact problems. (English summary) *J. Phys. A* **31** (1998), *no.* 22, *L*405–*L*411. (Andrew Badanın) **99f:76117** 76Q05 (73K70)

Andronov, V. G. (*with* Belousov, E. G.) Functional convergence theorems for the method of penalty functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 4, 21–25, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 4, 30–36 (1998). (G. M. Ostrovsky) **99b:90117** 90C30

— (*with* Belousov, E. G.) On the Berge convergence of the method of penalty functions with respect to the argument. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 573–589; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 552–567. (Vladimir I. Venets) **99e:90083** 90C30 (49M30)

Andronova, E. A. *see* **Leontovich, E. A.**

Androulakis, George A subsequence characterization of sequences spanning isomorphically polyhedral Banach spaces. (English summary) *Studia Math.* **127** (1998), *no.* 1, 65–80. (Anatolij M. Plichko) **99b:46008** 46B15 (46B04)

Andruchow, Esteban (*with* Corach, Gustavo; Milman, Mario; Stojanoff, Demetrio) Geodesics and interpolation. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 83–91. (Summary) **99c:46063** 46L05 (46M35, 58B20)

— (*with* Corach, Gustavo; Stojanoff, Demetrio) Löwner's theorem and the differential geometry of the space of positive operators. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 70–77. (Summary) **99i:46057** 46L87 (47A63, 58B20)

Andrushkiw, Roman (*with* Nikitin, Anatolii) Higher symmetries of the wave equation with scalar and vector potentials. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 321–327, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35L05 (35A30)

Andruskiewitsch, Nicolás (*with* Natale, Sonia) Plancherel identity for semisimple Hopf algebras. *Comm. Algebra* **25** (1997), *no.* 10, 3239–3254. (Horia Pop) **99a:16029** 16W30

— (*with* Schneider, Hans-Jürgen[2]) Hopf algebras of order p^2 and braided Hopf algebras of order p. *J. Algebra* **199** (1998), *no.* 2, 430–454. (James Osterburg) **99c:16033** 16W30

— (*with* Schneider, Hans-Jürgen[2]) Lifting of quantum linear spaces and pointed Hopf algebras of order p^3. (English summary) *J. Algebra* **209** (1998), *no.* 2, 658–691. (Stefaan Caenepeel) **99k:16075** 16W30

Andryan, A. A. Boundary value problems in a strip in classes of polynomial growth. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 3–16 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 1–12. (Summary) **99f:35018** 35G15 (35A05)

Andrzejak, Artur An algorithm for the Tutte polynomials of graphs of bounded treewidth. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 39–54. (Summary) **99c:05181** 05C85

— (*with* Welzl, Emo) Halving point sets. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 471–478 (*electronic*). (Jesús A. de Loera) **99h:52020** 52C10 (52B05, 68U05)

Andrzejewski, Wojciech (*with* Tralle, A. E.) On solvmanifolds and a conjecture of Benson and Gordon from the Hamiltonian viewpoint. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 279–292. (John F. Oprea) **99j:53031** 53C15 (57S30, 58F05)

Aneja, Y. P. (*with* Sokkalingam, P. T.) Lexicographic bottleneck combinatorial problems. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 27–33. (Paulo Barcia) **99m:90120** 90C27 (90C10, 90C35)

Aneziris, Charilaos Computer programs for knot tabulation. (English summary) *KNOTS '96* (*Tokyo*), 479–492, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57005** 57M25 (57–04)

Anfinogenov, A. Yu. (*with* Lifanov, I. K.) On the numerical solution of integral equations of the first kind. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 159–168. (Summary) **99d:65363** 65R20

Ang, Dang Dinh *see* **Đặng Đình Áng**

del Angel, Pedro Luis *see* **del Angel R., Pedro Luis**

Angelantonj, Carlo Non-tachyonic open descendants of the 0B string theory. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 309–317. (Summary) **99m:81164** 81T30

Angeleri-Hügel, Lidia (*with* Coelho, Flávio Ulhoa) A note on a certain class of tilted algebras. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 1–6, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99h:16021** 16G10 (16E10)

Angeles de Frutos, M. Decreasing serial cost sharing under economies of scale. (English summary) *J. Econom. Theory* **79** (1998), *no.* 2, 245–275. (Summary) **99b:90016** 90A06 (90D10)

Angeles Japon Pineda, M. (*with* Domínguez Benavides, T.) Stability of the fixed point property for nonexpansive mappings in some classes of spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 37–46. (Brailey Sims) **99c:47091** 47H10 (46B20)

Angeli, David (*with* Mosca, Edoardo) Command governors for constrained nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 816–820. 93B52 (70Q05, 93C10, 93D15)

Angelidis, Thomas D. A minimal local extension of the quantum formalism. *Causality and locality in modern physics* (*Toronto, ON*, 1997), 451–462, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99j:81008** 81P05

de Angelis, Elena *see* **De Angelis, Elena**

de Angelis, G. F. *see* **De Angelis, G. F.**

hrabě de Angelis, Jörg *see* **Hrabě de Angelis, Jörg**

de Angelis, Monica *see* **De Angelis, Monica**

de Angelis, U. (*with* Tsytovich, Vadim N.) Kinetic theory of dusty plasmas. I. General approach. (English summary) *Phys. Plasmas* **6** (1999), *no.* 4, 1093–1106. 76X05 (82D10)

Angell, Thomas S. (*with* Carlson, Dean A.) Turnpike property for neutral systems. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 69–94. (Ethelbert N. Chukwu) **99k:49016** 49J25 (49K25, 90A16)

— (*with* Kleinman, Ralph E.; Vainberg, B. R.) Asymptotic methods for an optimal antenna problem. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 242–260 (*electronic*). (Summary) **99f:49058** 49N55 (35J05, 78A50)

Angelos, James (*with* Grossman, George W.; Kaufman, Edwin; Lenker, Terry; Rakesh, Leela) Limit cycles for successive projections onto hyperplanes in $\mathbf{R}^n$. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 201–228. (E. G. D'yakonov) **99k:65041** 65F99

Angelov, Rumen Angelov (*with* Markov, Svetoslav M.) Wrapping effect and wrapping function. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 311–330. (G. Alefeld) **99g:65060** 65G10 (65L05)

Angelov, S. (*with* Yankov, P.) On the multiplicity of the poles of the disk meromorphy of the functions defined by the Taylor series. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 25–29. 30D30

Angelov, Vasil G. (*with* Georgiev, Lubomir P.) An extension of Kirk-Schöneberg theorem to uniform spaces. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 89–96. (S. A. Naimpally) **99g:54021** 54E15 (47H09)

— (*with* Donchev, Tzanko) Regular and singular perturbations of upper semicontinuous differential inclusion. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 699–706. (Péter Tallós) **99b:34033** 34A60 (34E15)

— (*with* Tsachev, Tsvetomir J.) A coincidence theorem for densifying mappings and applications. *Demonstratio Math.* **31** (1998), *no.* 2, 365–376. (Józef Banaś) **99h:47064** 47H10 (34G10, 47H09)

— Fixed points of multi-valued mappings in uniform spaces. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 29–35. 54H25 (47H10, 54C60, 54E15, 54E40)

del Angel R., Pedro Luis (*with* Müller-Stach, Stefan J.) Motives of uniruled 3-folds. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 1–16. (Luca Barbieri Viale) **99c:14004** 14C15 (14J30)

Angenent, Sigurd (*with* Sapiro, Guillermo; Tannenbaum, Allen R.) On the affine heat equation for non-convex curves. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 601–634. (Anders Linnér) **99d:58039** 58E10 (58G11)

Anger, Frank D. (*with* Rodríguez, Rita V.) Prior's temporal legacy in computer science. *Logic and reality* (*Christchurch*, 1989), 89–109, *Oxford Univ. Press, New York*, 1996. (Curt Christian) **99a:68157** 68T27 (03B45, 03B70, 68P15, 68Q60)

— (*with* Rodríguez, Rita V.) Using constraint propagation to reason about unsynchronized clocks. (English summary) *Constraints* **3** (1998), *no.* 2-3, 191–202. (Summary) **99b:68167** 68T20

Angermann, Lutz A posteriori error estimates for approximate solutions of nonlinear equations with weakly stable operators. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 5-6, 447–459. (Summary) **99c:65109** 65J15 (47H17)

Angers, Jean-François (*with* Paré, Danie; MacGibbon, K. Brenda) Simultaneous estimation of independent means of a Poisson random vector. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 159–176 (1998). (Summary) **99b:62029** 62F10 (62C12)

Anghel, Nicolae SL_2-polynomial invariance. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 17–46. (Andrzej Tyc) **99k:13007** 13A50 (20G15)

Anglada, Marc Vigo *see* **Vigo, Marc**

Angles, Bruno On Hilbert class field towers of global function fields. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 261–271, *World Sci. Publishing, River Edge, NJ*, 1997. (Chao Ping Xing) **99g:11133** 11R37 (11R58)

— On the class group problem for function fields. (English summary) *J. Number Theory* **70** (1998), *no.* 2, 146–159. (Martha Rzedowski-Calderón) **99d:11125** 11R58 (11R29, 11R65)

Anglès, Pierre Étude de la trialité en signature (r, s) quelconque pour les espaces vectoriels réels $E_{r,s}$ standards de dimension $m = r + s = 2k$. (English summary) [Study of triality in arbitrary signature (r, s) for standard real vector spaces $E_{r,s}$ of dimension $m = r + s = 2k$] *J. Natur. Geom.* **14** (1998), *no.* 1, 1–42. (Dominique Lambert) **99f:81083** 81R25

Angold, Adrian (*with* Erkanli, Alaattin; Soyer, Refik) Optimal Bayesian two-phase designs. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 175–191. (Summary) **99c:62205** 62K05 (62F15)

Ango Nze, Patrick Critères d'ergodicité géométrique ou arithmétique de modèles linéaires perturbés à représentation markovienne. (English and French summaries) [Geometric and subgeometric rates for Markovian processes in the neighborhood of linearity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 371–376. (Paul Embrechts) **99k:62145** 62M02 (62M05)

— (*with* Doukhan, Paul) Functional estimation for time series: uniform convergence properties. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 5–29. (Jacques Istas) **99g:62130** 62M10 (60G10)

Angot, Philippe (*with* Dolejší, Vít; Feistauer, Miloslav; Felcman, Jiří) Analysis of a combined barycentric finite volume-nonconforming finite element method for nonlinear convection-diffusion problems. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 263–310. (Claus-Dieter Munz) **99f:76095** 76M25 (65M60, 76M10)

real Anguas, José *see* **Real Anguas, José**

Anguelov, Roumen *see* **Angelov, Rumen Angelov**

Anguita, M. (*with* Rojas, I.; Valenzuela, O.; Prieto Espinosa, Alberto) Analysis of the operators involved in the definition of the implication functions and in the fuzzy inference process. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 367–389. (Summary) **99h:03016** 03B52

Angulo, J. M. *see* **Angulo Ibañez, J. M.**

Angulo, Oscar (*with* López Marcos, Juan Carlos) Numerical integration of the Sinko-Streifer equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 371–376, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

Angulo Ibañez, J. M. (*with* Ruiz-Medina, M. D.) A series expansion approach to the inverse problem. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 371–382. 60G60

Angulo-Núñez, María Isabel (*with* Sira-Ramirez, Hebertt) Passivity-based control of nonlinear chemical processes. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 971–996. 93C95 (93C10)

trinh tuan Anh *see* **Trinh Tuan Anh**

Anh, N. D. (*with* Schiehlen, W.) A technique for obtaining approximate solutions in Gaussian equivalent linearization. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 113–119. (Summary) **99j:65251** 65U05

Anh, Pham Ky *see* **Phạm Kỳ Anh**

Ánh, Pham Ngoc *see* **Phạm Ngọc Ánh**

Anh, Vo (*with* Ahlip, Rehez) Nonlinear filtering of a system of logistic equations. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 2, 219–238. (Federico Marchetti) **99b:60054** 60G35 (93E11)

— (*with* Kleptsyna, M. L.; Kloeden, Peter E.) Nonlinear filtering for processes with fractional Brownian motion. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 65–76; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 150–160. (Alexander Veretennikov) **99m:60069** 60G35 (93E11, 94A12)

— (*with* Grecksch, Wilfried) Approximation of stochastic differential equations with modified fractional Brownian motion. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 715–727. (Eckhard Platen) **99h:60119** 60H10 (93E35)

— (*with* Grecksch, Wilfried) A parabolic stochastic differential equation with fractional Brownian motion input. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 337–346. (Nicholas Frangos) **99m:60096** 60H15

pham Anh Minh *see* **Phạm Anh Minh**

Anichini, Giuseppe (*with* Conti, Giuseppe) About the existence of solutions of a boundary value problem for a Carathèodory differential system. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 177–179. (*see* **99f:58002**) 34B05

Aniculăesei, Gh. (*with* Aniţa, Sebastian[2]) H_∞-control problems unbounded observation: the hyperbolic case. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 2, 373–390 (1998). (Shin-ichi Nakagiri) **99g:93024** 93B36 (93C25)

— (*with* Aniţa, Sebastian[2]) A H_∞ control problem with unbounded control operator and impulsive disturbances. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **19** (1996), 81–94 (1998). 93B36

— (*with* Aniţa, Sebastian[2]) H_∞-control problems: a state-space approach. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 39–46, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 93B36 (93C25)

— (*with* Aniţa, Sebastian[2]) Null controllability in some diffusive processes. The case of the controller with "small" support. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 47–54, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 93C20 (93B05)

Aniello, Paolo (*with* Cassinelli, Gianni; De Vito, Ernesto; Levrero, Alberto) Wavelet transforms and discrete frames associated to semidirect products. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3965–3973. (Summary) **99c:42055** 42C15 (22D12)

Anigstein, Pablo A. (*with* Sánchez Peña, Ricardo S.) An extension of the small gain theorem in $\mathscr{L}_\infty$. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 771–789. 93B36

Anikeev, P. V. On second-degree symmetry fields of reversible systems on a two-dimensional sphere. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996),

no. 1, 45–53. (Iskander A. Taimanov) **99f:58158** 58F17 (58F05, 70H05, 70H33)
— On symmetry fields of second degree in the momenta of geodesic flows on a two-dimensional sphere. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 29–32, 71. (Summary) **99d:58132** 58F17 (58F05, 70H05, 70H33)
Anikeeva, V. A. (*with* Vasil′eva, A. B.; Plotnikov, A. A.) Calculations of contrast structures in singularly perturbed equations and systems. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 65–69, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M12 (34E15)
Anikin, V. M. (*with* Golubentsev, A. F.) The explicit solutions of Frobenius-Perron equation for the chaotic infinite maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 5, 1049–1051. (Makoto Mori) **99f:58124** 58F11
Anikonov, D. S. (*with* Nazarov, V. G.; Prokhorov, I. V.) Visible and invisible media in tomography. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 599–603. (J. S. Joel) **99e:92016** 92C55
Anikonov, Yu. E. (*with* Vishnevskiĭ, M. P.) Formulas in an inverse problem for an evolution equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 963–976, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 847–859. (Qing Yi Chen) **99g:35139** 35R30 (35K10)
— (*with* Romanov, Vladimir Gavrilovich) On uniqueness of determination of a form of first degree by its integrals along geodesics. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 487–490 (1998). (V. K. Oganyan) **99f:53072** 53C65
— Several results of multidimensional inverse problems theory. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 1, 1–21. (Peter G. Danilaev) **99g:35140** 35R30 (35K55, 35Q99)
— On multidimensional inverse problems of determining of two coefficients. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 281–285. 35R30 (35L10)
Anily, Shoshana (*with* Glass, Celia A.; Hassin, Refael) Scheduling maintenance services to three machines. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 375–391. (*see* **99k:90002**) 90B35 (90C90)
— (*with* Bramel, Julien; Hertz, Alain) A $\frac{5}{3}$-approximation algorithm for the clustered traveling salesman tour and path problems. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 29–35. (Summary) **99m:90112** 90C27 (90C35)
Anisimov, A. V. Recursive hyperstructures. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 148–157, 192; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 426–432 (1998). (Siegmar Gerber) **99j:68099** 68R10 (05C15, 05C65)
— Fibonacci hypercube. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 221–229. (Summary) **99k:68017** 68M10 (68R10)
Anisimov, S. A. (*with* Bogul′skiĭ, I. O.) Modeling the propagation of plane waves in an anisotropic elastic medium. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **40** (1999), *no.* 1, 199–206. 73D15 (73B40, 73V15)
Anīsīmov, V. V. Asymptotic behavior of trajectories of extreme sets of random functions and its application to statistical estimation. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 1–12; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 1–12 (1998). (Summary) **99e:60121** 60G70 (62F12, 62M09)
Anisiu, Mira-Cristiana (*with* Pal, Arpad) Two-dimensional inverse problem of dynamics for families in parametric form. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 135–140. (George Bozis) **99m:70001** 70D05 (34A99, 70F20)
Anis′kov, V. V. On irreducible p-solvable local formations with π-decomposable defect 2. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 11–21, *Gomel. Gos. Univ., Gomel′*, 1995. (*see* **99g:20004**) 20D10
— On local formations with complemented non-π-decomposable local subformations. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 3–13, *Gomel. Gos. Univ., Gomel′*, 1996. (Summary) **99h:20023** 20D10
— On reducible local formations with given $\mathfrak{H}$-defect. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 65–68, 141. (Summary) **99i:20024** 20D10
Anisov, A. M. Basic principles of V. A. Smirnov's conception of scientific philosophy. (Russian) *Logical investigations, No.* 4 (*Russian*), 94–100, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 01A70 (00A30)
Anisova, E. G. Null-quadrics of codimension 4 in the space $\mathbf{C}^7$. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 657–665; *translation in Math. Notes* **62** (1997), *no.* 5-6, 549–556 (1998). (Dmitri Zaitsev) **99g:32029** 32F25
Aniţa, Sebastian[2] The null controllability of the population dynamics with diffusion and inhospitable boundary. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 1, 39–48 (1997). (Hassan El-Owaidy) **99g:92024** 92D25 (34K35, 93B05)
— (*with* Aniculăesei, Gh.) H_∞-control problems unbounded observation: the hyperbolic case. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 2, 373–390 (1998). (Shin-ichi Nakagiri) **99g:93024** 93B36 (93C25)
— (*with* Aniculăesei, Gh.) A H_∞ control problem with unbounded control operator and impulsive disturbances. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **19** (1996), 81–94 (1998). 93B36
— (*with* Aniculăesei, Gh.) H_∞-control problems: a state-space approach. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 39–46, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 93B36 (93C25)
— (*with* Aniculăesei, Gh.) Null controllability in some diffusive processes. The case of the controller with "small" support. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 47–54, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 93C20 (93B05)
— Null controllability of the population dynamics via controllers with "small" support. (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 815–822, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:93005** 93B05 (93C20)
— (*with* Iannelli, Mimmo; Kim, Mi-Young[2]; Park, Eun-Jae) Optimal harvesting for periodic age-dependent population dynamics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1648–1666 (*electronic*). (George Karakostas) **99k:92021** 92D25 (35Q80, 45K05, 49K20, 90A30)
Anitha, R. (*with* Krishna Reddy, G. V.) Markovian bulk service queue with delayed vacations. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 12, 1159–1166. 60K25
Anjing, Qu *see* **Qu, An Jing**
farooq Anjum, M. *see* **Farooq Anjum, M.**
Anker, Jean-Philippe (*with* Damek, Ewa; Yacoub, Chokri) Spherical analysis on harmonic *AN* groups. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 643–679 (1997). (Michael Cowling) **99a:22014** 22E30 (22E25, 43A90)
— (*with* Ji, Lizhen) Comportement exact du noyau de la chaleur et de la fonction de Green sur les espaces symétriques non compacts. (English and French summaries) [Exact behavior of the heat kernel and of the Green function on noncompact symmetric spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 153–156. (Alberto G. Setti) **99k:43009** 43A85 (22E30, 58G11)
Ankiewicz, Adrian (*with* Akhmediev, N. N.; Grimshaw, R. H. J.) Hamiltonian-versus-energy diagrams in soliton theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part B*, 6088–6096. 35Q55
Annaby, Mahmoud H. Sampling expansions for discrete transforms and their relationship with interpolation series. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 55–64. (Valeri Kaliaguine) **99g:39019** 39A12 (41A58, 94A12)
— (*with* Hassan, Hassan A.) A sampling theorem associated with boundary-value problems with not necessarily simple eigenvalues. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 571–580. (P. L. Butzer) **99f:34016** 34B05 (94A24)
— (*with* Zayed, Ahmed I.) On the use of Green's function in sampling theory. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 2, 117–139. (Victor S. Rykhlov) **99g:34061** 34B27 (34L99, 41A05)
— One and multidimensional sampling theorems associated with Dirichlet problems. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 4, 361–374. (Dale H. Mugler) **99m:94004** 94A12 (35J05, 42A38)
Annan, J. D. Numerical methods for the solution of the turbulence energy equations in shelf seas. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 193–206. (Summary) **99i:86001** 86–08 (86A05)
Annapurna, M. (*with* Rao, J. Krishna; Trivedi, M. M.) Static charged isothermal gaseous spheres in general relativity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1143–1149. 83C55
— (*with* Rao, J. Krishna; Purnachandra Rao, K.) Inhomogeneous Kantowski-Sachs type cosmological models. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 25–37. 83C15
Annaswamy, Anuradha M. (*with* Srinivasan, Mandayam A.) The role of compliant fingerpads in grasping and manipulation: identification and control. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 1–29, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:93055** 93C85 (70B15, 70Q05)
— (*with* Misovec, Kathleen M.) Friction compensation using adaptive non-linear control with persistent excitation. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 457–479. 93D15 (93C10)
Anne, Premchand Egyptian fractions and the inheritance problem. *College Math. J.* **29** (1998), *no.* 4, 296–300. (Štefan Porubský) **99i:11021** 11D68
Annenkov, V. A. An ill-posed problem for the Stokes system. (Russian. English and Russian summaries) *Dal′nevost. Mat. Sb. No.* 2 (1996), 15–21, 197. (Summary) **99h:35155** 35Q30 (35R25, 76D07)
Anninos, Peter (*with* Brandt, Steven; Walker, Paul) New orthogonal body-fitting coordinates for colliding black hole spacetimes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6158–6167. (Summary) **99m:83092** 83C57 (83–08)
— (*with* Camarda, Karen; Libson, Joseph; Massó, Joan; Seidel, Edward; Suen, Wai-Mo) Finding apparent horizons in dynamic 3D numerical spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024003, 12 *pp.* 83–08 (83C57)
— Plane-symmetric cosmology with relativistic hydrodynamics. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064010, 12 *pp.* (Summary) **99m:83089** 83C55 (83–08)
Anokhin, M. I. On the word problem and the conjugacy problem for groups of the form $F/V(R)$. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 3–9; *translation in Math. Notes* **61** (1997), *no.* 1-2, 3–8. (David I. Moldavanskiĭ) **99g:20060** 20F10 (20E10, 20F05)
— On a basis of identities of a variety generated by a finitely based quasivariety of groups. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 8, 3–12. (Vladimir S. Anashin) **99m:20056** 20E10
Anoshkina, E. V. On the topology of the integrable case of the motion of a gyrostat in a potential force field of Goryachev type. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 23–29, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 24–30. (Igor Gashenenko) **99e:70016** 70E15 (58F07, 70H05)
Anosov, D. V. (*with* Aranson, S. Kh.; Arnol′d, Vladimir Igorevich; Bronshteĭn, I. U.; Grines, V. Z.; Il′yashenko, Yu. S.) ★ Ordinary differential equations and smooth dynamical systems. Translated from the 1985 Russian original by E. R. Dawson and D. O'Shea. Third printing of the 1988 translation [*Dynamical systems. I*, Encyclopaedia Math. Sci., 1, Springer, Berlin, 1988; MR 89g:58060]. *Springer-Verlag, Berlin*, 1997. *vi*+233 *pp. ISBN* 3-540-61220-3 (Robert Roussarie) **99h:58053** 58Fxx (34Axx, 34Cxx, 54H20)
— (*with* et al.) Mikhail Mikhaĭlovich Postnikov (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 183–184; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 431–433. 01A70
Anoussis, M. (*with* Katsoulis, E. G.) Factorisation in nest algebras. II. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 165–183. (David R. Pitts) **99c:47064** 47D25 (47A68, 47C05)
Anquela, José A. (*with* Cortés, Teresa) Local-to-global inheritance of primitivity in Jordan algebras. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 219–227. (Alain D'Amour) **99b:17040** 17C10
— (*with* Cortés, Teresa) Primitivity in Jordan systems is ubiquitous. (English summary) *J. Algebra* **202** (1998), *no.* 1, 295–314. (Alain D'Amour) **99a:17030** 17C10
Anrig, Bernhard (*with* Kohlas, J.; Haenni, R.; Monney, Paul-André) Model-based diagnostics and probabilistic assumption-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 71–106. (Summary) **99h:68024** 68M15 (68T27)
— (*with* Monney, Paul-André) Using propositional logic to compute probabilities in multistate systems. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 2, 113–143. 93C42 (03B80, 06E99)
Ansari, Amir Ali (*with* Mishra, Babban Prasad) On sequence spaces of scalars. (English summary) *J. Nat. Acad. Math. India* **10** (1992/96), 75–81 (1997). (Enno Kolk) **99f:40003** 40C05 (40D25, 40G10, 40H05, 46A45)

Ansari, Md. Jamalluddin (*with* Alok, B. N.) A study of dual barrelled spaces and dual summing mappings. *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 218–219. 46A08 (47A05)

Ansari, Qamrul Hasan (*with* Siddiqi, A. H.) A generalized vector variational-like inequality and optimization over an efficient set. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 177–191, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (P. D. Panagiotopoulos) **99c:90099** 90C29 (47H19, 47N10, 49J40)

— (*with* Brokate, Martin) An iterative method for nonlinear variational inequalities arising in elastoplasticity. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 949–959. (Weimin Han) **99i:73077** 73V25 (49J40, 73E99)

— (*with* Yao, Jen-Chih) On strong solutions of the generalized implicit vector variational problem. (English summary) *Adv. Nonlinear Var. Inequal.* **2** (1999), *no.* 1, 1–10. 49J40 (47H10, 47H19)

— (*with* Siddiqi, A. H.; Khan, Mohammad Firdosh) Variational-like inequalities for multivalued maps. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 161–166. 49J40 (90C48)

Ansari-Toroghy, H. Associated and coassociated primes. *Comm. Algebra* **26** (1998), *no.* 2, 453–466. (P. Schenzel) **99d:13021** 13E05 (13C12, 13E10)

Anselm *see* **Morscher, Edgar**

Anselmet, F. (*with* Danaila, L.; Le Gal, P.; Plaza, F.; Pinton, J. F.) Some new features of the passive scalar mixing in a turbulent flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 636–646. 76F99 (76–05)

Anselmi, Damiano Central functions and their physical implications. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 5, 12 *pp.* (*electronic*). (Summary) **99b:81155** 81T17 (81T15, 81T60)

— (*with* Freedman, D. Z.; Grisaru, Marcus T.; Johansen, Andrei) Non-perturbative formulas for central functions of supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 543–571. (Ilya Shapiro) **99i:81155** 81T17 (81T13, 81T60)

— (*with* Erlich, Joshua; Freedman, D. Z.; Johansen, Andrei) Positivity constraints on anomalies in supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7570–7588. (Summary) **99k:81288** 81T50 (81T15, 81T60)

Ansemil, José M. (*with* Blasco, Fernando; Ponte, Socorro) Quasinormability and topologies on spaces of polynomials. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 534–539. (Luiza Amália de Moraes) **99d:46068** 46G20 (46A32, 46E50)

— (*with* Floret, Klaus) The symmetric tensor product of a direct sum of locally convex spaces. (English summary) *Studia Math.* **129** (1998), *no.* 3, 285–295. (José Bonet) **99b:46003** 46A32 (46A03, 46M05)

Anshel, Michael (*with* Goldfeld, Dorian) Zeta functions, one-way functions, and pseudorandom number generators. *Duke Math. J.* **88** (1997), *no.* 2, 371–390. (Introduction) **99c:11109** 11M41 (11K45, 94A60)

Ansorena, José Luis (*with* Blasco, Oscar) Convolution multipliers on weighted Besov spaces. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 47–68. (Da Chun Yang) **99c:42019** 42B15 (46E35, 47B38)

Ansorg, M. Timelike geodesic motions within the general relativistic gravitational field of the rigidly rotating disk of dust. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5984–6000. (János Kánnár) **99i:83009** 83C10 (83C15)

Ansorge, R. Die GAMM und Deutschlands Teilung. [The GAMM and Germany's division] 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 39–49. (*see* **99f:01027**) 01A74 (01A80)

— (*with* Sonar, Thomas) Informationsverlust, abstrakte Entropie und die mathematische Beschreibung des zweiten Hauptsatzes der Thermodynamik. (English and German summaries) [Information loss, abstract entropy and the mathematical description of the second fundamental law of thermodynamics] *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 803–821. (Kotik K. Lee) **99b:80003** 80A05 (80A25, 94A15)

Anstee, Richard P. (*with* Caccetta, Louis) Recognizing diameter critical graphs. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 105–112, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68115** 68R10 (05C85)

— (*with* Nam, Yunsun) Convexity of degree sequences. (English summary) *J. Graph Theory* **30** (1999), *no.* 2, 147–156. (Ian Anderson) **99m:05115** 05C70

— (*with* Rumchev, Ventseslav G.) Asymptotic reachable sets for discrete-time positive linear systems. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 41–47. 93B03 (93C55)

Anstice, Robert Richard *see* **Anderson, Ian**

Anstreicher, Kurt M. Potential reduction algorithms. *Interior point methods of mathematical programming*, 125–158, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05

— (*with* Fampa, Marcia) A long-step path following algorithm for semidefinite programming problems. (English summary) *Topics in semidefinite and interior-point methods (Toronto, ON, 1996)*, 181–196, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Jos F. Sturm) **99f:90077** 90C25 (90C05)

Antamoshkin, A. N. (*with* Semënkin, Evgeniĭ) Local search efficiency when optimizing unimodal pseudo-Boolean functions. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 3, 279–296. (Klaus Hofstedt) **99k:90105** 90C09

Antar, Nalan (*with* Demiray, Hilmi) Effects of initial stresses and wall thickness on wave characteristics in elastic tubes. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 521–530. (Summary) **99a:73102** 73K70 (73K12)

— (*with* Demiray, Hilmi) Non-linear wave modulation in a prestressed fluid field thin elastic tube. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 123–138. (Summary) **99g:76160** 76Z05 (73D99, 73K70)

Antes, H. (*with* Tröndle, G.; Jäger, Monika) Efficient calculation of acoustic fields by boundary element method. *Boundary element topics (Stuttgart, 1995)*, 9–29, *Springer, Berlin*, 1997. (*see* **99e:00017**) 76M15 (65N38, 76Q05)

— (*with* Liu, Yong) An improved implicit algorithm for the elastic viscoplastic boundary element method. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 5, 317–333. 73V10 (65N38, 73E60)

Anthes, Erhard Mechanische Rechenmaschinen. Zur Geschichte und Didaktik. [Mechanical calculating machines. On the history and didactics of the subject] *Überblicke Mathematik* 1996/97, 52–66, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99d:00011**) 01A99 (68–03)

Anthoni, S. Marshal (*with* Dauer, Jerald P.; Balachandran, Krishnan) Null controllability of nonlinear infinite neutral systems with delays in control. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 39–50. (Jerzy Klamka) **99f:93010** 93B05 (93C30)

— (*with* Balachandran, Krishnan; Park, Jong Yeoul) Controllability of second order semilinear Volterra integrodifferential systems in Banach spaces. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 1–13. (Stanisław Walczak) **99m:93004** 93B05 (93C25)

Anthonissen, M. J. H. (*with* van 't Hof, Bastiaan; Reusken, A. A.) A finite volume scheme for solving elliptic boundary value problems on composite grids. (English summary) *Computing* **61** (1998), *no.* 4, 285–305. (Shu-Sen Xie) **99m:65207** 65N30 (65N50)

Anthony, Martin Artificial neural networks. (English summary) *Graph connections*, 247–260, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 92B20 (05C90)

— (*with* Shawe-Taylor, John; Bartlett, Peter L.; Williamson, Robert C.) Structural risk minimization over data-dependent hierarchies. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1926–1940. (Summary) **99i:68106** 68T05

Anthony, Simon (*with* Frisch, Alan M.) Cautious induction in inductive logic programming. (English summary) *Inductive logic programming (Prague, 1997)*, 45–60, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

Anthopoulos, Yiannis (*with* Tzafestas, Spyros G.; Kyriannakis, Efthimios) Model-based predictive control of large-scale systems using a neural estimator. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 585–598. 93B30 (93C40)

Antia, H. M. *see* **Singh, Tejinder P., 99m:83156**

Antipin, A. S. (*with* Amochkina, T. V.; Vasil'ev, F. P.) Continuous regularized variable-metric proximal minimization method. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 314–321. (Vera V. Kovačević-Vujčić) **99j:90078** 90C30 (90C25)

— The method of splitting differential gradient equations for extremal inclusions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1451–1461, 1580; *translation in Differential Equations* **33** (1997), *no.* 11, 1457–1467 (1998). (E. A. Nurminski) **99m:90127** 90C30 (49M37)

— Calculation of the fixed points of symmetric extremal mappings. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 3–15; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 1–13 (1998). (Mihai Turinici) **99c:49030** 49M07

— (*with* Flåm, Sjur Didrik) Equilibrium programming using proximal-like algorithms. (English summary) *Math. Programming* **78** (1997), *no.* 1, *Ser. A*, 29–41. (Summary) **99b:90090** 90C25 (90D10)

— Equilibrium programming: proximal methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1327–1339; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 11, 1285–1296. (Stephan Dempe) **99a:90179** 90C30 (90A14)

— (*with* Amochkina, T. V.; Vasil'ev, F. P.) A continuous linearization method with a variable metric for convex programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1459–1466; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1415–1421. (Vera V. Kovačević-Vujčić) **99c:90086** 90C25

— (*with* Vasil'ev, F. P.) Regularization methods for the search for a fixed point of extremal mappings. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 11–14, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 1, 16–21. (G. M. Ostrovsky) **99d:90121** 90C30 (49M37, 65K10)

— Splitting of the gradient approach for solving extremal inclusions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1069–1082. (J. Mockus) **99e:90084** 90C30 (65K05)

Antippa, A. F. Relativistic law of addition of multiple collinear velocities. (English summary) *European J. Phys.* **19** (1998), *no.* 5, 413–417. (Abraham A. Ungar) **99m:83005** 83A05 (70H40)

Antkiewicz, Ryszard (*with* Manikowski, Arkadiusz) On an on/off type source with long range correlations. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 345–358, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90B12 (90B20)

Antman, Stuart S. (*with* Srubshchik, Leonid S.) Asymptotic analysis of the eversion of nonlinearly elastic shells. (English summary) *J. Elasticity* **50** (1998), *no.* 2, 129–179. (Veronique Lods) **99g:73078** 73K15 (73C50)

— (*with* Marlow, Randall S.; Vlahacos, Constantine P.) The complicated dynamics of heavy rigid bodies attached to deformable rods. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 431–460. (Summary) **99e:73068** 73K12 (70E15, 70K05, 73F15, 73H10)

— The simple pendulum is not so simple. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 927–930 (*electronic*). (Jair Koiller) **99k:70003** 70D05 (70–01, 70–03)

Antoch, Jaromír (*with* Brzezina, M.; Linka, A.) Asymptotic approximation of Bayes risk of estimators of reliability for exponentially distributed data. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 241–253. (Mohamed E. Ghitany) **99b:62044** 62G05 (62F15, 62N05)

— (*with* Klaschka, Jan; Siciliano, Roberta) Computational enhancements in tree-growing methods. (English summary) *Advances in data science and classification (Rome, 1998)*, 295–302, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

— (*with* Anděl, Jiří) On Bartlett's test for correlation between time series. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 5, 545–554. (Summary) **99i:62196** 62M10

Antoci, Salvatore (*with* Liebscher, Dierck-E.) Wentzel's path integrals. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 531–535. (Summary) **99f:81114** 81S40 (81–03)

Antoine, Charles ★ Les moyennes. (French. French summary) [Means] Que Sais-Je? [What Do I Know?], 3383. *Presses Universitaires de France, Paris*, 1998. 128 *pp. ISBN* 2-13-049305-X (J. S. Joel) **99m:00013** 00A69 (01A99)

Antoine, J.-P. Quantum mechanics beyond Hilbert space. (English summary) *Irreversibility and causality (Goslar, 1996)*, 3–33, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (M. J. Mączyński) **99h:81094** 81Sxx (46N50, 47N50)

— (*with* Bagarello, Fabio; Trapani, C.) Extension of representations in quasi *-algebras. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 2, 241–264. (W. Timmermann) **99i:47077** 47D40 (46L60, 47N50, 82B10)

— The continuous wavelet transform in image processing. (English summary) *CWI Quarterly* **11** (1998), *no.* 4, 323–345. (Summary) **99i:94005** 94A12 (68U10)
— (*with* Vandergheynst, P.) Wavelets on the n-sphere and related manifolds. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3987–4008. (Summary) **99e:42045** 42C15
Antoine, Ramon On rigid monoids with right ACC_1. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 507–513. (P. M. Cohn) **99a:20067** 20M25 (16E60)
Antoine, Xavier A numerical study of a scattering problem involving a generalized impedance boundary condition using the on-surface radiation condition method. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 287–291, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 65N30 (35J05)
Antolín, Antonio Theodor. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 1–10. (I. Grattan-Guinness) **99m:01033** 01A70
Antón, Jesús (*with* Cerda Tena, Emilio; Huergo, Elena) Sensitivity analysis in a class of dynamic optimization models. (English summary) *Top* **6** (1998), *no.* 1, 97–121. (Summary) **99e:90098** 90C31 (90A16)
Antonacci, Flavia (*with* Sampalmieri, Rosella) Closed geodesics on compact Lorentzian manifolds of splitting type. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 447–462. (Paolo Piccione) **99h:58037** 58E10 (53C22, 53C50)
— (*with* Magrone, P.) Second order nonautonomous systems with symmetric potential changing sign. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 367–379. (Maria Letizia Bertotti) **99h:58152** 58F22 (34C25, 58E05)
Antonchik, V. S. Construction of controls based on discrete incomplete information. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 20–26, 239, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 93D21 (93C41)
Antonelli, Gian Aldo Extensional quotients for type theory and the consistency problem for NF. *J. Symbolic Logic* **63** (1998), *no.* 1, 247–261. (M. Randall Holmes) **99j:03045** 03E70
Antonelli, Peter L. (*with* Hrimiuc, Dragoş) On the geometry of a homogeneous contact transformation. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 697–705. (Makoto Matsumoto) **99j:53091** 53C60
— (*with* Zastawniak, Tomasz) Introduction to diffusion on Finsler manifolds [MR 95g:58259]. (English summary) *The theory of Finslerian Laplacians and applications*, 1–12, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60, 60J60)
— (*with* Zastawniak, Tomasz) Density dependent host/parasite systems of Rothschild type and Finslerian diffusion [MR 95h:92026]. *The theory of Finslerian Laplacians and applications*, 13–31, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 92D50 (53B40, 92D25)
— (*with* Zastawniak, Tomasz) Stochastic Finsler geometry in the theory of evolution by symbiosis [MR 98a:58171]. *The theory of Finslerian Laplacians and applications*, 33–46, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60, 92D25)
— (*with* Zastawniak, Tomasz) Diffusions on Finsler manifolds [MR 94m:58236]. *The theory of Finslerian Laplacians and applications*, 47–62, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60)
— (*with* Zastawniak, Tomasz) Stochastic calculus on Finsler manifolds and an application in biology [MR 95h:58142]. *The theory of Finslerian Laplacians and applications*, 63–88, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60, 60H10, 92B05, 92D25)
— (*with* Zastawniak, Tomasz) Diffusion on the tangent and indicatrix bundles of a Finsler manifold [MR 97g:58176]. *The theory of Finslerian Laplacians and applications*, 89–110, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (53C60)
— (*with* Auger, Pierre M.; Bradbury, R.) Corals and starfish waves on the Great Barrier Reef: analytical trophodynamics and 2-patch aggregation methods. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 121–135. (F. Berezovskaya) **99f:92016** 92D25 (34C99, 92D40)
— A Finsler geometric model of evolution by symbiosis. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 495–505. (Jacques Vauthier) **99h:92017** 92D15
— *see also* **Theory of Finslerian Laplacians and applications, 99i:58003**
Antonets, M. A. (*with* Shereshevskiĭ, I. A.) Analysis of a stochastic model of the growth of trees. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **56** (1995), 68–106, 350; *translation in Trans. Moscow Math. Soc.* **1995**, 51–80. (Summary) **99d:60075** 60J05 (60K35)
Antonevich, Anatoliĭ B. (*with* Radyno, Ya. V.) On the theory of mnemonic functions and its applications. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 3, 46–52, 81. (Todor Dimitrov Todorov) **99a:46070** 46F10 (47B37, 47B48, 60G20)
— (*with* Lebedev, Andrei) On the index of operators in algebras associated with automorphisms. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 17–20, 122–123. (Vladimir M. Deundyak) **99k:47026** 47A53 (47D03)
— On a construction of the solutions for some elliptic equations with generalized coefficients. (English summary) *Transform methods & special functions, Varna* '96, 7–14, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 35J99 (35C99, 46F10)
— (*with* Radyno, N.; Radyno, Ya. V.) About the theory of mnemofunctions and its applications. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 123–134. (Summary) **99d:46054** 46F10 (35D99)
Antoni, Carla (*with* Giannessi, Franco) On the equivalence, via relaxation-penalization, between vector generalized systems. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 567–588. (Gérard Lebourg) **99e:90078** 90C29 (49M30, 65K10, 90C27)
— (*with* Dalena, Angela) The Fermat-Weber problem and the Lagrangian duality theory. (English summary) *New trends in mathematical programming*, 5–12, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Gert Wanka) **99h:90092** 90C30 (49N15, 90B85, 90C25)
Antoni, Mickaël (*with* Elskens, Yves; Escande, Dominique F.) Explicit reduction of N-body dynamics to self-consistent particle-wave interaction. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 841–852. (Summary) **99a:82092** 82D10 (70F10)
Antoniadis, Anestis (*with* Gijbels, Irène; Grégoire, Gérard) Model selection using wavelet decomposition and applications. (English summary) *Biometrika* **84** (1997), *no.* 4, 751–763. (Summary) **99a:62038** 62G05
— (*with* Grégoire, Gérard; Nason, Guy) Density and hazard rate estimation for right-censored data by using wavelet methods. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 63–84. (Summary) **99i:62081** 62G07
Antoniadis, Ignatios (*with* Ferrara, Sergio; Minasian, Ruben; Narain, K. S.) R^4 couplings in M- and type II theories on Calabi-Yau spaces. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 571–588. (Gonzalo Violero) **99c:81159** 81T30 (32J81, 83E30)
— (*with* Dimopoulos, Savas; Dvali, Gia) Millimetre-range forces in superstring theories with weak-scale compactification. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 70–82. (Summary) **99b:81270** 81V22 (81T30)
— (*with* Partouche, H.; Taylor, T. R.) Lectures on heterotic-type I duality. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 58–71. (Summary) **99a:81123** 81T30 (83E30)
— (*with* Quirós, M.) Supersymmetry breaking in M-theory. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 312–320. (Summary) **99c:81160** 81T30 (81R40)
— (*with* Partouche, H.; Taylor, T. R.) Lectures on heterotic-type I duality. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 3–16. (Summary) **99b:81171** 81T30 (83E30)
— (*with* Mazur, Pawel O.; Mottola, Emil) Fractal geometry of quantum spacetime at large scales. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 284–292. (Summary) **99m:83062** 83C45
— (*with* Bachas, Constantin P.) Branes and the gauge hierarchy. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 83–91. (Summary) **99k:81213** 81T30 (81T15, 81V22)
Antonian, Sergey A. *see* **Antonyan, S. A.**
Antonijoan, J. (*with* Marquès, F.; Sánchez Umbría, Juan Jose) Spirals and secondary instabilities in the Taylor-Couette flow. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76E10 (76M25)
Antonik, V. G. (*with* Srochko, V. A.) The projection method in linear-quadratic problems of optimal control. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 564–572; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 543–551. (Summary) **99c:49033** 49M30 (49N10)
giuliano Antonini, Rita *see* **Giuliano Antonini, Rita**
Antoniou, Grigoris (*with* MacNish, Cara Kimberley; Foo, Norman Y.) Restriction and expansion concepts for default logic. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 640–652 (*electronic*). (Summary) **99g:68188** 68T27 (03B70)
— A note on the use of lemmas in default logics. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 653–663 (*electronic*). (Summary) **99h:68159** 68T27 (03B70)
— (*with* Williams, Mary-Anne) Some approaches to reasoning with incomplete and changing information. *Learning and reasoning with complex representations* (*Cairns*, 1996), 9–44, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T27 (03B70)
— (*with* Billington, David; Maher, Michael J.) Normal forms for defeasible logic. (English summary) *Logic programming* (*Manchester*, 1998), 160–174, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68030** 68N17 (03B60)
— *see also* **Learning and reasoning with complex representations, 99f:68003**
Antoniou, Ioannis (*with* Pavlov, Boris S.; Yafyasov, Adil) Quantum electronic devices based on metal-dielectric transition in low-dimensional quantum structures. *Combinatorics, complexity, & logic* (*Auckland*, 1996), 90–104, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 81P99 (68Q05)
— (*with* Suchanecki, Z.) Quantum systems with diagonal singularity: their logic and intrinsic irreversibility. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 509–531. (J.-P. Antoine) **99g:81013** 81P10 (46L60, 82C03)
— (*with* Suchanecki, Z.) Probabilistic extension and logic of complex unstable dynamical systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 1939–1958. (Robert Alicki) **99a:58125** 58F19 (81P10, 82C03)
— (*with* Gadella, M.; Suchanecki, Z.) Some general properties of the Liouville operator. *Irreversibility and causality* (*Goslar*, 1996), 38–56, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Robert Alicki) **99j:82055** 82C10 (47N55)
— (*with* Gustafson, Karl; Suchanecki, Z.) From stochastic semigroups to chaotic dynamics. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 110–123, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Władysław Adam Majewski) **99e:82055** 82C05 (46N55, 47A20, 47N55, 60J99)
— (*with* Mel′nikov, Yu. B.[1]) Quantum scattering of resonances: poles of a continued S-matrix and poles of an extended resolvent. *Irreversibility and causality* (*Goslar*, 1996), 246–256, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (François Nicoleau) **99h:81222** 81U20 (47A40, 47N50, 81U05)
— (*with* Bosco, F.) Spectral decomposition of contracting probabilistic dynamical systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 401–418. (Takehiko Morita) **99g:58100** 58F19 (60K40)
— (*with* Suchanecki, Z.) Extension of the dynamics of unstable systems. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 127–165. (Robert Alicki) **99f:82043** 82C10 (28D05, 47N50, 58F13)
— (*with* Gadella, M.; Suchanecki, Z.) General properties of the Liouville operator. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1641–1654. (Władysław Adam Majewski) **99e:82059** 82C10 (47N55)
— (*with* Gadella, M.; Pronko, G. P.) Gamow vectors for degenerate scattering resonances. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2459–2475. (R. G. Newton) **99b:81260** 81U20 (47A40, 47N50, 81U05)
— (*with* Gadella, M.; Prigogine, Ilya; Pronko, G. P.) Relativistic Gamow vectors. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 2995–3018. (M. J. Mączyński) **99g:81228** 81U30
— *see also* **Generalized functions, operator theory, and dynamical systems, 99k:00030**

Antonoiu, Gheorghe (*with* Srimani, Pradip K.) A self-stabilizing distributed algorithm for minimal spanning tree problem in a symmetric graph. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 15–23. (Summary) **99c:05182** 05C85
— (*with* Srimani, Pradip K.) Self-stabilizing protocol for mutual exclusion among neighboring nodes in a tree structured distributed system. (English summary) *Parallel Algorithms Appl.* **14** (1999), *no.* 1, 1–18. 90B10 (90C35)
Antonov, A. V. The quantum Volterra model and the universal R-matrix. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 384–396; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1520–1529 (1998). (Andrey V. Tsiganov) **99c:81262** 81U40 (58F07, 81R50)
Antonov, D. V. Gluodynamics string as a low-energy limit of the universal confining string theory. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 274–282. (Summary) **99b:81266** 81V05 (81T30)
— String representation of the abelian Higgs model with an axionic interaction. (English summary) *Phys. Lett. B* **434** (1998), *no.* 1-2, 48–53. (Summary) **99d:81081** 81T13 (81T30, 81V05)
Antonov, N. V. (*with* Adzhemyan, Loran Ts.; Vasil'ev, A. N.) Renormalization group, operator product expansion, and anomalous scaling in a model of advected passive scalar. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1823–1835. (Summary) **99f:76073** 76F99 (81T17)
— (*with* Adzhemyan, Loran Ts.) Renormalization group and anomalous scaling in a simple model of passive scalar advection in compressible flow. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7381–7396. (Mohammad R. Rahimi Tabar) **99k:76075** 76F99 (81T17)
Antonov, Vladimir A. (*with* Nazyrova, Yu. A.) Layer-projective lattices. I. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 170–182; *translation in Math. Notes* **63** (1998), *no.* 1-2, 150–160. (Summary) **99d:06010** 06B25
Antonova, T. M. On the convergence and approximation error of branched continued fractions with complex components. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 7–11. 30B70 (40A15)
— On the convergence of periodic integral continued fractions with variable limits of integration. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2341–2347. (Summary) **99g:40002** 40A15
Antonsen, Frank (*with* Bormann, Karsten) Time machines and the breakdown of unitarity. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2383–2393. (Summary) **99j:81022** 81P99
— (*with* Avery, John) Relativistic Sturmian basis functions. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 175–185. (Summary) **99h:81027** 81Q05
Antonsen, Thomas M., Jr. (*with* Namenson, Arthur; Ott, Edward) Power law wave number spectra of fractal particle distributions advected by flowing fluids. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2426–2434. 76F99
— (*with* Ott, Edward) Fractal patterns of scalars advected by temporally irregular fluid flows: the random map approach. (English summary) *Fractal frontiers (Denver, CO, 1997)*, 43–51, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:76064** 76F20
— (*with* Ott, Edward; Jacobs, Joeri) Fractal patterns of tracers advected by smooth temporally irregular fluid flows and their analysis by use of random maps. (English summary) Fractal 97 (Estes Park, CO). *Fractals* **5** (1997), *suppl.*, 119–128. (*see* **99f:00017**) 76F20 (76R99)
— (*with* Jacobs, Joeri; Ott, Edward; Yorke, James A.) Modeling fractal entrainment sets of tracers advected by chaotic temporally irregular fluid flows using random maps. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 1–17. (Summary) **99k:76072** 76F20 (58F40, 76M35)
Antontsev, Stanislav N. Localization of solution for a problem of mass transport through porous media. *III Congress on Applied Mathematics/XIII Congress on Differential Equations and Applications (Spanish) (Madrid, 1993)*, 3–9, *Univ. Politéc. Madrid, Madrid*, 1993. (Elena Comparini) **99e:76117** 76S05 (35Q35)
— (*with* Chipot, Michel) Analytic regimes with peaking in the thermistor problem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 963–977, i; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 827–841. (I. Łojczyk-Królikiewicz) **99b:35101** 35K60 (35B60)
— (*with* Gagneux, Gérard) Petits paramètres et passages à la limite dans les problèmes de filtration diphasique. [Small parameters and passages to the limit in two-phase filtration problems] *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson, 1997)*, 18–27, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Introduction) **99e:35008** 35B25 (35Q35, 76S05, 76T05)
— (*with* Meirmanov, A. M.; Yurinskiĭ, V. V.) Homogenization of Stokes-type equations with variable viscosity. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 1–29. (I. Aganović) **99m:35022** 35B27 (35Q30, 73B27, 76D07, 76S05)
Antonuccio, F. (*with* Lunin, O.; Pinsky, Stephen S.) On exact supersymmetry in DLCQ. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 173–179. (Summary) **99h:81201** 81T60
— (*with* Lunin, O.; Pinsky, Stephen S.; Pauli, Hans-Christian; Tsujimaru, S.) DLCQ spectrum of $\mathcal{N} = (8, 8)$ super Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105024, 11 *pp.* (Summary) **99m:81234** 81T60 (81T13)
— (*with* Pauli, Hans-Christian; Pinsky, Stephen S.; Tsujimaru, S.) DLCQ bound states of $\mathcal{N} = (2, 2)$ super-Yang-Mills theory at finite and large N. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125006, 9 *pp.* (Summary) **99m:81235** 81T60 (81T13)
Antonyan, S. A. Extension properties of the orbit space. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 1–10 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C15 (54B15, 54H15)
— The Banach-Mazur compacta are absolute retracts. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 113–119. (Oleg G. Okunev) **99d:54020** 54H15 (54C55)
ter-Antonyan, V. M. *see* **Ter-Antonyan, V. M.**
Antosik, Piotr A lemma on matrices and examples of its applications. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 15–22. (Enno Kolk) **99e:40005** 40A30 (40J05, 46G99)
Antoulas, A. C. Approximation of linear operators in the 2-norm. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 309–316. (Mihály Bakonyi) **99g:15033** 15A60 (47A58, 47B35)
Antoy, Sergio Optimal non-deterministic functional logic computations. (English summary) *Algebraic and logic programming (Southampton, 1997)*, 16–30, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (68N17)
Antsaklis, Panos J. (*with* Konstantopoulos, Ioannis K.) Optimal design of robust controllers for uncertain discrete-time systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 71–91. 93B36 (93B51)
— *see also* **Hybrid control systems, 99a:93006**
Antunes, Nuno D. (*with* Bettencourt, Luís M. A.) The length distribution of vortex strings in U(1) equilibrium scalar field theory. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 15, 3083–3086. (Summary) **99e:81135** 81T10
Antzoulakos, Demetris L. (*with* Philippou, Andreas N.) Distributions of the numbers of successes and failures until the occurrence of the rth overlapping and non-overlapping success run of length k. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 19–30. (Summary) **99e:60030** 60C05
— (*with* Philippou, Andreas N.) Probability distribution functions of succession quotas in the case of Markov dependent trials. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 531–539. (Barry C. Arnold) **99e:60031** 60C05 (60J10)
— (*with* Tripsiannis, Gregory A.) On multivariate inverse Polya and related distributions of order k. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 205–212. (Summary) **99c:62036** 62E15 (60C05)
Anufriev, I. E. (*with* Petukhov, L. V.) Application of a stable boundary analogue of the collocation method for the approximation of the solution of some problems in mechanics. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 633–642; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 589–597. (Summary) **99m:65228** 65N35 (73V20)
Anufrieva, U. A. (*with* Mel'nikova, I. V.; Ushkov, V. Yu.) Degenerate distribution semigroups and well-posedness of the Cauchy problem. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 247–256. (Summary) **99d:47037** 47D06 (34A60, 34G10, 46F10)
Anuta, A. E., Jr. The modal equations and equal frequencies in definite systems. (English summary) *Comput. & Structures* **60** (1996), *no.* 3, 357–367. (Summary) **99d:70029** 70J05
Anzai, Koushi (*with* Miyadera, Youzou; Unno, Hiroshi; Yaku, Takeo) Depth-first layout algorithm for trees. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 187–194. (Summary) **99c:68253** 68U05
Anzaldo-Meneses, Alfonso Superlattices with coupled channels and transfer matrices. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 4, 307–319. (Summary) **99k:81337** 81U99
Ao, Suqin (*with* Hanson, Denis) Score vectors and tournaments with cyclic chromatic number 1 or 2. (English summary) *Ars Combin.* **49** (1998), 185–191. (Summary) **99e:05059** 05C20 (05C15)
Aoe, Jun-ichi (*with* Ando, Kazuaki; Kinoshita, Toshiharu; Shishibori, Masami) An improvement of the Aho-Corasick machine. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 139–151. (Summary) **99f:68076** 68Q20 (68Q45)
— (*with* Ando, Kazuaki; Mizobuchi, Shoji; Shishibori, Masami) Efficient multi-attribute pattern matching. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 21–38. (Summary) **99c:68105** 68Q20 (68Q25)
Aoki, Hajime (*with* Iso, Satoshi; Kawai, Hikaru; Kitazawa, Yoshihisa; Tada, Tsukasa) Space-time structures from IIB Matrix model. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 713–745. (Summary) **99f:81141** 81T30
Aoki, Hiroki An automorphic forms on the expanded symmetric domain of type IV (introductory talk). Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 148–153. (*see* **99h:32002**) 32N10 (11F55, 32N15)
Aoki, Hisayo (*with* Miyanishi, Masayoshi) Finitely generated algebras associated with rational vector fields. *J. Algebra* **198** (1997), *no.* 2, 481–498. (R. V. Gurjar) **99b:13007** 13B10
Aoki, Kazuo[2] (*with* Sone, Yoshio; Sugimoto, Hiroshi) Cylindrical Couette flows of a rarefied gas with evaporation and condensation: reversal and bifurcation of flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 476–490. (Summary) **99j:76110** 76P05 (76E15, 76U05)
Aoki, Masanao Shares in emergent markets: dynamics and statistical properties of equilibrium classification of agents in evolutionary models. *Statistical methods in control and signal processing*, 273–298, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 90A16 (90A70)
Aoki, Nobuo (*with* Moriyasu, Kazumine; Oka, Masatoshi) Differentiable maps having hyperbolic sets. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 15–48. (Romeo F. Thomas) **99d:58130** 58F15 (58F10)
— (*with* Chung, Yong Moo; Tomioka, Kazuyuki) Topological properties of differentiable maps derived from 2-toral endomorphisms. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 105–123. (Michael Hurley) **99b:58179** 58F15 (58F14)
Aoki, Takashi (*with* Kawai, Takahiro; Takei, Yoshitsugu) WKB analysis of Painlevé transcendents with a large parameter. II. Multiple-scale analysis of Painlevé transcendents. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 1–49, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Vladimirovich Kitaev) **99g:34120** 34E20 (34A20, 34A25, 34A34)
— Instanton-type formal solutions to the second Painlevé equations with a large parameter. *New trends in microlocal analysis (Tokyo, 1995)*, 103–112, *Springer, Tokyo*, 1997. (From the introduction) **99d:34105** 34E20 (34A34, 81Q20)
— Multiple-scale analysis of Duffing's equation and Fourier series expansion of Jacobi's elliptic functions. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 49–60. (*see* **99d:00021**) 34C15 (33E05, 34E05)
Aomoto, Kazuhiko q-difference de Rham complexes and Čech cohomology (thoughts on basic hypergeometric functions). (Japanese) *Sūgaku* **49** (1997), *no.* 4, 350–364. (Takeshi Sasaki) **99f:32029** 32G34 (33D20, 33D70)
— (*with* Kato, Yoshifumi) Derivation of q-difference equation from connection matrix for Selberg type Jackson integrals. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 3, 247–278. (Summary) **99e:33021** 33D60 (39A10)

— Analytic difference equations and connection problems. *J. Differ. Equations Appl.* **4** (1998), *no.* 6, 597–603. 39A10

Aoshima, Makoto (*with* Takada, Yoshikazu) Two-stage procedures for estimating a linear function of multinormal mean vectors. (English summary) *Sequential Anal.* **16** (1997), *no.* 4, 353–362. (K. F. Yu) **99c:62225** 62L10 (62F25, 62H12)

— A two-stage procedure for fixed-size confidence region when covariance matrices have some structures. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 1, 59–67. (Issa Fakhre-Zakeri) **99m:62120** 62L12 (62H12)

— (*with* Mukhopadhyay, Nitis) Fixed-width simultaneous confidence intervals for multinormal means in several intraclass correlation models. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 46–63. (Issa Fakhre-Zakeri) **99i:62183** 62L12

Aoshima, N. (*with* Tinone, H.) Parameter identification of robot arm with repetitive control. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 225–238. 93C85 (93B30)

Aotani, Masayasu Complete classification of spectral operator algebras associated with divisible product systems. (English summary) *Internat. J. Math.* **9** (1998), *no.* 8, 923–943. (Geoffrey Price) **99m:46131** 46L05 (46L50, 47B35, 47D25)

Aoto, Takahito (*with* Toyama, Yoshihito) On composable properties of term rewriting systems. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 114–128, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68131** 68Q42

— (*with* Toyama, Yoshihito) Persistency of confluence. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1134–1147 (*electronic*). (Summary) **99h:68096** 68Q42

— (*with* Toyama, Yoshihito) Termination transformation by tree lifting ordering. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 256–270, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:68078** 68Q42

Aoubiza, Boujemaa (*with* Laydi, Mohamed Rachid) A penalty method for solving partial differential equations with periodic boundary condition: application to the homogenization theory. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 749–760. (Stephen W. Brady) **99j:65191** 65N30 (73B27)

Aouf, M. K. (*with* Owa, Shigeyoshi) Some applications of fractional calculus operators to some classes of univalent functions with negative coefficients. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 211–220. (H. M. Srivastava) **99c:30023** 30C45 (26A33)

— (*with* Darwish, H. E.) On meromorphic univalent functions with positive coefficients and with two fixed points. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 1, 3–14 (1997). (Carl P. McCarty) **99b:30011** 30C45

— (*with* Darwish, H. E.) Fixed coefficients for certain class of analytic functions with negative coefficients. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 37–44 (1997). (Shigeyoshi Owa) **99c:30012** 30C45

— (*with* Hossen, H. M.) The starlike functions of order α and type β with finitely many fixed coefficients. *Mathematica* **38(61)** (1996), *no.* 1-2, 3–12. (O. P. Ahuja) **99d:30013** 30C45

— (*with* Salagean, Grigore Stefan) On certain class of analytic functions with negative coefficients. II. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 21–40. (Herb Silverman) **99j:30008** 30C45

— (*with* Shamandy, A.; Attıyıa, A. A.) Certain classes of analytic and multivalent functions with negative coefficients. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 353–368. (Ved Parkash Gupta) **99f:30016** 30C45

— (*with* Hossen, H. M.; Lee, Sang Hun; Cho, Nak Eun) Certain generalizations of P-valent functions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 251–258. (Summary) **99i:30019** 30C45

— (*with* Hossen, H. M.) A note on certain subclass of analytic functions. *Mathematica* **39(62)** (1997), *no.* 1, 3–5. (Shigeyoshi Owa) **99f:30017** 30C45

— (*with* Salagean, Grigore Stefan) On the coefficients of some meromorphic subclasses of order α and type β. *Mathematica* **39(62)** (1997), *no.* 1, 7–15. (Johnny E. Brown) **99f:30018** 30C45 (30C50)

— (*with* Hossen, H. M.; Salagean, Grigore Stefan) Notes on certain classes of analytic functions with negative coefficients. *Mathematica* **39(62)** (1997), *no.* 2, 165–179. (D. E. Tepper) **99g:30011** 30C45

— (*with* Nunokawa, Mamoru; Darwish, H. E.) On α-convex functions of order β of Ruscheweyh type. II. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 82–91. (*see* **99a:00033**) 30C45

— (*with* Owa, Shigeyoshi; Hossen, H. M.) A class of functions defined by using Hadamard product. II. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 115–139. (T. H. MacGregor) **99i:30024** 30C45

— (*with* Hossen, H. M.; Srivastava, Hari M.) Certain subclasses of prestarlike functions with negative coefficients. (English summary) *Kumamoto J. Math.* **11** (1998), 1–17. (Herb Silverman) **99f:30019** 30C45 (26A33)

— (*with* Darwish, H. E.) A property of certain analytic functions involving Ruscheweyh derivatives. II. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 3-4, 277–281. 30C45

— (*with* Srivastava, Hari M.; Hossen, H. M.) A certain subclass of meromorphically convex functions with negative coefficients. (English summary) *Math. J. Ibaraki Univ.* **30** (1998), 33–51. (Herb Silverman) **99j:30016** 30C45

— (*with* Yaguchi, Teruo) Some applications of fractional calculus operators to certain subclass of analytic functions with negative coefficients. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 191–199. (R. K. Raina) **99m:30017** 30C45 (26A33)

— (*with* Darwish, H. E.; Attiya, A. A.) Coefficients estimates for certain class of analytic functions with complex order. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 1–13. (Jay M. Jahangiri) **99k:30014** 30C45 (30C50)

— (*with* Shamandy, A.; Yassen, M. F.) Some applications of fractional calculus operators to a certain subclasses of univalent functions with negative coefficients. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 73–78. (Summary) **99c:30013** 30C45 (26A33)

— (*with* Joshi, Santosh B.) On certain subclasses of meromorphically starlike functions with positive coefficients. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 79–90. (F. W. Hartmann) **99f:30020** 30C45

— (*with* Hossen, H. M.; Srivastava, Hari M.) Certain classes of analytic and multivalent functions. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 233–244. (Shigeyoshi Owa) **99k:30020** 30C45

— (*with* Cho, Nak Eun) On a certain subclass of analytic functions with negative coefficients. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 15–32. (Herb Silverman) **99g:30008** 30C45

Aouni, Belaïd (*with* Martel, Jean-Marc) Diverse imprecise goal programming model formulations. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 127–138. (*see* **99a:90011**) 90C08 (90C29)

Aoyagi, Masaki Equilibrium delay in a simple dynamic model of investment. (English summary) *Econom. Theory* **12** (1998), *no.* 1, 123–146. (Summary) **99i:90012** 90A09 (90A16)

Aoyagi, Shigemi (*with* Manabe, Yoshifumi; Baldoni, Roberto; Raynal, Michel) k-arbiter: a safe and general scheme for h-out-of-k mutual exclusion. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 97–112. (Annabelle McIver) **99a:68066** 68Q10

Aoyama, Hideaki (*with* Kikuchi, Hisashi; Okouchi, Ikuo; Sato, Masatoshi; Wada, Shinya) Valleys in quantum mechanics. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 93–100. (Summary) **99b:81067** 81Q99 (81–08)

Aoyama, Hiroshi The semantic completeness of a global intuitionistic logic. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 167–175. (Torben Braüner) **99m:03030** 03B45

Aoyama, Kiwamu (*with* Fukuzaki, Kenji) Equivalence of the induction schema and the least number principle for open formulas. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 149–162. (Christian Bennet) **99c:03089** 03F30

Aoyama, Tomoo (*with* Teshima, Tomoki; Iwasaki, Hironori) Logical interpolation. (Japanese. English summary) *Mem. Fac. Engrg. Miyazaki Univ. No.* 27 (1998), 117–120. 03B50

Apanasov, Boris Quasiconformality and geometrical finiteness in Carnot-Carathéodory and negatively curved spaces. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 35–57, *de Gruyter, Berlin*, 1997. (Chalya S. Aravinda) **99g:53039** 53C20

— Quasisymmetric knots and Teichmüller spaces. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 1, 7–10. (Leonid Potyagailo) **99f:57004** 57M25 (30F40)

— Canonical homeomorphisms in Heisenberg groups that are induced by isomorphisms of discrete subgroups in $PU(n, 1)$. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 6, 727–730. (J. S. Joel) **99c:53050** 53C30 (22E40, 32H15)

— (*with* Xie, Xiangdong) Geometrically finite complex hyperbolic manifolds. (English summary) *Internat. J. Math.* **8** (1997), *no.* 6, 703–757. (Igor Belegradek) **99e:57051** 57S30 (20H10, 30F40)

Aparicio, Ignacio (*with* Floría Gimeno, Luis) A BF-regularization of a nonstationary two-body problem under the Maneff perturbing potential. *Extracta Math.* **12** (1997), *no.* 3, 291–299. (Florin N. Diacu) **99d:70015** 70F05

— (*with* Floría Gimeno, Luis) On the performance of the Deprit's linearizing D-transformation. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 151–156, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70H15 (70F15, 70H05)

Aparicio, N. D. (*with* Pidcock, M. K.) On a class of free boundary problems for the Laplace equation in two dimensions. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 9–18. (Yongzhi Xu) **99a:35274** 35R35 (35J05)

Apekina, E. V. (*with* Khamisov, O. V.) A modified method of simplex embeddings with the simultaneous introduction of several intersecting planes. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 16–24; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 12, 14–22 (1998). (Knut Richter) **99a:90149** 90C25

Apel, Joachim The computation of Gröbner bases using an alternative algorithm. *Symbolic rewriting techniques* (*Ascona*, 1995), 35–45, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Daniel Lazard) **99f:68111** 68Q40 (13P10, 16W50)

— (*with* Stückrad, J.; Tworzewski, Piotr; Winiarski, T.) Intersection of sequences of ideals generated by polynomials. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 1–12. (Bernard Mourrain) **99k:13035** 13P10

— The theory of involutive divisions and an application to Hilbert function computations. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 6, 683–704. (Franz Pauer) **99h:13034** 13P10 (13N10)

Apel, Thomas (*with* Lube, Gert) Anisotropic mesh refinement for a singularly perturbed reaction diffusion model problem. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 415–433. (Reinhard Scholz) **99j:65192** 65N30

— Anisotropic interpolation error estimates for isoparametric quadrilateral finite elements. (English summary) *Computing* **60** (1998), *no.* 2, 157–174. (Weimin Han) **99a:65140** 65N30

— (*with* Nicaise, Serge) The finite element method with anisotropic mesh grading for elliptic problems in domains with corners and edges. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 519–549. (Chuan Miao Chen) **99f:65160** 65N30

Apelblat, Alexander Application of the Laplace, Mellin and Stieltjes transformations in the evaluation of integrals. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 25–34, *VSP, Utrecht*, 1998. (Summary) **99g:44001** 44A10 (44A15)

— (*with* Kravitsky, N.) Improper integrals associated with the inverse Laplace transforms of $[\ln(s^2 + a^2)]^{-n}$, $n = 1, 2$. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 565–571. (Summary) **99g:44002** 44A10

Apel'tsin, V. F. (*with* Il'inskiĭ, A. S.) High-frequency projection method for plane problems of wave diffraction on dielectric bodies. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 237–244. (Charles I. Goldstein) **99b:78002** 78–08 (78A45)

Apenko, S. M. Weakly bound states in $2 + \varepsilon$ dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1553–1562. (Summary) **99b:81032** 81Q05

Apéry, François (*with* Yoshida, Masaaki) Pentagonal structure of the configuration space of five points in the real projective line. *Kyushu J. Math.* **52** (1998), *no.* 1, 1–14. (I. Dolgachev) **99e:52017** 52B30 (14P99, 51F15, 51M15)

Apikyan, S. A. (*with* Efthimiou, Costas J.) Minimal models of CFT on Z_N-surfaces. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4291–4307. (Satoru Saito) **99a:81161** 81T40 (14H45, 17B68, 81R10)

— (*with* Sahakyan, D. A.) Superconformal field theory with boundary: fermionic model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 22, 1781–1790. (Christophe Grojean) **99e:81217** 81T40 (81T60)
— Quantum Liouville field theory on a manifold with boundary. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 25, 2057–2063. (Summary) **99i:81208** 81T40
— (*with* Efthimiou, Costas J.) The conformal properties of Liouville field theory on Z_N-Riemann surfaces. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 333–337. (Kazuto Oshima) **99j:81163** 81T40
Apkarian, Pierre (*with* Alazard, Daniel) Exact observer-based structures for arbitrary compensators. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 2, 101–118. 93B07 (93B36)
Aplevich, J. D. (*with* Miri, S. A.) Equivalence of n-dimensional Roesser and Fornasini-Marchesini models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 401–405. (T. Kaczorek) **99a:93008** 93A30 (93C30)
— (*with* Miri, S. A.) Modeling and realization of n-dimensional linear discrete systems. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 3, 241–253. (Summary) **99b:93031** 93C30 (93A30, 94A12)
Apostolico, Alberto (*with* Breslauer, Dany) Of periods, quasiperiods, repetitions and covers. (English summary) *Structures in logic and computer science*, 236–248, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (*see* **99b:68008**) 68R15
— (*with* Giancarlo, Raffaele) Sequence alignment in molecular biology. (English summary) *Mathematical support for molecular biology*, 85–115, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92018** 92D20 (68Q25, 92C40)
— *see also* **Pattern matching algorithms**, **99f:68109**
Apostolidou, K. A digraph approach to the edge-reconstruction conjecture. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 3–24. (B. Manvel) **99a:05103** 05C60 (05C20)
Apostolopoulos, Pantelis S. (*with* Tsamparlis, Michael; Nikolopoulos, Dimitris) Computation of the conformal algebra of 1 + 3 decomposable spacetimes. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2909–2921. (Sunil D. Maharaj) **99k:83036** 83C40
Apostolov, V. (*with* Grantcharov, G.; Ivanov, Stefan P.) Hermitian structures on twistor spaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 291–308. (Massimiliano Pontecorvo) **99h:53054** 53C25 (32L25, 53C56)
— Generalized Goldberg-Sachs theorems for pseudo-Riemannian four-manifolds. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 185–198. (Santiago R. Simanca) **99j:53088** 53C50 (53C25)
Apostolova, L. N. Bigraduated complexes on the almost complex manifolds. (English summary) *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin*, 1996), 53–61, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99a:58140** 58G05 (53C15)
Appel, Martin J. B. (*with* Russo, Ralph P.) The maximum vertex degree of a graph on uniform points in $[0, 1]^d$. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 567–581. (David A. Grable) **99c:05174** 05C80 (60C05, 60D05)
— (*with* Russo, Ralph P.) The minimum vertex degree of a graph on uniform points in $[0, 1]^d$. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 582–594. (David A. Grable) **99c:05175** 05C80 (60C05, 60D05)
Appell, J. (*with* Kalitvin, A. S.; Zabreĭko, Petr Petrovich) Fixed point theorems in K-normed spaces and boundary values problems for nonlinear integro-differential equations of Barbashin type. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 31–44. (Da Jun Guo) **99b:47081** 47H10 (34K10, 45J05, 47N20)
— (*with* Kalitvin, A. S.; Zabreĭko, Petr Petrovich) Partial integral operators in Orlicz spaces with mixed norm. *Colloq. Math.* **78** (1998), *no.* 2, 293–306. (Isaac V. Shragin) **99i:47090** 47G10 (46E30, 47B38)
Appelo, C. A. J. (*with* van Veldhuizen, M.; Hendriks, J. A.) Numerical computation in heterovalent chromatography. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 69–89. (Summary) **99e:86015** 86A99 (65M99, 86–08)
Appelquist, Thomas (*with* Nyffeler, Andreas; Selipsky, Stephen B.) Analyzing chiral symmetry breaking in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 300–308. (Summary) **99b:81229** 81T60 (81R40, 81T13, 81V05)
— (*with* Ratnaweera, Anuradha; Terning, John; Wijewardhana, L. C. R.) Phase structure of an SU(N) gauge theory with N_f flavors. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105017, 11 *pp.* 81V05 (81T13)
Appignanesi, Gustavo A. (*with* Montani, Ruben A.; Fernández, Ariel) Glassy relaxation dynamics and ruggedness beyond the ultrametric limit. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 669–677. (Summary) **99c:82039** 82B80
Applebaum, David Quantum martingale measures and stochastic partial differential equations in Fock space. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3019–3030. (Andreas Boukas) **99c:81110** 81S25
Appleby, Brent D. (*with* McConley, Marc W.; Dahleh, Munther A.; Feron, Eric) Computational complexity of Lyapunov stability analysis problems for a class of nonlinear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2176–2193 (*electronic*). (Guy Jumarie) **99f:93060** 93B40 (65Y20, 93D09)
Appleby, D. M. Error principle. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 10, 2557–2572. (Summary) **99g:81018** 81P15
— Maximal accuracy and minimal disturbance in the Arthurs-Kelly simultaneous measurement process. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6419–6436. (Summary) **99d:81016** 81P15
Appleby, Glenn D. Similarity classes for nilpotent operators over Dedekind domains. (English summary) *Linear Algebra Appl.* **274** (1998), 37–59. (Robert M. Guralnick) **99b:15014** 15A21 (13F05)
Applegate, David (*with* Bixby, Robert; Chvátal, Vašek; Cook, William J.) On the solution of traveling salesman problems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 645–656 (*electronic*). (Frank Werner) **99g:90093** 90C27 (90-04, 90C10)
Appriou, Alain Uncertain data aggregation in classification and tracking processes. (English summary) *Aggregation and fusion of imperfect information*, 231–260, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 68T30 (93C42)
— (*with* Janez, Fabrice) Theory of evidence and non-exhaustive frames of discernment: plausibilities correction methods. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 1–19. (Maria-Teresa Lamata) **99m:68195** 68T30
Apps, J. S. (*with* Dowker, J. S.) The C_2 heat-kernel coefficient in the presence of boundary discontinuities. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1121–1139. (Summary) **99j:58195** 58G11
Apreutesei, N. C. Second-order differential equations on half-line associated with monotone operators. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 472–493. (Veli-Matti Hokkanen) **99e:34083** 34G20 (35J15, 47H15)
Aprodu, Marian (*with* Brînzănescu, Vasile) Numerical invariants and stability of 2-vector bundles over ruled surfaces. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 9–15. (Atsushi Noma) **99b:14042** 14J60 (14J26)
— An Appell-Humbert theorem for hyperelliptic surfaces. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 101–121. (Vasile Brînzănescu) **99m:14065** 14J05 (14J60)
— (*with* Brînzănescu, Vasile) Existence of stable 2-vector bundles over ruled surfaces. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 47–56. (Wei-Ping Li) **99k:14067** 14J60 (14J26)
Apsītis, Kalvis (*with* Arikawa, Setsuo; Freivalds, Rūsiņš; Hirowatari, Eiju; Smith, Carl H.) Recursive inference of real functions. I. Strict inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 199–204. (*see* **99i:65003**) 03D20 (03D80)
— (*with* Arikawa, Setsuo; Freivalds, Rūsiņš; Hirowatari, Eiju; Smith, Carl H.) Recursive inference of real functions. II. Approximate inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 205–210. (*see* **99i:65003**) 03D20 (03D80)
Apt, Krzysztof R. From chaotic iteration to constraint propagation. (English summary) *Automata, languages and programming (Bologna*, 1997), 36–55, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (From the introduction) **99c:68224** 68T20
— The essence of constraint propagation. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 215–248. (Summary) **99m:68180** 68T20
Apte, Aruna Uday (*with* Jayasuriya, A.; Kennington, J.; Krass, I.; Mohamed, Ramadan Hamed; Sorensen, S.; Whitler, J.) Class scheduling algorithms for Navy training schools. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 533–551. 90B35 (90B90)
Aptekarev, A. I. Multiple orthogonal polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 423–447. (José Javier Guadalupe Hernández) **99m:42036** 42C05 (33C45)
— (*with* Kalyagin, V. A.) Complex rational approximation and difference operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 3–21. (Summary) **99b:41019** 41A20 (35Q53, 39A70, 47B39)
Apter, Arthur W. Patterns of compact cardinals. (English summary) *Ann. Pure Appl. Logic* **89** (1997), *no.* 2-3, 101–115. (Carlos A. Di Prisco) **99b:03067** 03E35 (03E55)
— Laver indestructibility and the class of compact cardinals. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 149–157. (Carlos A. Di Prisco) **99m:03105** 03E55 (03E35)
Aptsiauri, K. On the generalized Riemann-Hilbert-Poincaré problem in domains with piecewise smooth boundaries. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 3–26. (N. K. Karapetyants) **99j:30045** 30E25
Aquilano, Roberto O. Radiation hydrodynamics and radiating spheres in general relativity. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **48** (1999), *no.* 1, 48–59. 83C55
de Aquino, V. M. (*with* Bellandi Filho, J.; Guzzo, M. M.; Fleitas, J. R.) On the matricial representations of exponential operators. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 591–597. (Pierre Anglès) **99k:22012** 22E15 (15A90, 81R05)
Åqvist, Lennart Prima facie oughtness vs. oughtness all things considered in deontic logic: a Chisholmian approach. *Logic, action and cognition (Umeå*, 1993), 89–96, *Trends Log. Stud. Log. Libr.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99k:03012**) 03B45
Ara, Pere (*with* Gómez Lozano, Miguel; Siles Molina, Mercedes) Local rings of exchange rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4191–4205. (Andrei Kelarev) **99h:16036** 16L30
— (*with* Goodearl, K. R.; O'Meara, K. C.; Pardo, E.) Separative cancellation for projective modules over exchange rings. (English summary) *Israel J. Math.* **105** (1998), 105–137. (Hua-Ping Yu) **99g:16006** 16D70 (16E50)
Arabadzhyan, L. G. Solutions of an integral equation of Hammerstein type. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 21–28; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 17–24. (Summary) **99e:47098** 47H30 (45G10)
— On a conservative integral equation with two kernels. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 323–331; *translation in Math. Notes* **62** (1997), *no.* 3-4, 271–277 (1998). (A. Böttcher) **99d:45003** 45E10 (45P05, 47A68, 47G10)
el-Arabawy, H. *see* **El-Arabawy, H.**
Arad, M. (*with* Yosibash, Z.; Ben-Dor, G.; Yakhot, A.) Computing flux intensity factors by a boundary method for elliptic equations with singularities. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 657–670. 65N38
Arad, Nur Grid-distortion on nonrectangular grids. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 475–493. (Summary) **99a:68167** 68U05 (65Y25)
Arada, N. (*with* Raymond, J.-P.) State-constrained relaxed problems for semilinear elliptic equations. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 248–271. (Tomáš Roubíček) **99f:49003** 49J20 (93C20)
Aragão de Carvalho, C. A. (*with* Cavalcanti, R. M.) Semiclassical statistical mechanics. (English summary) *Trends in theoretical physics (La Plata*, 1997), 94–104, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99f:82006** 82B10 (58C28, 81Q20)
Aragón, G. (*with* Aragón, J. L.; Rodríguez, M. A.) Clifford algebras and geometric algebra. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 91–102. (I. R. Porteous) **99b:15038** 15A66
Aragón, J. L. (*with* Aragón, G.; Rodríguez, M. A.) Clifford algebras and geometric algebra. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 91–102. (I. R.

Porteous) **99b:15038** 15A66

Arai, Asao (*with* Hirokawa, Masao) On the spin-boson model. (English summary) Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 16–35. (H. Hogreve) **99g:81041** 81Q10 (47N50, 81V10)

— (*with* Hirokawa, Masao) On the existence and uniqueness of ground states of a generalized spin-boson model. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 455–503. (Lech Jakóbczyk) **99b:82012** 82B10 (47N55)

— A class of representations of the $*$-algebra of the canonical commutation relations over a Hilbert space and instability of embedded eigenvalues in quantum field models. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 338–349. (Władysław Adam Majewski) **99b:81112** 81S05 (46L60, 47N50, 81T05)

— Representation-theoretic aspects of two-dimensional quantum systems in singular vector potentials: canonical commutation relations, quantum algebras, and reduction to lattice quantum systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2476–2498. (Lech Jakóbczyk) **99d:81060** 81S05 (81Q10)

— Perturbation problem of embedded eigenvalues in quantum field models and representations of canonical commutation relations. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 19–32. (Lech Jakóbczyk) **99k:81059** 81Q10 (47N50)

Arai, Hitoshi Generalized Dirichlet growth theorem and applications to hypoelliptic and $\overline{\partial}_b$ equations. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 2061–2088. (Yu. V. Egorov) **99f:35020** 35H05 (35N15)

— (*with* Mizuhara, Takahiro) Morrey spaces on spaces of homogeneous type and estimates for $\Box_b$ and the Cauchy-Szegő projection. (English summary) *Math. Nachr.* **185** (1997), 5–20. (Gerald B. Folland) **99d:42021** 42B20 (42B25, 43A80, 46E30, 47G10)

— Complex analysis in several variables and harmonic analysis. (Japanese) *Sūgaku* **49** (1997), *no.* 4, 337–349. (Kenzō Adachi) **99k:32022** 32F05 (31C35, 42B20, 60G46)

— Harmonic analysis of singular elliptic operators and invariant potential theory. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 77–84. (*see* **99a:00036**) 35J99 (35A20)

— The development of real analysis and its influence on analysis. (Japanese. Japanese summary) *Sūgaku* **50** (1998), *no.* 1, 29–55. (J. Kajiwara) **99b:01014** 01A60

Arai, Toshiyasu Consistency proof via pointwise induction. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 3, 149–165. (G. E. Mints) **99h:03036** 03F30 (03F15)

Arakawa, Tatsuya Bounds for the order of automorphism groups of hyperelliptic fibrations. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 317–323. (Caryn Werner) **99g:14049** 14J50

Arakawa, Tomoyuki (*with* Suzuki, Takeshi; Tsuchiya, Akihiro) Degenerate double affine Hecke algebra and conformal field theory. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 1–34, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Matthias Dörrzapf) **99i:17025** 17B67 (81T40)

— (*with* Suzuki, Takeshi) Duality between $\mathfrak{sl}_n(\mathbf{C})$ and the degenerate affine Hecke algebra. (English summary) *J. Algebra* **209** (1998), *no.* 1, 288–304. (Jie Du) **99h:17005** 17B10 (17B35, 20G05)

Arakawa, Tsuneo Köcher-Maass Dirichlet series corresponding to Jacobi forms. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 140–150. (Hiroshi Saito) **99e:11056** 11F55

— Köcher-Maass Dirichlet series corresponding to Jacobi forms and Cohen Eisenstein series. *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 93–122. (Rolf Berndt) **99f:11062** 11F55 (11F30)

Arakelian, Viguen Équilibrage dynamique complet des mécanismes. (English and French summaries) [Full dynamic balancing of mechanisms] *Mech. Mach. Theory* **33** (1998), *no.* 4, 425–436. (Summary) **99g:70004** 70B15 (70E99)

— Équilibrage des manipulateurs manuels. (French summary) [Balancing of manual manipulators] *Mech. Mach. Theory* **33** (1998), *no.* 4, 437–442. 70B15

Arakelyan, N. U. (*with* Gauthier, Paul M.) Propagation of smallness and the uniqueness of harmonic and holomorphic functions. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 2–28; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 2–24 (1996). (Vladimir Logvinenko) **99h:31011** 31B05 (30D15)

— Effective analytic continuation of power series with vector-valued coefficients. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 29–57; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 25–48 (1996). (Marek Jarnicki) **99h:30002** 30B40 (30B10)

— (*with* Yavryan, A. V.) Vector-valued analogues of Fabry's ratio theorem. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 87–91; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 76–80 (1996). (A. A. Borichev) **99f:30003** 30B30 (30B10, 46E40)

Arakeri, Jaywant H. (*with* Das, Debopam) Transition of unsteady velocity profiles with reverse flow. (English summary) *J. Fluid Mech.* **374** (1998), 251–283. (Summary) **99i:76063** 76E99 (76F99)

Araki, Huzihiro The work of Alain Connes [MR 87c:46064]. *Fields Medallists' lectures*, 329–336, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (46–03)

— (*with* Tabuchi, Takaaki) Generalization of Krinsky's commutativity proof of transfer matrices with Hamiltonians. (English summary) *Found. Phys.* **27** (1997), *no.* 11, 1485–1494. (M. Lawrence Glasser) **99c:82009** 82B20 (82B23)

— (*with* Flato, Moshé; Michéa, Sébastien; Sternheimer, Daniel) Some infinite-dimensional algebras arising in spin systems and in particle physics and their grand algebra. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 155–171. (Albert Jeu-Liang Sheu) **99h:81067** 81R10 (17B65, 22E70, 81R50)

— (*with* Zsido, Laszlo) Modular inclusions. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 63–79. (*see* **99d:46001**) 46L99

Araki, Keisuke (*with* Toh, Sadayoshi; Kawahara, Takuji) Stability of a modon structure: multipole expansion analysis. (English summary) *Wave Motion* **28** (1998), *no.* 1, 69–78. (Summary) **99a:76017** 76C05 (76C20, 76X05)

Araki, Kiyomichi (*with* Satoh, Takakazu) Fermat quotients and the polynomial time discrete log algorithm for anomalous elliptic curves. *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 81–92. (José Felipe Voloch) **99e:11083** 11G20 (11G07, 11T71)

— (*with* Satoh, Takakazu) Fermat quotients and polynomial time algorithms for finding discrete logarithms of anomalous elliptic curves. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 139–150. (Toshihiro Hadano) **99m:11067** 11G07 (11Y16, 94A60)

Araki, Makoto (*with* Niizeki, Syôzô) On a convergence theorem in L^p-space and some of its applications. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 45–55. (Raghu R. Gompa) **99c:28011** 28A20 (46E30)

— Hölder continuous weak solutions of degenerate quasi-linear elliptic systems. *Nonlinear Anal.* **34** (1998), *no.* 1, 143–155. (Zi Qian Yan) **99i:35032** 35J55 (35D05, 35J70)

Araki, Minako (*with* Tanii, Yoshiaki) Duality symmetries in nonlinear gauge theories. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1139–1149. (Summary) **99k:81180** 81T13

Araki, Mituhiko (*with* Hagiwara, Tomomichi; Yamasaki, Toshiyuki) Two-degree-of-freedom design method of LQI servo systems: disturbance rejection by constant state feedback. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 703–719. 93B51 (93C85)

— (*with* Hagiwara, Tomomichi; Furutani, Eiko) Two-degree-of-freedom design method of linear-quadratic servo systems with an integral compensator: analysis of the performance deterioration by the introduction of an observer. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 941–958. 93B52 (49N10)

— (*with* Hagiwara, Tomomichi; Kuroda, Go) Popov-type criterion for stability of nonlinear sampled-data systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 671–682. (Vasile Drăgan) **99f:93113** 93D10 (93C57)

— (*with* Hagiwara, Tomomichi) Robust stability of sampled-data systems under possibly unstable additive/multiplicative perturbations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1340–1346. 93D09 (93C57)

— (*with* Furutani, Eiko) Robust stability of state-predictive and Smith control systems for plants with a pure delay. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 907–919. (Summary) **99d:93049** 93D09 (93C30)

Araki, Tomoyuki (*with* Tatsumi, Hisayuki; Mukaidono, Masao; Yamamoto, Fujio) Minimization of incompletely specified regular ternary logic functions and its application to fuzzy switching functions. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 289–296, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B52)

— (*with* Tatsumi, Hisayuki; Mukaidono, Masao; Tokumasu, Shinji) Upper and lower bounds on the number of fuzzy/c switching functions. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 297–303, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B52

Arambel, Pablo O. (*with* Tadmor, Gilead) Decomposition and approximation of periodic systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 858–863. (Summary) **99m:93036** 93B51 (93C30)

Aramova, Annetta (*with* Herzog, Jürgen; Hibi, Takayuki) Weakly stable ideals. *Osaka J. Math.* **34** (1997), *no.* 4, 745–755. (Ralf Fröberg) **99b:13016** 13C13 (13D02)

— (*with* De Negri, Emanuela; Herzog, Jürgen) Lexsegment ideals with linear resolution. *Illinois J. Math.* **42** (1998), *no.* 3, 509–523. (Lê Tuân Hoa) **99m:13021** 13D02 (13F20)

— (*with* Herzog, Jürgen; Hibi, Takayuki) Squarefree lexsegment ideals. *Math. Z.* **228** (1998), *no.* 2, 353–378. (Lê Tuân Hoa) **99h:13013** 13D02 (13F20)

Aramyan, R. G. Measure generation in the space of planes, and spherical Euler functionals. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 4, 64–90 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 4, 52–74. (Ilya S. Molchanov) **99h:52007** 52A37 (28C10, 60D05)

Aranda, José I. *see* **Aranda Iriarte, José I.**

Aranda-Bricaire, Eduardo (*with* Hirschorn, Ronald M.) Global approximate output tracking for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1389–1398. (Hua Lin Tan) **99g:93035** 93B52 (93D15)

— (*with* Kotta, Ülle) Equivalence of discrete-time nonlinear systems to prime systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 12 *pp.* (*electronic*). (Allen Tannenbaum) **99m:93017** 93B17 (93B25, 93B27)

— (*with* Hirschorn, Ronald M.) Equivalence of nonlinear systems to prime systems under generalized output transformations. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 118–130 (*electronic*). (Ülle Kotta) **99g:93020** 93B18 (93B11)

Aranda Iriarte, José I. Degenerate centers and foci of planar analytic systems. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 157–162, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C05

Arango, Jaime (*with* Grabmüller, Hans) Wrinkle-free deformations of curved circular elastic membranes with an unloaded apex. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 539–564. (Summary) **99d:73054** 73K10 (34B15, 73C50)

— (*with* Grabmüller, Hans; Meisner, Andreas) Curved annular elastic membranes under partially vanishing surface load. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 683–709. (Summary) **99j:73027** 73C50 (73K10)

Arango, Juan H. (*with* Mejía, Diego; Ruscheweyh, Stephan) Exponentially convex univalent functions. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 33–50. (Summary) **99a:30014** 30C45

castillo Aranguren, Francisco *see* **Castillo Aranguren, Francisco**

saralegi Aranguren, Martin *see* **Saralegi Aranguren, Martin**

Arani, Ramin B. (*with* Rao, M. Bhaskara) Erratum to: "A result on a 2×2 survival experiment" [Math. Biosci. **146** (1997), no. 2, 63–73]. *Math. Biosci.* **158** (1999), *no.* 1, 93. 92B15

Aranson, S. Kh. (*with* Anosov, D. V.; Arnol'd, Vladimir Igorevich; Bronshteĭn, I. U.; Grines, V. Z.; Il'yashenko, Yu. S.) ★ Ordinary differential equations and smooth dynamical systems. Translated from the 1985 Russian original by E. R. Dawson and D. O'Shea. Third printing of the 1988 translation [*Dynamical systems. I*, Encyclopaedia Math. Sci., I, Springer, Berlin, 1988; MR 89g:58060]. *Springer-Verlag, Berlin*, 1997. *vi*+233 *pp. ISBN* 3-540-61220-3 (Robert Roussarie) **99h:58053** 58Fxx (34Axx, 34Cxx, 54H20)

— (*with* Zhuzhoma, E. V.; Medvedev, Vladislav Sergeevich) A strengthened C^r-closing lemma for dynamical systems and foliations on a torus. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 323–331; *translation in Math. Notes* **61** (1997), *no.* 3-4, 265–271. (Stanisław Sędziwy) **99d:58097** 58F10 (58F18)

— (*with* Zhuzhoma, E. V.; Medvedev, Vladislav Sergeevich) Continuity and collapse of geodesic distributions of flows on surfaces. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 7–11. (J. S. Joel) **99m:58145** 58F17

— (*with* Bronshteĭn, I. U.; Zhuzhoma, E. V.; Nikolaev, I. V.) Qualitative theory of foliations on closed surfaces. Dynamical systems, 5. *J. Math. Sci. (New York)* **90** (1998), *no.* 3, 2111–2149. (Athanase Papadopoulos) **99m:58148** 58F18 (57R30, 58F09, 58F10)

Arantes, Ricardo D. Code orderings for the solution of sparse positive definite linear systems. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 137–140. (*see* **99m:65003**) 65F50

Arany, Ilona A perturbed diagonal compensation used in preconditioned conjugate gradient method. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1995), *no.* 1, 3–12. 65F30

— Using the PCG solver by Saint-Georges et al. with spiral ordering in structural analysis. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 3–12. 65F30

— On some variants of the PCG-solver due to Saint-Georges et al. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **37** (1997), 3–12. 65F30

Arapura, Donu (*with* Oh, Kyungho) On the Abel-Jacobi map for non-compact varieties. *Osaka J. Math.* **34** (1997), *no.* 4, 769–781. (Jan Nagel) **99g:14008** 14C30 (14C34, 14K30)

Arason, Jón (*with* Magnus, Robert) An algebraic multiplicity theory for analytic operator-valued functions. *Math. Scand.* **82** (1998), *no.* 2, 265–286. (Mihai Putinar) **99h:47020** 47A56

Arasu, K. T. (*with* Seberry, Jennifer) On circulant weighing matrices. (English summary) *Australas. J. Combin.* **17** (1998), 21–37. (H. Kharaghani) **99c:05037** 05B20

— A reduction theorem for circulant weighing matrices. (English summary) *Australas. J. Combin.* **18** (1998), 111–114. (Summary) **99g:05035** 05B20

— (*with* Torban, Dina) New weighing matrices of weight 25. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 11–15. (H. Kharaghani) **99h:05017** 05B20 (05B25)

— (*with* Evans, Anthony B.; Balasubramanian, Ramachandran) A new family of nested row-column designs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 139–144. (Summary) **99k:05021** 05B05

Arató, Mátyás (*with* Baran, Sándor; Ispány, Márton) Functionals of complex Ornstein-Uhlenbeck processes. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 1–13. (Summary) **99j:62122** 62M10 (65U05)

Aratyn, Henrik (*with* Nissimov, E.; Pacheva, S.) Method of squared eigenfunction potentials in integrable hierarchies of KP type. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 493–525. (Alexander V. Shapovalov) **99e:58090** 58F07 (35Q53)

— (*with* Ferreira, Luiz A.; Gomes, J. F.; Zimerman, A. H.) Solitons from dressing in an algebraic approach to the constrained KP hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9483–9492. (Alexander V. Shapovalov) **99k:58080** 58F07

— (*with* Das, Ashok) The sAKNS hierarchy. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 15, 1185–1199. (Vadim A. Brazhnikov) **99d:58075** 58F07

— (*with* Nissimov, E.; Pacheva, S.) A new "dual" symmetry structure of the KP hierarchy. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 245–255. (Youjin Zhang) **99e:58091** 58F07 (35Q53)

Araújo, A. L. (*with* Murua, Ander; Sanz Serna, J. M.) Symplectic methods based on decompositions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1926–1947. (Sándor Frivaldszky) **99a:65085** 65L06 (34A45, 70–08)

— (*with* Sanz Serna, J. M.) Symplectic additive Runge-Kutta methods for Hamiltonian systems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 239–246, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65L06 (58F05)

carneiro de Araújo, J. H. *see* **Carneiro de Araújo, J. H.**

Araujo, Jesús Non-Archimedean Šilov boundaries and multiplicative isometries. *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 417–431. (E. Beckenstein) **99e:46102** 46S10 (46J10, 46J25)

— Separating maps and linear isometries between some spaces of continuous functions. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 23–39. (Summary) **99h:46057** 46E40 (47B38)

— (*with* Font, Juan J.) Codimension 1 linear isometries on function algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2273–2281. (Summary) **99j:46059** 46J10

— N-compactness and automatic continuity in ultrametric spaces of bounded continuous functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2489–2496. (W. A. Feldman) **99j:54020** 54C40 (46S10)

Araujo, Jose (*with* Bratten, Tim) The Bernstein polynomial in one variable. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4159–4170. (André Leroy) **99k:16055** 16S32 (16S36)

Araújo, M. E. (*with* Letelier, P. S.; Oliveira, Samuel R.) Two Kerr black holes with axisymmetric spins: head-on collision and gravitational radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3051–3060. (Summary) **99g:83048** 83C57 (83C30)

Araujo, O. (*with* de la Peña, José Antonio) The connectivity index of a weighted graph. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 171–177. (N. Trinajstić) **99k:05102** 05C40 (05C50)

Araújo, P. V. Representation of curves of constant width in the hyperbolic plane. (English summary) *Portugal. Math.* **55** (1998), *no.* 3, 355–372. (O. Giering) **99m:52002** 52A10 (51M10)

Aravind, P. K. (*with* Lee-Elkin, Forest) Two noncolourable configurations in four dimensions illustrating the Kochen-Specker theorem. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9829–9834. (S. Gudder) **99k:81029** 81P10

Aravindan, Chandrabose (*with* Baumgartner, Peter) A rational and efficient algorithm for view deletion in databases. (English summary) *Logic programming (Port Washington, NY, 1997)*, 165–179, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68P15 (68N17)

Araya, Makoto (*with* Hiraki, Akira) Distance-regular graphs with $c_i = b_{d-i}$ and antipodal double covers. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 2, 127–138. (Andrew Woldar) **99j:05194** 05E30 (05C12, 05C70)

Araya, Tokuji (*with* Yoshino, Yuji) Remarks on a depth formula, a grade inequality and a conjecture of Auslander. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3793–3806. (R. A. Wiegand) **99h:13010** 13C15 (13D10)

Arazy, Jonathan (*with* Upmeier, Harald) Discrete series representations and integration over boundary orbits of symmetric domains. (English summary) *Perspectives on quantization (South Hadley, MA, 1996)*, 1–22, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Jacques Faraut) **99c:32045** 32M15 (22E46, 43A85, 47B35)

Arbarello, Enrico (*with* Cornalba, Maurizio) Combinatorial and algebro-geometric cohomology classes on the moduli spaces of curves. *J. Algebraic Geom.* **5** (1996), *no.* 4, 705–749. (Montserrat Teixidor i Bigas) **99c:14033** 14H10 (14C17)

Arbekov, I. M. Optimal discretization of observations of weak signals under constraints on the quantization rate. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 69–76; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 60–66. (Summary) **99h:94024** 94A13

Arbel, Ami (*with* Korhonen, Pekka) Generating interior search directions in multiple objective linear programming problems using aspiration levels. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 146–155, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29 (90C05)

Arbenz, Peter (*with* Hegland, Markus) On the stable parallel solution of general narrow banded linear systems. (English summary) *High performance algorithms for structured matrix problems*, 47–73, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65F30 (65Y05)

— *see also* **High performance algorithms for structured matrix problems, 99k:65004**

Arbib, Claudio (*with* Pacciarelli, Dario; Smriglio, Stefano) A three-dimensional matching model for perishable production scheduling. (English summary) *Discrete Appl. Math.* **92** (1999), *no.* 1, 1–15. (Summary) **99m:90082** 90B30 (90B35)

soriano Arbizu, J. M. *see* **Soriano Arbizu, J. M.**

Arbogast, Todd (*with* Dawson, Clint N.; Keenan, Philip T.; Wheeler, Mary F.; Yotov, Ivan) Enhanced cell-centered finite differences for elliptic equations on general geometry. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 404–425 (*electronic*). (S. Galanis) **99j:65193** 65N30

Arbuzov, È. V. (*with* Bukhgeĭm, A. L.; Kazantsev, S. G.) Two-dimensional problems in tomography, and the theory of A-analytic functions. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 6–20, 189, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Faizo A. Shamoyan) **99m:44003** 44A12 (30G20, 92C55)

— (*with* Bukhgeĭm, A. L.) Carleman's formulas for A-analytic function in a half-plane. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 491–505 (1998). (Manfred W. Kracht) **99i:30058** 30E25 (35C99, 35J99, 47G10, 73C02, 76D05)

de Arcangelis, Lucilla Statistical models for fracture. (English summary) *Mathematics of multiscale materials (Minneapolis, MN, 1995–1996)*, 63–80, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 73M25

Archdeacon, Dan (*with* Bonnington, C. Paul; Pearson, John Frederick; Širáň, Jozef) The Hadwiger number for the product of two cycles. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 113–120, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05071** 05C35

— (*with* Bonnington, C. Paul; Širáň, Jozef) A Nebeský-type characterization for relative maximum genus. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 1, 77–98. (Arthur T. White) **99f:05028** 05C10

Archer, J. C. (*with* Le Gruyer, E.) Harmonious extensions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 279–292 (*electronic*). (Liaqat Ali Khan) **99d:54008** 54C20 (41A65, 54E40)

Archibald, Thomas (*with* Charbonneau, Louis) Mathematics in Canada before 1945: a preliminary survey. Dual English-French text. *Canadian Mathematical Society. 1945–1995, Vol.* 1, 1–90, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A80

garcía-Archilla, Bosco *see* **García-Archilla, Bosco**

Archimedes *see* **Cerulus, Frans**

Arcones, Miguel A. Weak convergence of the row sums of a triangular array of empirical processes. (English summary) *High dimensional probability (Oberwolfach, 1996)*, 1–25, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Rimas Norvaiša) **99k:60095** 60F17 (60B12, 60F05)

— The Bahadur-Kiefer representation of the two-dimensional spatial medians. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 71–86. (M. Csörgő) **99m:62076** 62G20

— Asymptotic theory for M-estimators over a convex kernel. (English summary) *Econometric Theory* **14** (1998), *no.* 4, 387–422. (M. Hušková) **99m:62029** 62F12 (62E20)

— The law of large numbers for U-statistics under absolute regularity. (English summary) *Electron. Comm. Probab.* **3** (1998), 13–19 (*electronic*). (Manfred Denker) **99d:60038** 60F15

— Weak convergence of convex stochastic processes. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 171–182. (Rimas Norvaiša) **99i:60004** 60B10 (60F17, 60G99)

— A remark on approximate M-estimators. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 311–321. (R. A. Maller) **99h:62028** 62F35

— The law of the large numbers for U-statistics for $2m$-wise independent random variables. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 75–81. (R. J. Tomkins) **99k:60079** 60F15 (60G50)

— Weak convergence for the row sums of a triangular array of empirical processes under bracketing conditions. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 2, 195–231. (Igor S. Borisov) **99e:60018** 60B12 (60F05)

martínez Arcos, E. *see* **Martínez Arcos, E.**

Arcoya, David (*with* Villegas, Salvador) Dirichlet problems with asymmetric nonlinearities. *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 5 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35J65

— Quasilinear elliptic equations with Neumann boundary condition via critical point theory. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 247–252, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35J65 (58E05)

— (*with* Díaz Díaz, Jesús Ildefonso; Tello, L.) S-shaped bifurcation branch in a quasilinear multivalued model arising in climatology. (English summary) *J. Differential Equations* **150** (1998), *no.* 1, 215–225. (Yoram Schiffmann) **99k:58037** 58E07 (35B32, 35K55, 35Q80, 86A10)

— (*with* Ambrosetti, Antonio; Gámez, J. L.) Asymmetric bound states of differential equations in nonlinear optics. *Rend. Sem. Mat. Univ. Padova* **100** (1998), 231–247. (Boris Buffoni) **99m:34103** 34C37 (34B15, 58E05, 58F99, 78A60)

Arcozzi, Nicola (*with* Li, Xinwei) Riesz transforms on spheres. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 401–412. (Javier Soria) **99e:42024** 42B20

Arcudi, Ornella Martingale and Skorokhod techniques for approximations of nonlinear filters and conditional expectations. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 77–80. 60G35 (60G42)

— Convergence of conditional expectations given the random variables of a Skorohod representation. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 1–8. (Jun Kawabe) **99j:60003** 60B10

Ardahan, Halil On existence of a meromorphic function with infinitely many of deficient functions. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 437–441. (Summary) **99b:30037** 30D35

— On the deficient values of the derivative of the meromorphic functions of finite order. (English summary) *Ege Univ. J. Fac. Sci.* **21** (1998), *no.* 1, 127–128. 30D35

Ardanuy Albájar, Ramón (*with* López-Fidalgo, J.; Torsney, B.) MV-optimization in weighted linear regression. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 39–50, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62J05)

Ardavan, H. Generation of focused, nonspherically decaying pulses of electromagnetic radiation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part B*, 6659–6684. (Summary) **99j:78014** 78A40

Ardila de la Peña, Victor Manuel (*with* Julio-Arrieta, Carlos A.; Duque Hoyos, Álvaro; Luna Torres, Joaquín; Restrepo, Mauricio) Sieves and adjunction. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **2** (1995), *no.* 2, 167–171. (Summary) **99g:18001** 18A40

— (*with* Sabogal, Sonia) On the reciprocal of Schur's lemma. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **3** (1996), *no.* 1, 51–54. 16D10

Area, I. (*with* Godoy, E.; Ronveaux, André; Zarzo, A.) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: continuous case. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 257–275. (Nicholay G. Tomin) **99g:33023** 33C45 (42C05)

— (*with* Godoy, E.; Ronveaux, André; Zarzo, A.) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 321–337. (Summary) **99a:33004a** 33C45 (42C05, 65Q05)

— (*with* Ronveaux, André; Godoy, E.; Zarzo, A.) Recursive approach to connection and linearization coefficients between polynomials. (English summary) *Special functions and differential equations* (*Madras*, 1997), 83–101, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33011** 33C45 (39A10)

— (*with* Ronveaux, André; Zarzo, A.; Godoy, E.) Bernstein bases and Hahn-Eberlein orthogonal polynomials. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 87–96. (Summary) **99g:33032** 33C45

— (*with* Godoy, E.; Ronveaux, André; Zarzo, A.) Corrigendum: "Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case". (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 309–325. (Summary) **99a:33004b** 33C45 (42C05, 68Q05)

— (*with* Ronveaux, André; Godoy, E.; Zarzo, A.) Fourth-order difference equation for the first associated of classical discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 45–50. (Peter Schroth) **99h:33048** 33C45 (39A10)

— (*with* Godoy, E.; Ronveaux, André; Zarzo, A.) On the limit relations between classical continuous and discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 97–105. (Summary) **99g:33024** 33C45

— (*with* Ronveaux, André; Zarzo, A.; Godoy, E.) Transverse limits in the Askey tableau. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 327–335. (Summary) **99k:33033** 33C45 (39A10)

Arecchi, F. T. Truth and certitude in the scientific language. *Self-organization of complex structures* (*Berlin*, 1995), 3–20, *Gordon and Breach, Amsterdam*, 1997. (*see* **99k:92005**) 00A69 (00A35)

Aref, Hassan (*with* Brøns, Morten) On stagnation points and streamline topology in vortex flows. (English summary) *J. Fluid Mech.* **370** (1998), 1–27. (Yuri N. Skiba) **99i:76026** 76C05 (58F40, 76A02)

Aref, M. R. (*with* Modarres-Hashemi, M.) The linear complexity of the universal logic sequences. (English summary) *Sci. Iran.* **2** (1995), *no.* 1, 89–92. 94A60

Aref'eva, Irina Ya. (*with* Arutyunov, G. È.; Medvedev, P. B.) Bicovariant differential calculus on quantum groups from Poisson Lie structures. (English summary) *Quantum groups* (*Karpacz*, 1994), 207–220, *PWN, Warsaw*, 1995. (Władysław Marcinek) **99f:58011** 58B30 (16W30, 17B37, 81R50)

— Large N master field for QCD. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 252–264, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05

— Large-N QCD and q-deformed quantum field theories. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 342–345, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81V05 (81R50)

— (*with* Medvedev, P. B.; Rytchkov, O. A.; Volovich, I. V.) Chaos in D0 brane dynamics. (English summary) *Quantum probability* (*Gdańsk*, 1997), 41–51, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Christophe Grojean) **99j:81177** 81T60 (58F40, 81Q60, 81T30)

— (*with* Ivanov, M. G.; Rytchkov, O. A.) Properties of intersecting p-branes in various dimensions. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 25–41, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81214** 81T30 (83E30)

— (*with* Ivanov, M. G.; Rytchkov, O. A.; Volovich, I. V.) Non-extremal localized branes and vacuum solutions in M-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2923–2936. (C. Gauthier) **99m:81165** 81T30

— (*with* Volovich, I. V.) Knots and matrix models. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 167–173. (Torsten Asselmeyer) **99h:57003** 57M25 (81T18, 81T30)

— (*with* Ferretti, Gabriele; Koshelev, Alexey S.) Taming the non-abelian Born-Infeld action. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2399–2413. (Summary) **99j:81132** 81T30

— (*with* Koshelev, Alexey S.; Medvedev, P. B.) Chaos-order transition in Matrix theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2481–2493. (Yolanda Lozano) **99j:81133** 81T30

Arellano-Valle, Reinaldo B. (*with* Vilca-Labra, F.; Bolfarine, Heleno) Elliptical functional models. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 1, 36–57. (Imbi Traat) **99g:62027** 62F10

— (*with* Bolfarine, Heleno) Weak nondifferential measurement error models. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 279–287. (Christine Hildegard Müller) **99j:62105** 62J99 (62E10)

Arena, Orazio A remark on differentiability properties of solutions of some elliptic equations. (English summary) *Matematiche* (*Catania*) **51** (1996), *no.* 2, 445–458 (1997). (Jiří Rákosník) **99a:35039** 35J10 (35B65)

Arenas, Francisco García (*with* Dontchev, Julian; Ganster, Maximilian) On some weaker forms of Alexandroff spaces. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **23** (1998), *no.* 1, 79–89. (Summary) **99b:54056** 54G05 (54G10, 54H05)

— (*with* Puertas, María Luz) The Jordan curve theorem. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 43–60. 55M20

— (*with* Puertas, María Luz) A new kind of infinite-dimensional spaces. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 21–31. (Summary) **99k:54025** 54F45

Arenas, M. *see* **Arenas Parra, M. Mar**

lischinsky-Arenas, Pablo *see* **Lischinsky-Arenas, Pablo**

Arenas Parra, M. Mar (*with* Bilbao Terol, Amelia; Rodriguez Uria, M. Victoria; Jiménez, Mariano) Fuzzy parameters multiobjective linear programming problem: solution analysis. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 128–137, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90C70)

Arenas-Sánchez, P. (*with* Rodríguez-Artalejo, Mario) A lazy narrowing calculus for functional logic programming with algebraic polymorphic types. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 53–67, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q65)

Arendt, Steve (*with* Garten, J. F.; Fritts, David C.; Werne, J.) Dynamics of counter-rotating vortex pairs in stratified and sheared environments. (English summary) *J. Fluid Mech.* **361** (1998), 189–236. (Summary) **99c:76017** 76C05 (76V05)

— (*with* Andreassen, Øyvind; Hvidsten, Per Øyvind; Fritts, David C.) Vorticity dynamics in a breaking internal gravity wave. I. Initial instability evolution. (English summary) *J. Fluid Mech.* **367** (1998), 27–46. (From the summary) **99d:76021a** 76C10 (76E99, 76V05)

— (*with* Fritts, David C.; Andreassen, Øyvind) Vorticity dynamics in a breaking internal gravity wave. II. Vortex interactions and transition to turbulence. (English summary) *J. Fluid Mech.* **367** (1998), 47–65. (From the summary) **99d:76021b** 76C10 (76E99, 76F99, 76V05)

Arendt, W. Semigroup properties by Gaussian estimates. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 162–180. (Xuan Thinh Duong) **99g:47088** 47D06 (35J99)

Arens, Richard (*with* Goldberg, Moshe) Multilinear operators and weighted l_1 norms. (English summary) *Linear Algebra Appl.* **267** (1997), 1–10. (Sivaram K. Narayan) **99b:15033** 15A60 (47A30)

— (*with* Goldberg, Moshe; Luxemburg, W. A. J.) Stable seminorms revisited. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 31–40. (Makoto Takaguchi) **99c:15047** 15A60 (47A30)

Arestov, Vitalii V. (*with* Raevskaya, V. Yu.) An extremal problem for algebraic polynomials with zero mean value on an interval. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 332–342; *translation in Math. Notes* **62** (1997), *no.* 3-4, 278–287 (1998). (Summary) **99a:41004** 41A10

— Exact classical polynomial inequalities in H_p for $0 \le p \le \infty$. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 55–62, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. Crstici) **99g:26034** 26D05 (26C05, 30A10, 41A44, 42A05)

vela-Arévalo, Luz Vianey *see* **Vela-Arévalo, Luz Vianey**

Arévalo-Aguilar, Luis M. (*with* Moya-Cessa, Héctor) Solution to the master equation for a quantized cavity mode. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 5, 671–674. (K. Wódkiewicz) **99k:81354** 81V80

Arezzo, Claudio (*with* Ratto, Andrea) Stable minimal surfaces and holomorphic curves in Kähler manifolds. *Conf. Semin. Mat. Univ. Bari No.* 269 (1997), 1–22. (Anne-Joëlle Vanderwinden) **99k:53109** 53C42 (53C25, 58E20)

— Stable complete minimal surfaces in hyper-Kähler manifolds. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 33–40. (Miguel Ortega) **99e:53086** 53C42 (53C25, 58E12)

Arf, Cahit *see* **Ikeda, Masatoshi G., 99f:11001**

Arfi, Mounir Nonparametric prediction from ergodic samples. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 1, 23–37. (Summary) **99a:62039** 62G05 (62M20)

— Non-parametric variance estimation from ergodic samples. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 225–234. (Sh. A. Khashimov) **99e:62037** 62G05

Argamon-Engelson, Shlomo (*with* Kraus, Sarit; Sina, Sigalit) Utility-based on-line exploration for repeated navigation in an embedded graph. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 267–284. 68T20

— (*with* Koppel, Moshe) Tractability of theory patching. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 39–65 (*electronic*). (M. I. Dekhtyar) **99f:68183** 68T27 (03B05, 68Q25)

Argatov, I. I. (*with* Nazarov, Sergei A.) The pressure of a narrow annular stamp on an elastic half-space. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 810–825; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 799–812. (Alexander B. Movchan) **99e:73089** 73T05 (73C99)

— Integral characteristics of rigid inclusions and cavities in the two-dimensional theory of elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 283–289; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 263–268. (Summary) **99m:73010** 73C02 (73V35)

Arge, Lars (*with* Agarwal, Pankaj K.; Murali, T. M.; Varadarajan, Kasturi R.; Vitter, Jeffrey Scott) I/O-efficient algorithms for contour-line extraction and planar graph blocking (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 117–126, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68P20)

Argiropoulos, N. (*with* Bohm, Arno; Drakopoulos, V.) Julia and Mandelbrot-like sets for higher order König rational iteration functions. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 169–178, *World Sci. Publishing, River Edge, NJ*, 1997. (Rich L. Stankewitz) **99g:30028** 30D05 (58F23)

Argoul, P. *see* **Variations of domain and free-boundary problems in solid mechanics, 99k:73004**

gabriel Argüelles, J. Rigoberto *see* **Gabriel Argüelles, J. Rigoberto**

Argurio, Riccardo (*with* Houart, Laurent) Little theories in six and seven dimensions. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 205–226. (Summary) **99k:81215** 81T30 (81T60)

— (*with* Englert, François; Houart, Laurent) Statistical entropy of the four-dimensional Schwarzschild black hole. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 275–281. (Summary) **99c:83044** 83C57 (83E30)

— (*with* Houart, Laurent) On the exotic phases of M-theory. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 109–118. (Summary) **99m:81166** 81T30

Argyres, Philip C. (*with* Faraggi, Alon E.; Shapere, Alfred D.) Curves of marginal stability in $N = 2$ super-QCD. *Strings* '95 (*Los Angeles, CA*, 1995), 1–2, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T60 (81T13)

— S-duality and global symmetries. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 293–302. (Claus Montonen) **99m:81236** 81T60 (81T13)

— (*with* Dimopoulos, Savas; March-Russell, John) Black holes and sub-millimeter dimensions. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 96–104. 83C57 (83F05)

— (*with* Buchel, Alex) The nonperturbative gauge coupling of $N = 2$ supersymmetric theories. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 180–184. (Summary) **99h:81202** 81T60 (81T13)

Argyris, John (*with* Andreadis, Ioannis; Pavlos, Georgios; Athanasiou, Michalis) On the influence of noise on the largest Lyapunov exponent and on the geometric structure of attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 947–958. (Summary) **99h:58115** 58F12 (34C35, 34D08, 34D45, 34F05)

— (*with* Andreadis, Ioannis) On the influcence of noise on the largest Lyapunov exponent of attractors of stochastic dynamic systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 959–963. (Summary) **99h:58116** 58F12 (34C35, 34D08, 34D45, 34F05)

— (*with* Ciubotariu, Corneliu; Andreadis, Ioannis) Complexity in spacetime and gravitation. I. From chaos to superchaos. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1651–1701. (Simonetta Frittelli) **99k:83097** 83C99 (58F13, 58F40, 83C57)

— (*with* Andreadis, Ioannis; Ciubotariu, Corneliu) On the influence of noise on the Bianchi IX and VIII cosmological models. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1813–1825. 83C15 (58F13)

— (*with* Ciubotariu, Corneliu; Andreadis, Ioannis) A metric for an Evans-Vigier field. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 141–163. (Summary) **99a:83039** 83C50

Argyropoulos, E. (*with* Kiriaki, Kiriakie; Roach, G. F.) A modified Green's-function technique for the exterior Dirichlet problem in linear elasticity. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 275–295. (Igor Yu. Chudinovich) **99g:73020** 73C02 (35Q72, 73D30)

Argyros, Ioannis K. On the method of tangent hyperbolas. (English summary) *Approx. Theory Appl.* (*N.S.*) **12** (1996), *no.* 1, 78–95. (Summary) **99d:65174** 65J15 (47H17)

— An error analysis for the Steffensen method under generalized Zabrejko-Ngyen-type assumptions. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 11–22. (Gabriel Dimitriu) **99c:47105** 47H17 (65J10)

— ★ A unified approach for solving nonlinear operator equations and applications. (English summary) Mathematical Monographs/Monografii Matematice, 62. *University of Timişoara, Department of Mathematics, Timişoara*, 1997. *ii*+46 *pp.* (Summary) **99i:65060** 65J15 (47H17, 65H10)

— Inexact Newton methods and nondifferentiable operator equations on Banach spaces with a convergence structure. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 3, 91–103. (Summary) **99a:47101** 47H17 (65J15)

— The asymptotic mesh independence principle for inexact Newton-Galerkin-like methods. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 169–194. (Summary) **99d:65175** 65J15 (47H17)

— Extending the region of convergence for a certain class of modified iterative methods on Banach spaces and applications. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **52** (1997), 17–21. (A. M. Galperin) **99c:47106** 47H17 (65J15)

— Results involving nondifferentiable equations on Banach spaces with a convergence structure and Newton methods. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **52** (1997), 23–30. (A. M. Galperin) **99c:47107** 47H17 (65J15)

— The Halley method in Banach spaces and the Ptak error estimates. (English summary) *Rev. Acad. Cienc. Zaragoza* (2) **52** (1997), 31–41. (A. M. Galperin) **99c:47108** 47H17 (65J15)

— General ways of constructing accelerating Newton-like iterations on partially ordered topological spaces. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 18–22 (*electronic*). (Summary) **99d:65176** 65J15 (47H17)

— A new convergence theorem for Steffensen's method on Banach spaces and applications. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 23–29 (*electronic*). (Summary) **99d:65177** 65J15 (47H17)

— A local convergence theorem for the inexact Newton method at singular points. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 30–36 (*electronic*). (Summary) **99d:65178** 65J15 (47H17)

— (*with* Mahrt, L. F.; Szidarovszky, Ferenc) Applications of a special representation of analytic functions. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 43–47 (*electronic*). (John G. Stalker) **99h:65101** 65H05

— Sufficient conditions for constructing methods faster than Newton's. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 169–181. (Summary) **99c:65110** 65J15 (47H17)

— Error bounds for the Chebyshev method in Banach spaces. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 269–282. (Summary) **99h:65118** 65J15 (47H17)

— A new convergence theorem for the Jarratt method in Banach space. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 13–18. (Summary) **99g:65066** 65J15 (47H17)

— On a new Newton-Mysovskii-type theorem with applications to inexact Newton-like methods and their discretizations. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 37–56. (De Ren Wang) **99a:65075** 65J15 (47H17)

— On the convergence of a certain class of iterative procedures under relaxed conditions with applications. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 13–21. (Summary) **99d:65179** 65J15 (47H17, 65B99, 90C30)

— Generalized conditions for the convergence of inexact Newton-like methods on Banach spaces with a convergence structure and applications. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 391–405. (A. M. Galperin) **99f:65082** 65J15 (47H17)

— Improving the order and rates of convergence for the super-Halley method in Banach spaces. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 465–474. (A. M. Galperin) **99f:65083** 65J15 (47H17)

— Comparing the radii of some balls appearing in connection to three local convergence theorems for Newton's method. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 24–28 (*electronic*). (Summary) **99d:65180** 65J15 (47H17)

— A unifying semilocal convergence theorem for Newton-like methods in Banach space. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 2, 44–48 (*electronic*). 65J10 (47H17)

— On the convergence of two-step methods generated by point-to-point operators. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 165–176. 65J15 (47H17)

— On Newton's method under mild differentiability conditions and applications. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 177–183. 65J15 (47H17)

— Convergence rates for inexact Newton-like methods at singular points and applications. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 185–201. 65J15 (47H17)

— Results on Newton methods. I. A unified approach for constructing perturbed Newton-like methods in Banach space and their applications. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 203–222. 65J15 (47H17)

— Results on Newton methods. II. Perturbed Newton-like methods in generalized Banach spaces. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 223–236. 65J15 (47H17)

— On the applicability of two Newton methods for solving equations in Banach space. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 2, 267–275. 65J15 (47H17)

— Affine invariant local convergence theorems for inexact Newton-like methods. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 2, 291–304. 65J15 (47H17)

Argyros, S. A. (*with* Mercourakis, S.; Tsarpalias, A.) Convex unconditionality and summability of weakly null sequences. (English summary) *Israel J. Math.* **107** (1998), 157–193. (G. J. O. Jameson) **99m:46021** 46B15 (40H05)

Argyros I., Ioannis K. *see* **Argyros, Ioannis K.**

Arhangel'skiĭ, A. V. *see* **Arkhangel'skiĭ, A. V.**

Århem, Peter *see* **Matter matters?, 99a:92044**

Arhippainen, Jorma On functional representation of uniformly A-convex algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 509–515. (M. Abel) **99c:46061** 46J25 (46K10)

lev-Ari, H. *see* **Lev-Ari, H.**

Arian, Eyal MDO—a mathematical view point. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 27–47, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99c:90085** 90C30 (90C90)

Arian-Nejad, M. Finite simple field extensions. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 57–59. (Summary) **99h:12002** 12F05

Arians, Silke Geometric approach to inverse scattering for hydrogen-like systems in a homogeneous magnetic field. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1730–1743. (Ricardo Weder) **99a:81190** 81U40 (35P25, 35R30, 47N50)

Ariaratnam, S. T. Bifurcation in stochastically perturbed dynamical systems. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 3–11, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 34C23 (34F05, 58F14, 58F30, 70L05)

Arias, J. M. (*with* Bijker, Roelof; Frank, Alejandro; Lemus, R.; Pérez-Bernal, F.) A comparison between algebraic models of molecular spectroscopy. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 37–46, *Plenum, New York*, 1998. (Summary) **99g:81234** 81V55 (81R05)

vilanova Arias, Javier *see* **Vilanova Arias, Javier**

Arias, M. *see* **Arias, Margarita**

Arias, M. R. *see* **Rodríguez-Arias Fernández, Mariano**

Arias, Margarita (*with* Campos, Juan[2]) Exact number of solutions of a one-dimensional Dirichlet problem with jumping nonlinearities. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 139–161. (Xin Kang Guo) **99m:35072** 35J65 (34B15, 35B99)

Arias, Rodrigo (*with* Lund, Fernando) Elastic fields of stationary and moving dislocations in three-dimensional finite samples. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 817–841. (Summary) **99k:73064** 73D99 (73E99)

— (*with* Lund, Fernando) Excitation of normal modes of a thin elastic plate by moving dislocations. (English summary) *Wave Motion* **29** (1999), *no.* 1, 35–46. (Summary) **99h:73030** 73D20 (73K10)

de toro Arias, S. *see* **de Toro Arias, S.**

Arias, Tomás A. (*with* Lippert, Ross A.; Edelman, Alan) Multiscale computation with interpolating wavelets. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 278–310. (Ewald Quak) **99e:65188** 65T99 (42C15, 65D20, 81–08)

— (*with* Edelman, Alan; Smith, Steven T.) The geometry of algorithms with orthogonality constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 303–353 (*electronic*). (Michael M. Dediu) **99h:65075** 65F30 (15A18, 51F20, 65H10, 90C30)

rodríguez-Arias Fernández, Mariano *see* **Rodríguez-Arias Fernández, Mariano**

Arif, S. Akhtar (*with* Muriefah, Fadwa S. Abu) On a Diophantine equation. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 189–198. (Edward L. Cohen) **99a:11035** 11D41

— (*with* Muriefah, Fadwa S. Abu) The Diophantine equation $x^2 + 3^m = y^n$. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 619–620. (Péter Kiss) **99b:11026** 11D61

Arik, Metin (*with* Karaca, M. A.) Quadratic q-oscillators. (English summary) *Symmetry methods in physics, Vol. 1 (Dubna, 1995)*, 30–34, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R50

— (*with* Kornfilt, J.; Yıldız, Abdullah) Random sets, q-distributions and quantum groups. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 318–322. (Pavel Šťovíček) **99a:81070** 81R50 (17B37, 81S99)

— (*with* Çelik, Salih; Çelik, Sultan A.) Differential calculus on the h-superplane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3426–3436. (Władysław Marcinek) **99f:58014** 58B30 (17B37, 81R50)

— (*with* Ünel, G.) Stirling probability and q-bosons. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1121–1125. (Summary) **99d:81054** 81R50 (81S05)

— (*with* Kayserilioğlu, U.; Ünel, G.) Quantum-group description of decaying particles. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9117–9122. (Jacob Katriel) **99i:81087a** 81R50

— (*with* Kayserilioğlu, U.; Ünel, G.) Corrigendum: "Quantum-group description of decaying particles". *J. Phys. A* **32** (1999), *no.* 3, 569. (Jacob Katriel) **99i:81087b** 81R50

Arik, Sabri (*with* Tavsanoglu, Vedat) A comment on: "Comments on: 'Necessary and sufficient condition for absolute stability of neural networks'" [IEEE Trans. Circuits Systems I Fund. Theory Appl. **42** (1995), no. 8, 497–499; MR 96j:92005] by E. Kaszkurewicz and A. Bhaya. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 595. (Summary) **99g:92007** 92B20 (68T05, 90C35)

Arikan, Erdal (*with* Merhav, Neri) Guessing subject to distortion. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1041–1056. (Summary) **99g:94011** 94A34 (94A29)

— (*with* Merhav, Neri) Joint source-channel coding and guessing with application to sequential decoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1756–1769. (Summary) **99h:94028** 94A24 (94A29, 94A34)

— (*with* Merhav, Neri; Roth, Ron M.) Hierarchical guessing with a fidelity criterion. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 330–337. (Summary) **99j:94026** 94A34 (94A29)

Arikati, Srinivasa R. (*with* Chaudhuri, Shiva; Zaroliagis, Christos D.) All-pairs min-cut in sparse networks. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 82–110. (Summary) **99e:68116** 68R10 (05C85, 68M10, 90B10)

— (*with* Peled, Uri N.) The realization graph of a degree sequence with majorization gap 1 is Hamiltonian. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 213–235. (A. A. Chernyak) **99m:05097** 05C45 (68R10)

Arikawa, Setsuo (*with* Arimura, Hiroki; Wataki, Atsushi; Fujino, Ryoichi) A fast algorithm for discovering optimal string patterns in large text databases. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 247–261, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68Q25

— (*with* Arimura, Hiroki; Wataki, Atsushi; Fujino, Ryoichi) A fast algorithm for finding optimum word-association patterns. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 175–182. (*see* **99i:65003**) 68Q20 (68P99)

— (*with* Apsītis, Kalvis; Freivalds, Rūsiņš; Hirowatari, Eiju; Smith, Carl H.) Recursive inference of real functions. I. Strict inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 199–204. (*see* **99i:65003**) 03D20 (03D80)

— (*with* Apsītis, Kalvis; Freivalds, Rūsiņš; Hirowatari, Eiju; Smith, Carl H.) Recursive inference of real functions. II. Approximate inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 205–210. (*see* **99i:65003**) 03D20 (03D80)

Ariki, Susumu Generic pole assignment via dynamic feedback. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 379–390 (*electronic*). (Wiland Schmale) **99b:93029** 93B55 (93B25)

Arimitsu, Toshihico (*with* Saito, Takesi) Systems of quantum stochastic differential equations—a gap between physics and mathematics. Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 225–255. (Franco Fagnola) **99c:81114** 81S25 (60H99)

— Comment on the microscopic derivation of the Langevin equation—from the new aspect of non-equilibium thermo field dynamics. Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 17–27. (Kalyanapuram R. Parthasarathy) **99g:82060** 82C31 (82C35)

— (*with* Saito, Takesi) A microscopic derivation of quantum stochastic differential equations for a non-linear damped oscillator. Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 65–75. (John E. Gough) **99g:81116** 81S25

— (*with* Imagire, T.; Saito, Takesi; Nemoto, Kae) A comment on the Shibata-Hashitsume Langevin equation: is it of the Stratonovich type or of the Itô type? (English summary) *Phys. A* **256** (1998), *no.* 1-2, 129–148. (Kalyanapuram R. Parthasarathy) **99j:82059** 82C31 (81S25, 82C10)

— Introduction to the method of non-equilibrium thermo field dynamics. A unified system of stochastic differential equations. Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 33–43. (John E. Gough) **99j:81088** 81S25 (82C31)

Arimoto, Suguru (*with* Liu, Yun-Hui; Parra-Vega, Vicente; Kitagaki, Kosei) Decentralized adaptive control of multiple manipulators in co-operations. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 649–673. 93A14 (93C40)

Arimura, Hiroki (*with* Ikeda, Daisuke) The computational complexity of hereditary elementary formal systems. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 207–214. (Summary) **99d:68084** 68Q15 (03D15, 68Q05, 68Q45)

— (*with* Wataki, Atsushi; Fujino, Ryoichi; Arikawa, Setsuo) A fast algorithm for discovering optimal string patterns in large text databases. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 247–261, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68Q25

— (*with* Ishizaka, Hiroki; Shinohara, Takeshi) Finding tree patterns consistent with positive and negative examples using queries. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 101–115. (Rani Siromoney) **99m:68140** 68Q99 (68T05)

— (*with* Wataki, Atsushi; Fujino, Ryoichi; Arikawa, Setsuo) A fast algorithm for finding optimum word-association patterns. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 175–182. (*see* **99i:65003**) 68Q20 (68P99)

— (*with* Inago, Nozomu) Polynomial-time on-line study of one-variable pattern languages. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 183–190. (*see* **99i:65003**) 68Q45 (68T05)

Arin, Javier (*with* Inarra, Elena) A characterization of the nucleolus for convex games. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 12–24. (Hans Peters) **99h:90117** 90D06 (90D12)

Arinkin, D. (*with* Lysenko, S. A.) On the moduli of SL(2)-bundles with connections on $\mathbf{P}^1 \setminus \{x_1, \cdots, x_4\}$. *Internat. Math. Res. Notices* **1997**, *no.* 19, 983–999. (Nitin Nitsure) **99c:14013** 14D20 (14H60, 32G13)

Arino, Ovide (*with* Niri, K.) Subdominant behavior in positive semigroups: the case of a class of delay differential equations. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 99–111. (Ti Jun Xiao) **99h:34098** 34K15 (34K20, 47D06)

— (*with* Hbid, Moulay Lhassan) Existence of periodic solutions for a delay differential equation via the Poincaré procedure. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 125–148. (Peter Dormayer) **99f:34099** 34K15

— (*with* Sánchez, Eva; Webb, G. F.) Polynomial growth dynamics of telomere loss in a heterogeneous cell population. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 3, 263–282. (S. K. Chatterjea) **99c:92032** 92D25 (47D06, 47N60, 92C40)

— (*with* Sánchez, Eva; Webb, G. F.) Necessary and sufficient conditions for asynchronous exponential growth in age structured cell populations with quiescence. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 499–513. (Hassan Emamirad) **99c:92033** 92D25 (35Q80, 47D06, 47N20)

— (*with* Benouaz, T.) Optimal approximation of the initial value problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 21–32. (Matti Mäkelä) **99g:65078** 65L05 (34A45)

— (*with* Pituk, Michal) Asymptotic constancy for neutral functional-differential equations. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 261–273. (Tibor Krisztin) **99j:34094** 34K15 (34K40)

— (*with* Hadeler, K. P.; Hbid, Moulay Lhassan) Existence of periodic solutions for delay differential equations with state dependent delay. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 263–301. (Bernhard Lani-Wayda) **99c:34153** 34K15

— (*with* Hbid, Moulay Lhassan; Bravo de la Parra, Rafael) A mathematical model of growth of population of fish in the larval stage: density-dependence effects. (English summary) *Math. Biosci.* **150** (1998), *no.* 1, 1–20. (Summary) **99b:92034** 92D25

— (*with* Sánchez, Eva; Bravo de la Parra, Rafael) A model of an age-structured population in a multipatch environment. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 137–150. (Summary) **99c:92034** 92D25 (35K05, 35Q80)

— (*with* Nosov, V. R.) On stability of a class of neutral type functional-differential equations. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 299–307. (Michael I. Gil') **99d:34146** 34K20 (45J05)

— (*with* Smith, W. V.) Migration in age structured population dynamics. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 905–925. (From the introduction) **99h:92019** 92D25 (35Q80)

— *see also* **Advances in mathematical population dynamics—molecules, cells and man, 99d:92001**

joan-Arinyo, R. *see* **Joan-Arinyo, R.**

Ario, Ichiro Fast LU factorization for the stiffness equation by block-triangularization method. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 125–130. (*see* **99h:65005**) 65F10

Ariola, Zena M. (*with* Klop, Jan Willem) Lambda calculus with explicit recursion. (English summary) *Inform. and Comput.* **139** (1997), *no.* 2, 154–233. (Detlef Plump) **99c:68031** 68N15 (03B40)

— (*with* Felleisen, Matthias) The call-by-need lambda calculus. (English summary) *J. Funct. Programming* **7** (1997), *no.* 3, 265–301. (Summary) **99g:68024** 68N15 (03B40, 68Q55)

Arioli, Gianni (*with* Gazzola, Filippo) Weak solutions of quasilinear elliptic PDE's at resonance. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 573–589. (Igor Bock) **99e:35047** 35J60 (35D05, 58E05)

— (*with* Gazzola, Filippo) Quasilinear elliptic equations at critical growth. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 83–97. (Wen Xiong Chen) **99b:35050** 35J60 (58E05)

Arioli, M. (*with* Pták, Vlastimil; Strakoš, Zdeněk) Krylov sequences of maximal length and convergence of GMRES. (English summary) *BIT* **38** (1998), *no.* 4, 636–643. (Summary) **99j:65039** 65F10

burgos Ariosa, Tomás *see* **Burgos Ariosa, Tomás**

Aripirala, Ravi K. A. V. (*with* Syrmos, Vassilis L.) Normalized coprime factorizations for sampled-data systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 455–474. (Summary) **99m:93062** 93C57 (93B25)

Aripov, R. G. Algebraic structure of the differential field of G-invariant differential rational functions of paths in the space $\mathbf{C}^n$ for complex orthogonal groups G. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 3–11. 32M05 (22E45)

Aris, R. Dissections, transgressions, and perilous paths. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 91–101. (Summary) **99h:80015** 80A99

Arisawa, Mariko (*with* Tourin, Agnès) Regularizing effects for a class of first-order Hamilton-Jacobi equations. *Nonlinear Anal.* **29** (1997), *no.* 12, 1405–1419. (Martino Bardi) **99b:35020** 35F25 (49L20)

— Ergodic problem for the Hamilton-Jacobi-Bellman equation. II. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 1, 1–24. (Tadeusz Nadzieja) **99g:49029** 49L25 (35F20, 58F39, 93E20)

Aristotle *see* **Rashed, Roshdi** *and* **Besnier, Bernard**, (**99g:01038**)

Aristov, S. N. Periodic and localized exact solutions of the equation $h_t = \Delta \ln h$. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **40** (1999), *no.* 1, 22–26. 35C05 (35K99)

Aristova, E. N. (*with* Gol′din, V. Ya.) The method of consideration of a strong scattering anisotropy in transport equation. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 77–81, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 82C70

Ariyawansa, K. A. Local convergence of collinear scaling algorithms related to direct least-change secant update methods for minimization. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 293–320. (José Mario Martínez) **99k:90147** 90C30 (65K05)

Arjas, Elja (*with* Gasbarra, Dario) On prequential model assessment in life history analysis. (English summary) *Biometrika* **84** (1997), *no.* 3, 505–522. (Per Kragh Andersen) **99d:62091** 62M20 (60G25, 62A15)

— (*with* Liu, Li Ping[4]) A Bayesian model for fatigue crack growth. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 339–353, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (*see* **99a:62004**) 62F15 (62G05, 62N05)

— (*with* Heikkinen, Juha) Non-parametric Bayesian estimation of a spatial Poisson intensity. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 435–450. (Salvatore Ingrassia) **99j:62035** 62F15 (62M30)

Arkani-Hamed, Nima (*with* Schmaltz, Martin) Field-theoretic branes and tachyons of the QCD string. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 92–98. (Summary) **99m:81237** 81T60 (81T30, 81V05)

Arkeryd, Leif (*with* Nouri, A.) A condensation-evaporation problem in kinetic theory. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 30–47 (*electronic*). (Ester Gabetta) **99c:82056** 82C40 (35Q99, 45K05, 76P05)

— *see also* **Proceedings: Conference on Transport Theory**, **99b:82003** *and* **99d:82004**

Arkhangel′skiĭ, A. V. (*with* Gordienko, I. Yu.) Relative symmetrizability and metrizability. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 757–774. (From the introduction) **99i:54003** 54A05 (54A25, 54E35)

— (*with* Choban, Mitrofan M.) On continuous mappings of C_p-spaces and extenders. *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 33–36. (Manuel Sanchis) **99f:54017** 54C20

— Some recent achievements and open problems in general topology. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 45–70; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 929–953. (Oleg G. Okunev) **99b:54001** 54–02 (54C05, 54C35, 54D20)

— (*with* Buzyakova, Raushan Z.) Convergence in compacta and linear Lindelöfness. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 159–166. (Ljubiša Kočinac) **99c:54034** 54D30 (54A25, 54E35, 54F99)

— (*with* Nogura, Tsugunori) Relative sequentiality. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 49–58. (J. R. Isbell) **99c:54038** 54D55 (54A20)

— Embeddings in C_p-spaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 9–33. (Richard Wilson) **99c:54018** 54C35 (54D20)

— Some observations on C_p-theory and bibliography. *Topology Appl.* **89** (1998), *no.* 3, 203–221. (J. J. Charatonik) **99i:54001** 54–00 (00A15, 54C35)

— Strongly τ-pseudocompact spaces. (English summary) *Topology Appl.* **89** (1998), *no.* 3, 285–298. (G. D. Dimov) **99j:54025** 54D30 (54B10, 54D10, 54D55)

— (*with* Buzyakova, Raushan Z.) On linearly Lindelöf and strongly discretely Lindelöf spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2449–2458. (Dimitrina Stavrova) **99j:54006** 54A25 (54A35)

— (*with* Calbrix, Jean) A characterization of σ-compactness of a cosmic space X by means of subspaces of R^X. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2497–2504. (Donald Plank) **99j:54019** 54C35 (54D45, 54H05)

Arkhangel′skiĭ, V. A. Relative compactness and nets. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 98–100; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 65–67. (Ilija Kovačević) **99m:54013** 54D40

Arkhipov, G. I. (*with* Chubarikov, V. N.) On the greatest prime factor of a sequence of the form $[n^c]$. (Russian. English summary) *Math. Montisnigri* **8** (1997), 17–31. (Grigori Kolesnik) **99d:11107** 11N56 (11L07)

— (*with* Buriev, K.; Chubarikov, V. N.) On the power of a singular set in binary additive problems with prime numbers. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 28–57. (Leszek Kaniecki) **99k:11157** 11P32

— (*with* et al.) Anatoliĭ Alekseevich Karatsuba (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 173–176; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 419–422. (Editors) **99m:01038** 01A70

— (*with* et al.) Sergeĭ Mikhaĭlovich Voronin. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 4(322), 125–128. (Editors) **99m:01037** 01A70

Arkhipov, S. M. Semiinfinite cohomology of quantum groups. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 379–405. (H. H. Andersen) **99e:16012** 16E40 (16S30, 16W50, 17B37, 17B56)

— Semi-infinite cohomology of small quantum groups. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 54–58; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 42–45. (Elena Poletaeva) **99f:17013** 17B37 (17B55)

— A proof of Feigin's conjecture. *Math. Res. Lett.* **5** (1998), *no.* 3, 403–422. (Elena Poletaeva) **99f:17012** 17B37 (16E99, 17B55)

Arkhipova, Arina (*with* Ladyzhenskaya, O. A.) On inhomogeneous incompressible fluids and reverse Hölder inequalities. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 51–67 (1998). (Benoît P. Desjardins) **99m:35193** 35Q35 (76D05)

Arkin, Esther M. (*with* Hassin, Refael) On local search for weighted k-set packing. (English summary) *Algorithms—ESA '97* (*Graz*), 13–22, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q25

— (*with* Chiang, Yi-Jen; Held, Martin; Mitchell, Joseph S. B.; Sacristan, V.; Skiena, Steven S.; Yang, Tae-Cheon) On minimum-area hulls. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 119–136. (Evangelos Kranakis) **99c:68243** 68U05 (52B55)

— (*with* Hassin, Refael) Graph partitions with minimum degree constraints. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 55–65. (Summary) **99d:05077** 05C85

— (*with* Meijer, Henk; Mitchell, Joseph S. B.; Rappaport, David; Skiena, Steven S.) Decision trees for geometric models. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 343–363. (Summary) **99b:68193** 68U05 (52B55, 68U10)

— (*with* Hassin, Refael) On local search for weighted k-set packing. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 640–648. (András Faragó) **99i:90076** 90C27 (68Q25)

Arkin, Joseph (*with* Smith, Paul) The Arkin-Smith construction on pairs of orthogonal Latin squares of order 14. Edited by Arkin and David C. Arney. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 5. (*see* **99i:00023**) 05B15

Arkin, Judith L. Ernst Gabor Straus: (1922–1983): Einstein's co-author and Paul Erdős' collaborator and great friend. Edited by the author and David C. Arney. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 157–159. (*see* **99i:00021**) 01A70

Arkin, Vadim I. Stochastic optimization approach to dynamic problems with jump changing structure. *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 104–110, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99h:49039** 49K45 (90A16, 90C15)

Arkowitz, Martin Comultiplications in algebra and topology. (Italian summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 63–85 (1998). (Nicolas Dupont) **99i:16004** 16B50 (16W30, 55P45)

— (*with* Gutiérrez, Mauricio) Comultiplication on monoids. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 803–811. (Yuji Kobayashi) **99e:20082** 20M99 (16W30)

— (*with* Maruyama, Ken-ichi) Self-homotopy equivalences which induce the identity on homology, cohomology or homotopy groups. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 133–154. (Gregory Lupton) **99i:55009** 55P10

— (*with* Scheerer, Hans) The cohomology flat product and the Berstein algebra of a co-H-space. (English summary) *Higher homotopy structures in topology and mathematical physics* (*Poughkeepsie, NY*, 1996), 17–20, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:55011** 55P45 (55S99)

Arkun, Y. (*with* Hernández, Evelio) Stability of nonlinear polynomial ARMA models and their inverse. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 885–906. 93E15 (93D05)

Arlettaz, Dominique Die Bernoulli-Zahlen: eine Beziehung zwischen Topologie und Gruppentheorie. (German summary) [The Bernoulli numbers: a relation between topology and group theory] *Math. Semesterber.* **45** (1998), *no.* 1, 61–75. (Denis Sjerve) **99e:55012** 55P42 (11B68, 20C30, 57T20)

— (*with* Mimura, Mamoru; Nakahata, Koji; Yagita, Nobuaki) The mod 2 cohomology of the linear groups over the ring of integers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2199–2212. (Daniel K. Nakano) **99j:20052** 20G10 (55S10)

Arlinskiĭ, Yu. M. Closed sectorial forms and one-parameter contraction semigroups. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 643–654; *translation in Math. Notes* **61** (1997), *no.* 5-6, 537–546. (Miroslav Lvovich Gorbachuk) **99c:47043** 47B44 (47D06)

Arlotti, Luisa (*with* Lachowicz, Miroslaw) Euler and Navier-Stokes limits of the Uehling-Uhlenbeck quantum kinetic equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3571–3588. (Summary) **99a:82073** 82C40 (35Q30, 76D05)

— On a functional equation in mathematical kinetic theory. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 6, 639–660. (Nicola Bellomo) **99a:82074** 82C40 (45K05, 76P05)

Armando, Alessandro (*with* Gallagher, Jason; Smaill, Alan; Bundy, Alan) Automating the synthesis of decision procedures in a constructive metatheory. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 259–279. (Summary) **99e:03013** 03B35 (03B05, 68T15)

Armatte, Michel (*with* Droesbeke, Jean-Jacques) Quetelet et les probabilités: le sens de la formule. (English, French and Dutch summaries) [Quetelet and probability: the meaning of the formula] Actualité et universalité de la pensée scientifique d'Adolphe Quetelet (Brussels, 1996). *Acad. Roy. Belg. Cl. Sci. Mém. Collect.* 8° (3) **13** (1997), 107–135. (Pierre Crépel) **99g:01017** 01A55

Armeanu, Ion Groups whose all irreducible characters are rationally valued on the 2-elements. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 1–4. (Mark L. Lewis) **99i:20013** 20C15

— 2-nilpotent groups having a primitive irreducible character. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 347–349. 20C15 (20D15)

— About a question concerning Q-groups. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 2, 129–133. (Gabriel Navarro) **99k:20012** 20C15

Armel, Jack ★ Entropic spacetime theory. (English summary) With a comment by Louis H. Kauffman. Series on Knots and Everything, 13. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xiv*+114 *pp. ISBN* 981-02-2842-2 (Markku Lehto) **99c:83001** 83–02 (83C27, 83F05)

moreno Armella, Luis *see* **Moreno Armella, Luis**

zarzuela Armengou, Santiago *see* **Zarzuela Armengou, Santiago**

Armentano, Vinícius A. (*with* Ronconi, Débora P.) Tabu search for total tardiness minimization in flowshop scheduling problems. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 219–235. 90B35 (90–02)

Armero, Francisco (*with* Petőcz, Eva) Formulation and analysis of conserving algorithms for frictionless dynamic contact/impact problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 269–300. (Summary) **99b:73038** 73V05 (73D05, 73T05)

— Formulation and finite element implementation of a multiplicative model of coupled poro-plasticity at finite strains under fully saturated conditions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 3-4, 205–241. (Summary) **99m:73065** 73V05 (73E99, 73G20, 76M10, 76S05)

Armfield, S. W. Fourth order elliptic correction for the Navier-Stokes equations on non-staggered grids. *Computational techniques and applications: CTAC*95 (*Melbourne*,

1995), 113–119, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N30 (76M25)

Armi, L. (*with* Pawlak, Geno Ronald) Vortex dynamics in a spatially accelerating shear layer. (English summary) *J. Fluid Mech.* **376** (1998), 1–35. 76C05 (76–05, 76V05)

Armitage, David H. The Pompeiu property for spherical polygons. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 25–32. (Hiroaki Aikawa) **99f:31009** 31B05

— (*with* Haußmann, Werner; Zeller, Karl) Best harmonic and polyharmonic approximation. *Approximation and optimization, Vol. I (Cluj-Napoca*, 1996), 17–34, *Transilvania, Cluj-Napoca*, 1997. (Stephen J. Gardiner) **99c:31008** 31B05 (41A50)

— (*with* Aldred, M. P.) Inequalities for surface integrals of non-negative subharmonic functions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 101–113. (Matts Essén) **99h:31010** 31B05

— (*with* Aldred, M. P.) Harmonic analogues of G. R. MacLane's universal functions. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 148–156. (A. Yu. Rashkovskiĭ) **99g:31006** 31B05 (30D15)

— (*with* Aldred, M. P.) Harmonic analogues of G. R. Mac Lane's universal functions. II. *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 382–395. (A. Yu. Rashkovskiĭ) **99g:31007** 31B05 (30D15)

— (*with* Gardiner, Stephen J.; Haußmann, Werner; Rogge, L.) Best one-sided L^1-approximation by harmonic functions. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 181–194. (Antonio Bonilla-Ramirez) **99e:31005** 31B05 (41A30)

Armitage, Peter The design and analysis of clinical trials. *Design and analysis of experiments*, 1–29, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62P10 (62L05)

Armoni, Adi (*with* Brandhuber, Andreas) Comments on (non-)chiral gauge theories and type IIB branes. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 261–266. (Summary) **99i:81220** 81T60 (81T13)

— (*with* Frishman, Yitzhak; Sonnenschein, Jacob; Trittmann, U.) The spectrum of multi-flavor QCD_2 and the non-abelian Schwinger equation. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 503–515. (Summary) **99h:81224** 81V05 (81T13)

— (*with* Frishman, Yitzhak; Sonnenschein, Jacob) Screening in supersymmetric gauge theories in two dimensions. (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 76–80. (Summary) **99k:81290** 81T60 (81T30, 81T40)

Armstrong, Brian *see* **Armstrong-Hélouvry, Brian**

Armstrong, Grant F. (*with* Cairns, Grant; Kim, Gunky) Lie algebras of cohomological codimension one. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 709–714. (Sen Qiu) **99f:17024** 17B56

Armstrong, Martin (*with* Zisserman, Andrew; Liebowitz, David) Resolving ambiguities in auto-calibration. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1193–1211. (Summary) **99b:68207** 68U10 (68T10)

Armstrong, Ronald D. (*with* Jin, Zhiying) A new strongly polynomial dual network simplex algorithm. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 131–148. (Summary) **99m:90148** 90C35 (90B10)

— (*with* Chen, Wei[4]; Goldfarb, Donald; Jin, Zhiying) Strongly polynomial dual simplex methods for the maximum flow problem. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 17–33. (Dimiter T. Ivanchev) **99b:90143** 90C35

Armstrong, Seth (*with* Schaaf, Renate) Solution surfaces for semilinear elliptic equations on rotated domains. (English summary) *Adv. Differential Equations* **4** (1999), *no.* 2, 251–274. (Summary) **99k:35056** 35J65 (34B15, 47H15)

Armstrong, Tania (*with* Marriott, Kim; Schachte, Peter; Søndergaard, Harald) Two classes of Boolean functions for dependency analysis. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 3–45. (Summary) **99c:68050** 68N20 (68N17, 68P15)

Armstrong-Hélouvry, Brian (*with* McPherson, Joseph; Li, Yonggang) On the stability of nonlinear PD control. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 273–292. (*see* **99b:70004**) 93D05 (93C10)

Arnab, Raghunath Randomized response surveys: optimum estimation of a finite population total. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 405–408. 62D05

Arnal, Didier (*with* Benamor, Hédi; Cahen, Benjamin) Minimal realizations of classical simple Lie algebras through deformations. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 169–184. (Alexander N. Rudyĭ) **99m:17012** 17B20 (17B10)

— Le produit star de Kontsevich sur le dual d'une algèbre de Lie nilpotente. (English and French summaries) [Kontsevich star product on the dual of a nilpotent Lie algebra] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 823–826. (Mohsen Masmoudi) **99k:58077** 58F06 (17B30)

Arnaoudov, Iani *see* **Arnaudov, Ya. N.**

Arnaoudov, Yani *see* **Arnaudov, Ya. N.**

bayón Arnáu, L. *see* **Bayón Arnáu, L.**

gual-Arnau, X. *see* **Gual-Arnau, X.**

Arnaud, J. A. (*with* Boé, J. M.; Chusseau, L.; Philippe, F.) Illustration of the Fermi-Dirac statistics. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 215–221. 82B05

Arnaud, Marie-Claude Le "closing lemma" en topologie C^1. (English and French summaries) [The closing lemma in the C^1-topology] *Mém. Soc. Math. Fr. (N.S.) No.* 74 (1998), *vi*+120 *pp.* (Shigenori Matsumoto) **99h:58097** 58F10 (58F22)

Arnaudon, Daniel (*with* Abdesselam, Boucif; Chakrabarti, Amitabha[1]) Non-minimal q-deformations and orthogonal symmetries: $\mathcal{U}_q(\mathrm{SO}(5))$ example. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 361–369, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81R50 (17B37)

— Representations of $\mathcal{U}_q(\mathrm{sl}(3))$ at roots of 1 (in the restricted specialisation). (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1075–1082. (Nicolás Andruskiewitsch) **99e:17017** 17B37 (17B10, 81R50)

— Algebraic approach to q-deformed supersymmetric variants of the Hubbard model with pair hoppings. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 6, 22 *pp.* (*electronic*). (Yao Zhong Zhang) **99a:82029** 82B23 (17B37, 81R50)

— (*with* Abdesselam, Boucif; Bauer, Michel) Centre and representations of $\mathcal{U}_q(\mathrm{sl}(2|1))$ at roots of unity. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 867–880. (Summary) **99c:17022** 17B37 (81R50)

— (*with* Maassarani, Ziad) Integrable open boundary conditions for *XXC* models. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 24, 11 *pp.* (*electronic*). (Andrey V. Tsiganov) **99j:82012** 82B20 (82B23)

— A note on the generalized Lie algebra $\mathrm{sl}(2)_q$. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6647–6652. (Aleksandr Panov) **99i:17012** 17B37

Arnaudon, Marc (*with* Thalmaier, Anton) Stability of stochastic differential equations in manifolds. (English summary) *Séminaire de Probabilités, XXXII*, 188–214, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Jean Picard) **99i:60115** 60H10 (58G32)

— (*with* Paycha, Sylvie) Regularisable and minimal orbits for group actions in infinite dimensions. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 641–662. (Steven Rosenberg) **99b:58040** 58D19 (22E65, 58G26)

— (*with* Thalmaier, Anton) Complete lifts of connections and stochastic Jacobi fields. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 3, 283–315. (Feng-Yu Wang) **99c:58168** 58G32 (60H30)

Arnaudov, Ya. N. (*with* Georgiev, Vladimir; Venkov, Georgy P.) Atkinson-Wilcox decomposition for small permutation of the sphere. *Applications of mathematics in engineering (Sozopol*, 1998), 55–58, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 35J05 (35C10)

— (*with* Dassios, George; Hadjinicolaou, Maria) The resistive coated sphere in the presence of a point generated wave field. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 1, 73–90. (Ivan Andronov) **99k:73057** 73D25

Arnautov, V. I. General theory of radicals of topological rings. (Russian. English summary) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 2, 5–45. (Witold Więsław) **99a:16041** 16W80 (16N80)

— The theory of radicals of topological rings. *Math. Japon.* **47** (1998), *no.* 3, 439–544. (Stefan Veldsman) **99i:16077a** 16W80 (16N80)

— Corrections to: "The theory of radicals of topological rings". *Math. Japon.* **48** (1998), *no.* 2, 309–310. (Stefan Veldsman) **99i:16077b** 16W80 (16N80)

Arnăutu, Viorel (*with* Hömberg, Dietmar; Sokołowski, Jan) On a laser hardening problem. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **6** (1998), *no.* 1, 1–7 (1999). 49N55 (80A22)

— (*with* Neittaanmäki, Pekka) Discretization estimates for an elliptic control problem. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 431–464. (Fredi Tröltzsch) **99f:49050** 49M25 (65K10, 93C20)

Arnborg, Stefan *see* **Algorithm theory—SWAT'98, 99k:68003**

Arndt, Peter F. (*with* Heinzel, Thomas; Rittenberg, Vladimir) Stochastic models on a ring and quadratic algebras. The three-species diffusion problem. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 833–843. (Summary) **99h:82033** 82B31 (82B20)

Arneodo, A. (*with* Bacry, E.; Jaffard, Stéphane; Muzy, J. F.) Singularity spectrum of multifractal functions involving oscillating singularities. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 159–174. (B. S. Rubin) **99i:42041** 42C15

— (*with* Bacry, E.; Muzy, J. F.) Random cascades on wavelet dyadic trees. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4142–4164. (Summary) **99c:28021** 28A80 (42C15)

— (*with* Manneville, S.; Muzy, J. F.; Roux, S. G.) Experimental evidence for anomalous scale dependent cascading process in turbulent velocity statistics. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 3, 374–381. 76–05 (76F99, 76M25)

Arnette, Stephen A. (*with* Samimy, Mo; Elliott, Gregory S.) The effects of expansion on the turbulence structure of compressible boundary layers. (English summary) *J. Fluid Mech.* **367** (1998), 67–105. 76F99 (76N20)

Arney, David C. *see* **Arkin, Judith L., (99i:00021)** *and* **Arkin, Joseph, (99i:00023)**

el Arni, A. *see* **El Arni, A.**

Arno, Steven (*with* Robinson, M. L.; Wheeler, Ferrell S.) Imaginary quadratic fields with small odd class number. *Acta Arith.* **83** (1998), *no.* 4, 295–330. (Stéphane Louboutin) **99a:11123** 11R29 (11R11)

— (*with* Ferguson, Helaman R. P.; Bailey, David H.) Analysis of PSLQ, an integer relation finding algorithm. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 351–369. (Michael E. Pohst) **99c:11157** 11Y16 (68Q25)

Arnold, André A selection property of the Boolean μ-calculus and some of its applications. (English summary) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 4, 371–384. (Damian Niwiński) **99g:03030** 03B70 (03D05, 06A23, 06E30, 68Q60, 68Q68)

Arnold, Anton (*with* Ehrhardt, Matthias) Discrete transparent boundary conditions for wide angle parabolic equations in underwater acoustics. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 611–638. (Summary) **99g:76084** 76M20 (65M06, 76Q05, 86–08, 86A05)

Arnold, Barry C. (*with* Villaseñor, Jose A.) Normal attraction of records: variations on the theme. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 1–10. (Summary) **99f:60037** 60F05 (60G70)

— Characterizations involving conditional specification. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 117–131. (Ludwig Baringhaus) **99b:62010** 62E10

— (*with* Gokhale, D. V.) Distributions most nearly compatible with given families of conditional distributions. (English summary) *Test* **7** (1998), *no.* 2, 377–390. (Summary) **99j:62006** 62E10

Arnold, Bernhard F. (*with* Stahlecker, Peter) Prediction in linear regression combining crisp data and fuzzy prior information. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 19–33. (Wolfgang Näther) **99e:62115** 62J05

— (*with* Stahlecker, Peter) Minimax adjustment technique and fuzzy information. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 25–39. (Summary) **99k:94020** 94A15

Arnold, David M. (*with* Dugas, Manfred) Representation type of finite rank almost completely decomposable groups. (English summary) *Forum Math.* **10** (1998), *no.* 6, 729–749. (A. Mader) **99j:20060** 20K15 (16G60, 20K26)

Arnold, Douglas N. (*with* Falk, Richard S.; Winther, Ragnar) Preconditioning discrete approximations of the Reissner-Mindlin plate model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 517–557. (Summary) **99b:73028** 73K10 (73V05)

— (*with* Mukherjee, Arup; Pouly, L.) Adaptive finite elements and colliding black holes. (English summary) *Numerical analysis* 1997 (*Dundee*), 1–15, *Pitman Res. Notes Math.*

Ser., 380, *Longman, Harlow*, 1998. (Summary) **99f:83039** 83C57 (65N55, 83-08)

Arnold, J. M. Complex Toda lattice and its application to the theory of interacting optical solitons. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1450–1458. (Kuppuswamy Porsezian) **99d:78032** 78A60 (58F40, 78A10)

Arnold, Ludwig (*with* Doyle, M. M.; Sri Namachchivaya, N.) Small noise expansion of moment Lyapunov exponents for two-dimensional systems. *Advances in nonlinear stochastic mechanics* (*Trondheim*, 1995), 153–168, *Solid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1996. (Anatoliy A. Levakov) **99e:34077** 34F05 (34D08, 60H10, 70L05)

— Trends and open problems in the theory of random dynamical systems. *Probability towards* 2000 (*New York*, 1995), 34–46, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Denis Talay) **99i:60131** 60H25 (28D99, 34C35, 58F11, 60J10)

— (*with* Chueshov, Igor D.) Order-preserving random dynamical systems: equilibria, attractors, applications. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 3, 265–280. (Pierre A. Vuillermot) **99i:58096** 58F12 (28D99, 34C35, 34F05, 35R60, 60H25)

— (*with* Imkeller, Peter) Normal forms for stochastic differential equations. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 559–588. (Xue Rong Mao) **99e:60128** 60H10

Arnold, M. *see* **Arnold, Martin**

Arnold, Mark Edward (*with* Ainsworth, Mark) A reliable a posteriori error estimator for adaptive hierarchic modelling. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 101–114, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (73V05)

Arnold, Mark G. (*with* Bailey, Thomas A.; Cowles, John R.; Winkel, Mark D.) Arithmetic co-transformations in the real and complex logarithmic number systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 777–786. (Summary) **99d:65382** 65Y10 (68M07)

Arnold, Martin Half-explicit Runge-Kutta methods with explicit stages for differential-algebraic systems of index 2. (English summary) *BIT* **38** (1998), *no.* 3, 415–438. (Sándor Frivaldszky) **99j:65120** 65L06

— (*with* Frischmuth, Kurt) Solving problems with unilateral constraints by DAE methods. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 1, 47–67. (Summary) **99c:70021** 70F25 (34A09, 65L99, 70E15)

Arnold, Matthias (*with* Günther, Roland) Adaptive parameter estimation in self-exciting threshold autoregressive models. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 921–936. (Summary) **99h:62110** 62M10

Arnol'd, Vladimir Igorevich ★ Особенности каустик и волновых фронтов. (Russian. Russian summary) [Singularities of caustics and wave fronts] Библиотека Математика [Mathematics Library], 1. *Izdatel'stvo FAZIS, Moscow*, 1996. x+334 *pp. ISBN* 5-7036-0021-9 (Serge L. Tabachnikov) **99g:58010** 58C27 (58F05, 58F14)

— Topological content of the Maxwell theorem on multipole representation of spherical functions. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 205–217. (Eugenii Shustin) **99c:33029** 33D55 (14P25)

— (*with* Anosov, D. V.; Aranson, S. Kh.; Bronshteĭn, I. U.; Grines, V. Z.; Il'yashenko, Yu. S.) ★ Ordinary differential equations and smooth dynamical systems. Translated from the 1985 Russian original by E. R. Dawson and D. O'Shea. Third printing of the 1988 translation [*Dynamical systems. I*, Encyclopaedia Math. Sci., 1, Springer, Berlin, 1988; MR 89g:58060]. *Springer-Verlag, Berlin*, 1997. *vi*+233 *pp. ISBN* 3-540-61220-3 (Robert Roussarie) **99h:58053** 58Fxx (34Axx, 34Cxx, 54H20)

— ★ Избранное-60. (Russian) [Selecta-60] *Izdatel'stvo FAZIS, Moscow*, 1997. *xlviii*+770 *pp. ISBN* 5-7036-0034-0 (Serge L. Tabachnikov) **99j:01025** 01A75 (00B60)

— Remarks on parabolic curves on surfaces and on higher-dimensional Möbius-Sturm theory. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 3–18, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 227–239 (1998). (Serge L. Tabachnikov) **99h:53013** 53A20 (58C27)

— Remarks on the Morse theory of a divergence-free vector field, the averaging method, and the motion of a charged particle in a magnetic field. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 9–19. (Piotr G. Grinevich) **99h:58029** 58E05 (34C29, 58F22, 78A35)

— (*with* Khesin, Boris A.) ★ Topological methods in hydrodynamics. (English summary) Applied Mathematical Sciences, 125. *Springer-Verlag, New York*, 1998. *xvi*+374 *pp. ISBN* 0-387-94947-X (Nikolai K. Smolentsev) **99b:58002** 58–02 (35Q30, 58B25, 58D05, 76–02, 76M30)

— (*with* Goryunov, V. V.; Lyashko, O. V.; Vassiliev, V. A.) ★ Singularity theory. I. Translated from the 1988 Russian original by A. Iacob. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Dynamical systems. VI*, Encyclopaedia Math. Sci., 6, Springer, Berlin, 1993; MR 94b:58018]. *Springer-Verlag, Berlin*, 1998. *iv*+245 *pp. ISBN* 3-540-63711-7 (Editors) **99f:58024** 58C27 (32Sxx)

— "Hard" and "soft" mathematical models. (Catalan. Catalan summary) Translated from the Russian to Spanish by Rafael Ramirez and Natalia Sadowskaia and translated from the Spanish to Catalan by Llorenç Roselló. *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 7–26. (J. S. Joel) **99m:00018** 00A71

— On the Legendrian Sturm theory of space curves. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 1–7, 95; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 75–80. (J. S. Joel) **99m:58030** 58C27 (58E05)

— "Hard" and "soft" mathematical models. (Russian. Russian summary) *Priroda* **1998**, *no.* 4, 3–14. (Ll. G. Chambers) **99d:00007** 00A71 (34–01, 34A26, 58F25)

— On the problem of realization of a given Gaussian curvature function. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 2, 199–206. (Ben Andrews) **99m:53073** 53C21 (35J60, 35K55)

— On the teaching of mathematics. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 229–234; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 229–236. (V. Ya. Kreinovich) **99k:00011** 00A35 (00A30)

— *see also* **Singularities, 99e:00031**; **Local and global problems of singularity theory, 99m:58006** *and* **Zakalyukin, Vladimir M., (99m:58006)**

Arnon, Dennis S. (*with* Collins, George E.; McCallum, Scott) Cylindrical algebraic decomposition. I. The basic algorithm. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 136–151, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40

— (*with* Collins, George E.; McCallum, Scott) Cylindrical algebraic decomposition. II. An adjacency algorithm for the plane. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 152–165, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40

chloup-Arnould, V. *see* **Chloup-Arnould, V.**

Arnoux, Pierre (*with* Ferenczi, Sébastien; Hubert, Pascal) Trajectories of rotations. *Acta Arith.* **87** (1999), *no.* 3, 209–217. (Jean-Paul Allouche) **99k:11039** 11B85 (11J70, 58F03, 68R15)

Aroca, J. M. *see* **Aroca Hernández-Ros, José Manuel**

Aroca, Josep Maria (*with* Fort, Hugo; Gambini, Rodolfo) Path integral loop representation of 2 + 1 lattice non-abelian gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045007, 9 *pp.* (Summary) **99k:81204** 81T25 (81T27)

Aroca Hernández-Ros, José Manuel The problems of realizability and invariance of dimension in the works of Flores de Lemus. (Spanish) *Wittgenstein and the Vienna Circle* (*Spanish*) (*Toledo*, 1994), 249–260, *Estudios*, 49, *Ed. Univ. Castilla-La Mancha, Cuenca*, 1998. (J. R. Isbell) **99f:54001** 54–03 (01A60, 54F45, 55–03, 55M10)

Arocena, Rodrigo Unitary extensions of isometries and interpolation problems. II. Linear systems and generalized interpolation. (English and Spanish summaries) *Publ. Mat. Urug.* **7** (1997), 29–53 (1998). (Mihály Bakonyi) **99g:47025** 47A57 (47A20, 47A45, 47N70, 93B28)

Arocha Pérez, Jorge Luis (*with* Ábrego Lerma, Bernardo Manuel; Fernández-Merchant, S.; Neumann-Lara, Victor) Tightness problems in the plane. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 1–11. (Daniel Turzik) **99k:05121** 05C65

— (*with* Tey, Joaquín) The size of minimum 3-trees: cases 3 and 4 mod 6. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 157–166. (Kevin Lawrence McAvaney) **99k:05122** 05C65 (05C15, 05C35)

Arodź, H. Collective dynamics of a domain wall—an outline. *New developments in quantum field theory* (*Zakopane*, 1997), 233–241, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Gagik T. Ter-Kazarian) **99i:81141** 81T10

Aron, M. (*with* Aizicovici, Sergiu) On a class of deformations of compressible, isotropic, nonlinearly elastic solids. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 175–185. (Summary) **99d:73026** 73C50

— (*with* Christopher, C. J.; Wang, Yi[6]) On the straightening of compressible, nonlinearly elastic, annular cylindrical sectors. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 131–145. (Summary) **99c:73017** 73C50

— A note on the stability of certain deformations of compressible nonlinearly elastic media. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 558–567. (Summary) **99e:73036** 73C50

Aron, Richard M. (*with* Rueda, M. P.) A problem concerning zero-subspaces of homogeneous polynomials. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 20–23. (Summary) **99e:13032** 13P99

— (*with* Dineen, Seán) *Q*-reflexive Banach spaces. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1009–1025. (Ignacio Zalduendo) **99h:46010** 46B20 (46B28, 46G20)

— (*with* Lindström, Mikael; Ruess, W. M.; Ryan, Raymond A.) Uniform factorization for compact sets of operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1119–1125. (Introduction) **99f:46025** 46B28 (46G20, 47A68)

Arone, Greg (*with* Kankaanrinta, Marja) A functorial model for iterated Snaith splitting with applications to calculus of functors. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 1–30, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:55009** 55P15

— (*with* Kankaanrinta, Marja) The homology of certain subgroups of the symmetric group with coefficients in $\mathcal{L}ie(n)$. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 1–14. (Summary) **99c:57070** 57T10 (20J06, 55P15)

— A generalization of Snaith-type filtration. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1123–1150. (V. P. Snaith) **99i:55011** 55P35 (19D10, 55P65)

Aronov, Boris (*with* Efrat, Alon; Halperin, Dan; Sharir, Micha) On the number of regular vertices of the union of Jordan regions. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 322–334, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99m:68204** 68U05 (52B55)

— (*with* Agarwal, Pankaj K.; Chan, Timothy M.; Sharir, Micha) On levels in arrangements of lines, segments, planes, and triangles. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 315–331. (Summary) **99b:52029** 52B55 (68U05)

— (*with* Davis, A. R.; Dey, Tamal K.; Pal, Sudebkumar Prasant; Prasad, D. Chithra) Visibility with one reflection. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 553–574. (Rade Živaljević) **99c:52019** 52B55 (68U05)

— (*with* Davis, A. R.; Dey, Tamal K.; Pal, Sudebkumar Prasant; Prasad, D. Chithra) Visibility with multiple reflections. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 61–78. (Jesús A. de Loera) **99d:68227** 68U05 (52B55, 68Q25)

Arora, A. K. *see* **Arora, Arun Kumar**

Arora, Anish (*with* Kulkarni, Sandeep S.) Multitolerance in distributed reset. (English summary) *Chicago J. Theoret. Comput. Sci.* **1998**, *Article* 4, 46 *pp.* (*electronic*). (Summary) **99g:68021** 68M15 (68Q10)

Arora, Arun Kumar On generalised fractional integrals associated with the H-function of several variables and a general class of polynomials. *Ganita Sandesh* **11** (1997), *no.* 2, 91–98 (1998). (Summary) **99h:33052** 33C60

Arora, K. K. (*with* Sinha, Deba Prasad) On the Gelfand-Phillips property in Banach spaces with PRI. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 347–354. (Giovanni Emmanuele) **99e:46020** 46B20

— (*with* Jain, Pawan Kumar; Sinha, Deba Prasad) Weak* sequential compactness of dual unit balls of Banach spaces with PRI. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 123–132. (Anatolij M. Plichko) **99e:46016** 46B20

— (*with* Jain, Pawan Kumar; Sinha, Deba Prasad) Projectional resolutions of the identity on Banach spaces. *Functional analysis*, 60–67, *Narosa, New Delhi*, 1998. (Introduction) **99k:46016** 46B15

— (*with* Jain, Pawan Kumar; Sinha, Deba Prasad) On Grothendieck spaces with PRI. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 70–81, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Paolo Terenzi) **99c:46010** 46B20

Arora, S. *see* **Arora, Savita**

Arora, S. C. (*with* Mukherjee, M.) Compact composition operators on Sobolev spaces. (English summary) *Indian J. Math.* **37** (1995), *no.* 3, 207–219 (1997). (Summary) **99a:47041** 47B38

— (*with* Bala, Pawan) Operator algebras of finite strict multiplicity. (English summary) *J. Anal.* **5** (1997), 65–77. (Edward Azoff) **99k:47104** 47D25

— (*with* Sharma, Vagisha) Solution of integral equations in fuzzy spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 135–139. (From the text) **99h:45001** 45B05 (45D05, 47N20)

Arora, S. R. *see* **Arora, Savita**

Arora, Sanjeev Reductions, codes, PCPs, and inapproximability. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 404–413, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q15)

— (*with* Grigni, Michelangelo; Karger, David R.; Klein, Philip N.; Woloszyn, Andrzej) A polynomial-time approximation scheme for weighted planar graph TSP. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 33–41, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Safra, Shmuel) Probabilistic checking of proofs: a new characterization of NP. (English summary) *J. ACM* **45** (1998), *no.* 1, 70–122. (Oded Goldreich) **99d:68077a** 68Q15 (03B35, 03D15, 68Q25)

— (*with* Lund, Carsten; Motwani, Rajeev; Sudan, Madhu; Szegedy, Mario) Proof verification and the hardness of approximation problems. (English summary) *J. ACM* **45** (1998), *no.* 3, 501–555. (Oded Goldreich) **99d:68077b** 68Q15 (03B35, 03D15, 68Q25)

— Polynomial time approximation schemes for Euclidean traveling salesman and other geometric problems. (English summary) *J. ACM* **45** (1998), *no.* 5, 753–782. (Summary) **99k:68074** 68Q25 (68R10, 90C27)

Arora, Satya R. (*with* Hales, A. W.; Passi, I. B. S.) The multiplicative Jordan decomposition in group rings. *J. Algebra* **209** (1998), *no.* 2, 533–542. (M. M. Parmenter) **99j:16015** 16S34 (20C05)

Arora, Savita (*with* Puri, M. C.) On lexicographic optimal solutions in transportation problems. (English summary) *Optimization* **39** (1997), *no.* 4, 383–403. (Summary) **99b:90042** 90B06 (90C29)

— (*with* Thirwani, Deepa; Khanna, Saroj) An algorithm for solving fixed charge bi-criterion transportation problem with restricted flow. (English summary) *Optimization* **40** (1997), *no.* 2, 193–206. (Summary) **99a:90090** 90B06 (90C29)

— (*with* Saxena, Ratnesh R.) Linearization approach to multi-objective quadratic set covering problem. (English summary) *Optimization* **43** (1998), *no.* 2, 145–156. (Summary) **99d:90104** 90C29 (90C20)

— (*with* Malhotra, Neelam) Nonlinear integer goal programming. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 1, 39–50. 90C10 (90C29)

— (*with* Malhotra, Neelam) Optimality conditions for linear fractional bilevel programs. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 373–384. 90C32 (90D65)

Arora, Shalini (*with* Puri, M. C.) A lexi-search algorithm for a time minimizing assignment problem. (English summary) *Opsearch* **35** (1998), *no.* 3, 193–213. (Summary) **99f:90053** 90B80 (90C27)

Arora, V. *see* **Arora, Virendra**

Arora, Vipin (*with* Lahiri, Parthasarathi; Mukherjee, Kanchan) Empirical Bayes estimation of finite population means from complex surveys. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1555–1562. (Kun He) **99i:62014** 62D05 (62C12)

Arora, Virendra (*with* Goel, Vivek; Chand, Ramesh) A critical study of fractions in *Ganitatilaka*. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 192–202. (A. I. Volodarskiĭ) **99e:01006** 01A32

— (*with* Goel, Vivek) Life and works of Śrīpati. (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 105–110. (Summary) **99h:01014** 01A32

Arouche, Abdelouahab Sur la complétion de la K-théorie équivariante. (English and French summaries) [On the completion of equivariant K-theory] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 377–387. (Summary) **99a:55004** 55N91 (19L47, 55N15)

ben Arous, Gerard *see* **Ben Arous, Gerard**

Arov, Damir Z. On monotone families of J-contractive matrix functions. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 3–37; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1025–1051. (Summary) **99c:47012** 47A57

— (*with* Dym, Harry) J-inner matrix functions, interpolation and inverse problems for canonical systems. I. Foundations. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 373–454. (Hendrik S. V. de Snoo) **99c:47011** 47A57 (34A55, 34L05, 46E22)

— Inversion formulas for compressions of block-Toeplitz operators. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 1–17, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (A. Böttcher) **99e:47032** 47B35 (47A20, 65F05)

— (*with* Dym, Harry) On three Krein extension problems and some generalizations. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 1, 1–91. (Aad Dijksma) **99f:47019** 47A57 (30C40, 30E05, 46E22)

— (*with* Kaashoek, M. A.; Pik, D. R.) Optimal time-variant systems and factorization of operators. I. Minimal and optimal systems. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 389–420. (Dmitriy S. Kalyuzhniy) **99i:47017** 47A48 (47A67, 47N70, 93B28)

ben-Aroya, I. *see* **Ben-Aroya, I.**

Árpád, Elbert *see* **Elbert, Árpád**

Arpinar, Budak (*with* Halici, Ugur; Dogac, Asuman) Serializability of nested transactions in multidatabases. (English summary) *Database theory—ICDT '97 (Delphi)*, 321–335, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68054** 68P15

Arquès, Didier (*with* Béraud, Jean-François) Énumération des cartes pointées sur la bouteille de Klein. (English and French summaries) [Enumeration of rooted maps on the Klein bottle] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 4, 385–409. (T. R. S. Walsh) **99a:05063** 05C30

Arratia, Oscar (*with* Martín, Miguel Ángel; del Olmo, Mariano A.) Moyal quantization and group theory. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 191–201. (Günter Braunss) **99h:58071** 58F06 (81S10)

— (*with* del Olmo, Mariano A.) Moyal quantization on the cylinder. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 149–157. (Akira Yoshioka) **99f:81104** 81S10 (58F06)

— (*with* Herranz, Francisco J.; del Olmo, Mariano A.) Bicrossproduct structure of the null-plane quantum Poincaré algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L1–L7*. (Anatol Nowicki) **99c:81082** 81R50 (17B37)

Arratia, Richard On the central role of scale invariant Poisson processes on $(0, \infty)$. (English summary) *Microsurveys in discrete probability (Princeton, NJ, 1997)*, 21–41, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Andrew D. Barbour) **99i:60098** 60G55 (11K99, 60C05, 60D05)

Arrazola, José R. (*with* Bustamante González, Jorge; Escobedo Conde, Raúl) A-realcompact spaces. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 17–29. (A. H. Stone) **99e:54017** 54D20 (46E25, 46J99, 54C40)

Arreaga, Guillermo (*with* Matos, Tonatiuh; Piccinelli, Gabriella) Inflation from an effective standard model of particle physics for curved spacetime. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 3, 337–347. 81T20 (81V17)

Arredondo Ruiz, J. H. (*with* Mendoza T., F. J.) Operators that are invariant under the analytic dilation group. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994)*, 13–21, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99i:47084** 47F05 (35B20, 35P05)

— (*with* Seibert, P.; Aguirre Castillo, Luis; Delgado Fernández, Joaquín) A general reduction principle in the stability theory of nonlinear systems. (English summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994)*, 245–255, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:54050** 54H15

— Spectral analysis for the acoustic propagator. (English summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima, 1995)*, 13–29, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (P. A. Mishnayevskiy) **99k:35106** 35L05 (35P05, 47F05, 76Q05)

— (*with* Ramm, Alexander G.; Izquierdo, B. C.) Formula for the radius of the support of the potential in terms of scattering data. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L39–L44*. (Summary) **99a:81188** 81U05

Arregui, Iñigo (*with* Destuynder, Philippe; Salaün, Michel) Large displacements of thin sheets. Approximation of unstable motions. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 73K10 (73C50)

Arregui Casaus, José Luis (*with* Blasco, Oscar) On the Bloch space and convolution of functions in the L^p-valued case. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 363–373. (Richard M. Timoney) **99b:46049** 46E40 (30D45, 42A85, 46E15)

Arreola-Risa, Antonio (*with* DeCroix, Gregory A.) Inventory management under random supply disruptions and partial backorders. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 687–703. 90B05

cobos Arribas, Pablo *see* **Cobos Arribas, Pablo**

julio-Arrieta, Carlos A. *see* **Julio-Arrieta, Carlos A.**

trigos-Arrieta, F. Javier *see* **Trigos-Arrieta, F. Javier**

Arrieta, Hernan (*with* Desimone, Hernan; Urquiza, Santiago; Pardo, Enrique) Solution of Stokes equations by moving least squares. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 907–920. 65N55 (76M25)

Arrieta, José M. Domain dependence of elliptic operators in divergence form. (English summary) Workshop on Differential Equations and Nonlinear Analysis (Águas de Lindóia, 1996). *Resenhas* **3** (1997), *no.* 1, 107–122. (Giovanna Citti) **99b:35036** 35J25 (35P05)

— (*with* Carvalho, Alexandre N.; Rodríguez-Bernal, Aníbal) Critical nonlinearities at the boundary. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 353–358. (Lisa Santos) **99i:35072** 35K60 (35K05)

Arrigo, Daniel J. (*with* Hill, James M.) On a class of linearizable Monge-Ampère equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 115–119. (Summary) **99c:35052** 35J60

— (*with* Hill, James M.) Transformations and equation reductions in finite elasticity. III. A general integral for plane strain deformations. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 3–15. (Summary) **99k:73044** 73C50 (73G05)

Arrigoni, Maurice On Schur σ-groups. (English summary) *Math. Nachr.* **192** (1998), 71–89. (Thống Nguyễn-Quang-Đỗ) **99f:20047** 20E18 (11R32)

Arriola, Leon Applications of Lie groups to first order difference equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 55–66, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39006** 39A10 (22E05)

Arrondo, Enrique (*with* Bertolini, Marina; Turrini, Cristina) Congruences of small degree in $G(1, 4)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3249–3266. (Giorgio Ottaviani) **99k:14081** 14M15 (14M06)

— Appendix to: "Congruences of small degree in $G(1, 4)$" [Comm. Algebra **26** (1998), no. 10, 3249–3266; MR 99k:14081] by Arrondo, M. Bertolini and C. Turrini. Pfaffian linkage in codimension three and applications to congruences. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3267–3274. (Giorgio Ottaviani) **99k:14082** 14M15 (14M06)

— Projections of Grassmannians of lines and characterization of Veronese varieties. (English summary) *J. Algebraic Geom.* **8** (1999), *no.* 1, 85–101. (Parameswaran Sankaran) **99k:14083** 14M15 (14E25, 14N05)

fernández y fernández-Arroyo, Fidel José *see* **Fernández y Fernández-Arroyo, Fidel José**

Arroyo, J. (*with* Barros, Manuel; Garay, Oscar J.) Spectral decomposition of spherical immersions with respect to the Jacobi operator. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 205–212. (Pascual Lucas Saorín) **99g:53062** 53C42

— (*with* Garay, Oscar J.; Mencía, J. J.) On a family of surfaces of revolution of finite Chen-type. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 73–80. (Theodoros Vlachos) **99b:53075** 53C40

Arroyo-Jordá, P. (*with* Martínez-Pastor, A.) On certain actions of groups and injective Fitting sets. *Comm. Algebra* **26** (1998), *no.* 5, 1557–1566. (Arnold D. Feldman) **99d:20050** 20F17 (20D10, 20D45, 20F28)

de Arruda, Lucia V. R. (*with* da Silva, Ivan N.; Amaral, Wagner C.) A novel approach to robust parameter estimation using neurofuzzy systems. (English summary) *Math.*

Comput. Simulation **48** (1999), *no.* 3, 251–268. 93E12 (93C42)

Arsen'ev, Alekseĭ Alekseevich Some problems in the spectral theory of the Schrödinger operator that are associated with a mathematical model of a tunnel diode. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 9, 79–116. (Vladimir Georgescu) **99b:81041** 81Q10 (34L25, 34L40, 47E05, 82D99)

— On the resonance properties of the scattering amplitude for the Schrödinger equation with a trapping potential. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 214–232; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 935–949 (1996). (Vladimir Georgescu) **99b:81042** 81Q10 (47F05, 47N50, 81U20)

— An estimate for the solution of the problem of scattering by a one-dimensional trapping potential. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 12, 3–10; *translation in Sb. Math.* **188** (1997), *no.* 12, 1731–1738. (Alexei Yu. Konstantinov) **99a:34226** 34L25 (81U05)

— The scattering problem for the Neumann-Liouville equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 635–637; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 611–613. (Robert Alicki) **99j:81195** 81U05 (81S30)

— *see also* **Birthday: Arsen'ev, Alekseĭ Alekseevich**

Arsen'ev, D. G. (*with* Kul'chitskiĭ, O. Yu.; Ivanov, V. M.) Adaptive-statistical methods for the control of complicated computational processes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 102–111, 156. 93C95 (93C40)

Arsen'eva, O. E. (*with* Kirichenko, V. F.) Self-dual geometry of generalized Hermitian surfaces. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 21–44; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 19–41. (J. T. Davidov) **99i:53066** 53C50 (53C25, 53C55)

Arsenishvili, G. L. (*with* Kabanov, Yu. M.) On a closed queueing system. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 465–469 (1996). (L. M. Abol'nikov) **99h:60159** 60K25

Arsenović, D. (*with* Božić, Mirjana; Marić, Zvonko) Quantization of magnetic top in the spinor representation. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 169–177. (Wojciech Lisiecki) **99h:81099** 81S10 (81R25)

— (*with* Marić, Zvonko; Božić, Mirjana) Magnetic top in terms of spinors—the classical system with constraints. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1091–1120. (Summary) **99h:70013** 70E15 (70F20, 70H05, 78A99)

Arsenović, Miloš (*with* Jevtić, Miroljub) BMO-boundedness of Lusin's area function. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 1–6. (Douglas Kurtz) **99h:42030** 42B25

Arshad, Muhammad (*with* Beg, Ismat; Shabir, Muhammad) Fuzzy almost linear spaces. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 349–359. (Athanasios K. Katsaras) **99m:46180** 46S40 (46A19)

Arsham, Hossein Stability analysis for the shortest path problems. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 171–210. (*see* **99i:00023**) 90C35 (05C35, 05C38, 90C31)

— (*with* Adlakha, V. G.) A combined gradient and feasible direction pivotal solution algorithm for general LP. (English and Spanish summaries) *Investigación Oper.* **19** (1998), *no.* 1, 2–19. 90C05

— (*with* Adlakha, V. G.) A warm-start dual simplex solution algorithm for the minimum flow networks with postoptimality analyses. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 12, 85–115. (Xue Liang Li) **99c:90042** 90B10 (90B12)

— Techniques for Monte Carlo optimizing. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 181–229. (Summary) **99i:65008** 65C05 (90C15, 93C83)

— (*with* Adlakha, V. G.) Distribution-routes stability analysis of the transportation problem. (English summary) *Optimization* **43** (1998), *no.* 1, 47–72. (Summary) **99a:90088** 90B06 (90C05, 90C31)

— *see also* **Macki, Jack** *and* **Enge, Andreas**

Arslan, Feza (*with* Sertöz, A. Sinan) Genus calculations of complete intersections. *Comm. Algebra* **26** (1998), *no.* 8, 2463–2471. (Luca Chiantini) **99e:14058** 14M10 (13C40)

Arslan, Kadri (*with* Çelik, Yunus; Deszcz, Ryszard) A note on geodesic circles on Riemannian manifolds. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 453–459. (James J. Hebda) **99b:53058** 53C22

— (*with* Çelik, Yunus; Deszcz, Ryszard; Özgür, C.) Submanifolds all of whose normal sections are W-curves. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 537–544. (V. Oproiu) **99e:53018** 53B25 (53C40)

— (*with* Deszcz, Ryszard; Ezentaş, Rıdvan; Hotloś, Marian) On a certain subclass of conformally flat manifolds. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 283–299. (Eric Boeckx) **99i:53045** 53C25 (53C50)

— (*with* Çelik, Yunus; Deszcz, Ryszard; Ezentaş, Rıdvan) On the equivalence of Ricci-semisymmetry and semisymmetry. *Colloq. Math.* **76** (1998), *no.* 2, 279–294. (Eric Boeckx) **99a:53055** 53C25

— (*with* Kiliç, B.) Product submanifolds and their types. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 125–134. (Bang-yen Chen) **99e:53074** 53C40

Arslan, S. (*with* Hunter, Geoffrey[2]; Ecimovic, P.; Schlifer, I.; Walker, I. M.; Beamish, D.; Donev, S.; Kowalski, Marian; Heck, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

Arslanov, Marat M. (*with* LaForte, Geoffrey L.; Slaman, Theodore A.) Relative enumerability in the difference hierarchy. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 411–420. (Wen Qi Huang) **99f:03057** 03D30

Artal-Bartolo, Enrique A curve of degree five with non-abelian fundamental group. (English summary) *Topology Appl.* **79** (1997), *no.* 1, 13–29. (Summary) **99f:14030a** 14H30 (57M05)

— (*with* Cassou-Noguès, Pierrette; Dimca, Alexandru) Sur la topologie des polynômes complexes. [On the topology of complex polynomials] *Singularities* (*Oberwolfach*, 1996), 317–343, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Ricardo García López) **99k:32069** 32S50 (32S55)

— (*with* Carmona Ruber, Jorge) Zariski pairs, fundamental groups and Alexander polynomials. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 521–543. (Eriko Hironaka) **99d:14019** 14H30 (14J17)

— Erratum to: "A curve of degree five with non-abelian fundamental group". *Topology Appl.* **83** (1998), *no.* 2, 159. (From the text) **99f:14030b** 14H30 (57M05)

Artalejo, J. R. (*with* Gómez-Corral, A.) Analysis of a stochastic clearing system with repeated attempts. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 623–645. (C. E. M. Pearce) **99g:60167** 60K25 (90B22)

— Retrial queues with a finite number of sources. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 503–525. (Linn I. Sennott) **99j:60138** 60K25 (90B22)

rodríguez-Artalejo, Mario *see* **Rodríguez-Artalejo, Mario**

Artamonov, V. A. Invariants of Hopf algebras. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 45–49, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 41–44. (Andrzej Tyc) **99i:16064a** 16W30

— Periodic modules over general quantum Laurent polynomials. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 10–17; *translation in Math. Notes* **61** (1997), *no.* 1-2, 9–15. (Michael Dokuchaev) **99e:16031** 16S35 (16S36)

— The Magnus representation in congruence modular varieties. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 978–995, i; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 842–859. (Ivan Chajda) **99c:08009** 08B10

— *see also* **Errata: "Invariants of Hopf algebras", 99i:16064b**

Artem'ev, S. S. (*with* Averina, T. A.) ★ Numerical analysis of systems of ordinary and stochastic differential equations. *VSP, Utrecht*, 1997. *viii*+176 *pp. ISBN* 90-6764-250-9 (I. Norman Katz) **99h:65121** 65Lxx (34A45, 34F05, 60H10, 65C05, 65U05)

Artem'ev, V. M. Locally optimal failure-protected control. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 74–77. 93B36

Artem'eva, I. L. (*with* Gavrilova, T. L.; Kleshchev, A. S.) Systems of logical relations as models of object domains. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 27–28. 68P15

Artemiev, S. S. *see* **Artem'ev, S. S.**

Artemov, A. A. Asymptotic behavior of the Poisson transform on a hyperboloid of one sheet. (English summary) *Lie groups and Lie algebras*, 261–284, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Nobukazu Shimeno) **99g:22010** 22E30 (43A85)

Artemovich, O. D. On groups with almost hypercentral proper subgroups. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 7–9. 20F99

— Some open problems concerning the rigid right Goldie rings. *Mat. Stud.* **9** (1998), *no.* 2, 219–222. 16W20

— On indecomposable groups and groups with hypercentral-by-finite proper subgroups. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 163–175. (H. Heineken) **99i:20040** 20E15 (20F50)

Artés, Joan C. (*with* Grünbaum, Branko; Llibre, Jaume) On the invariant straight lines of polynomial differential systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 317–327. (Editors) **99j:34029** 34C05 (58F21)

— (*with* Grünbaum, Branko; Llibre, Jaume) On the number of invariant straight lines for polynomial differential systems. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 207–230. (Alexandru Şubă) **99f:34035** 34C05 (34A34, 54H20)

Artés, P. L. (*with* Dehesa, Jesús S.; Martínez-Finkelshtein, Andrei; Sánchez-Ruiz, Jorge) Linearization and connection coefficients for hypergeometric-type polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 15–26. (Harold Exton) **99k:33006** 33C05

Arthur, James Canonical normalization of weighted characters and a transfer conjecture. *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 2, 33–52. (Dihua Jiang) **99g:22020** 22E55 (11S37)

— Towards a stable trace formula. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 507–517 (*electronic*). (Wee Teck Gan) **99j:11055** 11F72 (11F70, 22E45)

Arthur, Kieran (*with* Brihaye, Yves; Tchrakian, D. H.) Interaction energy of generalized abelian Higgs vortices. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3031–3042. (Summary) **99c:58037** 58E15 (81–08, 81T13)

Arthurs, A. M. (*with* Anderson, Norman H.) Hamilton-Jacobi results for the brachistochrone. (English summary) *European J. Phys.* **20** (1999), *no.* 2, 101–104. 49J05 (70H20)

Arthurs, Kayne M. (*with* Moore, Leon C.; Peskin, Charles S.; Pitman, E. Bruce; Layton, H. E.) Modeling arteriolar flow and mass transport using the immersed boundary method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 402–440. 76M25 (76Z05, 92C35)

Artigue, Michèle De la comprehension des processus d'apprentissage à la conception de processus d'enseignement. [Using our understanding of learning processes to design teaching strategies] Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 723–733 (*electronic*). (*see* **99e:00025**) 00A35

Artikis, George A stochastic present value model in portfolio analysis. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 41–52. (Summary) **99h:90012** 90A09

Artin, M. Some problems on three-dimensional graded domains. *Representation theory and algebraic geometry* (*Waltham, MA*, 1995), 1–19, *London Math. Soc. Lecture Note Ser.*, 238, *Cambridge Univ. Press, Cambridge*, 1997. (Michel Van den Bergh) **99a:16037** 16W50 (14A22)

Artmann, B. (*with* Mueller, Ian) Plato and mathematics. (English and German summaries) *Math. Semesterber.* **44** (1997), *no.* 1, 1–17. (Summary) **99a:01003** 01A20 (00A30)

Artola, Michel Sur un théorème d'interpolation dans des espaces de Banach pondérés. (French summary) [An interpolation theorem in weighted Banach spaces] *Équations aux dérivées partielles et applications*, 35–50, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Javier Soria) **99j:46040** 46E40 (46E35, 46M35)

Arts, Gerda R. J. (*with* Albers, Willem; Kallenberg, Wilbert C. M.) Test limits using correlated measurements. (English summary) *Statistics* **30** (1998), *no.* 4, 307–330. (Summary) **99k:62196** 62N10

Arts, Thomas (*with* Giesl, Jürgen) Modularity of termination using dependency pairs. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 226–240, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42

Artstein, Zvi (*with* Slemrod, Marshall) Phase separation of the slightly viscous Cahn-Hilliard equation in the singular perturbation limit. (English summary) *Indiana*

Univ. Math. J. **47** (1998), *no.* 3, 1147–1166. (Lumin Jiang) **99m:35017** 35B25 (35K60)

— Stability in the presence of singular perturbations. *Nonlinear Anal.* **34** (1998), *no.* 6, 817–827. (Vladimir Veliov) **99k:34108** 34D15 (34E15, 93D09)

— Invariant measures of differential inclusions applied to singular perturbations. *J. Differential Equations* **152** (1999), *no.* 2, 289–307. (Tzanko D. Donchev) **99m:34023** 34A60 (34E15)

Artuso, Roberto Correlations and spectra of triangular billiards. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 1–10. (Fausto Borgonovi) **99b:58136** 58F11 (58F19)

— (*with* Prampolini, Andrea) Correlation decay for an intermittent area-preserving map. (English summary) *Phys. Lett. A* **246** (1998), *no.* 5, 407–411. (Summary) **99e:58111** 58F08

Artyukhin, E. A. (*with* Gedzhadze, I. Yu.) On a method for solving the observation problem for a nonstationary temperature field (the linear case). (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 4, 99–109. 93B07 (93C20)

ben-Artzi, Asher *see* **Ben-Artzi, Asher**

ben-Artzi, Matania *see* **Ben-Artzi, Matania**

Arul, R. (*with* Thandapani, E.) Oscillation theory for a class of second order quasilinear difference equations. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 229–238. (P. W. Eloe) **99c:39009** 39A10

— (*with* Thandapani, E.) Oscillatory and asymptotic behavior of solutions of higher order damped nonlinear difference equations. (English summary) *Czechoslovak Math. J.* **49(124)** (1999), *no.* 1, 149–161. (Vladimir Sh. Burd) **99m:39018** 39A11

Aruliah, D. (*with* Das, Anadijiban; Tariq, N.; Biech, T.) Spherically symmetric collapse of an anisotropic fluid body into an exotic black hole. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4202–4227. (Summary) **99f:83043** 83C57 (83C55)

— (*with* Das, Anadijiban) The spherically symmetric collapse of an inhomogeneous stellar dust ball into a black hole. (English summary) *Proc. Indian Nat. Sci. Acad. Part A* **64** (1998), *no.* 1, 1–52. (Asghar Qadir) **99i:83055** 83C57 (83C55)

Arulraj, S. Maria (*with* Karuppan Chetty, C. S.) Falsity of Wang's conjecture on stars. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 49–56. (Peter M. Gibson) **99g:15008** 15A15 (15A51)

Arumugam, S. (*with* Suseela, J. Suresh) Acyclic graphoidal covers and path partitions in a graph. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 67–77. (Summary) **99c:05147** 05C70

— (*with* Thuraiswamy, A.) Total domatic number of a graph. I. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 513–515. (Summary) **99c:05096** 05C35

— (*with* Meena, S.) Graphs that are randomly packable by some common disconnected graphs. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1129–1136. (L. W. Beineke) **99m:05116** 05C70 (05C75)

— (*with* Velammal, S.) Edge domination in graphs. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 173–179. (Summary) **99a:05107** 05C70

Arumuganathan, R. (*with* Krishna Reddy, G. V.; Nadarajan, R.) Analysis of a bulk queue with N-policy multiple vacations and setup times. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 957–967. (Nicole Bäuerle) **99e:90042** 90B22 (60K25)

Arunsawatwong, Suchin Stability of retarded delay differential systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 347–364. (Summary) **99g:34150** 34K20 (93D05)

Arutyunov, A. V. On the theory of abnormal extremal problems with a finite-dimensional image. (Russian) *Dokl. Akad. Nauk* **348** (1996), *no.* 3, 295–298. (Urszula Ledzewicz) **99a:49033a** 49K27 (90C48)

— Second-order conditions in extremal problems with a finite-dimensional image. 2-normal mappings. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 1, 37–62; *translation in Izv. Math.* **60** (1996), *no.* 1, 39–65. (Urszula Ledzewicz) **99a:49034b** 49K27 (90C48)

— Optimality conditions in abnormal extremal problems. (English summary) *Systems Control Lett.* **27** (1996), *no.* 5, 279–284. (Urszula Ledzewicz) **99a:49033b** 49K27 (90C48)

— ★ Условия экстремума. (Russian. Russian summary) [Extremum conditions] Аномальные и вырожденные задачи. [Abnormal and degenerate problems] Математика и ее Приложения. [Mathematics and its Applications] *Izdatel'stvo "Faktorial", Moscow*, 1997. 255 *pp. ISBN* 5-88688-015-1 (Urszula Ledzewicz) **99c:49001** 49–02 (49K15, 90C48)

— (*with* Bobylev, N. A.; Korovin, S. K.) One remark to Ekeland's variational principle. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 267–271. (Pando Georgiev) **99a:49022** 49J52 (49J50, 49K10)

— Second-order conditions in extremal problems. The abnormal points. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4341–4365. (Urszula Ledzewicz) **99a:49034a** 49K27 (90C48)

Arutyunov, G. È. (*with* Aref'eva, Irina Ya.; Medvedev, P. B.) Bicovariant differential calculus on quantum groups from Poisson Lie structures. (English summary) *Quantum groups* (*Karpacz*, 1994), 207–220, *PWN, Warsaw*, 1995. (Władysław Marcinek) **99f:58011** 58B30 (16W30, 17B37, 81R50)

— (*with* Frolov, Sergeĭ Anatol'evich; Medvedev, P. B.) Elliptic Ruijsenaars-Schneider model from the cotangent bundle over the two-dimensional current group. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5682–5689. (V. A. Golubeva) **99h:81234** 81V70 (81R10)

— Construction of classical trigonometric r-matrices of the Toda model by the method of the Hamiltonian reduction of cotangent bundles over loop groups. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 3–12; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1209–1216 (1998). (Iskander A. Taimanov) **99c:58063** 58F07

— (*with* Chekhov, L. O.; Frolov, Sergeĭ Anatol'evich) R-matrix quantization of the elliptic Ruijsenaars-Schneider model. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 405–432. (Benjamin David Enriquez) **99h:81080** 81R50 (81V70)

— (*with* Frolov, Sergeĭ Anatol'evich) On the Hamiltonian structure of the spin Ruijsenaars-Schneider model. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4203–4216. (Kazuhiro Hikami) **99i:81271** 81V70 (58F07, 81R10)

— (*with* Frolov, Sergeĭ Anatol'evich) Antisymmetric tensor field on AdS_5. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 173–177. (Frans R. Klinkhamer) **99m:81238** 81T60 (81T30, 83E30)

Arutyunyan, A. V. On a characterization of anisotropic spaces of functions holomorphic in the polydisk. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 35–46 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 29–38. (Summary) **99f:46030** 46E15 (32A35)

— (*with* Shamoyan, F. A.) Toeplitz operators in the M. M. Dzhrbashyan multidimensional spaces $H^p(\alpha)$. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 85–95 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 70–78. (Miroslav Engliš) **99f:47035** 47B35 (32A35)

Arutyunyan, E. A. Multiterminal source coding: achievable rates and reliability. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 2, 2094–2101. (Summary) **99e:94022** 94A34 (94A29)

— (*with* Arutyunyan, M. E.) Bounds for the E-capacity region of a two-way channel with restrictions. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 3, 7–16; *translation in Problems Inform. Transmission* **34** (1998), *no.* 3, 210–218 (1999). (Summary) **99h:94038** 94A40

Arutyunyan, G. V. (*with* Martirosyan, V. A.) On a uniformly tangent approximation by lacunary power series on Carleman sets. II. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 79–86; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 68–75 (1996). (Yuri A. Farkov) **99f:30058** 30E10 (30B10)

— On uniform approximation by quasi-polynomials with coefficients from a given set. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 20–22 (1997). 41A10 (41A30)

Arutyunyan, L. A. A mixed contact problem for two moon-type bodies. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 2, 83–89. 73C35 (73T05)

Arutyunyan, L. L. (*with* Melikyan, A. A.; Ovakimyan, N. V.) Games of simple pursuit and approach on a two-dimensional cone. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 515–543. (A. M. Tarasyev) **99m:90177** 90D25

Arutyunyan, M. E. (*with* Arutyunyan, E. A.) Bounds for the E-capacity region of a two-way channel with restrictions. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 3, 7–16; *translation in Problems Inform. Transmission* **34** (1998), *no.* 3, 210–218 (1999). (Summary) **99h:94038** 94A40

Arutyunyants, G. V. On the local structure of the Besicovitch construction. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 3–7; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 1–4. (J. Lukeš) **99g:28005** 28A15 (26A24)

Arvan, Lanny (*with* Cabral, Luís; Santos, Vasco) Meaningful cheap talk must improve equilibrium payoffs. (English summary) *Math. Social Sci.* **37** (1999), *no.* 1, 97–106. (Summary) **99i:90123** 90D12 (90A14)

Arvanitis, Kostas G. A new multirate LQ optimal regulator for linear time-invariant systems and its stability robustness properties. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 529–584. (M. M. Konstantinov) **99i:93045** 93D09 (49N10, 93B35, 93B50)

— (*with* Kalogeropoulos, Gr.) A matrix-pencil-based interpretation of inconsistent initial conditions and system properties of generalized state-space systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 73–91. (John Maroulas) **99f:93074** 93C15 (93B25)

— (*with* Kalogeropoulos, Gr.) Stability robustness to unstructured uncertainties of linear systems controlled on the basis of the multirate sampling of the plant output. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 241–268. (Abdelmoula El Bouhtouri) **99h:93074** 93D09 (93D15)

— An adaptive decoupling compensator for linear systems based on periodic multirate-input controllers. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 36 *pp.* (*electronic*). (Jean Francois Lafay) **99i:93023** 93B51 (93C40)

— (*with* Kalogeropoulos, Gr.) Stability robustness of LQ optimal regulators based on multirate sampling of plant output. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 299–337. (Summary) **99a:93076** 93D09 (93D21)

Arvanitoyeorgos, Andreas The invariance of the Einstein equation on generalized flag manifolds under inner automorphisms. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 1–6, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (José Carmelo González-Dávila) **99k:53104** 53C30

— (*with* Ellinas, Demosthenes) Homogeneous spaces: from the classical to the quantum case. (English summary) *New developments in differential geometry, Budapest* 1996, 39–51, *Kluwer Acad. Publ., Dordrecht*, 1999. (István Heckenberger) **99m:16055** 16W30 (17B37)

Arvasi, Zekeriya The image of the Moore complex of simplicial groups. *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 225–247 (1998). (John F. Oprea) **99e:55036** 55U99

— (*with* Koçak, Mahmut) z-filters and a family of compact Hausdorff spaces. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 107–114. (Summary) **99m:54001** 54A05 (54D35)

— (*with* Koçak, Mahmut) Crossed N-cubes and n-crossed complexes of commutative algebras. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 127–143. (Timothy Porter) **99m:18009** 18G30 (13D99, 55U35)

— (*with* Koçak, Mahmut) Dold-Kan type theorems for n-types of simplicitial [simplicial] commutative algebras. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 171–184. (Timothy Porter) **99m:18010** 18G30 (13D99, 18G55, 55U35)

— From simplicial groups to crossed complexes. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 185–192. (Timothy Porter) **99m:18011** 18G30 (20J05, 55U35)

Arveson, William Dynamical invariants for noncommutative flows. *Operator algebras and quantum field theory* (*Rome*, 1996), 476–514, *Internat. Press, Cambridge, MA*, 199?. (Geoffrey Price) **99a:46117** 46L55 (46L57, 47D03)

Arvestad, Lars Aligning coding DNA in the presence of frame-shift errors. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 180–190, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92029** 92D20 (68Q20)

Arvesú, J. (*with* Álvarez-Nodarse, Renato; Marcellán, Francisco; Pan, K. C.) Jacobi-Sobolev-type orthogonal polynomials: second-order differential equation and zeros. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 135–156. (Summary) **99h:33029** 33C45

Arvind *see* **Arvind[2]**

Arvind[1] (*with* Mukunda, N.; Simon, Rajiah) Characterizations of classical and nonclassical states of quantized radiation. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 565–583. (K. Wódkiewicz) **99e:81274** 81V80

Arvind[2] (*with* Maessen, Jan-Willem; Nikhil, Rishiyur S.; Stoy, Joseph E.) A lambda calculus with letrecs and barriers. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 19–36, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (From the introduction) **99a:68023** 68N15 (03B40)

— (*with* Maessen, Jan-Willem; Nikhil, Rishiyur S.; Stoy, Joseph E.) λ_S: an implicitly parallel λ-calculus with recursive bindings, synchronization and side effects. (English summary) *HLCL '98 3rd International Workshop on High-level Concurrent Languages* (*Nice*), 26 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68N15 (03B40)

Arvind, A. (*with* Pandu Rangan, C.) Symmetric min-max heap: a simpler data structure for double-ended priority queue. *Inform. Process. Lett.* **69** (1999), *no.* 4, 197–199. 68P05

Arvind, V. (*with* Beigel, Richard; Lozano, Antonio) The complexity of modular graph automorphism. (English summary) *STACS* 98 (*Paris*, 1998), 172–182, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68085** 68Q25

Arya, Karm Veer (*with* Gupta, Vijay) On the rate of pointwise convergence of modified Baskakov type operators for functions of bounded variation. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 283–291. (Octavian Agratini) **99m:41039** 41A36

Āryabhaṭa II *see* **Jha, V. N., 99b:01007**

ben-Aryeh, Y. *see* **Ben-Aryeh, Y.**

Arzarello, E. (*with* Bacciotti, Andrea) On stability and boundedness for Lipschitzian differential inclusions: the converse of Lyapunov's theorems. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 4, 377–390. (Oleg P. Filatov) **99b:34032** 34A60 (34D20)

Arzate, Octavio R. Approximation of a solid sphere by a tetrahedral mesh. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 23–41, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 65Y25 (52A27)

Arzelier, Denis (*with* Garcia, Germain; Bernussou, Jacques) Stabilization of an uncertain linear dynamic system by state and output feedback: a quadratic stabilizability approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 839–858. 93D15 (93D21)

Arzhantsev, I. V. On the normality of closures of spherical orbits. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 66–69; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 278–280 (1998). (Dmitri I. Panyushev) **99a:14072** 14L30 (14M17)

— On the actions of reductive groups with a one-parameter family of spherical orbits. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 5, 3–20; *translation in Sb. Math.* **188** (1997), *no.* 5, 639–655. (Dmitri I. Panyushev) **99b:14048** 14L30 (14M17)

Arzhantseva, G. N. Generic properties of finitely presented groups and Howson's theorem. *Comm. Algebra* **26** (1998), *no.* 11, 3783–3792. (Richard M. Thomas) **99j:20036** 20F05 (05C25, 20F06, 20F32)

Arzi-Gonczarowski, Z. (*with* Lehmann, Daniel J.) Introducing the mathematical category of artificial perceptions. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 267–298. (M. Studený) **99m:68199** 68T99 (18B20, 92J30)

— (*with* Lehmann, Daniel J.) From environments to representations—a mathematical theory of artificial perceptions. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 187–247. (Summary) **99f:68175** 68T10 (68T30)

Arzikulov, F. N. AJW-algebras of type I and their classification. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 30–48. (Sh. A. Ayupov) **99j:46084** 46L70 (46K70)

— On abstract JW-algebras. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 20–27, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 18–24. (Summary) **99b:46071** 46H70 (17C65)

Arzumanyan, V. A. (*with* Renault, Jean) Examples of pseudogroups and their C^*-algebras. *Operator algebras and quantum field theory* (*Rome*, 1996), 93–104, *Internat. Press, Cambridge, MA*, 199?. (Siegfried Echterhoff) **99a:46101** 46L05

Asaad, M. On maximal subgroups of Sylow subgroups of finite groups. *Comm. Algebra* **26** (1998), *no.* 11, 3647–3652. (W. E. Deskins) **99k:20039** 20D10 (20F17)

Asada, Akira Vector analysis on Sobolev spaces. II. (English summary) *J. Fac. Sci. Shinshu Univ.* **31** (1996), *no.* 2, 59–70. (C. J. Atkin) **99b:58010** 58A10 (46E35, 46N20, 58B99, 58C35)

— Hodge operators of mapping spaces; local study. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 11–20, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Olga Gil-Medrano) **99h:58021** 58D15 (58A10, 58A14)

— (*with* Tanabe, Nobuhiko) A remark on infinite-dimensional Gaussian integral in a Sobolev space. (English summary) *J. Fac. Sci. Shinshu Univ.* **32** (1997), *no.* 2, 61–67. (Zhongmin Qian) **99d:58031** 58D20 (58G32, 60B05)

Asada, Hideki Formulation for the internal motion of quasiequilibrium configurations in general relativity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7292–7298. (Summary) **99k:83035** 83C40

— (*with* Taniguchi, Keisuke; Shibata, Masaru) Irrotational and incompressible ellipsoids in the first post-Newtonian approximation of general relativity. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 703–735. (Summary) **99k:83025** 83C25

Asadathorn, Nutthapol (*with* Chao, Xiuli) A decomposition approximation for assembly-disassembly queueing networks with finite buffer and blocking. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 247–261. (*see* **99m:90004**) 90B12

Asadi, Majid Some general characterizations of the bivariate Gumbel distribution and the bivariate Lomax distribution based on truncated expectations. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 190–202. (Mir Masoom Ali) **99k:62025** 62E10

— Characterization of the Pearson system of distributions based on reliability measures. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 347–360. (Summary) **99e:62012** 62E10 (62N05)

Asadullin, M. Kh. On a method of proving limit theorems for branching processes with immigration. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 103–109, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60J80 (60F05)

Asadzadeh, Mohammad A finite element method for the neutron transport equation in an infinite cylindrical domain. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1299–1314 (*electronic*). (Howard Swann) **99e:65149** 65N30 (65N15, 82D75)

Asaeda, Masako Existence of a finite depth subfactor conjectured by Haagerup. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 32–39. (*see* **99d:46001**) 46L37

— Classification theory of subfactors and quantum $6j$-symbols. (Japanese) Research on the theory of topological quantum fields induced by $6j$-symbols (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1053 (1998), 1–5. (*see* **99k:00036**) 46L37

Asai, Kazuto Jacobi-Trudi identities for Boolean tableaux and ideal-tableaux of zigzag posets. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 525–543. (Ernesto Vallejo) **99j:05192** 05E10 (05A15, 05A17, 05E15)

Asai, Keisui The heat flows of harmonic maps from S^2 to S^2. (English summary) *J. Math. Sci. Univ. Tokyo* **3** (1996), *no.* 1, 1–13. (Ben Andrews) **99e:58046** 58E20

Asai, Kiyoshi[2] (*with* Yada, Tetsushi; Totoki, Yasushi; Ishikawa, Masato) Generation of hidden Markov model describing complex motif in DNA sequences. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 750–767. 92D20

Asaka, Takuya (*with* Ozawa, Toshihisa) Analysis of a dynamic assignment queueing model with Poisson cluster arrival processes. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 196–213. (Nicole Bäuerle) **99e:90037** 90B12 (60K25, 90B22)

Asakawa, Hitoshi (*with* Suzuki, Masuo) Boundary scattering matrices in the Hubbard model with boundary fields. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 1–20. (Summary) **99c:82010** 82B20

Asakawa, Tsuguhiko (*with* Kugo, Taichiro; Takahashi, Tomohiko) On the generalized gluing and resmoothing theorem. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 437–454. (Summary) **99m:81167** 81T30

— (*with* Kugo, Taichiro; Takahashi, Tomohiko) BRS invariance of unoriented open-closed string field theory. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 831–879. (Ion V. Vancea) **99m:81168** 81T30 (81T70)

Asano, Masako Stringy cosmic strings and compactifications of F-theory. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 177–192. (Gonzalo Violero) **99a:81124** 81T30 (32J81, 83E30)

Asano, T. *see* **Asano, Tetsuo**

Asano, Takao (*with* Hori, Kuniaki; Ono, Takao; Hirata, Tomio) A theoretical framework of hybrid approaches to MAX SAT. (English summary) *Algorithms and computation* (*Singapore*, 1997), 153–162, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25

— (*with* Hori, Kuniaki; Ono, Takao; Hirata, Tomio) Approximation algorithms for MAX SAT: semidefinite programming and network flows approach. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 90–108. (Gerald Hammer) **99d:90089** 90C27 (68Q25)

Asano, Tetsuo (*with* Kimura, Souichi; Shimazu, Shigeaki) Contour representation of an image with applications. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3242–3251. 68U10

— *see also* **Symposium: Algorithms and Computation, 99d:68013**

Asanov, A. A. (*with* Atamanov, E. R.) ★ Nonclassical and inverse problems for pseudoparabolic equations. Inverse and Ill-posed Problems Series. *VSP, Utrecht*, 1997. *ii*+152 *pp. ISBN* 90-6764-235-5 (Dao Qing Dai) **99f:35236** 35R70 (35R30)

Asanov, G. S. Finslerian metric functions over the product $\mathbf{R} \times M$ and their potential applications. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 117–132. (Summary) **99m:53132** 53C60

— Finslerian invariant and coordinate length in an inertial frame of reference. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 1, 18–21. (Sergiu I. Vacaru) **99i:83002** 83A05 (53B40, 53B50)

— A Finslerian approach to quantum field theory: positivity of the energy of a scalar field and a generalization of Pauli-Jordan functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 3, 15–18. (Summary) **99f:81210** 81T99 (53B40)

Asanova, A. T. On an almost periodic solution of an equation of Fisher type with a nonlinear convective flow. (Russian) *Vestnik Nats. Akad. Respub. Kazakhstan* **1994**, *no.* 2, 80–84. 35K55 (35B15)

— (*with* Umbetzhanov, D. U.) Bounded and almost periodic solutions of equations with operators of fractional order. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 64–71. (Bolis Basit) **99g:35013** 35B15 (26A33, 35B05)

— A bounded almost periodic solution of a semilinear parabolic equation. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 17–22. (Mikhail Lavrentiev, Jr.) **99f:35076** 35K55 (35B15)

— A bounded solution of a nonlinear parabolic equation. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 33–39. (Mikhail Lavrentiev, Jr.) **99f:35074** 35K55 (35B05)

— On conditions for the existence of a bounded solution of a quasilinear parabolic equation. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 10–17. (Mikhail Lavrentiev, Jr.) **99f:35075** 35K55 (35B05)

Asanuma, Daisaku (*with* Sawamura, Hajime) Mechanizing relevant logics with HOL. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 443–460, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99m:03040** 03B46 (03B35, 68T15)

Asanyan, D. D. (*with* Bagdasaryan, G. E.) Stress-strain state of a magnetoelastic layer with a semi-infinite crack in an external homogeneous magnetic field. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **50** (1997), *no.* 2, 12–20. 73R05

Asar, Ali Osman A characterization of $\overline{\text{NC}}$-p-groups. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 475–483. (Brunella Bruno) **99d:20060** 20F50

— (*with* Yalıncakhoğlu, A.) Locally nilpotent p-groups whose proper subgroups are NC-groups. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 501–509. (Francesco de Giovanni) **99g:20066** 20F19

Asarin, E. A. (*with* Kozyakin, V. S.; Krasnosel'skiĭ, Mark Aleksandrovich; Kuznetsov, N. A.) ★ Анализ устойчивости рассинхронизованных дискретных систем. (Russian.

English and Russian summaries) [Analysis of the stability of asynchronous discrete systems] *"Nauka", Moscow*, 1992. 408 *pp. ISBN* 5-02-006946-9 93D05 (39A11)

— (*with* Maler, Oded) Achilles and the tortoise climbing up the arithmetical hierarchy. (English summary) *Foundations of software technology and theoretical computer science (Bangalore, 1995)*, 471–483, *Lecture Notes in Comput. Sci.*, 1026, *Springer, Berlin*, 1995. (Lei Qian) **99d:03039** 03D35 (03D15, 03D55, 68Q05)

— (*with* Maler, Oded) Achilles and the tortoise climbing up the arithmetical hierarchy. (English summary) *J. Comput. System Sci.* **57** (1998), *no.* 3, 389–398. (Summary) **99m:03086** 03D35 (03D15, 03D55, 68Q05)

Asatryan, A. A. (*with* Forbes, G. W.) Reducing canonical diffraction problems to singularity-free one-dimensional integrals. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1320–1328. (Summary) **99a:78025** 78A45

Asaturyan, Souren (*with* Costantini, Paolo; Manni, Carla) G^2 shape-preserving parametric planar curve interpolation. (English summary) *Creating fair and shape-preserving curves and surfaces (Kleinmachnow*, 1997), 89–98, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A29)

— (*with* Costantini, Paolo; Manni, Carla) Shape-preserving interpolating curves in $\mathbf{R}^3$: a local approach. (English summary) *Creating fair and shape-preserving curves and surfaces (Kleinmachnow*, 1997), 99–108, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A63)

Asavanant, J. (*with* Vanden-Broeck, Jean-Marc) Nonlinear free-surface flows emerging from vessels. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 297–303, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99i:76012** 76B10

— (*with* Vanden-Broeck, Jean-Marc) Free-surface supercritical splashless flows past a two-dimensional symmetrical rectilinear body. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 6, 811–822. (Summary) **99f:76029** 76B20

Asberg, B. (*with* Blanco Viejo, Gregoria; Bose, Prosenjit; García López de Lacalle, Jesús; Overmars, Mark H.; Toussaint, G.; Wilfong, Gordon; Zhu, Binhai) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)

Asch, Joachim (*with* Duclos, Pierre[1]; Exner, Pavel) Stability of driven systems with growing gaps, quantum rings, and Wannier ladders. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1053–1070. (M. Combescure) **99m:81056** 81Q20

Asch, M. (*with* Lebeau, Gilles) Geometrical aspects of exact boundary controllability for the wave equation—a numerical study. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 163–212 (*electronic*). (Summary) **99f:93007** 93B05 (35L05, 65M06, 93C20)

Aschbacher, Michael G. Finite groups acting on homology manifolds. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997,** *Special Issue*, 3–36. (Laurence R. Taylor) **99h:57051** 57Q91 (57S17)

— (*with* Smith, Stephen D.) Quasithin groups. (English summary) *Groups and geometries (Siena*, 1996), 1–7, *Trends Math., Birkhäuser, Basel*, 1998. (Ronald Solomon) **99g:20027** 20D05 (20-02)

— Near subgroups of finite groups. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 113–129. (W. E. Deskins) **99e:20031** 20D99

Asche, Matthias On the structure of Nash equilibrium sets in partially convex games. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 363–372. (Dan Butnariu) **99h:90123** 90D10 (90D06)

Ascher, Uri M. (*with* Petzold, Linda R.) ★ Computer methods for ordinary differential equations and differential-algebraic equations. (English summary) *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xviii*+314 *pp. ISBN* 0-89871-412-5 (Michael Hanke) **99k:65052** 65Lxx (34A09, 34A45, 65-01)

— (*with* Moulton, J. David; Morel, Jim Emanuel) Approximate Schur complement preconditioning of the lowest-order nodal discretizations. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 185–205 (*electronic*). (Summary) **99b:65131** 65N22 (65F10, 65N55)

Aschieri, Paolo (*with* Castellani, Leonardo) Universal enveloping algebra and differential calculi on inhomogeneous orthogonal q-groups. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 247–271. (Axel Schüler) **99k:58014** 58B30 (17B37, 81R50)

Ascoli, Sergio (*with* Malvestuto, Vincenzo; Diodato, Lorenzo) On the problem of thermodynamic equilibrium in the presence of internal adiabatic constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8407–8416. 80A10

Ascough, John (*with* Poullikkas, Andreas; Karageorghis, Andreas; Georgiou, Georgios C.) The method of fundamental solutions for Stokes flows with a free surface. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 667–678. (Summary) **99f:76044** 76D07 (65N99, 76M25)

Asea, Patrick K. (*with* Ncube, Mthuli) Heterogeneous information arrival and option pricing. (English summary) *J. Econometrics* **83** (1998), *no.* 1-2, 291–323. (Summary) **99a:90032** 90A09

Aseev, Vladislav V. (*with* Varisov, A. K.) Geometric definition for quasiconformality and plane labyrinths. (Russian and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 3–8. (Jixiu Chen) **99j:30019** 30C62

— (*with* Vamanamurthy, Mavina K.; Vuorinen, Matti K.) Quasiadditive properties and bi-Lipschitz conditions. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 98–130. (J. Matkowski) **99f:39041** 39B72 (26D07, 30C62)

Asensio, M. J. (*with* López Ramos, J. A.; Torrecillas Jover, Blas) Gorenstein gr-flat modules. *Comm. Algebra* **26** (1998), *no.* 10, 3195–3209. (Nan Qing Ding) **99i:16007** 16D40 (16W50)

guil Asensio, Pedro A. *see* **Guil Asensio, Pedro A.**

Asensio Sevilla, María Isabel (*with* Ferragut, Luis) Mixed finite element solution of a combustion model with local radiation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 569–574, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A25

Asghar, Saleem (*with* Hayat, Tasawar) Scattering of a spherical sound wave by a rigid screen with an absorbent edge in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 105–129. (Summary) **99d:76088** 76Q05

— (*with* Hayat, Tasawar; Ayub, M.) Aerodynamic sound due to a Gaussian pulse near an absorbing half-plane in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 131–144. (Summary) **99d:76089** 76Q05 (76G25)

— (*with* Hayat, Tasawar; Siddiqui, A. M.) Periodic unsteady flows of a non-Newtonian fluid. (English summary) *Acta Mech.* **131** (1998), *no.* 3-4, 169–175. (Summary) **99e:76004** 76A05

— (*with* Hayat, Tasawar) Diffraction of a spherical electromagnetic wave by a perfectly conducting strip in a biisotropic medium. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 669–681. (Summary) **99b:78009** 78A45

— (*with* Hayat, Tasawar; Ayub, M.) Scattering of sound near an absorbing strip. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 331–343. (Summary) **99f:76118** 76Q05

Asgharian, M. (*with* Noorbaloochi, S.) Note on a fundamental relationship between admissible and Bayesian decision rules. (English summary) *Statistics* **31** (1998), *no.* 1, 21–34. (Summary) **99a:62010** 62C10 (62C15)

Ash, Avner (*with* Manjrekar, Rajesh) Galois representations and Hecke operators associated with the mod-p cohomology of $\mathrm{GL}(m(p-1), \mathbf{Z})$. *Math. Z.* **227** (1998), *no.* 4, 685–703. (Ian Kiming) **99e:11066** 11F80 (11F60, 11F75, 11R39)

Ash, C. J. (*with* Knight, J. F.; Remmel, Jeffrey B.) Quasi-simple relations in copies of a given recursive structure. *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 203–218. (Rodney G. Downey) **99a:03046** 03D45

— (*with* Knight, J. F.) Possible degrees in recursive copies. II. (English summary) Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 151–165. (Marius Zimand) **99b:03060** 03D45

Ash, J. Marshall (*with* Wang, Gang[2]) A survey of uniqueness questions in multiple trigonometric series. (English summary) *Harmonic analysis and nonlinear differential equations (Riverside, CA*, 1995), 35–71, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99f:42019** 42A63 (42B08)

— The probability of a tie in an n-game match. *Amer. Math. Monthly* **105** (1998), *no.* 9, 844–846. (Anant P. Godbole) **99j:60009** 60C05

— (*with* Ganzburg, Michael I.) An extremal problem for trigonometric polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 211–216. (V. A. Baskakov) **99b:42001** 42A05 (41A10)

Ash, Robert B. ★ A primer of abstract mathematics. Classroom Resource Materials Series. *Mathematical Association of America, Washington, DC*, 1998. x+181 *pp. ISBN* 0-88385-708-1 (From the preface) **99g:00003** 00A05 (11-01, 15-01)

Asha, G. (*with* Unnikrishnan Nair, N.) Bivariate failure rates in discrete time. (English summary) *Quality improvement through statistical methods (Cochin*, 1996), 339–350, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62N05

Ashari, Mehdi (*with* Mboup, Mamadou; Regalia, Phillip A.) A multivariable Steiglitz-McBride method: stationary points and a priori error bound. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 125–153. 93B30

Ashbacher, Charles Palindromic numbers and iterations of the pseudo-Smarandache function. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova*, 1997), 44–45, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11B75

— (*with* Erdős, Paul[1]) Thoughts of Pal Erdos on some Smarandache notions. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 220–224. (Katalin Kovács) **99e:11004** 11A25

— ★ Pluckings from the tree of Smarandache sequences and functions. *American Research Press, Lupton, AZ*, 1998. 87 *pp. ISBN* 1-879585-61-8 (J. Sándor) **99j:11005** 11A25 (11B39, 11B75)

— The pseudo-Smarandache function and the classical functions of number theory. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 78–81. 11A25

— All solutions of the equation $S(n) + d(n) = n$. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 113–118. 11A25

— (*with* Le, Mao Hua) On Smarandache simple continued fractions. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 163–164. 11A25

— Smarandache series converges. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 171. 11A99

Ashbourn-Chamblin, J. M. A. (*with* Chamblin, Andrew) Black hole pairs and supergravity domain walls. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3529–3536. (Summary) **99m:83198** 83E50 (83C57)

— (*with* Chamblin, Andrew; Emparan, Roberto; Sornborger, A.) Can extreme black holes have (long) abelian Higgs hair? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124014, 11 *pp.* 83C57

Ashchepkov, L. T. (*with* Stegostenko, Yu. B.) Stabilization of a linear discrete control system with interval coefficients. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998,** *no.* 12, 3–10. (Vũ Ngọc Phát) **99k:93073** 93D15 (93B05, 93C55)

Ashcraft, Cleve (*with* Liu, Joseph W. H.) Applications of the Dulmage-Mendelsohn decomposition and network flow to graph bisection improvement. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 325–354 (*electronic*). (Gerard Sierksma) **99d:90044** 90B10 (65F30, 68R10)

— (*with* Grimes, Roger G.; Lewis, John G.) Accurate symmetric indefinite linear equation solvers. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 513–561 (*electronic*). (Summary) **99i:65026** 65F05 (15A06, 65F50)

Ashdown, M. A. J. (*with* Somaroo, Shyamal S.; Gull, Stephen; Doran, C. J. L.; Lasenby, Anthony N.) Multilinear representations of rotation groups within geometric algebra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1566–1588. (Stefano De Leo) **99c:81069** 81R20 (15A66, 20G05)

Asheim, Geir B. (*with* Withagen, Cees) Characterizing sustainability: the converse of Hartwick's rule. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 159–165. (Summary) **99k:90050** 90A16 (49K15)

Asher, R. E. *see* **Encyclopedia: Philosophy of language, 99f:00005**

ben-Asher, Yosi *see* **Ben-Asher, Yosi**

Asherova, R. M. (*with* Draayer, J. P.; Kharitonov, Yu. I.; Smirnov, Yu. F.) Extension of the Draayer-Akiyama procedure for the $u_q(3)$ algebra. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1816–1820. (Summary) **99i:81088** 81R50

al-Ashhab, S. *see* **Al-Ashhab, S.**

Ashikhmin, A. On generalized Hamming weights for Galois ring linear codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 107–126. (Robin J. Chapman) **99m:94039** 94B05 (11T71)

— (*with* Simonis, Juriaan) Almost affine codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 179–197. (Bal Kishan Dass) **99m:94052** 94B05 (94A60)

Ashino, Ryuichi (*with* Nagase, Michihiro; Vaillancourt, Rémi) A construction of multiwavelets. (Japanese. Japanese summary) Investigations on the structure of

solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 1–22. (*see* **99f:35004**) 42C15 (65T20)

— (*with* Nagase, Michihiro; Vaillancourt, Rémi) Gabor, wavelet and chirplet transforms in the study of pseudodifferential operators. (English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 23–45. (Summary) **99f:35237** 35S05 (35A22, 42C15, 47G30)

Ashkenazy, Y. (*with* Goren, C.; Horwitz, Lawrence P.) Chaos of the relativistic parametrically forced van der Pol oscillator. (English summary) *Phys. Lett. A* **243** (1998), *no.* 4, 195–204. (Summary) **99b:70023** 70K50 (58F13, 70H40)

Ashley, Jonathan J. A linear bound for sliding-block decoder window size. II. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1913–1924. (Summary) **99b:94022** 94A40

Ashline, George Lawrence The defect relation of meromorphic maps on parabolic manifolds. (English summary) *Mem. Amer. Math. Soc.* **139** (1999), *no.* 665, $x+78$ *pp.* (Pei-Chu Hu) **99k:32041** 32H30

Ashokkumar, C. R. (*with* Yedavalli, Rama K.) Eigenstructure perturbation analysis in disjointed domains for linear uncertain systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 887–899. 93B55

Ashordiya, M. T. On generalized differential inequalities. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 172–175 (1994). 34A40

— On the solvability of the one multipoint boundary value problem for a system of generalized ordinary differential equations. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 24–28. (Summary) **99f:34018** 34B10 (34B15)

— On the correctness of the multipoint boundary value problem for a system of generalized ordinary differential equations. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 9–14. (Summary) **99f:34019** 34B10 (34B15)

— A criterion for the solvability of a multipoint boundary value problem for a system of generalized ordinary differential equations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1303–1311, 1437; *translation in Differential Equations* **32** (1996), *no.* 10, 1300–1308 (1997). (Evgeniy I. Bravyĭ) **99a:34040** 34B10 (34A99)

— On the question of solvability of the periodic boundary value problem for a system of generalized ordinary differential equations. *Mem. Differential Equations Math. Phys.* **11** (1997), 159–162. 34B15 (34C25)

— Conditions of existence and uniqueness of solutions of the multipoint boundary value problem for a system of generalized ordinary differential equations. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 1–24. (Evgeniy I. Bravyĭ) **99a:34041** 34B10 (34A99)

Ashour, Samir A. Interpolatory quadrature rule for evaluation of certain hypersingular integrals. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 5, 509–515. 65D32

Ashraf, Mohammad Commutativity of rings with certain constraints. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 177–183. (Summary) **99d:16037** 16U80

— On commutativity of s-unital rings with commutator constraints. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 163–172. (Howard E. Bell) **99k:16069** 16U80

Ashrafi, A. A note on the number of minimal subgroups in a finite group. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 51–54, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (W. E. Deskins) **99g:20041** 20D60

Ashtekar, Abhay Polymer geometry at Planck scale and quantum Einstein equations. (English summary) *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 3–29, *World Sci. Publishing, River Edge, NJ*, 1997. (Viqar Husain) **99j:83031** 83C45

— Geometric issues in quantum gravity. *The geometric universe* (*Oxford*, 1996), 173–194, *Oxford Univ. Press, Oxford*, 1998. (Viqar Husain) **99e:83024** 83C45

— (*with* Husain, Viqar) Symmetry reduced Einstein gravity and generalized σ and chiral models. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 549–566. (Dmitri Korotkin) **99i:83019** 83C20

— (*with* Beetle, Christopher; Fairhurst, Stephen) Isolated horizons: a generalization of black hole mechanics. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, *L*1–*L*7. (Valter Moretti) **99k:83052** 83C57 (83C22, 83C47)

Ashton, S. A. (*with* Shields, D. N.) A robust fault detection observer for nonlinear systems. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 79–88. 93B07 (93B35)

Ashurov, R. R. (*with* Buvaev, K. T.) On the divergence almost everywhere of spectral expansions of functions from L_1^a. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 3–8. (Georgi E. Karadzhov) **99f:35146** 35P10 (47F05)

— (*with* Buvaev, K. T.) On the convergence almost everywhere of spectral expansions of functions in L_p^a. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1998), 14–23. 35P10

Ashwin, Peter Boundary of two frequency behaviour in a system of three weakly coupled electronic oscillators. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1279–1287. (Summary) **99f:58174** 58F27 (34C15)

— (*with* Chossat, P.) Attractors for robust heteroclinic cycles with continua of connections. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 2, 103–129. (Philip J. Aston) **99f:58134** 58F12 (34C37, 34D45)

— (*with* Aston, Philip J.; Nicol, Matthew) On the unfolding of a blowout bifurcation. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 81–95. (Michael Dellnitz) **99c:58115** 58F14 (58E40)

— (*with* Aston, Philip J.) Blowout bifurcations of codimension two. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 261–270. (Summary) **99c:58116** 58F14 (58F12)

— (*with* Terry, John R.; Thornburg, K. Scott, Jr.; Roy, Rajarshi) Blowout bifurcation in a system of coupled chaotic lasers. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7186–7189. (Summary) **99g:78026** 78A60 (58F13, 58F40)

— (*with* Mei, Zhen) A numerical bifurcation function for homoclinic orbits. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 2055–2069 (*electronic*). (W. S. Loud) **99j:58146** 58F14 (34C23, 34C25, 34C37, 65L05)

— Attractors of a randomly forced electronic oscillator. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 302–310. (Summary) **99i:94075** 94C05 (34C15, 34D45, 34F05, 58F40, 94A05)

Ashworth, M. C. Coherent state approach to quantum clocks. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104008, 6 *pp.* 83C45

Asiáin, M. J. Saturated Fitting formations. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 183–188. (Sergey F. Kamornikov) **99g:20032** 20D10

Ašić, M. D. (*with* Kovačević-Vujčić, V. V.; Čangalović, M. M.; Ivanović, L.; Dražić, M.) TABU search methodology in global optimization. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 125–133. (Summary) **99k:90157** 90C30 (65K05)

Asil, Vedat On B-scroll surface in D_1^3 (the dual Lorentzian space). (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **12** (1999), *no.* 1, 43–45. 53B30

Aşkar Altay, G. (*with* Dökmeci, M. Cengiz) A uniqueness theorem in Biot's poroelasticity theory. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 838–846. (Summary) **99h:73018** 73C15 (73B99, 76S05)

Askey, Richard A new look at some old trigonometric expansions. (English summary) *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 73–84, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99g:26018** 26A36 (33C45, 33D45, 39A70, 42A16)

— Vietoris's inequalities and hypergeometric series. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 63–76, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (G. Gasper) **99m:26023** 26D05 (33C20)

— *see also* **Onsager, Lars**, (**98b:01042**)

Askitas, Nikolaos A note on the #-unknotting operation. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 6, 713–718. (Jonathan A. Hillman) **99h:57004** 57M25 (57N13)

— On pairs of locally flat 2-spheres in simply connected 4-manifolds. *Math. Z.* **228** (1998), *no.* 1, 131–153. (A. A. Ranicki) **99e:57032** 57N13

Askour, Nour eddine (*with* Intissar, Ahmed; Mouayn, Zouhaïr) Espaces de Bargmann généralisés et formules explicites pour leurs noyaux reproduisants. (English and French summaries) [Explicit formulas for reproducing kernels of generalized Bargmann spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 707–712. (Gerald B. Folland) **99a:46041** 46E22 (32A37)

Aškvić, R. Simplified turbulent boundary layer calculation and the transformation of the velocity profile near the separation point. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 1–34. 76D10 (76F99)

Askri, K. (*with* Le Van, C.) Differentiability of the value function of nonclassical optimal growth models. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 591–604. (Summary) **99i:90027** 90A16 (49K40)

Aslam, Javed A. (*with* Decatur, Scott E.) General bounds on statistical query learning and PAC learning with noise via hypothesis boosting. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 85–118. (Peter Auer) **99g:68165** 68T05 (68Q99)

— (*with* Decatur, Scott E.) Specification and simulation of statistical query algorithms for efficiency and noise tolerance. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 191–208. (Peter Auer) **99d:68212** 68T05 (68Q99)

Aslam, M. (*with* Husnine, S. M.; Majeed, Abdul) On invariant subsets of certain quadratic fields under modular group action. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 21–27. (W. Narkiewicz) **99c:11131** 11R11 (11R04)

Aslam, Muhammad[1] (*with* Mushtaq, Qaiser) Group generated by two elements of orders two and six acting on $\mathbf{R}$ and $\mathbf{Q}(\sqrt{n})$. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 145–154. (Charles R. Traina) **99a:20049** 20H10 (11F06)

Aslam Noor, Muhammad *see* **Noor, Muhammad Aslam**

Aslangul, Claude Mutual annihilation of two diffusing particles in one- and two-dimensional lattices. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 1-2, 219–240. (Summary) **99k:82032** 82B41

Aslanidou, Helen (*with* Dey, Dipak K.; Sinha, Debajyoti) Bayesian analysis of multivariate survival data using Monte Carlo methods. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 33–48. (Summary) **99b:62036** 62F15 (62E25)

Aslanyan, M. A. (*with* Kartyshov, S. V.) Modification of a numerical method for solving a nonlinear spectral problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 713–717; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 683–687. (K. Moszyński) **99k:65045** 65H10 (65F15, 65H17)

Asma, Çiğdem (*with* Et, Mikail) On v-invariant sequence spaces. (English summary) *Soochow J. Math.* **24** (1998), *no.* 4, 305–308. (Summary) **99m:40014** 40H05 (40C05, 46A45)

Asmar, Nakhlé H. (*with* Montgomery-Smith, Stephen J.) A transference theorem for ergodic H^1. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 417–430. (Alberto de la Torre) **99b:47013** 47A35 (42B30, 47B38)

— (*with* Kelly, Brian P.) Distributional control for operators on vector-valued L^p-spaces. *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 61–84. (Yves Raynaud) **99g:47060** 47B38 (43A65, 46E40, 47A35, 47D03)

— (*with* Montgomery-Smith, Stephen J.) On a weak type (1, 1) inequality for a maximal conjugate function. (English summary) *Studia Math.* **125** (1997), *no.* 1, 13–21. (Aleš Založnik) **99f:42018** 42A61 (42B25, 43A17)

— (*with* Montgomery-Smith, Stephen J.) Analytic measures and Bochner measurability. *Bull. Sci. Math.* **122** (1998), *no.* 1, 39–66. (Yuji Takahashi) **99d:43014** 43A65 (42B30, 46B22, 46E99, 46G10)

— (*with* Kelly, Annela R.; Montgomery-Smith, Stephen J.) Vector-valued weakly analytic measures. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 457–473. (Yuji Takahashi) **99h:43015** 43A65 (43A05, 43A70)

Asmolik, V. A. On a class of four-layer locally one-dimensional difference schemes for second-order hyperbolic equations of arbitrary dimension. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 390–394, 431; *translation in Differential Equations* **34** (1998), *no.* 3, 389–393. (Summary) **99j:65179** 65M99

Asmussen, Søren Subexponential asymptotics for stochastic processes: extremal behavior, stationary distributions and first passage probabilities. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 354–374. (Charles M. Goldie) **99i:60106** 60G70 (60K25, 60K30)

— A probabilistic look at the Wiener-Hopf equation. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 189–201 (*electronic*). (Noël Veraverbeke) **99c:60147** 60J15 (60K25)

— (*with* Klüppelberg, Claudia; Sigman, Karl) Sampling at subexponential times, with queueing applications. (English summary) *Stochastic Process. Appl.* **79** (1999), *no.* 2,

265–286. (Hanspeter Schmidli) **99k:60224** 60K25 (60G70, 60J25, 90B22)

Asogawa, Minoru A connectionist production system which can perform both modus ponens and tollens simultaneously. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3207–3220. 03B70

Asorey, M. (*with* López García, José Luis; Shapiro, I. L.) Some remarks on high derivative quantum gravity. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5711–5734. (Helmut Rumpf) **99b:83029** 83C45 (83D05)

— (*with* Falceto, F.; Luzón, G.) Unstable bundles in quantum field theory. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 1–16, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Martin Schlichenmaier) **99k:14053** 14H60 (14D20, 81T13, 81T40)

Aspandiiarov, Sanjar On the convergence of a family of critical Markov branching processes to a diffusion process. (Russian) *Algebra and mathematical analysis* (*Russian*), 56–60, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 60J80

Asparouhov, Tihomir Bounds on the order of cross characteristic subgroups of the finite simple groups of Lie type. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3183–3189. (Hiroyoshi Yamaki) **99a:20012** 20D06 (20E28, 20G05)

Asperti, A. C. (*with* de Castro, H. P.; Noronha, Maria Helena) Compact homogeneous Einstein manifolds in codimension two. (English summary) *Note Mat.* **16** (1996), *no.* 1, 9–19 (1998). (Andrea Spiro) **99j:53060** 53C25 (53C30)

Asperti, Andrea (*with* Chroboczek, Juliusz) Safe operators: brackets closed forever. Optimizing optimal λ-calculus implementations. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 437–468. (Summary) **99b:68025** 68N15 (03B40, 03B70)

— (*with* Ciabattoni, Agata) A sufficient condition for completability of partial combinatory algebras. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1209–1214. (Martin W. Bunder) **99j:03055** 03G25 (03B40)

Aspinwall, Paul S. (*with* Morrison, David R.) Point-like instantons in $K3$ orbifolds. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 533–564. (Bruce Hunt) **99a:32026** 32G81 (14J28, 14J32, 81T30)

— Aspects of the hypermultiplet moduli space in string duality. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 19, 27 *pp.* (*electronic*). (Mark Gross) **99e:81170** 81T30 (14J32, 32G81, 32J81)

— (*with* Morrison, David R.) Non-simply-connected gauge groups and rational points on elliptic curves. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 12, 16 *pp.* (*electronic*). (Mark Gross) **99j:14040** 14J28 (11G05, 14H52, 14J32, 81T30)

Aspnes, James Competitive analysis of distributed algorithms. *Online algorithms* (*Schloss Dagstuhl*, 1996), 118–146, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25 (68Q10)

— Lower bounds for distributed coin-flipping and randomized consensus. (English summary) *J. ACM* **45** (1998), *no.* 3, 415–450. (Julian Padget) **99h:68063** 68Q22 (68Q10, 68Q25)

— (*with* Hurwood, William) Spreading rumors rapidly despite an adversary. (English summary) *J. Algorithms* **26** (1998), *no.* 2, 386–411. (Summary) **99b:68010** 68M10 (68Q10)

d'Aspremont, Claude (*with* Bhattacharya, Sudipto; Gérard-Varet, Louis-André) Knowledge as a public good: efficient sharing and incentives for development effort. (English summary) *J. Math. Econom.* **30** (1998), *no.* 4, 389–404. 90A27

Aspvall, Bengt (*with* Proskurowski, Andrzej; Telle, Jan Arne) Memory requirements for table computations in partial k-tree algorithms. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 222–233, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68R10 (05C85, 68Q25)

Asratyan, A. S. (*with* Sarkisyan, G. V.) Some Hamiltonian properties of graphs with local Ore-type conditions. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 274–276 (1994). 05C45

— (*with* Mirumyan, A. N.) On transformations of edge colorings of the complete bipartite graph $K_{n,n}$. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 10–12. (Ioan Tomescu) **99g:05071** 05C15 (05C38)

— (*with* Denley, Tristan M. J.; Häggkvist, Roland) ★ Bipartite graphs and their applications. (English summary) Cambridge Tracts in Mathematics, 131. *Cambridge University Press, Cambridge*, 1998. *xii*+259 *pp. ISBN* 0-521-59345-X (Charles H. C. Little) **99e:05121** 05C99 (05–01)

— (*with* Oksimets, N.) Graphs with Hamiltonian balls. (English summary) *Australas. J. Combin.* **17** (1998), 185–198. (Martin Sonntag) **99d:05055** 05C45

— Short solution of Kotzig's problem for bipartite graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 160–168. (D. de Werra) **99i:05075** 05C15

Assadi, Amanollah (*with* Niknam, A.) On semigroups of linear operators. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 413–416, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 46L57 (47D03)

al-Assadi, Salem A. K. *see* **Al-Assadi, Salem A. K.**

Assaf, Ahmed M. (*with* Shalaby, Nabil; Yin, Jian Xing) Directed packings with block size 5. (English summary) *Australas. J. Combin.* **17** (1998), 235–256. (Summary) **99d:05019** 05B40

— Directed covering with block size 5 and index even. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 27–40. (Bhagwandas) **99i:05024** 05B05

— (*with* Yin, Jian Xing) Constructions of optimal packing designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 245–260. (Summary) **99g:05025** 05B05

— On packing designs with block size 5 and index $7 \leq \lambda \leq 21$. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 3–71. (Elizabeth J. Billington) **99a:05007** 05B05

— (*with* Wei, Ruizhong) Modified group divisible designs with block size 4 and $\lambda = 1$. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 15–25. (Summary) **99i:05025** 05B05

Assaf, David (*with* Goldstein, Larry Mark; Samuel-Cahn, Ester) A statistical version of prophet inequalities. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1190–1197. (Frans Boshuizen) **99h:62105** 62L15 (60G40)

— (*with* Samuel-Cahn, Ester) Optimal cooperative stopping rules for maximization of the product of the expected stopped values. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 89–99. (Summary) **99b:60055** 60G40

Assani, I. Convergence of the p-series for stationary sequences. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 15–30 (*electronic*). (James H. Olsen) **99c:60061** 60F15 (28D05, 60G50)

— Corrections to: "A Wiener-Wintner property for the helical transform" [Ergodic Theory Dynam. Systems **12** (1992), no. 2, 185–194; MR 93h:28023]. *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1331–1333. (From the introduction) **99h:28029** 28D05 (47A35)

— Multiple recurrence and almost sure convergence for weakly mixing dynamical systems. (English summary) *Israel J. Math.* **103** (1998), 111–124. (James H. Olsen) **99f:28021** 28D05

el-Assar, S. *see* **El-Assar, S.**

Assas, L. M. (*with* El-Namoury, A. R. M.) Creating A-stable difference methods for ordinary differential equations. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **9** (1998), *no.* 2, 65–70. (Summary) **99k:65065** 65L12 (65L20)

van Assche, Walter *see* **Van Assche, Walter**

Asselah, Amine Nonreversible stationary measures for exchange processes. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1303–1311. (T. M. Liggett) **99k:60241** 60K35 (82C22)

— (*with* Giacomin, Giambattista) Metastability for the exclusion process with mean-field interaction. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 5-6, 1051–1110. (Timo Seppäläinen) **99k:60242** 60K35 (60F10, 82C22)

— Stability of a front for a nonlocal conservation law. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 219–234. (Summary) **99a:35112** 35K55 (35B35)

Asselin de Beauville, J. P. (*with* Aissani, A.) Queuing analysis of a sequential recognizer of patterns. (English summary) *Top* **6** (1998), *no.* 1, 45–66. 90B22

Assem, Ibrahim (*with* Beligiannis, Apostolos; Marmaridis, Nikolaos) Right triangulated categories with right semi-equivalences. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 17–37, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Simson) **99j:18011** 18E30 (16G10, 18G25)

— (*with* Zhang, Yingbo) Endomorphism algebras of exceptional sequences over path algebras ot type $\tilde{A}_n$. *Colloq. Math.* **77** (1998), *no.* 2, 271–292. (Hagen Meltzer) **99h:16024** 16G20 (16G60)

— (*with* Marmaridis, Nikolaos) Tilting modules over split-by-nilpotent extensions. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1547–1555. (Riccardo Colpi) **99f:16014** 16G20 (16D90)

— (*with* Liu, Shiping) Strongly simply connected algebras. *J. Algebra* **207** (1998), *no.* 2, 449–477. (Steffen König) **99e:16018** 16G10 (16G70)

— *see also* **Dedicated to the memory of Gilles Fournier, 99i:00033**

Assem, Magdy Endoscopy and the Fourier transform of minimal unipotent orbital integrals for spherical functions on p-adic $SO(2n+1)$. (English summary) *J. Reine Angew. Math.* **500** (1998), 23–47. (Dihua Jiang) **99g:22011** 22E35 (43A30)

Assenheimer, Michel (*with* Bowman, Chris; Passot, Thierry; Newell, Alan C.) A wavelet based algorithm for pattern analysis. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 250–282. (Summary) **99f:76096** 76M25 (76E15)

Assiri, E. Q. (*with* Mogra, M. L.) A unified approach for univalent functions with negative coefficients using Hadamard product. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 9, 1162–1170. (O. P. Ahuja) **99e:30005** 30C45

Assmus, Edward F., Jr. Linearly derived Steiner triple systems. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 1, 31–49. (T. S. Griggs) **99b:05019** 05B07

— *see also* **Key, J. D.**

Assous, Franck (*with* Ciarlet, Patrick, Jr.; Raviart, Pierre-Arnaud; Segré, J.; Sonnendrücker, Eric) The solution of Maxwell's equations in a non-convex polyhedron. I. Saddle-point approach and singularities. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 364–368, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (65N30, 78–08, 78A25)

— (*with* Ciarlet, Patrick, Jr.) Quelques résultats sur la régularité en temps des équations de Maxwell instationnaires. (English and French summaries) [Regularity in time of the time-dependent Maxwell equations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 719–724. (Summary) **99g:35124** 35Q60 (35B65, 78A25)

Astaburuaga, M. A. (*with* Bisognin, E.; Bisognin, V.; Fernández, Claudio A.) Global attractor and finite dimensionality for a class of dissipative equations of BBM's type. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 25, 14 *pp.* (*electronic*). (Alp O. Eden) **99j:35181** 35Q53 (34G20, 35B40, 47H20)

— (*with* Coimbra Charao, R.; Fernández, Claudio A.; Perla Menzala, Gustavo) Scattering frequencies for a perturbed system of elastic wave equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 52–75. (Akira Tsutsumi) **99a:35162** 35L50 (35B20, 47N20, 73D25)

Astaf'eva, N. M. Stability analysis for flows in rotating spherical layers (linear theory). *Fluid Dynam.* **32** (1997), *no.* 6, 810–818 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997**, *no.* 6, 63–73 (*Russian. Russian summary*). (Summary) **99b:76090** 76U05 (76E10)

— Stability and nonuniqueness of axisymmetric flows in rotating spherical layers (nonlinear theory). *Fluid Dynam.* **33** (1998), *no.* 1, 61–70; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 75–86 (*Russian. Russian summary*). (Summary) **99b:76091** 76U05 (76E10, 76M25)

Astaf'eva, N. M. (*with* Sharkov, E. A.) Hierarchical structure of a queueing system for railway traffic. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 7, 37–47. 90B22

Astala, Kari Recent connections and applications of planar quasiconformal mappings. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 36–51, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Keiichi Shibata) **99f:30030** 30C62 (30F40, 34C35)

— Planar quasiconformal mappings; deformations and interactions. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 33–54, *Springer, New York*, 1998. (E. Złotkiewicz) **99a:30025** 30C62 (30C75)

— Analytic aspects of quasiconformality. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 617–626 (*electronic*). (J. Ferrand) **99h:30024** 30C65 (35J99)

Astashkevich, Alexander (*with* Belopolsky, Alexander) String center of mass operator and its effect on BRST cohomology. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 109–136. (Summary) **99b:17022** 17B56 (17B81, 81T30, 81T70)

Astashkin, S. V. (*with* Kim, Yu. E.) Interpolation of bilinear operators in Marcinkiewicz spaces. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 483–494, 638; *translation in Math. Notes* **60** (1996), *no.* 3-4, 363–371 (1997). (Irina U. Asekritova) **99f:46035** 46E30 (46M35)

— Tensor product in symmetric function spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 375–391. (L. Ĭ. Nikolova) **99a:46043** 46E30 (46M05, 46M35)

— Interpolation of positive polylinear operators in Calderón-Lozanovskiĭ spaces. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1211–1218, *i*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1047–1053. (Nahum Zobin) **99j:46091** 46M35 (46E30, 47H99)

— Rademacher chaos in symmetric spaces. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 311–336. (I. Ya. Novikov) **99j:42031** 42B30 (41A30, 46E30)

irac-Astaud, Michèle *see* **Irac-Astaud, Michèle**

Aste, Andreas Two-loop diagrams in causal perturbation theory. (English summary) *Ann. Physics* **257** (1997), *no.* 2, 158–204. (Summary) **99c:81149** 81T18 (81T15, 81V05, 81V10)

Aste, Tomaso (*with* Rivier, Nicolas) Organized packing. *Forma* **11** (1996), *no.* 3, 223–231. (Igor Rivin) **99a:49047** 49Q10 (49Q20, 52C17, 53A10)

Astier, Vincent Quelques propriétés-modèle théoriques des groupes spéciaux réduits. (English and French summaries) [Some model-theoretic properties of reduced special groups] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 403–406. (Summary) **99d:03034** 03C60 (03C45, 20A15)

Astolfi, Alessandro (*with* Terwiesch, Peter) Robust end-point optimizing feedback for nonlinear dynamic processes. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 995–1014. 93B52 (93D21)

— (*with* Rapaport, A. E.) Robust stabilization of the angular velocity of a rigid body. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 257–264. 93C85 (70E15, 70Q05, 93D21)

Aston, Philip J. Controlling chaos in systems with O(2) symmetry. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1289–1296. (Ian Melbourne) **99h:58121** 58F13 (34C35, 58F14, 93D15)

— (*with* Ashwin, Peter; Nicol, Matthew) On the unfolding of a blowout bifurcation. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 81–95. (Michael Dellnitz) **99c:58115** 58F14 (58E40)

— A chaotic Hopf bifurcation in coupled maps. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 199–220. (Michael Dellnitz) **99k:58123** 58F14

— (*with* Ashwin, Peter) Blowout bifurcations of codimension two. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 261–270. (Summary) **99c:58116** 58F14 (58F12)

— Bifurcations of the horizontally forced spherical pendulum. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 343–353. (Summary) **99m:70016** 70K40 (34C23, 70K50)

Astorino, A. (*with* Fuduli, A.; Gaudioso, M.) Analysis of regularization techniques in convex nondifferentiable optimization. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 20–25, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C25 (49J52)

Astrakhantsev, G. P. (*with* Rukhovets, L. A.) Fictitious component method of solving the schemes of the finite element method for elliptic boundary value problems with nonlocal boundary conditions in multiply connected domains. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 2, 93–105. (Summary) **99c:65196** 65N30 (76M10)

— The domain decomposition method for the problem of bending an inhomogeneous plate. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1758–1766; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1686–1694. (Summary) **99g:73099** 73V05 (65N55, 73K10)

Åström, K. J. (*with* Panagopoulos, Hélène; Hägglund, T.) Design of PI controllers based on non-convex optimization. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 585–601. (Dieter Franke) **99f:93064** 93B51 (90C90, 93C85)

— Hybrid control of inverted pendulums. *Learning, control and hybrid systems* (*Bangalore*, 1998), 150–163, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B51 (70Q05, 93C10)

— *see also* **Canudas de Wit, Carlos**

Astrovskiĭ, A. I. (*with* Gaĭshun, I. V.) Description of the set of uniformly observable linear time-dependent systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 5–8, 124. (B. Mordukhovich) **99c:93014** 93B07 (93C25)

— On information sets for linear time-dependent systems with wave-structure noise. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 44–49. 93B30 (93E12)

Astruc, Thierry Existence of regular solutions for a one-dimensional simplified perfect-plastic problem with a unilateral gradient constraint. (English and French summaries) *J. Convex Anal.* **4** (1997), *no.* 2, 257–280. (Michel Chipot) **99f:73040** 73E99 (49J10, 73V25)

Astuti, Pudji (*with* McCarragher, Brenan J.) The stability of a class of discrete event systems using Markov chains. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 391–408. 93C83 (93E03)

— (*with* McCarragher, Brenan J.) Optimal control for the convergence of a class of discrete event systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 1029–1046. 93C83 (93C30)

Asuke, Taro Classification of Riemannian flows with transverse similarity structures. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 203–227. (Lawrence Conlon) **99j:58181** 58F25 (58F18)

abou-el-Ata, M. O. *see* **Abou-El-Ata, M. O.**

Atai, Javid (*with* Malomed, Boris A.) Bound states of solitary pulses in linearly coupled Ginzburg-Landau equations. (English summary) *Phys. Lett. A* **244** (1998), *no.* 6, 551–556. 35Q55

Atakan, Cemal (*with* Öztürk, Fikri) The optimal classification rule for gamma populations. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 131–140. (Summary) **99i:62139** 62H30

— (*with* Öztürk, Fikri) Comparisons of some smoothed error rate estimators in discriminant analysis. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 51–64. 62H30

Atakishiev, N. M. Ramanujan-type continuous measures for classical q-polynomials. (English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 383–392; *reprinted in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1500–1508 (1996). (Mizan Rahman) **99d:33026** 33D45 (33D15)

— Continuous solutions of difference equations and their orthogonality relations. (English summary) *International Workshop on Orthogonal Polynomials in Mathematical Physics* (*Leganés*, 1996), 37–62, *Univ. Carlos III Madrid, Leganés*, 1997. (Harold Exton) **99a:39005** 39A10 (33C05, 33D15, 39A12)

— (*with* Atakishieva, M. K.) Fourier-Gauss transforms of the continuous big q-Hermite polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 16, L559–L565. (From the text) **99a:33012** 33D45

— Fourier-Gauss transforms of the Askey-Wilson polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 24, *L*815–*L*820. (Walter Van Assche) **99b:33037** 33D45

— (*with* Nieto, Luis Miguel; Chumakov, Sergey M.; Wolf, Kurt Bernardo) Wigner distribution function for Euclidean systems. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3875–3895. (Summary) **99c:81118** 81S30

— (*with* Jafarov, Elchin I.; Nagiev, Sh. M.; Wolf, Kurt Bernardo) Meixner oscillators. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 3, 235–244. (Summary) **99e:81038** 81Q05 (33C45, 81R30)

— (*with* Atakishieva, M. K.) On the Mellin transforms of hypergeometric polynomials. (English summary) *J. Phys. A* **32** (1999), *no.* 3, *L*33–*L*41. (H. M. Srivastava) **99k:33053** 33D65 (44A15)

Atakishieva, M. K. (*with* Atakishiev, N. M.) Fourier-Gauss transforms of the continuous big q-Hermite polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 16, L559–L565. (From the text) **99a:33012** 33D45

— (*with* Atakishiev, N. M.) On the Mellin transforms of hypergeometric polynomials. (English summary) *J. Phys. A* **32** (1999), *no.* 3, *L*33–*L*41. (H. M. Srivastava) **99k:33053** 33D65 (44A15)

Atakishiyev, N. M. *see* **Atakishiev, N. M.**

Atakishiyev, Natig M. *see* **Atakishiev, N. M.**

Atakishiyeva, M. K. *see* **Atakishieva, M. K.**

Atakut, Çiğdem On the approximation of functions together with derivatives by certain linear positive operators. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 57–65 (1998). (Petru P. Blaga) **99f:41029** 41A36 (41A25)

Atalla, Noureddine (*with* Tournour, Michel A.) A novel acceleration method for the variational boundary element approach based on multipole expansion. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1199–1214. (Summary) **99d:73097** 73V10 (73K12, 76Q05)

Atallah, M. M. (*with* Sidky, F. I.) On T-congruences of lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 993–1000. (Summary) **99h:06004** 06B99 (03E72)

Atallah, Mikhail J. (*with* El-Assar, S.) On the distributive double p-algebras whose congruence lattices are chains. (English and Arabic summaries) *Delta J. Sci.* **19** (1995), *no.* 2, 1–35. (Miroslav Haviar) **99k:08003** 08A30 (06D15)

— (*with* Chen, Danny Z.; Daescu, Ovidiu) Efficient parallel algorithms for planar st-graphs. (English summary) *Algorithms and computation* (*Singapore*, 1997), 223–232, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68078** 68Q22 (68R10)

— (*with* Chen, Danny Z.) Parallel geometric algorithms in coarse-grain network models. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 55–64, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q22 (68U05)

— (*with* Comer, Douglas E.) Algorithms for variable length subnet address assignment. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 693–699. (Summary) **99d:68017** 68M10

— An improved hypercube bound for multisearching and its applications. (English summary) *Internat. J. Comput. Geom. Appl.* **9** (1999), *no.* 1, 29–38. (Summary) **99j:68141** 68U05 (68Q22)

Atamanov, E. R. (*with* Asanov, A. A.) ★ Nonclassical and inverse problems for pseudoparabolic equations. Inverse and Ill-posed Problems Series. *VSP, Utrecht*, 1997. *ii*+152 *pp. ISBN* 90-6764-235-5 (Dao Qing Dai) **99f:35236** 35R70 (35R30)

Atanasi, Laura Radon transform on affine buildings of rank three. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 66–89. (Wojciech Młotkowski) **99k:51012** 51E24 (44A12)

Atanassov, Atanas T. (*with* Sgurev, Vassil) An approximate method for optimization of a network flow with inverse linear constraints. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 289–313. 90B10 (90C35)

Atanassov, Krassimir T. ★ Generalized nets and systems theory. (English summary) "*Prof. Marin Drinov*" *Publishing House of the Bulgarian Academy of Sciences, Sofia*, 1997. 159 *pp. ISBN* 954-430-521-1 (Editors) **99d:68172** 68Q90 (68T35)

— One extremal problem. VII. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 4, 179–180. 11A99

— ★ Generalized nets in artificial intelligence. Vol. 1. (English summary) Generalized nets and expert systems. "*Prof. Marin Drinov*" *Publishing House of the Bulgarian Academy of Sciences, Sofia*, 1998. 144 *pp. ISBN* 954-430-538-6 (From the summary) **99d:68173** 68Q90 (68T35)

— (*with* Gargov, Georgi K.) Elements of intuitionistic fuzzy logic. I. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 39–52. (Siegfried Gottwald) **99h:03012** 03B52

— One extremal problem. VIII. *Notes Number Theory Discrete Math.* **4** (1998), *no.* 1, 43–44. 11A99

Atanassova, Lidiya Y. (*with* Hinrichsen, Diederich; Kharitonov, Vladimir L.) Convex directions for stable polynomials and quasipolynomials: a survey of recent results. (English summary) *Stability and control of time-delay systems*, 72–91, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D09 (34K20, 34K35, 93–02)

Atar, Rami Exponential stability for nonlinear filtering of diffusion processes in a noncompact domain. (English summary) *Ann. Probab.* **26** (1998), *no.* 4, 1552–1574. (Ofer Zeitouni) **99k:93088** 93E11 (60G35)

— (*with* Zeitouni, Ofer) A note on the memory length of optimal nonlinear filters. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 131–135. (Michael A. Kouritzin) **99j:93100** 93E11

Atassi, Hafiz M. (*with* McInnes, Lois C.; Susan-Resiga, Romeo F.; Keyes, David E.) Additive Schwarz methods with nonreflecting boundary conditions for the parallel computation of Helmholtz problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 325–333, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65Y05)

— (*with* Susan-Resiga, Romeo F.) A domain decomposition method for the exterior Helmholtz problem. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 388–401. (Summary) **99g:76116** 76M25 (65N55, 76Q05)

Atassi, Oliver V. Analytical and numerical study of the nonlinear interaction between a point vortex and a wall-bounded shear layer. (English summary) *J. Fluid Mech.* **373** (1998), 155–192. (Summary) **99h:76045** 76F10 (76C05, 76D10)

Atay, F. M. Van der Pol's oscillator under delayed feedback. (English summary) *J. Sound Vibration* **218** (1998), *no.* 2, 333–339. (Summary) **99g:34136** 34K15 (34C05, 70K10)

Atchison, William *see* **Lee, John A. N.**

Atela, Pau Sharing a Julia set: the polynomial case. *Progress in holomorphic dynamics*, 102–115, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Walter Bergweiler) **99j:58166** 58F23 (30D05)

Athanasiadis, Christodoulos (*with* Ramm, Alexander G.; Stratis, Ioannis G.) Inverse acoustic scattering by a layered obstacle. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 1–8, *Plenum, New York*, 1998. (Yongzhi Xu) **99d:76090** 76Q05 (35J05, 35R30)

— (*with* Stratis, Ioannis G.) On a transmission problem in elasticity. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 281–300. (Ivan Andronov) **99d:73036** 73D25 (35Q72)

— On the acoustic scattering amplitude for a multi-layered scatterer. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 431–448. (Vadim D. Kryakvin) **99e:76102** 76Q05 (35J05)

— (*with* Kiriaki, Kiriakie; Stratis, Ioannis G.) Electromagnetic wave propagation in stratified media and an application to the magnetotelluric problem. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 405–416. (From the introduction) **99g:78017** 78A40 (34L40, 47E05, 86A20)

— (*with* Kiriaki, Kiriakie; Stratis, Ioannis G.) A spectral-theoretic approach for the solution of Maxwell's equations in stratified media. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 685–700. (B. Belinskiy) **99b:78008** 78A40 (35Q60, 78A50)

Athanasiadis, Christos A. On noncrossing and nonnesting partitions for classical reflection groups. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 42, 16 *pp.* (*electronic*). (Kimmo Eriksson) **99i:05204** 05E15 (05A18, 20F55)

— On free deformations of the braid arrangement. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 7–18. (Hiroaki Terao) **99d:52008** 52B30

— Piles of cubes, monotone path polytopes, and hyperplane arrangements. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 117–130. (Jesús A. de Loera) **99j:52015** 52B30 (52B11)

Athanasiou, Michalis (*with* Argyris, John; Andreadis, Ioannis; Pavlos, Georgios) On the influence of noise on the largest Lyapunov exponent and on the geometric structure of attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 947–958. (Summary) **99h:58115** 58F12 (34C35, 34D08, 34D45, 34F05)

Athanasopoulos, I. (*with* Caffarelli, Luis A.; Salsa, Sandro) Phase transition problems of parabolic type: flat free boundaries are smooth. *Comm. Pure Appl. Math.* **51** (1998), *no.* 1, 77–112. (Lisa Santos) **99b:35220** 35R35 (35K10, 80A22)

Athanassopoulos, Konstantin (*with* Petrescou, Theodoros; Strantzalos, Polychronis) A class of flows on 2-manifolds with simple recurrence. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 618–635. (Krzysztof Ciesielski) **99d:58141** 58F25 (54H20)

— Rotation numbers and isometries. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 1–13. (Judith A. Packer) **99m:58158** 58F25 (53C20)

— Volume preserving flows with cyclic winding numbers groups and without periodic orbits on 3-manifolds. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 37–44. (Judith A. Packer) **99m:58157** 58F25 (58F22)

— Periodicity criteria of Poincaré-Bendixson type. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 181–182. (*see* **99f:58002**) 58F25 (34C35)

Athanassoulis, Gerassimos A. (*with* Belibassakis, Konstadinos A.) Water-wave Green's function for a 3D uneven-bottom problem with different depths at $x \to +\infty$ and $x \to -\infty$. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 21–32, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 76B15 (76M25)

Athavale, Ameer GKS decomposition and spherical dilations. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 117–129. (Raúl E. Curto) **99h:47004** 47A10 (46J10, 47A13, 47A15, 47A20, 47A63, 47B20)

Atherton, Elizabeth (*with* French, Simon) Issues in supporting intertemporal choice. (English summary) *Essays in decision making*, 135–156, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90A08

Athreya, Krishna B. (*with* Vidyashankar, A. N.) Large deviation rates for supercritical and critical branching processes. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 1–18, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Alexander Schied) **99a:60089** 60J80 (60F10)

— (*with* Fukuchi, Jun-ichiro) Confidence intervals for endpoints of a c.d.f. via bootstrap. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 2, 299–320. (Hung Trung Nguyen) **99c:62127** 62G09 (62G15)

— (*with* Kang, Hye-Jeong) Some limit theorems for positive recurrent branching Markov chains. I, II. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 693–710, 711–722. (Rinaldo Schinazi) **99k:60188** 60J27 (60F10)

— (*with* Lahiri, Soumendra Nath; Wu, Wei[4]) Inference for heavy tailed distributions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 61–75. (Lajos Horváth) **99d:62027** 62G05 (62G30)

Atici, F. *see* **Merdivenci Atici, Ferhan**

merdivenci Atici, Ferhan *see* **Merdivenci Atici, Ferhan**

garrido-Atienza, María José *see* **Garrido-Atienza, María José**

Atiya, G. M. (*with* Nersesyan, A. B.) Solution of integral equations of potential theory. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 2, 67–71. 65R20 (45L05)

Atiyah, Michael F. Mathematics as a basic science. (English summary) *Math. Ed.* **10** (1993), *no.* 2, 85–92. 00A05

— Hyperbolic differential equations and algebraic geometry (after Petrowsky). *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 319, 87–99, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 35Lxx (14F40)

— The index of elliptic operators on compact manifolds. *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 253, 159–169, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 58G10

— The index of elliptic operators. Distributed in conjunction with the Colloquium Lectures given at the 79th Annual Meeting of the American Mathematical Society in 1973. *Fields Medallists' lectures*, 115–127, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 58G10 (19K56)

— The work of Serge Novikov [MR **54** #2383]. *Fields Medallists' lectures*, 195–197, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (55-03, 57-03)

— The work of Simon Donaldson [MR 89d:01055]. *Fields Medallists' lectures*, 377–380, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (57-03)

— The work of Edward Witten [MR 93e:81001b]. *Fields Medallists' lectures*, 514–518, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (57-03, 58-03)

— (*with* Pais, Abraham; Jacob, Maurice; Olive, David I.) ★ Paul Dirac. The man and his work. Edited by Peter Goddard. *Cambridge University Press, Cambridge*, 1998. *xvi*+124 *pp. ISBN* 0-521-58382-9 (Arne Schirrmacher) **99d:01033** 01A70 (01A60, 81-03)

— The Dirac equation and geometry. *Paul Dirac*, 108–124, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99d:01033**) 81-03 (81T13)

— Roger Penrose—a personal appreciation. *The geometric universe* (*Oxford*, 1996), 3–7, *Oxford Univ. Press, Oxford*, 1998. (*see* **99b:00015**) 01A70

— Obituary: John Arthur Todd. *Bull. London Math. Soc.* **30** (1998), *no.* 3, 305–316. (Editors) **99k:01043** 01A70

— Mathematics and the real world. Current and future challenges in the applications of mathematics (Providence, RI, 1997). *Quart. Appl. Math.* **56** (1998), *no.* 4, 807–812. (*see* **99i:00017**) 00A69 (00A30)

— *see also* **Lectures: Fields Medallists, 99b:00010** *and* **Cartan, Henri, (99b:00010)**

Atkin, A. O. L. *see* **Birch, Bryan J., 99c:11002**

Atkins, A. G. (*with* Wierzbicki, T.; Trauth, K. A.) On diverging concertina tearing. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 990–997. 73M25 (73K10)

Atkins, Aron C. (*with* Sárközy, Gábor N.; Selkow, Stanley M.) Counting irregular multigraphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 235–237. (Summary) **99h:05059** 05C30

Atkins, Jonathan E. (*with* Boman, Erik G.; Hendrickson, Bruce) A spectral algorithm for seriation and the consecutive ones problem. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 297–310 (*electronic*). (Summary) **99j:68049** 68Q25 (05C85, 68R05)

Atkinson, Anthony C. (*with* Haines, Linda M.) Designs for nonlinear and generalized linear models. *Design and analysis of experiments*, 437–475, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05 (62J02, 62J12)

— *see also* **MODA 5—advances in model-oriented data analysis and experimental design, 99f:62008**

Atkinson, Colin (*with* Chen, Ching-Yu) On interface dislocations between dissimilar materials with non-linear stress-strain laws (plane strain). (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 5, 553–573. (Summary) **99m:73022** 73C99 (73M25)

— (*with* Chen, Ching-Yu) On interface dislocations between dissimilar materials with non-linear stress-strain laws (mode 3 analysis). (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 351–369. 73M25

Atkinson, David N. (*with* Allen, Linda J. S.; Allen, Edward J.) Integrodifference equations applied to plant dispersal, competition, and control. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 15–30, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92038** 92D40 (39A10, 92D25)

Atkinson, Kendall E. ★ The numerical solution of integral equations of the second kind. (English summary) Cambridge Monographs on Applied and Computational Mathematics, 4. *Cambridge University Press, Cambridge*, 1997. xvi+552 *pp. ISBN* 0-521-58391-8 (William F. Moss) **99d:65364** 65R20 (45L05)

— The numerical solution of boundary integral equations. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 223–259, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Jacob Steinberg) **99g:65117** 65N38 (35J05, 45L05)

— (*with* Sloan, Ian H.) Semi-discrete Galerkin approximations for the single-layer equation on Lipschitz curves. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 279–292. (Jose Cuminato) **99c:65250** 65R20 (45L05)

— (*with* Chandler, Graeme) The collocation method for solving the radiosity equation for unoccluded surfaces. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 3, 253–290. (Summary) **99j:45009** 45L05 (65R20, 68U05, 78A99)

— *see also* **Numerical treatment of boundary integral equations, 99g:65006**

Atkinson, M. D. (*with* Tulley, D.) The combinatorics of some abstract data types. (English summary) *Applications of combinatorial mathematics* (*Oxford*, 1994), 1–13, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Fabrizio Luccio) **99a:68131** 68R05 (05A99, 68P05)

— Restricted permutations. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 27–38. (Miklós Bóna) **99i:05004** 05A05 (05A15)

Atluri, S. N. (*with* Zhu, Tulong) A modified collocation method and a penalty formulation for enforcing the essential boundary conditions in the element free Galerkin method. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 211–222. (Summary) **99d:73093** 73V05 (65N30)

— (*with* Zhu, Tulong; Zhang, Jin Dong) A local boundary integral equation (LBIE) method in computational mechanics, and a meshless discretization approach. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 223–235. (From the summary) **99e:76079** 76M15 (76M25)

— (*with* Zhu, Tulong) A new meshless local Petrov-Galerkin (MLPG) approach in computational mechanics. (English summary) *Comput. Mech.* **22** (1998), *no.* 2, 117–127. (Summary) **99g:73100** 73V05
— (*with* Zhu, Tulong; Zhang, Jin Dong) A meshless local boundary integral equation (LBIE) method for solving nonlinear problems. (English summary) *Comput. Mech.* **22** (1998), *no.* 2, 174–186. (Summary) **99e:73100** 73V10
— (*with* Quadrelli, B. M.) Analysis of flexible multibody systems with spatial beams using mixed variational principles. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1071–1090. 73K12 (70E15)
Atmanspacher, Harald (*with* Amann, Anton) Positive-operator-valued measures and projection-valued measures of noncommutative time operators. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 629–650. (M. J. Mączyński) **99c:81004** 81P05 (81P15)
— (*with* Amann, Anton) Fluctuations in the dynamics of single quantum systems. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 2, 151–182. (S. Gudder) **99h:81102** 81S20 (81P15, 82C10)
Atobe, Takashi (*with* Kaburaki, Hideo; Hosokawa, Iwao) Divergence of solutions to the 3-dimensional Euler equations. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 176–184. (*see* **99e:76056**) 76C99 (35Q35)
— Microvortex structure in nonviscous turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 81–90. (*see* **99k:76004**) 76F99
Atsuji, Atsushi A remark on a limiting behaviour of the occupation times on unbounded domains of Brownian motion. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 519–528. (Thomas S. Mountford) **99b:60134** 60J65
Atsumi, Tsuyoshi A note on lattices with group actions. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 213–218. (Renaud Coulangeon) **99a:11083** 11H56 (11E45)
Atsushiba, Sachiko Nonlinear ergodic theorems for families of nonexpansive mappings in Banach spaces. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 151–166. (Simeon Reich) **99c:47084** 47H09 (47H20)
— (*with* Takahashi, Wataru) Approximating common fixed points of two nonexpansive mappings in Banach spaces. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 117–127. (Tomás Domínguez Benavides) **99d:47050** 47H10 (47H09)
— Approximating common fixed points of asymptotically nonexpansive semigroups by the Mann iterative process. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 45–58. (Behzad Djafari-Rouhani) **99i:47098** 47H10 (47H09, 47H20)
— Modulus of convexity and convergence theorems for families of nonexpansive mappings. (Japanese) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 138–148. (*see* **99f:00024**) 47H09 (47H10)
— (*with* Takahashi, Wataru) Nonlinear ergodic theorems in a Banach space satisfying Opials's condition. *Tokyo J. Math.* **21** (1998), *no.* 1, 61–81. (Behzad Djafari-Rouhani) **99f:47090** 47H20 (47H09)
Attalah, S. H. (*with* Zaghrout, Afaf A. S.) On asymptotic behaviour of neutral integrodifferential equations. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 49–64 (1997). (George Karakostas) **99a:45016** 45J05 (34K15, 45M99)
Attali, D. r-regular shape reconstruction from unorganized points. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 239–247. (Summary) **99f:68197** 68U05 (52B55)
Attali, Jean-Gabriel (*with* Yao, Jian-Feng) Stabilité des modèles AR fonctionnels à régime markovien. (English and French summaries) [Stability of nonlinear AR models with Markov switching] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 593–596. (Francesco Battaglia) **99k:62175** 62M10
Atteia, M. Hilbertian fractal structures and approximation. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 12 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 41A15 (65D07)
Atteson, Kevin The performance of neighbor-joining algorithms of phylogeny reconstruction. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 101–110, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99b:92026** 92D15 (68Q20, 92B10)
— The performance of the neighbor-joining method of phylogeny reconstruction. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 133–147, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Ming-Ying Leung) **99c:92026** 92D15 (68R10, 92B10)
Attia Hussein, Hassan On the order of exponential growth of the solution of certain linear operator equations with lagging arguments. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 353–364. (Summary) **99a:39042** 39A11 (47N20)
Attico, N. (*with* Pegoraro, F.) Periodic equilibria of the Vlasov-Maxwell system. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 767–770. (Summary) **99k:76158** 76X05
Attinger, Lauree (*with* Leonard, Philip A.) New families of Z-cyclic triplewhist tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 163–169. (Summary) **99j:05044** 05B30
Attiya, A. A. (*with* Aouf, M. K.; Darwish, H. E.) Coefficients estimates for certain class of analytic functions with complex order. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 1–13. (Jay M. Jahangiri) **99k:30014** 30C45 (30C50)
Attiya, Hagit (*with* Friedman, Roy) A correctness condition for high-performance multiprocessors. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1637–1670 (*electronic*). (Summary) **99b:68009** 68M07
Attiya, A. A. (*with* Aouf, M. K.; Shamandy, A.) Certain classes of analytic and multivalent functions with negative coefficients. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 353–368. (Ved Parkash Gupta) **99f:30016** 30C45
Atzeni, Paolo (*with* Torlone, Riccardo) Efficient database updates with independent schemes. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1112–1135 (*electronic*). (Summary) **99k:68046** 68P15
Atzmon, E. Invariant kinematics on a one-dimensional lattice in noncommutative geometry. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 7, 1159–1168. (Gennaro Miele) **99d:58020** 58B30 (81T25)
Aubert, Anne-Marie Some properties of character sheaves. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 37–52. (Toshiaki Shoji) **99c:20055** 20G05 (20G40)
Aubert, Gilles (*with* Vese, Luminita) A variational method in image recovery. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1948–1979. (H. P. Dikshit) **99a:65182** 65N99 (49J99, 94A12)
Aubin, David The withering immortality of Nicolas Bourbaki: a cultural connector at the confluence of mathematics, structuralism, and the Oulipo in France. (English summary) *Sci. Context* **10** (1997), *no.* 2, 297–342. (Michael A. B. Deakin) **99g:01044** 01A80 (00A30, 01A60)
Aubin, Jean-Pierre ★ Dynamic economic theory. A viability approach. Studies in Economic Theory, 5. *Springer-Verlag, Berlin*, 1997. xxviii+510 *pp. ISBN* 3-540-62687-5 (Donald G. Saari) **99c:90002** 90–02 (49J24, 90A16, 93A30)
— Connectionist complexity and its evolution. (English summary) *Équations aux dérivées partielles et applications*, 51–79, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Corneliu Ursescu) **99j:49004** 49J24 (34A60, 92D15, 92D40)
— (*with* Najman, Laurent) The Montagne Russe algorithm for global optimization. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 153–168. (Marc Quincampoix) **99k:90148** 90C30 (65K05)
— (*with* Da Prato, Giuseppe) The viability theorem for stochastic differential inclusions. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 1–15. (Anna Mihan) **99e:60135** 60H15
Aubin, Thierry (*with* Bahri, Abbas) Une hypothèse topologique pour le problème de la courbure scalaire prescrite. (English and French summaries) [A topological hypothesis for the problem of prescribed scalar curvature] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 843–850. (David L. Finn) **99a:53036** 53C21 (35J60, 58E11)
— ★ Some nonlinear problems in Riemannian geometry. (English summary) Springer Monographs in Mathematics. *Springer-Verlag, Berlin*, 1998. xviii+395 *pp. ISBN* 3-540-60752-8 (John M. Lee) **99i:58001** 58–02 (35J60, 35N99, 46N20, 53C21, 53C25, 53C55, 58E20)
— (*with* Druet, Olivier; Hebey, Emmanuel) Best constants in Sobolev inequalities for compact manifolds of nonpositive curvature. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1117–1121. (Gilles Carron) **99j:53042** 53C21 (46E35)
— (*with* Coulouvrat, F.) Ondes acoustiques non linéaires dans un fluide avec relaxation. (English and French summaries) [Nonlinear acoustic waves in a relaxing fluid] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 4, 387–413. (Philippe G. LeFloch) **99e:76098** 76N10 (35Q35, 76Q05)
saint-Aubin, Yvan *see* **Saint-Aubin, Yvan**
Aubry, A. (*with* Chartier, P.) Pseudo-symplectic Runge-Kutta methods. (English summary) *BIT* **38** (1998), *no.* 3, 439–461. (Yun Kang Liu) **99k:65055a** 65L06
— (*with* Chartier, P.) A note on: "Pseudo-symplectic Runge-Kutta methods". (English summary) *BIT* **38** (1998), *no.* 4, 802–806. (Yun Kang Liu) **99k:65055b** 65L06
— (*with* Chartier, P.) On improving the convergence of Radau IIA methods applied to index 2 DAEs. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1347–1367 (*electronic*). (Alexander Ostermann) **99f:65107** 65L06
Aubry, Denis (*with* Lucas, D.; Tie, B.) Adaptive strategy for transient/coupled problems. Applications to thermoelasticity and elastodynamics. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 325–332, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73B30)
Aubry, Jean-Marie Representation of the singularities of a function. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 282–286. (Summary) **99j:26002** 26A16
Aubry, Nadine (*with* Berkooz, Gal; Coller, B.; Elezgaray, J.; Holmes, Philip J.; Lumley, John L.; Poje, A. C.) Low-dimensional models, wavelet transforms and control. *Eddy structure identification (Udine, 1994)*, 271–331, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (From the text) **99f:76068** 76Fxx (76M25)
— (*with* Zhao, Zhijian; Legrand, Michel) Criteria for transition to turbulence induced by Richtmyer-Meshkov and Rayleigh-Taylor instabilities. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 108–117, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76079** 76F99 (76E99)
— (*with* Legrand, Michel; Le Piouffle, Myriam; Dewisme, Alain) Transition to turbulence generated by interfacial instabilities during a cylindrical implosion. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 357–362, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99
— (*with* Rahibe, M.; Sivashinsky, G. I.) Instability of pole solutions for planar propagating flames in sufficiently large domains. (English summary) *Combust. Theory Model.* **2** (1998), *no.* 1, 19–41. (Summary) **99a:80005** 80A25 (35Q35, 76E99)
Aubry, Serge (*with* Johansson, Magnus) Existence and stability of quasiperiodic breathers in the discrete nonlinear Schrödinger equation. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1151–1178. (Summary) **99c:39019** 39A12 (35Q55, 82D99)
— Breathers in nonlinear lattices: existence, linear stability and quantization. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 201–250. (Dario Bambusi) **99b:34067** 34C15 (35Q99, 58F40, 65L10, 70K99, 82C20)
— (*with* Johansson, Magnus; Gaĭdideĭ, Yu. B.; Christiansen, Peter Leth; Rasmussen, K. Ø.) Dynamics of breathers in discrete nonlinear Schrödinger models. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 115–124. (Summary) **99e:70060** 70K99 (58F40, 78A60)
Auchmuty, Giles Reconstruction of the velocity from the vorticity in three-dimensional fluid flows. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 607–630. (Maria Specovius-Neugebauer) **99f:76032** 76C05 (35Q35, 76D99, 76M30)
Auckly, Dave A topological method to compute spectral flow. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 181–203. (Hans U. Boden) **99m:58179** 58G10 (55N25, 57N10)
Aucoin, Karen D. The structure of commutative semigroups with the ideal extension property. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 175–189. (L. Márki) **99j:20067** 20M14 (20M12)

Audestad, Jan A. (*with* Tomasgard, Asgeir; Dye, Shane; Stougie, Leen; van der Vlerk, Maarten H.; Wallace, Stein W.) Modelling aspects of distributed processing in telecommunication networks. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 161–184. (*see* **99e:90003**) 90B12

Audin, Michèle Lectures on gauge theory and integrable systems. (English summary) *Gauge theory and symplectic geometry* (*Montreal, PQ*, 1995), 1–48, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 488, *Kluwer Acad. Publ., Dordrecht*, 1997. (William Goldman) **99f:58028** 58D29 (58D27, 58F05, 58F06)

— Structure de contact sur certains espaces de courbes hyperelliptiques et variables d'action pour les géodésiques de l'ellipsoïde. (English and French summaries) [Contact structure on certain spaces of hyperelliptic curves and action coordinates for the geodesics on the ellipsoid] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 567–572. (Francesco Bottacin) **99h:58076** 58F07 (14H10, 58F17)

Audoly, Basile Courbes rigidifiant les surfaces. (English and French summaries) [Rigidifying curves on surfaces] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 313–316. (Summary) **99m:53003** 53A04

Audretsch, Jürgen (*with* Skarzhinskiĭ, V. D.) Quantum processes beyond the Aharonov-Bohm effect. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 777–788. (*see* **99f:81002**) 81V10 (81P99)

— (*with* Menskiĭ, M. B.) Continuous measurement of energy for a two-level system. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 215–217. (*see* **99e:81004**) 81P15

Audsley, N. C. (*with* Burns, Alan) On fixed priority scheduling, offsets and co-prime task periods. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 65–69. 68M20

Auer, John W. On the invertibility of Hadamard powers of distance matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 235–245. (Summary) **99h:15005** 15A09

von Auer, Ludwig ★ Dynamic preferences, choice mechanisms, and welfare. Lecture Notes in Economics and Mathematical Systems, 462. *Springer-Verlag, Berlin*, 1998. *xii*+226 *pp. ISBN* 3-540-64320-6 (Maurice Salles) **99m:90033** 90A10 (90–02, 90A05)

Auer, Peter (*with* Warmuth, Manfred K.) Tracking the best disjunction. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 312–321, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05

— (*with* Cesa-Bianchi, Nicolò; Freund, Yoav; Schapire, Robert E.) Gambling in a rigged casino: the adversarial multi-armed bandit problem. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 322–331, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 90D05 (68Q99, 90D20)

— (*with* Kivinen, J.; Warmuth, Manfred K.) The perceptron algorithm versus Winnow: linear versus logarithmic mistake bounds when few input variables are relevant. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 325–343. (Summary) **99k:68158** 68T05

— Learning nested differences in the presence of malicious noise. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 159–175. (John Shawe-Taylor) **99e:68133** 68T05 (68Q25, 68T27)

— (*with* Cesa-Bianchi, Nicolò) On-line learning with malicious noise and the closure algorithm. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 83–99. (Summary) **99k:68152** 68T05 (68Q99)

Augel, Alan Multivariate mean value interpolation. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 27–34, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:41030** 41A63 (41A05)

Auger, Pierre M. (*with* Pontier, Dominique) Fast game theory coupled to slow population dynamics: the case of domestic cat populations. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 65–82. (Summary) **99g:92025** 92D25 (90D40)

— (*with* Poggiale, J.-C.) Aggregation and emergence in systems of ordinary differential equations. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 1–21. (H. A. DeKleine) **99j:92013** 92D25 (34C29, 34C30, 58F12)

— (*with* Pontier, Dominique) Fast game dynamics coupled to slow population dynamics: a single population with hawk-dove strategies. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 81–88. (Summary) **99a:92022** 92D25

— (*with* Bravo de la Parra, Rafael; Sánchez, Eva) Hawk-dove game and competition dynamics. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 89–98. (Summary) **99b:92035** 92D25

— (*with* Kooi, B. W.; Poggiale, J.-C.) Aggregation methods in food chains. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 109–120. (Summary) **99c:92042** 92D25

— (*with* Antonelli, Peter L.; Bradbury, R.) Corals and starfish waves on the Great Barrier Reef: analytical trophodynamics and 2-patch aggregation methods. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 121–135. (F. Berezovskaya) **99f:92016** 92D25 (34C99, 92D40)

Augusti, Giuliano (*with* Mariano, Paolo Maria) Multifield description of microcracked continua: a local model. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 183–200. (Summary) **99c:73061** 73M25 (73B99)

— (*with* Mariano, Paolo Maria) Stochastic evolution of microcracks in continua. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 155–171. (Summary) **99j:73082** 73M25 (73B99, 73S10, 73V05, 73V30)

Augustin, Thomas (*with* Weichselberger, Kurt) Analysing Ellsberg's paradox by means of interval-probability. (English summary) *Econometrics in theory and practice*, 291–304, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 90A05

st. Augustine *see* **St. Augustine**

Augustynowicz, Antoni Existence and uniqueness of solutions for partial differential-functional equations of the first order with deviating argument of the derivative of unknown function. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 203–210. (Summary) **99f:35215** 35R10 (35F25)

— Existence of solutions to BVP for linear differential-functional equations of elliptic type. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 99–105. (Ludwik Byszewski) **99g:35134** 35R10 (35J25)

— (*with* Dzedzej, Z.; Gel'man, B. D.) The solution set to BVP for some functional-differential inclusions. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 3, 257–263. (Tzanko D. Donchev) **99m:34152** 34K10 (34A60)

Auinger, K. Complete congruences on lattices of (existence) varieties. (English summary) *Semigroups, automata and languages* (*Porto*, 1994), 1–10, *World Sci. Publishing, River Edge, NJ*, 1996. (Ivan Chajda) **99a:20061** 20M07 (08A30, 08B15, 20M17)

— A method for the construction of complete congruences on lattices of pseudovarieties. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 1–17. (Pascal Weil) **99a:20062** 20M07 (08B15)

singh Aujla, Jaspal *see* **Singh Aujla, Jaspal**

Aujla, Jaspal Singh *see* **Singh Aujla, Jaspal**

Aulaskari, Rauno (*with* Tovar, Luis Manuel) On the function spaces $\mathcal{BP}$ and Q_q. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 203–208. (Summary) **99b:30054** 30D50

— (*with* Nowak, Maria; Zhao, Ruhan) The nth derivative characterisation of Möbius invariant Dirichlet space. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 43–56. (David Bekolle) **99i:30051** 30D45 (30D50)

— (*with* He, Yu Zan; Ristioja, Juha; Zhao, Ruhan) Q_p spaces on Riemann surfaces. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 449–464. (P. Lappan) **99g:30045** 30D45

Aulbach, Bernd Integral manifolds and topological equivalence. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 275–284. (Summary) **99h:34082** 34G20 (34C30, 34C35, 58F36)

— (*with* Nguyễn Văn Minh; Zabreĭko, Petr Petrovich) Structural stability of linear difference equations in Hilbert space. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 71–76. (Ulrich Krause) **99m:39003** 39A10 (47A50, 47B39)

— The fundamental existence theorem on invariant fiber bundles. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 501–537. (Summary) **99a:39006** 39A10 (39A11, 58F15)

— (*with* Nguyễn Văn Minh) Semigroups and differential equations with almost periodic coefficients. *Nonlinear Anal.* **32** (1998), *no.* 2, 287–297. (From the introduction) **99b:34103** 34G20 (34C27, 47H20)

Aul'chenko, S. M. (*with* Latypov, A. F.; Nikulichev, Yu. V.) A method for the numerical integration of systems of ordinary differential equations using Hermite interpolation polynomials. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1665–1670; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1595–1601. (Summary) **99f:65098** 65L05

— (*with* Latypov, A. F.; Nikulichev, Yu. V.) Construction of curves by means of parametric polynomials. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1967–1972; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1888–1893. (Summary) **99h:65023** 65D17 (65Y25)

Auletta, V. (*with* Caragiannis, I.; Kaklamanis, Christos; Persiano, Pino) Efficient wavelength routing in trees with low-degree converters. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 1–14, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99j:68100** 68R10 (05C05, 90B12)

— (*with* Monti, Angelo; Parente, M.; Persiano, Pino) A linear-time algorithm for the feasibility of pebble motion on trees. (English summary) *Algorithmica* **23** (1999), *no.* 3, 223–245. (Summary) **99k:68069** 68Q20 (68R10, 68U05)

Aull, C. E. *see* **Handbook: History of general topology, 99a:01001**

Ault, J. C. (*with* Fisher, Brian; Kılıçman, Adem) Generalizations of commutative neutrix convolution products of functions. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 1–12. (Summary) **99h:46069** 46F10 (44A35)

Aumann, Günter Subdivision of linear corner cutting curves. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 91–103. (Summary) **99b:65015** 65D17

Aumann, Robert J. (*with* Hart, Sergiu; Perry, Motty) The absent-minded driver. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 102–116. (*see* **99b:90162**) 90A05 (90D40)

— (*with* Hart, Sergiu; Perry, Motty) The forgetful passenger. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 117–120. (*see* **99b:90162**) 90A05 (90D40)

— On the centipede game. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 97–105. (Summary) **99a:90261** 90D40

— *see also* **Gul, Faruk**

Aumann, Yonatan (*with* Rabani, Yuval) An $O(\log k)$ approximate min-cut max-flow theorem and approximation algorithm. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 291–301 (*electronic*). (Michal Penn) **99d:05078** 05C85 (68R10, 90B10)

min Aung *see* **Min Aung**

Aung, Min *see* **Min Aung**

Aupetit, Bernard Sur les transformations qui conservent le spectre. (English summary) [Spectrum-preserving transformations] *Banach algebras '97* (*Blaubeuren*), 55–78, *de Gruyter, Berlin*, 1998. (Catalin Badea) **99m:46114** 46H05 (15A18, 46L05, 47B48)

— Trace and spectrum preserving linear mappings in Jordan-Banach algebras. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 179–187. (Angel Rodríguez-Palacios) **99d:46071** 46H70 (17C65)

Aure, Alf (*with* Decker, Wolfram; Hulek, Klaus; Popescu, Sorin; Ranestad, Kristian) Syzygies of abelian and bielliptic surfaces in $\mathbf{P}^4$. *Internat. J. Math.* **8** (1997), *no.* 7, 849–919. (James E. Alexander) **99a:14049** 14J25 (14J27, 14J60)

Aurell, Erik (*with* Dzugutov, Mikhail; Vulpiani, Angelo) Universal relation between the Kolmogorov-Sinai entropy and the thermodynamical entropy in simple liquids. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1762–1765. (Summary) **99e:58118** 58F11 (58F40)

Aurenhammer, Franz (*with* Aichholzer, Oswin; Rote, Günter; Xu, Yin-Feng) Constant-level greedy triangulations approximate the MWT well. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 361–369. (Summary) **99m:65260** 65Y25

Auriault, J. L. (*with* Skjetne, E.) New insights on steady, non-linear flow in porous media. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 131–145. (Summary)

99j:76127 76S05

Auriault, Laurent (*with* Tam, Christopher K. W.; Cambuli, Francesco) Perfectly matched layer as an absorbing boundary condition for the linearized Euler equations in open and ducted domains. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 213–234. (Summary) **99d:76079** 76M25 (76N15)

— (*with* Tam, Christopher K. W.) The wave modes in ducted swirling flows. (English summary) *J. Fluid Mech.* **371** (1998), 1–20. (Summary) **99h:76079** 76N10 (76C05, 76Q05)

Aurich, R. (*with* Taglieber, M.) On the rate of quantum ergodicity on hyperbolic surfaces and for billiards. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 84–102. (Jens Marklof) **99f:81055** 81Q50 (58F11)

Auroux, D. Asymptotically holomorphic families of symplectic submanifolds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 6, 971–995. (Hansjörg Geiges) **99b:57069** 57R95 (32L05, 53C15, 58F05)

Auscher, Pascal (*with* McIntosh, Alan G. R.; Nahmod, Andrea R.) The square root problem of Kato in one dimension, and first order elliptic systems. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 659–695. (Yehuda Pinchover) **99e:47061** 47F05 (35J15, 47A60, 47B25, 47E05)

— (*with* McIntosh, Alan G. R.; Tchamitchian, Philippe) Heat kernels of second order complex elliptic operators and applications. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 22–73. (Yehuda Pinchover) **99e:47062** 47F05 (35J15, 47A60)

Ausejo, Elena (*with* Millan, Ana) The Spanish Mathematical Society and its periodicals in the first third of the 20th century. *Messengers of mathematics: European mathematical journals* (1800–1946), 159–187, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— *see also* **Messengers of mathematics: European mathematical journals (1800–1946), 99d:01045**

Ausekle, E. A. (*with* Oja, Eve) Pitt's theorem for Lorentz and Orlicz sequence spaces. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 18–25; *translation in Math. Notes* **61** (1997), *no.* 1-2, 16–21. (Summary) **99a:46028** 46B28 (46B45, 47D15)

Ausekle, Jelena (*with* Oja, Eve) Compactness of operators acting from a Lorentz sequence space to an Orlicz sequence space. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 233–239. (Hans-Olav Tylli) **99k:47061** 47B37 (46B45, 46E30, 47B07)

Ausiello, Giorgio (*with* Franciosa, Paolo Giulio; Frigioni, Daniele; Giaccio, Roberto) Decremental maintenance of reachability in hypergraphs and minimum models of Horn formulae. (English summary) *Algorithms and computation* (*Singapore*, 1997), 122–131, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05107** 05C85 (05C65, 68R10)

— (*with* Italiano, Giuseppe F.; Nanni, Umberto) Hypergraph traversal revisited: cost measures and dynamic algorithms. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 1–16, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q25)

— *see also* **Graph-theoretic concepts in computer science, 99b:68005**

Ausín, Francisco José Díez (*with* Peña, Lorenzo) Quantificational entitlements and relevantoid deontic logic. (English summary) *Logique et Anal.* (*N.S.*) **38** (1995), *no.* 150-152, 209–238. (Summary) **99c:03026** 03B45 (03B46)

Auslander, Joseph (*with* Guerin, Marianne) Regional proximality and the prolongation. (English summary) *Forum Math.* **9** (1997), *no.* 6, 761–774. (Summary) **99f:54051** 54H20

— (*with* Akin, Ethan; Berg, K.) Almost equicontinuity and the enveloping semigroup. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 75–81, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99k:54032** 54H20

— (*with* Markley, Nelson) Dynamical properties of automorphisms of minimal flows. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 105–112. (L. Janos) **99d:54021** 54H20

Auslander, Louis (*with* Barbano, Paolo Emilio) Communication codes and Bernoulli transformations. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 109–128. (Kotik K. Lee) **99j:94021** 94A24 (28D99)

— *see also* **Chern, Shiing-Shen et al., 99k:01053**

Auslander, Maurice *see* **Reiten, Idun, 99c:16011** *and* **Buchsbaum, David A., 99g:20078**

Auslender, A. Asymptotic analysis for penalty and barrier methods in variational inequalities. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 653–671 (*electronic*). (Jean-Pierre Crouzeix) **99m:49012** 49J40 (47H05, 47H19, 49M30, 90C33)

Aussel, D. Subdifferential properties of quasiconvex and pseudoconvex functions: unified approach. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 29–45. (Sándor Komlósi) **99d:49031** 49J52 (90C26)

Austin, David J. (*with* McCarragher, Brenan J.) Model adaptive hybrid dynamic control for constrained motion systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 560–564. (*see* **99a:93006**) 93C95 (93C85)

Austin, Peter C. Products of involutions in the groups of Lie type $F_4(K)$. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 557–575. (Ross Ian Lawther) **99k:20034** 20D06 (20E42)

Autant, C. (*with* Pfister, W.; Schnoebelen, Philippe) Place bisimulations for the reduction of labeled Petri nets with silent moves. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 230–246 (*electronic*). (*see* **99f:68006**) 68Q90

Autebert, Jean-Michel (*with* Berstel, Jean; Boasson, Luc) Context-free languages and pushdown automata. *Handbook of formal languages, Vol.* 1, 111–174, *Springer, Berlin*, 1997. (From the introduction) **99g:68108** 68Q45 (03D05, 68Q50)

Autrique, L. (*with* Souza de Cursi, J. E.) On stochastic modification for global optimization problems: an efficient implementation for the control of the vulcanization process. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 1–21. 90C30 (90C15)

Au-Yang, Helen (*with* Perk, Jacques H. H.) The generalized chiral clock model and its phase diagram. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 20–30, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (82B26)

Avakyan, Avetis K. (*with* Hakobyan, T.; Sedrakyan, A. G.) Integrable extensions of Hubbard Hamiltonian. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3207–3222. (Rodolfo Cuerno) **99a:82030** 82B23 (81R50)

Avaliani, D. I. (*with* Kordzakhiya, I. I.) Turbulence research with fractal structures. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 203–206 (1995). 76F05

Avalishvili, G. (*with* Gordeziani, D.; Gordeziani, N.) Non-local boundary value problems for some partial differential equations. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 365–368. (Summary) **99f:35019** 35G15

Avallone, Anna (*with* Lepellere, Maria Antonietta) Modular functions: uniform boundedness and compactness. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 221–264. (C. W. Swartz) **99d:28007** 28A60 (28B15)

Avalon, Gérard (*with* Casalis, Grégoire; Pineau, Jean-Philippe) Spatial instability of planar channel flow with fluid injection through porous walls. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2558–2568. 76E99

Avalos, George (*with* Lasiecka, Irena) Exponential stability of a thermoelastic system without mechanical dissipation. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 1–28 (1997). (Reinhard Racke) **99b:73007** 73B30 (34G10, 35Q72, 47D06, 47N20)

— (*with* Lasiecka, Irena) Uniform decays in nonlinear thermoelastic systems. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 1–23, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sergey V. Nikitin) **99f:93075** 93C20 (35Q72, 73B30, 73H10, 73K10, 73K50, 93D15)

— (*with* Lasiecka, Irena) Exponential stability of an uncontrolled thermoelastic system with varying boundary conditions. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 31–49. (Summary) **99b:73008** 73B30 (35Q72, 73C99, 73H10)

— (*with* Lasiecka, Irena) Uniform decay rates for solutions to a structural acoustics model with nonlinear dissipation. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 287–312. (Sergei A. Avdonin) **99g:93039** 93C20 (35L05)

— (*with* Lasiecka, Irena) The strong stability of a semigroup arising from a coupled hyperbolic/parabolic system. (English summary) *Semigroup Forum* **57** (1998), *no.* 2, 278–292. (Zhuangyi Liu) **99h:35117** 35K99 (35L99, 47D06, 47N20, 73K70)

Avan, J. (*with* Frappat, L.; Rossi, Marco; Sorba, P.) From quantum to elliptic algebras. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1083–1092. (Paul Demkin) **99h:17016** 17B37 (17B67, 17B68, 81R10, 81R50)

— (*with* Frappat, L.; Rossi, Marco; Sorba, P.) New $\mathscr{W}_{q,p}(\mathrm{sl}(2))$ algebras from the elliptic algebra $\mathscr{A}_{q,p}(\hat{\mathrm{sl}}(2)_c)$. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 27–35. (Summary) **99h:81081** 81R50 (17B37, 17B81, 81R10)

— (*with* Frappat, L.; Rossi, Marco; Sorba, P.) Central extensions of classical and quantum q-Virasoro algebras. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 13–24. (Fabio Gavarini) **99j:81068** 81R50 (17B37)

Avantaggiati, A. Outline of a theory of teaching mathematics. (Italian. English summary) *Conf. Semin. Mat. Univ. Bari No.* 266 (1997), ii+64 *pp.* (Eduard Glas) **99b:00005** 00A35

Avdashkova, L. P. On coradicals of finite groups. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 5–10, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

— On subnormal closure. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 69–72, 141. (Sergey P. Strunkov) **99m:20027** 20D10

— Radical Wielandt operators on subnormal subgroups. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 83–105, *Gomel. Gos. Univ., Gomel'*, 1998. (V. A. Belonogov) **99j:20023** 20D10

Avdeev, A. D. Normal waves and the Green function of an impedance wedge. (Russian. Russian summary) *Problems in the diffraction and propagation of waves, No.* 27 (*Russian*), 195–213, 319, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1997. (Summary) **99h:78016** 78A40

— Uniform asymptotics of the double Sommerfeld integral with a pole near the saddle point. (Russian. Russian summary) *Problems in the diffraction and propagation of waves, No.* 27 (*Russian*), 214–222, 319, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1997. (Summary) **99i:78022** 78A45

Avdeev, M. V. (*with* Dikusar, N. D.) Spline approximation and smoothing using the adaptive projective filters. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 82–90, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65D07 (41A15)

Avdyushina, E. V. (*with* Kaloerov, S. A.) Solution of the fundamental problems of elasticity theory for a multiconnected anisotropic half-plane. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 1, 1829–1839. (Summary) **99f:73023** 73C02 (73B40, 73V35)

— (*with* Kaloerov, S. A.) Stress concentration in an anisotropic half-plane with holes and cracks. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 1, 1840–1845. (Summary) **99f:73019** 73B50 (73B40, 73C02, 73V35)

Aved'yan, Eduard D. (*with* Tsypkin, Yakov Zalmanovich; Bittanti, Sergio) Kalman estimation with Brownian disturbances. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1195–1205. (V. N. Fomin) **99f:93132** 93E11

Avelin, Jonas Hardy spaces of analytic multifunctions. (English summary) *Math. Scand.* **81** (1997), *no.* 1, 127–148 (1998). (Jaroslav Zemánek) **99a:46064** 46E40 (30D55)

Avellaneda, Marco The minimum-entropy algorithm and related methods for calibrating asset-pricing models. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 545–563 (*electronic*). (Summary) **99i:90013** 90A09 (94A17)

Avellone, A. (*with* Goldwurm, Massimiliano) Analysis of algorithms for the recognition of rational and context-free trace languages. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 4-6, 141–152. (Yves Metivier) **99k:68090** 68Q45 (68Q25)

martínez Avendaño, R. A. *see* **Martínez Avendaño, R. A.**

Avenhaus, J. (*with* Madlener, Klaus) Theorem proving in hierarchical clausal specifications. (English summary) *Advances in algorithms, languages, and complexity*, 1–51, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99b:68129** 68Q65 (03B70)

Aveni, Anthony Astronomy in the Mexican Codex Borgia. *Archaeoastronomy No.* 24, *suppl. J. Hist. Astronom.* 30 (1999), 51–520. 01A12

Averbakh, I. L. (*with* Berman, Oded) Location problems with grouped structure of demand: complexity and algorithms. (English summary) *Networks* **31** (1998), *no.* 2, 81–92. (Giovanni Andreatta) **99c:90071** 90B80 (68Q25)

Averbuch, Amir (*with* Vozovoi, Lev; Israeli, Moshe) On a fast elliptic solver by a modified Fourier method. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 287–313. (Manil Suri) **99c:65222** 65N35

— (*with* Beylkin, Gregory; Coifman, Ronald R.; Israeli, Moshe) Multiscale inversion of elliptic operators. (English summary) *Signal and image representation in combined spaces*, 341–359, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99a:65162** 65N35

— (*with* Braverman, E. Ya.; Israeli, Moshe; Vozovoi, Lev) A fast 3D Poisson solver of arbitrary order accuracy. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 109–136. (Summary) **99c:65251** 65T20 (65N30)

— (*with* Ioffe, Ludmila; Israeli, Moshe; Vozovoi, Lev) Two-dimensional parallel solver for the solution of Navier-Stokes equations with constant and variable coefficients using ADI on cells. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 673–699. (Summary) **99g:65133** 65Y05 (65M99, 76D05, 76M25)

— (*with* Israeli, Moshe; Vozovoi, Lev) A fast Poisson solver of arbitrary order accuracy in rectangular regions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 933–952 (*electronic*). (Summary) **99b:65153** 65N35 (45L05)

— (*with* Amitai, Dganit; Israeli, Moshe; Itzikowitz, Samuel) Implicit-explicit parallel asynchronous solver of parabolic PDEs. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1366–1404 (*electronic*). (Dao Qi Yang) **99f:65137** 65M55 (65M06, 65Y05)

Averbukh, È. D. Convergence of the local potential method for the search for stationary states of equations of macrodynamics. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 3–10; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 1–6. (Summary) **99g:82064** 82C35

Averina, T. A. (*with* Artem′ev, S. S.) ★ Numerical analysis of systems of ordinary and stochastic differential equations. *VSP, Utrecht*, 1997. *viii*+176 *pp. ISBN* 90-6764-250-9 (I. Norman Katz) **99h:65121** 65Lxx (34A45, 34F05, 60H10, 65C05, 65U05)

Averkamp, R. (*with* Houdré, Christian) Some distributional properties of the continuous wavelet transform of random processes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1111–1124. (Albert Benassi) **99e:60048** 60E10 (42C15, 60G07)

Averkin, A. N. (*with* Golovina, E. Yu.; Sergievskiĭ, A. E.) Design of fuzzy controllers based on triangular norms. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 112–118. 93C42

Averous, Jean (*with* Meste, Michel) Median balls: an extension of the interquantile intervals to multivariate distributions. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 222–241. (Summary) **99k:62111** 62H12

Avery, Christopher Strategic jump bidding in English auctions. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 2, 185–210. (Summary) **99a:90081** 90A60

Avery, John Many-particle Sturmians. (English summary) *J. Math. Chem.* **21** (1997), *no.* 3, 285–304. (Summary) **99a:81203** 81V55

— (*with* Antonsen, Frank) Relativistic Sturmian basis functions. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 175–185. (Summary) **99h:81027** 81Q05

Avery, Richard I. (*with* Anderson, Douglas Robert; Peterson, Allan C.) Three positive solutions to a discrete focal boundary value problem. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 103–118. (Allan C. Peterson) **99b:39002** 39A10

— Three positive solutions of a discrete second order conjugate problem. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 2, 79–96. (P. W. Eloe) **99c:39001** 39A10 (47H10, 47N20)

— (*with* Peterson, Allan C.) Multiple positive solutions of a discrete second order conjugate problem. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 1–12. (P. W. Eloe) **99i:39001** 39A10

Avetisyan, K. L. On representations of some classes of functions that are subharmonic in the unit disk and in the half-plane. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 1, 3–15 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 1, 1–12. (Vladimir S. Azarin) **99a:31001** 31A05 (30E20)

— Green-type potentials and the representability of weighted classes of subharmonic functions. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 3–34 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 1–28. (Vladimir Eiderman) **99h:31004** 31A10

— Letter to the editors: "On representations of some classes of functions that are subharmonic in the unit disk and in the half-plane" [Izv. Nats. Akad. Nauk Armenii **29** (1994), no. 1, 3–15 (1996); MR 99a:31001]. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 102 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 84. 31A05 (30E20)

Avetisyan, V. V. (*with* Melikyan, T. T.) Controlled search for a moving object in a family of trajectories in a rectangular domain. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 4, 17–24 (1998). 93C15 (49K15)

Avgerinos, E. P. (*with* Papageorgiou, Nikolaos S.) Solutions and periodic solutions for nonlinear evolution equations with non-monotone perturbations. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 859–875. (Teresa Winiarska) **99m:34133** 34G20 (34A12, 34B15)

— (*with* Papageorgiou, Nikolaos S.) Existence and relaxation theorems for nonlinear multivalued boundary value problems. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 2, 257–279. (G. Anichini) **99j:34017** 34A60 (34B15, 47H05, 47N20, 49J24)

Avgustinovich, Sergei V. On the partition of a set of edges of a graph into isomorphic trees. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 4, 3–5, 115. (Summary) **99i:05157** 05C70

— (*with* Solov′eva, Faina I.; Honold, Thomas; Heise, Werner R.) On the extendability of code isometries. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 3–16. (Italo José Dejter) **99a:94053** 94B25 (51E99)

Avidor, Adi (*with* Azar, Yossi; Sgall, Jiří) Ancient and new algorithms for load balancing in the L_p norm. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 426–435, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20, 68Q25)

Avigad, Jeremy Plausibly hard combinatorial tautologies. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 1–12, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Piotr Wojtylak) **99c:03081** 03F20 (03B05, 03D15)

— Predicative functionals and an interpretation of $\widehat{\mathrm{ID}}_{<\omega}$. (English summary) *Ann. Pure Appl. Logic* **92** (1998), *no.* 1, 1–34. (Wolfgang Burr) **99m:03116** 03F10

— An effective proof that open sets are Ramsey. (English summary) *Arch. Math. Logic* **37** (1998), *no.* 4, 235–240. (Thomas Strahm) **99i:03076** 03F35

Avila Murillo, F. *see* **Congress: Mexican Mathematical Society, 99i:00016**

Avila-Vales, Eric Jose (*with* Cantrell, Robert Stephen) Permanence of three competitors in seasonal ecological models with spatial heterogeneity. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 145–169. (K. Gopalsamy) **99i:92016** 92D25 (34C35, 35K57, 35Q80, 92D40)

Avilés, Rafael (*with* Ajuria, Goizalde; Bilbao, Armando; Vallejo, Javier) Lagrange multipliers and the primal-dual method in the non-linear static equilibrium of multibody systems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 463–472. (Summary) **99a:70007** 70B15 (70–08, 73K99, 73V25)

Avior, A. (*with* Calamoneri, T.; Even, Shimon; Litman, Ami; Rosenberg, Arnold L.) A tight layout of the butterfly network. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 475–487. (Summary) **99b:68011** 68M10 (05C85, 68Q35)

Avis, David (*with* Beresford-Smith, Bryan; Devroye, Luc; ElGindy, Hossam; Guévremont, Eric; Hurtado, Ferran; Zhu, Binhai) Unoriented Θ-maxima in the plane: complexity and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 278–296 (*electronic*). (Menachem Dishon) **99g:68088** 68Q25 (60D05, 68U10)

Avis, Rafael (*with* Naulin, Raúl) Asymptotic instability of nonlinear differential equations. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 16, 7 *pp.* (*electronic*). (N. Chafee) **99f:34076** 34D05 (34C11)

Avishai, Yshai (*with* Berend, Daniel; Tkachenko, Vadim) Trace maps. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 30, 3525–3542. (Jean-Paul Allouche) **99b:82045** 82B44 (11B85, 58F03)

— (*with* Berend, Daniel; Berkovits, Richard) Statistics of addition spectra of independent quantum systems. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8063–8072. (Summary) **99g:82035** 82B44

Avkhadiev, F. G. ★ Конформные отображения и краевые задачи. (Russian. English and Russian summaries) [Conformal mappings and boundary value problems] Монографии по Математике (Казань) [Mathematical Monographs (Kazan′)], 2. *Kazanskiĭ Fond "Matematika", Kazan′*, 1996. 216 *pp. ISBN* 5-900975-03-7 (Vladimir Mityushev) **99m:30031** 30C55 (30E25)

— Variational conformally invariant inequalities and their applications. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 727–730. (Alexander Vasil′ev) **99k:30034** 30C70 (73C02, 73K10)

Avrachenkov, Konstantin E. (*with* Altman, Eitan; Filar, Jerzy A.) Asymptotic linear programming and policy improvement for singularly perturbed Markov decision processes. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 97–109. (Andris Abakuks) **99m:90156** 90C40

Avram, A. C. (*with* Kreuzer, Maximilian; Mandelberg, Michael; Skarke, Harald) The web of Calabi-Yau hypersurfaces in toric varieties. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 625–640. (Dimitrios I. Dais) **99a:14056** 14J32 (14M25, 32G05)

Avram, N. M. (*with* Drăgănescu, Gheorghe; Evans, Myron Wyn) Proposal of a new kind of Aharonov-Bohm effect. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 57–66, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99k:81041** 81P99

Avramenko, O. V. (*with* Selezov, I. T.) Nonlinear wave propagation in a fluid layer based on a semi-infinite fluid. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 61–66. 76B15

Avramescu, Cezar Quelques remarques concernant l'existence et l'approximation des solutions d'une équation non linéaire dans un espace de Banach. (French summary) [Some remarks concerning the existence and approximation of solutions of a nonlinear equation in Banach space] *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 14–23 (1997). (Heinrich Steinlein) **99k:47155** 47H15 (47H11)

— Sur le degré topologique attaché à une équation différentielle définie dans l'espace des fonctions convergentes. (French summary) [On the topological degree associated with a differential equation defined in the space of convergent functions] *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 181–187. (Maria Patrizia Pera) **99i:34082** 34G20 (34A34, 47H11, 58C30)

Avramidi, Ivan G. Nonperturbative methods for calculating the heat kernel. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 7–21, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Emili Elizalde) **99i:58142** 58G11

— (*with* Esposito, Giampiero) Lack of strong ellipticity in Euclidean quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1141–1152. (Dmitri V. Vassilevich) **99b:83030** 83C45 (58G11)

Avramov, Luchezar L. (*with* Gasharov, Vesselin N.; Peeva, Irena V.) Complete intersection dimension. (English summary) *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 67–114 (1998). (Paul Roberts) **99c:13033** 13D05 (13D25)

— Infinite free resolutions. *Six lectures on commutative algebra* (*Bellaterra*, 1996), 1–118, *Progr. Math.*, 166, *Birkhäuser, Basel*, 1998. (Hans-Bjørn Foxby) **99m:13022** 13D02 (13D05, 13D25)

— (*with* Foxby, Hans-Bjørn) Cohen-Macaulay properties of ring homomorphisms. (English summary) *Adv. Math.* **133** (1998), *no.* 1, 54–95. (Rafael H. Villarreal) **99c:13043** 13H10 (13B10, 14E40)

Avreski, D. R. (*with* Karpovsky, Mark G.; Chakrabarty, Krishnendu; Levitin, Lev B.) On the covering of vertices for fault diagnosis in hypercubes. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 99–103. (Summary) **99k:68021** 68M15 (94C12)

Avriel, Mordecai *see* **Mathematical programming for industrial engineers, 99g:90006**

Avrin, Joel D. A one-point attractor theory for the Navier-Stokes equation on thin domains with no-slip boundary conditions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 725–735. (Alain Miranville) **99f:35157** 35Q30 (34G20, 35B40, 47H20, 58F39, 76D05)

Avron, Arnon Formulas for which contraction is admissible. (English summary) *Log. J. IGPL* **6** (1998), *no.* 1, 43–48. (Anthony M. Ungar) **99f:03075** 03F03

Avron, J. E. Odd viscosity. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 543–557. (Alexei Heintz) **99h:76008** 76A99 (76D99)

Avudainayagam, A. (*with* Geetha, J.) On the image system of certain line singularities in the vicinity of a circular cylinder. *Mech. Res. Comm.* **25** (1998), *no.* 1, 25–32. (Adrian Carabineanu) **99a:76039** 76D07

Avvakumov, S. N. (*with* Kisilyov, Yu. N.) Solution of systems of nonlinear equations using a Chebyshev series. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 1–20. 65H05

Awad, Labib R. On the rapidly decreasing solutions for some systems of differential equations with unbounded coefficients. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 2, 97–103. (Antonio Granata) **99b:34065** 34C11 (34A30)

— On the solvability of some systems of linear differential equations with unbounded coefficients. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 601–610. (Š. Schwabik) **99c:34009** 34A30 (34C11)

Awadallah, Ra'id S. (*with* Brown, Gary S.) A Luneburg-Kline representation for wave propagation in a continuously inhomogeneous medium. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 12, 1884–1886. (Summary) **99i:78016** 78A40

al-Awadhi, Shafeeqah A. *see* **Al-Awadhi, Shafeeqah A.**

el-Awadi, I. A. *see* **El-Awadi, I. A.**

Awan, Irfan-Ullah (*with* Kouvatsos, Demetres D.) MEM for arbitrary closed queueing networks with RS-blocking and multiple job classes. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 231–269. (Summary) **99c:90053** 90B22 (60K25)

Awane, A. Some affine properties of the k-symplectic manifolds. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 75–83. (Manuel de León) **99b:53044** 53C15 (58F05)

Awartani, Marwan (*with* Hamdan, M. H.) Some admissible geometries in the study of steady plane flow of a dusty fluid through porous media. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 85–92. (Summary) **99i:76139** 76S05 (76T05)

— (*with* Hamdan, M. H.) Non-reactive gas-particulate models of flow through porous media. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 93–102. (Summary) **99i:76140** 76S05 (76T05)

Awata, Hidetoshi (*with* Kubo, Harunobu; Odake, Satoru; Shiraishi, Jun'ichi) Virasoro-type symmetries in solvable models. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 37–71. (Naihuan Jing) **99g:17048** 17B68 (58F07)

— (*with* Minic, Djordje) Comments on the problem of a covariant formulation of Matrix theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 6, 10 *pp.* (*electronic*). (Summary) **99a:81125** 81T30

— (*with* Chaudhuri, Shyamoli; Li, Miao[1]; Minic, Djordje) Many-body dynamics of D0-branes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5303–5306. (Summary) **99m:81169** 81T30 (81V70)

Awerbuch, Baruch (*with* Bartal, Yair; Fiat, Amos) Distributed paging for general networks. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 67–104. (Luisa Gargano) **99h:68064** 68Q22 (68M10)

— (*with* Azar, Yossi; Blum, Avrim L.; Vempala, Santosh) New approximation guarantees for minimum-weight k-trees and prize-collecting salesmen. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 254–262 (*electronic*). (T. R. S. Walsh) **99e:68063** 68Q25 (05C85, 68R10)

— (*with* Berger, Bonnie; Cowen, Lenore J.; Peleg, David) Near-linear time construction of sparse neighborhood covers. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 263–277 (*electronic*). (Peter Eades) **99d:68182** 68R10 (05C85, 68Q25)

— (*with* Cidon, Israel; Kutten, Shay; Mansour, Yishay; Peleg, David) Optimal broadcast with partial knowledge. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 512–525 (*electronic*). (Summary) **99d:90048** 90B12 (68Q22, 94A05)

Awodey, S. Structure in mathematics and logic: a categorical perspective. (English summary) *Philos. Math.* (3) **4** (1996), *no.* 3, 209–237. (Colin McLarty) **99c:03106** 03G30 (00A30, 03A05, 18B99)

Awrejcewicz, Jan (*with* Andrianov, Igor V.; Manevich, L. I.) ★ Asymptotic approaches in nonlinear dynamics. (English summary) New trends and applications. Springer Series in Synergetics. *Springer-Verlag, Berlin*, 1998. *xii*+310 *pp. ISBN* 3-540-63894-6 (Peter Ashwin) **99j:70028** 70K99 (34C29, 34E05, 70K30, 73B27, 73D35)

Awyong, Poh Wah (*with* Henk, Martin; Scott, Paul R.) Note on lattice-point-free convex bodies. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 7–12. (I. Bárány) **99e:52019** 52C07

— (*with* Scott, Paul R.) Circumradius-diameter and width-inradius relations for lattice constrained convex sets. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 147–152. (Summary) **99m:52010** 52A40

Axelrod, D. *see* **Advances in mathematical population dynamics—molecules, cells and man, 99d:92001**

Axelsson, Owe On algebraic multilevel preconditioning methods. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 4–19; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 1–12. 65N30 (65F30)

— (*with* Nikolova, Mariana) Uniform in ϵ convergence of finite element method for convection-diffusion equations using a priori chosen meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 253–276. (Eun-Jae Park) **99f:65157** 65N12 (65N30, 76M10, 76Rxx)

— (*with* Lu, Hao[1]) A survey of some estimates of eigenvalues and condition numbers for certain preconditioned matrices. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 241–264. (Summary) **99a:65044** 65F15 (65F35)

— (*with* Nikolova, Mariana) Avoiding slave points in an adaptive refinement procedure for convection-diffusion problems in 2D. (English summary) *Computing* **61** (1998), *no.* 4, 331–357. (Shuzi Zhou) **99m:65196** 65N06 (65N50, 76M20, 76Rxx)

— (*with* Larin, M. R.) An algebraic multilevel iteration method for finite element matrices. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 135–153. (Summary) **99c:65085** 65F50 (65F10, 65N22)

— (*with* Kaporin, I. E.) Minimum residual adaptive multilevel finite element procedure for the solution of nonlinear stationary problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1213–1229 (*electronic*). (Fu Ming Ma) **99d:65171** 65J10 (65F10, 65H10, 65L60)

— (*with* Padiy, Alexander) On a robust and scalable linear elasticity solver based on a saddle point formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 6, 801–818. (From the summary) **99i:73066** 73V05

— *see also* **Numerical methods and their applications, 99a:65005**

Axen, Ulrike (*with* Edelsbrunner, Herbert) Auditory Morse analysis of triangulated manifolds. (English summary) *Mathematical visualization* (*Berlin*, 1997), 223–236, *Springer, Berlin*, 1998. (*see* **99k:65005**) 58E05 (00A69, 65Y99)

Axler, Sheldon (*with* Zheng, De Chao) Compact operators via the Berezin transform. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 387–400. (Miroslav Engliš) **99i:47045** 47B35 (46E22)

— *see also* **Holomorphic spaces, 99a:00028**

Ayache, Ahmed (*with* Cahen, Paul-Jean) Radical valuatif et sous-extensions. (French summary) [Valuative radical and subextensions] *Comm. Algebra* **26** (1998), *no.* 9, 2767–2787. (Salah-Eddine Kabbaj) **99f:13011** 13C15 (13F20)

— Quelques remarques sur les conditions de chaînes. (French summary) [Some remarks about chain conditions] *Arch. Math.* (*Basel*) **72** (1999), *no.* 4, 270–277. (Lahoucine Izelgue) **99m:13020** 13C15 (13B24, 13F20)

Ayache, Nicholas (*with* Pennec, Xavier) Uniform distribution, distance and expectation problems for geometric features processing. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 49–67. (Summary) **99c:68259** 68U10

Ayad, Ahmet Spline approximation for first order Fredholm integro-differential equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 1–8. 65R20 (45L05)

— (*with* Micula, Gheorghe) A polynomial spline approximation method for solving Volterra integro-differential equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 71–80. (Summary) **99f:65204** 65R20 (45L05)

— Spline approximation for second order Fredholm integro-differential equations. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 79–91. (Summary) **99c:65122** 65L05 (65R20)

Ayad, Rezak (*with* Dhatt, Gouri; Batoz, Jean Louis) A new hybrid-mixed variational approach for Reissner-Mindlin plates. The MiSP model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1149–1179. (Summary) **99d:73085** 73V05 (73K10)

Ayad, Setti (*with* Heibig, Arnaud) Global interaction of fields in a system of conservation laws. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 701–725. (Shu-Xing Chen) **99c:35143** 35L65 (35B27)

vilariño Ayala, Darnes *see* **Vilariño Ayala, Darnes**

Ayala, G. (*with* Díaz, M. E.; Albert, Jesus V.; Ferri, F. J.; Domingo, Juan M.) Accurate detection and characterization of corner points using circular statistics and fuzzy clustering. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 687–696, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30

Ayala, R. (*with* Chávez, M. J.; Quintero, A.) A Hahn-Mazurkiewicz theorem for generalized Peano continua. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 325–330. (Michael Tkačenko) **99h:54045** 54F15 (54E40)

— (*with* Quintero, A.) On the Ganea strong category in proper homotopy. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 247–263. (Leonard R. Rubin) **99f:55006** 55M30

— (*with* Chávez, M. J.; Márquez, Alberto; Quintero, A.) On the proper planarity of 3-connected generalized Peano continua. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 171–181. (Summary) **99g:54030** 54F15 (57M15)

— (*with* Chávez, M. J.; Márquez, Alberto; Quintero, A.) On the connectivity of infinite graphs and 2-complexes. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 13–37. (Thomas Andreae) **99i:05126** 05C40 (57M15, 57M20)

Ayala, Victor (*with* Hacibekiroglu, A. K.) Local observability of invariant dynamics on compact Lie groups with square integrable output map functions. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 61–70. (Daizhan Cheng) **99b:93014** 93B07 (22E45)

— (*with* Rojo, O.; Soto, R.) Observability of the direct product of bilinear control systems on Lie groups. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 107–112. (Yuri L. Sachkov) **99f:93017** 93B07 (93B25, 93C10)

— (*with* Tirao, Juan) Linear control systems on Lie groups and controllability. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 47–64, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Jimmie D. Lawson) **99j:93005** 93B05 (22E60, 58E25, 93B29)

Ayari, M. A. (*with* Ayari, M. I.; Hussin, V.) Computation of Lie supersymmetries for the supersymmetric two bosons equations. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 416–427. (Summary) **99h:81058** 81Q60 (81R05)

Ayari, M. I. (*with* Ayari, M. A.; Hussin, V.) Computation of Lie supersymmetries for the supersymmetric two bosons equations. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 416–427. (Summary) **99h:81058** 81Q60 (81R05)

Aydemir, İsmail (*with* Tosun, Murat) On the $(k+1)$-dimensional space-like ruled surfaces in the Minkowski space $\mathbf{R}_1^n$. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 27–36 (1998). (Alan S. McRae) **99h:53021** 53B30 (53A25, 53A40)

— (*with* Tosun, Murat; Kuruoğlu, Nuri) Properties of 2-dimensional space-like ruled surfaces in the Minkowski space $\mathbf{R}_1^n$. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 93–101 (1998). (Alan S. McRae) **99h:53023** 53B30 (53A25, 53A40)

Aydin, Elâ (*with* Ekici, Naime) Residually finite subalgebras of Lie algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 109–112. (Yuliy Billig) **99k:17008** 17B05

Aydin, Hüseyin (*with* Dikici, Ramazan) General Fibonacci sequences in finite groups. *Fibonacci Quart.* **36** (1998), *no.* 3, 216–221. (Colin M. Campbell) **99e:20025** 20D15

Aydinian, H. *see* **Aidinyan, A. K.**

Aydoğdu, Halil (*with* Öztürk, Fikri) Estimation of the variance function in renewal processes. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 191–202. 62M05 (62F10, 62G05)

— (*with* Öztürk, Fikri) Some monotonicity properties of the variance function in renewal processes. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 31–37. (Paul

Embrechts) **99k:62184** 62N05 (60K05)

khin aye Aye *see* **Khin Aye Aye**

Aye, P. (*with* Nishida, Takaaki) Heat convection of compressible fluid. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 107–115, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:76038** 76E15 (76N10, 76R10)

khin Aye Aye *see* **Khin Aye Aye**

Aye Aye, Khin *see* **Khin Aye Aye**

ben Ayed, Mohamed *see* **Ben Ayed, Mohamed**

Ayer, Elizabeth (*with* Strichartz, Robert S.) Exact Hausdorff measure and intervals of maximum density for Cantor sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3725–3741. (Christoph Bandt) **99m:28014** 28A78 (28A80)

Ayerbe Toledano, J. M. (*with* Domínguez Benavides, T.; López Acedo, G.) ★ Measures of noncompactness in metric fixed point theory. (English summary) Operator Theory: Advances and Applications, 99. *Birkhäuser Verlag, Basel*, 1997. viii+211 *pp. ISBN* 3-7643-5794-0 (Brailey Sims) **99e:47070** 47H09 (46B20, 47H10)

Ayhan, Hayriye (*with* Wortman, Martin A.) Job flow control in assembly operations. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 864–868. (Summary) **99m:93067** 93C85

Aykanat, Cevdet (*with* Çatalyürek, Ümit V.) Decomposing irregularly sparse matrices for parallel matrix-vector multiplication. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 75–86, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 65Y05 (65F50)

Aykut, Arzu (*with* Yildiz, Bünyamin) On a boundary value problem for a differential equation with variant retarded argument. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 63–71. (Summary) **99c:34149** 34K10 (34A45, 65L10)

Ayón, Eloy (*with* Cabo, Alejandro) About black holes with nontrapping interior. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 13, 2013–2022. 83C57

Ayongga (*with* Wu, Xianghua) Hamiltonicity locally connected G of $K_{1,s}$-free graphs. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 5, 38. (Summary) **99h:05078** 05C45

— (*with* Siqin) Traceability of subsets in cubic graphs. (English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 1, 14–15. 05C45

Ayoshin, Dmitri A. (*with* Petrosyan, L. A.; Tanaka, Tamaki) Construction of a time consistent core in multichoice multistage games. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 198–206. (Summary) **99j:90132** 90D20 (90D12)

Ayoub, Christine Williams My recollections of the early days of the congress and of my father, Lloyd Williams. *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 277–302, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A70

Ayoub, Raymond G. (*with* Huard, James G.; Williams, Kenneth S.) Sarvadaman Chowla (1907–1995). *Notices Amer. Math. Soc.* **45** (1998), *no.* 5, 594–598. (Editors) **99k:01044** 01A70

Ayra, S. P. Unstable and convective boundary layers. (English summary) *Dynamics of atmospheric flows*, 1–38, *Adv. Fluid Mech.*, 18, *Comput. Mech., Southampton*, 1998. (Summary) **99m:86007** 86A10 (76E20)

Aytuna, A. *see* **Dedicated to Professor Vyacheslav Pavlovich Zahariuta, 99a:00052**

Ayub, M. (*with* Asghar, Saleem; Hayat, Tasawar) Aerodynamic sound due to a Gaussian pulse near an absorbing half-plane in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 131–144. (Summary) **99d:76089** 76Q05 (76G25)

— (*with* Asghar, Saleem; Hayat, Tasawar) Scattering of sound near an absorbing strip. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 331–343. (Summary) **99f:76118** 76Q05

Ayukaev, R. I. (*with* Nizhnik, P. P.) Anamorphism of the Cartesian nomogram in composite nomograms. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 41–46. 26B99

Ayupov, Shavkat A. (*with* Yadgorov, N. Dzh.) Geometry of the state spaces in quantum probability. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 43–52, *TEV, Vilnius*, 1994. (Gottfried T. Rüttimann) **99m:46150** 46L50 (46L30, 46L70, 46N50, 81P10)

— (*with* Rakhimov, Abdugafur; Usmanov, Shukhrat) ★ Jordan, real and Lie structures in operator algebras. (English summary) Mathematics and its Applications, 418. *Kluwer Academic Publishers Group, Dordrecht*, 1997. x+225 *pp. ISBN* 0-7923-4684-X (Cho Ho Chu) **99g:46100** 46L70 (17B60, 17C50, 46L10)

— (*with* Omirov, B. A.) On Leibniz algebras. *Algebra and operator theory* (*Tashkent*, 1997), 1–12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sebastian Walcher) **99i:17001** 17A30 (17B99)

— Fermat's last theorem. (Russian) *Uzbek. Mat. Zh. No.* 4 (1998), 84–86. 01A99 (11D41)

— *see also* **Algebra and operator theory, 99d:00012**

Ayupova, N. B. (*with* Golubyatnikov, V. P.) Formal solutions of an inverse problem for a class of evolution equations. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 21–29, 189, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Peter G. Danilaev) **99g:35141** 35R30 (34G10, 35K99)

— (*with* Golubyatnikov, V. P.) On formal solutions to multidimensional evolution equations. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 4, 21–40. (Dang Dinh Ang) **99m:35028** 35C99 (35K99, 35R30)

hernández Ayuso, Ma. del Carmen *see* **Hernández Ayuso, Ma. del Carmen**

Ayyad, Anwar The distribution of solutions of the congruence $x_1x_2x_3\cdots x_n \equiv c \pmod{p}$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 943–950. (Ronald J. Evans) **99i:11023** 11D79 (11L40)

Ayyappan, G. (*with* Renganathan, N.) On bulk service Markovian queue with service batch size dependence and with accessible and non-accessible batches. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 45–54. 60K25

al-Ayyoub, Abdel-Elah *see* **Al-Ayyoub, Abdel-Elah**

sorolla Ayza, M. *see* **Sorolla Ayza, M.**

Ayzenberg, M. V. (*with* Slepyan, L. I.) Localization of strain and the melting wave in high-speed penetration. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 129–140, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 73E99 (73D05)

Azad, Hassan *see* **Jost, Jürgen, 99f:00002**

Azagra, D. (*with* Gómez Gil, Javier; Jaramillo, Jesús Angel) Rolle's theorem and negligibility of points in infinite-dimensional Banach spaces. *Extracta Math.* **11** (1996), *no.* 3, 480–484. (Li Xin Cheng) **99b:46064** 46G05 (46B20)

— (*with* Dobrowolski, Tadeusz) Smooth negligibility of compact sets in infinite-dimensional Banach spaces, with applications. *Math. Ann.* **312** (1998), *no.* 3, 445–463. (Gilles Godefroy) **99m:46027** 46B20 (46B26, 58B99)

Azaïez, Mejdi (*with* Ben Belgacem, Faker; Grundmann, M.; Khallouf, H.) Staggered grids hybrid-dual spectral element method for second-order elliptic problems. Application to high-order time splitting methods for Navier-Stokes equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 183–199. (Summary) **99j:76070** 76M10 (76D05)

Azaïs, Jean-Marc (*with* Wschebor, Mario) Oscillation presque sûre de martingales continues. (French summary) [Almost sure oscillation of continuous martingales] *Séminaire de Probabilités, XXXI*, 69–76, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Pawel Hitczenko) **99e:60055** 60F05 (60G44)

Azam, Akbar (*with* Beg, Ismat) Common fixed points for commuting and compatible maps. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 121–135. 54H25 (54C60)

Azam, Saeid Nonreduced extended affine root systems of nullity 3. (English summary) *Comm. Algebra* **25** (1997), *no.* 11, 3617–3654. (Eric N. Sommers) **99f:17009** 17B20

Azar, Yossi (*with* Bartal, Yair; Feuerstein, Esteban; Fiat, Amos; Leonardi, Stefano; Rosén, Adi) On capital investment. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 429–441, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (N. H. Bingham) **99c:90017** 90A09 (68Q25)

— (*with* Epstein, Leah) On-line machine covering. (English summary) *Algorithms—ESA '97* (*Graz*), 23–36, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90B35 (68M20, 68Q20)

— (*with* Epstein, Leah) Approximation schemes for covering and scheduling in related machines. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 39–47, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (*see* **99i:68002**) 90B22 (68M20)

— On-line load balancing. *Online algorithms* (*Schloss Dagstuhl*, 1996), 178–195, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68M20 (68N25, 90C35)

— (*with* Avidor, Adi; Sgall, Jiří) Ancient and new algorithms for load balancing in the L_p norm. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 426–435, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20, 68Q25)

— (*with* Alon, Noga; Csirik, János; Epstein, Leah; Sevast'yanov, S. V.; Vestjens, Arjen P. A.; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 104–118. (Editors) **99c:68116** 68Q25 (90C27)

— (*with* Alon, Noga; Woeginger, Gerhard J.; Yadid, Tal) Approximation schemes for scheduling on parallel machines. (English summary) *J. Sched.* **1** (1998), *no.* 1, 55–66. (Summary) **99e:90038** 90B22 (90C27)

— (*with* Awerbuch, Baruch; Blum, Avrim L.; Vempala, Santosh) New approximation guarantees for minimum-weight k-trees and prize-collecting salesmen. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 254–262 (*electronic*). (T. R. S. Walsh) **99e:68063** 68Q25 (05C85, 68R10)

Azarian, M. K. Recent advances in the near Frattini subgroup. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 55–68, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Dimitrios Varsos) **99f:20040** 20E06 (20E28)

Azarin, Vladimir Completely regular growth on a prescribed set of rays and the limit set of entire functions. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 53–65. (Summary) **99m:30055** 30D15 (30D20)

Azarnova, T. V. Estimates for the elements of inverse matrices for some classes of bounded linear operators. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 74–77; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 3, 70–73. (Wacław Szymański) **99e:47057** 47D30 (46H99, 47A30)

Azarov, D. N. On the residual finiteness of free products of groups with one amalgamated subgroup. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 1, 3–13, i; *translation in Siberian Math. J.* **38** (1997), *no.* 1, 1–9. (From the introduction) **99c:20031** 20E26 (20E06)

Azarova, O. A. (*with* Yanitskiĭ, V. E.) Numerical investigation of the statistical characteristics of density fluctuations in a flow with a shock wave. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1751–1757; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1680–1685. (Summary) **99f:76081** 76L05 (76M20, 76M35, 76N15)

Azbel', M. Ya. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Azbelev, Nikolaĭ Viktorovich (*with* Simonov, P. M.) Stability of equations with a retarded argument. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 6, 3–16; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 6, 1–14. (Elena Litsyn) **99h:34112** 34K20

— Impact of certain traditions on development of the theory of differential equations. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 1–8. (Summary) **99k:34020** 34A40 (34K15)

— *see also* **Izobov, N. A. et al., 99k:01062**

de Azcárraga, J. A. (*with* Rodenas, F.) Differential calculus on q-Minkowski space. (English summary) *Quantum groups* (*Karpacz*, 1994), 221–230, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 58B30

— (*with* Herranz, Francisco J.; Pérez Bueno, J. C.; Santander, Mariano) Central extensions of the quasi-orthogonal Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1373–1394. (Saïd Benayadi) **99d:17004** 17B05 (17B56)

— (*with* Macfarlane, A. J.; Mountain, Arthur J.; Pérez Bueno, J. C.) Invariant tensors for simple groups. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 657–687. (Saïd Benayadi) **99e:17011** 17B20 (17B56, 81R05)

zárate Azcuna, María José *see* **Zárate Azcuna, María José**

Azé, Dominique (*with* Bolintinéanu, S.) A boundary control problem with parabolic dynamic and final boundary observation. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 13–28, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Jean-Pierre Raymond) **99c:49019** 49K20 (49K27)

— (*with* Penot, Jean-Paul) Uniformly convex and uniformly smooth convex functions. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, 705–730. (Constantin Zălinescu) **99c:49015** 49J52 (47H05, 49N15)

— (*with* Chou, Chin Ch'êng; Penot, Jean-Paul) Subtraction theorems and approximate openness for multifunctions: topological and infinitesimal viewpoints. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 33–58. (H. H. Bauschke) **99m:49022** 49J52 (46A30, 47H04, 54C60)

— (*with* Poliquin, R. A.) Equicalmness and epiderivatives that are pointwise limits. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 555–573. (Jörg Thierfelder) **99b:49014** 49J52 (26B05, 58C20)

— (*with* Michel, Laurence) Computable dual characterizations of asymptotically well-behaved convex functions. *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 39–49. (T. Zolezzi) **99m:49041** 49K45 (90C25, 90C31)

Azeez, M. F. A. (*with* Vakakis, Alexander F.) Analytic approximation of the homoclinic orbits of the Lorenz system at $\sigma = 10$, $b = 8/3$ and $\rho = 13.926\cdots$. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 3, 245–257. (Summary) **99a:34139** 34C37 (34A45, 65L07)

— (*with* Pilipchuk, V. N.; Vakakis, Alexander F.) Sensitive dependence on initial conditions of strongly nonlinear periodic orbits of the forced pendulum. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 3, 223–237. 70K40

Azéma, J. (*with* Rainer, Catherine; Yor, Marc) Une propriété des martingales pures. [A property of pure martingales] *Séminaire de Probabilités, XXX*, 243–254, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Ely Merzbach) **99c:60098** 60G44 (60J65)

— *see also* **Seminar: Probability Theory**, **99f:60006**

Azérad, Pascal (*with* Besson, Olivier; Guillén González, Francisco M.) Fluid flow in shallow domains: mathematical analysis and numerical simulation. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 9–16, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 76D05 (76M10)

Azevedo, Assis (*with* Zeitoun, Marc) Three examples of join computations. (English summary) *Semigroup Forum* **57** (1998), *no.* 2, 249–277. (Jorge Almeida) **99g:20103** 20M07 (20M05)

de Azevedo, C. A. (*with* Potapenko, I. F.) The completely conservative difference schemes for the nonlinear Landau-Fokker-Planck equation. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 115–123. (Anne Nouri) **99m:65165** 65M06 (82C31)

Azevedo, M. M. (*with* Bagherzadeh, N.; Dowd, Martin J.; Latifi, Shahram) Average distance and routing algorithms in the star-connected cycles interconnection network. (English summary) *Sci. Iran.* **3** (1997), *no.* 4, 175–187. (Summary) **99g:68011** 68M10 (68R10)

Azevedo Scárdua, B. Parabolic uniform limits of holomorphic flows in $\mathbf{C}^2$. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 123–130. (M. G. Soares) **99d:32042** 32L30 (58F18)

Azimi, Parviz A class of complementably hereditarily l_p Banach spaces. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 1–4, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 46B45 (46B20)

Aziz, Abdul[1] (*with* Shah, W. M.) L^p inequalities for polynomials with restricted zeros. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 247–258. (Summary) **99c:41025** 41A17

— (*with* Shah, W. M.) An integral mean estimate for polynomials. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1413–1419. (Summary) **99a:30005** 30C10

— (*with* Zargar, B. A.) On the critical points of a polynomial. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 173–174. (Summary) **99a:30006** 30C10

— (*with* Rather, Nisar Ahmed) New L^q inequalities for polynomials. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 177–191. (Saulius Norvidas) **99b:26025** 26D05 (41A17)

— (*with* Rather, Nisar Ahmed) A refinement of a theorem of Paul Turán concerning polynomials. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 231–238. (N. K. Govil) **99b:30001** 30A10 (30C10, 30D15)

— (*with* Zargar, B. A.) Inequalities for a polynomial and its derivative. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 543–550. (N. K. Govil) **99h:30001** 30A10 (30C10, 30E10)

— (*with* Shah, W. M.) L^p inequalities for polynomials with restricted zeros. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 63–68. (Summary) **99c:26011** 26D05

Aziz, K. I. (*with* Thomson, M.) Robustness of a minimal observer synthesis algorithm. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 141–154. 93B35 (93B40)

abdel-Aziz, Mohammedi R. *see* **Abdel-Aziz, Mohammedi R.**

Aziz, Tariq (*with* Rashidinia, Jalil) Spline solution of fourth-order parabolic partial differential equations. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 2, 139–148. 65M99 (65D07)

Azizoğlu, M. Cemil (*with* Eğecioğlu, Ömer) Isoperimetric number of the Cartesian product of graphs and paths. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 135–143. (Summary) **99j:05095** 05C35

Azizov, M. Exact order of information complexity of weakly singular integral equations with periodic analytic coefficients. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 643–656; *translation in Math. Notes* **62** (1997), *no.* 5-6, 537–548 (1998). (Stefan Heinrich) **99g:45012** 45L05 (45E05, 65R20, 68Q25)

Azizov, T. Ya. (*with* Dijksma, Aad) Contractive linear relations in Pontryagin spaces. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 19–51, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Stefania A. M. Marcantognini) **99h:47042** 47B50 (46C20, 47A05, 47A20)

— (*with* Barsukov, A. I.) Algebraic structure of H-dissipative operators in a finite-dimensional space. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 163–169; *translation in Math. Notes* **63** (1998), *no.* 1-2, 145–149. (L. Rodman) **99e:15029** 15A63 (47B50)

Azlarov, O. T. (*with* Khashimov, Sh. A.) On a projection estimate for the density of a distribution. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 91–99. (Serguei Yu. Novak) **99f:62053** 62G05

Azlarov, Tursun Abdurakhimovich *see* **Birthday: Azlarov, Tursun Abdurakhimovich**

Azoff, Edward A. (*with* Ding, Lifeng) A good side to non-reflexive transformations. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 1–21, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Sing Cheong Ong) **99h:47050** 47D25 (47A99, 47C05)

— (*with* Ptak, Marek) A dichotomy for linear spaces of Toeplitz operators. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 411–428. (Shunhua Sun) **99h:47030** 47B35 (47D15)

garcía Azorero, J. P. *see* **García Azorero, J. P.**

Azou, S. (*with* Vilbe, P.; Calvez, L. C.) Balanced realization using an orthogonalization procedure and modular polynomial arithmetic. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 8, 1507–1518. (Summary) **99d:93010** 93B15 (93B40)

Azrak, Rajae (*with* Mélard, Guy) The exact quasi-likelihood of time-dependent ARMA models. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 31–45. (Summary) **99b:62129** 62M10

Azreg-Aïnou, Mustapha Instability of two-dimensional heterotic stringy black holes. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 245–253. (Marco Cavaglià) **99m:83093** 83C57 (83E30)

sossa-Azuela, J. H. *see* **Sossa-Azuela, J. H.**

Azuma, Takehito (*with* Watanabe, Ryo; Uchida, Kenko) Robust H_∞ control for linear systems with uncertain parameters and scheduling parameters. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 297–305. 93B36 (93C41)

–B–

Ba, Dalahu *see* **Badalahu**

Baacke, Jürgen (*with* Heitmann, Katrin; Pätzold, Carsten) Choice of initial states in nonequilibrium dynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6398–6405. 81T20

Baader, Franz (*with* Nipkow, Tobias) ★Term rewriting and all that. (English summary) *Cambridge University Press, Cambridge*, 1998. *xii*+301 *pp. ISBN* 0-521-45520-0 (Klaus Madlener) **99k:68088** 68Q42 (03B35, 08A70, 68–02, 68Q40)

— (*with* Borgida, Alex; McGuinness, Deborah L.) Matching in description logics: preliminary results. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 15–34, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T30 (68Q25)

— On the complexity of Boolean unification. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 215–220. (Summary) **99e:68064** 68Q25 (03B05, 03D15, 68T15)

— (*with* Schulz, Klaus U.) Combination of constraint solvers for free and quasi-free structures. (English summary) Rewriting systems and applications (Kaiserslautern, 1995). *Theoret. Comput. Sci.* **192** (1998), *no.* 1, 107–161. (Summary) **99j:68127** 68T20 (68Q40, 68T15)

Baaijens, F. P. T. (*with* van Rens, B. J. E.; Brekelmans, W. A. M.) Homogenization of the elastoplastic behavior of perforated plates. (English summary) *Comput. & Structures* **69** (1998), *no.* 4, 537–545. (Summary) **99e:73014** 73B27 (73E05, 73K10)

Baaj, Saad (*with* Skandalis, Georges) Transformations pentagonales. (English and French summaries) [Pentagonal transformations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 623–628. (Tullio G. Ceccherini-Silberstein) **99k:28018** 28D05 (22D25, 46L89)

Baake, Ellen What can and what cannot be inferred from pairwise sequence comparisons? (English summary) *Math. Biosci.* **154** (1998), *no.* 1, 1–21. (Summary) **99g:92021** 92D20 (92B10)

Baake, Michael Algebraic solution of the coincidence problem for crystals and quasicrystals. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 31–40, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82D25 (11Z05, 52C20)

— (*with* Grimm, Uwe) Aperiodic Ising models. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 199–237, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jacobus Verbaarschot) **99b:82022** 82B20 (82B23)

— Combinatorial aspects of colour symmetries. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2687–2698. (Mihail N. Kolountzakis) **99b:11077** 11H56 (05A15, 11M41, 11Z05, 82D25)

— (*with* Elser, V.; Grimm, Uwe) The entropy of square-free words. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 13–26. (Valérie Berthé) **99d:68202** 68R15 (05A15)

— (*with* Moody, Robert V.) Similarity submodules and semigroups. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 1–13, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99h:52024** 52C22 (11M41, 20M20)

— (*with* Moody, Robert V.; Schlottmann, Martin) Limit-(quasi)periodic point sets as quasicrystals with p-adic internal spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5755–5765. (Summary) **99f:82061** 82D25 (52C20)

— (*with* Richard, Christoph; Höffe, M.; Hermisson, J.) Random tilings: concepts and examples. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6385–6408. (Richard Kenyon) **99g:82033** 82B41 (52C20, 82D25)

van Baal, Pierre A simple new improved lattice action. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 608–611, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T25

— (*with* Kraan, Thomas C.) Exact T-duality between calorons and Taub-NUT spaces. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 268–276. (Summary) **99c:83096** 83E30 (81T30, 83C15)

al-Baali, M. *see* **Al-Baali, M.**

Baart, M. L. (*with* Coetzee, M. A.) Transfinite interpolation of conic triangles using quadric patches. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 75–85. (Summary) **99a:65022** 65D17

Baas, N. A. Self-organization and higher order structures. *Self-organization of complex structures* (*Berlin*, 1995), 71–81, *Gordon and Breach, Amsterdam*, 1997. (*see* **99k:92005**) 92B05

Baaz, Matthias (*with* Zach, Richard) Compact propositional Gödel logics. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 108–113, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

— (*with* Fermüller, Christian G.; Salzer, Gernot; Zach, Richard) Labeled calculi and finite-valued logics. (English summary) Many-valued logics. *Studia Logica* **61** (1998), *no.* 1, 7–33. (Radim Bělohlávek) **99m:03043** 03B50 (03B22, 03F05)

okb el-Bab, A. S. *see* **Okb El-Bab, A. S.**

Baba, Yasumasa *see* **Data science, classification, and related methods, 99b:62002**

Babaev, M.-B. A. Approximation of the Sobolev classes W_q^r of functions of several variables by bilinear forms in L_p for $2 \le q \le p \le \infty$. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 18–34; *translation in Math. Notes* **62** (1997), *no.* 1-2, 15–29 (1998). (Yuly Makovoz) **99c:41066** 41A65 (46E35)

Baba Harra, M'hammed Propriétés asymptotiques d'un estimateur bi-spectral pour un processus p-adique strictement homogène. (English and French summaries) [Asymptotic properties of a bispectral estimator for a strictly homogeneous p-adic process] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 987–990. (Pham Dinh Tuan) **99i:62222** 62M15

Babai, László Communication complexity. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 5–18, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68040** 68Q10 (68Q25)

— (*with* Luks, Eugene M.; Seress, Akos) Fast management of permutation groups. I. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1310–1342. (Richard M. Thomas) **99d:20007** 20B40 (20–04, 68Q25, 68Q40)

Babalean, Aurel (*with* Constantinescu, Radu D.; Ionescu, Carmen) Non-minimal BRST terms for Yang-Mills theory. (English summary) *J. Phys. A* **31** (1998), *no.* 43, 8653–8659. (Summary) **99m:81267** 81T70 (81T13)

Babalyev, T. Kh. (*with* Ushakov, V. N.) An inverse problem in the theory of differential inclusions. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 451–456, 572; *translation in Differential Equations* **34** (1998), *no.* 4, 447–453. (Corneliu Ursescu) **99m:34024** 34A60

Babb, James Scott (*with* Zacks, Shelemyahu; Rogatko, A.) Optimal Bayesian-feasible dose escalation for cancer phase I trials. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 215–220. (Summary) **99b:62118** 62L05 (62P10)

Babbage, Charles *see* **Bromley, Allan G., 99i:01016** *and* **Biography: Babbage, Charles, 99i:01021**

Babel, Luitpold (*with* Olariu, Stephan) On the separable-homogeneous decomposition of graphs (extended abstract). (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 25–37, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (05C70, 05C85)

— (*with* Woeginger, Gerhard J.) Pseudo-Hamiltonian graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 38–51, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68183** 68R10 (05C45, 05C85, 68Q25)

— (*with* Olariu, Stephan) On the structure of graphs with few P_4s. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 1–13. (William L. Kocay) **99g:05151** 05C75 (05C38)

— Triangulating graphs with few P_4's. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 45–57. (Hans L. Bodlaender) **99k:05057** 05C05 (05C85, 68R10)

— Tree-like P_4-connected graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 13–23. (Summary) **99e:05102** 05C75 (05C40)

— (*with* Kellerer, Hans²; Kotov, Vladimir) The k-partitioning problem. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 59–82. (Frank Werner) **99d:90090** 90C27 (90B35)

Babelon, O. (*with* Bernard, Denis; Smirnov, F. A.) Form factors, KdV and deformed hyperelliptic curves. (English summary) *R.C.P.* 25, *Vol.* 48, 69–85, *Prépubl. Inst. Rech. Math. Av.*, 1997/42, *Univ. Louis Pasteur, Strasbourg*, 1997. (Iskander A. Taimanov) **99k:58081** 58F07 (14H45, 81T10)

— (*with* Bernard, Denis; Smirnov, F. A.) Form factors, KdV and deformed hyperelliptic curves. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 21–33. (Gregorio Falqui) **99c:81217** 81T40 (14H40, 58F07, 81R10)

Babenko, Ivan K. Topological entropy of geodesic flows on simply connected manifolds, and related problems. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 3, 57–74; *translation in Izv. Math.* **61** (1997), *no.* 3, 517–535. (Iskander A. Taimanov) **99b:58182** 58F17 (55P62)

— (*with* Katz, Mikhail G.) Systolic freedom of orientable manifolds. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 6, 787–809. (Andrea Sambusetti) **99m:53083** 53C23

— (*with* Katz, Mikhail G.; Suciu, Alexander I.) Volumes, middle-dimensional systoles, and Whitehead products. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 461–471. (Athanase Papadopoulos) **99m:53084** 53C23 (53C20, 55Q15)

Babenko, Vladislav F. (*with* Kofanov, V. A.; Pichugov, S. A.) On exact inequalities of Landau-Hadamard-Kolmogorov type for functions of several variables. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 7–9. (Vladimir D. Stepanov) **99b:26027** 26D10 (47A30)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Kolmogorov-type inequalities and the approximation of functional classes. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 11–16. (Yu. A. Brudnyĭ) **99m:41018** 41A17 (41A65)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Inequalities for norms of intermediate derivatives of periodic functions and their applications. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 351–376. (Ha Huy Bang) **99f:41012** 41A17 (26D10)

— (*with* Vakarchuk, M. B.) On inequalities of Kolmogorov-Hörmander type for functions bounded on a discrete grid. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 988–992; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1109–1113 (1998). (Summary) **99i:41010** 41A17

— Inequalities for norms of intermediate derivatives and some their applications. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 77–96, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dumitru Acu) **99d:26020** 26D10 (41A44, 42A05)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Additive inequalities for intermediate derivatives of differentiable mappings of Banach spaces. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 332–342; *translation in Math. Notes* **63** (1998), *no.* 3-4, 293–301. (Kazimierz Włodarczyk) **99j:46048** 46G05 (46G20, 58B10, 58C25)

— (*with* Kofanov, V. A.; Pichugov, S. A.) Inequalities of Kolmogorov type and some their applications in approximation theory. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 223–237. (Gianluca Vinti) **99g:26035** 26D07 (26D10, 41A17)

Babeshko, V. A. (*with* Buzhan, V. V.; Natal'chenko, A. V.; Smirnova, A. V.) On the problem of computing the strength of welded structures. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 2, 12–16, 101. 73K99

Babich, Ivan Yur'evich *see* **Birthday: Babich, Ivan Yur'evich**

Babich, M. V. (*with* Korotkin, D. A.) Self-dual SU(2)-invariant Einstein metrics and modular dependence of theta functions. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 323–337. (Vasily A. Chernecky) **99m:83040** 83C20 (11F27, 53C25)

Babich, Vasilii M. (*with* Luk'yanov, V. V.) Wave propagation along a curved piezoelectric layer. (English summary) *Wave Motion* **28** (1998), *no.* 1, 1–11. (Introduction) **99a:73047** 73D15 (73D40, 73R05)

— The higher-dimensional WKB method or ray method. Its analogues and generalizations [MR 91i:35143]. *Partial differential equations, V*, 91–131, 241–247, *Encyclopaedia Math. Sci.*, 34, *Springer, Berlin*, 1999. (*see* **99i:35002**) 35P25 (35C20, 35J05)

Babillot, Martine (*with* Peigné, Marc) Closed geodesics in homology classes on hyperbolic manifolds with cusps. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I*

Math. **324** (1997), *no.* 8, 901–906. (Thomas A. Schmidt) **99a:58121** 58F17 (57S30)
— (*with* Ledrappier, François) Lalley's theorem on periodic orbits of hyperbolic flows. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 17–39. (Viviane Baladi) **99a:58128** 58F20 (58F11, 58F15)
— Asymptotics of Green functions on a class of solvable Lie groups. (English summary) *Potential Anal.* **8** (1998), *no.* 1, 69–100. (Vadim A. Kaĭmanovich) **99g:60133** 60J50 (31C12, 60B15, 60J15, 60J45)
Babilodze, D. S. On the solvability of a Darboux-type problem for second-order loaded hyperbolic equations. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 180–182 (1995). 35L15
Babilonová, Marta On a conjecture of Agronsky and Ceder concerning orbit-enclosing ω-limit sets. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 773–777. (Jozef Bobok) **99i:26004** 26A18 (58F08)
Babin, A. V. Homotopy stable spatially chaotic waves on an infinite interval. *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 139–144, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 35L70 (58F39, 76B15)
— (*with* Mahalov, Alex; Nicolaenko, Basil) Long-time averaged Euler and Navier-Stokes equations for rotating fluids. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 145–157, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 35Q30 (76C05, 76D05, 76U05)
— (*with* Mahalov, Alex; Nicolaenko, Basil) Regularity and integrability of 3D Euler and Navier-Stokes equations for rotating fluids. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 103–150. (Esteban G. Tabak) **99b:76092** 76U05 (35Q30, 76B15, 76C99, 76D05)
Babitskiĭ, A. V. Optimization of the input flow in a single-server queueing system. (Belorussian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 53–57, 80. 90B22
Babitskiĭ, V. I. ★ Theory of vibro-impact systems and applications. Translated from the Russian by N. Birkett and revised by the author. Foundations of Engineering Mechanics. *Springer-Verlag, Berlin*, 1998. *xvi+318 pp. ISBN* 3-540-63723-0 (Alexander P. Seyranian) **99j:70026** 70Kxx (70L05, 73K12, 73K50)
Babloyan, A. A. (*with* Makaryan, V. S.) Dual integral equations that contain combinations of trigonometric functions. (Russian. Armenian summary) *Izv. Nats. Akad. Nauk Armen. Mekh.* **49** (1996), *no.* 2, 8–18. (From the text) **99f:45006** 45F10
Babloyantz, A. (*with* Krishchenko, A. P.; Nosov, A. P.) Analysis and stabilization of nonlinear chaotic systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 355–368. (R. N. Mukherjee) **99c:93084** 93D15 (34C05, 34D05, 34H05, 58F13, 58F40)
Babolian, E. (*with* Abbasbandy, S.) An augmented Galerkin method for singular integral equations with Hilbert kernel. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 1–8, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 65R20 (45E05, 45L05)
— (*with* Darvishi, M. T.) Determination of optimal values of parameters in ASOR methods. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 129–138, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 65F10
— (*with* Abbasbandy, S.) An augmented Galerkin method for singular integral equations with Hilbert kernel. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 60–64. 65R20 (45E05, 45L05)
— (*with* Abbasbandy, S.) Interpolation of fuzzy data by natural splines. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 457–463. 65D07 (90C70)
Baboolal, D. (*with* Ori, R. G.) On uniform connectedness in nearness frames. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 163–170. (From the introduction) **99j:54028** 54E15
Babourova, O. V. *see* **Baburova, O. V.**
Babovsky, Hans ★ Die Boltzmann-Gleichung: Modellbildung—Numerik—Anwendungen. (German) [The Boltzmann equation: building of models—numerics—applications] Leitfäden der Angewandten Mathematik und Mechanik [Guides to Applied Mathematics and Mechanics], 75. *B. G. Teubner, Stuttgart*, 1998. 199 *pp. ISBN* 3-519-02380-6 (Alexander Orlov) **99i:82032** 82C40 (35Q99, 65M60, 76P05, 82–08)
— Discretization and numerical schemes for steady kinetic model equations. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 29–40. (Anne Nouri) **99a:76105** 76M25 (65C05, 76P05, 82C40, 82C80)
— A constructive approach to steady nonlinear kinetic equations. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 199–211. (Summary) **99c:76095** 76P05 (65L99, 76M25, 82C40)
— On a Monte Carlo scheme for Smoluchowski's coagulation equation. (English summary) *Monte Carlo Methods Appl.* **5** (1999), *no.* 1, 1–18. (Summary) **99m:65010** 65C05 (65C20, 82C80)
Babson, Eric K. (*with* Billera, Louis J.; Chan, Clara S.) Neighborly cubical spheres and a cubical lower bound conjecture. (English summary) *Israel J. Math.* **102** (1997), 297–315. (P. McMullen) **99a:52011** 52B12
— (*with* Billera, Louis J.) The geometry of products of minors. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 231–249. (Alexander I. Barvinok) **99j:52010** 52B05 (52B11, 52B12)
— (*with* Benjamini, Itai) Cut sets and normed cohomology with applications to percolation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 589–597. (John C. Wierman) **99g:05119** 05C40 (60K35)
ravindranadh Babu, G. V. *see* **Ravindranadh Babu, G. V.**
Babu, G. V. R. *see* **Ravindranadh Babu, G. V.**
syam Babu, M. *see* **Syam Babu, M.**
Babu, M. Syam *see* **Syam Babu, M.**
Babu, S. Ramesh (*with* Sanyal, Amitabha; Venkatesh, G.) Proof of correctness of a direct construction of DFA from regular expression. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 191–210. (Summary) **99d:68142** 68Q45 (68N20)
Babujian, H. M. (*with* Karowski, Michael; Zapletal, A.) Matrix difference equations and a nested Bethe ansatz. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6425–6450. (Summary) **99c:82023** 82B23 (39A10, 81R50)
— (*with* Kitaev, A. V.) Generalized Knizhnik-Zamolodchikov equations and isomonodromy quantization of the equations integrable via the inverse scattering transform: Maxwell-Bloch system with pumping. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2499–2506. (Dmitri Korotkin) **99c:81263** 81U40 (32G34, 33C90, 35Q60, 81V80)
— (*with* Fring, Andreas; Karowski, Michael; Zapletal, A.) Exact form factors in integrable quantum field theories: the sine-Gordon model. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 535–586. (Summary) **99j:81105** 81T10
Babu Joseph, K. (*with* Sreelatha, K. S.) On the integrability properties of a perturbed nonlinear Schrödinger field equation. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1865–1874. (Summary) **99i:35157** 35Q55
Babu Raj, C. (*with* Manoharan, M.) On the waiting time distribution of a single and batch service $M/M/1$ queue. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 1, 59–65. (Summary) **99c:90051** 90B22 (60K25)
Baburova, O. V. (*with* Vshivtsev, A. S.; Myasnikov, V. P.; Frolov, B. N.) A model of an ideal fluid with spin and a nonabelian color charge. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 183–186; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 611–614. (M. I. Monastyrskiĭ) **99f:81128** 81T13 (76Y05)
— (*with* Frolov, B. N.) Perfect hypermomentum fluid: variational theory and equations of motion. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 31, 5391–5407. (Summary) **99k:85002** 85A30 (76Y05)
— (*with* Frolov, B. N.) Perfect fluid and test particle with spin and dilatonic charge in a Weyl-Cartan space. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 7–13. 83D05 (83C55)
Babuška, Ivo M. (*with* Li, Li Kang; Chen, Jiun-Shiyan) The boundary layer for p-model plate problems. I. Asymptotic analysis. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 181–201. (From the summary) **99c:73043a** 73K10 (73V05)
— (*with* Li, Li Kang; Chen, Jiun-Shiyan) The boundary layer for p-model plate problems. II. Boundary layer behavior. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 203–216. (Summary) **99c:73043b** 73K10 (73V05)
— (*with* Stroubolis, T.; Gangaraj, S. K.) A posteriori estimation of the error in the recovered derivatives of the finite element solution. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 369–396. (Gert Lube) **99c:65194** 65N15 (65N30)
— (*with* Stroubolis, T.; Upadhyay, C. S.) A model study of the quality of a posteriori error estimators for finite element solutions of linear elliptic problems, with particular reference to the behavior near the boundary. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 14, 2521–2577. (Mark Ainsworth) **99a:73116** 73V05 (65N30)
— (*with* Ihlenburg, Frank; Strouboulis, T.; Gangaraj, S. K.) A posteriori error estimation for finite element solutions of Helmholtz' equation. II. Estimation of the pollution error. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 3883–3900. (Zhangxin Chen) **99a:76080** 76M10 (65N30, 76Q05)
— (*with* Sauter, Stefan A.) Is the pollution effect of the FEM avoidable for the Helmholtz equation considering high wave numbers? (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2392–2423. (Mark Ainsworth) **99b:65135** 65N30
— (*with* Zhang, Zhimin) The partition of unity method for the elastically supported beam. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 1–18. (Michael Fröhner) **99b:73039** 73V05 (65N30, 73K05)
— (*with* Stone, Thomas J.) A numerical method with a posteriori error estimation for determining the path taken by a propagating crack. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 245–271. (Summary) **99d:73074** 73M25 (73V05)
— (*with* Shirron, Joseph J.) A comparison of approximate boundary conditions and infinite element methods for exterior Helmholtz problems. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 121–139. (Summary) **99j:76099** 76M25 (65N30, 73V20, 76Q05, 78–08)
— (*with* Strouboulis, T.; Gangaraj, S. K.; Copps, K.; Datta, Dibyendu Kumar) Practical aspects of a posteriori estimation for reliable finite element analysis. (English summary) *Comput. & Structures* **66** (1998), *no.* 5, 627–664. (Summary) **99a:73117** 73V05
— (*with* Hugger, Jens; Strouboulis, T.; Copps, K.; Gangaraj, S. K.) The asymptotically optimal meshsize function for bi-p degree interpolation over rectangular elements. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 185–221. (Qian Li) **99d:65309** 65N30
— (*with* Oden, J. Tinsley; Baumann, Carlos Erik) A discontinuous hp finite element method for diffusion problems. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 491–519. (Gert Lube) **99m:65173** 65M12 (65M60, 76M10)
— (*with* Shi, Peter) Regularity of solutions to a one-dimensional plasticity model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 521–537. (Mircea Sofonea) **99g:73051** 73E50 (47H19, 49N60, 73E05, 73V25)
— (*with* Liu, Kang-Man) Selections of shape functions for dimensional reduction to Helmholtz's equation. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 2, 169–190. (Mark Arnold) **99m:65204** 65N15 (73C02)
— (*with* Ainsworth, Mark) Reliable and robust a posteriori error estimating for singularly perturbed reaction-diffusion problems. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 331–353 (*electronic*). (Martin Stynes) **99k:65083** 65M15 (65M60)
— *see also* **Conference: Numerical Methods and Computational Mechanics in Science and Engineering, 99b:73001**
Babu Sundar, S. *see* **Kundu, Sukhamay**
Bab'yak, L. S. (*with* Gorbachuk, O. L.) Existence of a Cesàro limit for bounded solutions of an evolution equation with a varying operator. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 2, 199–202. (Summary) **99m:34125** 34G10 (34C99)
fernández-Baca, David *see* **Fernández-Baca, David**
Bača, M. (*with* Holländer, I.) On (a, d)-antimagic prisms. (English summary) *Ars Combin.* **48** (1998), 297–306. (Summary) **99a:05126** 05C78
Baccella, Giuseppe (*with* Ciampella, Adriana) K_0 of semi-Artinian unit-regular rings. (English summary) *Abelian groups, module theory, and topology (Padua, 1997)*, 69–78, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Kevin P. Knudson) **99g:16011** 16E20 (16D60, 16E50)

Baccelli, François (*with* Hasenfuss, Sven; Schmidt, Volker[1]) Transient and stationary waiting times in (max, +)-linear systems with Poisson input. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 301–342. (John P. Lehoczky) **99d:60099** 60K25 (90B22)

— (*with* Mairesse, Jean) Ergodic theorems for stochastic operators and discrete event networks. (English summary) *Idempotency (Bristol, 1994)*, 171–208, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99c:28041** 28D05 (60J05, 60K25)

— (*with* Hasenfuss, Sven; Schmidt, Volker[1]) Expansions for steady-state characteristics of (max, +)-linear systems. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 1–24. (Ravi Mazumdar) **99f:60154** 60K20 (60K25, 90B15)

Bacchelli Montefusco, Laura (*with* Guerrini, Carla) Wavelet decomposition for Toeplitz matrices. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 173–182, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65224** 65T10 (15A57)

— (*with* Barnabei, Marilena) Recursive properties of Toeplitz and Hurwitz matrices. (English summary) *Linear Algebra Appl.* **274** (1998), 367–388. (Gong Ning Chen) **99b:15030** 15A57

— (*with* Barnabei, Marilena; Guerrini, Carla) Some algebraic aspects of signal processing. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 3–17. (Summary) **99k:94004** 94A12 (65F30)

Bacchus, Fahiem (*with* Grove, Adam J.) Graphical models for preference and utility. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ, 1995)*, 3–10, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30

— (*with* Kabanza, Froduald) Planning for temporally extended goals. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 5–27. (Summary) **99b:68166** 68T20 (03B45, 03B70)

Bacciagaluppi, Guido A note on dynamics in the modal interpretation. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 421–426. (Pieter E. Vermaas) **99f:81008** 81P05

— (*with* Brown, Harvey R.; Sjöqvist, Erik) Remarks on identical particles in de Broglie-Bohm theory. (English summary) *Phys. Lett. A* **251** (1999), *no.* 4, 229–235. (Summary) **99k:81016** 81P05

Baccili, S. (*with* Milani, Andrea) Dynamics of earth-crossing asteroids: the protected Toro orbits. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 1, 35–53. 70F15

Bacciotti, Andrea (*with* Arzarello, E.) On stability and boundedness for Lipschitzian differential inclusions: the converse of Lyapunov's theorems. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 4, 377–390. (Oleg P. Filatov) **99b:34032** 34A60 (34D20)

— (*with* Rosier, Lionel) Liapunov and Lagrange stability: inverse theorems for discontinuous systems. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 2, 101–128. (Zvi Artstein) **99e:34065** 34D20 (34D05)

von Bach, Carl Julius *see* **Carl Julius von Bach, 99h:01001**

Bach, Eric Efficient prediction of Marsaglia-Zaman random number generators. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1253–1257. (Summary) **99b:65007** 65C10

— (*with* Condon, Anne E.; Glaser, Elton; Tanguay, Celena) DNA models and algorithms for NP-complete problems. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 172–186. (Robert M. Baer) **99m:68048** 68Q05 (68Q25, 92D20)

— (*with* Huber, Klaus) Note on taking square-roots modulo N. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 807–809. (Summary) **99j:94036** 94A60 (11T24, 11T71)

Bach, Volker (*with* Fröhlich, Jürg; Sigal, Israel Michael) Renormalization group analysis of spectral problems in quantum field theory. (English summary) *Adv. Math.* **137** (1998), *no.* 2, 205–298. (H. Hogreve) **99e:81051a** 81Q15 (47N50, 81Q10, 81T17)

— (*with* Fröhlich, Jürg; Sigal, Israel Michael) Quantum electrodynamics of confined nonrelativistic particles. (English summary) *Adv. Math.* **137** (1998), *no.* 2, 299–395. (H. Hogreve) **99e:81051b** 81Q15 (47N50, 81Q10, 81V10)

Bachar, Kaddour (*with* Lerman, Israël-César) Statistical conditions for a linear complexity for an algorithm of hierarchical classification under constraint of contiguity. (English summary) *Advances in data science and classification (Rome, 1998)*, 131–136, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Bacharach, M. O. L. The epistemic structure of a theory of a game [MR 95b:90186]. *Epistemic logic and the theory of games and decisions*, 303–344, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03D80)

— *see also* **Epistemic logic and the theory of games and decisions, 99k:00028**

Bachas, Constantin P. (*with* Douglas, Michael R.; Green, Michael B.) Anomalous creation of branes. (English summary) *J. High Energy Phys.* **1997**, *no.* 7, *Paper* 2, 7 *pp.* (*electronic*). (Jihad Mourad) **99c:81161** 81T30 (81T50)

— (*with* Green, Michael B.) A classical manifestation of the Pauli exclusion principle. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 15, 4 *pp.* (*electronic*). (Jihad Mourad) **99b:81172** 81T30 (83E30)

— Unification with low string scale. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 23, 7 *pp.* (*electronic*). (Summary) **99h:81148** 81T30 (81V22)

— Heterotic versus type I. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 348–354. (Summary) **99f:81142** 81T30

— (*with* Antoniadis, Ignatios) Branes and the gauge hierarchy. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 83–91. (Summary) **99k:81213** 81T30 (81T15, 81V22)

— (*with* Rai, Balram; Tomaras, T. N.) New string excitations in the two-Higgs-doublet standard model. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2443–2446. (Summary) **99k:81343** 81V15 (81T30, 81V10)

Bachelot, A. *see* **Bachelot, Alain**

motet-Bachelot, Agnès *see* **Motet-Bachelot, Agnès**

Bachelot, Alain Diffusion classique et quantique par un trou noir en formation. [Classical and quantum scattering by a black hole under formation] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XV*, 20 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Michael Keyl) **99c:83045** 83C57 (35Q99, 47A40, 58G16, 81T20)

— (*with* Pujols, Agnès) Décroissance de l'énergie locale d'une onde diffusée par un obstacle inhomogène. (French summary) [Local energy decrease in a wave scattered by a nonhomogeneous obstacle] *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 451–459. (Ján Lovišek) **99j:35149** 35L85 (35L05)

— Scattering operator for the Klein-Gordon equation on the Schwarzschild metric. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 489–493, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (From the text) **99e:83034** 83C57 (58G16)

— L'effet Hawking. (English and French summaries) [The Hawking effect] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1229–1234. (Michael Keyl) **99c:83046** 83C57 (47N20, 58G16, 81T20)

Bachelot-Motet, Agnès *see* **Motet-Bachelot, Agnès**

Bacher, Roland (*with* de la Harpe, Pierre; Nagnibeda, Tatiana) The lattice of integral flows and the lattice of integral cuts on a finite graph. (English and French summaries) *Bull. Soc. Math. France* **125** (1997), *no.* 2, 167–198. (Valentin E. Brimkov) **99c:05111** 05C38 (11H06)

— Tables de réseaux entiers unimodulaires construits comme k-voisins de $\mathbf{Z}^n$. (English and French summaries) [Tables of unimodular integral lattices constructed as k-neighbors of $\mathbf{Z}^n$] *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 479–497. (Christine Bachoc) **99b:11072** 11H06 (11Y70)

Bachmair, Leo (*with* Tiwari, Ashish) D-bases for polynomial ideals over commutative Noetherian rings. (English summary) *Rewriting techniques and applications (Sitges, 1997)*, 113–127, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Franz Pauer) **99c:13050** 13P10 (68Q40)

— (*with* Lifantsev, Maxim) An LPO-based termination ordering for higher-order terms without λ-abstraction. (English summary) *Theorem proving in higher order logics (Canberra, 1998)*, 277–293, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99m:68101** 68Q42 (03B15, 68T15)

Bachman, Gennady Some remarks on nonnegative multiplicative functions on arithmetic progressions. (English summary) *J. Number Theory* **73** (1998), *no.* 1, 72–91. (Jörn Steuding) **99k:11142** 11N37 (11N56)

Bachmann, Peter Lifting of L-narrowing derivations. (English summary) *Comput. Artificial Intelligence* **16** (1997), *no.* 3, 309–334. (Yves Metivier) **99e:68079** 68Q42

Bachoc, Christine (*with* Nebe, Gabriele) Extremal lattices of minimum 8 related to the Mathieu group M_{22}. (English summary) Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 155–171. (Rainer Schulze-Pillot) **99f:11084** 11H55 (11H31, 11H56, 20D08)

Bachrach, Louis Fabian *see* **Morgan, Christopher, 99g:01034**

bella Baci, Abderrazak *see* **Bella Baci, Abderrazak**

Back, Ralph-Johan (*with* von Wright, Joakim) ★ Refinement calculus. (English summary) A systematic introduction. Graduate Texts in Computer Science. *Springer-Verlag, New York*, 1998. *xvi*+519 *pp. ISBN* 0-387-98417-8 (Manfred Broy) **99g:68023** 68N05 (68Q55, 68Q60)

— (*with* Xu, Qiwen) Refinement of fair action systems. (English summary) *Acta Inform.* **35** (1998), *no.* 2, 131–165. (Manfred Broy) **99b:68067** 68Q10 (68Q60)

— (*with* Butler, Michael J.) Fusion and simultaneous execution in the refinement calculus. (English summary) *Acta Inform.* **35** (1998), *no.* 11, 921–949. (Annabelle McIver) **99k:68105** 68Q60 (68Q65)

Bäck, Thomas (*with* de Graaf, Jeannette M.; Kok, Joost N.; Kosters, Walter A.) Theory of genetic algorithms. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 161–192. (R. Shonkwiler) **99g:68166** 68T05

Bäcker, A. (*with* Chernov, Nikolai I.) Generating partitions for two-dimensional hyperbolic maps. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 79–87. (Roberto Markarian) **99a:58118** 58F15 (58F20)

— (*with* Schubert, Roman; Stifter, P.) Rate of quantum ergodicity in Euclidean billiards. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5425–5447. (Jens Marklof) **99f:81056a** 81Q50 (58F11)

— (*with* Schubert, Roman; Stifter, P.) Erratum: "Rate of quantum ergodicity in Euclidean billiards". *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5192. (Jens Marklof) **99f:81056b** 81Q50 (58F11)

Backhaus, E. Yu. (*with* Fajans, J.; Wurtele, J. S.) Application of contour dynamics to systems with cylindrical boundaries. *J. Comput. Phys.* **145** (1998), *no.* 1, 462–468. 76M25 (76X05)

— (*with* Fajans, J.; McCarthy, John E.) Equilibrium of highly asymmetric non-neutral plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 12–18. 76X05

— (*with* Fajans, J.; Wurtele, J. S.) Stability of highly asymmetric non-neutral plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 19–30. 76E25 (76X05)

Backhouse, N. B. (*with* Rembieliński, Jakub; Tybor, W.) Class operators for compact Lie groups. Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 9–15. (Leticia Barchini) **99f:22020** 22E46 (22C05, 43A85)

— (*with* Fellouris, A. G.) The supertrace on the Grassmann envelope $\mathbf{M}(m, n; \Lambda)$. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 17–29. (Mark Curtis Wilson) **99e:17042** 17B99 (15A75)

Backhouse, Roland (*with* Hoogendijk, Paul) When do datatypes commute? (English summary) *Category theory and computer science (Santa Margherita Ligure, 1997)*, 242–260, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99d:68162** 68Q65 (68N15)

— Pair algebras and Galois connections. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 169–175. (Josef Niederle) **99g:06008** 06A15 (06A06, 68Q99)

Backlund, Ulf (*with* Persson, Leif) Separable maximal plurisubharmonic functions in two complex variables. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 260–268. (M. Klimek) **99e:32018** 32F05 (32F07)

— (*with* Fällström, Anders) Maximal ideals in $A(\Omega)$. (English summary) *Complex geometric analysis in Pohang* (1997), 173–179, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Igor F. Krasichkov-Ternovskiĭ) **99m:46128** 46J15 (32E25, 46J20)

Backofen, Rolf (*with* Treinen, Ralf) How to win a game with features. (English summary) International Conference on Constraints in Computational Logics (Munich, 1994).

Inform. and Comput. **142** (1998), *no.* 1, 76–101. (B. H. Mayoh) **99c:68140** 68Q40 (03B25, 03B70)

Bäckström, Christer (*with* Jonsson, Peter) Tractable plan existence does not imply tractable plan generation. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 281–296. (Summary) **99f:68180** 68T20

— (*with* Jonsson, Peter) State-variable planning under structural restrictions: algorithms and complexity. (English summary) *Artificial Intelligence* **100** (1998), *no.* 1-2, 125–176. (Summary) **99g:68186** 68T20 (68Q25)

— (*with* Jonsson, Peter) A unifying approach to temporal constraint reasoning. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 143–155. (Summary) **99h:68162** 68T27 (03B70, 03D15)

— Computational aspects of reordering plans. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 99–137 (*electronic*). 68T20 (68Q25)

Backstrom, Gunnar ★ Waves by finite element analysis. (English summary) *Studentlitteratur, Lund*, 1999. *viii+189 pp. ISBN* 91-44-01007-9 65-01 (65–04, 78–08, 81–08)

Bacon, D. W. (*with* Guay, Martin; McLellan, P. J.) A condition for dynamic feedback linearization of control-affine nonlinear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 87–106. 93B11 (93C10)

Bacon, Roger *see* **Molland, A. George, 99a:01008**

Bacopoulos, Alexis On the link of simultaneous approximations to vectorially minimal projections. (English summary) *Analysis and topology*, 53–62, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 41A28

— (*with* Chryssoverghi, I.; Coletsos, J.; Kokkinis, B.) Discrete approximation of nonconvex hyperbolic optimal control problems with state constraints. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 29–50. (Walter Alt) **99e:49040** 49M25 (49K20)

Bacri, J.-C. (*with* Flament, C.; Pacitto, G.; Drikis, I.; Tsebers, A. O.) Viscous fingering in a magnetic fluid. I. Radial Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2464–2472. (Summary) **99g:76149** 76W05 (76E25, 76S05)

Bacro, J. N. (*with* Brito, Margarida) A tail bootstrap procedure for estimating the tail Pareto-index. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 245–260. (Summary) **99f:62061** 62G09

Bacry, E. (*with* Arneodo, A.; Jaffard, Stéphane; Muzy, J. F.) Singularity spectrum of multifractal functions involving oscillating singularities. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 159–174. (B. S. Rubin) **99i:42041** 42C15

— (*with* Arneodo, A.; Muzy, J. F.) Random cascades on wavelet dyadic trees. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4142–4164. (Summary) **99c:28021** 28A80 (42C15)

Bacry, Henri The Poincaré group and the notion of elementary particle. (English summary) *Comm. Theoret. Phys. (Allahabad)* **5** (1996), *no.* 2, 77–104 (1997). (J. F. Cornwell) **99c:81056** 81R05 (22E43, 22E70)

Bácsó, Sándor (*with* Mikeš, Josef; Zedník, Josef) On f-planar mappings of affine-connection spaces with infinite dimension. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 157–162. (Andrew Bucki) **99b:53020** 53B05

— (*with* Matsumoto, Makoto) On Finsler spaces of Douglas type. II. Projectively flat spaces. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 423–438. (Tadashi Aikou) **99k:53025** 53B40

Baczkowski, A. J. (*with* Joanes, D. N.; Shamia, G. M.) Range of validity of α and β for a generalized diversity index $H(\alpha, \beta)$ due to Good. (English summary) *Math. Biosci.* **148** (1998), *no.* 2, 115–128. (Summary) **99d:92043** 92D40

Badalahu Optimizing the product of nonzero functions. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1862–1865. (J. Sándor) **99d:90125** 90C33 (90C30)

— (*with* Zhu, Rui Ying) The problem of minimizing products of logarithmic means. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 764–767. (Summary) **99d:26023** 26D15 (90C31)

Badanin, A. V. Diffraction of a short wave by the joint of two plates, one of which is supported by stiffeners. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 222–229; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 215–221. (Summary) **99c:76099** 76Q05 (73K70)

Badaoui, Elmabsout *see* **Elmabsout, Badaoui**

Badard, R. Expressions on a fuzzy pretopological substratum. (English summary) *Inform. Sci.* **116** (1999), *no.* 2-4, 205–218. 54A40

al-Badawi, A. *see* **Al-Badawi, A.**

Baddeley, Adrian (*with* Molchanov, Ilya S.) On the expected measure of a random set. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets (Fontainebleau, 1996)*, 3–20, *World Sci. Publishing, River Edge, NJ*, 1997. (M. Zähle) **99k:60018** 60D05 (28A12)

— (*with* Molchanov, Ilya S.) Averaging of random sets based on their distance functions. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 1, 79–92. (Dietrich Stoyan) **99e:60036** 60D05 (68U10)

Baddeley, Robert W. (*with* Praeger, Cheryl E.) On classifying all full factorisations and multiple-factorisations of the finite almost simple groups. (English summary) *J. Algebra* **204** (1998), *no.* 1, 129–187. (Martin W. Liebeck) **99h:20019** 20D06 (20E07)

— Maximal sections and primitive permutation groups of twisted wreath type. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 55–70. (Ulrich Dempwolff) **99d:20002** 20B15

Baddour, R. E. (*with* Song, Shao Wen) Periodic water waves on shear currents. (English summary) *Advances in fluid mechanics, II (Udine, 1998)*, 213–222, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76B15

Bade, W. G. (*with* Dales, H. Garth; Lykova, Zinaida A.) Algebraic and strong splittings of extensions of Banach algebras. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 656, *viii+113 pp.* (Niels Grønbæk) **99g:46059** 46Hxx (16E40, 46J45, 46L35)

Badea, A. (*with* Duchon, Jean) Capillary driven evolution of an interface between viscous fluids. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 385–403. (R. Finn) **99a:76035** 76D05 (34G20, 35Q30, 76D45)

— (*with* Carasso, Claude; Panasenko, G. P.) A model of a homogenized cavity corresponding to a multinozzle droplet generator for continuous ink-jet printers. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 821–842. (Summary) **99i:76043** 76D30 (73B27)

Badea, Cătălin (*with* Badea, Ion; Gonska, Heinz H.) Improved estimates on simultaneous approximation by Bernstein operators. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 1–21. (Shun Sheng Guo) **99c:41046** 41A36 (41A28)

— (*with* Mbekhta, Mostafa) Compressions of resolvents and maximal radius of regularity. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2949–2960. (Lawrence Fialkow) **99j:47005** 47A10 (47A20, 47A58)

Badea, Ion (*with* Badea, Cătălin; Gonska, Heinz H.) Improved estimates on simultaneous approximation by Bernstein operators. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 1–21. (Shun Sheng Guo) **99c:41046** 41A36 (41A28)

Badea, Lori On a plasticity problem with damage. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 495–511. (Mircea Sofonea) **99i:73041** 73E50 (49J45, 73V05, 73V25)

Bader, David A. (*with* Helman, David R.; Já Já, Joseph) Practical parallel algorithms for personalized communication and integer sorting. (English summary) *ACM J. Exp. Algorithmics* **1** (1996), *approx.* 42 *pp.* (*electronic*). 68Q22 (68P10)

— (*with* Helman, David R.; Já Já, Joseph) A new deterministic parallel sorting algorithm with an experimental evaluation. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), 24 *pp.+software suite* (*electronic*). 68Q22 (68P10)

Bader, Laura (*with* O'Keefe, Christine M.) Arcs and ovals in infinite K-clan geometry. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 127–139. (Summary) **99d:51011** 51E21 (51E12)

— (*with* Payne, Stanley E.) On infinite K-clan geometry. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 1–16. (Hendrik Van Maldeghem) **99k:51004** 51E12 (51E20)

Bader, Ralf A degree theory for set-valued maps with proximally ∞-connected values. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3081–3091. (Zvonko Čerin) **99c:55004** 55M25 (54C60, 55M20)

Baderko, Elena A. Moving boundary problems for parabolic equations. (English summary) *Boundary element research in Europe (Southampton, 1998)*, 253–259, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 35R35 (35K10)

— Schauder estimates for oblique derivative problems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1377–1380. (I. Łojczyk-Królikiewicz) **99j:35086** 35K20 (35B45)

Badgwell, Thomas A. Robust model predictive control of stable linear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 797–818. 93B36 (93D15)

el Badia, A. *see* **El Badia, A.**

Badía, J. M. (*with* Vidal Macía, Antonio M.) Parallel bisection algorithms for solving the symmetric tridiagonal eigenproblem. (English summary) *High performance algorithms for structured matrix problems*, 91–111, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65F15 (65Y05)

— (*with* Vidal Macía, Antonio M.) Parallel algorithms to compute the eigenvalues and eigenvectors of symmetric Toeplitz matrices. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 75–93. (Summary) **99h:65062** 65F15 (65Y05, 68Q22)

Badiale, Marino (*with* Ambrosetti, Antonio) Homoclinics: Poincaré-Melnikov type results via a variational approach. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 233–252. (Vittorio Coti Zelati) **99h:58135** 58F15 (34C37, 58E07, 58F05, 58F30)

Badics, Tamás (*with* Prékopa, András; Vízvári, Béla) Programming under probabilistic constraint with discrete random variable. (English summary) *New trends in mathematical programming*, 235–255, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (A. H. Žilinskas) **99g:90077** 90C15

— (*with* Boros, Endre) Minimization of half-products. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 649–660. (Marco Gaviano) **99m:90101** 90C09 (68Q25)

Badii, Maurizio Quasilinear parabolic equations with nonlinear flux boundary conditions and semigroups. *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 265–282. (Jesús Hernández) **99h:35106** 35K60 (34G20, 35J70, 47H20, 80A22)

Badii, R. Generalized entropies of chaotic maps and flows: a unified approach. (English summary) *Chaos* **7** (1997), *no.* 4, 694–700. (Nikolai Chernov) **99b:58157** 58F13 (58F03)

Badora, Roman On the separation with n-additive functions. (English summary) *General inequalities, 7 (Oberwolfach, 1995)*, 219–230, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Claudi Alsina) **99b:39032** 39B52

Badouel, Eric (*with* Bernardinello, Luca; Darondeau, Philippe) The synthesis problem for elementary net systems is NP-complete. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 107–134. (Raymond Devillers) **99b:68137** 68Q90 (68Q25, 68Q55, 68Q68)

Badr, H. M. (*with* Alassar, R. S.) The impulsively started flow over oblate spheroids. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 2, 193–205. 76D15

Badriev, I. B. (*with* Zadvornov, O. A.) On the strong convergence of an iterative method for operators with degeneration. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1424–1426; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1381–1383. (Erwin Schechter) **99b:65073** 65J15 (47H17)

Badshah, V. H. (*with* Lohani, P. C.) Fixed point theorem in 2-metric space. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 243–245. 54H25

— (*with* Lohani, P. C.) Generalized contractive iterate at a point and fixed point theorem. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 267–271. 54H25

— (*with* Lohani, P. C.) Common fixed point theorem for three mappings. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 273–275. 54H25

— (*with* Lohani, P. C.) Compatible mappings and common fixed point for four mappings. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 1–12. 54H25

Badulin, S. (*with* Kharif, Christian; Shrira, V. I.) Instabilities of finite amplitude short-crested free surface waves. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 291–299, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76E99)

Badur, J. (*with* Povstenko, Yu. Z.) On two reinterpretations of Cosserat continuum: fiber bundle versus the motor calculus. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 3, 367–376. (Summary) **99h:73013** 73B99 (53B05, 53B50, 73S10)

Badzioch, Bernard K_1 of twisted rings of polynomials. (English summary) *K-Theory* **16** (1999), *no.* 1, 29–34. (Charles Weibel) **99m:19001** 19B28

Bae, H. D. (*with* Kim, D. W.; Ryu, W.; Jun, K. P.; Park, Byeong U.) Waiting times in polling systems with Markov-modulated Poisson process arrival. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 355–363. (Summary) **99c:60204** 60K25

Bae, Hyeong-Ohk (*with* Choe, Hi-Jun) L^∞-bound of weak solutions to Navier-Stokes equations. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 13 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Marek Capiński) **99a:35197** 35Q30 (35D10, 76D05)

— (*with* Choe, Hi-Jun) An oscillation estimate to a variational inequality. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 447–454. (Rodolfo Salvi) **99f:35066** 35J85 (35B05, 35J70)

— Existence, regularity, and decay rate of solutions of non-Newtonian flow. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 2, 467–491. (Didier Bresch) **99m:35194** 35Q35 (35B10, 76A05)

Bae, Jaegug A compactness result for a set of subset-sum-distinct sequences. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 515–525. (Georges Grekos) **99k:11018** 11B05 (11B13, 54H99)

— An extremal problem for subset-sum-distinct sequences with congruence conditions. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 1–20. (Vsevolod F. Lev) **99h:11018** 11B75

Bae, Jeong Ja (*with* Park, Jong Yeoul) On existence of solutions of degenerate wave equations with nonlinear damping terms. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 465–490. (P. Szeptycki) **99h:35144a** 35L70 (35B40)

— (*with* Park, Jong Yeoul) On existence of solutions of nondegenerate wave equations with nonlinear damping terms. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 27–46. (P. Szeptycki) **99h:35144b** 35L70 (35B40)

Bae, Soo Hyun (*with* Park, Sang Don; Pahk, Dae Hyeon) On the multiple positive solutions to a quasilinear equation. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 221–236. (Summary) **99g:35012** 35B05 (35B32, 35J65)

Bae, Sunghan (*with* Kang, Pyung-Lyun) Elliptic units and class fields of global function fields. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 385–394. (Ernst-Ulrich Gekeler) **99b:11063** 11G16 (11G09, 11R58)

— (*with* Jung, Hwan Yup) Elliptic modules of rank one and class fields of function fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 1–9. (Yoshinori Hamahata) **99h:11132** 11R58 (11G09, 11R37)

— (*with* Kang, Pyung-Lyun) A remark on the class number formulas over global function fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 553–560. (Martha Rzedowski-Calderón) **99j:11135** 11R58 (11G09, 11R29)

— The arithmetic of Carlitz polynomials. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 341–360. (Igor E. Shparlinski) **99b:12001** 12E10

Bae, Yongju (*with* Lee, Hye-Sook; Park, Chan-Young) Polynomial invariants of 1-trivial dichromatic links. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 345–354. (Summary) **99g:57005** 57M25

Baeder, James D. (*with* Tang, Lei) Uniformly accurate finite difference schemes for p-refinement. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1115–1131 (*electronic*). (Summary) **99i:65089** 65M06 (41A10, 65D25)

Baek, In Soo (*with* Lee, Hung Hwan) Perturbed type random Cantor set. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 223–234. (Hermann Haase) **99d:28011** 28A80 (60D05)

— Dimensions of weakly convergent deranged Cantor sets. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 689–695. (Claude Tricot) **99h:28017** 28A80

— On deranged Cantor sets. *Kyungpook Math. J.* **38** (1998), *no.* 2, 363–367. (B. K. Lahiri) **99k:26005** 26A30 (28A78)

Baek, Jeong-Seon (*with* Kwak, Minkyu) A degenerate parabolic equation with absorption. II. Uniqueness of the very singular solution. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 13 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Summary) **99g:35073** 35K65 (35B99)

Baek, Jong-Il (*with* Lim, Ho-Un; Youn, Eun-Ho) A weakly dependence concept in moving average models. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 743–754. (Xian Zhi George Yuan) **99k:62150** 62M10 (60G44, 90A20)

— (*with* Choi, Jeong-Yeol; Ru, Dae-Hee) A weak ordering of positive dependence structure of stochastic processes. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 95–105. (Marco Scarsini) **99h:60028** 60E15 (60G07, 62H20)

Baek, Nakhoon (*with* Shin, Sung Yong) On circularly-hidden surface removal. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 119–123. (Summary) **99c:68244** 68U05

Baek, Sung-Do (*with* Lee, Seoung Ho) Remarks on the Reidemeister numbers for coincidences. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 109–121. (Alexander Fel'shtyn) **99b:55003** 55M20

Baer, Christine (*with* Rosenberger, Gerhard) The equation $ax^2 + by^2 + cz^2 = dxyz$ over quadratic imaginary fields. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 30–39. (Nikos Tzanakis) **99c:11028** 11D09 (11F06, 11R04)

de Baere, W. *see* **De Baere, W.**

Baerheim, Reidar Classification of symmetry by means of Maxwell multipoles. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 73–103. (Summary) **99a:73007** 73B10 (73–04, 73B40)

Baeriswyl, D. (*with* Binz, B.; Zotos, X.) Solution of the infinite-range t-J model. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4225–4237. (Summary) **99b:82090** 82D55

Baernstein, Albert, II (*with* Vinson, Jade P.) Local minimality results related to the Bloch and Landau constants. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 55–89, *Springer, New York*, 1998. (From the introduction) **99m:30036** 30C62 (30D45)

Baesens, C. (*with* Mackay, Robert S.) Gradient dynamics of tilted Frenkel-Kontorova models. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 949–964. (Volker Matthias Gundlach) **99i:58134** 58F40 (70K99, 82C05)

Baeten, J. C. M. (*with* Bergstra, Jan A.) Discrete time process algebra: absolute time, relative time and parametric time. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 51–76. (From the introduction) **99f:68060** 68Q10 (68Q55, 68Q60)

— (*with* Bergstra, Jan A.) Deadlock behaviour in split and ST bisimulation semantics. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS '98*) (*Nice*), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q55, 68Q60)

Baetica, C. Rees algebra of ideals generated by Pfaffians. *Comm. Algebra* **26** (1998), *no.* 6, 1769–1778. (Aldo Conca) **99c:13026** 13C40 (05E10, 13A30, 13H10, 13P10)

de Baets, Bernard *see* **De Baets, Bernard**

cruz-Báez, D. I. *see* **Cruz-Báez, D. I.**

Baez, John C. An introduction to n-categories. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 1–33, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Graham J. Ellis) **99h:18008** 18D05 (55P99, 68Q99)

— Higher-dimensional algebra. II. 2-Hilbert spaces. (English summary) *Adv. Math.* **127** (1997), *no.* 2, 125–189. (Pilar C. Carrasco) **99b:18009** 18D05 (18D20, 58D29)

— (*with* Dolan, James) Categorification. (English summary) *Higher category theory* (*Evanston, IL*, 1997), 1–36, *Contemp. Math.*, 230, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99k:18016** 18G30 (18D05, 55P15)

— (*with* Dolan, James) Higher-dimensional algebra. III. n-categories and the algebra of opetopes. (English summary) *Adv. Math.* **135** (1998), *no.* 2, 145–206. (Pilar C. Carrasco) **99j:18005** 18D05 (08C05, 18D20, 81T99)

— Spin foam models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1827–1858. (José A. Zapata) **99e:83020** 83C27 (83C45)

— Degenerate solutions of general relativity from topological field theory. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 219–231. (Jorge A. Pullin) **99f:83007** 83C05 (58D29, 81T70)

— (*with* Sawin, Stephen) Diffeomorphism-invariant spin network states. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 253–266. (José A. Zapata) **99h:58022** 58D20 (83C27, 83C45)

— (*with* Krasnov, Kirill V.) Quantization of diffeomorphism-invariant theories with fermions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1251–1271. (Viqar Husain) **99a:83030** 83C45 (58D20)

bretón Báez, Nora *see* **Bretón Báez, Nora**

Baez, S. (*with* Balachandran, A. P.; Travesset, A.; Stern, Allen Bruce) Properties of quantum Hall skyrmions from anomalies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 32, 2627–2635. (Summary) **99g:81236** 81V70 (81T50)

Baeza, Rodrigo (*with* Rodríguez, Patricio; Nussbaum, Miguel; León, Gerardo; Sepúlveda, Marcos; Cobián, Agustín) Using global search heuristics for the capacity vehicle routing problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 407–417. 90C35 (90B06)

Baeza-Vega, R. (*with* Correa, Iván; Costa, Roberto C. F.; Peresi, Luiz Antonio) Shape identities in Bernstein algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2659–2679. (Summary) **99c:17044** 17D92

Baeza-Yates, Ricardo A. Similarity in two-dimensional strings. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 319–328, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (Summary) **99m:68067** 68Q20 (68U15)

— (*with* Navarro, Gonzalo) Fast two-dimensional approximate pattern matching. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 341–351, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q22 (68Q20, 68U15)

Baffes, Paul (*with* Akers, Robert L.; Kant, Elaine; Randall, Curt; Steinberg, Stanly; Young, Robert L.) Automatic synthesis of numerical codes for solving partial differential equations. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 3–22. (*see* **99a:00035**) 35–04

Bafna, Vineet (*with* Wu, Bang Ye; Lancia, Giuseppe; Chao, Kun-Mao; Ravi, R.; Tang, Chuan Yi) A polynomial time approximation scheme for minimum routing cost spanning trees. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 21–32, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Pevzner, Pavel A.) Sorting by transpositions. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 224–240 (*electronic*). (Douglas B. West) **99e:05002** 05A05 (05C12, 68P10, 68R05)

Bag, Bidhan Chandra (*with* Chaudhuri, Shanta; Chaudhuri, Jyotipratim Ray; Ray, Deb Shankar) A semiclassical theory of quantum noise in open chaotic systems. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 47–64. (Summary) **99i:81045** 81Q50 (81S30)

Bagaev, G. N. (*with* Voblyĭ, V. A.) The shrinking-expanding method for the enumeration of graphs. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 4, 82–87; *translation in Discrete Math. Appl.* **8** (1998), *no.* 5, 493–498. (Martin Klazar) **99m:05070** 05C30

Bagagiolo, Fabio (*with* Bardi, Martino) Singular perturbation of a finite horizon problem with state-space constraints. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2040–2060 (*electronic*). (E. N. Barron) **99h:49040** 49K45 (35F20)

Baganha, Manuel P. (*with* Ferrer, Geraldo; Pyke, David F.) The residual life of the renewal process: a simple algorithm. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 435–443. 90B05 (90B22)

Bagarello, Fabio (*with* Antoine, J.-P.; Trapani, C.) Extension of representations in quasi *-algebras. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 2, 241–264. (W. Timmermann) **99i:47077** 47D40 (46L60, 47N50, 82B10)

— (*with* Sewell, Geoffrey L.) New structures in the theory of the laser model. II. Microscopic dynamics and a nonequilibrium entropy principle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2730–2747. (Franco Fagnola) **99m:81298** 81V80

— Applications of topological *-algebras of unbounded operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6091–6105. (Lech Jakóbczyk) **99j:81096** 81T05 (47D40, 47N50)

Bagaria, Joan (*with* Woodin, W. Hugh) $\underline{\Delta}^1_n$ sets of reals. *J. Symbolic Logic* **62** (1997), *no.* 4, 1379–1428. (Miroslav Repický) **99j:03038** 03E15 (03E35, 03E40, 03E50, 03E55, 03E60)

Bagautdinov, G. N. (*with* Amerbaev, V. M.) In memory of the founder of the scientific mathematical school in Kazakhstan [Konstantin Petrovich Persidskiĭ]. (Russian) *Vestnik Nats. Akad. Respub. Kazakhstan* **1994**, *no.* 4, 102–104. 01A70

Bagby, Thomas (*with* Gauthier, Paul M.) Note on the support of Sobolev functions. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 257–260. (W. P. Ziemer) **99g:46037** 46E35 (31B05)

Bagchi, Arunabha (*with* Aihara, Shin Ichi) A MAP recursive nonlinear filtering. *Statistical methods in control and signal processing*, 217–237, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (A. F. Gualtierotti) **99j:93099** 93E11 (60G35, 93E20)

— (*with* Vellekoop, Michel) Adaptive identification of continuous-time systems in the presence of noise. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 171–195.

93B30 (93C40)
— (*with* Chen, Han-Fu) Optimal adaptive control for a class of stochastic systems. (English summary) *Sādhanā* **22** (1997), *no.* 4, 485–498. (Jan H. van Schuppen) **99d:93074** 93E35 (93E12)
— (*with* Ghosh, Mrinal K.) Stochastic games with average payoff criterion. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 283–301. (Summary) **99k:90223** 90D15 (90D25, 93E05)
— (*with* Mazumdar, Ravi R.) A representation result for nonlinear filter maps in a white noise framework. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 124–129. (Summary) **99j:93105** 93E11
Bagchi, B. *see* **Bagchi, Bijan Kumar**
Bagchi, Bhaskar (*with* Datta, Basudeb) A structure theorem for pseudomanifolds. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 41–60. (Wolfgang Kühnel) **99f:57027** 57Q15
Bagchi, Bijan Kumar Deformation in quantum mechanics. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 61–64. (*see* **99b:00017**) 81S05 (81R50)
— (*with* Beckers, Jules; Debergh, Nathalie) Generating symmetry operators for the KdV equation and seeking their supersymmetric generalizations. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3203–3213. (Alexey V. Samokhin) **99e:58159** 58F35 (35Q53, 58F07)
— (*with* Ganguly, Ashish) Generating isospectral Hamiltonians from a modified Crum-Darboux transformation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 21, 3711–3721. (Alexey V. Samokhin) **99e:58092** 58F07 (35Q40)
— (*with* Bhaumik, Debajyoti) Squeezed states for parabosons. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 8, 623–630. 81R30 (81V80)
— (*with* Bhaumik, Debajyoti) Generalized quantum conditions and coherent states. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 811–817. 81R30
Bagchi, S. C. (*with* Ray, Swagato K.) Uncertainty principles like Hardy's theorem on some Lie groups. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 289–302. (A. Morimoto) **99k:43001** 43A30 (22E30)
Bagchi, Sunanda On two-way designs. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 313–319. (Summary) **99g:05018** 05B05
Bagdasarov, D. R. (*with* Ostrovskiĭ, E. I.) Exponential confidence intervals with nonparametric density estimation. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 813–818. (Sh. A. Khashimov) **99d:62054** 62G15 (62G05)
Bagdasarov, S. K. ★ Chebyshev splines and Kolmogorov inequalities. (English summary) Operator Theory: Advances and Applications, 105. *Birkhäuser Verlag, Basel*, 1998. *xiv*+207 *pp. ISBN* 3-7643-5984-6 (Allan Pinkus) **99h:41001** 41–02 (41A15, 41A45, 41A46)
— Kolmogorov problem in $W^r H^\omega[0, 1]$ and extremal Zolotarev ω-splines. (English summary) *Dissertationes Math.* (*Rozprawy Mat.*) **379** (1998), 81 *pp.* (Allan Pinkus) **99k:41012** 41A17 (41A44)
— Maximization of functionals in $H^\omega[a, b]$. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 2, 3–72; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 159–226. (W. W. Breckner) **99h:41013** 41A15 (46E15)
Bagdasaryan, A. G. On an embedding theorem of different dimensions. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 3, 138–141 (1994). 46E35
— Embedding theorems for some generalized function spaces. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 5–16 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 1–10. (Summary) **99f:46041** 46E35
— Interpolation of Lizorkin-Triebel-type spaces with different anisotropies. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 13–15. 46E35 (46M35)
— On the interpolation properties of some quasilinearizable couples. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 2, 73–80; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 227–234. (Summary) **99b:46115** 46M35 (46E35)
Bagdasaryan, G. E. Nonlinear oscillations of an ideally conducting plate in an oblique magnetic field. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 3, 5–14. (Summary) **99i:73061** 73R05 (73D35, 73K10)
— (*with* Asanyan, D. D.) Stress-strain state of a magnetoelastic layer with a semi-infinite crack in an external homogeneous magnetic field. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **50** (1997), *no.* 2, 12–20. 73R05
Bagdoev, A. G. (*with* Bezirgenyan, G. S.) Solution of the diffraction problem near the tangency of diffraction and incident gravitational waves in the linear formulation. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **47** (1994), *no.* 3-4, 37–53. 76B15
Bagdonavičius, Vilijandas (*with* Nikulina, V. N.) A goodness-of-fit test for Sedyakin's model. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 5–14. (A. M. Abouammoh) **99k:62185** 62N05
— (*with* Nikulin, Mikhail S.) ★ Additive and multiplicative semiparametric models in accelerated life testing and survival analysis. Queen's Papers in Pure and Applied Mathematics, 108. *Queen's University, Kingston, ON*, 1998. *iii*+109 *pp. ISBN* 0-88911-802-7 (Jack Cuzick) **99g:62146** 62N05
— (*with* Nikulin, Mikhail S.) Estimation in generalized proportional hazards model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1415–1420. (Summary) **99i:62035** 62F10
— (*with* Nikulin, Mikhail S.) On semiparametric estimation of reliability from accelerated life data. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 75–89, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 62N05
Bagga, Jay S. (*with* Emert, John W.; McGrew, J. Michael) Directed polygon visibility graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 61–67. (Summary) **99j:05079** 05C20
— (*with* Varma, Badri N.) Hamiltonian properties in bipartite graphs. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 71–85. (Summary) **99m:05098** 05C45
Baggerly, Keith A. Empirical likelihood as a goodness-of-fit measure. (English summary) *Biometrika* **85** (1998), *no.* 3, 535–547. (Summary) **99k:62090** 62G10
Baggett, Jeffrey S. (*with* Reddy, Satish C.; Schmid, Peter J.; Henningson, Dan S.) On stability of streamwise streaks and transition thresholds in plane channel flows. (English summary) *J. Fluid Mech.* **365** (1998), 269–303. (Summary) **99e:76053** 76E99 (76D10, 76F99, 76N20)
Baggett, Lawrence W. (*with* Medina, Herbert A.; Merrill, Kathy D.) Cohomology of polynomials under an irrational rotation. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2909–2918. (Karma Dajani) **99a:28013** 28D05 (11K38)
Bagh, S. Average number of real roots of random harmonic equations. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 857–868. (Kambiz Farahmand) **99k:60105** 60G15 (26C99, 60G99, 60K99)
Bagheri, Babak (*with* Ilin, Andrew V.; Metcalfe, Ralph W.; Scott, L. Ridgway) Error control and mesh optimization for high-order finite element approximation of incompressible viscous flow. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 313–325. (Summary) **99a:76085** 76M10 (65M60)
Bagherzadeh, N. (*with* Azevedo, M. M.; Dowd, Martin J.; Latifi, Shahram) Average distance and routing algorithms in the star-connected cycles interconnection network. (English summary) *Sci. Iran.* **3** (1997), *no.* 4, 175–187. (Summary) **99g:68011** 68M10 (68R10)
Bagieu, M. (*with* Maystre, D.) Waterman and Rayleigh methods for diffraction grating problems: extension of the convergence domain. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1566–1576. (Philip Huddleston) **99d:78026** 78A45
Bagiński, Czesław On the Burnside problems. (Polish) *Wiadom. Mat.* **33** (1997), 53–74. (Andrzej Daszkiewicz) **99e:20050** 20F50 (20–02, 20F05)
Baginski, Frank (*with* Collier, William; Williams, Tami) A parallel shooting method for determining the natural shape of a large scientific balloon. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 961–974 (*electronic*). (Summary) **99a:73080** 73K10 (34B15, 65L10, 73V20)
Bagirov, Adil M. Continuous subdifferential approximation and its construction. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 19–28. (Valentin D. Batukhtin) **99h:49022** 49J52 (58C20)
— A method for minimizing convex functions based on continuous approximations to the subdifferential. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 1–17. (Summary) **99a:90150** 90C25 (49J52)
— Application of the discrete gradient for minimizing Lipschitz functions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1626–1635; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1556–1565. (Regina Hildenbrandt) **99k:90149** 90C30 (49J52)
Bagiyan, R. A. Generalization of Voronskaya's theorem to the case of quasipolynomials of Bernstein-Hausdorff type. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 15–19 (1997). 41A10 (41A30)
— Inequalities for fractional derivatives of entire functions of arbitrary growth. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 4, 6–10 (1998). (Sergey Georgievich Merzlyakov) **99k:30043** 30D15
Baglama, J. (*with* Calvetti, D.; Reichel, L.) Fast Leja points. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 124–140 (*electronic*). (Summary) **99j:65036** 65E05 (65D20, 65F99)
— (*with* Calvetti, D.; Golub, Gene H.; Reichel, L.) Adaptively preconditioned GMRES algorithms. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 243–269 (*electronic*). (Summary) **99d:65097** 65F10
Bagnara, Roberto (*with* Hill, Patricia M.; Zaffanella, Enea) The correctness of set-sharing. (English summary) *Static analysis* (*Pisa*, 1998), 99–114, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68N17 (68N20)
Bagnato, V. S. (*with* Ragi, R.; Baseia, B.) A note on generalized superposition of coherent states. (English summary) *Modern Phys. Lett. B* **13** (1999), *no.* 3-4, 131–134 (*electronic*). 81R30
Bagota, Mónika (*with* Móricz, Ferenc) The maximal Riemann operator for functions in Hardy spaces on the two-dimensional torus. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 281–291. (S. Baron) **99f:42024** 42B08 (42A50, 42B25, 46E30)
Bagrets, A. A. (*with* Bagrets, D. A.) Stochastic behavior in two problems of the dynamics of a rigid body. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 104–110. (Summary) **99e:70017** 70E15 (70K50)
— (*with* Bagrets, D. A.) Nonintegrability of Hamiltonian systems of vortex dynamics. I. Interaction of three vortex rings. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 36–42. (Summary) **99e:76017** 76C05 (58F40, 70H05)
— (*with* Bagrets, D. A.) Nonintegrability of Hamiltonian systems of vortex dynamics. II. The motion of four point vortices on a sphere. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 58–64. (From the introduction) **99h:76012** 76C05 (58F05, 70H05)
Bagrets, D. A. (*with* Bagrets, A. A.) Stochastic behavior in two problems of the dynamics of a rigid body. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 104–110. (Summary) **99e:70017** 70E15 (70K50)
— (*with* Bagrets, A. A.) Nonintegrability of Hamiltonian systems of vortex dynamics. I. Interaction of three vortex rings. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 36–42. (Summary) **99e:76017** 76C05 (58F40, 70H05)
— (*with* Bagrets, A. A.) Nonintegrability of Hamiltonian systems of vortex dynamics. II. The motion of four point vortices on a sphere. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 58–64. (From the introduction) **99h:76012** 76C05 (58F05, 70H05)
Bagrov, V. G. (*with* Samsonov, Boris F.) Holomorphic representation of coherent states of a singular oscillator and their Darboux transformation. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 46–53; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 129–136. (Summary) **99c:81075** 81R30
— Strange approximation solutions to the Schrödinger equation. (English summary) *J. Moscow Phys. Soc.* **8** (1998), *no.* 3, 191–195. (M. Znojil) **99m:81041** 81Q05 (34L40)
Baguer Diaz Romañach, Martha L. A system for the numerical solution of constrained optimal control problems. (English and Spanish summaries) *Investigación Oper.* **16** (1995), *no.* 3, 137–150. 49M25 (90C30)

Bagui, Subhash C. (*with* Mehra, K. L.; Vaughn, Brandon K.) An M-stage version of the k-RNN rule in statistical discrimination. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 323–333. (Margaret P. Gessaman) **99h:62080** 62H30 (62G10, 62L99)

— (*with* Kushary, Debashis) Minimax classification rule for tail contaminated models. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 357–364. (Margaret P. Gessaman) **99b:62096** 62H30 (62F15)

— (*with* Vaughn, Brandon K.) Statistical classification based on k-rank nearest neighbor rule. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 181–189. (Margaret P. Gessaman) **99h:62079** 62H30

Baguis, P. Semidirect products and the Pukanszky condition. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 245–270. (Nicolaas P. Landsman) **99i:58056** 58F05 (22E60, 58F06)

Bah, Souleymane Problème de Cauchy sur un conoïde caractéristique pour des équations semi-linéaires hyperboliques. (English and French summaries) [Cauchy problem on a characteristic conoid for semilinear hyperbolic equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1381–1384. (Summary) **99g:35083** 35L70

Bahadir, A. R. (*with* Kutluay, S.; Özdeş, A.) Numerical solution of one-dimensional Burgers equation: explicit and exact-explicit finite difference methods. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 251–261. (Summary) **99k:65075** 65M06

Bahadoran, C. Hydrodynamical limit for spatially heterogeneous simple exclusion processes. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 3, 287–331. (Ellen Saada) **99j:60151** 60K35 (82C22)

Bahadur, Swarnima (*with* Mathur, Kewal Krishna) Quasi-Hermite interpolation on the unit circle. (English summary) *Ganita* **49** (1998), *no.* 1, 1–6. 41A05

Bahi, Jacques (*with* Miellou, Jean Claude; Rhofir, K.) Asynchronous multisplitting methods for nonlinear fixed point problems. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 315–345. (Gerd Pönisch) **99c:65100** 65H10

— (*with* Miellou, Jean Claude) Asynchronous multisplitting algorithms for differential-algebraic systems discretized by Runge-Kutta methods. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 35–41, *VSP, Utrecht*, 1998. (Summary) **99f:65108** 65L06 (34A09)

— Algorithmes parallèles asynchrones pour des systèmes singuliers. (English and French summaries) [Asynchronous parallel algorithms for a class of singular linear systems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1421–1425. (Summary) **99h:65107** 65H10 (65F30, 65Y05)

Bahlali, Khaled (*with* Mezerdi, Brahim; Ouknine, Youssef) Pathwise uniqueness and approximation of solutions of stochastic differential equations. (English summary) *Séminaire de Probabilités, XXXII*, 166–187, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Tomás Caraballo) **99j:60078** 60H10

Bahn, Hyoungsick (*with* Hong, Sungpyo) Isoperimetric inequalities for sectors in the Minkowski 2-spacetime. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 17–24. (J. A. Lester) **99k:51024** 51M16 (51B20)

Bahnmüller, Jörg (*with* Liu, Pei-Dong) Characterization of measures satisfying the Pesin entropy formula for random dynamical systems. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 425–448. (Viviane Baladi) **99j:58118** 58F11 (28D20, 34D08)

Bahouri, Hajer (*with* Gérard, Patrick) Optique géométrique généralisée pour les ondes non linéaires critiques. [Generalized geometric optics for critical nonlinear waves] *Séminaire sur les Équations aux Dérivées Partielles, 1996–1997, Exp. No.* VIII, 17 *pp.*, *École Polytech., Palaiseau*, 1997. (Linda M. Holt) **99e:35145** 35L70 (35B05, 35D99)

— (*with* Chemin, Jean-Yves) Inégalités de Strichartz et équations d'ondes quasilinéaires. (English and French summaries) [Strichartz inequalities and quasilinear wave equations] *Séminaire sur les Équations aux Dérivées Partielles, 1997–1998, Exp. No. XXIII*, 15 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35L70 (35B45)

— (*with* Gérard, Patrick; Xu, Chao-Jiang) Estimations de Strichartz généralisées sur le groupe de Heisenberg. [Generalized Strichartz estimates on the Heisenberg group] *Séminaire sur les Équations aux Dérivées Partielles, 1997–1998, Exp. No. X*, 13 *pp.*, *École Polytech., Palaiseau*, 1998. (Keisuke Uchikoshi) **99k:35026** 35H05 (35B45, 35L05, 46N20)

— (*with* Shatah, Jalal) Decay estimates for the critical semilinear wave equation. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 6, 783–789. (Summary) **99h:35136** 35L70 (35B40)

— (*with* Chemin, Jean-Yves) Équations d'ondes quasi-linéaires et estimations de Strichartz. (English and French summaries) [Quasilinear wave equations and Strichartz estimates] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 803–806. (Summary) **99i:35099** 35L70 (35B45)

Bahrampour, Y. (*with* Honari, B.) Cut-point spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2797–2803. (A. H. Stone) **99m:54008** 54D05 (54F15, 54F65)

Bahri, Abbas (*with* Aubin, Thierry) Une hypothèse topologique pour le problème de la courbure scalaire prescrite. (English and French summaries) [A topological hypothesis for the problem of prescribed scalar curvature] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 843–850. (David L. Finn) **99a:53036** 53C21 (35J60, 58E11)

— ★ Classical and quantic periodic motions of multiply polarized spin-particles. (English summary) Pitman Research Notes in Mathematics Series, 378. *Longman, Harlow*, 1998. vi+326 *pp. ISBN* 0-582-32749-0 (Vittorio Coti Zelati) **99e:58036** 58E05 (58F05, 58F22, 81Q99)

Bahturin, Y. *see* **Bakhturin, Yu. A.**

Bahturin, Y. A. *see* **Bakhturin, Yu. A.**

Bahturin, Yuri *see* **Bakhturin, Yu. A.**

Bahuguna, D. Regular solutions to quasilinear integrodifferential equations in Banach spaces. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 1–9. (Summary) **99a:45013** 45J05 (47D06)

— (*with* Srivastava, Sanjay K.) Semilinear integro-differential equations with compact semigroups. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 507–517. (Shu Chun Gao) **99m:34182** 34K30 (45K05, 47D06)

Bai, Changzhen (*with* Yu, Zenghai; Wang, Ding Guo) On the generalization of injectivity and von Neumann regularity. (English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 183–188. (Giuseppe Baccella) **99k:16008** 16D50 (16E50)

Bai, Cheng Ming (*with* Meng, Dao Ji) On bi-symmetric algebras. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 2, 127–145. (Joseph C. Ferrar) **99k:17001** 17A30 (17B60)

— (*with* Meng, Dao Ji) The structure of bisymmetric algebras and their adjoint Lie algebras. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 12, 1258–1262. 17B60

Bai, Chuan Zhi A coincidence theorem for fuzzy mappings in fuzzy metric spaces and Ekeland's variational principle. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 12–17. 54A40 (54H25)

— Generalized quasisolution pairs for nonlinear impulsive integrodifferential equations of mixed type in Banach spaces. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 125–127. 45J05 (34A37, 34K30)

Bai, Ding Yong (*with* Ma, Ru Yun) Existence and uniqueness of solutions for second-order nonlinear boundary value problems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 61–64. (Summary) **99k:34047** 34B15

Bai, Donghua (*with* Tan, Qijian) A free boundary problem arised from nonlinear degenerate equations of parabolic type with the second boundary value. (English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 6, 723–730. (Antonio Fasano) **99f:35104** 35K60 (35R35, 76A05, 76S05)

Bai, Er-Wei An optimal two-stage identification algorithm for Hammerstein-Wiener nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 333–338. (Summary) **99a:93032** 93B40 (65F30)

— (*with* Qiu, Li; Tempo, Roberto) Unfalsified weighted least squares estimates in set-membership identification. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 41–49. (Summary) **99c:94006** 94A12

— (*with* Cho, Hyonyong) Convergence results for an adaptive dead zone inverse. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 451–466. 93E35 (93C42)

— (*with* Tempo, Roberto; Ye, Yinyu) Recent results on the analytic center approach for bounded error parameter estimation. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 245–253, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B30 (93B40)

— (*with* Ye, Yinyu) Constrained logarithmic least squares in parameter estimation. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 182–186. 93E10 (93E12)

Bai, Jushan A note on spurious break. (English summary) *Econometric Theory* **14** (1998), *no.* 5, 663–669. 62M10 (62P20)

— Estimation of multiple-regime regressions with least absolutes deviation. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 103–134. (Yanhong Wu) **99m:62094** 62J05 (62F10, 62F12, 62J02)

— (*with* Lumsdaine, Robin L.; Stock, James H.) Testing for and dating common breaks in multivariate time series. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 3, 395–432. (A. L. Nagar) **99k:62151** 62M10

Bai, K. J. (*with* Kim, Jang Whan) A finite element method for two-dimensional water-wave problems. (English summary) *Internat. J. Numer. Methods Fluids* **30** (1999), *no.* 1, 105–121. (Summary) **99m:76018** 76B15 (76M10)

— (*with* Dawson, C. W.; Kim, Jang Whan; Wehausen, J. V.) Stagnation points in flows about solid bodies. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 119–134. (*see* **99k:76006**) 76B15 (76C05, 86A05)

Bai, Leqiang (*with* Ebara, Hiroyuki; Nakano, Hideo[1]; Maeda, Hajime) An adaptive distributed fault-tolerant routing algorithm for the star graph. (English summary) *Algorithms and computation* (*Singapore*, 1997), 62–71, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10 (68M15)

— (*with* Maeda, Hajime; Ebara, Hiroyuki; Nakano, Hideo[1]) A broadcasting algorithm with time and message optimum on arrangement graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 2, 17 *pp.* (*electronic*). (Summary) **99c:68008** 68M10 (05C85, 68R10)

Bai, Min-Ru (*with* Huang, Nan Jing) A perturbed iterative procedure for multivalued pseudo-contractive mappings and multivalued accretive mappings in Banach spaces. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 7–15. (Charles Ejike Chidume) **99m:47072** 47H15 (46B20, 47H10, 65J15)

kalpana Bai, S. *see* **Kalpana Bai, S.**

Bai, S. Kalpana *see* **Kalpana Bai, S.**

Bai, S. X. (*with* El Hafsi, M.) Multiperiod production planning with demand and cost fluctuation. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 103–119. 90B30 (49N55, 93C95)

Bai, Shi Zhong Q-convergence of ideals in fuzzy lattices and its applications. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 3, 357–363. (Summary) **99a:06012** 06B30 (04A72)

— (*with* Wang, Wan-Liang) I type of strong connectivity in L-fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 357–362. 54A40

— I^*-strong connectedness in L-fuzzy topological spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 37–40. 54A40

Bai, Shu Wei Axiom systems for a linear space. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 1–6. 15A03

Bai, Yan-qin (*with* Sun, Xiao-ling; Zhang, Lian-sheng) A SQP method for minimizing a class of nonsmooth functions. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 139–146. (Summary) **99a:90155** 90C25 (90C30)

Bai, Z. *see* **Bai, Zhaojun**

Bai, Zai-Qiao (*with* Gu, Yan; Yuan, Jian-Min) Classical dynamics of collinear e^-Ze^- Coulomb three-body systems. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 17–39. (Roberto Artuso) **99c:70015** 70F07 (70K50, 81V35)

Bai, Zhan Bing Multiple solutions of singular $(n-1, 1)$ conjugate boundary value problems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 77–79. 34B15

Bai, Zhaojun (*with* Stewart, G. W.) Algorithm 776: SRRIT: a Fortran subroutine to calculate the dominant invariant subspace of a nonsymmetric matrix. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 494–513. 65Y15

— (*with* Ye, Qiang) Error estimation of the Padé approximation of transfer functions via the Lanczos process. (English summary) Large scale eigenvalue problems (Argonne, IL,

1997). *Electron. Trans. Numer. Anal.* **7** (1998), 1–17 (*electronic*). (Summary) **99h:65074** 65F30 (41A21, 65F10)
— (*with* Demmel, James W.) Using the matrix sign function to compute invariant subspaces. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 205–225 (*electronic*). (Zhenyue Zhang) **99c:65066** 65F15 (15A18)
Bai, Zhi-Dong (*with* Rao, Calyampudi Radhakrishna; Wu, Yue Hua) Robust inference in multivariate linear regression using difference of two convex functions as the discrepancy measure. *Robust inference*, 1–19, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62J05)
— (*with* Cheng, Philip E.; Zhang, Cun-Hui) An extension of the Hardy-Littlewood strong law. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 923–928. (H. Teicher) **99h:60059** 60F15
— (*with* Chao, Chern-Ching; Hwang, Hsien-Kuei; Liang, Wen-Qi) On the variance of the number of maxima in random vectors and its applications. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 886–895. (Ilya S. Molchanov) **99f:60019** 60D05 (65Y25, 68Q25)
— (*with* Silverstein, Jack W.) No eigenvalues outside the support of the limiting spectral distribution of large-dimensional sample covariance matrices. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 316–345. (V. I. Serdobol′skiĭ) **99b:60041** 60F15 (62H99)
— (*with* Li, Zi Cai) Probabilistic analysis on the splitting-shooting method for image transformations. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 69–121. (Françoise Dibos) **99j:65031** 65D30 (68U10)
— (*with* Hwang, Hsien-Kuei; Liang, Wen-Qi) Normal approximations of the number of records in geometrically distributed random variables. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 319–334. (Peter Kirschenhofer) **99k:60051** 60F05 (60F10, 60G70)
Bai, Zhi Jiang (*with* Wu, Min Jin) The relative entropy and its application. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 2, 28–35. 94A17 (62B10)
Bai, Zhong Zhi On the monotone convergence of the projected iteration methods for linear complementarity problems. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 228–233. (Sven-Åke Gustafson) **99d:90126** 90C33 (65F10, 65K05)
— A class of iteration methods based on the Moser formula for nonlinear equations in Markov chains. (English summary) *Linear Algebra Appl.* **266** (1997), 219–241. (Nikolai K. Krivulin) **99c:65050** 65F10 (60J10, 90B22)
— Parallel hybrid algebraic multilevel iterative methods. (English summary) *Linear Algebra Appl.* **267** (1997), 281–315. (Summary) **99c:65081** 65F35 (65N22)
— A generalized Stein-Rosenberg type theorem for the PDAOR method. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 329–335. (Summary) **99b:65029** 65F10
— Parallel multisplitting two-stage iterative methods for large sparse systems of weakly nonlinear equations. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 347–372. (De Ren Wang) **99c:65101** 65H10 (65Y05)
— (*with* Huang, Ting Zhu; You, Zhao Yong) Generalizations of block diagonal dominance and the distribution of eigenvalues. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 277–281. (Hongyuan Zha) **99e:15010** 15A18
— Asynchronous parallel nonlinear multisplitting relaxation methods for large sparse nonlinear complementarity problems. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 85–100. (R. P. Tewarson) **99d:65159** 65H10 (65F50, 65Y05)
— On the convergence domain of the matrix multisplitting relaxation methods for linear systems. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 45–52. (Summary) **99a:65059** 65F50 (65Y05)
— A class of generalized multisplitting relaxation methods for linear complementarity problems. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 188–198. (Summary) **99d:90127** 90C33 (65K05)
— (*with* Sun, Jia-Chang; Szyld, D. B.) The spectral analysis of the matrix multisplitting method for the one-dimensional model problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 31–38. (P. Rochus) **99h:65090** 65F50
— (*with* Huang, Yu-Guang) Asynchronous multisplitting two-stage iterations for systems of weakly nonlinear equations. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 1, 13–33. (Robert Rihm) **99e:65089** 65H10 (65Y05)
— A class of asynchronous parallel nonlinear accelerated overrelaxation methods for the nonlinear complementarity problems. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 1, 35–44. (Summary) **99d:90128** 90C33 (65K05, 65Y05)
— (*with* Evans, David John[1]) Chaotic iterative methods for the linear complementarity problems. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 127–138. (Summary) **99h:90102** 90C33 (65Y05)
— (*with* Wang, De Ren; Evans, David John[1]) A class of asynchronous matrix multi-splitting multi-parameter relaxation iterations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 221–238. (David R. Kincaid) **99j:65076** 65F50 (65F10)
— (*with* Huang, Ting Zhu) On the convergence of the relaxation methods for positive definite linear systems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 527–538. (Summary) **99h:65049** 65F10
— A class of parallel decomposition-type relaxation methods for large sparse systems of linear equations. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 1–24. (Cs. J. Hegedűs) **99j:65077** 65F50 (65F10)
— Asynchronous parallel nonlinear symmetric Gauss-Seidel iteration methods. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 187–200. (Summary) **99e:65049** 65F10
— (*with* Evans, David John[1]) On the convergence of two-stage multisplitting methods for linear systems. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 3, 279–295. (Ming Kui Chen) **99j:65079** 65F50 (65F10, 65Y05)
— Asynchronous multisplitting AOR methods for a class of systems of weakly nonlinear equations. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 1, 49–59. (Summary) **99h:65050** 65F10 (65H20)
— A class of parallel hybrid two-stage iteration methods for block bordered linear systems. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 245–267. (Jian-Ping Zhu) **99m:65057** 65F10
— Parallel interval matrix multisplitting AOR methods and their convergence. *Appl. Math. Mech.* (*English Ed.*) **20** (1999), *no.* 2, 179–185; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 169–174 (*Chinese. English and Chinese summaries*). 65F30 (65G10, 65Y05)
— (*with* Nabben, Reinhard) Some properties of the block matrices in the parallel decomposition-type relaxation methods. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 167–170. (Summary) **99k:65038** 65F35 (65F50)
Baica, Malvina Baica's general Euclidean algorithm restricted periodicity an N-dimensional equivalent for Euler-Lagrange theorem from quadratics. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 18–23. 11A05
— General Euclidean algorithm (BGEA) and sums of some infinite series. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 54–61. 11Y40 (11A05)
Baicheva, Tsonka S. (*with* Velikova, Evguenia) Correction to: "Covering radii of ternary linear codes of small dimensions and codimensions" [IEEE Trans. Inform. Theory **43** (1997), no. 6, 2057–2061]. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 2032. 94B05
Baicu, Catalin F. (*with* Rahn, Christopher D.; Dawson, Darren M.) Exponentially stabilizing boundary control of string-mass systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 3, 491–502. 93D15 (73K50, 93C20)
Baĭdel′dinov, B. L. Functions with an integrable weighted derivative that stabilize toward a generalized polynomial. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 3, 295–297. (Maciej Sablik) **99d:26004** 26A24 (26C99)
Baier, Christel (*with* Majster-Cederbaum, Mila) How to interpret and establish consistency results for semantics of concurrent programming languages. (English summary) *Fund. Inform.* **29** (1997), *no.* 3, 225–256. (Gabriel Ciobanu) **99e:68098** 68Q55 (68N15, 68Q10)
— (*with* Katoen, Joost-Pieter; Latella, Diego) Metric semantics for true concurrent real time. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 568–579, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q55 (68Q10)
— (*with* Kwiatkowska, M. Z.) On the verification of qualitative properties of probabilistic processes under fairness constraints. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 71–79. (Summary) **99c:68168** 68Q60 (68Q10)
Baier, Gerold (*with* Kittel, A.; Parisi, Jürgen; Peinke, J.; Klein, Michael; Rössler, Otto E.) Unifying iteration rule for fractal objects. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1887–1896. (Summary) **99a:39052** 39B12 (28A80)
Baier, Gretchen (*with* Graham, Michael D.) Two-fluid Taylor-Couette flow: experiments and linear theory for immiscible liquids between corotating cylinders. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3045–3055. (Summary) **99g:76052** 76E10 (76-05, 76U05)
Baier, Herbert (*with* Wagner, Klaus Werner) The analytic polynomial-time hierarchy. (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 4, 529–544. (Heinrich Rolletschek) **99k:68066** 68Q15 (03D15, 03D20)
— (*with* Wagner, Klaus Werner) Bounding queries in the analytic polynomial-time hierarchy. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 89–104. (Heinrich Rolletschek) **99k:68067** 68Q15 (03D15, 03D20)
Baier, J. (*with* Jahn, Johannes) On subdifferentials of set-valued maps. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 233–240. (Zsolt Páles) **99k:49030** 49J52 (58C20, 90C25)
Baigent, Steve (*with* Iannelli, Pasquale; Stark, Jaroslav) Inertial manifolds for dynamics of cells coupled by gap junction. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 187–213. (Boris G. Zaslavskiĭ) **99j:92004** 92C30 (34D45, 34G20, 58F40)
Baik, Jong-Jin (*with* Hwang, Hong-Sub; Chun, Hye-Yeong) Transient, linear dynamics of a stably stratified shear flow with thermal forcing and a critical level. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 483–499. (Summary) **99j:86009** 86A10 (76V05)
Baikoussis, Christos (*with* Lyu, Seon Mi; Suh, Young Jin) Real hypersurfaces in complex space forms with η-parallel curvature tensor. (English summary) *Proceedings of the Second International Workshop on Differential Geometry* (*Taegu*, 1997), 67–76, *Kyungpook Natl. Univ., Taegu*, 1998. (Makoto Kimura) **99g:53055** 53C40
— (*with* Lyu, Seon Mi; Suh, Young Jin) Real hypersurfaces in complex space forms with η-parallel curvature tensor. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 49–55. (Jürgen Berndt) **99k:53106** 53C40
— On real hypersurfaces of a complex space form with a condition on Weyl tensor. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 3, 205–228. (David Blair) **99h:53072** 53C40
— (*with* Koufogiorgos, Themis) Helicoidal surfaces with prescribed mean or Gaussian curvature. *J. Geom.* **63** (1998), *no.* 1-2, 25–29. (Jaime B. Ripoll) **99i:53003** 53A10 (53C45)
Bailey, Chris (*with* Taylor, G. A.; Cross, Mark; Chow, P. M. Y.) Discretisation procedures for multi-physics phenomena. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 3–17. (*see* **99k:65002**) 73V20 (76M25)
Bailey, Colin (*with* Oliveira, Joseph) An axiomization for cubic algebras. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 305–334, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (S. Comer) **99d:06008** 06A12 (03C05, 06B05)
Bailey, David H. (*with* Ferguson, Helaman R. P.; Arno, Steven) Analysis of PSLQ, an integer relation finding algorithm. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 351–369. (Michael E. Pohst) **99c:11157** 11Y16 (68Q25)
Bailey, F. N. (*with* Baños, Alfonso) Design and validation of linear robust controllers for nonlinear plants. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 803–816. (Guang Xiong Wang) **99e:93033** 93B55 (93B51)
Bailey, James Alexander (*with* Crnogorac, Lobel; Ramamohanarao, Kotagiri; Søndergaard, Harald) Abstract interpretation of active rules and its use in termination analysis. *Database theory—ICDT '97* (*Delphi*), 188–202, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
— (*with* Dong, Guozhu; Ramamohanarao, Kotagiri) Structural issues in active rule systems. (English summary) *Database theory—ICDT '97* (*Delphi*), 203–214, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
Bailey, R. N. (*with* Garner, K. M.; Hobbs, M. F.) Using simulated annealing and genetic algorithms to solve staff scheduling problems. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 27–43. 90C90 (90C27)

Bailey, Ralph W. The number of weak orderings of a finite set. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 559–562. (Summary) **99h:90008** 90A08

Bailey, Thomas A. (*with* Arnold, Mark G.; Cowles, John R.; Winkel, Mark D.) Arithmetic co-transformations in the real and complex logarithmic number systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 777–786. (Summary) **99d:65382** 65Y10 (68M07)

Bailey, Toby N. The Penrose transform and real integral geometry. *The geometric universe* (*Oxford*, 1996), 403–409, *Oxford Univ. Press, Oxford*, 1998. (A. Rod Gover) **99g:32056** 32L25 (53C30, 53C65)

— (*with* Eastwood, Michael G.; Gover, A. Rod; Mason, Lionel J.) The Funk transform as a Penrose transform. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 67–81. (Peter R. Law) **99i:32037** 32L25

Bailin, D. (*with* Kraniotis, G. V.; Love, Alexander) The supersymmetric CP problem in orbifold compactifications. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 92–116. (Summary) **99b:81173** 81T30 (11Z05, 81R40)

— (*with* Kraniotis, G. V.; Love, Alexander) Sparticle spectrum and dark matter in M-theory. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 90–96. (Summary) **99c:81272** 81V22 (81T30)

— (*with* Kraniotis, G. V.; Love, Alexander) The effect of Wilson line moduli on CP-violation by soft supersymmetry breaking terms. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 343–352. (Summary) **99f:81143** 81T30 (11F46, 11Z05, 81R40)

— (*with* Kraniotis, G. V.; Love, Alexander) CP-violating phases in the CKM matrix in orbifold compactifications. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 323–330. (Summary) **99e:81171** 81T30

— (*with* Kraniotis, G. V.; Love, Alexander) Cosmological inflation with orbifold moduli as inflatons. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 111–120. (Summary) **99h:83063** 83F05

Bailleux, Olivier Local search for statistical counting. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 386–391, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C15

Baillie, C. F. (*with* Johnston, Desmond A.; Marinari, E.; Naitza, C.) Spin glass dynamics on thin graphs. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 346–349, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 82D30

Bailliet, Hélène (*with* Gusev, Vitalyi; Lotton, Pierrick; Bruneau, Michel[2]) Interaction of counterpropagating acoustic waves in media with nonlinear dissipation and in hysteretic media. (English summary) *Wave Motion* **29** (1999), *no.* 3, 211–221. (Summary) **99k:76131** 76Q05 (73D15)

Baillieul, John (*with* Weibel, Steven P.) Averaging and energy methods for robust open-loop control of mechanical systems. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 203–269, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Andrew D. Lewis) **99h:70037** 70Q05 (34C29, 34H05, 70H05, 93C85)

— (*with* Weibel, Steven P.) Open-loop oscillatory stabilization of an *n*-pendulum. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 931–957. (Vimal Singh) **99j:93088** 93D15 (34C15, 70K20, 70Q05)

— The geometry of controlled mechanical systems. (English summary) *Mathematical control theory*, 322–354, *Springer, New York*, 1999. (Andrew D. Lewis) **99k:93037** 93B29 (58F05, 70Q05)

— *see also* **Essays on mathematical robotics**, **99e:70001** *and* **Mathematical control theory**, **99g:93004**

le Bailly, B. *see* **Le Bailly, B.**

Bailly, Jacques-Herbert Local existence of classical solutions to first-order parabolic equations describing free boundaries. *Nonlinear Anal.* **32** (1998), *no.* 5, 583–599. (Georg S. Weiss) **99f:35227** 35R35 (35K55)

Baily, Walter L., Jr. A problem on an exceptional domain. *Algebra and analysis* (*Kazan*, 1994), 23–29, *de Gruyter, Berlin*, 1996. (Steven H. Weintraub) **99c:32046** 32M15 (14J15)

Bain, Jonathan Whitehead's theory of gravity. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 4, 547–574. (Lawrence Sklar) **99i:83076** 83D05 (01A60)

Bain, Lee J. (*with* Gan, Gaoxiong) Some results for type I censored sampling from geometric distributions. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 85–97. (Summary) **99b:62024** 62F03

Baines, M. J. (*with* Hubbard, M. E.) Multidimensional upwinding with grid adaptation. *Numerical methods for wave propagation* (*Manchester*, 1995), 33–54, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (From the text) **99h:76071** 76M25 (65M55)

Baines, Peter G. (*with* Lane-Serff, Gregory F.) Eddy formation by dense flows on slopes in a rotating fluid. (English summary) *J. Fluid Mech.* **363** (1998), 229–252. (Summary) **99b:86001** 86A05 (76–05, 76C05, 76U05, 86–05)

Bainov, Drumi Dimitrov (*with* Stamova, Ivanka; Vatsala, Aghalaya) Global stability of sets for linear impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 149–160. (Summary) **99a:34207** 34K20 (34A37)

— (*with* Stamova, Ivanka) Application of Lyapunov's direct method to the investigation of the stability of the solutions of impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 253–269. (Summary) **99a:34208** 34K20 (34A37)

— (*with* Dimitrova, Margarita B.; Dishliev, Angel B.) Necessary and sufficient conditions for existence of nonoscillatory solutions of impulsive differential equations of second order with retarded argument. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 287–297. (Summary) **99a:34180** 34K15 (34A37)

— (*with* Dimitrova, Margarita B.) Oscillation of nonlinear impulsive differential equations with deviating argument. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 9–21 (1997). (Jun Jie Wei) **99m:34156** 34K15 (34A37)

— (*with* Minchev, Emil; Myshkis, Anatolii) Monotone iterative method for semilinear parabolic systems of operator-differential equations. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 9–18 (1998). 35K55 (35A35)

— (*with* Minchev, Emil) Blowing up of solutions to nonlinear Schrödinger equations in noncylindrical domains. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 4, 9–12. (Nakao Hayashi) **99h:35194** 35Q55 (35B05)

— (*with* Stamova, Ivanka) Second method of Lyapunov and existence of periodic solutions of linear impulsive differential-difference equations. (English and Spanish summaries) *Divulg. Mat.* **5** (1997), *no.* 1-2, 29–37 (1998). (Eduardo Liz) **99f:34100** 34K15 (34A37)

— (*with* Kostadinov, St. I.; Zabreĭko, Petr Petrovich) Stability of the notion of dichotomy of linear impulsive differential equations in a Banach space. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 43–50 (1998). (Raúl M. Naulin) **99k:34017** 34A37 (34C11, 34D05, 34G10)

— (*with* Minchev, Emil; Nakagawa, Kiyokazu) Asymptotic behaviour of solutions of impulsive semilinear parabolic equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2725–2734. (L. Hatvani) **99c:35249** 35R10 (35B40, 35K55, 35R20)

— (*with* Dimitrova, Margarita B.) Oscillatory properties of the solutions of impulsive differential equations with a deviating argument and nonconstant coefficients. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1027–1040. (Jun Jie Wei) **99d:34124** 34K15 (34A37)

— (*with* Simeonov, Pavel) ★ Oscillation theory of impulsive differential equations. (English summary) *International Publications, Orlando, FL*, 1998. ii+284 *pp.* (From the preface) **99h:34014** 34A37 (34C10, 34K15, 35B05, 35R10)

— 50th anniversary of Prof. P. Popivanov. *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), *xv–xvi, VSP, Utrecht*, 1998. (*see* **99d:00026**) 01A70

— (*with* Minchev, Emil) Forced oscillations of solutions of parabolic equations of neutral type with maxima. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 43–49, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 35R10 (35K10)

— (*with* Minchev, Emil) On the stability of solutions of impulsive parabolic differential-functional equations. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 51–56, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 35R10 (35B35, 35K10)

— (*with* Stamova, Ivanka) Stability of sets for impulsive differential-difference equations with variable impulsive perturbations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 69–81. (O. S. Chernikova) **99b:34022** 34A37 (34K20)

— (*with* Minchev, Emil) Forced oscillations of solutions of impulsive nonlinear parabolic equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 107–116. (Florin Iacob) **99a:35264** 35R10 (35B05, 35K55)

— (*with* Minchev, Emil; Stamova, Ivanka) Present state of the stability theory for impulsive differential equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 197–226. (Yuri V. Rogovchenko) **99c:34014** 34A37 (34Dxx, 35B35, 35R10)

— (*with* Minchev, Emil; Rauh, A.) Finite time singularities of solutions of initial-boundary value problem for the Davey-Stewartson system. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 421–430. (P. L. Sulem) **99e:35206** 35Q55 (76B15)

— (*with* Dimitrova, Margarita B.; Petrov, Vasil Angelov) Oscillatory properties of solutions of impulsive differential equations with several retarded arguments. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 201–212. (Eduardo Liz) **99c:34154** 34K15 (34A37)

— (*with* Dimitrova, Margarita B.; Simeonov, Pavel) Oscillatory properties of the solutions of impulsive differential equations with retarded argument and oscillating coefficients. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 63–74. (Summary) **99f:34101** 34K15 (34A37)

— (*with* Dimitrova, Margarita B.; Dishliev, Angel B.) Oscillatory solutions of a class of nonlinear impulsive differential equations of first order with retarded argument. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 215–230. (Jun Jie Wei) **99m:34157** 34K15 (34A37)

— (*with* Dimitrova, Margarita B.; Dishliev, Angel B.) Oscillation of the solutions of a class of impulsive differential equations with a deviating argument. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 95–102. (Jun Jie Wei) **99d:34125** 34K15 (34A37)

— (*with* Stamova, Ivanka; Vatsala, Aghalaya) Second method of Lyapunov for stability of linear impulsive differential-difference equations with variable impulsive perturbations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 209–216. (J. W. Macki) **99k:34164** 34K20 (34A37)

— (*with* Markova, N. T.; Simeonov, Pavel) Asymptotic behaviour of the nonoscillatory solutions of differential equations of second order with delay depending on the unknown function. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 87–96. (Vincent Šoltés) **99d:34126** 34K15 (34C10, 34K25)

— (*with* Minchev, Emil) Forced oscillations of solutions of impulsive nonlinear parabolic differential-difference equations. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 881–890. 35R10 (35B05, 35K55)

— (*with* Dimitrova, Margarita B.; Petrov, Vasil Angelov) Sufficient conditions for existence of bounded nonoscillating solutions of neutral operator-differential equations. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 39–47. (Summary) **99d:34127** 34K15 (34K30, 34K40)

— (*with* Dimitrova, Margarita B.) Temperate oscillating solutions of operator-differential equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 23–30. (M. K. Grammatikopoulos) **99f:34102** 34K15 (34G20, 34K30)

— (*with* Dimitrova, Margarita B.; Dishliev, Angel B.) Oscillation of the solutions of impulsive differential equations and inequalities with a retarded argument. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 25–40. (Eduardo Liz) **99e:34094** 34K15 (34A37)

— (*with* Stamova, Ivanka) Lyapunov functions and asymptotic stability of impulsive differential-difference equations. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 23–34. (Raúl M. Naulin) **99k:34165** 34K20 (34A37)

— (*with* Stamova, Ivanka) Strong stability of impulsive differential-difference equations. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 87–95. (Raúl M. Naulin) **99k:34166** 34K20 (34A37)

— *see also* **Proceedings: Colloquium on Differential Equations**, **99d:00026** *and* **99g:00044**

Baiocchi, Claudio (*with* Komornik, Vilmos; Loreti, Paola) Théorèmes du type Ingham et application à la théorie du contrôle. (English and French summaries) [Ingham-type theorems and application to control theory] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 453–458. (Summary) **99g:93015** 93B07 (93C20)

Bair, J. (*with* Haesbroeck, G.) Monotonous stabiliy for neutral fixed points. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 639–646. (Frederick R. Marotto) **99a:58096** 58F08 (26A18)

— (*with* Dupin, J. C.) Cover and bounded parallel faces. (English summary) *Geom. Dedicata* **72** (1998), *no.* 3, 299–307. (Elisabeth M. Werner) **99k:52003** 52A20

Baĭramogly, M. (*with* Adygezalov, A. A.) On a regularized trace formula for the Sturm-Liouville operator with a bounded operator coefficient and with a singularity. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1587–1592, 1724; *translation in Differential Equations* **32** (1996), *no.* 12, 1581–1585 (1997). (Vladimir Vasil'evich Dubrovskiĭ) **99a:34228** 34L40 (34B24)

Baĭramov, È. M. (*with* Krall, Allan M.; Çakar, Öner) Spectrum and spectral singularities of a quadratic pencil of a Schrödinger operator with a general boundary condition. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 252–267. (Christian Remling) **99k:34036** 34B05 (34L05, 34L40, 47E05)

— (*with* Çakar, Öner; Krall, Allan M.) An eigenfunction expansion for a quadratic pencil of a Schrödinger operator with spectral singularities. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 268–289. (Christian Remling) **99k:34037** 34B05 (34L05, 34L10, 34L40, 47E05)

Baĭramov, I. G. (*with* Gebizlioglu, O. L.) On the ordering of random vectors in a norm sense. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 1, 77–86. (Summary) **99a:62072** 62G30 (62E20)

— (*with* Aliev, Fazil A.) On the characterization of distributions through order statistics and record values. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 249–253. 62E10

Baĭramov, R. R. Nonselfadjoint quadratic operator pencils and elliptic problems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 559–561, 575; *translation in Differential Equations* **34** (1998), *no.* 4, 559–563. (From the text) **99k:47113** 47F05 (35J99, 47A56)

Baird, P. (*with* Wood, John C.) Weierstrass representations for harmonic morphisms on Euclidean spaces and spheres. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 283–300. (Anne-Joëlle Vanderwinden) **99g:58032** 58E20

— Conformal foliations by circles and complex isoparametric functions on Euclidean 3-space. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 273–300. (Yuan-Jen Chiang) **99h:53031** 53C12 (57R30)

Bais, F. A. (*with* Schroers, B. J.) Quantisation of monopoles with non-abelian magnetic charge. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 250–294. (Andrew Dancer) **99c:58023** 58D27 (53C07, 81T13)

— *see also* **Strings '97, 99d:81003**

Baisalov, Yerzhan (*with* Poizat, Bruno) Paires de structures o-minimales. (Esperanto summary) [Pairs of o-minimal structures] *J. Symbolic Logic* **63** (1998), *no.* 2, 570–578. (Carlo Toffalori) **99m:03063** 03C45

Baiti, Paolo (*with* Jenssen, Helge Kristian) On the front-tracking algorithm. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 395–404. (Alexander Doktor) **99b:65125** 65M99 (35L65)

Baiwir, Marc (*with* Laubin, Pascal) Spline collocation for a boundary integral equation on polygons with cuts. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1452–1472 (*electronic*). (Summary) **99a:65165** 65N35 (45B05, 45L05, 65R20)

Baĭzaev, S. On slowly growing solutions of a multidimensional elliptic system. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 6, 329–332 (1992). 35J45

— (*with* Mukhamadiev, È. M.; Takha, Adel') On the normal solvability of differential equations with retarded argument. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 58–62. (From the text) **99c:34148** 34K05 (47G99)

Bajaj, A. K. (*with* Georgiou, Ioannis T.; Corless, Martin) Invariant manifolds and chaotic vibrations in singularly perturbed nonlinear oscillators. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 431–458. (Summary) **99a:70036** 70K50 (58F13)

— (*with* Raman, Arvind) On the non-stationary passage through bifurcations in resonantly forced Hamiltonian oscillators. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 907–933. (James A. Murdock) **99k:34085** 34C23 (34C20, 58F36, 70H05)

Bajaj, Chanderjit L. Implicit surface patches. *Introduction to implicit surfaces*, 98–125, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25, 68U05)

— (*with* Chen, Jindong; Holt, Robert J.; Netravali, Arun N.) Energy formulations of *A*-splines. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 1, 39–59. (Summary) **99f:65024** 65D17 (65D07)

Bajaj, Renu (*with* Malik, S. K.) Pattern selection in double-diffusive ferro-convection. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 191–216. (Marie Christine Néel) **99b:76033** 76E15 (76E15, 76W05)

Bajard, Jean-Claude (*with* Didier, Laurent-Stéphane; Kornerup, Peter) An RNS Montgomery modular multiplication algorithm. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 766–776. (Summary) **99c:94023** 94A60

Bajger, Mariusz On the structure of some flows on the unit circle. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 106–121. (Summary) **99m:58159** 58F25 (39B12)

Bajić, V. B. (*with* Debeljković, D. Lj.; Erić, T. N.; Milinković, S. A.) A Lyapunov analysis of stability robustness for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 53–62. (Summary) **99a:93077** 93D09 (93C05, 93C55)

— (*with* Debeljković, D. Lj.; Bogićevic, B. B.; Jovanovic, M. B.) Non-Lyapunov stability robustness consideration for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 105–115. (Summary) **99e:93054** 93D09 (93C30)

Bajnok, Béla Constructions of spherical 3-designs. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 97–107. (Jennifer D. Key) **99f:05020** 05B30

— (*with* Brinkmann, Gunnar) On the independence number of triangle free graphs with maximum degree three. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 237–254. (Kathryn Fraughnaugh) **99b:05081** 05C35 (05C85)

Bajo, Ignacio Lie algebras admitting non-singular prederivations. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 433–437. (From the text) **99b:17017** 17B40 (17B30)

— Pulse accumulation in impulsive differential equations with variable times. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 211–217. (O. S. Chernikova) **99b:34023** 34A37

Bajo Lorenzana, V. M. (*with* Celletti, Alessandra; Villa, A. E. P.) Correlation dimension for two experimental time series. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 4, 381–396. 58F13 (58F40)

Bajpai, S. D. (*with* Al-Khayat, Isa A.) Some hypergeometric solutions of a partial differential equation related to quantum mechanics, heat conduction and other applied sciences. (English summary) *J. Indian Acad. Math.* **17** (1995), *no.* 2, 219–226. (From the introduction) **99f:33003** 33C15

— (*with* Abbas, Salman Hassan) An orthogonal type property of the Laguerre polynomials and computation of special functions. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 1, 1–6. (Summary) **99e:33004** 33C45

Bajracharya, Shanti Generating relations involving Laguerre polynomials and confluents hypergeometric functions. *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 253–254. 33C45

— Bilateral generating relating for Palas polynomials. *J. Bihar Math. Soc.* **17** (1996), 77–79. (Introduction) **99k:33020** 33C45

Bajunaid, I. (*with* Jamjoom, F. B. H.; Zaheer, N.) On a theorem of Marden with applications. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 101–114. (Jay M. Jahangiri) **99c:30004** 30C15

Bak, A. Topological methods in algebra. *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 43–54, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (David J. Green) **99g:55025** 55U35 (18G99)

Bak, Dongsu (*with* Lee, Choonkyu; Lee, Kimyeong) Dynamics of Bogomol'nyi-Prasad-Sommerfield dyons: effective field theory approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5239–5259. (Summary) **99m:81135** 81T13 (58D27)

Bakaev, Nikolai Yu. On variable stepsize Runge-Kutta approximations of a Cauchy problem for the evolution equation. (English summary) *BIT* **38** (1998), *no.* 3, 462–485. (Alexander Ostermann) **99i:65069** 65L06 (65J10, 65L20, 65M12)

— (*with* Larsson, Stig; Thomée, V.) Long time behaviour of backward difference type methods for parabolic equations with memory in Banach space. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 185–206. (Wei Zhong Dai) **99j:65143** 65M12 (34K30)

— The upper bounds for powers of linear operators and some applications to the stability analysis of difference problems. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 4, 343–364. (Summary) **99i:47018** 47A50 (39A11)

Bakalarska, Małgorzata (*with* Broda, Bogusław) Topology of 3-dimensional Seiberg-Witten theory. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 995–999. (Summary) **99k:57066** 57R57 (57M25, 58D29)

Bakali, Allal (*with* Akkouchi, Mohamed; Khalil, Idriss) A class of functional equations on a locally compact group. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 694–705. (Walter R. Bloom) **99k:43015** 43A99 (39B22)

Bakalov, B. (*with* Horozov, Emil; Yakimov, M.) Bispectral algebras of commuting ordinary differential operators. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 331–373. (Alexander V. Shapovalov) **99c:34188** 34L05 (58F07)

— (*with* Horozov, Emil; Yakimov, M.) Highest weight modules over the $W_{1+\infty}$ algebra and the bispectral problem. *Duke Math. J.* **93** (1998), *no.* 1, 41–72. (Piotr G. Grinevich) **99h:58077** 58F07 (17B68, 34L05)

Bakan, G. M. A fuzzy ellipsoidal observer of the states of a multidimensional static plant. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 133–144, 298. 93E12 (93E10)

— (*with* Radchenko, I. F.) A computation method for determining the moments of inertia of bodies of revolution about geometric axes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 114–119, 159. 70E99

— (*with* Kussul', N. N.) A fuzzy ellipsoid algorithm for filtering the states of a static object. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 77–92, 153. 93E11 (93C41)

— Ellipsoidal algorithms of guaranteed estimation and a recursive least squares method in problems of the filtering of the states of dynamical systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 34–48, 155. 93E12 (93B30)

Bakanov, K. G. (*with* Kozhevnikova, T. V.; Okulov, N. A.) On a variant of the weighted residual method. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 31–36, 197. 65M60 (65M70)

Bakas, Ioannis 2-D gravisolitons in string theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 350–354, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83E30 (81T30)

— (*with* Bourdeau, Michèle; Cardoso, Gabriel Lopes) Supersymmetric solutions in three-dimensional heterotic string theory. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 103–138. (Sergey Nikolaevich Roshchupkin) **99d:81105** 81T30 (83E30)

Bakeir, M. Y. (*with* El-Saady, K.) Separation axioms in fuzzy topological ordered spaces. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 211–215. 54A40 (54F05)

Baker, A. *see* **Baker, Alan**

Baker, A. J. *see* **Baker, Allen Jerome**

Baker, Alan Effective methods in the theory of numbers [MR **54** #10162]. *Fields Medallists' lectures*, 162–170, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 11J86

— Effective methods in Diophantine problems [MR **47** #3324]. *Fields Medallists' lectures*, 171–182, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 11J86

— Effective methods in Diophantine problems. II [MR **49** #2571]. *Fields Medallists' lectures*, 183–189, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 11J86

— Effective methods in the theory of numbers/Diophantine problems [MR **54** #10162]. *Fields Medallists' lectures*, 190–193, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 11J86

— Logarithmic forms and the *abc*-conjecture. *Number theory (Eger, 1996)*, 37–44, *de Gruyter, Berlin*, 1998. (Michel Waldschmidt) **99e:11101** 11J86 (11D75, 11J61)

— *see also* **Turán, Pál, (99b:00010)**

Baker, Allen Jerome (*with* Iannelli, J. S.; Roy, Subrata; Chaffin, D. J.) On some recent adventures into improved finite element CFD methods for convective transport. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX,

1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 27–42. (From the summary) **99d:76056** 76M10 (65M60, 76Rxx)

Baker, Andrew James Hecke algebras acting on elliptic cohomology. *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*, 17–26, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Mark Hovey) **99h:55004** 55N22 (11F11)

— Vertex operators in algebraic topology. *The Monster and Lie algebras (Columbus, OH, 1996)*, 3–15, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Dražen Adamović) **99m:17033** 17B69 (55N15, 55R40)

— A supersingular congruence for modular forms. *Acta Arith.* **86** (1998), *no.* 1, 91–100. (Joseph H. Silverman) **99j:11066** 11G07 (11F33, 11G20)

— Right eigenvalues for quaternionic matrices: a topological approach. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 303–309. (Chong Guang Cao) **99k:15030** 15A33 (15A18, 55M20)

Baker, Brenda S. (*with* Giancarlo, Raffaele) Longest common subsequence from fragments via sparse dynamic programming. (English summary) *Algorithms—ESA '98 (Venice)*, 79–90, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68Q25)

Baker, Christopher T. H. Numerical analysis of Volterra functional and integral equations. (English summary) *The state of the art in numerical analysis (York, 1996)*, 193–222, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (H. Brunner) **99g:65122** 65R20 (45L05)

— (*with* Tang, Arsalang) Stability analysis of continuous implicit Runge-Kutta methods for Volterra integro-differential systems with unbounded delays. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 153–173. (Jean-Paul Kauthen) **99a:45021** 45L05 (34K05, 45J05, 65R20)

— (*with* Ford, Neville J.; Roberts, Jason A.) Nonlinear Volterra integro-differential equations—stability and numerical stability of θ-methods. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 397–416. (Summary) **99j:45006** 45J05 (45L05, 45M99, 65R20)

— (*with* Tang, Arsalang) Stability of grazing systems with infinite delays. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 309–317. (Summary) **99d:92044** 92D40 (34K20)

Baker, Donna (*with* Chiera, C.; Connell, H. J.; Shepherd, J. J.) Helical flow of a Carreau fluid between coaxial cylinders. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 121–128, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76A05

Baker, Georgiana R. (*with* Spurrier, John D.) Comparisons with a control using normal scores and Savage statistics. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 123–139. (Summary) **99d:62045** 62G10

Baker, Gregory R. (*with* Nie, Qing) Application of adaptive quadrature to axi-symmetric vortex sheet motion. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 49–69. (Thomas Y. Hou) **99e:76093** 76M25 (76C05)

— (*with* Nachbin, André) Stable methods for vortex sheet motion in the presence of surface tension. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1737–1766 (*electronic*). (Thomas Y. Hou) **99c:76073** 76M15 (65N30, 76C05)

Baker, I. N. (*with* Domínguez, P.) Analytic self-maps of the punctured plane. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 67–91. (Summary) **99m:30051** 30D05

Baker, J. Eddie The single screw reciprocal to the general plane-symmetric six-screw linkage. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 1, 5–12. (Hellmuth Stachel) **99c:53009** 53A17

— (*with* Parkin, I. A.) On compounding three successive finite displacement screws. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 337–342, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Baker, James E. (*with* Cruz, Isabel F.; Liotta, Giuseppe; Tamassia, Roberto) Visualizing geometric algorithms over the Web. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 125–152. (*see* **99k:68001**) 68U05

Baker, John *see* **Baker, John Walter**

Baker, John A. Functional equations and Weierstrass transforms. II. (English summary) *Results Math.* **31** (1997), *no.* 3-4, 282–291. (P. N. Rathie) **99c:39042** 39B99 (44A15)

Baker, John Walter (*with* Lau, Anthony To-Ming; Pym, John) Module homomorphisms and topological centres associated with weakly sequentially complete Banach algebras. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 186–208. (Summary) **99h:46081** 46H05 (43A15)

Baker, Mark R. (*with* Patil, Rajendra B.) Universal approximation theorem for interval neural networks. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 235–239. (Summary) **99g:92004** 92B20 (65G10)

Baker, R. C. (*with* Harman, Glyn; Pintz, J.) The exceptional set for Goldbach's problem in short intervals. *Sieve methods, exponential sums, and their applications in number theory (Cardiff, 1995)*, 1–54, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Giovanni Coppola) **99g:11121** 11P32 (11N36, 11P55)

— (*with* Harman, Glyn) Shifted primes without large prime factors. *Acta Arith.* **83** (1998), *no.* 4, 331–361. (John B. Friedlander) **99b:11104** 11N25 (11N13, 11N36)

— (*with* Harman, Glyn) The three primes theorem with almost equal summands. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 763–780. (D. R. Heath-Brown) **99c:11124** 11P32 (11N36, 11P55)

Baker, R. L. The qualitative analysis of a dynamical system of differential equations arising from the study of multilayer scales on pure metals. II. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 753–761. (Summary) **99f:92038** 92E20 (34C11, 34C99, 82D35)

Baker, T. *see* **Baker, Tanya**

Baker, T. H. (*with* Forrester, P. J.) The Calogero-Sutherland model and generalized classical polynomials. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 175–216. (Laurent Habsieger) **99c:33012** 33C45 (33C50, 33C60, 81V70)

— (*with* Forrester, P. J.) A q-analogue of the type A Dunkl operator and integral kernel. *Internat. Math. Res. Notices* **1997**, *no.* 14, 667–686. (Laurent Habsieger) **99e:33022** 33D80 (33D65, 39A10)

— (*with* Forrester, P. J.) Generalizations of the q-Morris constant term identity. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 1, 69–87. (Laurent Habsieger) **99e:05013** 05A30 (05A19, 33D05, 33D60)

— (*with* Forrester, P. J.; Pearce, Paul A.) Random matrix ensembles with an effective extensive external charge. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6087–6101. (Summary) **99h:82035** 82B41

Baker, T. S. (*with* Dormand, J. R.; Prince, P. J.) Continuous approximation with embedded Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 171–188. (Summary) **99h:65126** 65L06

Baker, Tanya (*with* Chayes, L.) On the unicity of discontinuous transitions in the two-dimensional Potts and Ashkin-Teller models. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 1–15. (Daniel Ueltschi) **99k:82039** 82B26 (82B05, 82B20)

Bakhalov, N. S. (*with* Besov, O. V.; Nikol'skiĭ, S. M.; Potapov, M. K.) Petr Lavrent'evich Ul'yanov (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 211–220; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 645–655. (Editors) **99m:01039** 01A70

Bakholdin, I. (*with* Il'ichev, A. T.) Solitary wave decay in non-linear Faraday resonance. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 93–102. (Summary) **99j:76018** 76B25

Bakhramov, S. A. (*with* Israilov, M. I.) Error estimates for an interpolation cubic spline. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 31–39. (Jian Ke Lu) **99e:41009** 41A15 (41A55)

Bakhtiari, S. (*with* Safavi-Naini, Reihaneh; Pieprzyk, Josef) On the weaknesses of Gong's collisionful hash function. (English summary) *J.UCS* **3** (1997), *no.* 3, 185–196 (*electronic*). 68P10

Bakhtin, A. K. On the product of inner radii of symmetric nonoverlapping domains. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1454–1464; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1632–1643 (1998). (Kazimierz Włodarczyk) **99m:30045** 30C70

Bakhtin, V. I. Large deviations for a random variable with a finite number of cumulants whose values are calculated approximately. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 603–608; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 513–517 (1998). (Summary) **99b:60037** 60F10

Bakhturin, Yu. A. (*with* Giambruno, Antonio; Riley, David Michael) Group-graded algebras with polynomial identity. (English summary) *Israel J. Math.* **104** (1998), 145–155. (E. Formanek) **99c:16041** 16W50 (16R99, 16W30)

— (*with* Linchenko, V.) Identities of algebras with actions of Hopf algebras. *J. Algebra* **202** (1998), *no.* 2, 634–654. (Antonio Giambruno) **99d:16040** 16W30 (16R99)

— (*with* Zaĭtsev, M. V.) Identities of graded algebras. *J. Algebra* **205** (1998), *no.* 1, 1–12. (Vesselin Drensky) **99f:17034** 17B70 (17A70, 17B01, 17B40)

— (*with* Giambruno, Antonio; Zaĭtsev, M. V.) G-identities on associative algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 63–69. (E. Formanek) **99b:16053** 16W20

Bakhvalov, A. N. On the divergence everywhere of Fourier series of continuous functions of several variables. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 45–62; *translation in Sb. Math.* **188** (1997), *no.* 8, 1153–1170. (F. Móricz) **99a:42006** 42B05 (42B08)

Bakhvalov, N. S. (*with* Bourgeat, Alain) Precise estimates of the difference between the homogenized solution with its first corrector and the original one. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 45–60. (Summary) **99k:65102** 65N15 (35J99, 65N12, 73B27)

— (*with* Èglit, M. Ė.) Effective moduli of composites reinforced by systems of plates and rods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 813–834; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 783–804. (Leonid V. Gibiansky) **99e:73070** 73K20 (73B27)

— (*with* Panasenko, G. P.; Štaras, Arūnas) The averaging method for partial differential equations (homogenization) and its applications [MR 91k:35061]. *Partial differential equations, V*, 211–239, 241–247, *Encyclopaedia Math. Sci.*, 34, *Springer, Berlin*, 1999. (*see* **99i:35002**) 35G20 (35B40, 73B27)

Bakia, I. A. On the payoff convergence rate estimation in the problem of optimal stopping of random sequences in the scheme of Kalman-Bucy. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 37–40. 62L15

Bakić, Damir (*with* Guljaš, Boris) Which operators approximately annihilate orthonormal bases? (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 601–607. (Pei Yuan Wu) **99m:47023** 47B07 (47A10, 47A12)

— Compact operators, the essential spectrum and the essential numerical range. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 103–108. (Summary) **99g:47038** 47B07 (47A10, 47A12)

Bakić, Nenad A complete system of relations for Zhu's algebra $U(\mathfrak{sl}_2)/\langle e^{p+1}\rangle$. *Comm. Algebra* **26** (1998), *no.* 1, 171–180. (Chong Ying Dong) **99b:17034** 17B69 (17B67)

Bakier, M. Y. (*with* El-Saady, K.) Fuzzy proximity ordered spaces. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 341–350. 54A40

Bakirov, N. K. Nonhomogeneous samples in the Behrens-Fisher problem. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci. (New York)* **89** (1998), *no.* 5, 1460–1467. (Jon Stene) **99i:62032** 62F03

Bakirova, M. I. (*with* Dorodnitsyn, V. A.; Kozlov, R. V.) Symmetry-preserving difference schemes for some heat transfer equations. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8139–8155. (Wei Zhong Dai) **99d:39003** 39A10 (65M06)

Bakiya, I. A. Comparison of optimal boundaries of discrete and continuous schemes in the problem of testing hypotheses about the mean value of the Wiener process. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 3, 377–380. 62M07

de Bakker, J. W. (*with* de Vink, E. P.) Denotational models for programming languages: applications of Banach's fixed point theorem. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 35–52. (Peter Johnstone) **99d:68156** 68Q55 (03B70, 47H10, 54E50, 54H25, 68Q10)

Bakker, M. C. M. (*with* Verweij, M. D.; Kooij, B. J.; Dieterman, H. A.) The traveling point load revisited. (English summary) *Wave Motion* **29** (1999), *no.* 2, 119–135. (Summary) **99j:73039** 73D15 (73D25)

Baklanov, E. A. (*with* Borisov, I. S.) Moment inequalities for generalized L-statistics. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 483–489; *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 415–421. (S. G. Maloshevskiĭ) **99h:60029** 60E15 (62G30)

Baklouti, A. *see* **Ali, Baklouti**

Baklouti, Ali *see* **Ali, Baklouti**

Bakoev, M. T. (*with* Tozhiev, T. Kh.) The Monte Carlo method for solving the Cauchy problem for the generalized equation of nonisotropic diffusion. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 15–23. 65C10 (65M06)

Bakoğlu, H. (*with* Aldemir, M. Ş.) On the extremum numbers of k-circuits in a T_n tournament. (English and Turkish summaries) *Ege Univ. J. Fac. Sci.* **21** (1998), *no.* 2, 71–77. 05C38 (05C20, 05C35)

Bakonyi, Mihály (*with* Timotin, Dan) On a conjecture of Cotlar and Sadosky on multidimensional Hankel operators. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1071–1075. (Pedro Alegría) **99b:47032** 47B35 (32A35, 46J15)

— (*with* Bono, Aaron) Several results on chordal bipartite graphs. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 577–583. (Daniel Ashlock) **99a:05117** 05C75 (05C50, 15A06)

— (*with* Nævdal, Geir) On the matrix completion method for multidimensional moment problems. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 547–558. (Summary) **99k:42020** 42B10 (44A60, 47A57)

— (*with* Nævdal, Geir) Characterization of finite subsets of $\mathbf{Z}^2$ having the extension property. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 417–420. (Mihai Putinar) **99h:47022** 47A57 (42B30, 47B99)

— (*with* Johnson, Charles Royal; Stanford, David P.) Sign pattern matrices that require domain-range pairs with given sign patterns. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 165–178. (Summary) **99j:15039** 15A99

— (*with* Woerdeman, Hugo J.) Extensions of positive definite Fredholm operators with partially zero inverse. (English summary) *Math. Nachr.* **193** (1998), 5–18. (Lawrence Williams) **99h:47010** 47A20 (45P05, 47B10, 47B38)

el-Bakry, Amr S. *see* **El-Bakry, Amr S.**

Bakry, Dominique (*with* Echerbault, Mireille) Sur les inégalités GKS. (English and French summaries) [On the GKS inequalities] *Séminaire de Probabilités, XXX*, 178–206, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Daniel Ueltschi) **99b:82008** 82B05 (82B20)

— On Sobolev and logarithmic Sobolev inequalities for Markov semigroups. (English summary) *New trends in stochastic analysis (Charingworth*, 1994), 43–75, *World Sci. Publishing, River Edge, NJ*, 1997. (Kazuaki Taira) **99m:60110** 60J35

Bakša, Aleksandar Brachystochronous movement on a manifold. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 1–11. (Pierre Aimé) **99g:70024** 70H30 (49J05, 58F05, 70H35)

Bakuradze, M. R. Some calculations with transfer in symplectic cobordism. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 208–211 (1996). (R. E. Stong) **99f:57042** 57R90

— On the Buchstaber subring in MSp_*. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 401–414. (Summary) **99f:55010** 55N22 (55R12, 57R90)

Bakuridze, M. Szász', Hardy's and Littlewood's classes and trigonometric Fourier series. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 333–334. 42B25

— Some properties of Fourier trigonometric series of even and odd functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 15–16. 42A10

— Some properties of Cesaro means of conjugate trigonometric series. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 166–168. 42A50

Bakushinskiĭ, A. B. Universal linear approximations of solutions to nonlinear operator equations and their application. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 507–521 (1998). (M. Z. Nashed) **99e:47088** 47H17 (65J15)

— On the rate of convergence of iterative processes for nonlinear operator equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 559–563; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 538–542. (Summary) **99d:65181** 65J15 (47H17)

— Iterative methods of gradient type for nonregular operator equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1962–1966; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1884–1887. (Summary) **99h:65119** 65J15 (47H17)

abd el-Baky, Rashad A. *see* **Abd El-Baky, Rashad A.**

Bala, Pawan (*with* Arora, S. C.) Operator algebras of finite strict multiplicity. (English summary) *J. Anal.* **5** (1997), 65–77. (Edward Azoff) **99k:47104** 47D25

Bala, Venkatesh A pitchfork bifurcation in the tatonnement process. (English summary) *Econom. Theory* **10** (1997), *no.* 3, 521–530. (Gian-Italo Bischi) **99c:90036** 90A53

— (*with* Majumdar, Mukul; Mitra, Tapan) Controlling chaos: some analytical results and applications to tatonnement. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 363–379. (Summary) **99a:90064** 90A16 (93C10)

Balabaev, V. E. Generalized solutions of first-order, normal elliptic systems and their estimates. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1661–1669, 1727; *translation in Differential Equations* **33** (1997), *no.* 12, 1664–1672 (1998). (Guo Chun Wen) **99k:35039** 35J45 (35C15, 35D99)

— A complex analogue of invariant elliptic Dezin systems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 331–341, 429; *translation in Differential Equations* **34** (1998), *no.* 3, 331–340. (Igor M. Mitelman) **99m:35050** 35J45 (32F20)

Balaban, Mira (*with* Murray, Neil V.) Interleaving time and structure. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 1, 1–34. (Summary) **99a:68160** 68T30

— (*with* Shimony, Solomon Eyal) Structured plans with sharing and replication. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 4, 257–292. (Summary) **99e:68146** 68T20

Balaban, Tadeusz A low temperature expansion for classical N-vector models. III. A complete inductive description, fluctuation integrals. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 485–521. (A. L. Rebenko) **99j:81124** 81T17 (81T25, 82B20, 82B28)

— Renormalization and localization expansions. II. Expectation values of the "fluctuation" measures. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 1, 1–45. (A. L. Rebenko) **99k:81171** 81T08 (81T17, 81T25, 82B20, 82B28)

— (*with* O'Carroll, Michael L.) Low temperature properties for correlation functions in classical N-vector spin models. (English summary) *Comm. Math. Phys.* **199** (1999), *no.* 3, 493–520. (Roman Gielerak) **99m:82018** 82B28 (82B05)

Balabanov, A. (*with* Kondrat'ev, Vyacheslav Vasil'evich; Utrobin, V. A.) Information model of decision making process for image recognition. (English summary) *Comput. Sci. J. Mo'dova* **5** (1997), *no.* 2, 123–145. 68U10

Bălăcenoiu, Ion Remarkable inequalities. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova*, 1997), 131–135, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A51

— (*with* Seleacu, Vasile) Properties of the triplets p^*. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova*, 1997), 141–144, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A99

— The semilattice with consistent return. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova*, 1997), 149–156, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A25

— The factorial signature of natural numbers. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 70–77. 11A25

Balachandar, S. (*with* Zhou, Jigen; Adrian, R. J.; Kendall, T. M.) Mechanisms for generating coherent packets of hairpin vortices in channel flow. (English summary) *J. Fluid Mech.* **387** (1999), 353–396. 76F99

— (*with* Robichaux, J.; Vanka, S. P.) Three-dimensional Floquet instability of the wake of square cylinder. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 560–578. (Summary) **99j:76054** 76E99 (76D25)

Balachandran, A. P. (*with* Bimonte, G.; Landi, Giovanni; Lizzi, Fedele; Teotonio-Sobrinho, Paulo) Lattice gauge fields and noncommutative geometry. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 353–385. (Eli J. Hawkins) **99b:58022** 58B30 (06B35, 81T25)

— (*with* Baez, S.; Travesset, A.; Stern, Allen Bruce) Properties of quantum Hall skyrmions from anomalies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 32, 2627–2635. (Summary) **99g:81236** 81V70 (81T50)

— (*with* Vaidya, Sachindeo; Bimonte, G.; Govindarajan, T. R.; Gupta, K. S.; John, Varghese) Current oscillations, interacting Hall discs and boundary CFTs. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1061–1085. (Summary) **99k:81276** 81T40 (81R10, 81V10)

Balachandran, Krishnan (*with* Dauer, Jerald P.; Balasubramaniam, P.) Asymptotic null controllability of nonlinear neutral Volterra integrodifferential systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99f:93008** 93B05 (45J05, 93C22)

— (*with* Dauer, Jerald P.; Anthoni, S. Marshal) Null controllability of nonlinear infinite neutral systems with delays in control. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 39–50. (Jerzy Klamka) **99f:93010** 93B05 (93C30)

— Existence and uniqueness of mild and strong solutions of nonlinear integro-differential equations with nonlocal condition. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 159–165. (Qing Rong Liu) **99k:45020** 45J05 (34K30, 47D06, 47H15)

— (*with* Dauer, Jerald P.) Local controllability of semilinear evolution systems in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 311–320. (Angelo Favini) **99m:93003** 93B05 (34G20, 47D06, 93C25)

— (*with* Sakthivel, R.) Controllability of delay integrodifferential systems in Banach spaces. (English summary) *Libertas Math.* **18** (1998), 119–127. (Stanisław Walczak) **99j:93006** 93B05 (34K35, 93C25)

— (*with* Park, Jong Yeoul; Anthoni, S. Marshal) Controllability of second order semilinear Volterra integrodifferential systems in Banach spaces. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 1–13. (Stanisław Walczak) **99m:93004** 93B05 (93C25)

— (*with* Park, Dong Gun; Kwun, Young-Chel) Nonlinear integrodifferential equations of Sobolev type with nonlocal conditions in Banach spaces. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 223–231. (P. P. Zabreĭko) **99k:45021** 45J05 (34K30, 47N20)

— (*with* Chandrasekaran, M.) Nonlocal Cauchy problem for quasilinear integrodifferential equation in Banach spaces. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 35–43. (Ludwik Byszewski) **99m:45011** 45J05 (34K30, 45N05, 47H15)

Balachandran, V. K. R. Vaidyanathaswamy [1894–1960]. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 15–18. 01A70

— Uniqueness of norm theorem for semisimple ρ-Banach algebras. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 61–78. (B. E. Johnson) **99e:46060** 46H40

Baladi, V. (*with* Kitaev, A. Yu.; Ruelle, David; Semmes, Stephen) Sharp determinants and kneading operators for holomorphic maps. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 193–235. (Alexander Fel'shtyn) **99f:58163** 58F19 (58F20)

— (*with* Degli Esposti, Mirko; Isola, S.; Järvenpää, Esa; Kupiainen, Antti) The spectrum of weakly coupled map lattices. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 539–584. (Volker Matthias Gundlach) **99c:58127** 58F19 (58F11, 82B20)

Baladze, V. Kh. On fiber shape theory. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 41–44. (Yuri V. Lubenets) **99h:55011** 55P55 (55R05)

— A proper shape theory and resolutions. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 1, 13–18 (1996). (From the text) **99h:54028** 54C56

— On spectral coshape theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 369–372. 55P55 (18B99)

Balaganskiĭ, V. S. Antiproximinal sets in spaces of continuous functions. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 5, 643–657, 799; *translation in Math. Notes* **60** (1996), *no.* 5-6, 485–494 (1997). (Ion Badea) **99d:41062** 41A65 (46E99)

— On the closest and most remote points. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 289–291; *translation in Math. Notes* **63** (1998), *no.* 1-2, 250–252. (Nikolay V. Zhivkov) **99i:41033** 41A65 (46B20)

— On smooth antiproximal sets. (Russian) *Mat. Zametki* **63** (1998), *no.* 3, 472–474; *translation in Math. Notes* **63** (1998), *no.* 3-4, 415–418. (From the text) **99d:46035** 46E15 (41A65, 46B20)

Balaguer, Ángel (*with* Conde, Carlos; López, José A.; Martínez, V. J.) A conservative numerical method for the convection-diffusion equation in a two-dimensional domain. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 9 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65M60 (76M25)

sunyer i Balaguer, Ferran *see* **Sunyer i Balaguer, Ferran**

Balaguer, Mark ★ Platonism and anti-Platonism in mathematics. (English summary) *Oxford University Press, New York, 1998. x+217 pp. ISBN* 0-19-512230-5 (Yehuda Rav) **99i:00005** 00A30 (03A05)

— Non-uniqueness as a non-problem. *Philos. Math.* (3) **6** (1998), *no.* 1, 63–84. (Otávio Bueno) **99d:00003** 00A30 (03A05)

Balaj, Mircea Separation of $(n+1)$-families of sets in general position in $\mathbf{R}^n$. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 743–748. (John R. Reay) **99a:52005** 52A37 (47H10)

— Intersection properties for some families of convex sets. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 195–201. (Summary) **99f:52004** 52A07 (52A37)

— A fixed point theorem for composed set-valued maps. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 21–27. (Mihai Turinici) **99k:47136** 47H10 (47H04, 49J35)

— Families of sets in general position. *Demonstratio Math.* **31** (1998), *no.* 3, 657–662. (John R. Reay) **99i:52003** 52A20

— A variant of a fixed point theorem of Browder and some applications. (English summary) *Math. Montisnigri* **9** (1998), 5–13. (Heinrich Steinlein) **99m:47062** 47H10 (49K35)

Balaji, K. (*with* Sridharan, M. R.) Characterisation of self-complementary chordal graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 279–283. (Summary) **99a:05125** 05C75

Balaji, Srinivasan (*with* Ramasubramanian, Sundareswaran) Recurrence and transience of diffusions in a half-space. (English summary) *Bernoulli* **3** (1997), *no.* 1, 97–119. (Ross Pinsky) **99b:60125** 60J60 (60J65)

— (*with* Ramasubramanian, Sundareswaran) Reflecting diffusions in the quadrant: recurrence and transience. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 9–24. (Angelos Dassios) **99k:60204** 60J65 (60J70)

— (*with* Ramasubramanian, Sundareswaran) Reflecting diffusions in an orthant: an introduction. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 25–36. (Michèle Mastrangelo-Dehen) **99k:60199** 60J60 (60J65, 60J70)

Balaji, V. (*with* Brambila Paz, Leticia; Newstead, Peter E.) Stability of the Poincaré bundle. (English summary) *Math. Nachr.* **188** (1997), 5–15. (Jean-Marc Drezet) **99a:14013** 14D20 (14H60)

Balakin, A. B. Gravitational radiation and birefringence induced by curvature. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2881–2893. (Patrick Dolan) **99d:83034** 83C30 (83C35)

— (*with* Zimdahl, Winfried) Inflation in a self-interacting gas universe. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 063503, 10 *pp.* (Summary) **99m:83091** 83C55 (83F05)

Balakirskiĭ, V. B. Lower bounds on the code rate for a model of data transmission with side information. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1642–1648. 94B65

— (*with* Ahlswede, Rudolf) Construction of uniquely decodable codes for the two-user binary adder channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 326–330. 94A24 (94A40)

Balakrishna, C. (*with* Ganguly, Snehasis; Layton, J. B.; Kane, J. H.) A fully symmetric multi-zone Galerkin boundary element method. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 991–1009. 65N30 (65N38)

Balakrishna, N. Estimation for the semi-Pareto processes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2307–2323. (Summary) **99e:62151** 62M10

Balakrishnan, A. V. Dynamics and control of articulated anisotropic Timoshenko beams. (English summary) *Dynamics and control of distributed systems*, 121–201, *Cambridge Univ. Press, Cambridge*, 1998. (Isaac V. Shragin) **99g:73088** 73K50 (73K05, 73K12, 93C20, 93D15)

— On superstability of semigroups. *Systems modelling and optimization (Detroit, MI, 1997)*, 12–19, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 47D06 (34G10)

Balakrishnan, Anantaram (*with* Magnanti, Thomas L.; Mirchandani, Prakash) Heuristics, LPs, and trees on trees: network design analyses. (English summary) *Oper. Res.* **44** (1996), *no.* 3, 478–496. (Xue Liang Li) **99k:90184** 90C35 (90B10)

Balakrishnan, N. *see* **Balakrishnan, Narayanaswamy**

Balakrishnan, Nagraj (*with* Kanet, John J.; Sridharan, V.) Early/tardy scheduling with sequence dependent setups on uniform parallel machines. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 127–141. 90B35

Balakrishnan, Narayanaswamy (*with* Johnson, Norman Lloyd[2]; Kotz, Samuel) ★ Discrete multivariate distributions. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxii+299 *pp. ISBN* 0-471-12844-9 (D. N. Shanbhag) **99h:62014** 62E15 (60C05, 60E05, 62H05)

— (*with* Ma, Yimin) Convergence rates of empirical Bayes estimation and selection for exponential populations with location parameters. (English summary) *Advances in statistical decision theory and applications*, 65–77, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (I. N. Volodin) **99h:62010** 62C12 (62F07)

— (*with* Childs, Aaron) Some extensions in the robust estimation of parameters of exponential and double exponential distributions in the presence of multiple outliers. *Robust inference*, 201–235, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— (*with* Ma, Yimin) On empirical Bayes rules for selecting the best hypergeometric population. (English summary) *Sequential Anal.* **16** (1997), *no.* 3, 269–286. (I. N. Volodin) **99c:62016** 62C12 (62F07)

— (*with* Aggarwala, Rita) Some properties of progressive censored order statistics from arbitrary and uniform distributions with applications to inference and simulation. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 35–49. (Summary) **99i:62115** 62G30

— (*with* Johnson, Norman Lloyd[2]; Kotz, Samuel) A note on relationships between moments, central moments and cumulants from multivariate distributions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 49–54. 62H05

— (*with* Chan, Ping Shing) On the normal record values and associated inference. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 73–80. (Summary) **99e:62087** 62G30 (62F10)

Balakrishnan, R. *see* **Balakrishnan, Rangaswami**

Balakrishnan, Radha Geometric structure of certain ubiquitous nonlinear partial differential equations in physics. (English summary) *Special functions and differential equations (Madras, 1997)*, 456–461, *Allied Publ., New Delhi*, 1998. (*see* **99h:33002**) 35Q99 (82C21)

Balakrishnan, Rangaswami (*with* Paulraja, P.) Hamilton cycles in tensor product of graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 1–13. (Pranava K. Jha) **99c:05122** 05C45 (05C70)

— (*with* Sampathkumar, R.; Yegnanarayanan, V.) Extremal graphs in some coloring problems. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 15–24. (Summary) **99a:05067** 05C35 (05C15)

Balakrishnan, U. (*with* Pétermann, Y.-F. S.) Asymptotic estimates for a class of summatory functions. (English summary) *J. Number Theory* **70** (1998), *no.* 1, 1–36. (Wolfgang Müller) **99d:11105** 11N37

— (*with* Pétermann, Y.-F. S.) Errata to: "The Dirichlet series of $\zeta(s)\zeta^{\alpha}(s+1)f(s+1)$: on an error term associated with its coefficients" [Acta Arith. **75** (1996), no. 1, 39–69; MR 97k:11131]. *Acta Arith.* **87** (1999), *no.* 3, 287–289. (D. R. Heath-Brown) **99m:11105** 11N37 (11M41)

Balakrishnan, Venkataramanan (*with* Seshadri, Sampath; Lakshmibala, S.) Ladder operators for isospectral oscillators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 838–847. (Marcelo R. Ubriaco) **99a:81069** 81R30 (81R50)

— (*with* Tits, André L.) Small-μ theorems with frequency-dependent uncertainty bounds. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 3, 220–243. (Elena De Santis) **99m:93077** 93D09 (93C05, 93C73)

— (*with* Tits, André L.; Lee, Li) Robustness under bounded uncertainty with phase information. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 50–65. (Pablo A. Iglesias) **99m:93026** 93B35 (93B51, 93D21)

Balakrishnarajan, M. M. (*with* Venuvanalingam, P.) A semantic tree algorithm for the generation of sextet polynomials of hexagonal systems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 97–104. (Summary) **99k:05145** 05C85

Balan, A. P. M. (*with* da Costa, Newton C. A.; Kouneiher, J.) Continu et infinis: introduction à l'analyse pré- et antéréelle. (English summary) [The continuum and the infinite: introduction to pre- and ante-real analysis] *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 51–64 (1998). (W. A. J. Luxemburg) **99i:26031** 26E30 (03H05)

Balan, Radu Stability theorems for Fourier frames and wavelet Riesz bases. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 499–504. (Ole Christensen) **99f:42060** 42C15 (41A30)

— Extensions of no-go theorems to many signal systems. (English summary) *Wavelets, multiwavelets, and their applications (San Diego, CA, 1997)*, 3–14, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:42035** 42C15 (43A99, 94A11)

— An uncertainty inequality for wavelet sets. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 1, 106–108. (Kathi Karima Selig) **99b:42046** 42C25 (42C20)

— Equivalence relations and distances between Hilbert frames. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2353–2366. (Ole Christensen) **99j:46025** 46C05 (42C99, 46B15)

Bălan, Trandafir T. Operating with horistologies. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 2, 121–133. 54A10 (54B10, 54B15)

Balan, V. *see* **Balan, Vladimir**

Bălan, Virgil C. (*with* Hamburg, Peter) Sur l'uniformisabilité de la convergence continue. [On the uniformalizability of continuous convergence] *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 83–88 (1994). 54E15 (54A20)

— Topologies associées a une horistologie. (French summary) [Topologies associated with a horistology] *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 60–77 (1998). 54B20 (54H99)

— Convergence vers une fonction uniformément continue d'un filtre de fonctions arbitraires. (French summary) [Convergence to a uniformly continuous function of a filter of arbitrary functions] *An. Univ. Craiova Ser. Mat. Inform.* **24** (1997), 110–117 (1998). (Summary) **99i:54005** 54A20

Balan, Vladimir (*with* Munteanu, Gheorghe; Stavrinos, P. C.) Generalized gauge Asanov equations on $\mathrm{Osc}^{(2)}(M)$ bundle. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995)*, 21–32, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (V. Oproiu) **99f:53024** 53C07 (53C05, 53C25, 53C60)

— (*with* Miron, Radu; Stavrinos, P. C.; Tsagas, Grigorios T.) Deviations of stationary curves in the bundle $\mathrm{Osc}^{(2)}(M)$. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 51–60. (Tadashi Aikou) **99g:53033** 53C10 (53C05, 53C60)

— Applications of the variational principle in the fibered Finslerian approach. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1994)*, 22–30, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Makoto Matsumoto) **99h:53098** 53C60 (53C80)

Balandin, D. V. Estimates for the maximal displacement of a rigid body in a hybrid system with dry friction. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 529–534; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 513–518. (Summary) **99c:73067** 73T05 (73D99)

Balandin, S. P. (*with* Sokolov, Vladimir V.) On the Painlevé test for non-abelian equations. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 267–272. (Summary) **99e:34011** 34A34 (34A25)

Balanov, Z. I. Equivariant Hopf theorem. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3463–3474. (Himadri Kumar Mukerjee) **99f:55020** 55P91 (55M25, 55M35, 57S15, 57S17)

Balanzario, Eugenio P. An example in Beurling's theory of primes. *Acta Arith.* **87** (1998), *no.* 2, 121–139. (Don Redmond) **99k:11151** 11N80

Balas, Egon (*with* Fischetti, Matteo) On the monotonization of polyhedra. (English summary) *Math. Programming* **78** (1997), *no.* 1, *Ser. A*, 59–84. (Summary) **99b:90095** 90C27 (52B05)
— Projection with a minimal system of inequalities. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 189–193. (Summary) **99a:90151** 90C25 (65K05)
— (*with* Oosten, Maarten) On the dimension of projected polyhedra. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 1–9. (Summary) **99g:90094** 90C27 (65Y25, 90C08)
— Disjunctive programming: properties of the convex hull of feasible points. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 3–44. (K. G. Murty) **99k:90101** 90C08 (90C10, 90C11)
Balas, Gary J. (*with* Lu, Wayne W.) A comparison between Hankel norms and induced system norms. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1658–1662. (Sophie Tarbouriech) **99j:93048** 93C05 (93B17, 93B25)
Balas, Mark J. Exponentially stable feedback control of discrete-time nonlinear distributed parameter systems on Banach spaces. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 358–375. (Summary) **99a:93053** 93C25 (93D15)
— Stable feedback control of linear distributed parameter systems: time and frequency domain conditions. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 144–167. (Werner Horn) **99g:93040** 93C20 (47N70)
Balashchenko, V. V. Canonical f-structures of hyperbolic type on regular Φ-spaces. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 4(322), 213–214. (J. S. Joel) **99m:53090** 53C30 (53C15)
Balashevich, N. V. (*with* Gabasov, R.; Kirillova, F. M.) Positional solution of a linear problem of optimal hierarchical control. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 3–15; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 155–165. (Ryszard Gessing) **99k:49080** 49N35 (93A13)
— (*with* Gabasov, R.; Kirillova, F. M.) Synthesis of optimal feedback and stabilization of systems with delay in the control. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 139–150; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 133–143. (Summary) **99d:49066** 49N35 (93D15)
Balashova, G. S. Differential equations of infinite order with subordinate terms. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1076–1084, 1151; *translation in Differential Equations* **33** (1997), *no.* 8, 1082–1091 (1998). (Summary) **99d:35190** 35R50
— On the extension of a trace in a Sobolev space of infinite order on a multidimensional band. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 820–830; *translation in Math. Notes* **62** (1997), *no.* 5-6, 688–696 (1998). (Zinovi Sheftel) **99h:46049** 46E35
Balasin, Herbert Distributional energy-momentum tensor of the extended Kerr geometry. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3353–3362. (Roland Steinbauer) **99f:83009** 83C15 (46F10, 46N99, 83C20)
— (*with* Israel, Werner) Do vortex filaments in a superfluid neutron star produce gravimagnetic forces? (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 61–67. 83C55 (83F05)
Balaska, S. (*with* Maeder, Joachim; Rühl, W.) The continuous series of critical points of the two-matrix model at $N \to \infty$ in the double scaling limit. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 411–432. (Summary) **99b:81167** 81T27 (81T40)
Balasko, Yves (*with* Lang, Christine) Manifolds of golden rule and balanced steady state equilibria. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 317–330. (Carmen Pagliari) **99a:90056** 90A14
Balasooriya, Uditha (*with* Gadag, Veeresh) A likelihood ratio test for a shift in the lifelength distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1937–1945. (Summary) **99g:62021** 62F03 (62N05)
Balasubrahmanyam, P. (*with* Subramanian, K. G.; Sudharsan, T. V.; Silverman, Herb) Classes of uniformly starlike functions. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 309–315. (Frode Rønning) **99i:30028** 30C45
— (*with* Sudharsan, T. V.; Subramanian, K. G.) On functions starlike with respect to symmetric and conjugate points. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 57–68. (Chunyi Gao) **99c:30033** 30C45
Balasubramaniam, P. (*with* Balachandran, Krishnan; Dauer, Jerald P.) Asymptotic null controllability of nonlinear neutral Volterra integrodifferential systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99f:93008** 93B05 (45J05, 93C22)
— (*with* Chandrasekaran, M.) Existence of solutions of nonlinear integrodifferential equation with nonlocal boundary conditions in Banach space. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 1–13. (Ludwik Byszewski) **99f:34115** 34K30 (45J05, 47D03, 47N20)
Balasubramaniam, Shanker *see* **Shanker, Balasubramaniam**
Balasubramanian, Ganesan A characterization of hereditarily $[a, b]$-compact spaces. *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 11–12. 54D30 (54A25)
— Spaces with weak fuzzy topology. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 621–624. 54A40
— Fuzzy β-open sets and fuzzy β-separation axioms. (English summary) *Kybernetika (Prague)* **35** (1999), *no.* 2, 215–223. 54A40
Balasubramanian, N. On the Bushe-Ramanujan identities. *Nieuw Arch. Wisk.* (4) 15 (1997), *no.* 3, 133–140. (Jean-Marie De Koninck) **99g:11008** 11A25 (11M06)
Balasubramanian, Ramachandran (*with* Ramachandra, Kanakanahalli) Titchmarsh's phenomenon for $\zeta(s)$. *Number theory and related topics* (*Bombay*, 1988), 13–22, *Tata Inst. Fund. Res. Stud. Math.*, 12, *Tata Inst. Fund. Res., Bombay*, 1989. (Author's review (K. R.) (Zbl 745.11039)) **99a:11099** 11M06
— (*with* Ramachandra, Kanakanahalli) Two remarks on a paper: "On the distribution of multiplicities of zeros of Riemann zeta function" [Czechoslovak Math. J. **44(119)** (1994), no. 3, 385–404; MR 95m:11093] by J. Moser. *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 199–208. (Daniel A. Goldston) **99k:11132** 11M26
— (*with* Agarwal, Ashok Kumar[1]) n-color partitions with weighted differences equal to minus two. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 759–768. (Christian Krattenthaler) **99a:05004** 05A17 (05A15, 05A19, 05A30, 11P81)
— (*with* Ponnusamy, S.; Vuorinen, Matti K.) Functional inequalities for the quotients of hypergeometric functions. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 256–268. (Summary) **99k:33007** 33C05
— (*with* Ponnusamy, S.) On Ramanujan asymptotic expansions and inequalities for hypergeometric functions. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 95–108. (Richard B. Paris) **99g:33002** 33C05
— (*with* Ramana, D. S.) Atkin's theorem on pseudo-squares. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 21–25. (Georges Grekos) **99e:11012** 11B05 (11B13)
— (*with* Ramachandra, Kanakanahalli) Some remarks on a lemma of A. E. Ingham. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 281–289. (Matti Jutila) **99c:11106** 11M06 (11M41)
— (*with* Arasu, K. T.; Evans, Anthony B.) A new family of nested row-column designs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 139–144. (Summary) **99k:05021** 05B05
— *see also* **Agarwal, Ashok Kumar[1]**
Balasubramanian, Vijay (*with* Gopakumar, Rajesh; Larsen, Finn) Gauge theory, geometry and the large-N limit. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 415–431. (Marco Spaans) **99h:81149** 81T30 (83E30)
— (*with* Larsen, Finn) Near-horizon geometry and black holes in four dimensions. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 229–237. (Jeremy Michelson) **99i:83086** 83E30 (81T30, 83C57)
— (*with* Larsen, Finn; Leigh, Robert G.) Branes at angles and black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3509–3528. (Summary) **99k:81216** 81T30 (83C57, 83E30)
— (*with* Kraus, Per; Lawrence, Albion) Bulk versus boundary dynamics in anti-de Sitter spacetime. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046003, 16 *pp.* (Summary) **99m:83181** 83E30 (83C57)
Balasubrananian, R. *see* **Balasubramanian, Ramachandran**
Balasuriya, Sanjeeva (*with* Jones, Christopher K. R. T.; Sandstede, Björn) Viscous perturbations of vorticity-conserving flows and separatrix splitting. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 47–77. (Yuri N. Skiba) **99a:76018** 76C05 (34C37, 58F39, 76F20, 86A05)
Balavoine, David Homology and cohomology with coefficients, of an algebra over a quadratic operad. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 3, 221–258. (J. Stasheff) **99j:18016** 18G60 (17B35, 55U35)
Balazard, Michel (*with* Saias, Eric) Notes sur la fonction ζ de Riemann. 1. [Notes on the Riemann ζ-function. 1] *Adv. Math.* **139** (1998), *no.* 2, 310–321. (Nigel Watt) **99k:11133** 11M26
— (*with* Tenenbaum, Gérald) Sur la répartition des valeurs de la fonction d'Euler. (English summary) [On the distribution of the values of the Euler function] *Compositio Math.* **110** (1998), *no.* 2, 239–250. (Y.-F. S. Pétermann) **99a:11107** 11N37 (11L07, 11N25)
— Une remarque sur la fonction d'Euler. (French summary) [A remark on the Euler function] *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 325–330. (Armel Mercier) **99h:11110** 11N64
Balázs, J. Modified weighted $(0, 2)$ interpolation. (English summary) *Approximation theory*, 61–73, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Kh. Í. Kuchmīns'ka) **99f:41003** 41A05
— Notes on interpolation. X. Two boundary value problems. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 3, 237–248. (Summary) **99h:34020** 34A45 (34B05, 41A10)
Balázs, L. K. (*with* Balog, J.; Forgács, P.; Mohammedi, N.; Palla, László; Schnittger, J.) Quantum equivalence of σ models related by non-abelian duality transformations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3585–3594. (Summary) **99k:81191** 81T15
Balazs, Nandor *see* **Wigner, Eugene Paul, 99k:01089**
Balbas, A. (*with* Ballve, M. E.; Jiménez Guerra, Pedro) Sensitivity and optimality conditions in the multiobjective differential programming. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 671–680. (I. M. Stancu-Minasian) **99h:90088** 90C29 (90C48)
— (*with* Jiménez Guerra, Pedro; Heras, A.) Duality theory and slackness conditions in multiobjective linear programming. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 101–109. (Summary) **99k:90141** 90C29 (49N15)
Balbiani, Philippe Axiomatization of logics based on Kripke models with relative accessibility relations. (English summary) *Incomplete information: rough set analysis*, 553–578, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B45 (03B20)
Balbinot, R. (*with* Mazzacurati, L.; Fabbri, Alessandro) Dilaton gravity black holes with a regular interior. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6185–6190. (Summary) **99m:83094** 83C57
Balbuena, C. Extraconnectivity of s-geodetic digraphs and graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 39–52. (Zhibo Chen) **99i:05127** 05C40
— (*with* Carmona, Angeles; Fàbrega, Josep; Fiol, M. A.) Superconnectivity of bipartite digraphs and graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 61–75. (Summary) **99i:05128** 05C40 (05C20)
Balcar, Bohuslav (*with* Jech, Thomas; Zapletal, Jindřich) Semi-Cohen Boolean algebras. (English summary) *Ann. Pure Appl. Logic* **87** (1997), *no.* 3, 187–208. (R. Gyłys) **99a:03050** 03E40 (03G05, 04A30, 06E05)
— (*with* Główczyński, Wiesław; Jech, Thomas) The sequential topology on complete Boolean algebras. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 59–78. (Klaas Pieter Hart) **99b:28006** 28A60 (06E10, 54A20, 54A25)
Bălcău, Costel M. L'optimisation de l'entropie des chaînes Markov avec un ensemble dénombrable d'états. (French summary) [Optimization of entropy in Markov chains with a countable set of states] *Stud. Cerc. Mat.* **48** (1996), *no.* 3-4, 235–244. 90C15 (90C90)
— Sequential building of prefix-free codes. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 309–317. (From the text) **99m:94024** 94A45
Balcázar, José L. (*with* Gavaldà, Ricard; Siegelmann, Hava T.) Computational power of neural networks: a characterization in terms of Kolmogorov complexity. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1175–1183. (Summary) **99c:68077** 68Q05 (68Q30, 68T05)

— (*with* Hermo, Montserrat) The structure of logarithmic advice complexity classes. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 217–244. (Summary) **99g:68070** 68Q15

moreno-Balcázar, Juan J. *see* **Moreno-Balcázar, Juan J.**

Balcerzak, Marek (*with* Plewik, Szymon) Property (P) and game ideals. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 153–158. (Andrzej Szymański) **99a:04004** 04A20 (54A25, 54H05)

— (*with* Peredko, Joanna) Descriptive character of sets of density and $\mathcal{I}$-density points. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 131–139. (S. M. Srivastava) **99e:28002** 28A05 (54H05)

— (*with* Rosłanowski, Andrzej; Shelah, Saharon) Ideals without ccc. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 128–148. (Miroslav Repický) **99j:03039** 03E15 (03E35, 03E55, 54H05)

— (*with* Peredko, Joanna) One-to-one Borel selection theorems. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2759–2766. (Gabriel Debs) **99m:28003** 28A05 (54H05)

Baldan, Paolo (*with* Corradini, Andrea; Montanari, Ugo) Concatenable graph processes: relating processes and derivation traces. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 283–295, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q42 (68Q55, 68R10)

— (*with* Corradini, Andrea; Montanari, Ugo) An event structure semantics for P/T contextual nets: asymmetric event structures. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 63–80, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q90 (68Q10)

Baldassarri, Francesco (*with* André, Yves[1]) Geometric theory of G-functions. (English summary) *Arithmetic geometry* (*Cortona*, 1994), 1–22, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Alexandru Buium) **99c:12011** 12H25

Balde, M. (*with* Jouan, P.) Genericity of observability of control-affine systems. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 345–359 (*electronic*). (Boris G. Zaslavskiĭ) **99j:93012** 93B07 (93C10)

Balderjahn, Ingo *see* **Classification, data analysis, and data highways, 99g:62002**

schulz-Baldes, H. *see* **Schulz-Baldes, H.**

Baldi, Paolo (*with* Piccioni, Mauro) A representation formula for the large deviation rate function for the empirical law of a continuous time Markov chain. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 107–115. (Rüdiger Kiesel) **99k:60070** 60F10 (60J27)

Baldini, Ugo The scientific formation of Giovanni Battista Riccioli. (Italian) *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 123–182, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A45

Baldo, Sisto (*with* Orlandi, Giandomenico) A note on the Hodge theory for functionals with linear growth. (English summary) *Manuscripta Math.* **97** (1998), *no.* 4, 453–467. (Giovanni Alberti) **99j:58009** 58A14 (31C12, 49J45)

Baldomà, M. (*with* Fontich, E.) Poincaré-Melnikov theory for n-dimensional diffeomorphisms. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 2, 129–152. (Vassili G. Gelfreich) **99d:58147** 58F30 (34C37, 58F15)

Baldoni, F. A slip boundary condition for the motion of a Newtonian droplet on a solid surface. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 193–203. (Summary) **99k:76052** 76D99

Baldoni, M. Welleda *see* **Baldoni, Welleda**

Baldoni, Matteo (*with* Giordano, Laura; Martelli, Alberto) A tableau calculus for multimodal logics and some (un)decidability results. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 44–59, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B25, 03B45, 03D35)

— (*with* Giordano, Laura; Martelli, Alberto) A modal extension of logic programming: modularity, beliefs and hypothetical reasoning. (English summary) *J. Logic Comput.* **8** (1998), *no.* 5, 597–635. (Summary) **99h:68029** 68N17 (03B45, 03B70, 03F05)

Baldoni, Roberto (*with* Helary, Jean-Michel; Raynal, Michel) Consistent records in asynchronous computations. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 441–455. (Summary) **99c:68083** 68Q10

— A positive acknowledgment protocol for causal broadcasting. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 12, 1341–1350. 68M10

— (*with* Manabe, Yoshifumi; Raynal, Michel; Aoyagi, Shigemi) k-arbiter: a safe and general scheme for h-out-of-k mutual exclusion. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 97–112. (Annabelle McIver) **99a:68066** 68Q10

Baldoni, Welleda Unitary representations of Lie groups. (Italian) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 419–437. (María Laura Barberis) **99j:22001** 22-02

drudis Baldrich, Raimundo *see* **Drudis Baldrich, Raimundo**

Baldwin, J. F. (*with* Lawry, J.; Martin, T. P.) The application of generalised fuzzy rules to machine learning and automated knowledge discovery. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 5, 459–487. 68T05 (03B52, 03B70)

Baldwin, John T. (*with* Benedikt, Michael A.) Embedded finite models, stability theory, and the impact of order. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 490–500, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03030** 03C13 (03C45)

— (*with* Shelah, Saharon) DOP and FCP in generic structures. *J. Symbolic Logic* **63** (1998), *no.* 2, 427–438. (Alexandre Ivanov) **99m:03064** 03C45 (03C13)

Baldwin, Stewart L. (*with* Slaminka, Edward E.) Calculating topological entropy. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 1017–1033. (Pere Mumbrú) **99a:58100** 58F11 (54H20, 58F03)

Bale, Ramesh (*with* Kieffer, Jonathan Charles) Walking viability and gait synthesis for a novel class of dynamically-simple bipeds. (English summary) *Informatica* (*Ljubl.*) **17** (1993), *no.* 2, 145–155. 70B15 (70Q05, 93B03)

Balean, Robin (*with* Bartnik, Robert) The null-timelike boundary problem for Maxwell's equations in Minkowski space. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2041–2057. (Norbert Noutchegueme) **99j:58203** 58G16 (35Q60, 35Q75, 78A25)

Baleanu, Dumitru Stochastic quantisation of Proca's model. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 6, 886–893. (Helmut Rumpf) **99a:81081** 81S20

— New non-generic symmetries on extended Taub-NUT space-time. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 343–351. (Alicia M. Sintes) **99e:83011** 83C20 (53C80)

Balek, Vladimír (*with* Stuchlík, Zdeněk; Bičák, Jiří) The shell of incoherent charged matter falling onto a charged rotating black hole. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 53–71. (Michael B. Mensky) **99j:83013** 83C10 (83C57)

Baléo, Jean-Noël (*with* Grmela, Miroslav; Carreau, Pierre J.) Stability analysis of stratified tube flows of viscoelastic fluids. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 1, 72–89. (Summary) **99a:76008** 76A10 (76E99, 76V05)

Balescu, R. (*with* Vlad, M.; Spineanu, F.) Tokamap: a model of a partially stochastic toroidal magnetic field. *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 243–261, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Bing Hong Wang) **99i:76152** 76X05 (58F40)

— (*with* Vlad, M.; Spineanu, F.) Tokamap: a Hamiltonian twist map for magnetic field lines in a toroidal geometry. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 951–964. (Summary) **99f:78018** 78A55 (58F40, 76X05, 82D10)

— Hamiltonian nontwist map for magnetic field lines with locally reversed shear in toroidal geometry. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3781–3792. (Summary) **99g:76155** 76X05 (58F40, 82D10)

Bali, Raj (*with* Jain, Vimal Chand) Magnetized Bianchi type I cosmological model in general relativity. (English summary) *Ganita Sandesh* **11** (1997), *no.* 2, 73–83 (1998). 83C15

— (*with* Meena, B. L.) Generalized Bianchi type I tilted homogeneous cosmological model in general relativity. (English summary) *Ganita Sandesh* **12** (1998), *no.* 1-2, 1–6. 83C15

Balibrea Gallego, Francisco (*with* Jiménez López, Víctor) A characterization of ω-limit sets of continuous dynamical systems in the plane. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 3 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C35 (54H20)

— (*with* La Paz, Claudio) Turbulence, chaoticity and ω-limit sets. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99j:58139** 58F13

— On the construction of minimal sets in dynamical systems. *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 54H20 (58F20)

— (*with* Linero, Antonio) Existence of invariant measures associated with certain one-parameter families. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 13 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Jean-René Chazottes) **99j:58119** 58F11 (28D10)

— (*with* Esquembre, F.; Mondéjar, F.) Simple triangular maps of the unit square. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 243–246, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F08

— Construction of uniquely ergodic minimal sets. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 163–167, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 28D05 (54H20, 58F11)

— (*with* Cánovas Peña, José Salvador; Jiménez López, Víctor) Some results on sequential entropy. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 169–173, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 28D20

— (*with* Chacón, Ricardo; López, Miguel Angel) Suppression of chaotic escape in the Helmholtz oscillator. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 175–181, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C15 (58F13, 70K50)

— (*with* La Paz, Claudio) Cantor sets as ω-limits in discrete dynamical systems. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 183–188, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Summary) **99d:26006** 26A30 (28A05)

— (*with* Linero, Antonio) Periodic structure of weak antitriangular functions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 189–194, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 58F03

— (*with* Tendero, Antonio) Lyapunov exponents and metric entropy in dynamical systems. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 195–200, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 28D05 (58F11)

— (*with* Valero, José) On dimension of attractors of differential inclusions. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 383–388, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34G20 (34A60, 35K60, 47H20, 58F39)

— (*with* Chacón, Ricardo; López, Miguel Angel) Inhibition of chaotic escape by an additional driven term. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 8, 1719–1723. (Summary) **99i:70029** 70K40 (58F13, 70K50)

— (*with* Jiménez López, Víctor) A characterization of the ω-limit sets of planar continuous dynamical systems. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 469–488. (Yi Yuan Chen) **99f:34036** 34C05 (34A35, 58F21)

Balicki, Jerzy (*with* Stateczny, Andrzej; Żak, Bogdan) Genetic algorithms and Hopfield neural networks for solving combinatorial problems. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 567–592. (Summary) **99c:90100** 90C29 (90C27)

Baliga, A. New self-dual codes from cocyclic Hadamard matrices. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 7–14. (Summary) **99k:94062** 94B60 (05B20)

Baliga, Ganesh R. (*with* Shende, Anil M.; Shende, Sunil M.) Uniqueness of a memoryless online server strategy on the real line. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 81–91 (*electronic*). (*see* **99d:68010**) 68Q25 (68Q20)

Balikov, G. I. (*with* Dimitrov, I. P.) Some non-metrizable spaces of harmonic functions. (English summary) *Transform methods & special functions, Varna '96*, 24–31, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:31001** 31A05

Balińska, Krystyna T. (*with* Brightwell, Graham R.; Quintas, Louis V.) Graphs whose vertices are graphs with bounded degree: distance problems. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 109–121. (Martin Knor) **99h:05031** 05C12

Balinski, Michel (*with* Ratier, Guillaume) On stable marriages and graphs, and strategy and polytopes. (English summary) *SIAM Rev.* **39** (1997), *no.* 4, 575–604. (Winfried Hochstättler) **99b:90096** 90C27 (05C70, 90C35)

— (*with* Ratier, Guillaume) Graphs and marriages. *Amer. Math. Monthly* **105** (1998), *no.* 5, 430–445. (Winfried Hochstättler) **99e:90074** 90C27 (05C70)

— (*with* Shahidi, Niousha) A simple approach to the product rate variation problem via axiomatics. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 129–135. (Summary) **99g:90050** 90B30 (90B35)

Balinskiĭ, A. A. (*with* Evans, William Desmond) On the virial theorem for the relativistic operator of Brown and Ravenhall, and the absence of embedded eigenvalues. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 233–248. (Giorgio Cattapan) **99f:81231** 81V45 (47N50, 81Q10)

Bálint, Vojtech (*with* Lauron, Philippe) Some inequalities for the (r, q)-structures. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 3–18. 51E30 (05A05, 05A20)

— (*with* Grešák, Pavol; Kaštieľ, Matej; Kateřiňák, Josef) The proof of the isomorphism of the n-dimensional projective spaces defined axiomatically. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 4, 477–482. (Summary) **99m:51003** 51A35

Balister, P. N. Characteristic distributions for non-torsion Λ-modules. *Elliptic curves, modular forms & Fermat's last theorem (Hong Kong, 1993)*, 141–151, *Internat. Press, Cambridge, MA*, 1997. (Cornelius Greither) **99e:11140** 11R23 (13F25)

— (*with* Howson, Susan) Note on Nakayama's lemma for compact Λ-modules. *Asian J. Math.* **1** (1997), *no.* 2, 224–229. (Marcus du Sautoy) **99f:16047** 16W80 (11R23)

— (*with* Bollobás, Béla; Stacey, Alan) Counting boundary paths for oriented percolation clusters. (English summary) *Random Structures Algorithms* **14** (1999), *no.* 1, 1–28. (T. M. Liggett) **99k:60243** 60K35

Balk, A. M. (*with* Ferapontov, E. V.) Invariants of wave systems and web geometry. *Nonlinear waves and weak turbulence*, 1–30, *Amer. Math. Soc. Transl. Ser.* 2, 182, *Amer. Math. Soc., Providence, RI*, 1998. (Vladislav Goldberg) **99d:53015** 53A60 (35L99, 35Q99, 76B15, 78A40)

— (*with* Zakharov, Vladimir E.) Stability of weak-turbulence Kolmogorov spectra. (English summary) *Nonlinear waves and weak turbulence*, 31–81, *Amer. Math. Soc. Transl. Ser.* 2, 182, *Amer. Math. Soc., Providence, RI*, 1998. (P. L. Sulem) **99e:76057** 76F05 (73D70, 76B15, 76B45)

— (*with* Balk, Mark B.) The enigma of the triangular pyramid. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 13–25. (George E. Martin) **99e:51017** 51M04

Balk, Mark B. (*with* Balk, A. M.) The enigma of the triangular pyramid. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 13–25. (George E. Martin) **99e:51017** 51M04

Balke, Alexander (*with* Pearl, Judea) Counterfactuals and policy analysis in structural models. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 11–18, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68170** 68T27 (03B70)

Balke, Ludwig Classification of disordered tilings. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 297–311. (E. Hertel) **99i:52025** 52C22 (51M20)

— (*with* Kaess, Alexandra; Neuschäfer, Uta; Rothenhäusler, Frank; Scheidt, Stefan) Polyhedral fundamental domains for discrete subgroups of PSL(2, **R**). (English summary) *Topology* **37** (1998), *no.* 6, 1247–1264. (I. Dolgachev) **99j:22017** 22E40 (14B05, 30F35, 32S25, 51M20, 57S30)

Balkhi, Zaid T. On the global optimality of a general economic order quantity model for deteriorating items. (English summary) *Optimization* **43** (1998), *no.* 2, 169–183. 90B05 (49K22)

Balkovsky, E. (*with* Lebedev, Vladimir V.) Instanton for the Kraichnan passive scalar problem. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5776–5795. (Summary) **99i:76069** 76F99

Ball, A. A. (*with* Zheng, Jin Jin) Control point surfaces over non-four-sided areas. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 9, 807–821. (Luiz Henrique de Figueiredo) **99b:65022** 65D17 (65D07, 68U07)

— (*with* Ali, J. M.; Tookey, R. M.; Ball, J. V.) The generalised Cornu spiral and its application to span generation. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 37–47. (Summary) **99j:65259** 65Y25 (65D15)

Ball, Frank (*with* Mollison, Denis; Scalia-Tomba, Gianpaolo) Epidemics with two levels of mixing. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 1, 46–89. (Andrew D. Barbour) **99a:92033** 92D30

Ball, J. V. (*with* Ali, J. M.; Tookey, R. M.; Ball, A. A.) The generalised Cornu spiral and its application to span generation. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 37–47. (Summary) **99j:65259** 65Y25 (65D15)

Ball, Joseph A. (*with* Helton, J. William) Viscosity solutions of Hamilton-Jacobi equations arising in nonlinear H_∞-control. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 22 *pp.* (*electronic*). (Summary) **99h:93037** 93B36 (49L25)

— (*with* Karlovich, Yu. I.; Rodman, Leiba; Spitkovsky, Ilya M.) Sarason interpolation and Toeplitz corona theorem for almost periodic matrix functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 243–281. (A. Böttcher) **99k:47033** 47A57 (42A75, 47B35, 47B50)

Ball, Keith M. An elementary introduction to modern convex geometry. *Flavors of geometry*, 1–58, *Math. Sci. Res. Inst. Publ.*, 31, *Cambridge Univ. Press, Cambridge*, 1997. (Peter M. Gruber) **99f:52002** 52–02 (46B07, 52A21, 52A40)

— (*with* Perissinaki, Irini) The subindependence of coordinate slabs in l_p^n balls. (English summary) *Israel J. Math.* **107** (1998), 289–299. (Yossi Lonke) **99k:52012** 52A38 (60D05)

— *see also* **Convex geometric analysis, 99h:00026**

Ball, M. A. Coalition structure and the equilibrium concept in n-person games with transferable utility. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1509–1522. (Milan Mareš) **99f:90198** 90D12

Ball, Michael O. (*with* Hagstrom, Jane N.; Provan, J. Scott) Two-path subsets: efficient counting and applications to performability analysis. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 25–45. (H. T. Lau) **99c:90056** 90B25

Ball, Philip ★ The self-made tapestry. (English summary) Pattern formation in nature. *Oxford University Press, Oxford*, 1999. *vi*+287 *pp. ISBN* 0-19-850244-3 (J. S. Joel) **99k:00015** 00A69 (76Exx, 92C15)

Ball, R. N. (*with* Hagler, J. N.; Sternfeld, Y.) The structure of atoms (hereditarily indecomposable continua). (English summary) *Fund. Math.* **156** (1998), *no.* 3, 261–278. (J. R. Isbell) **99b:54044** 54F15 (54C35)

Ball, Simeon Partial unitals and related structures in Desarguesian planes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 231–236. (J. C. Fisher) **99j:51008** 51E21 (05B25)

— (*with* Blokhuis, Aart) An easier proof of the maximal arcs conjecture. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3377–3380. (Giorgio Faina) **99a:51009** 51E21 (05B25, 51E20)

Balla, Katalin On asymptotic behavior of solutions to some difference equations. (English summary) *Advances in difference equations (Veszprém*, 1995), 67–79, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39057** 39A11 (39A10)

— Asymptotic behavior of certain Riccati difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 243–250. (Binggen Zhang) **99k:39006** 39A10

Ballance, D. J. (*with* Gawthrop, P. J.) Symbolic computation for manipulation of hierarchical bond graphs. *Symbolic methods in control system analysis and design*, 23–51, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93A30)

Ballard, David (*with* Boshuck, William) Definability and descent. *J. Symbolic Logic* **63** (1998), *no.* 2, 372–378. (Peter Johnstone) **99f:03092** 03G30 (03C40, 18B25, 18F99)

Ballard, Patrick (*with* Constantinescu, Andrei) On the inversion of subsurface residual stresses from surface stress measurements. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris*, 1997), 285–292, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73023** 73C99

Ballarin, Clemens (*with* Paulson, Lawrence C.) Reasoning about coding theory: the benefits we get from computer algebra. (English summary) *Artificial intelligence and symbolic computation (Plattsburgh, NY*, 1998), 55–66, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68Q40 (94B99)

Ballentine, Leslie E. ★ Quantum mechanics. A modern development. Revised edition. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xiv*+658 *pp. ISBN* 981-02-2707-8 (H. Hogreve) **99k:81001** 81-01 (81P05)

calsina Ballesta, Ángel *see* **Calsina Ballesta, Ángel**

Ballester, Coloma (*with* González Hidalgo, Manuel) Affine invariant texture segmentation and shape from texture by variational methods. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 2, 141–171. (Summary) **99h:68172** 68U10 (65Y25)

Ballester-Bolinches, A. (*with* Pedraza-Aguilera, M. C.; Pérez-Ramos, M. D.) σ-permutably embedded subgroups of finite soluble groups. (English summary) *Problems in algebra, No.* 9 (*Russian*), 38–41, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20005**) 20D10

— (*with* Shemetkov, Leonid Aleksandrovich) On lattices of p-local formations of finite groups. *Math. Nachr.* **186** (1997), 57–65. (T. O. Hawkes) **99b:20032** 20D10 (20D30)

— (*with* Ezquerro Marín, Luis Miguel) On a theorem of Bryce and Cossey. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 455–460. (Alexander N. Skiba) **99e:20021** 20D10

— (*with* Pérez-Ramos, M. D.) Some questions of the Kourovka notebook concerning formation products. *Comm. Algebra* **26** (1998), *no.* 5, 1581–1587. (Sergey F. Kamornikov) **99h:20024** 20D10

— (*with* Bechtell, H.; Ezquerro Marín, Luis Miguel) On pre-Frattini residuals. *Glasgow Math. J.* **40** (1998), *no.* 2, 187–197. (Jian Hua Huang) **99k:20040** 20D10 (20D25, 20E28)

— (*with* Pedraza-Aguilera, M. C.; Pérez-Ramos, M. D.) Characterizations of Schunck classes of finite soluble groups. *J. Algebra* **202** (1998), *no.* 1, 243–249. (T. O. Hawkes) **99j:20024** 20D10 (20D35)

— (*with* Ezquerro Marín, Luis Miguel) On join properties of Hall π-subgroups of finite π-soluble groups. *J. Algebra* **204** (1998), *no.* 2, 532–548. (Francesco de Giovanni) **99g:20035** 20D20

— (*with* Martínez-Pastor, A.; Pérez-Ramos, M. D.) A family of dominant Fitting classes of finite soluble groups. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 33–43. (A. Scarselli) **99a:20013** 20D10

— (*with* Pedraza-Aguilera, M. C.) Sufficient conditions for supersolubility of finite groups. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 113–118. (Ji Ping Zhang) **99d:20048** 20F16

— (*with* Pérez-Ramos, M. D.; Pedraza-Aguilera, M. C.) Mutually permutable products of finite groups. *J. Algebra* **213** (1999), *no.* 1, 369–377. (Silvana Franciosi) **99k:20046** 20D40 (20F16)

— (*with* Zhang, Yueming; Guo, Xiuyun) On the Deskins index complex of a maximal subgroup of a finite group. (English summary) *J. Pure Appl. Algebra* **136** (1999), *no.* 3, 211–216. (Alberto Delgado) **99m:20032** 20D10 (20E28)

Ballesteros, Angel (*with* Celeghini, Enrico; Herranz, Francisco J.; del Olmo, Mariano A.; Santander, Mariano) Non-quasitriangular Hopf algebras and quantum $(1 + 1)$ affine orthogonal groups. (English summary) *Quantum groups (Karpacz*, 1994), 319–324, *PWN, Warsaw*, 1995. (Michèle Irac-Astaud) **99f:81088** 81R50 (16W60, 17B37)

— (*with* Herranz, Francisco J.; Gromov, N. A.; del Olmo, Mariano A.; Santander, Mariano) Quantum algebras for non-semisimple quasi-orthogonal groups. (English summary) *Quantum groups (Karpacz*, 1994), 325–335, *PWN, Warsaw*, 1995. (Summary) **99h:81082** 81R50 (17B37)

— (*with* Herranz, Francisco J.; Pereña, C. M.) (Quasi)triangular Poincaré Hopf algebras. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz*, 1996), 3–11, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99e:16045** 16W30 (17B37)

— (*with* Santander, Mariano; Herranz, Francisco J.; del Olmo, Mariano A.) The "null-plane" quantum Poincaré algebra. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz*, 1996), 79–91, *PWN, Warsaw*, 1997. (Mathias Pillin) **99e:81104** 81R50 (17B81)

— (*with* Negro, Javier; Herranz, Francisco J.) On a class of nonstandard quantum algebras and their representations. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1259–1266. (Pavel Šťovíček) **99c:81096** 81R50 (17B37)

— (*with* Herranz, Francisco J.; Negro, Javier) Boson representations, non-standard quantum algebras and contractions. (English summary) *J. Phys. A* **30** (1997), *no.* 19,

6797–6809. (Jamal Zerouaoui) **99c:81083** 81R50 (81R10)

— (*with* Herranz, Francisco J.; Parashar, Preeti) A Jordanian quantum two-photon/Schrödinger algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8587–8597. (Joris Van der Jeugt) **99c:81084** 81R50 (17B37)

— (*with* Ragnisco, Orlando) A systematic construction of completely integrable Hamiltonians from coalgebras. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3791–3813. (Zheng-Mao Sheng) **99g:58061** 58F07 (16W30)

— (*with* Herranz, Francisco J.; Parashar, Preeti) Quantum two-photon algebra from non-standard $U_z(\mathrm{sl}(2,\mathbf{R}))$ and a discrete time Schrödinger equation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1241–1252. (Robert Rałowski) **99j:81069** 81R50 (82B30)

nuno Ballesteros, Juan J. *see* **Nuno Ballesteros, Juan J.**

Ballet, B. Surfaces rationnelles de degré 5 de $\mathbf{P}^3$ obtenues commes images d'éclatements de points du plan. [Rational surfaces of degree 5 in $\mathbf{P}^3$ obtained as images of blowups of points in the plane] *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 1–24, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Ingrid Bauer) **99k:14059** 14J26 (14J17)

Ballico, Edoardo Bielliptic curves in positive characteristic and Weierstrass points. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 111–119 (1998). (Masaaki Homma) **99f:14034** 14H45 (14H55)

— On the dependency loci of sections of semiample vector bundles on projective varieties. (English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 21–33 (1997). (Antonio Lanteri) **99a:14062** 14J60 (14M15)

— A positive characteristic extension of a result of del Busto on line bundles on an algebraic surface. (English summary) *Rend. Circ. Mat. Palermo (2)* **45** (1996), *no.* 3, 473–478. (Marino Palleschi) **99f:14007** 14C20 (14J05)

— Codimension 2 subschemes of projective spaces with stable restricted tangent bundle and liaison classes. *Illinois J. Math.* **41** (1997), *no.* 4, 606–611. (Kristian Ranestad) **99d:14051** 14M06 (13C40, 14M07, 14N05)

— (*with* Russo, Barbara) On the rationality of the moduli schemes of vector bundles on curves. *Rend. Sem. Mat. Univ. Padova* **97** (1997), 23–27. (Montserrat Teixidor i Bigas) **99a:14014** 14D20 (14H60, 14M20)

— Projective spaces are the unique almost Fano manifolds with normal projective connections. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 183–189. (Shihoko Ishii) **99i:14044** 14J45

— On the ampleness of line bundles on blown-up complex surfaces. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 371–373. (Yoshiaki Fukuma) **99g:14006** 14C20 (14J60)

— (*with* Kim, Seon Jeong) Weierstrass points and ramification loci on singular plane curves. *Tsukuba J. Math.* **21** (1997), *no.* 3, 729–738. (R. F. Lax) **99b:14030** 14H55

— On the graded Betti numbers for large finite subsets of curves. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 283–286. (Martin Kreuzer) **99m:14006** 14C20 (13D02)

— (*with* Hein, Georg) On the stability of the restriction of $T\mathbf{P}^n$ to projective curves. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 80–88. (Rosa M. Miró-Roig) **99c:14046** 14H60 (14H45)

— (*with* Chiantini, Luca) Nodal curves and postulation of generic fat points on $\mathbf{P}^2$. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 6, 501–504. (Rafael Hernandez) **99m:14022** 14C99

— On the general hyperplane section of a projective curve. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 85–96. (Juan C. Migliore) **99f:14035** 14H45 (13D40, 14M05)

— On the birational structure of exceptional irreducible components of moduli schemes of rank 2 vector bundles on algebraic surfaces with negative Kodaira dimension. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 17–23. (Jean-Marc Drezet) **99c:14014** 14D20 (14J60)

— On the homogeneous ideal of collinear punctual subschemes of $\mathbf{P}^2$. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 33–41. (Juan C. Migliore) **99h:13022** 13D99 (14M99)

— On the degree of subbundles of stable vector bundles on an algebraic curve. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1167–1183. (Montserrat Teixidor i Bigas) **99c:14047** 14H60

— (*with* Yanagawa, Kohji) On the h-vector of a Cohen-Macaulay domain in positive characteristic. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1745–1756. (Yong Su Shin) **99d:13018** 13D40 (13H10)

— (*with* Hefez, Abramo) Algebraic morphisms into Grassmannians: differential geometry and Frobenius. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2623–2639. (Raquel Mallavibarrena) **99g:14063** 14M15 (14J60)

— (*with* Keem, Changho) Weierstrass multiple points on algebraic curves and ramified coverings. (English summary) *Israel J. Math.* **104** (1998), 335–348. (Letterio Gatto) **99d:14022** 14H55 (14H10)

— On the osculating bundles of curves in $\mathbf{P}^n$. (English summary) *J. Algebra* **204** (1998), *no.* 2, 483–492. (Rafael Hernandez) **99h:14036** 14H60 (14C20)

— (*with* Keem, Changho) Variety of linear systems on double covering curves. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 213–224. (Montserrat Teixidor i Bigas) **99c:14042** 14H45 (14C20)

— (*with* Brambila Paz, Leticia; Russo, Barbara) Exact sequence of stable vector bundles on projective curves. (English summary) *Math. Nachr.* **194** (1998), 5–11. (Atsushi Noma) **99j:14035** 14H60 (14D20)

— Brill-Noether theory for vector bundles on projective curves. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 483–499. (Montserrat Teixidor i Bigas) **99i:14037** 14H60 (14H45)

— (*with* Keem, Changho; Martens, Gerriet; Ohbuchi, Akira) On curves of genus eight. *Math. Z.* **227** (1998), *no.* 3, 543–554. (Montserrat Teixidor i Bigas) **99b:14027** 14H40 (14C20)

— Rank 2 vector bundles on higher-dimensional projective manifolds. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 21–24. (Rosa M. Miró-Roig) **99b:14043** 14J60 (14D20)

— Noncomplete linear systems on elliptic curves and abelian varieties: addendum to a paper by Ch. Birkenhake: "Linear systems on projective spaces" [Manuscripta Math. **88** (1995), no. 2, 177–184; MR 96h:14003]. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2855–2856. (Summary) **99a:14006** 14C20 (14K05)

— Singular moduli spaces of rank 2 stable vector bundles. *Quart. J. Math. Oxford Ser. (2)* **49** (1998), *no.* 193, 31–34. (Rosa M. Miró-Roig) **99a:14015** 14D20

— (*with* Giovanetti, F.; Russo, Barbara) On the projective geometry of strange plane curves invariant by a finite group. *Rend. Circ. Mat. Palermo (2) Suppl. No.* 51 (1998), 107–114. (Victor Zvonilov) **99e:14034** 14H45 (14H20)

Ballmann, Josef (*with* Jongen, Hubertus Th.; Stavroulakis, Georgios E.) Nachruf auf Herrn Professor Panagiotis D. Panagiotopoulos 1. Januar 1950–12. August 1998. [Obituary for Prof. Panagiotis D. Panagiotopoulos (1950–1998)] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 2, 87–90. 01A70

— (*with* Yamaleev, Nail K.) Space-marching method for calculating steady supersonic flows on a grid adapted to the solution. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 436–463. (Summary) **99g:76120** 76M25 (76J20)

— (*with* Grotowsky, I. M. G.) Efficient time integration of Navier-Stokes equations. (English summary) *Comput. & Fluids* **28** (1999), *no.* 2, 243–263. (From the summary) **99j:76083** 76M20 (76K05)

— (*with* Jongen, Hubertus Th.; Stavroulakis, Georgios E.) In memoriam Panagiotis D. Panagiotopoulos, Thessaloniki and Aachen, January 1, 1950–August 12, 1998. *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 147–148. 01A70

Ballmann, Werner A volume estimate for piecewise smooth metrics on simplicial complexes. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 323–331 (1998). (Daniel Hug) **99g:53040** 53C20 (53C22)

— (*with* Adams, Scot) Amenable isometry groups of Hadamard spaces. *Math. Ann.* **312** (1998), *no.* 1, 183–195. (Andrea Sambusetti) **99i:53032** 53C20

Balluchi, A. (*with* Di Benedetto, M. D.; Pinello, C.; Sangiovanni-Vincentelli, Alberto L.) Hybrid control in automotive applications. *Dynamical systems, control, coding, computer vision (Padova, 1998)*, 449–479, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 93C95 (93B30)

Ballve, M. E. (*with* Balbas, A.; Jiménez Guerra, Pedro) Sensitivity and optimality conditions in the multiobjective differential programming. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 671–680. (I. M. Stancu-Minasian) **99h:90088** 90C29 (90C48)

Bally, Vlad (*with* Pardoux, Étienne) Malliavin calculus for white noise driven parabolic SPDEs. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 27–64. (Ana Bela Cruzeiro) **99g:60095** 60H07 (35K99, 35R60, 60H15)

— Construction of asymptotically optimal controls for control and game problems. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 3, 453–467. (Monique Pontier) **99h:93100** 93E05 (60G35, 90D15)

Balmaceda, Jose Maria P. Multiplicity-free groups and Terwilliger algebras. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 111–116, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 20C15 (05E30)

Balmer, L. (*with* Dunoyer, A.; Burnham, K. J.; James, D. J. G.) On the discretization of single-input single-output bilinear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 361–372. 93A30 (93C55)

Balog, Antal (*with* Ruzsa, Imre Z.) On an additive property of stable sets. *Sieve methods, exponential sums, and their applications in number theory (Cardiff, 1995)*, 55–63, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (G. Greaves) **99f:11014** 11B05 (11N25)

— Six primes and an almost prime in four linear equations. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 465–486. (D. R. Heath-Brown) **99f:11129** 11P32 (11N36)

— (*with* Wooley, Trevor D.) On strings of consecutive integers with no large prime factors. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 266–276. (A. J. Hildebrand) **99g:11109** 11N25 (11B25)

— (*with* Perelli, A.) On the L^1 mean of the exponential sum formed with the Möbius function. *J. London Math. Soc. (2)* **57** (1998), *no.* 2, 275–288. (R. C. Baker) **99f:11126** 11N64 (11L07, 11P55)

— *see also* **Congress: Mathematics**, **99e:00018** *and* **99e:00019**

Balog, J. (*with* Fehér, László; Palla, László) Coadjoint orbits of the Virasoro algebra and the global Liouville equation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 315–362. (Kazuto Oshima) **99b:81073** 81R10 (17B68, 81T40)

— (*with* Balázs, L. K.; Forgács, P.; Mohammedi, N.; Palla, László; Schnittger, J.) Quantum equivalence of σ models related by non-abelian duality transformations. (English summary) *Phys. Rev. D (3)* **57** (1998), *no.* 6, 3585–3594. (Summary) **99k:81191** 81T15

Balogh, A. (*with* Burns, John A.; Gilliam, David S.; Shubov, V. I.) Numerical stationary solutions for a viscous Burgers' equation. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 16 *pp.* (*electronic*). (Summary) **99i:76045** 76D99 (35Q53, 65M99, 76M25)

Balogh, József On the non-existence of cyclic MDS codes. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 27–33. (Summary) **99e:94044** 94B15

— (*with* Pete, Gábor) Random disease on the square grid. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 409–422. (Lars Holst) **99k:60014** 60C05

Balogh, Zoltan *see* **Balogh, Zoltán T.**

Balogh, Zoltan M. (*with* Leuenberger, Christoph) Higher-dimensional Riemann maps. (English summary) *Internat. J. Math.* **9** (1998), *no.* 4, 421–442. (John Bland) **99h:32028** 32H15 (32H20)

— (*with* Bonk, Mario) Lengths of radii under conformal maps of the unit disc. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 801–804. (M. Ohtsuka) **99f:30041** 30C85

Balogh, Zoltán T. (*with* Gruenhage, Gary; Tkachuk, Vladimir V.) Additivity of metrizability and related properties. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 91–103. (Summary) **99b:54039** 54E35 (54A25, 54B05, 54B10)

Balsa, Thomas F. Secondary flow in a Hele-Shaw cell. (English summary) *J. Fluid Mech.* **372** (1998), 25–44. (Summary) **99g:76141** 76S05

Balsamo, S. (*with* Clò, M. Claudia) A convolution algorithm for product-form queueing networks with blocking. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 97–117. (Summary) **99b:90053** 90B22 (60K25)

Balsara, Dinshaw S. (*with* Spicer, Daniel S.) Maintaining pressure positivity in magnetohydrodynamic simulations. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 133–148. (Summary) **99j:76079** 76M20 (76W05, 85–08, 85A30)
— (*with* Spicer, Daniel S.) A staggered mesh algorithm using high order Godunov fluxes to ensure solenoidal magnetic fields in magnetohydrodynamic simulations. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 270–292. (Summary) **99j:76080** 76M20 (76W05)
— (*with* Pouquet, A.) The formation of large-scale structures in supersonic magnetohydrodynamic flows. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 89–99. (Summary) **99i:76147** 76W05 (85A30)
Balser, W. (*with* Peyerimhoff, A.) A Laurent-type expansion for solutions of Stokes' equation in sectorial regions. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 1, 15–30. (Guo Chun Wen) **99b:35166** 35Q30 (30E25, 35C10)
Balslev, Erik Spectral deformation of Laplacians on hyperbolic manifolds. *Comm. Anal. Geom.* **5** (1997), *no.* 2, 213–247. (Christopher M. Judge) **99j:58213** 58G25 (11F72, 58G18)
— (*with* Venkov, A.) The Weyl law for subgroups of the modular group. *Geom. Funct. Anal.* **8** (1998), *no.* 3, 437–465. (Werner Hoffmann) **99g:11069** 11F72
Baltag, V. A. (*with* Vulpe, N. I.) Total multiplicity of all finite critical points of the polynomial differential system. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 455–471. (Introduction) **99k:34053** 34C05 (12H05, 34A34)
— (*with* Vulpe, N. I.) The differential operators and multiplicity of singular points for polynomial differential system. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 81–94, 151, 154. (Henryk Żołądek) **99k:34054** 34C05 (58F21)
Baltas, Aristides Constraints and resistance: stating a case for negative realism. *Realism and quantum physics*, 74–96, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P05 (00A30, 00A79, 03A05)
Bălteanu, Cornel The Turaev theorem (a computational approach). (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 189–222. (Summary) **99i:18012** 18D10 (16W30)
Baltensperger, Richard (*with* Berrut, Jean-Paul) The errors in calculating the pseudospectral differentiation matrices for Čebyšev-Gauss-Lobatto points. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 41–48. (Summary) **99h:65173** 65M70 (65N35)
— (*with* Berrut, Jean-Paul; Noël, Benjamin) Exponential convergence of a linear rational interpolant between transformed Chebyshev points. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1109–1120. (D. J. Leeming) **99k:41016** 41A20 (65D05)
Baltrūnas, A. Computation of some characteristics of a random process under conflict conditions. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 38–40. 90B22 (93E10)
— (*with* Omey, E.) The rate of convergence for subexponential distributions. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 1–18; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 1, 1–14. (Noël Veraverbeke) **99j:60046** 60F99 (60E07, 60J15, 60K05)
Balueva, A. V. Simulation of slow kinetic fracture of gas emissionable materials. (English summary) *IUTAM Symposium on Rheology of Bodies with Defects (Beijing*, 1997), 33–45, *Solid Mech. Appl.*, 64, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99i:73001**) 73M25 (73B99)
Baluja, Shumeet (*with* Davies, Scott) Fast probabilistic modeling for combinatorial optimization. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 469–476, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C27
Balukhto, A. N. Modified Petri time series and automation of the modeling of discrete flow systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 132–141; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 2, 1173–1180 (1997). (Summary) **99b:90044** 90B10 (68Q90)
Balzer, Wolfgang (*with* Tuomela, Raimo) Collective acceptance and collective social notions. *Synthese* **117** (1998/99), *no.* 2, 175–205. 03B80
Bambah, R. P. (*with* Dumir, V. C.; Hans-Gill, R. J.) Diophantine inequalities. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 2, 101–114. (Thomas W. Cusick) **99e:11095** 11J25 (11D75)
Bamber, Donald Entailment in probability of thresholded generalizations. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 57–64, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T27 (03B48)
Bamber, Nicholas (*with* Kotlarski, Henryk) On interstices of countable arithmetically saturated models of Peano arithmetic. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 525–540. (Athanassios Tzouvaras) **99a:03040** 03C62 (03C50, 03H15)
Bamberg, Günter (*with* Dorfleitner, Gregor; Röder, Klaus) Trading strategies of a financially strong investor in futures and stocks: is profitable manipulation possible? (English summary) *Econometrics in theory and practice*, 175–187, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 90A09
Bamberger, Alain (*with* Benjelloun-Dabaghi, Zakia; Billette, Emmanuel; Jaecker-Voirol, Anne; Quandalle, Philippe; Sandu, Adrian) Mathematical and numerical studies to improve CPU time in a transport-convection atomospheric problem. (English summary) *Équations aux dérivées partielles et applications*, 81–105, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 86A10 (86–08)
Bambusi, Dario (*with* Cicogna, Giampaolo; Gaeta, Giuseppe; Marmo, Giuseppe) Normal forms, symmetry and linearization of dynamical systems. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5065–5082. (Victor G. LeBlanc) **99k:34079** 34C20 (58F36)
— Some stability properties of breathers in Hamiltonian networks of oscillators. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 47–55. (Mikhail Zaks) **99j:58070** 58F05 (70H15, 70K99)
— (*with* Nekhoroshev, N. N.) A property of exponential stability in nonlinear wave equations near the fundamental linear mode. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 73–104. (Summary) **99h:35137** 35L70 (35B35, 58F39)
lashkarizadeh Bami, Mahmood *see* **Lashkarizadeh Bami, Mahmood**
Bamieh, Bassam (*with* Dahleh, Mohammed A.) On robust performance in $\mathscr{H}^\infty$. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 301–305. (Summary) **99a:93028** 93B36
Bamigbola, O. M. (*with* Ibiejugba, M. A.; Evans, David John[1]) Analysis of Chebyshev finite element method for nonlinear differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 309–320. (Summary) **99m:65148** 65L60
Bamler, Richard (*with* Hartl, Philipp) Synthetic aperture radar interferometry. (English summary) *Inverse Problems* **14** (1998), *no.* 4, *R1–R54*. 78A55 (78A50)
Bamón, Rodrigo (*with* Roussarie, Robert) Bifurcations: an introduction. *Dynamical systems (Temuco*, 1991/1992), 1–54, *Travaux en Cours*, 52, *Hermann, Paris*, 1996. (Patrick Bonckaert) **99c:58117** 58F14 (34C23)
— (*with* Bobenrieth, Juan) The rational maps $z \mapsto 1 + 1/\omega z^d$ have no Herman rings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 633–636. (I. N. Baker) **99c:58132** 58F23 (30D05)
— *see also* **Dynamical systems**, **99b:58005** *and* **Disordered systems**, **99b:82002**
Bampis, E. (*with* Amoura, A. K.; Kenyon, Claire M.; Manoussakis, Y.) Scheduling independent multiprocessor tasks. (English summary) *Algorithms—ESA '97 (Graz)*, 1–12, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68M20
— (*with* Delorme, Charles; Konig, Jean-Claude) Optimal schedules for d-D grid graphs with communication delays. (English summary) *Parallel Comput.* **24** (1998), *no.* 11, 1653–1664. (Summary) **99f:68020** 68M20
— (*with* Giannakos, A.; Karzanov, A. V.; Manoussakis, Y.; Milis, I.) A parallel algorithm for finding a perfect matching in a planar graph. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 399–405. (Summary) **99g:68079** 68Q22 (05C70, 05C85, 68Q25)
— (*with* Amoura, A. K.; Manoussakis, Y.; Tuza, Zsolt) A comparison of heuristics for scheduling multiprocessor tasks on three dedicated processors. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 49–61. 68M20
Ban, A. I. Existence of finitely additive nontrivial T-measures on the family of all fuzzy set on a set. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 857–860. (Zuo Shu Liu) **99m:28044** 28E10
Ban, D. V. (*with* Zakharov, V. A.; Tkhuan, N. N.; Dang Van Hung) On the reconstruction of a process net from the firing sequence of a Petri net. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 31–34, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 49–54. 68Q90
van den Ban, E. P. (*with* Schlichtkrull, H.) The most continuous part of the Plancherel decomposition for a reductive symmetric space. *Ann. of Math.* (2) **145** (1997), *no.* 2, 267–364. (From the introduction) **99e:22021** 22E45
— The action of intertwining operators on spherical vectors in the minimal principal series of a reductive symmetric space. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 317–347. (Sergei S. Platonov) **99d:22015** 22E30 (22E46, 43A85)
Ban, Gui Ning (*with* Zhang, Jingsong; Yu, Shuxia) The lower bound for the orders of the automorphism groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 159–167. (Rifhat Z. Aleev) **99f:20034** 20D45
— Some finite groups that are not automorphism groups. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 4, 350–356. (Yan Ming Wang) **99c:20022** 20D45
— (*with* Yu, Shuxia) Minimal abelian groups that are not automorphism groups. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 6, 427–434. (H. Heineken) **99d:20032** 20D45 (20D15)
Ban, Masashi State change, quantum probability, and information in operational phase-space measurement. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2583–2638. (Summary) **99c:81018** 81P15
— Information and entropy in quantum measurement processes. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 10, 2491–2537. (Koichiro Matsuno) **99k:81032** 81P15
— Phase-space representation of quantum state vectors. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1744–1765. (Vitor R. Vieira) **99e:81118** 81S30 (46N50, 47N50)
— Operational number-phase probability distribution. (English summary) *J. Phys. A* **31** (1998), *no.* 36, *L593–L602*. (Summary) **99e:81119** 81S30
— (*with* Kurokawa, Keiko; Hirota, Osamu) Cut-off rate for quantum communication channels with entangled measurement. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 2, *L7–L12*. (Summary) **99a:81019** 81P99 (94A05, 94A40)
Bana, Gergely (*with* Durt, Thomas) Proof of Kolmogorovian censorship. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1355–1373. (S. Gudder) **99b:81017** 81P10
Banach, Stefan *see* **Szlenk, Wiesław**
Bañacký, Pavol (*with* Svrček, Michal) Superconductivity: from Fröhlich to nonadiabatic theory. (English summary) *Acta Univ. Carolin. Math. Phys.* **39** (1998), *no.* 1-2, 3–39. 82D55 (82–01, 82–02)
Bañados, Máximo (*with* Contreras, Mauricio) Darboux coordinates for (first-order) tetrad gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1527–1534. (Alexander N. Petrov) **99e:83003** 83C05 (83C99)
— (*with* Bautier, Karin; Coussaert, Olivier; Henneaux, Marc; Ortiz, Miguel E.) Anti-de Sitter-CFT correspondence in three-dimensional supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085020, 6 *pp.* (Summary) **99k:83131** 83E50 (81T40)
— (*with* Méndez, Fernando) Note on covariant action integrals in three dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104014, 5 *pp.* 83C45 (83C57)
— (*with* Brotz, Thorsten; Ortiz, Miguel E.) Quantum three-dimensional de Sitter space. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046002, 5 *pp.* (Summary) **99m:83063** 83C45 (81T20)
— Embeddings of the Virasoro algebra and black hole entropy. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 10, 2030–2033. (Summary) **99m:83095** 83C57 (17B68)
Banaji, Murad (*with* Glendinning, Paul) Towards a quasi-periodic mean field theory for globally coupled oscillators. (English summary) *Phys. Lett. A* **251** (1999), *no.* 5, 297–302. 58F40 (34C15, 35Q55, 58F13, 76E30)
Banakh, T. O. Topological classification of spaces of probability measures on projective spaces. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 441–444; *translation in Math. Notes* **61** (1997), *no.* 3-4, 360–363. (Oleg G. Okunev) **99i:28008** 28A33 (46E27, 54H05)
— (*with* Cauty, Robert) Hyperspaces of nowhere topologically complete spaces. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 35–51; *translation in Math. Notes* **62** (1997), *no.* 1-2, 30–43 (1998). (Janina Ewert) **99f:54012** 54B20
— Characterization of spaces admitting a homotopy dense embedding into a Hilbert manifold. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 123–131. (Dušan Repovš) **99c:57053** 57N20 (54C55, 54F35)

Banaś, Józef (*with* Martinón, Antonio; Sadarangani, Kishin B.) Set quantities related to the Hausdorff distance in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1421–1433. (S. Cobzaş) **99b:46010** 46B20 (46B45, 47H09)

— Applications of measures of weak noncompactness and some classes of operators in the theory of functional equations in the Lebesgue space. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3283–3293. (R. R. Akhmerov) **99b:47091** 47H15 (47H09, 47N20)

— (*with* Olszowy, Leszek) Moduli of non-compact convexity and smoothness of some Banach sequence spaces. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 69–82. (Carlos Benítez) **99j:46017** 46B20

— (*with* Rzepka, Beata) Functions related to convexity and smoothness of normed spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 395–424. (Summary) **99c:46007** 46B20

Banaschewski, Bernhard ★ The real numbers in pointfree topology. Textos de Matemática. Série B [Texts in Mathematics. Series B], 12. *Universidade de Coimbra, Departamento de Matemática, Coimbra*, 1997. *viii*+94 *pp.* (J. R. Isbell) **99c:54017** 54C30 (06D20, 18B25, 26B99, 46E25, 54B30, 54C05)

— (*with* Pultr, A.) A new look at pointfree metrization theorems. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 167–175. (J. R. Isbell) **99g:54024** 54E35 (06A23, 06D20)

— Choice principles and compactness conditions. (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 3, 427–430. (Yehuda Rav) **99g:03052** 03E25 (06A23)

Banasiak, Jacek (*with* Mika, Janusz R.) Singularly perturbed telegraph equations with applications in the random walk theory. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 9–28. (A. V. Perzhan) **99d:35014** 35B25 (35L50, 60J15)

— (*with* Frosali, Giovanni; Spiga, Giampiero) Asymptotic analysis for a particle transport equation with inelastic scattering in extended kinetic theory. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 851–874. (Luisa Arlotti) **99h:82068** 82C70 (47D06, 47N55, 76P05, 82C40)

— Spectral theorems of Voigt type for linear Boltzmann equation with external field. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 241–255. (Ti Jun Xiao) **99g:47089** 47D06 (34K30, 45K05, 47N55, 82C40)

Banaszak, G. (*with* Gajda, W.; Krasoń, P.) On the map between homology of Henselization and completion of some local rings. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 3–8. (Kevin P. Knudson) **99h:19005** 19F27 (13B40, 20G10)

Banaszczyk, M. (*with* Banaszczyk, Wojciech) The Dvoretzky-Hanani theorem for the group "$ax + b$". (English summary) *Period. Math. Hungar.* **34** (1997), *no.* 3, 165–168. (Béla Uhrin) **99c:22005** 22D05 (40A05)

Banaszczyk, Wojciech (*with* Martín-Peinador, E.) The Glicksberg theorem on weakly compact sets for nuclear groups. (English summary) *Papers on general topology and applications (Amsterdam, 1994)*, 34–39, *Ann. New York Acad. Sci.*, 788, *New York Acad. Sci., New York*, 1996. (Dieter Remus) **99e:22001** 22A05 (54A10)

— (*with* Banaszczyk, M.) The Dvoretzky-Hanani theorem for the group "$ax + b$". (English summary) *Period. Math. Hungar.* **34** (1997), *no.* 3, 165–168. (Béla Uhrin) **99c:22005** 22D05 (40A05)

— Balancing vectors and Gaussian measures of n-dimensional convex bodies. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 351–360. (Apostolos A. Giannopoulos) **99k:52013** 52A38 (52C07)

Banaszek, Konrad (*with* Wódkiewicz, Krzysztof) Testing quantum nonlocality in phase space. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 10, 2009–2013. (Summary) **99k:81014** 81P05

Banaszewski, Dariusz (*with* Ciesielski, Krzysztof[2]) Compositions of two additive almost continuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 193–202. (T. Šalát) **99f:26003** 26A15

Banaszewski, Krzysztof Algebraic properties of functions with the Cantor intermediate value property. (English summary) *Math. Slovaca* **48** (1998), *no.* 2, 173–185. (Ryszard J. Pawlak) **99h:26005** 26A15

Banaszuk, Andrzej (*with* Przyłuski, K. Maciej) On perturbations of controllable implicit linear systems. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 91–102. (John Tsinias) **99k:93015** 93B05 (49K40, 93C73)

Banchoff, Thomas F. (*with* Kühnel, Wolfgang) Tight submanifolds, smooth and polyhedral. (English summary) *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 51–118, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99d:53063** 53C42

Banchs, Rafael (*with* Adrián de Pérez, Trina; Juanatey, Margarita; Urbano, Luis) Wavelet transform and filter banks theory relationship. A revision. (English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 107–123. 42C15

Bancroft, Peter (*with* Hayes, Ian) Type extension and refinement. (English summary) *Formal Methods Pacific '97* (*Wellington*), 23–39, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99a:68008**) 68Q60

garcía de la Banda, Maria *see* **García de la Banda, Maria**

Banda, Siva S. (*with* Juang, Jyh-Ching; Yeh, Hsi-Han) Observer-based compensators for fixed-order H_∞ control. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 441–461. 93B36 (93B51)

— (*with* Gu, Guoxiang; Sparks, Andrew G.) Bifurcation based nonlinear feedback control for rotating stall in axial flow compressors. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1241–1257. 93B52 (93C10)

Bandelt, Hans-Jürgen (*with* Chepoĭ, V. D.; Laurent, Monique) Embedding into rectilinear spaces. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 595–604. (Dušan Repovš) **99d:51017** 51K05 (54C25, 54E35)

— (*with* Chepoĭ, V. D.) Embedding into the rectilinear grid. (English summary) *Networks* **32** (1998), *no.* 2, 127–132. (Summary) **99f:54019** 54C25 (05C10)

— (*with* van de Vel, M.) The median stabilization degree of a median algebra. (English summary) *J. Algebraic Combin.* **9** (1999), *no.* 2, 115–127. (Ioan Tomescu) **99m:05173** 05E99

Bandewar, S. R. (*with* Malgonde, S. P.) The two-sided Laplace-Kontorovich-Lebedev transform of generalized functions. *J. Indian Acad. Math.* **18** (1996), *no.* 1, 25–45. (Hans-Jürgen Glaeske) **99b:44001** 44A10 (46F12)

Bandhu, Rudra Shyam (*with* Joglekar, Satish D.) Finite field-dependent BRS transformation and axial gauges. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4217–4224. (Summary) **99c:81250** 81T70 (81T13)

Bandieri, Paola Constructing n-manifolds from spines. (English and Italian summaries) *European J. Combin.* **19** (1998), *no.* 7, 767–777. (Andrew Vince) **99k:57051** 57Q05 (05C10, 57M15)

Bandini, Stefania *see* **Cellular automata, 99k:68007**

Bandle, Catherine Die Dominanz des Mannes in der Mathematik: ein internationaler Vergleich. (German summary) [The dominance of the male in mathematics: an international comparison] *Mitt. Math. Ges. Hamburg* **16** (1997), 65–71. 01A80 (01A70)

— (*with* Flucher, Martin) Table of inequalities in elliptic boundary value problems. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 97–125, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Robert J. McCann) **99h:35028** 35Jxx (26D10, 35-00, 49N60)

— (*with* Brunner, Hermann) Blowup in diffusion equations: a survey. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 3–22. (Summary) **99g:35061** 35K57 (35B05, 65Mxx)

— (*with* Nanbu, Tokumori; Stakgold, Ivar) Porous medium equation with absorption. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1268–1278 (*electronic*). (Domingo A. Tarzia) **99f:35085** 35K57 (35B40, 35R35, 76S05)

— *see also* **Progress in partial differential equations, 99d:35003** *and* **99d:35004**

Bandman, O. L. Cellular-neural computations. A formal model and possible applications. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 6, 29–40; *translation in Program. Comput. Software* **23** (1997), *no.* 6, 310–318. 68T05 (68Q80)

Bandos, Igor A. Generalized action principle and geometric approach for superstrings and super-p-branes. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 324–327, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T30 (83E30)

— (*with* Nurmagambetov, Aleksei) Generalized action principle and extrinsic geometry for $N = 1$ superparticles. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1597–1621. (Summary) **99d:81150** 81T60

— (*with* Kummer, Wolfgang) A polynomial first-order action for the Dirichlet 3-brane. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 311–321. (Summary) **99a:81126a** 81T30

— (*with* Pasti, Paolo; Sorokin, D. P.; Tonin, Mario) Superbrane actions and geometrical approach. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 79–91, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81217** 81T30

— (*with* Berkovits, Nathan; Sorokin, D. P.) Duality-symmetric eleven-dimensional supergravity and its coupling to M-branes. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 214–233. (Paulo Moniz) **99j:83066** 83E30 (81T30, 83E50)

— (*with* Kummer, Wolfgang) Erratum: "A polynomial first order action for the Dirichlet 3-brane". *Phys. Lett. B* **420** (1998), *no.* 3-4, 405. (Editors) **99a:81126b** 81T30

Bandt, Christoph (*with* Gummelt, P.) Fractal Penrose tilings. I. Construction and matching rules. (English summary) *Aequationes Math.* **53** (1997), *no.* 3, 295–307. (Marjorie Senechal) **99b:52049** 52C20 (28A80)

— (*with* Hadeler, K. P.; Kriese, F.) Particle systems acting on undirected graphs. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 571–586. (T. M. Liggett) **99f:60165** 60K35 (82C22)

— Self-similarity and probability: parameters describing the geometry of Cantor sets. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 181–190. (Manuel Morán) **99k:28010** 28A80 (60D05)

Bandy, V. A. (*with* Dendy, Joel E., Jr.; Spangenberg, W. H.) Some multigrid algorithms for elliptic problems on data parallel machines. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 74–86 (*electronic*). (Summary) **99a:65173** 65N55 (65Y05)

Bandyopadhyay, B. (*with* Unbehauen, Heinz; Patre, B. M.) A new algorithm for compensator design for higher-order system via reduced model. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 917–920. 93B51 (93B11)

Bandyopadhyay, Pratul Gravity without the metric and torsion. (English summary) *Quantum gravity* (*Erice*, 1995), 1–22, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Riccardo Capovilla) **99i:83031** 83C45 (83C05, 83D05)

— (*with* Goswami, G.) Fermion doubling on a lattice and topological aspects of chiral anomaly. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4451–4461. (Gustavo Dotti) **99b:81166** 81T25 (81T50)

— (*with* Basu, Banasri) Topological aspects of quantum Hall fluid and Berry phase. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 26, 2649–2707. (Summary) **99h:81235** 81V70 (81Q99)

— (*with* Banerjee, Dipti) Coherent-state representation of a quantized spinor and Berry phase. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 7, 921–926. (Summary) **99g:81076** 81R30 (81Q99)

— (*with* Mullick, L.) Quantum gravity, torsion and space-time singularity. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1083–1089. (Kazuo Ghoroku) **99j:83054** 83C75 (83C45)

Bandyopadhyay, S. (*with* Mazumder, B. S.) Unsteady convective diffusion in a pulsatile flow through a channel. (English summary) *Acta Mech.* **134** (1999), *no.* 1-2, 1–16. 76R50

Bandyopadhyay, Somnath (*with* De, U. C.) A study on generalized Ricci 2-recurrent spaces. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 47–52. (Andrew Bucki) **99f:53016** 53B20 (53C25)

Bandyopadhyay, Suraj (*with* Rao, Ayyagari Ramachandra; Jana, Rabindranath) A Markov chain Monte Carlo method for generating random (0, 1)-matrices with given marginals. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 225–242. (B. L. Granovskiy) **99k:65012** 65C05 (15A52, 60J15)

Bandyopadhyay, Uttam (*with* Biswas, Atanu) Some sequential tests in clinical trials based on randomized-play-the-winner rule. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 67–89. (H. Chernoff) **99e:62134** 62L10 (62L15)

— (*with* Biswas, Atanu) Sequential-type nonparametric test using Mann-Whitney statistics. (English summary) *J. Appl. Statist.* **26** (1999), *no.* 3, 301–308. 62G10

Banerjea, Sudeshna (*with* Kar, C. C.) On waves due to a line source in front of a vertical wall with a gap. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 5, 917–926. (From the introduction) **99k:76021** 76B15

Banerjee, A. *see* **Banerjee, Asit Kumar**

Banerjee, Amitabh (*with* Sharma, Birendra Kumar) A generalization of Kang and Rhoades result. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 19–26. 54H25

— (*with* Thakur, Balwant Singh) A note on a theorem of Tas, Telci and Fisher. (English summary) Chinese translation in Appl. Math. Mech. **19** (1998), no. 4, 307–309. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 333–334. (Summary) **99c:54061** 54H25

Banerjee, Anindya *see* **Banerjee, Anindya[2]**

Banerjee, Anindya[1] (*with* Dolado, Juan J.; Mestre, Ricardo) Error-correction mechanism tests for cointegration in a single-equation framework. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 267–283. (Luis Firinguetti) **99i:62197** 62M10 (62P20)

Banerjee, Anindya[2] (*with* Schmidt, David A.) Stackability in the simply-typed call-by-value lambda calculus. (English summary) SAS'94 (Namur). *Sci. Comput. Programming* **31** (1998), *no.* 1, 47–73. (E. Fehr) **99m:68026** 68N15 (03B15, 03B40, 03B70)

Banerjee, Asit Kumar (*with* Ghosh, Tanwi) Static domain walls in Brans-Dicke theory. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 581–585. 83D05

Banerjee, D. *see* **Banerjee, Dipti**

Banerjee, Dibyendu (*with* Lahiri, B. K.) Relative fix points of entire functions. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 87–97. (I. N. Baker) **99b:30033** 30D05

Banerjee, Dipti (*with* Bandyopadhyay, Pratul) Coherent-state representation of a quantized spinor and Berry phase. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 7, 921–926. (Summary) **99g:81076** 81R30 (81Q99)

Banerjee, K. S. On price indices under price dispersion and the use of a linear statistical model. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 16–24, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62P20 (90A19)

Banerjee, Mohua Rough sets and 3-valued Lukasiewicz logic. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 213–220. (Summary) **99c:03031** 03B50

— (*with* Chakraborty, Mihir K.) Rough logics: a survey with further directions. (English summary) *Incomplete information: rough set analysis*, 579–600, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 04A72

Banerjee, Mousumi Cook's distance in linear longitudinal models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2973–2983. (Summary) **99k:62136** 62J20

Banerjee, Narayan (*with* Sen, A. A.) Gravitational field of a stationary circular cosmic string loop. (English summary) *Astrophys. Space Sci.* **259** (1998), *no.* 3, 301–307. 83F05

— (*with* Sen, Shibani) No scalar hair theorem for a charged spherical black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104024, 6 *pp.* (Summary) **99k:83053** 83C57

Banerjee, R. S. (*with* Mukherjee, Pradip) Galilean symmetry in a nonabelian Chern-Simons matter system. (English summary) *Ann. Physics* **264** (1998), *no.* 1, 30–50. (Biswajit Chakraborty) **99m:81136** 81T13

— (*with* Barcelos-Neto, J.) Reducible systems and embedding procedures in the canonical formalism. (English summary) *Ann. Physics* **265** (1998), *no.* 2, 134–154. (Ion V. Vancea) **99d:58052** 58E50 (58E30, 58F05, 70G99, 70H05, 81T70)

— (*with* Ghosh, Subir) The chiral oscillator and its applications in quantum theory. (English summary) *J. Phys. A* **31** (1998), *no.* 36, *L*603–*L*608. (M. Znojil) **99h:81038** 81Q10 (81V45)

— (*with* Wotzasek, Clovis) Bosonization and duality symmetry in the soldering formalism. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 402–432. (Antonio González-Arroyo) **99k:81172** 81T10 (81T99)

— On the constrained structure of duality symmetric Maxwell theory. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 517–523. (Valentin V. Lychagin) **99k:78006** 78A25 (35Q60, 58G40, 70G50)

— (*with* Marino, E. C.) A new approach for bosonization of massive Thirring model in three dimensions. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 8-9, 593–599. 81T10

Banerjee, S. *see* **Banerjee, Shubho**

Banerjee, Sandip (*with* Chakrabarti, C. G.) Stochastic model of symmetric Lotka-Volterra competition system: non-equilibrium fluctuation and stability. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 235–244. (Virginia W. Noonburg) **99a:92023** 92D25 (34D10)

Banerjee, Shubho (*with* Griffiths, Robert B.; Widom, Michael) Thermodynamic limit for dipolar media. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 109–141. (Summary) **99h:82003** 82B05

Banerjee, Soumitro (*with* Yuan, Guohui; Ott, Edward; Yorke, James A.) Border-collision bifurcations in the buck converter. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 707–716. (Summary) **99c:94071** 94C05

Banerjee, Tathagata (*with* Paul, S. R.) Analysis of two-way layout of count data involving multiple counts in each cell. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1419–1429. (Summary) **99j:62084** 62H17

Banerji, G. (*with* Bhattacharya, A.; Talukdar, B.; Roy, U.) Transcendental-function representation of Stark-modified hydrogenic states and atomic dipole polarizability. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1219–1226. (Summary) **99a:81033** 81Q15 (81V45)

Banerji, P. K. (*with* Gehlot, Kuldeep Singh) Products of Stieltjes transform and fractional integrals on spaces of generalized functions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 375–384. (Hans-Jürgen Glaeske) **99m:44005** 44A15 (26A33, 46F12)

— (*with* Choudhury, Sudipto) Group-theoretic approach to bilateral generating functions. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 23–28. (Summary) **99c:33013** 33C45

pham hien Bang *see* **Pham Hien Bang**

Bang, H. H. *see* **Ha Huy Bang**

Bang, Ha Huy *see* **Ha Huy Bang**

Bang, Jens The Pauli principle in multi-cluster states of nuclei. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics (Minneapolis, MN, 1995)*, 333–342, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Giorgio Cattapan) **99a:81202** 81V35 (81U99)

Bang, Ole (*with* Christiansen, Peter Leth; Clausen, Carl Balslev) Stationary solutions and self-trapping in discrete quadratic nonlinear systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 7257–7266. (Summary) **99b:82092** 82D99 (35Q40, 82D25)

— (*with* Miller, Peter D.) Macroscopic dynamics in quadratic nonlinear lattices. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6038–6049. (Summary) **99b:82093** 82D99 (35Q55)

— (*with* Kivshar, Yu. S.; Buryak, Alexander V.; De Rossi, Alfredo; Trillo, Stefano) Two-dimensional solitary waves in media with quadratic and cubic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5057–5069. (Summary) **99h:78023** 78A60 (35Q51)

Bangerezako, Gaspard Discrete Darboux transformation for discrete polynomials of hypergeometric type. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2191–2196. (Summary) **99c:39017** 39A12

Bangert, Victor Existence of a complex line in tame almost complex tori. *Duke Math. J.* **94** (1998), *no.* 1, 29–40. (Jean-Claude Sikorav) **99j:58030** 58D10 (58F05)

Bang-Jensen, Jørgen (*with* Gabow, Harold N.; Jordán, Tibor; Szigeti, Zoltán) Edge-connectivity augmentation with partition constraints. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 306–315, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C40, 05C85, 68Q25)

— (*with* Jordán, Tibor) Adding and reversing arcs in semicomplete digraphs. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 17–25. (R. C. Entringer) **99a:05053** 05C20 (05C40)

— (*with* Huang, Jing) Kings in quasi-transitive digraphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 19–27. (Summary) **99a:05054** 05C20

— (*with* Gutin, Gregory) Alternating cycles and trails in 2-edge-coloured complete multigraphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 61–72. (Prabir Das) **99g:05072** 05C15 (05C38)

— (*with* Gutin, Gregory) Generalizations of tournaments: a survey. (English summary) *J. Graph Theory* **28** (1998), *no.* 4, 171–202. (Yubao Guo) **99f:05041** 05C20

— (*with* Gutin, Gregory; Yeo, Anders) A polynomial algorithm for the Hamiltonian cycle problem in semicomplete multipartite digraphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 111–132. (Cun-Quan Zhang) **99e:05084** 05C45 (05C20)

— (*with* Jordán, Tibor) Edge-connectivity augmentation preserving simplicity. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 603–623 (*electronic*). (Jozef Širáň) **99f:05070** 05C40 (05C85, 68R10, 90B12)

Bangoura, Momo (*with* Kosmann-Schwarzbach, Yvette) Équation de Yang-Baxter dynamique classique et algébroïdes de Lie. (English and French summaries) [The classical dynamical Yang-Baxter equation and Lie algebroids] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 541–546. (Fernando Alcalde-Cuesta) **99k:58198** 58H05 (17B99)

andreoiu-Banica, Georgiana *see* **Andreoiu-Banica, Georgiana**

Banica, Teodor Le groupe quantique compact libre U(*n*). (English summary) [The free compact quantum group U(*n*)] *Comm. Math. Phys.* **190** (1997), *no.* 1, 143–172. (Summary) **99k:46095** 46L05 (46L60, 81R50)

Banichuk, N. V. (*with* Ragnedda, Francesco; Serra, Mauro) Probabilistic approaches for optimal beam design based on fracture mechanics. (English and Italian summaries) *Meccanica* **34** (1999), *no.* 1, 29–38. (Summary) **99m:73055** 73K40 (73M25)

Banihashemi, Amir H. (*with* Khandani, Amir K.) An inequality on the coding gain of densest lattice packings in successive dimensions. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 198–204 (*electronic*). (Christine Bachoc) **99k:11103** 11H31 (52C07)

— (*with* Khandani, Amir K.) On the decoding complexity of lattices. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 205–218 (*electronic*). (Christine Bachoc) **99k:11099** 11H06 (11H31, 52C07)

— (*with* Khandani, Amir K.) An inequality on the coding gain of densest lattice packings in successive dimensions. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 207–212. (Summary) **99d:52019** 52C17

— (*with* Khandani, Amir K.) On the complexity of decoding lattices using the Korkin-Zolotarev reduced basis. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 162–171. (Summary) **99b:94006** 94A12 (94B35)

Banik, Suman Kumar (*with* Chaudhuri, Jyotipratim Ray; Ray, Deb Shankar) Theory of adiabatic fluctuations: third-order noise. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7301–7313. (Summary) **99e:82064** 82C31

Banjerdpongchai, David (*with* How, Jonathan P.) Parametric robust H_2 control design with generalized multipliers via LMI synthesis. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 481–503. (Summary) **99d:93019** 93B36 (93C41, 93D21)

Bank, Bernd (*with* Giusti, M.; Heintz, Joos; Mandel, R.; Mbakop, G. M.) Polar varieties and efficient real equation solving: the hypersurface case. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 65H10 (68Q40)

— *see also* **Proceedings: Conference on Approximation and Optimization in the Caribbean, 99e:00022**

Bank, Randolph E. Hierarchical bases and the finite element method. *Acta numerica*, 1996, 1–43, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (Hans-Peter Helfrich) **99f:65161** 65N30

Bánki, Géza (*with* Barancsi, Éva; Borlói, Rudolf; Chikán, Attila; Kelle, Péter; Kulcsár, Tamás; Meszéna, György) ★ Inventory models. (English summary) Translated from the 1983 Hungarian original by B. Szőnyi and Kelle and revised by the authors. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 16. *Kluwer Academic Publishers, Dordrecht*, 1990. xii+419 *pp. ISBN* 0-7923-0494-2 (Heinz-Uwe Küenle) **99a:90085** 90B05 (90–02)

Banks, David Lane (*with* Constantine, Gregory) Metric models for random graphs. (English summary) *J. Classification* **15** (1998), *no.* 2, 199–223. (Summary) **99k:62122** 62H99 (05C80)

— *see also* **Encyclopedia: Statistical sciences, 99a:62001a**; **99a:62001b** *and* **99m:62001**

Banks, H. T. (*with* Fakhroo, F.) Legendre-tau approximations for LQR feedback control of acoustic pressure fields. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 34 *pp.* (*electronic*). (Summary) **99g:93084** 93E20 (49N10)

— (*with* Pintér, Gabriella A.) Approximation results for parameter estimation in nonlinear elastomers. (English summary) *Control and estimation of distributed parameter systems*

(*Vorau*, 1996), 1–13, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Takao Nambu) **99f:93076** 93C20 (34G20, 35L99, 49M25, 65M60, 73K50)

— (*with* Smith, Ralph C.) Numerical techniques for simulation, parameter estimation, and noise control in structural acoustic systems. (English summary) *Dynamics and control of distributed systems*, 202–263, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99f:73052** 73K12 (73D30, 73K50, 93C20)

— (*with* Buksas, M. W.; Wang, Yun) A time domain formulation for identification in electromagnetic dispersion. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99h:78010** 78A25 (93B30)

— (*with* Fakhroo, F.) Legendre-tau approximations for LQR feedback control of acoustic pressure fields. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 393–426. (Sergey V. Nikitin) **99i:93031** 93C20 (93B52)

— (*with* Lin, Tao[1]) Determining the structure of a biological medium using acousto-optic probes. (English summary) *J. Inverse Ill-Posed Probl.* **7** (1999), *no.* 1, 61–82. (From the text) **99k:78025** 78A45 (76Q05, 92C55)

Banks, John Topological mapping properties defined by digraphs. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 83–92. (Louis Block) **99j:54038** 54H20

Banks, Larry (*with* Chu, Eleanor) Parallel Gauss-Seidel relaxation on distributed-memory multiprocessors. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 434–450 (*electronic*). (Summary) **99d:65098** 65F10 (65Y05)

Banks, Robert B. ★ Towing icebergs, falling dominoes, and other adventures in applied mathematics. (English summary) *Princeton University Press, Princeton, NJ*, 1998. *xiv*+329 *pp. ISBN* 0-691-05948-9 (E. J. Barbeau) **99j:00002** 00A08 (00A69, 00A71)

Banks, Tom (*with* Motl, Luboš) Heterotic strings from matrices. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* **4**, 12 *pp.* (*electronic*). (André J. Van Tonder) **99b:81174** 81T30

— (*with* Fischler, Willy; Klebanov, Igor R.; Susskind, Leonard) Schwarzschild black holes in matrix theory. II. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 8, 16 *pp.* (*electronic*). (Summary) **99d:83089** 83E30 (81T30, 83C57)

— (*with* Green, Michael B.) Non-perturbative effects in $AdS_5 \times S^5$ string theory and $d = 4$ SUSY Yang-Mills. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 2, 16 *pp.* (*electronic*). (Christophe Grojean) **99f:81144** 81T30 (81T60, 83E30)

— The state of Matrix theory. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 341–347. (Christophe Grojean) **99e:81172** 81T30 (81Q60)

— Matrix theory. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 180–224. (Richard A. Corrado) **99k:81218** 81T30

— The state of Matrix theory. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 261–267. (Christophe Grojean) **99m:81170** 81T30

— (*with* Fischler, Willy; Klebanov, Igor R.) Evaporation of Schwarzschild black holes in Matrix theory. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 54–58. (Summary) **99b:81175** 81T30

Banks, William D. A corollary to Bernstein's theorem and Whittaker functionals on the metaplectic group. *Math. Res. Lett.* **5** (1998), *no.* 6, 781–790. (Mark R. Sepanski) **99m:11059** 11F70 (22E50)

— Heredity of Whittaker models on the metaplectic group. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 89–96. (Kenji Taniguchi) **99m:22016** 22E50

— (*with* Levy, Jason; Sepanski, Mark R.) Block-compatible metaplectic cocycles. *J. Reine Angew. Math.* **507** (1999), 131–163. (Volker J. Heiermann) **99m:20100** 20G10

ibn al-Bannā' al-Marrākushī *see* **Ibn al-Bannā' al-Marrākushī**

Bannai, Eiichi (*with* Sali, Attila) On association schemes of balanced property with $m_1 = 4$. (English summary) Group theory and combinatorial mathematics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 991 (1997), 80–92. (Jaume Pujol) **99g:05183** 05E30 (05C50)

Bannai, Etsuko (*with* Munemasa, Akihiro) Duality maps of finite abelian groups and their applications to spin models. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 3, 223–233. (Andrew Woldar) **99j:20058** 20K01 (05E30, 82B23)

Banner, Michael L. (*with* Tian, Xin) On the determination of the onset of breaking for modulating surface gravity water waves. (English summary) *J. Fluid Mech.* **367** (1998), 107–137. (Summary) **99d:76008** 76B15

Banoczi, J. M. (*with* Kelley, C. T.) A fast multilevel algorithm for the solution of nonlinear systems of conductive-radiative heat transfer equations. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 266–279 (*electronic*). (Summary) **99c:65243** 65R20 (45L05, 82C70)

— (*with* Chiu, Nan-Chieh; Cho, Grace E.; Ipsen, Ilse C. F.) The lack of influence of the right-hand side on the accuracy of linear system solution. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 203–227 (*electronic*). (Xinguo Liu) **99g:65033** 65F05 (15A06)

— (*with* Kelley, C. T.) A fast multilevel algorithm for the solution of nonlinear systems of conductive-radiative heat transfer equations in two space dimensions. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 4, 1214–1228 (*electronic*). (Summary) **99k:45026** 45L05 (65J15, 80A20)

Baños, Alfonso Parameterization of nonlinear stabilizing controllers: the observer-controller configuration. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1268–1272. 93D15

— (*with* Bailey, F. N.) Design and validation of linear robust controllers for nonlinear plants. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 803–816. (Guang Xiong Wang) **99e:93033** 93B55 (93B51)

Bansal, S. P. (*with* Yadav, P. K.) On an alternate heuristic technique for solving an open-shop scheduling problem due to Maggu and Lal involving job-block. (English summary) *J. Indian Soc. Statist. Oper. Res.* **15** (1994), *no.* 1-4, 65–72. 90B35

Bänsch, E. Simulation of instationary, incompressible flows. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian. (N.S.)* **67** (1998), *no.* 1, 101–114. (Summary) **99h:76064** 76M20 (76D05)

— (*with* Dörfler, W.) Adaptive finite elements for exterior domain problems. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 497–523. (Beny Neta) **99j:65194** 65N30

Bantaş, Gh. Sur le théorème des accroissements finis. [On the finite-increment theorem] *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Secţ. I a Mat.* **41** (1995), *no.* 2, 365–370 (1997). (M. Z. Nashed) **99b:46065** 46G05

— (*with* Turinici, Mihai) Existence results for the zeros of open maps. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 21–38 (1997). (Claudio H. Morales) **99k:47137** 47H10 (47H15)

Bantay, Peter Simple current extensions and mapping class group representations. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 199–207. (Stanislav Z. Pakuliak) **99b:81074** 81R10 (81T40)

adan Bante, Edith *see* **Adan Bante, Edith**

Bañuelos, Rodrigo (*with* Wang, Gang[2]) Orthogonal martingales under differential subordination and applications to Riesz transforms. *Illinois J. Math.* **40** (1996), *no.* 4, 678–691. (B. Grigelionis (Zbl 883.60042)) **99a:60047** 60G44 (31B05, 60E15, 60G46)

Banū Mūsā *see* **Rashed, Roshdi**, **99f:01006**

Banyaga, Augustin (*with* de la Llave, R.; Wayne, C. Eugene) Cohomology equations near hyperbolic points and geometric versions of Sternberg linearization theorem. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 4, 613–649 (1997). (Sergeĭ Yu. Yakovenko) **99d:58151** 58F36 (34C20, 58F15, 58F21)

— Isomorphisms between classical diffeomorphism groups. (English summary) *Geometry, topology, and dynamics (Montreal, PQ*, 1995), 1–15, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Karl Friedrich Siburg) **99b:58036** 58D05 (53C15)

Bânzaru, T. (*with* Bînzar, T.) On the M-product of continuous multifunctions. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol.* 14*A* (*Arad*, 1996), 57–60, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 54C60

— (*with* Bînzar, T.) On a convergence in function spaces. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol.* 14*A* (*Arad*, 1996), 61–65, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 54C35 (54C60)

Banzhaf, Wolfgang (*with* Nordin, Peter) Real time control of a Khepera robot using genetic programming. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 533–561. (*see* **99b:90008**) 93C85 (90C30)

Bao, Cheng Guang (*with* Ruan, W. Y.) Transformation bracket for 2D hyperspherical harmonics and its applications to few-anyon problems. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5634–5642. (Alexei Zhedanov) **99b:33032** 33C90 (81V70)

Bao, David (*with* Ratiu, Tudor S.) On a maximal torus in the volume-preserving diffeomorphism group of the finite cylinder. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 3, 193–210. (J. E. Marsden) **99a:58009** 58B25 (22E65, 58D05)

— (*with* Chern, Shiing-Shen; Shen, Zhong Min) Rigidity issues on Finsler surfaces. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 707–735. (Gabriel P. Paternain) **99h:53099** 53C60 (53B40)

Bao, Feng (*with* Igarashi, Yoshihide; Öhring, Sabine R.) Reliable broadcasting in product networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 3–20. (Summary) **99c:68009** 68M10 (05C90, 68M15)

Bao, G. *see* **Bao, Gang[2]**

Bao, Gang[1] (*with* Ammari, Habib) Analysis of the diffraction from periodic chiral structures. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1371–1376. (Summary) **99f:35199** 35Q60 (78A25, 78A45)

— (*with* Ammari, Habib) Une étude mathématique de la localisation d'une tumeur cancéreuse dans le cerveau humain. (English and French summaries) [Mathematical analysis of the determination of locations of epileptic foci in the living human brain] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 601–606. (Summary) **99i:92006** 92C50 (78–08, 78A45)

— On the relation between the coefficients and solutions for a diffraction problem. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 787–798. (Hideo Soga) **99k:78026** 78A45 (35J05, 35R30)

— (*with* Zhou, Zhengfang) An inverse problem for scattering by a doubly periodic structure. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4089–4103. (Giovanni Crosta) **99b:78010** 78A45 (35J99, 35R30)

Bao, Gang[2] (*with* Smith, G. F.) Isotropic invariants of traceless symmetric tensors of orders three and four. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 15, 1457–1462. (Maurizio Vianello) **99a:73004** 73B05 (15A72)

Bao, Gang[4] (*with* Stuchlík, Zdeněk; Østgaard, E.; Hledík, S.) Kerr-Newman-de Sitter black holes with a restricted repulsive barrier of equatorial photon motion. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084003, 8 *pp.* 83C57

Bao, Ji Guang (*with* Li, Mei Sheng) Strong solutions of obstacle problems for fully nonlinear parabolic equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 284–291. (Li Shang Jiang) **99a:35121** 35K55 (35K85)

— (*with* Li, Mei Sheng) Algebraic curve solutions of Riccati equations and their single-valued groups. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 39–43. (Pei-Chu Hu) **99g:34021** 34A20

— (*with* Li, Mei Sheng) Parabolic Monge-Ampère equations on general domains. II. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 281–284. 35K60

Bao, Jun Dong Oscillatory behaviour of first order linear neutral differential equations with distributed delays. (English summary) *Demonstratio Math.* **30** (1997), *no.* 2, 279–292. (John R. Graef) **99a:34181** 34K15 (34K40)

Bao, Man (*with* Zhang, Guo Zhi; Zhang, Jing Jie) Distributions of sample linear functions for a class of elliptical distributions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 19–22. (Zheng Yan Lin) **99i:60031** 60E05 (60E10)

Bao, Wei-zhu The approximations of the exact boundary condition at an artificial boundary for linearized incompressible viscous flows. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 239–256. (Vitoriano Ruas) **99h:76020** 76D05 (65M99, 76M10)

— (*with* Barrett, John W.) A priori and a posteriori error bounds for a nonconforming linear finite element approximation of a non-Newtonian flow. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 843–858. (Leonid K. Antanovskiĭ) **99i:76086** 76M10 (65M60, 76A05)

Bao, Yu E Some results on lattice fuzzy topological linear spaces. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 2, 90–94. 46S40 (46A40)

Bao, Zheng (*with* Yu, Hong Yi[2]) Performance study of a class of cyclic weighted subspace fitting methods. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 519–526. 94A12

Baolin, Li *see* **Li, Bao Ling**

Baolin, Zhang *see* **Zhang, Bao Lin[1]**

Baouendi, Mohamed Salah Les opérateurs de convolution (d'après Léon Ehrenpreis et Lars Hörmander). [Convolution operators (after Leon Ehrenpreis and Lars Hörmander)] *Séminaire Bourbaki, Vol. 8, Exp. No. 254*, 171–178, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 46F10 (35E20, 47F05)

— (*with* Ebenfelt, Peter; Rothschild, Linda Preiss) Algebraicity of holomorphic mappings between real algebraic sets in $\mathbf{C}^n$. *Acta Math.* **177** (1996), *no.* 2, 225–273. (J. Merker) **99b:32030** 32H02 (32C16, 32F25)

— (*with* Ebenfelt, Peter; Rothschild, Linda Preiss) Parametrization of local biholomorphisms of real analytic hypersurfaces. *Asian J. Math.* **1** (1997), *no.* 1, 1–16. (Mario Landucci) **99b:32022** 32F25 (32H02)

— (*with* Ebenfelt, Peter; Rothschild, Linda Preiss) CR automorphisms of real analytic manifolds in complex space. *Comm. Anal. Geom.* **6** (1998), *no.* 2, 291–315. (Gerd Schmalz) **99i:32024** 32F25 (32C16)

Bapat, Ravindra (*with* Akian, Marianne; Gaubert, Stéphane) Asymptotics of the Perron eigenvalue and eigenvector using max-algebra. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 927–932. (Rafael Canto) **99k:15012** 15A18 (15A03, 15A04, 15A54)

— A max version of the Perron-Frobenius theorem. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 3–18. (Marc Artzrouni) **99d:15017** 15A48 (15A18)

— (*with* Pati, Sukanta) Algebraic connectivity and the characteristic set of a graph. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 247–273. (Summary) **99h:05082** 05C50 (15A18)

— (*with* Jain, Surender Kumar; Manjunatha Prasad, K.) Generalized power symmetric stochastic matrices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1987–1994. (Ryszard Grząślewicz) **99j:15032** 15A51

Bapela, Manas (*with* Ströh, Anton) Every Banach algebra has the spectral radius property. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 114–117. (Naum Ya. Krupnik) **99g:46060** 46H05 (47A10)

Bapoungué, Lionel Un critère de résolution pour l'équation diophantienne $ax^2 + 2bxy - kay^2 = \pm 1$. (English and French summaries) [A criterion for the solution of the Diophantine equation $ax^2 + 2bxy - kay^2 = \pm 1$] *Exposition. Math.* **16** (1998), *no.* 3, 249–262. (Alain Faisant) **99g:11033** 11D09

Baptiste, Philippe (*with* Le Pape, Claude) Resource constraints for preemptive job-shop scheduling. (English summary) *Constraints* **3** (1998), *no.* 4, 263–287. (Frank Werner) **99j:90039** 90B35

Bär, Christian Harmonic spinors for twisted Dirac operators. *Math. Ann.* **309** (1997), *no.* 2, 225–246. (Jean-Louis Milhorat) **99a:58156** 58G25 (53C20)

— On harmonic spinors. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 859–869. (Summary) **99k:58167** 58G05 (58A14, 58G30)

— (*with* Bleecker, D.) Connections on soldered principal bundles. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 891–903. (Summary) **99m:53038** 53C05 (53C80)

— (*with* Ammann, Bernd) The Dirac operator on nilmanifolds and collapsing circle bundles. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 221–253. (Uwe Semmelmann) **99h:58194** 58G25 (53C25, 53C30, 58G30)

— Extrinsic bounds for eigenvalues of the Dirac operator. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 6, 573–596. (Jean-Louis Milhorat) **99k:58183** 58G25

— Heat operator and ζ-function estimates for surfaces. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 63–70. (Friedbert Prüfer) **99i:58151** 58G26 (11M06, 11M41, 58G11, 58G25)

— Harmonic spinors and topology. (English summary) *New developments in differential geometry, Budapest* 1996, 53–66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Hans-Bert Rademacher) **99m:53074** 53C21 (58A14, 58G30)

Bar, Daniel The Feynman path integrals and Everett's universal wave function. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1383–1391. (Summary) **99g:81004** 81P05 (81S40)

Barabanov, A. E. Factorization of matrix polynomials with a degree constraint. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 5, 86–100; *translation in Automat. Remote Control* **58** (1997), *no.* 5, *part* 2, 783–794. (L. Rodman) **99a:93029** 93B36 (15A22, 15A23)

— Criterial convergence of the least squares method in an adaptive control system. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 32–34. (M. P. Moklyachuk) **99b:93053** 93E24 (93C40)

Barabanov, A. T. Criteria for controllability and observability in complex domain models of stationary systems. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2537–2540. (Summary) **99h:93010** 93B05 (93B07)

Barabanov, Nikita E. On the existence of an extremal norm for a class of linear differential equations with retarded argument. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 294–297, 428; *translation in Differential Equations* **34** (1998), *no.* 3, 293–296. (Summary) **99j:93069** 93D05 (34A60, 34K35)

— On the static H_∞ control problem. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 13–18. (Rabah Rabah) **99f:93041** 93B36 (93B40, 93C05)

Barabanova, A. (*with* Allegretto, Walter) Existence of positive solutions of semilinear elliptic equations with nonlocal terms. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 395–409. (Jesús Hernández) **99c:35066** 35J65 (35B45, 35P30, 47H12)

Barabasheva, Yu. M. (*with* Tutubalin, V. N.; Grigoryan, Aleksandr Arkad'evich; Devyatkova, G. N.; Uger, E. G.) Differential equations in ecology: historical-methodological reflection. (Russian. English and Russian summaries) *Voprosy Istor. Estestvoznan. i Tekhn.* **1997**, *no.* 3, 141–151, 173. (Summary) **99g:92001** 92–03 (92D40)

Barabási, Albert-László (*with* Stanley, H. Eugene) ★ Fractal concepts in surface growth. (English summary) *Cambridge University Press, Cambridge*, 1995. xx+366 *pp. ISBN* 0-521-48318-2 (Vitor R. Vieira) **99b:82072** 82C24 (82–01, 82C28, 82D30)

nicolas Baracatt, C. *see* **Nicolas Baracatt, C.**

Barache, Damien (*with* Champagne, Bernard; Gazeau, Jean Pierre) Pisot-cyclotomic quasilattices and their symmetry semigroups. (English summary) *Quasicrystals and discrete geometry (Toronto, ON*, 1995), 15–66, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99g:52028** 52C07 (11R06, 20M20)

Baragar, Arthur The exponent for the Markoff-Hurwitz equations. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 1–21. (Mary E. Flahive) **99e:11035** 11D72 (11J06)

Baragona, Roberto (*with* Battaglia, Francesco) Testing time series for interpolability and whiteness. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2623–2644. (Jiří Anděl) **99e:62152** 62M10

Barahona, Francisco (*with* Jensen, David L.) Plant location with minimum inventory. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 101–111. (Summary) **99f:90033** 90B05

Barakat, H. M. On the continuation of the limit distributions of the extreme and central terms of a sample. (English summary) *Test* **6** (1997), *no.* 2, 351–368. (M. Riedel) **99h:62063** 62G30 (60F05)

— Weak limit of the sample extremal quotient. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 83–93. (Ralph P. Russo) **99h:60103** 60G70 (60F05)

Barakat, Richard Jones matrix equivalence theorems for polarization theory. (English summary) *European J. Phys.* **19** (1998), *no.* 3, 209–216. (Summary) **99d:78006** 78A05

Barakat, Thabit (*with* Mustafa, Omar) Exact energy eigenvalues of the generalized Dirac-Coulomb equation via a modified similarity transformation. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 3, 411–414. 81Q05

Barakhnin, V. B. (*with* Khakimzyanov, G. S.) Numerical modelling of fluid oscillations caused by an instantaneous slope of the reservoir base. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 271–278. 76M25 (76B10)

Baral, Chitta (*with* Son, Tran Cao) Approximate reasoning about actions in presence of sensing and incomplete information. (English summary) *Logic programming (Port Washington, NY*, 1997), 387–401, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68147** 68T27 (03B70)

— (*with* Gabaldon, Alfredo; Provetti, Alessandro) Value minimization in circumscription. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 163–186. (Summary) **99f:68184** 68T27 (03B70)

— (*with* Gabaldon, Alfredo; Provetti, Alessandro) Formalizing narratives using nested circumscription. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 107–164. (Summary) **99h:68163** 68T30 (68T27)

— (*with* Gelfond, Michael; Kosheleva, Olga M.) Expanding queries to incomplete databases by interpolating general logic programs. (English summary) *J. Logic Programming* **35** (1998), *no.* 3, 195–230. (Summary) **99b:68028** 68N17 (68P15)

Baram, Y. (*with* Peterfreund, N.) Convergence analysis of nonlinear dynamical systems by nested Lyapunov functions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1179–1184. (Summary) **99c:34099** 34D05 (93D05)

Baramov, Lubomír (*with* Kimura, Hidenori) Nonlinear coprime factorizations and parametrization of a class of stabilizing controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 413–434. 93D15 (93B25)

Baran, Mehmet Completely regular objects and normal objects in topological categories. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 3, 211–224. (Summary) **99d:18005** 18B30 (54B30)

Baran, Mirosław New approach to Markov inequality in L^p norms. (English summary) *Approximation theory*, 75–85, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Ognyan Kounchev) **99i:41011** 41A17 (26D05, 46E30)

Baran, Sándor (*with* Arató, Mátyás; Ispány, Márton) Functionals of complex Ornstein-Uhlenbeck processes. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 1–13. (Summary) **99j:62122** 62M10 (65U05)

Barancsi, Éva (*with* Bánki, Géza; Borlói, Rudolf; Chikán, Attila; Kelle, Péter; Kulcsár, Tamás; Meszéna, György) ★ Inventory models. (English summary) Translated from the 1983 Hungarian original by B. Szőnyi and Kelle and revised by the authors. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 16. *Kluwer Academic Publishers, Dordrecht*, 1990. xii+419 *pp. ISBN* 0-7923-0494-2 (Heinz-Uwe Küenle) **99a:90085** 90B05 (90–02)

contreras-Barandiarán, Gonzalo *see* **Contreras-Barandiarán, Gonzalo**

Baranger, Jacques (*with* Achchab, Boujemaa; Agouzal, Abdellatif; Oudin, Fabienne) Estimations d'erreurs en lois de comportement. (English and French summaries) [Error estimators using constitutive laws] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1007–1010. (Summary) **99h:65183** 65N15

Baraniuk, Richard G. (*with* Crouse, Matthew S.; Nowak, Robert D.) Wavelet-based statistical signal processing using hidden Markov models. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 886–902. 94A12 (42C15)

— (*with* Gonçalvès, Paulo) Pseudo-affine Wigner distributions: definition and kernel formulation. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1505–1516. (Summary) **99i:94010** 94A12

— (*with* Riedi, Rudolf H.; Crouse, Matthew S.; Ribeiro, Vinay J.) A multifractal wavelet model with application to network traffic. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 992–1018. (Summary) **99m:94014** 94A12 (90B12)

Baran Majumdar, Asit Some generating functions of Bessel polynomials by group-theoretic method. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 226–230 (1996). (Summary) **99c:33004** 33C10

— On bilateral generating functions. II. (English summary) *Rev. Acad. Canaria Cienc.* **7** (1995), *no.* 1, 111–115. (Summary) **99h:33030** 33C45

— On bilateral generating functions. III. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 101–104. (Summary) **99h:33031** 33C45

Barannik, A. F. (*with* Yurik, Ī. Ī.) On some exact solutions of nonlinear wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 98–107, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35C05 (35L70, 35Q99)

— On subalgebras of the conformal algebra $AC(2, 2)$. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 445–454. (Christoph Schweigert) **99f:17004** 17B05 (35L70)

— (*with* Yurik, Ī. Ī.) On a new method for constructing exact solutions of the nonlinear differential equations of mathematical physics. (English summary) *J. Phys. A* **31** (1998), *no.* 21, 4899–4907. (Ian M. Anderson) **99f:35015** 35C05 (35A30, 35Q53)

Barannik, L. F. (*with* Kloskowska, B.; Mityushev, Vladimir) Invariant solutions of the multidimensional Boussinesq equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 62–69, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:35193** 35Q35

— (*with* Sulewski, P.) Exact solutions of the nonlinear diffusion equation $u_0 + \nabla[u^{-4/5}\nabla u] = 0$. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 429–436, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35K55 (35C05)

— On classification of subalgebras of the Poincaré algebra. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 409–417. (Liang Chen) **99c:17008** 17B05 (81R05)

— (*with* Basarab-Horwath, Peter; Fushchich, Vīl'gel'm Īllīch) On the classification of subalgebras of the conformal algebra with respect to inner automorphisms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4899–4922. (J. Lõhmus) **99m:81070** 81R05 (17B68)

Barannik, L. L. *see* **Barannyk, Lyudmyla L.**

Barannikov, S. A. (*with* Kontsevich, Maxim) Frobenius manifolds and formality of Lie algebras of polyvector fields. *Internat. Math. Res. Notices* **1998**, *no.* 4, 201–215. (Sergey Merkulov) **99b:14009** 14D07 (14J32, 17B66, 32G13, 58D29)

Barannyk, A. F. *see* **Barannik, A. F.**

Barannyk, Anatoly *see* **Barannik, A. F.**

Barannyk, L. F. *see* **Barannik, L. F.**

Barannyk, Leonid F. *see* **Barannik, L. F.**

Barannyk, Lyudmyla L. Symmetry reduction of a generalized complex Euler equation for a vector field. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 455–462, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q30 (35A30)

— (*with* Fushchich, Vīl'gel'm Īllīch) Symmetry reduction on subalgebras of the Poincaré algebra of a nonlinear system of differential equations of a vector field. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 50–57. (Summary) **99k:35010** 35A30 (58F35)

— Invariant solutions of a nonlinear system of differential equations for electromagnetic field. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 482–491. (From the introduction) **99k:78007** 78A25 (35Q60)

Baranov, Aleksandr A. On Lie subalgebras of locally finite-dimensional associative algebras. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 52–56, 141. (Serge M. Skryabin) **99m:17005** 17B05

— Diagonal locally finite Lie algebras and a version of Ado's theorem. *J. Algebra* **199** (1998), *no.* 1, 1–39. (Dietrich Burde) **99f:17026** 17B65 (17B05)

— Simple diagonal locally finite Lie algebras. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 362–386. (Vesselin Drensky) **99k:17041** 17B65 (17B05, 17B20, 17B35)

— (*with* Kleshchev, Alexander S.) Maximal ideals in modular group algebras of the finitary symmetric and alternating groups. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 595–617. (Donald S. Passman) **99d:16028** 16S34 (20C05)

Baranovich, A. M. Differential geometrical relations for a class of formal series. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 279–287, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Andreas Kriegl) **99d:58017** 58A99

Baranovskaya, L. V. (*with* Chikrii, Arkadii A.; Chikrīĭ, Al. A.) A game-theoretic approach problem when the control devices fail. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 5–13, 153. (Summary) **99f:90205** 90D25 (49K15, 93B35)

Baranovskiĭ, V. Yu. *see* **Ginzburg, Victor, 99j:17020**

Barański, Feliks (*with* Koroński, Jan) Some remarks on Green functions and effective constructions of solutions to limit problems for differential equations. (Polish. English, German and Polish summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No.* 76 (1996), 9–22. 35A08

Barański, Krzysztof From Newton's method to exotic basins. I. The parameter space. (English summary) *Fund. Math.* **158** (1998), *no.* 3, 249–288. (Peter Petek) **99m:58152** 58F23

Bárány, Imre (*with* Onn, Shmuel) Colourful linear programming and its relatives. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 550–567. (Summary) **99g:90069** 90C08 (68Q25)

— (*with* Dalla, Leoni) Few points to generate a random polytope. (English summary) *Mathematika* **44** (1997), *no.* 2, 325–331. (Herbert Ziezold) **99b:52008** 52A22 (60D05)

— (*with* Valtr, Pavel) A positive fraction Erdős-Szekeres theorem. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 335–342. (Summary) **99a:52024** 52C10

— (*with* Larman, David G.) The convex hull of the integer points in a large ball. *Math. Ann.* **312** (1998), *no.* 1, 167–181. (J. M. Wills) **99i:52014** 52B20 (11P21, 52A27)

— (*with* Scarf, H. E.; Shallcross, D. F.) The topological structure of maximal lattice free convex bodies: the general case. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 1–15. (Summary) **99h:90069** 90C10

Baras, F. (*with* Bena, I.; Malek Mansour, M.) Hydrodynamic fluctuations in the Kolmogorov flow: linear regime. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part B*, 5503–5510. 76F99

Baras, John S. (*with* Patel, Nital S.) Robust control of set-valued discrete-time dynamical systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 61–75. (Zbigniew Banaszak) **99a:93089** 93D21 (90D25, 93C55)

Barashenkov, I. V. (*with* Pelinovsky, Dmitry E.) Exact vortex solutions of the complex sine-Gordon theory on the plane. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 117–124. (Summary) **99e:81136** 81T10

— (*with* Alexeeva, N. V.; Pelinovsky, Dmitry E.) Dynamics of the parametrically driven NLS solitons beyond the onset of the oscillatory instability. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 103–140. (Summary) **99j:35197** 35Q55 (78A60)

Barashenkov, V. S. (*with* Sapogin, L. G.) Soliton-like solutions of linear differential equations. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 91–94, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 35Q51

— Mechanics in six-dimensional spacetime. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 471–484. (Summary) **99i:70023** 70H40 (70F15, 78A35)

Barashkov, A. S. (*with* Dmitriev, Vladimir Ivanovich) On the uniqueness of solutions of inverse multidimensional spectral problems in dual asymptotic models. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 109–114. 35R30 (35J99, 65N99)

— (*with* Dmitriev, Vladimir Ivanovich) On conditions for estimating the precision of solutions of inverse problems. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 115–122. 65J15 (65M60)

Barat, P. (*with* Roy, Amitava) Modification of Karhunen-Loeve transform for pattern recognition. (English summary) *Sādhanā* **23** (1998), *no.* 4, 341–350. 68T10 (76Q05)

Barata, João C. A. (*with* Nill, Florian) Dyonic sectors and intertwiner connections in $(2+1)$-dimensional lattice Z_N-Higgs models. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 409–466. (Stephen J. Summers) **99a:81120** 81T25 (46L60, 81T05, 82B20)

— (*with* Marchetti, D. H. U.) The two-point function and the effective fugacity in diluted Ising models on the Cayley tree. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 751–773. (Daniel Ueltschi) **99i:82003** 82B05 (82B20)

— (*with* Schor, Ricardo; Faria da Veiga, Paulo A.; Pereira, Emmanuel) Spectral properties of weakly coupled Landau-Ginzburg stochastic models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 2689–2694. (Summary) **99m:81063** 81Q40 (82C20)

— *see also* **Particles and fields, 99i:81004**

Baratchart, L. (*with* Olivi, Martine) Critical points and error rank in best H_2 matrix rational approximation of fixed McMillan degree. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 273–300. (I. Gavrea) **99g:15025** 15A54 (30E10, 41A20)

— (*with* Leblond, Juliette; Mandréa, F.; Saff, Edward B.) How can the meromorphic approximation help to solve some 2D inverse problems for the Laplacian? (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 79–90. (Summary) **99j:35228** 35R30 (30E10, 35J05, 41A30)

Baratella, Stefano (*with* Toffalori, Carlo) The theory of $\mathbf{Z}C(2)^2$-lattices is decidable. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 2, 91–104. (Thanases Pheidas) **99i:03051** 03B25 (03C60, 03D35)

— (*with* Ng, Siu-Ah) Fixed points in the nonstandard hull of a Banach space. *Nonlinear Anal.* **34** (1998), *no.* 2, 299–306. (Nader Vakil) **99f:47075** 47H10 (03H05, 46B20, 46S20, 47S20)

Bărbăcioru, Carmen (*with* Bărbăcioru, Cătălin) Pseudocomplemented distributive lattices with finite co-irreducible dimension. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 36–40 (1994). 06C15 (06D20)

Bărbăcioru, Cătălin (*with* Bărbăcioru, Carmen) Pseudocomplemented distributive lattices with finite co-irreducible dimension. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 36–40 (1994). 06C15 (06D20)

— Integer-valued polynomials and full subsets. *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 71–79 (1995). 13B25 (11C08)

— Extension fields and integer-valued polynomials. (English summary) *J. Number Theory* **73** (1998), *no.* 1, 28–33. (Lahoucine Izelgue) **99j:13015** 13F20 (13B22)

Barback, Joseph A fine structure in the theory of isols. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 229–264. (Charles Applebaum) **99m:03090** 03D50

Barbano, Paolo Emilio (*with* Auslander, Louis) Communication codes and Bernoulli transformations. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 109–128. (Kotik K. Lee) **99j:94021** 94A24 (28D99)

— Automorphisms and quasi-conformal mappings of Heisenberg-type groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 255–277. (Jorge Lauret) **99k:22014** 22E25 (30C65)

Barbari, P. (*with* Kobotis, A.) On derivations of nilpotent Lie algebras. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 1–7. 17B40 (17B30)

Barbarosoglu, Gulay (*with* Ozgur, Demet) A tabu search algorithm for the vehicle routing problem. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 255–270. 90C35 (90C90)

Barbarossa, Sergio (*with* Scaglione, Anna) Statistical analysis of the product high-order ambiguity function. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 343–356. 94A12

— (*with* Scaglione, Anna; Giannakis, Georgios B.) Filterbank transceivers optimizing information rate in block transmissions over dispersive channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1019–1032. 94A05 (94A40)

Barbaroux, J. M. (*with* Joye, Alain) Expectation values of observables in time-dependent quantum mechanics. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1225–1249. (Mihai Pascu) **99d:81034** 81Q10 (47N50)

lefebvre-Barbaroux, Sophie *see* **Lefebvre-Barbaroux, Sophie**

Barbasch, Dan (*with* Moy, Allen) Local character expansions. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 5, 553–567. (Dihua Jiang) **99j:22021** 22E50

— (*with* Adams, Jeffrey) Genuine representations of the metaplectic group. (English summary) *Compositio Math.* **113** (1998), *no.* 1, 23–66. (Tomasz Przebinda) **99h:22013** 22E45

— (*with* Božičević, Mladen) The associated variety of an induced representation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 279–288. (Jen-Tseh Chang) **99b:22024** 22E46

— (*with* Moy, Allen) Classification of one K-type representations. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4245–4261. (Marko Tadić) **99m:22017** 22E50

Barbashina, E. E. Optimality conditions of Kelly-Kopp-Moyer type. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1462–1469, 1580; *translation in Differential Equations* **33** (1997), *no.* 11, 1468–1475 (1998). (Wiesław Kotarski) **99m:49035** 49K15 (93C15)

Barbashov, B. M. (*with* Pestov, A. B.) The Weyl non-abelian gauge field and the Thomas precession. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2117–2121. (Alfredo Macías) **99j:83055** 83C99

Barbat, A. H. (*with* Hurtado, J. E.) Monte Carlo techniques in computational stochastic mechanics. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 1, 3–29.

(Summary) **99b:73043** 73V30 (65C05)

Barbati, Alberto (*with* Costantini, Camillo) On a generalization of totally bounded and compact metric spaces. (English summary) *Topology Proc.* **22** (1997), 1–22. (Summary) **99g:54025** 54E35 (54E45, 54E50)

Barbatis, Gerassimos Spectral theory of singular elliptic operators with measurable coefficients. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 125–152. (M. S. Agranovich) **99g:35092** 35P05 (35J25, 47F05, 58G25)

— Sharp heat kernel bounds and Finsler-type metrics. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 261–277. (Alberto G. Setti) **99j:58196** 58G11 (35J99, 53C60)

Barbé, André M. (*with* Alieva, T.) About quantum state characterization. (English summary) *J. Phys. A* **31** (1998), *no.* 39, *L685–L688*. (S. Gudder) **99h:81110** 81S30 (81P15)

— (*with* Alieva, T.) Self-fractional Fourier images. (English summary) *J. Modern Opt.* **46** (1999), *no.* 1, 83–99. (Summary) **99j:78007** 78A10

Barbe, Jacques Asymptotiques de valeurs propres pour des hamiltoniens hypoelliptiques non homogènes. (English and French summaries) [Asymptotics of eigenvalues for hypoelliptic Hamiltonians without a homogeneity assumption] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 31–36. (Summary) **99g:35095** 35P20 (35H05, 35J10)

Barbe, Philippe Statistical analysis of mixtures and the empirical probability measure. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 3, 253–340. (Sidney J. Yakowitz) **99f:62050** 62G05 (62F12)

— (*with* Broniatowski, M.) Large deviation principle for sequential rank processes. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 98–110. (M. Hušková) **99g:62120** 62L10 (60F10, 62G20)

— (*with* Doisy, M.; Garel, B.) Last passage time for the empirical mean of some mixing processes. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 237–245. (Winfried Stute) **99j:60030** 60F05 (62F12, 62M10)

Barbeau, Michel (*with* Kabanza, Froduald; St.-Denis, Richard) A method for the synthesis of controllers to handle safety, liveness, and real-time constraints. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1543–1559. (Bart De Schutter) **99h:93065** 93C83 (68Q75)

Barberà, Salvador (*with* Massó, Jordi; Serizawa, Shigehiro) Strategy-proof voting on compact ranges. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 272–291. (Maurice Salles) **99m:90015** 90A08

— (*with* Bogomolnaia, Anna; van der Stel, Hans) Strategy-proof probabilistic rules for expected utility maximizers. (English summary) Axiomatics of resource allocation, I. *Math. Social Sci.* **35** (1998), *no.* 2, 89–103. (Summary) **99d:90034** 90A43

castro Barbero, Carlos *see* **Castro Barbero, Carlos**

Barbero G., J. Fernando (*with* Tiemblo, Alfredo; Tresguerres, Romualdo) Husain-Kuchař model: time variables and nondegenerate metrics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6104–6112. (Summary) **99m:83010** 83C05

Barbieri, A. Quantum tetrahedra and simplicial spin networks. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 714–728. (José A. Zapata) **99d:83029** 83C27 (83C45)

Barbieri Viale, Luca (*with* Srinivas, Vasudevan) Albanese and Picard 1-motives. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1397–1401. (Fumio Hazama) **99k:14010** 14C22 (14K30)

Barbin, Évelyne Descartes et les mathématiques. [Descartes and mathematics] *Les philosophes et les mathématiques*, 43–65, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

— *see also* **Philosophers and mathematics, 99g:01038**

Barbolosi, Dominique (*with* Grabner, Peter J.) Distribution des coefficients multinomiaux et q-binomiaux modulo p. (English summary) [Distribution of multinomial and q-binomial coefficients modulo p] *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 129–135. (Jean-Loup Mauclaire) **99h:11013** 11B65

Barbón, J. L. F. (*with* Pasquinucci, Andrea) A note on softly broken MQCD. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1453–1462. (Summary) **99b:81230** 81T60 (81T13, 81T30)

— (*with* Pasquinucci, Andrea) D0-branes, constrained instantons and $D = 4$ super Yang-Mills theories. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 125–141. (Daniel N. Kabat) **99h:81203** 81T60 (81T13)

— (*with* Mañes, J. L.; Vázquez-Mozo, M. A.) Large N limit of extremal non-supersymmetric black holes. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 279–300. (Summary) **99h:83050** 83E30 (83C57)

Barbone, Paul E. (*with* Harari, Isaac; Shalom, Rami) Higher-order boundary infinite elements. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 107–119. (Summary) **99i:76118** 76M25 (65N30, 76Q05)

— (*with* Montgomery, Joshua M.; Michael, Ofer; Harari, Isaac) Scattering by a hybrid asymptotic/finite element method. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 141–156. (Summary) **99h:76054** 76M10 (65M60, 76Q05)

Barbosa, A. L. (*with* Aldrovandi, R.; Freitas, L. P.) Closed expressions for Lie algebra invariants and finite transformations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3021–3050. (Edson Stédile) **99a:81051** 81R05 (17B81)

Barbosa, A. S. (*with* de Siqueira, A. C. V. V.; Bezerra de Mello, E. R.) The classical and quantum analysis of the relativistic motion of a massive bosonic particle on a conical spacetime. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2773–2782. (Summary) **99h:83006** 83C10 (83C47)

Barbosa, J. Lucas M. (*with* Sa Earp, Ricardo) Prescribed mean curvature hypersurfaces in $H^{n+1}(-1)$ with convex planar boundary. I. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 61–74. (Luis J. Alias) **99d:53064** 53C42 (35J65, 53A07)

Barbosa, Marcelo Marcos (*with* de Mello, Célia Picinin; Meidanis, João) Local conditions for edge-colouring of cographs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 45–55. (Summary) **99k:05075** 05C15

Barbosa, Rommel (*with* Hartnell, Bert L.) Some problems based on the relative sizes of the maximal independent sets in a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 115–121. (Summary) **99j:05096** 05C35

— (*with* Hartnell, Bert L.) Almost parity graphs and claw-free parity graphs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 117–122. (Summary) **99a:05118** 05C75 (05C70)

Barbosa, Valmir C. (*with* Wedemann, Roseli S.; Donangelo, Raul) Defeasible time-stepping. (English summary) *Parallel Comput.* **25** (1999), *no.* 4, 461–489. 68U20 (65M06)

Bărbosu, Dan On some Bernstein-Schoenberg spline interpolation procedures. *Approximation and optimization, Vol. II (Cluj-Napoca*, 1996), 13–20, *Transilvania, Cluj-Napoca*, 1997. (Yuesheng Xu) **99c:41020** 41A15 (41A63)

— A bivariate operator of spline type. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A (Arad*, 1996), 87–92, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 41A15 (41A35)

— Some Hermite bivariate interpolation procedures. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 5–14. 41A05 (41A15)

Barbosu, Mihail Sasaki metric and the phase space. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 139–142. 53C25 (58F05)

Barbot, J.-P. (*with* Monaco, Salvatore; Normand-Cyrot, D.) Quadratic forms and approximate feedback linearization in discrete time. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 567–586. 93C55 (93B11)

Barbot, Thierry Generalizations of the Bonatti-Langevin example of Anosov flow and their classification up to topological equivalence. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 4, 749–798. (Boris Hasselblatt) **99m:58142** 58F15

Barbour, A. D. (*with* Utev, Sergei) Solving the Stein equation in compound Poisson approximation. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 449–475. (Małgorzata Majsnerowska) **99h:60040** 60F05 (62E17, 62F05)

Barbour, Julian B. Going round in circles. *Proceedings of the 14th International Conference on General Relativity and Gravitation (Florence*, 1995), 31–55, *World Sci. Publishing, River Edge, NJ*, 1997. (Philip L. Quinn) **99k:01093** 01A99

Barbu, Dorel A note on stochastic Burgers' equation with correlated noise. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 63–67. 35R60 (35Q53, 60H15)

— (*with* Buşe, Constantin) The Lyapunov equations and nonuniform exponential stability. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 25–31. (R. F. Datko) **99k:47084** 47D06 (34D99, 34G10)

Barbu, Luminita (*with* Moroşanu, Gheorghe) Asymptotic analysis of the telegraph equations with non-local boundary value conditions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 13–22. (A. V. Perzhan) **99j:35126** 35L60 (35B25, 35B40, 47H15)

Barbu, Viorel (*with* Iannelli, Mimmo) The semigroup approach to non-linear age-structured equations. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 59–71 (1997). (Paolo Acquistapace) **99h:35107** 35K60 (34G20, 34K30, 35Q80, 47H20, 92D25)

— Semilinear periodic optimal control problems. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 737–751. (Patrizio Colaneri) **99k:49078** 49N20 (49K20, 49M30)

— (*with* Favini, Angelo) On some degenerate parabolic problems. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 77–86. (Stepan D. Ivasyshen) **99c:35090** 35K20 (34G20, 47N20)

— Feedback control of time dependent Stokes flows. *Optimal control of viscous flow*, 63–77, *SIAM, Philadelphia, PA*, 1998. (Ruxandra Stavre) **99f:49044** 49L25 (35Q35, 76D07, 93C20)

— (*with* Favini, Angelo) Existence for an implicit nonlinear differential equation. *Nonlinear Anal.* **32** (1998), *no.* 1, 33–40. (Tamara G. Sukacheva) **99m:34134** 34G20 (34A09, 35L99)

— (*with* Sritharan, S. S.) H^∞-control theory of fluid dynamics. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 3009–3033. (Thomas P. Svobodny) **99j:93029** 93B36 (76D05, 76M99, 93C20)

— (*with* Favini, Angelo) The analytic semigroup generated by a second order degenerate differential operator in $C[0, 1]$. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 23–42. (Vitali A. Liskevich) **99i:47069** 47D06 (34G10)

Bărbulescu, Ion (*with* Rosculet, Marcel) On some partial differential equations of hyperbolic type. Mean-formulas. *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 44–49. 35C99 (35L99)

— Weight integral formulas for differential equations of hyperbolic type. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 74–82 (1994). 35C15 (35L99)

le conte de poly-Barbut, Claude *see* **Le Conte de Poly-Barbut, Claude**

Barbuti, Roberto (*with* De Francesco, Nicoletta; Mancarella, Paolo; Santone, Antonella) Towards a logical semantics for pure Prolog. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 145–176. (Summary) **99e:68013** 68N17 (03B70)

Barceló, Carlos (*with* Garay, Luis J.) Wormhole effective interactions in anti-de Sitter spacetime. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 623–645. (Summary) **99c:83027** 83C45 (83C47, 83E05)

— (*with* Garay, Luis J.) Quantum fields in anti-de Sitter wormholes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5291–5294. (Summary) **99m:83064** 83C45 (81T20, 83E05)

Barceló, J. *see* **Barceló, Jaime**

Barcelo, J. A. (*with* Ruiz, Alberto[1]; Vega, Luis) Weighted estimates for the Helmholtz equation and some applications. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 356–382. (Marco Bramanti) **99a:35033** 35J05 (35B45, 35J10)

Barceló, Jaime (*with* Montero, Lídia) A simplicial decomposition algorithm for solving the variational inequality formulation of the general traffic assignment problem for large scale networks. (English summary) *Top* **4** (1996), *no.* 2, 225–256. (Summary) **99c:90136** 90C33 (90B20)

Barcelos-Neto, J. (*with* Banerjee, R. S.) Reducible systems and embedding procedures in the canonical formalism. (English summary) *Ann. Physics* **265** (1998), *no.* 2, 134–154. (Ion V. Vancea) **99d:58052** 58E50 (58E30, 58F05, 70G99, 70H05, 81T70)

— (*with* Thibes, R.) Two-form gauge fields in the Becchi-Rouet-Stora-Tyutin superspace. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5669–5692. (Rie Kuriki) **99j:81189** 81T70

— (*with* Amorim, R.) Axial and gauge anomalies in a theory with one- and two-form gauge fields. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 329–333. (Summary) **99a:81164** 81T50

— *see also* **School: Particles and Fields, 99f:81003**

Bárcenas, Diómedes (*with* Urbina, Wilfredo) Measurable multifunctions in nonseparable Banach spaces. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1212–1226. (Christian Hess) **99e:28021** 28B20 (47H04, 47N70, 49J27)

— (*with* Sánchez, Luisa) Some notes about the convexity module. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 21–29. (Ioan Şerb) **99f:46017** 46B20

Barchielli, Alberto (*with* Zucca, Fabio) On a class of stochastic differential equations used in quantum optics. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 355–376 (1998). (Kalyanapuram R. Parthasarathy) **99g:81108** 81S25 (60H10, 81V80)

— (*with* Lupieri, Giancarlo) Photoemissive sources and quantum stochastic calculus. *Quantum probability (Gdańsk, 1997)*, 53–62, *Banach Center Publ.*, **43**, *Polish Acad. Sci., Warsaw*, 1998. (John E. Gough) **99g:81109** 81S25 (81V80)

— (*with* Paganoni, A. M.; Zucca, Fabio) On stochastic differential equations and semigroups of probability operators in quantum probability. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 69–86. (Summary) **99k:81138** 81S20 (47D06, 47N50, 60H10, 81P15)

Barchini, L. (*with* Gindikin, S. G.; Wong, Hon-Wai) The geometry of flag manifold and holomorphic extension of Szegő kernels for $SU(p, q)$. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 201–220. (John W. Rice) **99d:22020** 22E45 (22E30, 32M10)

— (*with* Zierau, R.) Square integrable harmonic forms and representation theory. *Duke Math. J.* **92** (1998), *no.* 3, 645–664. (Edward G. Dunne) **99e:22022** 22E45 (22E46, 32L10, 32M10)

Barci, D. G. (*with* Oxman, L. E.) Asymptotic states in nonlocal field theories. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 7, 493–500. (Kurt Haller) **99a:81095** 81T10 (81T40)

— (*with* Lemes, V. E. R.; Linhares de Jesus, C.; Silva Maia Porto, M. B. D.; Sorella, S. P.; Vilar, L. C. Q.) Three-dimensional fermionic determinants, Chern-Simons and nonlinear field redefinitions. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 765–778. (Ilya Shapiro) **99e:81158** 81T16 (81T13)

Barcilon, A. (*with* Bishop, C. H.) Nonmodal development of baroclinic waves undergoing horizontal shear deformation. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 24, 3583–3597. (Summary) **99h:76018** 76C15 (86A10)

Barcilon, V. (*with* Chen, Duan Pin; Eisenberg, R. S.; Jerome, Joseph W.) Qualitative properties of steady-state Poisson-Nernst-Planck systems: perturbation and simulation study. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 631–648. (John G. Milton) **99e:92008** 92C05 (34B15, 35Q80, 92C45)

Barclay, D. W. Shock front analysis for axial shear wave propagation in a hyperelastic incompressible solid. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 105–129. (Summary) **99j:73045** 73D40 (73C50, 73D15)

Barclay, G. J. (*with* Stewart, I. W.) The behaviour of perturbations to travelling waves arising in nematic liquid crystals. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 5, 269–283. (Summary) **99i:76007** 76A15 (76E99, 82D30)

Barcucci, E. (*with* Brunetti, S.; Del Lungo, A.; Del Ristoro, F.) A combinatorial interpretation of the recurrence $f_{n+1} = 6f_n - f_{n-1}$. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 235–240. (Summary) **99f:05001** 05A10

Bardadym, T. A. (*with* Ivanov, Aleksandr Vladimirovich) An asymptotic expansion of the cross-validation functional. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* **54** (1996), 1–9; *translation in Theory Probab. Math. Statist. No.* **54** (1997), 1–9. (A. Ya. Dorogovtsev) **99j:62090** 62J02 (62G05)

Bardakov, V. G. On the width of verbal subgroups of some free constructions. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 5, 494–517, 599; *translation in Algebra and Logic* **36** (1997), *no.* 5, 288–301. (David I. Moldavanskiĭ) **99c:20024** 20E06 (20E10, 20F05)

— Even permutations that are not representable as the product of two permutations of a given order. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 169–177; *translation in Math. Notes* **62** (1997), *no.* 1-2, 141–147 (1998). (A. S. Kondrat'ev) **99d:20004** 20B30

— On orthogonal bases of rational lattices. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1236–1250, *i*. (Eugene M. Matveev) **99k:11100** 11H06

Bardaro, Carlo (*with* Vinti, Gianluca) A modular convergence theorem for certain nonlinear integral operators with homogeneous kernel. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 393–407. (Isaac V. Shragin) **99a:47110** 47H30 (41A35, 46E30)

— (*with* Vinti, Gianluca; Musielak, Julian) Nonlinear operators of integral type in some function spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 409–422. (Isaac V. Shragin) **99a:47111** 47H30 (41A35, 46A80, 46E30)

— (*with* Musielak, Julian; Vinti, Gianluca) On nonlinear integral operators in spaces $L^{\varphi,\psi}(\Omega)$. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 23–36. (Isaac V. Shragin) **99a:47112** 47H30 (41A35, 46E30)

— (*with* Mantellini, Ilaria) Modular approximation by sequences of nonlinear integral operators in Musielak-Orlicz spaces. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 403–425. (Isaac V. Shragin) **99m:47057** 47G10 (41A35, 45P05, 47H30)

— (*with* Vinti, Gianluca) On the order of modular approximation for nets of integral operators in modular Lipschitz classes. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 139–154. (Walter Schempp) **99m:41034** 41A35 (46A80, 47G10)

— (*with* Musielak, Julian; Vinti, Gianluca) On the ergodic theorem in some spaces of random variables. *Nonlinear Anal.* **33** (1998), *no.* 4, 359–365. (Gianluca Vinti) **99d:46005** 46A80 (28D99, 46E30, 60A10)

— (*with* Vinti, Gianluca) Uniform convergence and rate of approximation for a nonlinear version of the generalized sampling operator. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 224–240. (Gilbert Walter) **99j:41033** 41A30 (41A25, 47H17)

Barden, Benjamin (*with* Libeskind-Hadas, Ran; Davis, Janet; Williams, William) On edge-disjoint spanning trees in hypercubes. (English summary) *Inform. Process. Lett.* **70** (1999), *no.* 1, 13–16. 68R10

Barden, Dennis (*with* Le, Huiling) Some consequences of the nature of the distance function on the cut locus in a Riemannian manifold. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 369–383. (Jean Picard) **99b:53059** 53C22 (58G32)

Bardet, Jean-Marc (*with* Moulines, Eric; Soulier, Philippe) Recent advances on the semi-parametric estimation of the long-range dependence coefficient. (English and French summaries) *Systèmes différentiels fractionnaires (Paris, 1998)*, 29–41, *ESAIM Proc., 5, Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99i:62198** 62M10 (62M15)

— Dimension de corrélation locale et dimension de Hausdorff des processus vectoriels continus. (English and French summaries) [Local correlation dimension and Hausdorff dimension of continuous random fields] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 589–594. (Summary) **99h:60085** 60G17 (28A78, 60G18)

Bardi, Martino (*with* Capuzzo-Dolcetta, Italo) ★ Optimal control and viscosity solutions of Hamilton-Jacobi-Bellman equations. (English summary) With appendices by Maurizio Falcone and Pierpaolo Soravia. Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xviii+570 *pp. ISBN* 0-8176-3640-4 (Vladimir Veliov) **99e:49001** 49–02 (49J15, 49K15, 49L25)

— (*with* Bagagiolo, Fabio) Singular perturbation of a finite horizon problem with state-space constraints. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2040–2060 (*electronic*). (E. N. Barron) **99h:49040** 49K45 (35F20)

— (*with* Faggian, Silvia) Hopf-type estimates and formulas for nonconvex nonconcave Hamilton-Jacobi equations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1067–1086 (*electronic*). (Paola Loreti) **99e:35023** 35F25 (35C99, 35L60, 49L20)

— *see also* **Stochastic and differential games, 99m:90005**

Bardin, Alexandr E. (*with* Salukvadze, M.) Vector-values risk in multicriteria problems. *Advances in multiple objective and goal programming (Torremolinos, 1996)*, 235–244, *Lecture Notes in Econom. and Math. Systems*, 455, *Springer, Berlin*, 1997. (*see* **98g:90002**) 90C29 (90A05)

— Regret concept in non-cooperative game. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 75–79. (From the text) **99b:90163** 90D10

Bardin, B. S. (*with* Furta, S. D.) Soliton-like oscillations of an infinite beam on a non-linearly elastic support. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 145–156. (Summary) **99a:73056** 73D35 (35Q72, 58F27, 58F40, 73K05, 73K12)

Bardina, Xavier (*with* Jolis, Maria) An extension of Ito's formula for elliptic diffusion processes. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 1, 83–109. (Catherine Donati-Martin) **99b:60066** 60H05 (60H07)

Bardos, Claude (*with* Masrour, Tawfik; Tatout, Frederic) Observation and control of elastic waves. (English summary) *Singularities and oscillations (Minneapolis, MN, 1994/1995)*, 1–16, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Guenter Leugering) **99c:93056** 93C20 (35Q72, 58G40, 73D30, 93B05, 93B07)

— (*with* Ghidaglia, Jean-Michel) Sur les équations d'Euler bidimensionnelles en écoulement ouvert et conditions aux limites en pression. (French summary) [Two-dimensional Euler equations of open flow and boundary conditions for pressure] *Équations aux dérivées partielles et applications*, 107–126, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Raphaël Danchin) **99g:76030** 76C99 (35Q30, 76D05)

— (*with* Golse, François; Levermore, C. David) Acoustic and Stokes limits for the Boltzmann equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 323–328. (Alexei Heintz) **99k:76128** 76P05 (35Q99, 45K05, 82C40)

Bardroff, Patrick J. (*with* Stenholm, Stig) Teleportation of N-dimensional states. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4373–4376. (Summary) **99k:81051** 81P99

— (*with* Leonhardt, U.; Kiss, Tamás) State reconstruction of wave packets moving in time-dependent potentials and the existence of Wronskian pairs. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 411–418. 81Q99

Bareĭkis, G. Multiplicative functions and stochastic processes. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 271–282, *VSP, Utrecht*, 1997. (Gutti J. Babu) **99m:11090** 11K65 (60J65)

— (*with* Manstavičius, Eugenijus) Functional limit theorems in the M-scheme. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 139–154; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 108–118 (1998). (Andrzej Krajka) **99f:60072** 60F17

van Barel, Marc *see* **Van Barel, Marc**

Bareladze, G. P. On permutations of the coefficients of orthogonal series. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 474–475 (1996). 42C05

Barelli, Armelle (*with* Bellissard, Jean; Camacho, Carlos J.; Claro, Francisco) Exact random walk distributions using noncommutative geometry. (English summary) *J. Phys. A* **30** (1997), *no.* 21, L707–L709. (Francois Vanderseypen) **99d:82027** 82B41 (58B30, 60J15)

Barenblatt, G. I. (*with* García Azorero, J. P.; De Pablo, Arturo; Vázquez, Juan Luis) Mathematical model of the non-equilibrium water-oil displacement in porous strata. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 19–45. (Summary) **99j:76121** 76S05 (35Q35, 86A05)

— (*with* Chorin, Alexandre J.) Scaling laws and vanishing viscosity limits in turbulence theory. *Recent advances in partial differential equations, Venice* 1996, 1–25, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (P. L. Sulem) **99a:76065** 76Fxx (76D05, 76M35)

— (*with* Chorin, Alexandre J.) Turbulence: an old challenge and new perspectives. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 445–468. (Barak Galanti) **99m:76066** 76Fxx

— (*with* Chorin, Alexandre J.) Scaling of the intermediate region in wall-bounded turbulence: the power law. Comment on: "Log laws or power laws: the scaling in the overlap region" [Phys. Fluids **9** (1997), no. 7, 2094–2100; MR 98d:76075] by M. V.

Zagarola, A. E. Perry and A. J. Smits. *Phys. Fluids* **10** (1998), *no.* 4, 1043–1044. 76F05 (76–05)

— (*with* Bell, John B.; Crutchfield, W. Y.) The thermal explosion revisited. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 23, 13384–13386 (*electronic*). (Summary) **99k:76121** 76N10 (76L05, 80A25)

— (*with* Chorin, Alexandre J.) New perspectives in turbulence: scaling laws, asymptotics, and intermittency. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 265–291 (*electronic*). (Leonid I. Piterbarg) **99d:76048** 76F99

— *see also* **Smits, Alexander J.**

Barenco, Adriano (*with* Berthiaume, André; Deutsch, David; Ekert, Artur; Jozsa, Richard; Macchiavello, Chiara) Stabilization of quantum computations by symmetrization. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1541–1557. (V. Ya. Kreinovich) **99a:68060** 68Q05 (03D10, 03D15, 81P99)

Barendregt, Henk Discriminating coded lambda terms. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 141–151, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Martin W. Bunder) **99a:03017** 03B40

— (*with* Dekkers, W. J. M.; Bunder, Martin) Completeness of two systems of illative combinatory logic for first-order propositional and predicate calculus. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 327–341. (Alessandro Berarducci) **99m:03025** 03B40

Barenghi, Carlo F. (*with* Walker, Matthew R.) Accurate numerical computations of Taylor integrals. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 173–191. (Summary) **99j:86005** 86–08 (86A25)

Barequet, Gill (*with* Dickerson, Matthew; Eppstein, David) On triangulating three-dimensional polygons. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 155–170. (Summary) **99a:68168** 68U05 (52B55, 68Q25)

— (*with* Sharir, Micha) Partial surface matching by using directed footprints. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 45–62. (Summary) **99m:68219** 68U10 (65Y20, 68T10, 68U05)

Baret, G. (*with* Vincent, Christian) On the eigensystems of the Stokes operator discretized by the Q_1-P_0 finite element method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 959–961. 76M10

Barg, A. M. Minimum distance decoding algorithms for linear codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 1–14, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99f:94015** 94B05 (94B35)

Barge, Marcy (*with* Matison, Thor) A Poincaré-Birkhoff theorem on invariant plane continua. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 41–52. (Beverly Diamond) **99g:54035** 54H20 (54F15, 58F20)

Bargenda, Hubertus W. Algebraic hulls of adjoint functors as injective hulls. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 531–547. (Summary) **99b:18005** 18A40 (18A32, 18B30, 18C05)

Barger, S. F. Hereditary sobriety and the cardinality of T_1 topologies on countable sets. (English summary) *Quaestiones Math.* **20** (1997), *no.* 1, 117–126. (Paul R. Meyer) **99e:54014** 54D10

Bargmann, Detlef Conjugations on rotation domains as limit functions of the geometric means of the iterates. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 507–524. (Rich L. Stankewitz) **99g:30029** 30D05 (58F23)

Barham, Mark (*with* Darewych, Jurij W.) Exact two-body eigenstates in scalar quantum field theory. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3481–3491. (Summary) **99a:81096** 81T10

Bar-Hen, Avner (*with* Daudin, Jean J.) Asymptotic distribution of Matusita's distance: application to the location model. (English summary) *Biometrika* **85** (1998), *no.* 2, 477–481. (Summary) **99h:62072** 62H10

— (*with* Kishino, Hirohisa) Maximum likelihood procedure adapted to sampling schemes. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 277–286. 62D05

di Bari, M. *see* **Di Bari, M.**

Bari, Rehana (*with* Rynne, Bryan P.) The structure of Rabinowitz' global bifurcating continua for problems with weak nonlinearities. (English summary) *Mathematika* **44** (1997), *no.* 2, 419–433. (Norman Dancer) **99a:58036** 58E07 (35B32, 35J65, 47H15, 47N20)

Baribaud, Claire M. C. Cordes et géodésiques fermées. [Chords and closed geodesics] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 189–192, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 53C22

Baricelli, Paola (*with* Mitra, Gautam; Nygreen, Bjørn) Modelling of augmented makespan assignment problems (AMAPs): computational experience of applying integer presolve at the modelling stage. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 269–288. (*see* **99e:90003**) 90C27 (90C90)

Bariev, R. Z. (*with* Alcaraz, F. C.) Exact solution of a vertex model with unlimited number of states per bond. (English summary) *J. Phys. A* **32** (1999), *no.* 3, *L*25–*L*31. (Gunter Schütz) **99k:82018** 82B23 (82B20)

Barile, Margherita (*with* Morales, Marcel) On the equations defining projective monomial curves. *Comm. Algebra* **26** (1998), *no.* 6, 1907–1912. (Apostolos Thoma) **99c:14043** 14H45 (14H50)

— (*with* Morales, Marcel) On certain algebras of reduction number one. *J. Algebra* **206** (1998), *no.* 1, 113–128. (Aron Simis) **99f:13023** 13H10 (13A30, 13D40)

Baringhaus, Ludwig (*with* Grübel, Rudolf) On a class of characterization problems for random convex combinations. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 555–567. (Ramesh C. Gupta) **99c:62029** 62E10

Barinova, E. G. (*with* Kornienko, A. G.; Frenkin, A. R.; Chizhov, G. A.) Singular solutions of nonlinear equations of Schrödinger type of a special form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 1, 12–14. (Summary) **99b:35190** 35Q55

Barioli, Francesco Completely positive matrices with a book-graph. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 11–31. (Gregory Taylor) **99g:15020** 15A48

— Decreasing diagonal elements in completely positive matrices. *Rend. Sem. Mat. Univ. Padova* **100** (1998), 13–25. (Linda J. Patton) **99m:15020** 15A48 (05C50)

Bärk, Berthold (*with* Strelen, Johann Christoph; Becker, Jürgen; Jonas, Volker) Analysis of queueing networks with blocking using a new aggregation technique. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 121–142. (Summary) **99b:90062** 90B22 (60K25)

Barka, Salah Étude d'un système avec température dans les semi-conducteurs. (English and French summaries) [On a basic semiconductor system with temperature] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 815–818. 35Q99

Barkai, E. (*with* Klafter, J.) Anomalous diffusion in the strong scattering limit: a Lévy walk approach. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 373–393, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 82C31

Barkaoui, K. (*with* Bettaz, M.; Chaoui, A.) On finding structural deadlocks in ECATNets using a logic of concurrency. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 470–481 (*electronic*). (*see* **99g:68005**) 68Q10 (68Q90)

Barkatou, Moulay A. (*with* Duval, Anne) Sur la somme de certaines séries de factorielles. (English and French summaries) [On the sum of certain factorial series] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 1, 7–58. (Valeri Kaliaguine) **99f:40001** 40A05 (39A10, 40G99, 44A15)

Barkatou, Moulay-Youssef Some applications of a new integral formula for $\overline{\partial}_b$. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 1–24. (Vincent Thilliez) **99m:32005** 32A25 (32F10, 32F20)

— Formules locales de type Martinelli-Bochner-Koppelman sur des variétés CR. (English summary) [Local Martinelli-Bochner-Koppelman formulas on CR manifolds] *Math. Nachr.* **196** (1998), 5–41. (Vincent Thilliez) **99k:32001** 32A25 (32C16, 32F25)

Barkats, Didier Études des variétés des courbes planes à nœuds et à cusps. (French summary) [Study of varieties of plane curves with nodes and cusps] *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 25–35, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Angel Granja) **99j:14028** 14H10 (14H20)

Barkema, G. T. (*with* Bastolla, U.; Grassberger, P.) Two-dimensional oriented self-avoiding walks with parallel contacts. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1311–1324. (Summary) **99b:82033** 82B41

Barker, H. A. Symbolic modelling and analysis of nonlinear systems. *Symbolic methods in control system analysis and design*, 3–21, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93–02 (93A30)

Barker, Laurence The number of blocks with a given defect group. (English summary) *Mathematika* **44** (1997), *no.* 2, 368–373. (Meinolf Geck) **99b:20013** 20C20

— On p-soluble groups and the number of simple modules associated with a given Brauer pair. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 190, 133–160. (Burkhard Külshammer) **99f:20013** 20C20 (20C05)

— Defects of irreducible characters of p-soluble groups. (English summary) *J. Algebra* **202** (1998), *no.* 1, 178–184. (Burkhard Külshammer) **99b:20014** 20C20 (20C11)

— Alperin's fusion theorem and G-posets. (English summary) *J. Group Theory* **1** (1998), *no.* 4, 357–362. (J. L. Alperin) **99k:20044** 20D20 (20C20)

Barkhi, Reza (*with* Rolland, Erik; Amiri, Ali) Queueing delay guarantees in bandwidth packing. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 9, 921–935. (Summary) **99m:90071** 90B12 (90B22)

el-Barki, F. A. *see* **El-Barki, F. A.**

Barkin, Yu. V. On integrable cases of the Liouville problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 2, 55–59. (Summary) **99e:70018** 70E15 (70H05, 86A99)

Barkley, Dwight (*with* Tuckerman, Laurette S.) Stability analysis of perturbed plane Couette flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1187–1195. 76E99 (76F10)

Barkovskiĭ, L. M. (*with* Furs, A. N.) Refractive index tensors in connection with problems of photon scattering. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2061–2074. (Summary) **99k:78005** 78A10

Barkovsky, M. L. (*with* Furs, A. N.) Complex Maxwell groups in the description of evanescent photons. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3241–3253. (Summary) **99c:78008** 78A25

Barkve, T. (*with* Aavatsmark, I.; Bøe, Ø.; Mannseth, T.) Discretization on unstructured grids for inhomogeneous, anisotropic media. I. Derivation of the methods. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1700–1716 (*electronic*). (Andrei I. Tolstykh) **99f:65138** 65M60 (76M25)

— (*with* Aavatsmark, I.; Bøe, Ø.; Mannseth, T.) Discretization on unstructured grids for inhomogeneous, anisotropic media. II. Discussion and numerical results. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1717–1736 (*electronic*). (Andrei I. Tolstykh) **99f:65139** 65M60 (76M25)

Barlaud, Michel (*with* Lobel, Pierre; Pichot, Christian; Blanc-Féraud, Laure) Edge-preserving regularization for quantitative reconstruction algorithms in microwave imaging. *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 113–124, *Plenum, New York*, 1998. (*see* **99a:00030**) 94A12 (65R10)

Barles, Guy (*with* Souganidis, Panagiotis E.) A new approach to front propagation problems: theory and applications. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 3, 237–296. (Hideo Ikeda) **99c:35106** 35K57 (35B40, 73D99, 82C20)

— (*with* Rouy, E.) A strong comparison result for the Bellman equation arising in stochastic exit time control problems and its applications. *Comm. Partial Differential Equations* **23** (1998), *no.* 11-12, 1995–2033. (E. N. Barron) **99i:49030** 49L20 (35R60, 49K45, 93E20)

Barlet, Daniel Théorie des (a, b)-modules. II. Extensions. [Theory of (a, b)-modules. II. Extensions] *Complex analysis and geometry* (*Trento*, 1995), 19–59, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Aleksandr G. Aleksandrov) **99b:32054** 32S25 (32S40)

— La variation pour une hypersurface ayant une singularité isolée relativement à la valeur propre 1. [Variation for a hypersurface with an isolated singularity with respect to the eigenvalue 1] *Séminaire de Singularités* (*Vandoeuvre-les-Nancy*), 5–29, *Inst. Élie Cartan*, 15, *Univ. Nancy I, Vandoeuvre-les-Nancy*, 1997. (Aleksandr G. Aleksandrov) **99e:32063** 32S40 (32S25)

— (*with* Maire, H.-M.) Décroissance rapide de la distribution f^λ. (English summary) [Rapid decrease of the distribution f^λ] *Compositio Math.* **110** (1998), *no.* 3, 277–290.

(Mohammed El Amrani) **99c:32005** 32C30 (32S70)

Barletta, Elisabetta (*with* Dragomir, Sorin) On γ-weak solutions of elliptic equations. (English summary) *Note Mat.* **15** (1995), *no.* 1, 1–29 (1997). (Maria A. Ragusa) **99b:35032** 35J15 (33E05, 34B05, 35B65, 35D10)

— (*with* Dragomir, Sorin) On transversally holomorphic maps of Kählerian foliations. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 2, 121–134. (G. Tóth) **99j:58053** 58E20 (53C55)

— (*with* Dragomir, Sorin) Uniform approximation of holomorphic forms. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 359–366. (Introduction) **99f:32051** 32L10

— (*with* Dragomir, Sorin) On boundary behaviour of symplectomorphisms. *Kodai Math. J.* **21** (1998), *no.* 3, 285–305. (Gregor Herbort) **99k:32039** 32H10 (32C17)

— (*with* Dragomir, Sorin) On the Djrbashian kernel of a Siegel domain. (English summary) *Studia Math.* **127** (1998), *no.* 1, 47–63. (Manfred Stoll) **99a:32031** 32H10 (46E22)

Barletti, Luigi (*with* Belleni-Morante, A.) A particle transport problem with non-homogeneous reflection boundary conditions. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 11, 1049–1066. (Silvia Totaro) **99d:82059** 82C70 (47D06, 47H20, 47N55)

— A Fourier-like method for the expectation problem in stochastic transport theory. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 289–302. (Silvia Totaro) **99d:82058** 82C70 (47D06, 47N55, 85A25)

Bar-Lev, Shaul K. (*with* Reiser, Benjamin) On confidence intervals for nonmonotone parametric functions and an application to the squared mean of the normal distribution. (English summary) *Statist. Papers* **40** (1999), *no.* 1, 89–98. 62F25

Barlotti, A. Giuseppe Tallini and his work in combinatorial geometries. R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 1–6. (*see* **99f:62005**) 01A70 (05–03, 51–03)

Barlow, Jesse L. (*with* Yoon, Peter A.) An efficient rank detection procedure for modifying the ULV decomposition. (English summary) *BIT* **38** (1998), *no.* 4, 781–801. (Jin Xi Zhao) **99j:65068** 65F20 (65F25)

— (*with* Zha, Hongyuan) Growth in Gaussian elimination, orthogonal matrices, and the 2-norm. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 807–815 (*electronic*). (Mei-Qin Chen) **99i:65027** 65F05 (65F35)

Barlow, Martin T. (*with* Bass, Richard F.; Burdzy, Krzysztof) Positivity of Brownian transition densities. (English summary) *Electron. Comm. Probab.* **2** (1997), 43–51 (*electronic*). (Loïc Chaumont) **99e:60166** 60J35 (60J65)

— (*with* Kigami, Jun) Localized eigenfunctions of the Laplacian on p.c.f. self-similar sets. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 320–332. (Volker Vogelsang) **99b:35162** 35P20 (35J25)

— (*with* Nualart, David) ★ Lectures on probability theory and statistics. Lectures from the 25th Saint-Flour Summer School held July 10–26, 1995. Edited by P. Bernard. Lecture Notes in Mathematics, 1690. *Springer-Verlag, Berlin*, 1998. *viii+227 pp. ISBN* 3-540-64620-5 (Editors) **99h:60003** 60–06

— On the Liouville property for divergence form operators. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 487–496. (Zhen-Qing Chen) **99k:31010** 31C05 (35B05, 35J10, 60J60)

Barlow, Richard E. ★ Engineering reliability. (English summary) ASA-SIAM Series on Statistics and Applied Probability. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA; American Statistical Association, Alexandria, VA*, 1998. *xx+199 pp. ISBN* 0-89871-405-2 (Tim Bedford) **99m:62150** 62N05

Barmawi, Ari Moesriami (*with* Takada, Shingo; Doi, Norihisa) Augmented encrypted key exchange using RSA encryption and confounder. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3324–3332. (Summary) **99i:94040** 94A60

el Barmi, Hammou *see* **El Barmi, Hammou**

Barmin, A. A. (*with* Mel'nik, O. È.) Modeling of nonstationary processes in the volcanic eruption of highly viscous gas-saturated magma. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996,** *no.* 4, 91–98, 113. 86A60 (86–04, 86–06)

— (*with* Pushkar', E. A.) Oblique interaction of an Alfvén discontinuity and a fast magnetohydrodynamic shock wave propagating in opposite directions. *Fluid Dynam.* **32** (1997), *no.* 6, 857–869 (1998); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1997,** *no.* 6, 120–136 (*Russian. Russian summary*). (Summary) **99a:76159** 76W05 (76L05)

Barmish, B. R. (*with* Lagoa, C. M.; Shcherbakov, P. S.) Probabilistic enhancement of classical robustness margins: the unirectangularity concept. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 31–43. (B. T. Polyak) **99g:93065** 93D09

Bar-Moshe, David (*with* Marinov, Michael) Quantization on homogeneous compact Kähler manifolds. (English summary) *Generalized symmetries in physics (Clausthal,* 1993), 411–424, *World Sci. Publishing, River Edge, NJ*, 1994. (Harald Upmeier) **99a:58075** 58F06 (32L10)

Barnabei, Marilena (*with* Pezzoli, Elena) Möbius functions. *Gian-Carlo Rota on combinatorics*, 83–104, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05A19

— (*with* Nicoletti, Giorgio; Pezzoli, Luigi) Matroids on partially ordered sets. *Adv. in Appl. Math.* **21** (1998), *no.* 1, 78–112. (Neil L. White) **99c:05042** 05B35 (06A07)

— (*with* Bacchelli Montefusco, Laura) Recursive properties of Toeplitz and Hurwitz matrices. (English summary) *Linear Algebra Appl.* **274** (1998), 367–388. (Gong Ning Chen) **99b:15030** 15A57

— (*with* Guerrini, Carla; Bacchelli Montefusco, Laura) Some algebraic aspects of signal processing. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 3–17. (Summary) **99k:94004** 94A12 (65F30)

Barnard, Roger W. (*with* Cima, Joseph; Pearce, Kent) Cesàro sum approximation of outer functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 1–7. (D. R. Wilken) **99m:30018** 30C45 (30C15)

— (*with* Dahlquist, Germund; Pearce, Kent; Reichel, L.; Richards, K. C.) Gram polynomials and the Kummer function. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 128–143. (Olav Njåstad) **99g:42030** 42C05 (33C15, 41A10)

Bar-Natan, Dror Non-associative tangles. (English summary) *Geometric topology (Athens, GA,* 1993), 139–183, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI,* 1997. (Ruth Lawrence) **99c:57009** 57M25 (17B37, 18D10)

— Lie algebras and the four color theorem. (English summary) *Combinatorica* **17** (1997), *no.* 1, 43–52. (Sergei V. Chmutov) **99c:57006** 57M15 (05C10, 17B20, 57M25)

Barndorff-Nielsen, Ole E. (*with* Jupp, Peter E.) Statistics, yokes and symplectic geometry. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 389–427. (John W. Rice) **99e:58066** 58F05 (58F40, 62G99)

— (*with* Jupp, Peter E.) Yokes and symplectic structures. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 133–146. (C. R. Rao) **99c:62050** 62F10 (58F05)

— Probability and statistics, self-decomposability, finance and turbulence. (English summary) *Probability towards* 2000 (*New York*, 1995), 47–57, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Summary) **99e:62005** 62A99 (76F99, 90A09)

— (*with* Koudou, Angelo Efoévi) Trees with random conductivities and the (reciprocal) inverse Gaussian distribution. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 409–424. (Edward C. Waymire) **99i:60017** 60B99 (60K99)

— (*with* Wood, Andrew T. A.) On large deviations and choice of ancillary for p^* and r^*. (English summary) *Bernoulli* **4** (1998), *no.* 1, 35–63. (Nancy Reid) **99d:62013** 62F05 (60F10, 62E20, 62F11)

Barnea, Y. (*with* Shalev, Aner; Zelmanov, Efim I.) Graded subalgebras of affine Kac-Moody algebras. (English summary) *Israel J. Math.* **104** (1998), 321–334. (Zhe-xian Wan) **99d:17025** 17B67

Barnes, A. N. (*with* Needham, D. J.) Reaction-diffusion and phase waves occurring in a class of scalar reaction-diffusion equations. (English summary) *Nonlinearity* **12** (1999), *no.* 1, 41–58. (Summary) **99k:35093** 35K57 (34B15, 34E05, 35C20, 80A30)

Barnes, Alan Symmetries of the Stephani universes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3061–3070. (Alicia M. Sintes) **99j:83019** 83C20 (83C15)

— A comment on a paper by N. Dadhich and L. K. Patel: "The role of shear in expanding G_2 orthogonal perfect fluid models" [Gen. Relativity Gravitation **29** (1997), no. 2, 179–183; MR 97j:83030]. *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 515–517. (Alicia M. Sintes) **99d:83021** 83C20

Barnes, Bruce A. (*with* Katavolos, A.) Corrigendum to: "Properties of quasinilpotents in some operator algebras" [Proc. Roy. Irish Acad. Sect. A **93** (1993), no. 2, 155–170; MR 96j:47042]. *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 249–250. (From the text) **99j:47060** 47D25

— Boardman's theorem, vector-valued functions and compact perturbations. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 203–211. (Thomas Ransford) **99i:46034** 46H10 (46J10, 47A53)

— A note on invariance of spectrum for symmetric Banach *-algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3545–3547. (W. Żelazko) **99b:46078** 46K05 (46H05, 46L05, 47A10)

Barnes, Earl R. (*with* Moretti, Antonio Carlos) A new characterization of the center of a polytope. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 185–204. (Stelian S. Dumitrascu) **99m:65261** 65Y25 (52B55, 90C08)

Barnes, Greg (*with* Edmonds, Jeff A.) Time-space lower bounds for directed *st*-connectivity on graph automata models. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1190–1202 (*electronic*). (Mukkai S. Krishnamoorthy) **99g:68089** 68Q25 (68Q05, 68Q15, 68R10)

— (*with* Buss, Jonathan F.; Ruzzo, Walter L.; Schieber, Baruch) A sublinear space, polynomial time algorithm for directed *s-t* connectivity. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1273–1282 (*electronic*). (Marek Kubale) **99e:68117** 68R10 (05C40, 05C85, 68Q25)

Barnes, T. C. D. (*with* Stansby, P. K.; Chegini, A.) The initial stages of dam-break flow. (English summary) *J. Fluid Mech.* **370** (1998), 203–220. 76–05 (76B99)

— (*with* Stansby, P. K.; Chegini, A.) The initial stages of dam-break flow. (English summary) *J. Fluid Mech.* **374** (1998), 407–424. 76–05 (76B15)

Barnett, Christopher (*with* Camillo, Victor) Uniform limits of step functions. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 65–68. (Jack B. Brown) **99a:26009** 26A45

Barnett, David M. (*with* Ting, T. C. T.) Classifications of surface waves in anisotropic elastic materials. (English summary) *Wave Motion* **26** (1997), *no.* 3, 207–218. (Summary) **99i:73033** 73D20 (73B40)

— (*with* Hughes, Thomas J. R.) Obituary: Juan Carlos Simo (1952–1994). *Handbook of numerical analysis, Vol. VI*, 179–181, *North-Holland, Amsterdam*, 1998. (*see* **99h:65001**) 01A70

Barnett, John (*with* Hammel, Stephen; Platt, Nathan) Diagnosing intermittency. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium (San Diego, CA,* 1997), 51–56, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 58F13

Barnett, Stephen M. The quantum optics of dielectrics. *Fluctuations quantiques (Les Houches,* 1995), 137–179, *North-Holland, Amsterdam*, 1997. (*see* **99k:81356**) 81V80 (81–02)

— (*with* Chefles, Anthony) Strategies for discriminating between non-orthogonal quantum states. (English summary) *J. Modern Opt.* **45** (1998), *no.* 6, 1295–1302. (Summary) **99b:81009** 81P05

— (*with* Chefles, Anthony) Quantum state separation, unambiguous discrimination and exact cloning. (English summary) *J. Phys. A* **31** (1998), *no.* 50, 10097–10103. (Summary) **99k:81040** 81P99

Barnett, Vic (*with* Nirel, Ronit; Mugglestone, Moira A.) Outlier-robust spectral estimation for spatial lattice processes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3095–3111. (Summary) **99i:62224** 62M15

Barnette, D. W. (*with* Gillett, Shelley) Paths and circuits in partially directed graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 239–243. (Summary) **99h:05072** 05C38 (05C20)

Barnhart, Cynthia (*with* Johnson, Ellis L.; Nemhauser, George L.; Savelsbergh, Martin W. P.; Vance, Pamela H.) Branch-and-price: column generation for solving huge integer programs. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 316–329. (Summary) **99g:90074** 90C10 (90–04)

Barnich, Glenn (*with* Fulp, R.; Lada, Tom; Stasheff, James D.) The sh Lie structure of Poisson brackets in field theory. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 585–601. (Friedemann Brandt) **99j:17030** 17B55 (18G35, 58F05)

— A general nonrenormalization theorem in the extended antifield formalism. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 3, 22 *pp.* (*electronic*). (Jan Sładkowski) **99m:81268** 81T70 (81T13, 81T15)

— Higher order cohomological restrictions on anomalies and counterterms. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 211–216. (Mohamed Kachkachi) **99d:81147** 81T50 (81T15, 81T70)

Bar Niv, Moshe (*with* Zang, Israel) "Costless" regulation of monopolies with large entry cost: a game-theoretic approach. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 35–52. (Summary) **99k:90040** 90A11 (90D40)

Bar-Noy, Amotz (*with* Bhatia, Randeep; Naor, Joseph; Schieber, Baruch) Minimizing service and operation costs of periodic scheduling (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 11–20, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20)

— (*with* Kortsarz, Guy) Minimum color sum of bipartite graphs. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 339–365. (Gerard J. Chang) **99f:05105** 05C85 (05C15, 68Q25)

— (*with* Mayer, Alain; Schieber, Baruch; Sudan, Madhu) Guaranteeing fair service to persistent dependent tasks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1168–1189 (*electronic*). (H. T. Lau) **99c:90061** 90B35 (68M20, 68Q25)

Barnum, Howard (*with* Nielsen, M. A.; Caves, Carlton M.; Schumacher, Benjamin) Information-theoretic approach to quantum error correction and reversible measurement. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 277–304. (Frank Antonsen) **99m:81039** 81P99 (82B03, 94A15)

Baron, A. (*with* Cucitore, R.; Quadrio, M.) On the effectiveness and limitations of local criteria for the identification of a vortex. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 261–282. (Summary) **99m:76037** 76C05

granja Barón, Angel *see* **Granja Barón, Angel**

Bar-On, Ilan A parallel QR algorithm for the symmetric tridiagonal eigenvalue problem. (English summary) *High performance algorithms for structured matrix problems*, 113–124, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99m:65066** 65F15

— (*with* Leoncini, Mauro) How does one solve a tridiagonal system of linear equations? (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 293–300, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F05 (65G10, 65Y05)

— (*with* Paprzycki, Marcin) High performance solution of the complex symmetric eigenproblem. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 195–208. (J. Segethová) **99m:65067** 65F15 (65Y05)

Bar-on, Jonathan R. (*with* Grasse, Kevin A.) Regularity of the value function for constrained optimization problems. (English summary) *Applied analysis* (*Baton Rouge, LA*, 1996), 163–203, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Peter R. Wolenski) **99i:49026** 49K40 (49L20, 90C31)

Baron, Karol (*with* Kucia, Anna) On regularity of functions connected with orthogonal additivity. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 19–24. (Summary) **99m:39022** 39B52 (26A15, 46C99)

— (*with* Volkmann, Peter) On orthogonally additive functions. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 291–297. (Summary) **99c:39034** 39B52 (46C99)

Baron, S. (*with* Schipp, Ferenc) Certain complementary spaces and multipliers for double Walsh series. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **39** (1996), 125–144 (1997). (Sergei F. Lukomskiĭ) **99b:42032** 42C10 (42B08, 42B15)

— (*with* Tietz, Hubert) Produktsätze für Verfahren zur Limitierung von Doppelfolgen. II. (German and Russian summaries) [Product theorems for summability methods of double sequences. II] *Anal. Math.* **24** (1998), *no.* 3, 163–170. (F. Móricz) **99j:40008** 40C15 (40B05)

roelants van Baronaigien, Dominique *see* **Roelants van Baronaigien, Dominique**

Barone, Fiorella (*with* Grassini, Renato) On the second-order Euler-Lagrange equation in implicit form. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 221–233. (Manuel de León) **99b:58087** 58F05 (70H35)

Barone, Francesco The "modernity" of Nicolaus Copernicus. (Italian) *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 1–28, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A40

Barone, Giovanni (*with* Salza, Silvio; Morzy, Tadeusz) Distributed query optimization in loosely coupled multidatabase systems. (English summary) *Database theory—ICDT '95* (*Prague*), 40–53, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q10)

Barone, Piero (*with* March, Riccardo) Some properties of the asymptotic location of poles of Padé approximants to noisy rational functions, relevant for modal analysis. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2448–2457. (A. G. Chentsov) **99m:41023** 41A21 (94A12)

— (*with* March, Riccardo) Application of the Padé method to solving the noisy trigonometric moment problem: some initial results. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 324–343 (*electronic*). (Jia Rong Yu) **99h:44009** 44A60 (30C15, 41A21, 45E05, 94A12)

Baronti, Marco (*with* Casini, Emanuele) Simpson points in normed spaces. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 103–107 (1997). (Kok Keong Tan) **99c:46008** 46B20 (46N10)

— (*with* Casini, Emanuele; Papini, Pier Luigi) Centroids, centers, medians: what is the difference? (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 157–168. (G. D. Chakerian) **99b:52002** 52A05 (46B20, 52A40, 90B85)

— (*with* Casini, Emanuele; Papini, Pier Luigi) On the average distance property and the size of the unit sphere. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 427–446. (George Androulakis) **99m:46028** 46B20

Barot, M. The repetitive partition of the repetitive category of a tubular algebra. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 55–60, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Bang Ming Deng) **99k:16022** 16G10 (16G60)

— (*with* de la Peña, José Antonio) Derived tubular strongly simply connected algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 647–655. (Andrzej Skowroński) **99f:16015** 16G20 (15A63, 16G60, 18E30)

Baroudi, Djebar (*with* Kaipio, J. P.; Somersalo, Erkki) Dynamical electric wire tomography: a time series approach. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 799–813. 93C95 (78A55)

Barr, Michael The separated extensional Chu category. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 6, 137–147 (*electronic*). (J. R. Isbell) **99h:18011** 18D15

abd-el-Barr, Mostafa I. *see* **Abd-El-Barr, Mostafa I.**

abd-el-Barr, Muhammad M. *see* **Abd-El-Barr, Muhammad M.**

Barr, Olof Properly coloured Hamiltonian paths in edge-coloured complete graphs without monochromatic triangles. (English summary) *Ars Combin.* **50** (1998), 316–318. (Summary) **99i:05131** 05C45 (05C15)

Barraa, Mohamed (*with* Pedersen, Steen) On the product of two generalized derivations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2679–2683. (Martin Mathieu) **99m:47041** 47B47 (46L57)

Barrabès, C. (*with* Hogan, P. A.; Bressange, G. F.) Colliding plane waves in Einstein-Maxwell theory. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 263–265. (J. B. Griffiths) **99b:83023** 83C22 (83C35)

— (*with* Hogan, P. A.) Lightlike signals in general relativity and cosmology. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044013, 9 *pp.* (Summary) **99k:83032** 83C35 (83C30)

Barradas, I. Immunological barrier for infectious diseases. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 3, 289–297. (Summary) **99b:92018** 92C50 (34K20)

Barral, Julien Une extension de l'équation fonctionnelle de B. Mandelbrot. (English and French summaries) [An extension of Mandelbrot's functional equation] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 421–426. (Summary) **99j:60053** 60G18

Barral Rodiño, Patrica (*with* Bermúdez de Castro, Alfredo; Quintela Estévez, Peregrina) Three-dimensional numerical simulation of thermomechanical deformations in a solidification process. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 893–898, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A22

quiroga-Barranco, R. *see* **Quiroga-Barranco, R.**

Barrantes Campos, Hugo (*with* Ruiz Zúñiga, Ángel) ★ La historia del Comité Interamericano de Educación Matemática. (Spanish) [The history of the Inter-American Committee on Mathematics Education] With an introduction by Ubiratán D'Ambrosio. Colección Enrique Pérez Arbeláez [Enrique Pérez Arbeláez Collection], 13. *Academia Colombiana de Ciencias Exactas, Físicas y Naturales, Bogotá*, 1998. x+92 *pp. ISBN* 958-9205-31-3 01A74

Barraud, Jean-Francois Sphères symplectiques à points doubles ordinaires positifs et courbes algébriques dans $\mathbf{CP}^2$. (English and French summaries) [Symplectic spheres with positive ordinary double points and algebraic curves in $\mathbf{CP}^2$] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 661–664. (Hansjörg Geiges) **99m:58035** 58D10 (58F05)

Barraza, Oscar A. Regularity and stability for the solutions of the Navier-Stokes equations in Lorentz spaces. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 747–764. (Eduard Marušić-Paloka) **99k:35141** 35Q30 (35B35, 76D05)

Barré, Sylvain Sur les polyèdres de rang 2. [Polyhedra of rank two] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 99–104, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Michel Coornaert) **99c:20035** 20E42 (51E24)

Barreira, Luis M. The dimension theory of hyperbolic dynamics. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 253–257, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F15 (28D20)

— Dimension of Cantor sets with complicated geometry. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 258–264, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 28D20 (28A80, 58F03)

Barrenechea, Gabriel R. (*with* Gatica, Gabriel N.; Hsiao, George C.) Weak solvability of interior transmission problems via mixed finite elements and Dirichlet-to-Neumann mappings. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 2, 145–160. (Summary) **99h:65184** 65N30 (45A05, 45L05, 65R20)

— (*with* Gatica, Gabriel N.; Thomas, Jean-Marie) Primal mixed formulations for the coupling of FEM and BEM. I. Linear problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 7–32. (Leonid Yasnitsky) **99d:65310** 65N30 (73V05, 73V10)

— (*with* Barrientos, Mauricio A.; Gatica, Gabriel N.) On the numerical analysis of finite element and Dirichlet-to-Neumann methods for nonlinear exterior transmission problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 705–735. (Ji Chun Li) **99i:65123** 65N30 (65N38)

Barrera, Julio (*with* Christen, J. Andrés; Torres, José-Leonel) A statistical feature of genetic sequences. (English summary) *Biom. J.* **40** (1998), *no.* 7, 855–863. 62P10

Barrera, Junior (*with* Dougherty, Edward R.) Representation of gray-scale windowed operators. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 19–26, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68173** 68U10

— (*with* Ferreira, Carlos E.; Hashimoto, Ronaldo F.) Finding optimal sequential decompositions of erosions and dilations. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 299–306, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (68U05)

Barrera, Pablo *see* **Barrera Sánchez, Pablo**

Barrera-Mora, Fernando (*with* Lam-Estrada, Pablo; Villa-Salvador, Gabriel Daniel) On Kneser extensions. (English summary) *J. Algebra* **201** (1998), *no.* 2, 703–717. (T. Albu) **99c:12004** 12F05 (12F10)

Barrera Rosillo, D. (*with* Ibáñez Pérez, M. J.; López Carmona, A.) Hermite interpolation via finite elements. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 20 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65D15 (41A10)

Barrera Sánchez, Pablo (*with* Castellanos, Longina; Alvarez, Rosa M.) ★ Un punto de vista sobre el desarrollo de los métodos de gradiente conjugado no lineal. (Spanish. Spanish summary) [A look at the development of nonlinear conjugate gradient methods] *Editorial Academia, Havana*, 1992. *iv*+60 *pp. ISBN* 959-02-0013-3 90C30 (65K05)

— (*with* Hernández Mederos, Victoria; Durán Sánchez, Claudia) ★El ABC de los splines. (Spanish. Spanish summary) [The ABC of splines] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 9. *Sociedad Matemática Mexicana, México*, 1996. *iv*+245 *pp. ISBN* 968-36-4806-1 41–01 (41A15, 65D07)

— (*with* Tinoco-Ruiz, J. G.) Smooth and convex grid generation over general plane regions. (English summary) *Math. Comput. Simulation* **46** (1998), *no.* 2, 87–102. (W. Govaerts) **99e:65129** 65M50 (65N50)

— (*with* Tinoco-Ruiz, J. G.) Area control in generating smooth and convex grids over general plane regions. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 19–32. (Summary) **99m:65232** 65N50 (65D17, 65M50, 65Y25)

Barrère, Martine *see* **Science and development, 99e:00014**

sá Barreto, Antônio *see* **Sá Barreto, Antônio**

Barreto, Jorge Muniz (*with* Lopes, Elizeu Pereira; Lopes, Eliezer Pereira; Barreto, Luiz Muniz) Robust nonlinear inversion of wave-tilt data. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 955–977. (Summary) **99e:86008** 86A22

Barreto, Luiz Muniz (*with* Lopes, Elizeu Pereira; Lopes, Eliezer Pereira; Barreto, Jorge Muniz) Robust nonlinear inversion of wave-tilt data. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 955–977. (Summary) **99e:86008** 86A22

Barreto, Rioco Kamei (*with* Muñoz Rivera, Jaime E.) Uniform rates of decay in nonlinear viscoelasticity for polynomial decaying kernels. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 341–357. (Summary) **99i:35160** 35Q72

— (*with* Muñoz Rivera, Jaime E.) Decay rates of solutions to thermoviscoelastic plates with memory. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 3, 263–283. (Song Jiang) **99j:73012** 73B30 (73F15, 73K10)

— (*with* Muñoz Rivera, Jaime E.) Existence and exponential decay in nonlinear thermoelasticity. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 149–162. (Yoshihiro Shibata) **99e:73018** 73B30 (35Q72, 73C50)

Barreto, W. (*with* Da Silva, A.) Self-similar and charged spheres in the diffusion approximation. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 6, 1783–1792. 83C50

Barrett, C. R. (*with* Salles, Maurice) On three classes of differentiable inequality measures. (English summary) *Internat. Econom. Rev.* **39** (1998), *no.* 3, 611–621. (Summary) **99k:90020** 90A09

Barrett, Chris (*with* Jacob, Riko; Marathe, Madhav V.) Formal language constrained path problems. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 234–245, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68091** 68Q45 (68Q25)

— (*with* Reidys, C. M.) Elements of a theory of computer simulation. I. Sequential CA over random graphs. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 241–259. (Summary) **99h:68181** 68U20 (68Q80)

Barrett, David E. The Bergman projection on sectorial domains. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 1–24, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Gregor Herbort) **99b:32036** 32H10 (32A25)

Barrett, J. Douglas (*with* Woodall, William H.) A simple probabilistic representation of the product-sum fuzzy logic controller. (English summary) *Comm. Statist. Stochastic Models* **15** (1999), *no.* 2, 201–225. 93C42 (93E03)

Barrett, Jeffrey A. On the nature of experience in the bare theory. (English summary) *Synthese* **113** (1997/98), *no.* 3, 347–355. (Dennis Dieks) **99e:81007** 81P05

Barrett, John W. The classical evaluation of relativistic spin networks. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 3, 593–600. (José A. Zapata) **99m:83052** 83C27 (83C45)

— (*with* Blowey, James F.) Finite element approximation of a model for phase separation of a multi-component alloy with a concentration-dependent mobility matrix. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 287–328. (Jacques Rappaz) **99k:65092** 65M60 (65M15, 80–08, 80A22)

— (*with* Crane, Louis) Relativistic spin networks and quantum gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3296–3302. (José A. Zapata) **99c:83020** 83C27 (83C45)

— (*with* Blowey, James F.; Garcke, Harald) Finite element approximation of a fourth order nonlinear degenerate parabolic equation. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 525–556. (Manfred Dobrowolski) **99j:65144** 65M12 (35K65, 65M60)

— (*with* Bao, Wei-zhu) A priori and a posteriori error bounds for a nonconforming linear finite element approximation of a non-Newtonian flow. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 843–858. (Leonid K. Antanovskiĭ) **99i:76086** 76M10 (65M60, 76A05)

— (*with* Knabner, Peter) An improved error bound for a Lagrange-Galerkin method for contaminant transport with non-Lipschitzian adsorption kinetics. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1862–1882 (*electronic*). (Bruno Scheurer) **99h:65167** 65M60 (35K60, 76M25, 76R50, 76S05)

— (*with* Blowey, James F.) An improved error bound for a finite element approximation of a model for phase separation of a multi-component alloy. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 147–168. (J. D. P. Donnelly) **99m:80001** 80–08 (65M60, 80A22)

— (*with* Blowey, James F.) Finite element approximation of the Cahn-Hilliard equation with concentration dependent mobility. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 487–517. (G. W. Hedstrom) **99i:65103** 65M60 (35K55)

— Skein spaces and spin structures. (English summary) *Math. Proc. Cambridge Philos. Soc.* **126** (1999), *no.* 2, 267–275. (Torsten Asselmeyer) **99k:57006** 57M25 (57N10, 57R15)

Barrett, K. E. Degenerate polynomial forms. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 5, 305–308. 65D32 (65H05)

— Explicit eight-noded quadrilateral elements. (English summary) *Finite Elem. Anal. Des.* **31** (1999), *no.* 3, 209–222. 73V05

Barrett, R. C. (*with* Nedjadi, Y.; Ait-Tahar, S.) An extended relativistic quantum oscillator for $S = 1$ particles. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3867–3874. (Summary) **99b:81086** 81R20

— (*with* Nedjadi, Y.) A generalized Duffin-Kemmer-Petiau oscillator. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6717–6727. (Summary) **99f:81081** 81R20

Barrett, Richard *see* **Barrett, C. R.**

Barrett, Wayne W. (*with* Johnson, Charles Royal; Loewy, Raphael) Critical graphs for the positive definite completion problem. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 117–130 (*electronic*). (Shu An Hu) **99i:15029** 15A48 (05C50)

Barría, Enrique A. (*with* Jagadeesh, Jogikal M.) Wavelet functions to estimate velocity in spatiotemporal signals. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1105–1118. 94A12 (42C15)

Barrientos, Mauricio A. (*with* Barrenechea, Gabriel R.; Gatica, Gabriel N.) On the numerical analysis of finite element and Dirichlet-to-Neumann methods for nonlinear exterior transmission problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 705–735. (Ji Chun Li) **99i:65123** 65N30 (65N38)

Barrientos, O. A global regularization method for solving the finite min-max problem. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 3, 277–295. (Zhen Yu Huang) **99j:90079** 90C30 (49J35, 49M30)

pallu de la Barrière, Robert *see* **Pallu de la Barrière, Robert**

Barrington, David A. Mix (*with* Immerman, Neil) Time, hardware, and uniformity. (English summary) *Complexity theory retrospective, II*, 1–22, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— (*with* Lu, Chi-Jen; Miltersen, Peter Bro; Skyum, Sven) Searching constant width mazes captures the AC^0 hierarchy. (English summary) *STACS* 98 (*Paris*, 1998), 73–83, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68065** 68Q15

— (*with* Tardos, Gábor) A lower bound on the mod 6 degree of the OR function. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 99–108. (Christoph Meinel) **99k:68068** 68Q15 (68Q25)

cebrián de Barrio, Elena *see* **Cebrián de Barrio, Elena**

Barrio, Miguel (*with* Polhemus, Gavin; Helling, Robert) Spin-spin interaction in Matrix theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 12, 13 *pp.* (*electronic*). (Summary) **99b:81160** 81T18 (81T30)

Barrio, Roberto On the A-stability of Runge-Kutta collocation methods. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 575–580, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L06 (65L20)

— A matrix analysis of the stability of the Clenshaw algorithm. *Extracta Math.* **13** (1998), *no.* 1, 21–26. 65G05 (42C10)

— (*with* Berges, Jean-Claude) Perturbation simulations of rounding errors in the evaluation of Chebyshev series. (English summary) *J.UCS* **4** (1998), *no.* 6, 561–573 (*electronic*). (Summary) **99h:65014** 65C10 (65G05, 65H05)

— (*with* Palacios, Manuel; Elipe Sánchez, Antonio C.) Chebyshev collocation methods for fast orbit determination. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 195–207. 65L60 (65L06)

Barrios, Dolores (*with* Malumbres, L.; Ríos, Juan) Convergence conditions of genetic algorithms. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 231–241. (Summary) **99k:90125** 90C27 (68T05)

— (*with* López Lagomasino, G.; Martínez-Finkelshtein, Andrei; Torrano Giménez, E.) On the domain of convergence and poles of complex J-fractions. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 177–200. (Summary) **99b:30003** 30B70 (40A15)

— (*with* López Lagomasino, G.) Ratio asymptotics for polynomials orthogonal on arcs of the unit circle. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 1–31. (A. G. Law) **99j:42033** 42C05 (30E15, 41A30)

gonzález-Barrios, José María *see* **González-Barrios, José María**

izquierdo Barrios, Milagros *see* **Izquierdo Barrios, Milagros**

garrido de Barrios, Ninfa *see* **Garrido de Barrios, Ninfa**

Barrios Rolanía, D. *see* **Barrios, Dolores**

Barrlund, Anders On a conjecture on the closest normal matrix. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 305–318. (J. Parida) **99e:15024** 15A45

— Efficient solution of constrained least squares problems with Kronecker product structure. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 154–160 (*electronic*). (Mu Sheng Wei) **99b:65052** 65F20 (15A09)

Barron, Andrew (*with* Rissanen, Jorma; Yu, Bin[1]) The minimum description length principle in coding and modeling. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2743–2760. (Summary) **99h:94032** 94A29 (94–02, 94A24)

Barron, E. N. (*with* Jensen, Robert R.; Liu, Wenxiong) The L^∞ control problem with continuous control functions. *Nonlinear Anal.* **32** (1998), *no.* 1, 1–14. (Sabine Pickenhain) **99a:49029** 49K15 (49K27)

— (*with* Jensen, Robert R.; Liu, Wenxiong) Applications of the Hopf-Lax formula for $u_t + H(u, Du) = 0$. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 1022–1039 (*electronic*). (Summary) **99a:35024** 35F20 (35B45, 49L10, 90D25)

shepherd-Barron, N. I. *see* **Shepherd-Barron, N. I.**

Barros, Ana Isabel ★Discrete and fractional programming techniques for location models. (English summary) Combinatorial Optimization, 3. *Kluwer Academic Publishers, Dordrecht*, 1998. *xviii*+178 *pp. ISBN* 0-7923-5002-2 (Tadeusz Radzik) **99f:90003** 90–02 (90A58, 90B80, 90C08, 90C32)

braga Barros, Carlos José *see* **Braga Barros, Carlos José**

de Barros, J. Acacio (*with* Pinto-Neto, N.) The causal interpretation of quantum mechanics and the singularity problem and time issue in quantum cosmology. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 201–213. (Alejandro R. Corichi) **99d:83043** 83C45 (81S99)

de Barros, Luiz G. X. (*with* Watson, Bruce B.) On modular loop algebras of RA 2 loops. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 2, 163–181. (Miklós Csikós) **99m:17039** 17D05 (20N05)

— (*with* Juriaans, Stanley O.) Some loops whose loop algebras are flexible. II. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 1, 73–80. (Miklós Csikós) **99m:20160** 20N05

Barros, Manuel (*with* Arroyo, J.; Garay, Oscar J.) Spectral decomposition of spherical immersions with respect to the Jacobi operator. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 205–212. (Pascual Lucas Saorín) **99g:53062** 53C42

— Free elasticae and Willmore tori in warped product spaces. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 265–272. (Angel Ferrández) **99g:53063** 53C42 (53C50)

— (*with* Ferrández, Angel; Lucas, Pascual; Meroño, Miguel A.) Willmore tori and Willmore-Chen submanifolds in pseudo-Riemannian spaces. (English summary) *J.*

Geom. Phys. **28** (1998), *no.* 1-2, 45–66. (Summary) **99m:53098** 53C40 (53C50)
— (*with* Garay, Oscar J.) Hopf submanifolds in S^7 which are Willmore-Chen submanfolds. *Math. Z.* **228** (1998), *no.* 1, 121–129. (Miguel Angel Meroño) **99d:53065** 53C42 (53C40)
— The conformal total tension variational problem in Kaluza-Klein supergravity. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 531–551. (Miguel Angel Meroño) **99m:83177** 83E15 (53C80, 58E11, 83E50)
Barros, Paulo B. (*with* Gitman, D. M.; Zlatev, Stoyan I.) Application of path integration to operator calculus. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7791–7799. (Summary) **99m:58041** 58D30 (81S40)
garcia Barroso, Evelia *see* **Garcia Barroso, Evelia**
Barroso, Jorge Alberto *see* **Leopoldo Nachbin, 99f:01025**
Barrow, John D. (*with* Tsagas, Christos G.) Gauge-invariant magnetic perturbations in perfect-fluid cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3523–3544. 83C55 (83F05)
— (*with* Dąbrowski, Mariusz P.) Is there chaos in low-energy string cosmology? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7204–7222. 83F05 (83E30)
— (*with* Dąbrowski, Mariusz P.) Gödel universes in string theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 103502, 5 *pp.* 83E30 (83C15)
— (*with* Magueijo, João) Solving the flatness and quasi-flatness problems in Brans-Dicke cosmologies with a varying light speed. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1435–1454. 83D05
— (*with* Maartens, Roy) Anisotropic stresses in inhomogeneous universes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043502, 7 *pp.* 83C55 (83F05)
Barry, Mamadou (*with* Gueye, C. T.; Sanghare, M.) On commutative FGI-rings. *Extracta Math.* **12** (1997), *no.* 3, 255–259. (Daniel D. Anderson) **99g:13011** 13C13
Barry, P. D. On upper linear density in the $\cos \pi\rho$ theorem. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 431–438. (D. Drasin) **99f:31001** 31A05 (30D15, 30D20)
Barry, Ronald Paul (*with* Ver Hoef, Jay M.) Constructing and fitting models for cokriging and multivariable spatial prediction. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 275–294. (Summary) **99c:62266** 62M10
— (*with* Pace, R. Kelley) Monte Carlo estimates of the log determinant of large sparse matrices. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 41–54. (*see* **99i:00019**) 65C05 (15A15)
Bars, Itzhak Solution of the SL(2, **R**) string in curved spacetime. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 3–20, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81166** 81T30 (83E30)
— Algebraic structure of S-theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 355–363, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81167** 81T30 (83C57, 83E30)
— (*with* Deliduman, C.) Gauge principles for multi-superparticles. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 240–246. (Summary) **99b:81231** 81T60 (81T30)
— (*with* Deliduman, C.; Andreev, Oleg) Gauged duality, conformal symmetry, and spacetime with two times. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066004, 10 *pp.* (Summary) **99m:81117** 81S30 (81S10)
— Hidden symmetries, $AdS_D \times S^n$, and the lifting of one-time physics to two-time physics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 045019, 10 *pp.* (Summary) **99m:81158** 81T20 (81R05, 81T30)
— *see also* **Strings '95, 99h:81008**
le Bars, Jean-Marie *see* **Le Bars, Jean-Marie**
Barsegyan, V. R. The problem of observing the vibrations of a string. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **51** (1998), *no.* 1, 72–78. (Summary) **99h:73056** 73K50 (73D30, 73K03, 93B07)
Bar-Shalom, Yaakov (*with* Pan, Guolin) Stabilization of jump linear Gaussian systems without mode observations. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 631–661. 93E15 (93D15)
Barsky, Daniel (*with* Bézivin, Jean-Paul; Schinzel, Andrzej) Une caractérisation arithmétique de suites récurrentes linéaires. (French summary) [An arithmetical characterization of linear recurrence sequences] Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 73–84. (A. J. van der Poorten) **99j:11011** 11B37 (11R99)
Barsky, David J. (*with* Wu, C. Chris) Critical exponents for the contact process under the triangle condition. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 95–124. (Yu Zhang) **99g:60182** 60K35 (82C43)
Barsukov, A. I. (*with* Azizov, T. Ya.) Algebraic structure of H-dissipative operators in a finite-dimensional space. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 163–169; *translation in Math. Notes* **63** (1998), *no.* 1-2, 145–149. (L. Rodman) **99e:15029** 15A63 (47B50)
Bart, Harm (*with* Kroon, Leo G.; Zuidwijk, R. A.) Quasicomplete factorization and the two machine flow shop problem. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 195–219. (Jacek Błażewicz) **99j:90036** 90B35
— (*with* Zuidwijk, R. A.) Simultaneous reduction to triangular forms after extension with zeroes. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 105–135. (Rafael Canto) **99f:15014** 15A21 (15A23)
Bart, Ya. Yu. Option hedging in a binomial model with different interest rates. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 5(323), 227–228. 90A09
Bartal, Yair (*with* Azar, Yossi; Feuerstein, Esteban; Fiat, Amos; Leonardi, Stefano; Rosén, Adi) On capital investment. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 429–441, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (N. H. Bingham) **99c:90017** 90A09 (68Q25)
— Distributed paging. *Online algorithms* (*Schloss Dagstuhl*, 1996), 97–117, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q10 (68M10, 68N25)
— (*with* Awerbuch, Baruch; Fiat, Amos) Distributed paging for general networks. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 67–104. (Luisa Gargano) **99h:68064** 68Q22 (68M10)
boudreaux-Bartels, G. F. *see* **Boudreaux-Bartels, G. F.**
Bartels, Hans-Jochen Zur Mathematik der Optionen. (German summary) [On the mathematics of options] *Math. Semesterber.* **46** (1999), *no.* 1, 29–45. 90A09
Bartels, Richard H. (*with* Beatty, John C.) Connection-matrix splines by divided differences. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 9–16, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D07 (41A15)
— (*with* Heidrich, Wolfgang; Labahn, George) Fitting uncertain data with NURBS. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 177–184, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D10 (90C30)
Bartelt, Martin W. (*with* Li, Wu[3]) Abadie's constraint qualification, Hoffman's error bounds, and Hausdorff strong unicity. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 140–157. (D. E. Wulbert) **99k:41046** 41A52 (90C31)
Barth, Dominique (*with* Panaite, Petrişor) Undirected graphs rearrangeable by 2-length walks. (English summary) *Networks* **31** (1998), *no.* 4, 239–247. (Summary) **99c:05159** 05C75
Barth, Michael (*with* Kuhl, U.; Stöckmann, Hans-Jürgen) Global versus local billiard level dynamics: the limits of universality. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 10, 2026–2029. 58F13 (81Q50)
Barth, Peter (*with* Bockmayr, Alexander) Modelling discrete optimisation problems in constraint logic programming. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 467–495. (*see* **99b:90006**) 90C27 (68N17, 90C10)
Barth, Timothy J. (*with* Chan, Tony F. C.; Tang, Wei-Pai) A parallel non-overlapping domain-decomposition algorithm for compressible fluid flow problems on triangulated domains. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 23–41, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Dennis C. Jespersen) **99g:76099** 76M25 (65M55, 65Y05, 76N10, 76R99)
— (*with* Sethian, James A.) Numerical schemes for the Hamilton-Jacobi and level set equations on triangulated domains. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 1–40. (Summary) **99d:65277** 65M60
Barth, Wolf Paul $K3$ surfaces with nine cusps. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 171–178. (Ulf Persson) **99e:14041** 14J28
Barthe, Franck Optimal Young's inequality and its converse: a simple proof. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 2, 234–242. (J. Michael Pearson) **99f:42021** 42A85 (41A17)
— On a reverse form of the Brascamp-Lieb inequality. (English summary) *Invent. Math.* **134** (1998), *no.* 2, 335–361. (L. Leindler) **99i:26021** 26D15 (35P15, 35Q99)
— An extremal property of the mean width of the simplex. *Math. Ann.* **310** (1998), *no.* 4, 685–693. (Keith Ball) **99b:52006** 52A20 (52A40)
Barthe, Gilles (*with* van Raamsdonk, Femke) Termination of algebraic type systems: the syntactic approach. *Algebraic and logic programming* (*Southampton*, 1997), 174–193, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68Q42 (68N15)
— (*with* Kamareddine, Fairouz; Ríos, Alejandro) Explicit substitutions for the $\lambda\Delta$-calculus. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 209–223, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (03B40, 68Q55)
— The relevance of proof-irrelevance. A meta-theoretical study of generalised calculi of constructions. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 755–768, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 03B40 (68N15)
— (*with* Hatchiff, John; Thiemann, Peter) Monadic type systems: pure type systems for impure settings (preliminary report). *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 67 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68N15 (03B70, 68Q55)
Barthélemy, François (*with* Villemonte de la Clergerie, Eric) Information flow in tabular interpretations for generalized push-down automata. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 167–198. (Summary) **99c:68178** 68Q68 (68N17, 68Q52)
Barthélemy, Louise (*with* Boulaamayel, Bennasser) Sous-solutions de problèmes aux limites en dimension 1. (English summary) [Subsolutions of boundary value problems in dimension 1] *Positivity* **1** (1997), *no.* 2, 125–143. (Dan Tiba) **99m:34031** 34B15 (47H05, 47H15, 47N20)
Barthelmann, Klaus When can an equational simple graph be generated by hyperedge replacement? (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 543–552, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q42, 68Q55)
— (*with* Schwentick, Thomas) Local normal forms for first-order logic with applications to games and automata. (English summary) *STACS* 98 (*Paris*, 1998), 444–454, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:03042** 03C68 (03C85, 68Q45)
— Nondeterministic operations on finite relational structures. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 1–44. (Ronald E. Prather) **99d:03009** 03B15 (03C13, 03D05, 68Q70, 68R10)
Barthold, F. J. (*with* Stein, Erwin; Ohnimus, S.; Schmidt, Matthias) Adaptive finite elements in elastoplasticity with mechanical error indicators and Neumann-type estimators. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 81–99, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)
Bartholdi, Laurent The growth of Grigorchuk's torsion group. *Internat. Math. Res. Notices* **1998**, *no.* 20, 1049–1054. (Victor M. Petrogradsky) **99i:20049** 20F32
goubet-Bartholoméüs, A. *see* **Goubet-Bartholoméüs, A.**
Bartholomew-Biggs, M. C. (*with* Zakovic, S.; Ulanowski, Z.) Application of global optimization to particle identification using light scattering. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1053–1067. 78–08 (78A45)
Barthwal, S. (*with* Jain, Surender Kumar; Jhingan, Sujal; López-Permouth, Sergio R.) A ring of Morita context in which each right ideal is weakly self-injective. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 31–38, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Maureen H. Fenrick) **99b:16003** 16D50 (16D90, 16P40)
— (*with* Jain, Surender Kumar; Kanwar, Pramod; López-Permouth, Sergio R.) Nonsingular semiperfect CS-rings. (English summary) *J. Algebra* **203** (1998), *no.* 2, 361–373.

(Dinh Van Huynh) **99h:16002** 16D70 (16S50)

Bartilomo, Valeria (*with* Passarella, Francesca) Some theorems in the theory of heat conduction with dissipative boundaries. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 99–109 (1998). (Aleksey D. Drozdov) **99c:73008** 73B30 (35K20, 35Q72, 45K05, 80A20)

Bartish, M. Ya. (*with* Shakhno, S. M.) Investigation of parametric iterative processes for solving nonlinear equations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 2, 22–30, 152. (L. Berg) **99e:65096** 65J15 (47H17)

— (*with* Chipurko, A. I.) On a modification of the Gauss-Newton method. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 1, 85–92. 65H10 (90C25)

Bartlett, Michael O. (*with* Giles, John R.; Vanderwerff, Jon D.) Structural implications of norms with Hölder right-hand derivatives. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 415–425. (Marián Fabian) **99b:46011** 46B20 (46G05)

Bartlett, Peter L. (*with* Kulkarni, Sanjeev R.; Posner, S. E.) Covering numbers for real-valued function classes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1721–1724. (Vikram Jha) **99b:26014** 26A45 (94A15)

— (*with* Shawe-Taylor, John; Williamson, Robert C.; Anthony, Martin) Structural risk minimization over data-dependent hierarchies. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1926–1940. (Summary) **99i:68106** 68T05

— (*with* Lee, Wee Sun; Williamson, Robert C.) The importance of convexity in learning with squared loss. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1974–1980. (Summary) **99k:68160** 68T05

— (*with* Long, Philip M.) Prediction, learning, uniform convergence, and scale-sensitive dimensions. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 174–190. (Summary) **99c:68207** 68T05 (68Q99)

— (*with* Kulkarni, Sanjeev R.) The complexity of model classes, and smoothing noisy data. (English summary) Learning theory. *Systems Control Lett.* **34** (1998), *no.* 3, 133–140. (Summary) **99f:93138** 93E14 (68T05, 93A30)

— *see also* **Learning theory, 99b:93003**

Bartłomiejczyk, Lech Solutions with big graph of homogeneous functional equations in a single variable. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 149–156. (B. Crstici) **99f:39032** 39B12 (39B22, 39B52)

Bartnik, Robert Energy in general relativity. *Tsing Hua lectures on geometry & analysis (Hsinchu, 1990–1991)*, 5–27, *Internat. Press, Cambridge, MA*, 1997. (Jürgen Tolksdorf) **99a:83028** 83C40 (83C30)

— (*with* Balean, Robin) The null-timelike boundary problem for Maxwell's equations in Minkowski space. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2041–2057. (Norbert Noutchegueme) **99j:58203** 58G16 (35Q60, 35Q75, 78A25)

Bartocci, Claudio (*with* Bruzzo, Ugo; Hernández Ruipérez, Daniel) Moduli of reflexive $K3$ surfaces. *Complex analysis and geometry (Trento, 1995)*, 60–68, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Bangere P. Purnaprajna) **99e:14038** 14J10 (14J28)

— (*with* Bruzzo, Ugo; Hernández Ruipérez, Daniel; Pestov, Vladimir G.) Quotient supermanifolds. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 107–120. (Fausto Ongay-Larios) **99i:58009** 58A50

— (*with* Bruzzo, Ugo; Hernández Ruipérez, Daniel; Muñoz Porras, José María) Mirror symmetry on $K3$ surfaces via Fourier-Mukai transform. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 79–93. (Alexander E. Polishchuk) **99f:14046** 14J28 (14J27, 32G05, 32J81)

— (*with* Bruzzo, Ugo; Hernández Ruipérez, Daniel) A hyper-Kähler Fourier transform. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 239–249. (Antony Maciocia) **99f:32049** 32L07 (14J28, 14J60, 32L25)

Bartol, Wiktor Hilbert's First Problem (the continuum hypothesis). (Polish. English summary) *Hilbert's Problems (Polish)* (*Międzyzdroje*, 1993), 19–25, *Polsk. Akad. Nauk, Warsaw*, 1997. (Roman Murawski) **99i:01023** 01A60 (03–03, 03E50)

— Hilbert's Second Problem (the consistency of arithmetic). (Polish. English summary) *Hilbert's Problems (Polish)* (*Międzyzdroje*, 1993), 27–34, *Polsk. Akad. Nauk, Warsaw*, 1997. (Roman Murawski) **99i:01024** 01A60 (03–03, 03F30)

— (*with* Orłowska, Ewa; Skowron, Andrzej) Helena Rasiowa, 1917–1994. Reprinted from Modern Logic **5** (1995), no. 3, 231–247 [MR 96d:01029]. *Logic, algebra, and computer science (Warsaw, 1996)*, 8–21, *Banach Center Publ.*, 46, *Polish Acad. Sci., Warsaw*, 1999. (*see* **99m:03004**) 01A70 (03–03)

Bartolini, Giorgio (*with* Ferrara, Antonella; Usai, Elio) Applications of a sub-optimal discontinuous control algorithm for uncertain second order systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 299–319. (Summary) **99a:93012** 93B12 (93C41, 93C85)

— (*with* Ferrara, Antonella; Utkin, Vadim I.; Zolezzi, T.) A control vector simplex approach to variable structure control of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 321–335. (Summary) **99a:93013** 93B12 (93C10, 93C41)

— (*with* Ferrara, Antonella; Pisano, Alessandro; Usai, Elio) Adaptive reduction of the control effort in chattering-free sliding-mode control of uncertain nonlinear systems. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 51–71. (Summary) **99c:93049** 93C10 (93B12)

— (*with* Ferrara, Antonella; Savkin, Andrey V.) Reduced-order adaptive control based on the concept of robust strictly positive realness. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 363–378. (Summary) **99i:93037** 93C40 (93B35, 93C70)

— (*with* Ferrara, Antonella; Punta, E.; Usai, Elio) Chattering elimination in the hybrid control of constrained manipulators via first/second order sliding mode control. (English summary) *Dynam. Control* **9** (1999), *no.* 2, 99–124. 93C85 (93B12)

— (*with* Ferrara, Antonella) On the parameter convergence properties of a combined VS/adaptive control scheme during sliding motion. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 70–76. 93B12 (93C40)

— (*with* Ferrara, Antonella; Stotskiĭ, A. A.) Robustness and performance of an indirect adaptive control scheme in presence of bounded disturbances. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 789–793. 93B35 (93C40)

— (*with* Ferrara, Antonella; Giacomini, L.) A robust control design for a class of uncertain non-linear systems featuring a second-order sliding mode. (English summary) *Internat. J. Control* **72** (1999), *no.* 4, 321–331. (Summary) **99k:93031** 93B12 (93B36)

Bartolini Bussi, Maria G. Drawing instruments: theories and practices from history to didactics. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998,** *Extra Vol. III*, 735–746 (*electronic*). (Summary) **99e:01036** 01A99 (00A35)

artal-Bartolo, Enrique *see* **Artal-Bartolo, Enrique**

Bartolozzi, Federico The mathematical works of Michele Cipolla, especially concerning group theory. (Italian) *Michele Cipolla* (1880–1947) (*Palermo*, 1997), 13–22, *Atti Convegni A.I.C.M.*, 1, *Assoc. Insegn. Cultori Mat., Palermo*, 1998. (*see* **99d:01043**) 01A70 (01A60, 20–03)

Bartolucci, A. A. (*with* Dickey, J. M.; Singh, Karan P.; Tabatabai, M. A.) On the translated exponential model with censoring. (English summary) *Southwest J. Pure Appl. Math.* **1998,** *no.* 1, 9–23 (*electronic*). (Summary) **99g:62031** 62F15 (62N05)

Barton, I. E. Improved laminar predictions using a stabilised time-dependent simple scheme. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 5, 841–857. (Summary) **99g:76085** 76M20

Bartos, Jerzy (*with* Kałuszka, Marek) Note on an improvement in two-stage sampling scheme. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2129–2139. (Issa Fakhre-Zakeri) **99c:62227** 62L12

Bartosiewicz, Zbigniew (*with* Spallek, K.) Control theory with singular state-space constraints. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 21 *pp.* (*electronic*). (Miroslav Lovrić) **99h:93030** 93B25 (32K15, 34H05, 93C10)

— Real analytic geometry and local observability. (English summary) *Differential geometry and control (Boulder, CO*, 1997), 65–72, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Birgit Jacob) **99j:93013** 93B07 (14P15)

— (*with* Pawłuszewicz, Ewa) External dynamic feedback equivalence of observable discrete-time control systems. (English summary) *Differential geometry and control (Boulder, CO*, 1997), 73–89, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Gianna Stefani) **99j:93045** 93B52 (93C55)

Bartoszek, Wojciech (*with* Brown, Thomas John) On Frobenius-Perron operators which overlap supports. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 183–186. (*see* **99f:58002**) 47A35 (47B38)

— Nonexpansive, $\mathcal{T}$-continuous antirepresentations have common fixed points. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1051–1055. (Summary) **99f:47091** 47H20 (28D05, 47H09, 47H10)

Bartoszewicz, Andrzej A nonlinear time-varying switching line for finite time regulation of second order systems. (English summary) *Systems Sci.* **24** (1998), *no.* 2, 61–69. 93C15 (49K15)

Bartoszewicz, Artur On density points of subsets of metric space with respect to the measure given by Radon-Nikodym derivative. *Real Anal. Exchange* **23** (1997/98), *no.* 2, 783–786. (Pavel Kostyrko) **99e:26003** 26A21

Bartoszewicz, Jarosław Applications of a general composition theorem to the star order of distributions. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 1–9. (Summary) **99c:60027** 60E15 (62N05)

— Characterizations of the dispersive order of distributions by the Laplace transform. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 23–29. (Summary) **99h:60019** 60E05 (60E10, 60E15, 62N05)

Bartoszewski, Z. (*with* Jackiewicz, Z.) Construction of two-step Runge-Kutta methods of high order for ordinary differential equations. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 51–70. (Iulian Coroian) **99j:65113** 65L05 (65L20)

kania-Bartoszyńska, Joanna *see* **Kania-Bartoszyńska, Joanna**

Bartoszyński, Robert (*with* Goel, Prem K.) On probability of evens. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 1–9. (S. M. Samuels) **99a:60016** 60E99 (62E99)

— *see also* **Bronshteĭn, I. N., 99g:00016**

Bartoszyński, Tomek Remarks on the intersection of filters. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 139–143. (Hao Xuan Zhou) **99i:03054** 03E05 (03E35, 03E50, 04A20)

Bartsch, Thomas[1] (*with* Wang, Zhi Qiang[1]) Even Hamiltonian systems on tori and cotangent spaces of tori. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4123–4134. (Andrzej Szulkin) **99b:58088** 58F05 (34C25, 58E05, 58F22, 70H05)

— (*with* Ding, Yanheng) On a nonlinear Schrödinger equation with periodic potential. *Math. Ann.* **313** (1999), *no.* 1, 15–37. (Elaine Machtyngier) **99m:35218** 35Q55 (58E05)

Bartuccelli, M. V. (*with* Gourley, S. A.) Parameter domains for instability of uniform states in systems with many delays. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 843–867. (Sui Yang Chen) **99d:92002** 92–08 (35K57, 35Q80, 35R10)

— (*with* Gourley, S. A.; Woolcock, C. J.) Conditions for positivity of solutions of a class of dissipative partial differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 71–74. 35K57 (35B05)

Bartulis, A. (*with* Kremenetsky, V.; Shcherbinin, E.) General method of constructing self-similar solutions for two-dimensional MHD flows. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 2, 89–104. (Summary) **99j:76130** 76W05

Bartušek, Miroslav (*with* Došlá, Zuzana; Graef, John R.) On L^2 and limit-point type solutions of fourth order differential equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 175–187. (Summary) **99a:34048** 34B15 (34B20, 34C10)

— (*with* Došlá, Zuzana) Erratum: "Oscillatory criteria for nonlinear third order differential equations with quasiderivatives" [Differential Equations Dynam. Systems **3** (1995), no. 3, 251–268; MR 97a:34087]. *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 123. 34C10 (34C15)

— On the structure of oscillatory solutions of a third order differential equation. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 4, 323–334. (M. Cecchi) **99b:34061** 34C10

— (*with* Došlá, Zuzana; Graef, John R.) Nonlinear limit-point type solutions of nth order differential equations. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 122–139. (Anton Zettl) **99c:34042** 34B20 (34C99)

— On existence of oscillatory solutions of nth order differential equations with quasiderivatives. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 1–12. (M. Cecchi) **99f:34042** 34C10

— (*with* Došlá, Zuzana; Graef, John R.) The nonlinear limit-point/limit-circle problem for higher order equations. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 13–22. (Summary) **99c:34055** 34C10 (34B15)
— (*with* Osička, J.) Asymptotic behaviour of solutions of a third-order nonlinear differential equation. *Nonlinear Anal.* **34** (1998), *no.* 5, 653–664. (Mauro Marini) **99f:34041** 34C10 (34B15, 34C11)
Bartuzel, Grzegorz (*with* Fryszkowski, Andrzej) Relaxation of the differential inclusions of the Sturm-Liouville type. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 953–960. (Stefan Mirică) **99a:34034** 34A60 (34B24)
Barua, B. (*with* Biswas, S. C.; De, U. C.) Semi-symmetric non-metric connection in an SP-Sasakian manifold. (English summary) *J. Pure Math.* **13** (1996), 13–18. (K. L. Duggal) **99j:53021** 53C05 (53C15, 53C25)
— (*with* De, U. C.) Projective and conformal collineations in a Ricci symmetric Riemannian manifold. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 159–164. (Andrew Bucki) **99d:53040** 53C25
Barua, Rana (*with* Sarkar, Palash) The set of reversible 90/150 cellular automata is regular. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 199–213. (Summary) **99b:68135** 68Q80
— (*with* Sarkar, Palash) Multidimensional σ-automata, π-polynomials and generalised S-matrices. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 111–138. (János Bagyinszki) **99c:68182** 68Q80 (15A57, 68Q70)
Baruah, K. K. (*with* Bhattacharjee, R.) Kaluza-Klein cosmology. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 329–344. 83E15 (83F05)
Baruah, Sanjoy K. (*with* Lin, Shun-Shii) Pfair scheduling of generalized pinwheel task systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 812–816. (Summary) **99c:90062** 90B35 (90B12)
Baruch, Ehud Moshe (*with* Rallis, Stephen) A remark on Gelfand pairs of finite groups of Lie type. (English summary) *J. Algebra* **201** (1998), *no.* 2, 493–500. (Chon Hu Cheng) **99c:20056** 20G05 (20G25, 20G40)
Barucq, H. (*with* Delaurens, F.; Hanouzet, Bernard) Method of absorbing boundary conditions: phenomena of error stabilization. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1113–1129 (*electronic*). (Summary) **99a:65141** 65N30 (35Q60, 78A45)
Barulli, M. (*with* Evans, David John[1]) BSP linear solvers for dense matrices. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 777–795. (Summary) **99c:65255** 65Y05 (65F10)
Barut, Asim Orhan (*with* Zeni, José Ricardo) Neutrinos and electromagnetic fields. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 357–367. (Jayme Vaz, Jr.) **99a:81061** 81R25 (81R20, 81V10)
— (*with* Wyss, Walter) The energy-momentum tensor for electromagnetic interactions. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 699–715. (Summary) **99h:78011** 78A25 (81R20)
— (*with* Uzes, C. A.) Spinor field as elementary excitations of a system of scalar fields. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 741–753. (Jayme Vaz, Jr.) **99i:81077** 81R25
— *see also* **Invited papers dedicated to Asim Orhan Barut, 99f:81002**; **Invited papers dedicated to Asim O. Barut, 99h:81002**; **Scully, Marlan O., (99h:81002)** *and* **Dowling, Jonathan P., (99h:81002)**
Barve, Rakesh D. (*with* Grove, Edward F.; Vitter, Jeffrey Scott) Simple randomized mergesort on parallel disks. (English summary) *Randomization methods in algorithm design (Princeton, NJ, 1997)*, 1–20, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:68036** 68P10 (68Q22, 68Q25, 68R05)
Barve, Sukratu (*with* Singh, Tejinder P.; Vaz, Cenalo; Witten, Louis) Quantum stress tensor in self-similar spherical dust collapse. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104018, 8 *pp.* 83C47 (81T20)
Barvinok, A. I. Integral geometry of higher-dimensional polytopes and the average case in combinatorial optimization. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 275–283, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 90C27 (68Q25)
Barvinskiĭ, A. O. (*with* Kunstatter, G.) Mass spectrum for black holes in generic 2-D dilaton gravity. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 210–215, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57
— Solution of quantum Dirac constraints via path integral. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 533–560. (Summary) **99b:81252** 81T70 (81S40, 83C45)
— (*with* Kiefer, Claus) Wheeler-DeWitt equation and Feynman diagrams. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 509–539. (Giampiero Esposito) **99h:83019** 83C45 (81T18)
— Quantum Dirac constraints, Ward identities and path integral in relativistic gauge. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 322–328. (Summary) **99b:81149** 81T15 (81S40)
Bärwald, Oliver (*with* Gebert, Reinhold W.; Nicolai, Hermann) On the imaginary simple roots of the Borcherds algebra $g_{II_{8,1}}$. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 721–738. (Duncan J. Melville) **99b:17030** 17B67 (17B10, 81R10)
Barwise, K. Jon (*with* Seligman, Jerry) ★ Information flow. (English summary) The logic of distributed systems. Cambridge Tracts in Theoretical Computer Science, 44. *Cambridge University Press, Cambridge*, 1997. xvi+274 *pp. ISBN* 0-521-58386-1 (R. Gylys) **99b:03003** 03–02 (03A05, 03B60, 03B65, 03B70, 03G12, 68S05, 68T30)
— (*with* Moss, Lawrence S.) Modal correspondence for models. (English summary) *J. Philos. Logic* **27** (1998), *no.* 3, 275–294. (Leo Esakia) **99m:03031** 03B45
Bar-Yahalom, Eli (*with* Etzion, Tuvi) Intersection of isomorphic linear codes. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 247–256. (Summary) **99h:94059** 94B05
Bar'yakhtar, V. G. (*with* Yanovskiĭ, V. V.) A variational principle for universal multifractals. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukraïni* **1996**, *no.* 11, 93–99 (1997). (From the text) **99a:58112** 58F13 (28A80, 58F40)
— *see also* **Dictionary: Solid state physics, 99c:82001**
Bar-Yehuda, Reuven One for the price of two: a unified approach for approximating covering problems. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 49–62, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99m:68075** 68Q25 (05C85, 68R10, 90C35)
— (*with* Fogel, Sergio) Partitioning a sequence into few monotone subsequences. (English summary) *Acta Inform.* **35** (1998), *no.* 5, 421–440. (Summary) **99d:68089** 68Q20 (05C85, 68Q35, 68R10)
— (*with* Geiger, Dan; Naor, Joseph; Roth, Ron M.) Approximation algorithms for the feedback vertex set problem with applications to constraint satisfaction and Bayesian inference. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 942–959 (*electronic*). (Summary) **99c:68117** 68Q25 (05C85, 68R10, 68T20)
Baryshnikov, Yulii Maratovich Topological and discrete social choice: in a search of a theory. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 199–209. (Bhaskar Dutta) **99c:90011** 90A08
— Wiener soccer and its generalization. (English summary) *Electron. Comm. Probab.* **3** (1998), 1–11 (*electronic*). (Robert J. Adler) **99c:60158** 60J35 (60J65)
— (*with* Stadje, Wolfgang) Asymptotics of damped periodic motions with random initial speed. (English summary) *Math. Nachr.* **189** (1998), 5–21. (Xue Rong Mao) **99b:60032** 60F05 (34F05)
Bârză, Ilie (*with* Ghişa, D.) Lie groups acting on the Möbius strip. (English summary) *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 62–72, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99f:30068** 30F50 (22E99, 57S25, 57S30)
— (*with* Ghişa, D.; Ianuş, Stere) Some remarks on the nonorientable surfaces. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 47–54. (Antonio F. Costa) **99i:30065** 30F50
— (*with* Ghişa, D.) Boundary value problems on nonorientable surfaces. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 67–79. (Vasily A. Chernecky) **99j:30047** 30F15 (30F50, 31A25)
Barza, Sorina (*with* Pečarić, Josip; Persson, Lars-Erik) Carlson type inequalities. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 121–135. (J. Sándor) **99m:26027** 26D15
— (*with* Popa, Emil C.) Inequalities related with Carlson's inequality. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 59–64. (Gianluca Vinti) **99d:26021** 26D10 (26D15)
Barzaghi, R. (*with* Sansò, F.) The integrated inverse gravimetric-tomographic problem: a continuous approach. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 499–520. (Alexander S. Denisjuk) **99e:86007** 86A22 (44A12)
Barzykin, Victor (*with* Affleck, Ian) Finite-size scaling for the spin-$\frac{1}{2}$ Heisenberg antiferromagnetic chain. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 867–874. 82B20
Basaeva, E. K. An infinitesimal local optimum of a set function. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 28–31, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 25–28. (Summary) **99c:28005** 28A12 (90C48)
valle Basagoiti, M. A. *see* **Valle Basagoiti, M. A.**
Basak, I. Comparison of statistical procedures in analytic hierarchy process using a ranking test. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 105–118. 62F07 (90A05)
Basak, Jayanta (*with* De, Rajat K.; Pal, Sankar K.) Fuzzy feature evaluation index and connectionist realization. II. Theoretical analysis. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 1–17. (Summary) **99h:68148** 68T10 (68T30)
Başar, Tamer (*with* Pan, Zigang) Adaptive controller design for tracking and disturbance attenuation in parametric strict-feedback nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1066–1083. (Jan Bialasiewicz) **99f:93088** 93C40 (93C10)
— (*with* Olsder, Geert Jan) ★ Dynamic noncooperative game theory. (English summary) Reprint of the second (1995) edition. Classics in Applied Mathematics, 23. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1999. xvi+519 *pp. ISBN* 0-89871-429-X (From the preface) **99g:90007** 90–02 (90D10, 90D25)
— Nash equilibria of risk-sensitive nonlinear stochastic differential games. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 3, 479–498. (George Yin) **99m:90174** 90D15 (93B36, 93E05)
Basarab-Horwath, Peter (*with* Fushchich, Vīl'gel'm Īllīch) Implicit and parabolic ansatzes: some new ansatzes for old equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 34–47, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (C. Rogers) **99c:35008** 35A30 (35Q55)
— (*with* Barannik, L. F.; Fushchich, Vīl'gel'm Īllīch) On the classification of subalgebras of the conformal algebra with respect to inner automorphisms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4899–4922. (J. Lõhmus) **99m:81070** 81R05 (17B68)
Basarir, Metin (*with* Et, Mikail) On some new generalized difference sequence spaces. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 3, 169–175. (Plamen Dzhakov) **99j:46012** 46A45
Basawa, I. V. (*with* Hwang, Sun Young) Parameter estimation for generalized random coefficient autoregressive processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 323–337. (Jiří Anděl) **99e:62157** 62M10
Bascle, B. (*with* Blake, Andrew; Isard, M.; MacCormick, J.) Statistical models of visual shape and motion. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1283–1302. (Summary) **99b:68162** 68T10 (68U10)
Basdevant, Claude Wavelet based methods for PDEs. *Numerical methods in fluid mechanics*, 1–21, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (Andreas Rieder) **99i:65152** 65T99 (35C10, 42C15, 65C20, 65M60, 65N30, 76M25)
Baseia, B. (*with* Moussa, M. H. Y.) Teleporting the Schrödinger cat state. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 29-30, 1209–1216. 81P15 (81R30)
— (*with* Ragi, R.; Bagnato, V. S.) A note on generalized superposition of coherent states. (English summary) *Modern Phys. Lett. B* **13** (1999), *no.* 3-4, 131–134 (*electronic*). 81R30
Baseilhac, P. (*with* Grangé, P.; Fateev, V. A.) Exact duality between integrable deformations of BC_n and $C_n^{(1)}$ affine Toda theories. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 937–951. (Luigi Martina) **99g:81194** 81T40 (58F07, 81R10, 81T10)
— (*with* Grangé, P.; Rausch de Traubenberg, M.) Extension of sine-Gordon field theory from generalized Clifford algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2531–2539. (Summary) **99j:81106** 81T10
— (*with* Fateev, V. A.) Fermion-boson duality in integrable quantum field theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2807–2818. (Mathias Pillin)

99j:81107 81T10

Başer, Ulviye (*with* Eldem, Vasfi) Almost diagonalization by dynamic output feedback with internal stability. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 51–70. (Summary) **99c:93036** 93B36 (93B52, 93D99)

iqbal Basha, R. *see* **Iqbal Basha, R.**

Basheleishvili, M. Application of analogues of general Kolosov-Muskhelishvili representations in the theory of elastic mixtures. (English summary) *Georgian Math. J.* **6** (1999), *no.* 1, 1–18. (Summary) **99k:73048** 73C99 (35Q72, 73V35)

Bashir, M. A. (*with* Abdalla, M. Sebawe) Lie algebra treatment of three coupled oscillators. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 2, 415–423. (Summary) **99b:81294** 81V80 (81R05)

el Bashir, Robert *see* **El Bashir, Robert**

Bashir-Ali, Z. (*with* Cash, J. R.; Silva, H. H. M.) Lobatto deferred correction for stiff two-point boundary value problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 59–69. (Summary) **99i:65070** 65L06

Bashkirov, Andrei G. ★ Nonequilibrium statistical mechanics of heterogeneous fluid systems. *CRC Press, Boca Raton, FL*, 1995. xii+162 *pp. ISBN* 0-8493-2860-8 (From the preface) **99a:82001** 82–02 (82Cxx)

Bashkirov, E. L. On subgroups of the general linear group over the skew field of quaternions containing the special unitary group. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1251–1266, *i.* (Alla S. Detinko) **99m:20125** 20H25

Bashmakova, I. G. (*with* Smirnova, G. S.) The birth of literal algebra. Translated from the Russian and edited by Abe Shenitzer. *Amer. Math. Monthly* **106** (1999), *no.* 1, 57–66. (Editors) **99m:01003** 01A20 (01A35)

Basile, Achille (*with* De Simone, Anna; Graziano, Maria Gabriella) On the Aubin-like characterization of competitive equilibria in infinite-dimensional economies. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 187–203. (Milan Mareš) **99i:90026** 90A14 (90D12)

Basile, L. (*with* D'Apuzzo, L.; Squillante, M.) Relations between Gehring classes and Muckenhoupt classes via the Hardy operator. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 157–177. (Hans P. Heinig) **99f:42039** 42B25 (26D15)

— (*with* D'Apuzzo, L.; Squillante, M.) The limit class of Gehring type G_∞. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 871–884. (Jeremy T. Tyson) **99h:42031** 42B25 (26D15)

Basilio, J. C. (*with* Kouvaritakis, B.) Design of causal reversed-frame-normalizing controllers using bicausal expansions. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 1–14. 93D15 (93B51)

Basin, David (*with* Frank, Ian) Search in games with incomplete information: a case study using Bridge card play. (English summary) *Artificial Intelligence* **100** (1998), *no.* 1-2, 87–123. (Summary) **99h:68155** 68T20 (90D10)

— (*with* Matthews, Seán; Viganò, Luca) Natural deduction for non-classical logics. (English summary) Natural deduction. *Studia Logica* **60** (1998), *no.* 1, 119–160. (Décio Krause) **99f:03007** 03B22 (03B35, 68T15)

Basin, M. A. (*with* Kornev, N. V.) A way to split the Navier-Stokes equations in the context of the vortex method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 4, 313–319. (Summary) **99a:76114** 76M25 (76D05)

— (*with* Kornev, N. V.) Berücksichtigung der Reibung in der Wirbelmethode. (English and German summaries) [Consideration of viscosity of the vortex method] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 335–344. (Summary) **99b:76059** 76M25

Basin, M. V. Infinite-dimensional differential equations in distributions with discontinuous functions in the right-hand side. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 867–874, 1004; *translation in Differential Equations* **32** (1996), *no.* 7, 871–878 (1997). (Uljana A. Anufrieva) **99a:34160** 34G10 (46F25, 47D06, 47N20)

— Ellipsoidal filtering of the state of an infinite-dimensional system. I. Solutions of differential equations in distributions in a Hilbert space. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 7, 54–65; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1110–1118. (Florin Iacob) **99e:93023a** 93B30 (93C25)

— Ellipsoidal filtering of the state of an infinite-dimensional system. II. Filtering from discrete-continuous observations with a vector measure. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 102–109; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1323–1329 (1998). (Florin Iacob) **99e:93023b** 93B30 (93C25)

— (*with* Pinsky, Mark A.) On observation control using impulse feedback design. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 121–137. (V. N. Fomin) **99c:93106** 93E11 (34K35, 93B07)

— (*with* Pinsky, Mark A.) Stability impulse control of faulted nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1604–1608. (Summary) **99f:93114** 93D15 (93C57)

Basit, Bolis (*with* Günzler, Hans) Asymptotic behavior of solutions of systems of neutral and convolution equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 115–142. (George Seifert) **99f:34117** 34K40 (34C27, 34K15, 34K25, 34K30, 45E10, 47B39, 47N20)

— (*with* Günzler, Hans) Generalized Esclangon-Landau conditions for differential-difference equations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 595–624. (F. Vogl) **99c:34155** 34K15 (34K30)

— (*with* Pryde, A. J.) Strong continuity of semigroup homomorphisms. (English summary) *Studia Math.* **132** (1999), *no.* 1, 71–78. (Liliana Pavel) **99m:22003** 22A25 (47D03)

Baskakov, A. G. ★ Гармонический анализ линейных операторов. (Russian. Russian summary) [Harmonic analysis of linear operators] *Izdatel'stvo Voronezhskogo Universiteta, Voronezh*, 1987. 165 *pp.* (Miroslav Lvovich Gorbachuk) **99g:47002** 47–02 (46H25, 46J05, 47B25, 47B40)

Baskakov, V. A. Asymptotics of the approximation of individual functions by generalized Fejér operators. (Russian. English summary) *Anal. Math.* **23** (1997), *no.* 3, 189–204. (Saulius Norvidas) **99d:41039** 41A35 (41A60)

Başkan, T. (*with* Akbaş, M.) Suborbital graphs for the normalizer of $\Gamma_0(N)$. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 379–387. (Peter J. Nicholls) **99a:11050** 11F06 (20B99)

Baskoro, Edy Tri (*with* Miller, Mirka; Širáň, Jozef) A remark on almost Moore digraphs of degree three. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 285–291. (Joseph B. Klerlein) **99f:05042** 05C20

— (*with* Miller, Mirka; Plesník, Ján) On the structure of digraphs with order close to the Moore bound. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 109–119. (Matúš Harminc) **99g:05085** 05C20

Basmajian, Ara (*with* Miner, Robert) Discrete subgroups of complex hyperbolic motions. *Invent. Math.* **131** (1998), *no.* 1, 85–136. (Athanase Papadopoulos) **99e:32039** 32H20 (57M60)

Basmat, A. (*with* Ziegler, Franz) Interaction of a plane solitary wave with a rigid vertical cylinder. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 535–543. 76B15 (35Q35, 76B25)

Basnet, Chuda (*with* Foulds, Leslie R.; Wilson, John Montgomery) An exact algorithm for a milk tanker scheduling and sequencing problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 559–568. (*see* **99k:90002**) 90B35 (90C35)

Basor, Estelle L. Distribution functions for random variables for ensembles of positive Hermitian matrices. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 327–350. (Boris A. Khoruzhenko) **99b:82046** 82B44 (47B35, 60H25)

Basov, V. V. Convergence of the normalizing transformation in the critical case when two zero roots of the characteristic equation have a nonprime elementary divisor. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1011–1016, 1149; *translation in Differential Equations* **33** (1997), *no.* 8, 1015–1021 (1998). (János Tóth) **99f:34051** 34C20

Bass, Hyman (*with* Cartan, Henri; Freyd, Peter; Heller, Alex; Mac Lane, Saunders) Samuel Eilenberg (1913–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1344–1352. (Editors) **99k:01045** 01A70

Bass, Jean Moyennes et algèbres de fonctions. (English and French summaries) [Mean values and algebras of functions] *Ann. Fond. Louis de Broglie* **21** (1996), *no.* 3, 287–299. (Summary) **99e:46101** 46N50 (60K99, 81P99)

Bass, Richard F. Diffusions on the Sierpinski carpet. (English summary) *Trends in probability and related analysis (Taipei*, 1996), 1–34, *World Sci. Publishing, River Edge, NJ*, 1997. (Rong Wu) **99c:60176** 60J65 (28A80, 31C99)

— (*with* Barlow, Martin T.; Burdzy, Krzysztof) Positivity of Brownian transition densities. (English summary) *Electron. Comm. Probab.* **2** (1997), 43–51 (*electronic*). (Loïc Chaumont) **99e:60166** 60J35 (60J65)

— ★ Diffusions and elliptic operators. (English summary) Probability and its Applications. *Springer-Verlag, New York*, 1998. xiv+232 *pp. ISBN* 0-387-98315-5 (Elton Pei Hsu) **99h:60136** 60J10 (35B99, 35J99, 35R60, 60H07, 60H10)

— (*with* Burdzy, Krzysztof) Cutting Brownian paths. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 657, *x*+95 *pp.* (Jean Bertoin) **99g:60146** 60J65 (60G17)

Bassan, Bruno (*with* Scarsini, Marco) Finite row-column exchangeable arrays. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 137–145. (Eugenio Regazzini) **99i:60083** 60G09

— (*with* Terzi, Silvia) A factorial covariance structure model for space-time multivariate stochastic processes. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 155–170. 62J10

— (*with* Ceci, Claudia) An optimal stopping problem arising from a decision model with many agents. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 393–408. (H.-J. Engelbert) **99h:60090** 60G40 (60J65)

Bassanezi, Rodney C. (*with* Rojas Medar, Marko A.; Román-Flores, Heriberto) A generalization of the Minkowski embedding theorem and applications. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 263–269. (Summary) **99m:49033** 49J55 (46E99)

Bassanini, Piero (*with* Elcrat, Alan R.) ★ Theory and applications of partial differential equations. (English summary) Mathematical Concepts and Methods in Science and Engineering, 46. *Plenum Press, New York*, 1997. x+439 *pp. ISBN* 0-306-45640-0 (Manfred W. Kracht) **99h:35001** 35–01

— (*with* Casciola, C. M.; Lancia, M. R.; Piva, R.) Uniqueness of the bounded flow solution in aerodynamics. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 12–18. (Summary) **99e:76073** 76G25

— (*with* Casciola, C. M.; Lancia, M. R.; Piva, R.) A theoretical model for multiply connected wings. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 6, 607–634. (Summary) **99k:76015** 76B05 (35Q35, 76C05, 76G25)

Bassein, Susan The dynamics of a family of one-dimensional maps. *Amer. Math. Monthly* **105** (1998), *no.* 2, 118–130. (P. Mendes) **99c:58052** 58F03 (58F13)

Bassett, B. A. C. C. (*with* Maartens, Roy) Gravito-electromagnetism. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 705–717. (Victor Tapia) **99a:83057** 83D05

— (*with* Ellis, George F. R.; Dunsby, P. K. S.) Lensing and caustic effects on cosmological distances. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2345–2361. (Summary) **99h:83064** 83F05

— (*with* Mustapha, Nazeem; Hellaby, Charles; Ellis, George F. R.) The distortion of the area distance-redshift relation in inhomogeneous isotropic universes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2363–2379. (Summary) **99d:83108** 83F05

— $\int e^{-x^2}dx$ and the kink soliton. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 37–45. 65D15 (65D20)

Bassetto, A. (*with* Begliuomini, R.; Nardelli, Giuliana) Time exponentiation of a Wilson loop for Yang-Mills theories in $2+\varepsilon$ dimensions. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 491–512. (Summary) **99h:81143** 81T18 (81T13, 81T15)

Bassi, Franco (*with* Embrechts, Paul; Kafetzaki, Maria) Risk management and quantile estimation. (English summary) *A practical guide to heavy tails (Santa Barbara, CA*, 1995), 111–130, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 90A46 (62P05)

Bassingthwaighte, James B. (*with* Qian, Hong; Raymond, Gary M.) On two-dimensional fractional Brownian motion and fractional Brownian random field. (English summary) *J. Phys. A* **31** (1998), *no.* 28, *L*527–*L*535. (Summary) **99c:82053** 82C31

Bassino, Frédérique (*with* Béal, Marie-Pierre; Perrin, Dominique) Super-state automata and rational trees. (English summary) *LATIN'98: theoretical informatics (Campinas*, 1998), 42–52, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68143** 68Q45 (68Q70)

— Generating functions of circular codes. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 1, 1–24. (Jaume Pujol) **99j:94029** 94A45 (68Q45, 94B60)

bradley Bassler, O. *see* **Bradley Bassler, O.**

Basso, Ivo (*with* Andrade, Raul; Labra, Alicia) Derivations in some Bernstein algebras of order 2. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 1, 31–40. (Santos González) **99m:17042** 17D92 (17A36)

Bassom, Andrew P. (*with* Clarkson, Peter A.; Law, Chun-Kong; McLeod, J. Bryce) Application of uniform asymptotics to the second Painlevé transcendent. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 3, 241–271. (Andrei A. Kapaev) **99g:34122** 34E20 (34A30, 34A34)

— (*with* Zhang, Keke) Finite amplitude thermal inertial waves in a rotating fluid layer. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 193–214. (Summary) **99k:76145** 76U05 (76E15)

— (*with* Blennerhassett, P. J.) Long wavelength vortices in time-periodic flows. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 498–512. (Summary) **99a:76059** 76E99 (76D99)

— (*with* Gilbert, Andrew D.) The spiral wind-up of vorticity in an inviscid planar vortex. (English summary) *J. Fluid Mech.* **371** (1998), 109–140. (Summary) **99g:76020** 76C05

— (*with* Ludlow, David K.; Clarkson, Peter A.) Nonclassical symmetry reductions of the three-dimensional incompressible Navier-Stokes equations. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7965–7980. (Summary) **99g:76037** 76D05 (35Q30, 76M99)

— (*with* Blennerhassett, P. J.; Denier, James P.) Large wavenumber vortices in time-periodic flows. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2689–2722. (Summary) **99f:76033** 76C05 (76D07, 76E99)

Bassotti Rizza, Lucilla Approximation of the Green operator for linear elliptic differential operators of order four and constant coefficients. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 47–56. (Summary) **99j:35039** 35J40 (35E05)

Bastardas, Gemma *see* **Brown, Ronald**

Basten, Twan ★ In terms of nets. (English and Dutch summaries) System design with Petri nets and process algebra. Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1998. IPA Dissertation Series, 1998-05. *Eindhoven University of Technology, Eindhoven*, 1998. $x+233$ *pp. ISBN* 90-386-0631-1 (From the summary) **99g:68062** 68Q10 (68Q90)

Bastiaans, Martin J. Application of the Wigner distribution function in optics. (English summary) *The Wigner distribution*, 375–426, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12 (78A05)

— Gabor's expansion and the Zak transform for continuous-time and discrete-time signals. (English summary) *Signal and image representation in combined spaces*, 23–69, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Gilbert Walter) **99h:94010** 94A12 (42C15)

Bastian, P. (*with* Hackbusch, Wolfgang; Wittum, Gabriel) Additive and multiplicative multi-grid—a comparison. (English summary) *Computing* **60** (1998), *no.* 4, 345–364. (Summary) **99c:65228** 65N55

Bastianelli, Fiorenzo (*with* Schalm, Koenraad; van Nieuwenhuizen, Peter) Mode regularization, time slicing, Weyl ordering, and phase space path integrals for quantum-mechanical nonlinear sigma models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044002, 9 *pp.* (Summary) **99k:81173** 81T10 (81S40)

Bastian-Walther, Marion (*with* Schmidt, Jochen W.) Shape preserving interpolation by tensor product splines on refined grids. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 201–217, *Teubner, Stuttgart*, 1998. (Summary) **99h:65024** 65D17 (41A29)

— (*with* Schmidt, Jochen W.) Algorithm for constructing range restricted histosplines. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 241–260. (Sheng Fu Wang) **99g:65017** 65D07 (41A15)

— (*with* Schmidt, Jochen W.) Range restricted interpolation using Gregory's rational cubic splines. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 221–237. (R. Franke) **99m:41011** 41A15 (65D07)

hernández Bastida, A. *see* **Hernández Bastida, A.**

Bastin, F. (*with* Boigelot, C.) Biorthogonal wavelets in $H^m(\mathbf{R})$. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 6, 749–768. (Gerlind Plonka) **99m:42042** 42C15 (46E35)

— (*with* Laubin, Pascal) A walk in the theory of wavelets from $L^2(\mathbf{R})$ to $H^s(\mathbf{R})$. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 239–252. (Albert Cohen) **99f:42061** 42C15

Bastin, G. (*with* Jarachi, F.; Mareels, Iven M. Y.) Output deadbeat control of nonlinear discrete-time systems with one-dimensional zero dynamics: global stability conditions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1262–1266. 93D20 (93C55)

Baštinec, Jaromír (*with* Diblík, Josef) On existence of solutions of a singular Cauchy-Nicoletti problem for a system of integro-differential equations. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 747–760. (Eduardo Liz) **99a:45014** 45J05 (34K10)

Basto-Gonçalves, J. Implicit Hamilton equations. (English and Portuguese summaries) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 1–16. (Shyūichi Izumiya) **99i:58057** 58F05 (58C27)

Bastolla, U. (*with* Barkema, G. T.; Grassberger, P.) Two-dimensional oriented self-avoiding walks with parallel contacts. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1311–1324. (Summary) **99b:82033** 82B41

Baston, Vic (*with* Gal, Shmuel) Rendezvous on the line when the players' initial distance is given by an unknown probability distribution. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1880–1889 (*electronic*). (Summary) **99i:90133** 90D15 (90D60)

— Note: Two rendezvous search problems on the line. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 3, 335–340. 90B40 (90D05)

Bastos, M. A. (*with* Karlovich, Yu. I.; Spitkovsky, Ilya M.; Tishin, P. M.) On a new algorithm for almost periodic factorization. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 53–74, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (A. Böttcher) **99g:47034** 47A68 (39A10, 42A75, 45E10, 47B35)

— (*with* Karlovich, Yu. I.; dos Santos, A. F.; Tishin, P. M.) The corona theorem and the existence of canonical factorization of triangular AP-matrix functions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 494–522. (A. Böttcher) **99f:47022a** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)

— (*with* Karlovich, Yu. I.; dos Santos, A. F.; Tishin, P. M.) The corona theorem and the canonical factorization of triangular AP matrix functions—effective criteria and explicit formulas. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 523–550. (A. Böttcher) **99f:47022b** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)

Bastos de Figueiredo, J. C. (*with* Malta, C. P.) Lyapunov graph for two-parameters map: application to the circle map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 281–293. (B. V. Loginov) **99f:58114** 58F10

— (*with* Grotta Ragazzo, C.; Malta, C. P.) Two important numbers in the Hénon-Heiles dynamics. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 35–40. (Summary) **99b:58089** 58F05 (70H05, 70K50)

Basu, A. *see* **Basu, Arup**

Basu, A. K. (*with* Sahoo, D. K.) On consistency of nonparametric estimates of density, its derivative and mode for exchangeable sequences. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 43–61. (Summary) **99b:62083** 62G20 (62G05)

— (*with* Sahoo, D. K.) On Berry-Esseen theorem for nonparametric density estimation in Markov sequences. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 25–39. (G. Roussas) **99i:62063** 62G05 (60F05, 60J05)

Basu, Arup (*with* Ray Chaudhuri, Atasi; Bhandari, S. K.; Chaudhuri, B. B.) Consistent set estimation in k-dimensions: an efficient approach. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 667–676, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62G05

Basu, Asit P. Some bivariate distributions useful in reliability theory. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 35–40, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62N05

— (*with* Sun, Dongchu; Ghosh, Malay) Bayesian analysis for a stress-strength system under noninformative priors. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 323–332. 62N05 (62F15)

Basu, Ayanendranath (*with* Harris, Ian R.; Basu, Srabashi) Minimum distance estimation: the approach using density-based distances. *Robust inference*, 21–48, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62F10)

— (*with* Markatou, Marianthi; Lindsay, Bruce G.) Weighted likelihood equations with bootstrap root search. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 740–750. (Summary) **99c:62128** 62G09 (62F35)

— (*with* Basu, Srabashi) Penalized minimum disparity methods for multinomial models. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 841–860. 62F12 (62H17)

Basu, Bamandas Equatorial plasma instability in time-dependent equilibrium. (English summary) 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Pittsburgh, PA, 1997). *Phys. Plasmas* **5** (1998), *no.* 5, *part* 2, 2022–2028. (Summary) **99d:76103** 76X05 (76E25, 86A25)

Basu, Banasri (*with* Sen, Krishna) Geometric approach to non-abelian gauge theory. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 1, 45–64. (Gheorghe Zet) **99d:81086** 81T13 (81T70)

— (*with* Bandyopadhyay, Pratul) Topological aspects of quantum Hall fluid and Berry phase. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 26, 2649–2707. (Summary) **99h:81235** 81V70 (81Q99)

— Symplectic structure and the fractional quantum Hall effect. (English summary) *Phys. Lett. A* **242** (1998), *no.* 3, 181–186. (Summary) **99b:81285** 81V70 (58Z05)

Basu, C. K. (*with* Ganguly, Sobhakar; Sinha Roy, S.) A new regular measure on a topological space. II. (English summary) *J. Pure Math.* **12** (1995), 7–15. (Summary) **99g:28003** 28A12

— (*with* Ganguly, Sobhakar; Sinha Roy, S.) Existence of an invariant measure on a generalized topological group. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 131–134. (Michael Tkačenko) **99e:54029** 54H11 (22A05, 54D10)

— (*with* Ganguly, Sobhakar; Sinha Roy, S.) Existence and uniqueness of an invariant integral on a more general class of functions in a generalized topological group. (English summary) *J. Pure Math.* **14** (1997), 10–17. (V. V. Mukhin) **99m:28033** 28C99 (22A10)

— On strongly irresolute and γ-continuous functions. (English summary) *J. Pure Math.* **14** (1997), 35–41. 54C08 (54C10)

Basu, D. K. (*with* Kar, Sujit Kumar) An extension of a bilateral generating function for the Legendre polynomial $P_n(x)$ by group-theoretic method. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 447–450. (Summary) **99c:33017** 33C45

— (*with* Kar, Sujit Kumar) Lie-theoretic origins of certain generating functions for modified Jacobi polynomials. (English summary) *Ganita Sandesh* **10** (1996), *no.* 2, 93–96. (Summary) **99h:33041** 33C45

Basu, Devraj A classifying space for $K^1(X, R)$ and extensions to Hilbert modules. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 3, 287–298. (Beatriz Abadie) **99h:46130** 46L80 (19K35, 46L05)

Basu, S. *see* **Basu, Sanjib[1]**

Basu, S. K. *see* **Basu, Sujit Kumar**

Basu, Sanjib *see* **Basu, Sanjib[2]**

Basu, Sanjib[1] Generalization of a theorem of S. Kurepa and its category analogue. (English summary) *J. Pure Math.* **12** (1995), 36–43. (Polychronis J. Xenikakis) **99a:28001** 28A05 (26A21)

— On sets with property of Baire in certain T_3-topological groups. (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 291–297. (Summary) **99d:28002** 28A05 (54H05)

— Category analogues of two theorems of Steinhaus. *J. Pure Math.* **13** (1996), 53–57. (Marek Balcerzak) **99k:28003** 28A05 (46A99, 54E52)

Basu, Sanjib[2] Variations of posterior expectations for symmetric unimodal priors in a distribution band. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 320–334. (Marek Męczarski) **99m:62032** 62F15 (62F35, 62G35)

— (*with* Jammalamadaka, Sreenivasa Rao; Liu, Wei) Stability and infinitesimal robustness of posterior distributions and posterior quantities. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 151–162. (Marek Męczarski) **99m:62011** 62C10 (60A10, 62F35, 62G35)

Basu, Saugata (*with* Pollack, Richard M.; Roy, Marie-Françoise) Computing roadmaps of semi-algebraic sets on a variety (extended abstract). (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 1–15, *Springer, Berlin*, 1997. (*see* **99g:00039**) 14P10 (68Q40)

— (*with* Pollack, Richard M.; Roy, Marie-Françoise) A new algorithm to find a point in every cell defined by a family of polynomials. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 341–350, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (12D15)

Basu, Srabashi (*with* Basu, Ayanendranath; Harris, Ian R.) Minimum distance estimation: the approach using density-based distances. *Robust inference*, 21–48, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62F10)

— (*with* Basu, Ayanendranath) Penalized minimum disparity methods for multinomial models. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 841–860. 62F12 (62H17)

Basu, Sudeshna (*with* Rao, T. S. S. R. K.) Some stability results for asymptotic norming properties of Banach spaces. *Colloq. Math.* **75** (1998), *no.* 2, 271–284. (Dirk Werner) **99j:46013** 46B04 (46B20)

Basu, Sujit Kumar *see* **Frontiers in probability and statistics, 99g:62003**

Basu, Uma Interface wave diffraction by a bottom deformation. Proceedings of the Seminar on Continuum Mechanics (Calcutta, 1996). *Rev. Bull. Calcutta Math. Soc.* **5** (1997), *no.* 2, 133–138. (*see* **99k:00035**) 76B15

— (*with* Mandal, Birendra Nath) A pulsating line source in the presence of a nearly circular cylinder submerged in deep water. *Mech. Res. Comm.* **25** (1998), *no.* 5, 599–604. (F. Ursell) **99i:76017** 76B15

Basu-Mallick, Bireswar Multi-parameter deformed and nonstandard $Y(\mathrm{gl}_M)$ Yangian symmetry in integrable variants of Haldane-Shastry spin chain. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2227–2233. (Summary) **99g:82017** 82B23 (81R50, 82B20)

Batabyal, Amitrajeet A. Aspects of arranged marriages and the theory of Markov decision processes. (English summary) *Theory and Decision* **45** (1998), *no.* 3, 241–253. 90C40 (90D12, 92H99)

Batagelj, Vladimir (*with* Korenjak-Černe, Simona) Clustering large datasets of mixed units. (English summary) *Advances in data science and classification* (*Rome*, 1998), 43–48, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

— (*with* Ferligoj, Anuška) Constrained clustering problems. (English summary) *Advances in data science and classification* (*Rome*, 1998), 137–144, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Batalin, I. A. (*with* Bering, K.; Damgaard, Poul Henrik) Superfield quantization. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 455–487. (Ilya Shapiro) **99c:81251** 81T70

— (*with* Marnelius, Robert) Quantum antibrackets. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 312–320. (Mohamed Kachkachi) **99g:81219** 81T70 (81S10)

— (*with* Bering, K.; Damgaard, Poul Henrik) Superfield formulation of the phase space path integral. (English summary) *Phys. Lett. B* **446** (1999), *no.* 2, 175–178. (Summary) **99j:81178** 81T60

quezada Batalla, Roberto *see* **Quezada Batalla, Roberto**

Batan, S. N. (*with* Izobov, N. A.) On the instability of characteristic exponents of linear differential systems under Perron perturbations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1341–1347, 1438; *translation in Differential Equations* **32** (1996), *no.* 10, 1337–1343 (1997). (Alexander V. Lasunsky) **99b:34086** 34D08 (34D10)

— (*with* Izobov, N. A.) On exactness of upper estimates of the characteristic exponent of a linear system with exponentially decreasing perturbations. *Mem. Differential Equations Math. Phys.* **11** (1997), 174–177. 34D08 (34A30)

Batanin, Mikhail A. Computads for finitary monads on globular sets. (English summary) *Higher category theory* (*Evanston, IL*, 1997), 37–57, *Contemp. Math.*, 230, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:18011** 18C20 (18D05, 18D10)

— Monoidal globular categories as a natural environment for the theory of weak n-categories. (English summary) *Adv. Math.* **136** (1998), *no.* 1, 39–103. (R. H. Street) **99f:18010** 18D05 (55P15)

— Homotopy coherent category theory and A_∞-structures in monoidal categories. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 67–103. (R. M. Vogt) **99c:18007** 18D20 (18D35, 55U99)

Bătătorescu, A. Optimal solution of a bottleneck problem with state delay. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 339–356. (Gerhard Sorger) **99d:49059** 49M35 (49M25)

Batchelor, A. R. (*with* Low, Robert) The relativistic shape of spherical wavefronts. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 133–136. (Mary L. Boas) **99d:83002** 83A05

Batchelor, G. K. *see* **Crighton, D. G.**

Batchelor, Murray T. Reflection equations and surface critical phenomena. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 41–48, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B27 (82B23)

— (*with* Blöte, Henk W. J.; Nienhuis, Bernard) Fully packed loop models. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 49–56, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* Seaton, Katherine A.) Excitations in the dilute A_L lattice model: E_6, E_7 and E_8 mass spectra. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 719–725. (Summary) **99h:82022** 82B23

— The O(n) loop model on the 3-12 lattice. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1203–1208. (Summary) **99h:82009** 82B20

— Surface operator content of the A_L face models. (English summary) *Phys. A* **251** (1998), *no.* 1-2, 132–142. (Gunter Schütz) **99a:82031** 82B23 (82B20)

— (*with* Henry, B. I.; Watt, S. D.) Continuum model for radial interface growth. (English summary) *Phys. A* **260** (1998), *no.* 1-2, 11–19. (Summary) **99g:82059** 82C24

Bate, John Aubrey (*with* van Rees, G. H. J.) Lotto designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 15–39. (Charles J. Colbourn) **99m:05037** 05B30 (05B40)

Bateman, Paul T. (*with* Knopp, Marvin I.) Some new old-fashioned modular identities. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 247–269. (Ken Ono) **99e:11051** 11F11 (11F27)

Batens, Diderik Blocks. The clue to dynamic aspects of logic. (English summary) *Logique et Anal.* (*N.S.*) **38** (1995), *no.* 150-152, 285–328. (Ignacio Angelelli) **99d:03008** 03B10 (03B22, 03B53, 03B60)

Bates, David S. Testing option pricing models. *Statistical methods in finance*, 567–611, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62133** 62P20 (90A09)

Bates, J. H. T. Linear systems and the 1-D Fourier transform. *The Fourier transform in biomedical engineering*, 25–52, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99c:94011**) 94A12 (42A38, 94A11)

— (*with* Peters, Terry M.) The discrete Fourier transform and the fast Fourier transform. *The Fourier transform in biomedical engineering*, 175–194, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99c:94011**) 94A12 (65T20)

Bates, Jason W. (*with* Kamp, L. P. J.; Montgomery, David C.) Toroidal flows in resistive magnetohydrodynamic steady states. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1757–1766. (Summary) **99a:76164** 76W05

— (*with* Montgomery, David C.) Toroidal visco-resistive magnetohydrodynamic steady states contain vortices. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2649–2653. (Summary) **99c:76113** 76W05

Bates, Larry You can't get there from here. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 273–274. (Vladislav Goldberg) **99c:53005** 53A05

Bates, Peter W. (*with* Chen, Fengxin; Wang, Jun Ping[2]) Global existence and uniqueness of solutions to a nonlocal phase-field system. *Differential equations and applications* (*Hangzhou*, 1996), 14–21, *Internat. Press, Cambridge, MA*, 199?. (Jing Xue Yin) **99c:35245** 35Q99 (35K99, 82B26)

— (*with* Lu, Kening; Zeng, Chongchun) Normally hyperbolic invariant manifolds for semiflow in a Banach space. *Differential equations and applications* (*Hangzhou*, 1996), 22–29, *Internat. Press, Cambridge, MA*, 199?. (Jürgen Scheurle) **99h:58136** 58F15 (58F30)

— (*with* Lu, Kening; Zeng, Chongchun) Foliations for semiflows in Banach spaces near a normally hyperbolic invariant manifold. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 30–40, *Internat. Press, Cambridge, MA*, 199?. (Jürgen Scheurle) **99h:58137** 58F15 (58F18)

— (*with* Lu, Kening; Zeng, Chongchun) Existence and persistence of invariant manifolds for semiflows in Banach space. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 645, *viii*+129 *pp.* (Jürgen Scheurle) **99b:58210** 58F30 (34G20, 35B40, 47H20, 58F15, 58F39)

— (*with* Dancer, Edward Norman; Shi, Junping) Multi-spike stationary solutions of the Cahn-Hilliard equation in higher-dimension and instability. (English summary) *Adv. Differential Equations* **4** (1999), *no.* 1, 1–69. (Siegfried Carl) **99k:35097** 35K60 (35B25, 35B40, 58E50)

— (*with* Alikakos, Nicholas D.; Chen, Xinfu) Periodic traveling waves and locating oscillating patterns in multidimensional domains. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2777–2805. (Gunter Bengel) **99j:35101** 35K57 (35B10, 35B25)

— *see also* **Differential equations and applications, 99b:00013**

Bates, R. A. (*with* Riccomagno, Eva; Schwabe, Rainer; Wynn, Henry P.) Lattices and dual lattices in optimal experimental design for Fourier models. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 3, 283–296. 62K05

Bates, S. M. A capacity representation theorem for some non-convex domains. *Math. Z.* **227** (1998), *no.* 4, 571–581. (Karl Friedrich Siburg) **99b:58090** 58F05 (53C15)

Bateson, William B. (*with* Hewett, Dennis W.) Grid and particle hydrodynamics: beyond hydrodynamics via fluid element particle-in-cell. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 358–378. (Summary) **99c:76079** 76M25

Batgerel, B. (*with* Zhanlav, T.) On the numerical solution of Shrödinger [Schrödinger] equation. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 95–99, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 81Q05 (81–08)

Bătineţu-Giurgiu, Maria A Riccati type system attached to a boundary control problem for Laplace equation. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 143–148. 93C20 (35J05, 49K20)

Batir, N. (*with* Yilmaz, A.; Yıldız, Mustafa) A note on idempotents of group algebra. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 175–182. 16S34 (16U99)

Batista, Antônio M. (*with* Viana, Ricardo L.) Synchronization of coupled kicked limit cycle systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 12, 1931–1944. (Summary) **99h:34059** 34C15 (34C05, 70K10)

Batista, E. (*with* Gomes, J. F.; Lautenschleguer, I. J.) Hamiltonian reduction and the construction of q-deformed extensions of the Virasoro algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 29, *L*537–*L*542. (Zoltán Bajnok) **99g:81067** 81R10 (17B68, 81R50, 81T40)

Batitsky, Vadim Empiricism and the myth of fundamental measurement. *Synthese* **116** (1998), *no.* 1, 51–73. (Richard A. Alò) **99m:00005** 00A30

Batkhuu, Ts. Two examples concerning the α_0-box topology. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 24–25. 54E52 (54B10)

Batllo, J.-C. (*with* Vaishampayan, V. A.) Asymptotic analysis of multiple description quantizers. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 278–284. (Summary) **99a:94017** 94A29

Batoz, Jean Louis (*with* Ayad, Rezak; Dhatt, Gouri) A new hybrid-mixed variational approach for Reissner-Mindlin plates. The MiSP model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1149–1179. (Summary) **99d:73085** 73V05 (73K10)

Batra, Prashant Improvement of a convergence condition for the Durand-Kerner iteration. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 117-125. (Summary) **99e:65084** 65H05

Batra, R. C. (*with* dell'Isola, Francesco; Ruta, Giuseppe C.) A second-order solution of Saint-Venant's problem for an elastic pretwisted bar using Signorini's perturbation method. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 113–127. (Summary) **99e:73037** 73C50

— Numerical solutions of initial-boundary-value problems with shear strain localization. (English summary) *Localization and fracture phenomena in inelastic solids* (*Udine*, 1997), 301–389, *CISM Courses and Lectures*, 386, *Springer, Vienna*, 1998. (*see* **99g:73002**) 73E50 (73B30, 73E60, 73V05)

— Linear constitutive relations in isotropic finite elasticity. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 243–245. (Summary) **99i:73023** 73C50 (73G05)

— (*with* dell'Isola, Francesco; Vidoli, S.) A second-order solution of Saint-Venant's problem for a piezoelectric circular bar using Signorini's perturbation method. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 75–90. (Summary) **99k:73105** 73R05

— (*with* Oh, Hyung-Seok) Application of Zienkiewicz-Zhu's error estimate with superconvergent patch recovery to hierarchical p-refinement. (English summary) *Finite Elem. Anal. Des.* **31** (1999), *no.* 4, 273–280. (Summary) **99k:73115** 73V05

— (*with* Chen, Li[3]) The asymptotic structure of a shear band in mode-II deformations. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 7, 895–919. 73E60 (73B30)

Batsell, S. (*with* Fedorov, Valerii V.; Flanagan, D.) Multivariate prediction: selection of the most informative components to measure. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 215–222, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62103** 62K05

Batsevych, O. F. Deformed oscillators with interaction. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 397–402, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81S05 (81R50)

Battaglia, Francesco (*with* Baragona, Roberto) Testing time series for interpolability and whiteness. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2623–2644. (Jiří Anděl) **99e:62152** 62M10

Battail, Gérard On random-like codes. (English summary) *Information theory and applications, II* (*Lac Delage, PQ*, 1995), 76–94, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (John Karlof) **99a:94059** 94B60 (94B10, 94B70)

Battelli, Flaviano (*with* Lazzari, Claudio) Homoclinic bifurcation in N-dimensional noninvertible maps having a semi-hyperbolic fixed point. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **6** (1999), *no.* 1, 1–24. (Michal Fečkan) **99m:58136** 58F14 (34C23, 34C37, 58F15)

Batten, Lynn Margaret ★ Combinatorics of finite geometries. (English summary) Second edition. *Cambridge University Press, Cambridge*, 1997. xiv+193 *pp. ISBN* 0-521-59014-0; 0-521-59993-8 (Tamás Szőnyi) **99c:51001** 51-01 (51Exx)

Batterman, Robert W. Why equilibrium statistical mechanics works: universality and the renormalization group. (English summary) *Philos. Sci.* **65** (1998), *no.* 2, 183–208. (Manfred Salmhofer) **99j:82034** 82B28 (03B30, 82B03)

Battermann, A. (*with* Heinkenschloss, Matthias) Preconditioners for Karush-Kuhn-Tucker matrices arising in the optimal control of distributed systems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 15–32, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Claudia A. Sagastizábal) **99e:49042** 49M30 (49N10, 65K10, 90C30)

Battigalli, Pierpaolo Dynamic consistency and imperfect recall. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 31–50. (*see* **99b:90162**) 90A05 (90C40)

Battilotti, Giulia Embedding classical logic into basic orthologic with a primitive modality. (English summary) *Log. J. IGPL* **6** (1998), *no.* 3, 383–402. (Henry Africk) **99m:03126** 03G12 (03B05, 03B45, 03B53, 03F05, 03F50)

Battilotti, S. Robust output feedback stabilization via a small gain theorem. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 3, 211–229. (Andrzej Świerniak) **99b:93043** 93D21

— Noninteracting control via static measurement feedback for nonlinear systems with relative degree. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 774–779. (Summary) **99m:93040** 93B52 (93B05, 93C10)

di Battista, Giuseppe *see* **Di Battista, Giuseppe**

Battiti, Roberto (*with* Protasi, Marco) Reactive search, a history-sensitive heuristic for MAX-SAT. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 31 *pp.* (*electronic*). 68T20 (68Q25, 68T05)

— (*with* Protasi, Marco) Approximate algorithms and heuristics for MAX-SAT. *Handbook of combinatorial optimization, Vol.* 1, 77–148, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C10)

— (*with* Bertossi, A.; Rizzi, Romeo) Randomized greedy algorithms for the hypergraph partitioning problem. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 21–35, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68007**) 68M10 (68Q35, 68R10, 90C35)

Battke, Henrik (*with* Stalling, Detlev; Hege, Hans-Christian) Fast line integral convolution for arbitrary surfaces in 3D. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 181–195, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)

Battye, Richard A. (*with* Carter, Brandon) Non-divergence of gravitational self-interactions for Nambu-Goto strings. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 49–53. (Summary) **99c:81170** 81T30 (83E30)

Batunina, V. P. (*with* Usenko, V. M.) Near-filters and semigroups of linear transformations. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 153–156, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20M20

Batyrev, V. V. Mirror symmetry and toric geometry. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 239–248 (*electronic*). (Dimitrios I. Dais) **99k:14063** 14J32 (14M25, 52B20)

— (*with* Ciocan-Fontanine, Ionuţ; Kim, Bumsig; van Straten, Duco) Conifold transitions and mirror symmetry for Calabi-Yau complete intersections in Grassmannians. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 640–666. (Ralph Martin Kaufmann) **99m:14074** 14J32 (14D05, 14M25, 14N10, 32G20)

Batyrshin, Ildar Lexicographic estimates of the likelihood with universal bounds. II. Operations of negation. *J. Comput. Systems Sci. Internat.* **34** (1996), *no.* 6, 44–59; *translated from Izv. Ross. Akad. Nauk Teor. Sistemy Upravlen.* **1995**, *no.* 5, 133–151 (*Russian. Russian summary*). (Summary) **99d:04004** 04A72 (03B52, 68T30)

— (*with* Khabibulin, R.) On invariance of clustering algorithms. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 721–733. 62H30

— (*with* Wagenknecht, Michael) Fixed point properties of fuzzy negations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 975–981. (Summary) **99g:03026** 03B52

Batzoglou, Serafim (*with* Berger, Bonnie; Kleitman, Daniel J.; Lander, Eric S.; Pachter, Lior) Recent developments in computational gene recognition. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 649–658 (*electronic*). (Summary) **99g:92022** 92D20 (92D10)

Bau, Sheng (*with* Beineke, Lowell W.; Vandell, Robert) Decycling snakes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 79–87. (Summary) **99j:05117** 05C38

Bauchau, Olivier A. (*with* Bottasso, Carlo L.) On the design of energy preserving and decaying schemes for flexible, nonlinear multi-body systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 61–79. (Summary) **99j:73108** 73V15 (70–08, 73K12)

Baudin, G. (*with* Massoni, J.; Saurel, Richard; Demol, G.) A mechanistic model for shock initiation of solid explosives. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 710–736. (Summary) **99j:76068** 76L05 (80A25)

Baudinet, Marianne (*with* Chomicki, Jan; Wolper, Pierre) Constraint-generating dependencies. (English summary) *Database theory—ICDT '95* (*Prague*), 322–337, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68066** 68P15

Bauer, Andrej (*with* Clarke, Edmund M.; Zhao, Xudong) Analytica—an experiment in combining theorem proving and symbolic computation. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 295–325. 68T15 (68Q40)

Bauer, Christina Determination of convex bodies by projection functions. (English summary) *Geom. Dedicata* **72** (1998), *no.* 3, 309–324. (J. Böhm) **99i:52004** 52A20 (52A38, 52A39, 52B11)

Bauer, Claus On the sum of a prime and the kth power of a prime. *Acta Arith.* **85** (1998), *no.* 2, 99–118. (Alessandro Zaccagnini) **99e:11131** 11P55 (11N32, 11P32)

Bauer, Douglas (*with* van den Heuvel, Jan; Morgana, Aurora; Schmeichel, Edward) The complexity of toughness in regular graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 47–61. (Summary) **99j:05173** 05C85 (68Q25)

Bauer, Friedrich L. ★ Decrypted secrets. Methods and maxims of cryptology. *Springer-Verlag, Berlin*, 1997. xii+447 *pp. ISBN* 3-540-60418-9 (Neal Koblitz) **99a:94021** 94A60 (01A60, 68P25)

— Genesis of algorithmic languages. (English summary) With an appendix in German by K. Samelson. *Mathematical methods in program development* (*Marktoberdorf*, 1996), 215–269, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (A. D. Booth) **99c:68003** 68–03 (68N05, 68Q25)

— Pringsheim, Liebmann, Hartogs—Schicksale jüdischer Mathematiker in München. [Pringsheim, Liebmann, Hartogs—the fates of Jewish mathematicians in Munich] *Bayer. Akad. Wiss. Math.-Natur. Kl. Sitzungsber.* **1997**, 1–32. (Michael von Renteln) **99g:01031** 01A70 (01A60, 01A80)

— Olga Taussky-Todd 30.8.1906–7.10.1995. Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 9–12. (*see* **99c:01028**) 01A70

Bauer, H. F. (*with* Eidel, W.) Transient motion of a viscous liquid with free surface in a cylindrical container. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 2, 97–106. 76D99

Bauer, Luboš (*with* Mikulik, Miloslav) The least squares problem with linear equality constraints. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřinek*, 1995), 129–132, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 65F20

Bauer, M. *see* **Bauer, Michel**

Bauer, Mathias Approximations for decision making in the Dempster-Shafer theory of evidence. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 73–80, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

Bauer, Michel (*with* Abdesselam, Boucif; Arnaudon, Daniel) Centre and representations of $\mathcal{U}_q(\mathrm{sl}(2|1))$ at roots of unity. (English summary) *J. Phys. A* **30** (1997), *no.* 3, 867–880. (Summary) **99c:17022** 17B37 (81R50)

— (*with* Thuillier, Frank) Representatives of the Thom class of a vector bundle. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 29–45. (Bai-Ling Wang) **99m:58208** 58G40 (55N91, 57R20, 58D29)

Bauer, Peter H. (*with* Molchanov, A. P.) Robust stability of linear time-varying delta-operator formulated discrete-time systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 325–327. 93D09 (93C55)

Bauer, Robert Otto Characterizing Yang-Mills fields by stochastic parallel transport. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 536–549. (Elton Pei Hsu) **99i:58156** 58G32 (60H07, 60J65)

Bauer, Thomas On the cone of curves of an abelian variety. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 997–1006. (Juan-Carlos Naranjo) **99i:14005** 14C10 (14C25, 14K05)

Bauer, Thorsten On the automorphism group of Solomon's descent algebra. *Sém. Lothar. Combin.* **41** (1998), *Art. B41z*, 10 *pp.* (*electronic*). (Jonathan Brundan) **99i:20016** 20C30 (05E15)

Bäuerle, Nicole The advantage of small machines in a stochastic fluid production process. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 83–97. (Summary) **99a:90101** 90B30

— How to improve the performance of ATM multiplexers. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 81–89. (Summary) **99m:60146** 60K30

Baues, Hans-Joachim (*with* Hartl, Manfred; Pirashvili, Teimuraz) Quadratic categories and square rings. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 1–40. (Roland Schwänzl) **99f:18017** 18G50 (18G55, 55P15, 55Q25)

— The cobar construction as a Hopf algebra. (English summary) *Invent. Math.* **132** (1998), *no.* 3, 467–489. (Paul G. Goerss) **99j:55006** 55P35 (18G50, 55P62)

— Quadratic homology. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 429–475. (R. E. Stong) **99d:55003** 55N35 (55Q70, 55S20)

Baues, Oliver Left-symmetric algebras for $\mathfrak{gl}(n)$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2979–2996. (Alberto Elduque) **99j:17004** 17A30 (17B60, 17D25)

Baugh, James (*with* Finkelstein, David Ritz; Saller, Heinrich; Tang, Zhong) General covariance is Bose-Einstein statistics. (English summary) *On Einstein's path* (*New York*, 1996), 67–80, *Springer, New York*, 1999. (Sebastiano Sonego) **99m:83065** 83C45 (81P99)

Baulieu, Laurent (*with* Kanno, Hiroaki; Singer, I. M.) Special quantum field theories in eight and other dimensions. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 149–175. (Marcos Mariño) **99k:58033** 58D29 (53C07, 53C25, 57R57, 58D27, 81T60, 81T70)

— (*with* Schaden, Martin) Gauge group TQFT and improved perturbative Yang-Mills theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 6, 985–1012. (Bani Mitra Södermark) **99j:81190** 81T70 (81T13)

— *see also* **Strings, branes and dualities, 99k:81009**

Baum, Dieter Approximate analysis of non-cyclic multi-queue systems with batch Markovian arrival streams. (English summary) *Proceedings of the Eighth International*

Colloquium on Differential Equations (*Plovdiv*, 1997), 57–66, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90B22 (60K25)

Baum, Eric B. (*with* Boneh, Dan) Running dynamic programming algorithms on a DNA computer. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 77–85, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68054** 68Q05 (68Q20)

— DNA sequences useful for computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 235–241, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)

— *see also* **DNA based computers, 99f:68002**

Baum, Gabriel A. (*with* Frias, Marcelo F.; Haeberer, Armando M.) Fork algebras in algebra, logic and computer science. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 1–25. (Summary) **99f:03091** 03G25 (03B70, 68Q60)

— (*with* Martínez López, Pablo E.) Fork algebraic datatypes. (English summary) *Log. J. IGPL* **6** (1998), *no.* 4, 531–543. (V. Căzănescu) **99g:68134** 68Q65 (03B70, 08A70, 68Q55)

Baum, Joseph D. (*with* Luo, Hong; Löhner, Rainald) A fast, matrix-free implicit method for compressible flows on unstructured grids. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 664–690. (Summary) **99h:76074** 76M25 (76N15)

Bauman, Patricia (*with* Phillips, Daniel; Tang, Qi) Stable nucleation for the Ginzburg-Landau system with an applied magnetic field. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 1, 1–43. (Peter E. Zhidkov) **99g:58040** 58E50 (35Q55, 82D55)

Baumann, Carlos Erik (*with* Oden, J. Tinsley; Babuška, Ivo M.) A discontinuous *hp* finite element method for diffusion problems. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 491–519. (Gert Lube) **99m:65173** 65M12 (65M60, 76M10)

Baumann, Gerd MathLie a program of doing symmetry analysis. (English summary) *Math. Comput. Simulation* **48** (1998), *no.* 2, 205–223. 35–04 (35A30, 65–04)

Baumann, Pierre (*with* Schmitt, Frédéric) Classification of bicovariant differential calculi on quantum groups (a representation-theoretic approach). (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 71–86. (Axel Schüler) **99f:58012** 58B30 (16W30, 17B37, 81R50)

— On the center of quantized enveloping algebras. (English summary) *J. Algebra* **203** (1998), *no.* 1, 244–260. (Anthony Joseph) **99g:17025** 17B37

Baumberger, T. (*with* Berthoud, P.) Shear stiffness of a solid-solid multicontact interface. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1615–1634. (From the summary) **99e:73002** 73–05 (73T05)

Baumeister, Barbara Factorizations of primitive permutation groups. *J. Algebra* **194** (1997), *no.* 2, 631–653. (Qinhai Zhang) **99i:20004** 20B15 (20D40)

— (*with* Stroth, Gernot) The non-canonical gluings of two affine spaces. (English summary) *Groups and geometries* (*Siena*, 1996), 9–28, *Trends Math., Birkhäuser, Basel*, 1998. (Dmitrii V. Pasechnik) **99k:51013** 51E24 (20F05, 51E20)

— (*with* Pasini, Antonio) On $C_2.L$-geometries. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 33–59. (Francis Buekenhout) **99k:51014a** 51E24 (05B25, 20B25)

— A characterization of the finite soluble groups. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 3, 167–176. (Arnold D. Feldman) **99m:20028** 20D10 (20D40, 20E28)

— *see also* **Pasini, Antonio, 99k:51014b**

Baumgarte, Thomas W. (*with* Cook, Gregory B.; Scheel, Mark A.; Shapiro, Stuart L.; Teukolsky, Saul A.) General relativistic models of binary neutron stars in quasiequilibrium. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7299–7311. 83F05

— (*with* Scheel, Mark A.; Cook, Gregory B.; Shapiro, Stuart L.; Teukolsky, Saul A.) Treating instabilities in a hyperbolic formulation of Einstein's equations. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044020, 12 *pp.* (Summary) **99k:83002** 83–08 (83C57)

Baumgärtel, Hellmut (*with* Lledó, Fernando) Superselection structures for C^*-algebras with nontrivial center. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 7, 785–819. (Summary) **99g:46097** 46L60 (81T05)

— Erhard Schmidt, John von Neumann. *Mathematics in Berlin*, 97–104, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

Baumgarten, Christoph (*with* Farin, Gerald E.) Smooth rational cubic spline interpolation. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 17–24, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:65012** 65D07 (41A15, 65D05)

Baumgartner, B. (*with* Breitenecker, M.; Urbantke, Helmuth K.) On group structure in Copernican quasicrystallography. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 845–848. (Summary) **99m:20122** 20H15 (82D25)

Baumgartner, Peter (*with* Aravindan, Chandrabose) A rational and efficient algorithm for view deletion in databases. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 165–179, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68P15 (68N17)

— (*with* Furbach, Ulrich) Calculi for disjunctive logic programming. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 229–243, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68014** 68N17 (68Q55)

— Hyper tableau—the next generation. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 60–76, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

Bäumker, Armin (*with* Dittrich, Wolfgang; Meyer auf der Heide, Friedhelm) Truly efficient parallel algorithms: 1-optimal multisearch for an extension of the BSP model. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 175–203. (Summary) **99g:68080** 68Q22

Baumrind, Sheldon (*with* Korn, Edward L.) Clinician preferences and the estimation of causal treatment differences. (English summary) With comments and a rejoinder by the authors. *Statist. Sci.* **13** (1998), *no.* 3, 209–235. 62P10

Baumslag, Gilbert (*with* Bridson, Martin R.; Gruenberg, Karl W.) On the absence of cohomological finiteness in wreath products. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 222–230. (J. R. J. Groves) **99f:20050** 20E22 (20J05)

Baumstein, Anatoly I. Steady nonsymmetrical gravity waves with shear in water. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 3, 267–290. (Summary) **99k:76022** 76B15 (76M15)

Baur, Franziska Operator ideals, orthonormal systems and lacunary sets. (English summary) *Math. Nachr.* **197** (1999), 19–28. (A. Pietsch) **99m:47024** 47B10 (43A55, 47B38, 47D50)

Bauslaugh, Bruce L. (*with* Zhu, Xuding) Circular colourings of infinite graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 79–80. (Summary) **99c:05060** 05C15

— Tearing a strip off the plane. (English summary) *J. Graph Theory* **29** (1998), *no.* 1, 17–33. (Hari Pulapaka) **99j:05063** 05C15 (05C10, 05C38)

Bautier, Karin (*with* Bañados, Máximo; Coussaert, Olivier; Henneaux, Marc; Ortiz, Miguel E.) Anti-de Sitter-CFT correspondence in three-dimensional supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085020, 6 *pp.* (Summary) **99k:83131** 83E50 (81T40)

Bautin, S. P. (*with* Kazakov, A. L.) A Cauchy problem with initial data on different surfaces for a system with a singularity. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 13–23; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 10, 11–21 (1998). (Henryk Kołakowski) **99a:35059** 35J55 (35F20)

Bautista, César A Poincaré-Birkhoff-Witt theorem for generalized Lie color algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3828–3843. (Ellen E. Kirkman) **99i:17013** 17B37 (17B35)

Bautista, Joaquín (*with* Companys, Ramon; Corominas, Albert) Modelling and solving the production rate variation problem (PRVP). (English summary) *Top* **5** (1997), *no.* 2, 221–239. (Summary) **99c:90059** 90B30 (90C27)

lópez-Bautista, Pedro Ricardo *see* **López-Bautista, Pedro Ricardo**

Bautista, Raymundo *see* **Bautista Ramos, Raymundo**

Bautista, Serafín (*with* Varela, Januario) On the co-completeness of the category of Hausdorff uniform spaces. (English summary) *Rev. Colombiana Mat.* **31** (1997), *no.* 2, 109–114. (Summary) **99i:18007** 18B30 (18A30, 54B30)

Bautista Ramos, Raymundo (*with* Zhang, Yingbo; Li, Size; Lei, Tian-Gang) The representation category of a bocs. III. Several classes of homogeneous almost split sequences. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 143–149. (Yasuo Iwanaga) **99c:16015** 16G70 (16G20)

— (*with* Zhang, Yingbo; Lei, Tian-Gang) The representation category of a bocs. IV. The case of $M(x) = J_1 \oplus J_2 \oplus J_3$. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 3, 289–295. (Yasuo Iwanaga) **99c:16016** 16G70 (16G20)

— (*with* Zhang, Yingbo; Lei, Tian-Gang) A matrix description of a wild category. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 461–475. (Summary) **99m:16028** 16G60 (18C99, 18E99)

Bauval, Anne $RKK(X)$-nucléarité (d'après G. Skandalis). (English and French summaries) [$RKK(X)$-nuclearity (after G. Skandalis)] *K-Theory* **13** (1998), *no.* 1, 23–40. (Evgeniĭ V. Troitskiĭ) **99h:19007** 19K35 (19L47, 46A32, 46L80)

Bauwens, Kristien (*with* van den Bergh, Michel) Normalizing extensions of the two-Veronese of a three-dimensional Artin-Schelter regular algebra on two generators. (English summary) *J. Algebra* **205** (1998), *no.* 2, 368–390. (Darin R. Stephenson) **99e:16057** 16W50 (16E10, 16P40)

Baviera, R. (*with* Pasquini, M.; Serva, Maurizio) A variational approach to Ising spin glasses in finite dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4127–4140. (Summary) **99b:82086** 82D30 (82B20)

Bavinck, Herman A difference operator of infinite order with Sobolev-type Charlier polynomials as eigenfunctions. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 3, 281–291. (Valeri Kaliaguine) **99g:33016** 33C45 (39A70, 42C10)

— Linear perturbations of differential or difference operators with polynomials as eigenfunctions. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 1, 179–195. (N. Hayek Calil) **99b:34020** 34A35 (33C45, 34L05, 39A70, 47B39)

— Addenda and errata to: "Linear perturbations of differential or difference operators with polynomials as eigenfunctions" [J. Comput. Appl. Math. **78** (1997), no. 1, 179–195; MR 99b:34020]. *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 145–146. (N. Hayek Calil) **99b:34021** 34A35 (33C45, 34L05, 39A70, 47B39)

— Differential operators having Laguerre type and Sobolev type Laguerre polynomials as eigenfunctions: a survey. (English summary) *Special functions and differential equations* (*Madras*, 1997), 102–118, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33005** 33C45 (34B30, 34L40)

— On the sum of the coefficients of certain linear differential operators. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 213–217. (Khélifa Trimèche) **99h:33032** 33C45

— Some new results for Charlier and Meixner polynomials. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 51–56. (Dharma P. Gupta) **99g:33017** 33C45

— Differential and difference operators having orthogonal polynomials with two linear perturbations as eigenfunctions. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 85–95. (Valeri Kaliaguine) **99k:33021** 33C45 (34A99, 39A70, 47B39)

Bavula, Vladimir Krull, Gelfand-Kirillov, and filter dimensions of simple affine algebras. (English summary) *J. Algebra* **206** (1998), *no.* 1, 33–39. (Jan Okniński) **99i:16045** 16P60 (16P90, 16S32)

— (*with* Van Oystaeyen, Freddy) Krull dimension of generalized Weyl algebras and iterated skew polynomial rings: commutative coefficients. (English summary) *J. Algebra* **208** (1998), *no.* 1, 1–34. (Timothy J. Hodges) **99f:16021** 16P60 (16S36)

Bawa, N. P. S. (*with* Shrivastava, Praveen Kumar; Raich, Vivek V.) Common fixed point theorems for three mappings under weak commutativity condition. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 207–214. 54H25

Baxa, Christoph On the discrepancy of the sequence $(\alpha\sqrt{n})$. II. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 5, 366–370. (Michael Drmota) **99f:11096** 11K38 (11K06)

— (*with* Schoissengeier, J.) On the discrepancy of the sequence $(\alpha\sqrt{n})$. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 529–544. (Robert F. Tichy) **99k:11118** 11K31 (11K38)

Baxter, Colin (*with* Loudon, R.) Topological equivalence in the theory of trapped ions. (English summary) *J. Modern Opt.* **45** (1998), *no.* 6, 1303–1308. (Summary) **99b:81256** 81T99

Baxter, Rodney J. A direct proof of Kim's identities. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1105–1108. (Ken Ono) **99i:11095** 11P82

— Some hyperelliptic function identities that occur in the chiral Potts model. (English summary) *J. Phys. A* **31** (1998), *no.* 32, 6807–6818. (George E. Andrews) **99k:82019** 82B23 (33E05, 82B20)

— Functional relations for the order parameters of the chiral Potts model. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 499–524. (Robert A. Weston) **99i:82012**

82B23 (82B20)
— Functional relations for the order parameters of the chiral Potts model: low-temperature expansions. (English summary) *Phys. A* **260** (1998), *no.* 1-2, 117–130. (Gunter Schütz) **99m:82012** 82B23 (82B20)
Bay, K. (*with* Lay, Wolfgang; Slavyanov, Sergei Yu.) Asymptotic and numeric study of eigenvalues of the double confluent Heun equation. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8521–8531. (Summary) **99g:34020** 34A20 (34B05, 34E05, 65L15)
Bayada, Guy Some mathematical problems in the thin film lubrication theory. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 3–6, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76D08 (35Q35)
— (*with* Chambat, Michèle; Ciuperca, Ionel Sorinel) Comportement asymptotique d'un fluide dans un domaine mince variable en temps. (English and French summaries) [Asymptotic behavior of a fluid in a thin time-varying domain] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 265–268. (Introduction) **99e:76035** 76D08
— (*with* Chambat, Michèle; Vázquez Cendón, C.) Characteristics method for the formulation and computation of a free boundary cavitation problem. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 191–212. (Summary) **99h:76055** 76M10 (65N30, 76D08, 76M25)
— (*with* Chambat, Michèle; Lakhal, A.) A dynamic contact problem with regularized friction law. Application to impact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 67–85. (Summary) **99f:73071** 73T05
Bayard, David S. (*with* Spanos, John; Rahman, Zahidul) A result on exponential tracking error convergence and persistent excitation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1334–1338. 93B40 (93E25)
Bayarri, M. J. (*with* Berger, James O.) Robust Bayesian analysis of selection models. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 645–659. (Mohan Delampady) **99k:62054** 62F15 (62G05)
Bayasgalan, Ts. On strongly stable normal operators in Krein spaces. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 255–258. (Summary) **99b:47054** 47B50 (47A55)
al-Bayati, A. Y. *see* **Al-Bayati, A. Y.**
Baye, D. (*with* Lévai, G.; Sparenberg, J.-M.) Phase-equivalent potentials from supersymmetry: analytical results for a Natanzon-class potential. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8257–8271. (Avinash Khare) **99c:81259** 81U05 (81Q60)
Bayer, Dave (*with* Sturmfels, Bernd) Cellular resolutions of monomial modules. (English summary) *J. Reine Angew. Math.* **502** (1998), 123–140. (Andrew Kustin) **99g:13018** 13D02 (13D25)
— (*with* Peeva, Irena V.; Sturmfels, Bernd) Monomial resolutions. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 31–46. (Ralf Fröberg) **99c:13029** 13D02 (13P10)
Bayer, Margaret M. An upper bound theorem for rational polytopes. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 141–145. (Summary) **99e:52013** 52B05 (52B11)
Bayer, N. (*with* Kogan, Yakov A.) Branching/queueing networks: their introduction and near-decomposability asymptotics. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 251–269 (1998). (Summary) **99a:60098** 60K25 (60J85, 90B22)
Bayer-Fluckiger, Eva Local-global principles and linear algebraic groups. *Number theory* (*Eger*, 1996), 45–53, *de Gruyter, Berlin*, 1998. (Claus Scheiderer) **99d:11036** 11E72 (11E57)
— (*with* Parimala, R.) Classical groups and the Hasse principle. *Ann. of Math.* (2) **147** (1998), *no.* 3, 651–693. (Adrian R. Wadsworth) **99g:11055** 11E72 (11E57, 20G10)
Baylis, John ★ Error-correcting codes. (English summary) A mathematical introduction. Chapman and Hall Mathematics Series. *Chapman & Hall, London*, 1998. *xii+219 pp. ISBN* 0-412-78690-7 (David H. Green) **99h:94001** 94-01 (94Bxx)
Baylis, W. E. (*with* Jones, George) Crumeyrolle-Chevalley-Riesz spinors and covariance. (English summary) *Clifford algebras and spinor structures*, 125–132, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Waldyr Alves Rodrigues, Jr.) **99a:15011** 15A66 (53A50, 81R25)
Bayliss, Alvin (*with* Schult, D. A.; Matkowsky, Bernard J.) Traveling waves in natural counterflow filtration combustion and their stability. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 806–852 (*electronic*). (Vitaly A. Volpert) **99b:80010** 80A25 (76E99, 76S05)
— (*with* Class, Andreas G.; Matkowsky, Bernard J.) Localized flickering cellular flames. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 942–964 (*electronic*). (Summary) **99j:80008** 80A25
Bayón Arnáu, L. (*with* Suárez Rodríguez, P.; Alvarez Vigil, A.) Pollution emissions optimization of hydro-thermal systems. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 15 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 90C90 (76M25)
Bayoumi, Aboubakr Mean value theorem for complex locally bounded spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 91–103. (Richard M. Aron) **99c:46035** 46E50 (46G05)
— Fundamental theorem of calculus for locally bounded spaces. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 101–106. (Introduction) **99i:46030** 46G05 (46A16)
— New separation theorems and Krein-Milman theorem in locally bounded spaces. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 107–118. (From the introduction) **99j:46004** 46A22
Bayoumi, Fatma (*with* Gähler, Werner; Kandil, Ali; Nouh, A. A.) The theory of global fuzzy neighborhood structures. I. The general case. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 225–254. (From the summary) **99h:54005** 54A40
— (*with* Gähler, Werner; Kandil, Ali; Nouh, A. A.) The theory of global fuzzy neighborhood structures. II. Fuzzy topogenous orders. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 153–173. 54A40
— (*with* Gähler, Werner; Kandil, Ali; Nouh, A. A.) The theory of global fuzzy neighborhood structures. III. Fuzzy uniform structures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 175–199. 54A40
— (*with* Kandil, Ali; Nouh, A. A.) On strong notions in fuzzy topological spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 751–773. 54A40
Bayrak, Hülya (*with* Oral Erbas, Semra) Different patterns with zero partial association for five variables in contingency tables. (English summary) *Far East J. Theor. Stat.* **2** (1998), *no.* 1, 95–103. (Summary) **99j:62082** 62H17
Bayram, Mustafa Application of computer algebra techniques to enzyme kinetics. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 73–81. (Summary) **99b:92016** 92C45 (68Q40)
— Application of computer algebra techniques to affinity binding equations. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 83–90. (Summary) **99b:92014** 92C40 (68Q40)
Bayramoğlu, M. (*with* Taşçı, F.; İsmailov, S.) Higher trace formulas for Sturm Liouville equation with unbounded operator coefficient in finite interval. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 199–208. (Vladimir Vasil'evich Dubrovskiĭ) **99b:34098** 34G10 (34B24, 34L40)
Bays, Timothy Some two-cardinal results for o-minimal theories. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 543–548. (O. V. Belegradek) **99m:03072** 03C68 (03C45, 03C55)
Bayu Surarso Interpolation theorem for L_{DBCC} and L_{DBCK}. Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 178–186. (*see* **99d:03003**) 03B46
el Baz, Didier *see* **El Baz, Didier**
Bazalīĭ, B. V. On the Stefan problem for the Laplace equation. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 1, 11–16. (Jan Koroński) **99a:35275** 35R35 (35J05, 35K05, 80A22)
flores-Bazán, Fabián *see* **Flores-Bazán, Fabián**
Bazán, Fermin S. V. (*with* Bezerra, Licio H.) Eigenvalue locations of generalized companion predictor matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 886–897 (*electronic*). (Ilse C. F. Ipsen) **99e:15007** 15A18 (12D10, 65F15)
Bazan, Jan G. (*with* Nguyen, Hung Son; Nguyen, Tuan Trung; Skowron, Andrzej; Stepaniuk, Jaroslaw) Synthesis of decision rules for object classification. (English summary) *Incomplete information: rough set analysis*, 23–57, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T10 (04A72)
Bazanella, Alexandre S. (*with* Kokotović, Petar V.; e Silva, Aguinaldo S.) A dynamic extension for $L_g V$ controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 93*b*52. 93D05
Bażański, Stanisław L. The split and propagation of light rays in relativity. (English summary) *On Einstein's path* (*New York*, 1996), 81–93, *Springer, New York*, 1999. (János Kánnár) **99m:83023** 83C10 (78A60)
Bazarova, M. P. *see* **Problems in the diffraction and propagation of waves, 99g:78002**
Bazarsad, Yadam (*with* Enkhbat, Rentsen; Kamada, Masaru) Finite algorithm for maximizing convex quadratic functions over compact set. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 29–40. 90C20 (90C25)
Băzăvan, Petre Object interpreter for 3D graphics. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 81–97 (1997). 65D10 (65Y25)
Bazeia, D. (*with* Nascimento, J. R. S.; Ribeiro, R. F.; Toledo, D.) Soliton stability in systems of two real scalar fields. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8157–8166. (Summary) **99b:58073** 58E50 (70G50)
— (*with* Jackiw, R.) Nonlinear realization of a dynamical Poincaré symmetry by a field-dependent diffeomorphism. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 246–259. (Violeta V. Tretynyk) **99m:81128** 81T10 (20C35, 81R05)
— (*with* Moraes, Fernando) Chiral solitons in generalized Korteweg-de Vries equations. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 450–454. (Summary) **99i:35134** 35Q53
— (*with* Edelstein, José D.; Trobo, M. L.; Brito, F. A.) Kinks inside supersymmetric domain ribbons. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7561–7569. (Summary) **99k:81304** 81T60
Bazgan, Cristina (*with* Santha, Miklos; Tuza, Zsolt) Efficient approximation algorithms for the subset-sums equality problem. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 387–396, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q25
— (*with* Santha, Miklos; Tuza, Zsolt) On the approximation of finding a(nother) Hamiltonian cycle in cubic Hamiltonian graphs (extended abstract). (English summary) *STACS* 98 (*Paris*, 1998), 276–286, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25
— (*with* Santha, Miklos; Tuza, Zsolt) On the approximation of finding a(nother) Hamiltonian cycle in cubic Hamiltonian graphs. (English summary) *J. Algorithms* **31** (1999), *no.* 1, 249–268. (A. G. Thomason) **99m:05146** 05C85 (05C45, 68Q25, 68R10)
Bazhanov, Vladimir V. (*with* Lukyanov, Sergei L.; Zamolodchikov, Aleksandr B.) Integrable structure of conformal field theory. II. Q-operator and DDV equation. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 247–278. (Rinat Kedem) **99h:81191** 81T40 (81R10, 82B23)
— (*with* Ellem, R. M.) Thermodynamic Bethe ansatz for the subleading magnetic perturbation of the tricritical Ising model. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 563–580. (Deng Feng Wang) **99a:82017** 82B20 (81T40, 82B23)
Bazhanov, Yu. S. (*with* Kondrat'ev, Vyacheslav Vasil'evich) A stream approach to the structural-time coordination of digital computing devices and systems. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 604–606. 68Q10 (68M07)
Bazhlekova, Emilia Duhamel-type representations of the solutions of non-local boundary value problems for the fractional diffusion-wave equation. (English summary) *Transform methods & special functions, Varna* '96, 32–40, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:26008** 26A33 (35C99, 35K99)
— The abstract Cauchy problem for the fractional evolution equation. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 255–270. (Shu Chun Gao) **99m:34126** 34G10 (35F99, 47D06)
Bazilevich, L. E. Topology of a hyperspace of convex bodies of constant width. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 813–819; *translation in Math. Notes* **62** (1997), *no.* 5-6, 683–687 (1998). (Dmitry N. Kozlov) **99i:57039** 57N20 (52A20, 54B20)
Bazlamaçcı, Cüneyt F. (*with* Hindi, Khalil S.) Verifying minimum spanning trees in linear time. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 139–144, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27 (90C35)

Bazykin, A. D. ★ Nonlinear dynamics of interacting populations. (English summary) With a biography of the author by Elena P. Kryukova, Yegor A. Bazykin and Dmitry A. Bazykin. Edited and with a foreword by Alexander I. Khibnik and Bernd Krauskopf. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 11. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii*+193 *pp. ISBN* 981-02-1685-8 (D. O. Logofet) **99k:92001** 92–02 (34C23, 92D25)

Bazykin, Dmitry A. *see* **Bazykin, A. D., 99k:92001**

Bazykin, Yegor A. *see* **Bazykin, A. D., 99k:92001**

Bazzani, Armando (*with* Beccaceci, Luca) Diffusion in Hamiltonian systems driven by harmonic noise. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5843–5854. (Summary) **99c:70023** 70H05 (70L05, 78A35, 82C31)

Bazzi, Louay (*with* Akra, Mohamad) On the solution of linear recurrence equations. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 195–210. (Renzo Sprugnoli) **99c:68115** 68Q25 (11B37)

Bazzoni, Silvana Idempotents of the class semigroup of a Prüfer domain of finite character. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 79–89, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Marco Fontana) **99k:13015** 13C20 (13F05, 20M12)

Béal, Marie-Pierre (*with* Perrin, Dominique) Symbolic dynamics and finite automata. *Handbook of formal languages, Vol.* 2, 463–505, *Springer, Berlin*, 1997. (François Blanchard) **99a:68102** 68Q45 (03D05, 20M35, 54H20, 58F03, 58F08, 68Q68)

— (*with* Bassino, Frédérique; Perrin, Dominique) Super-state automata and rational trees. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 42–52, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68143** 68Q45 (68Q70)

— (*with* Senellart, Jean) On the bound of the synchronization delay of a local automaton. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 297–306. (Summary) **99f:68135** 68Q68 (68Q45)

Beals, Richard William Solutions fondamentales exactes. (English summary) [Exact fundamental solutions] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. I*, 9 *pp., Univ. Nantes, Nantes*, 1998. (*see* **99d:35002**) 35A08

— (*with* Sattinger, David H.; Szmigielski, Jacek) Acoustic scattering and the extended Korteweg-de Vries hierarchy. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 190–206. (Mayumi Ohmiya) **99i:34120** 34L25 (34A55, 35Q53)

— (*with* Greiner, Peter C.; Jiang, Yaping; Seco, Luis A.) A functional calculus on the Heisenberg group and the boundary layer potential $\Box_+^{-1}$ for the $\bar{\partial}$-Neumann problem. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 205–228. (Jorge Lauret) **99f:22013** 22E30 (22E25, 35P05, 47F05)

— (*with* Gaveau, Bernard; Greiner, Peter C.) Uniforms hypoelliptic Green's functions. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 3, 209–248. (Gerald B. Folland) **99e:35024; EA 99m** 35H05 (35A08, 35C99)

— A note on fundamental solutions. *Comm. Partial Differential Equations* **24** (1999), *no.* 1-2, 369–376. (Philip W. Schaefer) **99m:35007** 35A08 (35H05)

— (*with* Sattinger, David H.; Szmigielski, Jacek) Multi-peakons and a theorem of Stieltjes. (English summary) *Inverse Problems* **15** (1999), *no.* 1, *L1–L4*. 35Q51 (35Q53)

Beals, Robert M. Algorithms for matrix groups and the Tits alternative. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 593–602, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q40 (20G15)

— (*with* Thakur, Dinesh S.) Computational classification of numbers and algebraic properties. *Internat. Math. Res. Notices* **1998**, *no.* 15, 799–818. (Jean-Paul Allouche) **99g:11028** 11B85 (11J99, 68Q45)

— (*with* Chang, Richard; Gasarch, William I.; Torán, Jacobo) On finding the number of graph automorphisms. (English summary) *Chicago J. Theoret. Comput. Sci.* **1999**, *Article* 1, 28 *pp.* (*electronic*). (Dieter Kratsch) **99m:68076** 68Q25 (05C60, 05C85, 68Q15)

Beame, Paul (*with* Impagliazzo, Russell; Pitassi, Toniann) Improved depth lower bounds for small distance connectivity. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 692–701, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q15)

— (*with* Riis, Søren) More on the relative strength of counting principles. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 13–35, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Roman Murawski) **99c:03082** 03F20

— (*with* Pitassi, Toniann) Propositional proof complexity: past, present, and future. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 65 (1998), 66–89. 03F20 (03D15, 68Q15)

— (*with* Borodin, Allan; Raghavan, Prabhakar; Ruzzo, Walter L.; Tompa, Martin) A time-space tradeoff for undirected graph traversal by walking automata. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1051–1072 (*electronic*). (From the text) **99m:68077** 68Q25 (05C40, 68Q05, 68R10)

Beamish, D. (*with* Hunter, Geoffrey[2]; Ecimovic, P.; Schlifer, I.; Walker, I. M.; Donev, S.; Kowalski, Marian; Arslan, S.; Heck, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

Bean, James C. (*with* Norman, Bryan A.) A genetic algorithm methodology for complex scheduling problems. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 199–211. 90C35 (90C90)

Bean, Nigel (*with* Pollett, P. K.; Taylor, Peter G.) The quasistationary distributions of level-independent quasi-birth-and-death processes. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 389–406. (Erik A. van Doorn) **99b:60101** 60J10 (60J80)

Bean, Steve P. Riemannian manifolds satisfying $[\mathrm{Ric} \wedge g, W] = 0$. (English summary) *Note Mat.* **15** (1995), *no.* 2, 161–168 (1997). (Maria Helena Noronha) **99b:53064** 53C25

Beane, Silas R. A note on Wess-Zumino terms and discrete symmetries. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 147–155. (Summary) **99i:81265** 81V05 (81R40, 81T10)

Beard, Randal W. (*with* Saridis, George N.; Wen, John T.) Galerkin approximations of the generalized Hamilton-Jacobi-Bellman equation. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 12, 2159–2177. (G. W. Hedstrom) **99b:65077** 65K10 (49L20, 65M60)

— (*with* McLain, Timothy W.) Successive Galerkin approximation algorithms for nonlinear optimal and robust control. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 717–743. (Fabio Camilli) **99j:49059** 49L20 (93B36, 93B40)

— (*with* Saridis, George N.; Wen, John T.) Approximate solutions to the time-invariant Hamilton-Jacobi-Bellman equation. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 589–626. (Viorel Arnautu) **99d:49051** 49L20 (49M15)

Beardmore, R. E. (*with* Song, Yong Hua) Differential-algebraic equations: a tutorial review. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1399–1411. (Summary) **99g:34006** 34A09 (34C23, 34D99)

— Stability and bifurcation properties of index-1 DAEs. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 43–53. (W. C. Rheinboldt) **99k:34003** 34A09 (34C23)

Beardon, Alan F. Analytic contraction of the unit disc. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 209–218. (Summary) **99b:30030** 30D05 (30D40)

— The dynamics of contractions. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1257–1266. (Summary) **99j:58107** 58F08 (54H20)

— The Apollonian metric of a domain in $\mathbf{R}^n$. *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 91–108, *Springer, New York*, 1998. (S. J. Patterson (Zbl 890.30030)) **99k:30075** 30F45 (30C65)

— *see also* **Workshop: Value Distribution Theory and its Applications, 99a:30002**

Beasley, J. E. (*with* Lucena, Abilio) A branch and cut algorithm for the Steiner problem in graphs. (English summary) *Networks* **31** (1998), *no.* 1, 39–59. (Xue Liang Li) **99b:05034** 05C05 (90C35)

— *see also* **Advances in combinatorial optimization, 99k:90002**

Beasley, Leroy B. (*with* Monson, Sylvia D.; Pullman, Norman J.) Linear operators that strongly preserve graphical properties of matrices. II. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 53–66. (Summary) **99j:15004** 15A04 (05C50)

— Spaces of rank-2 matrices over GF(2). (English summary) *Electron. J. Linear Algebra* **5** (1999), 11–18 (*electronic*). (Walter S. Sizer) **99k:15031** 15A33 (15A03)

Beato-Moreno, A. (*with* Ruiz-Canales, P.; Luque-Calvo, P.-L.; Blanquero-Bravo, R.) Multiobjective quadratic problem: characterization of the efficient points. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 425–438, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90103** 90C29 (90C20)

Beatson, R. K. (*with* Greengard, Leslie) A short course on fast multipole methods. (English summary) *Wavelets, multilevel methods and elliptic PDEs* (*Leicester*, 1996), 1–37, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1997. (Summary) **99a:65142** 65N30 (65N55, 70–08, 78–08)

— (*with* Newsam, G. N.) Fast evaluation of radial basis functions: moment-based methods. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1428–1449 (*electronic*). (Ming Gen Cui) **99d:65059** 65D20 (41A30)

Beattie, Margaret (*with* Dăscălescu, Sorin; Raianu, Ş.) Galois extensions for co-Frobenius Hopf algebras. (English summary) *J. Algebra* **198** (1997), *no.* 1, 164–183. (Stefaan Caenepeel) **99c:16034** 16W30

— (*with* Dăscălescu, Sorin; Raianu, Ş.; Van Oystaeyen, Freddy) The categories of Yetter-Drinfel'd modules, Doi-Hopf modules and two-sided two-cosided Hopf modules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 223–237. (Stefaan Caenepeel) **99h:16054** 16W30

— (*with* Dăscălescu, Sorin; Grünenfelder, L.; Năstăsescu, C.) Finiteness conditions, co-Frobenius Hopf algebras, and quantum groups. (English summary) *J. Algebra* **200** (1998), *no.* 1, 312–333. (Mitsuhiro Takeuchi) **99c:16035** 16W30

Beatty, John C. (*with* Bartels, Richard H.) Connection-matrix splines by divided differences. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 9–16, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D07 (41A15)

Beatty, Millard F. (*with* Pan, Feixia) Remarks on the instability of an incompressible and isotropic hyperelastic, thick-walled cylindrical tube. (English summary) *J. Elasticity* **48** (1997), *no.* 3, 217–239. (Summary) **99e:73038** 73C50 (73G05)

— (*with* Pan, Feixia) Instability of an internally constrained hyperelastic material. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 169–177. (Summary) **99g:73032** 73C50 (73D15, 73D35)

Beaty, M. G. (*with* Dodson, M. M.) An application of a general sampling theorem. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 241–254. (David F. Walnut) **99j:94001** 94A05 (42C15, 94A12, 94A29)

Beaucoup, Franck (*with* Carraro, Laurent) A question in reliability theory. (English summary) *Approximation theory*, 87–95, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41005** 41A10 (62N05, 90B25)

— Maximal points of stable and related polynomials. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 434–440. (Summary) **99b:41003** 41A10 (30C15, 42C05)

— (*with* Borwein, Peter B.; Boyd, David W.; Pinner, Christopher G.) Multiple roots of $[-1, 1]$ power series. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 135–147. (Raphaële Supper) **99c:30005** 30C15 (26C10, 30B10)

Beaudry, Martin Languages recognized by finite aperiodic groupoids. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 299–317. (Dong Yang Long) **99j:68065** 68Q45 (68Q70)

Beaugé, C. On the effect of short-period terms in resonance trapping. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 283–303. (Summary) **99a:70017** 70F10

Beaumont, O. Solving interval linear systems with linear programming techniques. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 293–309. (Ljiljana Petković) **99j:65081** 65G10 (65F10, 65K05, 90C08)

Beauquier, Bruno Broadcasting in WDM optical rings and tori. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 63–73, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99j:90027** 90B12 (05C85)

— (*with* Hell, Pavol; Pérennes, Stéphane) Optimal wavelength-routed multicasting. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 15–20. (Summary) **99c:94002** 94A05 (90B12)

girault-Beauquier, Danièle *see* **Girault-Beauquier, Danièle**

Beauregard, Raymond A. (*with* Suryanarayan, E. R.) The Brahmagupta triangles. *College Math. J.* **29** (1998), *no.* 1, 13–17. (Andrew Bremner) **99e:11027** 11D09 (51M04)

Beauvais, Jean-René (*with* Nowak, David; Talpin, Jean-Pierre) Co-inductive axiomatization of a synchronous language. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 387–399, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (68T15)

Beauville, Arnaud Quantum cohomology of complete intersections. *R.C.P.* 25, *Vol.* 48, 57–68, *Prépubl. Inst. Rech. Math. Av.*, 1997/42, *Univ. Louis Pasteur, Strasbourg*, 1997. (Editors) **99k:14086** 14N10 (14M10)

— The Verlinde formula for PGL_p. *The mathematical beauty of physics* (*Saclay*, 1996), 141–151, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Jean-Marc Drezet) **99a:14016** 14D20

— Fano contact manifolds and nilpotent orbits. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 4, 566–583. (Dmitri I. Panyushev) **99e:14046** 14J45 (14L30, 32J18, 53C15)

— (*with* Laszlo, Yves; Sorger, Christoph) The Picard group of the moduli of G-bundles on a curve. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 183–216. (Jean-Marc Drezet) **99i:14011** 14D20 (14C22)

asselin de Beauville, J. P. *see* **Asselin de Beauville, J. P.**

Beauwens, R. *see* **Seminar: Monte Carlo Methods, 99d:65008**

Beauzamy, Bernard On complex Lee and Yang polynomials. (English summary) *Comm. Math. Phys.* **182** (1996), *no.* 1, 177–184. (Introduction) **99e:82004** 82B05 (32A99)

— Extremal products in Bombieri's norm. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 73–89 (1997). (Paolo Emilio Ricci) **99a:11028** 11C08 (11J99, 35A20)

— (*with* Luzeaux, Dominique) Stabilizing stationary linear discrete systems: minimal and balanced expansions in any real base. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 117–130. (Emilia Petrisor) **99e:93045** 93C55 (93D15, 93D21)

— Stability of the solutions of differential equations. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 151–158. (E. J. Barbeau) **99j:35006** 35A25 (30C10, 35C99, 46N20)

Beaver, Donald Plug and play encryption. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 75–89, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99c:94024** 94A60

Beaver, P. (*with* Canright, D.) The quasimonotonicity of linear differential systems. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 67–73. (Summary) **99i:34070** 34D20 (34C99)

Bebbington, M. S. (*with* Lai, C. D.) A generalized negative binomial and applications. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2515–2533. 62E15 (62N10)

— (*with* Pollett, P. K.; Ziedins, Ilze) Two-link approximation schemes for linear loss networks without controls. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 539–557. (Summary) **99i:90048a** 90B10 (60K30)

— (*with* Pollett, P. K.; Ziedins, Ilze) Errata to: "Two-link approximation schemes for linear loss networks without controls". *J. Korean Math. Soc.* **35** (1998), *no.* 4, 1061–1063. (Editors) **99i:90048b** 90B10 (60K30)

Bebernes, Jerrold (*with* Lacey, Andrew A.) Global existence and finite-time blow-up for a class of nonlocal parabolic problems. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 927–953. (Summary) **99a:35113** 35K55 (35B05, 35J60)

— Nonlocal problems modelling the formation of shear bands. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 67–71, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 73E50 (35Q72)

Bebiano, Natália (*with* da Providência, João) Numerical ranges in physics. (English summary) *Linear and Multilinear Algebra* **43** (1998), *no.* 4, 327–337. (Summary) **99a:15009** 15A60 (47A12)

— (*with* Perdigão, Cecília) Extremal matrices in certain determinantal inequalities. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 261–276. (Summary) **99j:15008** 15A15 (15A18, 15A45)

Bécache, E. (*with* Joly, Patrick; Tsogka, C.) Fictitious domain method applied to the scattering by a crack of transient elastic waves in anisotropic media: a new family of mixed finite elements leading to explicit schemes. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 322–326, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73V20 (73D25)

Bécar, Jean-Paul (*with* Fiorot, Jean-Charles) Massic-vector-based conics modelling. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix-Mont-Blanc*, 1996), 17–24, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65239** 65Y25

Beccaceci, Luca (*with* Bazzani, Armando) Diffusion in Hamiltonian systems driven by harmonic noise. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5843–5854. (Summary) **99c:70023** 70H05 (70L05, 78A35, 82C31)

Becchi, C. (*with* Giusto, S.; Imbimbo, C.) On the identification of observables in topological gauge models. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 138–141. (Noriaki Ano) **99c:81252** 81T70 (83C45)

Beceanu, Maria (*with* Pletea, Ariadna-Lucia) The finite element methods for a singular boundary value problem. (English and Romanian summaries) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **42(46)** (1996), *no.* 1-2, 49–54. (Jiří Nedoma) **99b:65136** 65N30 (65N15)

Becerra, V. M. (*with* Roberts, Peter David) Dynamic integrated system optimization and parameter estimation for discrete time optimal control of nonlinear systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 257–281. 49K30 (93C55)

Becerra Guerrero, Julio (*with* Aldaya, V.; Marmo, Giuseppe) Quantization on a Lie group: higher-order polarizations. *Symmetries in science, X* (*Bregenz*, 1997), 1–36, *Plenum, New York*, 1998. (Ivailo M. Mladenov) **99j:58083** 58F06 (81S10)

— (*with* Calixto, M.; Aldaya, V.) Generalized conformal symmetry and extended objects from the free particle. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 28, 4889–4911. (Anton V. Galajinsky) **99k:81130** 81S10 (81R99)

Bech, Knut H. (*with* Henningson, Dan S.; Henkes, Ruud A. W. M.) Linear and nonlinear development of localized disturbances in zero and adverse pressure gradient boundary-layers. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1405–1418. (Summary) **99c:76043** 76E05 (76D10, 76E30, 76F99, 76M25)

Bechata, Abdellah Calcul de Weyl p-adique. (English and French summaries) [p-adic Weyl calculus] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 157–160. (David Manderscheid) **99j:22014** 22E35 (11S80, 22E50)

Bechet, Denis (*with* de Groote, Philippe) Constructing different phonological bracketings from a proof net. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 118–133, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (Summary) **99e:68132** 68S05 (03B65, 03F50)

— (*with* de Groote, Philippe; Retoré, Christian) A complete axiomatisation for the inclusion of series-parallel partial orders. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 230–240, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Václav Koubek) **99b:06001** 06A06 (68Q42, 68R10)

Bechmann-Pasquinucci, H. (*with* Huttner, Bruno; Gisin, Nicolas) Non-linear quantum state transformation of spin-1/2. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 198–204. (Summary) **99b:81028** 81P99

— (*with* Gisin, Nicolas) Bell inequality, Bell states and maximally entangled states for n qubits. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 1–6. (Summary) **99f:81013** 81P05 (81P99)

Bechtell, H. (*with* Hofmann, Mark C.) Kernels of formations. (English summary) *Problems in algebra, No. 9* (*Russian*), 15–37, *Gomel. Gos. Univ., Gomel'*, 1996. (Martyn R. Dixon) **99h:20025** 20D10 (20D25, 20F17)

— (*with* Deaconescu, Marian; Silberberg, Gheorghe) Finite groups with large automizers for their abelian subgroups. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 266–270. (Jay Zimmerman) **99a:20024** 20D99 (20E34)

— Complementation and chief factors in finite groups. II. *Comm. Algebra* **26** (1998), *no.* 3, 947–965. (Giovanni Zacher) **99b:20038** 20D30 (20D25)

— (*with* Ballester-Bolinches, A.; Ezquerro Marín, Luis Miguel) On pre-Frattini residuals. *Glasgow Math. J.* **40** (1998), *no.* 2, 187–197. (Jian Hua Huang) **99k:20040** 20D10 (20D25, 20E28)

Beciu, Mircea (*with* Culetu, Hristu) Embedding as a substitute for the Kruskal maximal extension. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 1, 1–5. (Elizabeth Winstanley) **99m:83096** 83C57 (83C47)

Beck, Anatole (*with* Lim, Wei Shi; Alpern, Steve) Rendezvous search on the line with more than two players. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 357–364. (Summary) **99k:90207** 90D05

Beck, Andreas Lies about the Liar. (Spanish. English and Spanish summaries) *Theoria* (*San Sebastián*) (2) **12** (1997), *no.* 30, 513–550. (Summary) **99a:03005** 03A05

Beck, Carolyn (*with* Andersson, Lennart; Rantzer, Anders) Model comparison and simplification. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 157–181. (*see* **99k:93005**) 93B11 (93B17)

Beck, Christian Physical meaning for Mandelbrot and Julia sets. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 171–182. (Peter Petek) **99m:58153** 58F23 (78A35)

Beck, J. *see* **Beck, József**

Beck, J. L. (*with* Yang, Chi-Ming) Generalized trajectory methods for finding multiple extrema and roots of functions. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 211–227. (Summary) **99a:65074** 65H20 (65K10)

Beck, József Foundations of positional games. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 15–47. (Victor J. Baston) **99h:90128** 90D42 (90D05, 90D46)

— (*with* Chen, W. W. L.) Irregularities of point distribution relative to convex polygons. III. *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 222–230. (Robert F. Tichy) **99a:11093** 11K38

— Diophantine approximation and quadratic fields. *Number theory* (*Eger*, 1996), 55–93, *de Gruyter, Berlin*, 1998. (Jeffrey Lin Thunder) **99k:11108** 11J25 (11J71, 11K38, 11K60, 11R11)

— From probabilistic Diophantine approximation to quadratic fields. *Random and quasi-random point sets*, 1–48, *Lecture Notes in Statist.*, 138, *Springer, New York*, 1998. (D. R. Heath-Brown) **99m:11080** 11J71 (11J25, 11R11)

guttmann-Beck, Nili *see* **Guttmann-Beck, Nili**

Beck, Rudolf (*with* Deuflhard, Peter; Hege, Hans-Christian; Seebaß, Martin; Stalling, Detlev) Numerical algorithms and visualization in medical treatment planning. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 303–328, *Springer, Berlin*, 1997. (*see* **99g:68212**) 92C50

Bečka, Martin (*with* Vajteršic, Marián) Block-Jacobi SVD algorithms for distributed memory systems. I. Hypercubes and rings. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 265–287. (Summary) **99k:65029** 65F10 (65Y05)

Beckenstein, Edward (*with* Narici, Lawrence) The separating map: a survey. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 637–648. (J. Schmets) **99k:46032** 46E10 (46E25, 54D60)

Becker, Ann (*with* Geiger, Dan) A sufficiently fast algorithm for finding close to optimal junction trees. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 81–89, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

Becker, Bernd (*with* Drechsler, Rolf) ★ Graphenbasierte Funktionsdarstellung. (German) [Graph-based representation of functions] Boolesche und Pseudo-Boolesche Funktionen. [Boolean and pseudo-Boolean functions] Leitfäden der Informatik. [Basic Textbooks in Computer Science] *B. G. Teubner, Stuttgart*, 1998. 200 *pp. ISBN* 3-519-02149-8 (S. Rudeanu) **99m:94071** 94C10 (06E30, 68Q99, 90C09, 94C15)

Becker, C. *see* **Becker, Claudia**

Becker, Claas (*with* Gielerak, R.; Ługiewicz, P.) Covariant SPDEs and quantum field structures. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 231–258. (Jiang Lun Wu and Hanno Gottschalk) **99d:81072** 81T08 (35R60, 60H15, 81T05)

Becker, Claudia (*with* Gather, Ursula) Outlier identification and robust methods. *Robust inference*, 123–143, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

Becker, Eberhard (*with* Schmid, Joachim) On the real Nullstellensatz. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 173–185, *Springer, Berlin*, 1999. (Thomas C. Craven) **99m:13048** 13P10 (14P05, 14Q20)

Becker, Eric B. (*with* Canga, Marcelo E.) An iterative technique for the finite element analysis of near-incompressible materials. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 79–101. (Summary) **99k:73112** 73V05 (73C50)

Becker, Howard Polish group actions: dichotomies and generalized elementary embeddings. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 397–449. (Wim Veldman) **99g:03051** 03E15 (03C15, 22A05, 28D15)

Becker, James C. (*with* Schultz, Reinhard E.) Axioms for bundle transfers and traces. *Math. Z.* **227** (1998), *no.* 4, 583–605. (Donald W. Kahn) **99f:55021** 55R12 (55M20)

— (*with* Gottlieb, Daniel Henry) Spaces of local vector fields. (English summary) *Higher homotopy structures in topology and mathematical physics* (*Poughkeepsie, NY*, 1996), 21–28, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:57046** 57R25 (55P47, 55R12)

Becker, Jennifer (*with* Horak, Matthew; Van Wyk, Leonard) Presentations of subgroups of Artin groups. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 3–14. (Susan Hermiller) **99f:20052** 20F05 (20F36)

Becker, Jules *see* **Beckers, Jules**

Becker, Jürgen (*with* Strelen, Johann Christoph; Bärk, Berthold; Jonas, Volker) Analysis of queueing networks with blocking using a new aggregation technique. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 121–142. (Summary) **99b:90062** 90B22 (60K25)

Becker, Katrin (*with* Becker, Melanie) Complete solution for M(atrix) theory at two loops. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 19, 4 *pp.* (*electronic*). (Summary) **99i:81168** 81T30 (33C20, 83E30)

— Testing M(atrix) theory at two loops. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 165–171. (Summary) **99e:81173** 81T30 (81T15)

— (*with* Becker, Melanie) Graviton scattering amplitudes in M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6464–6470. (Summary) **99m:81171** 81T30 (81T18, 83E30)

Becker, M. *see* **Becker, Monique**

Becker, M. B. On integral representation of the continuous $O(n)$-positive definite functions. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 133–149. (Aleksandr Koldobsky) **99d:42013** 42A82 (47A57)

Becker, Melanie (*with* Becker, Katrin) Complete solution for M(atrix) theory at two loops. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 19, 4 *pp.* (*electronic*). (Summary) **99i:81168** 81T30 (33C20, 83E30)

— (*with* Becker, Katrin) Graviton scattering amplitudes in M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6464–6470. (Summary) **99m:81171** 81T30 (81T18, 83E30)

Becker, Monique (*with* Moulki, M.; Beylot, André-Luc; Truffet, L.) An aggregation technique to evaluate the performance of a two-stage buffered ATM switch. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 373–392. (*see* **99a:90010**) 90B12 (90B22, 94A05)

— (*with* Kaddeche, Hichem; Beylot, André-Luc) Approche analytique pour l'étude des performances de serveurs multimédias multidisques. (English and French summaries) [Analytic approach for studying the performance of multidisk servers] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 227–251. (*see* **99e:90004**) 90B25 (90B22)

Becker, Niels G. (*with* Utev, Sergei) A limit result for U-statistics of binary variables. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 853–856. (N. C. Weber) **99g:60067** 60F15

— (*with* Britton, Tom) Statistical studies of infectious disease incidence. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 287–307. 62P10

Becker, Robert (*with* Zilcha, Itzhak) Stationary Ramsey equilibria under uncertainty. (English summary) *J. Econom. Theory* **75** (1997), *no.* 1, 122–140. (Summary) **99d:90024** 90A14 (90D05)

Becker, Ronald (*with* Lari, Isabella; Lucertini, Mario; Simeone, Bruno) Max-min partitioning of grid graphs into connected components. (English summary) *Networks* **32** (1998), *no.* 2, 115–125. (Summary) **99e:05112** 05C85 (68Q25)

Beckermann, Bernhard (*with* Kalyagin, V. A.) The diagonal of the Padé table and the approximation of the Weyl function of second-order difference operators. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 481–510. (Luis Verde-Star) **99h:39021** 39A70 (41A21, 65D15)

— (*with* Bourreau, Emmanuel) How to choose modified moments? (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 81–98. (Summary) **99g:65024** 65D20 (33C45)

— (*with* Labahn, George) When are two numerical polynomials relatively prime? (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 677–689. (Summary) **99h:65091** 65F99 (13P99)

Beckers, D. J. J. F. L. Schröder on the foundations of geometry: a case study of a failed attempt to obtain rigour in geometry in the Netherlands—1835. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 113–134. (Summary) **99g:01018** 01A55 (51-03)

Beckers, J. *see* **Beckers, Jules**

Beckers, Jean-Marie (*with* Deleersnijder, Eric; Campin, Jean-Michel; El Mohajir, Mohammed; Fichefet, Thierry; Luyten, Patrick) Some mathematical problems associated with the development and use of marine models. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 39–86, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A05

Beckers, Jules On specific symmetries of the KdV equation and on new representations of nonlinear sl(2)-algebras. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 108–114, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Carlo Morosi) **99c:58064** 58F07 (35A30, 35Q53, 58F35)

— (*with* Debergh, Nathalie; Nikitin, Anatolii) Reducibility of supersymmetric quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1991–2003. (Summary) **99g:81057** 81Q60

— (*with* Debergh, Nathalie) On radial Schrödinger equations in curved spaces and their spectra through nonlinear constraints. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 401–408. (Edward L. Bueler) **99a:58157** 58G25 (35J10, 58G40, 81Q05, 81Q60)

— On nonlinear sl(2)-algebras and the angular momentum theory. (English summary) *Special functions and differential equations* (*Madras*, 1997), 212–217, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81059** 81R05

— (*with* Debergh, Nathalie; Gotti, C.) On generalized Darboux transformations and symmetries of Schrödinger equations. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 214–232. (Tuncay Aktosun) **99d:81042** 81Q60 (35J10, 81Q05)

— (*with* Bagchi, Bijan Kumar; Debergh, Nathalie) Generating symmetry operators for the KdV equation and seeking their supersymmetric generalizations. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3203–3213. (Alexey V. Samokhin) **99e:58159** 58F35 (35Q53, 58F07)

— (*with* Debergh, Nathalie; Szafraniec, Franciszek Hugon) A proposal of new sets of squeezed states. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 256–260. (Summary) **99c:81076** 81R30

Beckers, Marcel (*with* Schmidt, M. R.; Nielsen, A. H.; Rasmussen, Jens Juul; van Heijst, GertJan F.) On the interaction between two oppositely signed, shielded, monopolar vortices. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3099–3110. (Summary) **99g:76022** 76C05 (76-05, 76D05, 76M25)

Beckers, Pierre (*with* Dufeu, Emilio) 3-D error estimation and mesh adaptation using improved R.E.P. method. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 413–426, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Beckert, Bernhard (*with* Gabbay, Dov M.) Fibring semantic tableaux. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 77–92, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

— (*with* Hartmer, Ulrike) A tableau calculus for quantifier-free set-theoretic formulae. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 93–107, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

— (*with* Hähnle, Reiner; Escalada-Imaz, Gonzalo) Simplification of many-valued logic formulas using anti-links. (English summary) *J. Logic Comput.* **8** (1998), *no.* 4, 569–587. (Siegfried Gottwald) **99h:03009** 03B50 (94C10, 94D05)

Beckhoff, Ferdinand Discrete group actions and the minimal primal ideal space. (English summary) *Math. Scand.* **80** (1997), *no.* 2, 289–309. (Steven P. Kaliszewski) **99f:46077** 46L05 (46L55)

— Countability properties of the ideal space of a Banach algebra and D-algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 451–464. (R. J. Loy) **99a:46091** 46H10 (46J20)

Beckman, Richard J. (*with* Tietjen, Gary L.) Correction: "Two-sided tolerance limits for balanced random-effects ANOVA models" [Technometrics **31** (1989), no. 2, 185–197; MR 90f:62230]. *Technometrics* **40** (1998), *no.* 3, 269. 62J10 (62F15)

Beckmann, Arnold (*with* Pohlers, Wolfram) Applications of cut-free infinitary derivations to generalized recursion theory. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 7–19. (Cristian Calude) **99f:03062** 03D60 (03D55, 03F05, 03F35)

Beckner, William (*with* Regev, Amitai) Asymptotic estimates using probability. (English summary) *Adv. Math.* **138** (1998), *no.* 1, 1–14. (Peter Kirschenhofer) **99j:05011** 05A16 (20C30, 60C05)

— Geometric proof of Nash's inequality. *Internat. Math. Res. Notices* **1998**, *no.* 2, 67–71. (Jiří Rákosník) **99c:35024** 35B45 (26D10, 46E35)

van Beckum, F. P. H. Hamiltonian numerics for Hamiltonian wave models. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 399–404, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 65M70 (35Q53, 76B15)

Bector, C. R. (*with* Chandra, Suresh; Kumar, Vinod[2]) Fenchel duality in generalized fractional programming. *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 373–386, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dorel Duca) **99k:90174** 90C32 (49N15)

Béda, Gyula Investigation of constitutive relations of solids using partial differential equations. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 115–121. (*see* **99m:34001**) 73B05 (73D99)

Bedard, Katherine Bohm, spin, and the Bell inequalities. (English summary) *Synthese* **114** (1998), *no.* 3, 405–444. (Dennis Dieks) **99i:81007** 81P05 (81P15)

— Material objects in Bohm's interpretation. (English summary) *Philos. Sci.* **66** (1999), *no.* 2, 221–242. 81P05

Beddaa, A. (*with* Oudadess, M.) Short proofs of some structure theorems on m-convex algebras. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 25–27. (Summary) **99a:46086** 46H05

— Caractérisations des Q-algèbres localement multiplicativement convexes. (English summary) [Characterizations of locally multiplicatively convex Q-algebras] *Bull. Greek Math. Soc.* **39** (1997), 9–16. (Catalin Badea) **99f:46067** 46H05

— (*with* Cheikh, O. H.) Boundedness of characters in locally A-convex algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 91–98. (M. Abel) **99h:46082** 46H05 (46J05)

Bede *see* **Moreton, Jennifer, 99a:01009**

Bedeaux, D. (*with* Murdoch, A. I.) A microscopic perspective on the physical foundations of continuum mechanics. II. A projection operator approach to the separation of reversible and irreversible contributions to macroscopic behaviour. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 10-11, 921–949. (Summary) **99a:73003** 73A05 (73B30, 73V30, 82C31)

Beder, Jay H. (*with* Gomulkiewicz, Richard) Computing the selection gradient and evolutionary response of an infinite-dimensional trait. (English summary) *J. Math. Biol.* **36** (1998), *no.* 3, 299–319. (Immanuel M. Bomze) **99f:92009** 92D10 (46E22, 46N60, 60G15, 92D15)

— Conjectures about Hadamard matrices. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 7–14. (Summary) **99g:05036** 05B20

— On Rao's inequalities for arrays of strength d. (English summary) *Util. Math.* **54** (1998), 85–109. (Summary) **99g:05032** 05B15

Bedford, David (*with* Whitaker, Roger M.) Enumeration of transversals in the Cayley tables of the non-cyclic groups of order 8. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 77–81. (Summary) **99i:05200** 05D15 (20D60)

Bedford, Eric (*with* Pambuccian, Victoria) Dynamics of shift-like polynomial diffeomorphisms of $\mathbf{C}^N$. (English summary) *Conform. Geom. Dyn.* **2** (1998), 45–55 (*electronic*). (Marco Abate) **99e:32042** 32H50
— (*with* Pinchuk, S. I.) Domains in $\mathbf{C}^2$ with noncompact automorphism groups. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 199–222. (Steven George Krantz) **99e:32058** 32M05 (32A07)
Bedford, Tim (*with* Fisher, Albert M.) Ratio geometry, rigidity and the scenery process for hyperbolic Cantor sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 531–564. (Summary) **99b:58137** 58F11 (58F15)
Bedi, Sanjeev (*with* Warkentin, Andrew; Ismail, Fathy) Intersection approach to multi-point machining of sculptured surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 567–584. (Summary) **99c:65041** 65D17
adda-Bedia, M. *see* **Adda-Bedia, M.**
Bedivan, Dana M. (*with* Fix, George J.) Least squares methods for Volterra equations and generalizations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 679–693. (Gustaf Gripenberg) **99f:65199** 65R20 (45L05)
Bedjaoui, Nabil (*with* Sainsaulieu, Lionel) Analysis of a non-hyperbolic system modelling two-phase fluid flows: the effects of surface tension. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 16, 1519–1542. (Summary) **99h:76087** 76T05 (35Q35, 76D45)
Bednar, Jan (*with* Katritch, Vsevolod; Michoud, Didier; Scharein, Robert G.; Dubochet, Jacques; Stasiak, Andrzej) Geometry and physics of knots. (English summary) *Nature* **384** (1996), *no.* 6605, 142–145. (Summary) **99b:92032** 92D20 (57M25)
Bedocchi, E. Remarks on a graph of primes in $\mathbf{Z}[i]$. (Italian. English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 51–56. (Franz Lemmermeyer) **99g:11125** 11R04 (05C99, 11R11)
Bedon, Nicolas (*with* Carton, Olivier) An Eilenberg theorem for words on countable ordinals. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 53–64, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:68105** 68Q70 (03D05, 20M35)
— Automata, semigroups and recognizability of words on ordinals. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 1, 1–21. (Boris M. Schein) **99a:68127** 68Q70 (03D05, 20M35)
Bedregal, Benjamín R. Callejas (*with* Acióly, Benedito Melo) A quasi-metric topology compatible with inclusion monotonicity on interval space. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 305–313. (Summary) **99a:65060** 65G10
Bedürftig, Thomas (*with* Murawski, Roman) Die Entwicklung der Symbolik in der Logik und ihr philosophischer Hintergrund. (German summary) [The development of symbolism in logic and its philosophical background] *Math. Semesterber.* **42** (1995), *no.* 1, 1–31. (Ignacio Angelelli) **99k:03001** 03–03 (00A35, 01A05)
Beeh, Volker Frege's sense and Tarski's undefinability. *Intelligence and artificial intelligence*, 82–95, *Springer, Berlin*, 1998. (*see* **99d:68211**) 03A05
Beem, John K. Stability of geodesic structures. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 567–570. (Paul E. Ehrlich) **99b:53060** 53C22 (53C50)
— (*with* Królak, Andrzej) Cauchy horizon end points and differentiability. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6001–6010. (Piotr T. Chruściel) **99h:83032** 83C57 (53C80, 83C75)
Beeri, Catriel (*with* Milo, Tova; Ta-Shma, Paula) Towards a language for the fully generic queries. *Database programming languages* (*Estes Park, CO*, 1997), 239–259, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99b:68004**) 68P15
Be'ery, Yair (*with* Reuven, Ilan) Entropy/length profiles, bounds on the minimal covering of bipartite graphs, and trellis complexity of nonlinear codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 580–598. (Summary) **99c:94051** 94B12 (05C90)
— (*with* Shany, Yaron; Reuven, Ilan) On the trellis representation of the Delsarte-Goethals codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1547–1554. (Summary) **99i:94068** 94B12
— (*with* Amrani, Ofer) Bounded-distance decoding: algorithms, decision regions, and pseudo nearest neighbors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3072–3082. (Summary) **99k:94058** 94B35
— (*with* Reuven, Ilan) Generalized Hamming weights of nonlinear codes and the relation to the Z_4-linear representation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 713–720. (Summary) **99m:94051** 94B05
Bees, M. A. (*with* Hill, N. A.) Non-linear bioconvection in a deep suspension of gyrotactic swimming micro-organisms. (English summary) *J. Math. Biol.* **38** (1999), *no.* 2, 135–168. (Summary) **99k:76166** 76Z10 (92C05, 92D50)
Beesham, Aroonkumar (*with* Paul, B. C.; Mukherjee, Sailaja Nanda) Higher derivative theory with viscosity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 499–507. 83D05
— (*with* Paul, B. C.; Mukherjee, Sailaja Nanda) Viscous cosmological models in $(1 + 1)$ dimensions. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 567–579. 83C99
— (*with* Singh, Gyan Prakash; Ghosh, Sushant) Cosmological models in generalized scalar-tensor theory with causal viscous fluid. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 6, 849–856. 83D05 (83F05)
— Physical interpretation of constants in the solutions to the Brans-Dicke equations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 805–810. 83D05
— (*with* Chatterjee, Sujit; Bhui, B.; Ghosh, Tanwi) Inhomogeneous cosmological models in $D = 6$, $N = 2$ Kaluza-Klein supergravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6544–6546. (Summary) **99k:83111** 83E15 (83E30)
Beeson, Michael Automatic generation of epsilon-delta proofs of continuity. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 67–83, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68T15 (03B35, 68Q40)
— Reality and truth in mathematics. (English summary) Perspectives on intuitionism. *Philos. Math.* (3) **6** (1998), *no.* 2, 131–168. (Charles F. Kielkopf) **99k:03007** 03A05 (00A30)
Beetle, Christopher Midi-superspace quantization of non-compact toroidally symmetric gravity. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 3, 471–495. (Viqar Husain) **99i:83032** 83C45
— (*with* Ashtekar, Abhay; Fairhurst, Stephen) Isolated horizons: a generalization of black hole mechanics. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, *L*1–*L*7. (Valter Moretti) **99k:83052** 83C57 (83C22, 83C47)
Beezer, Robert A. (*with* Farrell, Edward J.) Counting subgraphs of a regular graph. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 1, 47–55. (Haruo Hosoya) **99h:05060** 05C30 (68Q20)
marí Beffa, Gloria *see* **Marí Beffa, Gloria**
Beg, Afzal On B^*-quasigroups. (English summary) *Bull. Malaysian Math. Soc.* (2) **21** (1998), *no.* 1, 27–30. 20N05
— On B^*-quasigroups. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 41–44. 20N05
Beg, G. K. (*with* El-Gebeily, M. A.) A Galerkin method for singular two point linear boundary value problems. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 79–98. (Iulian Coroian) **99c:65142** 65L10 (34E05, 65L15, 65L60)
Beg, Ismat (*with* Azam, Akbar) Common fixed points for commuting and compatible maps. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 121–135. 54H25 (54C60)
— (*with* Popovici, I. Mircea; Petcu, Alexandru) Dual of a locally convex space of type (L). (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 219–222. (Summary) **99c:46004** 46A20
— (*with* Latif, Abdul) Geometric fixed points for single and multivalued mappings. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 791–800. (Ada Bottaro Aruffo) **99h:54062** 54H25 (47H04, 47H10)
— Approximation in random normed spaces. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1435–1442. (Jin Xuan Fang) **99a:46138** 46S50 (41A65)
— (*with* Shahzad, Naseer) A general fixed point theorem for a class of continuous random operators. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 21–24. (From the introduction) **99c:47088** 47H10 (47H40, 60H25)
— (*with* Arshad, Muhammad; Shabir, Muhammad) Fuzzy almost linear spaces. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 349–359. (Athanasios K. Katsaras) **99m:46180** 46S40 (46A19)
— Extension of fuzzy positive linear operators. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 849–855. (Dan Butnariu) **99i:47119** 47S40 (47B65)
— (*with* Xu, Hong-Kun) Measurability of fixed point sets of multivalued random operators. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 62–72. (Summary) **99f:47093** 47H40 (47H09, 47H10, 54C60, 54H25, 60H25)
— On fuzzy Zorn's lemma. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 181–183. (Summary) **99g:03054** 03E72
— A characterization of random approximations. (English summary) *Int. J. Math. Math. Sci.* **22** (1999), *no.* 1, 209–211. 41A30 (41A65, 60H30)
— (*with* Shahzad, Naseer) Some random approximation theorems with applications. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 609–616. (A. Nowak) **99k:47180** 47H40 (41A65, 47H10)
Bege, Antal The generalization of fixed point theorems in ultrametric spaces. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 17–21. (Ramendra Krishna Bose) **99i:54057** 54H25 (06A07, 47H10)
Begehr, Heinrich G. W. (*with* Akal, M.) On nonlinear Riemann-Hilbert boundary value problems for second order elliptic systems in the plane. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 331–351. (Summary) **99b:35047** 35J55 (30E25, 35Q15)
— (*with* Dzhuraev, Abdukhamid Dzhuraevich) ★ An introduction to several complex variables and partial differential equations. (English summary) Pitman Monographs and Surveys in Pure and Applied Mathematics, 88. *Longman, Harlow*, 1997. viii+454 *pp.* *ISBN* 0-582-25500-7 (Makhlouf Derridj) **99g:32001** 32–01 (35–01, 35A20, 35J99)
— Mathematik in Berlin. [Mathematics in Berlin] *Mathematik aus Berlin*, 3–10, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A72
— Boundary value problems in $\mathbf{C}$ and $\mathbf{C}^n$. *Acta Math. Vietnam.* **22** (1997), *no.* 2, 407–425. (Elias Wegert) **99i:30059** 30E25 (32A30, 35J55, 73C02, 73V35)
— Iterations of Pompeiu operators. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 13–21. (N. K. Karapetyants) **99g:47115** 47G10 (30E25, 32F05, 35J99)
— (*with* Hile, G. N.) A hierarchy of integral operators. *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 669–706. (Manfred W. Kracht) **99i:35013** 35F05 (30E20, 30G20, 35C15, 47G10)
— (*with* Habetha, Klaus; Hsiao, George C.) Laudatio for Robert Pertsch Gilbert on the occasion of his 65th anniversary. *Generalized analytic functions* (*Graz*, 1997), *xvii–xxvi*, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 01A70
— (*with* Lenz, Hanfried) Jacob Steiner and synthetic geometry. *Mathematics in Berlin*, 49–54, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70
— Constantin Carathéodory (1873–1950). *Mathematics in Berlin*, 105–109, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70
— Freie Universität Berlin. A summary of its history. *Mathematics in Berlin*, 151–160, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A73 (01A80)
— *see also* **Mathematics from Berlin, 99f:01003**; **Partial differential and integral equations, 99k:00034** *and* **Mathematics in Berlin, 99k:01080**
Begg, David William (*with* Liu, Xiao Jian) Sensitivity analysis of smart structures. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 311–322. 90C90 (73K50)
Beggs, Edwin J. (*with* Johnson, Peter R.) Inverse scattering and solitons in A_{n-1} affine Toda field theories. II. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 567–587. (Henrik Aratyn) **99i:81263** 81U40 (58F07, 81T10)
Beghdadi, Driss (*with* Maroni, Pascal) On the inverse problem of the product of a semi-classical form by a polynomial. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 377–399. (A. N. Srivastava) **99e:33005** 33C45 (33C90, 42C05)
Beghi, Alessandro (*with* Levy, Bernard C.) Discrete-time Gauss-Markov processes with fixed reciprocal dynamics. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 3, 25 *pp.* (*electronic*). (Summary) **99i:60088** 60G15 (60J05, 90C40)

— Continuous-time Gauss-Markov processes with fixed reciprocal dynamics. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 24 *pp.* (*electronic*). (Summary) **99i:60089** 60G15 (60J05, 90C40)

Begliuomini, R. (*with* Bassetto, A.; Nardelli, Giuliana) Time exponentiation of a Wilson loop for Yang-Mills theories in $2+\epsilon$ dimensions. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 491–512. (Summary) **99h:81143** 81T18 (81T13, 81T15)

Begmatov, Akbar Kh. A problem of integral geometry for families of second-order surfaces. (Russian) *Algebra and mathematical analysis* (*Russian*), 74–79, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 53C65 (35R30)

Begmatov, Akram Kh. Problems of integral geometry over special curves and surfaces with singularities at the vertices. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 151–153. (R. G. Mukhometov) **99c:53079** 53C65 (45D05)

— Problems of integral geometry in a three-dimensional space over cones and generators. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 727–728. (V. K. Oganyan) **99m:53135** 53C65 (52A22)

Béguin, Cédric (*with* Valette, Alain; Żuk, Andrzej) On the spectrum of a random walk on the discrete Heisenberg group and the norm of Harper's operator. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 4, 337–356. (Nobuaki Obata) **99e:60025** 60B15 (39A70, 60J15)

Beguin, M. (*with* Gray, Lawrence F.; Ycart, Bernard) The load transfer model. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 337–353. (Pablo A. Ferrari) **99h:60163** 60K35 (68M20)

Béguin, Philippe (*with* Cresti, Antonella) General information dispersal algorithms. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 87–105. (Ira S. Moskowitz) **99m:94030** 94A60 (68P20, 68P25, 94A15)

Begum, Anjuman A. (*with* Khan, Abdul Hamid) Concomitants of order statistics from Gumbel's bivariate Weibull distribution. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 133–140. 62G30

— (*with* Khan, Abdul Hamid) Concomitants of order statistics from bivariate Burr distribution. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 255–265. 62G30

Beh, Eric J. (*with* Davy, Pamela J.) Partitioning Pearson's chi-squared statistic for a completely ordered three-way contingency table. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 465–477. (Summary) **99k:62118** 62H17

el Beheiry, E. M. *see* **El Beheiry, E. M.**

Behera, A. (*with* Nayak, Lopamudra) On generalized bi-quasi-variational inequality problem. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 151–158. 49J40 (90C29)

— (*with* Panda, G. K.) A variant of Browder's theorem. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 139–147. (Daniel Goeleven) **99a:47102** 47H19 (49J40)

Behnam, Hazem Shaba (*with* Srivastava, G. S.) A note on growth of entire functions of two complex variables having zero order. (English summary) *Ganita* **49** (1998), *no.* 2, 137–147. (Vladimir Logvinenko) **99h:32005** 32A22 (32A15)

Behr, A. (*with* Camarinopoulos, L.) On the domination of hypergraphs by their edges. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 31–38. (Summary) **99b:05103** 05C65 (05C35)

— (*with* Camarinopoulos, L.) On matroid base families and the reliability computation of totally amenable systems. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 295–305, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (Summary) **99m:05044** 05B35 (90C27)

Behr, Helmut Arithmetic groups over function fields. I. A complete characterization of finitely generated and finitely presented arithmetic subgroups of reductive algebraic groups. (English summary) *J. Reine Angew. Math.* **495** (1998), 79–118. (Herbert Abels) **99g:20088** 20G30 (20F05)

Behravesh, H. The rational character table of special linear groups. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 77–85, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Roderick Gow) **99c:20057** 20G05 (20G40)

Behrend, Roger E. (*with* O'Brien, David L.; Pearce, Paul A.) Surface free energies and surface critical behaviour of the ABF models with fixed boundaries. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 285–295, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B27 (82B20)

— (*with* Pearce, Paul A.; Petkova, Valentina B.; Zuber, Jean-Bernard) On the classification of bulk and boundary conformal field theories. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 163–166. (Isabel P. Ennes) **99m:81214** 81T40 (81R10)

Behrends, Ehrhard The ghosts of the cat. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 321–330. (Franco Vivaldi) **99d:58134** 58F20 (58F08)

— (*with* Fiedler, Bernold) Periods of discretized linear Anosov maps. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 331–341. (Franco Vivaldi) **99c:58128** 58F20

— On the conditional expectation $E(X|X+W)$ in the case of independent random variables X, W. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 397–400. (Eddy Mayer-Wolf) **99k:60031** 60E05

Behrens, Jan (*with* Waack, Stephan) Equivalence test and ordering transformation for parity-OBDDs of different variable ordering. (English summary) *STACS* 98 (*Paris*, 1998), 227–237, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q05 (94C10)

Behringer, Robert P. *see* **Proceedings: Workshop on Nonlinear Dynamics and Chaos, 99f:58003**

Behrmann, Gerd (*with* Kristoffersen, Kåre; Larsen, Kim Guldstrand) Context-dependent minimization of state/event systems. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 3, 216–228. (Summary) **99e:68102** 68Q60

Behrndt, Klaus (*with* Cardoso, Gabriel Lopes; de Wit, Bernard; Kallosh, Renata; Lüst, Dieter; Mohaupt, Thomas) Classical and quantum $N=2$ supersymmetric black holes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 236–260. (Summary) **99f:83060** 83E30 (32J81, 81T30, 83C57)

— (*with* Gaida, Ingo; Lüst, Dieter; Mahapatra, Swapna; Mohaupt, Thomas) From type IIA black holes to T-dual type IIB D-instantons in $N=2$, $D=4$ supergravity. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 659–699. (Gianguido Dall'Agata) **99h:83051** 83E30 (81T30, 83C57, 83E50)

— (*with* Bergshoeff, E. A.) D-instantons and asymptotic geometries. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1801–1813. (C. Gauthier) **99g:81149** 81T30 (83E30)

— (*with* Lüst, Dieter; Sabra, Wafic A.) Stationary solutions of $N=2$ supergravity. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 264–288. (Sergey Nikolaevich Roshchupkin) **99a:83068** 83E50 (32J81, 83C57)

— (*with* Brunner, Ilka; Gaida, Ingo) Entropy and conformal field theories of AdS_3 models. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 310–316. (Summary) **99c:83082** 83E30 (81T30, 81T40, 83C57)

— (*with* Chamseddine, Ali H.; Sabra, Wafic A.) BPS black holes in $N=2$ five-dimensional ADS supergravity. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 97–101. (Summary) **99h:83052** 83E30 (83C57)

— (*with* Cvetič, Mirjam; Sabra, Wafic A.) Entropy of near-extreme $N=2$ black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084018, 7 *pp.* (Summary) **99m:83097** 83C57 (83E30)

Behzad, M. (*with* Mahmoodian, E. S.; Soltankhah, N.) Defining sets in total coloring of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 521–526, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05053** 05C15

— (*with* Akbari-Feyzaabaadi, S.; Hajiabolhassan, H.; Mahmoodian, E. S.) Uniquely total colorable graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 305–314. (Mirosław Truszczyński) **99b:05052** 05C15

Bei, Shukun (*with* Wei, Jun Chao; Chen, Jian Hua[2]) Graded singular properties of graded quotient rings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 131–134. (Andrei Kelarev) **99f:16046** 16W50 (16S90)

Beibel, M. Sequential change-point detection in continuous time when the post-change drift is unknown. (English summary) *Bernoulli* **3** (1997), *no.* 4, 457–478. (Yanhong Wu) **99c:62217** 62L10 (62C10, 90A09)

— Generalized parking problems for Lévy processes. (English summary) *Sequential Anal.* **17** (1998), *no.* 2, 151–171. (Albrecht Irle) **99j:62117** 62L15 (60G40, 60K05)

Beichl, Isabel (*with* Sullivan, Francis E.) Computational methods in random surface simulation. *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 175–192, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (*see* **99e:82103**) 82B41 (65Y25)

— (*with* Sullivan, Francis E.) Approximating the permanent via importance sampling with application to the dimer covering problem. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 128–147. (Summary) **99m:82021** 82B41 (15A15)

Beidar, K. I. On functional identities and commuting additive mappings. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1819–1850. (Matej Brešar) **99f:16023** 16R50 (16N60)

— On principally hereditary radicals. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3899–3912. (R. F. Rossa) **99i:16041** 16N80

— (*with* Fong, Yuen) On radicals of monomial algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3913–3919. (R. F. Rossa) **99i:16042** 16N80

— (*with* Fong, Yuen; Ke, W.-F.) On complemented radicals. (English summary) *J. Algebra* **201** (1998), *no.* 1, 328–356. (Edmund R. Puczyłowski) **99a:16015** 16N80 (16R20)

— (*with* Martindale, W. S., III) On functional identities in prime rings with involution. (English summary) *J. Algebra* **203** (1998), *no.* 2, 491–532. (Matej Brešar) **99f:16024** 16R50 (16N60, 16W10)

Beidleman, James C. (*with* Galoppo, Annalisa; Manfredino, M.) On PC-hypercentral and CC-hypercentral groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 3045–3055. (B. Amberg) **99g:20067** 20F19 (20F24)

— (*with* Robinson, Derek J. S.) The permutizer condition in infinite soluble groups. (English summary) *J. Algebra* **210** (1998), *no.* 1, 311–319. (Martin R. Pettet) **99m:20071** 20F16

Beier, Gudrun Optimal personnel configuration of branch office banking through applied queueing network theory. *Operations Research Proceedings* 1996 (*Braunschweig*), 157–162, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B22 (60K25, 90B10)

Beig, R. (*with* Ó Murchadha, Niall) Late time behavior of the maximal slicing of the Schwarzschild black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4728–4737. (Summary) **99k:83054** 83C57

Beigel, Richard (*with* Gasarch, William I.; Kummer, Martin Walter; Martin, Georgia; McNicholl, Timothy; Stephan, Frank) On the query complexity of sets. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 206–217, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **99b:03057** 03D15 (03D30)

— (*with* Maciel, Alexis) Upper and lower bounds for some depth-3 circuit classes. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 235–255. (Juraj Hromkovič) **99a:68083** 68Q25 (68Q15, 94C10)

— (*with* Tanin, Egemen) The geometry of browsing (invited paper). (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 331–340, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68U30 (90C27)

— (*with* Arvind, V.; Lozano, Antonio) The complexity of modular graph automorphism. (English summary) *STACS* 98 (*Paris*, 1998), 172–182, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68085** 68Q25

— (*with* Fu, Bin[2]) Solving intractable problems with DNA computing. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 154–168, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q05 (92D20)

— (*with* Goldsmith, Judy) Downward separation fails catastrophically for limited nondeterminism classes. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1420–1429 (*electronic*). (Lane Hemaspaandra) **99d:68078** 68Q15

van Beijeren, Henk (*with* Dorfman, J. R.; Latz, Arnulf) Bogoliubov-Born-Green-Kirkwood-Yvon hierarchy methods for sums of Lyapunov exponents for dilute gases. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 444–454. (András Krámli) **99k:82003** 82B05 (82B21)

— (*with* Latz, Arnulf; Dorfman, J. R.) Chaotic properties of dilute two- and three-dimensional random Lorentz gases: equilibrium systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4077–4094. (Summary) **99c:82040** 82C05 (58F13, 58F40, 82C40)

— *see also* **Fundamental problems in statistical mechanics, 99d:82003**

Beikert, G. J. Next event estimation of cell tallies. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 123–132. (Summary) **99e:65003** 65C05 (82C80)

Beimel, Amos (*with* Gál, Anna) On arithmetic branching programs. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 68–80, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68041** 68Q15

— (*with* Chor, Benny) Secret sharing with public reconstruction. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1887–1896. (Summary) **99j:94037** 94A60

Beineke, Lowell W. Topology. (English summary) *Graph connections*, 155–175, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05C10 (57M15)

— Biplanar graphs: a survey. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 1–8. (Joan Hutchinson) **99b:05119** 05C75

— (*with* Seoud, M. A.) On the strong multiplicativity of powers of paths. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 211–217. (Summary) **99j:05118** 05C38

— (*with* Bau, Sheng; Vandell, Robert) Decycling snakes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 79–87. (Summary) **99j:05117** 05C38

— *see also* **Graph connections**, **99a:05001**

Beintema, Mark B. (*with* Bonn, Jeffrey T.; Fitzgerald, Robert W.; Yucas, Joseph L.) Orderings of finite fields and balanced tournaments. *Ars Combin.* **49** (1998), 41–48. (N. Ito) **99d:05037** 05C20 (05B15, 11T99)

— (*with* Budzban, Gregory) Semigroups of binary stochastic matrices and convergence of nonhomogeneous Markov chains. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 348–358. (Göran Högnäs) **99k:60011** 60B15 (20M20, 60J10)

Beirão da Veiga, Hugo On the L^2-regularity theorems for a family of Stokes type systems. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 36–42, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:35099** 35Q30 (76D07)

— Concerning the regularity of the solutions to the Navier-Stokes equations via the truncation method. I. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1149–1156. (Alexander Yurjevich Chebotarev) **99d:35120** 35Q30 (35B65, 35J99, 76D05)

— Remarks on the smoothness of the $L^\infty(0,T;L^3)$ solutions of the 3-D Navier-Stokes equations. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 381–391. (Toshiaki Hishida) **99a:35198** 35Q30 (35B65, 76D05)

— Concerning the regularity of the solutions to the Navier-Stokes equations via the truncation method. II. (English summary) *Équations aux dérivées partielles et applications*, 127–138, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Alexander Yurjevich Chebotarev) **99i:35123** 35Q30 (35D10, 76D05)

— On the regular solutions of the evolution Navier-Stokes equations. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 18–25, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:35100** 35Q30 (76D05)

Beirl, Wolfgang (*with* Riedler, Jürgen; Bittner, Elmar; Hauke, Alf; Homolka, Peter; Markum, Harald) Phase structure and graviton propagators in lattice formulations of four-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1163–1173. 83C27 (83–08, 83C45)

Beirlant, J. (*with* Teugels, Jozef L.; Vynckier, P.) Some thoughts on extreme values. (English summary) *Probability towards* 2000 (*New York*, 1995), 58–73, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Summary) **99d:60055** 60G70 (62G30)

— (*with* Györfi, L.) On the L_1-error in histogram density estimation: the multidimensional case. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 197–216. (Summary) **99d:62028** 62G05

Bejan, Cornelia-Livia (*with* Benyounes, Michèle) Harmonic maps between almost para-Hermitian manifolds. *New developments in differential geometry, Budapest* 1996, 67–76, *Kluwer Acad. Publ., Dordrecht*, 1999. (Maria Falcitelli) **99k:53124** 53C50 (53C15, 58E20)

Bejancu, Aurel (*with* Deshmukh, Sharief) The transversal vector bundle of a lightlike Finsler submanifold. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 2, 37–51. (László Kozma) **99g:53069** 53C60 (53C40, 53C50)

— (*with* Deshmukh, Sharief) On the geometry of curves in Finsler manifolds. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 293–307. (Marco Abate) **99j:53016** 53B40 (53C60)

díaz Bejarano, J. *see* **Díaz Bejarano, J.**

Bejarano, J. D. *see* **Díaz Bejarano, J.**

Beji, L. (*with* Abichou, A.) A singular perturbation approach for tracking control of a parallel robot including motor dynamics. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 689–707. 93C85 (70Q05)

— (*with* Pascal, M.) The kinematics and the full minimal dynamic model of a 6-DOF parallel robot manipulator. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 4, 339–356. 70B15

Bekbaev, U. D. (*with* Ibragimov, F. N.) On commutative Artinian rings. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 17–22 (1997). (Andrei Kelarev) **99e:13024** 13E10

— (*with* Rakhimov, I. S.) On the equivalence of linear ordinary differential equations defined over an associative differential ring. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 11–17. (Daniel Bertrand) **99j:12003** 12H05 (13N10, 16S32, 34A30)

— (*with* Muminov, K. K.) Equivalence and invariant elementary surfaces with respect to the symplectic group. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 26–30. (Boris È. Kunyavskiĭ) **99f:12005** 12H05 (20G20)

— On invariants of second order linear partial differential equations in two variables: relative to transformations of variables and unknown. *Algebra and operator theory* (*Tashkent*, 1997), 145–156, *Kluwer Acad. Publ., Dordrecht*, 1998. (Victor V. Zharinov) **99h:35006** 35A30 (12H05)

— On the equivalence and differential rational invariants of second-order linear partial differential equations of two variables under a change of variables. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 6, 835–837, 863; *translation in Differential Equations* **34** (1998), *no.* 6, 833–836. 35A30

Bekelis, D. Convolutions of the Poisson laws in number theory. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 283–296, *VSP, Utrecht*, 1997. (Gutti J. Babu) **99k:11125** 11K65

Bekenstein, Jacob D. Black hole hair: twenty-five years after. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 216–219, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— (*with* Schiffer, Marcelo) The many faces of superradiance. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064014, 13 *pp.* (Summary) **99m:83053** 83C30

Beker, Henry J. Special polynomials by matrix algebra. *Amer. J. Phys.* **66** (1998), *no.* 9, 812–813. 15A99 (15A18)

— Mathematics at work. *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 6, 169–176. 00A69

Békési, József (*with* Galambos, Gábor; Raita, Timo) Longest fragment first algorithms for data compression. (English summary) *New trends in mathematical programming*, 13–28, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99h:68043** 68P99 (94A29)

rofe-Beketov, F. S. *see* **Rofe-Beketov, F. S.**

Bekiranov, Daniella (*with* Ogawa, Takayoshi; Ponce, Gustavo) Interaction equations for short and long dispersive waves. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 357–388. (Anatoly M. Kamchatnov) **99i:35143** 35Q55 (35Q35)

Bekjan, Turdebek N. *see* **Turdebek, N. Bekjan**

Bekka, Mohammed El Bachir (*with* Louvet, Nicolas) On a variant of Kazhdan's property (T) for subgroups of semisimple groups. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1065–1078. (Alain Valette) **99b:22019** 22E40 (22D10, 22E41)

— (*with* Cherix, Pierre-Alain; Jolissaint, P.) Kazhdan constants associated with Laplacian on connected Lie groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 95–110. (Gerald B. Folland) **99d:22021** 22E45 (22E30)

Bekker, Boris (*with* Bondarko, M.; Vostokov, S. V.) Shafarevich bases in topological K-groups. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 63–80. (Ivan Fesenko) **99e:11145** 11S20 (11S31, 11S70, 19F99)

— (*with* Ionin, Yury J.; Shrikhande, Mohan S.) Embeddability and construction of affine α-resolvable pairwise balanced designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 2, 111–129. (Elizabeth J. Billington) **99a:05008** 05B05

Bekker, I. Kh. On mixed abelian groups with periodic automorphism groups. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 483–493; *translation in Math. Notes* **61** (1997), *no.* 3-4, 399–408. (A. I. Moskalenko) **99d:20090** 20K21 (20K30)

— (*with* Nedov, V. N.) On groups with isomorphic holomorphs. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 343–350; *translation in Math. Notes* **62** (1997), *no.* 3-4, 288–295 (1998). (Peter V. Danchev) **99b:20086** 20K15 (20K10)

Bekkey, Chokri (*with* Djellouli, Rabia) An integral method to compute guided modes optical couplers. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 213–226, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)

Beklaryan, L. About "obstacles" in the problem of optimal control for system with deviating argument. *Operations Research Proceedings* 1996 (*Braunschweig*), 457–461, *Springer, Berlin*, 1997. (*see* **99a:90009**) 49K25

Beklemishev, Lev D. A proof-theoretic analysis of collection. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 275–296. (Søren M. Riis) **99m:03117** 03F30

temo Beko, De Loso *see* **Temo Beko, De Loso**

Bekolle, David (*with* Temgoua Kagou, Anatole) Molecular decompositions and interpolation. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 150–177. (Gregor Herbort) **99e:32035** 32H10 (32A07, 32M10, 46E22)

Bel, Liliane (*with* Oppenheim, G.; Robbiano, Luc; Viano, M. C.) Distribution processes with stationary fractional increments. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 43–54, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (V. V. Anh) **99m:60080** 60H05

— (*with* Oppenheim, G.; Robbiano, Luc; Viano, M. C.) Linear distribution processes. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 43–58. (Summary) **99c:60083** 60G20 (60G10, 60G17)

Bel, Lluís How to define a unique vacuum in cosmology. (English summary) *On Einstein's path* (*New York*, 1996), 95–105, *Springer, New York*, 1999. (Orfeu Bertolami) **99j:83039** 83C47

— (*with* Aguirregabiria, J. M.; Hernández Martín, Aníbal; Rivas, M.) Regular order reductions of ordinary and delay-differential equations. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 1, 95–105. 65–04 (65L99)

Belahdji, Kheira (*with* Moussaoui, Mohand) Le problème de Dirichlet pour l'équation de Laplace dans un ouvert de $\mathbf{R}^3$ présentant des points de rebroussement ou des arêtes cuspides. (English, French and Arabic summaries) [The Dirichlet problem for the Laplace equation in a domain in $\mathbf{R}^3$ with cusps or edges of regression] *Maghreb Math. Rev.* **6** (1997), *no.* 2, 77–102. (Serge Nicaise) **99j:35033** 35J25 (35B65)

Belal, Ahmed A. (*with* Elmasry, Amr) Reaching the bound in the $(2,n)$ merging problem. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 261–271. (Summary) **99e:68027** 68P10

Belan, E. P. Averaging and Hopf bifurcation in degenerate systems of differential equations with delays. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2513–2517. (Summary) **99f:34103** 34K15 (34C29)

Belanger, Jay (*with* McCloskey, Robert; Wang, Jie[1]) Parallel parsing of languages generated by ambiguous bounded context grammars. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 738–757 (*electronic*). (*see* **99f:68006**) 68Q52 (68Q22)

Belavkin, V. P. Quantum stochastic semigroups and their generators. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 82–109, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (John E. Gough) **99f:81106** 81S25

— Stochastic positive flows and quantum filtering equations. (English summary) *Probability towards* 2000 (*New York*, 1995), 74–96, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Kalyanapuram R. Parthasarathy) **99i:81120** 81S25 (60G35, 60H30)

— Quantum Itô B^*-algebras, their classification and decomposition. (English summary) *Quantum probability* (*Gdańsk*, 1997), 63–70, *Banach Center Publ.*, **43**, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99g:46098** 46L60 (46K05, 46L05, 81S25)
— (*with* Perkins, Michael) The nondemolition measurement of quantum time. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 219–226. (Apostolos Vourdas) **99f:81027** 81P15
— On quantum Itô algebras and their decompositions. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 131–145. (John E. Gough) **99g:81110** 81S25 (46L60)
Belbas, S. A. Optimal control of certain M-D systems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 451–455, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 49K20
— (*with* Mayergoyz, I. D.) Optimal control of discrete-time approximations to systems with hysteresis. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 457–459, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 49M25 (49L20)
— Multi-time dynamic programming and Riccati equations. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 61–78. (A. M. Tarasyev) **99e:49031** 49L20 (49K27)
Belegradek, Igor Intersections in hyperbolic manifolds. (English summary) *Geom. Topol.* **2** (1998), 117–144 (*electronic*). (Feng Luo) **99d:57007** 57M50 (30F40)
— Lipschitz precompactness for closed negatively curved manifolds. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1201–1208. (Athanase Papadopoulos) **99f:53044** 53C23 (53C21)
Belenguer, J. M. (*with* Benavent López, Enrique) The capacitated arc routing problem: valid inequalities and facets. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 165–187. (Mechthild Opperud) **99e:90105** 90C35 (90C27)
Belen′kiĭ, A. M. (*with* Vidunas, Raimundas) A greatest common divisor algorithm. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 5, 617–623. (Summary) **99m:68078** 68Q25
Belen′kiĭ, A. S. ★ Operations research in transportation systems. (English summary) Ideas and schemes of optimization methods for strategic planning and operations management. Applied Optimization, 20. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+440 *pp. ISBN* 0-7923-5157-6 (Bruce D. Craven) **99g:90008** 90–02 (49N55, 90B06, 90B70, 90C90)
Belenkiy, Ari *see* **Belen′kiĭ, A. M.**
Belenky, Alexander S. *see* **Belen′kiĭ, A. S.**
Beletskiĭ, V. V. ★ Reguläre und chaotische Bewegung starrer Körper. (German) [Regular and chaotic motion of rigid bodies] Teubner Studienbücher Mechanik. [Teubner Mechanics Textbooks] *B. G. Teubner, Stuttgart*, 1995. *iv*+148 *pp. ISBN* 3-519-03229-5 (Florin N. Diacu) **99m:70004** 70E15 (58F13, 70K50, 70M20)
— (*with* Pankova, D. V.) Connected bodies in the orbit as dynamic billiard. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 87–103. (Summary) **99f:70034** 70M20 (70F05, 70K99)
— (*with* Salimova, O. P.) The Hill problem as a dynamic billiard. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 47–58. (Summary) **99e:70034** 70F15 (58F40, 70K99)
Belfiore, N. P. (*with* Esposito, Alessandra) Theoretical and experimental study of crossover operators of genetic algorithms. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 271–302. (Summary) **99g:65013** 65C20 (90C27)
Belgacem, F. B. *see* **Ben Belgacem, Faker**
ben Belgacem, Faker *see* **Ben Belgacem, Faker**
Belghith, Safya Symbolic and numerical analysis for studying complex nonlinear behavior. (English summary) *Numer. Algorithms* **20** (1999), *no.* 1, 51–61. 34A34 (34–04, 34D08, 65–04, 65L06)
Belgiorno, F. (*with* Martellini, Maurizio) Statistical fluctuations of a Schwarzschild black hole and entropy renormalization. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 235–251, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83040** 83C57
— Black hole thermodynamics and spectral analysis. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4608–4633. (Gil De Oliveira-Neto) **99g:83049** 83C57 (81T20, 83C47)
— Massive Dirac fields in naked and in black hole Reissner-Nordström manifolds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084017, 8 *pp.* (Summary) **99m:83147** 83C75 (83C57)
Belgrade, Ridha Intégration dans les fibres, transformée de Mellin et conjugaison d'un $\mathscr{D}$-module holonome irrégulier. [Integration in fibers, Mellin transform and conjugation of an irregular holonomic $\mathscr{D}$-module] *Séminaire de Singularités* (*Vandoeuvre-les-Nancy*), 115–172, *Inst. Élie Cartan*, 15, *Univ. Nancy I, Vandoeuvre-les-Nancy*, 1997. (Andrea D'Agnolo) **99d:32010** 32C38 (32S40)
Belhachemi, Rachid Peak sets in real-analytic convex boundaries. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 209–220. (Gregor Herbort) **99k:32018** 32E25 (32E30)
Bel Hadj Rhouma, Nadra (*with* Boukricha, Abderrahman; Mosbah, Mahel) Perturbations et espaces harmoniques non linéaires. (English summary) [Perturbations and nonlinear harmonic spaces] *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 33–58. (N. Boboc) **99f:31014** 31D05 (35J60, 35K60)
— (*with* Mosbah, Mahel) Problème de Dirichlet relatif à une perturbation non lineaire des espaces harmoniques. (English summary) [Dirichlet problem for a nonlinear perturbation of harmonic spaces] *Potential Anal.* **8** (1998), *no.* 4, 303–324. (Martha Bănulescu) **99j:31015** 31C45 (35J65)
Belhaq, M. (*with* Fahsi, A.) On a criterion of saddle-loop connections in self-excited oscillators. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 265–271, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C23 (34C15, 34C37)
— New analytical technique for predicting homoclinic bifurcations in autonomous dynamical systems. *Mech. Res. Comm.* **25** (1998), *no.* 1, 49–58. (Mark J. Friedman) **99b:34069** 34C23 (34C25, 34C37, 58F14, 58F30)
— (*with* Lakrad, F.) Bifurcation of homoclinic orbits in autonomous systems and in chaotic blue sky catastrophe. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 93–100, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 34C23 (34C37, 58C28, 58F14)
— (*with* Freire Macías, Emilio; Houssni, M.; Rodríguez-Luis, A. J.) Second period-doubling in a three-dimensional system. *Mech. Res. Comm.* **26** (1999), *no.* 2, 123–128. 34C23 (58F14)
— (*with* Houssni, M.) Quasi-periodic oscillations, chaos and suppression of chaos in a nonlinear oscillator driven by parametric and external excitations. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 1, 1–24. (Summary) **99k:34075** 34C15 (34C27, 58F13, 70K40, 70K50)
Beliakova, Anna Spin topological quantum field theories. (English summary) *Internat. J. Math.* **9** (1998), *no.* 2, 129–152. (Justin D. Roberts) **99b:57034** 57N10 (57M25, 57M50)
Belibassakis, Konstadinos A. (*with* Athanassoulis, Gerassimos A.) Water-wave Green's function for a 3D uneven-bottom problem with different depths at $x \to +\infty$ and $x \to -\infty$. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 21–32, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 76B15 (76M25)
Belich, H. (*with* Cuba, G.; Paunov, R.) Vertex operator representation of the soliton tau functions in the $A_n^{(1)}$ Toda models by dressing transformations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5337–5363. (Henrik Aratyn) **99f:58090** 58F07 (17B67)
Beligiannis, Apostolos (*with* Assem, Ibrahim; Marmaridis, Nikolaos) Right triangulated categories with right semi-equivalences. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 17–37, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Simson) **99j:18011** 18E30 (16G10, 18G25)
Bělík, Pavel (*with* Fosdick, Roger) The state of pure shear. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 91–98. (Summary) **99k:73031** 73B99 (73C02, 73C50)
Belili, Nacereddine A theorem of stochastic representation related to Monge-Kantorovich problem. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 139–143. (Ludger Rüschendorf) **99j:60004** 60B10
Beling, Peter A. (*with* Megiddo, Nimrod) Using fast matrix multiplication to find basic solutions. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 307–316. (Summary) **99e:65069** 65F30 (65K05)
Belingeri, Carlo (*with* Ricci, Paolo Emilio) A generalization of the discrete Fourier transform. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 165–174. (Summary) **99b:33012** 33C45 (42A38, 65T20)
— (*with* Germano, Bruna) On the three-term recurrence relations for polynomials orthogonal with respect to varying weights and their derivatives. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 447–458. (Leonid B. Golinskiĭ) **99h:42042** 42C05
— (*with* Ricci, Paolo Emilio) General sets of relativistic Jacobi polynomials. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 459–468. (Summary) **99h:33039** 33C45
— (*with* Ricci, Paolo Emilio; Villo', O.) A discretization of the Laplace and Gauss-Weierstrass operators. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 127–140. (Summary) **99b:39021** 39A12 (44A10)
Belinicher, Victor I. (*with* L′vov, Victor S.; Pomyalov, Anna; Procaccia, Itamar) Computing the scaling exponents in fluid turbulence from first principles: demonstration of multiscaling. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 797–832. (Roland Schiestel) **99m:76069** 76F99 (76M35, 82C31, 82D15)
Belinskiĭ, B. P. (*with* Dauer, Jerald P.; Xu, Yongzhi) Inverse scattering of acoustic waves in an ocean with ice cover. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 255–283. (Summary) **99b:76079** 76Q05 (34L25)
— (*with* Andronov, Ivan V.) Scattering of hydroacoustic waves by a narrow gap in an elastic plate. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 202–209; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 195–202. (Summary) **99c:76098** 76Q05 (73D25, 73K70)
— Boundary value contact acoustic problems. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 51–73. (Summary) **99a:35208** 35Q35 (73K70, 76Q05)
— (*with* Andronov, Ivan V.) Sommerfeld's formula and uniqueness for the boundary value contact problems. (English summary) *J. Phys. A* **31** (1998), *no.* 22, *L*405–*L*411. (Andrew Badanin) **99f:76117** 76Q05 (73K70)
— (*with* Dauer, Jerald P.; Martin, Clyde F.; Shubov, Marianna A.) On controllability of an elastic string with a viscous damping. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 227–255. (Vilmos Komornik) **99f:93009** 93B05 (35L05, 73K50, 93C20)
— (*with* Dauer, Jerald P.) Eigenoscillations of mechanical systems with boundary conditions containing the frequency. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 521–541. (Ivan Andronov) **99g:34059** 34B24 (34L10, 34L15, 73D30, 73K05)
Belinskiĭ, È. S. Strong summability for the Marcinkiewicz means in the integral metric and related questions. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 303–312. (F. Móricz) **99k:42018** 42B08 (42B30)
Belinskiĭ, V. A. (*with* Karnakov, B. M.; Mur, V. D.; Narozhnyĭ, N. B.) Does the Unruh effect exist? *JETP Lett.* **65** (1997), *no.* 12, 902–908; *translated from Pis′ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 12, 861–866 (*Russian*). (Guido Cognola) **99d:81097** 81T20 (83C47)
— (*with* Karnakov, B. M.; Mur, V. D.; Narozhnyĭ, N. B.) Reply to: "Comment on the paper: 'Does the Unruh effect exist?'" [Pis′ma Zh. Èksper. Teoret. Fiz. **67** (1998), no. 1, 86; translated as JETP Lett. **67** (1998), no. 1, 95; MR 99d:81098] by A. A. Grib. *JETP Lett.* **67** (1998), *no.* 1, 96–97; *translated from Pis′ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 1, 87–88 (*Russian. Russian summary*). (Guido Cognola) **99d:81099** 81T20 (83C47)
— *see also* **Grib, A. A., 99d:81098**
Belinskiy, B. P. *see* **Belinskiĭ, B. P.**
Belinskiy, Boris *see* **Belinskiĭ, B. P.**
Belinsky, E. S. *see* **Belinskiĭ, È. S.**
Belishev, M. I. Boundary control and dynamical reconstruction of vector fields (the BC-method). (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 1–6 (*electronic*), *ESAIM Proc.*, **4**, *Soc. Math. Appl. Indust., Paris*, 1998. (*see* **99g:00037**) 35L05 (93C20)
Bélisle, Claude (*with* Boneh, Arnon; Caron, Richard J.) Convergence properties of hit-and-run samplers. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 767–800. (Jean Diebolt) **99h:60133** 60J05 (60J20, 65C05, 90C15)
Belissard, J. (*with* Shepelyanskiĭ, D. L.) Boris Chirikov, a pioneer in classical and quantum chaos. Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 379–380. (*see* **99b:58004**) 01A70
Belitskiĭ, G. R. (*with* Nicolaevsky, V.) Linear functional-differential equations on the line. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts,

Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2585–2593. (Frederick R. Marotto) **99c:34156** 34K15 (47B38)
— (*with* Lyubich, Yu. I.) On the normal solvability of cohomological equations on compact topological spaces. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 75–87, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Viorel Nițică) **99h:58103** 58F11 (28D99, 39B52, 54H20)
— (*with* Bykov, Nikolai) Spaces of cohomologies associated with linear functional equations. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 343–356. (Mahesh Nerurkar) **99m:58168** 58F32 (47B38, 54H20, 58F09)
— (*with* Lyubich, Yu. I.) The Abel equation and total solvability of linear functional equations. (English summary) *Studia Math.* **127** (1998), *no.* 1, 81–97. (R. A. Rosenbaum) **99e:39081** 39B22
Belitsky, A. V. (*with* Müller, Dieter[1]) Next-to-leading order evolution of twist-two conformal operators: the abelian case. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 207–234. (Summary) **99e:81155** 81T15 (81T10)
— (*with* Müller, Dieter[1]; Schäfer, Andreas) Implications of $\mathcal{N} = 1$ supersymmetry for QCD conformal operators. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 126–135. (Summary) **99k:81291** 81T60 (81T13, 81V05)
Béliveau, A. (*with* Fortin, A.; Demay, Y.) A two-dimensional numerical method for the deformation of drops with surface tension. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 3, 225–240. (Summary) **99e:76076** 76M10 (76D45)
Bel'ko, I. V. Characteristic homomorphism of a Lie algebroid. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 1, 50–55, 141. (Valentin V. Lychagin) **99c:58181** 58H10 (17B55)
lynden-Bell, D. *see* **Lynden-Bell, D.**
Bell, D. A. *see* **Bell, David Andrew**
Bell, D. J. (*with* Karbassi, S. M.) The effect of sampling period on the behaviour of systems incorporating state feedback. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 351–364. 93B51 (93C57)
— (*with* Vanheeghe, P.) The Riemann representation for a PI feedback control around a delay element. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 1021–1028. 93B52 (93C30)
— *see also* **Hagiwara, Tomomichi**
Bell, David Andrew (*with* Guan, Ji Wen; Shapcott, C. M.) Using the Dempster-Shafer orthogonal sum for reasoning which involves space. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 467, 511–526. 68T30
Bell, David I. *see* **Rathbun, Randall L.**
Bell, Denis R. ★ Degenerate stochastic differential equations and hypoellipticity. (English summary) Pitman Monographs and Surveys in Pure and Applied Mathematics, 79. *Longman, Harlow*, 1995. xii+114 *pp. ISBN* 0-582-24689-X (Isamu Dôku) **99e:60124** 60H07 (35R60, 58G32, 60H10)
Bell, Francis K. (*with* Simić, Slobodan K.) A note on the second largest eigenvalue of star-like trees. (English summary) *Recent progress in inequalities (Niš, 1996)*, 433–443, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Peter Rowlinson) **99d:05060** 05C50 (05C05)
Bell, Gavin J. (*with* Lamar, Bruce W.; Wallace, Chris A.) Capacity improvement, penalties, and the fixed charge transportation problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 341–355. (Summary) **99m:90061** 90B06
Bell, Howard E. (*with* Kezlan, Thomas P.) On additive epimorphisms and commutativity of rings. II. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 139–146. (Summary) **99h:16048** 16U80
— Rings in which finite subrings are commutative. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 55–60, *Heyn, Klagenfurt*, 1998. (Summary) **99f:16036** 16U80
— (*with* Klein, Abraham A.) On central and noncentral zero divisors. *Comm. Algebra* **26** (1998), *no.* 4, 1277–1292. (Charles Lanski) **99a:16027** 16U99 (16U20)
— (*with* Klein, Abraham A.) Some noteworthy properties of zero divisors in infinite rings. II. *Math. Scand.* **83** (1998), *no.* 2, 161–168. (S. S. Page) **99m:16050** 16U99 (16N40)
Bell, John B. (*with* Almgren, Ann S.; Colella, Phillip; Howell, Louis H.; Welcome, Michael L.) A conservative adaptive projection method for the variable density incompressible Navier-Stokes equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 1–46. (Jian Guo Liu) **99k:76096** 76M20
— (*with* Barenblatt, G. I.; Crutchfield, W. Y.) The thermal explosion revisited. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 23, 13384–13386 (*electronic*). (Summary) **99k:76121** 76N10 (76L05, 80A25)
— (*with* Sussman, Mark; Almgren, Ann S.; Colella, Phillip; Howell, Louis H.; Welcome, Michael L.) An adaptive level set approach for incompressible two-phase flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 81–124. (Małgorzata Peszyńska) **99m:76098** 76M25 (76T05)
Bell, John L. Zorn's lemma and complete Boolean algebras in intuitionistic type theories. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1265–1279. (Summary) **99g:03062** 03F65 (03B15)
— ★ A primer of infinitesimal analysis. (English summary) *Cambridge University Press, Cambridge*, 1998. *xiv*+122 *pp. ISBN* 0-521-62401-0 (Detlef Laugwitz) **99h:00002** 00A05 (03F55, 03H05, 26E35)
Bell, M. *see* **Bell, Murray G.**
Bell, M. L. (*with* Sargent, R. W. H.; Vinter, R. B.) Existence of optimal controls for continuous time infinite horizon problems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 887–896. 49J15
Bell, Mark R. (*with* Guey, Jiann-Ching) Diversity waveform sets for delay-Doppler imaging. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1504–1522. 94A12
Bell, Murray G. On character and chain conditions in images of products. (English summary) *Fund. Math.* **158** (1998), *no.* 1, 41–49. (Michael Tkačenko) **99h:54036** 54D30 (54A25, 54F05, 54G12)
Bell, Steven (*with* Jones, Philip; Siemons, Johannes) On modular homology in the Boolean algebra. II. (English summary) *J. Algebra* **199** (1998), *no.* 2, 556–580. (Yasuyuki Hirano) **99a:16006** 16E40
Bell, Stoughton (*with* Rosenblatt, Judah) ★ Mathematical analysis for modeling. (English summary) CRC Mathematical Modelling Series. *CRC Press, Boca Raton, FL*, 1999. *xvi*+860 *pp. ISBN* 0-8493-8337-4 00-01 (00A06, 00A71, 00A72)
Bell, Wayne C. (*with* Hagood, John W.) Completeness of $\mathcal{L}^p$ spaces and Radon-Nikodym theorems for unbounded finitely additive measures. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 82–96. (K. P. S. Bhaskara Rao) **99f:28002** 28A10 (46E30)
Bella, Angelo (*with* Malykhin, V. I.) Tightness and resolvability. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 177–184. (Aleksander Błaszczyk) **99j:54004** 54A10 (54A25, 54C05)
— (*with* Malykhin, V. I.) Around tight points. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 97–104. (Summary) **99h:54003** 54A25
— (*with* Yashchenko, I. V.) Lindelöf property and absolute embeddings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 907–913. (Summary) **99f:54031** 54D20
di Bella, Beatrice *see* **Di Bella, Beatrice**
Bella Baci, Abderrazak Homologie cyclique du produit croisé algébrique et groupes de surfaces. (English summary) [Cyclic homology of the algebraic crossed product and groups of surfaces] *J. Pure Appl. Algebra* **132** (1998), *no.* 3, 259–273. (Thorsten Holm) **99k:16015** 16E40 (18G40)
Bellacicco, Antonio (*with* Tulli, V.) Cluster identification in a signed graph by eigenvalue analysis. (English summary) *Matrices and graphs (Brescia, 1993/1995)*, 233–242, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:00029**) 62H30 (05C50)
Bellamy-Knights, P. G. An image system and surface singularity solutions for potential flow past an elliptical cylinder. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 3, 299–310. (Summary) **99i:76022** 76B99 (76M25)
Bellandi Filho, J. (*with* Guzzo, M. M.; Fleitas, J. R.; de Aquino, V. M.) On the matricial representations of exponential operators. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 591–597. (Pierre Anglès) **99k:22012** 22E15 (15A90, 81R05)
tamburini Bellani, Maria Chiara *see* **Tamburini Bellani, Maria Chiara**
Bellantoni, Stephen J. Ranking arithmetic proofs by implicit ramification. (English summary) *Proof complexity and feasible arithmetics (Rutgers, NJ, 1996)*, 37–57, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Mariko Yasugi) **99d:03053** 03F30 (03B45, 03D15, 03D20, 03F07, 03F50)
Bellare, Mihir (*with* Goldreich, Oded; Sudan, Madhu) Free bits, PCPs and non-approximability—towards tight results. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 422–431, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25
— (*with* Coppersmith, Don; Håstad, Johan; Kiwi, Marcos A.; Sudan, Madhu) Linearity testing in characteristic two. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 432–441, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25
— (*with* Halevi, Shai; Sahai, Amit; Vadhan, Salil) Many-to-one trapdoor functions and their relation to public-key cryptosystems. (English summary) *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 283–298, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94038** 94A60
— (*with* Aiello, William A.; Di Crescenzo, Giovanni; Venkatesan, Ramarathnam) Security amplification by composition: the case of doubly-iterated, ideal ciphers. (English summary) *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 390–407, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94035** 94A60
— (*with* Garay, Juan A.; Rabin, Tal) Batch verification with applications to cryptography and checking (invited paper). (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 170–191, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99h:94043** 94A60
Bellen, Alfredo Contractivity of continuous Runge-Kutta methods for delay differential equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 219–232. (Syvert P. Nørsett) **99c:65130** 65L06 (34A45)
Belleni-Morante, A. (*with* Busoni, Giorgio) A three-dimensional Boltzmann-like model of outgassing and contamination. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 2, 229–249. (Summary) **99e:82076** 82C40 (76P05, 76R50)
— (*with* McBride, A. C.) ★ Applied nonlinear semigroups. (English summary) An introduction. Wiley Series in Mathematical Methods in Practice, 3. *John Wiley & Sons, Ltd., Chichester*, 1998. *xii*+275 *pp. ISBN* 0-471-97867-1 (Kiyoko Furuya) **99m:47083** 47H20 (34G20, 35K99, 47N20, 82C70)
— (*with* Barletti, Luigi) A particle transport problem with non-homogeneous reflection boundary conditions. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 11, 1049–1066. (Silvia Totaro) **99d:82059** 82C70 (47D06, 47H20, 47N55)
— A nonlinear evolution problem arising from particle transport with nonhomogeneous boundary conditions. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 33–44. (Luisa Arlotti) **99c:82064** 82C70 (34G20, 35Q99, 45K05, 47N55)
Beller, Eliyahu A newly-discovered ancient value for the length of the year. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 1, 91–98. (Jens Høyrup) **99i:01013** 01A35 (01A20, 01A30)
Bellés, P. M. (*with* Filipich, C. P.; Rosales, M. B.) Natural vibration of rectangular plates considered as tridimensional solids. (English summary) *J. Sound Vibration* **212** (1998), *no.* 4, 599–610. (Summary) **99a:73086** 73K12 (73K10)
Bellettini, Giovanni (*with* Colli Franzone, Piero; Paolini, Maurizio) Convergence of front propagation for anisotropic bistable reaction-diffusion equations. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 325–358. (Yuzo Hosono) **99b:35090** 35K57 (35B25, 35Q80, 92C30, 92C50)
— Some results on minimum barriers for geometric motions of sets. (Italian. English summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 485–512. (Anna Salvadori) **99a:49048** 49Q20 (49L25, 58E12)
— (*with* Fusco, Giorgio) The dynamics of $V = H - \overline{H}$: motion of a small drop on a fixed surface. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 26–38, *World Sci. Publishing, River Edge, NJ*, 1998. (Barbara Priwitzer) **99j:35091** 35K55 (35Q35, 53A05, 76D99)
— (*with* Novaga, Matteo) Comparison results between minimal barriers and viscosity solutions for geometric evolutions. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 97–131. (Ben Andrews) **99i:35081** 35K65 (35B05, 35D10, 49L25, 58E12)
— (*with* Novaga, Matteo; Paolini, Maurizio) An example of three-dimensional fattening for linked space curves evolving by curvature. (English summary) *Comm. Partial*

Differential Equations **23** (1998), *no.* 9-10, 1475–1492. (Giandomenico Orlandi) **99j:58048** 58E12 (53A05)

— (*with* Alberti, Giovanni) A non-local anisotropic model for phase transitions: asymptotic behaviour of rescaled energies. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 261–284. (Matthias Wilhelm Winter) **99e:80003** 80A22 (49S05, 73B40, 73V25, 82B26)

— (*with* Coscia, A.; Dal Maso, Gianni) Compactness and lower semicontinuity properties in SBD(Ω). *Math. Z.* **228** (1998), *no.* 2, 337–351. (Giovanni Alberti) **99e:49011** 49J45 (26B30, 28A75, 46E99, 49Q20)

— (*with* Amar, Micol; Venturini, Sergio) Integral representation of functionals defined on curves of $W^{1,p}$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 193–217. (Pablo Pedregal) **99c:49042** 49Q15 (49J45)

Belli, Andrea (*with* Accardi, Alberto; Martellini, Maurizio; Zeni, Mauro) Topological Yang-Mills cohomology in pure Yang-Mills theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 127–134. (Summary) **99g:81218** 81T70 (81T13)

Bellia, Marco (*with* Occhiuto, M. Eugenia) Lazy linear combinatorial unification. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 185–206. (Summary) **99k:68087** 68Q40 (68T15)

Bellieud, Michel (*with* Bouchitté, Guy) Homogenization of elliptic problems in a fiber reinforced structure. Nonlocal effects. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 407–436. (Steve Wright) **99h:35015** 35B27 (35J65, 73B27)

— (*with* Bouchitté, Guy) Homogénéisation de problèmes elliptiques dégénérés. (English and French summaries) [Homogenization of degenerate elliptic equations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 787–792. (Summary) **99h:35016** 35B27 (35J25, 73B27)

Bellin, G. (*with* Fleury, A.) Planar and braided proof-nets for multiplicative linear logic with mix. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 309–325. (R. Gylys) **99m:03120** 03F50 (03B70, 68Q10)

Bellisai, Diego (*with* Travaglini, Gabriele) Instanton calculus and SUSY gauge theories on asymptotically locally Euclidean manifolds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025008, 6 *pp.* (Summary) **99m:81239** 81T60 (81T13, 81T20)

Bellissard, Jean (*with* Camacho, Carlos J.; Barelli, Armelle; Claro, Francisco) Exact random walk distributions using noncommutative geometry. (English summary) *J. Phys. A* **30** (1997), *no.* 21, L707–L709. (Francois Vanderseypen) **99d:82027** 82B41 (58B30, 60J15)

— (*with* Contensou, Edouard; Legrand, André) *K*-théorie des quasi-cristaux, image par la trace: le cas du réseau octogonal. (English and French summaries) [*K*-theory of quasicrystals, gap labelling: the octagonal lattice] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 197–200. (Summary) **99h:46131** 46L80 (19K35)

— (*with* Schulz-Baldes, H.) A kinetic theory for quantum transport in aperiodic media. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 991–1026. (Alexei Khorunzhy) **99h:82071** 82C70 (46L60, 58B30)

— (*with* Schulz-Baldes, H.) Anomalous transport: a mathematical framework. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 1, 1–46. (Jean-Michel Ghez) **99b:81046** 81Q10 (47N50, 82B44)

Bellissima, Fabio A semantics for temporal logic with binary operators. (Italian) *Epistemology of mathematics.* 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 47–54, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03B45 (00A30)

Bello Hernández, M. (*with* López Lagomasino, G.) Ratio and relative asymptotics of polynomials orthogonal on an arc of the unit circle. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 216–244. (Sven Ehrich) **99c:42041** 42C05

— (*with* Cala Rodríguez, F.; Guadalupe Hernández, José Javier; López Lagomasino, G.) Convergence rate of Padé-type approximants for Stieltjes functions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 47–53. (Summary) **99i:41013** 41A20

Bellomo, C. (*with* Adam, J. A.) Post-surgical passive response of local environment to primary tumor removal. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 6, 7–17. (Summary) **99g:92013a** 92C50

— (*with* Adam, J. A.) Corrigendum to: "Post-surgical passive response of local environment to primary tumor removal". *Math. Comput. Modelling* **26** (1997), *no.* 12, 125–126. (Summary) **99g:92013b** 92C50

Bellomo, N. (*with* De Angelis, Elena) Strategies of applied mathematics towards an immuno-mathematical theory on tumors and immune system interactions. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1403–1429. 92C50

Bellomo, Paolo (*with* Stroud, C. R., Jr.) Dispersion of Klauder's temporally stable coherent states for the hydrogen atom. (English summary) *J. Phys. A* **31** (1998), *no.* 24, *L*445–*L*450. (Summary) **99b:81089** 81R30

Bellouquid, Abdelghani The hydrodynamical limit of the nonlinear Boltzmann equation. (English summary) *Transport Theory Statist. Phys.* **28** (1999), *no.* 1, 57–82. (Carlo Cercignani) **99j:82062** 82C40 (76P05, 82C31)

Bellucci, S. (*with* Galazhinskiĭ, A. V.) Complex structure in the Gupta-Bleuler quantization method. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 274–280. (Dan Radu Grigore) **99e:81247** 81T70 (81T15)

— (*with* Galazhinskiĭ, A. V.) A modification of the 10D superparticle action inspired by the Gupta-Bleuler quantization scheme. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 103–107. (Summary) **99c:81227** 81T60 (81T70)

Belmehdi, S. (*with* Lewanowicz, S.; Ronveaux, André) Linearization of the product of orthogonal polynomials of a discrete variable. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 4, 445–455. (Summary) **99a:33005** 33C45 (33E30)

Belna, Jean-Pierre ★ La notion de nombre chez Dedekind, Cantor, Frege. (French. French summary) [The notion of number in Dedekind, Cantor, Frege] Théories, conceptions et philosophie. [Theories, concepts and philosophy] With a preface by Claude Imbert. Mathesis. *Librairie Philosophique J. Vrin, Paris*, 1996. 376 *pp. ISBN* 2-7116-1292-9 (Eduard Glas) **99g:01019** 01A55 (00A30, 01A60)

Beloglazov, I. N. Formulation of and brief commentary on the law of the optimal adaptive control of a linear discrete system. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 462–465. (Jacek Kabziński) **99a:93107** 93E20 (93C05, 93C55)

— Modal synthesis of time-dependent linear and relay stabilization systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 6, 46–54. 93B51 (93C15)

Bělohlávek, Radim (*with* Chajda, Ivan) Polynomially determined congruences in algebras without constants. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 7–14. (Hartmut Höft) **99m:08006** 08A30

— (*with* Chajda, Ivan) Congruence properties in single algebras. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 67–78. (Keith A. Kearnes) **99h:08003** 08A30 (08A40, 08B10)

Belokolos, E. D. (*with* Ènol'skiĭ, V. Z.; Korostil, A. M.) Two-phase nonlinear waves in the long Josephson junction. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 253–269. (Summary) **99a:35247** 35Q60 (78A55, 82D55)

Belokon', L. M. Coradicals of subnormal subgroups of finite groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 13–16, 102, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— Coradicals of normal subgroups of finite groups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 14–24, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10

— On classes of groups with a given factorization. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 78–82, *Gomel. Gos. Univ., Gomel'*, 1998. (*see* **99g:20008**) 20D40

Belokurov, V. V. (*with* Shavgulidze, E. T.; Solov'ëv, Yuriĭ Petrovich) Convergent series perturbation theory for functional integrals. (English summary) *Path integrals: Dubna '96*, 122–126, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Belolipetskiĭ, Aleksandr A. (*with* Golov, V. I.) On an inverse kinematic seismic problem on a plane. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 46–47; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 66–68. (Editors) **99i:86015** 86A15 (86A22)

Belolipetskiĭ, M. V. Estimates for the number of automorphisms of a Riemann surface. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 996–1004, i; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 860–867. (Grzegorz Gromadzki) **99c:14044** 14H55 (20H10, 30F35)

Belolipetskii, V. M. (*with* Genova, S. N.) Numerical modelling of heat and pollutants transfer in river flows. (English summary) *Russian J. Numer. Anal. Math. Modelling* **14** (1999), *no.* 1, 1–13. (Summary) **99k:86001** 86A05 (76M25, 76R99, 86–08)

Belopolsky, Alexander (*with* Astashkevich, Alexander) String center of mass operator and its effect on BRST cohomology. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 109–136. (Summary) **99b:17022** 17B56 (17B81, 81T30, 81T70)

Beloshapka, Valerii K. Local invariants and exclusions on mappings of CR-manifolds. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 588–592; *translation in Math. Notes* **60** (1996), *no.* 3-4, 438–441 (1997). (Alexander V. Isaev) **99e:32011** 32C16 (32H02)

— Homogeneous real hypersurfaces in $\mathbf{C}^2$. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 760–764; *translation in Math. Notes* **60** (1996), *no.* 5-6, 569–572 (1997). (Alexander V. Isaev) **99e:32024** 32F25

— The normal form of the germ of a four-dimensional real manifold in $\mathbf{C}^5$ at an **RC**-singular point in general position. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 931–934; *translation in Math. Notes* **61** (1997), *no.* 5-6, 777–779. (Alexander V. Isaev) **99f:32012** 32C05 (32C16)

— CR-varieties of the type (1, 2) as varieties of "super-high" codimension. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 399–404 (1998). (Francine A. Meylan) **99f:32014** 32C16

hervés-Beloso, Carlos *see* **Hervés-Beloso, Carlos**

Belotelov, N. V. (*with* Lobanov, A. I.) Population models with nonlinear diffusion. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 12, 43–56. (Qi Xiao Ye) **99j:92014** 92D25 (35K57)

Belotserkovskiĭ, O. M. (*with* et al.) Evgeniĭ Ivanovich Moiseev (on the occasion of his fiftieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 3, 291–293; *translation in Differential Equations* **34** (1998), *no.* 3, 291–292. 01A70

Belousov, E. G. (*with* Andronov, V. G.) Functional convergence theorems for the method of penalty functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 4, 21–25, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 4, 30–36 (1998). (G. M. Ostrovsky) **99b:90117** 90C30

— (*with* Andronov, V. G.) On the Berge convergence of the method of penalty functions with respect to the argument. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 573–589; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 552–567. (Vladimir I. Venets) **99e:90083** 90C30 (49M30)

Belousov, K. I. (*with* Nazarova, L. A.; Roĭter, A. V.) Finitely presentable triadic sets. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 3–27; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 651–673. (Daniel Simson) **99i:16029** 16G20 (16G10, 16G60)

— (*with* Roĭter, A. V.; Nazarova, L. A.) Representations of finitely represented dyadic sets. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 61–76, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Sverre O. Smalø) **99k:16031** 16G20 (15A21, 16G50, 18E05)

Belov, A. S. (*with* Konyagin, Sergeĭ) On an estimate for the free term of a nonnegative trigonometric polynomial with integer coefficients. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 6, 31–90; *translation in Izv. Math.* **60** (1996), *no.* 6, 1123–1182. (Eduard Belinskii) **99b:42002** 42A05

— Order estimates for the modulus of variation of the sum of a lacunary trigonometric series. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 3–20; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 639–656. (Naza Tanović-Miller) **99m:42009** 42A32 (41A25, 42A16)

Belov, A. Ya. (*with* Borisenko, V. V.; Latyshev, V. N.) Monomial algebras. Algebra, 4. *J. Math. Sci.* (*New York*) **87** (1997), *no.* 3, 3463–3575. (Vesselin Drensky) **99f:16022** 16R10 (08B05, 16G60, 16P90, 16R20, 16S15, 68Q45)

Belov, D. I. (*with* Sadykhov, R. Kh.) An algorithm for removing invisible surfaces for layered models of three-dimensional objects in the case of approximation by simple polyhedra. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 107–110, 143. 68U10

Belov, N. A. Instability of a tangential discontinuity in an axisymmetric flow with a stagnation point. *Fluid Dynam.* **32** (1997), *no.* 6, 780–783 (1998); *translated from Izv.*

Ross. Akad. Nauk Mekh. Zhidk. Gaza **1997**, *no.* 6, 25–29 (*Russian. Russian summary*). (Summary) **99a:76060** 76E99

Belov, Sergei (*with* Fujii, Nobuo) Solution of the Dirichlet problem for Laplace equation on domains with analytic boundaries. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 73–79, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 35J25 (31A25)

Belov, Yu. Ya. (*with* Shipina, T. N.) The problem of determining the source function for a system of composite type. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 287–308. (P. A. Mishnayevskiy) **99k:35188** 35R30 (35M20)

Belova, N. O. Spectral synthesis in weighted Sobolev spaces [translation of Trudy Instituta Matematiki, Vol. 31, 3–39, Izdat. Ross. Akad. Nauk, Sibirsk. Otdel., Inst. Mat., Novosibirsk, 1996]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 1–48. (Lanzhe Liu) **99k:46050** 46E35 (31B99, 35D05)

von Below, Joachim (*with* Kaul, Helmut) Nonlinear degenerate elliptic equations and axially symmetric problems. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 41–51. (Toshio Horiuchi) **99j:35061** 35J65 (35J70)

Belozerov, V. E. On the solution of the modal control problem in the limit case. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 28–38, 153. (Summary) **99f:93067** 93B55 (49N35)

Belsley, Eric David Rates of convergence of random walk on distance regular graphs. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 4, 493–533. (James Allen Fill) **99m:60013** 60B15 (05C50, 05E30, 60J10)

Belt, Harm J. W. (*with* den Brinker, Albertus C.) Optimal free parameters in orthonormal approximations. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2081–2087. (Summary) **99i:41028** 41A58 (65D10, 94A11)

Beltadze, G. N. On the existence of solutions in lexicographic differential games with complete information. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 293–296 (1991). 90D25

— On solutions of matrix games with functional payoffs. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 21–24. 90D05 (90D10)

— Distribution of payoffs by the justice principle in lexicographic cooperative games. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 422–425 (1996). 90D12

— On the existence of a solution in lexicographic stochastic games. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 57–61 (1996). 90D15

Beltagy, M. (*with* Abdel-Mottaleb, N.) On deformations product. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 143–152 (1998). (Summary) **99e:53017** 53B20

Beltiţă, Daniel Joint invariant subspaces for some commuting tuples of bounded linear operators. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 583–589. (Jörg Eschmeier) **99i:47010** 47A15 (47A13)

— (*with* Şabac, Mihai) An asymptotic formula for the commutators. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 262–275. (Enrico Carlos Boasso) **99b:47009** 47A13 (47A60, 47D99)

Beltiukov, Anatoly Petrovich *see* **Bel'tyukov, A. P.**

Beltrametti, Mauro C. (*with* Di Rocco, Sandra; Sommese, Andrew J.) On higher order embeddings of Fano threefolds by the anticanonical linear system. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 75–97. (Tomasz Szemberg) **99d:14036** 14J45 (14C20, 14M10)

— (*with* Sommese, Andrew J.) Sharp Matsusaka-type theorems on surfaces. (English summary) *Math. Nachr.* **191** (1998), 5–17. (M. Kh. Gizatullin) **99d:14004** 14C20 (14J25)

Beltrami, Elisabetta (*with* Cromwell, Peter R.) A limitation on algorithms for constructing minimal arc-presentations from link diagrams. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 415–423. (Swatee Naik) **99e:57008** 57M25 (57M15)

— (*with* Cromwell, Peter R.; Rampichini, Marta) The Borromean rings. *Math. Intelligencer* **20** (1998), *no.* 1, 53–62. (G. Burde) **99c:57015** 57M25 (01A35, 01A59)

Beltrami, Eugenio ★ La découverte de la géométrie non euclidienne sur la pseudosphère. (French) [The discovery of non-Euclidean geometry on the pseudosphere] Les lettres d'Eugenio Beltrami à Jules Hoüel (1868–1881). [Eugenio Beltrami's letters to Jules Hoüel (1868–1881)] Introduction, notes and commentary by Luciano Boi, Livia Giacardi and Rossana Tazzioli. Preface by Ch. Houzel and E. Knobloch. Collection Sciences dans l'Histoire. [Science in History Collection] *Librairie Scientifique et Technique Albert Blanchard, Paris*, 1998. *iv*+278 *pp. ISBN* 2-85367-208-5 (Bernard Rouxel) **99j:01011** 01A55 (51–03)

Beltrán, Antonio *see* **Galilei, Galileo, 99j:01008**

marín Beltrán, M. *see* **Marín Beltrán, M.**

Beltrán Marí, Antonio *see* **Beltrán, Antonio**

Beltrán Royo, C. Globally minimizing a polynomial on the real line. (Spanish. English and Spanish summaries) *Qüestiió* (2) **23** (1999), *no.* 1, 85–109. 65K05

Bel'tyukov, A. P. Intuitionistic formal theories with realizability in subrecursive classes. (English summary) Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 3–15. (Wolfgang Burr) **99f:03079** 03F30 (03F55)

Beltz, Glen (*with* Miller, Ron; Phillips, Rob; Ortiz, Michael) A non-local formulation of the Peierls dislocation model. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1845–1867. (*see* **99g:73003**) 73S10

Belubekyan, M. V. (*with* Mkrtchyan, L. R.) On allowance for shears and rotation inertia in the problem of free oscillations of a plate. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 237–242 (1994). 73K15 (73D30)

— (*with* Ambartsumyan, S. A.; Minasyan, M. M.) Axisymmetric oscillations of a nonlinearly elastic cylindrical shell in a longitudinal magnetic field. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 2, 3–12. 73K15 (73R05)

— (*with* Minasyan, M. M.) On the flutter problem for a plate in a supersonic gas flow. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **50** (1997), *no.* 2, 27–35. 73K70 (73K10, 73K12, 76J20)

Belukhina, I. G. Asymptotic behavior of the solution of the first boundary value problem for the Laplace difference equation in the angle $5\pi/4$. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 902–911, 1005; *translation in Differential Equations* **32** (1996), *no.* 7, 906–915 (1997). (V. D. Glushenkov) **99c:65195** 65N15 (39A10)

Belvedere, L. V. (*with* Carvalhaes, C. G.; do Amaral, R. L. P. G.; Lemos, Nivaldo A.) Structural aspects of two-dimensional anomalous gauge theories. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 1–25. (Giovanni Morchio) **99j:81108** 81T10 (81T40)

Belward, S. R. (*with* Read, W. W.; Higgins, Patrick John) Iterative schemes for series solutions to Laplacian free boundary problems. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 669–676, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N35

Belyaev, A. *see* **Belyaev, Alexander**

Belyaev, A. Yu. On the critical pressure for flows in porous media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1001–1007; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 967–972 (1998). (Summary) **99c:76104** 76S05 (76A05)

Belyaev, Alexander *see* **Palmov, V., 99k:73059**

Belyaev, V. V. On the existence of minimal non-FC-groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 6, 1267–1270, *i.* (Summary) **99k:20071** 20F24

Belyaev, Yu. K. (*with* Lindkvist, Håkan) A class of non-parametric tests in the competing risks model for comparing two samples. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 143–150. (J. V. Deshpande) **99g:62060** 62G10 (62N05)

Belyaeva, N. P. (*with* Tsirlin, A. M.) Optimal control of the buying and selling of stock shares. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 135–143; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 568–574. (Summary) **99k:90021** 90A09 (90A12, 90A16)

Belyakin, N. V. (*with* Odintsov, S. P.) Infinite arithmetical formulas and the reflection principle. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 3, 245–258, 357; *translation in Algebra and Logic* **36** (1997), *no.* 3, 147–154. (A. Yu. Muravitsky) **99e:03039** 03F30

Belyankin, G. A. (*with* Morozov, Vladimir Viktorovich; Bezhuashvili, B. T.) A game-theoretic approach to a pattern recognition problem. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 179–191, 225. (Summary) **99m:90187** 90D80

Belyankova, T. I. (*with* Vorovich, I. I.; Kalinchuk, V. V.) On the problem of low-frequency resonances in the interaction of an elastic body with a semi-bounded medium. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 624–626; *translation in Dokl. Phys.* **43** (1998), *no.* 2, 113–115. (From the text) **99k:73060** 73D30 (73T05)

Belyavskiĭ, G. I. (*with* Logvinov, S. Yu.) Multivalued mappings in a signal segmentation problem. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 8–11, 88. 93E11 (65U05)

Belykh, L. N. On the problem of replacing an ordinary differential equation with constant time delay by the system of ordinary differential equations. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 169–190. (John W. Mooney) **99g:34137** 34K15 (34A45, 34C11)

Belykh, V. N. Homoclinic and heteroclinic trajectories of a family of multidimensional dynamical systems. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 20–31. (Vassili G. Gelfreich) **99f:34072** 34C37 (34C35, 58F14)

Belytschko, Ted (*with* Krongauz, Y.) A Petrov-Galerkin diffuse element method (PG DEM) and its comparison to EFG. (English summary) *Comput. Mech.* **19** (1997), *no.* 4, 327–333. (Summary) **99f:65171** 65N30 (65M60)

— (*with* Liu, Wing Kam; Singer, Michael A.[2]) On adaptivity and error criteria for meshfree methods. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 217–228, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (65N30)

— (*with* Dolbow, J.) An introduction to programming the meshless element free Galerkin method. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 3, 207–241. (Summary) **99g:73103** 73V05

— (*with* Krongauz, Y.; Dolbow, J.; Gerlach, C.) On the completeness of meshfree particle methods. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 5, 785–819. (Summary) **99h:73084** 73V20 (76M25)

— (*with* Sukumar, N.; Moran, Brian) The natural element method in solid mechanics. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 5, 839–887. (Summary) **99g:73110** 73V05 (73V20)

— (*with* Black, T.) Convergence of corrected derivative methods for second-order linear partial differential equations. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 2, 177–203. (Summary) **99j:65103** 65J15 (65N99)

Belzunce, Félix (*with* Franco, Manuel; Ruiz Gómez, José María) On aging properties based on the residual life of k-out-of-n systems. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 2, 193–199. (Summary) **99m:90078** 90B25 (62N05)

Bemelmans, J. *see* **Charlemagne and his heritage. 1200 years of civilization and science in Europe, 99i:00015**

Bemporad, Alberto (*with* Mosca, Edoardo) Fulfilling hard constraints in uncertain linear systems by reference managing. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 451–461. (Summary) **99a:93062** 93C41 (93C05)

Bena, I. (*with* Malek Mansour, M.; Baras, F.) Hydrodynamic fluctuations in the Kolmogorov flow: linear regime. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part B*, 5503–5510. 76F99

Benà, Maria A. (*with* Carvalho, Luis Antonio Viera; Dos Reis, José G.) Dichotomic maps for delayed equations. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 299–314. (Summary) **99a:34209** 34K20

Benabas, Mourad Théorie de la dualité et orbites homoclines de systèmes gyroscopiques. [Duality theory and homoclinic orbits of gyroscopic systems] *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 1, 95–135. (Boris Buffoni) **99d:34079** 34C37 (58E05, 58F22)

— Orbite homocline dans un modèle à une infinité de particules. Une approche variationnnelle. (English and French summaries) [A variational approach to homoclinic orbits in an infinite lattice of particles] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 805–808. (Addolorata Salvatore) **99j:58038** 58E05 (34C37, 58F05, 58F22, 70K99)

— Correction: "Duality theory and homoclinic orbits of gyroscopic systems" [Topol. Methods Nonlinear Anal. **8** (1996), no. 1, 95–135; MR 99d:34079]. (French) *Topol. Methods Nonlinear Anal.* **12** (1998), *no.* 1, 193–197. (Editors) **99m:34104** 34C37 (58E05, 58F22)

Ben Abda, Amel (*with* Andrieux, Stéphane; Jaoua, Mohamed) On the inverse emergent plane crack problem. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 10, 895–906. (Yongzhi Xu) **99d:35176** 35R30 (35Q72, 73C99)

— (*with* Chaâbane, Slim; El Dabaghi, Fadi; Jaoua, Mohamed) On a non-linear geometrical inverse problem of Signorini type: identifiability and stability. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1379–1398. (Alain Brillard) **99j:35233** 35R35 (35J25, 35Q72, 73C02)

— (*with* Andrieux, Stéphane; Bui, Huy Duong) Reciprocity principle and crack identification. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 59–65. (Summary) **99k:35186** 35R30 (35Q72, 73C02, 73M25)

— (*with* Ben Ameur, Hend; Jaoua, Mohamed) Identification of 2D cracks by elastic boundary measurements. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 67–77. (Summary) **99k:35187** 35R30 (35Q72, 73C02, 73M25)

Benabdallah, Assia (*with* Ammar-Khodja, Farid; Teniou, Djamal E.) Stability of coupled systems. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 327–340. (Angelo Favini) **99b:34097** 34G10 (34D05, 35B35, 47D06, 47N20, 93C20)

Benabdallah, K. (*with* Mader, Adolf) Almost completely decomposable groups and integral linear algebra. *J. Algebra* **204** (1998), *no.* 2, 440–482. (David M. Arnold) **99g:20099** 20K15

Ben Abdallah, Naoufel A hybrid kinetic-quantum model for stationary electron transport. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 627–662. (Carlo Cercignani) **99e:82065** 82C31 (82D99)

— (*with* Degond, Pierre; Markowich, Peter A.) The quantum Child-Langmuir problem. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 629–648. (Vitor R. Vieira) **99b:81286** 81V70 (34B15, 35Q40)

— (*with* Degond, Pierre; Méhats, Florian) Mathematical models of magnetic insulation. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1522–1534. (Summary) **99a:78030** 78A55 (76X05)

— (*with* Unterreiter, Andreas) On the stationary quantum drift-diffusion model. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 251–275. (Tuncay Aktosun) **99j:35178** 35Q40 (35J10, 81V80, 82D99)

Ben Abdelaziz, F. (*with* Lang, Pascal; Nadeau, R.) Distributional unanimity in multiobjective stochastic linear programming. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 225–236, *Springer, Berlin*, 1997. (Summary) **99d:90097** 90C29 (90C15)

Ben Abdelghani, Leila Arcs de représentations du groupe d'un nœud dans un groupe de Lie. (English and French summaries) [Arcs of representations of knot groups into Lie groups] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 933–937. (Summary) **99i:57006** 57M25

Benabdellah, H. (*with* Castaing, Charles) Weak compactness criteria and convergences in $L^1_E(\mu)$. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 423–448. (Ali Ülger) **99b:46050** 46E40 (46B20, 46E30)

Benabidallah, Rachid Solution globale de l'équation d'un gaz visqueux isotherme dans le demi-espace assujetti à une grande force extérieure dérivant d'un potentiel. [Global solution of the isothermal viscous gas equation in the half-space subject to a large external potential force] *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 1–20. (Benoît P. Desjardins) **99f:35158** 35Q30 (76N10)

Benachour, Said (*with* Chassaing, Philippe; Roynette, B.; Vallois, Pierre) Processus associés à l'équation des milieux poreux. [Processes associated with the porous-medium equation] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 793–832 (1997). (Kazuaki Taira) **99c:35099** 35K55 (35Q35, 60H10, 60J65, 76M35, 76S05)

— (*with* Roynette, B.; Talay, D.; Vallois, Pierre) Nonlinear self-stabilizing processes. I. Existence, invariant probability, propagation of chaos. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 173–201. (Sylvie Méléard) **99j:60079** 60H10 (60J60, 60K35)

— (*with* Roynette, B.; Vallois, Pierre) Nonlinear self-stabilizing processes. II. Convergence to invariant probability. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 203–224. (Sylvie Méléard) **99j:60080** 60H10 (60J60, 60K35)

— (*with* Laurençot, Philippe) "Solutions très singulières" d'une équation parabolique non linéaire avec absorption. (English and French summaries) [Very singular solutions to a nonlinear parabolic equation with absorption] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 215–220. (Summary) **99k:35080** 35K55 (35B99)

Ben Adda, Fayçal La différentiabilité dans le calcul fractionnaire. (English and French summaries) [Differentiability in fractional calculus] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 787–791. (Summary) **99f:26009** 26A33

— Interprétation géométrique de la différentiabilité et du gradient d'ordre réel. (English and French summaries) [Geometric interpretation of the differentiability and gradient of real order] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 931–934. (Summary) **99g:26012** 26A33

Benahcene, M. (*with* Commault, Christian; Dion, Jean-Michel) Decoupling of structured systems by parameter-independent precompensation and state feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 348–352. 93B15 (93C05)

Benaïm, Michel Recursive algorithms, urn processes and chaining number of chain recurrent sets. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 53–87. (George Yin) **99f:62100** 62L20 (60F10)

Benaissa, Zine-El-Abidine (*with* Taha, Walid; Sheard, Tim) Multi-stage programming: axiomatization and type safety. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 918–929, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N15

Benakli, Karim Scales and cosmological applications of M-theory. (English summary) *Phys. Lett. B* **447** (1999), *no.* 1-2, 51–58. (Summary) **99k:83113** 83E30 (81T30)

— (*with* Ellis, Jonathan Richard; Nanopoulos, Dimitri V.) Natural candidates for superheavy dark matter in string and M theory. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 047301, 4 *pp.* 81V22 (81T30)

Benalili, Mohammed Sur l'ordre global des opérateurs différentiels linéaires Γ-naturels. (French summary) [On the global order of Γ-natural linear differential operators] *Demonstratio Math.* **31** (1998), *no.* 1, 33–42. (Jan Slovák) **99g:58007** 58A20 (53A55)

Ben Amar, Martine (*with* Patrício da Silva, Pedro; Adda-Bedia, M.) An elastica problem: instabilities of an elastic arch. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 285–295. (Summary) **99h:73042** 73K05 (73Hxx)

— (*with* Patrício da Silva, Pedro) Can one hear the shape of a smectic drum? (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2757–2765. (Summary) **99f:76013** 76A15 (58G40, 76D45)

Ben Ameur, Hend (*with* Ben Abda, Amel; Jaoua, Mohamed) Identification of 2D cracks by elastic boundary measurements. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 67–77. (Summary) **99k:35187** 35R30 (35Q72, 73C02, 73M25)

Benammar, M. (*with* Bennewitz, C. W.; Beynon, M. J.; Brown, B. Malcolm; Dias, N. G. J.; Evans, William Desmond; Everitt, W. N.; Kirby, V. G.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)

Ben Ammar, Mabrouk Déformations d'algèbres de Weyl. (English and French summaries) [Deformations of the Weyl algebra] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 9–12. (Summary) **99i:16057** 16S80

Benamor, Hédi (*with* Arnal, Didier; Cahen, Benjamin) Minimal realizations of classical simple Lie algebras through deformations. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 169–184. (Alexander N. Rudyĭ) **99m:17012** 17B20 (17B10)

— (*with* Benayadi, Saïd) Double extension of quadratic Lie superalgebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 67–88. (Elena Poletaeva) **99m:17037** 17B99

Benamou, Jean-David (*with* Brenier, Yann) Weak existence for the semigeostrophic equations formulated as a coupled Monge-Ampère/transport problem. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1450–1461 (*electronic*). (Andrew C. Fowler) **99i:35162** 35Q99 (35D05, 76C05, 76U05, 86A05)

— (*with* Brenier, Yann) A numerical method for the optimal time-continuous mass transport problem and related problems. (English summary) *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 1–11, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Mohammad Asadzadeh) **99j:65151** 65M25 (49N55, 65K10)

Benanti, Francesca (*with* Drensky, Vesselin) On the consequences of the standard polynomial. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4243–4275. (Amitai Regev) **99k:16048** 16R10

Benaoum, H. B. h analogue of Newton's binomial formula. (English summary) *J. Phys. A* **31** (1998), *no.* 46, *L*751–*L*754. (David M. Bressoud) **99m:05004a** 05A10 (05A17, 33D99)

— (q, h)-analogue of Newton's binomial formula. Addendum to: "h-analogue of Newton's binomial formula". (English summary) *J. Phys. A* **32** (1999), *no.* 10, 2037–2040. (David M. Bressoud) **99m:05004b** 05A10 (05A17, 33D99)

Ben Arous, Gerard (*with* Guionnet, A.) Symmetric Langevin spin glass dynamics. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1367–1422. (Barbara Gentz) **99g:82074** 82C44 (60F10, 60H10, 60K35, 82C22, 82C31)

— (*with* Gradinaru, Mihai) Singularities of hypoelliptic Green functions. (English summary) *Potential Anal.* **8** (1998), *no.* 3, 217–258. (Kazuaki Taira) **99e:35025** 35H05 (60H10, 60J60)

Benarous, Mohamed On the Poisson structure of the time-dependent mean-field equations for systems of bosons out of equilibrium. (English summary) *Ann. Physics* **264** (1998), *no.* 1, 1–12. (Robert Alicki) **99e:82060** 82C10 (58F40)

— Variational multi-time Green's functions for nonequilibrium quantum fields. (English summary) *Ann. Physics* **269** (1998), *no.* 2, 107–128. (Lewis H. Ryder) **99i:81139** 81T08

Ben-Aroya, I. (*with* Chinn, D. D.; Schuster, Assaf) A lower bound for nearly minimal adaptive and hot potato algorithms. (English summary) *Algorithmica* **21** (1998), *no.* 4, 347–376. (Summary) **99d:68018** 68M10

Ben-Artzi, Asher (*with* Helton, J. William; Woerdeman, Hugo J.) Non-minimal factorization of nonlinear systems: the observable case. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1069–1104. 93C10 (93B17)

— (*with* Gohberg, Israel) Singular numbers of contractions in spaces with an indefinite metric and Yamamoto's theorem. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 31–48. (L. Rodman) **99m:15029** 15A63 (47B50)

Ben-Artzi, Matania On global properties of some nonlinear parabolic equations. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 1–4, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35K55

— (*with* Nemirovsky, Jonathan) Resolvent estimates for Schrödinger-type and Maxwell equations with applications. *Spectral and scattering theory* (*Newark, DE*, 1997), 19–31, *Plenum, New York*, 1998. (L. V. Kritskov) **99e:35160** 35P05 (35J10, 35Q60, 47A40, 47N50, 81Q10)

— (*with* Devinatz, A.) Regularity and decay of solutions to the Stark evolution equation. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 501–512. (Summary) **99c:35026** 35B65 (35J10, 35K10, 47N50, 81Q10)

— (*with* Amour, Laurent) Global existence and decay for viscous Hamilton-Jacobi equations. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 621–628. (Zi Qian Yan) **99c:35098** 35K55 (35B40, 35B50)

Ben-Aryeh, Y. (*with* Zoubi, H.) The evolution of harmonic oscillator Wigner functions described by the use of group representations. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 2, 447–458. (Günter Braunss) **99k:81150** 81S30

Ben-Asher, Yosi (*with* Stein, Esti) Basic results in automatic transformations of shared memory parallel programs into sequential programs. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 351–366, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N05 (68N20, 68Q10)

Benassi, Albert (*with* Cohen, Serge; Istas, Jacques) Identifying the multifractional function of a Gaussian process. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 337–345. (Norbert Patzschke) **99h:60080** 60G15 (60G05, 60G17)

— (*with* Cohen, Serge; Istas, Jacques; Jaffard, Stéphane) Identification of filtered white noises. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 31–49. (José Rafael León) **99e:60104** 60G15 (60G18, 62G05)

Benattar, R. (*with* Zakharov, S. V.; Nikiforov, A. F.; Novikov, V. G.; Gasilov, V. A.; Krukovskii, A. Yu.; Zakharov, V. S.) Influence of magnetohydrodynamic

Rayleigh-Taylor instability on radiation of imploded heavy ion plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 175–187. 76X05

Benatti, Fabio (*with* Narnhofer, Heide) Strong clustering in type III entropic K-systems. (English summary) *Monatsh. Math.* **124** (1997), *no.* 4, 287–307. (C. A. Hurst) **99e:46089** 46L55 (82B10)

— Complete positivity and neutral kaon decay. *Irreversibility and causality* (*Goslar*, 1996), 124–147, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Władysław Adam Majewski) **99m:81283** 81V15 (46L60, 82C10)

— (*with* Floreanini, Roberto) Complete positivity and the neutral kaon system. (English summary) *Quantum probability* (*Gdańsk*, 1997), 71–85, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (B. V. Rajarama Bhat) **99i:82027** 82C10 (46L60, 47N50, 81S99)

— (*with* Fannes, Mark) Statistics and quantum chaos. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9123–9130. (Introduction) **99i:81046** 81Q50

Benavent López, Enrique (*with* Belenguer, J. M.) The capacitated arc routing problem: valid inequalities and facets. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 2, 165–187. (Mechthild Opperud) **99e:90105** 90C35 (90C27)

— (*with* Soler Fernández, David) Searching for a strong double tracing in a graph. (English summary) *Top* **6** (1998), *no.* 1, 123–138. (Summary) **99e:05113** 05C85 (68R10, 94C15)

Benavides, R. *see* **Benavides Gallardo, Raúl**

domínguez Benavides, T. *see* **Domínguez Benavides, T.**

Benavides Gallardo, Raúl (*with* Costa, Roberto C. F.) Some remarks on genetic algebras. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 93–105. (Consuelo Martínez) **99h:17030** 17D92

Benayadi, Saïd (*with* Benamor, Hédi) Double extension of quadratic Lie superalgebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 67–88. (Elena Poletaeva) **99m:17037** 17B99

Benayat, Djilali (*with* Kadri, Mohammed L.) Homotopy of hazy spaces. I, II. (English, French and Arabic summaries) *Maghreb Math. Rev.* **6** (1997), *no.* 2, 103–110, 111–136. (Summary) **99g:55016** 55Q05 (54A40)

Benayed, Miloud Extensions abéliennes des bigèbres de Lie. (English summary) [Abelian extensions of Lie bialgebras] *J. Lie Theory* **8** (1998), *no.* 1, 173–182. (Rolf Farnsteiner) **99b:17023** 17B56

— (*with* Souidi, El Mamoun) Heisenberg Lie bialgebras as central extensions. (English summary) *New York J. Math.* **4** (1998), 177–183 (*electronic*). (Aleksandr A. Mikhalev) **99h:17024** 17B50 (16W30)

Ben Ayed, Mohamed (*with* Chtioui, Hichem; Hammami, Mokhles) The scalar-curvature problem on higher-dimensional spheres. *Duke Math. J.* **93** (1998), *no.* 2, 379–424. (David L. Finn) **99e:53045** 53C21 (58G30)

Benazic Tome, Renato Mario A resolution theorem for absolutely isolated singularities of holomorphic vector fields. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 211–231. (Vasile Brînzănescu) **99c:32055** 32S45 (32S55, 32S65)

— (*with* Camacho, Maria Izabel Tavares) Topological equivalence of dicritical holomorphic vector fields. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 521–537. (Eugenii Shustin) **99k:32056** 32S05 (57R30)

Benazzouz, A. Quasilinear sequence transformations. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 275–285. (R. P. Tewarson) **99c:65095** 65H05 (65F05)

— GL(E)-quasilinear transformations and acceleration. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 109–122. (Jan Zítko) **99f:65008** 65B05

Benbachir, Saâd Research of the periodic solutions of the Hénon-Heiles nonintegrable Hamiltonian system by the Lindstedt-Poincaré method. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5083–5103. (Summary) **99c:70033** 70K99 (70F15, 70H05)

Ben Belgacem, Faker (*with* Azaïez, Mejdi; Grundmann, M.; Khallouf, H.) Staggered grids hybrid-dual spectral element method for second-order elliptic problems. Application to high-order time splitting methods for Navier-Stokes equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 183–199. (Summary) **99j:76070** 76M10 (76D05)

— (*with* Hild, Patrick; Laborde, Patrick) The mortar finite element method for contact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 263–271. (Summary) **99f:73072** 73T05 (73V05)

— (*with* Bernardi, Christine) Spectral element discretization of the Maxwell equations. (English and French summaries) *Math. Comp.* **68** (1999), *no.* 228, 1497–1520. (B. Belinskiy) **99m:65175** 65M15 (35Q60, 78–08)

— (*with* Hild, Patrick; Laborde, Patrick) Extension of the mortar finite element method to a variational inequality modeling unilateral contact. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 2, 287–303. (Pierre Alart) **99m:73066** 73V05 (65N30, 73T05, 73V25)

— (*with* Grundmann, M.) Approximation of the wave and electromagnetic diffusion equations by spectral methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 13–32 (*electronic*). (Timothy Nigel Phillips) **99h:65200** 65N35 (65Y20, 78–08)

Benbernou, Mejdoub Spectral analysis of the acoustic propagator in a multistratified domain. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 440–460. (Mihai Pascu) **99i:47085** 47F05 (35J05, 35P05, 47A55, 47B25)

Benbourhim, M. N. (*with* González-Casanova, Pedro) Local interpolation of nonsmooth functions. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 5 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99e:65150** 65N30 (41A30)

— (*with* González-Casanova, Pedro) Generalized variational quasi interpolants in $(H_0^m(\Omega))^n$. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 2, 347–354. (Summary) **99m:65016** 65D05 (65N99)

Ben Cheikh, Youssèf Decomposition of the Bessel functions with respect to the cycle group of order n. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 365–378 (1998). (N. Hayek Calil) **99g:33007** 33C10

Benci, Vieri (*with* Fortunato, Donato; Pisani, Lorenzo) Remarks on topological solitons. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 349–367. (B. A. Malomed (Zbl 892.35101)) **99f:35172** 35Q51 (35L70)

— (*with* Fortunato, Donato) A new variational principle for the fundamental equations of classical physics. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 333–352. (Paolo Piccione) **99a:58053** 58E30 (53C80, 83C22)

— (*with* Giannoni, Fabio; Masiello, Antonio) Some properties of the spectral flow in semi-Riemannian geometry. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 267–280. (Paolo Piccione) **99f:58039** 58E10

— (*with* Fortunato, Donato; Pisani, Lorenzo) Soliton like solutions of a Lorentz invariant equation in dimension 3. *Rev. Math. Phys.* **10** (1998), *no.* 3, 315–344. (Patricio L. Felmer) **99h:58046** 58E30 (35Q51)

Bencze, Mihaly A new inequality for the Smarandache function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 139. 11A25

— An inequality for the Smarandache function. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 160. 11A25

Benczúr, András A. (*with* Quang, C. K.; Nikovits, T.) Some constraints assuring serializability in multidatabases. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 9–21. (Summary) **99d:68061** 68P15

— (*with* Karger, David R.) Augmenting undirected edge connectivity in $\widetilde{O}(n^2)$ time. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 500–509, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C35, 05C40, 68R10)

Benda, Martin A central limit theorem for contractive stochastic dynamical systems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 200–205. (Summary) **99c:60137** 60J05 (60F05)

Benda, N. (*with* Schwabe, Rainer) Designing experiments for adaptively fitted models. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 165–175, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62079** 62J05

Bendali, Abderrahmane (*with* Vernhet, Laurent) Boundary element solution of a scattering problem involving a generalized impedance boundary condition. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 302–306, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 65N38 (35J05)

— (*with* Guillaume, Philippe) Non-reflecting boundary conditions for waveguides. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 123–144. (Jin Yun Yuan) **99c:78017** 78A50 (65N30, 78–08)

Bendaniel, D. J. The unreasonable effectiveness of mathematics in physics. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 297–301, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 00A79 (00A30)

Ben-David, Shai (*with* Alon, Noga; Cesa-Bianchi, Nicolò; Haussler, David) Scale-sensitive dimensions, uniform convergence, and learnability. (English summary) *J. ACM* **44** (1997), *no.* 4, 615–631. (Mark R. Jerrum) **99b:68154** 68T05 (05B40, 54E35, 60F15, 62G05)

— (*with* Lindenbaum, Michael) Learning distributions by their density levels: a paradigm for learning without a teacher. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 171–182. (Jerzy W. Grzymała-Busse) **99c:68208** 68T05

— Can finite samples detect singularities of real-valued functions? (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 3–17. (M. Iosifescu) **99f:68170** 68T05 (68Q99)

— (*with* Litman, Ami) Combinatorial variability of Vapnik-Chervonenkis classes with applications to sample compression schemes. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 3–25. (M. Iosifescu) **99d:68177** 68R05 (68Q15, 68T05)

van Bendegem, Jean Paul *see* **Van Bendegem, Jean Paul**

Bender, Carl M. (*with* Boettcher, Stefan) Quasi-exactly solvable quartic potential. (English summary) *J. Phys. A* **31** (1998), *no.* 14, *L273–L277*. (Summary) **99a:81023** 81Q05

— (*with* Milton, Kimball A.) Model of supersymmetric quantum field theory with broken parity symmetry. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3595–3608. 81T60 (81R40)

— (*with* Boettcher, Stefan) Real spectra in non-Hermitian Hamiltonians having $\mathcal{PT}$ symmetry. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 24, 5243–5246. (Summary) **99b:81043** 81Q10

— (*with* Dunne, Gerald V.; Meisinger, Peter N.) Complex periodic potentials with real band spectra. (English summary) *Phys. Lett. A* **252** (1999), *no.* 5, 272–276. 81Q20

Bender, Edward A. (*with* Richmond, L. Bruce) A multivariate Lagrange inversion formula for asymptotic calculations. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 33, 4 *pp.* (*electronic*). (Summary) **99c:05008** 05A15

— (*with* Richmond, L. Bruce) Multivariate asymptotics for products of large powers with applications to Lagrange inversion. (English summary) *Electron. J. Combin.* **6** (1999), *no.* 1, *Research Paper* 8, 21 *pp.* (*electronic*). (Summary) **99j:41050** 41A60 (05A16)

Bender, I. (*with* Actor, A. A.) A property of the vacuum stress tensor in static Casimir theory. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6737–6741. (Summary) **99k:81194** 81T16

Bender, Michael A. (*with* Chakrabarti, Soumen; Muthukrishnan, S.) Flow and stretch metrics for scheduling continuous job streams. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 270–279, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35

Bender, Renet Lovorn (*with* Pomerance, Carl) Rigorous discrete logarithm computations in finite fields via smooth polynomials. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 221–232, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Oliver Schirokauer) **99c:11156** 11Y16 (11T06, 11T71)

bonnet-Ben Dhia, Anne-Sophie *see* **Bonnet-Ben Dhia, Anne-Sophie**

Ben Dhia, H. Equilibrium of nonlinear Mindlin-Naghdi-Reissner plate problems under unilateral large transformation contact constraints. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 87–95. (Summary) **99f:73073** 73T05 (73K10)

Bendickson, Jon M. (*with* Glytsis, Elias N.; Gaylord, Thomas K.) Scalar integral diffraction methods: unification, accuracy, and comparison with a rigorous boundary element method with application to diffractive cylindrical lenses. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 7, 1822–1837. 78–08

Bendiffalah, B. (*with* Guin, D.) Cohomologie des morphismes. (French summary) [Cohomology of morphisms] *Comm. Algebra* **26** (1998), *no.* 12, 3939–3951. (Summary) **99i:18017** 18G60

Bendikov, A. D. (*with* Anastassiou, George A.) A discrete analog of Kac's formula and optimal approximation of the solution of the heat equation. (English summary) *Indian*

J. Pure Appl. Math. **28** (1997), *no.* 10, 1367–1389. (Alexander Ostermann) **99c:65173** 65M15 (65M06, 65M20)
— (*with* Saloff-Coste, Laurent) Elliptic diffusions on infinite products. (English summary) *J. Reine Angew. Math.* **493** (1997), 171–220. (G. Leha) **99k:58173** 58G11 (22E30, 31D05, 47D07)
— On the Lévy measures for symmetric stable semigroups on the torus $\mathbf{T}^\infty$. (English summary) *Potential Anal.* **8** (1998), *no.* 4, 399–407. (Martha Bănulescu) **99f:31011** 31C15 (60J45)
— (*with* Anastassiou, George A.) A sharp error estimate for the numerical solution of multivariate Dirichlet problem. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 403–422. (A. V. Dzhishkariani) **99m:65203** 65N15 (31B35, 65N06)
Bending, T. D. (*with* Fon-Der-Flaass, D.) Crooked functions, bent functions, and distance regular graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 34, 14 *pp.* (*electronic*). (Sung-Yell Song) **99h:05126** 05E30
Bendito, E. (*with* Carmona, Angeles; Encinas, A. M.) Some applications of potential theory. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1045–1050, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 31C99 (78A30)
— (*with* Carmona, Angeles; Encinas, A. M.) Optimization of parameters associated with an interconnection network. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1051–1056, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90C35
Bendjaballah, C. (*with* Leroy, J. M.; Vourdas, A.) Rate distortion and detection in quantum communication. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1658–1665. (Summary) **99h:94037** 94A34
Ben-Dor, Amir (*with* Lancia, Giuseppe; Perone, Jennifer; Ravi, R.) Banishing bias from consensus sequences. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 247–261, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92022** 92D10 (68Q25, 92D20)
Ben-Dor, G. (*with* Levy, Avi; Sorek, S.) Waves propagation in saturated rigid porous media—numerical simulation and comparison with experiments. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 55–73, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76100** 76M25 (76–05, 76S05)
— (*with* Arad, M.; Yosibash, Z.; Yakhot, A.) Computing flux intensity factors by a boundary method for elliptic equations with singularities. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 657–670. 65N38
Bendor, Jonathan (*with* Swistak, Piotr) Evolutionary equilibria: characterization theorems and their implications. (English summary) *Theory and Decision* **45** (1998), *no.* 2, 99–159. (Ross Cressman) **99m:90181** 90D40 (90D20, 92D15)
Bendsøe, Martin P. (*with* Taylor, John E.; Washabaugh, Peter D.) A formulation for optimal continuum structures with a decomposition of material properties into specified and designable parts. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 255–264. (Summary) **99k:73088** 73K40 (49Q10)
— (*with* Duysinx, P.) Topology optimization of continuum structures with local stress constraints. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 8, 1453–1478. (Summary) **99h:73054** 73K40 (73K20)
— (*with* Achtziger, Wolfgang; Taylor, John E.) Bounds on the effect of progressive structural degradation. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 6, 1055–1087. (Summary) **99b:73031** 73K40 (73K99, 73V20)
Benecke, Christof Objektorientierte Darstellung und Algorithmen zur Klassifizierung endlicher bewerteter Strukturen. [Object-oriented representation and algorithms for the classification of finite valued structures] *Match No.* 37 (1998), 7–156. (From the introduction) **99g:05168** 05C90 (92E10)
Benedek, Agnes (*with* Panzone, Rafael) On complex bases for number systems with the digit set $\{0, 1\}$. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 17–32, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (Summary) **99b:11007** 11A67
— (*with* Panzone, Rafael) On the tame dragon. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 125–141. (V. Drobot) **99c:11010** 11A67 (11K55, 52C20)
Benedetti, Giovanni Battista *see* **Giusti, Enrico, 99j:01005**
Benedetti, Riccardo (*with* Petronio, Carlo) ★ Branched standard spines of 3-manifolds. Lecture Notes in Mathematics, 1653. *Springer-Verlag, Berlin*, 1997. viii+132 *pp. ISBN* 3-540-62627-1 (Sergej V. Matveev) **99a:57012** 57N10 (57R15)
— (*with* Shiota, Masahiro) On real algebraic links in S^3. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 585–609. (Lee Rudolph) **99k:57007** 57M25 (14P25, 32S55)
— (*with* Guadagnini, Enore) Classical Teichmüller theory and $(2 + 1)$ gravity. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 60–68. (Summary) **99k:32037** 32G15 (32G81, 81T40)
di Benedetto, Fabio *see* **Di Benedetto, Fabio**
Benedetto, John J. (*with* Zimmermann, Georg) Sampling multipliers and the Poisson summation formula. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 505–523. (Peter A. McCoy) **99b:42011** 42A38 (42A45, 42A65)
— Noise reduction in terms of the theory of frames. (English summary) *Signal and image representation in combined spaces*, 259–284, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99e:94005** 94A11 (42C15, 94A12)
— (*with* Li, Shidong) The theory of multiresolution analysis frames and applications to filter banks. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 389–427. (Gilbert Walter) **99k:42054** 42C15 (94A12)
di Benedetto, M. D. *see* **Di Benedetto, M. D.**
Benedikt, Michael A. (*with* Keisler, H. Jerome) Expressive power of unary counters. (English summary) *Database theory—ICDT '97* (*Delphi*), 291–305, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68050** 68P15 (03B70, 03C13, 03C80)
— (*with* Keisler, H. Jerome) Expressive power of unary counters. (English summary) *Structures in logic and computer science*, 34–50, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Martin Weese) **99i:03041** 03C80 (03C13, 68P15)
— (*with* Baldwin, John T.) Embedded finite models, stability theory, and the impact of order. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 490–500, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03030** 03C13 (03C45)
— (*with* Griffin, Timothy; Libkin, Leonid) Verifiable properties of database transactions. (English summary) *Inform. and Comput.* **147** (1998), *no.* 1, 57–88. (Summary) **99i:68027** 68P15
— (*with* Dong, Guozhu; Libkin, Leonid; Wong, Limsoon) Relational expressive power of constraint query languages. (English summary) *J. ACM* **45** (1998), *no.* 1, 1–34. (Marc Gyssens) **99e:68028** 68P15 (03D15, 03H10, 05D10, 68Q15)
— Ultrafilters which extend measures. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 638–662. (W. A. J. Luxemburg) **99m:03133** 03H05 (28E05)
Benediktovich, I. I. A remark on the degree of the standard associative identity for classical Lie algebras. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 126–127, 144. (From the text) **99j:17011** 17B20
Benediktovich, V. I. Edge minimax triangulation and a locally optimal procedure. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 48–50, 140. (Summary) **99g:52023** 52B55
Beneker, Paul Strongly exposed points, Helson-Szegő weights and Toeplitz operators. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 3, 299–306. (Takahiko Nakazi) **99f:47032** 47B35 (30D55, 46E15)
— (*with* Wiegerinck, Jan) Strongly exposed points in uniform algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1567–1570. (Krzysztof Jarosz) **99m:46123** 46J10 (46B10)
Ben-El-Mechaiekh, Hichem (*with* Isac, George) Some geometric solvability theorems in topological vector spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 273–285. (Introduction) **99a:47092** 47H15 (47H10, 47H17)
— (*with* Isac, George) Generalized multivalued variational inequalities. (English summary) *Analysis and topology*, 115–142, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 49J40 (47H04, 47H19, 54C60)
— Existence theorems for set valued maps. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 155–176, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Wojciech Kryszewski) **99g:47122** 47H04 (34A60, 47H10, 47N10, 49J52, 54C60, 54H25)
— (*with* Chebbi, Souhail; Florenzano, Monique; Llinares Ciscar, Juan Vicente) Abstract convexity and fixed points. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 138–150. (Louis A. Talman) **99c:47089** 47H10 (47H04, 52A01, 54H25)
Benenti, Sergio Geometrical aspects of the dynamics of non-holonomic systems. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 203–212. (Ernesto A. Lacomba) **99g:70020** 70F25 (58F05, 70H05, 70H35)
— Intrinsic characterization of the variable separation in the Hamilton-Jacobi equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6578–6602. (Valery V. Obukhov) **99b:70018** 70H20 (53B21, 53C80, 70H33)
Benerecetti, Massimo (*with* Giunchiglia, Fausto; Serafini, Luciano) Model checking multiagent systems. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 401–423. (Summary) **99f:68132** 68Q60 (68T27)
Beneš, Michal (*with* Mikula, K.) Simulation of anisotropic motion by mean curvature—comparison of phase field and sharp interface approaches. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 17–42. (Summary) **99k:73017** 73B30 (35Q72, 58E99, 65M99, 73V20, 80A22)
Beneš, Václav E. Nonlinear filtering and optimal quality control. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 225–230. (Elart von Collani) **99g:90051** 90B30 (62N10)
Beneš, Viktor (*with* Štěpán, Josef) Moment decompositions of measure spaces. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 328–336, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (M. Z. Nashed) **99e:44005** 44A60 (60B05)
Benest, Daniel *see* **Analysis and modelling of discrete dynamical systems, 99j:58002**
Benettin, Giancarlo (*with* Fassò, Francesco; Guzzo, Massimiliano) Fast rotations of the rigid body: a study by Hamiltonian perturbation theory. II. Gyroscopic rotations. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1695–1717. (Vassili G. Gelfreich) **99d:70012** 70E15 (58F30, 70E20, 70H05)
— (*with* Fassò, Francesco; Guzzo, Massimiliano) Nekhoroshev-stability of elliptic equilibria of Hamiltonian systems. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 347–360. (Dario Bambusi) **99j:58117** 58F10 (34C29, 34D10, 58F05, 58F30, 70H05)
— (*with* Guzzo, Massimiliano; Fassò, Francesco) On the stability of elliptic equilibria. (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 1, 16 *pp.* (*electronic*). (Luigi Chierchia) **99e:58157** 58F30 (34C35, 34D99, 70H05, 70K20)
— (*with* Fassò, Francesco) From Hamiltonian perturbation theory to symplectic integrators and back. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 73–87. (Vassili G. Gelfreich) **99k:34097** 34C37 (58F05, 58F30, 70–08, 70H05)
Benevieri, Pierluigi Recent developments in topological degree theory. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 81–84. 58C30 (47H11)
Bénézet, Jean-Pierre *see* **Hauchecorne, Bertrand, 99f:01001**
Benfatto, G. (*with* Gentile, Guido; Mastropietro, Vieri) Electrons in a lattice with an incommensurate potential. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 655–708. (Summary) **99g:82025** 82B28 (82B10)
— (*with* Gentile, Guido; Mastropietro, Vieri) Peierls instability for the Holstein model with rational density. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1071–1113. (Summary) **99h:82074** 82D20 (82B05)
Benferhat, Salem (*with* Saffiotti, A.; Smets, P.) Belief functions and default reasoning. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 19–26, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T27 (03B70)
— (*with* Dubois, Didier; Prade, Henri) Coping with the limitations of rational inference in the framework of possibility theory. (English summary) *Uncertainty in artificial*

intelligence (*Portland, OR*, 1996), 90–97, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68180** 68T30

— (*with* Dubois, Didier; Lang, Jérôme; Prade, Henri; Saffiotti, A.; Smets, P.) Reasoning under inconsistency based on implicitly-specified partial qualitative probability relations: a unified framework. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 121–126, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)

— (*with* Dubois, Didier; Prade, Henri) From semantic to syntactic approaches to information combination in possibilistic logic. (English summary) *Aggregation and fusion of imperfect information*, 141–161, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 03B60 (03E72)

Ben Gerson, Levi *see* **ben Gerson, Levi**

Benghabrit, Youssef (*with* Houfaidi, Souâd) Robustesse et étude asymptotique d'un GM-estimateur des paramètres d'un ARMA(p,q). (French summary) [Robustness and asymptotic study of a GM-estimator of the parameters of an ARMA(p,q)] *Afrika Mat.* (3) **9** (1998), 1–10. (Summary) **99c:62251** 62M10 (62F35)

— (*with* Hallin, Marc) Locally asymptotically optimal tests for AR(p) against diagonal bilinear dependence. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 47–63. (Adhir K. Basu) **99f:62104** 62M10

Ben Ghalia, Mounir Modelling and robust control of uncertain dynamical systems using fuzzy set theory. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1367–1395. 93C42 (93B35)

Ben Ghanem, Riadh (*with* Frappier, Clément) Explicit quadrature formulae for entire functions of exponential type. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 267–279. (Dimitar Kolev Dimitrov) **99k:41048** 41A55 (30D15, 33C10)

Bengtsson, Ingemar Manifest duality in Born-Infeld theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 27, 4869–4880. (Marc Henneaux) **99a:78010** 78A25 (81V10)

— (*with* Äminneborg, Stefan; Brill, Dieter; Holst, Sören; Peldán, Peter) Black holes and wormholes in 2 + 1 dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 627–644. (Kirill V. Krasnov) **99c:83043** 83C57 (83C75)

— (*with* Jacobson, Theodore A.) Corrigenda: "Degenerate metric phase boundaries" [Classical Quantum Gravity **14** (1997), no. 11, 3109–3121; MR 98k:83036]. *Classical Quantum Gravity* **15** (1998), *no.* 12, 3942. (From the text) **99j:83032** 83C45 (83C05)

Bengtsson, Johan (*with* Jonsson, Bengt; Lilius, Johan; Yi, Wang) Partial order reductions for timed systems. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 485–500, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q55, 68Q68)

Benguria, Rafael D. (*with* Depassier, M. Cristina) A variational method for nonlinear eigenvalue problems. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 1–17, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Gabriella Tarantello) **99d:34030** 34B15 (34L30, 35K57, 49R05)

— (*with* Yáñez, Julio M.) Variational principle for the chemical potential in the Thomas-Fermi model. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 585–593. (Giorgio Cattapan) **99g:81233** 81V45 (49S05, 81V55)

— (*with* Depassier, M. Cristina) Phase space derivation of a variational principle for one-dimensional Hamiltonian systems. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 144–146. (Gabriella Tarantello) **99d:34031** 34B15 (34L30, 49R05)

— (*with* Depassier, M. Cristina) Speed of fronts of generalized reaction-diffusion equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6493–6496. (Summary) **99b:35091** 35K57 (35B45)

Benhabib, B. (*with* Zlatanov, D.; Fenton, R. G.) Identification and classification of the singular configurations of mechanisms. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 743–760. (Summary) **99f:70016** 70B15

Ben Hadid, H. (*with* Touihri, R.; Henry, Daniel) Effect of a constant and uniform magnetic field on Rayleigh-Bénard instabilities in cylindrical cavities. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 161–170, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76E15 (76E25, 76W05)

— (*with* Juel, A.; Mullin, Tom; Henry, Daniel) Magnetohydrodynamic convection to molten gallium. (English summary) *J. Fluid Mech.* **378** (1999), 97–118. (Summary) **99j:76137** 76W05 (76–05, 76R05)

Benham, Craig J. (*with* Kannan, Sampath K.; Warnow, Tandy) Of chicken teeth and mouse eyes, or Generalized character compatibility. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 17–26, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Satoru Miyano) **99d:92020** 92D20 (68Q25)

— The topologically driven strand separation transition in DNA—methods of analysis and biological significance. (English summary) *Mathematical support for molecular biology*, 173–198, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92019** 92D20 (92E10)

Benhammou, A. (*with* Nejjari, F.; Roux, Gilles; Dahhou, B.) Estimation and optimal control design of a biological wastewater treatment process. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 269–280. 49N55 (93E10)

Benhamou, Frédéric (*with* Granvilliers, Laurent) Automatic generation of numerical redundancies for non-linear constraint solving. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 335–344. (Summary) **99b:65062** 65G10 (68T20)

Ben Hariz, Samir Uniform CLT for empirical processes indexed classes of functions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 301–306. (Miguel A. Arcones) **99g:60068** 60F17 (60B12)

Benhenni, Karim (*with* Istas, Jacques) Minimax results for estimating integrals of analytic processes. (English summary) *ESAIM Probab. Statist.* **2** (1998), 109–121 (*electronic*). (A. Ya. Olenko) **99m:62013** 62C20 (62G05)

Benhissi, Ali Anneau des séries formelles généralisées. (French summary) [Ring of generalized formal power series] *Arch. Math.* (*Basel*) **70** (1998), *no.* 4, 278–285. (Takashi Harase) **99e:13027** 13F25

Benichou, Olivier (*with* Gaveau, Bernard; Moreau, Michel) Resonant diffusion in a linear network of fluctuating obstacles. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*, 103–116. (Summary) **99h:82066** 82C44

Benielli, Dominique (*with* Sommeria, Joël) Excitation and breaking of internal gravity waves by parametric instability. (English summary) *J. Fluid Mech.* **374** (1998), 117–144. (Summary) **99i:76031** 76C10 (76E99, 76V05)

Beniere, J.-C. (*with* Meigniez, Gaël) Flows without minimal set. (English summary) *Ergodic Theory Dynam. Systems* **19** (1999), *no.* 1, 21–30. (Michael Hurley) **99m:58160** 58F25 (34C40, 54H20)

Bening, V. E. A formula for deficiency. *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 243–252, *Gordon and Breach, Amsterdam*, 1996. (James N. Adichie) **99m:62077** 62G20

— (*with* Korolev, V. Yu.) Asymptotic behavior of generalized non-ordinary Cox processes. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 111–129, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60G55

— Testing of statistical hypotheses: a method for obtaining asymptotic expansions under alternatives based on the properties of the likelihood ratio. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 764–777. (*see* **99b:62004**) 62E20 (62F05)

— On the power of some adaptive tests in the one-sample problem. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1468–1485. (Summary) **99e:62072** 62G10

— (*with* Korolev, V. Yu.) Asymptotic behavior of compound nonordinary Cox processes with nonzero means. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part I (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 3, 3836–3856. (Jia Gang Wang) **99m:60075** 60G55 (60F05, 60G50)

— Deficiencies of combined L-tests. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4003–4009. (Summary) **99j:62062** 62G10

— (*with* Korolev, V. Yu.) On approximations to generalized Cox processes. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 2, 247–270. (Jia Gang Wang) **99m:60074** 60G55 (60F05, 60G50)

Benini, Marco (*with* Kalvala, Sara; Nowotka, Dirk) Program abstraction in a higher-order logic framework. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 33–48, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99k:68171** 68T15 (68Q60)

Benioff, Paul Quantum robots and environments. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 893–904. (Emanuel H. Knill) **99g:81028** 81P99 (68Q05, 93C85)

Ben-Israel, Adi (*with* Yau, Lily) The Newton and Halley methods for complex roots. *Amer. Math. Monthly* **105** (1998), *no.* 9, 806–818. (Hubertus Th. Jongen) **99i:65056** 65H05 (30C15)

Bénisti, D. (*with* Escande, Dominique F.) Origin of diffusion in Hamiltonian dynamics. (English summary) 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Denver, CO, 1996). *Phys. Plasmas* **4** (1997), *no.* 5, *part* 2, 1576–1581. (Summary) **99a:82091** 82D05 (58F40)

Benítez, Carlos (*with* Sarantopoulos, Yannis; Tonge, Andrew) Lower bounds for norms of products of polynomials. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 395–408. (Ignacio Zalduendo) **99h:46077** 46G20

— (*with* Przesławski, Krzysztof; Yost, David Thomas) A universal modulus for normed spaces. (English summary) *Studia Math.* **127** (1998), *no.* 1, 21–46. (Yves Raynaud) **99i:46005** 46B20

— (*with* Fernández García-Hierro, Manuel; Soriano, María L.) On the norm of the product of linear functionals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1437–1441. (Summary) **99h:46032** 46C15 (46B20)

almeida Benítez, Pedro R. *see* **Almeida Benítez, Pedro R.**

Benito, Manuel (*with* Varona, Juan L.) Advances in aliquot sequences. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 389–393. (Richard T. Bumby) **99c:11162** 11Y55 (11A25)

Benjamin, Arthur T. (*with* Yasuda, Kan) Magic "squares" indeed! *Amer. Math. Monthly* **106** (1999), *no.* 2, 152–156. 05B15

Benjamin, Diane A bound for $|G\colon O_p(G)|_p$ in terms of the largest irreducible character degree of a finite p-solvable group G. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 371–376. (Jorge Soto-Andrade) **99c:20005** 20C15

Benjamin, E. (*with* Lemmermeyer, Franz; Snyder, Chip) Imaginary quadratic fields k with cyclic $Cl_2(k^1)$. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 229–245. (Stéphane Louboutin) **99a:11126** 11R32 (11R29, 11R37)

Benjamini, Itai (*with* Schramm, Oded) Every graph with a positive Cheeger constant contains a tree with a positive Cheeger constant. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 3, 403–419. (Wolfgang Woess) **99b:05032** 05C05 (60J15)

— On the support of harmonic measure for the random walk. (English summary) *Israel J. Math.* **100** (1997), 1–6. (Christopher Bishop) **99b:60108** 60J15 (30C85)

— (*with* Pemantle, Robin; Peres, Yuval) Unpredictable paths and percolation. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1198–1211. (Wei-Shih Yang) **99g:60183** 60K35 (60J10)

— (*with* Schramm, Oded) Conformal invariance of Voronoi percolation. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 75–107. (Mathew D. Penrose) **99i:60172** 60K35 (82B43)

— Expanders are not hyperbolic. (English summary) *Israel J. Math.* **108** (1998), 33–36. (Summary) **99m:05073** 05C35

— (*with* Schramm, Oded) Exceptional planes of percolation. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 551–564. (Ronald Meester) **99i:60173** 60K35 (82B43)

— (*with* Lyons, Russell; Peres, Yuval; Schramm, Oded) Group-invariant percolation on graphs. (English summary) *Geom. Funct. Anal.* **9** (1999), *no.* 1, 29–66. (Olle Häggström) **99m:60149** 60K35 (60B99)

— (*with* Babson, Eric K.) Cut sets and normed cohomology with applications to percolation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 589–597. (John C. Wierman) **99g:05119** 05C40 (60K35)

Benjamini, Yoav (*with* Hochberg, Yosef) Multiple hypotheses testing with weights. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 407–418. (František Rublík) **99d:62046** 62G10 (62F03)

Benjelloun, K. (*with* Boukas, El-Kébir) Mean square stochastic stability of linear time-delay system with Markovian jumping parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1456–1460. (Daoyi Xu) **99g:93082** 93E15 (93C30)

Benjelloun-Dabaghi, Zakia (*with* Bamberger, Alain; Billette, Emmanuel; Jaecker-Voirol, Anne; Quandalle, Philippe; Sandu, Adrian) Mathematical and numerical studies to improve CPU time in a transport-convection atomospheric problem. (English summary) *Équations aux dérivées partielles et applications*, 81–105, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 86A10 (86–08)

Benkadda, Sadruddin (*with* Kassibrakis, S.; White, Roscoe B.; Zaslavskiĭ, G. M.) Nonuniversality of transport for the standard map. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 403–438, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99g:58083** 58F13 (58F40)

— (*with* White, Roscoe B.; Kassibrakis, S.; Zaslavskiĭ, G. M.) Near threshold anomalous transport in the standard map. (English summary) *Chaos* **8** (1998), *no.* 4, 757–767. (Summary) **99h:58130** 58F13

— *see also* **Chaos, kinetics and nonlinear dynamics in fluids and plasmas, 99d:00014**

Benkaraache, Taoufik L'ultramétrique inférieure maximum d'une dissimilarité à valeurs dans un inf-demi-treillis. (English and French summaries) [The subdominant ultrametric of a dissimilarity taking its values in a meet semilattice] *Math. Inform. Sci. Humaines No.* 143 (1998), 27–40 (1999). (Summary) **99k:06003** 06A12

Benkart, Georgia (*with* Gregory, Thomas; Kuznetsov, M. I.) On graded Lie algebras of characteristic three with classical reductive null component. (English summary) *The Monster and Lie algebras* (*Columbus, OH*, 1996), 149–164, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Saeid Azam) **99i:17033** 17B70 (17B10, 17B20)

— Derivations and invariant forms of Lie algebras graded by finite root systems. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 225–241. (Gordon E. Brown) **99d:17013** 17B20 (17B40, 17B70)

— (*with* Lee Shader, Chanyoung; Ram, Arun) Tensor product representations for orthosymplectic Lie superalgebras. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 1, 1–48. (Thomas M. Halverson) **99k:17013** 17B10 (05E15)

— (*with* Kang, Seok-Jin; Melville, Duncan J.) Quantized enveloping algebras for Borcherds superalgebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3297–3319. (From the text) **99f:17014** 17B37 (17B67)

— Down-up algebras and Witten's deformations of the universal enveloping algebra of $\mathfrak{sl}_2$. *Recent progress in algebra* (*Taejon/Seoul*, 1997), 29–45, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Ellen E. Kirkman) **99m:17014** 17B35 (06A07, 16S30, 17B10)

Benker, Hans (*with* Hamel, Andreas) Remarks on the algorithm of Sakawa for optimal control problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 257–272. (J. Frédéric Bonnans) **99f:49052** 49M30 (49M05)

Benkhaldoun, F. (*with* Elmahi, I.; Vilsmeier, R.; Gloth, O.; Patschull, A.; Hänel, D.) Finite volume simulation of a droplet flame ignition on unstructured meshes. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 187–205. (Summary) **99k:80003** 80–08 (80A25)

Benkherouf, Lakdere (*with* Aggoun, Lakhdar; Tadj, Lotfi) A stochastic inventory model with perishable and aging items. (English summary) *J. Appl. Math. Stochastic Anal.* **12** (1999), *no.* 1, 23–29. 90B05 (60J10, 60K30)

Benkiran, Taoufiq Étude d'un système de contrôle optimal perturbé non classique. (English and French summaries) [Study of a nonclassical perturbed optimal control system] *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 1–9. (Laurent Véron) **99c:49026** 49K40 (35J05, 49J20)

Benkirane, A. (*with* Elmahi, A.) Strongly nonlinear elliptic unilateral problems having natural growth terms and L^1 data. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 289–303. (Zhi Ren Jin) **99j:35082** 35J85 (35J60)

— (*with* Elmahi, A.) An existence theorem for a strongly nonlinear elliptic problem in Orlicz spaces. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 11–24. (Jianfu Yang) **99m:35056** 35J60

Benli, Ömer S. (*with* Şen, Alper) Lot streaming in open shops. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 135–142. (Summary) **99k:90080** 90B22

Benmaiza, Mohamed (*with* Touzene, Abderezak) One-to-all broadcast algorithm for constant degree 4 Cayley graphs. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 249–264. (Summary) **99k:68126** 68R10 (68M10)

Benn, A. G. (*with* Kulperger, R. J.) A remark on a Fourier bounding method of proof for convergence of sums of periodograms. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 187–202. (A. Ya. Olenko) **99c:62274** 62M40 (60G60)

Bennaceur, Hachemi (*with* Gouachi, Idir; Plateau, Gérard) An incremental branch-and-bound method for the satisfiability problem. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 301–308. (*see* **99e:90002**) 90C10 (90C27)

Ben-Naim, E. (*with* Krapivsky, P. L.) Steady-state properties of traffic flows. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8073–8080. (Summary) **99e:90029** 90B06 (82C05)

Bennama, H. (*with* Bertin, José) Remarques sur les varietés abéliennes avec un automorphisme d'ordre premier. [Remarks on abelian varieties with a first-order automorphism] *Manuscripta Math.* **94** (1997), *no.* 4, 409–425. (H. Lange) **99e:14050** 14K05

— Base de différentielles de première espèce des courbes $y^q = \prod_{i=0}^{p}(x - a_i)^{\alpha_i}$: application aux points de Weierstrass. (English and French summaries) [Base of differentials of the first kind for the curves $y^q = \prod_{i=0}^{p}(x - a_i)^{\alpha_i}$: application to Weierstrass points] *J. Algebra* **203** (1998), *no.* 1, 261–269. (Colin Stahlke) **99c:30075** 30F30 (14H55)

Ben-Naoum, Abdou Kouider (*with* Félix, Yves) Lefschetz number and degree of a self-map. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 229–241. (John F. Oprea) **99b:55002** 55M20 (55P62)

— (*with* De Coster, Colette) On the existence and multiplicity of positive solutions of the p-Laplacian separated boundary value problem. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1093–1112. (P. Lindqvist) **99b:35062** 35J65 (34B15, 35B32)

— On the solvability of the Dirichlet problem for the nonlinear wave equation in bounded domains with corner points. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 4, 407–426. (Nickolai A. Larkin) **99m:35159** 35L70

Ben Nasr, F. On some regularity conditions of Borel measures on **R**. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 218–224. (Claude Tricot) **99c:28022** 28A80 (28A78, 60G57)

Ben Natan, Yaakov (*with* Weit, Yitzhak) Integrable harmonic functions on $\mathbf{R}^n$. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 471–477. (A. Korányi) **99c:31009** 31B05 (42B10)

— (*with* Weit, Yitzhak) Integrable harmonic functions on symmetric spaces of rank one. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 141–149. (Fu Liu Zhu) **99k:43010** 43A85 (22E30, 43A45)

Benner, Peter (*with* Mehrmann, Volker; Xu, Hongguo) A new method for computing the stable invariant subspace of a real Hamiltonian matrix. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 17–43. (Marlis Hochbruck) **99b:65042** 65F15 (93B40)

— (*with* Byers, Ralph) An exact line search method for solving generalized continuous-time algebraic Riccati equations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 101–107. (Vladimir B. Larin) **99c:93042** 93B40 (65F30)

— (*with* Faßbender, Heike; Watkins, David S.) Two connections between the *SR* and *HR* eigenvalue algorithms. (English summary) *Linear Algebra Appl.* **272** (1998), 17–32. (Raffaella Pavani) **99a:65045** 65F15 (15A18)

— (*with* Faßbender, Heike) The symplectic eigenvalue problem, the butterfly form, the SR algorithm, and the Lanczos method. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 19–47. (Raffaella Pavani) **99h:65063** 65F15 (15A18)

— (*with* Mehrmann, Volker; Xu, Hongguo) A numerically stable, structure preserving method for computing the eigenvalues of real Hamiltonian or symplectic pencils. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 329–358. (Rafael Bru) **99f:65057** 65F15 (15A18, 15A22)

— (*with* Faßbender, Heike; Watkins, David S.) SR and SZ algorithms for the symplectic (butterfly) eigenproblem. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 41–76. (Ilse C. F. Ipsen) **99m:65068** 65F15 (15A18, 15A23)

Bennett, Beth Anne V. (*with* Smooke, Mitchell D.) Local rectangular refinement with application to nonreacting and reacting fluid flow problems. (English summary) *J. Comput. Phys.* **151** (1999), *no.* 2, 684–727. 76M25 (80–08)

Bennett, Brandon Determining consistency of topological relations. (English summary) *Constraints* **3** (1998), *no.* 2-3, 213–225. (Summary) **99c:68225** 68T20 (68T27)

Bennett, Charles H. (*with* Bernstein, Ethan; Brassard, Gilles; Vazirani, Umesh) Strengths and weaknesses of quantum computing. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1510–1523. (Robert M. Baer) **99e:68034** 68Q05 (03D10, 03D15, 68Q15, 81P99)

— (*with* Shor, Peter W.) Quantum information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2724–2742. (Summary) **99h:94025** 94A15 (81P99, 94–02, 94A05, 94A60)

— (*with* DiVincenzo, David P.; Fuchs, Christopher A.; Mor, Tal; Rains, Eric M.; Shor, Peter W.; Smolin, John A.; Wootters, William K.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)

Bennett, Elaine (*with* Maschler, Michael; Zame, William R.) A demand adjustment process. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 423–438. (Theo Driessen) **99f:90199** 90D12

Bennett, Frank E. (*with* Zhang, Hantao; Zhu, Lie[1]) Holey self-orthogonal Latin squares with symmetric orthogonal mates. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 107–118. (Katherine Heinrich) **99j:05035** 05B15

— (*with* Wu, Li Sheng) Minimum matrix representation of Sperner systems. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 9–17. (Konrad Engel) **99a:05139** 05D05 (68P15)

— (*with* Abel, R. Julian R.) The existence of perfect Mendelsohn designs with block size 7. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 1–14. (Summary) **99c:05022** 05B05

— (*with* Shalaby, Nabil; Yin, Jian Xing) Existence of directed GDDs with block size five. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 389–402. (Summary) **99j:05020** 05B05

— (*with* Zhang, Hantao) Existence of (3, 1, 2)-HCOLS and (3, 1, 2)-ICOILS. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 53–64. (Summary) **99d:05013** 05B15

— (*with* Colbourn, Charles J.; Mullin, Ronald C.) Quintessential pairwise balanced designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 15–66. (Jeffrey H. Dinitz) **99i:05026** 05B05

— (*with* Abel, R. Julian R.; Zhang, Hantao) Holey Steiner pentagon systems. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 41–56. (Charles C. Lindner) **99i:05053** 05B30

Bennett, Harold (*with* Lutzer, David) Off-diagonal metrization theorems. (English summary) *Topology Proc.* **22** (1997), 37–58. (Summary) **99i:54043** 54F05 (54E35, 54G20)

— (*with* Lutzer, David) Ordered spaces with special bases. (English summary) *Fund. Math.* **158** (1998), *no.* 3, 289–299. (Summary) **99i:54044** 54F05 (54D70, 54E35)

Bennett, Jonathan Mark A multiplier relation for Calderón-Zygmund operators on $L^1(\mathbf{R}^n)$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 715–723. (Summary) **99f:42029** 42B20

Bennett, Mary Katherine (*with* Foulis, David J.) A generalized Sasaki projection for effect algebras. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 55–66. (Summary) **99g:03064** 03G12 (08A55, 81P10)

Bennett, Michael A. (*with* Dummigan, N. P.; Wooley, Trevor D.) The representation of integers by binary additive forms. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 15–33. (G. Greaves) **99a:11041** 11D85 (11D41, 11P05)

— On the number of solutions of simultaneous Pell equations. (English summary) *J. Reine Angew. Math.* **498** (1998), 173–199. (P. G. Walsh) **99c:11029** 11D09

Bennett, Paul Amalgamated free products of inverse semigroups. (English summary) *J. Algebra* **198** (1997), *no.* 2, 499–537. (T. E. Hall) **99f:20097** 20M18

Bennett, T. L. (*with* Porsching, T. A.; Hall, C. A.) Minimax approximation of optical profiles. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1951–1968 (*electronic*). (Summary) **99d:41036** 41A30 (65Y25)

Bennett-Wood, D. (*with* Enting, I. G.; Gaunt, D. S.; Guttmann, Anthony J.; Leask, J. L.; Owczarek, Aleksander L.; Whittington, Stuart G.) Exact enumeration study of free energies of interacting polygons and walks in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4725–4741. (Summary) **99c:82031** 82B41 (82D60)

Bennewitz, C. W. (*with* Benammar, M.; Beynon, M. J.; Brown, B. Malcolm; Dias, N. G. J.; Evans, William Desmond; Everitt, W. N.; Kirby, V. G.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities (Niš, 1996)*, 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)

Benois, O. (*with* Bodineau, Thierry; Buttà, Paolo; Presutti, E.) On the validity of van der Waals theory of surface tension. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 175–198. (Agoston Pisztora) **99e:82033** 82B24 (60F10, 82B20, 82B26)

— (*with* Bodineau, Thierry; Presutti, E.) Large deviations in the van der Waals limit. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 89–104. (Yvan Velenik) **99h:60046** 60F10 (60K35, 82B24)

Benoist, Joël Intégration du sous-différentiel proximal: un contre-exemple. (English and French summaries) [Integration of the proximal subdifferential: a counterexample] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 867–870. (J. Borwein) **99b:49015** 49J52 (26A16, 58C20)

— Connectedness of the efficient set for strictly quasiconcave sets. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 627–654. (Jean-Pierre Crouzeix) **99f:90104** 90C29 (90C26)

Benoist, Yves $\mathscr{D}$-modules sur la variété des drapeaux. [$\mathscr{D}$-modules on the flag manifold] *Éléments de la théorie des systèmes différentiels. Images directes et constructibilité (Nice, 1990)*, 99–116, *Travaux en Cours*, 46, *Hermann, Paris*, 1993. (Andrea D'Agnolo) **99c:32007** 32C38

— Actions symplectiques de groupes compacts. (English and French summaries) [Symplectic actions of compact groups] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 373–376. (Charles-Michel Marle) **99m:58085** 58F05 (57S15)

Benoît, Eric Applications of nonstandard analysis in ordinary differential equations. *Nonstandard analysis (Edinburgh, 1996)*, 153–182, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (I. P. van den Berg) **99i:34075** 34E05 (03H05, 34C99)

— (*with* Mauris, G.; Foulloy, L.) Fuzzy linguistic methods for the aggregation of complementary sensor information. (English summary) *Aggregation and fusion of imperfect information*, 214–230, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72

— (*with* Fruchard, Augustin; Schäfke, Reinhard; Wallet, Guy) Overstability: towards a global study. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 873–878. (B. L. J. Braaksma) **99k:34120** 34E15 (34A20)

— (*with* Brandon, J. A.; Jezequel, L.) Subtle bifurcation in the vibration of a system with an interface nonlinearity. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 393–400. (Summary) **99b:70027** 70K99 (73K12)

Benoit, Patricia M. (*with* Coley, Alan A.) Spherically symmetric spacetimes and kinematic self-similarity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2397–2414. (Alicia M. Sintes) **99g:83016** 83C20 (34C99)

Ben-Or, Michael (*with* Feig, Ephraim) On algebras related to the discrete cosine transform. (English summary) *Linear Algebra Appl.* **266** (1997), 81–106. (Vítězslav Veselý) **99e:15021** 15A30 (15A21, 39A12, 94A12)

Benouar, Nour-Eddine (*with* Starita, Giulio) Elliptic systems in exterior domains. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 1–30 (1998). (Guido Sweers) **99c:35050** 35J55 (35J40)

— (*with* Bouziani, Abdelfatah) Mixed problem with integral conditions for a third order parabolic equation. (English summary) *Kobe J. Math.* **15** (1998), *no.* 1, 47–58. (I. N. Tavkhelidze) **99j:35087** 35K35

Benouaz, T. (*with* Arino, Ovide) Optimal approximation of the initial value problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 21–32. (Matti Mäkelä) **99g:65078** 65L05 (34A45)

Benoumhani, M. Sur une propriété des polynômes à racines réelles négatives. [A property of polynomials with negative real roots] *J. Math. Pures Appl.* (9) **75** (1996), *no.* 2, 85–105. (From the introduction) **99c:12003** 12D10 (11C08)

Benoy, Florence (*with* King, Andrew Malcolm; Shen, Kish) Lower-bound time-complexity analysis of logic programs. (English summary) *Logic programming (Port Washington, NY, 1997)*, 261–275, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q25)

Ben-Porath, Elchanan Correlation without mediation: expanding the set of equilibrium outcomes by "cheap" pre-play procedures. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 108–122. (Summary) **99e:90116** 90D10 (90A14)

Bensaïd, Nadia (*with* Fabre, Jean-Pierre) Convergence de l'estimateur à noyau de dérivées de Radon-Nikodym générales dans le cas mélangeant. (English and French summaries) [Convergence of the kernel estimator of general Radon-Nikodým derivatives in the mixing case] *Canad. J. Statist.* **26** (1998), *no.* 2, 267–282. (Michael Falk) **99i:62082** 62G07 (60G55)

Ben Salah, M. (*with* Yahiaoui, M. S.) Perturbations et lois de sorties. [Perturbations and exit laws] *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 113–117. 60J45

Ben Salem, N. (*with* Trimèche, Khélifa) Mehler integral transforms associated with Jacobi functions with respect to the dual variable. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 691–720. (S. P. Goyal) **99a:44003** 44A15

— (*with* Trimèche, Khélifa) Results on the Jacobi functions with respect to the dual variable as eigenfunctions and applications. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 2, 56–61. (J. P. Singhal) **99g:33018** 33C45 (39A70, 44A15)

— (*with* Dachraoui, A.) Pseudo-differential operators associated with the Jacobi differential operator. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 365–381. (Josefina Alvarez) **99c:47077** 47G30 (33C45, 34A99, 35S05)

Bensaou, N. (*with* Guessarian, Irène) Transforming constraint logic programs. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 81–125. (Neculai Curteanu) **99i:68015** 68N17 (03B70, 68Q55)

Bensebah, A. (*with* Dubeau, François; Gélinas, J.) Projection methods and approximations for ordinary differential equations. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 78–90. (Reinhard Scholz) **99m:65149** 65L70 (34A45)

Benseny, Antoni (*with* Olivé, Carme) Algebraic manipulation of variational equations in the computation of local invariant manifolds of hyperbolic periodic orbits. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C25 (34C30)

— (*with* Olivé, Carme) Algebraic manipulation of the invariance condition in the computation of local invariant curves of hyperbolic fixed points. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics (Odeillo, 1995)*, 29–39, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Tere M. Seara) **99f:58153** 58F15 (65H99, 65L99)

šilac-Benšić, M. *see* **Šilac-Benšić, M.**

Benslimane, Mohamed (*with* Merrachi, Najia) Caractérisation spectrale d'une classe d'algèbres de Jordan Banach. [Spectral characterization of a class of Jordan-Banach algebras] *Comm. Algebra* **26** (1998), *no.* 5, 1393–1397. (Antonio Fernández López) **99c:46056** 46H70 (17C65, 17D05)

— (*with* Merrachi, Najia) Algèbres de Jordan Banach vérifiant $\|x\|\,\|x^{-1}\| = 1$. [Jordan-Banach algebras satisfying $\|x\|\,\|x^{-1}\| = 1$] *J. Algebra* **206** (1998), *no.* 1, 129–134. (Khristo N. Boyadzhiev) **99h:46094** 46H70 (17C65)

Ben Slimane, Mourad Multifractal formalism and anisotropic selfsimilar functions. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 329–363. (Steen Pedersen) **99g:28016** 28A80 (42C15)

Benson, Brian (*with* Dror, Moshe) Linear time procedure for two job flowshop. (English summary) *Found. Comput. Decision Sci.* **23** (1998), *no.* 3, 179–186. 90B35

Benson, Chal (*with* Jenkins, Joe; Ratcliff, Gail) The spherical transform of a Schwartz function on the Heisenberg group. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 379–423. (Jacek Cygan) **99d:22016** 22E30 (22E25)

— (*with* Ratcliff, Gail) Combinatorics and spherical functions on the Heisenberg group. (English summary) *Represent. Theory* **2** (1998), 79–105 (*electronic*). (Jean Ludwig) **99f:22014** 22E30

Benson, D. J. *see* **Benson, David John**

Benson, David Joel Stable time step estimation for multi-material Eulerian hydrocodes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 1-2, 191–205. (Summary) **99j:73110** 73V20 (73D05, 73S10)

Benson, David John Infinite-dimensional modules for a finite group. *Representation theory of finite groups (Columbus, OH, 1995)*, 11–17, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Jeremy Rickard) **99k:20018** 20C20 (20J06)

— Complexity and varieties for infinite groups. I, II. (English summary) *J. Algebra* **193** (1997), *no.* 1, 260–287, 288–317. (Jon F. Carlson) **99a:20054** 20J05 (20C20)

— ★ Representations and cohomology. I. (English summary) Basic representation theory of finite groups and associative algebras. Second edition. Cambridge Studies in Advanced Mathematics, 30. *Cambridge University Press, Cambridge*, 1998. *xii+246 pp. ISBN* 0-521-63653-1 (From the introduction) **99f:20001a** 20–02 (20Cxx, 20J06)

— ★ Representations and cohomology. II. (English summary) Cohomology of groups and modules. Second edition. Cambridge Studies in Advanced Mathematics, 31. *Cambridge University Press, Cambridge*, 1998. *xii+279 pp. ISBN* 0-521-63652-3 (From the introduction) **99f:20001b** 20–02 (19–02, 20Cxx, 20Jxx, 55–02)

— (*with* Adem, Alejandro) Elementary abelian groups acting on products of spheres. *Math. Z.* **228** (1998), *no.* 4, 705–712. (Allan Edmonds) **99k:57033** 57M35 (57S17, 57S20)

— (*with* Wheeler, Wayne W.) Direct sum decompositions of infinitely generated modules. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3843–3855. (K. W. Roggenkamp) **99m:20009** 20C20 (16E30, 20J06)

Benson, Debbie L. (*with* Maini, Philip K.; Sherratt, Jonathan A.) Unravelling the Turing bifurcation using spatially varying diffusion coefficients. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 381–417. (Yoram Schiffmann) **99k:92007** 92C15 (35B32, 35K57, 35Q80)

Benson, Gary (*with* Amir, Amihood; Farach-Colton, Martin) Optimal parallel two-dimensional text searching on a CREW PRAM. (English summary) *Inform. and Comput.* **144** (1998), *no.* 1, 1–17. (Summary) **99b:68089** 68Q22 (68Q25)

— (*with* Amir, Amihood) Two-dimensional periodicity in rectangular arrays. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 90–106 (*electronic*). (Rani Siromoney) **99g:68086** 68Q25

Benson, Harold P. Generating the efficient outcome set in multiple objective linear programs: the bicriteria case. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 29–51. (E. G. Gol'shteĭn) **99c:90101** 90C29

— (*with* Lee, Dongyeup; McClure, J. Peter) Global optimization in practice: an application to interactive multiple objective linear programming. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 353–372. (Summary) **99d:90098** 90C29 (90C05, 90C90)

— An outer approximation algorithm for generating all efficient extreme points in the outcome set of a multiple objective linear programming problem. (English summary) *J. Global Optim.* **13** (1998), *no.* 1, 1–24. (Tamaki Tanaka) **99e:90079** 90C29 (49M35)

— Further analysis of an outcome set-based algorithm for multiple-objective linear programming. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 1–10. (Summary) **99a:90168** 90C29

— Hybrid approach for solving multiple-objective linear programs in outcome space. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 17–35. (E. G. Gol'shteĭn) **99e:90056** 90C08 (90C29)

Bensoussan, Alain (*with* Răşcanu, Aurel) Large time behaviour for parabolic stochastic variational inequalities. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 149–173 (1997). (Bohdan Maslowski) **99c:60125** 60H15 (49J40, 49K45)

— (*with* Frehse, Jens) Dual regularity methods in the theory of nonlinear elliptic systems. (English summary) *Équations aux dérivées partielles et applications*, 139–149, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Monica Lazzo) **99j:35041** 35J55 (35D10, 35J60)

Bensuda, Ch. (*with* Gauthier, Paul M.) Superharmonic approximation on a closed set. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 17–32 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 11–22. (Peter Boyadjiev) **99j:30038** 30E10

Ben Taïb, A. (*with* Schmidt-Lainé, Claudine) Sur un algorithme en volumes finis non structurés pour la simulation des flammes turbulentes en chimie infiniment rapide. (English and French summaries) [A nonstructured finite volume algorithm for the

simulation of turbulent flames in infinitely rapid chemistry] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 681–697. (Reinhard Redlinger) **99i:76101** 76M20 (65M06, 76F99, 80–08, 80A25)

Ben-Tal, Aharon (*with* Nemirovskii, Arkadii) Robust convex optimization. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 769–805. (J. Frédéric Bonnans) **99j:90088** 90C31 (65K05, 90C25, 90C60)

Bentaleb, Farès Réflexions sur l'apport des dictionnaires bilingues à la traduction des termes mathématiques: les cas d'*al-Manhal* et d'*al-Mounged*. [Reflections on the contribution of bilingual dictionaries to the translation of mathematical terms: the cases of *al-Manhal* and *al-Mounged*] *Bull. Études Orient.* **49** (1997), 75–113. (Julio Samsó-Moya) **99g:01009** 01A30 (00A99)

Bentarzi, Mohamed (*with* Hallin, Marc) Spectral factorization of periodically correlated MA(1) processes. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 46–54. (Jiří Anděl) **99d:62082** 62M10

— Model-building problem of periodically correlated m-variate moving average processes. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 1–21. (Francesco Battaglia) **99j:62123** 62M10

Benth, Fred Espen (*with* Gjerde, Jon) Numerical solution of the pressure equation for fluid flow in a stochastic medium. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 175–186, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (From the introduction) **99j:65231** 65N99 (60H30, 65U05, 76M25, 76S05)

— (*with* Streit, Ludwig) The Burgers equation with a non-Gaussian random force. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 187–210, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Alp O. Eden) **99j:35238** 35R60 (35Q53, 60H15)

— (*with* Gjerde, Jon) A remark on the equivalence between Poisson and Gaussian stochastic partial differential equations. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 179–193. (Isamu Dôku) **99d:60069** 60H15 (35R60, 60G20, 60H30)

— (*with* Gjerde, Jon) Convergence rates for finite element approximations of stochastic partial differential equations. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 313–326. (From the introduction) **99i:60120** 60H15 (65U05)

van Benthem, Johan A new world underneath standard logic: cylindric algebra, modality and quantification. *From universal morphisms to megabytes: a Baayen space odyssey*, 179–186, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (From the text) **99a:03059** 03F50 (03B10, 03B45, 03G15)

— Process operations in extended dynamic logic. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 244–250, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60 (03B45, 03B70)

— Program constructions that are safe for bisimulation. (English summary) *Studia Logica* **60** (1998), *no.* 2, 311–330. (G. Mirkowska) **99k:68106** 68Q60 (03B70)

— (*with* D'Agostino, Giovanna; Montanari, Angelo; Policriti, Alberto) Modal deduction in second-order logic and set theory. II. (English summary) *Studia Logica* **60** (1998), *no.* 3, 387–420. (Summary) **99i:03016** 03B45

Bentín, R. (*with* Suzuki, Alfredo T.; Schmidt, Alexandre G. M.) Probing negative-dimensional integration: two-loop covariant vertex and one-loop light-cone integrals. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 549–560. (Summary) **99h:81144** 81T18

Bentkus, V. (*with* Götze, Friedrich) Uniform rates of convergence in the CLT for quadratic forms in multidimensional spaces. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 3, 367–416. (Petr Lachout) **99e:60056** 60F05 (11P21, 60B12, 62E20)

— (*with* Bloznelis, M.; Götze, Friedrich) A Berry-Esséen bound for M-estimators. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 485–502. (R. A. Maller) **99c:62057** 62F12 (60F05, 62E20, 62F35)

— (*with* Götze, Friedrich; Zaĭtsev, A. Yu.[1]) Approximation of quadratic forms of independent random vectors by accompanying laws. (Russian) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 308–335; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 189–212 (1998). (V. J. Paulauskas) **99b:60010** 60B12 (60F99, 60G42)

Bentler, Peter M. (*with* Berkane, Maia; Oden, Kevin) Geodesic estimation in elliptical distributions. *J. Multivariate Anal.* **63** (1997), *no.* 1, 35–46. (P. E. Jupp) **99k:62112** 62H12

— (*with* Chan, Wai) Covariance structure analysis of ordinal ipsative data. (English summary) *Psychometrika* **63** (1998), *no.* 4, 369–399. (Summary) **99m:62158** 62P15

Bentley, H. L. (*with* Herrlich, Horst) On the strict completion of a nearness space. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 11–21 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99d:54014** 54E17 (54D35, 54E15)

— (*with* Herrlich, Horst) Countable choice and pseudometric spaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 153–164. (Vinodkumar) **99k:03041** 03E25 (04A25, 54A35, 54E35, 54E45, 54E50, 54E52)

Benton, P. N. (*with* Bierman, G. M.; de Paiva, V. C. V.) Computational types from a logical perspective. (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 177–193. (Chantal Berline) **99h:68026** 68N15 (03B45, 03B70, 03F05, 68Q55)

Benton, Robert E., Jr. (*with* Smith, Dirk) Static output feedback stabilization with prescribed degree of stability. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1493–1496. (Summary) **99e:93060** 93D15

Bentosela, F. (*with* Exner, Pavel; Zagrebnov, V. A.) Electron trapping by a current vortex. (English summary) *J. Phys. A* **31** (1998), *no.* 17, *L*305–*L*311. (Summary) **99c:82072** 82D55 (81V10)

Bentsman, Joseph (*with* Miller, Boris M.) Control of distributed systems with generalized input actions. (Russian. Russian summary) Current problems in control theory and their applications (singular solutions and perturbations in control systems) (Russian). *Avtomat. i Telemekh.* **1997**, *no.* 7, 65–80; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1119–1131. (Florin Iacob) **99d:93035** 93C20 (34Gxx, 34H05, 93C57)

Benveniste, Albert (*with* Jard, Claude; Gaubert, Stéphane) Algebraic techniques for timed systems. (English summary) *CONCUR*'98: *concurrency theory* (*Nice*), 373–388, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68M20)

— Compositional and uniform modeling of hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 579–584. (*see* **99a:93006**) 93A30 (93C30)

Benveniste, Xavier On the flip theorem for locally primitive extremal rays in dimension 3. (English summary) *Math. Ann.* **312** (1998), *no.* 3, 417–428. (Massimiliano Mella) **99j:14016** 14E30 (14J30)

Benvenuti, Luca (*with* Farina, Lorenzo) A note on minimality of positive realizations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 6, 676–677. (Summary) **99b:93016** 93B15 (15A23)

— (*with* Farina, Lorenzo) Invariant polytopes of linear systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 233–240. (Summary) **99e:93074** 93D30 (93C55)

— (*with* Farina, Lorenzo) Constrained control for uncertain discrete-time linear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 555–565. (Summary) **99c:93070** 93C41 (93D15)

Benvenuti, Stefano (*with* Bove, Antonio) On a class of hyperbolic systems with multiple characteristics. *Osaka J. Math.* **35** (1998), *no.* 2, 313–356. (Alan Jeffrey) **99g:35077** 35L45

Benyah, F. (*with* Jennings, L. S.) Ill-conditioning in optimal control computation. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 81–88, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 49M25 (65J20)

— (*with* Jennings, L. S.) The L-curve in regularisation of optimal control computation. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998/99), (*E*), *E*138–*E*172 (*electronic*). (R. Tichatschke) **99j:49070** 49M30 (65K10)

Benyamini, Yoav Applications of the universal surjectivity of the Cantor set. *Amer. Math. Monthly* **105** (1998), *no.* 9, 832–839. (P. Krupski) **99m:54024** 54G05 (54E45)

Benyamini, Zvi (*with* Yechiali, Uri) Optimality of control limit maintenance policies under nonstationary deterioration. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 55–70. (Summary) **99i:90052** 90B25 (90B05)

Benyash-Krivets, V. V. On the decomposition of the free product of cyclic groups with one relation into an amalgamated free product. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 8, 13–26. (M. S. Burgin) **99m:20050** 20E06 (20F05)

Ben Younes, Meriem (*with* Amara, M.; Bernardi, Christine) Error indicators for the Navier-Stokes equations in stream function and vorticity formulation. (English and French summaries) *Numer. Math.* **80** (1998), *no.* 2, 181–206. (Nikolay P. Moshkin) **99f:65159** 65N30 (65M60, 76D05, 76M25)

Benyounes, Michèle (*with* Bejan, Cornelia-Livia) Harmonic maps between almost para-Hermitian manifolds. *New developments in differential geometry, Budapest* 1996, 67–76, *Kluwer Acad. Publ., Dordrecht*, 1999. (Maria Falcitelli) **99k:53124** 53C50 (53C15, 58E20)

Ben-Yu, Guo *see* **Guo, Ben Yu**

Benz, Simon (*with* Hintz, P.; Riley, R. J.; Neitzel, G. P.) Instability of thermocapillary-buoyancy convection in shallow layers. II. Suppression of hydrothermal waves. (English summary) *J. Fluid Mech.* **359** (1998), 165–180. (Summary) **99a:76053b** 76E15 (76R05)

Benz, Walter (*with* Ghalieh, Khuloud) Groupoids associated with the ternary ring of a projective plane. *J. Geom.* **61** (1998), *no.* 1-2, 17–31. (Hubert Kiechle) **99b:51001** 51A35 (20N02)

— Automorphisms of finite Einstein geometries. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 67–77. (Giorgio Faina) **99k:51016** 51E25 (51K05)

— Translation equation and some new geometries. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 299–308. (Summary) **99d:51020** 51M10 (39B52, 51B99)

— The translation equation in geometry. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 15–22. (H.-J. Samaga) **99j:39022** 39B52

— Reelle Abstandsräume und hyperbolische Geometrie. (German summary) [Real distance spaces and hyperbolic geometry] Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 56–68. (Hans Sachs) **99e:51016** 51K99 (51M05, 51M10)

— Erinnerungen an frühe Jahre: zum 70. Geburtstag von Paul Leo Butzer. [Reminiscences of earlier years: on the occasion of the 70th birthday of Paul Leo Butzer] *Results Math.* **34** (1998), *no.* 3-4, 209–213. 01A70

Benzaid, Zoubir On the constrained controllability of linear time-varying discrete systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 608–612. 93B05 (93C55)

Benzécri, Jean-Paul Théorie des capacités (d'après G. Choquet). [Capacity theory (after G. Choquet)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 120, 217–227, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 31B15

Benzi, Michele (*with* Alléon, Guillaume; Giraud, Luc) Sparse approximate inverse preconditioning for dense linear systems arising in computational electromagnetics. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 1–15 (1998). (*see* **99a:65006**) 65F35 (65F50)

— (*with* Tůma, Miroslav) Numerical experiments with two approximate inverse preconditioners. (English summary) *BIT* **38** (1998), *no.* 2, 234–241. (Summary) **99c:65082** 65F35 (65F10, 65F50)

Benzi, R. (*with* Toschi, F.; Tripiccione, R.) On the heat transfer in Rayleigh-Bénard systems. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 901–918. 76F99 (76E15)

Benzoni-Gavage, S. Stability of multi-dimensional phase transitions in a van der Waals fluid. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 243–263. (Roberto Natalini) **99b:76070** 76N10 (35L65, 35M10, 35Q35, 76E99)

— Semi-discrete shock profiles for hyperbolic systems of conservation laws. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 109–123. (Gholam-Ali Zakeri) **99c:65153** 65M06 (35L65)

— Nonuniqueness of phase transitions near the Maxwell line. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1183–1190. (D. ter Haar) **99f:35210** 35Q99 (34C37, 35L67, 76D45, 82C24)

Bera, Rasajit Kumar Propagation of waves in random rotating infinite magneto-thermo-visco-elastic medium. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 85–102. (Summary) **99h:73036** 73F15 (73B30, 73B35, 73D15, 73R05)

Bera, Soumendra A peculiar identity from the usual expansion of $(a-1)^r$. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 12, 1609–1620. (F. T. Howard) **99a:05003** 05A10 (05A19)

— Some interesting results on a new combinatorial arithmetic function. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 541–557. (Renzo Sprugnoli) **99g:11024** 11B73 (05A05, 05A10)

Beran, Ladislav A characterization of distributive lattices by meanders. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 353–366. (R. Piziak) **99a:06010** 06B10 (06D99)

— (*with* Salvati, Simonetta) Boolean algebras revisited. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 895–901. (M. J. Mączyński) **99e:06008** 06E05 (06C15)

— (*with* Nováková, Eva) On an inequality of Atanassov. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 234–235. 26D15

Beran, Mark J. (*with* Whitman, Alan M.; Maralina, Galina) Pulse propagation of acoustic waves scattered in a channel. (English summary) *Waves Random Media* **9** (1999), *no.* 1, 1–11. (Summary) **99j:76115** 76Q05

Beran, Rudolf Stein estimation in high dimensions: a retrospective. (English summary) *Research developments in probability and statistics*, 91–110, *VSP, Utrecht*, 1996. (Nabendu Pal) **99e:62009** 62C15 (62C20, 62F10, 62H12)

— (*with* Fisher, Nicholas I.) A conversation with Geoff Watson. *Statist. Sci.* **13** (1998), *no.* 1, 75–93. (Summary) **99m:01040** 01A70

— *see also* **Hájek, Jaroslav, 99k:01086**

Bérard, Béatrice (*with* Picaronny, Claudine) Accepting Zeno words without making time stand still. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 149–158, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (68Q68)

Berardi, Stefano (*with* Bezem, Marc; Coquand, Thierry) On the computational content of the axiom of choice. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 600–622. (Stewart Shapiro) **99f:03081** 03F55 (03B15, 03E25)

Berarducci, Alessandro (*with* Dikranjan, Dikran N.; Forti, Marco; Watson, W. Stephen) Cardinal invariants and independence results in the poset of precompact group topologies. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 19–49. (A. Revuz) **99b:22001** 22A05

Béraud, Jean-François (*with* Arquès, Didier) Énumération des cartes pointées sur la bouteille de Klein. (English and French summaries) [Enumeration of rooted maps on the Klein bottle] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 4, 385–409. (T. R. S. Walsh) **99a:05063** 05C30

Berberian, Sterling K. ★ Fundamentals of real analysis. (English summary) Universitext. *Springer-Verlag, New York*, 1999. *xii*+479 *pp. ISBN* 0-387-98480-1 (C. W. Swartz) **99i:28001** 28–01 (26–01, 46–01)

Berbyuk, V. E. The use of first integrals to synthesize the energetically optimal control of a nonlinear system. (English summary) *J. Math. Sci. (New York)* **86** (1997), *no.* 2, 2642–2645. 49N35 (93B51)

Berceanu, Stefan A remark on Berezin's quantization and cut locus. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 159–168. (Nicolaas P. Landsman) **99m:58102** 58F06 (22E70, 53C20, 81R30, 81S10)

Bercovici, Hari (*with* Li, Wing Suet) Reflexivity of certain pairs of commuting isometries. (English summary) *Topics in operator theory, operator algebras and applications* (*Timişoara*, 1994), 29–48, *Rom. Acad., Bucharest*, 1995. (Victor S. Shul'man) **99f:47009** 47A15 (47D25)

— (*with* Foias, Ciprian) On the Zorn spaces in Beurling's approach to the Riemann hypothesis. *Analysis and topology*, 143–149, *World Sci. Publishing, River Edge, NJ*, 1998. (Jörn Steuding) **99k:11134** 11M26 (46E99)

— (*with* Foias, Ciprian; Tannenbaum, Allen R.) On skew Toeplitz operators. II. *Non-selfadjoint operator algebras, operator theory, and related topics*, 23–35, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Warren R. Wogen) **99g:47013** 47A20 (47B35, 93B25)

— (*with* Voiculescu, Dan-Virgil) Regularity questions for free convolution. *Nonselfadjoint operator algebras, operator theory, and related topics*, 37–47, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Dimitri Y. Shlyakhtenko) **99j:46074** 46L50

— (*with* Prunaru, Bebe) Quasiaffine transforms of polynomially bounded operators. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 5, 384–387. (Christian Le Merdy) **99i:47015** 47A45 (47A60)

— Hyper-reflexivity and the factorization of linear functionals. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 242–252. (Alfredo Octavio) **99g:47105** 47D25 (47A15, 47A20, 47D27)

— *see also* **Nonselfadjoint operator algebras, operator theory, and related topics, 99b:47001**

Bercovier, Michel (*with* Volpin, Oleg; Matskewich, Tanya) Globally G^1 free form surfaces using Kirchhoff-Love plate energy methods. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 25–34, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Sheffer, Alla; Blacker, Ted; Clements, Jan) Virtual topology construction and applications. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 247–259, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99f:65214** 65Y25 (65D17)

— Optimal approximation of derivatives: an application of the mixed finite element method. (English summary) *Équations aux dérivées partielles et applications*, 151–164, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (N. Gass) **99j:65195** 65N30 (73C35, 73V05)

— (*with* Matskewich, Tanya; Volpin, Oleg) "Discrete" G^1 assembly of patches over irregular meshes. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 351–358, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65Y25 (65D17)

Bercu, Bernard (*with* Gamboa, F.; Rouault, A.) Large deviations for quadratic forms of stationary Gaussian processes. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 75–90. (Vadim R. Fatalov) **99c:60052** 60F10 (60G15, 62M15)

— Central limit theorem and law of iterated logarithm for least squares algorithms in adaptive tracking. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 910–928 (*electronic*). (Winston T. Lin) **99f:93145** 93E24 (62M10)

Bérczes, A. (*with* Hajdu, L.) On a problem of P. Turán concerning irreducible polynomials. *Number theory* (*Eger*, 1996), 95–100, *de Gruyter, Berlin*, 1998. (Maurice Mignotte) **99f:11032** 11C08

— (*with* Brindza, Béla; Hajdu, L.) On the power values of polynomials. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 375–381. (Yann Bugeaud) **99h:11028** 11D41

Berde, B. (*with* Borrel, Michel) Numerical experiments on the accuracy of a discontinuous Galerkin method for the Euler equations. (English and French summaries) *Aerosp. Sci. Technol.* **2** (1998), *no.* 5, 279–288. (Summary) **99g:76101** 76M25 (76L05, 76N15)

Berdichevskiĭ, V. L. Statistical mechanics of vortex lines. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2885–2905. (Richard K. Jordan) **99a:76070** 76F99 (76C05, 76M35, 82B21)

— (*with* Volovoi, Vitali V.; Hodges, Dewey H.; Sutyrin, Vladislav G.) Asymptotic theory for static behavior of elastic anisotropic I-beams. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 7, 1017–1043. (Summary) **99i:73045** 73K05

Berdikulov, M. A. (*with* Zhuraev, I. M.) Normal positive functionals on spaces with an order unit. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 22–28 (1997). (Wojciech Bartoszek) **99f:46027** 46B40 (47A35, 47B60)

— An existence theorem for a predual space for spaces with order unit. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 25–28. (R. Cristescu) **99j:46007** 46A40

— Order unit space of type I_n with Banach ball property. *Algebra and operator theory* (*Tashkent*, 1997), 183–186, *Kluwer Acad. Publ., Dordrecht*, 1998. (Khristo N. Boyadzhiev) **99j:46056** 46H70

Berdyshev, A. S. Some spectral properties of boundary value problems for a third-order equation with a parabolic-hyperbolic operator. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 22–27. 35M10

— On the Volterra property of an analogue of the Tricomi problem for a third-order parabolic-hyperbolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 22–31. (Nickolai A. Lar'kin) **99g:35090** 35M20 (35M10)

— (*with* Kadyrkulov, B. D.) The generalized Tricomi problem for the loaded Lavrent'ev-Bitsadze equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 28–35 (1997). 35M10

— On the existence of eigenvalues of a boundary value problem for a third-order parabolic-hyperbolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1998), 19–25. 35M10 (35P15, 47N20)

Berdyshev, V. I. Approximation by generalized polynomials that ensures the best route. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 5, 658–669, 799; *translation in Math. Notes* **60** (1996), *no.* 5-6, 495–502 (1997). (Dumitru Acu) **99f:41025** 41A30 (41A65)

— Approximation of functions and navigation problem. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 177–180, *Transilvania, Cluj-Napoca*, 1997. (*see* **98g:41001**) 41A63

— Differentiation of location error. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 74–79. (Constantin Zălinescu) **99k:41027** 41A30 (41A65)

Berdysheva, R. A. (*with* Emelichev, V. A.) Stability of linear trajectory problems of lexicographic optimization. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 83–88, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 524–529 (1998). (From the text) **99c:90080** 90C10 (90C31)

— (*with* Emelichev, V. A.; Girlich, Eberhard) Stability, pseudostability and quasistability of vector trajectorial lexicographic optimization problem. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 35–56. (Yuri Nazarovich Sotskov) **99j:90089** 90C31 (90C27, 90C29)

— (*with* Emelichev, V. A.) On the radii of stability, quasistability and steadiness of a vector trajectory problem of lexicographic optimization. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 1, 20–27; *translation in Discrete Math. Appl.* **8** (1998), *no.* 2, 135–142. (Johannes Terno) **99m:90113** 90C27

— (*with* Emelichev, V. A.) Some forms of stability of a combinatorial problem of lexicographic optimization. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 11–21. (Johannes Terno) **99k:90126** 90C27 (90C31)

— (*with* Emelichev, V. A.) On the stability radius of the lexicographic optimum of a vector trajectory problem. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 1, 43–46, 77. (Summary) **99m:90121** 90C29 (90C27, 90C31)

Beregova, G. I. (*with* Kirilich, V. M.) The hyperbolic Stefan problem in a curvilinear sector. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 12, 1684–1689; *translation in Ukrainian Math. J.* **49** (1997), *no.* 12, 1899–1906 (1998). (Summary) **99m:35270** 35R35 (35L60, 80A22)

— The inverse hyperbolic Stefan problem. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 1, 41–53. 35R35 (35L10, 80A22)

Bereketoglu, Hüseyin Asymptotic stability in a fourth order delay differential equation. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 105–115. (H. O. Tejumola) **99i:34107** 34K20

Berele, A. Trace cocharacters of direct sums and tensor products. *Comm. Algebra* **26** (1998), *no.* 5, 1457–1464. (E. Formanek) **99b:16041** 16R30

— (*with* Regev, Amitai) Codimensions of products and of intersections of verbally prime T-ideals. (English summary) *Israel J. Math.* **103** (1998), 17–28. (E. Formanek) **99b:16037** 16R10

Berenbom, Jonathan (*with* Fendel, Joe; Gilbert, George T.; Hatcher, Rhonda L.) Sliding piece puzzles with oriented tiles. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 23–33. (Summary) **99g:05016** 05A99

Berenbrink, Petra (*with* Adler, Micah; Schröder, Klaus) Analyzing an infinite parallel job allocation process. (English summary) *Algorithms—ESA '98* (*Venice*), 417–428, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68M20 (90B35)

Berend, Daniel (*with* Avishai, Yshai; Tkachenko, Vadim) Trace maps. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 30, 3525–3542. (Jean-Paul Allouche) **99b:82045** 82B44 (11B85, 58F03)

— (*with* Harmse, Jørgen E.) On some arithmetical properties of middle binomial coefficients. *Acta Arith.* **84** (1998), *no.* 1, 31–41. (Peter J. Grabner) **99a:11018** 11B65 (05A10, 11K41)

— (*with* Avishai, Yshai; Berkovits, Richard) Statistics of addition spectra of independent quantum systems. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8063–8072. (Summary) **99g:82035** 82B44

— (*with* Paroush, Jacob) When is Condorcet's jury theorem valid? (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 481–488. (Summary) **99e:90005** 90A08

Berens, Hubert (*with* Finzel, Martina; Li, Wu[3]; Xu, Yuan[1]) Hoffman's error bounds and uniform Lipschitz continuity of best l_p-approximations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 183–201. (Summary) **99e:41026** 41A65 (49J45)

— (*with* zu Castell, Wolfgang) Hypergeometric functions as a tool for summability of the Fourier integral. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 69–84. (G. Gasper) **99m:42016** 42B08 (33C20)

Berenstein, Arkady (*with* Zelevinsky, Andrei) Total positivity in Schubert varieties. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 1, 128–166. (Kailash C. Misra) **99g:14064** 14M15 (22E46)

Berenstein, Carlos A. Monodromic differential equations. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 71–79, *World Sci. Publishing, River Edge, NJ*, 1996. (Andreĭ Bolibrukh) **99a:34007** 34A20 (30D05, 32G34)

— (*with* Agranovskiĭ, M. L.; Kuchment, Peter) Approximation by spherical waves in L^p-spaces. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 365–383 (1997). (Paşc Găvruţa) **99c:41038** 41A30 (44A12, 46E99)

— (*with* Chang, Der-Chen E.; Wang, Emei) Determining a surface breaking crack from steady-state electrical boundary measurements—reconstruction method. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 63–92 (1998). (Summary) **99i:78014** 78A30 (35J05, 35R30, 78A55)

— (*with* Ebenfelt, Peter; Gindikin, S. G.; Helgason, Sigurdur; Tumanov, Alexander) ★ Integral geometry, Radon transforms and complex analysis. Lectures given at the 1st C.I.M.E. Session held in Venice, June 3–12, 1996. Edited by E. Casadio Tarabusi, M. A. Picardello and G. Zampieri. Lecture Notes in Mathematics, 1684. *Springer-Verlag, Berlin; Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1998. *viii+160 pp. ISBN* 3-540-64207-2 (Editors) **99c:00011** 00B25 (32–06)

— Radon transforms, wavelets, and applications. *Integral geometry, Radon transforms and complex analysis (Venice, 1996)*, 1–33, *Lecture Notes in Math.*, 1684, *Springer, Berlin*, 1998. (B. S. Rubin) **99j:44004** 44A12 (42C15, 92C55)

Berenstein, David (*with* Corrado, Richard; Distler, Jacques) On the moduli spaces of M(atrix)-theory compactifications. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 239–255. (Dileep P. Jatkar) **99c:81162** 81T30 (81T60)

— (*with* Corrado, Richard; Distler, Jacques) Aspects of ALE matrix models and twisted matrix strings. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026005, 12 *pp.* (Summary) **99k:81219** 81T30 (14B05)

Beresford-Smith, Bryan (*with* Avis, David; Devroye, Luc; ElGindy, Hossam; Guévremont, Eric; Hurtado, Ferran; Zhu, Binhai) Unoriented Θ-maxima in the plane: complexity and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 278–296 (*electronic*). (Menachem Dishon) **99g:68088** 68Q25 (60D05, 68U10)

Bereslavskiĭ, È. N. Determination of the underground contour of a deepened flood bed with a constant speed sector with salt backwaters. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 169–175; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 163–168. 76S05

Beresnev, V. L. An efficient algorithm for the problem of locating production with a totally balanced matrix. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **5** (1998), *no.* 1, 20–31, 104. (Summary) **99g:90052** 90B35 (90C11)

Berest, Yu. Yu. (*with* Loutsenko, Igor M.) Huygens' principle in Minkowski spaces and soliton solutions of the Korteweg-de Vries equation. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 113–132. (R. Schimming) **99c:35134** 35L15 (34B24, 35Q53)

— Solution of a restricted Hadamard problem on Minkowski spaces. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 10, 1019–1052. (R. Schimming) **99c:35135** 35L15 (34B24, 35Q53, 58F07)

— Huygens' principle and the bispectral problem. (English summary) *The bispectral problem (Montreal, PQ, 1997)*, 11–30, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (R. Schimming) **99c:58154** 58G16 (34L05, 35L15, 35Q58, 58G37)

— Hierarchies of Huygens' operators and Hadamard's conjecture. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 2, 125–185. (Simonetta Frittelli) **99j:58204** 58G16 (35L10, 35Q99)

— (*with* Kasman, Alex) $\mathscr{D}$-modules and Darboux transformations. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 279–294. (Stéphane Guillermou) **99b:13026** 13N10 (32C38)

Berestovskiĭ, V. N. (*with* Plaut, Conrad; Stallman, Cornelius) Geometric groups. I. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1403–1422. (Zhongmin Shen) **99f:22008** 22D05 (53C23, 53C70)

Beretta, E. *see* **Beretta, Elena**

Beretta, Edoardo (*with* Solimano, Fortunata; Takeuchi, Yasuhiro) A mathematical model for drug administration by using the phagocytosis of red blood cells. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 1–19. (John G. Milton) **99g:92014** 92C50 (34K15, 93A30)

— (*with* Chattopadhyay, J.; Solimano, Fortunata) Role of time-delay in an ecotoxicological problem. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 19–48. (H. I. Freedman) **99e:92032** 92D40 (34K20)

— (*with* Kuang, Yang) Global qualitative analysis of a ratio-dependent predator-prey system. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 389–406. (H. A. DeKleine) **99i:92022** 92D25 (34C05)

— (*with* Kuang, Yang) Modeling and analysis of a marine bacteriophage infection. (English summary) *Math. Biosci.* **149** (1998), *no.* 1, 57–76. (Summary) **99i:92028** 92D30 (34C25)

— (*with* Kolmanovskii, Vladimir B.; Shaĭkhet, L. E.) Stability of epidemic model with time delays influenced by stochastic perturbations. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 269–277. (K. Gopalsamy) **99k:92022** 92D25 (34K20, 34K50, 92D30)

— (*with* Kuang, Yang) Global analyses in some delayed ratio-dependent predator-prey systems. *Nonlinear Anal.* **32** (1998), *no.* 3, 381–408. (K. Gopalsamy) **99h:92020** 92D25 (34K20)

Beretta, Elena (*with* Vessella, Sergio) Stable determination of boundaries from Cauchy data. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 220–232 (*electronic*). (Serge Lvin) **99j:35229** 35R30 (31A05, 31A20, 35J25)

Berezanskiĭ, L. M. (*with* Idels, Lev) Exponential stability of some scalar impulsive delay differential equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 301–308. (Summary) **99c:34173** 34K20 (34A37)

— (*with* Akca, Haydar; Maksimov, V. I.) On dynamical reconstruction of a pair "control-trajectory" in a system unresolved with respect to derivative. (English summary) *Funct. Differ. Equ.* **5** (1998), *no.* 1-2, 3–19. (Alexander M. Kovalev) **99m:49060** 49N50 (34K35, 93B30)

— (*with* Braverman, E. Ya.) Some oscillation problems for a second order linear delay differential equation. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 719–740. (Ch. G. Philos) **99a:34182** 34K15 (34C10)

Berezanskiĭ, Yuriĭ Makarovich A generalization of white noise analysis by means of theory of hypergroups. (English summary) Proceedings of the XXVIII Symposium on Mathematical Physics (Toruń, 1995). *Rep. Math. Phys.* **38** (1996), *no.* 3, 289–300. (Summary) **99c:60084** 60G20 (43A62, 46N30)

— Direct and inverse spectral problems for a Jacobi field. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 38–61; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1053–1071. (From the text) **99e:47029** 47B25 (35Q99, 35R15, 46N20, 47A10, 47A70)

— (*with* Kalyuzhnyi, A. A.) ★ Harmonic analysis in hypercomplex systems. (English summary) Translated from the 1992 Russian original by P. V. Malyshev and revised by the authors. Mathematics and its Applications, 434. *Kluwer Academic Publishers, Dordrecht*, 1998. *x+483 pp. ISBN* 0-7923-5029-4 (Editors) **99d:43010** 43A62 (22D15, 43A20, 47B99)

— (*with* et al.) Anatoliĭ Mikhaĭlovich Samoĭlenko (on the occasion of his sixtieth birthday). (Ukrainian) *Ukraïn. Mat. Zh.* **50** (1998), *no.* 1, 3–4; *translation in Ukrainian Math. J.* **50** (1998), *no.* 1, 1–2. 01A70

— (*with* et al.) Vladimir Aleksandrovich Marchenko (on the occasion of his 75th birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 177–180; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 423–426. (Editors) **99m:01041** 01A70

Berezansky, L. *see* **Berezanskiĭ, L. M.**

Berezansky, Leonid *see* **Berezanskiĭ, L. M.**

Berezansky, Yu. M. *see* **Berezanskiĭ, Yuriĭ Makarovich**

Berezansky, Yurij M. *see* **Berezanskiĭ, Yuriĭ Makarovich**

Berezhnoĭ, E. I. On the differentiation of integrals of functions from symmetric spaces by differential bases. (Russian. English summary) *Anal. Math.* **22** (1996), *no.* 4, 267–288. (B. B. Pakholok) **99f:26006** 26A24

— (*with* Burenkov, Viktor I.) Refined interpolation theorems for a class of operators. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 4, 3–24; *translation in Izv. Math.* **62** (1998), *no.* 4, 651–671. (Georgi E. Karadzhov) **99k:46041** 46E30 (46M35)

— Two-weighted estimations for the Hardy-Littlewood maximal function in ideal Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 79–87. (Javier Soria) **99d:42028** 42B25 (46E30)

Berezin, S. A. (*with* Clarke, Edmund M.) Model checking: historical perspective and example (extended abstract). (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk, 1998)*, 18–24, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (68Q60)

Berezin, V. A. On a quantum black hole mass spectrum. *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 220–223, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

Berezin, Yu. A. (*with* Spodareva, L. A.) Slow motion of a granular layer along an inclined plane. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 117–120. (Summary) **99h:76006** 76A05 (73E99)

Berezovski, Vladimir (*with* Mikeš, Josef) On a classification of almost geodesic mappings of affine connection spaces. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 21–24 (1997). (V. C. Gupta) **99h:53019** 53B05

Berezovs'kiĭ, A. A. (*with* Mitropol'skiĭ, Yuriĭ Alekseevich; Berezovs'kiĭ, M. A.) Free boundary problems for a nonlinear parabolic equation. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1360–1372; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1533–1547 (1998). (Summary) **99k:35198** 35R35 (35K60)

Berezovs'kiĭ, M. A. (*with* Mitropol'skiĭ, Yuriĭ Alekseevich; Berezovs'kiĭ, A. A.) Free boundary problems for a nonlinear parabolic equation. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1360–1372; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1533–1547 (1998). (Summary) **99k:35198** 35R35 (35K60)

Berg, Anders Høyer Enumerative geometry for plane cubic curves in characteristic 2. (English summary) *Compositio Math.* **111** (1998), *no.* 2, 123–147. (Susan J. Colley) **99k:14087** 14N10 (14H45)

Berg, Bernd A. (*with* Stamatescu, Ion-Olimpiu) Neural networks and confidence limit estimates. (English summary) *Field theoretical tools for polymer and particle physics (Wuppertal, 1997)*, 173–191, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82C32 (92B20)

— (*with* Hansmann, U. H. E.) Configuration space for random walk dynamics. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **6** (1998), *no.* 3, 395–398. (Summary) **99i:82018** 82B41

Berg, Christian (*with* Durán Guardeño, Antonio J.) Orthogonal polynomials, L^2-spaces and entire functions. (English summary) *Math. Scand.* **79** (1996), *no.* 2, 209–223. (Olav Njåstad) **99c:42042** 42C05 (30E05, 44A60)

van den Berg, Hugo A. (*with* Kiselëv, Yu. N.; Kooijman, S. A. L. M.; Orlov, M. V.) Optimal allocation between nutrient uptake and growth in a microbial trichome. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 28–48. (Summary) **99f:92006** 92C40 (49N55, 92D25)

Berg, I. D. (*with* Nikolaev, I. G.) On a distance between directions in an Aleksandrov space of curvature $\leq K$. *Michigan Math. J.* **45** (1998), *no.* 2, 257–289. (Igor Belegradek) **99e:53060** 53C23

van den Berg, Jacob (*with* Ermakov, Alexei) A new lower bound for the critical probability of site percolation on the square lattice. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 3, 199–212. (Wei-Shih Yang) **99b:60165** 60K35 (82B43)

— (*with* Grimmett, Geoffrey R.; Schinazi, Rinaldo B.) Dependent random graphs and spatial epidemics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 317–336. (Olle Häggström) **99c:60212** 60K35

van den Berg, Jan Bouwe Uniqueness of solutions for the extended Fisher-Kolmogorov equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 447–452. (Summary) **99g:35131** 35Q80 (35K55)

van den Berg, John E. A note on uniform bounds of primeness in matrix rings. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 212–223. (Andrei Kelarev) **99g:16035** 16S50 (16N60)

Berg, Jordan (*with* Yezzi, Anthony, Jr.; Tannenbaum, Allen R.) Curve evolution models for real-time identification with application to plasma etching. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 99–102. 93C20 (93C95)

Berg, K. (*with* Akin, Ethan; Auslander, Joseph) Almost equicontinuity and the enveloping semigroup. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 75–81, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99k:54032** 54H20

Berg, Lothar (*with* Plonka, Gerlind) Refinement of vectors of Bernstein polynomials. (English summary) *Rostock. Math. Kolloq.* **1997**, *no.* 50, 19–30. (L. G. Labsker) **99j:41009** 41A10 (15A18, 65D15)

— (*with* Plonka, Gerlind) Compactly supported solutions of two-scale difference equations. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 49–75. (Peter Schroth) **99h:39002** 39A10 (15A18, 65Q05)

— (*with* Krüppel, Manfred) On the solution of an integral-functional equation with a parameter. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 159–181. (Muhammad Islam) **99b:45001** 45D05

— (*with* Krüppel, Manfred) Cantor sets and integral-functional equations. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 997–1020. (Roland Girgensohn) **99m:45003** 45D05 (34K15, 39B22, 45L05)

van den Berg, M. (*with* Gilkey, Peter B.) A comparison estimate for the heat equation with an application to the heat content of the S-adic von Koch snowflake. *Bull. London Math. Soc.* **30** (1998), *no.* 4, 404–412. (Zhongmin Qian) **99d:35067** 35K05 (28A80, 60H30, 60J65)

de Berg, Mark (*with* Halperin, Dan; Overmars, Mark H.; van Kreveld, Marc) Sparse arrangements and the number of views of polyhedral scenes. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 175–195. (Rephael Wenger) **99a:52014** 52B30 (52B55, 68U05)

— (*with* Katz, Matthew J.; Overmars, Mark H.; van der Stappen, A. Frank; Vleugels, Jules) Models and motion planning. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 83–94, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

— (*with* Everett, Hazel; Guibas, Leonidas J.) The union of moving polygonal pseudodiscs—combinatorial bounds and applications. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 69–81. (H. W. Guggenheimer) **99m:68205** 68U05 (05B40, 52B55)

— (*with* van der Stappen, A. Frank; Overmars, Mark H.; Vleugels, Jules) Motion planning in environments with low obstacle density. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 561–587. (Summary) **99h:68170** 68U05

— (*with* Meijer, Henk; Overmars, Mark H.; Wilfong, Gordon) Computing the angularity tolerance. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 467–482. (Summary) **99f:68208** 68U30 (68U05)

— (*with* Agarwal, Pankaj K.; Matoušek, Jiří; Schwarzkopf, Otfried) Constructing levels in arrangements and higher order Voronoi diagrams. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 654–667 (*electronic*). (Summary) **99c:68242** 68U05 (52B55, 68Q25)

— (*with* Cheong, O.; Devillers, Olivier; van Kreveld, Marc; Teillaud, M.) Computing the maximum overlap of two convex polygons under translations. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 613–628. (Summary) **99h:52015** 52B55 (68U05)

Berg, Sven (*with* Paroush, Jacob) Collective decision making in hierarchies. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 233–244. (From the introduction) **99a:90013** 90A05

Berga, Dolors Strategy-proofness and single-plateaued preferences. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 105–120. (Summary) **99d:90030** 90A28

Bergamaschi, Luca (*with* Mantica, Stefano; Manzini, Gianmarco) A mixed finite element–finite volume formulation of the black-oil model. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 970–997 (*electronic*). (Dennis C. Jespersen) **99j:65160** 65M60 (76M10, 76S05)

Bergamasco, Adalberto P. (*with* Zuffi, Edna M.) On global hypoellipticity on the torus. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 319–327. (A. Alexandrou Himonas) **99a:35028** 35H05 (35S05)

— (*with* Petronilho, Gerson) Closedness of the range for vector fields on the torus. (English summary) *J. Differential Equations* **154** (1999), *no.* 1, 132–139. (Summary) **99m:35006** 35A05 (35D05, 46F10)

— Remarks about global analytic hypoellipticity. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4113–4126. (Luca Capogna) **99m:35032** 35H05

Bergamasco, L. (*with* Osborne, A. R.; Serio, M.; Cavaleri, L.) Solitons, cnoidal waves and nonlinear interactions in shallow-water ocean surface waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 64–81. (Summary) **99i:76021** 76B25 (35Q53, 86A05)

— (*with* Osborne, A. R.; Onorato, M.; Serio, M.) Soliton creation and destruction, resonant interactions, and inelastic collisions in shallow water waves. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 17, 3559–3562. (Summary) **99h:76011** 76B25 (76B15)

Berge, Gerhard Response to: "Comment on: 'A Lyapunov functional for stability of ideal magnetohydrodynamic systems in arbitrary motion'" [Phys. Plasmas **5** (1998), no. 5, 1566–1567; MR 99i:76058] by E. Hameiri and M. B. Isichenko. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1568–1571. (Adelina Georgescu) **99i:76059** 76E25 (76U05, 76W05)

— *see also* **Hameiri, Eliezer**, **99i:76058**

ten Berge, Jos M. F. Some recent developments in factor analysis and the search for proper communalities. (English summary) *Advances in data science and classification* (*Rome*, 1998), 325–334, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H25

Bergé, Luc Wave collapse in physics: principles and applications to light and plasma waves. (English summary) *Phys. Rep.* **303** (1998), *no.* 5-6, 259–370. (Summary) **99d:35147** 35Q55 (76X05, 78A40)

— Coalescence and instability of copropagating nonlinear waves. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part B*, 6606–6625. (Summary) **99h:78024** 78A60

Bergeaud, François (*with* Mallat, Stéphane) Matching pursuit of images. (English summary) *Signal and image representation in combined spaces*, 285–300, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99f:94001** 94A11 (68U10)

Bergelson, Vitaly (*with* McCutcheon, R.) Recurrence for semigroup actions and a non-commutative Schur theorem. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 205–222, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (G. R. Goodson) **99f:28022** 28D05 (54H20)

— (*with* Hindman, Neil; Leader, Imre) Additive and multiplicative Ramsey theory in the reals and the rationals. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 41–68. (Jerrold W. Grossman) **99m:05159** 05D10 (03E05, 04A20, 11B05, 22A15, 54D35, 54D80)

Bergen, Jeffrey (*with* Grzeszczuk, Piotr) Invariants of $U_q(\mathrm{sl}(2))$ and q-skew derivations. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 27–38. (Timothy J. Hodges) **99h:16053** 16W25 (17B37)

Berger, Agnes On using index cases in the study of late-onset diseases. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 31–37. (Summary) **99h:62031** 62G05 (62P10)

Berger, B. S. (*with* Rokni, M.; Minis, I.) Singular values of cumulant matrices. *J. Sound Vibration* **205** (1997), *no.* 5, 706–711. (Zhenyue Zhang) **99b:15032** 15A57 (15A18)

Berger, Beverly K. Numerical investigation of singularities. (English summary) *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 57–78, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:83003** 83-08 (83C75)

— (*with* Garfinkle, David; Isenberg, James A.; Moncrief, V.; Weaver, Marsha) The singularity in generic gravitational collapse is spacelike, local and oscillatory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1565–1573. (Robert J. Low) **99j:83052** 83C75

— (*with* Garfinkle, David) Phenomenology of the Gowdy universe on $T^3 \times \mathbf{R}$. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4767–4777. (Summary) **99k:83010** 83C15

Berger, Bonnie (*with* Batzoglou, Serafim; Kleitman, Daniel J.; Lander, Eric S.; Pachter, Lior) Recent developments in computational gene recognition. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 649–658 (*electronic*). (Summary) **99g:92022** 92D20 (92D10)

— (*with* Awerbuch, Baruch; Cowen, Lenore J.; Peleg, David) Near-linear time construction of sparse neighborhood covers. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 263–277 (*electronic*). (Peter Eades) **99d:68182** 68R10 (05C85, 68Q25)

Berger, C. S. (*with* Peduto, D.) Robust digital control using multi-rate input sampling. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 813–824. 93C57 (93B35)

— Modelling dynamic systems using finite elements. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 431–448. 93A30 (65M60)

Berger, Clemens (*with* Huebschmann, Johannes) Comparison of the geometric bar and W-constructions. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 109–123. (Donald M. Davis) **99e:18010** 18G30 (55P35, 55Q05, 55R35)

Berger, Erich An almost sure invariance principle for stochastic approximation procedures in linear filtering theory. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 444–459. (K. M. Ramachandran) **99c:62231** 62L20 (60F17)

Berger, James O. (*with* Boukai, Benzion; Wang, Yin Ping) Unified frequentist and Bayesian testing of a precise hypothesis. (English summary) With comments by Dennis V. Lindley, Thomas A. Louis and David Hinkley and a rejoinder by the authors. *Statist. Sci.* **12** (1997), *no.* 3, 133–160. (Christian P. Robert) **99e:62003** 62A10 (62A15, 62F15)

— (*with* Bayarri, M. J.) Robust Bayesian analysis of selection models. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 645–659. (Mohan Delampady) **99k:62054** 62F15 (62G05)

— (*with* Philippe, Anne; Robert, Christian P.) Estimation of quadratic functions: noninformative priors for non-centrality parameters. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 359–375. (N. Giri) **99e:62101** 62H12 (62F10, 62F15)

Berger, Jorge (*with* Rubinstein, Jacob) Bifurcation analysis for phase transitions in superconducting rings with nonuniform thickness. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 103–121 (*electronic*). (J. R. Ockendon) **99b:82089** 82D55 (34B15, 34C23, 35B32, 35Q72)

Berger, M. *see* **Berger, Marcel**

Berger, M. S. A fundamental result of quasi-periodic functions of several variables and the ergodic theorem. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 8, 1–3. (From the summary) **99g:42008** 42A75 (28D05)

Berger, Marcel Groupes d'holonomie des variétés à connexion affine. [Holonomy groups of affinely connected manifolds] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 101, 7–12, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 53C05

— Riemannian geometry during the second half of the twentieth century. *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 2, 45–208. (Man Chun Leung) **99h:53001** 53-02 (01A60, 53-03, 53Cxx)

Berger, Robert W. Kommutative algebra. II. [Commutative algebra. II] *Ann. Univ. Sarav. Ser. Math.* **8** (1997), *no.* 3, 261–394. (Hans-Bjørn Foxby) **99b:13001** 13-01 (13C14, 13D05, 13H05, 13H10)

Berger, Roland Déterminant quantique et déterminant de Dieudonné. [Quantum determinant and Dieudonné determinant] *Séminaire d'Analyse*, 1992–1993 (*Aubière*), Exp. *No.* 16, 13 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 8, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (From the text) **99e:16046** 16W30 (15A15)

— Confluence and Koszulity. (English summary) *J. Algebra* **201** (1998), *no.* 1, 243–283. (Alexander E. Polishchuk) **99b:16049** 16S99 (16W50)

Berger, Toby (*with* Yang, En-hui; Zhang, Zhen[1]) Fixed-slope universal lossy data compression. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1465–1476. (Summary) **99g:94010** 94A29 (94A34)

— (*with* Viswanathan, Harish) The quadratic Gaussian CEO problem. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1549–1559. (Boris D. Kudryashov) **99c:94016** 94A34

— (*with* Gibson, Jerry D.) Lossy source coding. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2693–2723. (Summary) **99i:94031** 94A34 (94–02, 94A29)

— (*with* Zamir, Ram) Multiterminal source coding with high resolution. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 106–117. (Summary) **99j:94025** 94A29 (94A34)

Berger, Vance W. Admissibility of exact conditional tests of stochastic order. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 39–50. (I. J. Good) **99b:62007** 62C15 (62H17)

Berger, Yves G. Rate of convergence to normal distribution for the Horvitz-Thompson estimator. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 209–226. (Zuzana Prášková) **99j:62004** 62D05 (62E20)

Bergère, M. C. Proof of Serban's conjecture. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 30–46. (Kazuhiro Hikami) **99b:81287** 81V70 (33C50, 82B23)

Bergeret, Pascale Classification of smooth solutions to 2×2 hyperbolic systems with boundary damping. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 18, 1563–1598. (Fumioki Asakura) **99b:35124** 35L60 (35B65, 35L67)

Bergeron, Nantel (*with* van Willigenburg, Stephanie) A multiplication rule for the descent algebra of type D. (English summary) *J. Algebra* **206** (1998), *no.* 2, 699–705. (Sait Halıcıoğlu) **99f:20008** 20C05 (20F55)

Berges, Jean-Claude (*with* Barrio, Roberto) Perturbation simulations of rounding errors in the evaluation of Chebyshev series. (English summary) *J.UCS* **4** (1998), *no.* 6, 561–573 (*electronic*). (Summary) **99h:65014** 65C10 (65G05, 65H05)

Berggren, Magnus (*with* Altekar, Shirish A.; Moision, Bruce E.; Siegel, Paul H.; Wolf, Jack K.) Error-event characterization on partial-response channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 241–247. (Summary) **99k:94019** 94A13 (94A14, 94A40)

Berggren, Martin (*with* Andersson, Paul; Henningson, Dan S.) Optimal disturbances in boundary layers. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 1–26, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 49Q10 (49R10, 76D10)

— Numerical solution of a flow-control problem: vorticity reduction by dynamic boundary action. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 829–860 (*electronic*). (Summary) **99a:76036** 76D05 (65K10, 76M10, 76M30, 93C20)

— (*with* Andersson, Paul; Henningson, Dan S.) Optimal disturbances and bypass transition in boundary layers. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 134–150. (Summary) **99h:76047** 76F99 (76D10, 76M25)

van den Bergh, Michel Division algebras on $\mathbf{P}^2$ of odd index, ramified along a smooth elliptic curve are cyclic. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 43–53, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Venapally Suresh) **99d:16021** 16K20 (13A20)

— Existence theorems for dualizing complexes over non-commutative graded and filtered rings. (English summary) *J. Algebra* **195** (1997), *no.* 2, 662–679. (Amnon Yekutieli) **99b:16010** 16E30 (16W60)

— (*with* Van Gastel, Martine) Graded modules of Gelfand-Kirillov dimension one over three-dimensional Artin-Schelter regular algebras. (English summary) *J. Algebra* **196** (1997), *no.* 1, 251–282. (Jan Okniński) **99c:16020** 16P90 (16W50, 16W80)

— (*with* Bauwens, Kristien) Normalizing extensions of the two-Veronese of a three-dimensional Artin-Schelter regular algebra on two generators. (English summary) *J. Algebra* **205** (1998), *no.* 2, 368–390. (Darin R. Stephenson) **99e:16057** 16W50 (16E10, 16P40)

— (*with* Gateva-Ivanova, Tatiana) Semigroups of I-type. (English summary) *J. Algebra* **206** (1998), *no.* 1, 97–112. (Kirby C. Smith) **99h:20090** 20M05

— (*with* Musson, Ian M.) Invariants under tori of rings of differential operators and related topics. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 650, *viii*+85 *pp.* (Marie-Paule Malliavin) **99i:16051** 16S32 (14D25, 14L30, 20G05)

— A relation between Hochschild homology and cohomology for Gorenstein rings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1345–1348. (Summary) **99m:16013** 16E40 (16S30)

— (*with* Ajitabh, K.) Presentation of critical modules of GK-dimension 2 over elliptic algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1633–1639. (Summary) **99i:16046** 16P90 (16D50, 16E10)

Berghammer, Rudolf (*with* von Karger, Burghard) A relational model for temporal logic. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 157–173. (From the introduction) **99a:68118** 68Q60 (03B45)

vanden Berghe, Guido *see* **Vanden Berghe, Guido**

Bergia, Silvio (*with* Navarro Veguillas, Luis) Early quantum concepts and the theorem of equipartition of energy in Einstein's work (1905–1925). (English summary) *Physis Riv. Internaz. Storia Sci.* (*N.S.*) **34** (1997), *no.* 1-2, 183–223. (H. Treder) **99b:01015** 01A60

— (*with* Guidone, Mario) Time on a rotating platform and the one-way speed of light. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 549–559. (Abraham A. Ungar) **99k:83003** 83A05

Bergin, James (*with* Sen, Arunava) Extensive form implementation in incomplete information environments. (English summary) *J. Econom. Theory* **80** (1998), *no.* 2, 222–256. (Summary) **99k:90015** 90A08 (90A36, 90D10)

Berglez, P. On some classes of pseudo-analytic functions. *Generalized analytic functions* (*Graz*, 1997), 27–32, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 30G20

perez Bergliaffa, S. E. *see* **Perez Bergliaffa, S. E.**

Berglund, N. (*with* Kunz, Hervé) Memory effects and scaling laws in slowly driven systems. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 15–39. (Sergei A. Dovbysh) **99m:34078** 34C15 (34E05, 70K05, 70K10, 70K50, 76E15, 78A99)

Berglund, Per (*with* Henningson, Måns; Wyllard, Niclas) Special geometry and automorphic forms. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 256–276. (Summary) **99f:81145** 81T30 (11F55, 53C80)

— (*with* Ellis, Jonathan Richard; Faraggi, Alon E.; Nanopoulos, Dimitri V.; Qiu, Zongan) Toward the M(F)-theory embedding of realistic free-fermion models. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 269–278. (Summary) **99e:81174** 81T30

Bergman, Clifford (*with* Berman, Joel D.) Algorithms for categorical equivalence. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 1, 1–15. (V. Topencharov) **99j:08003** 08C05 (08–04, 08A02)

Bergman, David J. (*with* Levy, Ohad) Nonlinear behavior and optical bistability in composite media. (English summary) *Nonlinear optical materials* (*Minneapolis, MN*, 1996), 49–82, *IMA Vol. Math. Appl.*, 101, *Springer, New York*, 1998. (Summary) **99g:78031** 78A99 (78A60)

Bergman, George M. ★ An invitation to general algebra and universal constructions. *Henry Helson, Berkeley, CA*, 1998. *ii*+398 *pp. ISBN* 0-9655211-4-1 (M. Barr) **99h:18001** 18–01 (00A05, 08–01, 16–01, 20–01)

— On k-subspaces of L-vector-spaces. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4115–4124. (B. Fein) **99i:16036** 16K40 (15A03)

— Supports of derivations, free factorizations, and ranks of fixed subgroups in free groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1531–1550. (Warren Dicks) **99f:20036** 20E05 (20E06, 20J05)

Bergman, L. A. (*with* Yang, Bingen; Tan, C. A.) On the problem of a distributed parameter system carrying a moving oscillator. (English summary) *Dynamics and control of distributed systems*, 69–94, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 73K12 (73D30)

— *see also* **Dynamics and control of distributed systems, 99b:73002**

Bergman, Oren (*with* Gaberdiel, Matthias R.) A non-supersymmetric open-string theory and S-duality. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 183–204. (Summary) **99f:81146** 81T30

— (*with* Gaberdiel, Matthias R.; Lifschytz, Gilad) String creation and heterotic-type I′ duality. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 524–544. (Claudio A. Scrucca) **99f:81147** 81T30 (83E30)

— (*with* Fayyazuddin, Ansar) String junction transitions in the moduli space of $N = 2$ SYM. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 139–151. (Douglas J. Smith) **99k:81292** 81T60 (81T13, 81T30)

— (*with* Kol, Barak) String webs and 1/4 BPS monopoles. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 149–174. (Angel Maria Uranga) **99m:81172** 81T30 (81T60)

Bergmann, Peter G. Relativistic theories of heat. (English summary) *Quantum gravity* (*Erice*, 1995), 23–31, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:80003** 80A05 (80A10, 83C55)

— EIH theory and Noether's theorem. *On Einstein's path* (*New York*, 1996), 107–111, *Springer, New York*, 1999. (Hans P. Künzle) **99m:83024** 83C10

— *see also* **Quantum gravity, 99f:83004**

Bergounioux, Maïtine Numerical techniques for the optimal control of obstacle problems. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 1–13, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:49039** 49M29 (65K10)

— (*with* Kunisch, Karl) Augmented Lagrangian algorithms for state constrained optimal control problems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 33–48, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (William W. Hager) **99m:49052** 49M29 (49J20)

— (*with* Tiba, Dan) Optimal control for the obstacle problem with state constraints. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 7–19 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Martin Fuchs) **99k:49011** 49J20 (35J85, 49M29)

— (*with* Tröltzsch, Fredi) Optimal control of linear bottleneck problems. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 235–250 (*electronic*). (Edward J. Anderson) **99e:49005** 49J20 (49K20)

— Optimal control of problems governed by abstract elliptic variational inequalities with state constraints. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 273–289 (*electronic*). (Dan Tiba) **99f:49014** 49J45 (49J20, 49K20)

Bergqvist, Göran Vacuum momenta of small spheres. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1535–1538. (Simonetta Frittelli) **99g:83028** 83C40 (83C30)

— Positivity properties of the Bel-Robinson tensor. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2141–2147. (Brian Edgar) **99b:83026** 83C40 (83C20, 83C60)

Bergshoeff, E. A. T-duality and the type-II superstring. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 21–22, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— p-brane and D-brane actions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 364–367, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T30

— (*with* Kallosh, Renata; Ortín, Tomás; Papadopoulos, George J.) κ-symmetry, supersymmetry and intersecting branes. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 149–169. (Javier Borlaf González) **99a:81127** 81T30 (83E30)

— Super D-branes. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 42–48, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81T30

— (*with* Behrndt, Klaus) D-instantons and asymptotic geometries. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1801–1813. (C. Gauthier) **99g:81149** 81T30 (83E30)

— (*with* Lozano, Yolanda; Ortín, Tomás) Massive branes. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 363–423. (Summary) **99f:81148** 81T30 (83E30, 83E50)

— (*with* Townsend, Paul K.) Super D-branes revisited. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 226–238. (Sergey Nikolaevich Roshchupkin) **99m:81173** 81T30 (83E30)

— Kaluza-Klein monopoles and gauged sigma models. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 355–366. (Summary) **99e:83050** 83E30 (81T30)

— (*with* Gomis, Joaquim; Townsend, Paul K.) M-brane intersections from worldvolume superalgebras. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 109–118. (Mario Trigiante) **99d:81106** 81T30 (83E30)

— (*with* van der Schaar, Jan Pieter; Papadopoulos, George J.) Domain walls on the brane. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 63–70. (Summary) **99c:81163** 81T30

— (*with* Eyras, Eduardo; Lozano, Yolanda) The massive Kaluza-Klein monopole. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 77–86. (Summary) **99c:83083** 83E30 (83E50)

— (*with* van der Schaar, Jan Pieter) On M-9-branes. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 23–39. (Summary) **99k:81220** 81T30 (83E30)
— *see also* **Strings '97, 99d:81003**
Bergstra, Jan A. (*with* Baeten, J. C. M.) Discrete time process algebra: absolute time, relative time and parametric time. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 51–76. (From the introduction) **99f:68060** 68Q10 (68Q55, 68Q60)
— (*with* Baeten, J. C. M.) Deadlock behaviour in split and ST bisimulation semantics. (English summary) *Fifth International Workshop on Expressiveness in Concurrency (EXPRESS '98) (Nice), 14 pp. (electronic), Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q55, 68Q60)
— (*with* Ponse, Alban) Kleene's three-valued logic and process algebra. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 95–103. (Summary) **99d:68071** 68Q10 (03B50, 03B70, 68Q55, 68Q60)
Bergweiler, Walter ★ An introduction to complex dynamics. Textos de Matemática. Série B [Texts in Mathematics. Series B], 6. *Universidade de Coimbra, Departamento de Matemática, Coimbra*, 1995. *vi*+37 *pp.* (I. N. Baker) **99c:58133** 58F23 (30D05)
— Some remarks on Picard's theorem and Nevanlinna theory. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 219–224. (Summary) **99b:30038** 30D35
— Non-real periodic points of entire functions. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 271–275. (I. N. Baker) **99a:30032** 30D05 (30D35, 58F23)
— (*with* Wang, Yuefei) On the dynamics of composite entire functions. (English summary) *Ark. Mat.* **36** (1998), *no.* 1, 31–39. (Fuyao Ren) **99c:30049** 30D05 (58F23)
— On a theorem of Gol'dberg concerning meromorphic solutions of algebraic differential equations. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 93–96. (Summary) **99m:34006** 34A20
— A new proof of the Ahlfors five islands theorem. (English summary) *J. Anal. Math.* **76** (1998), 337–347. (Matti Vuorinen) **99m:30032** 30C55 (30D30)
Berhane, Kiros (*with* Tibshirani, Robert J.) Generalized additive models for longitudinal data. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 4, 517–535. 62G07
daniel-Berhe, S. *see* **Daniel-Berhe, S.**
Berhuy, Grégory Characterization of Hermitian trace forms. *J. Algebra* **210** (1998), *no.* 2, 690–696. (Martin Epkenhans) **99m:11038** 11E12
Berikashvili, N. An algebraic model of the Postnikov-construction. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 476–480 (1996). 55S45
— On the obstruction functor. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 11–15. 55S35
— (*with* Kadeishvili, T.; Khazhomiya, S. M.; Makalatia, D.; Mikiashvili, M.; Saneblidze, S.) On the obstruction functor. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 172–176. 55S35
— On the criterion of the secondary cross section. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 37–39. 55S40
— (*with* Makalatia, D.) The multiplicative version of twisted tensor product theorem. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 327–329 (1997). 55N99 (55R99)
— Zur homologietheorie der Faserungen. I, II. (German and Georgian summaries) [On the homology theory of fibrations. I, II] *Proc. A. Razmadze Math. Inst.* **116** (1998), 1–29, 31–99. (Donald W. Kahn) **99k:55015** 55R20 (55T10)
Berikelashvili, G. K. (*with* Chkhartishvili, M. D.) On the convergence in W_2^1 of the difference solution for an elliptic equation with mixed boundary conditions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 180–184 (1994). 65N12 (65N06)
— (*with* Chkhartishvili, M. D.) On the convergence of the difference schemes on W_2^1 for one mixed boundary value problem of theory of elasticity. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 195–198. 65N12 (73V15)
— The difference schemes of high order accuracy for elliptic equations with lower derivatives. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 1–6. (Bernd Heinrich) **99m:65197** 65N06 (65N12)
Berinde, Vasile Remarks on the convergence of the Newton-Raphson method. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 15–21. (R. P. Tewarson) **99c:65096** 65H05 (65F05)
— Sequences of operators and fixed points in quasimetric spaces. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 23–27. 54H25 (54E30)
— On the extended Newton's method. (English summary) *Advances in difference equations (Veszprém, 1995)*, 81–88, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:65090** 65H10 (39A10)
— On some exit criteria for the Newton method. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 19–26. (Summary) **99h:65102** 65H05
— (*with* Berinde, Zoiţa) A new method for ordering the vertices of molecular graphs. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 103–110. 05C90 (92E10)
Berinde, Zoiţa (*with* Berinde, Vasile) A new method for ordering the vertices of molecular graphs. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 103–110. 05C90 (92E10)
Bering, K. (*with* Damgaard, Poul Henrik) Higher antibrackets. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 368–371, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81254** 81T70 (58Z05)
— Geometry of the Batalin-Fradkin-Vilkovisky theorem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2507–2519. (Ion V. Vancea) **99c:81253** 81T70 (58Z05)
— (*with* Batalin, I. A.; Damgaard, Poul Henrik) Superfield quantization. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 455–487. (Ilya Shapiro) **99c:81251** 81T70
— (*with* Batalin, I. A.; Damgaard, Poul Henrik) Superfield formulation of the phase space path integral. (English summary) *Phys. Lett. B* **446** (1999), *no.* 2, 175–178. (Summary) **99j:81178** 81T60
Beris, Antony N. (*with* Dimitropoulos, Costas D.; Edwards, Brian J.; Chae, Kyung-Sun) Efficient pseudospectral flow simulations in moderately complex geometries. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 517–549. (Summary) **99c:76083** 76M25
Berisha, F. M. (*with* Potapov, M. K.) Approximation of classes of functions defined by a generalized *k*th modulus of smoothness. (English summary) Dedicated to P. L. Ul'yanov. *East J. Approx.* **4** (1998), *no.* 2, 217–241. (Eduard Belinskii) **99g:41007** 41A10 (33C45)
Berisha, Faton M. On coincidence of classes of functions defined by the generalized modulus of smoothness and appropriate inverse theorem. (English summary) *Math. Montisnigri* **9** (1998), 15–36. (Kairat T. Mynbaev) **99i:41021** 41A35 (41A50, 42A16)
Berk, H. L. (*with* Breizman, B. N.; Candy, J.; Porcelli, F.) On the theory of internal kink oscillations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2326–2333. (Summary) **99b:76098** 76X05
Berka, Karel Bernard Bolzano—historian of logic. (Czech. English summary) *DVT—Dějiny Věd Tech.* **31** (1998), *no.* 3, 121–130. (Summary) **99h:01026** 01A55 (01A70)
Berkane, Maia (*with* Oden, Kevin; Bentler, Peter M.) Geodesic estimation in elliptical distributions. *J. Multivariate Anal.* **63** (1997), *no.* 1, 35–46. (P. E. Jupp) **99k:62112** 62H12
Berkani, M. (*with* Sarih, M.) Extension de certaines inegálités dans les algébres de Banach. [Extension of certain inequalities in Banach algebras] *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 56–69, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Thomas Ransford) **99a:46087** 46H05 (46J05)
Berke, Olaf On spatiotemporal prediction for on-line monitoring data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2343–2369. 62M30 (62M20)
van Berkel, C. A. M. (*with* de Graaf, Jan) The Fourier-Jacobi transform of analytic functions which are (almost) periodic in the imaginary direction. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 2, 125–133. (A. K. Agarwal) **99k:33001** 33B10 (30D15, 33B15, 42A38)
Berkeley, George *see* **Bonk, Sigmund**
Berkembaev, E. N. (*with* Tungatarov, A. B.) On a nonlinear Carleman-Vekua equation with a singular point. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 15–20. (Guo Chun Wen) **99f:35042** 35J60 (30G20, 35J70)
Berkes, István Results and problems related to the pointwise central limit theorem. (English summary) *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 59–96, *North-Holland, Amsterdam*, 1998. (Lajos Horváth) **99k:60080** 60F15 (60F05, 60F17)
— (*with* Philipp, Walter) Limit theorems for mixing sequences without rate assumptions. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 805–831. (M. Iosifescu) **99d:60022** 60F05 (60F15, 60F17)
— (*with* Horváth, Lajos) Limit theorems for logarithmic averages of random vectors. (English summary) *Math. Nachr.* **195** (1998), 5–16. (Mark M. Meerschaert) **99h:60069** 60F17 (60F15)
— (*with* Csáki, Endre; Horváth, Lajos) Almost sure central limit theorems under minimal conditions. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 67–76. (Peter Schatte) **99b:60042** 60F15 (60F05)
— (*with* Horváth, Lajos; Khoshnevisan, Davar) Logarithmic averages of stable random variables are asymptotically normal. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 35–51. (J. L. Mijnheer) **99j:60023** 60E07 (60F15, 60G50)
— (*with* Philipp, Walter) A limit theorem for lacunary series $\sum f(n_k x)$. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 1–13. (F. Móricz) **99g:42007** 42A55 (41A58, 60F15)
Berkman, Omer (*with* Matias, Yossi; Ragde, Prabhakar) Triply-logarithmic parallel upper and lower bounds for minimum and range minima over small domains. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 197–215. (Summary) **99c:68107** 68Q22 (68P10)
Berkner, Kathrin Resolution of singularities of convolutions with the Gaussian kernel. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 425–435. (A. Bultheel) **99c:44007** 44A35 (14E15, 94A12)
Berkolaĭko, G. M. On a functional of Peetre. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 26–33; *translation in Math. Notes* **61** (1997), *no.* 1-2, 22–28. (Summary) **99a:46133** 46M35 (46B70)
— (*with* Rabinovich, Savely; Havlin, S.) Analysis of Carleman representation of analytical recursions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 81–90. (Katarina Jankova) **99g:58080** 58F13
Berkooz, Gal (*with* Aubry, Nadine; Coller, B.; Elezgaray, J.; Holmes, Philip J.; Lumley, John L.; Poje, A. C.) Low-dimensional models, wavelet transforms and control. *Eddy structure identification (Udine, 1994)*, 271–331, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (From the text) **99f:76068** 76Fxx (76M25)
— (*with* Elezgaray, J.; Holmes, Philip J.) Modelling the coupling between small and large scales in the Kuramoto-Sivashinsky equation. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 293–302, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:76059** 76F99 (35Q35, 35Q53)
— (*with* Saxena, Vivek; Leibovich, Sidney) Enhancement of three-dimensional instability of free shear layers. (English summary) *J. Fluid Mech.* **379** (1999), 23–38. (Summary) **99j:76055** 76E99
Berkooz, Micha (*with* Aharony, Ofer; Kachru, Shamit; Seiberg, Nathan; Silverstein, Eva) Matrix description of interacting theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 148–157. (David S. Berman) **99b:81226** 81T60 (81T13, 81T30)
— (*with* Aharony, Ofer; Seiberg, Nathan) Light-cone description of (2, 0) superconformal theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 119–153. (Marco Spaans) **99k:81211** 81T30
— String dualities from Matrix theory: a summary. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 374–380. (C. Gauthier) **99h:81150** 81T30
— (*with* Aharony, Ofer; Kachru, Shamit; Silverstein, Eva) Matrix description of (1, 0) theories in six dimensions. (English summary) *Phys. Lett. B* **420** (1998), *no.* 1-2, 55–63. (Summary) **99a:81166** 81T60 (81T30)

— Non-local field theories and the non-commutative torus. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 237–241. (Roberto Casalbuoni) **99e:81175** 81T30 (58B30)

— A supergravity dual of a (1, 0) field theory in six dimensions. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 315–317. (Sergey A. Cherkis) **99k:83114** 83E30 (81T30, 83E50)

Berkove, Ethan (*with* Marchand, Richard) The long arm of calculus. *College Math. J.* **29** (1998), *no.* 5, 376–386. (G. A. Heuer) **99j:26016** 26B12

Berkovich, Alexander (*with* McCoy, Barry M.; Schilling, Anne) Rogers-Schur-Ramanujan type identities for the $M(p, p')$ minimal models of conformal field theory. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 325–395. (Mirko Primc) **99d:81047** 81R10 (11B65, 11Z05, 81T40, 82B23)

— (*with* McCoy, Barry M.) Rogers-Ramanujan identities: a century of progress from mathematics to physics. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 163–172 (*electronic*). (Anne Schilling) **99f:11137** 11P82 (01A60, 11–03, 82B23)

— (*with* McCoy, Barry M.; Pearce, Paul A.) The perturbations $\varphi_{2,1}$ and $\varphi_{1,5}$ of the minimal models $M(p, p')$ and the trinomial analogue of Bailey's lemma. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 597–625. (Anne Schilling) **99g:81195** 81T40 (11P82)

Berkovich, L. M. The generalized Emden-Fowler equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 155–163, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 34A34 (34A25)

— (*with* Popov, S. Y.) Group analysis of ordinary differential equations of the order $n > 2$. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 164–171, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 34A25 (34A34)

— On elementary invariant solutions of traveling wave type for the Kolmogorov-Petrovskiĭ-Piskunov equation. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 731–734. 35Q99 (35K55)

Berkovich, Vladimir G. p-adic analytic spaces. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 141–151 (*electronic*). (Annette Werner) **99h:14026** 14G20 (14F20, 32C37, 32P05)

Berkovich, Ya. G. On abelian subgroups of p-groups. (English summary) *J. Algebra* **199** (1998), *no.* 1, 262–280. (Norberto Gavioli) **99d:20027** 20D15 (20D10)

— (*with* Zhmud′, E. M.) ★Characters of finite groups. Part 2. (English summary) Translated from the Russian manuscript by P. Shumyatsky [P. V. Shumyatskiĭ], V. Zobina and Berkovich. Translations of Mathematical Monographs, 181. *American Mathematical Society, Providence, RI*, 1999. *xxvi*+332 *pp. ISBN* 0-8218-0532-0 (David Chillag) **99j:20007** 20C15

Berkovits, Nathan New spacetime-supersymmetric methods for the superstring. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 23–34, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81169** 81T30

— (*with* Leite, Marcelo M.) First massive state of the superstring in superspace. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 144–148. (Helmut Rumpf) **99b:81176** 81T30 (83E30)

— (*with* Hull, Christopher M.) Manifestly covariant actions for $D = 4$ self-dual Yang-Mills and $D = 10$ super-Yang-Mills. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 12, 12 *pp.* (*electronic*). (J. A. H. Samtleben) **99i:81146** 81T13 (81T60)

— Construction of R^4 terms in $N = 2$ $D = 8$ superspace. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 191–203. (Piet Termonia) **99c:81164** 81T30 (83E30)

— (*with* Bandos, Igor A.; Sorokin, D. P.) Duality-symmetric eleven-dimensional supergravity and its coupling to M-branes. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 214–233. (Paulo Moniz) **99j:83066** 83E30 (81T30, 83E50)

— Conformal compensators and manifest type IIB S-duality. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 265–273. (Summary) **99b:81177** 81T30

Berkovits, Richard (*with* Avishai, Yshai; Berend, Daniel) Statistics of addition spectra of independent quantum systems. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8063–8072. (Summary) **99g:82035** 82B44

Berkovitz, Joseph Aspects of quantum non-locality. I. Superluminal signalling, action-at-a-distance, non-separability and holism. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 2, 183–222. (Dennis Dieks) **99g:81005** 81P05 (81P15)

— Aspects of quantum non-locality. II. Superluminal causation and relativity. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 4, 509–545. (Dennis Dieks) **99k:81015** 81P05 (81P15)

Berkson, Earl (*with* Gillespie, T. A.) Multipliers for weighted L^p-spaces, transference, and the q-variation of functions. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 6, 427–454. (Oscar Blasco) **99h:46042** 46E30 (42C15)

van Berkum, E. E. M. (*with* Linssen, H. N.; Overdijk, D. A.) "Sampling the reference set" revisited. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 167–186. (E.-A. Weiss, Jr.) **99i:62008** 62A30 (62A15)

Berland, Marcel Sur les ordres et types de certaines fonctions entières. (English and French summaries) [On the orders and types of certain entire functions] *J. Anal.* **5** (1997), 79–96. (Raphaël Supper) **99m:30056** 30D15 (30B50)

— On the convergence and singularities of analytic functions defined by E-Dirichletian elements. (English and French summaries) *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 1–15. (R. Parvatham) **99d:30002** 30B50

Berlanga Zubiaga, Ricardo Symmetries and colorations. (Spanish) *Miscelánea Mat. No.* 22 (1995), 3–21. 05–01

Berlekamp, Elwyn *see* **Mathemagician and pied puzzler, 99m:00002**

Berline, Chantal (*with* Grue, Klaus) A κ-denotational semantics for map theory in ZFC + SI. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 137–202. (Antonius J. C. Hurkens) **99a:03018** 03B40 (03E70, 68Q05, 68Q55)

— (*with* Grue, Klaus) Addendum: "A κ-denotational semantics for map theory in ZFC + SI" [Theoret. Comput. Sci. **179** (1997), no. 1-2, 137–202; MR 99a:03018]. *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 397–398. 03B40 (03E70, 68Q05, 68Q55)

Berline, Nicole (*with* Vergne, Michèle) The Chern character of a transversally elliptic symbol and the equivariant index. (English summary) *Invent. Math.* **124** (1996), *no.* 1-3, 11–49. (V. Deundyak (Zbl 847.46037)) **99a:58142** 58G10

— (*with* Vergne, Michèle) L'indice équivariant des opérateurs transversalement elliptiques. (French summary) [The equivariant index of transversally elliptic operators] *Invent. Math.* **124** (1996), *no.* 1-3, 51–101. (H. Schroeder (Zbl 883.58037)) **99a:58143** 58G10

Berlinet, Alain (*with* Francq, Christian) On Bartlett's formula for non-linear processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 535–552. (Pham Dinh Tuan) **99c:62240** 62M10 (62G20)

— (*with* Gannoun, Ali; Matzner-Løber, Eric) Propriétés asymptotiques d'estimateurs convergents des quantiles conditionnels. (English and French summaries) [Asymptotic properties of convergent estimators of conditional quantiles] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 611–614. (Arnold Janssen) **99k:62069** 62G05 (62E20)

— (*with* Gannoun, Ali; Matzner-Løber, Eric) Normalité asymptotique d'estimateurs convergents du mode conditionnel. (English and French summaries) [Asymptotic normality of convergent estimators of the conditional mode] *Canad. J. Statist.* **26** (1998), *no.* 2, 365–380. (Yves Lepage) **99k:62034** 62E20 (62G05)

— (*with* Vajda, Igor; van der Meulen, Edward C.) About the asymptotic accuracy of Barron density estimates. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 999–1009. (Summary) **99d:94010** 94A15 (94A17)

— How to get central limit theorems for global errors of estimates. (English summary) *Appl. Math.* **44** (1999), *no.* 2, 81–96. (Lajos Horváth) **99m:62054** 62G07 (60F05)

Berliocchi, Henri *see* **Cherruault, Yves, 99e:92001**

Berlioz, Dominique (*with* Drapeau Contim, Filipe) Un essai logique de Leibniz, "Le calcul des ingrédients": présentation et traduction. (English and French summaries) [A logical essay of Leibniz, "The calculus of constituents": presentation and translation] *Rev. Histoire Sci.* **51** (1998), *no.* 1, 35–64. (Eberhard Knobloch) **99g:01015** 01A45 (01A75, 03–03)

Berlyand, L. (*with* Rintoul, M. D.; Torquato, Salvatore) First-passage percolation, semi-directed Bernoulli percolation, and failure in brittle materials. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 603–623. (Summary) **99e:73080** 73M25 (73V30, 82B43)

Berman, Abraham (*with* Shaked-Monderer, Naomi) Remarks on completely positive matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 149–163. (Summary) **99j:15027** 15A48

Berman, David M. (*with* Liu, Jiannong; Wang, Hong[3]; Wargo, Larry) Induced stars in trees. (English summary) *Australas. J. Combin.* **18** (1998), 275–276. 05C05

Berman, David R. (*with* McLaurin, Sandra C.; Smith, Douglas D.) Fairness in whist tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 189–198. (Summary) **99k:05048** 05B30

Berman, Joel D. (*with* Lakser, H.) The probability of triviality. (English summary) *Algebra Universalis* **38** (1997), *no.* 4, 422–449. (R. Sh. Grigolia) **99m:08023** 08B20 (08B05)

— (*with* Bordalo, G. Hauser) Finite distributive lattices and doubly irreducible elements. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 237–243. (Vlad Boicescu) **99c:06012** 06D05

— (*with* Bergman, Clifford) Algorithms for categorical equivalence. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 1, 1–15. (V. Topencharov) **99j:08003** 08C05 (08–04, 08A02)

Berman, Kenneth A. (*with* Liu, Xin[2]) Cycles through large degree vertices in digraphs: a generalization of Meyniel's theorem. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 20–27. (Summary) **99e:05080** 05C38 (05C20)

Berman, Oded (*with* Averbakh, I. L.) Location problems with grouped structure of demand: complexity and algorithms. (English summary) *Networks* **31** (1998), *no.* 2, 81–92. (Giovanni Andreatta) **99c:90071** 90B80 (68Q25)

— (*with* Dinesh Kumar, U.) Optimization models for complex recovery block schemes. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 5, 525–544. 90B25 (68N99)

Berman, Piotr (*with* Coulston, Chris) Speed is more powerful than clairvoyance. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 255–263, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68022** 68M20 (68N25)

— On-line searching and navigation. *Online algorithms* (*Schloss Dagstuhl*, 1996), 232–241, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68U05 (90C90)

— (*with* Fujito, Toshihiro) On approximation properties of the independent set problem for low degree graphs. (English summary) *Theory Comput. Syst.* **32** (1999), *no.* 2, 115–132. (Summary) **99k:68075** 68Q25 (68R10)

hernández Bermejo, Benito *see* **Hernández Bermejo, Benito**

Bermejo, R. (*with* Seaid, M.) Study and numerical simulations of a nonlinear biochemical system of reaction-diffusion. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 581–586, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

Bermond, Jean-Claude (*with* Di Ianni, Miriam; Flammini, Michele; Pérennes, Stéphane) Acyclic orientations for deadlock prevention in interconnection networks (extended abstract). (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 52–64, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (68M10, 68Q25)

— (*with* Darrot, E.; Delmas, O.; Pérennes, Stéphane) Hamilton circuits in the directed wrapped butterfly network. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 21–42. (Summary) **99g:05121** 05C45

— (*with* Gargano, Luisa; Pérennes, Stéphane) Optimal sequential gossiping by short messages. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 145–155. (Summary) **99d:68019** 68M10 (05C90, 90B12)

— (*with* Darrot, E.; Delmas, O.; Pérennes, Stéphane) Hamilton cycle decomposition of the butterfly network. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 371–385. (Brian Alspach) **99k:68127** 68R10 (05C45, 68M10)

— (*with* Gargano, Luisa; Rescigno, Adele A.; Vaccaro, Ugo) Fast gossiping by short messages. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 917–941 (*electronic*). (A. T. Amin) **99d:68184** 68R10 (68M10, 90B12, 94C15)

Bermúdez, A. *see* **Bermúdez de Castro, Alfredo**

Bermúdez, Alfredo *see* **Bermúdez de Castro, Alfredo**

navarro-Bermúdez, Francisco J. *see* **Navarro-Bermúdez, Francisco J.**

ancochea Bermudez, J. M. *see* **Ancochea Bermudez, J. M.**

Bermúdez, Teresa (*with* González, Manuel) On the boundedness of the local resolvent function. *Extracta Math.* **13** (1998), *no.* 1, 131–134. 47A11

— (*with* González, Manuel; Mbekhta, Mostafa) Local ergodic theorems. *Extracta Math.* **13** (1998), *no.* 2, 243–248. (Vladimir Müller) **99k:47018** 47A35 (28D99, 47A11)

— (*with* González, Manuel; Martinón, Antonio) On the poles of the local resolvent. (English summary) *Math. Nachr.* **193** (1998), 19–26. (George R. Exner) **99f:47006** 47A11

Bermúdez de Castro, Alfredo (*with* Seoane, M. L.) Numerical solution using duality methods of a nonlinear problem of plasma physics. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 16 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76X05 (65N30, 76M25)

— Mathematical modelling and optimal control methods in water pollution. *The mathematics of models for climatology and environment (Puerto de la Cruz, 1995)*, 3–37, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (From the introduction) **99j:86006** 86A05 (49N55, 76S05, 76T05)

— (*with* Rodriguez, Rodolfo) Numerical computation of elastoacoustic vibrations with interface damping. (English summary) *Équations aux dérivées partielles et applications*, 165–187, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:73058** 73K70 (65M60, 73V05, 76Q05)

— (*with* Barral Rodiño, Patrica; Quintela Estévez, Peregrina) Three-dimensional numerical simulation of thermomechanical deformations in a solidification process. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 893–898, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A22

— (*with* Muñiz, M. C.) Numerical solution of an electromagnetic problem in the casting of aluminum. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 905–910, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 78–08 (65N99)

— (*with* Dervieux, Alain; Desideri, Jean-Antoine; Vázquez-Cendón, María Elena) Upwind schemes for the two-dimensional shallow water equations with variable depth using unstructured meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 49–72. (Summary) **99b:76060** 76M25 (86A05)

— (*with* Seoane, M. L.) Numerical solution of a nonlocal problem arising in plasma physics. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 5, 45–59. (Summary) **99a:76167** 76X05 (65N99, 76M10)

Bermúdez Sosa, Juana E. G-representations of dicyclic and dihedral groups. (Spanish. Spanish summary) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 3–14. (Introduction) **99m:20157** 20M99 (20C15)

Bern, Marshall (*with* Sahai, Amit) Pushing disks together—the continuous-motion case. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 499–514. (Summary) **99i:52009** 52A40 (51M16)

— (*with* Amenta, Nina; Eppstein, David) Optimal point placement for mesh smoothing. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 302–322. (I. Norman Katz) **99m:65028** 65D17 (65N30, 90C05)

Bern, Z. (*with* Dixon, Lance J.; Perelstein, M.; Rozowsky, J. S.) One-loop n-point helicity amplitudes in (self-dual) gravity. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 273–283. (Summary) **99m:83066** 83C45 (81T20)

Bernabei, M. S. A remark on random walks in fluctuating random media: the independent case. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 377–388. (Wan Ding Ding) **99c:60148** 60J15 (60F05, 60G60, 60J05)

Bernad, J. (*with* González, Santos; Martínez López, Consuelo; Iltyakov, A. V.) On identities of baric algebras and superalgebras. *J. Algebra* **197** (1997), *no.* 2, 385–408. (Irvin Roy Hentzel) **99a:17034** 17D92 (17A30, 17A70)

— (*with* González, Santos; Martínez López, Consuelo; Iltyakov, A. V.) Polynomial identities of Bernstein algebras of small dimension. (English summary) *J. Algebra* **207** (1998), *no.* 2, 664–681. (Irvin Roy Hentzel) **99g:17056** 17D92 (17A30)

Bernadette, Perrin-Riou *see* **Perrin-Riou, Bernadette**

Bernadou, Michel (*with* Cubier, Annie) Numerical analysis of junctions between thin shells. I. Continuous problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 349–363. (Veronique Lods) **99k:73111a** 73V05 (73K15)

— (*with* Cubier, Annie) Numerical analysis of junctions between thin shells. II. Approximation by finite element methods. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 365–387. (Veronique Lods) **99k:73111b** 73V05 (73K15)

Bernal, A. (*with* Repilado Ramírez, José Antonio; Ruiz Chaveco, Antonio Iván) Analysis and identification of a mathematical model of the transmission of infectious diseases. (Spanish. English and Spanish summaries) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 65–69. (Summary) **99i:92024** 92D25 (34C99)

rodríguez-Bernal, Aníbal *see* **Rodríguez-Bernal, Aníbal**

montañes Bernal, Antonio *see* **Montañes Bernal, Antonio**

pérez-Bernal, F. *see* **Pérez-Bernal, F.**

Bernal-González, Luis On hypercyclic operators on Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1003–1010. (P. Rosenthal) **99f:47010** 47A15

Bernard, Alain (*with* Muraz, Gilbert L.) Locally constant almost everywhere Fourier transform. *Function spaces (Edwardsville, IL, 1998)*, 65–68, *Contemp. Math.*, 232, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:46003**) 42A16 (46E50)

Bernard, Denis (*with* Babelon, O.; Smirnov, F. A.) Form factors, KdV and deformed hyperelliptic curves. (English summary) *R.C.P.* 25, *Vol.* 48, 69–85, *Prépubl. Inst. Rech. Math. Av.*, 1997/42, *Univ. Louis Pasteur, Strasbourg*, 1997. (Iskander A. Taimanov) **99k:58081** 58F07 (14H45, 81T10)

— (*with* Babelon, O.; Smirnov, F. A.) Form factors, KdV and deformed hyperelliptic curves. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 21–33. (Gregorio Falqui) **99c:81217** 81T40 (14H40, 58F07, 81R10)

— (*with* Gawędzki, Krzysztof; Kupiainen, Antti) Slow modes in passive advection. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 519–569. (Roland Schiestel) **99e:76065** 76F99 (76M35, 82D15)

Bernard, J. M. L. Diffraction at skew incidence by an anisotropic impedance wedge in electromagnetism theory: a new class of canonical cases. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 595–613. (Paul Urbach) **99g:78020** 78A45

Bernard, Jean-Marie Solutions globales variationnelles et classiques des fluides de grade deux. (English and French summaries) [Variational and classical global solutions of fluids of grade two] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 953–958. (Summary) **99h:76007** 76A05 (35Q35, 76M30)

Bernard, Marc (*with* Jacquenet, François) Free space modeling for placing rectangles without overlapping. (English summary) *J.UCS* **3** (1997), *no.* 6, 703–720 (*electronic*). (Summary) **99f:68178** 68T20

Bernard, Olivier (*with* Sallet, Gauthier; Sciandra, Antoine) Nonlinear observers for a class of biological systems: application to validation of a phytoplanktonic growth model. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1056–1065. (Summary) **99h:92021** 92D25 (93B07)

— (*with* Souissi, Sami) Qualitative behavior of stage-structured populations: application to structural validation. (English summary) *J. Math. Biol.* **37** (1998), *no.* 4, 291–308. (Summary) **99i:92017** 92D25

Bernard, Pierre *see* **Barlow, Martin T., 99h:60003**

Bernardes, Nilson C., Jr. A theorem on iterations of polynomial maps in several variables. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3037–3044. (Marco Abate) **99a:32035** 32H50 (26C99)

Bernardi, Christine (*with* Amrouche, C.; Dauge, Monique; Girault, Vivette) Vector potentials in three-dimensional non-smooth domains. (English and French summaries) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 823–864. (Juha H. Videman) **99e:35037** 35J25 (35Q30, 65N30, 76D07)

— (*with* Amara, M.; Ben Younes, Meriem) Error indicators for the Navier-Stokes equations in stream function and vorticity formulation. (English and French summaries) *Numer. Math.* **80** (1998), *no.* 2, 181–206. (Nikolay P. Moshkin) **99f:65159** 65N30 (65M60, 76D05, 76M25)

— (*with* Girault, Vivette) A local regularization operator for triangular and quadrilateral finite elements. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1893–1916 (*electronic*). (Summary) **99g:65107** 65N30 (65D05)

— (*with* Ben Belgacem, Faker) Spectral element discretization of the Maxwell equations. (English and French summaries) *Math. Comp.* **68** (1999), *no.* 228, 1497–1520. (B. Belinskiy) **99m:65175** 65M15 (35Q60, 78–08)

Bernardi, Claudio How formal should a proof be in teaching mathematics? Logique dans l'enseignement des mathématiques (Liège, 1996). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, *suppl.*, 7–18. (*see* **99g:00042**) 00A35

Bernardi, Enrico (*with* Bove, Antonio) Geometric transition for a class of hyperbolic operators with double characteristics. *Japan. J. Math. (N.S.)* **23** (1997), *no.* 1, 1–87. (Min You Qi) **99c:35007** 35A27 (35L25, 35S10, 58G16)

Bernardi, Marco Luigi (*with* Bonfanti, Giovanna; Luterotti, Fabio) Abstract Schroedinger-type differential equations with variable domain. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 84–105. (Piermarco Cannarsa) **99c:34124** 34G10 (35Q40, 47N20, 47N50)

— (*with* Luterotti, Fabio) On some Schroedinger-type variational inequalities. *Rend. Sem. Mat. Univ. Padova* **98** (1997), 1–19. (Paolo Acquistapace) **99a:34164** 34G20 (35Q55, 47H19, 49J27, 49J40)

Bernardi, Marco P. (*with* Bondioli, Cristiana) Function spaces $W^{\lambda,p}$, BV, $N^{\lambda,p}$ characterized by the motions of $\mathbf{R}^n$. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 245–278. (H. Triebel) **99d:46044** 46E35

Bernardin, Laurent (*with* Monagan, Michael B.) Efficient multivariate factorization over finite fields. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 15–28, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (*see* **99b:94002**) 68Q40

Bernardinello, Luca (*with* Pomello, Lucia) A category of transition systems and its relations with orthomodular posets. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 139–148, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:06001** 06A06 (03G12, 68Q90)

— (*with* Badouel, Eric; Darondeau, Philippe) The synthesis problem for elementary net systems is NP-complete. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 107–134. (Raymond Devillers) **99b:68137** 68Q90 (68Q25, 68Q55, 68Q68)

Bernardini, Alberto (*with* Tonon, Fulvio) A random set approach to the optimization of uncertain structures. (English summary) *Comput. & Structures* **68** (1998), *no.* 6, 583–600. (Summary) **99f:73061** 73K40 (73V30)

Bernardini, Riccardo (*with* Kovačević, Jelena) Local bases: theory and applications. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 153–180, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:94010** 94A12 (42C15, 94A29)

Bernardo, José M. *see* **Irony, Telba Z., 99k:62008**

Bernardo, Luís Miguel (*with* Marinho, Francisco J.) Numerical calculation of fractional Fourier transforms with a single fast-Fourier-transform algorithm. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 8, 2111–2116. (Summary) **99c:78005** 78–08

Bernardo, Marco (*with* Bravetti, Mario; Gorrieri, Roberto) Towards performance evaluation with general distributions in process algebras. (English summary) *CONCUR'98: concurrency theory (Nice)*, 405–422, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68M20, 68Q60)

di Bernardo, Mario (*with* Stoten, D. P.) Application of the minimal control synthesis algorithm to the control and synchronization of chaotic systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 925–938. 93B50 (58F13, 58F40)

— (*with* Budd, C. J.; Champneys, A. R.) Grazing, skipping and sliding: analysis of the non-smooth dynamics of the DC/DC buck converter. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 859–890. (Summary) **99c:34072** 34C23 (58F13, 94C05)

Bernasconi, Anna Combinatorial properties of classes of functions hard to compute in constant depth. (English summary) *Computing and combinatorics (Taipei, 1998)*, 339–348, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (Summary) **99m:68079** 68Q25 (68Q15)

Bernat, Josep (*with* Llibre, Jaume) Hurwitz systems with periodic orbits. Counterexamples to Kalman and Markus-Yamabe conjectures. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 39–58, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34D20 (34C25, 34H05, 58F10, 93D20)

Bernátsky, L. (*with* Ésik, Zoltán) Semantics of flowchart programs and the free Conway theories. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 35–78. (Stephen L. Bloom) **99m:68112** 68Q55

Bernau, S. J. (*with* Huijsmans, C. B.) The Schwarz inequality in Archimedean f-algebras. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 137–148. (Cho Ho Chu) **99e:46062** 46H99 (46A40, 46L99, 47B60)

Berndt, Bruce C. (*with* Chan, Heng Huat; Zhang, Liang-Cheng) Ramanujan's class invariants with applications to the values of q-continued fractions and theta functions. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 37–53, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Ronald J. Evans) **99c:11017** 11B65 (11A55, 11F27, 33D10)

— (*with* Chan, Heng Huat; Zhang, Liang-Cheng) Ramanujan's association with radicals in India. *Amer. Math. Monthly* **104** (1997), *no.* 10, 905–911. (Aleksander Grytczuk) **99a:11053** 11F20 (11R20, 11R37)

— (*with* Evans, Ronald J.; Williams, Kenneth S.) ★ Gauss and Jacobi sums. Canadian Mathematical Society Series of Monographs and Advanced Texts. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xii*+583 *pp. ISBN* 0-471-12807-4 (Charles Helou) **99d:11092** 11L05 (11A15, 11L10, 11T22, 11T24)

— ★ Ramanujan's notebooks. Part V. (English summary) *Springer-Verlag, New York*, 1998. xiv+624 *pp. ISBN* 0-387-94941-0 (Don Redmond) **99f:11024** 11B68 (01A75, 11A55, 11F03, 33–00, 33–03)

— An overview of Ramanujan's notebooks. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 119–146, *Brepols, Turnhout*, 1998. (Summary) **99k:01032** 01A60 (01A70, 11–03, 33–03)

— (*with* Chan, Heng Huat; Zhang, Liang-Cheng) Radicals and units in Ramanujan's work. *Acta Arith.* **87** (1998), *no.* 2, 145–158. (Ronald J. Evans) **99m:11125** 11R27 (11A55)

— *see also* **Srinivasa Rao, K., 99g:01036**

Berndt, Jürgen Riemannian geometry of complex two-plane Grassmannians. (English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **55** (1997), *no.* 1, 19–83. (Lieven Vanhecke) **99e:53071** 53C35 (53C55)

— On curvature and submanifolds of complex two-plane Grassmannians. *Proceedings of the Second International Workshop on Differential Geometry (Taegu, 1997)*, 1–15, *Kyungpook Natl. Univ., Taegu*, 1998. (Thomas E. Cecil) **99k:53088** 53C25 (53C40)

— On homogeneous hypersurfaces in Riemannian symmetric spaces. *Proceedings of the Second International Workshop on Differential Geometry (Taegu, 1997)*, 17–34, *Kyungpook Natl. Univ., Taegu*, 1998. (Philippos J. Xenos) **99f:53049** 53C30 (53C35)

— (*with* Ricci, Fulvio; Vanhecke, Lieven) Weakly symmetric groups of Heisenberg type. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 275–284. (Rosa Anna Marinosci) **99f:53052** 53C35 (53C30)

— (*with* Prüfer, Friedbert; Vanhecke, Lieven) Totally geodesic submanifolds of symmetric-like Riemannian manifolds. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 463–475. (Anna M. Fino) **99i:53054** 53C40 (53C30)

— (*with* Suh, Young Jin) Real hypersurfaces in complex two-plane Grassmannians. (English summary) *Monatsh. Math.* **127** (1999), *no.* 1, 1–14. (Lieven Vanhecke) **99k:53107** 53C40 (53C35)

Berndt, Markus (*with* Manteuffel, Thomas A.; McCormick, Stephen F.) Local error estimates and adaptive refinement for first-order system least squares (FOSLS). (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 35–43 (*electronic*). (Summary) **99a:65143** 65N30 (65N15)

Berndt, Olaf A categorical definition of semidirect products. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 37–62. (J. Wick Pelletier) **99h:18004** 18A30 (46J99, 46M15)

Berndt, Rolf ★ Einführung in die symplektische Geometrie. (German. German summary) [Introduction to symplectic geometry] Advanced Lectures in Mathematics. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *xii*+185 *pp. ISBN* 3-528-03102-6 (Karl Friedrich Siburg) **99d:58059** 58F05 (53C15)

— (*with* Schmidt, Ralf) ★ Elements of the representation theory of the Jacobi group. (English summary) Progress in Mathematics, 163. *Birkhäuser Verlag, Basel*, 1998. *xiv*+213 *pp. ISBN* 3-7643-5922-6 (B. Ramakrishnan) **99i:11030** 11F55 (11F70, 14K25)

Berndtsson, Bo An inequality for Fourier-Laplace transforms of entire functions, and the existence of exponential frames in Fock space. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 83–101. (Ildar Kh. Musin) **99d:46059** 46F12 (32A37)

— Uniform estimates with weights for the $\overline{\partial}$-equation. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 195–215. (Der-Chen E. Chang) **99h:32018** 32F20 (32F05, 35N15, 46J15)

Bernelli-Zazzera, Franco (*with* Lo-Rizzo, Vilfrido) Adaptive control of space structures via recurrent neural networks. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 5–20. 93C85 (73K50)

Berner, D. F. (*with* Snyman, J. A.) The influence of joint angle constraints on the optimum design of a planar robot manipulator following a complicated prescribed path. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 111–124. 93C85 (70B15, 70Q05, 90C90)

Bernfeld, Stephen R. (*with* Hu, Yue Yun; Vuillermot, Pierre A.) Large-time asymptotic equivalence for a class of non-autonomous semilinear parabolic equations. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 5, 337–368. (Sergei A. Vakulenko) **99f:35077** 35K55 (35B40)

Bernhard, Pierre (*with* Ovakimyan, N. V.) Nonlinear robust control and minimax team problems. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 4, 239–257. (Summary) **99m:93025** 93B35 (93C10)

Bernhardsson, Bo (*with* Panagopoulos, Hélène) Comments on: "Mixed L^∞/H_∞ suboptimal controllers for SISO continuous time systems" [IEEE Trans. Automat. Control **40** (1995), no. 11, 1831–1840; MR 96g:93024] by M. Sznaier and F. Blanchini. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1285. 93B36 (93C60)

— (*with* Rantzer, Anders; Qiu, Li) Real perturbation values and real quadratic forms in a complex vector space. (English summary) *Linear Algebra Appl.* **270** (1998), 131–154. (R. A. Horn) **99a:15010** 15A63 (15A18, 15A60)

— *see also* **Errata: "Comments on: 'Mixed L^∞/H_∞ suboptimal controllers for SISO continuous time systems'"**

Berni, Olivier A vanishing theorem for formal cohomology of perverse sheaves. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 267–288. (Andrea D'Agnolo) **99g:32016** 32C38 (32L20)

Bernido, Christopher C. (*with* Carpio-Bernido, M. V.) Path integration for ring-shaped topological defects and some applications. (English summary) *Topics in theoretical physics (Sorak Mountain Resort, 1995)*, 200–203, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81S40

— (*with* Aguarte, Glenn) Summation over histories for a particle in spherical orbit around a black hole. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2445–2448. (Enric Verdaguer) **99d:83049** 83C47 (81T20, 83C57)

carpio-Bernido, M. V. *see* **Carpio-Bernido, M. V.**

Bernik, V. I. (*with* Borbat, V. N.) Joint approximation of zero by values of integer-valued polynomials. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 58–73. (Eugene M. Matveev) **99h:11077** 11J83

— (*with* Borbat, V. N.) Polynomials with overfalls of the values of coefficients, and A. Baker's conjecture. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 5–8, 138. (Eugene M. Matveev) **99f:11089** 11J83

— (*with* Dickinson, Henrietta; Dodson, M. M.) A Khintchine-type version of Schmidt's theorem for planar curves. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 179–185. (R. C. Baker) **99e:11099** 11J83

Berning, M. (*with* Rubenchik, A. M.) A weakly nonlinear theory for the dynamical Rayleigh-Taylor instability. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1564–1587. (Summary) **99b:76032** 76E10 (76B45)

Bernoff, Andrew J. (*with* Sternberg, Peter) Onset of superconductivity in decreasing fields for general domains. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1272–1284. (Ioan Bâldea) **99a:82099** 82D55

— (*with* Bertozzi, Andrea L.; Witelski, Thomas P.) Axisymmetric surface diffusion: dynamics and stability of self-similar pinchoff. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 725–776. (Summary) **99k:80013** 80A99 (35B32, 35Q35, 73B30, 76E99, 76R50)

— (*with* Witelski, Thomas P.) Self-similar asymptotics for linear and nonlinear diffusion equations. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 2, 153–193. (Lubomira G. Softova) **99d:35081** 35K55 (35B40, 76R50, 76S05)

— (*with* Sarocka, David C.; Rossi, Louis F.) Large-amplitude solutions to the Sivashinsky and Riley-Davis equations for directional solidification. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 146–176. (Summary) **99m:80015** 80A22 (76T05)

Bernoulli, Daniel *see* **Dehling, Herold G., 99b:60002**

Bernoussi, B. (*with* Bolintinéanu, S.; Chou, Chin Ch'êng) Sur les suites Pareto optimisantes et scalairement stationnantes. (English summary) [On optimizing and scalarly stationary Pareto sequences] *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida, 1996)*, 39–47, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:90169** 90C29

— (*with* Bolintinéanu, S.; Chou, Chin Ch'êng) Pareto optimizing and scalarly stationary sequences. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 553–561. (I. M. Stancu-Minasian) **99f:90105** 90C29 (90C48)

Berns, Daniel W. (*with* Moiola, Jorge L.; Chen, Guanrong) Predicting period-doubling bifurcations and multiple oscillations in nonlinear time-delayed feedback systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 759–763. (Summary) **99c:94065** 94C05

Bernsdorf, J. (*with* Durst, F.; Schäfer, Michael) Comparison of cellular automata and finite volume techniques for simulation of incompressible flows in complex geometries. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 251–264. 76M25 (65M60)

Bernstein, Daniel J. Composing power series over a finite ring in essentially linear time. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 339–341. 13J05

Bernstein, Dennis S. Optimal nonlinear, but continuous, feedback control of systems with saturating actuators. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1209–1216. 93B52 (49N10)

— (*with* Haddad, Wassim M.; Chellaboina, Vijaya-Sekhar) Generalized mixed-μ bounds for real and complex multiple-block uncertainty with internal matrix structure. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 789–806. 93B36 (93C41)

— (*with* Tyan, Feng) Dynamic output feedback compensation for linear systems with independent amplitude and rate saturations. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 89–116. 93D15 (93B52)

— (*with* Bhat, Sanjay P.) Continuous finite-time stabilization of the translational and rotational double integrators. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 678–682. (Summary) **99a:93084** 93D15 (93C15)

— (*with* Sparks, Andrew G.) Real robustness bounds using generalized stability multipliers. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 651–664. (Summary) **99c:93082** 93D09

— (*with* Chellaboina, Vijaya-Sekhar; Haddad, Wassim M.) Structured matrix norms for robust stability and performance with block-structured uncertainty. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 535–557. (Takehiro Mori) **99h:93075** 93D09

— (*with* Sparks, Andrew G.) Reliable state-space upper bounds for the peak structured singular value. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 611–630. (Long Wang) **99d:93011** 93B15 (93B40)

— (*with* Clark, R. L.) Hybrid control: separation in design. *J. Sound Vibration* **214** (1998), *no.* 4, 784–791. 93C95 (93C30)

Bernstein, Ethan (*with* Vazirani, Umesh) Quantum complexity theory. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1411–1473. (Summary) **99a:68053** 68Q05 (03D10, 03D15, 68Q15, 81P99)

— (*with* Bennett, Charles H.; Brassard, Gilles; Vazirani, Umesh) Strengths and weaknesses of quantum computing. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1510–1523. (Robert M. Baer) **99e:68034** 68Q05 (03D10, 03D15, 68Q15, 81P99)

Bernstein, Joseph (*with* Reznikov, Andrei) Sobolev norms of automorphic functionals and Fourier coefficients of cusp forms. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 111–116. (Matti Jutila) **99g:11061** 11F37 (11F30)

— Analytic structures on representation spaces of reductive groups. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 519–525 (*electronic*). (Walter R. Bloom) **99i:22017** 22E46 (43A65, 46E99)

Bernstein, Karen L. A congruence theorem for structured operational semantics of higher-order languages. (English summary) *Thirteenth Annual IEEE Symposium on*

Logic in Computer Science (*Indianapolis, IN*, 1998), 153–164, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (68N15)

root-Bernstein, Robert S. *see* **Root-Bernstein, Robert S.**

Bernstein, Swanhild Left-linear and nonlinear Riemann problems in Clifford analysis. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 17–30, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (N. L. Vasilevskiĭ) **99d:30041** 30E25 (30G35)

— A Paley-Wiener theorem and Wiener-Hopf-type integral equations in Clifford analysis. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 31–46. (Klaus Gürlebeck) **99j:30052** 30G35 (45E10)

— On the index of Clifford algebra valued singular integral operators and the left linear Riemann problem. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 1, 33–64. (Summary) **99a:47073** 47G10 (30G35, 35J99, 45E05)

Berntsson, Fredrik (*with* Eldén, Lars) Spectral and wavelet methods for solving an inverse heat conduction problem. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 3–10, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 80–08 (80A20)

Bernuau, Guillaume Wavelets bases adapted to a self-similar quasicrystal. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4213–4225. (Summary) **99c:42056** 42C15 (52C22)

Bernui, A. (*with* Gomero, G. I.; Rebouças, M. J.; Teixeira, A. F. F.) Radiation damping in FRW space-times with different topologies. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4699–4706. 83F05 (83C15)

Bernussou, Jacques (*with* Garcia, Germain; Arzelier, Denis) Stabilization of an uncertain linear dynamic system by state and output feedback: a quadratic stabilizability approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 839–858. 93D15 (93D21)

— (*with* Garcia, Germain) Identification of the dynamics of a lead acid battery by a diffusive model. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 87–98, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (*see* **99h:00027**) 93E12 (80A99)

— (*with* Garcia, Germain; Daafouz, Jamal) H_2 guaranteed cost control for singularly perturbed uncertain systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1323–1329. (Summary) **99j:93065** 93C70 (93D21)

Beron-Vera, F. J. (*with* Ripa, P.) Free boundary effects on baroclinic instability. (English summary) *J. Fluid Mech.* **352** (1997), 245–264. (Shouhong Wang) **99a:76054** 76E20 (76V05, 86A05)

Berr, Ralph Null- and Positivstellensätze for generalized real closed fields. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 19–53. (Claus Scheiderer) **99a:14085** 14P99 (12D15)

— An algebraic construction of the ring of piecewise polynomial functions. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 55–63. (Victoria Powers) **99m:14110** 14P10 (13J25)

Berrachedi, Abdelhafid (*with* Mollard, Michel) On two problems about (0, 2)-graphs and interval-regular graphs. (English summary) *Ars Combin.* **49** (1998), 303–309. (Summary) **99c:05089** 05C25

le Berre, Daniel *see* **Le Berre, Daniel**

Berred, Alexandre M. Prediction of record values. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2221–2240. (Summary) **99e:62088** 62G30

Berrendero, José R. (*with* Mazzi, Sonia; Romo, Juan; Zamar, Ruben H.) On the explosion rate of maximum-bias functions. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 333–351. (Summary) **99i:62057** 62F35

— (*with* Romo, Juan) Stability under contamination of robust regression estimators based on differences of residuals. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 149–165. (Xuming He) **99k:62064** 62F35 (62J05)

Berretty, Robert-Paul (*with* Goldberg, Ken; Overmars, Mark H.; van der Stappen, A. Frank) Computing fence designs for orienting parts. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 249–262. (Summary) **99g:68206** 68U05

Berriochoa, E. (*with* Cachafeiro López, Ma. Alicia) Lebesgue Sobolev orthogonality on the unit circle. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 27–34. (Summary) **99i:42038** 42C10 (33C45)

Berrizbeitia, Pedro (*with* Berry, T. G.) Cubic reciprocity and generalised Lucas-Lehmer tests for primality of $A \cdot 3^n \pm 1$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1923–1925. (Oliver Schirokauer) **99j:11006** 11A51 (11Y11)

Berrone, Lucio R. Local positivity of the solution to Volterra integral equations and heat conduction in materials that may undergoes changes of phase. (English summary) *Math. Notae* **38** (1995/96), 79–93 (1997). (Hana Petzeltová) **99f:45001** 45D05 (35K20, 45K05, 45M20, 73B30)

— (*with* Galles, C. D.) Mathematical inequalities via a thermodynamic heuristic. (English summary) *Riv. Mat. Pura Appl. No.* 19 (1996), 57–64. (Jerzy Popenda) **99c:26022** 26D20 (80A99)

— (*with* Mannucci, Paola) Study of the boundary conditions describing the contact with a well-stirred fluid. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 4, 323–337. (N. L. Vulchanov) **99b:80005** 80A20 (35Q99)

— Explicit bounds for harmonic functions satisfying boundary conditions of mixed type. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 171–204. (Xi Ting Liang) **99e:35038** 35J25 (31B05, 35B45)

— A property of the maximum temperature in a mixed initial-boundary value problem for the heat equation. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 227–245. (Vitaly A. Volpert) **99a:35108** 35K20 (80A20)

— (*with* Moro, Julio) Lagrangian means. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 217–226. (Zsolt Páles) **99d:39022** 39B22 (26B40)

— The mean value theorem: functional equations and Lagrangian means. (Spanish. Spanish summary) *Epsilon* **14** (1998), *no.* 1(40), 131–151. (Claudi Alsina) **99j:39018** 39B05 (39–01)

— On a conjecture relative to the maximum of harmonic functions on convex domains: unbounded domains. (English summary) *Portugal. Math.* **55** (1998), *no.* 3, 307–321. (Iscander Nezhmetdinov) **99h:31007** 31A25 (31A05, 35J05)

Berroukeche, Mostefa (*with* Maschke, Erich K.; Saramito, Bernard) Convergence of an unconditionally stable semi-implicit scheme for linear incompressible MHD equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 81–86. (Summary) **99k:76097** 76M20 (76W05)

Berrut, Jean-Paul (*with* Baltensperger, Richard) The errors in calculating the pseudospectral differentiation matrices for Čebyšev-Gauss-Lobatto points. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 41–48. (Summary) **99h:65173** 65M70 (65N35)

— (*with* Baltensperger, Richard; Noël, Benjamin) Exponential convergence of a linear rational interpolant between transformed Chebyshev points. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1109–1120. (D. J. Leeming) **99k:41016** 41A20 (65D05)

Berry, Anne (*with* Bordat, Jean-Paul) Separability generalizes Dirac's theorem. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 43–53. (Martin Knor) **99f:05058** 05C35

Berry, Donald A. (*with* Gopalan, Ramanan) Bayesian multiple comparisons using Dirichlet process priors. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1130–1139. 62F15 (62J15)

Berry, Jonathan W. (*with* Goldberg, Mark K.) Path optimization for graph partitioning problems. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 27–50. (Summary) **99k:68128** 68R10 (05C85)

Berry, M. V. Aharonov-Bohm geometric phases for rotated rotators. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8355–8362. (Péter Pál Lévay) **99b:81033** 81Q05 (81Q20, 81S99)

— (*with* O'Dell, D. H. J.) Diffraction by volume gratings with imaginary potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2093–2101. (Summary) **99d:78027** 78A45

— (*with* Keating, Jonathan P.; Prado, S. D.) Orbit bifurcations and spectral statistics. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L*245–*L*254. (Summary) **99a:81042** 81Q50 (81Q20)

— Lop-sided diffraction by absorbing crystals. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3493–3502. (K. Wódkiewicz) **99b:81295** 81V80

Berry, Michael W. (*with* Jiang, Eric P.) Information filtering using the Riemannian SVD (R-SVD). (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 386–395, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F30

Berry, T. G. Construction of linear systems on hyperelliptic curves. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 315–327. (Bernard Mourrain) **99k:14091** 14Q05 (14C20)

— (*with* Berrizbeitia, Pedro) Cubic reciprocity and generalised Lucas-Lehmer tests for primality of $A \cdot 3^n \pm 1$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1923–1925. (Oliver Schirokauer) **99j:11006** 11A51 (11Y11)

Berry, Vincent (*with* Gascuel, Olivier) Inferring evolutionary trees with strong combinatorial evidence. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 111–123, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99f:92011** 92D15 (68Q25)

Berryman, James G. Variational structure of inverse problems in wave propagation and vibration. (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 13–44, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Guan Quan Zhang) **99a:65109** 65M30 (35R30, 73D50)

— (*with* Milton, Graeme W.) On the effective viscoelastic moduli of two-phase media. II. Rigorous bounds on the complex shear modulus in three dimensions. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1849–1880. (Summary) **99h:73004** 73B27 (73F05, 73K20)

— Transversely isotropic poroelasticity arising from thin isotropic layers. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 37–50, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Summary) **99e:73025** 73B99 (73N20)

— (*with* Pride, Steven R.) Connecting theory to experiment in poroelasticity. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 719–747. (Summary) **99a:73013** 73B27 (73N20, 76S05)

Bers, Lipman ★ Selected works of Lipman Bers. Part 1. Papers on complex analysis. Edited by Irwin Kra and Bernard Maskit. With additional contributions by William Abikoff, Kra and Maskit, and Frederick P. Gardiner and Linda Keen. *American Mathematical Society, Providence, RI*, 1998. *lxxiv*+570 *pp. ISBN* 0-8218-0996-2 (Tadashi Kuroda) **99g:01041a** 01A75 (30–03)

— ★ Selected works of Lipman Bers. Part 2. Papers on complex analysis. Edited by Irwin Kra and Bernard Maskit. With additional contributions by William Abikoff, Kra and Maskit, and Frederick P. Gardiner and Linda Keen. *American Mathematical Society, Providence, RI*, 1998. *lxxiv*+564 *pp. ISBN* 0-8218-0997-0 (Tadashi Kuroda) **99g:01041b** 01A75 (30–03)

Bersani, A. M. (*with* Iannacci, R.; Dell'Acqua, G.; Santucci, P.) Embedding theorems for Sobolev-Besicovitch spaces of almost periodic functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 443–457. (J. Musielak) **99e:46041** 46E35 (42A75)

Berselli, Luigi C. (*with* Cimatti, G.) A theorem of existence for the equations of the Winslow's effect. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 61–71 (1998). (Introduction) **99d:76005** 76A99 (76W05)

— (*with* Flandoli, Franco) Remarks on determining projections for stochastic dissipative equations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 197–214. (Summary) **99i:35184** 35R60 (35Q30, 60H15, 76D05, 76M35)

Bershad, Neil J. (*with* Ibnkahla, Mohamed; Sombrin, Jacques; Castanié, Francis) Neural network modeling and identification of nonlinear channels with memory: algorithms, applications, and analytic models. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1208–1220. (Summary) **99j:94028** 94A40 (92B20)

Bershadskiĭ, Alexander An universal relation between fractal and Euclidean (topological) dimensions of random systems. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **6** (1998), *no.* 3, 381–382. 82B41

Bershadsky, Michael Topological reduction of 4D SYM to 2D σ-models. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 35–46, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:81221** 81T30

— (*with* Johansen, Andrei; Pantev, Tony G.; Sadov, Vladimir; Vafa, Cumrun) F-theory, geometric engineering and $N = 1$ dualities. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 153–164. (Gonzalo Violero) **99b:81178** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Johansen, Andrei; Pantev, Tony G.; Sadov, Vladimir) On four-dimensional compactifications of F-theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 165–201. (Gonzalo Violero) **99d:81107** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Sadov, Vladimir) F-theory on $K3 \times K3$ and instantons on 7-branes. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 232–246. (Gonzalo Violero) **99f:81149** 81T30 (14J28, 32J81)

— (*with* Kakushadze, Zurab; Vafa, Cumrun) String expansion as large N expansion of gauge theories. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 59–72. (Angel Maria Uranga) **99i:81170** 81T30 (81T60, 83E30)

— (*with* Chiang, Ti-Ming; Greene, Brian R.; Johansen, Andrei; Lazaroiu, C. I.) F-theory and linear sigma models. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 531–570. (Harald Skarke) **99g:81150** 81T30 (14J32, 32J81)

— Compactifications of F-theory. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 303–309. (Editors) **99h:81151** 81T30 (14J32, 32J81)

— (*with* Johansen, Andrei) Large N limit of orbifold field theories. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 141–148. (Harald Skarke) **99m:81240** 81T60 (81T18, 81T30)

Berstel, Jean (*with* Autebert, Jean-Michel; Boasson, Luc) Context-free languages and pushdown automata. *Handbook of formal languages, Vol.* 1, 111–174, *Springer, Berlin*, 1997. (From the introduction) **99g:68108** 68Q45 (03D05, 68Q50)

— (*with* Boasson, Luc) The set of Lyndon words is not context-free. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 139–140. (From the introduction) **99a:68137** 68R15

— (*with* Boasson, Luc) The set of minimal words of a context-free language is context-free. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 477–488. (Summary) **99a:68103** 68Q45

Bertacchi, Daniela (*with* Costantini, Camillo) Existence of selections and disconnectedness properties for the hyperspace of an ultrametric space. (English summary) *Topology Appl.* **88** (1998), *no.* 3, 179–197. (Stoyan Nedev) **99g:54003** 54B20 (54C65, 54D05, 54F50)

Bertagnolio, F. (*with* Daube, O.) Solution of the div-curl problem in generalized curvilinear coordinates. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 121–152. (Timothy Nigel Phillips) **99d:76073** 76M25 (76D05)

gillio Berta Mauri, Anna *see* **Gillio Berta Mauri, Anna**

Bertapelle, Alessandra Weil restriction in the context of formal and rigid geometry. *Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie, Heft* 22, *viii*+45 *pp., Schriftenreihe Math. Inst. Univ. Münster 3. Ser.*, 22, *Univ. Münster, Münster*, 1998. (Reinhold Hübl) **99h:11067** 11G25 (14G20, 14L15)

— The Weil restriction functor in the context of formal and rigid geometry. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 15–18. 14G99

Bertault, F. (*with* Ramaré, Olivier; Zimmermann, Paul) On sums of seven cubes. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1303–1310. (S. Turjányi) **99j:11116** 11P05 (11Y35)

Bertazzi, Luca (*with* Speranza, Maria Grazia) Minimizing logistic costs in multistage supply chains. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 399–417. (Summary) **99m:90065** 90B10 (90C60)

Berteloot, F. (*with* Loeb, Jean-Jacques) Spherical hypersurfaces and Lattès rational maps. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 655–666. (Dan Coman) **99e:32043** 32H50 (32H35, 58F23)

Bertelson, Mélanie (*with* Bieliavsky, Pierre; Gutt, Simone) Parametrizing equivalence classes of invariant star products. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 339–345. (Summary) **99m:58103** 58F06

Bertero, Mario (*with* Boccacci, Patrizia) ★ Introduction to inverse problems in imaging. (English summary) *Institute of Physics Publishing, Bristol*, 1998. *xii*+351 *pp. ISBN* 0-7503-0439-1; 0-7503-0435-9 (Vladimir A. Sharafutdinov) **99k:78027** 78A45 (35R30, 44A12, 65R30, 68U10, 92C55)

— (*with* Bindi, D.; Boccacci, Patrizia; Cattaneo, M.; Eva, C.; Lanza, V.) A novel blind-deconvolution method with an application to seismology. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 815–833. 86A22 (86A15)

— (*with* Boccacci, Patrizia; Di Benedetto, Fabio; Robberto, M.) Restoration of chopped and nodded images in infrared astronomy. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 345–372. 65D99 (65F99)

Bertet, Karell (*with* Gustedt, Jens; Morvan, Michel) Weak-order extensions of an order. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 65–77, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:06004** 06A07 (05C85)

Berthé, Valérie (*with* Alessandri, Pascal) Three distance theorems and combinatorics on words. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 103–132. (Jeffrey O. Shallit) **99i:11056** 11J71 (11K06, 68R15)

Berthelot, P. *see* **Huyghe, C., 99c:14031**

Berthiau, Gérard (*with* Siarry, Patrick; Durbin, François; Haussy, Jacques) Enhanced simulated annealing for globally minimizing functions of many-continuous variables. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 209–228. 65Y15

Berthiaume, André Quantum computation. (English summary) *Complexity theory retrospective, II*, 23–51, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q05 (81P99)

— (*with* Barenco, Adriano; Deutsch, David; Ekert, Artur; Jozsa, Richard; Macchiavello, Chiara) Stabilization of quantum computations by symmetrization. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1541–1557. (V. Ya. Kreinovich) **99a:68060** 68Q05 (03D10, 03D15, 81P99)

boutet de monvel-Berthier, Anne-Marie *see* **Boutet de Monvel-Berthier, Anne-Marie**

Berthilsson, Rikard A statistical theory of shape. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 677–686, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (Summary) **99m:60020** 60D05 (62H99)

Berthold, D. (*with* Silbermann, Bernd) The fast solution of periodic pseudodifferential equations. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 3–23. (Summary) **99a:47076** 47G30 (45E05, 45L05, 65R20)

— (*with* Silbermann, Bernd) Fast algorithms for the solution of pseudodifferential equations. *Boundary element topics* (*Stuttgart*, 1995), 291–316, *Springer, Berlin*, 1997. (Carsten Carstensen) **99i:65132** 65N38 (45L05, 47G30)

Bertholet, Vincent (*with* Rasson, Jean-Paul; Jacquemin, Didier) A new geometrical hypothesis for clustering and discriminant analysis. (English summary) *Advances in data science and classification* (*Rome*, 1998), 257–264, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Berthoud, P. (*with* Baumberger, T.) Shear stiffness of a solid-solid multicontact interface. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1615–1634. (From the summary) **99e:73002** 73-05 (73T05)

Berti, Enrico Ordre et désordre des Grecs à Galilée et de Galilée aux temps modernes. [Order and disorder from the Greeks to Galileo and from Galileo to modern times] *The emergence of complexity in mathematics, physics, chemistry and biology* (*Vatican City*, 1992), 25–42, *Pontif. Acad. Sci. Scr. Varia*, 89, *Pontif. Acad. Sci., Vatican City*, 1996. (Eberhard Knobloch) **99b:01002** 01A05

Berti, Massimiliano Heteroclinic solutions for perturbed second order systems. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 251–262. (Boris Buffoni) **99d:34080** 34C37 (70H35)

— (*with* Bolle, Philippe) Variational construction of homoclinics and chaos in presence of a saddle-saddle equilibrium. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 2, 331–377 (1999). (Boris Buffoni) **99j:34064** 34C37 (58F13, 58F15)

— (*with* Ambrosetti, Antonio) Homoclinics and complex dynamics in slowly oscillating systems. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 393–403. (Patricio L. Felmer) **99g:34101** 34C37 (58E05, 58F30)

Berti, Patrizia (*with* Rigo, Pietro) Sufficient conditions for the existence of disintegrations. (English summary) *J. Theoret. Probab.* **12** (1999), *no.* 1, 75–86. (Detlef Plachky) **99m:60005** 60A10 (28C05, 62B05)

Bertilsson, Daniel (*with* Blondel, Vincent D.) Transcendence in simultaneous stabilization. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 22 *pp.* (*electronic*). (Summary) **99h:93081** 93D15 (68Q05)

— Coefficient estimates for negative powers of the derivative of univalent functions. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 255–273. (Kent Pearce) **99i:30030** 30C50

Bertin, José (*with* Bennama, H.) Remarques sur les varietés abéliennes avec un automorphisme d'ordre premier. [Remarks on abelian varieties with a first-order automorphism] *Manuscripta Math.* **94** (1997), *no.* 4, 409–425. (H. Lange) **99e:14050** 14K05

— Obstructions locales au relèvement de revêtements galoisiens de courbes lisses. (English and French summaries) [Local obstructions to lifting Galois covers of smooth curves] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 55–58. (Summary) **99h:14032** 14H30

Bertini, Eugenio *see* **Kleiman, Steven L., 99m:14001**

Bertini, Lorenzo (*with* Giacomin, Giambattista) Stochastic Burgers and KPZ equations from particle systems. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 571–607. (Ellen Saada) **99e:60212** 60K35 (60H15, 82C22, 82C24)

— (*with* Cancrini, Nicoletta) The two-dimensional stochastic heat equation: renormalizing a multiplicative noise. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 615–622. (Summary) **99c:82051** 82C31 (60H15)

Bertocchi, Maria (*with* Abaffy, Jozsef; Torriero, Anna) Perturbations of M-matrices via ABS methods and their applications to input-output analysis. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 145–170. (Horst Hollatz) **99d:65087** 65F05 (90A11)

Bertoin, Jean (*with* Shi, Zhan) Hirsch's integral test for the iterated Brownian motion. (English summary) *Séminaire de Probabilités, XXX*, 361–368, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Endre Csáki) **99a:60087** 60J65 (60F15)

— Cauchy's principal value of local times of Lévy processes with no negative jumps via continuous branching processes. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 6, 12 *pp.* (*electronic*). (N. H. Bingham) **99b:60120** 60J30 (60J55)

— Darling-Erdős theorems for normalized sums of i.i.d. variables close to a stable law. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 832–852. (N. H. Bingham) **99k:60191** 60J30 (60F05, 60G10)

— Large-deviations estimates in Burgers turbulence with stable noise initial data. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 655–667. (N. Leonenko) **99h:60047** 60F10 (60H30, 76F99, 76M35)

Bertol, Michael (*with* Ésik, Zoltán) Nonfinite axiomatizability of the equational theory of shuffle. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 505–539. (A. A. Iskander) **99d:68144** 68Q45 (03C05, 08B05)

Bertolazzi, Enrico Discrete conservation and discrete maximum principle for elliptic PDEs. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 685–711. (Stefan A. Funken) **99h:65185** 65N30 (35J45)

— (*with* Trivellato, F.; Firmani, Bruno) Finite volume modelling of free surface draining vortices. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 175–185. (*see* **99k:65002**) 76M25 (76C05, 76D05)

Bertolazzi, Paola (*with* Di Battista, Giuseppe; Mannino, Carlo; Tamassia, Roberto) Optimal upward planarity testing of single-source digraphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 132–169 (*electronic*). (O. D'Antona) **99m:68146** 68R10 (05C10, 68Q20)

Bertoldi, Gaetano (*with* Matone, Marco) Beta function, c-theorem and WDVV equations in 4D $N = 2$ SYM. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 104–106. (Summary) **99c:81228** 81T60 (81T50)

Bertolini, Marina Codimension 2 and 3 pluricanonical embeddings in projective spaces. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 87–97 (1998). (Yoshiaki Fukuma) **99d:14005** 14C20 (14J29)

— (*with* Turrini, Cristina) Surfaces in $\mathbf{P}^4$ with no quadrisecant lines. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 31–36. (Kristian Ranestad) **99f:14042** 14J25

— (*with* Arrondo, Enrique; Turrini, Cristina) Congruences of small degree in $G(1, 4)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3249–3266. (Giorgio Ottaviani) **99k:14081** 14M15 (14M06)

— *see also* **Arrondo, Enrique, 99k:14082**

Bertolini, Massimo Growth of Mordell-Weil groups in anticyclotomic towers. (English summary) *Arithmetic geometry* (*Cortona*, 1994), 23–44, *Sympos. Math., XXXVII, Cambridge Univ. Press, Cambridge*, 1997. (Henri Darmon) **99i:11048** 11G40 (11G05, 11R23)

— (*with* Darmon, Henri) A rigid analytic Gross-Zagier formula and arithmetic applications. With an appendix by Bas Edixhoven. *Ann. of Math.* (2) **146** (1997), *no.* 1, 111–147. (Andrea Mori) **99f:11079** 11G40 (11F67)

— (*with* Darmon, Henri) Heegner points, p-adic L-functions, and the Cerednik-Drinfeld uniformization. *Invent. Math.* **131** (1998), *no.* 3, 453–491. (Bas Edixhoven) **99f:11080** 11G40 (11G05, 14G10, 14G20)

— (*with* Darmon, Henri) Non-triviality of families of Heegner points and ranks of Selmer groups over anticyclotomic towers. *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 15–24. (John W. Jones) **99h:11053** 11G05 (11G40, 11R23)

Bertolini, Matteo (*with* Iengo, Roberto; Scrucca, Claudio A.) Electric and magnetic interaction of dyonic D-branes and odd spin structure. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 193–213. (Summary) **99d:81108** 81T30 (83C57, 83E30)

— (*with* Fré, Pietro; Iengo, Roberto; Scrucca, Claudio A.) Black holes as D3-branes on Calabi-Yau threefolds. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 22–30. (Summary) **99e:83051** 83E30 (81T30, 83C57)

Bertolino, Francesco (*with* Moreno, Elías; Racugno, Walter) An intrinsic limiting procedure for model selection and hypotheses testing. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1451–1460. (Summary) **99i:62054** 62F15

Bertolo, Nativi Viana Pereira Some aspects of generalizations of Cauchy-Riemann equations. (Portuguese. Portuguese summary) *Rev. Mat. Estatist.* **15** (1997), 43–55. 35J45 (31B35, 32A35)

Bertoloni Meli, Domenico Shadows and deception: from Borelli's *Theoricae* to the *Saggi* of the Cimento. *British J. Hist. Sci.* **31** (1998), *no.* 111, *part* 4, 383–402. 01A45

Bertolotti, Fabio P. The influence of rotational and vibrational energy relaxation on boundary-layer stability. (English summary) *J. Fluid Mech.* **372** (1998), 93–118. (From the summary) **99g:76126** 76N20 (76J20)

Bertolotti, R. (*with* Contreras, Gerardo; Núñez, L. A.; Percoco, U.) Algebraic computing and Ricci collineations. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 337–342, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83–04 (83C20)

Bertoluzza, Silvia Interior estimates for the wavelet Galerkin method. (English summary) *Numer. Math.* **78** (1997), *no.* 1, 1–20. (Petr N. Vabishchevich) **99a:65135** 65N15

— Stabilization by multiscale decomposition. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 129–134. (Summary) **99e:65168** 65N55 (65N30)

Bertoni, Alberto (*with* Mauri, Giancarlo; Pighizzini, Giovanni; Sabadini, N.) Algebraic and informational aspects of Zielonka's theorem. (English summary) *Semigroups* (*Luino*, 1992), 17–26, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35, 68Q70)

— (*with* Campadelli, Paola; Posenato, Roberto) An upper bound for the maximum cut mean value. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 78–84, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68185** 68R10 (05C35, 68Q25)

— (*with* Massazza, P.) On the inclusion problem for finitely ambiguous rational trace languages. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 79–98. (Yves Metivier) **99i:68073** 68Q45 (68Q10)

Bertoni, C. (*with* Finelli, Fabio; Venturi, Giovanni) Adiabatic invariants and scalar fields in a de Sitter space-time. (English summary) *Phys. Lett. A* **237** (1998), *no.* 6, 331–336. (Maria E. X. Guimarães) **99b:81163** 81T20 (83C47)

Bertossi, A. (*with* Battiti, Roberto; Rizzi, Romeo) Randomized greedy algorithms for the hypergraph partitioning problem. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 21–35, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68007**) 68M10 (68Q35, 68R10, 90C35)

Bertóti, E. (*with* Szabó, Barna A.) Adaptive selection of polynomial degrees on a finite element mesh. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 561–578. (Summary) **99a:73118** 73V05

Bertotti, Maria Letizia (*with* Bolotin, Sergei V.) Homoclinic solutions of almost periodic Hamiltonian systems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 272–276, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C37 (58F27, 70H05)

— (*with* Montecchiari, Piero) Connecting orbits for some classes of almost periodic Lagrangian systems. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 453–468. (Boris Buffoni) **99b:34081** 34C37 (58F05, 58F15, 70H35)

Bertozzi, Andrea L. (*with* Bernoff, Andrew J.; Witelski, Thomas P.) Axisymmetric surface diffusion: dynamics and stability of self-similar pinchoff. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 725–776. (Summary) **99k:80013** 80A99 (35B32, 35Q35, 73B30, 76E99, 76R50)

— The mathematics of moving contact lines in thin liquid films. *Notices Amer. Math. Soc.* **45** (1998), *no.* 6, 689–697. (R. Finn) **99h:76032** 76D45 (00A71, 76D08)

Bertozzini, Paolo (*with* Conti, Roberto[2]; Longo, Roberto) Covariant sectors with infinite dimension and positivity of the energy. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 471–492. (Stephen J. Summers) **99d:81069** 81T05 (46L60, 81T40)

Bertram, A. *see* **Bertram, Albrecht**

Bertram, Aaron Stable pairs and log flips. *Algebraic geometry—Santa Cruz* 1995, 185–201, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Tomasz Szemberg) **99e:14019** 14E30 (14D20, 14E05)

— (*with* Feinberg, Burt) On stable rank two bundles with canonical determinant and many sections. *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 259–269, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Xiao Jiang Tan) **99i:14012** 14D20 (14H60)

Bertram, Albrecht (*with* Svendsen, B.) On frame-indifference and form-invariance in constitutive theory. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 195–207. (Summary) **99k:73008** 73B05

Bertram, Wolfgang Ramanujan's master theorem and duality of symmetric spaces. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 117–151. (A. Korányi) **99d:22017** 22E30 (43A85)

— Algebraic structures of Makarevič spaces. I. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 3–32. (Antoni Wawrzynczyk) **99c:32047** 32M15 (17C99, 43A85)

Bertram-Kretzberg, Claudia (*with* Lefmann, Hanno; Rödl, Vojtěch; Wysocka, Beata) Proper bounded edge-colorings (extended abstract). (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 121–130, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 05C15

— (*with* Hofmeister, Thomas; Lefmann, Hanno) Sparse 0-1-matrices and forbidden hypergraphs (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 181–187, *ACM, New York*, 1998. (*see* **99d:68011**) 05C65

Bertrand, Christine (*with* Rauzy, Antoine Jean-Pierre) Valeurs propres d'opérateurs différentiels du second ordre sur une variété de Finsler. (English and French summaries) [Eigenvalues of second-order differential operators on a Finsler manifold] *Bull. Sci. Math.* **122** (1998), *no.* 5, 399–408. (Mircea Crasmareanu) **99f:58182** 58G03 (53C60, 58G25)

Bertrand, Daniel Theta functions and transcendence. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 339–350. (Michel Waldschmidt) **99b:11080** 11J91 (11F27)

— Relative splitting of one-motives. *Number theory* (*Tiruchirapalli*, 1996), 3–17, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Enric Nart) **99a:11073** 11G09 (11G35, 14G25)

Bertrand, Jacqueline (*with* Bertrand, Pierre) Symbolic calculus on the time-frequency half-plane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4071–4090. (Jean Ludwig) **99h:43018** 43A80 (94A12)

Bertrand, Pierre Comparaison de l'erreur quadratique moyenne intégrée pour différents estimateurs du coefficient de diffusion d'un processus. (English and French summaries) [Mean integrated square error for different estimators of the diffusion coefficient of a diffusion process] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 399–404. (Martin Jacobsen) **99i:62189** 62M05

— (*with* Bertrand, Jacqueline) Symbolic calculus on the time-frequency half-plane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4071–4090. (Jean Ludwig) **99h:43018** 43A80 (94A12)

— Comparison of multidimensional diffusion processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 201–216. (Catherine Donati-Martin) **99f:60106** 60H10 (60J60)

— (*with* Sonnendrücker, Eric; Roche, Jean R.; Ghizzo, Alain) The semi-Lagrangian method for the numerical resolution of the Vlasov equation. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 201–220. (Summary) **99j:76100** 76M25 (76X05)

Bertrand-Mathis, Anne Sur les mesures simultanément invariantes pour les transformations $x \to \{\lambda x\}$ et $x \to \{\beta x\}$. (English summary) [On simultaneously invariant measures for the transformations $x \to \{\lambda x\}$ and $x \to \{\beta x\}$] *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 71–78. (Pierre Liardet) **99f:28023** 28D05

— Sur les nombres normaux liés à des bases non équivalentes. (English and French summaries) [Normal numbers associated with nonequivalent bases] *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 89–93. (R. C. Baker) **99c:11097** 11K16

Bertschek, Irene (*with* Lechner, Michael) Convenient estimators for the panel probit model. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 329–371. 62P20

Bertsekas, Dimitri P. (*with* Polymenakos, Lazaros C.; Tseng, Paul) ϵ-relaxation and auction methods for separable convex cost network flow problems. (English summary) *Network optimization* (*Gainesville, FL*, 1996), 103–126, *Lecture Notes in Econom. and Math. Systems*, 450, *Springer, Berlin*, 1997. (Summary) **99i:90106** 90C35 (90B10)

— (*with* Polymenakos, Lazaros C.; Tsitsiklis, John N.) Implementation of efficient algorithms for globally optimal trajectories. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 278–283. (Panos M. Pardalos) **99d:49057** 49M25 (90C30)

— A new value iteration method for the average cost dynamic programming problem. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 742–759 (*electronic*). (Min Sun) **99d:90136** 90C40 (49L20, 93E23)

Bertsimas, Dimitris (*with* Teo, Chung-Piaw; Vohra, Rakesh V.) On dependent randomized rounding algorithms. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 330–344, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (From the text) **99b:90097** 90C27 (65G05, 90C35)

— (*with* Mourtzinou, Georgia) Multiclass queueing systems in heavy traffic: an asymptotic approach based on distributional and conservation laws. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 470–487. (Summary) **99e:90039** 90B22 (90B10)

— (*with* Ye, Yinyu) Semidefinite relaxations, multivariate normal distributions, and order statistics. *Handbook of combinatorial optimization, Vol.* 3, 1–19, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90–02, 90C35)

— (*with* Paschalidis, Ioannis Ch.; Tsitsiklis, John N.) On the large deviations behavior of acyclic networks of $G/G/1$ queues. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1027–1069. (Anatolii A. Pukhal'skiĭ) **99j:60139** 60K25 (60F10)

— (*with* Paschalidis, Ioannis Ch.; Tsitsiklis, John N.) Asymptotic buffer overflow probabilities in multiclass multiplexers: an optimal control approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 315–335. (Summary) **99a:93108** 93E20 (90B25)

— (*with* Teo, Chung-Piaw) From valid inequalities to heuristics: a unified view of primal-dual approximation algorithms in covering problems. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 503–514. (András Faragó) **99f:90158** 90C35 (90C27)

— (*with* Luo, Xiaodong) A new algorithm for state-constrained separated continuous linear programs. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 177–210 (*electronic*). (Edward J. Anderson) **99e:90057** 90C08 (49M35, 90C48)

Bérubé, J. (*with* Nair, V. N.) Exploiting the inherent structure in robust parameter design experiments. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 43–66. (Summary) **99a:62102** 62K05 (62N05)

Berveiller, M. (*with* Lemoine, X.; Sabar, H.; Morreale, J.) Plastic inclusion with moving boundary. Application to dislocation cell structures. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 4, 757–789. 73E99 (73S10)

— (*with* Patoor, E.) Micromechanical modelling of the thermomechanical behavior of shape memory alloys. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 17–24, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73S10 (73B30)

Berwick, Robert C. (*with* Niyogi, Partha) A dynamical systems model for language change. (English summary) *Complex Systems* **11** (1997), *no.* 3, 161–204. 68T05 (92J40)

Berz, Martin (*with* Hoffstätter, Georg) Computation and application of Taylor polynomials with interval remainder bounds. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1,

83–97. (Summary) **99c:65024** 65D15 (65G10)
— (*with* Makino, Kyoko) Verified integration of ODEs and flows using differential algebraic methods on high-order Taylor models. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 361–369. (Summary) **99h:65143** 65L99 (34A45, 65G10)
Berzin, Corinne (*with* León, José R.) Weak convergence of the integrated number of level crossings to the local time for Wiener processes. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 757–771. (Endre Csáki) **99e:60181** 60J65 (60F15, 60J55)
— (*with* León, José R.; Ortega, Joaquín) Increments and crossings for the Brownian bridge: weak convergence. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 587–592. (Kun Soo Chang) **99h:60153** 60J65
— (*with* León, José R.; Ortega, Joaquín) Study of the asymptotic behaviour of non-linear functionals for the empirical bridge via strong approximations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 671–676. (Lajos Horváth) **99g:60043** 60F05 (60F17)
— (*with* León, José R.; Ortega, Joaquín) Level crossings and local time for regularized Gaussian processes. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 39–81 (19*N*). (Patrik Albin) **99i:60087** 60G15 (60F17, 60F25, 60J55)
Berzins, M. (*with* Selwood, P. M.; Nash, J. M.; Dew, P. M.) Portable parallel adaptation of unstructured 3D meshes. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 56–67, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55, 65Y05)
— A solution-based triangular and tetrahedral mesh quality indicator. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2051–2060 (*electronic*). (Summary) **99d:65341** 65N50 (65N30)
— (*with* Walkley, M.) A finite element method for the one-dimensional extended Boussinesq equations. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 143–157. (Summary) **99i:86007** 86–08 (86A05)
Bès, Alexis On Pascal triangles modulo a prime power. (English summary) Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 17–35. (Ricardo Bianconi) **99a:11144** 11U05 (03B25, 03F30, 11B65)
— Undecidable extensions of Büchi arithmetic and Cobham-Semënov theorem. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1280–1296. (Véronique Bruyère) **99g:03044** 03D35 (03D05, 03F30, 68Q45)
— (*with* Korec, Ivan) Definability within structures related to Pascal's triangle modulo an integer. (English summary) *Fund. Math.* **156** (1998), *no.* 2, 111–129. (Bai Ying Shen) **99j:03007** 03B25 (03C62, 03D35, 03F30, 11B65, 11U05)
Bes, Daniel R. (*with* Scoccola, Norberto N.) Two-dimensional skyrmions on the sphere. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 12, 9 *pp.* (*electronic*). (Summary) **99h:81134** 81T10 (81V70)
Bès, Juan P. Invariant manifolds of hypercyclic vectors for the real scalar case. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1801–1804. (Warren R. Wogen) **99i:47002** 47A05 (47B99)
Besada Morais, Manuel (*with* Váquez, C.) Weakly smooth preferences on Banach lattices. (English summary) *Econom. Lett.* **59** (1998), *no.* 1, 65–69. (Summary) **99b:90026** 90A10 (46N10, 90A06)
Besag, Julian (*with* Tjelmeland, Håkon) Markov random fields with higher-order interactions. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 415–433. 62M40 (60G60)
Beschler, Edwin F. Pricing of scientific publications: a commercial publisher's point of view. *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1333–1343. 01A80
Besga, Concepción (*with* Luquín Martínez, Francisco) Estimation of norms of multivariate polynomials with integral coefficients. (English summary) *J. Approx. Theory* **96** (1999), *no.* 2, 378–398. (David R. Hill) **99m:41003** 41A05 (26C05)
Besnard, D. (*with* Ducros, F.; Loreaux, Ph.; Mimouni, S.; Vasseur, Alexis) Turbulent mixing modeling and simulation. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 294–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99 (76M25)
Besnard, Philippe (*with* Schaub, Torsten H.) Signed systems for paraconsistent reasoning. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 191–213. (Décio Krause) **99g:03028** 03B53 (03B22, 68T30)
— *see also* **Uncertainty in artificial intelligence, 99a:68017**
Besnier, Bernard Aristote et les mathématiques. [Aristotle and mathematics] *Les philosophes et les mathématiques*, 26–42, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)
Besov, O. V. Embeddings of spaces of differentiable functions of variable smoothness. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 25–58. (N. Ya. Kruglyak) **99g:46038** 46E35
— Interpolation of spaces of differentiable functions on a domain. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 59–82. (N. Ya. Kruglyak) **99g:46039** 46E35 (46M35)
— Interpolation and embeddings of the spaces of generalized functions $B^s_{p,q}$ and $F^s_{p,q}$ on a domain. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 80-102. (Irina U. Asekritova) **99k:46051** 46E35 (46M35)
— (*with* Bakhalov, N. S.; Nikol'skiĭ, S. M.; Potapov, M. K.) Petr Lavrent'evich Ul'yanov (on the occasion of his seventieth birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 211–220; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 645–655. (Editors) **99m:01039** 01A70
Bespalov, A. New fictitious domain approach for numerical solution of the 3D electromagnetic scattering problem using Cartesian meshes. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 81–112, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78001** 78–08 (65N06, 65N55, 78A45)
Bespalov, Yu. N. (*with* Drabant, Bernhard) Bicovariant differential calculi and cross products on braided Hopf algebras. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 79–90, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Stefaan Caenepeel) **99d:16041** 16W30 (16S40, 17B37, 18D10)
— On duality for a braided cross product. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 403–408, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 18D10 (16W30)
— (*with* Drabant, Bernhard) Hopf (bi-)modules and crossed modules in braided monoidal categories. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 105–129. (Bodo Pareigis) **99f:18012** 18D10 (16W30)
Bespamyatnykh, S. N. An efficient algorithm for the three-dimensional diameter problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 137–146, *ACM, New York*, 1998. (*see* **99d:68011**) 68U05
Besse, Christophe Schéma de relaxation pour l'équation de Schrödinger non linéaire et les systèmes de Davey et Stewartson. (English and French summaries) [Relaxation scheme for the nonlinear Schrödinger equation and Davey-Stewartson systems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1427–1432. (Summary) **99h:65154** 65M12
— (*with* Bruneau, Charles-Henri) Numerical study of elliptic-hyperbolic Davey-Stewartson system: dromions simulation and blow-up. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1363–1386. (Summary) **99g:76086** 76M20 (76B15, 76B45)
Bessel, Friedrich Wilhelm *see* **Lavrinovich, K. K., 99d:01032**
Bessenrodt, Christine Algebra and combinatorics. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 64–91, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Alexander Kleshchev) **99f:20018** 20C30 (05E10, 20C15, 20C20)
— (*with* Olsson, J. B.) Branching of modular representations of the alternating groups. (English summary) *J. Algebra* **209** (1998), *no.* 1, 143–174. (Alexander Kleshchev) **99j:20015** 20C20 (05E10, 20C30)
— (*with* Olsson, J. B.) Residue symbols and Jantzen-Seitz partitions. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 201–230. (Dennis A. Eichhorn) **99c:05014** 05A17 (05E10)
Besser, Amnon Elliptic fibrations of $K3$ surfaces and QM Kummer surfaces. *Math. Z.* **228** (1998), *no.* 2, 283–308. (I. Dolgachev) **99f:14047** 14J28 (14J27, 14K22)
Besser, Bruno *see* **Bibliography: Papers of the Mathematics-Natural Science Section, Austrian Academy of Sciences, 99k:00007**
Bessi, Ugo (*with* Semijopuva, Vera) Minimal orbits close to periodic frequencies. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 4, 516–547. (Vittorio Coti Zelati) **99k:58063** 58F05 (34C37, 70H05)
Bessière, Christian (*with* Freuder, Eugene C.; Régin, Jean-Charles) Using constraint metaknowledge to reduce arc consistency computation. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 125–148. (Summary) **99j:68128** 68T20
Bessières, Laurent Un théorème de rigidité différentielle. (French summary) [A differential rigidity theorem] *Comment. Math. Helv.* **73** (1998), *no.* 3, 443–479. (Sérgio J. Mendonça) **99m:53085** 53C23 (53C20, 57R55)
Besson, Gérard (*with* Courtois, G.; Gallot, Sylvestre) A real Schwarz lemma and some applications. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 381–410. (Andrea Sambusetti) **99k:53064** 53C20 (53C23)
— *see also* **Gallot, Sylvestre, 99h:58143**
Besson, Olivier (*with* Azérad, Pascal; Guillén González, Francisco M.) Fluid flow in shallow domains: mathematical analysis and numerical simulation. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 9–16, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 76D05 (76M10)
Besson, V. (*with* Shenton, A. T.) An interactive parameter space method for robust performance in mixed sensitivity problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1272–1276. 93B35 (93B51)
Bessonov, N. M. (*with* Aèro, È. L.; Bulygin, A. N.) Dynamics of a momentum anisotropic fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 778–785; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 769–775. (Summary) **99c:76033** 76D08 (76A99)
Best, André (*with* Walther, Andrea; Griewank, Andreas) Multiple vector-Jacobian products are cheap. (English summary) Iterative methods and preconditioners (Berlin, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 2-3, 367–377. (*see* **99m:65005**) 65H10
Best, Eike (*with* Frączak, Wojciech; Hopkins, Richard P.; Klaudel, Hanna; Pelz, Elisabeth) M-nets: an algebra of high-level Petri nets, with an application to the semantics of concurrent programming languages. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 813–857. (Summary) **99i:68085** 68Q90 (68Q10, 68Q55)
Bestehorn, Michael (*with* Friedrich, Rudolf) Natural patterns in nonequilibrium systems. (English summary) *A perspective look at nonlinear media*, 31–44, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99i:82039** 82C05 (76Exx, 76F99, 92C15)
— (*with* Friedrich, Rudolf) Rotationally invariant order parameter equations for natural patterns in nonequilibrium systems. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 2642–2652. (Summary) **99k:82071** 82C99 (76E30)
Betancor, J. *see* **Betancor Ortiz, Juan D.**
Betancor, Jorge J. (*with* Marrero, Isabel) New spaces of type $\mathscr{H}_\mu$ and the Hankel transformation. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 175–200. (Hans-Jürgen Glaeske) **99e:46054** 46F12 (46F05)
— (*with* Rodríguez-Mesa, Lourdes) On Hankel convolutors on certain Hankel transformable function spaces. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 351–369. (Om P. Singh) **99m:44009** 44A35 (44A15, 46F12)
— (*with* Jerez Diaz, C.) Weighted norm inequalities for the $\mathscr{H}$-transformation. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 647–656. (V. L. Deshpande) **99c:44004** 44A15 (33C80, 44A20)
— (*with* Jerez Diaz, C.) New inversion formulas for the Hankel transformations. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 287–308. (Semen Borisovich Yakubovich) **99i:44004** 44A15 (33C10, 33C15, 44A10)
— (*with* Rodríguez-Mesa, Lourdes) Pointwise convergence for Hankel transforms. (English summary) *Transform methods & special functions, Varna* '96, 41–47, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:44007** 44A15
— (*with* Rodríguez-Mesa, Lourdes) Lipschitz-Hankel spaces, partial Hankel integrals and Bochner-Riesz means. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 2, 115–122. (J. Horváth) **99i:46021** 46E35 (33C10, 44A15, 46F12)
— (*with* Rodríguez-Mesa, Lourdes) On Hankel convolutors on Zemanian spaces. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 135–144. (Summary) **99d:46060** 46F12
— (*with* Rodríguez-Mesa, Lourdes) Lipschitz-Hankel spaces and partial Hankel integrals. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 1–12. (Summary)

99g:44006 44A15 (46F12)
— (*with* Rodríguez-Mesa, Lourdes) On the Besov-Hankel spaces. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 781–788. (J. Horváth) **99i:46020** 46E35 (33C10, 44A15, 46F12)
— (*with* Rodríguez-Mesa, Lourdes) A Paley-Wiener theorem for the Hankel transform of Colombeau type generalized functions. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 11–29. (Todor Dimitrov Todorov) **99m:46102** 46F12 (44A15)
Betancor Ortiz, Juan D. (*with* Winter Althaus, Gabriel; Montero García, Gustavo) A model of the transport and scattering of contaminants in the atmosphere. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 1019–1024, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 86A10
Betelú, S. I. (*with* Diez, Javier Alberto) A two-dimensional similarity solution for capillary driven flows. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 136–140. (Summary) **99j:76036** 76D45
Beth, Thomas (*with* Grassl, Markus; Rötteler, Martin) Computing local invariants of quantum-bit systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1833–1839. (Summary) **99d:81026** 81P99
Bethe, H. A. On the theory of shock waves for an arbitrary equation of state [Rep. No. 545, Serial No. NDRC-B-237, Office Sci. Res. Develop., U. S. Army Ballistic Research Laboratory, Aberdeen Proving Ground, MD, 1942]. (English summary) *Classic papers in shock compression science*, 421–492, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76L05 (35L67, 76Nxx, 80A10)
Bethuel, Fabrice Some recent results for the Ginzburg-Landau equation. *European Congress of Mathematics, Vol. I (Budapest*, 1996), 92–99, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Zhi Ren Jin) **99g:58041** 58E50 (35Q55, 58E20)
— Vortices in Ginzburg-Landau equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 11–19 (*electronic*). (*see* **99e:00025**) 35Q55 (35J65)
— (*with* de Almeida, Luís Manuel Lopes Neves) Topological methods for the Ginzburg-Landau equations. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 1–49. (Song Mu Zheng) **99f:35183** 35Q55 (58E50)
Betinis, E. J. Time dilation derived from the electromagnetic fields of a moving point source. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 1, 81–95. (Summary) **99d:78009** 78A25
Betke, U. (*with* Henk, Martin) Finite packings of spheres. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 197–227. (Robert M. Erdahl) **99e:52023** 52C17
Betounes, David ★ Partial differential equations for computational science. (English summary) With Maple and vector analysis. With 1 CD-ROM (Windows, Macintosh, and UNIX). *Springer-Verlag–TELOS, New York*, 1998. *xx*+517 *pp. ISBN* 0-387-98300-7 (Editors) **99g:35001** 35–01 (65–01)
Betsakos, Dimitrios Polarization, conformal invariants, and Brownian motion. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 59–82. (Zhen-Qing Chen) **99g:31004** 31A15 (30C75, 60J65)
Betsch, P. (*with* Menzel, A.; Stein, Erwin) On the parametrization of finite rotations in computational mechanics. A classification of concepts with application to smooth shells. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 273–305. (Summary) **99a:73090** 73K15 (73V10)
Bett, Christopher (*with* Lemmon, Michael) Safe implementations of supervisory commands. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 271–288. (Summary) **99a:93070** 93C83 (93B51)
Bettaz, M. (*with* Chaoui, A.; Barkaoui, K.) On finding structural deadlocks in ECATNets using a logic of concurrency. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 470–481 (*electronic*). (*see* **99g:68005**) 68Q10 (68Q90)
Böttcher, A. *see* **Böttcher, Albrecht**
Bette, A. (*with* Zakrzewski, Stanisław) Extended phase spaces and twistor theory. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 195–209. (Michael G. Eastwood) **99c:81072** 81R25 (70G35)
Betten, Anton (*with* Kerber, Adalbert; Laue, Reinhard; Wassermann, Alfred) Simple 8-designs with small parameters. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 5–27. (Sheng Jiang) **99g:05019** 05B05
— (*with* Klin, Mikhail; Laue, Reinhard; Wassermann, Alfred) Graphical t-designs via polynomial Kramer-Mesner matrices. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 83–109. (Summary) **99i:05027** 05B05 (20B30)
— (*with* Laue, Reinhard; Wassermann, Alfred) New t-designs and large sets of t-designs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 111–121. (Summary) **99k:05023** 05B05
— (*with* Laue, Reinhard; Wassermann, Alfred) Simple 7-designs with small parameters. (English summary) *J. Combin. Des.* **7** (1999), *no.* 2, 79–94. (T. S. Griggs) **99k:05022** 05B05
— (*with* Betten, Dieter) Linear spaces with at most 12 points. (English summary) *J. Combin. Des.* **7** (1999), *no.* 2, 119–145. (Jim Totten) **99m:05034** 05B25 (51A20)
Betten, Dieter (*with* Im, Jang-Hwan) 4-dimensional projective planes with a 3-dimensional elation group. (English summary) *Note Mat.* **15** (1995), *no.* 1, 65–84 (1997). (Norbert Knarr) **99b:51010** 51H10 (51A35)
— (*with* Betten, Anton) Linear spaces with at most 12 points. (English summary) *J. Combin. Des.* **7** (1999), *no.* 2, 119–145. (Jim Totten) **99m:05034** 05B25 (51A20)
Betten, J. Anwendungen von Tensorfunktionen in der Kontinuumsmechanik anisotroper Materialien. (English and German summaries) [Applications of tensor functions in the continuum mechanics of anisotropic materials] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 507–521. (From the summary) **99f:73018** 73B40 (73B05)
Bettencourt, Luís M. A. (*with* Wetterich, Christof) Time evolution of correlation functions in non-equilibrium field theories. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 140–150. (Summary) **99d:81168** 81T99
— (*with* Antunes, Nuno D.) The length distribution of vortex strings in U(1) equilibrium scalar field theory. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 15, 3083–3086. (Summary) **99e:81135** 81T10
Bettess, Jacqueline A. (*with* Bettess, Peter) A new mapped infinite wave element for general wave diffraction problems and its validation on the ellipse diffraction problem. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 17–48. (Summary) **99h:76072** 76M25 (65M70, 76B15, 76Q05)
Bettess, Peter (*with* Bettess, Jacqueline A.) A new mapped infinite wave element for general wave diffraction problems and its validation on the ellipse diffraction problem. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 17–48. (Summary) **99h:76072** 76M25 (65M70, 76B15, 76Q05)
Bettini, Claudio (*with* Wang, X. Sean; Jajodia, Sushil) A general framework for time granularity and its application to temporal reasoning. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 29–58. (Summary) **99b:68171** 68T27 (03B70)
Betts, C. Additive and subtractive irreducible monic decompositions in $\mathbf{Z}[x]$. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 86–90. (Maurice Mignotte) **99f:11133** 11P32 (11C08)
Betts, John T. (*with* Huffman, William P.) Mesh refinement in direct transcription methods for optimal control. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 1, 1–21. (Summary) **99a:49038** 49M25
Bettzüge, Marc Oliver An extension of a theorem by Mitjushin and Polterovich to incomplete markets. (English summary) *J. Math. Econom.* **30** (1998), *no.* 3, 285–300. (Summary) **99g:90038** 90A60 (90A09)
Betz, David (*with* Mezić, Igor; Wiggins, Stephen) Residence-time distributions for chaotic flows in pipes. (English summary) *Chaos* **9** (1999), *no.* 1, 173–182. (Summary) **99m:76068** 76F20 (58F13, 58F40)
Beukers, Frits The Diophantine equation $Ax^p + By^q = Cz^r$. *Duke Math. J.* **91** (1998), *no.* 1, 61–88. (Andrew Granville) **99f:11039** 11D41 (20H10)
— (*with* Cushman, Richard) Zeeman's monotonicity conjecture. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 191–200. (Jair Koiller) **99c:58054** 58F05 (28D10, 34C35)
— (*with* Sanders, Jan A.; Wang, Jing Ping) One symmetry does not imply integrability. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 251–260. (Naruyoshi Asano) **99i:35005** 35A30 (11Z05, 35Q58, 58G35)
Beutelspacher, Albrecht ★ "Das ist o. B. d. A. trivial!". (German. German summary) ["WLOG this is trivial!"] Eine Gebrauchsanleitung zur Formulierung mathematischer Gedanken mit vielen praktischen Tips für Studierende der Mathematik und Informatik. [A guide for formulating mathematical ideas, with many practical hints for students of mathematics and computer science] Fourth edition. *Friedr. Vieweg & Sohn, Braunschweig*, 1997. *iv*+96 *pp. ISBN* 3-528-36442-4 (Editors) **99f:00006** 00A35 (00A20)
— (*with* Schwenk, Jörg) Was ist ein Beweis? Eine Einführung in die Theorie der interaktiven Beweissysteme. [What is a proof? An introduction to the theory of interactive proof systems] *Überblicke Mathematik* 1996/97, 18–32, *Überbl. Math., Vieweg, Braunschweig*, 1997. (Gerhard Lischke) **99m:68065** 68Q15 (03D15)
— (*with* Rosenbaum, Ute) ★ Projective geometry: from foundations to applications. (English summary) *Cambridge University Press, Cambridge*, 1998. *x*+258 *pp. ISBN* 0-521-48277-1; 0-521-48364-6 (Giorgio Faina) **99f:51001** 51–01 (94A60, 94B05)
— What is a spread? Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 23–25. (*see* **99c:00012**) 51E23 (51E15)
— *see also* **Surveys on mathematics, 99a:00018**; **Finite geometry and combinatorics, 99a:51001** *and* **Surveys of mathematics, 99d:00011**
Beutler, R. (*with* Konopelchenko, B. G.) Surfaces of revolution via the Schrödinger equation: construction, integrable dynamics and visualization. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 1, 13–43. (Bert Jüttler) **99k:53002** 53A05 (35J10)
Beveridge, Andrew (*with* Lovász, László) Random walks and the regeneration time. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 57–62. (David J. Aldous) **99g:60119** 60J15 (05C99)
Bevilacqua, R. (*with* Di Fiore, Carmine; Zellini, Paolo) *h*-space structure in matrix displacement formulas. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 11–35 (1998). (Israel Koltracht) **99g:15026** 15A57 (47B35, 68Q25)
Bevis, Jean (*with* Grady, Michael) Toroidal maps of modular quotient groups. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 25–38. (Marston Conder) **99f:20053** 20F05 (05C25, 57M50)
Bewley, Thomas R. (*with* Temam, Roger; Moin, Parviz) Control of turbulent flows. *Systems modelling and optimization (Detroit, MI*, 1997), 3–11, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C20 (76F99, 76M99, 93–02)
— Linear control and estimation of nonlinear chaotic convection: harnessing the butterfly effect. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1169–1186. (Summary) **99m:93041** 93B52 (58F40, 76E15, 76F20, 93B35)
Bey, Jürgen ★ Finite-Volumen- und Mehrgitter-Verfahren für elliptische Randwertprobleme. (German. German summary) [Finite-volume and multi-grid methods for elliptic boundary value problems] Advances in Numerical Mathematics. *B. G. Teubner, Stuttgart*, 1998. 356 *pp. ISBN* 3-519-02741-0 (G. W. Hedstrom) **99i:65115** 65Nxx
Beyer, Dirk M. (*with* Sethi, Suresh P.; Taksar, Michael I.) Inventory models with Markovian demands and cost functions of polynomial growth. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 281–323. (P. R. Parthasarathy) **99d:90041** 90B05 (90C40)
Beyer, Klaus (*with* Günther, Matthias) On the Cauchy problem for a capillary drop. I. Irrotational motion. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1149–1183. (Renuka Ravindran) **99i:35180** 35R35 (35Q35, 76D45)
Beyer, Peter Zur Serre-Dualität für kohärente Garben auf rigid-analytischen Räumen. [On Serre duality for coherent sheaves on rigid-analytic spaces] *Schriftenreihe des Mathematischen Instituts der Universität Münster*. 3. *Serie, Heft* 20, iv+64 *pp., Schriftenreihe Math. Inst. Univ. Münster* 3. *Ser.*, 20, *Univ. Münster, Münster*, 1997. (Reinhold Hübl) **99d:32009** 32C37 (14F10, 32P05)
— On Serre-duality for coherent sheaves on rigid-analytic spaces. *Manuscripta Math.* **93** (1997), *no.* 2, 219–245. (Adolfo Quirós) **99b:32009** 32C37 (14G20, 32P05)
Beyer, W. A. (*with* Louck, James D.) Quadratic map iterates and Galois groups. *Iteration theory (ECIT'94) (Opava)*, 247–249, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F03 (12F10)

Beylkin, Gregory (*with* Averbuch, Amir; Coifman, Ronald R.; Israeli, Moshe) Multiscale inversion of elliptic operators. (English summary) *Signal and image representation in combined spaces*, 341–359, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99a:65162** 65N35
— (*with* Coult, Nicholas) A multiresolution strategy for reduction of elliptic PDEs and eigenvalue problems. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 129–155. (V. L. Makarov) **99d:65306** 65N25
— (*with* Gines, D.; Dunn, John) *LU* factorization of non-standard forms and direct multiresolution solvers. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 156–201. (Heike Faßbender) **99c:65087** 65F50 (65N22)
— (*with* Brewster, M. E.; Gilbert, Anna Catherine) A multiresolution method for numerical reduction and homogenization of nonlinear ODEs. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 450–486. (Iulian Coroian) **99i:65080** 65L99 (34A45)
— On multiresolution methods in numerical analysis. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 481–490 (*electronic*). (Mark Ainsworth) **99j:65225** 65N55 (65F99, 76M25)
— (*with* Keiser, James M.; Vozovoi, Lev) A new class of time discretization schemes for the solution of nonlinear PDEs. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 362–387. (Mu Sheng Wei) **99k:65079** 65M12
— (*with* Coult, Nicholas; Mohlenkamp, Martin J.) Fast spectral projection algorithms for density-matrix computations. (English summary) *J. Comput. Phys.* **152** (1999), *no.* 1, 32–54. 81–08 (81V55)
Beylot, André-Luc (*with* Moulki, M.; Truffet, L.; Becker, Monique) An aggregation technique to evaluate the performance of a two-stage buffered ATM switch. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 373–392. (*see* **99a:90010**) 90B12 (90B22, 94A05)
— (*with* Kaddeche, Hichem; Becker, Monique) Approche analytique pour l'étude des performances de serveurs multimédias multidisques. (English and French summaries) [Analytic approach for studying the performance of multidisk servers] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 227–251. (*see* **99e:90004**) 90B25 (90B22)
Beyn, Wolf-Jürgen (*with* Kleinkauf, J.-M.) The numerical computation of homoclinic orbits for maps. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1207–1236. (Summary) **99d:58118** 58F13 (65L12, 65Q05)
— (*with* Alscher, Christian) Simulating the motion of the leech: a biomechanical application of DAEs. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 1–12. (Summary) **99j:73088** 73P20 (34A09, 73F15, 73V20, 92C10)
— (*with* Kleß, Winfried) Numerical Taylor expansions of invariant manifolds in large dynamical systems. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 1–38. (Timothy Sauer) **99e:34054** 34C30 (34C05, 58F10, 65H17)
Beynon, M. J. (*with* Benammar, M.; Bennewitz, C. W.; Brown, B. Malcolm; Dias, N. G. J.; Evans, William Desmond; Everitt, W. N.; Kirby, V. G.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)
Bezák, Viktor Theory of randomly inhomogeneous waveguides with slight material dispersion. I. Single-mode waveguides. (English summary) *Waves Random Media* **8** (1998), *no.* 3, 351–367. (Summary) **99e:78033** 78A50 (78A60)
— Theory of randomly inhomogeneous waveguides with slight material dispersion. II. Parabolic graded-index fibres. (English summary) *Waves Random Media* **8** (1998), *no.* 3, 369–384. (Summary) **99e:78034** 78A50 (78A60)
Bezanilla López, Arnoldo (*with* García Juárez, Pedro) Stability of the iterative process $x_{n+1} = Tx_n$ for Kannan maps in metric spaces. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 5 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (K. D. Magill, Jr.) **99k:54035** 54H25
Bezdek, András (*with* Kuperberg, Włodzimierz) Circle covering with a margin. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 3–16. (Summary) **99a:52026** 52C15
— (*with* Bezdek, Károly; Connelly, Robert) Finite and uniform stability of sphere packings. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 111–130. (S. Stein) **99c:52027** 52C17 (52C25)
Bezdek, James C. (*with* Runkler, Thomas A.) Function approximation with polynomial membership functions and alternating cluster estimation. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 207–218. (*see* **99k:93004**) 65D15 (41A10)
Bezdek, Károly Light-sources that illuminate the boundary points all but the vertices of a convex polyhedron. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 17–21. (Summary) **99f:52012** 52B11 (52B30)
— (*with* Connelly, Robert) The minimum mean width translation cover for sets of diameter one. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 473–479. (Summary) **99i:52021** 52C17
— (*with* Bezdek, András; Connelly, Robert) Finite and uniform stability of sphere packings. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 111–130. (S. Stein) **99c:52027** 52C17 (52C25)
Bezem, Marc (*with* Klop, Jan Willem; van Oostrom, Vincent) Diagram techniques for confluence. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 172–204. (Klaus Madlener) **99e:68080** 68Q42 (03F50)
— (*with* Berardi, Stefano; Coquand, Thierry) On the computational content of the axiom of choice. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 600–622. (Stewart Shapiro) **99f:03081** 03F55 (03B15, 03E25)
Bezerra, Lício H. (*with* Bazán, Fermin S. V.) Eigenvalue locations of generalized companion predictor matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 886–897 (*electronic*). (Ilse C. F. Ipsen) **99e:15007** 15A18 (12D10, 65F15)
Bezerra, Valdir B. Global effects due to a chiral cone. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2553–2564. (Klaus Kirsten) **99a:81115** 81T20 (83C47)
— (*with* Bezerra de Mello, E. R.; Grats, Yu. V.) Self-forces in the spacetime of multiple cosmic strings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1915–1925. (Summary) **99c:83102** 83F05
— (*with* Mostepanenko, V. M.; Romero, Carlos Augusto) Hamiltonian diagonalization for a nonconformal scalar field in an isotropic gravitational background. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 249–259. (Summary) **99c:83036** 83C47 (81T20)
— (*with* de Siqueira, A. C. V. V.; Bezerra de Mello, E. R.) Bosonic and fermionic partition functions on S^3. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 899–909. (Summary) **99c:81145** 81T16 (81T20)
— (*with* Bezerra de Mello, E. R.; Grats, Yu. V.) Self-action on a current with internal structure in cosmic string space-times. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1427–1434. (Summary) **99c:83008** 83C15 (83F05)
Bezerra de Mello, E. R. (*with* Bezerra, Valdir B.; Grats, Yu. V.) Self-forces in the spacetime of multiple cosmic strings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1915–1925. (Summary) **99c:83102** 83F05
— (*with* Barbosa, A. S.; de Siqueira, A. C. V. V.) The classical and quantum analysis of the relativistic motion of a massive bosonic particle on a conical spacetime. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2773–2782. (Summary) **99h:83006** 83C10 (83C47)
— (*with* de Siqueira, A. C. V. V.; Bezerra, Valdir B.) Bosonic and fermionic partition functions on S^3. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 899–909. (Summary) **99c:81145** 81T16 (81T20)
— (*with* Bezerra, Valdir B.; Grats, Yu. V.) Self-action on a current with internal structure in cosmic string space-times. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1427–1434. (Summary) **99c:83008** 83C15 (83F05)
Bezhaeva, Z. I. (*with* Oseledets, V. I.) On a stochastic dynamical system. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 803–809; *translation in Math. Notes* **61** (1997), *no.* 5-6, 675–680. (N. N. Ganikhodzhaev) **99h:28030** 28D05
Bezhanishvili, Guram Modal intuitionistic logics and predicate superintuitionistic logics: correspondence theory. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 1–6. (*see* **99a:03003**) 03B45 (03B55)
— (*with* Zakhar'yashchev, M. V.) Logics over MIPC. Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 86–95. (*see* **99d:03003**) 03B45
Bezhuashvili, B. T. (*with* Morozov, Vladimir Viktorovich; Belyankin, G. A.) A game-theoretic approach to a pattern recognition problem. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 179–191, 225. (Summary) **99m:90187** 90D80
Béziau, Jean-Yves ★ Recherches sur la logique universelle. (French. French summary) [Research on universal logic] Excessivité, négation, séquents. [Excessivity, negation, sequents] Dissertation, Univérsité Denis Diderot (Paris 7), Paris, 1995. *Université Paris 7—Denis Diderot, U.F.R de Mathématiques, Paris*, 1995. 179 *pp.* (Summary) **99f:03008** 03B22 (03B53, 03F05)
— (*with* da Costa, Newton C. A.; Bueno, Otávio) Paraconsistent logic in a historical perspective. *Logique et Anal.* (*N.S.*) **38** (1995), *no.* 150-152, 111–125. (Henri Volken) **99f:03025** 03B53 (01A60, 03–03)
— (*with* da Costa, Newton C. A.) Théories paraconsistantes des ensembles. (English summary) [Paraconsistent set theories] Contemporary Brazilian research in logic. Part I. *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 153-154, 51–67. (Marcel Guillaume) **99i:03027** 03B53 (03A05, 03E70)
— (*with* Krause, Décio; Bueno, Otávio) Structure in science. (Portuguese. English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 91–111 (1998). (Summary) **99g:00026** 00A35 (00A30)
— Logic may be simple. Logic, congruence and algebra. (English summary) *Logic Log. Philos. No.* 5 (1997), 129–147. (Summary) **99e:03003** 03A05 (03B22, 03B53)
— *see also* **Contemporary Brazilian research in logic**, **99g:03003**
Bezirgenyan, G. S. (*with* Bagdoev, A. G.) Solution of the diffraction problem near the tangency of diffraction and incident gravitational waves in the linear formulation. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **47** (1994), *no.* 3-4, 37–53. 76B15
Bézivin, Jean-Paul Sur les suites presque-périodiques. (English summary) [On almost periodic sequences] *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 447–454. (Wolfgang Schwarz) **99d:11091** 11K70 (11B37)
— (*with* Barsky, Daniel; Schinzel, Andrzej) Une caractérisation arithmétique de suites récurrentes linéaires. (French summary) [An arithmetical characterization of linear recurrence sequences] Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 73–84. (A. J. van der Poorten) **99j:11011** 11B37 (11R99)
— Sur les propriétés arithmétiques d'une fonction entière. (English summary) [The arithmetical properties of an entire function] *Math. Nachr.* **190** (1998), 31–42. (François Gramain) **99f:11087** 11J72 (11J91)
Beznea, Lucian (*with* Stoica, Lucretiu) From diffusions to processes with jumps. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 53–74, *TEV, Vilnius*, 1994. (Summary) **99f:60136** 60J35 (60J60, 60J75)
— (*with* Boboc, Nicu) Balayages on excessive measures, their representation and the quasi-Lindelöf property. (English summary) *Potential Anal.* **7** (1997), *no.* 4, 805–825. (Klaus Janssen) **99b:31010** 31D05 (60J40, 60J45)
— (*with* Boboc, Nicu) Noyaux fortement surmédians et mesures de Revuz. (English and French summaries) [Strongly supermedian kernels and Revuz measures] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 139–142. (Summary) **99g:31011** 31C25 (60J45)
Bezrukov, Sergei (*with* Chavez, J. D.; Harper, L. H.; Röttger, Markus; Schroeder, Ulf-Peter) Embedding of hypercubes into grids. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 693–701, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68M10)
— (*with* Monien, Burkhard; Unger, Walter; Wechsung, Gerd) Embedding ladders and caterpillars into the hypercube. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 21–29. (Summary) **99c:68188** 68R10 (05C10, 68M10)

— (*with* Schroeder, Ulf-Peter) The cyclic wirelength of trees. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 275–277. (Summary) **99e:05038** 05C10 (68R10)

Bezulik, A. V. An extremal formula for the estimation of an integral. (Ukrainian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 153–162, "*Vishcha Shkola*", *Kiev*, 1993. (Kirill A. Kopotun) **99f:26026** 26D15

Bezzateev, Sergei V. (*with* Shekhunova, N. A.) A subclass of binary Goppa codes with improved estimation of the code dimension. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 23–38. (Summary) **99h:94065** 94B27

Bhaduri, R. K. (*with* Whelan, Niall D.; Brack, M.; Miller, H. G.; Murthy, M. V. N.) Weyl series and the trace formula: a prescription for adding them. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, *R911–R914*. (Summary) **99k:81063** 81Q20

Bhadury, Joyendu (*with* Eiselt, H. A.) Reachability of locational equilibria. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 2, 101–107. (Horst W. Hamacher) **99f:90212** 90D43 (90B80)

— (*with* Griffin, Paul M.; Griffin, Susan O.; Narasimhan, Lakshmi S.) Finding the majority-rule equilibrium under lexicographic comparison of candidates. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 489–508. (Summary) **99k:90052** 90A28

Bhagavan, B. K. (*with* Sundar, Subbiah; Sastri, K. S.) Comparison of Lanczos and CGS solvers for solving numerical heat transfer problems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 8, 107–117. 65M06 (65F30)

Bhagavan, V. Srinivasa (*with* Khanna, I. K.) Generating functions of Gegenbauer polynomials $C_n^r(x)$ from a viewpoint of Lie algebra. (English summary) *Proc. Math. Soc.* **12** (1996), 93–98 (1997). (Summary) **99g:33025** 33C45 (17B10)

Bhagwandas (*with* Kherwa, G. Ram; Prasad, Jagdish) Balanced ternary designs from any (v, b, r, k) design. (English summary) *Ars Combin.* **51** (1999), 205–210. 05B05

Bhajekar, S. (*with* Hammad, A.; Jonckheere, Edmond A.; Cheng, Chih-Yung; Chien, C.-C.) Stabilization of chaotic dynamics: a modern control approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 663–677. 93D15 (58F10)

Bhakat, Sandeep Kumar On fuzzy commutativity. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 915–921. 20N25

— $(\in \vee q)$-level subset. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 529–533. 20N25 (16Y99)

Bhaker, U. S. (*with* Hooda, D. S.) On a generalized useful mean codeword length for the best 1:1 code. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 25–33. (Summary) **99j:94017** 94A15 (94A24)

Bhakta, Paresh Chandra (*with* Mukherjee, Debasis; Roy, Amiya Bhusan) Uniform persistence in Kolmogorov models with convex growth functions. *Nonlinear Anal.* **34** (1998), *no.* 3, 427–432. (From the introduction) **99j:92009** 92D15 (34C99, 34D20)

Bhalekar, Anil A. (*with* García-Colín, Leopoldo S.) Recent trends in irreversible thermodynamics. (English summary) *Proc. Pakistan Acad. Sci.* **34** (1997), *no.* 1, 35–58. 80A10

Bhandari, Anjana (*with* Kumbhat, R. K.) Some special functions of matrix arguments. (English summary) *Ganita Sandesh* **11** (1997), *no.* 1, 15–20. (Summary) **99h:33023** 33C20

Bhandari, M. C. (*with* Chanduka, K. K. P.; Lal, A. K.) On lower bounds for covering codes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 237–243. (Summary) **99i:94074** 94B65

Bhandari, S. K. (*with* Ray Chaudhuri, Atasi; Basu, Arup; Chaudhuri, B. B.) Consistent set estimation in k-dimensions: an efficient approach. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 667–676, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62G05

Bhanja, J. (*with* Ghosh, Jayanta K.) Corrigendum: "Efficient estimation with many nuisance parameters. I" [Sankhyā Ser. A **54** (1992), no. 1, 1–39; MR 94i:62050]. *Sankhyā Ser. A* **58** (1996), *no.* 2, 344. 62G05 (62G20)

Bhanot, Vanita (*with* Naka, Ken-ichi) White-noise analysis in retinal physiology. *Advanced mathematical approach to biology*, 109–267, *World.Sci. Publishing, River Edge, NJ*, 1997. (*see* **99c:92005**) 92C30 (92J30)

Bharambe, M. T. (*with* Kasturiwale, N. N.) Some practical experience with Karmarkar's algorithm. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 71–78. 90C05

— Simultaneous exchange of two basic variables in simplex method. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 31–35. 90C05

Bharath, A. A. (*with* Li, G.) Numeric study of limited diffraction, bandlimited, acoustic waves: a novel solution family of the homogeneous scalar wave equation. (English summary) *Wave Motion* **28** (1998), *no.* 3, 203–213. (Summary) **99e:76107** 76Q05 (76M25)

Bharath, B. (*with* Borkar, Vivek S.) Robust parameter optimization of hidden Markov models. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 2, 119–130. (W. K. Klein Haneveld) **99j:90051** 90C15 (90C40)

Bhardwaj, Dheeraj A computational method for solving coupled Burgers' equation. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 285–292. (Summary) **99h:65177** 65M99 (35A35, 35Q53)

— (*with* Shankar, Rama) On similarity solution for reactive shock in magnetogasdynamics. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 195–210. (Summary) **99j:76144** 76W05 (76L05, 76M25, 76N15, 80A32)

Bhargava, R. R. (*with* Kumar, Rajesh[2]) Two equal symmetric circular arc cracks in an elastic medium—the Dugdale approach. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 359–368. 73M25 (73E99)

Bhargava, Srinivasamurthy On a cubic modular identity. (English summary) *Math. Student* **66** (1997), *no.* 1-4, 211–216. (David M. Bressoud) **99d:11015** 11B65 (11F11)

— A theta-function formula. (English summary) *Math. Student* **66** (1997), *no.* 1-4, 225–231. (Michael C. Berg) **99d:11041** 11F27

— (*with* Adiga, Chandrashekar; Somashekara, D. D.) Ramanujan's ${}_1\psi_1$ summation and an interesting generalization of an identity of Jacobi. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 39–42. (Summary) **99j:33008** 33C15

Bhargava, Vijay K. (*with* Gulliver, T. Aaron) Projective spaces and quasi-cyclic codes. (English summary) *Ars Combin.* **48** (1998), 147–160. (Summary) **99c:94054** 94B15

Bhaskar, V. Noisy communication and the evolution of cooperation. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 110–131. (Ross Cressman) **99m:90169** 90D12 (90D40)

Bhaskara, H. K. (*with* Lacomba, Ernesto A.; Rama, K. K.; Tulczyjew, Włodzimierz Marek) Generating functions, Morse families and characteristics of resistive nonlinear branch networks. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 213–223. (Summary) **99c:94066** 94C05 (58F05, 58F40)

Bhāskara I *see* **Mukhopadhyay, A., 99i:01012**

Bhāskara II *see* **Madhukar Mallayya, V., 99e:01008**

Bhaskaramurthi, T. L. (*with* Rao, Geetha S.) Chebyshev centers proximinality and farthest points in strong normed almost linear spaces. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 99–111. (Ioan Şerb) **99c:41070** 41A65 (46A16)

Bhaskaran, R. On the versatility of Ramanujan's ideas. *Ramanujan Visiting Lectures*, 118–129, *Tech. Rep.*, 4, *Madurai Kamaraj Univ., Madurai*, 199?. (*see* **99g:11001**) 11M45 (11Y60)

Bhaskara Rao, K. P. S. (*with* Shortt, Rae Michael) Weak cardinal algebras. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 156–162, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (T. Thrivikraman) **99a:06021** 06F05 (28A99)

— (*with* Göbel, Rüdiger; Shortt, Rae Michael) Extensions of group-valued set functions. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 35–44. (Przemo Kranz) **99c:28032** 28B10 (20K30)

— (*with* D'Aniello, E.; Hirshberg, A.; Shortt, Rae Michael) Bounded common extensions of vector measures. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 766–774. (L. Ya. Savel'ev) **99e:28018** 28B05

— (*with* Shortt, Rae Michael) Borel spaces. II. *Dissertationes Math.* (*Rozprawy Mat.*) **372** (1998), 48 *pp.* (Jakub Jasiński) **99d:28004** 28A05 (03E15, 04A15)

— (*with* D'Aniello, E.; Shortt, Rae Michael) A Stone space approach to the existence of bounded common extensions. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 442–454. (Z. Lipecki) **99h:28002** 28A10

Bhat, Aijaz Ahmad (*with* Dewan, K. K.) On the maximum modulus of polynomials not vanishing inside the unit circle. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 2-3, 129–140. (N. K. Govil) **99m:30007** 30C10 (30A10, 30E10)

— (*with* Dewan, K. K.; Pukhta, Mohammad Sayeed) Inequalities concerning the L^p-norm of a polynomial. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 14–21. (Wiesław Pleśniak) **99e:41010** 41A17

Bhat, B. V. Rajarama A generalized intertwining lifting theorem. (English summary) *Operator algebras and their applications, II* (*Waterloo, ON*, 1994/1995), 1–10, *Fields Inst. Commun.*, 20, *Amer. Math. Soc., Providence, RI*, 1998. (Christian Le Merdy) **99j:47010** 47A20 (46L99, 47D25)

Bhat, Mahadev G. (*with* Alexander, Robert R.; English, Burton C.) Toward controlling nonpoint source pollution of groundwater: a hierarchical policy formulation game. (English summary) *Natur. Resource Modeling* **11** (1998), *no.* 4, 379–403. 90D40

Bhat, P. B. (*with* Lim, Y. W.; Prasanna Kumar, V. K.) Efficient algorithms for block-cyclic redistribution of arrays. (English summary) *Algorithmica* **24** (1999), *no.* 3-4, 298–330. 68Q22

Bhat, Pradeep (*with* Sampathkumar, E.; Pushpa Latha, L.; Venkatachalam, C. V.) Generalized complements of a graph. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 625–639. (A. Vijayakumar) **99f:05097** 05C75

Bhat, Sanjay P. (*with* Bernstein, Dennis S.) Continuous finite-time stabilization of the translational and rotational double integrators. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 678–682. (Summary) **99a:93084** 93D15 (93C15)

Bhat, Sharada V. (*with* Shetty, I. D.; Govindarajulu, Z.) A class of distribution-free tests for testing homogeneity against ordered location alternatives. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 747–760. (Summary) **99c:62145** 62G20

Bhati, S. S. (*with* Joshi, Sunil) Kepteyn [Kapteyn] series for generalized Lauricella's triple hypergeometric functions. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 29–32. 33C70

Bhatia, Davinder (*with* Mehra, Aparna) Fractional programming involving set-valued functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 525–539. (Summary) **99b:90133** 90C32

— (*with* Garg, Pankaj Kumar) A note on vector valued Lagrangian and multiobjective fractional programming duality via Dini derivatives. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 2-3, 125–133. (Summary) **99i:90083** 90C29 (90C32)

— (*with* Budhraja, R. K.; Kumar, Narender) Duality for nonsmooth multiobjective fractional programs under generalized (F, ρ)-convexity. (English summary) *Opsearch* **35** (1998), *no.* 2, 115–126. 90C29 (49N15)

— (*with* Mehra, Aparna) A note on generalized Q-connected functions. (English summary) *Opsearch* **35** (1998), *no.* 3, 226–237. 90C29 (90C48)

— (*with* Garg, Pankaj Kumar) Duality for nonsmooth nonlinear fractional multiobjective programs via (F, ρ)-convexity. (English summary) *Optimization* **43** (1998), *no.* 2, 185–197. 90C29 (49N15)

— (*with* Garg, Pankaj Kumar) (V, ρ) invexity and non-smooth multiobjective programming. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 4, 399–414. (Andrew C. Eberhard) **99j:90070** 90C29 (49J52)

— (*with* Kaul, R. N.; Gupta, Pankaj) Tolerance approach to sensitivity analysis in quadratic programming problems. (English summary) *Opsearch* **36** (1999), *no.* 1, 1–9. 90C20 (90C31)

Bhatia, Rajendra ★ Fourier series. (English summary) Texts and Readings in Mathematics. *Hindustan Book Agency, New Delhi*, 1993. *vi*+106 *pp. ISBN* 81-85931-01-1 (From the preface) **99f:42001** 42–01

— (*with* Elsner, Ludwig; Krause, Gerd M.) Spectral variation bounds for diagonalisable matrices. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 102–107. (J. M. Day) **99c:15028** 15A42

— (*with* Kittaneh, Fuad; Li, Ren-Cang) Some inequalities for commutators and an application to spectral variation. II. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 207–219. (Fumio Hiai) **99f:47014** 47A30 (15A42, 15A60, 47B47, 65F99)

— (*with* Kittaneh, Fuad; Li, Ren-Cang) Eigenvalues of symmetrizable matrices. (English summary) *BIT* **38** (1998), *no.* 1, 1–11. (J. Segethová) **99d:65115** 65F15 (15A18)

— (*with* Singh, Dinesh[1]; Sinha, Kalyan B.) Differentiation of operator functions and perturbation bounds. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 603–611. (V. D. Koshmanenko) **99c:47017** 47A60 (47A55)

— (*with* Rajan, C. S.; Ramadas, T. R.; Shah, Nimish A.) The work of the Fields medalists: 1998. (English summary) *Current Sci.* **75** (1998), *no.* 12, 1290–1295. 01A70

— (*with* Šemrl, Peter) Orthogonality of matrices and some distance problems. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 77–85. (Fuad Kittaneh) **99k:15042** 15A60 (47A30, 47B47)

— *see also* **Special Issue: Celebrating the 60th birthday of Ludwig Elsner**

Bhatia, Randeep (*with* Bar-Noy, Amotz; Naor, Joseph; Schieber, Baruch) Minimizing service and operation costs of periodic scheduling (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 11–20, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35 (68M20)

— (*with* Guha, Sudipto; Khuller, Samir; Sussmann, Yoram J.) Facility location with dynamic distance functions. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 199–217. (Horst W. Hamacher) **99k:90094** 90B80 (90C27)

Bhatnagar, Gaurav (*with* Milne, Stephen C.) Generalized bibasic hypergeometric series and their U(*n*) extensions. (English summary) *Adv. Math.* **131** (1997), *no.* 1, 188–252. (Axel Riese) **99b:33038** 33D45

— A multivariable view of one-variable *q*-series. *Special functions and differential equations* (*Madras*, 1997), 60–72, *Allied Publ., New Delhi*, 1998. (From the text) **99i:33020** 33D15 (33D70)

Bhatnagar, K. B. (*with* Hallan, P. P.) Existence and stability of $L_{4,5}$ in the relativistic restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 271–281. (Summary) **99e:70029** 70F07 (70H40)

— (*with* Khanna, Mona) Existence and stability of libration points in the restricted three body problem when the smaller primary is a triaxial rigid body. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1011–1023. (Sergei G. Zhuravlev) **99j:70013** 70F07 (70F15, 70K20)

Bhatnagar, Shalabh (*with* Borkar, Vivek S.) A two timescale stochastic approximation scheme for simulation-based parametric optimization. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 519–531. (George Yin) **99f:93144** 93E23 (62L20)

Bhatt, B. S. (*with* Khan, Q. J. A.; Jaju, R. P.) Switching model with two habitats and a predator involving group defence. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 212–229. (Summary) **99d:92046** 92D40 (34C23)

Bhatt, Piyush (*with* Nagar, Anima) Self-similarity and Hausdorff spaces. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 377–384. (Run Sheng Yang) **99d:54011** 54C60 (54E40)

Bhatt, R. C. (*with* Samtani, R. K.) Reducible cases for triple hypergeometric functions. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 45–48. (Summary) **99g:33042** 33C70

— (*with* Samtani, R. K.) Certain symbolic relations and expansions associated with hypergeometric function of three variables. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 1, 22–25. 33C70

Bhatt, S. J. (*with* Patel, A. B.) On seminorms with multiplicativity factors on involutive algebras. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 17–24. (Volker Runde) **99k:46091** 46K05

— (*with* Karia, Dinesh J.; Kulkarni, S. H.; Shimpi, M. E.) A note on the Gelfand-Mazur theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2999–3005. (M. S. Kassem) **99a:46088** 46H05 (46K05)

— Stinespring representability and Kadison's Schwarz inequality in non-unital Banach star algebras and applications. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 3, 283–303. (Volker Runde) **99k:46093** 46K10 (46K05)

Bhatt, S. K. (*with* Kathal, P. D.) The $(C, 1)$ $(E, 1)$ summability of a Fourier series and its conjugate series. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 375–380. 42A24

Bhattacharjee, B. (*with* Nandi, K. K.; Alam, S. M. K.; Evans, James Carl) Modified no-hair conjecture and the limiting process. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 877–885. (Gil De Oliveira-Neto) **99d:83064** 83C57 (83C15, 83D05)

Bhattacharjee, Debashis *B*-product and its properties. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 77–83. 11A25

— Multiplicative *B*-product and its properties. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 315–320. (W. Narkiewicz) **99f:11006** 11A25

Bhattacharjee, G. P. (*with* Pani, Ashis K.; Mohapatra, R. N.) Event scheduling using Allen's algebra. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 87–97. (Summary) **99i:68115** 68T30 (68T27)

Bhattacharjee, J. K. Upper critical dimension of the Kardar-Parisi-Zhang equation. (English summary) *J. Phys. A* **31** (1998), *no.* 5, *L*93–*L*96. (Summary) **99b:82091** 82D60 (82B24)

Bhattacharjee, Manish C. (*with* Sen, Pranab Kumar[1]) Tests for a property of aging under renewals: rationality and general asymptotics. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 328–340, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62N05

Bhattacharjee, Meenaxi (*with* Macpherson, Dugald; Möller, Rögnvaldur G.; Neumann, Peter M.) ★ Notes on infinite permutation groups. (English summary) Texts and Readings in Mathematics, 12. *Hindustan Book Agency, New Delhi*, 1997. *xii*+202 *pp. ISBN* 81-85931-13-5 (Cheryl E. Praeger) **99e:20003** 20B07

Bhattacharjee, Nil Ratan (*with* Lahiri, Indrajit) Functions of *L*-bounded index and of nonuniform *L*-bounded index. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 43–57. (Fred Gross) **99i:30044** 30D20 (30D15)

Bhattacharjee, Pijushpani Topological defects in cosmology. (English summary) *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 115–129, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83F05

Bhattacharjee, R. (*with* Baruah, K. K.) Kaluza-Klein cosmology. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 329–344. 83E15 (83F05)

Bhattacharjee, Somendra M. (*with* Mukherji, Sutapa) Incommensuration in quantum antiferromagnetic chain. (English summary) *J. Phys. A* **31** (1998), *no.* 40, *L*695–*L*700. (Summary) **99f:82026** 82B26 (82B20, 82D35)

Bhattacharya, A. (*with* Talukdar, B.; Roy, U.; Ghosh, Angsula) Quantal information entropies for atoms. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1667–1680. (Summary) **99d:81022** 81P99 (94A17)

— (*with* Talukdar, B.; Banerji, G.; Roy, U.) Transcendental-function representation of Stark-modified hydrogenic states and atomic dipole polarizability. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1219–1226. (Summary) **99a:81033** 81Q15 (81V45)

Bhattacharya, B. B. Some result on pseudo-hereditary torsion theories. (English summary) *J. Bihar Math. Soc.* **17** (1996), 71–75. 16S90

Bhattacharya, Bhargab B. (*with* Nandy, Subhas C.) Maximal empty cuboids among points and blocks. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 11–20. (Summary) **99f:68201** 68U05 (52B55, 65Y25)

Bhattacharya, Bhaskar On tests of symmetry against one-sided alternatives. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 237–254. (Summary) **99h:62055** 62G10

— (*with* Dykstra, Richard L.) A Fenchel duality aspect of iterative *I*-projection procedures. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 435–446. (Iosif Pinelis) **99b:62042** 62F30

— Testing conditional symmetry against one-sided alternatives in square contingency tables. (English summary) *Metrika* **47** (1998), *no.* 1, 71–84. (Truc Nguyen) **99d:62065** 62H17

Bhattacharya, Binay K. (*with* Sen, Sandeep) On a simple, practical, optimal, output-sensitive randomized planar convex hull algorithm. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 177–193. (Stelian S. Dumitrascu) **99a:65199** 65Y25 (65Y20, 68U05)

Bhattacharya, D. K. (*with* Manna, S.) Solution of operator equation and the space of entire Dirichlet series. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 31–39. (Shlomo Strelitz) **99a:30003** 30B50 (39B42, 47B38, 47H15)

— Proper efficiency and vector optimization on a Banach space. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 345–354. 90C29 (90C48)

Bhattacharya, Joydeep (*with* Guzman, Mark G.; Shell, Karl) Price level volatility: a simple model of money taxes and sunspots. (English summary) *J. Econom. Theory* **81** (1998), *no.* 2, 401–430. (From the introduction) **99e:90024** 90A53 (90A56)

Bhattacharya, Kaushik (*with* Ortiz, Michael; Ravichandran, G.) Energy-based model of compressive splitting in heterogeneous brittle solids. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 2171–2181. (Summary) **99h:73062** 73M25 (73S10)

— (*with* Simha, N. K.) Kinetics of phase boundaries with edges and junctions. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 12, 2323–2359. (Matthias Wilhelm Winter) **99j:73016** 73B30 (35Q72, 80A22)

Bhattacharya, P. *see* **Bhattacharya, Prabir B.**

Bhattacharya, P. K. *see* **Bhattacharya, Prodyot Kumar**

Bhattacharya, Prabir B. (*with* Mukherjee, N. P.) On formations of finite supersolvable groups. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 289–292. (Sergey F. Kamornikov) **99a:20015** 20D10 (20F16)

— (*with* Krishnamoorthi, R.) Color edge extraction using orthogonal polynomials based zero crossings scheme. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 51–65. (Summary) **99g:68214** 68U10

Bhattacharya, Prodyot Kumar (*with* Burman, Prabir) Semiparametric estimation in the multivariate Liouville model. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 1, 1–18. (Li-Xing Zhu) **99h:62032** 62G05 (62G20)

Bhattacharya, Rabi Nath (*with* Rao, B. V. Raja) Asymptotics of iteration of i.i.d. symmetric stable processes. (English summary) *Research developments in probability and statistics*, 3–10, *VSP, Utrecht*, 1996. (Summary) **99c:60039** 60F05 (60J05)

— (*with* Chan, Ngai Hang) Comparisons of chisquare, Edgeworth expansions and bootstrap approximations to the distribution of the frequency chisquare. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 57–68. (Michael Falk) **99k:62035** 62E20

— (*with* Lee, Chanho) Erratum: "On geometric ergodicity of nonlinear autoregressive models" [Statist. Probab. Lett. **22** (1995), no. 4, 311–315; MR 96e:62146]. *Statist. Probab. Lett.* **41** (1999), *no.* 4, 439–440. (From the text) **99k:62152** 62M10

Bhattacharya, Sudipto (*with* d'Aspremont, Claude; Gérard-Varet, Louis-André) Knowledge as a public good: efficient sharing and incentives for development effort. (English summary) *J. Math. Econom.* **30** (1998), *no.* 4, 389–404. 90A27

Bhattacharya, Tilak (*with* Weitsman, Allen) Bounds for capacities in terms of asymmetry. *Rev. Mat. Iberoamericana* **12** (1996), *no.* 3, 593–639. (J. Král) **99c:31004** 31A15 (31B15, 31C15)

— A note on the Faber-Krahn inequality. (English summary) *Matematiche* (*Catania*) **53** (1998), *no.* 1, 71–83. (Vania Sordoni) **99m:35045** 35J25 (35J05, 35P15)

— (*with* Weitsman, Allen) Some estimates for the symmetrized first eigenfunction of the Laplacian. (English summary) *Potential Anal.* **9** (1998), *no.* 2, 143–172. (Vitaly A. Volpert) **99j:35154** 35P15 (35J05)

— (*with* Weitsman, Allen) Estimates for Green's function in terms of asymmetry. (English summary) *Applied analysis* (*Baton Rouge, LA*, 1996), 31–58, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Peter W. Day) **99j:31002** 31A05 (30C20)

Bhattacharyya, A. (*with* Lagoudas, Dimitris C.) On the correspondence between micromechanical models for isothermal pseudoelastic response of shape memory alloys and the Preisach model for hysteresis. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 4, 405–440. (Martin Brokate) **99d:73079** 73S10 (47H30, 73B05)

Bhattacharyya, Anjana (*with* Chakraborty, R. P.) On irresolute fuzzy multifunctions. (English summary) *J. Pure Math.* **14** (1997), 26–34. 54A40 (54C99)

Bhattacharyya, Malay Fuzzy Markovian decision process. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 273–282. (Summary) **99e:90108** 90C40 (90C70)

Bhattacharyya, Prodipeswar (*with* Vetrivel, V.) Fixed point theorems for multifunctions. (English summary) *J. Math. Phys. Sci.* **30** (1996), *no.* 4, 187–192 (1998). (Adrian Petruşel) **99g:47129** 47H10 (47H04, 54C60, 54H25)

Bhattacharyya, S. *see* **Bhattacharyya, Saswati**

Bhattacharyya, S. K. *see* **Bhattacharyya, Sukes Kumar**

Bhattacharyya, S. P. *see* **Bhattacharyya, Shankar Prashad**

Bhattacharyya, Sandip (*with* Kumar, Alok[2]; Mukhopadhyay, Subir) String network and *U* duality. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 4, 754–757. (Summary) **99c:81165** 81T30

Bhattacharyya, Saswati (*with* Krishna, S. V.) Impulse effect on structured populations conditions for permanence and persistence. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 227–245. (Peter Moson) **99h:92029** 92D25 (34A37, 45K05)

Bhattacharyya, Shankar Prashad (*with* Keel, L. H.) Robust stability of interval matrices: a computational approach. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1491–1506. 93D09

— (*with* Keel, L. H.) Authors' reply to: "Comments on: 'Robust, fragile, or optimal?'" [IEEE Trans. Automat. Control **43** (1998), no. 9, 1265–1267; 1 640 171] by P. M. Mäkilä. *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1268. 93B36 (93D09)

— (*with* Keel, L. H.) Robust control under parametric uncertainty. I. Analysis. *Symbolic methods in control system analysis and design*, 81–113, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93–02 (93B36)

— (*with* Keel, L. H.) Robust control under parametric uncertainty. II. Design. *Symbolic methods in control system analysis and design*, 203–226, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93–02 (93B36, 93D09)

— *see also* **Mäkilä, Pertti M.**

Bhattacharyya, Sudebi (*with* Das, K. P.) The effect of randomness on the stability of deep water surface gravity waves in the presence of a thin thermocline. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 190–206. (Summary) **99k:76023** 76B15 (76E99)

Bhattacharyya, Sukes Kumar (*with* Lahiri, B. K.) A note on rearrangements of series. *Math. Student* **64** (1995), *no.* 1-4, 141–145 (1996). (From the text) **99h:40013** 40J05

Bhattacharyya, Tirthankar On finite-dimensional commutative non-Hermitian fusion algebras. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 87–103. (William H. Gustafson) **99k:16066** 16S99 (05C99, 46L10, 46L35)

Bhattarai, H. N. Decomposition of Lt-connected geometries and generalized projective spaces. (English summary) *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 53–61. (Summary) **99f:51025** 51G05 (51A10, 51C05)

Bhatti, M. Ishaq A UMP-invariant test for testing block effects: an example. (English summary) *Far East J. Theor. Stat.* **1** (1997), 39–50. (Summary) **99k:62037** 62F03

— (*with* Zhu, Li-Xing; Fang, Kai-Tai) On estimated projection pursuit-type Crámer-von Mises statistics. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 1–14. (Andrzej S. Kozek) **99e:62106** 62H15 (62F05, 62H40)

— (*with* Chaturvedi, Anoop) A note on the Stein rule estimator in a misspecified model. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 125–134 (1998). (Summary) **99c:62286** 62P20 (62J07)

— (*with* Khan, Shahjahan) Predictive inference on equicorrelated linear regression models. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 205–217. 62J05

Bhatwadekar, S. M. (*with* Dumaldar, Mahesh N.; Sharma, Pramod K.) Some non-chromatic rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 477–505. (Daniel D. Anderson) **99a:13002** 13A99

— (*with* Sridharan, Raja) Projective generation of curves in polynomial extensions of an affine domain and a question of Nori. *Invent. Math.* **133** (1998), *no.* 1, 161–192. (Satyagopal Mandal) **99c:13016** 13C10 (13F20)

— (*with* Sridharan, Raja) Projective generation of curves in polynomial extensions of an affine domain. II. (English summary) *K-Theory* **15** (1998), *no.* 3, 293–300. (Satyagopal Mandal) **99j:13016** 13F20 (13C10)

Bhaumik, Debajyoti (*with* Bagchi, Bijan Kumar) Squeezed states for parabosons. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 8, 623–630. 81R30 (81V80)

— (*with* Bagchi, Bijan Kumar) Generalized quantum conditions and coherent states. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 811–817. 81R30

Bhaumik, Dulal K. (*with* Shah, Arvind K.) Exact tests in crossover designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 79–88. (*see* **99f:62005**) 62H15 (62K99)

durga Bhavani, S. *see* **Durga Bhavani, S.**

Bhave, N. S. (*with* Raghunathan, T. T.) Enumeration of bipartite self-complementary graphs. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1451–1459. (E. Keith Lloyd) **99a:05064** 05C30

— Characterisation of potentially generalised bipartite self-complementary bi-graphic sequences. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 39–54. (A. Vijayakumar) **99h:05097** 05C75

Bhaya, Amit (*with* Su, Yangfeng) On the Bose-Trautman condition for stability of two-dimensional linear systems. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 2069–2070. 93D05

— (*with* Su, Yangfeng; Kaszkurewicz, Eugenius) A general asynchronous block iterative model with related convergence conditions. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 261–273. (De Ren Wang) **99d:65383** 65Y10 (65H10, 65J15, 65Y05)

— (*with* Su, Yangfeng; Kaszkurewicz, Eugenius; Kozyakin, V. S.) Further results on convergence of asynchronous linear iterations. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 11–24. (W. Govaerts) **99h:65087** 65F30 (65F10)

— (*with* Kaszkurewicz, Eugenius) Diagonal stability in the large-scale system approach. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 143–152. (Norihiko Adachi) **99i:34071** 34D20 (93D05)

— *see also* **Liang, Xue Bin, 99g:92006** *and* **Arik, Sabri, 99g:92007**

Bhishma Rao, G. S. S. (*with* Rao, K. P. R.; Srinivasa Rao, N.) Common fixed point theorem in metric linear space. *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 147–148. 54H25

Bhoosnurmath, Subhas S. (*with* Hombali, Chhaya M.) Fix-points of certain differential polynomials. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 121–131. (L. R. Sons) **99g:30038** 30D35

Bhosle, Usha N. Vector bundles of rank 2, degree 0 on a nodal hyperelliptic curve. *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 271–281, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Enrique Arrondo) **99k:14054** 14H60

— Orthogonal and symplectic bundles on curves and representations. *J. Ramanujan Math. Soc.* **13** (1998), *no.* 2, 195–215. (Francesco Bottacin) **99m:14062** 14H60 (14D20, 14H30)

Bhowal, Ajanta (*with* Lahiri, Avijit; Roy, Tarun K.) Resonant collisions in four-dimensional reversible maps: a description of scenarios. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 95–116. (Mikhail B. Sevryuk) **99b:58173** 58F14 (34C35, 58F30, 70K30)

Bhowmik, B. B. (*with* Krori, K. D.) Inflationary Kaluza-Klein cosmology with variable G and Λ and diminishing anisotropy. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1067–1072. 83E15

Bhowmik, Gautami (*with* Menzer, H.) On the number of subgroups of finite abelian groups. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 117–121. (Douglas Hensley) **99b:11111** 11N45 (11M06)

— (*with* Ramaré, Olivier) Algebra of matrix arithmetic. (English summary) *J. Algebra* **210** (1998), *no.* 1, 194–215. (Jin Yun Guo) **99k:15032** 15A36 (11C20, 16S99)

Bhowmik, J. L. (*with* Shil, R. N.) A new method of construction of 5×2^3 design in 5×2 plots block. (English and Bengali summaries) *Chittagong Univ. Stud. Part II Sci.* **21** (1997), *no.* 2, 117–123. (Summary) **99i:62174** 62K15 (62K10)

— (*with* Shil, R. N.) On a method of constructing confounded balanced design of the type 5×2^2. (English summary) *J. Stat. Stud.* **17** (1997), 71–78. 62K15 (05B05)

Bhui, B. (*with* Chatterjee, Sujit; Beesham, Aroonkumar; Ghosh, Tanwi) Inhomogeneous cosmological models in $D = 6$, $N = 2$ Kaluza-Klein supergravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6544–6546. (Summary) **99k:83111** 83E15 (83E30)

Bhuruth, Muddun A note on Hermitian splitting induced relaxation methods for convection-diffusion equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 581–591. (Murli M. Gupta) **99m:65058** 65F10 (65L99, 76M20)

Bhutani, O. P. (*with* Singh, Karanjeet) Generalized similarity solutions for the type D fluid in five-dimensional flat space. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3203–3212. (Nora Bretón Báez) **99e:83008** 83C15 (83E15)

Bi, Chunjia (*with* Li, Li Kang) Superconvergence analysis of least-squares mixed finite element method for second-order non-self-adjoint two-point boundary value problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 11, 1027–1037. (Summary) **99g:65108** 65N30 (65L60)

Bi, Guoan (*with* Yu, Lee W.) DCT algorithms for composite sequence lengths. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 554–562. (Summary) **99h:94011** 94A12 (94A11)

yao Bi, J. L. *see* **Yao Bi, J. L.**

Bi, Ning (*with* Sun, Qiyu) Linear independence of refinable distributions supported on $[0, 2] \times [0, 2]$. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 388–395. (Mihai Neagu) **99m:42043** 42C15 (46F10)

Bi, Qin Sheng (*with* Yu, Pei) Analysis of non-linear dynamics and bifurcations of a double pendulum. (English summary) *J. Sound Vibration* **217** (1998), *no.* 4, 691–736. (Summary) **99h:70033** 70K99 (34C15, 34C23, 70K50)

— (*with* Yu, Pei) Symbolic computation of normal forms for semi-simple cases. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 195–220. (Summary) **99k:34080** 34C20 (34–04, 58F36, 65–04, 65L99)

Biafore, Michael *see* **PhysComp96, 99j:81006**

Biagioni, Hebe A. (*with* Gramchev, Todor) Evolution PDE with elliptic dissipative terms: critical index for singular initial data, self-similar solutions and analytic regularity. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 41–46. (Thomas Wanner) **99k:35081** 35K55 (35B65, 35Q99)

— (*with* Iório, Rafael José, Jr.) Generalized solutions to the Kuramoto-Sivashinsky equation. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 1–8. (Summary) **99f:35174** 35Q53 (35D05, 46F10)

— (*with* Gramchev, Todor) Multidimensional Kuramoto-Sivashinsky type equations: singular initial data and analytic regularity. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 21–42. (Bruno Scheurer) **99m:35200** 35Q53 (35B65, 35L75)

Biais, Bruno (*with* Björk, Tomas; Cvitanić, Jakša; El Karoui, N.; Jouini, Elyès; Rochet, Jean Charles) ★ Financial mathematics. Lectures given at the 3rd C.I.M.E. Session held in Bressanone, July 8–13, 1996. Edited by W. J. Runggaldier. Lecture Notes in Mathematics, 1656. *Springer-Verlag, Berlin*, 1997. viii+316 *pp. ISBN* 3-540-62642-5 (Marek Rutkowski) **99a:90033** 90A09 (60H10, 60H30, 90–06)

— (*with* Rochet, Jean Charles) Risk sharing, adverse selection and market structure. (English summary) *Financial mathematics* (*Bressanone*, 1996), 1–51, *Lecture Notes in Math.*, 1656, *Springer, Berlin*, 1997. (*see* **99a:90033**) 90A09 (90A46)

Bialas, Piotr (*with* Burda, Zdzisław; Johnston, Desmond A.) Surplus anomaly and random geometries. *New developments in quantum field theory* (*Zakopane*, 1997), 251–259, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 82B41 (83C27)

— (*with* Burda, Zdzisław; Jurkiewicz, Jerzy Władysław) Correlation functions and critical behaviour on fluctuating geometries. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 86–92. (Summary) **99a:82042** 82B27 (82D60)

— (*with* Burda, Zdzisław; Johnston, Desmond A.) Phase diagram of the mean field model of simplicial gravity. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 413–424. (Summary) **99j:83023** 83C27 (83C45)

Białas-Cież, Leokadia Markov sets in $\mathbf{C}$ are not polar. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 83–89. (Antonio Bonilla-Ramirez) **99c:41026** 41A17 (30C85)

Białasik, Marcin (*with* Walicki, Michał) Categories of relational structures. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 418–433, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 03C07 (03C52, 03G30, 08A05, 68Q65)

Bialecki, Bernard (*with* Dryja, Maksymilian) Multilevel additive and multiplicative methods for orthogonal spline collocation problems. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 35–58. (Summary) **99d:65311** 65N30 (65F10)

— (*with* Lou, Zhou-Ming; Fairweather, Graeme) Orthogonal spline collocation methods for biharmonic problems. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 267–303. (D. M. Sloan) **99i:65130** 65N35

— (*with* Li, Bingkun; Fairweather, Graeme) Discrete-time orthogonal spline collocation methods for Schrödinger equations in two space variables. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 453–477 (*electronic*). (G. W. Hedstrom) **99d:65295** 65M70

— Convergence analysis of orthogonal spline collocation for elliptic boundary value problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 617–631

(*electronic*). (Summary) **99a:65163** 65N35

Bialostocki, Arie (*with* Harborth, Heiko) Ramsey colorings for diagonals of convex polygons. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 159–163 (1997). (C. C. Rousseau) **99a:05102** 05C55

Białynicki-Birula, A. (*with* Święcicka, J.) A recipe for finding open subsets of vector spaces with a good quotient. *Colloq. Math.* **77** (1998), *no.* 1, 97–114. (Lucy Moser-Jauslin) **99g:14058** 14L30 (14M25)

— Finiteness of the number of maximal open subsets with good quotients. (English summary) *Transform. Groups* **3** (1998), *no.* 4, 301–319. (Lucy Moser-Jauslin) **99m:14089** 14L30 (14D25)

Bialynicki-Birula, Iwo Exponential localization of photons. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 24, 5247–5250. (Summary) **99b:81296** 81V80

Bian, Aihua (*with* Gu, Shiliang; Hui, Dafeng) The contraction-expansion algorithm and its use in fitting nonlinear equation. (English summary) *J. Biomath.* **13** (1998), *no.* 4, 426–434. 65H10 (90C30)

Bian, Baojun An algorithm for mean curvature motion with Dirichlet condition. *Differential equations and applications* (*Hangzhou*, 1996), 41–44, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 35K60 (58E20)

— Existence of solutions for fully nonlinear elliptic equations with discontinuous free terms. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 1–5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35J60

— Dirichlet problem for the implicit obstacle problems. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 373–376. 35J85 (49J40)

— Viscosity solutions of the implicit obstacle problems. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 51–59. (Jianfu Yang) **99m:35091** 35J85 (35D05, 49L25)

Bian, Wen Ming Density of solutions of operator equations and approximate controllability of semilinear systems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 189–194. (Summary) **99k:47156** 47H15 (34G20, 93B05)

— Existence results for second order nonlinear evolution inclusions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1177–1193. (Stanisław Migórski) **99m:34025** 34A60 (34G20, 35L99, 35R70)

— Controllability of nonlinear evolution systems with preassigned responses. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 265–285. (Vera Winitzky de Spinadel) **99k:93016** 93B05 (93C25)

Bianchi, Giselle (*with* Marzocchi, Alfredo) Inertial manifold for the motion of strongly damped nonlinear elastic beams. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 181–192. (R. Kodnár) **99h:35209** 35Q72 (34G20, 35B40, 47H20, 73D35, 73K05)

Bianchi, M. *see* **Bianchi, Massimo**

Bianchi, Mariagrazia (*with* Gillio Berta Mauri, Anna; Heineken, Hermann; Verardi, Libero) Groups with big centralizers. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 25–42 (1997). (I. M. Isaacs) **99b:20041** 20D60

— (*with* Adami, S.; Gillio Berta Mauri, Anna; Herzog, Marcel) On graph-complete groups. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 295–307 (1997). (David Chillag) **99b:20040** 20D60

— (*with* Gillio Berta Mauri, Anna; Verardi, Libero) Groups in which elements with the same p-power permute [commute]. (English summary) *Matematiche* (*Catania*) **51** (1996), *suppl.*, 53–61 (1997). (David B. Surowski) **99c:20021** 20D20 (20D15, 20D40)

Bianchi, Massimo (*with* Fucito, Francesco; Rossi, Giancarlo; Martellini, Maurizio) String theory and ALE instantons. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 173–179, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:81150** 81T30 (83E30)

— (*with* Kovacs, Stefano; Rossi, Giancarlo; Green, Michael B.) Instantons in supersymmetric Yang-Mills and D-instantons in IIB superstring theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 13, 35 *pp.* (*electronic*). (Daniel N. Kabat) **99m:81241** 81T60 (81T13, 81T30)

— (*with* Stanev, Yassen S.) Open strings on the Neveu-Schwarz 5-brane. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 193–210. (C. Gauthier) **99e:81176** 81T30

— A note on toroidal compactifications of the type I superstring and other superstring vacuum configurations with 16 supercharges. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 73–94. (Summary) **99i:81171** 81T30 (11F11, 11Z05)

cesa-Bianchi, Nicolò *see* **Cesa-Bianchi, Nicolò**

Bianchini, R. M. Good needle-like variations. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 91–101, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Henry Hermes) **99i:49021** 49K15 (49J15)

Bianchini, Stefano Extremal faces of the range of a vector measure and a theorem of Lyapunov. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 301–318. (Vadym M. Radchenko) **99m:28025** 28B05 (46G10)

Bianchini, Waldecir An extension of Mairhuber's theorem for subspaces of $C_0(X)$ with a unique continuous selection. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 265–276. (P. J. Collins) **99g:54012** 54C65

Bianco, Ana (*with* Boente, Graciela) Robust kernel estimators for additive models with dependent observations. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 239–255. (M. Riedel) **99k:62070** 62G05 (62F35)

Bianco, Estela (*with* Ziliani, Alicia) Implicative modal semilattices. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahia Blanca*, 1997), 127–140, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (Summary) **99a:06016** 06D30

Bianco, Lucio (*with* Dell'Olmo, Paolo; Giordani, Stefano) Models and algorithms for real-time control of aircraft landings. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 289–294, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C90 (93C95)

— (*with* Mingozzi, Aristide; Ricciardelli, Salvatore) Dynamic programming strategies for the traveling salesman problem with time window and precedence constraints. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 365–377. (P. F. Körner) **99f:90098** 90C27 (90C35)

— (*with* Dell'Olmo, Paolo; Giordani, Stefano) Minimizing total completion time subject to release dates and sequence-dependent processing times. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 393–415. (*see* **99k:90002**) 90B35 (60K30, 90C48)

Bianco, Steven A. (*with* Sadek, Ibrahim S.; Kambule, Matthew T.) Optimal control of a class of time-delayed distributed systems by orthogonal functions. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 8, 1477–1492. 49K20 (49M25, 93C20)

Bianconi, Ricardo Nondefinability results for expansions of the field of real numbers by the exponential function and by the restricted sine function. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1173–1178. (Fuxing Shen) **99k:03034** 03C62 (03C40)

Biane, Philippe On the free convolution with a semi-circular distribution. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 705–718. (Andrzej Łuczak) **99e:46084** 46L50 (60E99)

— Processes with free increments. *Math. Z.* **227** (1998), *no.* 1, 143–174. (Stanisław Goldstein) **99e:46085** 46L50

— (*with* Speicher, Roland) Stochastic calculus with respect to free Brownian motion and analysis on Wigner space. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 3, 373–409. (Franco Fagnola) **99i:60108** 60H05 (46L50, 81S25)

di Biase, Fausto *see* **Di Biase, Fausto**

Biasi, Carlos (*with* Saeki, Osamu) On transversality with deficiency and a conjecture of Sard. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5111–5122. (Georges Comte) **99b:57062** 57R45 (57N75, 57R70)

Bibel, W. Let's plan it deductively! (English summary) *Artificial Intelligence* **103** (1998), *no.* 1-2, 183–208. (Summary) **99g:68189** 68T27 (68T20)

Bibikov, P. N. (*with* Kulish, P. P.) Dirac operators on the quantum group $SU_q(2)$ and the quantum sphere. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 49–65, 283. (Andrei G. Bytsko) **99f:58013** 58B30 (16W30, 17B37, 46L87, 81R50)

— Dirac operator, bicovariant differential calculus and gauge theory on κ-Minkowski space. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6437–6447. (Władysław Marcinek) **99h:58011** 58B30 (81R50, 81T13)

Bibikov, Yu. N. Preservation and bifurcation of an invariant torus of a vector field. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 34–44; *translation in Math. Notes* **61** (1997), *no.* 1-2, 29–37. (Mikhail B. Sevryuk) **99b:58211** 58F30 (34C20, 34C23, 34C30, 58F14, 58F27)

— Bifurcation of the generation of invariant tori with infinitesimal frequency. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 81–92. (Mikhail B. Sevryuk) **99e:34044** 34C23 (34C15, 34D20, 58F30)

Bibiloni, Lluís (*with* Paradis, Jaume; Viader, Pelegrí) Approximation of quadratic irrationals and their Pierce expansions. *Fibonacci Quart.* **36** (1998), *no.* 2, 146–153. (Michael E. Mays) **99e:11011** 11A67 (11J70, 11J83)

Bică, Ion Nonoverlapping domain decomposition algorithms for the p-version finite element method for elliptic problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 231–237, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N30 (65N35, 65N55)

Bičák, Jiří (*with* Pravda, V.) Curvature invariants in type-N spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1539–1555. (Maciej Przanowski) **99e:83012** 83C20 (83C30)

— (*with* Katz, Joseph; Lynden-Bell, D.) Instantaneous inertial frames but retarded electromagnetism in rotating relativistic collapse. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3177–3194. (Summary) **99g:83045** 83C50 (83B05)

— (*with* Pravdová, A.) Symmetries of asymptotically flat electrovacuum space-times and radiation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6011–6039. (Leonardo Fernández-Jambrina) **99i:83023** 83C22 (82C20, 83C30)

— (*with* Lynden-Bell, D.; Katz, Joseph) On accelerated inertial frames in gravity and electromagnetism. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 1–22. (Jaume J. Carot) **99m:83087** 83C50 (78A40, 83A05)

— (*with* Stuchlík, Zdeněk; Balek, Vladimír) The shell of incoherent charged matter falling onto a charged rotating black hole. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 53–71. (Michael B. Mensky) **99j:83013** 83C10 (83C57)

Bican, Ladislav (*with* El Bashir, Robert) A version of Kulikov's criterion. *Ital. J. Pure Appl. Math. No.* 1 (1997), 29–41 (1998). (Mark Lane) **99m:20130** 20K20

— (*with* Rangaswamy, K. M.) Smooth unions of Butler groups. (English summary) *Forum Math.* **10** (1998), *no.* 2, 233–247. (Mark Lane) **99d:20089** 20K20

Bicchi, Antonio (*with* Marigo, Alessia) Rolling bodies with regular surface: the holonomic case. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 241–256, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:70016** 70E15 (70F20, 93C85)

tran-ngoc-Bich, Pascal *see* **Tran-Ngoc-Bich, Pascal**

Bichon, Julien Trivialisations dans les catégories tannakiennes. (English summary) [Trivializations in Tannakian categories] *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 4, 243–270. (Luca Barbieri Viale) **99k:18010** 18D10 (14F99)

— Mesure de Haar sur une algèbre de Hopf et groupes quantiques réels. (English summary) [Haar measure on a Hopf algebra and real quantum groups] *Comm. Algebra* **26** (1998), *no.* 5, 1633–1649. (Vladimir Pestov) **99g:16045** 16W30 (22D25, 22D35)

Bickel, Peter J. (*with* Ren, Jian-Jian) The m out of n bootstrap and goodness of fit tests with double censored data. (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 35–47, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (M. Hušková) **99e:62073** 62G10 (62G09)

— (*with* Klaassen, Chris A. J.; Ritov, Ya'acov; Wellner, Jon A.) ★ Efficient and adaptive estimation for semiparametric models. (English summary) Reprint of the 1993 original. *Springer-Verlag, New York*, 1998. *xxii*+560 *pp. ISBN* 0-387-98473-9 (Editors) **99c:62076** 62G05 (62F10, 62F12, 62G20)

— (*with* Nielsen, Jens Perch; Linton, Oliver B.) On a semiparametric survival model with flexible covariate effect. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 215–241. (Thomas A. Severini) **99c:62110** 62G05 (62M09)

— (*with* Ritov, Ya'acov; Rydén, Tobias) Asymptotic normality of the maximum-likelihood estimator for general hidden Markov models. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1614–1635. (Tobias Rydén) **99j:62120** 62M09 (62F12)

Bickis, Mikelis G. The torsion of three-dimensional random walk. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 23–28, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Stuart G. Whittington) **99i:60140** 60J15 (60F05, 82B41)

Bicout, D. J. (*with* Szabo, Attila) On the Wang-Uhlenbeck problem in discrete velocity space. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 1047–1054. (Summary) **99c:82061** 82C41

Bidard, Christian (*with* Salvadori, Neri) Solutions to linear equations depending on a parameter. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 103–112. (F. Szidarovszky) **99c:15005** 15A06

— Le lemme de Sperner nu. (English and French summaries) [A naked Sperner lemma] *RAIRO Rech. Opér.* **32** (1998), *no.* 2, 193–210. (Konrad Engel) **99e:05123** 05D05

— Fixed capital and internal rate of return. (English summary) *J. Math. Econom.* **31** (1999), *no.* 4, 523–541. (Summary) **99m:90023** 90A09

Bidaut-Véron, Marie-Françoise Initial blow-up for the solutions of a semilinear parabolic equation with source term. (English summary) *Équations aux dérivées partielles et applications*, 189–198, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:35082** 35K55 (35B05)

— Asymptotical behavior of solutions of some reaction-diffusion systems. *Reaction diffusion systems* (*Trieste*, 1995), 13–19, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (*see* **98d:35004**) 35K57 (35B40)

Bidner, M. Susana (*with* Savioli, Gabriela B.; Jacovkis, Pablo M.) On some numerical methods for solving 2D radial flow towards an oil well. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 1, 17–36. 76M25 (65M06, 76S05)

Bidoit, Michel (*with* Hennicker, Rolf) Modular correctness proofs of behavioural implementations. (English summary) *Acta Inform.* **35** (1998), *no.* 11, 951–1005. (Horst Reichel) **99j:68084** 68Q65 (03B70)

Bidoit, N. (*with* De Amo, S.) A first step towards implementing dynamic algebraic dependencies. (English summary) *Database theory—ICDT '95* (*Prague*), 308–321, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Maabout, S.) A model-theoretic approach to update rule programs. (English summary) *Database theory—ICDT '97* (*Delphi*), 173–187, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68N17)

— (*with* De Amo, S.) A first step towards implementing dynamic algebraic dependences. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 115–149. (János Demetrovics) **99b:68051** 68P15

Bidyuk, P. I. (*with* Zgurovskiĭ, M. Z.) An approach to modeling and adaptive control of large space structures. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 44–53, 155. 93C95

saint loubert Bié, Erwan *see* **Saint Loubert Bié, Erwan**

Bie, Rong Fang The Malitz interpolation theorem in lattice-valued model theory of $\mathscr{L}_{\omega_1\omega}$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 505–510. (Summary) **99g:03034** 03C40 (03C75)

— The number of $\sim_{L(MP)}$ equivalence classes of words. (Chinese. English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 6, 545–550. (Summary) **99a:68138** 68R15 (03D05)

— (*with* Shen, En Shao) Z-automata and partition logics. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 67–74. (Summary) **99a:68124** 68Q68 (03B25, 03B70, 03D05)

Biech, T. (*with* Das, Anadijiban; Tariq, N.; Aruliah, D.) Spherically symmetric collapse of an anisotropic fluid body into an exotic black hole. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4202–4227. (Summary) **99f:83043** 83C57 (83C55)

Biedenharn, L. C. (*with* Dobrev, Vladimir K.; Truini, P.) Polynomial solutions of q-difference equations and Gel′fand-Weyl-Zetlin basis. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 447–461, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99b:81101** 81R50 (17B37, 39A10)

— (*with* Chen, William Y. C.; Lohe, M. A.; Louck, James D.) The role of SU(2) $3n$-j coefficients in SU(3). (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 150–182, *World Sci. Publishing, River Edge, NJ*, 1995. (A. M. Gavrilik) **99a:81052** 81R05 (22E70)

Biedermann, Klaus Powerset trilattices. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 209–221, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (Summary) **99k:06004** 06A99 (68T30)

— Completion of triordered sets and trilattices. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 61–78, *Heyn, Klagenfurt*, 1998. (Bernhard Ganter) **99m:06004** 06A07 (08A05)

Biedl, Therese C. (*with* Kaufmann, Michael) Area-efficient static and incremental graph drawings. (English summary) *Algorithms—ESA '97* (*Graz*), 37–52, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05 (68R10)

— (*with* Shermer, Thomas C.; Whitesides, S. H.; Wismath, Stephen K.) Orthogonal 3-D graph drawing. (English summary) *Graph drawing* (*Rome*, 1997), 76–86, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

— New lower bounds for orthogonal drawings. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 7, 31 *pp.* (*electronic*). (Summary) **99j:68101** 68R10 (05C10, 05C85, 68U05)

Biegler, Lorenz T. (*with* Gopal, Vipin) A successive linear programming approach for initialization and reinitialization after discontinuities of differential-algebraic equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 447–467 (*electronic*). (A. M. Galperin) **99f:65100** 65L05 (34A09, 90C05)

Bielak, Halina Equivalent classes for K_3-gluings of wheels. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 73–84. (N. Z. Li) **99h:05037** 05C15

— The chromaticity of a family of 2-connected 3-chromatic graphs with five triangles and cyclomatic number six. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 99–111. (C. Y. Chao) **99i:05076** 05C15

Bielak, Jacobo (*with* Kallivokas, Loukas F.; MacCamy, Richard C.) Absorbing boundaries for acoustic wave propagation problems. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 43–51, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 65M60 (76Q05)

— (*with* Kallivokas, Loukas F.; MacCamy, Richard C.) Absorbing boundary conditions of arbitrary shape for the three-dimensional wave equation. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 221–228, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 76M10 (73K70, 76Q05)

Bielawski, Dariusz On the structure of the set of solutions of some boundary value problems for differential equations. *Demonstratio Math.* **31** (1998), *no.* 1, 135–142. (Maria Patrizia Pera) **99c:34031** 34B15 (47H15, 47N20)

Bielawski, Roger Invariant hyper-Kähler metrics with a homogeneous complex structure. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 473–482. (Maria Laura Barberis) **99b:53065** 53C25 (53C55)

Bielecki, T. R. (*with* Stettner, Łukasz) Ergodic control of a singularly perturbed Markov process in discrete time with general state and compact action spaces. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 261–281. (Aleksander A. Yushkevich) **99k:60169** 60J05 (90C40)

— (*with* Chen, Jie[4]; Lin, En-Bing; Yau, Stephen Shing Toung) Wavelet representations of general signals. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 125–141. (Lars F. Villemoes) **99m:94005** 94A12 (42C15)

Bielek, E. *see* **Optimum methods in statistics, 99a:62003**

Bieliavsky, Pierre Four-dimensional simply connected symplectic symmetric spaces. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 291–316. (O. Kowalski) **99c:53055** 53C35 (53C15)

— (*with* Bertelson, Mélanie; Gutt, Simone) Parametrizing equivalence classes of invariant star products. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 339–345. (Summary) **99m:58103** 58F06

— Symmetric spaces and star representations. (English summary) *Advances in geometry*, 71–82, *Progr. Math.*, 172, *Birkhäuser Boston, Boston, MA*, 1999. (From the introduction) **99m:58104** 58F06

Bielski, W. R. (*with* Telega, Józef Joachim) Existence of solutions to obstacle problems for linear and nonlinear elastic plates. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 55–66. (Meir Shillor) **99j:73090** 73T05 (73V25)

Biémont, Émile Le calendrier et son histoire. [The calendar and its history] *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **7** (1996), *no.* 1-6, 15–71 (1997). 01A99

Bien, Zeungnam (*with* Lee, Hak-Sung) Study on robustness of iterative learning control with non-zero initial error. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 345–359. 93E35 (93B35)

— (*with* Zhu, Wen-Hong[2]; De Schutter, Joris) Adaptive motion/force control of multiple manipulators with joint flexibility based on virtual decomposition. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 46–60. (Clementina D. Mladenova) **99b:93037** 93C85 (70B15, 70Q05)

Bienaymé, Irenée Jules *see* **Bru, Bernard et al., 99c:01011**

Bienaymé, Olivier (*with* Bru, Bernard; Bru, Marie-France) La statistique critiquée par le calcul des probabilités: deux manuscrits inédits d'Irenée Jules Bienaymé. (English and French summaries) [The critique of statistics on the grounds of probability theory: two unpublished manuscripts of Irenée Jules Bienaymé] *Rev. Histoire Math.* **3** (1997), *no.* 2, 137–239. (Pierre Crépel) **99c:01011** 01A55 (60–03, 62–03)

Bienia, Wojciech (*with* Goddyn, Luis A.; Gvozdjak, Pavol; Sebő, András; Tarsi, Michael) Flows, view obstructions, and the lonely runner. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 1–9. (Prabir Das) **99c:90043** 90B10 (05C99)

Bienstock, Daniel (*with* Chopra, Sunil; Günlük, Oktay; Tsai, Chih-Yang) Minimum cost capacity installation for multicommodity network flows. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 177–199. (Summary) **99c:90044** 90B10 (90C35)

Bientinesi, Paolo (*with* Finocchiaro, Daniele; Pellegrini, Marco) On numerical approximation of electrostatic energy in 3D. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 707–725. (Summary) **99h:78003** 78–08 (78A30)

Bierbrauer, Jürgen (*with* Edel, Yves) Extending and lengthening BCH codes. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 4, 314–333. (Henk van Tilborg) **99c:94052** 94B15

— (*with* Edel, Yves) Construction of digital nets from BCH-codes. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 221–231, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:94040** 94B05 (05B15, 65C05)

— (*with* Gopalakrishnan, K.; Stinson, Douglas R.) A note on the duality of linear programming bounds for orthogonal arrays and codes. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 17–24. (Summary) **99a:94065** 94B65 (05B15, 90C05, 94B05)

— Authentication via algebraic-geometric codes. (English summary) *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 139–152. (Summary) **99c:94025** 94A60 (11G25, 94B27)

Bierens, Herman J. (*with* Ploberger, Werner) Asymptotic theory of integrated conditional moment tests. (English summary) *Econometrica* **65** (1997), *no.* 5, 1129–1151. (A. L. Nagar) **99a:62086** 62J05 (62F03, 62P20)

Bierman, G. M. (*with* Benton, P. N.; de Paiva, V. C. V.) Computational types from a logical perspective. (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 177–193. (Chantal Berline) **99h:68026** 68N15 (03B45, 03B70, 03F05, 68Q55)

Biermann, Kurt-R. Aus der Gauß-Forschung. [Miscellanea from Gauss research] *Gauss-Ges. Göttingen Mitt. No.* 33 (1996), 43–52. (Karl-Heinz Schlote) **99b:01019** 01A70

— "Ich bin im Innersten erschüttert": Neuer Versuch zur Aufklärung von Wachters Tod. ["I am profoundly shaken": New attempt at clarifying Wachter's death] *Gauss-Ges. Göttingen Mitt. No.* 35 (1998), 41–43. (R. L. Cooke) **99h:01034** 01A70 (51–03)

Bierstedt, Klaus D. (*with* Bonet, José; Taskinen, Jari) Associated weights and spaces of holomorphic functions. (English summary) *Studia Math.* **127** (1998), *no.* 2, 137–168. (Raymond Mortini) **99a:46037** 46E10 (32A37)

Bierwirth, Christian (*with* Mattfeld, Dirk C.; Kopfer, Herbert) A search space analysis of the job shop scheduling problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 441–453. (*see* **99k:90002**) 90B35 (90C35)

Biesheuvel, Arie *see* **In fascination of fluid dynamics**

Bietenholz, W. Exact supersymmetry on the lattice. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 1, 51–62. 81T25 (81T60)

de Bièvre, Stephan (*with* Degli Esposti, Mirko) Egorov theorems and equidistribution of eigenfunctions for the quantized sawtooth and baker maps. (English and French

summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 1, 1–30. (Éric Leichtnam) **99g:58119** 58G15 (58F17)
— (*with* Germinet, François) Localisation dynamique et opérateurs de Schrödinger aléatoires. (English and French summaries) [Dynamical localization for random Schrödinger operators] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 261–264. (Summary) **99j:82047** 82B44 (47B39, 47B80, 60H25)
— (*with* Bouzouina, Abdelkader) Équidistribution des valeurs propres et ergodicité semi-classique de symplectomorphismes du tore quantifiés. (English and French summaries) [Uniform distribution of eigenvalues and semiclassical ergodicity of quantized symplectomorphisms of the torus] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1021–1024. (M. Combescure) **99i:81048** 81Q50 (58F11, 58F19, 81Q20)
— (*with* Germinet, François) Dynamical localization for discrete and continuous random Schrödinger operators. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 323–341. (Frédéric Klopp) **99d:82033** 82B44 (35J10, 35R60, 47B39, 47B80, 47F05, 60H25)
— (*with* Forni, Giovanni) Transport properties of kicked and quasiperiodic Hamiltonians. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1201–1223. (Alain Joye) **99g:82046** 82C05 (81Q10)
— (*with* Forni, Giovanni) On the growth of averaged Weyl sums for rigid rotations. (English summary) *Studia Math.* **130** (1998), *no.* 3, 199–212. (Thomas Ward) **99e:11114** 11L15 (11K70, 28D05)
Biferale, L. (*with* Boffetta, G.; Celani, A.; Toschi, F.) Multi-time, multi-scale correlation functions in turbulence and in turbulent models. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 187–197. 76F99
teixidor i Bigas, Montserrat *see* **Teixidor i Bigas, Montserrat**
Bigatti, D. (*with* Susskind, Leonard) A note on discrete light cone quantization. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 351–353. (Summary) **99c:81166** 81T30
Bigazzi, Alberto (*with* Brandenburg, Axel; Moss, David Leonard) Vortex tube models for turbulent dynamo action. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 72–80. (Summary) **99j:76131** 76W05 (76C05, 76F99, 85A30)
Bigelow, Stephen Supplements of bounded permutation groups. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 89–102. (Barbara Baumeister) **99b:20007** 20B35 (03C60)
Biggins, J. D. How fast does a general branching random walk spread? (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 19–39, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Gail Ivanoff) **99c:60186** 60J80
— Lindley-type equations in the branching random walk. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 105–133. (Wan Ding Ding) **99e:60186** 60J80 (60J15)
bartholomew-Biggs, M. C. *see* **Bartholomew-Biggs, M. C.**
Biggs, Norman The icosian calculus of today. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 23–34. (E. Keith Lloyd) **99i:05095** 05C25 (01A55, 05C45)
— International finance. (English summary) *Graph connections*, 261–279, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 90A09 (05C90)
— Constructions for cubic graphs with large girth. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Article* 1, 25 *pp.* (*electronic*). (Felix Lazebnik) **99j:05097** 05C35 (05C38)
Bigi, G. (*with* Pappalardo, Massimo) Regularity conditions for the linear separation of sets. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 533–540. (Summary) **99f:90078** 90C25 (90C08)
Bigil'deev, S. I. (*with* Rol'shchikov, V. E.) Properties of an approximate gradient depending on the weight function. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 89–94. 90C30 (49J52)
Biglieri, Ezio (*with* Proakis, John; Shamai, Shlomo) Fading channels: information-theoretic and communications aspects. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2619–2692. (Summary) **99i:94032** 94A40 (94–02, 94A15)
Bignall, R. J. (*with* Spinks, M.) Multiple-valued logics for theorem-proving in first order logic with equality. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 102–107, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (03B35, 68T15)
Bigolin, Bruno (*with* Perelli Cippo, Claudio) Familles intégrales de jets (sur variétés algébriques) et fibrés $\mathscr{B}$ et $\mathscr{C}$. I, II. (English, French and Polish summaries) [Integral families of jets (on algebraic varieties) and bundles $\mathscr{B}$ and $\mathscr{C}$. I, II] *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 77–101, 103–118. (Jaime Muñoz Masqué) **99j:58010** 58A15 (58A20)
Bigoni, D. (*with* Serkov, S. K.; Valentini, M.; Movchan, A. B.) Asymptotic models of dilute composites with imperfectly bonded inclusions. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3239–3258. (Leonid V. Gibiansky) **99d:73005** 73B27 (73K20, 73M25)
— (*with* Radi, E.; Tralli, A.) On uniqueness for frictional contact rate problems. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 275–296. (Summary) **99j:73092** 73T05
— (*with* Loret, Benjamin) Effects of elastic anisotropy on strain localization and flutter instability in plastic solids. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 7, 1409–1436. 73E99 (73K70)
Bijan-Zadeh, M. H. (*with* Payrovi, Sh.) A generalization of Cohen-Macaulay modules by torsion theory. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 1–14. (Santiago Zarzuela Armengou) **99g:13015** 13C14 (13C12, 13D45)
Bijaoui, A. (*with* Starck, J.-L.; Murtagh, Fionn) ★ Image processing and data analysis. (English summary) The multiscale approach. *Cambridge University Press, Cambridge*, 1998. $x+287$ *pp. ISBN* 0-521-59084-1; 0-521-59914-8 (From the preface) **99f:94004** 94A12 (68U10)
Bijker, Roelof (*with* Frank, Alejandro; Lemus, R.; Arias, J. M.; Pérez-Bernal, F.) A comparison between algebraic models of molecular spectroscopy. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 37–46, *Plenum, New York*, 1998. (Summary) **99g:81234** 81V55 (81R05)
— (*with* Iachello, F.; Santopinto, E.) Algebraic treatment of the hyper-Coulomb problem. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9041–9054. (A. Ventura) **99j:81206** 81V25 (81R05)
— *see also* **Symposium: Nuclear Physics, 99g:81002**
Bijl, Hester (*with* Wesseling, Pieter) A unified method for computing incompressible and compressible flows in boundary-fitted coordinates. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 153–173. (Summary) **99b:76061** 76M25
— (*with* Wesseling, Pieter; Segal, August; Kassels, C. G. M.) Computing flows on general two-dimensional nonsmooth staggered grids. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 21–44. (Summary) **99f:76110** 76M25 (76D05)
Bik, Aart J. C. (*with* Brinkhaus, J. H.; Knijnenburg, Peter M. W.; Wijshoff, Harry A. G.) The automatic generation of sparse primitives. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 190–225. 65F50 (65–04, 68N20)
Bikbaev, R. F. Complex Whitham deformations in problems with "integrable instability". (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 393–419; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1078–1097 (1996). (Oktay K. Pashaev) **99b:35195** 35Q58 (34A55, 34L25, 58F07)
Bikchentaev, Airat Majorization for products of measurable operators. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 571–576. (Jan Hamhalter) **99e:46075** 46L10 (46L50)
Biktashev, V. N. A three-dimensional autowave turbulence. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 4, 677–684. (Summary) **99f:35209** 35Q80 (92C50)
Bikulov, A. Kh. (*with* Volovich, I. V.) p-adic Brownian motion. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 3, 75–90; *translation in Izv. Math.* **61** (1997), *no.* 3, 537–552. (Andrzej Mądrecki) **99b:60006** 60B05 (46S10, 60G15, 60J65)
Bilaĭ, V. V. (*with* Tikhonenko, N. Ya.) On the theory of solvability and approximate solution of infinite Wiener-Hopf systems with difference and sum indices. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1220–1226, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1226–1232 (1998). (R. V. Duduchava) **99h:47031** 47B35 (45E10)
Bilal, Adel (*with* Ferrari, Frank) Exact multiplets of spontaneously broken discrete global symmetries: the example of $N = 2$ SUSY QCD. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 372–377, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81221** 81T60 (81R40, 81T13)
— (*with* Ferrari, Frank) The BPS spectra and superconformal points in massive $N = 2$ supersymmetric QCD. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 175–228. (Martin Schlichenmaier) **99c:81229** 81T60 (81T13, 81T17)
— A comment on compactification of M-theory on an (almost) light-like circle. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 202–216. (Summary) **99k:81222** 81T30
— DLCQ of M-theory as the light-like limit. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 312–318. (Christophe Grojean) **99k:81223** 81T30 (81Q60)
Bilalov, B. T. (*with* Ismailov, N. A.) A necessary and sufficient condition for the minimality of a system of functions. (Russian) *Algebra and mathematical analysis* (*Russian*), 130–137, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 42C30
Bilardi, Gianfranco *see* **Algorithms—ESA '98, 99k:68004**
Bilbao, A. *see* **Bilbao Terol, Amelia**
Bilbao, Armando (*with* Avilés, Rafael; Ajuria, Goizalde; Vallejo, Javier) Lagrange multipliers and the primal-dual method in the non-linear static equilibrium of multibody systems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 5, 463–472. (Summary) **99a:70007** 70B15 (70–08, 73K99, 73V25)
Bilbao, Jesús Mario Values and potential of games with cooperation structure. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 131–145. (Peter Borm) **99f:90200** 90D12
— Closure spaces and restricted games. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 57–69. (Summary) **99j:90133** 90D44
— (*with* Jiménez-Losada, Andrés; López Vázquez, Jorge) The Banzhaf power index on convex geometries. (English summary) *Math. Social Sci.* **36** (1998), *no.* 2, 157–173. (Edward M. Bolger) **99k:90213** 90D12 (90D80)
Bilbao Terol, Amelia (*with* Arenas Parra, M. Mar; Rodriguez Uria, M. Victoria; Jiménez, Mariano) Fuzzy parameters multiobjective linear programming problem: solution analysis. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 128–137, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90C70)
Bil'chenko, G. G. (*with* Aksent'ev, L. A.) On an inverse problem for Christoffel-Schwarz integrals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 72–76; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 8, 68–72 (1998). (S. R. Nasyrov) **99b:30009** 30C35 (30C45, 30E20)
— (*with* Kayumov, I. R.; Nasyrov, S. R.; Sadykov, M. F.) Branched coverings of nonorientable surfaces by orientable ones with a given projection of the boundary. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 292–294; *translation in Math. Notes* **63** (1998), *no.* 1-2, 252–255. (A. N. Bezen) **99g:57002** 57M12
Bilchev, George (*with* Wodrich, Mark) Cooperative distributed search: the ants' way. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 413–445. (*see* **99b:90008**) 90C15 (90C27)
Biler, Piotr (*with* Funaki, Tadahisa; Woyczyński, Wojbor A.) Fractal Burgers equations. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 9–46. (Ana Bela Cruzeiro) **99g:35111** 35Q53 (76D99, 76F99, 76M35)
— (*with* Woyczyński, Wojbor A.) Global and exploding solutions for nonlocal quadratic evolution problems. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 845–869 (*electronic*). (Song Mu Zheng) **99j:35092** 35K55 (35B05)
Biles, Daniel C. (*with* Binding, Paul A.) Subfunctions and cone conditions for initial value problems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 321–329. (S. A. Brykalov) **99i:34003** 34A12
— (*with* Spraker, John S.) Continuous almost everywhere. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 2, 287–289. 26B15
Bilge, A. H. (*with* Dereli, T.; Koçak, Ş.) The geometry of self-dual gauge fields. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 277–288, *PWN, Warsaw*, 1997. (Luis Ugarte) **99i:53075** 53C80 (53C07, 81T13)
Bilge, S. (*with* Altanhan, T.) Squeezed spin states and Heisenberg interaction. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 115–121. 81V80 (81R30)

Bilgiç, M. O. (*with* Derdiyok, A.; İnanç, N.; Özbulur, V.) Improving performance of switched reluctance motor by fuzzy logic controller. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 5, 307–317. 93C42 (93C95)

Bilgin, Tunay (*with* Altin, Yilmaz) On certain sequence spaces and infinite matrices. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 217–224. (Summary) **99h:40011** 40H05

Bilke, S. (*with* Burda, Zdzisław; Krzywicki, Andrzej; Petersson, B.; Tabaczek, J.; Thorleifsson, Gudmar) 4d simplicial quantum gravity: matter fields and the corresponding effective action. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 279–286. (Summary) **99d:83030** 83C27 (83C45)

Billant, Paul (*with* Chomaz, Jean-Marc; Huerre, Patrick) Experimental study of vortex breakdown in swirling jets. (English summary) *J. Fluid Mech.* **376** (1998), 183–219. 76-05 (76C05)

Billard, Hervé Propriétés arithmétiques d'une famille de surfaces $K3$. (English and French summaries) [Arithmetical properties of a family of $K3$ surfaces] *Compositio Math.* **108** (1997), *no.* 3, 247–275. (Dino J. Lorenzini) **99g:14029** 14G25 (11G35, 14G40, 14J28)

— Sur la répartition des points rationnels de surfaces elliptiques. (English and French summaries) [Distribution of the rational points of elliptic surfaces] *J. Reine Angew. Math.* **505** (1998), 45–71. (Constantin D. Manoil) **99m:14039** 14G05 (14J27)

Billard, Lynne (*with* Guo, Jiin-Huarng) Some inference results for causal autoregressive processes on a plane. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 681–691. (Summary) **99k:62162** 62M10

Billera, Louis J. (*with* Babson, Eric K.; Chan, Clara S.) Neighborly cubical spheres and a cubical lower bound conjecture. (English summary) *Israel J. Math.* **102** (1997), 297–315. (P. McMullen) **99a:52011** 52B12

— (*with* Ehrenborg, Richard; Readdy, Margaret) The *cd*-index of zonotopes and arrangements. (English summary) *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 23–40, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Johann Linhart) **99h:52011** 52B12 (52B30)

— (*with* Babson, Eric K.) The geometry of products of minors. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 231–249. (Alexander I. Barvinok) **99j:52010** 52B05 (52B11, 52B12)

— (*with* Chan, Clara S.; Liu, Niandong) Flag complexes, labelled rooted trees, and star shellings. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 91–102, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Eva-Maria E. Feichtner) **99m:52012** 52B05 (52B12, 52B20)

Billette, Emmanuel (*with* Bamberger, Alain; Benjelloun-Dabaghi, Zakia; Jaecker-Voirol, Anne; Quandalle, Philippe; Sandu, Adrian) Mathematical and numerical studies to improve CPU time in a transport-convection atomospheric problem. (English summary) *Équations aux dérivées partielles et applications*, 81–105, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 86A10 (86–08)

Billey, Sara C. Pattern avoidance and rational smoothness of Schubert varieties. (English summary) *Adv. Math.* **139** (1998), *no.* 1, 141–156. (Şerban Bărcănescu) **99i:14058** 14M15 (05E15)

— Transition equations for isotropic flag manifolds. (English summary) Selected papers in honor of Adriano Garsia (Taormina, 1994). *Discrete Math.* **193** (1998), *no.* 1-3, 69–84. (Harry Tamvakis) **99m:05165** 05E15 (14M15)

Billhardt, Bernd (*with* Szendrei, Mária B.) A new class of embeddable E-unitary regular semigroups. (English summary) *Semigroups (Luino, 1992)*, 27–35, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M17

— On embeddability into a semidirect product of a band by a group. (English summary) *J. Algebra* **206** (1998), *no.* 1, 40–50. (Mária B. Szendrei) **99g:20109** 20M17

Billi, Luca Non-isothermal flows in porous media with curing. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 623–637. (Lubomira G. Softova) **99a:76142** 76S05 (35Q99, 80A20)

— Incompressible flows through porous media with temperature-dependent parameters. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 363–383. (Peter Knabner) **99j:76122** 76S05 (35Q35)

Billig, Yu. V. Principal vertex operator representations for toroidal Lie algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3844–3864. (Mirko Primc) **99j:17041** 17B69

Billing, Gert D. (*with* Mikkelsen, Kurt V.) ★ Advanced molecular dynamics and chemical kinetics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xiv+288 *pp. ISBN* 0-471-12740-X (L. E. H. Trainor) **99b:81283** 81V55 (80A30, 92E20)

Billinge, Helen A constructive formulation of Gleason's theorem. (English summary) *J. Philos. Logic* **26** (1997), *no.* 6, 661–670. (V. Ya. Kreinovich) **99c:03099** 03F60 (03G12, 81P10)

Billingham, J. The unsteady motion of three phase contact lines. *IUTAM Symposium on Non-linear Singularities in Deformation and Flow (Haifa, 1997)*, 99–110, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D45 (80A22)

Billings, Lora (*with* Curry, James H.; Phipps, Eric) Symmetric functions and exact Lyapunov exponents. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 44–64. (Hans-Peter Herzel) **99h:58132** 58F14 (05E05, 34C35, 34D45, 58F03, 65J15)

Billings, S. A. (*with* Aguirre, Luis A.; Mendes, Eduardo M. A. M.) Smoothing data with local instabilities for the identification of chaotic systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 483–505. (Summary) **99f:93137** 93E14 (93C10)

— (*with* Zhang, H.) Gain bounds of higher-order nonlinear transfer functions. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 767–773. (Summary) **99g:93053** 93C80 (93B50)

— (*with* Zhu, Quan Min) East orthogonal identification of nonlinear stochastic models and radial basis function neural networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 871–886. 93E12

— (*with* Lang, Zi-Qiang) Output frequency characteristics of nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1049–1067. 93C10 (93C80)

— (*with* Liu, Guo Ping; Kadirkamanathan, V.) Stable sequential identification of continuous nonlinear dynamical systems by growing radial basis function networks. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 53–69. 93B30 (41A30)

— (*with* Lang, Zi-Qiang) A bound for the magnitude characteristics of nonlinear output frequency response functions. I. Analysis and computation. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 309–328. 93C10

— (*with* Lang, Zi-Qiang) A bound for the magnitude characteristics of nonlinear output frequency response functions. II. Practical computation of the bound for systems described by the nonlinear autoregressive model with exogenous input. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 365–384. 93C10

— (*with* Yusof, M. I.) Decomposition of generalized frequency response functions for nonlinear systems using symbolic computation. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 589–618. 93C80 (93B40)

— (*with* Lang, Zi-Qiang) Output frequencies of nonlinear systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 713–730. 93C80 (93C10)

— (*with* Mao, K. Z.) Rational model data smoothers and identification algorithms. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 297–310. 93E14 (93E12)

— (*with* Mao, K. Z.) Algorithms for minimal model structure detection in nonlinear dynamic system identification. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 311–330. 93B30 (93B40)

— (*with* Lang, Zi-Qiang) Truncation of nonlinear system expansions in the frequency domain. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1019–1042. 93C80 (93C30)

— (*with* Mendes, Eduardo M. A. M.) On overparametrization of nonlinear discrete systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 535–556. (Summary) **99e:58167** 58F40

— (*with* Liu, Guo Ping; Kadirkamanathan, V.) Predictive control for non-linear systems using neural networks. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1119–1132. 90B30 (93A30)

Billington, David (*with* Antoniou, Grigoris; Maher, Michael J.) Normal forms for defeasible logic. (English summary) *Logic programming (Manchester, 1998)*, 160–174, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68030** 68N17 (03B60)

— Proving quantified literals in defeasible logic. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 55–81. (Summary) **99j:03023** 03B60 (03B70, 68T27)

Billington, Elizabeth J. (*with* Pike, David A.) Decomposing block-intersection graphs of Steiner triple systems into triangles. (English summary) *Australas. J. Combin.* **18** (1998), 51–64. (A. Rosa) **99m:05027** 05B07 (05C70)

— (*with* Lo Faro, Giovanni) Repeated blocks in indecomposable twofold extended triple systems. (English summary) *Australas. J. Combin.* **18** (1998), 209–218. (Summary) **99g:05026** 05B07

— (*with* Lindner, C. C.) Maximum packings of bowtie designs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 227–249. (W. D. Wallis) **99c:05045** 05B40

— (*with* Lindner, C. C.) Embedding partial even-cycle systems into resolvable maximum packings. Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 41–54. (Peter B. Gibbons) **99m:05117** 05C70 (05B30, 05C38)

— Decomposing complete tripartite graphs into cycles of lengths 3 and 4. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 123–135. (Summary) **99i:05158** 05C70 (05C38)

— (*with* Hoffman, Dean G.; Maenhaut, Barbara M.) Group divisible pentagon systems. (English summary) *Util. Math.* **55** (1999), 211–219. (Summary) **99m:05038** 05B30

Billio, Monica (*with* Monfort, Alain) Switching state-space models: likelihood function, filtering and smoothing. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 65–103. (Summary) **99c:62241** 62M10 (62M20)

Billionnet, C. About poles of the resolvent, in a model for a harmonic oscillator coupled with massless scalar bosons. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 1, 1–16. (Mihai Pascu) **99h:81045** 81Q15 (47N50)

— On resonances for a harmonic oscillator coupled with massless bosons. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 623–638. (Vladimir Georgescu) **99h:81039** 81Q10

Billó, M. (*with* Di Vecchia, P.; Frau, M.; Lerda, A.; Russo, Rodolfo; Sciuto, S.) The Lorentz force between D0 and D6 branes in string and M(atrix) theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2977–2990. (Summary) **99h:81152** 81T30

Billot, Antoine Elements of fuzzy game theory. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 137–176, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90D40 (03E72)

— Autobiased choice theory. (English summary) *Ann. Oper. Res.* **80** (1998), 85–103. (Summary) **99g:90022** 90A08 (90A05)

Billyard, Andrew (*with* Agnese, A. G.; Liu, Hong Ya; Wesson, Paul S.) Possible wormhole solutions in $(4+1)$ gravity. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 527–535. 83E15

— (*with* Coley, Alan A.; Ibáñez, Jesus) Asymptotic behavior of cosmological models in scalar-tensor theories of gravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 023507, 9 *pp.* 83D05 (83F05)

Bilu, Yuri F. (*with* Hanrot, Guillaume) Solving superelliptic Diophantine equations by Baker's method. (English summary) *Compositio Math.* **112** (1998), *no.* 3, 273–312. (Paul M. Voutier) **99d:11028** 11D41 (11D25, 11Y50)

— The $(\alpha + 2\beta)$-inequality on a torus. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 513–528. (Vsevolod F. Lev) **99j:11009** 11B05 (11B75)

— Integral points of Galois covers. Algebra Meeting (Rio de Janeiro, 1996). *Mat. Contemp.* **14** (1998), 1–11. (Guillaume Hanrot) **99j:11074** 11G30 (11D41, 11J86)

Bilyalov, R. F. (*with* Nikitin, B. S.) Spinors in arbitrary frames. The covariant derivative and the Lie derivative of spinors. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 9–18; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 6, 7–15. (J. S. Joel) **99m:53028** 53A50

Bimbó, Katalin (*with* Dunn, J. Michael) Two extensions of the structurally free logic LC. (English summary) *Log. J. IGPL* **6** (1998), *no.* 3, 403–424. (Martin W. Bunder) **99f:03012** 03B40

Bimonte, G. (*with* Musto, R.; Stern, Allen Bruce; Vitale, Patrizia) Deformed Chern-Simons theories. (English summary) *Phys. Lett. B* **406** (1997), *no.* 3, 205–214. (Andrey A. Bogush) **99d:81082** 81T13 (53C80, 58Z05, 81R50)

— (*with* Musto, R.; Vitale, Patrizia; Stern, Allen Bruce) $2+1$ Einstein gravity as a deformed Chern-Simons theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4023–4047. (Paulo Moniz) **99j:83007** 83C05 (81T13)

— (*with* Balachandran, A. P.; Landi, Giovanni; Lizzi, Fedele; Teotonio-Sobrinho, Paulo) Lattice gauge fields and noncommutative geometry. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 353–385. (Eli J. Hawkins) **99b:58022** 58B30 (06B35, 81T25)

— (*with* Balachandran, A. P.; Vaidya, Sachindeo; Govindarajan, T. R.; Gupta, K. S.; John, Varghese) Current oscillations, interacting Hall discs and boundary CFTs. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1061–1085. (Summary) **99k:81276** 81T40 (81R10, 81V10)

Binder, Kurt Monte Carlo methods: a powerful tool of statistical physics. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 19–39, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:82054** 82B80 (65C05, 82C80)

Binder, Michael (*with* Pesaran, M. Hashem) Multivariate linear rational expectations models: characterization of the nature of the solutions and their fully recursive computation. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 877–888. (D. E. A. Giles) **99i:62251** 62P20

— (*with* Pesaran, M. Hashem) Decision making in the presence of heterogeneous information and social interactions. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1027–1052. (Summary) **99i:90006** 90A05

Binder, P.-M. (*with* Laverde, Diego) Observation of structure in the Lorenz map. (English summary) *Chaos* **9** (1999), *no.* 1, 206–207. 58F13 (65L06)

Binderman, Zbigniew (*with* Przeworska-Rolewicz, Danuta) Almost quasinilpotent right inverses. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 23–38. (M. Z. Nashed) **99e:47002** 47A05

— Remarks on functional R-shifts for right invertible operators. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 39–48. (M. Z. Nashed) **99e:47003** 47A05 (47B38)

— *see also* **Przeworska-Rolewicz, Danuta**, **99j:47002**

Bindi, D. (*with* Bertero, Mario; Boccacci, Patrizia; Cattaneo, M.; Eva, C.; Lanza, V.) A novel blind-deconvolution method with an application to seismology. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 815–833. 86A22 (86A15)

Binding, Paul A. (*with* Biles, Daniel C.) Subfunctions and cone conditions for initial value problems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 321–329. (S. A. Brykalov) **99i:34003** 34A12

Bindu, S. G. (*with* Kuriakose, V. C.) Nonlinear wave propagation through cold plasma. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 149–158. (Summary) **99a:76168** 76X05

Binétruy, Pierre (*with* Deffayet, Cédric; Dudas, Emilian; Ramond, Pierre) Pseudo-anomalous U(1) symmetry in the strong coupling limit of the heterotic string. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 163–172. (Summary) **99h:81153** 81T30

Bingham, N. H. (*with* Inoue, Akihiko) An Abel-Tauber theorem for Hankel transforms. (English summary) *Trends in probability and related analysis* (*Taïpei*, 1996), 83–90, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:44008** 44A15 (40E05)

— (*with* Dunham, Bruce) Estimating diffusion coefficients from count data: Einstein-Smoluchowski theory revisited. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 667–679. (Francis Comets) **99m:62127** 62M05 (60K40)

— (*with* Inoue, Akihiko) The Drasin-Shea-Jordan theorem for Fourier and Hankel transforms. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 191, 279–307. (Sergei Treil) **99c:44005** 44A15 (47B38)

— (*with* Bräker, H.; Hsing, Tailen) On the Hausdorff distance between a convex set and an interior random convex hull. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 295–316. (Irene Hueter) **99f:60020** 60D05 (52A22)

Bingwu, Wang *see* **Wang, Bing Wu**

pham xuan Binh *see* **Pham Xuan Binh**

Bini, Dario Andrea (*with* Meini, Beatrice) Exploiting the Toeplitz structure in certain queueing problems. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 289–305 (1998). (Summary) **99c:60199** 60K25 (15A57, 90B22)

— (*with* Del Corso, Gianna M.; Manzini, Giovanni; Margara, Luciano) Inversion of circulant matrices over Z_m. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 719–730, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 65F35 (15-04, 15A09, 68Q80)

— (*with* Meini, Beatrice) Inverting block Toeplitz matrices in block Hessenberg form by means of displacement operators: application to queueing problems. (English summary) *Linear Algebra Appl.* **272** (1998), 1–16. (A. Bultheel) **99b:65055** 65F30 (15A09, 15A57, 90B22)

— (*with* Gemignani, Luca) Fast fraction-free triangularization of Bezoutians with applications to sub-resultant chain computation. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 19–39. (Wen Yu Sun) **99m:65053** 65F05 (65F30)

— (*with* Pan, Victor Y.) Computing matrix eigenvalues and polynomial zeros where the output is real. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1099–1115 (*electronic*). (Alkiviadis G. Akritas) **99i:68068** 68Q40 (65F15, 68Q25)

Binkowska, M. (*with* Kamiński, Brunon) On finitary shifts. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 487–500. (Dalibor Volný) **99e:28024** 28D05 (60G10)

Binkowski, Michael (*with* McCarragher, Brenan J.) A queueing model for the design and analysis of a mining stockyard. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 75–98. 90B22 (93E20)

Binmore, Ken (*with* Piccione, Michele; Samuelson, Larry) Evolutionary stability in alternating-offers bargaining games. (English summary) *J. Econom. Theory* **80** (1998), *no.* 2, 257–291. (Summary) **99f:90201** 90D12

Binnenhei, Carsten $\mathcal{O}_\infty$ realized on Bose Fock space. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 353–372. (Claudia Pinzari) **99e:81128** 81T05 (46L60, 46N50)

Binney, J. J. (*with* Dowrick, N. J.; Fisher, A. J.; Newman, M. E. J.) ★ Zjawiska krytyczne. (Polish. Polish summary) [Critical phenomena] Wstęp do teorii grupy renormalizacji. [An introduction to the renormalization group] Translated from the 1992 English original by Grzegorz Musiał and Piotr Pawlicki. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 488 *pp. ISBN* 83-01-12454-7 (Paweł H. Węgrzyn) **99h:82030** 82B27 (81T17, 82-01, 82B26, 82B28)

Binning, Kh. S. (*with* Goodall, David P.) Output control of an uncertain singularly perturbed nonlinear system. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 81–97; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1132–1145. (T. R. Gichev) **99a:93067** 93C70

Bin Shahna, A. S. Fuzzy Boolean algebra of fuzzy regular closed sets. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 285–287. 54A40

Binz, B. (*with* Zotos, X.; Baeriswyl, D.) Solution of the infinite-range t-J model. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4225–4237. (Summary) **99b:82090** 82D55

Binz, E. From the discrete to a continuum. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 199–215, *World Sci. Publishing, River Edge, NJ*, 1996. (Frans Cantrijn) **99f:58030** 58D30 (73B99)

— (*with* Oellers, P.) Einstein equation and geometric quantization. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 239–246, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99e:58183** 58G16 (58F06, 81S10, 83C05)

Binzar, T. (*with* Bânzaru, T.) On the M-product of continuous multifunctions. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 57–60, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 54C60

— (*with* Bânzaru, T.) On a convergence in function spaces. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 61–65, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 54C35 (54C60)

Biondi, Paola A common characterization of ovoids and nonsingular ruled quadrics in PG(d, n). (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 327–333. (Anne Delandtsheer) **99i:51007** 51E20

— An embedding theorem for finite planar spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 265–276. (Anne Delandtsheer) **99i:51002** 51A45 (51E20, 51E22)

Biondini, Riccardo (*with* Mvoi, Sifa; Lin, Yan-Xia) Consistency of the asymptotic quasi-likelihood estimate on linear models. (English summary) *Biom. J.* **40** (1998), *no.* 1, 57–78. (Summary) **99b:62108** 62J05 (62F12)

Biørn, Erik (*with* Klette, Tor Jakob) Panel data with errors-in-variables: essential and redundant orthogonality conditions in GMM-estimation. (English summary) *Econom. Lett.* **59** (1998), *no.* 3, 275–282. 62P20

Biosca, Hélène (*with* Briancon, Joël; Maisonobe, Philippe; Maynadier, Hélène) Espaces conormaux relatifs. II. Modules différentiels. [Relative conormal spaces. II. Differential modules] *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 123–134. (Orlando Neto) **99i:32044** 32S40

Biot, Maurice A. *see* **Poroelasticity**, **99f:73001**

Biquard, Olivier Twisteurs des orbites coadjointes et métriques hyper-pseudokählériennes. (English and French summaries) [Twistors of coadjoint orbits and hyper-pseudo-Kähler metrics] *Bull. Soc. Math. France* **126** (1998), *no.* 1, 79–105. (Francesco Bottacin) **99h:53055** 53C25 (53C50, 58D27)

eriksson-Bique, Sirkka-Liisa *see* **Eriksson-Bique, Sirkka-Liisa**

Birbas, Dimitrios G. Pták function and symmetry. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 431–446. (Horst Behncke) **99k:46092** 46K05 (46H20)

Birch, Bryan J. Atkin and the Atlas Lab. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 13–20, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (V. Kumar Murty) **99c:11002** 11-03 (01A60, 11F30, 11F33)

Bird, Richard S. Allegories as a basis for algorithmics. *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 34–46, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (From the introduction) **99f:68077** 68Q20 (68Q25, 68Q65)

Birge, John R. (*with* Mulvey, John M.) Stochastic programming. *Mathematical programming for industrial engineers*, 543–574, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C15 (90–02)

— (*with* Louveaux, François) ★ Introduction to stochastic programming. (English summary) Springer Series in Operations Research. *Springer-Verlag, New York*, 1997. xx+421 *pp. ISBN* 0-387-98217-5 (Peter Kall) **99b:90001** 90–02 (90–01, 90C15)

— (*with* Glazebrook, Kevin D.) Bounds on optimal values in stochastic scheduling. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 3, 107–114. (Jean B. Lasserre) **99a:90106** 90B35

— (*with* Qi, Liqun; Wei, Zeng Xin) A general approach to convergence properties of some methods for nonsmooth convex optimization. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 141–158. (J. Frédéric Bonnans) **99f:90079** 90C25 (65K05, 90C30)

— (*with* Wei, Zeng Xin; Qi, Liqun) A new method for nonsmooth convex optimization. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 157–179. (M. Teboulle) **99k:90166** 90C30 (90C25)

— (*with* Qi, Liqun; Wei, Zeng Xin) Convergence analysis of some methods for minimizing a nonsmooth convex function. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 357–383. (Stefan M. Stefanov) **99k:90150** 90C30 (49J52, 90C15)

— (*with* Takriti, Samer) Successive approximations of linear control models. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 165–176 (*electronic*). (Kurt Marti) **99g:90070** 90C08 (90C15, 93E20)

Birget, Jean-Camille Time-complexity of the word problem for semigroups and the Higman embedding theorem. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 235–294. (Friedrich Otto) **99e:20069** 20M05 (03D40, 68Q25)

— Infinite string rewrite systems and complexity. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 6, 759–793. (Friedrich Otto) **99d:20093** 20M05 (03D15, 20F05, 68Q42)

Birgisson, B. (*with* Crouch, S. L.) Elastodynamic boundary element method for piecewise homogeneous media. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1045–1069. 73V10

Birindelli, Isabeau (*with* Capuzzo-Dolcetta, Italo; Cutrì, Alessandra) Indefinite semi-linear equations on the Heisenberg group: a priori bounds and existence. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1123–1157. (Chu Li Fu) **99h:35045** 35J60 (35B45, 35H05)

— (*with* Finzi Vita, Stefano) A class of quasi-linear elliptic systems arising in image segmentation. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 4, 445–459. (Kanishka S. Perera) **99k:35043** 35J60 (35Q99, 49Q20, 68U10)

— (*with* Mitidieri, Enzo) Liouville theorems for elliptic inequalities and applications. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1217–1247. (Ya. A. Roĭtberg) **99m:35277** 35R45 (35B05, 35J60)

Birkedal, L. (*with* Carboni, A.; Rosolini, Giuseppe; Scott, Dana S.) Type theory via exact categories (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 188–198, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18E10)

Birkendorf, Andreas (*with* Böker, Andreas; Simon, Hans Ulrich) Learning deterministic finite automata from smallest counterexamples. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 599–608, *ACM, New York*, 1998. (Summary) **99e:68134** 68T05 (68Q68)

— (*with* Simon, Hans Ulrich) Using computational learning strategies as a tool for combinatorial optimization. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 237–257. (Summary) **99g:68167** 68T05 (68Q20)

Birkenhake, Christina (*with* Lange, Herbert) Parameter spaces for complex tori with endomorphism structure. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 153–159. (Ş. A. Basarab) **99e:14051** 14K10 (32G13, 32M15)

— Complex structures contained in classical groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 139–152. (Harald Upmeier) **99h:32038** 32M15 (14K10, 53C35)

— *see also* **Ballico, Edoardo, 99a:14006**

Birkenmeier, Gary F. (*with* Groenewald, N. J.) Prime ideals in rings with involution. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 591–603. (Geoffrey L. Booth) **99i:16061** 16W10 (16D30)

— (*with* Heatherly, Henry E.) Self-distributively generated algebras. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 79–87, *Heyn, Klagenfurt*, 1998. (C. J. Maxson) **99i:16059** 16U99 (16W99)

— (*with* Cho, Yong Uk) Additive endomorphisms generated by ring endomorphisms. *East-West J. Math.* **1** (1998), *no.* 1, 73–84. (J. Hausen) **99k:16060** 16S50

— (*with* Kim, Jin Yong; Park, Jae Keol) A characterization of minimal prime ideals. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 223–236. (Yasuyuki Hirano) **99g:16002** 16D30 (16N40)

Birkett, Nick R. C. (*with* Campos, Frederico F.) An efficient solver for multi-right-hand-side linear systems based on the CCCG(η) method with applications to implicit time-dependent partial differential equations. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 126–138 (*electronic*). (*see* **99a:65007**) 65F10 (65F50, 65M60)

— *see also* **Babitskiĭ, V. I., 99j:70026**

Birkhoff, Garrett *see* **Varga, Richard S., 99m:01093**

Birman, Graciela S. (*with* Anchordoqui, Luis A.) Metric tensors for homogeneous, isotropic, 5-dimensional pseudo-Riemannian models. (English summary) *Rev. Colombiana Mat.* **32** (1998), *no.* 1, 73–79. (Mark D. Roberts) **99m:83176** 83E15 (83C15, 83F05)

Birman, Joan S. The work of Vaughan F. R. Jones [MR 93b:01035]. *Fields Medallists' lectures*, 435–445, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (57–03)

— (*with* Ko, Ki Hyoung; Lee, Sang Jin) A new approach to the word and conjugacy problems in the braid groups. (English summary) *Adv. Math.* **139** (1998), *no.* 2, 322–353. (Yuji Kobayashi) **99m:20082** 20F36 (20F05, 20F10)

— (*with* Trapp, Rolland) Braided chord diagrams. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 1–22. (Sergey S. Anisov) **99c:57010** 57M25 (55M25)

— (*with* Finkelstein, Elizabeth) Studying surfaces via closed braids. *J. Knot Theory Ramifications* **7** (1998), *no.* 3, 267–334. (Sergei K. Lando) **99i:57007** 57M25

Birman, Joseph L. (*with* Gorokhov, A. V.) Hubbard-Stratonovich tricks, dynamical (super)algebras and related path integrals for many-body problems. (English summary) *Path integrals: Dubna '96*, 259–263, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81V70 (81S40)

— (*with* Solomon, Allan I.) Dynamical group for the quantum Hall current. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1702–1704. (Introduction) **99j:81212** 81V70

Birman, M. Sh. The discrete spectrum in gaps of the perturbed periodic Schrödinger operator. II. Nonregular perturbations. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 62–89; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1073–1095. (Yulia E. Karpeshina) **99h:47054** 47F05 (35J10, 35P05, 81Q10)

— (*with* Suslina, T. A.) Absolute continuity of a two-dimensional periodic magnetic Hamiltonian with discontinuous vector potential. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 1–36. (George D. Raikov) **99k:81060** 81Q10 (35Q40, 47F05, 47N50)

— (*with* Laptev, A.; Solomyak, M. Z.) On the eigenvalue behaviour for a class of differential operators on semiaxis. (English summary) *Math. Nachr.* **195** (1998), 17–46. (Christiane Tretter) **99m:34194** 34L20 (47E05)

Birmingham, Danny (*with* Sachs, Ivo; Sen, Siddhartha[1]) Entropy of three-dimensional black holes in string theory. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 275–280. (Marco Cavaglià) **99f:83061** 83E30 (83C57)

— String theory formulation of anti-de Sitter black holes. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 263–267. (Sergey Nikolaevich Roshchupkin) **99f:83062** 83E30 (83C57)

Birnbaum, Z. W. *see* **Woyczyński, Wojbor A., 99g:01037**

Birnir, Björn (*with* Hauksson, Höskuldur Ari) A finite-dimensional attractor of the Moore-Greitzer PDE model. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 636–650 (*electronic*). (Daniel Ševčovič) **99k:35090** 35K57 (34D45, 34G20, 35B40, 76N10)

Bíró, Oszkár Edge element formulations of eddy current problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 391–405. 78–08

Bíró, T. S. (*with* Matinyan, S. G.; Müller, Berndt) ★ Chaos and gauge field theory. (English summary) World Scientific Lecture Notes in Physics, 56. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1994. $x+288$ *pp. ISBN* 981-02-2079-0 (Massimo Di Pierro) **99d:81083** 81T13 (58F13, 58F40, 81T25, 81T80)

Biroli, G. (*with* Monasson, R.) Relationship between long timescales and the static free-energy in the Hopfield model. (English summary) *J. Phys. A* **31** (1998), *no.* 21, *L*391–*L*396. (Summary) **99a:82096** 82D30

Biroli, Marco (*with* Mosco, Umberto; Tchou, N. A.) Homogenization by the Heisenberg group. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 809–831. (A. F. M. ter Elst) **99d:35020** 35B27 (22E25, 22E30, 35H05, 35J99)

— Nonlinear subelliptic Schrödinger type problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3271–3282. (Michael Langenbruch) **99c:35031** 35H05 (35D10, 35J60)

— Nonlinear Kato measures and nonlinear subelliptic Schrödinger problems. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 235–252. (Peter R. Popivanov) **99b:35022** 35H05

Bîrsan, T. Priorities and contributions of F. Vasilescu in the theory of multifunctions. *Libertas Math.* **18** (1998), 145–157. 54C60 (54–03)

białynicki-Birula, A. *see* **Bialynicki-Birula, A.**

bialynicki-Birula, Iwo *see* **Bialynicki-Birula, Iwo**

al-Bīrūnī *see* **Samsó, Julio, 99g:01010**

Biryukov, M. N. Statistical moments of nonparametric sequential algorithms. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 5, 95–101; *translation in Automat. Remote Control* **59** (1998), *no.* 5, *part* 2, 689–694. (Summary) **99m:93097** 93E10 (94A12)

Biś, Andrzej (*with* Walczak, Paweł) Pseudo-orbits, pseudoleaves and geometric entropy of foliations. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1335–1348. (Shigenori Matsumoto) **99k:58150** 58F18 (57R30)

Biscari, Paolo (*with* Guidone Peroli, Giovanna) A hierarchy of defects in biaxial nematics. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 381–392. (Summary) **99j:76003** 76A15 (55Q52, 73B99, 82D30)

Biscay, R. (*with* Valdés, J. L.; Jimenez, Juan Carlos) Geometric selection of centers for radial basis function approximations involved in intensive computer simulations. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 295–306. 65D15

Bisch, Dietmar A colored generalization of the Temperley-Lieb algebra via subfactors. *Operator algebras and quantum field theory (Rome, 1996)*, 212–224, *Internat. Press, Cambridge, MA*, 199?. (Yasuyuki Kawahigashi) **99a:46109** 46L37

— (*with* Jones, Vaughan F. R.) Algebras associated to intermediate subfactors. (English summary) *Invent. Math.* **128** (1997), *no.* 1, 89–157. (Jeong Hee Hong) **99c:46072** 46L37

Bischi, Gian-Italo (*with* Gardini, Laura) Basin fractalization due to focal points in a class of triangular maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1555–1577. (Peter Moson) **99b:58167** 58F14

— (*with* Stefanini, Luciano; Gardini, Laura) Synchronization, intermittency and critical curves in a duopoly game. (English summary) *Math. Comput. Simulation* **44** (1998), *no.* 6, 559–585. (Summary) **99c:90164** 90D12 (90A16)

— (*with* Gardini, Laura) Role of invariant and minimal absorbing areas in chaos synchronization. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5710–5719. (Helena E. Nusse) **99h:58122** 58F13 (58F12)

Bischof, Christian H. (*with* Hovland, Paul; Mohammadi, Bijan) Automatic differentiation and Navier-Stokes computations. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 265–284, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 65D25 (76M25)

— (*with* Eberhard, Peter) Some aspects of algorithmic differentiation of ordinary differential equations. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 294–304, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 34–04 (34A45, 70E15)

— (*with* Quintana-Ortí, Gregorio) Computing rank-revealing QR factorizations of dense matrices. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 226–253. 65F35 (65–04)

— (*with* Quintana-Ortí, Gregorio) Algorithm 782: codes for rank-revealing QR factorizations of dense matrices. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 254–257. 65F35 (65–04)

— (*with* Eberhard, Peter) Automatic differentiation of numerical integration algorithms. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 717–731. (Summary) **99i:65066** 65L05 (34A45)

Bischoff, M. (*with* Rössle, Andreas; Wendland, Wolfgang L.; Ramm, E.) On the mathematical foundation of the (1, 1, 2)-plate model. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2143–2168. (Summary) **99j:73100** 73V05 (73K10)

Bischoff, Wolfgang A functional central limit theorem for regression models. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1398–1410. (Miguel A. Arcones) **99h:60070** 60F17 (62J05)

Bisegna, Paolo (*with* Maceri, Franco) The unilateral frictionless contact of a piezoelectric body with a rigid support. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 19–28. (Summary) **99e:73087** 73R05 (73T05, 73V05)

— The Saint-Venant problem for monoclinic piezoelectric cylinders. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 3, 147–165. (Cornelius O. Horgan) **99a:73036** 73C10 (73K05, 73R05)

— (*with* Maceri, Franco) Delamination of active layers in piezoelectric laminates. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 137–150, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73059** 73R05 (73H05, 73K20)

Bisgaard, Torben Maack (*with* Sasvári, Zoltán) On the positive definiteness of certain functions. (English summary) *Math. Nachr.* **186** (1997), 81–99. (Aleksandr Koldobsky) **99c:42009** 42A82 (43A35)

— On perfect semigroups. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 4, 269–294. (Dietrich Helmer) **99d:43006** 43A35 (20M14)

— Stieltjes moment sequences and positive definite matrix sequences. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3227–3237. (Tiberiu Constantinescu) **99a:44006** 44A60 (43A35, 47A57)

— Extensions of Hamburger's theorem. *Semigroup Forum* **57** (1998), *no.* 3, 397–429. (Olav Njåstad) **99k:44015** 44A60 (30E05)

Bishop, A. R. (*with* Sánchez, Angel) Collective coordinates and length-scale competition in spatially inhomogeneous soliton-bearing equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 579–615 (*electronic*). (Marco Pedroni) **99k:35160** 35Q53 (35B20, 35B27)

Bishop, C. H. (*with* Barcilon, A.) Nonmodal development of baroclinic waves undergoing horizontal shear deformation. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 24, 3583–3597. (Summary) **99h:76018** 76C15 (86A10)

Bishop, Christopher J. (*with* Jones, Peter Wilcox) Wiggly sets and limit sets. (English summary) *Ark. Mat.* **35** (1997), *no.* 2, 201–224. (Frédéric Paulin) **99f:30066** 30F40 (28A78)

— A quasisymmetric surface with no rectifiable curves. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2035–2040. (A. Hinkkanen) **99j:30023** 30C65

Bishop, John A. (*with* Formby, John P.; Zheng, Buhong) Inference tests for Gini-based tax progressivity indexes. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 322–330. 62P20

Bishop, Nigel T. (*with* Isaacson, Richard; Maharaj, Manoj; Winicour, Jeffrey) Black hole data via a Kerr-Schild approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6113–6118. (Summary) **99m:83098** 83C57

— (*with* Gómez, Roberto; Holvorcem, Paulo R.; Matzner, Richard A.; Papadopoulos, Philippos; Winicour, Jeffrey) Erratum: "Cauchy-characteristic evolution and waveforms" [J. Comput. Phys. **136** (1997), no. 1, 140–167; MR 98e:76084]. *J. Comput. Phys.* **148** (1999), *no.* 1, 299–301. 76M25 (76Q05)

Bishop, R. F. (*with* Vourdas, A.) Quantum systems at negative temperatures: a holomorphic approach based on coherent states. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8563–8575. (Jiu Qing Liang) **99m:81092** 81R30 (82B10)

Bishop, Richard L. (*with* Alexander, Stephanie B.) Warped products of Hadamard spaces. (English summary) *Manuscripta Math.* **96** (1998), *no.* 4, 487–505. (Joseph E. Borzellino) **99g:53070** 53C70 (53C20)

— (*with* Alexander, Stephanie B.) Thin Riemannian manifolds with boundary. *Math. Ann.* **311** (1998), *no.* 1, 55–70. (Zhongmin Shen) **99e:53037** 53C20

— (*with* Alexander, Stephanie B.) The Fary-Milnor theorem in Hadamard manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3427–3436. (Wolfgang Kühnel) **99a:53049** 53C22 (53C40, 57M25)

Bishop, Steven R. The impact of chaos on engineering. *The impact of chaos on science and society* (*Tokyo*, 1991), 255–274, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 70K50 (58F13, 73K12)

— (*with* Xu, Daolin; Liaw, Chih-Yong; Chan, Eng-Soon) Applying chaos control in periodic windows. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1297–1305. (Frederick R. Marotto) **99j:58140** 58F13 (58F40, 93D15)

— (*with* Galvanetto, Ugo) Computational techniques for nonlinear dynamics in multiple friction oscillators. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 373–382. (Summary) **99f:70002** 70–08

— (*with* Clifford, M. J.) Inverted oscillations of a driven pendulum. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 2811–2817. (Summary) **99g:70029** 70K40 (34C15, 70K20, 70K28)

Bisin, Alberto General equilibrium with endogenously incomplete financial markets. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 19–45. (Summary) **99k:90022** 90A09 (90A14)

Bisio, Giacomo On the formulation of the entropy production rate in the domain of "generalized thermodynamics". (Italian. English, French, German and Italian summaries) *Atti Accad. Ligure Sci. Lett.* (5) **54** (1997), 91–104 (1998). 80A10

Biskamp, D. (*with* Schwarz, E.; Zeiler, A.) Instability of a magnetized plasma jet. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2485–2488. (Summary) **99b:76036** 76E25 (76X05)

— (*with* Zeiler, A.; Drake, J. F.; Rogers, B. N.) Transition from resistive ballooning to η_i driven turbulence in tokamaks. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2654–2663. (Summary) **99b:76102** 76X05

— (*with* Schwarz, E.; Zeiler, A.; Celani, A.; Drake, J. F.) Electron magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 751–758. (Summary) **99k:76149** 76W05 (76F99)

Biskup, Dirk (*with* Cheng, T. C. Edwin) Multiple-machine scheduling with earliness, tardiness and completion time penalties. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 1, 45–57. (Summary) **99f:90043** 90B35 (90C60)

Biskup, Marek Reflection positivity of the random-cluster measure invalidated for noninteger q. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 369–375. (Aernout C. D. van Enter) **99j:82046** 82B43 (60K35, 82B05)

Bismut, Jean-Michel (*with* Labourie, François) Formules de Verlinde pour les groupes simplement connexes et géométrie symplectique. (English and French summaries) [Verlinde formulas for simply connected groups and symplectic geometry] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1009–1014. (Jonathan A. Poritz) **99e:58032** 58D29 (14D20, 58G10)

Bismuth, Sophie Courbure scalaire prescrite sur une variété riemannienne C^∞ compacte dans le cas nul. (English and French summaries) [Prescribed scalar curvature for a compact C^∞ Riemannian manifold of zero scalar curvature] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 667–695. (David L. Finn) **99e:53046** 53C21 (35J60, 58G30)

Bisognin, E. (*with* Bisognin, V.; Perla Menzala, Gustavo) Asymptotic behavior in time of the solutions of a coupled system of KdV equations. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 353–370. (Spyridon Kamvissis) **99a:35221** 35Q53 (35B40)

— (*with* Astaburuaga, M. A.; Bisognin, V.; Fernández, Claudio A.) Global attractor and finite dimensionality for a class of dissipative equations of BBM's type. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 25, 14 *pp.* (*electronic*). (Alp O. Eden) **99j:35181** 35Q53 (34G20, 35B40, 47H20)

— (*with* Bisognin, V.; Perla Menzala, Gustavo; Zuazua, Enrique) On exponential stability for von Kármán equations in the presence of thermal effects. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 5, 393–416. (Vilmos Komornik) **99a:73081** 73K10 (35J99, 35Q72, 73B30, 73H10)

Bisognin, V. (*with* Bisognin, E.; Perla Menzala, Gustavo) Asymptotic behavior in time of the solutions of a coupled system of KdV equations. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 353–370. (Spyridon Kamvissis) **99a:35221** 35Q53 (35B40)

— (*with* Astaburuaga, M. A.; Bisognin, E.; Fernández, Claudio A.) Global attractor and finite dimensionality for a class of dissipative equations of BBM's type. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 25, 14 *pp.* (*electronic*). (Alp O. Eden) **99j:35181** 35Q53 (34G20, 35B40, 47H20)

— (*with* Bisognin, E.; Perla Menzala, Gustavo; Zuazua, Enrique) On exponential stability for von Kármán equations in the presence of thermal effects. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 5, 393–416. (Vilmos Komornik) **99a:73081** 73K10 (35J99, 35Q72, 73B30, 73H10)

Biss, Daniel K. A presentation for the unipotent group over $\mathbf{F}_2$. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2971–2975. (Summary) **99g:20091** 20G40

Bissell, C. C. Bibliography of secondary sources for the history of control engineering: update 1995. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 995–1002. 93–00 (00A15)

— Obituary: Yakov Zalmanovich Tsypkin. 19 September 1919–2 December 1997. *Internat. J. Control* **71** (1998), *no.* 2, 191–193. 01A70

Bisset, Mike (*with* Kong, Otto C. W.; Macesanu, Cosmin; Orr, Lynne H.) A simple phenomenological parametrization of supersymmetry without R-parity. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 274–280. (Summary) **99c:81273** 81V22 (81T60)

Bissu, S. K. (*with* Joshi, C. M.) Inequalities of Appell's hypergeometric functions of two variables. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 7–15. (Yoshishige Haraoka) **99b:33029** 33C65

Bister, Daniel (*with* Prautzsch, Hartmut) A new approach to Tchebycheffian B-splines. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 35–41, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:41003** 41A15

Bistritz, Yuval Stability testing of two-dimensional discrete linear system polynomials by a two-dimensional tabular form. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 6, 666–676. 93D05

Åkerlund-Biström, Cecilia *see* **Åkerlund-Biström, Cecilia**

Biswal, B. (*with* Manwart, C.; Hilfer, R.) Three-dimensional local porosity analysis of porous media. (English summary) *Phys. A* **255** (1998), *no.* 3-4, 221–241. (Summary) **99d:73076** 73N20 (73V30, 76S05)

Biswal, M. P. (*with* Li, Duan) Exponential transformation in convexifying a noninferior frontier and exponential generating method. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 183–199. (Laura Martein) **99j:90073** 90C29

Biswal, Purna Chandra (*with* Rao, Adabala Ramachandra) The onset of steady Bénard-Marangoni convection in a two-layer system of conducting fluid in the presence of a uniform magnetic field. (English summary) *J. Engrg. Math.* **35** (1999), *no.* 4, 385–404. 76E15 (76E25, 76W05)

Biswas, Anindya K. (*with* Kumar, Alok[2]; Sengupta, Gautam[2]) Oscillating D-strings from type IIB Matrix theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5141–5149. (Summary) **99m:81174** 81T30

Biswas, Atanu (*with* Bandyopadhyay, Uttam) Some sequential tests in clinical trials based on randomized-play-the-winner rule. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 67–89. (H. Chernoff) **99e:62134** 62L10 (62L15)

— (*with* Bandyopadhyay, Uttam) Sequential-type nonparametric test using Mann-Whitney statistics. (English summary) *J. Appl. Statist.* **26** (1999), *no.* 3, 301–308. 62G10

Biswas, B. K. (*with* Dutta, Tapan Kumar[1]) Structure of fuzzy ideals of semirings. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 271–284. (Udo Hebisch) **99f:16050** 16Y60

— (*with* Dutta, Tapan Kumar[1]) Characterisation of fuzzy semiprime ideals of the ring of integers Z. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 187–189. 13A99

Biswas, Indranil (*with* Nag, Subhashis) Weil-Petersson geometry and determinant bundles on inductive limits of moduli spaces. (English summary) *Lipa's legacy* (*New York*, 1995), 51–80, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Huybrechts) **99m:14050** 14H15 (32G15, 58G26)

— (*with* Narasimhan, M. S.) Hodge classes of moduli spaces of parabolic bundles over the general curve. *J. Algebraic Geom.* **6** (1997), *no.* 4, 697–715. (P. E. Newstead) **99a:14017** 14D20 (14C30, 14F25, 14H60)

— Hodge cycles on moduli spaces of parabolic bundles over the general hyperelliptic curve. *J. Algebraic Geom.* **6** (1997), *no.* 4, 717–720. (P. E. Newstead) **99a:14018** 14D20 (14C30, 14F25, 14H60)

— Chern classes for parabolic bundles. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 597–613. (Daniel Huybrechts) **99k:14068** 14J60 (32L07)

— (*with* Raghavendra, N.) Curvature of the determinant bundle and the Kähler form over the moduli of parabolic bundles for a family of pointed curves. *Asian J. Math.* **2** (1998), *no.* 2, 303–324. (Laurent Manivel) **99k:32032** 32G13 (14D20, 58G26)

— (*with* Nag, Subhashis) Commensurability automorphism groups and infinite constructions in Teichmüller theory. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 35–40. (Steffen Timmann) **99i:32026** 32G15 (30F10, 30F60)

— A criterion for the existence of a parabolic stable bundle of rank two over the projective line. *Internat. J. Math.* **9** (1998), *no.* 5, 523–533. (Hans U. Boden) **99m:14063** 14H60 (14D20)

— A natural flat connection on the endomorphism bundle of a semistable vector bundle outside the theta divisor. *Internat. Math. Res. Notices* **1998**, *no.* 10, 529–537. (V. V. Chueshev) **99e:14037** 14H60 (14D20, 32G13)

— (*with* Nag, Subhashis) Jacobians of Riemann surfaces and the Sobolev space $H^{1/2}$ on the circle. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 3, 281–292. (Yoichi Imayoshi) **99g:58009** 58B25 (14H40, 30F60, 32G15)

— Vector bundles with holomorphic connection over a projective manifold with tangent bundle of nonnegative degree. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2827–2834. (Daniel Huybrechts) **99a:32020** 32G13 (14D20, 14J60)

— (*with* Nagaraj, D. S.) Parabolic ample bundles. II. Connectivity of zero locus of a class of sections. *Topology* **37** (1998), *no.* 4, 781–789. (Laurent Manivel) **99e:14047** 14J60 (14F17)

— Differential operators on complex manifolds with a flat projective structure. (English summary) *J. Math. Pures Appl.* (9) **78** (1999), *no.* 1, 1–26. (Francesco Bottacin) **99m:14034** 14F10 (14H55, 32L10, 58H99)

Biswas, Lalit (*with* Chakraborty, Subenoy) Nonstatic spherically symmetric space-time and global monopole. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1221–1228. (Nora Bretón Báez) **99c:83009** 83C15 (83C10)

Biswas, Ranjit A general interpolation formula for unevenly spaced points. *Math. Ed.* **10** (1994), *no.* 3, 206–207. 41A10

— (*with* Chakrabarty, Kankana; Nanda, Sudarsan) On fuzzy metric spaces. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 111–114. 54A40 (54E35)

— Common fixed fuzzy set theorems in fuzzy metric spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 631–636. 54A40 (54H25)

— (*with* De, Supriya Kumar; Roy, Akhil Ranjan) Multicriteria decision making using intuitionistic fuzzy set theory. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 837–842. 90C70 (03E70, 03E72, 03F55, 90A05)

— (*with* Chakrabarty, Kankana; Nanda, Sudarsan) On Yager's theory of bags and fuzzy bags. (English summary) *Comput. Artificial Intelligence* **18** (1999), *no.* 1, 1–17. (From the summary) **99k:03044** 03E72

— (*with* Chakrabarty, Kankana; Nanda, Sudarsan) Fuzzy shadows. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 413–421. (Summary) **99i:03066** 03E72

— (*with* Chakrabarty, Kankana; Nanda, Sudarsan) Fuzzy L-structure. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 177–182. (Summary) **99i:06006** 06B99 (03E72)

— (*with* Chakrabarty, Kankana; Nanda, Sudarsan) A note on fuzzy union and fuzzy intersection. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 499–502. 03E72

— Multicriteria based decision making: a fuzzy approach. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 67–73. 90C70 (90A05, 90C29)

Biswas, S. *see* **Biswas, Satyabrata**

Biswas, S. C. (*with* De, U. C.; Barua, B.) Semi-symmetric non-metric connection in an SP-Sasakian manifold. (English summary) *J. Pure Math.* **13** (1996), 13–18. (K. L. Duggal) **99j:53021** 53C05 (53C15, 53C25)

— (*with* De, U. C.) Quarter-symmetric metric connection in an SP-Sasakian manifold. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 49–56 (1998). (Albert Jeune) **99d:53022** 53C05 (53C25)

— (*with* De, U. C.) On an Einstein projective recurrent manifold. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 203–206. (Sorin Dragomir) **99f:53046** 53C25

Biswas, Saroj K. Robust stabilization of linear systems in the presence of Gaussian perturbation of parameters. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 271–286. (Summary) **99g:93076** 93D21 (93E03)

Biswas, Satyabrata (*with* Modak, B.; Kamilya, S.) A Noether symmetry study in scalar-tensor theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4163–4171. 83D05

Biswas, Supriya (*with* Prasad, D. Chithra; Pal, Sudebkumar Prasant) Recognizing weakly convex visible polygons. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 171–186. (Summary) **99a:68169** 68U05 (52B55)

Biswas, Tirthabir (*with* Joglekar, Satish D.) Inverse Laplace transform and perturbation theory. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 369–382. (Roman Gielerak) **99k:81192** 81T15 (44A10)

Bisyarin, M. A. (*with* Lutchenko, L. N.) Ray trajectories in the three-dimensional irregular anisotropic Earth-ionosphere waveguide. (Russian. Russian summary) *Problems in the diffraction and propagation of waves, No.* 27 (*Russian*), 37–45, 311, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1997. (*see* **99g:78002**) 78A50

Bitbol, Michel Some steps towards a transcendental deduction of quantum mechanics. *Philos. Natur.* **35** (1998), *no.* 2, 253–280. (Jos Uffink) **99i:81008** 81P05 (00A30, 00A79)

Bitsadze, K. On divergence of Fourier series with respect to multiplicative systems on the sets of measure zero. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 413–414 (1996). 42A24

— On divergence of multiple Fourier-Haar series of bounded function of several variables on zero measure set. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 181–182. 42B05

Bitsadze, L. First boundary value problem of electroelasticity for a transversally isotropic plane with curvilinear cuts. (English summary) *Georgian Math. J.* **6** (1999), *no.* 3, 251–258. (Summary) **99m:73011** 73C02 (45E05, 73B40, 73R05)

Bitsadze, M. G. Convergence in the metric of L^p, $p \in (0, 1]$ of Cesàro means of multiplicity one of trigonometric series with special coefficients. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 3, 376–381 (1996). 42A38

— On some properties of multiple Cesàro means of multiple trigonometric series with special coefficients. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 30–33 (1996). 42A10

— Uniform convergence and summability of multiple trigonometric series. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 8–10. 42A38

Bittanti, Sergio (*with* Aved'yan, Eduard D.; Tsypkin, Yakov Zalmanovich) Kalman estimation with Brownian disturbances. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1195–1205. (V. N. Fomin) **99f:93132** 93E11

— (*with* Prandini, M.; Campi, M. C.) A penalized identification criterion for securing controllability in adaptive control. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 19 *pp.* (*electronic*). (Sauro Longhi) **99j:93060** 93C40 (93B05)

— (*with* Colaneri, Patrizio; Mongiovì, Marco Fabio) From singular to nonsingular filtering of periodic systems: filling the gap with the spectral interactor matrix. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 222–227. 93E11 (93C80)

tahhan Bittar, E. *see* **Tahhan Bittar, E.**

Bittencourt, Guilherme Concurrent inference through dual transformation. (English summary) *Log. J. IGPL* **6** (1998), *no.* 6, 795–834. (Summary) **99g:68182** 68T15 (03B35, 68T30)

Bittner, Elmar (*with* Riedler, Jürgen; Beirl, Wolfgang; Hauke, Alf; Homolka, Peter; Markum, Harald) Phase structure and graviton propagators in lattice formulations of four-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1163–1173. 83C27 (83-08, 83C45)

Bittner, Kai Error estimates and reproduction of polynomials for biorthogonal local trigonometric bases. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 1, 75–102. (James E. Daly) **99j:42039** 42C15

Bittner, Thomas (*with* Stell, John G.) A boundary-sensitive approach to qualitative location. (English summary) Artificial intelligence and mathematics, VIII (Fort Lauderdale, FL, 1998). *Ann. Math. Artificial Intelligence* **24** (1998), *no.* 1-4, 93–114 (1999). (*see* **99m:68006**) 68T30

Bity, Barbara Optimal control of a two-dimensional linear system with a quadratic performance index with constraints on the trajectory and the control. (Polish. English summary) *Mat. Stos.* **40** (1997), 21–29. (Summary) **99a:49041** 49N10 (49M30)

Bixby, Robert (*with* Applegate, David; Chvátal, Vašek; Cook, William J.) On the solution of traveling salesman problems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 645–656 (*electronic*). (Frank Werner) **99g:90093** 90C27 (90-04, 90C10)

Bizdadea, C. (*with* Saliu, S. O.; Tîmneanu, E. N.) On the irreducible BRST quantization of spin-$\frac{5}{2}$ gauge fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 501–507. (Jan Sładkowski) **99a:81181** 81T70 (81T13)

— (*with* Iordache, Mihai; Saliu, S. O.; Tîmneanu, E. N.) An irreducible BRST approach of topological Yang-Mills theory. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 262–273. (Bani Mitra Södermark) **99e:81248** 81T70 (81T13)

— (*with* Saliu, S. O.) Irreducible antifield analysis of p-form gauge theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 97–103. (Ion V. Vancea) **99m:81269** 81T70

— (*with* Negru, I.; Saliu, S. O.) Irreducible Hamiltonian BRST analysis of Stueckelberg coupled p-form gauge theories. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 225–243. (Mohamed Kachkachi) **99k:81320** 81T70 (81T13)

Bizhanova, G. I. On the solvability of multidimensional single-phase problems with free boundaries in Hölder spaces. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 28–39. (Krystyna Twardowska) **99j:35234** 35R35 (35K10)

— On the classical solvability of the one-dimensional Florin, Muskat-Verigin and Stefan free boundary problems. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 30–60, 338. (Angela Pawell) **99d:35180** 35R35 (35K20, 76S05, 80A22)

Bizim, O. The extended modular group. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 1–11. (Thomas A. Schmidt) **99g:11057** 11F06

Bizoń, P. (*with* Chmaj, Tadeusz) First order phase transitions in gravitational collapse. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1071–1078. (Summary) **99k:83055** 83C57 (83-08)

Björck, Åke (*with* Elfving, Tommy; Strakoš, Zdeněk) Stability of conjugate gradient and Lanczos methods for linear least squares problems. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 720–736 (*electronic*). (Summary) **99a:65051** 65F20

— (*with* Yuan, Jin Yun) Preconditioners for least squares problems by LU factorization. (English summary) *Electron. Trans. Numer. Anal.* **8** (1999), 26–35 (*electronic*). (Summary) **99j:65040** 65F10 (65F20)

Bjørhus, Morten Operator splitting for abstract Cauchy problems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 419–443. (Summary) **99h:65113** 65J10 (34G10, 47D06, 47N20)

Björk, Tomas (*with* Biais, Bruno; Cvitanić, Jakša; El Karoui, N.; Jouini, Elyès; Rochet, Jean Charles) ★ Financial mathematics. Lectures given at the 3rd C.I.M.E. Session held in Bressanone, July 8–13, 1996. Edited by W. J. Runggaldier. Lecture Notes in Mathematics, 1656. *Springer-Verlag, Berlin*, 1997. viii+316 *pp. ISBN* 3-540-62642-5 (Marek Rutkowski) **99a:90033** 90A09 (60H10, 60H30, 90-06)

— Interest rate theory. *Financial mathematics* (*Bressanone*, 1996), 53–122, *Lecture Notes in Math.*, 1656, *Springer, Berlin*, 1997. (*see* **99a:90033**) 90A09 (90A12)

— (*with* Christensen, Bent Jesper; Gombani, Andrea) Some system theoretic aspects of interest rate theory. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 17–23. (Summary) **99b:90019** 90A09

Björkström, Anders (*with* Sundberg, Rolf) A generalized view on continuum regression. (English summary) *Scand. J. Statist.* **26** (1999), *no.* 1, 17–30. (Summary) **99m:62107** 62J07

Bjorling-Sachs, Iliana Edge guards in rectilinear polygons. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 111–123. (Summary) **99h:68166** 68U05 (52B55)

Björn, Anders Removable singularities on rectifiable curves for Hardy spaces of analytic functions. (English summary) *Math. Scand.* **83** (1998), *no.* 1, 87–102. (Keiji Izuchi) **99m:46065** 46E15 (30D55)

Björn, Jana Regularity at infinity for a mixed problem for degenerate elliptic operators in a half-cylinder. (English summary) *Math. Scand.* **81** (1997), *no.* 1, 101–126 (1998). (Geno D. Dachev) **99c:35081** 35J70 (35B65)

Björner, Anders A general homotopy complementation formula. (English summary) Selected papers in honor of Adriano Garsia (Taormina, 1994). *Discrete Math.* **193** (1998), *no.* 1-3, 85–91. (Laura M. Anderson) **99m:06005** 06A07 (55P15)

— (*with* Sarkaria, Karanbir S.) The zeta function of a simplicial complex. (English summary) *Israel J. Math.* **103** (1998), 29–40. (Volkmar Welker) **99f:52017** 52B20 (11G25, 11G40)

— (*with* Linusson, S.) The number of k-faces of a simple d-polytope. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 1–16. (Volkmar Welker) **99m:52013** 52B05 (52B11)

Bjørstad, Petter E. Mathematics, parallel computing and reservoir simulation. (English summary) *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 100–107, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Summary) **99e:00011** 00A72 (00A69, 65N99, 65Y05)

Blaar, Holger (*with* Pohl, Thomas; Grecksch, Wilfried) A parallel modified Lagrangian method for an optimal control problem of a linear distributed stochastic system. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 4, 319–340. (Jean-Pierre Lepeltier) **99j:49073** 49M30 (65Y05, 93E20)

Blachuta, Marian J. Discrete-time modeling of sampled-data control systems with direct feedthrough. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 134–139. 93C57 (93A30)

— On zeros of pulse transfer functions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1229–1234. 93B60 (93C57)

Black, Elena V. Arithmetic lifting of dihedral extensions. *J. Algebra* **203** (1998), *no.* 1, 12–29. (Teresa Crespo) **99a:12006** 12F12 (11R32, 14F20)

— Deformations of dihedral 2-group extensions of fields. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3229–3241. (Helmut Völklein) **99m:12004** 12F12 (11R20, 11R32, 12F10)

Black, Kelly Spectral element approximations and infinite domains. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 20 *pp.* (*electronic*). (Summary) **99e:65161** 65N35

Black, Robert Chance, credence, and the principal principle. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 3, 371–385. 03B48

Black, Sarah A finitary Tits' alternative. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 2, 86–91. (Martyn R. Dixon) **99k:20070** 20F19 (20D99)

Black, T. (*with* Belytschko, Ted) Convergence of corrected derivative methods for second-order linear partial differential equations. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 2, 177–203. (Summary) **99j:65103** 65J15 (65N99)

Black, William B. (*with* Graham, Michael D.) Effect of wall slip on the stability of viscoelastic plane shear flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1749–1756. 76A10 (76E99)

Blackadar, Bruce ★ *K*-theory for operator algebras. (English summary) Second edition. Mathematical Sciences Research Institute Publications, 5. *Cambridge University Press, Cambridge*, 1998. *xx*+300 *pp. ISBN* 0-521-63532-2 (From the preface) **99g:46104** 46L80 (19Kxx, 58G12)

Blackburn, Simon R. (*with* Piper, Fred) Applications of combinatorics to security. *Applications of combinatorial mathematics (Oxford*, 1994), 31–47, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Alexander M. Barg) **99a:94022** 94A60 (05E30)

— (*with* Wild, Peter R.) Optimal linear perfect hash families. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 233–250. (Friedhelm Meyer auf der Heide) **99h:68042** 68P25 (94A60)

Blacker, Ted (*with* Sheffer, Alla; Clements, Jan; Bercovier, Michel) Virtual topology construction and applications. (English summary) *Geometric modeling: theory and practice (Blaubeuren*, 1996), 247–259, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99f:65214** 65Y25 (65D17)

Blackmore, D. L. (*with* Prikarpat·skiĭ, A. K.; Zagrodziński, J. A.) Lax-type flows on Grassmann manifolds and dual momentum mappings. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 539–549. (Iskander A. Taimanov) **99a:58094** 58F07 (58B25)

— (*with* Prykarpatsky, Y. A.; Samulyak, R. V.) The integrability of Lie-invariant geometric objects generated by ideals in the Grassmann algebra. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 54–67. (Summary) **99a:58005** 58A15 (58F35)

Blackmore, Kim L. (*with* Williamson, Robert C.; Mareels, Iven M. Y.) Local minima and attractors at infinity for gradient descent learning algorithms. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 18 *pp.* (*electronic*). (Summary) **99g:68168** 68T05

— (*with* Williamson, Robert C.; Mareels, Iven M. Y.; Sethares, William A.) Online learning via congregational gradient descent. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 4, 331–363. (Summary) **99a:90180** 90C30 (65K10)

Blackmore, Tim Every binary $(2^m-2, 2^{2^m-2-m}, 3)$ code can be lengthened to form a perfect code of length 2^m-1. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 698–700. (Summary) **99m:94061** 94B60

Bladt, Mogens (*with* Rydberg, Tina Hviid) An actuarial approach to option pricing under the physical measure and without market assumptions. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 65–73. (Summary) **99b:90020** 90A09

Blaes, Omer (*with* Thompson, Christopher R.) Magnetohydrodynamics in the extreme relativistic limit. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3219–3234. 76W05 (76Y05, 85A30)

Blaga, Alin On factorization over $k((z))[\delta]$. (English summary) *Stud. Univ. Babeş-Bolyai Inform.* **1** (1996), *no.* 1, 105–112. (K. Kiyek) **99i:12007** 12H20 (34A05, 68Q40)

Blaga, Cristina (*with* Blaga, Paul A.) On the separation of variables in the geodesic Hamilton-Jacobi equation for a spherically-symmetric dilaton black hole. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 29–31. 83C57 (83C10)

Blaga, Lucia (*with* Lupşa, Liana) Convexity space with respect to a given set. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 199–208, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90087** 90C26

Blaga, P. *see* **Blaga, Petru P.**

Blaga, Paul A. (*with* Blaga, Cristina) On the separation of variables in the geodesic Hamilton-Jacobi equation for a spherically-symmetric dilaton black hole. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 29–31. 83C57 (83C10)

— (*with* Tătaru, Liviu; Vancea, Ion V.) BRST cohomology in 2D. Conformal gravity in BV approach. *Mathematica* **39(62)** (1997), *no.* 1, 117–135. (Mohamed Kachkachi) **99d:81167** 81T70

Blaga, Petru P. (*with* Kobza, Jiří; Micula, Gheorghe) Low order splines in solving neutral delay differential equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 73–85. (Haydar Akça) **99d:65206** 65L05 (34A45, 34K40)

— (*with* Chung, Seiyoung; Micula, Gheorghe) A polynomial spline approximation method for solving delay differential equations. *Approximation and optimization, Vol. I (Cluj-Napoca*, 1996), 181–192, *Transilvania, Cluj-Napoca*, 1997. (Philip W. Sharp) **99c:65123** 65L05 (34K05, 41A15, 65D07)

— (*with* Micula, Gheorghe; Micula, M.) The numerical solution of differential equations with retarded argument by means of natural spline functions of even degree. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 245–262. (Summary) **99d:65201** 65L05 (65D07)

Blagodat·skikh, V. I. (*with* Kostomarov, D. P.) Academician Lev Semenovich Pontryagin (1908–1988). (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 3–6. 01A70

— (*with* Ndii, P.) Convexity of the solution set of a differential inclusion. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 21–22, 52. (Summary) **99g:34039** 34A60 (34K05, 49K24)

Blagojević, M. Conservation laws in Poincaré gauge theory. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 881–890. (Summary) **99m:83165** 83D05

Blahut, Richard E. (*with* O'Sullivan, Joseph A.; Snyder, Donald L.) Information-theoretic image formation. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2094–2123. (Summary) **99i:94012** 94A12 (68U10, 94A15)

Blair, Charles E., III Integer and mixed-integer programming. (English summary) *Advances in sensitivity analysis and parametric programming*, 9.1–9.25, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (From the text) **99a:90136** 90C10 (90C11, 90C31)

— Sensitivity analysis for knapsack problems: a negative result. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 133–139. (Guntram Scheithauer) **99a:90163** 90C27 (90C10)

Blair, David E. (*with* Dillen, Franki; Verstraelen, Leopold; Vrancken, Luc) Deformations of Legendre curves. *Note Mat.* **15** (1995), *no.* 1, 99–110 (1997). (Christos Baikoussis) **99b:53076** 53C40 (53C25)

— On the class of contact metric manifolds with a 3-τ-structure. *Note Mat.* **16** (1996), *no.* 1, 99–104 (1998). (Florence Gouli-Andreou) **99m:53050** 53C15

— Geometry of complex contact manifolds. Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 25–50. (Uwe Semmelmann) **99e:53104** 53C56 (53C15, 53C25, 58E11)

— The distance of a metric from the zero tensor. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 231–234. (Santiago R. Simanca) **99g:58008** 58B20 (53C20, 58D17)

— *see also* **Sharma, Ramesh**, **99h:53064**

Blair, Howard A. (*with* Dushin, Fred; Humenn, Polar) Simulations between programs as cellular automata. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl*, 1997), 115–131, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68025** 68N17

Blair, K. B. *see* **Van Dooren, R.**

Blaive, Bruno (*with* Cadilhac, Michel) Expansion of the hydrogen-like wave functions in the inverse principal quantum number, for the discrete and continuous spectra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5693–5699. (M. Znojil) **99h:81028** 81Q05 (33C10, 34E05)

Blajer, Wojciech A geometric unification of constrained system dynamics. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 1, 3–21. (Edwin J. Kreuzer) **99e:70026** 70E99 (34A09, 70B15, 70F20, 70F25)

Blake, Andrew (*with* Bascle, B.; Isard, M.; MacCormick, J.) Statistical models of visual shape and motion. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1283–1302. (Summary) **99b:68162** 68T10 (68U10)

Blake, Ian F. (*with* Wu, Huapeng; Hasan, M. Anwarul) New low-complexity bit-parallel finite field multipliers using weakly dual bases. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1223–1234. (Summary) **99i:68008** 68M07 (68P25, 94A60)

— (*with* Bross, Shraga I.) Upper bound for uniquely decodable codes in a binary input N-user adder channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 334–340. (Summary) **99a:94060** 94B60 (94A40)

— (*with* Heegard, Chris; Høholdt, Tom; Wei, Victor) Algebraic-geometry codes. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2596–2618. (Summary) **99i:94070** 94B27 (14G15, 94–02)

Blake, John R. (*with* Keen, Giles S.; Tong, Robert P.; Wilson, Miles) Acoustic cavitation: the fluid dynamics of non-spherical bubbles. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 251–267. (Summary) **99m:76100** 76Q05 (76B10, 78A99)

— *see also* **Acoustic cavitation and sonoluminescence**, **99k:76002**

Blake, R. J. (*with* Hu, Yi Fan) An improved diffusion algorithm for dynamic load balancing. (English summary) *Parallel Comput.* **25** (1999), *no.* 4, 417–444. 68M20

Blake, Stephen Calculus on the multivector manifold $\mathrm{spin}^+(p,q)$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6106–6117. (Jayme Vaz, Jr.) **99j:58006** 58A10 (81R25)

Blake-Wilson, Simon (*with* Johnson, Donald Byron; Menezes, Alfred J.) Key agreement protocols and their security analysis (extended abstract). (English summary) *Cryptography and coding (Cirencester*, 1997), 30–45, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (*see* **99g:94019**) 94A60

Blakley, G. R. (*with* Borosh, I.) A general theory of codes. I. Basic concepts. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 1–29, *Heyn, Klagenfurt*, 1998. (Bram van Asch) **99m:94062** 94B60

Blanc, M. (*with* Tur, A. V.; Maurice, S.; Yanovskiĭ, V. V.) Solutions of the plasma equilibrium within the magnetic field of a point dipole. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3101–3115. (Summary) **99f:76132** 76W05 (85A30)

Blanc, R. H. (*with* Hajar, M.) Linear thermoviscoelasticity. I. A functional model. (English summary) *Acta Mech.* **130** (1998), *no.* 3-4, 175–183. (Summary) **99g:73011** 73B30 (73F05)

— (*with* Hajar, M.) Linear thermoviscoelasticity. II. Energy balances. (English summary) *Acta Mech.* **130** (1998), *no.* 3-4, 185–197. (Summary) **99g:73012** 73B30 (73F05)

Blanc-Féraud, Laure (*with* Lobel, Pierre; Pichot, Christian; Barlaud, Michel) Edge-preserving regularization for quantitative reconstruction algorithms in microwave imaging. *Inverse problems, tomography, and image processing (Newark, DE*, 1997), 113–124, *Plenum, New York*, 1998. (*see* **99a:00030**) 94A12 (65R10)

Blanchard, André Groupes algébriques et équations différentielles linéaires (d'après E. R. Kolchin). [Algebraic groups and linear differential equations (after E. R. Kolchin)] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 17, 103–109, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 12H20 (20G15)

— Le plongement des variétés de Hodge dans des espaces projectifs complexes (d'après K. Kodaira). [Embeddings of Hodge manifolds in complex projective spaces (after K. Kodaira)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 114, 141–147, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 32L05

Blanchard, Dominique (*with* Guibé, Olivier) Existence d'une solution pour un système non linéaire en thermoviscoélasticité. (English and French summaries) [Existence of a solution for a nonlinear system in thermoviscoelasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1125–1130. (Alain Brillard) **99a:73016** 73B30 (35Q72, 73F15)

— (*with* Redwane, Hicham) Renormalized solutions for a class of nonlinear evolution problems. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 2, 117–151. (Alan V. Lair) **99b:35084** 35K55 (35K60)

Blanchard, François (*with* Formenti, Enrico; Kůrka, Petr) Cellular automata in the Cantor, Besicovitch, and Weyl topological spaces. (English summary) *Complex Systems* **11** (1997), *no.* 2, 107–123. (Michael Hurley) **99j:58108** 58F08 (68Q80)

— (*with* Kůrka, Petr; Maass, Alejandro) Topological and measure-theoretic properties of one-dimensional cellular automata. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 86–99. (Fernanda Botelho) **99c:58086** 58F08 (68Q80, 82C20)
— (*with* Kůrka, Petr) Language complexity of rotations and Sturmian sequences. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 179–193. (Véronique Bruyère) **99m:68104** 68Q45 (68R15)
Blanchard, Ph. (*with* Jadczyk, Arkadiusz) Relativistic quantum events. (English summary) *Found. Phys.* **26** (1996), *no.* 12, 1669–1681. (Summary) **99b:81008** 81P05
— (*with* Cessac, B.; Krüger, Tyll) A dynamical system approach to SOC models of Zhang's type. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 307–318. (András Krámli) **99b:58138** 58F11 (58F15, 82C41)
— (*with* Jadczyk, Arkadiusz) Time and events. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 227–233. (*see* **99e:81004**) 81P99
Blanchet, Christian Refined quantum invariants for three-manifolds with structure. *Knot theory (Warsaw*, 1995), 11–22, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Justin D. Roberts) **99h:57033** 57N10 (57M25)
Blanchet, Luc Analytic approximation and perturbation methods. *Proceedings of the 14th International Conference on General Relativity and Gravitation (Florence*, 1995), 445–458, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83C25
— Quadrupole-quadrupole gravitational waves. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 89–111. (Summary) **99c:83023** 83C35 (83C25)
— Gravitational-wave tails of tails. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 113–141. (Summary) **99c:83024** 83C35 (83C25)
— On the multipole expansion of the gravitational field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1971–1999. (Summary) **99d:83028** 83C25 (83B05)
Blanchet-Sadri, F. On the semidirect product of the pseudovariety of semilattices by a locally finite pseudovariety of groups. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 237–250. (James B. Nation) **99d:20098** 20M07 (06A12, 08B05, 08C15)
— Trees, congruences and varieties of finite semigroups. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 157–179. (Wit Foryś) **99e:20070** 20M07
— (*with* Gaddis, F. Dale) On a product of finite monoids. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 75–91. (G. J. Lallement) **99c:20094** 20M35
Blanchini, Franco (*with* Tempo, Roberto; Dabbene, F.) Computation of the minimum destabilizing volume for interval and affine families of polynomials. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1159–1163. 93D15 (93B40)
— (*with* Megretskiĭ, A. V.) Robust state feedback control of LTV systems: nonlinear is better than linear. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 802–806. 93D15 (93B35)
— *see also* **Bernhardsson, Bo** *and* **Errata: "Comments on: 'Mixed L^∞/H_∞ suboptimal controllers for SISO continuous time systems' "**
Blanchonette, Peter Two-layer flow past a cylinder in a rotating frame. (English summary) *J. Fluid Mech.* **371** (1998), 301–318. (Summary) **99f:76129** 76U05 (76M25, 86A05)
Blanck, Jens Domain representations of topological spaces (extended abstract). (English summary) *Third Workshop on Computation and Approximation (Comprox III) (Birmingham*, 1997), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 13, *Elsevier, Amsterdam*, 1998. (*see* **99i:00013**) 54C99
Blanco, Amalia (*with* Majadas Soto, Javier) Erratum: "Cotangent complex and decomposition of Tor" [C. R. Acad. Sci. Paris Sér. I Math. **323** (1996), no. 3, 219–224; MR 97g:13026]. (French) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 531. (From the text) **99g:13023** 13D03
— (*with* Majadas Soto, Javier) Sur les morphismes d'intersection complète en caractéristique *p*. [On complete intersection morphisms in characteristic *p*] *J. Algebra* **208** (1998), *no.* 1, 35–42. (Tiberiu Dumitrescu) **99i:13023** 13D03 (13A35, 13H10)
— (*with* Majadas Soto, Javier; Rodicio, Antonio G.) On the acyclicity of the Tate complex. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 125–132. (Cristodor Ionescu) **99i:13024** 13D03
Blanco, G. *see* **Blanco Viejo, Gregoria**
urbano-Blanco, J. M. *see* **Urbano-Blanco, J. M.**
mendoza-Blanco, José R. *see* **Mendoza-Blanco, José R.**
Blanco, Liliana What is a branching process? (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 1, 43–50. (Summary) **99e:60187** 60J80
— A construction of branching Brownian motion. (Spanish. English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **22** (1998), *no.* 83, 213–220. (José Rafael León) **99j:60127** 60J80 (60F17)
fernández-Blanco, Maria Teresa *see* **Fernández-Blanco, Maria Teresa**
Blanco Castañeda, Liliana *see* **Blanco, Liliana**
Blanco Martin, Maria Francisca A geometric construction of a secret-sharing scheme. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 587–592, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 94A60
Blanco Salgueiro, Antonio Holism and dependency among properties. (English summary) *Log. Trianguli* **2** (1998), 17–30. 03B60
Blanco Viejo, Gregoria (*with* Asberg, B.; Bose, Prosenjit; García López de Lacalle, Jesús; Overmars, Mark H.; Toussaint, G.; Wilfong, Gordon; Zhu, Binhai) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)
Blanc-Talon, Jacques Syntactic interpolation of fractal sequences. (English summary) *Advances in pattern recognition (Sydney*, 1998), 140–148, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T10 (28A80, 68Q45)
Bland, John (*with* Duchamp, Thomas) Deformation theory for the hyperplane line bundle on $\mathbf{P}^1$. (English summary) *CR-geometry and overdetermined systems (Osaka*, 1994), 41–59, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (John M. Lee) **99a:32016** 32G07
— (*with* Epstein, Charles L.) Embeddable CR-structures and deformations of pseudoconvex surfaces. (English summary) *Singularities and complex geometry (Beijing*, 1994), 1–27, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99f:32025** 32G07 (32C16, 32F30)
Bland, Paul E. ★ Topics in torsion theory. (English summary) Mathematical Research, 103. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. 160 *pp. ISBN* 3-527-40131-8 (M. Teply) **99h:16044** 16S90 (16–02)
magnucka-Blandzi, E. *see* **Magnucka-Blandzi, E.**
Blanes, Sergio (*with* Casas, F.; Ros, J.) Symplectic integrators with processing to order 6. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 201–206, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70–08 (65L05)
— (*with* Jódar, Lucas) Continuous numerical solutions of coupled mixed partial differential systems using Fer's factorization. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 189–202. (Jennifer Zhao) **99m:65194** 65M99 (34A45, 35C99)
Blank, Michael (*with* Keller, Gerhard) Random perturbations of chaotic dynamical systems: stability of the spectrum. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1351–1364. (Gary Froyland) **99h:58145** 58F19 (58F11, 58F30)
Blankenship, G. L. (*with* Kwatny, Harry G.) Computational methods for control of dynamical systems. *Symbolic methods in control system analysis and design*, 353–387, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93–02)
Blanlœil, Vincent (*with* Roukema, Boudewijn F.) Three-dimensional topology-independent methods to look for global topology. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2645–2655. (Summary) **99f:83086** 83F05
— Cobordism of nonspherical links. *Internat. Math. Res. Notices* **1998**, *no.* 2, 117–121. (J. P. Levine) **99d:57015** 57Q45 (32S55)
Blanquero-Bravo, R. (*with* Beato-Moreno, A.; Ruíz-Canales, P.; Luque-Calvo, P.-L.) Multiobjective quadratic problem: characterization of the efficient points. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 425–438, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90103** 90C29 (90C20)
Blanter, E. M. (*with* Narteau, C.; Shnirman, M. G.; Le Mouël, J.-L.) Up and down cascade in a dynamo model: spontaneous symmetry breaking. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 5112–5123. 76W05 (76F99, 86A25)
Blas Achic, H. S. (*with* Ferreira, Luiz A.; Gomes, J. F.; Zimerman, A. H.) Some comments on the bi(tri)-Hamiltonian structure of generalized AKNS and DNLS hierarchies. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 225–233. (Roman G. Smirnov) **99a:58083** 58F07
Blaschke-Kaltenbacher, Barbara *see* **Kaltenbacher, Barbara**
Blasco, Fernando (*with* Ansemil, José M.; Ponte, Socorro) Quasinormability and topologies on spaces of polynomials. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 534–539. (Luiza Amália de Moraes) **99d:46068** 46G20 (46A32, 46E50)
Blasco, Jordi (*with* Codina, Ramon; Huerta, Antonio) Convergence of a fractional-step method for the incompressible Navier-Stokes equation. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76M10 (65M06, 76D05)
— (*with* Codina, Ramon) Finite element approximation of the Stokes problem using equal velocity-pressure interpolation. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 677–682, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M10 (76D07)
— (*with* Codina, Ramon; Huerta, Antonio) A fractional-step method for the incompressible Navier-Stokes equations related to a predictor-multicorrector algorithm. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 10, 1391–1419. (Summary) **99i:76092** 76M20 (76D05, 76M10)
Blasco, N. *see* **Blasco Mardones, N.**
Blasco, Oscar Radon-Nikodym versus Fatou. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society (Spanish)* (*San Luis Potosí*, 1996), 71–76, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Pedro Jiménez Guerra) **99k:46023** 46B22 (28B05, 46G10)
— (*with* Arregui Casaus, José Luis) On the Bloch space and convolution of functions in the L^p-valued case. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 363–373. (Richard M. Timoney) **99b:46049** 46E40 (30D45, 42A85, 46E15)
— (*with* Ansorena, José Luis) Convolution multipliers on weighted Besov spaces. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 47–68. (Da Chun Yang) **99c:42019** 42B15 (46E35, 47B38)
— (*with* Girela, Daniel; Márquez, M. Auxiliadora) Mean growth of the derivative of analytic functions, bounded mean oscillation, and normal functions. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 893–912. (Albert Baernstein, II) **99m:30068** 30D45 (30D50, 30D55)
Blasco Mardones, N. (*with* Xu, Luo Shan) A short note on fuzzy neighbourhood convergence spaces. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 393–396. (*see* **99m:03114**) 54A40
Blashchak, N. Ĭ. (*with* Pelyukh, G. P.) On the existence and uniqueness of periodic solutions of systems of nonlinear functional-differential equations with a linearly transformed argument. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 10–13. (Vladimir Sh. Burd) **99k:34150** 34K15
de Blasi, Francesco S. (*with* Pianigiani, Giulio) Remarks on differential inclusions without existence or continuous dependence. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 95–103. (Mazen Mohamed Shahin) **99i:34023** 34A60
— (*with* Myjak, Józef) On a generalized best approximation problem. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 54–72. (Nikolay V. Zhivkov) **99i:41034** 41A65 (41A52, 46B99, 90C48)
— (*with* Pianigiani, Giulio) Hausdorff measurable multifunctions. *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 1–15. (Erik J. Balder) **99m:28030** 28B20 (49J45, 54C60)
— (*with* Górniewicz, Lech; Pianigiani, Giulio) Topological degree and periodic solutions of differential inclusions. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 197–199. (*see* **99f:58002**) 34A60 (34C25, 47H11, 47N20)
di Blasio, Bianca *see* **Di Blasio, Bianca**
di Blasio, Gabriella *see* **Di Blasio, Gabriella**

Blasius, Don Period relations and critical values of L-functions. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997,** *Special Issue*, 53–83. (Alexey A. Panchishkin) **99c:11054** 11F67 (11G15, 11G40, 11R37, 11S40)

Blass, Andreas (*with* Gurevich, Yuri; Kreinovich, Vladik; Longpré, Luc) A variation on the zero-one law. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 29–30. (Summary) **99f:68066** 68Q15 (03D15, 68Q25)

— (*with* Sagan, Bruce E.) Characteristic and Ehrhart polynomials. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 115–126. (Godofredo Iommi Amunátegui) **99c:05204** 05E15 (05A15)

Blass, Uri (*with* Litsyn, Simon) Several new lower bounds for football pool systems. (English summary) *Ars Combin.* **50** (1998), 297–302. (Summary) **99j:94080** 94B65

— (*with* Litsyn, Simon) Several new lower bounds on the size of codes with covering radius one. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1998–2002. (Summary) **99h:94078** 94B65 (94B75)

Blasum, Ulrich (*with* Bussieck, Michael R.; Hochstättler, Winfried; Moll, Christoph; Scheel, Hans-Helmut; Winter, Thomas) Scheduling trams in the morning. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 137–148. (Summary) **99m:90083** 90B35 (90C27)

Błaszak, Maciej $\mathscr{R}$-matrix approach to multi-Hamiltonian Lax dynamics. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 395–430. (Alexander V. Shapovalov) **99h:58078** 58F07 (35Q58)

— ★ Multi-Hamiltonian theory of dynamical systems. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1998. $x+350$ *pp. ISBN* 3-540-64251-X (Carlo Morosi) **99i:58069** 58F07 (35Q58)

— On separability of bi-Hamiltonian chain with degenerated Poisson structures. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3213–3235. (Mohamad Mehdi) **99f:58091** 58F07

— Bi-Hamiltonian separable chains on Riemannian manifolds. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 25–32. (Mohamad Mehdi) **99f:58092** 58F07

Blatner, David ★ The joy of π. (English summary) *Walker and Company, New York*, 1997. *xiv*+129 *pp. ISBN* 0-8027-1332-7 01A99 (00A08, 11–01)

Blatov, Igor A. On Galerkin's finite element method for singularly perturbed parabolic initial-boundary value problems. II. Construction of and estimates for discrete Green functions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 912–922, 1005; *translation in Differential Equations* **32** (1996), *no.* 7, 916–928 (1997). (Erwin Schechter) **99b:65114** 65M60

— (*with* Blatova, Victoria V.; Rozhec, Yurii B.; Strygin, Vadim V.) Galerkin-Petrov method for strongly nonlinear singularly perturbed boundary value problems on special meshes. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 321–332. (George W. Reddien) **99d:65225** 65L10 (34E15, 65L60, 65L70)

— (*with* Strygin, Vadim V.) On best possible order of convergence estimates in the collocation method and Galerkin's method for singularly perturbed boundary value problems for systems of first-order ordinary differential equations. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 683–715. (Summary) **99i:65079** 65L60 (34A45, 65L10)

Blatova, Victoria V. (*with* Blatov, Igor A.; Rozhec, Yurii B.; Strygin, Vadim V.) Galerkin-Petrov method for strongly nonlinear singularly perturbed boundary value problems on special meshes. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 321–332. (George W. Reddien) **99d:65225** 65L10 (34E15, 65L60, 65L70)

Blatt, H.-P. (*with* Andrievskii, Vladimir V.; Kovacheva, R. K.) Approximation on an unbounded interval. (English summary) *Analysis* **17** (1997), *no.* 2-3, 197–218. (D. J. Leeming) **99a:41014** 41A20 (31A15)

— (*with* Andrievskii, Vladimir V.) On the distribution of zeros of polynomials on an analytic curve. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 485–493. (H.-J. Runckel) **99d:30006** 30C15 (30C85)

— (*with* Mhaskar, H. N.) Some discrepancy theorems in the theory of weighted polynomial approximation. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 312–330. (Franz Peherstorfer) **99e:41003** 41A10 (30C15)

Blatter, Christian ★ Wavelets—eine Einführung. (German. German summary) [Wavelets—a primer] Advanced Lectures in Mathematics. *Friedr. Vieweg & Sohn, Braunschweig*, 1998. $x+178$ *pp. ISBN* 3-528-06947-3 (Fritz Keinert) **99f:42062a** 42C15 (42–01)

— ★ Wavelets. (English summary) A primer. *A K Peters, Ltd., Natick, MA*, 1998. $x+202$ *pp. ISBN* 1-56881-095-4 (Fritz Keinert) **99f:42062b** 42C15 (42–01)

Blau, Harvey I. Degrees and diagrams of integral table algebras. *Representation theory of finite groups (Columbus, OH*, 1995), 19–27, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (David Chillag) **99b:20027** 20C99

— (*with* Xu, Bangteng) On homogeneous integral table algebras. *J. Algebra* **199** (1998), *no.* 1, 142–168. (M. Herzog) **99b:20028** 20C99

Blau, Jong (*with* Blau, Ulrich) Epistemische Paradoxien. II. (German summary) [Epistemic paradoxes. II] *Dialectica* **50** (1996), *no.* 3, 167–182. (Wim Veldman) **99e:03004** 03A05 (03B60)

Blau, Matthias (*with* Hussain, Faheem; Thompson, George) Some general aspects of coset models and topological Kazama-Suzuki models. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 541–598. (Summary) **99e:81218** 81T40 (58D29)

— (*with* Hussain, Faheem; Thompson, George) Grassmannian topological Kazama-Suzuki models and cohomology. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 599–652. (Summary) **99e:81219** 81T40 (58D29)

— (*with* Thompson, George) Euclidean SYM theories by time reduction and special holonomy manifolds. (English summary) *Phys. Lett. B* **415** (1997), *no.* 3, 242–252. (Krzysztof Galicki) **99e:81230** 81T60 (53C25, 53C80, 81T13)

Blau, Ulrich (*with* Blau, Jong) Epistemische Paradoxien. II. (German summary) [Epistemic paradoxes. II] *Dialectica* **50** (1996), *no.* 3, 167–182. (Wim Veldman) **99e:03004** 03A05 (03B60)

Blaum, Mario (*with* Bruck, Jehoshua; Vardy, Alexander) Interleaving schemes for multidimensional cluster errors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 730–743. (Summary) **99c:94055** 94B20

Blaut, A. (*with* Kowalski-Glikman, Jerzy) The time evolution of quantum universes in the quantum potential picture. (English summary) *Phys. Lett. A* **245** (1998), *no.* 3-4, 197–202. (Summary) **99d:83044** 83C45

Blawzdziewicz, J. (*with* Feuillebois, F.) Calculation of an effective slip in a settling suspension at a vertical wall. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 1, 66–77. (Summary) **99e:76122** 76T05

Blay, Michel ★ Reasoning with the infinite. (English summary) From the closed world to the mathematical universe. Translated from the 1993 French original and with a note by M. B. DeBevoise. *University of Chicago Press, Chicago, IL*, 1998. $x+216$ *pp. ISBN* 0-226-05834-4 (Niccolò Guicciardini) **99e:01001** 01A05 (01A45)

— Les règles cartésiennes de la science du mouvement dans *Le monde ou traité de la lumière*. (English and French summaries) [The Cartesian rules of the science of motion in *Le monde ou traité de la lumière*] "Pour Descartes": mathématiques et physique cartésiennes (Paris, 1996). *Rev. Histoire Sci.* **51** (1998), *no.* 2-3, 319–346. (Peter M. Harman) **99k:01011** 01A45 (70–03)

abreu Blaya, Ricardo *see* **Abreu Blaya, Ricardo**

Blayo, Eric (*with* Blum, Jacques; Verron, Jacques) Assimilation variationnelle de données en océanographie et réduction de la dimension de l'espace de contrôle. (French summary) [Variational assimilation of oceanographic data and reduction of the dimension of the control space] *Équations aux dérivées partielles et applications*, 199–219, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99f:86002** 86A05 (49N55)

Błażewicz, Jacek (*with* Drozdowski, Maciej; Markiewicz, Mariusz) Divisible task scheduling—concept and verification. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 87–98. 68M20

Blažić, Novica (*with* Bokan, Neda; Gilkey, Peter B.; Rakić, Zoran) Pseudo-Riemannian Osserman manifolds. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 1–12. (Eric Boeckx) **99i:53067** 53C50

— (*with* Bokan, Neda; Gilkey, Peter B.) Pontrjagin forms, Chern Simons classes, Codazzi transformations, and affine hypersurfaces. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 333–349. (Man Chun Leung) **99m:53039** 53C05 (53A15, 58G10)

— (*with* Bokan, Neda; Rakić, Zoran) Foliation of a dynamically homogeneous neutral manifold. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6118–6124. (James J. Hebda) **99i:53068** 53C50 (53C12, 53C30)

Blázquez, A. (*with* Paris, F.; Mantič, V.) BEM solution of two-dimensional contact problems by weak application of contact conditions with non-conforming discretizations. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 24, 3259–3278. (From the summary) **99d:73080** 73T05 (73V10)

lópez-Blázquez, Fernando *see* **López-Blázquez, Fernando**

Blázsik, Z. (*with* Holló, Cs.; Imreh, Balázs) On decision-mappings related to process network synthesis problem. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 319–328. (Summary) **99d:90133** 90C35 (90C27)

Blecken, C. (*with* Muttalib, K. A.) Brownian motion model of a q-deformed random matrix ensemble. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2123–2132. (Summary) **99b:82082** 82C44 (82C31)

Bleecker, D. (*with* Bär, Christian) Connections on soldered principal bundles. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 891–903. (Summary) **99m:53038** 53C05 (53C80)

Bleher, Frauke M. (*with* Geck, Meinolf; Kimmerle, Wolfgang) Automorphisms of generic Iwahori-Hecke algebras and integral group rings of finite Coxeter groups. *J. Algebra* **197** (1997), *no.* 2, 615–655. (Hiroshi Naruse) **99f:20010** 20C10 (20B25, 20C15, 20F55)

— Automorphisms of string algebras. *J. Algebra* **201** (1998), *no.* 2, 528–546. (Flávio Ulhoa Coelho) **99b:16022** 16G20 (16G70)

— Integral group rings of finite groups of Lie type. *Bull. London Math. Soc.* **31** (1999), *no.* 1, 43–44. (From the text) **99i:20011** 20C10 (20D06)

— Finite groups of Lie type of small rank. (English summary) *Pacific J. Math.* **187** (1999), *no.* 2, 215–239. (Hiroyoshi Yamaki) **99m:20020** 20D06 (20C05, 20C33)

Bleher, P. M. (*with* Ruiz, Jean; Zagrebnov, V. A.) On the phase diagram of the random field Ising model on the Bethe lattice. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 33–78. (Summary) **99h:82043** 82B44 (82B26)

Bleichenbacher, Daniel (*with* Maurer, Ueli M.) On the efficiency of one-time digital signatures. (English summary) *Advances in cryptology—ASIACRYPT* '96 (*Kyongju*), 145–158, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94023** 94A60

Bleicher, M. N. (*with* Ahmadi, M. H.) On the conjectures of Erdős and Straus, and Sierpiński on Egyptian fractions. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 169–185. (Štefan Porubský) **99k:11049** 11D68 (11N36)

Bleiler, Steven A. Little big knots. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 681–692. (From the text) **99f:57005** 57M25

— (*with* Jones, Amelia C.) The free product of groups with amalgamated subgroup malnormal in a single factor. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 119–136. (S. Andreadakis) **99f:20041** 20E06 (20F05)

Blekhman, Il'ya Izrailevich *see* **Birthday: Blekhman, Il'ya Izrailevich**

Blennerhassett, P. J. (*with* Bassom, Andrew P.) Long wavelength vortices in time-periodic flows. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 498–512. (Summary) **99a:76059** 76E99 (76D99)

— (*with* Russell, Craig L.; Stiles, P. J.) Strongly nonlinear vortices in magnetized ferrofluids. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 146–170. (Summary) **99j:76143** 76W05 (76C05, 76E25)

— (*with* Denier, James P.; Bassom, Andrew P.) Large wavenumber vortices in time-periodic flows. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2689–2722. (Summary) **99f:76033** 76C05 (76D07, 76E99)

Bliek, Christian Fast evaluation of partial derivatives and interval slopes. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 259–268. (Summary) **99a:65029** 65D25 (65G10)

— Generalizing partial order and dynamic backtracking. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 319–325, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68179** 68T20

Bliev, N. K. (*with* Myrzakulov, R.; Borzykh, A. V.) Soliton solutions of the (2 + 1)-dimensional nonlinear Schrödinger equation. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997,** *no.* 1, 34–40. 35Q55

Bliman, P.-A. (*with* Krasnosel'skiĭ, A. M.) Periodic solutions of linear systems coupled with relay. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 687–696. (J. W. Macki) **99c:34079** 34C25

Blind, Bruno Distributions homogènes sur une algèbre de Jordan. (English and French summaries) [Homogeneous distributions on a Jordan algebra] *Bull. Soc. Math. France* **125** (1997), *no.* 4, 493–528. (Harald Upmeier) **99g:46052** 46F05 (11M41, 17C99, 43A85)

Blind, G. (*with* Blind, R.) The almost simple cubical polytopes. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 25–48. (Jaroslav Ivančo) **99c:52013** 52B05

Blind, R. (*with* Blind, G.) The almost simple cubical polytopes. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 25–48. (Jaroslav Ivančo) **99c:52013** 52B05

Blinkov, Yu. A. (*with* Gerdt, Vladimir P.) Involutive bases of polynomial ideals. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 519–541. (Joachim Apel) **99e:13033** 13P99 (68Q40)

— (*with* Gerdt, Vladimir P.) Minimal involutive bases. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 543–560. (Joachim Apel) **99e:13034** 13P99 (68Q40)

Blinn, Jim The algebraic properties of second-order surfaces. *Introduction to implicit surfaces*, 52–97, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25, 68U05)

Blinov, A. V. (*with* Izhutkin, V. S.) The reduced directions methods (like centres) based on the external distance function for nonlinear extremal problems. *Operations Research Proceedings* 1997 (*Jena*), 56–61, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30

— (*with* Izhutkin, V. S.) The exterior centers method using a reduced gradient for a nonlinear programming problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 49–57. (Bernd Luderer) **99m:90133** 90C30 (65K05)

Blinova, E. I. (*with* Zalesskiĭ, B. A.) A hierarchical algorithm for reconstructing two-color images. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 24–29, 140. (Summary) **99k:94005** 94A12 (68U10)

Blinowski, Andrzej (*with* Rychlewski, Jan) Pure shears in the mechanics of materials. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 4, 471–503. (Summary) **99h:73014** 73B99 (73C99)

Bliznets, I. V. (*with* Vorob'ev, N. N.) On direct decompositions of compositional formations. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 106–112, *Gomel. Gos. Univ., Gomel'*, 1998. (*see* **99g:20008**) 20D10

Blizorukova, M. S. (*with* Maksimov, V. I.) On an algorithm for the dynamic reconstruction of controls. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 55–61. (Summary) **99k:93027** 93B07 (93B30, 93C15)

Blobel, Volker (*with* Lohrmann, Erich) ★ Statistische und numerische Methoden der Datenanalyse. (German) [Statistical and numerical methods of data analysis] Teubner Studienbücher Physik. [Teubner Textbooks in Physics] *B. G. Teubner, Stuttgart*, 1998. 358 *pp. ISBN* 3-519-03243-0 65–01 (62–01, 65U05)

Bloch, Anthony M. (*with* Drakunov, S. V.) Discontinuous stabilization of Brockett's canonical driftless system. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 169–183, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99h:93082** 93D15 (70F25, 70Q05)

— (*with* Gekhtman, Michael I.) Hamiltonian and gradient structures in the Toda flows. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 230–248. (Marco Pedroni) **99i:58070** 58F07 (58F05)

— (*with* Crouch, Peter E.) Representations of Dirac structures on vector spaces and nonlinear L-C circuits. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 103–117, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Werner M. Seiler) **99i:34013** 34A34 (34A26, 58F05, 70H05, 94C05)

— (*with* Crouch, Peter E.) Optimal control, optimization, and analytical mechanics. (English summary) *Mathematical control theory*, 268–321, *Springer, New York*, 1999. (L. E. Faybusovich) **99k:49042** 49K15 (58E25, 58F05, 70H05, 70Q05, 93C15)

— (*with* Lum, Kai-Yew) Generalized Serret-Andoyer transformation and applications for the controlled rigid body. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 39–66. (Andrew D. Lewis) **99m:70012** 70H05 (58F05, 70–08, 70H33, 70Q05, 93C95, 93D15)

Bloch, Ethan D. ★ A first course in geometric topology and differential geometry. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xiv+421 *pp. ISBN* 0-8176-3840-7 (Ross Geoghegan) **99c:57001** 57–01 (53–01)

— The angle defect for arbitrary polyhedra. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 379–393. (Z. Nádeník) **99h:52003** 52A20 (52B05)

Bloch, Isabelle Fuzzy geodesic mathematical morphology from fuzzy geodesic distance. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 43–50, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68174** 68U10

Bloch, Spencer Lectures on mixed motives. *Algebraic geometry—Santa Cruz* 1995, 329–359, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Klaus Künnemann) **99g:11073** 11G09 (14C25, 14F20, 19F27)

Bloch, Stephen A. (*with* Buss, Jonathan F.; Goldsmith, Judy) Sharply bounded alternation within P (extended abstract). (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 131–146, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 68Q15

— On parallel hierarchies and R_k^t. (English summary) *Ann. Pure Appl. Logic* **89** (1997), *no.* 2-3, 231–273. (Evangelos Kranakis) **99b:03058** 03D15 (68Q15)

Block, H. W. (*with* Chhetry, D.; Fang, Zhao Ben; Sampson, Allan R.) Metrics on permutations useful for positive dependence. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 219–234. (Ram Shanmugam) **99k:62106** 62H05

Block, Jonathan Some remarks concerning the Baum-Connes conjecture. *Comm. Pure Appl. Math.* **50** (1997), *no.* 9, 813–820. (Éric Leichtnam) **99f:46103** 46L87

Block, Louis (*with* Keesling, James) On homeomorphisms of $(\mathbf{I}, f)$ having topological entropy zero. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 121–137. (Romeo F. Thomas) **99c:54054** 54H20 (54C70)

Blockeel, Hendrik (*with* De Raedt, Luc) Top-down induction of first-order logical decision trees. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 285–297. 68N17 (68T05)

Blocki, Zbigniew (*with* Kołodziej, Sławomir; Levenberg, Norman) Extremal functions and equilibrium measures for Borel sets. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 291–296. (W. Plesniak (Zbl 889.32018)) **99f:32022** 32F07 (32F05)

— On the regularity of the complex Monge-Ampère operator. (English summary) *Complex geometric analysis in Pohang* (1997), 181–189, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Yang Xing) **99m:32018** 32F07 (35B65, 35J60)

Blockley, David I. (*with* Hall, James W.; Davis, John P.) Uncertain inference using interval probability theory. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 247–264. (Summary) **99k:68180** 68T27 (03B48, 68T30)

Bloemen, I. (*with* Thas, Joseph Adolphe; Van Maldeghem, Hendrik) Translation ovoids of generalized quadrangles and hexagons. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 19–62. (Horst Struve) **99h:51001** 51E12 (51E20, 51E23)

Blok, Rieuwert J. (*with* Brouwer, Andries E.) The geometry far from a residue. (English summary) *Groups and geometries* (*Siena*, 1996), 29–38, *Trends Math., Birkhäuser, Basel*, 1998. (Harald Gottschalk) **99k:51015** 51E24

— (*with* Brouwer, Andries E.) Spanning point-line geometries in buildings of spherical type. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 26–35. (Harald Gottschalk) **99f:51019** 51E24

Blok, W. J. (*with* Pigozzi, Don L.) On the congruence extension property. (English summary) *Algebra Universalis* **38** (1997), *no.* 4, 391–394. (V. N. Salīĭ) **99m:08007** 08A30 (08C15)

Blokh, A. M. (*with* Misiurewicz, Michał) Entropy of twist interval maps. (English summary) *Israel J. Math.* **102** (1997), 61–99. (P. Mendes) **99b:58139** 58F11 (58F03, 58F20)

— (*with* Misiurewicz, Michał) Collet-Eckmann maps are unstable. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 61–70. (Víctor Jiménez López) **99b:58133** 58F10 (54H20, 58F03)

— (*with* Misiurewicz, Michał) Wild attractors of polymodal negative Schwarzian maps. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 2, 397–416. (Peter Petek) **99k:58116** 58F12

— (*with* Mayer, John C.; Oversteegen, Lex G.) Recurrent critical points and typical limit sets of rational maps. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1215–1220. (Walter Bergweiler) **99f:58169** 58F23 (28D99, 30D05)

— (*with* Misiurewicz, Michał) Rotating an interval and a circle. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 63–78. (Witold Jarczyk) **99j:58063** 58F03 (54H20, 58F08)

Blokhin, A. M. (*with* Alaev, R. D.) ★ Интегралы энергии и их приложения к исследованию устойчивости разностных схем. (Russian. Russian summary) [Energy integrals and their applications to the study of the stability of difference schemes] *Izdatel'stvo Novosibirskogo Universiteta, Novosibirsk*, 1993. 212 *pp. ISBN* 5-7615-0014-0 65M12 (65N12, 76M20)

— (*with* Merazhov, I. Z.; Trakhinin, Yu. L.) Investigation on stability of electrohydrodynamic shock waves. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 87–114 (1998). (V. D. Sharma) **99e:76125** 76W05 (35Q35, 76E25, 76L05)

— (*with* Tkachev, D. L.) ★ Mixed problems for the wave equation in coordinate domains. *Nova Science Publishers, Inc., Commack, NY*, 1998. 133 *pp. ISBN* 1-56072-592-3 (V. D. Sharma) **99m:35137** 35Lxx (76–01, 76N10)

— (*with* Trakhinin, Yu. L.; Merazhov, I. Z.) On the stability of shock waves in a continuum with bulk charge. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 29–39. (Introduction) **99i:76081** 76L05 (76E99, 76W05)

— (*with* Zimerman, V. R.; Pozdeev, A. A.) Numerical study of the stationary solution stability for the problem of supersonic flow around a cone with the help of the adequate computational model (method of lines). (English summary) *Siberian J. Differential Equations* **1** (1998), *no.* 4, 295–319. (Dietmar Kröner) **99k:76105** 76M25 (76E99, 76J20)

— (*with* Trakhinin, Yu. L.) Stability of fast parallel and transversal MHD shock waves in plasma with pressure anisotropy. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 57–71. (Summary) **99m:76116** 76W05 (76E25, 76L05)

— (*with* Trakhinin, Yu. L.) Stability of fast parallel MHD shock waves in polytropic gas. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 197–211. (Summary) **99m:76117** 76W05 (76E25, 76E30, 76L05)

Blokhnin, A. N. Fuzzy inference using transformation of membership functions. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 119–124. 93C42

Blokhuis, Aart (*with* O'Keefe, Christine M.; Payne, Stanley E.; Storme, Leo; Wilbrink, Henny) Covers of $PG(3, q)$ and of finite generalized quadrangles. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 141–157. (W. M. Kantor) **99d:51004** 51E12 (51E14, 51E21, 51E23)

— (*with* Sziklai, Péter) A note on small complete caps in the Klein quadric. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 159–161. (Summary) **99d:51014** 51E22

— (*with* Hamilton, Nicholas; Wilbrink, Henny) On the non-existence of Thas maximal arcs in odd order projective planes. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 413–417. (Summary) **99f:51011** 51E15

— (*with* Ball, Simeon) An easier proof of the maximal arcs conjecture. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3377–3380. (Giorgio Faina) **99a:51009** 51E21 (05B25, 51E20)

— (*with* O'Keefe, Christine M.) On deriving unitals. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 137–141. (Summary) **99m:51010** 51E21 (05B25)

— *see also* **Finite geometry and combinatorics, 99a:51001**

Blom, Frederic J. A monolithical fluid-structure interaction algorithm applied to the piston problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 3-4, 369–391. (Summary) **99j:76087** 76M25 (73K70)

Blömer, Johannes Denesting by bounded degree radicals. (English summary) *Algorithms—ESA* '97 (*Graz*), 53–63, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q40

— (*with* Karp, Richard M.; Welzl, Emo) The rank of sparse random matrices over finite fields. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 407–419. (Jack W. Silverstein) **99b:15028** 15A52 (15A03)

— A probabilistic zero-test for expressions involving roots of rational numbers. (English summary) *Algorithms—ESA* '98 (*Venice*), 151–162, *Lecture Notes in Comput. Sci.*, 1461,

Springer, Berlin, 1998. (*see* **99k:68004**) 68Q25 (65H05, 68U05)

Blondeaux, P. (*with* de Swart, H. E.; Vittori, G.) Edge waves and steady currents near a vertical cliff. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 191–200, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76E20, 86A05)

Blondel, Vincent D. (*with* Bertilsson, Daniel) Transcendence in simultaneous stabilization. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 22 *pp.* (*electronic*). (Summary) **99h:93081** 93D15 (68Q05)

— (*with* Tsitsiklis, John N.) The Lyapunov exponent and joint spectral radius of pairs of matrices are hard—when not impossible—to compute and to approximate. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 31–40. (Summary) **99h:65238a** 65Y20 (15A42, 34D08, 68Q25)

— (*with* Tsitsiklis, John N.) Lyapunov exponents of pairs of matrices. A correction: "The Lyapunov exponent and joint spectral radius of pairs of matrices are hard—when not impossible—to compute and to approximate". *Math. Control Signals Systems* **10** (1997), *no.* 4, 381. (From the text) **99h:65238b** 65Y20 (15A42, 34D08, 68Q25)

— (*with* De Schutter, Bart; de Vries, Remco; De Moor, Bart) On the Boolean minimal realization problem in the max-plus algebra. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 69–78. (Nikolai K. Krivulin) **99k:93066** 93C83 (93B15, 93B25, 93C55)

— (*with* Tsitsiklis, John N.) Overview of complexity and decidability results for three classes of elementary nonlinear systems. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 46–58, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B40 (65Y20, 68Q25, 93C10)

Bloo, Roel (*with* Geuvers, Herman) Explicit substitution. On the edge of strong normalization. (English summary) *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 375–395. (From the summary) **99k:68025** 68N15 (03B40)

Bloom, Frederick Internal variable modelling of wave propagation in laminates with nonlinearly elastic constituents. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 3, 9–30. (Piotr Borejko) **99c:73026** 73D99 (73K20)

— (*with* Hojjatie, B.; Orloff, D.) Modelling and analysis of the heat transfer problem in an impulse drying press roll. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 5, 59–88. (Summary) **99m:80008** 80A20

Bloom, Stephen L. (*with* Ésik, Zoltán) Axiomatizing shuffle and concatenation in languages. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 62–91. (Christine Charretton) **99b:03045** 03C05 (03D05, 68Q45)

— (*with* Ésik, Zoltán) Varieties generated by languages with poset operations. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 6, 701–713. (Heinrich Seidel) **99b:68111** 68Q45 (08B20, 68Q10)

Bloom, Thomas (*with* Calvi, Jean-Paul) A convergence problem for Kergin interpolation. II. (English summary) *Approximation theory VIII, Vol. 1 (College Station, TX, 1995)*, 79–86, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99h:32015** 32E30

— (*with* Calvi, Jean-Paul) The distribution of extremal points for Kergin interpolation: real case. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 1, 205–222. (Wiesław Pleśniak) **99c:32015** 32E30 (41A05, 41A63)

— *see also* **Saff, Edward B., 99h:31001**

Bloom, Walter R. (*with* Xu, Zengfu) Hardy spaces on Chébli-Trimèche hypergroups. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 1–26. (Khélifa Trimèche) **99e:43004** 43A15 (43A62, 46E15)

— (*with* Xu, Zengfu) Fourier multipliers for local Hardy spaces on Chébli-Trimèche hypergroups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 897–928. (Mohamed Sifi) **99m:43002** 43A22 (43A62)

— (*with* Xu, Zengfu) Fourier transforms of Schwartz functions on Chébli-Trimèche hypergroups. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 89–109. (Mohamed Sifi) **99c:43010** 43A62 (43A15, 43A32)

Bloomenthal, Jules The geometry of implicit surfaces. *Introduction to implicit surfaces*, 2–51, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25, 68U05)

— Surface tiling. *Introduction to implicit surfaces*, 126–165, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25, 68U05)

— Convolution of skeletons. *Introduction to implicit surfaces*, 222–241, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65D25)

— *see also* **Introduction to implicit surfaces, 99i:00008**

Bloor, M. Susan (*with* Brown, Joanna Mary; Bloor, Malcolm I. G.; Wilson, Michael John) The accuracy of B-spline finite element approximations to PDE surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 221–234. (Summary) **99c:65029** 65D17 (65Y25)

— (*with* Brown, Joanna Mary; Bloor, Malcolm I. G.; Wilson, Michael John) B-spline surface approximations of a six-sided PDE patch. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 211–231. (*see* **99i:65004**) 65D17 (65Y25)

Bloor, Malcolm I. G. (*with* Brown, Joanna Mary; Bloor, M. Susan; Wilson, Michael John) The accuracy of B-spline finite element approximations to PDE surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 221–234. (Summary) **99c:65029** 65D17 (65Y25)

— (*with* Brown, Joanna Mary; Bloor, M. Susan; Wilson, Michael John) B-spline surface approximations of a six-sided PDE patch. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 211–231. (*see* **99i:65004**) 65D17 (65Y25)

Bloshanskaya, S. K. (*with* Bloshanskiĭ, I. L.) Weak generalized localization for multiple Fourier-Walsh series of functions in L_p, $p \geq 1$. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 83–106. (Sergei F. Lukomskiĭ) **99i:42060** 42C25 (42C10)

— (*with* Bloshanskiĭ, I. L.; Roslova, T. Yu.) Generalized localization for double trigonometric Fourier series and Fourier-Walsh series of functions from $L \log^+ L \log^+ \log^+ L$. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 21–46; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 657–682. (P. Simon) **99f:42054** 42C10 (42B05)

Bloshanskiĭ, I. L. (*with* Bloshanskaya, S. K.) Weak generalized localization for multiple Fourier-Walsh series of functions in L_p, $p \geq 1$. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 83–106. (Sergei F. Lukomskiĭ) **99i:42060** 42C25 (42C10)

— (*with* Bloshanskaya, S. K.; Roslova, T. Yu.) Generalized localization for double trigonometric Fourier series and Fourier-Walsh series of functions from $L \log^+ L \log^+ \log^+ L$. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 21–46; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 657–682. (P. Simon) **99f:42054** 42C10 (42B05)

Blöte, Henk W. J. (*with* Batchelor, Murray T.; Nienhuis, Bernard) Fully packed loop models. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 49–56, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* Knops, Yolanda M. M.; Nienhuis, Bernard) The O(n) model on the triangular lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2941–2966. (Domingos H. U. Marchetti) **99e:82036** 82B26 (82-04, 82B20, 82B27)

Blount, M. (*with* Gani, Joseph Mark; Yakowitz, S.) The spread and quarantine of HIV infection in a prison system. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1510–1530. (Summary) **99d:92038** 92D30 (62C10, 62C12)

Blouza, Adel (*with* Coquel, Frédéric; Hamel, François) Réduction algorithmique de systèmes cinétiques raides. (English and French summaries) [Algorithmic reduction process for stiff kinetic systems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 979–984. (Summary) **99i:80001** 80–08 (80A30)

Blower, Gordon Bilinear forms on vector Hardy spaces. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 371–378. (D. Sarason) **99b:46051** 46E40 (46B28, 47A20, 47B35)

— Multipliers of Hardy spaces, quadratic integrals and Foiaş-Williams-Peller operators. (English summary) *Studia Math.* **131** (1998), *no.* 2, 179–188. (Sarah H. Ferguson) **99g:47050** 47B35 (42B25)

Blowey, James F. (*with* Barrett, John W.) Finite element approximation of a model for phase separation of a multi-component alloy with a concentration-dependent mobility matrix. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 287–328. (Jacques Rappaz) **99k:65092** 65M60 (65M15, 80–08, 80A22)

— (*with* Barrett, John W.; Garcke, Harald) Finite element approximation of a fourth order nonlinear degenerate parabolic equation. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 525–556. (Manfred Dobrowolski) **99j:65144** 65M12 (35K65, 65M60)

— (*with* Barrett, John W.) An improved error bound for a finite element approximation of a model for phase separation of a multi-component alloy. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 147–168. (J. D. P. Donnelly) **99m:80001** 80–08 (65M60, 80A22)

— (*with* Barrett, John W.) Finite element approximation of the Cahn-Hilliard equation with concentration dependent mobility. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 487–517. (G. W. Hedstrom) **99i:65103** 65M60 (35K55)

Bloznelis, M. (*with* Paulauskas, Vygantas) Central limit theorem in Skorohod spaces and asymptotic strength distribution of fiber bundles. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 75–87, *TEV, Vilnius*, 1994. (Summary) **99f:60038** 60F05 (60B10)

— On the rate of normal approximation in $D[0, 1]$. (English and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 280–294; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 3, 207–218 (1998). (S. A. Chobanyan) **99g:60009** 60B12 (60F17)

— (*with* Bentkus, V.; Götze, Friedrich) A Berry-Esséen bound for M-estimators. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 485–502. (R. A. Maller) **99c:62057** 62F12 (60F05, 62E20, 62F35)

Blu, Thierry (*with* Unser, Michael) Approximation error for quasi-interpolators and (multi-)wavelet expansions. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 219–251. (L. Leindler) **99m:41025** 41A25 (42C15)

Bludov, V. V. On locally nilpotent groups [translation of Trudy Instituta Matematiki, Vol. 30, 26–47, Izdat. Ross. Akad. Nauk, Sibirsk. Otdel., Inst. Mat., Novosibirsk, 1996]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 49–79. (J. Wiegold) **99m:20074** 20F19 (20E10)

Bluher, Antonia Wilson Relations between certain power sums of elliptic modular forms in characteristic two. *J. Number Theory* **70** (1998), *no.* 2, 127–145. (Jean-Marc Couveignes) **99i:11047** 11G20 (11F11)

Bluhm, Christian On a theorem of Kaufman: Cantor-type construction of linear fractal Salem sets. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 307–316. (Françoise Lust-Piquard) **99i:43009** 43A46 (28A78, 28A80)

Bluhm, J. (*with* Liu, Zhangfang; de Boer, Reint) Inhomogeneous plane waves, mechanical energy flux, and energy dissipation in a two-phase porous medium. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 617–625. (Summary) **99h:73029** 73D15 (76S05)

Blum, A. *see* **Blum, Avrim L.**

Blum, Andreas (*with* Stuhler, U.) Drinfeld modules and elliptic sheaves. *Vector bundles on curves—new directions (Cetraro, 1995)*, 110–193, *Lecture Notes in Math.*, 1649, *Springer, Berlin*, 1997. (David Goss) **99c:11071** 11G09 (14G15, 58F07)

Blum, Avrim L. On-line algorithms in machine learning. *Online algorithms (Schloss Dagstuhl, 1996)*, 306–325, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68T05

— (*with* Frieze, Alan M.; Kannan, Ravindran; Vempala, Santosh) A polynomial-time algorithm for learning noisy linear threshold functions. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 35–52. (Peter Auer) **99m:68158** 68T05 (68Q99)

— (*with* Chalasani, Prasad; Goldman, Sally A.; Slonim, Donna K.) Learning with unreliable boundary queries. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 209–222. (Sanjay Jain) **99e:68135** 68T05 (68Q99)

— (*with* Awerbuch, Baruch; Azar, Yossi; Vempala, Santosh) New approximation guarantees for minimum-weight k-trees and prize-collecting salesmen. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 254–262 (*electronic*). (T. R. S. Walsh) **99e:68063** 68Q25 (05C85, 68R10)

— (*with* Mitchell, Joseph S. B.; Chalasani, Prasad; Vempala, Santosh) A constant-factor approximation algorithm for the geometric k-MST problem in the plane. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 771–781 (*electronic*). (Summary) **99g:68098** 68Q25 (68R10, 68U05)

Blum, Edward K. (*with* Wang, Xin^2; Li, Qingnan) Consistency of local dynamics and bifurcation of continuous-time dynamical systems and their numerical discretizations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 29–57. (Summary) **99c:34078** 34C23 (34A45, 65L06)

Blum, Jacques (*with* Luong, Bruno; Verron, Jacques) Variational assimilation of altimeter data into a non-linear ocean model: temporal strategies. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 21–57 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:86007** 86A05 (35Q35, 49N55, 86A22)

— (*with* Blayo, Eric; Verron, Jacques) Assimilation variationnelle de données en océanographie et réduction de la dimension de l'espace de contrôle. (French summary) [Variational assimilation of oceanographic data and reduction of the dimension of the control space] *Équations aux dérivées partielles et applications*, 199–219, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99f:86002** 86A05 (49N55)

— (*with* Luong, Bruno; Verron, Jacques) A variational method for the resolution of a data assimilation problem in oceanography. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 979–997. (Summary) **99e:86002** 86A05

Blum, Julie D. (*with* Intriligator, Kenneth) New phases of string theory and 6d RG fixed points via branes at orbifold singularities. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 199–222. (Summary) **99a:81128** 81T30

— (*with* Intriligator, Kenneth) Consistency conditions for branes at orbifold singularities. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 223–235. (André J. Van Tonder) **99b:81179** 81T30 (81T50)

— (*with* Dienes, Keith R.) Strong/weak coupling duality relations for non-supersymmetric string theories. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 83–159. (Angel Maria Uranga) **99e:81177** 81T30 (83E30)

— (*with* Dienes, Keith R.) From the type I string to M-theory: a continuous connection. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 93–104. (Christophe Grojean) **99e:81178** 81T30

— NS branes in type I theory. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 55–58. (Marco Cavaglià) **99h:81154** 81T30 (32S30)

— Anomaly inflow at singularities. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 319–322. (Summary) **99h:81197** 81T50 (81T30)

Blum, Lenore (*with* Cucker, Felipe; Shub, Michael; Smale, Stephen) ★ Complexity and real computation. (English summary) With a foreword by Richard M. Karp. *Springer-Verlag, New York*, 1998. xvi+453 *pp. ISBN* 0-387-98281-7 (Klaus Meer) **99a:68070** 68Q15 (03D15, 13P99, 14P99, 65Y20, 68–02)

Blum, Manuel (*with* Wasserman, Hal) Software reliability via run-time result-checking. (English summary) *J. ACM* **44** (1997), *no.* 6, 826–849. (Manfred Broy) **99b:68024** 68N05 (68Q60)

Bluman, George (*with* Anco, Stephen C.) Integrating factors and first integrals for ordinary differential equations. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 245–259. (Luis P. Chimento) **99h:34008** 34A34

Blumberg, Andrew J. Parallel computation on a DNA substrate. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 265–279, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05

Blume, Andreas Communication, risk, and efficiency in games. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 171–202. (Françoise Forges) **99d:90146** 90D10

Blume, Frank Possible rates of entropy convergence. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 1, 45–70. (B. Kamiński) **99c:28042** 28D05

Blümel, Reinhold (*with* Reinhardt, W. P.) ★ Chaos in atomic physics. (English summary) Cambridge Monographs on Atomic, Molecular and Chemical Physics, 10. *Cambridge University Press, Cambridge*, 1997. *xvi*+326 *pp. ISBN* 0-521-45502-2 (A. Ventura) **99i:81047** 81Q50 (81–01, 81V45)

— Microwave ionization of hydrogen Rydberg atoms: chaos, symmetry and dynamical localization. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 154–172, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45 (81Q50)

— (*with* Kohler, Achim) Weyl formulas for quantum ray-splitting billiards. (English summary) *Ann. Physics* **267** (1998), *no.* 2, 249–280. (Jens Bolte) **99f:81060** 81Q50

Blumenhagen, Ralph (*with* Wißkirchen, Andreas) Spectra of 4D, $N = 1$ type I string vacua on non-toroidal CY threefolds. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 52–60. (Harald Skarke) **99i:81172** 81T30 (14J32, 32J81)

Blumofe, Robert D. (*with* Leiserson, Charles E.) Space-efficient scheduling of multithreaded computations. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 202–229 (*electronic*). (Summary) **99b:68090** 68Q22 (68M20, 68Q25)

Blunck, S. Weights and angles of quadrature rules on the sphere S^{n-1}. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 19–26, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Summary) **99a:41043** 41A55

Blundo, Carlo (*with* Cresti, Antonella; De Santis, Alfredo; Vaccaro, Ugo) Fully dynamic secret sharing schemes. (English summary) *Theoret. Comput. Sci.* **165** (1996), *no.* 2, 407–440. (Summary) **99a:94024** 94A60 (68P25)

— (*with* De Santis, Alfredo; Herzberg, Amir; Kutten, Shay; Vaccaro, Ugo; Yung, Moti) Perfectly secure key distribution for dynamic conferences. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 1–23. (Luis Hernández Encinas) **99j:94039** 94A60

— (*with* De Santis, Alfredo; Vaccaro, Ugo) On secret sharing schemes. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 1, 25–32. (Summary) **99e:94031** 94A60

— (*with* Frota-Mattos, Luis A.; Stinson, Douglas R.) Generalized Beimel-Chor schemes for broadcast encryption and interactive key distribution. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 313–334. (Simon R. Blackburn) **99h:94044** 94A60 (68P25)

Bluskov, Iliya Some t-designs are minimal $(t + 1)$-coverings. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 245–251. (Summary) **99a:05009** 05B05

— New simple 3-designs on 26 and 28 points. (English summary) *Ars Combin.* **51** (1999), 313–318. (Summary) **99k:05024** 05B05

Blyth, Stephen (*with* Smith, Adrian F. M.) Bayesian meta-analysis of frequentist P-values. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2707–2724. 62F15

Blyth, W. F. (*with* Uljanov, Vladimir) Numerical solution of weakly singular Fredholm integral equations using Walsh functions. *Computational techniques and applications*: *CTAC*95 (*Melbourne*, 1995), 137–143, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65R20 (45L05)

— (*with* Sloss, B. G.) A variational method using Walsh functions. *Nonlinear Anal.* **32** (1998), *no.* 4, 549–561. (Ian Gladwell) **99c:65216** 65N30 (42C10, 65K10)

Bo, Zhou *see* **Zhou, Bo^2**

Boal, N. (*with* Allueva Pinilla, Ana) Study of the stochastic posynomial model by numerical procedures. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1033–1038, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90C15 (90C08)

Boardman, A. D. (*with* Xie, Kang) Spatial solitons in $\chi^{(2)}$ and $\chi^{(3)}$ dielectrics and control by magneto-optic materials. *Nonlinear optical materials* (*Minneapolis, MN*, 1996), 83–108, *IMA Vol. Math. Appl.*, 101, *Springer, New York*, 1998. (Anatoly M. Kamchatnov) **99f:78019** 78A60 (35Q51, 35Q60)

Boas, Harold P. The football player and the infinite series. *Notices Amer. Math. Soc.* **44** (1997), *no.* 11, 1430–1435. (A. Perelli) **99a:11101** 11M41 (30B50)

— (*with* Fu, Siqi; Straube, Emil J.) The Bergman kernel function: explicit formulas and zeroes. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 805–811. (Anthony D. Thomas) **99f:32037** 32H10

Boasso, Enrico On the joint spectra of the two-dimensional Lie algebra of operators in Hilbert spaces. (English summary) *Rev. Un. Mat. Argentina* **40** (1996), *no.* 1-2, 101–109. (Volker Wrobel) **99e:47010** 47A13 (17B10, 47D99)

— Tensor products and joint spectra for solvable Lie algebras of operators. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 9–16. (F.-H. Vasilescu) **99h:47008** 47A13 (17B30, 46M05, 47A80)

Boasson, Luc (*with* Autebert, Jean-Michel; Berstel, Jean) Context-free languages and pushdown automata. *Handbook of formal languages, Vol.* 1, 111–174, *Springer, Berlin*, 1997. (From the introduction) **99g:68108** 68Q45 (03D05, 68Q50)

— (*with* Berstel, Jean) The set of Lyndon words is not context-free. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 139–140. (From the introduction) **99a:68137** 68R15

— (*with* Berstel, Jean) The set of minimal words of a context-free language is context-free. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 477–488. (Summary) **99a:68103** 68Q45

Boaventura, Murilio (*with* Cuminato, José A.; Filho, Antonio Castelo; Tomé, Murilo F.) Simulation of free surface flows in a distributed memory environment. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 77–92. (*see* **99k:65002**) 76M20 (76M25)

ortíz-Bobadilla, Laura *see* **Ortíz-Bobadilla, Laura**

Bobenrieth, Juan (*with* Bamón, Rodrigo) The rational maps $z \mapsto 1 + 1/\omega z^d$ have no Herman rings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 633–636. (I. N. Baker) **99c:58132** 58F23 (30D05)

Bobkov, N. N. (*with* Gupalo, Yu. P.) Flow pattern in a fluid layer and the spectrum of a boundary value problem when surface tension depends nonlinearly on the temperature. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1021–1028; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 999–1005. (Summary) **99b:76023** 76D05 (76D45, 76R10)

Bobkov, S. G. (*with* Götze, Friedrich) On moments of polynomials. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 638–640; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 518–520 (1998). (S. G. Maloshevskiĭ) **99c:60028** 60E15

— (*with* Ledoux, Michel) On modified logarithmic Sobolev inequalities for Bernoulli and Poisson measures. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 347–365. (Iosif Pinelis) **99e:60051** 60E15 (28A35, 46E30, 46N30)

Bobkov, V. B. (*with* Lukomsky, V. P.) Asymptotic expansions of the periodic solutions of nonlinear evolution equations. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 1, 1–21. (Summary) **99b:34073** 34C25 (34E05, 70K99)

Bobkov, V. V. (*with* Bobkova, N. A.) Monotone approximations of a matrix exponential. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1998**, *no.* 3, 17–20, 78. 41A30 (65D15)

Bobkova, N. A. (*with* Bobkov, V. V.) Monotone approximations of a matrix exponential. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1998**, *no.* 3, 17–20, 78. 41A30 (65D15)

Boboc, Cristinel (*with* Cernea, Aurelian) Regularity properties of the value functions in optimal control. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 3–10. 49K40 (49L25)

Boboc, Nicu (*with* Beznea, Lucian) Balayages on excessive measures, their representation and the quasi-Lindelöf property. (English summary) *Potential Anal.* **7** (1997), *no.* 4, 805–825. (Klaus Janssen) **99b:31010** 31D05 (60J40, 60J45)

— (*with* Bucur, Gheorghe) Potential theory on ordered sets. (English summary) *Analysis and topology*, 165–190, *World Sci. Publishing, River Edge, NJ*, 1998. (Eugen Popa) **99m:31018** 31D05 (06A06)

— (*with* Beznea, Lucian) Noyaux fortement surmédians et mesures de Revuz. (English and French summaries) [Strongly supermedian kernels and Revuz measures] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 139–142. (Summary) **99g:31011** 31C25 (60J45)

— (*with* Bucur, Gheorghe) Characterization of Dirichlet forms by their excessive and co-excessive elements. (English summary) *Potential Anal.* **8** (1998), *no.* 4, 345–357. (Zhi Ming Ma) **99f:31013** 31C25 (31C12, 31D05, 35J99)

Bobochko, V. N. A system of differential equations with a strong turning point. (Russian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 11, 1543–1547; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1735–1741 (1998). (Summary) **99k:34125** 34E20

— Multiple, unstable and null elements of the spectrum in the theory of singular perturbations. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 1, 69–78. (Summary) **99m:34119** 34E05 (34E15)

Bobodzhanov, A. A. (*with* Tuĭchiev, O. D.) A singularly perturbed integral equation with a degenerate kernel. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1537–1542, 1582; *translation in Differential Equations* **33** (1997), *no.* 11, 1542–1546 (1998). (Wojciech Mydlarczyk) **99k:45001** 45A05 (45J05, 45M05)

Boboilă, Cristea (*with* Moldovan, Grigor) Une approche sur la modélisation d'objets complexes dans un système orienté-objet. (French summary) [An approach to the

modelling of complex objects in an object-oriented system] *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 98–106 (1997). 68P15 (68R10)

Bobok, Jozef (*with* Kuchta, Milan) The X-minimal patterns and the forcing relation. *Iteration theory (ECIT 94) (Opava)*, 69–76, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F03 (54H20)

— (*with* Kuchta, Milan) X-minimal patterns and a generalization of Sharkovskiĭ's theorem. (English summary) *Fund. Math.* **156** (1998), *no.* 1, 33–66. (James Andrew Walsh) **99d:58057** 58F03 (26A18, 54H20)

Bobrik, R. V. (*with* Stettner, Łukasz) Stabilization of two-dimensional linear systems by Gaussian noise. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 91–103. (Peter E. Kloeden) **99b:60076** 60H10 (93D15, 93E15)

Bobrov, A. N. Higher-order regularized traces of the Laplace operator with a potential on symmetric spaces of rank 1. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 800–804, 862–863; *translation in Differential Equations* **33** (1997), *no.* 6, 803–807 (1998). (Friedbert Prüfer) **99h:58195** 58G25 (35P05)

— (*with* Podol'skiĭ, V. E.) On the convergence of the trace for a power of the Laplace-Beltrami operator with a potential on the sphere S^n. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 69–72; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 280–282 (1998). (Friedbert Prüfer) **99g:58123** 58G25 (58G26)

Bobrov, Yu. K. (*with* Yurgelenas, Yu. V.) Application of high-resolution schemes in problems of modeling ionization waves in gas discharge. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1721–1731; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1652–1661. (Summary) **99g:76087** 76M20 (65M06, 76X05, 78A99)

Bobrowski, Adam On the Yosida approximation and the Widder-Arendt representation theorem. (English summary) *Studia Math.* **124** (1997), *no.* 3, 281–290. (Introduction) **99b:47058** 47D06 (41A65, 44A10, 47A99)

— A note on convergence of semigroups. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 2, 107–127. (C. J. K. Batty) **99g:47087** 47D03 (41A35)

Bobrowski, Dobiesław A. (*with* Popowska, Barbara) The estimate of the error for approximation of some discrete distribution by the geometric distribution. *Demonstratio Math.* **30** (1997), *no.* 3, 679–686. (Olcay Akman) **99c:62037** 62E17 (62N05)

— Globa' :ttractor for nonlinear recurrence of second order. (English summary) *Discuss. Mat.. Differential Incl.* **17** (1997), *no.* 1-2, 83–88. (Summary) **99c:39014** 39A11

— On the approximation of positive sequence. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 145–149. (Gen Sun Fang) **99a:41047** 41A60 (41A65)

— *see also* **Werbowski, Jarosław**

Bobryk, Roman *see* **Bobrik, R. V.**

Bobylëv, A. V. Moment inequalities for the Boltzmann equation and applications to spatially homogeneous problems. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1183–1214. (Carlo Cercignani) **99e:82077** 82C40 (76P05)

— (*with* Palczewski, Andrzej; Schneider, Jacques) A consistency result for a discrete-velocity model of the Boltzmann equation. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1865–1883. (Giuseppe Toscani) **99d:82068** 82C80 (11Z05, 65C20, 76P05, 82C40)

— (*with* Cercignani, Carlo) Discrete velocity models for mixtures. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 327–341. (Luisa Arlotti) **99g:82066** 82C40

— (*with* Illner, R.; Victory, H. D.; Dukes, Peter) On Vlasov-Manev equations. II. Local existence and uniqueness. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 625–654. (Carlo Cercignani) **99i:85001** 85A05 (45K05, 70F10, 76X05, 82D10)

— (*with* Victory, H. D.) Additive invariant functionals for dynamical systems. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 269–299. (Carlo Cercignani) **99h:82059** 82C40 (76P05)

— (*with* Spiga, Giampiero) On a model transport equation with inelastic scattering. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1128–1137 (*electronic*). (Summary) **99a:76132** 76P05 (82C40)

Bobylev, N. A. (*with* Korovin, S. K.; Skalyga, V. I.) A homotopic method for studying multicriterial problems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 168–178; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 2, 1513–1521 (1997). (A. Göpfert) **99d:90099** 90C29 (90C31)

— (*with* Ivanenko, S. A.; Ismailov, I. G.) Some remarks on homeomorphic mappings. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 593–596; *translation in Math. Notes* **60** (1996), *no.* 3-4, 442–445 (1997). (Jacek Marek Jędrzejewski) **99d:54007** 54C05 (26B05)

— (*with* Arutyunov, A. V.; Korovin, S. K.) One remark to Ekeland's variational principle. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 267–271. (Pando Georgiev) **99a:49022** 49J52 (49J50, 49K10)

— (*with* Emel'yanov, S. V.; Korovin, S. K.) On the robustness of stable dynamical systems. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 449–451. (János Karsai) **99e:34067** 34D20 (34D30)

— (*with* Emel'yanov, S. V.; Korovin, S. K.) Estimates for perturbations of stable matrices. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 15–24; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 467–475. (Introduction) **99j:93074** 93D09 (15A42, 34D10)

— (*with* Bulatov, A. V.) On the robust stability of linear discrete systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 8, 138–145; *translation in Automat. Remote Control* **59** (1998), *no.* 8, *part* 2, 1165–1170 (1999). (Alexander M. Kovalev) **99m:93073** 93D09 (93C55)

— (*with* Korovin, S. K.) Duality theorems in the theory of nonlinear oscillations. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 1–23. (Jean Mawhin) **99g:34088** 34C25 (34B15, 47H11, 47N20)

— (*with* Kim, Jong Kyu; Korovin, S. K.; Piskarëv, S. I.) Semidiscrete approximations of semilinear periodic problems in Banach spaces. *Nonlinear Anal.* **33** (1998), *no.* 5, 473–482. (Kiyoko Furuya) **99f:34090** 34G20 (34A45, 47D06, 65J15, 65L99)

— (*with* Gorin, E. A.; Ishlinskiĭ, A. Yu.; Novikov, Sergeĭ Petrovich; Tikhomirov, Vladimir) Mark Aleksandrovich Krasnosel'skiĭ. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 199–201; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 195–198. (Editors) **99m:01042** 01A70

Boca, Ioana A central extension theorem for Hopf algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2593–2606. (Hans-Jürgen Schneider) **99b:16055** 16W30

Boccacci, Patrizia (*with* Bertero, Mario) ★ Introduction to inverse problems in imaging. (English summary) *Institute of Physics Publishing, Bristol*, 1998. *xii*+351 *pp. ISBN* 0-7503-0439-1; 0-7503-0435-9 (Vladimir A. Sharafutdinov) **99k:78027** 78A45 (35R30, 44A12, 65R30, 68U10, 92C55)

— (*with* Bertero, Mario; Bindi, D.; Cattaneo, M.; Eva, C.; Lanza, V.) A novel blind-deconvolution method with an application to seismology. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 815–833. 86A22 (86A15)

— (*with* Bertero, Mario; Di Benedetto, Fabio; Robberto, M.) Restoration of chopped and nodded images in infrared astronomy. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 345–372. 65D99 (65F99)

Boccaletti, D. (*with* Di Bari, M.; Cipriani, P.; Pucacco, G.) Finsler geometry in classical mechanics and in Bianchi cosmological models. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 213–224. (Miguel C. Muñoz-Lecanda) **99c:53015** 53B40 (53B50, 70F07, 70H35, 83F05)

Boccara, Nino (*with* Fukś, Henryk) Cellular automaton rules conserving the number of active sites. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6007–6018. (François Blanchard) **99e:58112** 58F08 (68Q80)

Boccardo, Lucio (*with* Orsina, Luigi) Existence and regularity of minima for integral functionals noncoercive in the energy space. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 95–130 (1998). (Erich Miersemann) **99k:49003** 49J10 (49N60)

— (*with* Gallouët, Thierry; Orsina, Luigi) Existence and nonexistence of solutions for some nonlinear elliptic equations. *J. Anal. Math.* **73** (1997), 203–223. (Philip W. Schaefer) **99c:35067** 35J65 (35D05)

— (*with* Dall'Aglio, Andrea; Orsina, Luigi) Existence and regularity results for some elliptic equations with degenerate coercivity. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 51–81. (Gary M. Lieberman) **99j:35077** 35J70 (35B65, 35J65)

— (*with* Ferone, Vincenzo; Fusco, Nicola; Orsina, Luigi) Regularity of minimizing sequences for functionals of the calculus of variations via the Ekeland principle. *Differential Integral Equations* **12** (1999), *no.* 1, 119–135. (Giuseppe Mingione) **99j:49079** 49N60 (49J10)

Bocconi, Alessandro Determination of plane convex sets through X-rays. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 39–44 (1998). (Summary) **99i:52002** 52A10 (92C55)

Boccuto, Antonio (*with* Sambucini, Anna Rita) The Burkill-Cesari integral for Riesz spaces. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 33–47 (1997). (Summary) **99c:28034** 28B15 (26A39)

— Dieudonné-type theorems for means with values in Riesz spaces. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 29–42. (From the introduction) **99m:28027** 28B15 (46G10)

— (*with* Vitillaro, Enzo) Asymptotic stability for abstract evolution equations and applications to partial differential systems. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 25–48. (Pierre A. Vuillermot) **99c:34130** 34G20 (34D05, 35L70)

— Differential and integral calculus in Riesz spaces. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 293–323. (Li Xin Cheng) **99i:26017** 26B99 (28B15, 46G99)

Bocea, Marian F. Sur quelques problèmes d'analyse fonctionnelle. [On some problems of functional analysis] *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 51–58 (1995). 46B20 (46A22)

Boček, Pavel (*with* Janžura, Martin) A method for knowledge integration. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 41–55. (M. Iosifescu) **99d:68223** 68T30 (60J10, 65C05, 68T35)

— (*with* Tichavský, Petr) Detection of influential points by convex hull volume minimization. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 5, 515–534. (Summary) **99i:62122** 62H10

Bocharnikov, V. P. A model of a fuzzy process for problems of the control of fuzzy dynamical systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 61–66, 154. 93C42 (93A30)

Bocharov, A. V. On Spencer cohomologies of affine algebraic varieties. (English summary) Algebraic aspects of differential calculus. *Acta Appl. Math.* **49** (1997), *no.* 3, 293–310. (Alexandru Buium) **99e:14020** 14F10 (13N10, 58H10)

Bocharov, P. P. (*with* Fong, N. Kh.) Analysis of the queueing system $MAP_2/G_2/1/r$ with absolute priority. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 102–117; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 1, 1782–1794 (1998). (Summary) **99b:60154** 60K25 (90B22)

Boche, Holger Divergenzverhalten mehrdimensionaler Shannonscher Abtastreihen. (English summary) [Divergence behavior of multidimensional Shannon sampling series] *Manuscripta Math.* **95** (1998), *no.* 2, 137–147. (Gilbert Walter) **99b:42036** 42C15 (94A12)

— (*with* Protzmann, M.) Überabtastung und Rekonstruktion verlorener Werte bandbegrenzter Signale. (English summary) [Oversampling and reconstruction of lost values of band-limited signals] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 785–792. (Summary) **99g:94001** 94A12 (65F05)

Bochenek, Jan Existence of the fundamental solution of a second order evolution equation. (English summary) Volume dedicated to the memory of Włodzimierz Mlak. *Ann. Polon. Math.* **66** (1997), 15–35. (Valentina Ivanivna Gorbachuk) **99c:34125** 34G10 (47D06, 47D09)

Böcherer, Siegfried (*with* Schulze-Pillot, Rainer) On the central critical value of the triple product L-function. *Number theory (Paris, 1993–1994)*, 1–46, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Solomon Friedberg) **99j:11051** 11F67 (11F46, 11F60, 11F66)

— Bilinear holomorphic differential operators for the Jacobi group. *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 2, 135–154. (Takakazu Satoh) **99i:11033** 11F60 (11F37, 11F55)

Bochev, Pavel B. Experiences with negative norm least-square methods for the Navier-Stokes equations. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 44–62 (*electronic*). (Summary) **99a:76081** 76M10 (65F10, 76D05)

— (*with* Cai, Zhi Qiang; Manteuffel, Thomas A.; McCormick, Stephen F.) Analysis of velocity-flux first-order system least-squares principles for the Navier-Stokes equations. I. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 990–1009 (*electronic*). (Summary) **99a:76106** 76M25 (65N12, 65N30, 76D05)

— (*with* Gunzburger, Max D.) Finite element methods of least-squares type. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 789–837 (*electronic*). (N. Gass) **99k:65104** 65N30 (76M10)

Bochkarëv, S. V. On a method for estimating the L_1-norm of an exponential sum. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 74–76. (John H. Loxton) **99h:11093** 11L07 (30D50, 30D55)

— The Hausdorff-Young-Riesz theorem in Lorentz spaces, and multiplicative inequalities. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 103–114. (Henryk Hudzik) **99j:46032** 46E30

Bochkareva, O. V. (*with* Aleksandrova, E. V.; Podol'skiĭ, V. E.) Summation of regularized traces of the singular Sturm-Liouville operator. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 291–295, 428; *translation in Differential Equations* **33** (1997), *no.* 3, 287–291. (Vladimir Vasil'evich Dubrovskiĭ) **99c:34197** 34L40 (47E05)

Bochman, Alexander A study of Przymusinski's static semantics. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 170–184, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

Bochnak, J. (*with* Kucharz, Wojciech; Silhol, Robert) Morphisms, line bundles and moduli spaces in real algebraic geometry. *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 5–65 (1998). (A. R. Shastri) **99h:14055** 14P99 (14D20)

— (*with* Kucharz, Wojciech) The Weierstrass approximation theorem and a characterization of the unit circle. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1571–1574. (Alessandro Tancredi) **99i:14067** 14P05

Bock, Hans Georg (*with* Schulz, Volker H.; Steinbach, Marc C.) Exploiting invariants in the numerical solution of multipoint boundary value problems for DAEs. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 440–467 (*electronic*). (W. C. Rheinboldt) **99b:65091** 65L10 (34A09)

— (*with* Steinbach, Marc C.; Kostin, Georgii V.; Longman, Richard W.) Mathematical optimization in robotics: towards automated high-speed motion planning. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 303–340. (Summary) **99c:70003** 70B15 (70E99, 70Q05, 90C90, 93C85)

Bock, Hans-Hermann Clustering and neural networks. (English summary) *Advances in data science and classification* (*Rome*, 1998), 265–277, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30 (92B20)

— Probabilistic aspects in classification. (English summary) *Data science, classification, and related methods* (*Kobe*, 1996), 3–21, *Stud. Classification Data Anal. Knowledge Organ., Springer, Tokyo*, 1998. (*see* **99b:62002**) 62H30

— (*with* Day, William H. E.; McMorris, F. R.) Consensus rules for committee elections. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 219–232. (Summary) **99c:90033** 90A28

— *see also* **Data science, classification, and related methods, 99b:62002** *and* **Advances in data science and classification, 99k:62003**

Bock, I. On nonstationary von Kármán equations. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 10, 559–571. (Kenneth B. Hannsgen) **99c:73041** 73K10 (35Q72, 45D05, 45K05, 73F15, 73K12)

Böckenhauer, Jens (*with* Fuchs, Jürgen) CFT fusion rules, DHR gauge groups and CAR algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3503–3522. (Stephen J. Summers) **99e:81220** 81T40 (46L60, 81S05, 81T05)

Böckenholt, Ulf Mixed INAR(1) Poisson regression models: analyzing heterogeneity and serial dependencies in longitudinal count data. (English summary) *J. Econometrics* **89** (1999), *no.* 1-2, 317–338. 62P20

Böcker, Sebastian (*with* Dress, Andreas W. M.) Recovering symbolically dated, rooted trees from symbolic ultrametrics. (English summary) *Adv. Math.* **138** (1998), *no.* 1, 105–125. (Michael A. Steel) **99g:05052** 05C05 (05C75, 54E35)

— (*with* Dress, Andreas W. M.) Erratum: "Recovering symbolically dated, rooted trees from symbolic ultrametrics" [Adv. Math. **138** (1998), no. 1, 105–125; MR 99g:05052]. *Adv. Math.* **144** (1999), *no.* 1, 117–118. 05C05 (05C75, 54E35)

Böckle, Gebhard The generic fiber of the universal deformation space associated to a tame Galois representation. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 231–246. (Nigel Boston) **99j:11057** 11F80

Böckmann, Christine A modification of the trust-region Gauss-Newton method to solve separable nonlinear least squares problems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 4, 401–416. (Summary) **99d:90081** 90C20 (65K05)

Bockmayr, Alexander (*with* Barth, Peter) Modelling discrete optimisation problems in constraint logic programming. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 467–495. (*see* **99b:90006**) 90C27 (68N17, 90C10)

— (*with* Kasper, Thomas) Branch and Infer: a unifying framework for integer and finite domain constraint programming. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 287–300. (*see* **99e:90002**) 90C10 (90C27)

Bodart, O. (*with* Demeestère, P.) Sentinels for the identification of an unknown boundary. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 6, 871–885. (B. Belinskiy) **99a:65110** 65M30 (35R35, 76D99, 76R50, 93C20)

Bode, Jens-P. (*with* Harborth, Heiko) Achievement games on Platonic solids. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 23–32. (A. Pultr) **99d:05020** 05B50 (90D42)

Bodei, Chiara (*with* Degano, Pierpaolo; Nielson, Flemming; Nielson, Hanne Riis) Control flow analysis for the π-calculus. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 84–98, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q55, 68Q60)

— (*with* Degano, Pierpaolo; Priami, Corrado) Constructing specific SOS semantics for concurrency via abstract interpretation (extended abstract). (English summary) *Static analysis* (*Pisa*, 1998), 168–183, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68Q10 (68Q55)

Boden, Margaret A. Creativity and artificial intelligence. (English summary) *Artificial Intelligence* **103** (1998), *no.* 1-2, 347–356. 68T01

Bodendiek, R. (*with* Walther, Gerd) On arithmetic antimagic edge labelings of graphs. (English summary) *Mitt. Math. Ges. Hamburg* **17** (1998), 85–99. (N. N. Petrov) **99i:05183** 05C78

Bödi, Richard Solvable collineation groups of smooth projective planes. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 121–133. (Andreas E. Schroth) **99e:51013** 51H25 (51H10)

— Collineations of smooth stable planes. (English summary) *Forum Math.* **10** (1998), *no.* 6, 751–773. (Markus Stroppel) **99i:51015** 51H25 (51A40, 51H10)

— 16-dimensional smooth projective planes with large collineation groups. (English summary) *Geom. Dedicata* **72** (1998), *no.* 3, 283–298. (Harald Löwe) **99m:51025** 51H25 (51A35, 51H10)

Bodin, Per (*with* Wahlberg, Bo) A frequency response estimation method based on smoothing and thresholding. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 407–416. (Summary) **99d:93065** 93E10 (93E14)

Bodineau, Thierry (*with* Presutti, E.) Phase diagram of Ising systems with additional long range forces. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 287–298. (Yasunari Higuchi) **99a:82012** 82B20 (82B05, 82B26)

— (*with* Benois, O.; Buttà, Paolo; Presutti, E.) On the validity of van der Waals theory of surface tension. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 175–198. (Agoston Pisztora) **99e:82033** 82B24 (60F10, 82B20, 82B26)

— Transition de phase pour le modèle de Kac en dimension deux. (English and French summaries) [Phase transition for the Kac model in dimension two] *Helv. Phys. Acta* **71** (1998), *no.* 5, 491–517. (Giambattista Giacomin) **99k:82028** 82B26 (82B20)

— (*with* Benois, O.; Presutti, E.) Large deviations in the van der Waals limit. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 89–104. (Yvan Velenik) **99h:60046** 60F10 (60K35, 82B24)

Bodjanova, Slavka Compatible and complementary fuzzy partitions. (English summary) *Advances in data science and classification* (*Rome*, 1998), 99–104, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30 (68T10)

— Comparison of fuzzy partitions based on their α-cuts. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 99–112. (Summary) **99m:04003** 04A72

Bodlaender, Hans L. (*with* de Fluiter, Babette Lucie Elisabeth) Parallel algorithms for treewidth two. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 157–170, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (68Q22)

— Treewidth: algorithmic techniques and results. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 19–36, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68186** 68R10 (05C85, 68Q25)

— (*with* van Leeuwen, Jan; Tan, Richard B.; Thilikos, Dimitris M.) On interval routing schemes and treewidth. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 92–109. (Dominique Sotteau) **99g:68149** 68R10 (68M10, 68Q25)

— (*with* Gustedt, Jens; Telle, Jan Arne) Linear-time register allocation for a fixed number of registers. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 574–583, *ACM, New York*, 1998. (*see* **99d:68011**) 68N20

— (*with* Kloks, Ton; Kratsch, Dieter; Müller, Haiko) Treewidth and minimum fill-in on d-trapezoid graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 5, 23 *pp.* (*electronic*). (Xiao Tie Deng) **99d:05079** 05C85

— (*with* Hagerup, Torben) Parallel algorithms with optimal speedup for bounded treewidth. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1725–1746 (*electronic*). (Summary) **99c:68189** 68R10 (05C85, 68Q22, 68Q25)

— (*with* Deogun, Jitender S.; Jansen, Klaus; Kloks, Ton; Kratsch, Dieter; Müller, Haiko; Tuza, Zsolt) Rankings of graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 168–181 (*electronic*). (Peter Damaschke) **99b:68143** 68R10 (05C15, 05C78, 05C85)

— A partial k-arboretum of graphs with bounded treewidth. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 1–45. (Gary MacGillivray) **99k:05146** 05C85 (05C78, 68R10)

Bodnar, D. I. (*with* Kuchminskaya, Kh. I.) Branched continued fractions (30th anniversary of the first publication). (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2324–2333. (Summary) **99e:40002** 40A15

— Multidimensional C-fractions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2352–2359. (Summary) **99h:40002** 40A15 (33C65)

Bodnar, R. D. (*with* Sheremeta, Myroslav M.) On the rate of convergence of the partial sums of Dirichlet series and rational approximation of analytic functions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2421–2426. (Summary) **99h:30003** 30B50

Bodnariu, Mircea On the Markov properties. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 191–202. (Martin Jacobsen) **99j:60066** 60G60 (60J99)

— A new construction of Lebesgue-Stieltjes measure. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 41–46. (Summary) **99m:28007** 28A12 (28A05)

Bodneva, V. L. (*with* Milyutin, Alekseĭ A.) On the mathematical theory of vibration. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 141–166 (1998). (J. W. Macki) **99d:34081** 34C99 (70K99)

Bodonyi, R. J. Boundary-layer stability—asymptotic approaches. *Recent advances in boundary layer theory* (*Udine*, 1997), 49–74, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (Sharon O. Seddougui) **99k:76056** 76E15 (76D10, 76E30)

Bodrov, Vitaly I. (*with* Rubanov, Nikolai S.; Bovbel', E. I.; Kukharchik, Peter D.) The modified number-theoretic transform over the direct sum of finite fields to compute the linear convolution. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 813–817. 94A12

Bodroža, Olga Algebraic structure count and Kekulé structure count of hexagonal-square chains. (English summary) *PRIM '96* (*Budva*), 9–20, *Univ. Novi Sad, Novi Sad*, 1997. (Summary) **99b:92063** 92E10

Bodson, Marc (*with* Chiasson, John) Differential-geometric methods for control of electric motors. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 923–954. (*see* **99f:93004**) 93C95 (93B36)

— (*with* Stephan, Jennifer; Lehoczky, John) Calculation of recoverable sets for systems with input and state constraints. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 247–269. (Patrick Saint-Pierre) **99k:93014** 93B03 (49M30, 65K10, 93B40)

Bodurov, Theodore Generalized Ehrenfest theorem for nonlinear Schrödinger equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1299–1306. (Summary) **99b:81068** 81Q99 (35Q55)

— Complex Hamiltonian evolution equations and field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5700–5715. (Hans P. Künzle) **99i:58042** 58E30 (58F05, 70H05)

Body, Giles L. (*with* Ehrenmark, Ulf Torsten) Reflection of gravity waves by a steep beach with a porous bed. (English summary) *J. Fluid Mech.* **359** (1998), 265–280. (Summary) **99a:76011** 76B15

Body, Richard (*with* Mimura, Mamoru; Shiga, Hiroo; Sullivan, Dennis P.) p-universal spaces and rational homotopy types. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 427–442. (Edgar H. Brown, Jr.) **99e:55017** 55P60 (55P62)

Boé, J. M. (*with* Arnaud, J. A.; Chusseau, L.; Philippe, F.) Illustration of the Fermi-Dirac statistics. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 215–221. 82B05

Bøe, Ø. (*with* Aavatsmark, I.; Barkve, T.; Mannseth, T.) Discretization on unstructured grids for inhomogeneous, anisotropic media. I. Derivation of the methods. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1700–1716 (*electronic*). (Andrei I. Tolstykh) **99f:65138** 65M60 (76M25)

— (*with* Aavatsmark, I.; Barkve, T.; Mannseth, T.) Discretization on unstructured grids for inhomogeneous, anisotropic media. II. Discussion and numerical results. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1717–1736 (*electronic*). (Andrei I. Tolstykh) **99f:65139** 65M60 (76M25)

Boeckle, G. (*with* Vakakis, Alexander F.; Salenger, Gary) Exact solutions for transient wave propagation in a two-dimensional array of particles. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 759–770. (Summary) **99i:70025** 70J99 (73D30)

Boehm, Wolfgang (*with* Paluszny, Marco) General cyclides. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 699–710. (Summary) **99c:65262** 65Y25 (51N20, 65D10, 65D17)

Boekholt, Sven Compact Lie groups with isomorphic homotopy groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 183–185. (Summary) **99a:57035** 57T20 (22C05, 55R99)

Boente, Graciela (*with* Bianco, Ana) Robust kernel estimators for additive models with dependent observations. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 239–255. (M. Riedel) **99k:62070** 62G05 (62F35)

de Boer, Frank S. Reasoning about asynchronous communication in dynamically evolving object structures. (English summary) *CONCUR'98: concurrency theory (Nice)*, 285–300, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60

— (*with* van Eijk, Rogier M.; van der Hoek, Wiebe; Meyer, John-Jules Ch.) A language for modular information-passing agents. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 273–297. (Summary) **99j:68130** 68T25 (68Q10)

— *see also* **Workshop: Concurrent Constraint Programming for Time Critical Applications and Multi-agent Systems, 99h:68011**

de Boer, Jan (*with* Peeters, Bas; Skenderis, Kostas; van Nieuwenhuizen, Peter) The equivalence between the operator approach and the path integral approach for quantum mechanical non-linear sigma models. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 47–62, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81051** 81Q60 (81S40, 81T27)

— (*with* Fehér, László) Wakimoto realizations of current algebras: an explicit construction. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 759–793. (Josep Herrero) **99e:81072** 81R10 (17B67, 81T40)

— (*with* Hori, Kentaro; Ooguri, Hirosi; Oz, Yaron) Mirror symmetry in three-dimensional gauge theories, quivers and D-branes. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 101–147. (Summary) **99c:81230** 81T60 (58D27, 81T13, 81T30)

— (*with* Hori, Kentaro; Ooguri, Hirosi; Oz, Yaron; Yin, Zheng) Mirror symmetry in three-dimensional gauge theories, SL(2, **Z**) and D-brane moduli spaces. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 148–176. (Summary) **99c:81231** 81T60 (14J32, 81R10, 81T13, 81T30)

— (*with* Hori, Kentaro; Oz, Yaron) Dynamics of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 163–191. (Nobuhito Maru) **99a:81167** 81T60 (81T13, 81T30)

— (*with* Skenderis, Kostas) Self-dual supergravity from $N = 2$ strings. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 192–223. (Summary) **99f:83063** 83E30 (81T30, 83E50)

— (*with* Hori, Kentaro; Oz, Yaron; Yin, Zheng) Branes and mirror symmetry in $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 107–124. (Summary) **99j:81179** 81T60 (81T13, 81T30)

— (*with* Halpern, M. B.) New spin-2 gauged sigma models and general conformal field theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4487–4512. (Stanislav Z. Pakuliak) **99j:81164** 81T40 (17B68, 81R10)

— (*with* Oz, Yaron) Monopole condensation and confining phase of $N = 1$ gauge theories via M-theory fivebrane. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 155–196. (Hitoshi Nishino) **99e:81231** 81T60 (81T13, 81T30)

— (*with* Hori, Kentaro; Ooguri, Hirosi; Oz, Yaron) Kähler potential and higher derivative terms from M-theory fivebrane. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 173–211. (Sergey A. Cherkis) **99d:81109** 81T30 (81T60, 83E30)

— (*with* Hori, Kentaro; Ooguri, Hirosi; Oz, Yaron) Branes and dynamical supersymmetry breaking. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 20–68. (Angel Maria Uranga) **99e:81232** 81T60 (81R40, 81T30)

— (*with* Hori, Kentaro; Ooguri, Hirosi) Membrane scattering in curved space with M-momentum transfer. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 257–283. (Summary) **99g:81151** 81T30 (83E30)

Boer, M. P. (*with* Kooi, B. W.; Kooijman, S. A. L. M.) Food chain dynamics in the chemostat. (English summary) *Math. Biosci.* **150** (1998), *no.* 1, 43–62. (Summary) **99d:92045** 92D40 (34C23, 92D25)

— (*with* Kooi, B. W.; Kooijman, S. A. L. M.) Consequences of population models for the dynamics of food chains. (English summary) *Math. Biosci.* **153** (1998), *no.* 2, 99–124. 92D25 (92D40)

de Boer, Mario A. The generalized Hamming weights of some hyperelliptic codes. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 153–163. (Kristin E. Lauter) **99c:94056** 94B27 (11T71, 14H45)

de Boer, Pieter-Tjerk (*with* Valkering, Theo P.; Hoekstra, Hugo J. W. M.) Soliton switching in directional couplers. (English summary) *Japan J. Indust. Appl. Math.* **16** (1999), *no.* 1, 65–99. (Summary) **99k:78031** 78A60 (35Q55)

de Boer, Reint Theory of porous media—past and present. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 7, 441–466. (Summary) **99d:73016** 73B99 (73–03, 76–03, 76S05)

— (*with* Liu, Zhangfang; Bluhm, J.) Inhomogeneous plane waves, mechanical energy flux, and energy dissipation in a two-phase porous medium. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 617–625. (Summary) **99h:73029** 73D15 (76S05)

Boertjens, G. J. (*with* van Horssen, W. T.) On internal resonances for a weakly nonlinear beam equation. (English summary) *Differential equations (Bandung, 1996)*, 221–231, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:73085** 73K12 (35Q72, 73D35, 73K05)

— (*with* van Horssen, W. T.) On mode interactions for a weakly nonlinear beam equation. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 23–40. (Summary) **99g:73045** 73D35 (73K05, 73K12)

Boesch, F. (*with* Gross, Daniel; Suffel, C.) Component order connectivity. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 145–155. (*see* **99i:00021**) 05C40

— (*with* Petingi, L.; Suffel, C.) On the characterization of graphs with maximum number of spanning trees. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 155–166. (Prabir Das) **99c:05167** 05C75 (05C35)

Boese, Günter (*with* Franz, Uwe[2]) "To create a foundation". Comment on: "Life in and after the GDR. Interviews with Horst Sachs and Gustav Burosch" [Mitt. Dtsch. Math.-Ver. **1997**, no. 3, 23–33; MR 99b:01023] by V. A. Schmidt and M. Aigner. (German) *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 4, 41–42. (Editors) **99b:01024b** 01A70

Boetius, Frederik (*with* Kohlmann, Michael) Connections between optimal stopping and singular stochastic control. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 253–281. (Ł. Stettner) **99g:93085** 93E20 (60G40, 62L15)

Boettcher, Stefan (*with* Bender, Carl M.) Quasi-exactly solvable quartic potential. (English summary) *J. Phys. A* **31** (1998), *no.* 14, *L273–L277*. (Summary) **99a:81023** 81Q05

— (*with* Bender, Carl M.) Real spectra in non-Hermitian Hamiltonians having $\mathcal{PT}$ symmetry. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 24, 5243–5246. (Summary) **99b:81043** 81Q10

crawley-Boevey, William *see* **Crawley-Boevey, William**

Boffa, M. More on an undecidability result of Bateman, Jockusch and Woods. *J. Symbolic Logic* **63** (1998), *no.* 1, 50. (From the text) **99i:03050** 03D35

Boffetta, G. (*with* Giuliani, P.; Paladin, Giovanni; Vulpiani, Angelo) An extension of the Lyapunov analysis for the predictability problem. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 23, 3409–3416. (Summary) **99h:76046** 76F20 (34D08, 34D45, 86A10)

— (*with* Biferale, L.; Celani, A.; Toschi, F.) Multi-time, multi-scale correlation functions in turbulence and in turbulent models. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 187–197. 76F99

Boffey, Thomas Brian (*with* Narula, Subhash C.) Models for multi-path covering-routing problems. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 331–342. (Summary) **99f:90054** 90B80 (90C08)

Boffi, Daniele (*with* Brezzi, Franco; Gastaldi, Lucia) On the convergence of eigenvalues for mixed formulations. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 131–154 (1998). (I. Norman Katz) **99i:65121** 65N25 (65J99, 65K99, 65M60)

Boffi, G. (*with* Bruns, Winfried; Guerrieri, Anna) On the Jacobian ideal of a trilinear form. *J. Algebra* **197** (1997), *no.* 2, 521–534. (Aldo Conca) **99c:13027** 13C40

Bofill, F. (*with* Quintanilla, Ramón) A spatial decay estimate for a visco-elastodynamic problem. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:73037** 73F15 (35Q72)

gómez Bofill, Walter *see* **Gómez Bofill, Walter**

Bogachev, Leonid V. (*with* Albeverio, Sergio; Yarovaya, Elena B.) Asymptotics of branching symmetric random walk on the lattice with a single source. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 975–980. (George P. Yanev) **99j:60126a** 60J80

— (*with* Albeverio, Sergio; Yarovaya, Elena B.) Erratum: "Asymptotics of branching symmetric random walk on the lattice with a single source". *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 585. (George P. Yanev) **99j:60126b** 60J80

— (*with* Albeverio, Sergio) Brownian survival in a clusterized trapping medium. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 2, 147–189. (Wei-Shih Yang) **99b:60132** 60J65 (60F05, 60K35)

Bogachev, T. V. Some special functions that arise in connection with the equation $\Delta U + l^2(\varphi)U = 0$. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 3–6, 110. (Summary) **99j:35024** 35J05 (35C99)

Bogachev, Vladimir I. (*with* Krylov, Nicolai V.; Röckner, Michael) Elliptic regularity and essential self-adjointness of Dirichlet operators on $\mathbf{R}^n$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 451–461. (Vladimir B. Vasilyev) **99c:35037** 35J10 (47F05)

— Differentiable measures and the Malliavin calculus. Analysis, 9. *J. Math. Sci. (New York)* **87** (1997), *no.* 4, 3577–3731. (Ali Süleyman Üstünel) **99h:60111** 60H07 (28C20, 46G12)

— (*with* Mayer-Wolf, Eduardo) Flows generated by vector fields of Sobolev type, and the corresponding transformations of probability measures. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 442–446. (Alexander Veretennikov) **99f:60009** 60B10 (28C20, 34A12, 34C35, 34G20, 35R15, 46G12, 60G15)

— On the small ball problem for equivalent Gaussian measures. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 47–68; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 683–705. (Werner Linde) **99j:60006** 60B11 (46G12, 47B10, 60G15)

Bogacki, Przemyslaw (*with* Weinstein, Stanley E.) Generalized Fréchet distance between curves. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 25–32, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65388** 65Y25 (65D17)

Bogalska, K. (*with* Gojtka, E.; Gurdek, M.; Rempulska, L.) The Picard and the Gauss-Weierstrass singular integrals of functions of two variables. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 71–85 (1998). (Ambikeswar Sharma) **99d:41030** 41A25 (42A10)

Bogart, Kenneth P. The Rota generation. *Gian-Carlo Rota on combinatorics*, xi–xiii, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 01A70

— (*with* Holm, Tara S.) On tolerance sphere-of-influence graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 33–46. (Summary) **99c:05163** 05C75

— (*with* Isaak, Garth) Proper and unit bitolerance orders and graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 37–51. (Henry Martyn Mulder) **99h:05098** 05C75

Bogatyĭ, Semen A. (*with* Ageev, S. M.) On obstacles to the extension of partial mappings. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 803–812; *translation in Math. Notes* **62** (1997), *no.* 5-6, 675–682 (1998). (Summary) **99f:54016** 54C20

— A topological view on a problem on formal series. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 18–26. (Fuyao Ren) **99j:58109** 58F08

— (*with* Ageev, S. M.; Repovš, Dušan D.; Fabel, Paul) Extensors of noncompact Lie groups. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 151–154. 22E99 (46B99, 54H11)

— (*with* Ageev, S. M.) On the nonhomeomorphicity of the Banach-Mazur compactum to the Hilbert cube. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 209–210; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 205–207. (Taras Banakh) **99d:57014** 57N20 (46B20, 54F55)

— (*with* Ageev, S. M.; Fabel, Paul) The Banach-Mazur compactum $Q(n)$ is an absolute retract. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 11–13, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 10–12. (Michael Tkačenko) **99d:54010** 54C55 (54C15)

Bogatyrëv, A. B. The discrete spectrum of a problem for a pair of Poincaré-Steklov operators. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 295–297. (Michael A. Perel′muter) **99d:35114** 35P15 (47F05)

— A geometric method for solving a series of Poincaré-Steklov integral equations. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 343–353; *translation in Math. Notes* **63** (1998), *no.* 3-4, 302–310. (V. S. Pilidi) **99f:45004** 45E05 (47A75)

— On the arrangement of two molecules that minimizes the weighted sum of interatomic distances squared. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1091–1094; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1042–1045. 92E10

Bogatyrev, S. V. Integral duck manifolds in singularly perturbed systems with a double bifurcation point on a slow curve. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1155–1161, 1293; *translation in Differential Equations* **32** (1996), *no.* 9, 1157–1163 (1997). (Daniel Ševčovič) **99e:34072** 34E15 (34C30, 58F30)

Bogdan, Krzysztof (*with* Byczkowski, Tomasz) Potential theory for the α-stable Schrödinger operator on bounded Lipschitz domains. (English summary) *Studia Math.* **133** (1999), *no.* 1, 53–92. (D. G. Natroshvili) **99m:31010** 31B25 (35J10, 60J50)

Bogdanov, A. N. Higher approximations of transonic expansion in problems of unsteady transonic flows. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 798–811; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 775–786 (1998). (Summary) **99c:76058** 76H05 (76E99, 76L05)

Bogdanov, I. I. (*with* Galamai, O. V.; Entov, V. M.) On the penetration of liquid contaminants into aquifers. *Fluid Dynam.* **33** (1998), *no.* 5, 735–744 (1999); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 5, 119–129 (*Russian. Russian summary*). (Summary) **99m:76106** 76S05 (86A05)

Bogdanov, L. V. (*with* Konopelchenko, B. G.) Analytic-bilinear approach to integrable hierarchies. I. Generalized KP hierarchy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4683–4700. (Alexander V. Shapovalov) **99k:58082** 58F07 (58F37)

— (*with* Konopelchenko, B. G.) Analytic-bilinear approach to integrable hierarchies. II. Multicomponent KP and 2D Toda lattice hierarchies. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4701–4728. (Alexander V. Shapovalov) **99k:58083** 58F07 (58F37)

Bogdanović, Stojan (*with* Ćirić, Miroslav) A note on congruences on algebras. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 67–72, *Univ. Priština, Priština*, 1997. (David Hobby) **99d:08001** 08A30

— (*with* Ćirić, Miroslav) More on normal band compositions of semigroups. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 15–21. (Summary) **99i:20087** 20M99

Bogdanovich, A. E. (*with* Yushanov, Sergei P.) Stochastic theory of composite materials with random waviness of the reinforcements. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 22, 2901–2930. (Summary) **99b:73030** 73K20 (73B27, 73B35, 73V30)

Böge, Sigrid Steinberggruppen von orthogonalen Gruppen. [Steinberg groups of orthogonal groups] Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 219–236. (Alexander J. Hahn) **99d:20075** 20G15 (19C20)

Bøgeskov, Tom Early rectification of curves—with a view to the ellipse in particular. (Danish. English summary) *Normat* **46** (1998), *no.* 3, 110–121, 144. (Summary) **99i:01015** 01A45

Boggess, Al The holomorphic extension of C^k CR functions on tube submanifolds. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 35–42. (Dmitri Zaitsev) **99j:32010** 32D15 (32C16, 32D10)

— (*with* Glenn, Laura Ann; Nagel, Alexander) Model rigid CR submanifolds of CR dimension 1. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 43–74. (Elisabetta Barletta) **99g:32011** 32C16 (32E20, 32F40)

— The holomorphic extension of H^p-CR functions on tube submanifolds. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1427–1435. (Francine A. Meylan) **99h:32012** 32D15 (32A35, 42B30)

Boggiatto, Paolo (*with* Buzano, Ernesto; Rodino, Luigi) Spectral asymptotics for hypoelliptic operators. (English summary) *Differential equations, asymptotic analysis, and mathematical physics (Potsdam, 1996)*, 40–46, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Leonid B. Parnovskiĭ) **99a:35194** 35P20 (35H05, 47F05)

— (*with* Buzano, Ernesto) Spectral asymptotics for multi-quasi-elliptic operators in $\mathbf{R}^n$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 511–536. (Vania Sordoni) **99i:35119** 35P20 (35J70, 47F05)

Bogićevic, B. B. (*with* Bajić, V. B.; Debeljković, D. Lj.; Jovanovic, M. B.) Non-Lyapunov stability robustness consideration for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 105–115. (Summary) **99e:93054** 93D09 (93C30)

Boglaev, I. P. Finite difference domain decomposition algorithms for a parabolic problem with boundary layers. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 25–40. (Summary) **99d:65272** 65M55

— On a domain decomposition algorithm for a singularly perturbed reaction-diffusion problem. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 213–232. (Petr N. Vabishchevich) **99j:65154** 65M55

Bogley, W. A. (*with* Alonso, Juan Manuel; Burton, Robert M., Jr.; Pride, Stephen J.; Wang, Xiao Feng[1]) Second order Dehn functions of groups. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 1–30. (Athanase Papadopoulos) **99c:20047** 20F32 (57M07)

Bognár, Gabriella On the radial symmetric solution of a nonlinear partial differential equation. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1995), *no.* 1, 13–22. 35J65 (35B05)

— On the radially symmetric solutions to a nonlinear PDE. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 13–20. 35J65 (35B05)

— On the existence and uniqueness of the symmetric solutions for the boundary value problem of semilinear PDE. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **37** (1997), 13–20. 35J65 (35B05)

Bogoliubov, N. M. *see* **Bogolyubov, N. M.**

Bogoliubov, Nikolai *see* **Bogolyubov, N. M.**

Bogolubskaya, A. A. *see* **Bogolyubskaya, A. A.**

Bogolubsky, I. L. *see* **Bogolyubskiĭ, I. L.**

Bogolyubov, A. N. *see* **Bogolyubov, Alekseĭ Nikolaevich**

Bogolyubov, Aleksandr Nikolaevich (*with* Delitsyn, A. L.; Sveshnikov, A. G.) On the completeness of a system of eigen- and associated functions of a waveguide. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1891–1899; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1815–1823. (B. Belinskiy) **99i:35116** 35P10 (35Q99, 47A56, 78A25, 78A50)

Bogolyubov, Alekseĭ Nikolaevich *see* **Pogrebysskiĭ, I. B., 99k:70001**

Bogolyubov, N. M. The algebraic Bethe ansatz and the Tavis-Cummings model. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 66–79, 283–284. (Summary) **99d:81191** 81V80

— (*with* Rybin, Andrei; Kastelewicz, Georg; Timonen, Jussi) The su(1, 1) Tavis-Cummings model. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4705–4723. (K. Wódkiewicz) **99e:81277** 81V80 (81R30)

— (*with* Izergin, A. G.; Kitanin, N. A.) Correlation functions for a strongly correlated boson system. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 501–528. (Marek Biskup) **99f:82017** 82B23 (82B20)

Bogolyubskaya, A. A. (*with* Bogolyubskiĭ, I. L.) The U(1) gauge-invariant Heisenberg antiferromagnet model and multidimensional topological solitons. (English summary) *Computational modelling and computing in physics (Dubna, 1996)*, 115–120, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 82B21

— (*with* Bogolyubskiĭ, I. L.) On multidimensional topological solitons in gauged sigma models with spontaneously broken $Z(2)$ symmetry. (English and French summaries) *Ann. Fond. Louis de Broglie* **23** (1998), *no.* 1, 11–14. (Summary) **99g:81123** 81T10 (81T13)

Bogolyubskiĭ, I. L. (*with* Bogolyubskaya, A. A.) The U(1) gauge-invariant Heisenberg antiferromagnet model and multidimensional topological solitons. (English summary) *Computational modelling and computing in physics (Dubna, 1996)*, 115–120, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 82B21

— (*with* Bogolyubskaya, A. A.) On multidimensional topological solitons in gauged sigma models with spontaneously broken $Z(2)$ symmetry. (English and French summaries) *Ann. Fond. Louis de Broglie* **23** (1998), *no.* 1, 11–14. (Summary) **99g:81123** 81T10 (81T13)

Bogomolnaia, Anna (*with* Barberà, Salvador; van der Stel, Hans) Strategy-proof probabilistic rules for expected utility maximizers. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 89–103. (Summary) **99d:90034** 90A43

Bogomol′nyĭ, E. B. (*with* Georgeot, B.; Giannoni, M.-J.; Schmit, C.) Arithmetical chaos. (English summary) *Phys. Rep.* **291** (1997), *no.* 5-6, 219–324. (Jens Bolte) **99c:11062** 11F72 (11F25, 81Q50)

— Spectral statistics. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 99–108 (*electronic*). (Jens Bolte) **99h:81053** 81Q50 (11M26, 11M41)

— (*with* Hugues, E.) Semiclassical theory of flexural vibrations of plates. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5404–5424. (Summary) **99b:81057** 81Q50 (73D30, 73K10, 81Q20)

Bogomolov, Fedor A. (*with* de Oliveira, Bruno) Stein small deformations of strictly pseudoconvex surfaces. (English summary) *Birational algebraic geometry (Baltimore, MD, 1996)*, 25–41, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (S. Dimiev) **99a:32015** 32G05 (14C25, 32F30)

— (*with* Katzarkov, Ludmil) Complex projective surfaces and infinite groups. *Geom. Funct. Anal.* **8** (1998), *no.* 2, 243–272. (Alessio Corti) **99m:14032** 14E20 (14H25, 14H30)

— (*with* Tschinkel, Yu.) Density of rational points on Enriques surfaces. *Math. Res. Lett.* **5** (1998), *no.* 5, 623–628. (Constantin D. Manoil) **99m:14040** 14G05 (14G25, 14J27, 14J28)

— (*with* Katzarkov, Ludmil) Symplectic four-manifolds and projective surfaces. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 79–109. (Paolo Lisca) **99k:57055** 57R15 (14J99, 32J27)

Bogomolov, S. E. Dynamic recognition on Petri net. (Russian. Russian summary) *Pattern recognition. Classification. Prediction (Russian)*, 182–201, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68T10 (68Q90)

Bogomolov, S. V. (*with* Kuznetsov, K. V.) The particle method for a system of equations of gas dynamics. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 7, 93–100. 76M25 (76N15)

— (*with* Zamaraeva, A. A.; Karabelli, Kh.; Kuznetsov, K. V.) A conservative particle method for a quasilinear transport equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1602–1607. (From the text) **99k:76106** 76M25 (76P05)

Bogomolov, S. Yu. (*with* Kartashov, G. D.) Optimal experimental design to estimate the correlation coefficient in a Gaussian model. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 103–109. (*see* **99b:93002**) 62K05 (93E10)

Bogomolova, I. V. On the finite basability of some systems of Lie identities modulo Capelli identities. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 24–29, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 21–24. (Plamen Koshlukov) **99h:16040** 16R10 (16R20, 17B01)

volkov-Bogorodsky, D. B. *see* **Volkov-Bogorodsky, D. B.**

Bogovskiĭ, M. E. (*with* Maslennikova, V. N.) A hydrodynamic approach to the modeling of the dynamics of sea waves created by a hurricane. (Russian) *Computational modelling and computing in physics* (*Dubna*, 1996), 352–359, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 76D33 (76M25, 86–08, 86A05)

Bogoya, Mauricio Existence and stability for a parabolic nonlinear system. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **2** (1995), *no.* 2, 173–179. 35K60 (35B35)

Bogoyavlenskaya, O. I. The steady state distribution of the queue length for a queue with bulk arrival and processor sharing discipline. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 131–136, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60K25

Bogoyavlenskaya, O. Yu. Stationary distribution of the queue length in a system with nonordinary flow and a processor sharing discipline. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 17–24. 60K25

Bogoyavlenskiĭ, Oleg I. Theory of tensor invariants of integrable Hamiltonian systems. II. Theorem on symmetries and its applications. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 2, 301–365. (Summary) **99h:58079** 58F07 (58F05, 70H05, 70H33)

— Extended integrability and bi-Hamiltonian systems. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 19–51. (Carlo Morosi) **99f:58093** 58F07 (58F05, 70H33)

— Canonical forms of invariant tensors, and the A-B-C-cohomology of integrable Hamiltonian systems. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 3, 3–44; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 315–357. (Alexander Burov) **99j:58087** 58F07 (58F05, 70H05, 70H33)

Bogul'skiĭ, I. O. (*with* Anisimov, S. A.) Modeling the propagation of plane waves in an anisotropic elastic medium. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **40** (1999), *no.* 1, 199–206. 73D15 (73B40, 73V15)

Boguñá, Marián (*with* Porrà, Josep M.; Masoliver, Jaume) Generalization of the persistent random walk to dimensions greater than 1. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 6992–6998. (Summary) **99g:82026** 82B41

Bogush, A. A. (*with* Kurochkin, Yu. A.) Cayley-Dickson procedure, relativistic wave equations and supersymmetric oscillators. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 121–129. (Summary) **99c:81070** 81R20 (17A35)

— (*with* Kurochkin, Yu. A.; Otchik, V. S.) Algebra of conserved operators for the Kepler-Coulomb problem in spaces of constant curvature. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1778–1781. (Summary) **99i:81027** 81Q05 (70F05)

Boguslavskiĭ, L. B. (*with* Lyakhov, A. I.; Shevchik, K. S.) A search for optimal access strategies to a set of critical resources of multiprocessor systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 78–91; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 2, 67–77. (Summary) **99b:68021** 68M20 (90B12)

Bøgvad, Rikard Splitting of the direct image of sheaves under the Frobenius. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3447–3454. (Jesper F. Thomsen) **99h:14051** 14M25 (13A35, 14J60)

Bogy, D. B. (*with* Budaev, Bair V.) Rayleigh wave scattering by two adhering elastic wedges. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 2949–2996. (George Dassios) **99j:73042** 73D25

Bohanec, Marko (*with* Zupan, Blaž; Demšar, Janez; Bratko, Ivan) Learning by discovering concept hierarchies. (English summary) *Artificial Intelligence* **109** (1999), *no.* 1-2, 211–242. 68T05

Bohm, Arno (*with* Argiropoulos, N.; Drakopoulos, V.) Julia and Mandelbrot-like sets for higher order König rational iteration functions. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 169–178, *World Sci. Publishing, River Edge, NJ*, 1997. (Rich L. Stankewitz) **99g:30028** 30D05 (58F23)

— (*with* Wickramasekara, Sujeewa) The time reversal operator for semigroup evolutions. (English summary) *Found. Phys.* **27** (1997), *no.* 7, 969–993. (S. Gudder) **99h:81040** 81Q10 (81S99)

— (*with* Loewe, Mark; Maxson, S.; Patuleanu, P.; Püntmann, C.; Gadella, M.) Gamow-Jordan vectors and non-reducible density operators from higher-order S-matrix poles. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6072–6100. (Summary) **99b:81261** 81U20

— (*with* Harshman, N. L.) Quantum theory in the rigged Hilbert space—irreversibility from causality. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 181–237, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Lech Jakóbczyk) **99j:81093** 81S99 (47N50, 81P99)

— *see also* **Irreversibility and causality**, **99b:81003**

Böhm, C. *see* **Böhm, Corrado**

Böhm, Christoph Inhomogeneous Einstein metrics on low-dimensional spheres and other low-dimensional spaces. *Invent. Math.* **134** (1998), *no.* 1, 145–176. (Megan M. Kerr) **99i:53046** 53C25 (53C30)

Böhm, Corrado *see* **Gentzen, 99h:68005**

Böhm, Dominik (*with* Markus, Mario; Schmick, Malte) Simulation of vessel morphogenesis using cellular automata. (English summary) Epidemiology, cellular automata, and evolution (Sofia, 1997). *Math. Biosci.* **156** (1999), *no.* 1-2, 191–206. (*see* **99m:92001**) 92C15

Böhm, Gabriella (*with* Szlachányi, Kornél) Weak C^*-Hopf algebras: the coassociative symmetry of non-integral dimensions. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 9–19, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Yvette Kosmann-Schwarzbach) **99b:16056** 16W30 (22D25, 46L99, 81R50)

Böhm, Josef (*with* Kárný, Miroslav; Šámal, Martin) Rotation to physiological factors revised. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 171–179. (Summary) **99c:92024** 92C55

Böhm, Michael Compressible flow in fractured porous media with an unbounded density-pressure law. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 71–88. (Summary) **99b:76083** 76S05 (35Q35, 76N10)

— (*with* Devinny, Joseph; Jahani, Fereidoun; Rosen, Gary) On a moving-boundary system modeling corrosion in sewer pipes. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 247–269. (Summary) **99b:80007** 80A22 (80A32)

— (*with* Demetriou, Michael A.; Reich, Simeon; Rosen, I. G.) Model reference adaptive control of distributed parameter systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 33–81 (*electronic*). (Toshihiro Kobayashi) **99b:93032** 93C40 (93C20, 93D21)

Böhm, Walter M. (*with* Krinik, A.; Mohanty, S. G.) The combinatorics of birth-death processes and applications to queues. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 255–267. (B. R. K. Kashyap) **99a:60099** 60K25 (60J80, 90B22)

Bohman, Tom Discrete threshold growth dynamics are omnivorous for box neighborhoods. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 947–983. (Almut Burchard) **99e:52009** 52A37 (60K35)

Böhme, Thomas (*with* Harant, Jochen) On Hamiltonian cycles in 4- and 5-connected plane triangulations. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 25–30. (Summary) **99d:05056** 05C45

— (*with* Harant, Jochen; Pruchnewski, A.; Schiermeyer, Ingo) A planarity criterion for cubic bipartite graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 31–43. (Xiaoya Zha) **99h:05027** 05C10 (05C85)

Böhmer, Klaus (*with* Janovská, D.; Janovský, Vladimír) Computer aided analysis of imperfect bifurcation diagrams. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 207–222. (Timothy Sauer) **99k:58124** 58F14 (34C23)

— (*with* Govaerts, Willy; Janovský, Vladimír) Numerical detection of symmetry breaking bifurcation points with nonlinear degeneracies. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1097–1108. (Philip J. Aston) **99k:58125** 58F14 (34C23)

Bohn, Lora L. A ranked-set sample signed-rank statistic. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 3, 295–306. (Summary) **99e:62074** 62G10

Bohnebeck, Uta (*with* Horváth, Tamás[2]; Wrobel, Stefan) Term comparisons in first-order similarity measures. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 65–79, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68T05 (68N17)

Bohner, Martin Inhomogeneous discrete variational problems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 89–97, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:49011** 49J27 (39A12)

— Symplectic systems and related discrete quadratic functionals. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 143–156. (Summary) **99f:93090** 93C55 (39A10, 39A12)

— (*with* Došlý, Ondřej) Disconjugacy and transformations for symplectic systems. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 707–743. (I. P. Stavroulakis) **99e:39007** 39A10 (34C10)

— Discrete linear Hamiltonian eigenvalue problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 179–192. (Sui Sun Cheng) **99m:39004** 39A10 (39A12, 93B05)

— (*with* Došlý, Ondřej; Kratz, Werner) Inequalities and asymptotics for Riccati matrix difference operators. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 262–286. (Vladimir Sh. Burd) **99b:39024** 39A70 (34C10)

— Discrete Sturmian theory. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 375–383. (Guang Zhang) **99e:39008** 39A10 (39A12)

— (*with* Agarwal, Ravi P.) Quadratic functionals for second order matrix equations on time scales. *Nonlinear Anal.* **33** (1998), *no.* 7, 675–692. (Allan C. Peterson) **99f:34040** 34C10 (39A10, 49J10)

— (*with* Agarwal, Ravi P.; Wong, Patricia J. Y.) Sturm-Liouville eigenvalue problems on time scales. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 153–166. (Allan C. Peterson) **99k:34184** 34L05 (34B24, 93C70)

— (*with* Agarwal, Ravi P.) Basic calculus on time scales and some of its applications. (English summary) *Results Math.* **35** (1999), *no.* 1-2, 3–22. (L. Berg) **99m:41030** 41A30 (39A12, 41A05)

— (*with* Došlý, Ondřej) Positivity of block tridiagonal matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 182–195 (*electronic*). (P. W. Eloe) **99k:39059** 39A12 (15A63)

Bohr, Harald The work of L. Schwartz [reprinted from *Proceedings of the International Congress of Mathematicians (Cambridge, MA, 1950)*, Amer. Math. Soc., Providence, RI, 1952]. *Fields Medallists' lectures*, 25–29, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70

— *see also* **Boas, Harold P., 99a:11101**

Bohr, Niels *see* **Darrigol, Olivier**, **99f:81001**; **Katsumori, Makoto**, **99k:01036** *and* **Chevalley, Catherine**

Bohr, Tomas (*with* Nielsen, A. H.; He, Xinyu; Rasmussen, Jens Juul) Vortex merging and spectral cascade in two-dimensional flows. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2263–2265. 76F99 (76C05, 76M25)

— (*with* Jensen, Mogens H.; Paladin, Giovanni; Vulpiani, Angelo) ★ Dynamical systems approach to turbulence. (English summary) Cambridge Nonlinear Science Series, 8. *Cambridge University Press, Cambridge*, 1998. *xx*+350 *pp. ISBN* 0-521-47514-7 (Philip J. Holmes) **99i:76066** 76F20 (58F40)

Bohus, Géza (*with* Jockusch, William; Lee, Carl W.; Prabhu, Nagabhushana) On a triangulation of the 3-ball and the solid torus. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 259–264. (Summary) **99a:05033** 05C10

Boi, Luciano *see* **Beltrami, Eugenio**, **99j:01011**

Boichenko, V. A. (*with* Franz, Astrid; Leonov, G. A.; Reitmann, V.) Hausdorff and fractal dimension estimates for invariant sets of non-injective maps. (English summary) *Z.*

Anal. Anwendungen **17** (1998), *no.* 1, 207–223. (Remo Badii) **99d:58114** 58F12 (28A80, 58F11)

Boĭchuk, A. A. Boundary value problems for systems of difference equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 832–835; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 930–934 (1998). (Andrey Ponomaryov) **99b:39003** 39A10 (39A12, 39B42)

— (*with* Gaĭshun, I. V.; Izobov, N. A.; Il′in, Vladimir Aleksandrovich[1]; Mitropol′skiĭ, Yuriĭ Alekseevich; Perestyuk, N. A.) Anatoliĭ Mikhaĭlovich Samoĭlenko (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 1, 3–6; *translation in Differential Equations* **34** (1998), *no.* 1, 1–4. (Editors) **99k:01046** 01A70

— Boundary-value problems for impulse differential systems. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 187–191. (*see* **99f:58002**) 34A37 (34B05)

Boĭchuk, L. M. Two approaches to the structural synthesis of control systems: dynamic filtering and automatic compensation. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 20–31, 155. 93E11 (93E12)

— The influence of dynamic factors on the static properties of linear multidimensional systems of balance type. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 27–40, 149. (Summary) **99j:34085** 34H05 (34D20)

Boie, Volker Multiplication of distributions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 309–321. (Bl. P. Damyanov) **99m:46098** 46F10

Boigelot, C. (*with* Bastin, F.) Biorthogonal wavelets in $H^m(\mathbf{R})$. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 6, 749–768. (Gerlind Plonka) **99m:42042** 42C15 (46E35)

Boij, Mats Gorenstein Artin algebras and points in projective space. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 11–16. (Martin Kreuzer) **99i:13033** 13H10 (13D02, 13E10)

— Betti numbers of compressed level algebras. (English summary) *J. Pure Appl. Algebra* **134** (1999), *no.* 2, 111–131. (Mark R. Johnson) **99m:13023** 13D02 (13D40)

Boik, Robert J. A local parameterization of orthogonal and semi-orthogonal matrices with applications. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 244–276. (Summary) **99k:62107** 62H05

Boĭko, S. S. (*with* Dubovoĭ, V. K.) Factorization of radii of the Weyl limit disk in the degenerate Schur interpolation problem. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 18–26. (Adolf A. Nudelman) **99a:47023** 47A57 (30E05, 47A48)

Boĭko, V. K. On new generalizations of the Burgers and Korteweg-de Vries equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 122–129, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35A30)

— (*with* Fushchich, Vīl′gel′m Īlīch) Lowering of order and general solutions of some classes of partial differential equations. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 311–318. 35A25 (35A30)

— *see also* **Symmetry in nonlinear mathematical physics, 99b:00027**

Boĭkov, I. V. Optimal methods for solving some classes of integral equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1155–1166, 1293; *translation in Differential Equations* **33** (1997), *no.* 9, 1159–1170 (1998). (V. S. Sizikov) **99h:45021** 45L05 (45B05, 65R20)

— On the stability of motion in a system with aftereffect. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 398–402; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 385–389. (Summary) **99c:34174** 34K20 (45J05)

— Iterative methods for solving convolution equations. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 8–15; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 5–12. (Wojciech Mydlarczyk) **99e:65181** 65R20 (45E10, 45L05)

— Optimal algorithms for the reconstruction of functions and the computation of integrals in a class of infinitely differentiable functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 14–20. (Vasily A. Chernecky) **99k:65026** 65D32

— Approximation of some classes of functions by local splines. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 25–33. (Kairat T. Mynbaev) **99c:41052** 41A46

Boileau, Michel (*with* Fourrier, Laurence) Knot theory and plane algebraic curves. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 779–792. (Stephen P. Paris) **99e:57009** 57M25 (14H45, 32S55)

Boillat, Eric On a right-inverse for the divergence operator in spaces of continuous piecewise polynomials. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 4, 487–505. (I. N. Molchanov) **99c:65190** 65M99 (73V05, 76M25)

— On the locking of the finite element method in thermoelasticity. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2319–2334. (Summary) **99a:65144** 65N30 (73B30, 73V05)

Boillat, Guy Nonlinear hyperbolic fields and waves. *Recent mathematical methods in nonlinear wave propagation* (*Montecatini Terme*, 1994), 1–47, *Lecture Notes in Math.*, 1640, *Springer, Berlin*, 1996. (H. Engler (Zbl 877.35080)) **99k:35115** 35L60 (35Q99, 73C50, 76Y05, 78A25)

— (*with* Ruggeri, Tommaso) Maximum wave velocity in the moments system of a relativistic gas. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 107–111. (Summary) **99m:82038** 82C40 (76P05, 76Y05)

— (*with* Strumia, Alberto) On the Born-Infeld electron: spin effects. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 1–11. (R. L. Ingraham) **99j:78006** 78A02 (78A97)

Boĭmatov, K. Kh. (*with* Seddighi, Karim) Boundary value problems for systems of ordinary differential equations associated with noncoercive forms. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 3, 295–297. (R. C. Gilbert) **99b:47064** 47E05 (34B05)

— (*with* Seddighi, Karim) Some spectral properties of ordinary differential operators generated by noncoercive forms. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 439–442. (R. C. Gilbert) **99b:47065** 47E05 (34L05)

— On the Everitt and Giertz method for Banach spaces. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 10–12. (Zinovi Sheftel) **99a:35044** 35J15 (46N20)

— (*with* Iskhokov, S. A.) On the solvability and smoothness of a solution of the variational Dirichlet problem associated with a noncoercive bilinear form. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 107–134. (Nguyễn Minh Trí) **99i:35024** 35J25 (35J20)

— Asymptotic behavior of a multidimensional distribution function for elliptic operators in $\mathbf{R}^n$. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 729–730. 35P20 (47F05)

Boimond, Jean-Louis (*with* Cottenceau, Bertrand; Hardouin, Laurent; Ferrier, Jean-Louis) Synthesis of greatest linear feedback for timed-event graphs in dioid. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1258–1262. 93B51 (93C83)

cepedello Boiso, Manuel *see* **Cepedello Boiso, Manuel**

Boissard, N. Super efficient solutions and super infima in vector optimization. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 37–50. (Vasile Postolică) **99i:90081** 90C29

Boisse, P. (*with* Coffignal, G.) Error through the constitutive relation for beam or C^0 plate finite elements: static and vibration analyses. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 493–512, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73K05, 73K10)

Boissonnat, Jean-Daniel (*with* Yvinec, Mariette) ★ Algorithmic geometry. (English summary) Translated from the 1995 French original by Hervé Brönnimann. *Cambridge University Press, Cambridge*, 1998. *xxii*+519 *pp. ISBN* 0-521-56529-4 (Hans-Dietrich Hecker) **99g:68207** 68U05 (52B55, 68–02)

— (*with* Souères, P.) Optimal trajectories for nonholonomic mobile robots. *Robot motion planning and control*, 93–170, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (Krzysztof Tchoń) **99c:93076** 93C83 (49N55, 70B15, 70Q05)

— (*with* Sharir, Micha; Tagansky, B.; Yvinec, Mariette) Voronoi diagrams in higher dimensions under certain polyhedral distance functions. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 485–519. (Rade Živaljević) **99c:52020** 52B55 (68Q25, 68U05)

Boiten, E. A. (*with* Bowman, Howard; Derrick, John; Steen, M. W. A.) Strategies for consistency checking based on unification. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 3, 261–298. 68N99

Boiti, Chiara (*with* Nacinovich, Mauro) Extension of formal power series solutions. *Rend. Sem. Mat. Univ. Padova* **96** (1996), 205–235. (María-Angeles Zurro) **99k:35006** 35A20 (35C10)

— Evolution of overdetermined systems. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 85–88. 35N10

Boiti, M. (*with* Leon, Jérôme Jp.; Pempinelli, F.) Solution of the boundary value problem for the integrable discrete SRS system on the semi-line. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 927–943. (Summary) **99j:78017** 78A45 (35Q53, 35Q55)

Boĭvalenkov, P. *see* **Boyvalenkov, Peter G.**

Boivin, André (*with* Paramonov, P. V.) Approximation by meromorphic and entire solutions of elliptic equations in Banach spaces of distributions. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 3–24; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 481–502. (Ognyan Kounchev) **99i:41019** 41A30 (30E10, 35J30, 46E15, 46F10)

— (*with* Paramonov, P. V.) On radial limit functions for entire solutions of second order elliptic equations in $\mathbf{R}^2$. (English summary) *Publ. Mat.* **42** (1998), *no.* 2, 509–519. (Summary) **99m:35043** 35J15 (35B05)

Boizumault, Patrice (*with* Jussien, Narendra) Best-first search for property maintenance in reactive constraints systems. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 339–353, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68T20

Boja, Nicolae (*with* Popescu, Dan) On preferential moving frames in the shell geometry. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 1, 65–70. (V. Oproiu) **99a:53004** 53A05 (73K15)

Bojadžiev, D. (*with* Gams, Matjaž) Addendum to: "Sloman's view of Gödel's sentence" [Artificial Intelligence **74** (1995), no. 2, 389–393; MR 96c:03008] by Bojadžiev. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 363–365. (Summary) **99a:03006** 03A05 (00A30, 03F30, 03H15)

wagner-Bojakowska, Elżbieta *see* **Wagner-Bojakowska, Elżbieta**

Bojanczyk, Adam (*with* Heinig, Georg) Transformation techniques for Toeplitz and Toeplitz-plus-Hankel matrices. II. Algorithms. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 11–36. (Israel Koltracht) **99i:15034** 15A57

Bojanov, B. *see* **Boyanov, Borislav D.**

Bojanov, Borislav *see* **Boyanov, Borislav D.**

Bojarski, Jarosław L. The unilateral contact condition in Hencky plasticity for n-dimensional body. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 1, 35–48. (Meir Shillor) **99d:73081** 73T05 (47H15, 49J45, 73E20, 73V25)

— The unilateral contact condition in Hencky plasticity for plates. (English summary) *Bull. Polish Acad. Sci. Math.* **44** (1996), *no.* 1, 49–60. (Matthias Wilhelm Winter) **99j:73054** 73E20 (49J45, 73K10, 73T05, 73V25)

— The relaxation of Signorini problems in Hencky plasticity. I. Three-dimensional solid. *Nonlinear Anal.* **29** (1997), *no.* 10, 1091–1116. (John M. Ball) **99a:73060a** 73E20 (49J45, 73K10, 73V05, 73V25)

— The relaxation of Signorini problems in Hencky plasticity. II. Plates. *Nonlinear Anal.* **29** (1997), *no.* 10, 1117–1143. (John M. Ball) **99a:73060b** 73E20 (49J45, 73K10, 73V05, 73V25)

Bojdecki, Tomasz ★ Teoría general de procesos e integración estocástica. (Spanish. Spanish summary) [General theory of processes and stochastic integration] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 6. *Sociedad Matemática Mexicana, México*, 1995. *iv*+288 *pp. ISBN* 968-36-4629-8 (David Nualart) **99k:60001** 60–02 (60G44, 60H05)

Bojović, Dejan (*with* Jovanović, Boško S.) Application of interpolation theory to the analysis of the convergence rate for finite difference schemes of parabolic type. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 99–107. (Summary) **99b:65103** 65M12 (46M35, 65M06, 65N40)

Bok, J. (*with* Mančal, T.; Skála, L.) Short time de-excitation dynamics of a two-level electron system. Non-perturbative solution of the master equation. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9429–9440. (Summary) **99h:82076** 82D20

Bokaev, N. A. On the absolute convergence of multiple series of Fourier coefficients in multiplicative systems. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 765–767; *translation in Math. Notes* **60** (1996), *no.* 5-6, 573–575 (1997). (Sergei F. Lukomskiĭ) **99e:42005** 42A20

Bokalo, B. (*with* Guran, I.) Sequentially compact Hausdorff cancellative semigroup is a topological group. (English and Russian summaries) *Mat. Stud.* **6** (1996), 39–40, 160. 54H11 (54D20)

Bokalo, N. M. Boundary value problems for semilinear parabolic equations in unbounded domains without conditions at infinity. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 977–985, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 860–867. (I. Łojczyk-Królikiewicz) **99f:35094** 35K60

— (*with* Dmytriv, V.) Problem without initial conditions for one kind of quasilinear degenerate parabolic equations. (English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 1, 16–20, 110. 35K55 (35D05)

Bökamp, Thomas Extending norms on groups. (English summary) *Note Mat.* **14** (1994), *no.* 2, 217–227 (1997). (Wolfgang A. F. Ruppert) **99g:20009** 20A05

Bokan, Neda (*with* Gilkey, Peter B.; Simon, Udo) Asymptotic spectra for Weyl geometries. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 83–90. (M. Puta (Zbl 882.58055)) **99f:58206** 58G18 (53C25, 58G11)

— (*with* Blažić, Novica; Gilkey, Peter B.; Rakić, Zoran) Pseudo-Riemannian Osserman manifolds. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 1–12. (Eric Boeckx) **99i:53067** 53C50

— (*with* Blažić, Novica; Gilkey, Peter B.) Pontrjagin forms, Chern Simons classes, Codazzi transformations, and affine hypersurfaces. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 333–349. (Man Chun Leung) **99m:53039** 53C05 (53A15, 58G10)

— (*with* Blažić, Novica; Rakić, Zoran) Foliation of a dynamically homogeneous neutral manifold. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6118–6124. (James J. Hebda) **99i:53068** 53C50 (53C12, 53C30)

— (*with* Gilkey, Peter B.; Simon, Udo) Spectral invariants of affine hypersurfaces. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math. (Beograd) (N.S.)* **64(78)** (1998), 133–145. (Haruo Kitahara) **99j:58197** 58G11 (53A15, 58G18)

Bokanowski, Oliver (*with* Lemou, Mohammed) Fast multipole method for multidimensional integrals. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 105–110. (Summary) **99e:65035** 65D30

Böker, Andreas (*with* Birkendorf, Andreas; Simon, Hans Ulrich) Learning deterministic finite automata from smallest counterexamples. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 599–608, *ACM, New York*, 1998. (Summary) **99e:68134** 68T05 (68Q68)

Bokhari, M. A. (*with* Sadek, Ibrahim S.) Optimal control of a parabolic distributed parameter system via orthogonal polynomials. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 205–213. 49K20 (49M30)

Bokhove, O. (*with* Vanneste, Jacques; Warn, T.) A variational formulation for barotropic quasi-geostrophic flows. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 1-2, 67–79. (Summary) **99d:76095** 76U05 (76M30, 86A05)

Bokor, József (*with* Schipp, Ferenc) Approximate identification in Laguerre and Kautz bases. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 463–468. (Summary) **99a:93022** 93B30

— (*with* Gianone, László; Schipp, Ferenc) Approximate $\mathscr{H}_\infty$ identification using partial sum operators in a disc algebra basis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1117–1122. 93B30 (93B36)

— (*with* Szabó, Zoltán István; Schipp, Ferenc) Identification of rational approximate models in H^∞ using generalized orthonormal basis. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 153–158. 93B36 (93B30)

Bokor, Rózsa Horváth On two-step methods for stochastic differential equations. (English summary) *Acta Cybernet.* **13** (1997), *no.* 2, 197–207. (Summary) **99a:60056** 60H10

Bökstedt, Marcel (*with* Brun, Morten; Dupont, Johan L.) Homology of $O(n)$ and $O^1(1, n)$ made discrete: an application of edgewise subdivision. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 131–152. (Veena Sharma) **99c:20061** 20G10 (22E15, 55R45, 57T10)

Bokut', L. A. Abstract semigroups and groups of formal series of dependent variables. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 3, 1–26. (Boris M. Schein) **99c:20093** 20M25 (16S36)

— The method of Gröbner and Shirshov bases. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk*, 1996), 30–39, 189, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Vesselin Drensky) **99g:16030** 16S15 (17B01, 17B37, 17B65)

— *see also* **Algebra, geometry, analysis and mathematical physics, 99a:00019**

Bol, Georg *see* **Risk measurement, econometrics and neural networks, 99j:62148**

Boland, Philip J. An arrangement increasing property of the Marshall-Olkin bivariate exponential. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 167–170. (Moshe Shaked) **99c:60029** 60E15 (62E10)

Bolaños E., Gilda (*with* de la Peña, José Antonio) Algebras with vanishing $\mathrm{Ext}^2(X, X)$ for indecomposable modules. *Math. Scand.* **83** (1998), *no.* 2, 177–191. (Sverre O. Smalø) **99m:16025** 16G60 (16E30, 16G70)

Boldin, A. Yu. (*with* Sharipov, R. A.) On the solution of normality equations in dimension $n \geq 3$. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 37–61. (S. Yu. Pilyugin) **99m:58161** 58F25 (34C35, 35Q72, 70F99)

Boldini, Pascal Vagueness and type theory. (English summary) *Logical aspects of computational linguistics (Nancy*, 1996), 134–148, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65 (03B15)

Boldrighini, C. (*with* Minlos, R. A.; Pellegrinotti, A.) Almost-sure central limit theorem for directed polymers and random corrections. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 533–557. (Aernout C. D. van Enter) **99d:60107** 60K35 (60F15, 82B44, 82D60)

— (*with* Sukhov, Yu. M.) One-dimensional hard-rod caricature of hydrodynamics: "Navier-Stokes correction" for local equilibrium initial states. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 577–590. (Ellen Saada) **99a:82061** 82C21 (35Q30, 76M35, 82C05)

Boldrin, Luca (*with* Sossai, Claudio) An algebraic semantics for possibilistic logic. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 27–35, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 03B70 (68T27)

Boldrin, Michele The impact of chaos on economic theory. *The impact of chaos on science and society (Tokyo*, 1991), 275–297, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 90A99 (58F13)

Boldrini, José Luiz (*with* Crema, Janete) On forced periodic solutions of superlinear quasi-parabolic problems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 14, 18 *pp.* (*electronic*). (Eduard Feireisl) **99e:35007** 35B10 (35K99)

— (*with* Costa, M. I. S.) The influence of fixed and free final time of treatment on optimal chemotherapeutic protocols. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 59–72. (Summary) **99c:92019** 92C50 (49J15, 49N55)

— (*with* Rojas Medar, Marko A.) Magneto-micropolar fluid motion: existence of weak solutions. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 443–460. (Mariarosaria Padula) **99k:76154** 76W05 (35D05, 35Q35, 76A99)

— (*with* Lorca, Sebastián A.) The initial value problem for a generalized Boussinesq model. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 457–480. (Ming Mei) **99m:35210** 35Q53 (35Q35, 76D99)

Boldt, Axel (*with* Takane, Martha) The spectral classes of unicyclic graphs. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 39–49. (Summary) **99g:05128** 05C50 (05C38, 16G20)

Boldyrev, S. A. Burgers turbulence, intermittency, and nonuniversality. (English summary) 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Pittsburgh, PA, 1997). *Phys. Plasmas* **5** (1998), *no.* 5, *part* 2, 1681–1687. (Summary) **99e:76066** 76F99 (76M35, 76N10, 82C31)

Boleeva, M. K. (*with* Otelbaev, M. O.; Utemaganbetov, Z. S.) On an approximate solution of a class of nonlinear equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 33–38. (Summary) **99e:65098** 65J15 (47H17)

— On an approximate solution of a nonlinear Cauchy problem. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 39–43. (P. A. Mishnayevskiy) **99e:34002** 34A12 (34A45)

Boley, Daniel L. (*with* Luk, Franklin T.; Vandevoorde, David) A fast method to diagonalize a Hankel matrix. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 41–52. (Marc Van Barel) **99j:65053** 65F15

Boley, Harold Functional-logic integration via minimal reciprocal extensions. (English summary) Gentzen (Rome, 1996). *Theoret. Comput. Sci.* **212** (1999), *no.* 1-2, 77–99. (Summary) **99m:68027** 68N15 (68N17)

Bolfarine, Heleno (*with* Yoshida, Olga S.; Leite, José Galvão) The roles of prior catchability assumptions and sample features on Bayes estimates of the number of classes in a population. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1895–1904. (Summary) **99k:62061** 62F15

— (*with* Vilca-Labra, F.; Arellano-Valle, Reinaldo B.) Elliptical functional models. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 1, 36–57. (Imbi Traat) **99g:62027** 62F10

— (*with* Arellano-Valle, Reinaldo B.) Weak nondifferential measurement error models. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 279–287. (Christine Hildegard Müller) **99j:62105** 62J99 (62E10)

— *see also* **Errata: "On structural comparative calibration under a *t*-model"**

Bolgrabskaya, I. A. On a uniform lower bound for the minimal eigenvalue of a five-diagonal matrix. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 8–11. (Zdeněk Dostál) **99c:15029** 15A42 (70E15, 70J99)

Bolia, Mamta (*with* Raina, Ravinder Krishna) On generalized fractional integrals of certain subclasses of starlike and convex functions. (English summary) *Math. Notae* **38** (1995/96), 3–20 (1997). (M. E. Muldoon) **99m:30025** 30C45 (26A33)

— (*with* Raina, Ravinder Krishna) The decompositional structure of a generalized hypergeometric transformation of convolution type. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 87–93. (R. K. Saxena) **99e:44002** 44A20 (33C20, 44A35, 45P05)

— (*with* Raina, Ravinder Krishna) New classes of distortion theorems for certain subclasses of analytic functions involving certain fractional derivatives. (English summary) *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 43–53. (H. M. Srivastava) **99g:30018** 30C45 (26A33)

— (*with* Raina, Ravinder Krishna) On certain classes of distortion theorems involving generalized fractional integral operators. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 301–307. (N. K. Thakare) **99m:30026** 30C45 (26A33, 33C05)

— (*with* Raina, Ravinder Krishna) On a certain subclass of analytic functions involving certain fractional calculus operators. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 1, 7–20. (H. M. Srivastava) **99m:26010** 26A33 (30C45, 33C05, 33C45)

Boliac, R. *see* **Bolyak, R. I.**

Bolibok, Krzysztof Construction of a Lipschitzian retraction in the space c_0. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 43–46. (Y. Benyamini) **99m:46029** 46B20

— Minimal displacement and retraction problems in the space l^1. (English summary) *Nonlinear Anal. Forum* **3** (1998), 13–23. (Marián Fabian) **99j:46024** 46B25 (47H09, 54C15)

Bolibrukh, A. A. Hilbert's twenty-first problem for linear Fuchsian systems. (Russian. English and Russian summaries) *Trudy Mat. Inst. Steklov.* **206** (1994), 160 *pp.*; *translation in Proc. Steklov Inst. Math.* **1995**, *no.* 5 (206), *viii* + 145*pp.* (V. Leksin) **99a:32022; EA 99m** 32G34 (14D05, 34A20)

— Holomorphic vector bundles on the Riemann sphere and the 21st Hilbert problem. Algebra, 3. *J. Math. Sci.* **82** (1996), *no.* 6, 3759–3764. (Masaaki Yoshida) **99d:32027** 32G34

— On isomonodromic deformations of Fuchsian systems. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 4, 589–604. (Masaaki Yoshida) **99c:34003** 34A20 (32G34)

ballester-Bolinches, A. *see* **Ballester-Bolinches, A.**

Böling, Jari M. (*with* Mäkilä, Pertti M.) On control relevant criteria in H_∞ identification. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 694–700. (From the summary) **99a:93023** 93B30 (93B36)

Bolintinéanu, S. (*with* Bernoussi, B.; Chou, Chin Ch'êng) Sur les suites Pareto optimisantes et scalairement stationnantes. (English summary) [On optimizing and scalarly

stationary Pareto sequences] *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida, 1996)*, 39–47, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:90169** 90C29
— (*with* Azé, Dominique) A boundary control problem with parabolic dynamic and final boundary observation. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics (Odeillo, 1995)*, 13–28, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Jean-Pierre Raymond) **99c:49019** 49K20 (49K27)
— (*with* El Maghri, M.) On the sensitivity of efficient points. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 375–382. (Constantin Zălinescu) **99g:90138** 90C31 (90C29)
— (*with* Bernoussi, B.; Chou, Chin Ch'êng) Pareto optimizing and scalarly stationary sequences. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 553–561. (I. M. Stancu-Minasian) **99f:90105** 90C29 (90C48)
— (*with* El Maghri, M.) Second-order efficiency conditions and sensitivity of efficient points. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 569–592. (Laura Martein) **99g:90104** 90C29 (90C31)
rios-Bolivar, Miguel *see* **Rios-Bolívar, Miguel**
Bollabás, Béla *see* **Bollobás, Béla**
Bollé, D. (*with* Jongen, G.; Shim, G. M.) Fully connected Q-Ising neural networks: a general scheme for discussing parallel dynamics. (English summary) *Theoretical aspects of neural computation (Hong Kong, 1997)*, 277–285, *Springer, Singapore*, 1998. (*see* **99f:00027**) 82C32
Bolle, Philippe (*with* Berti, Massimiliano) Variational construction of homoclinics and chaos in presence of a saddle-saddle equilibrium. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 2, 331–377 (1999). (Boris Buffoni) **99j:34064** 34C37 (58F13, 58F15)
— Morse index of approximating periodic solutions for the billiard problem. Application to existence results. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 497–524. (Maria Letizia Bertotti) **99d:58035** 58E05 (34C25, 58F22)
— A contact condition for p-codimensional submanifolds of a symplectic manifold ($2 \leq p \leq n$). *Math. Z.* **227** (1998), *no.* 2, 211–230. (Hansjörg Geiges) **99a:58028** 58E05 (53C15, 57R15, 58F05)
— On the Bolza problem. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 274–288. (Philip D. Loewen) **99m:58043** 58E05 (34B15, 49J05)
Bolley, Catherine (*with* Helffer, Bernard) Stability of bifurcating solutions for the Ginzburg-Landau equations. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 5, 579–626. (Peter E. Zhidkov) **99f:58058** 58E50 (34B15, 35B32, 35Q55, 82D55)
Bollig, Beate (*with* Wegener, Ingo) Complexity theoretical results on partitioned (nondeterministic) binary decision diagrams. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 159–168, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68068** 68Q05 (68Q60, 94C10)
— (*with* Wegener, Ingo) Completeness and non-completeness results with respect to read-once projections. (English summary) *Inform. and Comput.* **143** (1998), *no.* 1, 24–33. (Christoph Meinel) **99f:68051** 68Q05 (68Q15)
— (*with* Wegener, Ingo) A very simple function that requires exponential size read-once branching programs. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 53–57. (Summary) **99b:68062** 68Q05 (68Q15, 68Q25)
— (*with* Sauerhoff, Martin; Sieling, Detlef; Wegener, Ingo) Hierarchy theorems for kOBDDs and kIBDDs. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 45–60. (Christoph Meinel) **99i:68031** 68Q05 (68Q15)
Bölling, Reinhard Weierstrass and some members of his circle: Kovalevskaia, Fuchs, Schwarz, Schottky. *Mathematics in Berlin*, 71–82, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70 (01A55)
— An unknown photograph of Kovalevskaya. *Math. Intelligencer* **20** (1998), *no.* 3, 27–28. 01A70
— Kowalewskaja, Herr H-a, Herr X und andere Gedanken zu einem unbekannten Foto. [Kovalevskaya, Mr. H-a, Mr. X and other musings on an unidentified photograph] *Mitt. Dtsch. Math.-Ver.* **1999**, *no.* 1, 21–25. (R. L. Cooke) **99k:01047** 01A70 (01A55)
Bollini, C. G. (*with* Rocca, M. C.) Vacuum state of the quantum string without anomalies in any number of dimensions. (English summary) *Nuovo Cimento Soc. Ital. Fis. A* (12) **110** (1997), *no.* 4, 353–361. (Summary) **99f:81186** 81T50 (81R10, 81T30)
— (*with* Civitarese, O.; De Paoli, A. L.; Rocca, M. C.) Gamow states in a rigged Hilbert space. (English summary) *Irreversibility and causality (Goslar, 1996)*, 34–37, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Summary) **99d:81180** 81V35 (47N50)
Bollobás, Béla (*with* Janson, Svante) On the length of the longest increasing subsequence in a random permutation. (English summary) *Combinatorics, geometry and probability (Cambridge, 1993)*, 121–128, *Cambridge Univ. Press, Cambridge*, 1997. (Graham Brightwell) **99c:05003** 05A05 (60C05)
— Volume estimates and rapid mixing. *Flavors of geometry*, 151–182, *Math. Sci. Res. Inst. Publ.*, 31, *Cambridge Univ. Press, Cambridge*, 1997. (Mark R. Jerrum) **99b:52012** 52A38 (60J15, 68Q20, 68Q25)
— (*with* Stacey, Alan) Approximate upper bounds for the critical probability of oriented percolation in two dimensions based on rapidly mixing Markov chains. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 859–867. (Summary) **99j:60152** 60K35
— (*with* Brightwell, Graham R.) The structure of random graph orders. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 318–335. (Colin J. H. McDiarmid) **99e:06001** 06A06 (05C80)
— ★ Modern graph theory. (English summary) Graduate Texts in Mathematics, 184. *Springer-Verlag, New York*, 1998. *xiv*+394 *pp. ISBN* 0-387-98488-7 (Jerrold W. Grossman) **99h:05001** 05–01 (05–02, 05Cxx)
— (*with* Erdös, Paul[1]) Graphs of extremal weights. (English summary) *Ars Combin.* **50** (1998), 225–233. (Summary) **99i:05102** 05C35
— The work of William Timothy Gowers. Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 109–118 (*electronic*). (From the text) **99k:01048** 01A70 (05D10, 11B25, 46Bxx)
— Hereditary properties of graphs: asymptotic enumeration, global structure, and colouring. Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 333–342 (*electronic*). (A. G. Thomason) **99g:05108** 05C35 (05C80)
— (*with* Thomason, Andrew) Proof of a conjecture of Mader, Erdös and Hajnal on topological complete subgraphs. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 883–887. (Stanislav Jendrol') **99i:05103** 05C35 (05C40)
— The work of [Fields medalist] Timothy Gowers. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 3, 39–43. 01A70
— (*with* Riordan, Oliver) Colorings generated by monotone properties. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 1, 1–25. (E. Rodney Canfield) **99m:05055** 05C15 (05A16, 60C05)
— Paul Erdős and probability theory. Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 521–533. (Editors) **99m:01043** 01A70
— Turán's theorem and maximal degrees. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 160–164. (Summary) **99k:05087** 05C35
— (*with* Balister, P. N.; Stacey, Alan) Counting boundary paths for oriented percolation clusters. (English summary) *Random Structures Algorithms* **14** (1999), *no.* 1, 1–28. (T. M. Liggett) **99k:60243** 60K35
Bolnăvescu, Lucian (*with* Zanfir, Ştefan) The generator function for solving one-dimensional equation heat propagation by conduction and convection. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 55–59 (1994). 65M06 (35K05)
— The method of lines for solving the longitudinal vibrations equation. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 305–316. 73V20 (73D30, 73K05)
— (*with* Zanfir, Ştefan) The generator function for solving the equation of longitudinal vibrations for a semi-infinite rod. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 92–97 (1998). 65M06 (73D30)
Bologna, Salvatore Asymptotic properties of estimators depending on preliminary estimations. (Italian. English and Italian summaries) *Statistica (Bologna)* **57** (1997), *no.* 3, 375–381 (1998). (Summary) **99h:62021** 62F12
Bolotin, Sergei V. (*with* Negrini, Piero) A variational criterion for nonintegrability. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 415–436 (1998). (Gabriel P. Paternain) **99c:58055** 58F05 (70H05, 70H35)
— (*with* Bertotti, Maria Letizia) Homoclinic solutions of almost periodic Hamiltonian systems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 272–276, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C37 (58F27, 70H05)
— (*with* Rabinowitz, Paul H.) A variational construction of chaotic trajectories for a reversible Hamiltonian system. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 364–387. (Vittorio Coti Zelati) **99m:58143** 58F15 (34C37, 58E10, 58F05, 70H05)
— (*with* Treshchëv, Dmitriĭ V.) Unbounded growth of energy in nonautonomous Hamiltonian systems. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 365–388. (Ugo C. Bessi) **99m:58086** 58F05 (34C99, 58F27, 70H05)
Bolotin, V. V. (*with* Shipkov, A. A.) A model of the growth of fatigue cracks taking into account environmental factors. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 313–322; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 289–296. 73M25
Bolotin, Yu. L. (*with* Gonchar, V. Yu.; Granovskiĭ, M. Ya.; Chechkin, A. V.) Dynamics of an anharmonic oscillator with a periodic perturbation. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 1, 196–205; *translated from Zh. Èksper. Teoret. Fiz.* **115** (1999), *no.* 1, 361–377 (*Russian*). 81Q15
Bolotnikov, Vladimir (*with* Alpay, Daniel) On tangential interpolation in reproducing kernel Hilbert modules and applications. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 37–68, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Boris Petrovich Osilenker) **99b:30055** 30E05 (46E22, 47A57)
— (*with* Alpay, Daniel; Dijksma, Aad; Rovnyak, James; Sadosky, Cora) Espaces de Hilbert inclus contractivement dans l'espace de Hardy du bi-disque. (English and French summaries) [Hilbert spaces contractively included in the Hardy space of the bidisk] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1365–1370. (Emil Straube) **99g:46029** 46E22 (32A35, 46J15, 47A45)
— (*with* Alpay, Daniel; Dijksma, Aad) On the Nevanlinna-Pick interpolation problem for generalized Stieltjes functions. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 379–408. (Adolf A. Nudelman) **99k:47032** 47A57 (30E05)
— (*with* Alpay, Daniel) On two-sided interpolation for upper triangular Hilbert-Schmidt operators. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 3, 259–286. (Joseph A. Ball) **99c:47010** 47A57 (47B10)
— (*with* Alpay, Daniel; Rodman, Leiba) Tangential interpolation with symmetries and two-point interpolation problem for matrix-valued H_2-functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 1–28. (Joseph A. Ball) **99h:47021** 47A57 (30D55)
— (*with* Dym, Harry) On degenerate interpolation, entropy and extremal problems for matrix Schur functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 4, 367–435. (Joseph A. Ball) **99m:47014** 47A57 (30E05)
— (*with* Alpay, Daniel) Carathéodory-Fejér problem for pairs of meromorphic functions. (English summary) *Math. Nachr.* **199** (1999), 17–69. (Joseph A. Ball) **99m:47015** 47A57 (30E05)
— (*with* Alpay, Daniel) On the tangential interpolation problem for matrix-valued H_2-functions of two variables. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1789–1799. (Adolf A. Nudelman) **99i:47024** 47A57 (30E05, 32A35)
Bolotov, A. A. (*with* Andreev, A. E.) On linear hashing of binary sets. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. 1 Mat. Mekh.* **1997**, *no.* 2, 22–25, 62; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 23–25. (Summary) **99d:94021** 94A60 (94C10)
Bolsinov, A. V. Smooth orbital classification of integrable Hamiltonian systems with two degrees of freedom. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 3–28; *translation in Sb. Math.* **186** (1995), *no.* 1, 1–27. (Peter J. Topalov) **99f:58094** 58F07 (58F05, 70H05)
— (*with* Dullin, Holger R.) The Euler case in the dynamics of a rigid body and the Jacobi problem. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 13–25. (Summary) **99d:70013** 70E15 (58F07, 70H05)
— (*with* Fomenko, A. T.) On the dimension of the space of integrable Hamiltonian systems with two degrees of freedom. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 45–69. (Peter J. Topalov) **99h:58080** 58F07 (58F05, 70H05)

— (*with* Fomenko, A. T.) Orbital isomorphism between two classical integrable systems. The Euler case and the Jacobi problem. (English summary) *Lie groups and Lie algebras*, 359–382, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ya. L. Umanskiy) **99k:58084** 58F07 (58F05, 70E15, 70H05)

Bolt, Wilko (*with* Houba, Harold) Strategic bargaining in the variable threat game. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 57–77. (T. Parthasarathy) **99f:90192** 90D10 (90D40)

Bolte, Jens (*with* Keppeler, Stefan) Semiclassical time evolution and trace formula for relativistic spin-1/2 particles. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 10, 1987–1991. (Summary) **99d:81038** 81Q20

Bolthausen, Erwin (*with* Ioffe, Dimitri) Harmonic crystal on the wall: a microscopic approach. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 523–566. (Matthias Löwe) **99b:82034** 82B41 (60F10, 60G15, 82B24)

— Large deviations and perturbations of random walks and random surfaces. *European Congress of Mathematics, Vol. I (Budapest*, 1996), 108–120, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Timo Seppäläinen) **99g:60054** 60F10 (60G60, 60J15, 82B41)

— (*with* Sznitman, Alain-Sol) On Ruelle's probability cascades and an abstract cavity method. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 247–276. (Barbara Gentz) **99k:60244** 60K35 (60J75, 82B44, 82D30)

Boltje, Robert Canonical induction formulae and the defect of a character. (English summary) *Representation theory of finite groups (Columbus, OH*, 1995), 29–44, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Jacques Thévenaz) **99b:20009** 20C15 (20C20)

— Linear source modules and trivial source modules. (English summary) *Group representations: cohomology, group actions and topology (Seattle, WA*, 1996), 7–30, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Raphaël Rouquier) **99d:20016** 20C20 (19A22)

— A general theory of canonical induction formulae. (English summary) *J. Algebra* **206** (1998), *no.* 1, 293–343. (Jacques Thévenaz) **99k:20013** 20C15 (19A22, 20C20)

Bolton, Gary *see* **Experimental economics, 99d:90004**

Bolton, John (*with* Woodward, Lyndon M.) Special submanifolds of S^6 with its G_2 geometry. (English summary) *Geometry, topology and physics (Campinas*, 1996), 59–68, *de Gruyter, Berlin*, 1997. (Francisco M. Cabrera) **99b:53077** 53C40 (53C42)

— (*with* Vrancken, Luc; Woodward, Lyndon M.) Totally real minimal surfaces with non-circular ellipse of curvature in the nearly Kähler S^6. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 625–644. (Peter Bueken) **99c:53060** 53C42

Boltyanskii, Vladimir Grigor'evich (*with* Gorelikova, S.) Optimal synthesis for nonoscillatory controlled objects. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 1–21. (Kjell Holmåker) **99f:49025** 49K15 (93C15)

Boltzmann, Ludwig *see* **Costantini, Domenico et al., 99a:82002**

Bolurian, M. (*with* Hasankhani, A.) Hyper BCK-algebra. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 87–94, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (A. B. Thaheem) **99m:06038** 06F35 (03G25)

Bolyak, R. I. (*with* Poshtaru, A. I.) On graphs containing a given graph as median. (English summary) *Comput. Sci. J. Moldova* **3** (1995), *no.* 3, 278–286. (Summary) **99k:05074** 05C12

— (*with* Lozovanu, D. D.) A network transportation problem with concave cost functions of the flow on network edges, and its applications. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 74–82, 121, 124. (Dimiter T. Ivanchev) **99b:90144** 90C35 (90C08)

Bolzano, Bernard ★ Bernard Bolzano—Gesamtausgabe. Reihe II. Nachlass B. Wissenschaftliche Tagebücher. Band 7. Teil 2. (German) [Bernard Bolzano—Collected works. Series II. Nachlass B. Scientific diaries. Vol. 7. Part 2] Miscellanea Mathematica. 12. Edited and with a foreword by Bob van Rootselaar and Anna van der Lugt. *Friedrich Frommann Verlag Günther Holzboog GmbH & Co., Stuttgart*, 1997. 217 *pp. ISBN* 3-7728-0483-7 (Joseph W. Dauben) **99h:01041** 01A75 (01A55)

— ★ Bernard Bolzano—Gesamtausgabe. Reihe II. Nachlass B. Wissenschaftliche Tagebücher. Band 8. Teil 1. (German) [Bernard Bolzano—Collected works. Series II. Nachlass B. Scientific diaries. Vol. 8. Part 1] Miscellanea Mathematica. 13. Edited and with a foreword by Bob van Rootselaar and Anna van der Lugt. With an introduction by van Rootselaar. *Friedrich Frommann Verlag Günther Holzboog GmbH & Co., Stuttgart*, 1998. 125 *pp. ISBN* 3-7728-0484-5 (Joseph W. Dauben) **99j:01026** 01A75 (01A55)

— *see also* **Berka, Karel, 99h:01026** *and* **Sinaceur, Hourya, (99g:01038)**

Bolzern, P. (*with* Colaneri, Patrizio; De Nicolao, G.) Optimal robust filtering with time-varying parameter uncertainty. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 557–576. 93E11 (93C41)

Boman, Erik G. (*with* Atkins, Jonathan E.; Hendrickson, Bruce) A spectral algorithm for seriation and the consecutive ones problem. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 297–310 (*electronic*). (Summary) **99j:68049** 68Q25 (05C85, 68R05)

Bombal, F. (*with* Villanueva Díez, Ignacio) Multilinear operators on spaces of continuous functions. Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 117–126. (Ignacio Zalduendo) **99m:46110** 46G20 (46E50)

Bombelli, Luca (*with* Lombardo, Fernando C.; Castagnino, Mario A.) Chaos in Robertson-Walker cosmology. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6040–6050. (Michael L. Fil'chenkov) **99h:83008** 83C15 (58F13, 83F05)

— (*with* Lombardo, Fernando C.; Castagnino, Mario A.) From classical chaos to decoherence in Robertson-Walker cosmology. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 7, 539–547. 83F05 (58F13, 58F40)

Bombieri, Enrico (*with* Cohen, Paula Beazley) Siegel's lemma, Padé approximations and Jacobians. With an appendix by Umberto Zannier. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 155–178 (1998). (Michel Waldschmidt) **99k:11092** 11G30 (11J99, 14H40)

— (*with* Perelli, A.) Distinct zeros of L-functions. *Acta Arith.* **83** (1998), *no.* 3, 271–281. (Xian-Jin Li) **99a:11102** 11M41

— (*with* Mueller, Julia) On a conjecture of Siegel. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 293–308. (Dimitrios Poulakis) **99d:11034** 11D99

Bombosch, Uwe Der Zariski-Riemann-Raum und die étale Kohomologie rigider Räume. [The Zariski-Riemann space and the étale cohomology of rigid spaces] *Schriftenreihe des Mathematischen Instituts der Universität Münster.* 3. *Serie, Heft* 20, ii+87 *pp., Schriftenreihe Math. Inst. Univ. Münster* 3. *Ser.*, 20, *Univ. Münster, Münster*, 1997. (Reinhold Hübl) **99c:14029** 14F20 (11G25, 32P05)

Bomze, Immanuel M. On standard quadratic optimization problems. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 369–387. (Jie Sun) **99m:90106** 90C20

Bon, Jean-Louis (*with* Bretagnolle, Jean) Évaluation a priori de la probabilité de défaillance d'un système réparable. (English and French summaries) [Approximation of failure probability for large systems with non-Markovian repair times] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 743–748. (Philip J. Boland) **99m:60139** 60K10 (62N05, 90B25)

Bona, Jerry L. (*with* Chen, Min[6]) Higher-order Boussinesq systems for two-way propagations of water waves. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai*, 1995), 5–12, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q53 (76B15, 76D33)

— (*with* Albert, John P.; Saut, Jean-Claude) Model equations for waves in stratified fluids. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1961, 1233–1260. (Shu Ming Sun) **99g:76013** 76B15 (35Q35, 76B25, 76V05)

— (*with* Chen, Hongqiu) Existence and asymptotic properties of solitary-wave solutions of Benjamin-type equations. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 51–84. (J. Thomas Beale) **99c:76015** 76B25 (35Q35, 76B45, 76C10)

— (*with* Chen, Min[6]) A Boussinesq system for two-way propagation of nonlinear dispersive waves. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 191–224. (Shu Ming Sun) **99f:76021** 76B15 (35Q53, 76B25, 76M25)

— (*with* Luo, Laihan) A generalized Korteweg-de Vries equation in a quarter plane. (English summary) *Applied analysis (Baton Rouge, LA*, 1996), 59–125, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Sen Zhong Huang) **99m:35201** 35Q53 (76B15, 76B25)

Bóna, Miklós A combinatorial proof of a result of Hetyei and Reiner on Foata-Strehl-type permutation trees. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 119–122. (Volker Strehl) **99g:05004** 05A15 (05C05, 05C30)

— On the endomorphism conjecture for posets with 0. *Order* **14** (1997/98), *no.* 3, 191–192. 06A07

— The permutation classes equinumerous to the smooth class. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 31, 12 *pp.* (*electronic*). (Paul Klingsberg) **99e:05003** 05A05 (05E10)

— The solution of a conjecture of Stanley and Wilf for all layered patterns. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 96–104. (Summary) **99i:05005** 05A05

Bonafede, S. Strongly nonlinear degenerate elliptic equations with discontinuous coefficients. II. (English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 12, 1601–1609; *reprinted in Ukrainian Math. J.* **49** (1997), *no.* 12, 1798–1809 (1998). (Summary) **99m:35085** 35J70 (35J60, 35R05)

— (*with* Cirmi, G. R.; Tedeev, A. F.) Finite speed of propagation for the porous media equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1381–1398 (*electronic*). (Vladimir Grebenev) **99g:35068** 35K60 (35B05, 76S05)

garibay Bonales, Fernando *see* **Garibay Bonales, Fernando**

Bonami, Aline (*with* Bruna, Joaquim; Grellier, Sandrine) On Hardy, BMO and Lipschitz spaces of invariantly harmonic functions in the unit ball. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 665–696. (Steven George Krantz) **99g:31008** 31B05 (31B20, 32A37, 46E15)

Bonan, Edmond Isomorphismes sur une variété presque hermitienne quaternionique. (English summary) [Isomorphisms on an almost quaternionic Hermitian manifold] *Quaternionic structures in mathematics and physics (Trieste*, 1994), 1–6 (*electronic*), *Int. Sch. Adv. Stud. (SISSA), Trieste*, 1998. (Paolo Piccinni) **99h:53035** 53C15

Bonanno, Gabriele (*with* Marano, Salvatore A.) Positive solutions of elliptic equations with discontinuous nonlinearities. (English summary) *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 263–273 (1997). (C. A. Swanson) **99a:35080** 35J65 (35B05, 35J70)

— Global optimization of connected functionals. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 19–25. (Armin Hoffmann) **99h:90079** 90C26 (26B25, 90C48)

— On a class of functionals whose local minima are global. (English summary) *J. Global Optim.* **12** (1998), *no.* 1, 101–104. (Giovanni Bellettini) **99b:49005** 49J27 (28A20, 49K27)

Bonanno, Giacomo (*with* Nehring, Klaus) On R. Stalnaker's notion of strong rationalizability and Nash equilibrium in perfect information games: "On the evaluation of solution concepts" [Theory and Decision **37** (1994), no. 1, 49–73; MR 95b:90190]. (English summary) *Theory and Decision* **45** (1998), *no.* 3, 291–295. 90D35 (90A05)

— *see also* **Logic & foundation of the theory of games and decisions, 99m:03039** *and* **Stalnaker, Robert**

Bonanos, S. A new spinor identity and the vanishing of certain Riemann tensor invariants. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 653–658. (J. B. Griffiths) **99b:53021** 53B20 (53B50, 83C60)

Bonanzinga, Maddalena (*with* Cammaroto, Filippo[1]) On cleavability over $T_{i,p}$ spaces. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 479–492. (Summary) **99b:54004** 54A20 (54C05, 54E18)

— Some results concerning the covering property and its cleavability. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 19–22. 54D20

— Star-Lindelöf and absolutely star-Lindelöf spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 79–104. (Summary) **99e:54015** 54D15 (54D20, 54D30)

Bonato, Anthony (*with* Delić, Dejan) The model companion of width-two orders. (English summary) *Order* **14** (1997/98), *no.* 2, 87–99. (S. R. Kogalovskiĭ) **99g:06001** 06A06 (03C52)

— Continuum many universal Horn classes of graphs of bounded chromatic number. *Algebra Universalis* **40** (1998), *no.* 1, 105–108. (A. Pultr) **99m:05056** 05C15

Bonatti, Ch. (*with* Langevin, R.) Difféomorphismes de Smale des surfaces. (English and French summaries) [Smale diffeomorphisms of surfaces] With the collaboration of E. Jeandenans. *Astérisque No.* 250 (1998), *viii*+235 *pp.* (Athanase Papadopoulos) **99m:58123** 58F09 (58F10, 58F15)

— (*with* Díaz, Lorenzo J.; Vuillemin, F.) Cubic tangencies and hyperbolic diffeomorphisms. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 99–144. (Michael Hurley) **99c:58121** 58F15

Bonatti, Ivanil S. (*with* Peres, Pedro L. D.; Lopes, Amauri) Transmission line modeling: a circuit theory approach. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 347–352 (*electronic*). (Summary) **99c:94005** 94A05 (94C05)

Bonatti, Piero A. (*with* Eiter, Thomas) Querying disjunctive databases through nonmonotonic logics. (English summary) *Database theory—ICDT '95 (Prague)*, 68–81, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68067** 68P15 (68T27)

— Resolution for skeptical stable semantics. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 185–197, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

Bonaventura, L. (*with* Casulli, Vincenzo) Semi-implicit methods for free surface environmental flows. (English summary) *Numerical methods for wave propagation (Manchester, 1995)*, 125–144, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76088** 76M20 (65M06, 86–08)

Bonckaert, P. Conjugacy of vector fields respecting additional properties. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 3, 419–432. (Marco Antonio Teixeira) **99b:58214** 58F36 (34C35)

Bondar, D. Some considerations on iterative solving of direct interception of targets. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **60** (1998), *no.* 1-2, 273–281. 49N55 (90D26)

Bondar', S. V. (*with* Kirichenko, N. F.) Recurrence of pseudo-inversion in the adaptation of control algorithms. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 72–78, 155. 93E12

— Pseudo-inversion of matrices in the problem of identification and construction of adaptive controllers. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 49–58, 155. 93B30 (93B40)

Bondarenko, A. N. The structure of the fundamental solution of the time-independent transport equation. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 430–451. (Mourad Choulli) **99d:82060** 82C70 (35Q99)

Bondarenko, B. A. (*with* Karachik, V. V.; Tulyaganov, R. B.) Distribution of Eulerian and Stirling numbers mod p in arithmetical triangles. (Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 102 (1996), 133–140, 146. (Charles Laywine) **99c:05006** 05A10 (11B68, 11B73)

Bondarenko, L. N. (*with* Zhuk, P. F.) Sharp estimates for the rate of convergence of s-step iterative methods of variational type in a Hilbert space. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 11, 1301–1310; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 11, 1259–1268. (A. V. Dzhishkariani) **99g:65064** 65J10 (47A50)

Bondarenko, N. V. (*with* Shul'ga, N. F.) The Gauss theorem in potential scattering theory and semi-classical corrections to the eikonal scattering amplitude. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 114–118. (Summary) **99b:81257** 81U05 (81Q20)

Bondarenko, V. G. Construction of a solution of a parabolic equation with variable coefficients. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 136–139, 154. 35Q80 (35K99)

Bondarenko, V. M. On the classification of linear operator up to S-similarity. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 16–20. (V. V. Sergeĭchuk) **99m:16026** 16G60 (16G20)

Bondarčv, B. V. On large deviations in averaged elliptic systems in periodic random environments. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 10–15; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 11–16. (Vadim R. Fatalov) **99g:60055** 60F10 (60H10)

— The S. N. Bernstein inequality for estimating the parameter of the first-order autoregression. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 13–19; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 13–18 (1998). (A. Ya. Dorogovtsev) **99g:60037** 60E15 (62M05)

— Evaluation of calculated influences in parabolic systems. L_1-approach. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 357–369. (Krystyna Twardowska) **99a:35282** 35R60 (35K55, 60H15, 93B07)

— (*with* Zhirnyĭ, G. G.) The functional law of the iterated logarithm for fields and its applications. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 883–894; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 989–1002 (1998). (F. Móricz) **99b:60048** 60F17 (60F15)

Bondarevskiĭ, V. G. On the properties of some sets of data generating globally regular solutions to the 3-dimensional Navier-Stokes equations. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 277–281, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35Q30 (76D05)

Bondarko, M. (*with* Bekker, Boris; Vostokov, S. V.) Shafarevich bases in topological K-groups. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 63–80. (Ivan Fesenko) **99e:11145** 11S20 (11S31, 11S70, 19F99)

Bondesson, Lennart On hyperbolically monotone densities. (English summary) *Advances in the theory and practice of statistics*, 299–313, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (F. W. Steutel) **99c:60020** 60E05 (26A48, 60E10)

— A generalization of Poincaré's characterization of exponential families. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 147–155. (Gérard Letac) **99c:62030** 62E10

gracia-Bondía, J. M. *see* **Gracia-Bondía, J. M.**

Bondioli, Cristiana A characterization of some classes of functions spaces by the motions of $\mathbf{R}^n$. (Italian summary) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **130** (1996), 37–58. (Maciej Sablik) **99e:46038** 46E35 (26B30)

— (*with* Bernardi, Marco P.) Function spaces $W^{\lambda,p}$, BV, $N^{\lambda,p}$ characterized by the motions of $\mathbf{R}^n$. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 245–278. (H. Triebel) **99d:46044** 46E35

Bondon, Pascal Interpolation of complex stationary processes. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2259–2262. (Summary) **99i:94006** 94A12

Bondy, J.-A. Paul Erdős et la combinatoire. [Paul Erdős and combinatorics] *Gaz. Math. No.* 71 (1997), 25–30. 01A70 (05–03)

— (*with* Tuza, Zsolt) A weighted generalization of Turán's theorem. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 267–275. (Summary) **99c:05097** 05C35

— (*with* Jackson, Bill) Vertices of small degree in uniquely Hamiltonian graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 265–275. (R. C. Entringer) **99k:05103** 05C45

Bonechi, F. (*with* Giachetti, Riccardo; Sorace, E.; Tarlini, M.) Homogeneous spaces and special functions from the 2-dim Euclidean quantum groups. *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 13–25, *PWN, Warsaw*, 1997. (From the introduction) **99i:33026** 33D80 (17B37)

— (*with* Giachetti, Riccardo; Sorace, E.; Tarlini, M.) The quantum Galilei group and its representations. *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 65–78, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99f:81092** 81R50 (17B81)

— (*with* Giachetti, Riccardo; Sorace, E.; Tarlini, M.) Induced representations of the one-dimensional quantum Galilei group. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 309–318. (Vladimir S. Mazorchuk) **99c:17023** 17B37 (17B10, 81R50)

Boneh, Arnon (*with* Bélisle, Claude; Caron, Richard J.) Convergence properties of hit-and-run samplers. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 767–800. (Jean Diebolt) **99h:60133** 60J05 (60J20, 65C05, 90C15)

Boneh, Dan (*with* Shaw, James) Collusion-secure fingerprinting for digital data. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1897–1905. 94A60

— (*with* Baum, Eric B.) Running dynamic programming algorithms on a DNA computer. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 77–85, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68054** 68Q05 (68Q20)

— (*with* Dunworth, Christopher; Lipton, Richard J.; Sgall, Jiří) Making DNA computers error resistant. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 163–170, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05

— Twenty years of attacks on the RSA cryptosystem. *Notices Amer. Math. Soc.* **46** (1999), *no.* 2, 203–213. 94A60 (11T71)

Boneh, Shahar (*with* Papanicolaou, Vassilis G.; Kokolakis, George E.) Asymptotics for the random coupon collector problem. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 95–105. 90C05

Bonelli, Antonio (*with* Ruffo, Stefano) Modular transformations, order-chaos transitions and pseudo-random number generation. (English summary) *Internat. J. Modern Phys. C* **9** (1998), *no.* 7, 987–997. (Geon Ho Choe) **99k:65013** 65C10

Bonelli, Giulio (*with* Bonora, Loriano; Nesti, Fabrizio) Matrix string theory, 2D SYM instantons and affine Toda systems. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 303–311. (Summary) **99i:81173** 81T30 (81T60)

— (*with* Matone, Marco) RG flow irreversibility, C theorem, and the topological nature of 4D $N = 2$ super-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045006, 4 *pp.* (Summary) **99m:81152** 81T17 (81T17, 81T60)

— (*with* Bonora, Loriano; Nesti, Fabrizio) String interactions from Matrix string theory. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 100–116. (Summary) **99i:81174** 81T30

Bonet, Blai (*with* Geffner, Hector) Arguing for decisions: a qualitative model of decision making. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 98–105, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 90C05 (68T99)

Bonet, Carles (*with* Sauzin, David; Seara, Tere; València, Marta) Adiabatic invariant of the harmonic oscillator, complex matching and resurgence. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1335–1360 (*electronic*). (Jian Gong You) **99h:34058** 34C15 (34A20, 34E05, 70H05, 70K99)

Bonet, José (*with* Dierolf, Susanne) Inductive duals of distinguished Fréchet spaces. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **90** (1996), *no.* 3, 175–177. (Paweł Domański) **99h:46002** 46A20 (46A04, 46A13)

— (*with* Galbis, A.; Meise, Reinhold) On the range of convolution operators on non-quasianalytic ultradifferentiable functions. (English summary) *Studia Math.* **126** (1997), *no.* 2, 171–198. (Michael Langenbruch) **99a:46071** 46F10 (35R50, 46E10)

— (*with* Peris, Alfredo) Hypercyclic operators on non-normable Fréchet spaces. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 587–595. (Paul Bourdon) **99k:47044** 47A99 (46A04, 47B99)

— (*with* Domański, Paweł) Real analytic curves in Fréchet spaces and their duals. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 13–36. (Richard M. Aron) **99i:46032** 46G20 (46A13, 46E50)

— (*with* Bierstedt, Klaus D.; Taskinen, Jari) Associated weights and spaces of holomorphic functions. (English summary) *Studia Math.* **127** (1998), *no.* 2, 137–168. (Raymond Mortini) **99a:46037** 46E10 (32A37)

Bonet, Maria (*with* Phillips, Cynthia A.; Warnow, Tandy; Yooseph, Shibu) Inferring evolutionary trees from polymorphic characters, and an analysis of the Indo-European family of languages. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 43–55, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:92021** 92D15 (92B10)

Bonetto, Federico (*with* Gallavotti, Giovanni M.) Reversibility, coarse graining and the chaoticity principle. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 263–275. (Yves Elskens) **99b:58140** 58F11 (58F12, 82C03, 82C05)

— (*with* Gallavotti, Giovanni M.; Gentile, Guido; Mastropietro, Vieri) Lindstedt series, ultraviolet divergences and Moser's theorem. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 545–593. (Luigi Chierchia) **99i:58132** 58F27 (34C30, 70H05)

— (*with* Chernov, Nikolai I.; Lebowitz, Joel L.) (Global and local) fluctuations of phase space contraction in deterministic stationary nonequilibrium. (English summary) *Chaos* **8** (1998), *no.* 4, 823–833. (Summary) **99k:82047** 82C05 (58F40)

— (*with* Gallavotti, Giovanni M.; Gentile, Guido; Mastropietro, Vieri) Quasi-linear flows on tori: regularity of their linearization. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 707–736. (O. Christov) **99e:58148** 58F27 (34C27, 58F30, 70H05)

Bonevac, Daniel Against conditional obligation. *Noûs* **32** (1998), *no.* 1, 37–53. (Katalin Bimbó) **99m:03032** 03B45 (03A05, 03B60, 03B65)

Bonfanti, Giovanna A vanishing viscosity approach to a two degree-of-freedom contact problem in linear elasticity with friction. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 127–154 (1998). (Manuel D. P. Monteiro Marques) **99d:73082** 73T05 (34A60, 70F99)

— (*with* Bernardi, Marco Luigi; Luterotti, Fabio) Abstract Schroedinger-type differential equations with variable domain. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 84–105. (Piermarco Cannarsa) **99c:34124** 34G10 (35Q40, 47N20, 47N50)
— (*with* Luterotti, Fabio) Regularity and convergence results for a phase-field model with memory. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1085–1105. (Igor Bock) **99h:35212** 35Q99 (35K55, 73B30)
— (*with* Colli, Pierluigi; Grasselli, Maurizio; Luterotti, Fabio) Nonsmooth kernels in a phase relaxation problem with memory. *Nonlinear Anal.* **32** (1998), *no.* 4, 455–465. (Igor Bock) **99c:35128** 35K85 (35Q72, 45K05, 73B30, 80A22)
Bonfert, Petra On the Brjuno condition. II. *Progress in holomorphic dynamics*, 17–26, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Pei-Chu Hu) **99j:58173** 58F23
nguyen-huu-Bong *see* **Nguyen-Huu-Bong**
Bong, Nguyen-Huu *see* **Nguyen-Huu-Bong**
Bongartz, Klaus Some geometric aspects of representation theory. *Algebras and modules, I (Trondheim, 1996)*, 1–27, *CMS Conf. Proc.*, 23, *Amer. Math. Soc., Providence, RI*, 1998. (Christof Geiß) **99j:16005** 16G20 (14D25, 14L30, 16G70)
Bongiorno, Benedetto A new integral for the problem of primitives. (Italian. English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 299–313 (1997). (U. D'Ambrosio) **99b:26010** 26A39 (26A36)
— (*with* Di Piazza, L.; Preiss, David) Infinite variation and derivatives in $\mathbf{R}^m$. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 22–33. (M. Laczkovich) **99j:28003** 28A15 (28A75, 49Q15)
Bongiorno, Donatella Stepanoff's theorem in separable Banach spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 323–335. (Javier Gómez Gil) **99k:46070** 46G05
Bongiorno, J. J., Jr. (*with* Khorrami, Farshad; Lin, T. C.) A Wiener-Hopf approach to trade-offs between stability margin and performance in two- and three-degree-of-freedom multivariable control systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1337–1366. 93D09
Boni, Théodore K. Sur l'explosion et le comportement asymptotique de la solution d'une équation parabolique semi-linéaire du second ordre. (English and French summaries) [Blowup and asymptotic behavior of the solution of a second-order semilinear parabolic equation] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 317–322. (Summary) **99g:35069** 35K60 (35B40)
— Sur le comportement asymptotique des solutions pour certaines équations paraboliques et elliptiques semi-linéaires du second ordre. (English and French summaries) [On the asymptotic behavior of solutions for some semilinear parabolic and elliptic equations of second order] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 455–460. (Summary) **99g:35020** 35B40 (35J60, 35K55)
Bonikowski, Zbigniew (*with* Bryniarski, Edward; Wybraniec-Skardowska, Urszula) Extensions and intentions in the rough set theory. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 149–167. (Janusz J. Szuster) **99f:04003** 04A72
Bonilla, A. (*with* Pérez-González, Fernando[2]; Stray, A.; Trujillo-González, R.) Approximation in weighted Hardy spaces. (English summary) *J. Anal. Math.* **73** (1997), 65–89. (Yuan Ren Lou) **99b:30058** 30E10 (30D55)
Bonilla, B. (*with* Trujillo, Juan J.; Rivero, Margarita) On fractional order continuity, integrability and derivability of real functions. (English summary) *Transform methods & special functions, Varna '96*, 48–55, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26005** 26A33
— (*with* Hayek Calil, Nácere; Trujillo, Juan J.; Rivero, Margarita; Moreno Piquero, Juan Carlos) On existence of solutions of ordinary differential equations of fractional order. (English summary) *Transform methods & special functions, Varna '96*, 150–158, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26006** 26A33 (34A12)
— (*with* Trujillo, Juan J.; Rivero, Margarita) On a new generalized Taylor's formula. (English summary) *Transform methods & special functions, Varna '96*, 508–516, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26010** 26A33
Bonilla, Luis L. (*with* Kindelan, Manuel; Moscoso, Miguel; Venakides, Stephanos) Periodic generation and propagation of traveling fronts in DC voltage biased semiconductor superlattices. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1588–1614. (J. W. Jerome) **99a:35217** 35Q40 (35B25, 35G25, 82D99)
— (*with* Pérez Vicente, Conrado J.; Spigler, Renato) Time-periodic phases in populations of nonlinearly coupled oscillators with bimodal frequency distributions. (English summary) *Phys. D* **113** (1998), *no.* 1, 79–97. (Peter Ashwin) **99a:34107** 34C15 (34C23, 58F22, 70K99, 82C31)
Bonilla, M. *see* **Bonilla Estrada, Moisés**
Bonilla, Miguel Á. G. Symmetric hyperbolic systems for Bianchi equations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 2001–2005. (János Kánnár) **99g:83010** 83C05 (35A30, 35L45)
Bonilla Estrada, Moisés (*with* Malabre, Michel; Fonseca, M.) On the approximation of non-proper control laws. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 775–796. 93D15
— (*with* Malabre, Michel) Necessary and sufficient conditions for disturbance decoupling with stability using PID control laws. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1311–1315. 93D15 (93C41)
Bonilla Rius, Elisa Cambridge University, Newton's university. (Spanish) *Miscelánea Mat. No.* 20 (1994), 15–27. (Luigi Pepe) **99k:01081** 01A73
Bonin, Joseph E. (*with* Kung, Joseph P. S.) The number of points in a combinatorial geometry with no 8-point-line minors. (English summary) *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 271–284, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Laura M. Anderson) **99g:51002** 51D20 (05B25, 05B35, 52B40)
— On basis-exchange properties for matroids. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 265–268. (Summary) **99a:05023** 05B35
Bonini, M. (*with* Vian, Federica) Wilson renormalization group for supersymmetric gauge theories and gauge anomalies. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 473–497. (Summary) **99g:81138** 81T17 (81T50, 81T60)
de Bonis, Annalisa *see* **De Bonis, Annalisa**
Bonivento, C. (*with* Sandri, M.; Zanasi, Roberto[2]) Discrete variable-structure integral controllers. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 355–361. (Summary) **99a:93039** 93B51 (93B12, 93C55)
Bonk, Mario (*with* Koskela, Pekka; Rohde, Steffen) Conformal metrics on the unit ball in Euclidean space. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 635–664. (Juha Heinonen) **99f:30033** 30C65
— (*with* Balogh, Zoltan M.) Lengths of radii under conformal maps of the unit disc. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 801–804. (M. Ohtsuka) **99f:30041** 30C85
Bonk, Sigmund George Berkeleys Theorie der Zeit: "a total disaster"? (English summary) [George Berkeley's theory of time: "a total disaster"?] *Studia Leibnitiana* **29** (1997), *no.* 2, 198–210. 01A50
Bonn, Jeffrey T. (*with* Beintema, Mark B.; Fitzgerald, Robert W.; Yucas, Joseph L.) Orderings of finite fields and balanced tournaments. *Ars Combin.* **49** (1998), 41–48. (N. Ito) **99d:05037** 05C20 (05B15, 11T99)
Bonnafé, C. Formule de Mackey pour q grand. [Mackey formula for large q] *J. Algebra* **201** (1998), *no.* 1, 207–232. (Bhama Srinivasan) **99d:20071** 20G05 (20G40)
Bonnans, J. Frédéric (*with* Gilbert, Jean Charles; Lemaréchal, Claude; Sagastizábal, Claudia) ★ Optimisation numérique. (French. French summary) [Numerical optimization] Aspects théoriques et pratiques. [Theoretical and applied aspects] Mathématiques & Applications [Mathematics & Applications], 27. *Springer-Verlag, Berlin*, 1997. *xii+324 pp. ISBN* 3-540-63183-6 (Marlies Borchardt) **99f:90001** 90-01 (49M37, 65-01, 65K05, 90C30)
— Second-order analysis for control constrained optimal control problems of semilinear elliptic systems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 303–325. (Fredi Tröltzsch) **99g:49027** 49K40 (35J45, 35J60, 49K20)
— (*with* Cominetti, Roberto; Shapiro, Alexander) Sensitivity analysis of optimization problems under second order regular constraints. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 806–831. (Adam B. Levy) **99g:90139** 90C31
— Mathematical study of very high voltage power networks. II. The AC power flow problem. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1547–1567 (*electronic*). (Summary) **99g:94025** 94C05 (78A55, 90B12, 90C90)
— (*with* Shapiro, Alexander) Optimization problems with perturbations: a guided tour. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 228–264 (*electronic*). (D. Klatte) **99i:90095** 90C31 (49K40, 90-02)
Bonnard, B. (*with* Pelletier, Michèle) Time minimal synthesis for planar systems in the neighborhood of a terminal manifold of codimension one. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 22 *pp.* (*electronic*). (Summary) **99e:49050** 49N35 (93B50)
— (*with* Chyba, M.) Sub-Riemannian geometry: the Martinet case. (English summary) *Geometric control and non-holonomic mechanics (Mexico City, 1996)*, 79–100, *CMS Conf. Proc.*, 25, *Amer. Math. Soc., Providence, RI*, 1998. (Fernand Pelletier) **99k:53085** 53C22 (93B29, 93C10)
— Singular trajectories, feedback equivalence and the time optimal control problem. (English summary) *Geometry of feedback and optimal control*, 79–110, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 49J15 (93B29)
— (*with* Launay, G.) Time minimal control of batch reactors. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 407–467 (*electronic*). (Andrei V. Sarychev) **99j:49077** 49N55 (49K15, 49N35, 80A32, 93B29)
— (*with* Chyba, M.; Trelat, E.) Sub-Riemannian geometry, one-parameter deformation of the Martinet flat case. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 59–76. (Anders Linnér) **99f:58056** 58E25 (93B29)
Bonnaz, D. (*with* Koch, A. J.) Stochastic model of evolving populations. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 417–429. (Summary) **99h:92022** 92D25
Bonneau, Guy Einstein-Weyl structures and Bianchi metrics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2415–2425. (Maciej Przanowski) **99k:53089** 53C25 (53C80)
Bonner, Anthony J. (*with* Mecca, Giansalvatore) Querying sequence databases with transducers. (English summary) *Database programming languages (Estes Park, CO, 1997)*, 118–135, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15 (68Q15)
— (*with* Mecca, Giansalvatore) Sequences, datalog, and transducers. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 234–259. (Summary) **99j:68024** 68P15
Bonner, Richard F. Randomisation of positive linear learning algorithms in Banach function lattices. (English summary) *Randomized algorithms (Brno, 1998)*, 7 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68T05 (47B60, 68Q99)
Bonnet, Alexis (*with* Kamin, Shoshana) A stationary flow in a strip. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 765–780. (Alberto Valli) **99m:35271** 35R35 (35Q35, 76S05, 86A05)
Bonnet, C. (*with* Partington, Jonathan R.) Robust stabilization in the BIBO gap topology. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 5, 429–447. (Summary) **99c:93095** 93D21
Bonnet, Frédéric (*with* Poupaud, Frédéric) Berenger absorbing boundary condition with time finite-volume scheme for triangular meshes. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 333–354. (Summary) **99j:65161** 65M60
Bonnet, Marc Stability of moving fronts under Griffith criterion: a computational approach using integral equations and domain derivatives. *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 269–276, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73M25 (73V20)
valderrama Bonnet, Mariano J. *see* **Valderrama Bonnet, Mariano J.**
Bonnet-Ben Dhia, Anne-Sophie Mathematical analysis of conductive and superconductive transmission lines. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 12–21, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A40 (35Q60)
Bonnetier, Eric (*with* Conca, Carlos) Optimality conditions for a relaxed layout optimization problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 1005–1010. (Summary) **99i:49041** 49N55 (90C90)
Bonneuil, Noël (*with* Müllers, Katharina) Viable populations in a prey-predator system. (English summary) *J. Math. Biol.* **35** (1997), *no.* 3, 261–293. (C. P. Ortlieb) **99e:92024**

92D25 (49J24)
— (*with* Saint-Pierre, Patrick) Domaine de victoire et stratégies viables chez les pêcheurs décrits par l'anthropologue Fredrik Barth. (English and French summaries) [Viable strategies among fishermen analyzed by the anthropologist Fredrik Barth] *Math. Inform. Sci. Humaines No.* 142 (1998), 43–66. (Summary) **99h:49002** 49J15 (90A16, 93B03)
Bonney, Matthew (*with* Coaplen, Joshua; Doeff, Erik) What makes a good friend? The mathematics of rock climbing. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 674–679 (*electronic*). 34A30
Bonnington, C. Paul (*with* Archdeacon, Dan; Pearson, John Frederick; Širáň, Jozef) The Hadwiger number for the product of two cycles. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 113–120, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05071** 05C35
— (*with* Archdeacon, Dan; Širáň, Jozef) A Nebeský-type characterization for relative maximum genus. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 1, 77–98. (Arthur T. White) **99f:05028** 05C10
Bonnisseau, Jean-Marc Existence of equilibria in economies with externalities and nonconvexities. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 3, 209–226. (Anjan Mukherji) **99c:90027** 90A14 (49J40)
Bonnor, W. B. A model of a spheroidal body. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 351–356. (János Kánnár) **99a:83044** 83C57
— (*with* Santos, N. O.; MacCallum, Malcolm A. H.) An exterior for the Gödel spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 357–366. (Patrick Dolan) **99d:83010** 83C15
— (*with* Piper, M. S.) Suppression of gravitational radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 955–963. (Jorge A. Pullin) **99m:83054** 83C35
Bono, Aaron (*with* Bakonyi, Mihály) Several results on chordal bipartite graphs. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 577–583. (Daniel Ashlock) **99a:05117** 05C75 (05C50, 15A06)
di Bono, Mario *see* **Di Bono, Mario**
Bonora, Loriano (*with* Chu, Chong-Sun; Rinaldi, Maurizio) Perturbative anomalies of the M-5-brane. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 7, 12 *pp.* (*electronic*). (Daniel N. Kabat) **99i:81216** 81T50 (81T30)
— (*with* Krivonos, S.) Hamiltonian structure and coset construction of the supersymmetric extensions of $N = 2$ KdV hierarchy. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 39, 3037–3049. (Manuel Mañas) **99b:58107** 58F07
— (*with* Sorin, A. S.) The Hamiltonian structure of the $N = 2$ supersymmetric GNLS hierarchy. (English summary) *Phys. Lett. B* **407** (1997), *no.* 2, 131–142. (Chris Athorne) **99a:58084** 58F07
— (*with* Krivonos, S.; Sorin, A. S.) The $N = 2$ supersymmetric matrix GNLS hierarchies. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 63–79. (Nikolai A. Kostov) **99j:58088** 58F07
— (*with* Bonelli, Giulio; Nesti, Fabrizio) Matrix string theory, 2D SYM instantons and affine Toda systems. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 303–311. (Summary) **99i:81173** 81T30 (81T60)
— (*with* Bonelli, Giulio; Nesti, Fabrizio) String interactions from Matrix string theory. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 100–116. (Summary) **99i:81174** 81T30
Bonsack, F. Atoms: lessons of a history. (English summary) *Realism and quantum physics*, 131–147, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P15
Bonsangue, Marcello M. (*with* Kok, Joost N.) Specifying computations using hyper-transition systems. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 169–178, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (68Q55, 68Q68)
Bonsiepen, Wolfgang ★ Die Begründung einer Naturphilosophie bei Kant, Schelling, Fries und Hegel. (German. German summary) [The foundation of a natural philosophy in the work of Kant, Schelling, Fries and Hegel] Mathematische versus spekulative Naturphilosophie. [Mathematical versus speculative natural philosophy] Philosophische Abhandlungen [Philosophical Essays], 70. *Vittorio Klostermann, Frankfurt am Main*, 1997. 651 *pp. ISBN* 3-465-02889-9 (Helmut Pulte) **99e:00008** 00A35 (01A55, 01A99)
laurent-Bonvalot, Françoise *see* **Laurent-Bonvalot, Françoise**
Bony, Jean-Michel Fourier integral operators and Weyl-Hörmander calculus. *New trends in microlocal analysis* (*Tokyo*, 1995), 3–21, *Springer, Tokyo*, 1997. (Luigi Rodino) **99i:58146** 58G15 (35S30, 47G30)
— *see also* **New trends in microlocal analysis, 99d:00024**
Bonzini, Celestina (*with* Cherubini, Alessandra) Permutable completely regular semigroups. (English summary) *Semigroups* (*Luino*, 1992), 36–41, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M17
— *see also* **Semigroups, 99f:20003**
Boo, Deok-Hoon (*with* Oh, Sei-Qwon; Park, Chun-Gil) The spherical non-commutative tori. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 331–340. (Summary) **99c:46081** 46L87 (46L05, 46L80, 55R15)
Book, Ronald V. *see* **McNaughton, Robert, 99m:68103** *and* **In memoriam of Ronald V. Book**
Booker, Andrew J. (*with* Dennis, J. E., Jr.; Frank, Paul D.; Serafini, David B.; Torczon, Virginia) Optimization using surrogate objectives on a helicopter test example. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 49–58, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 90C90 (93C95)
Bookstein, Fred L. ★ Morphometric tools for landmark data. Geometry and biology. Reprint of the 1991 original. *Cambridge University Press, Cambridge*, 1997. xviii+435 *pp. ISBN* 0-521-38385-4; 0-521-58598-8 (Patrizio Frosini) **99d:92003** 92B05 (62P10, 92B15, 92C15)
Boole, George *see* **Vassallo, Nicla, 99c:01017**
de Boor, Carl The error in polynomial tensor-product, and Chung-Yao interpolation. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 35–50, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Kairat T. Mynbaev) **99j:41053** 41A63 (41A10)
— (*with* DeVore, Ronald A.; Ron, Amos) Approximation orders of FSI spaces in $L_2(\mathbf{R}^d)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 411–427. 41A25 (42B99)
— (*with* DeVore, Ronald A.; Ron, Amos) Approximation orders of FSI spaces in $L_2(\mathbf{R}^d)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 631–652. (Rong Qing Jia) **99j:41029** 41A25 (41A63, 42C15, 46E30)
Boos, Dennis D. (*with* Hughes-Oliver, Jacqueline M.) Applications of Basu's theorem. (English summary) *Amer. Statist.* **52** (1998), *no.* 3, 218–221. (Summary) **99e:62006** 62B05
Boos, H. E. (*with* Stroganov, Yu. G.) Kashiwara-Miwa model and elliptic IRF hierarchies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 353–369. (Robert A. Weston) **99f:82018** 82B23 (82B20)
Boos, J. (*with* Leiger, T.; Zeller, Karl) Consistency theory for SM-methods. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 109–142. (Heinz Junek (Zbl 902.40003)) **99i:40006** 40C05 (46A45)
— (*with* Leiger, T.) "Restricted" closed graph theorems. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 503–518. (P. Pérez Carreras) **99a:46007** 46A30
Boos, Waldemar (*with* Thess, A.) Cascade of structures in long-wavelength Marangoni instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1484–1494. 76E15
Booss, Bernhelm (*with* Wojciechowski, K. P.; Scott, S. G.; Morchio, Gianni) Determinants, manifolds with boundary and Dirac operators. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 423–432, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Friedbert Prüfer) **99j:58222** 58G26 (58G20)
— (*with* Scott, S. G.; Wojciechowski, K. P.) The ζ-determinant and $\mathscr{E}$-determinant on the Grassmannian in dimension one. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 4, 353–362. (Jürgen Tolksdorf) **99i:58152** 58G26
— (*with* Furutani, Kenro) The Maslov index: a functional analytical definition and the spectral flow formula. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 1–34. (Liviu I. Nicolaescu) **99e:58172** 58G10 (47B25, 58G20)
Booth, Heather D. (*with* Govindan, Rajeev; Langston, Michael A.; Ramachandramurthi, Siddharthan) Fast algorithms for K_4 immersion testing. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 344–378. (Hans L. Bodlaender) **99m:68147** 68R10 (05C10, 05C85, 68Q25)
Booth, I. S. (*with* Mann, Robert B.) Complex instantons and charged rotating black hole pair creation. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 23, 5052–5055. (Summary) **99g:83050** 83C57
Booth, Peter I. Fibrations and classifying spaces: an axiomatic approach. I. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 2, 83–116. (Frank Neumann) **99h:55022** 55R05 (55R15, 55R35, 55R65)
— Fibrations and classifying spaces: an axiomatic approach. II. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 3, 181–203. (Frank Neumann) **99h:55023** 55R05 (55R15, 55R35, 55R65)
Booth, R. (*with* Paris, Jeffrey B.) A note on the rational closure of knowledge bases with both positive and negative knowledge. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 2, 165–190. (David Makinson) **99b:68181** 68T30 (03B60, 03B70, 68T27)
Boozer, Allen H. What is a stellarator? (English summary) 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Pittsburgh, PA, 1997). *Phys. Plasmas* **5** (1998), *no.* 5, *part* 2, 1647–1655. (Summary) **99d:76104** 76X05
— Perturbed plasma equilibria. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 831–836. (Summary) **99k:76150** 76W05 (76M25)
Boppana, Ravi B. (*with* Spencer, Joel H.) Smoothness laws for random ordered graphs. *Logic and random structures* (*New Brunswick, NJ*, 1995), 15–32, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 33, *Amer. Math. Soc., Providence, RI*, 1997. (Damian Niwiński) **99k:03031** 03C13 (05C80, 68Q15)
— (*with* Alon, Noga; Spencer, Joel H.) An asymptotic isoperimetric inequality. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 3, 411–436. (Xue Rong Mao) **99i:60003** 60B05 (26D15, 60F10)
Boqian, Shen *see* **Shen, Bo Qian**
Bor, Hüseyin On the generalized Cesàro summability factors. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 497–504. (Summary) **99j:40012** 40G05
— On the local property of factored Fourier series. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 769–773. (J. Németh) **99f:42011** 42A24 (42A28)
— On absolute Cesàro summability factors of infinite series and Fourier series. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 3, 195–203. (Summary) **99i:40008** 40D15 (40F05, 40G05, 42A24)
Bora, A. C. (*with* Singh, Gulab[2]) On robust experimental designs with random effect model. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 47–54. 62K10
Bora, S. N. (*with* Rahman, Matiur; Satish, M. G.) A note on second-order wave forces on a circular cylinder in finite water depth. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 63–70. 76B15
Borah, Manjit (*with* Owens, Robert Michael; Irwin, Mary Jane) A fast and simple Steiner routing heuristic. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 51–67. (Summary) **99k:68129** 68R10 (05C85, 68Q35)
el-Borai, Mahmoud M. *see* **El-Borai, Mahmoud M.**
Borasoy, Buğra (*with* Lee, Dean) Spherical gauge fields. (English summary) *Phys. Lett. B* **447** (1999), *no.* 1-2, 98–109. (Summary) **99k:81157** 81S99 (81T99)
Boratav, Oluş N. (*with* Pelz, Richard B.) Coupling between anomalous velocity and passive scalar increments in turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2122–2124. 76F05
— (*with* Elghobashi, S. E.; Zhong, R.) On the alignment of strain, vorticity and scalar gradient in turbulent, buoyant, nonpremixed flames. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2260–2267. (Summary) **99e:80004** 80A25 (76F99)
Boratyńska, Agata (*with* Zieliński, Ryszard) Asymptotic behavior of sample median in a parametric model. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 11–14. (Kenneth Kaminsky) **99e:62085** 62G20
Borbat, V. N. (*with* Bernik, V. I.) Joint approximation of zero by values of integer-valued polynomials. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 58–73. (Eugene M. Matveev) **99h:11077** 11J83
— (*with* Bernik, V. I.) Polynomials with overfalls of the values of coefficients, and A. Baker's conjecture. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 5–8, 138. (Eugene M. Matveev) **99f:11089** 11J83

Borbély, Albert Sharp gradient estimates for eigenfunctions on Riemannian manifolds. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 253–259. (Gilles Carron) **99d:58171** 58G25 (53C21)
— The nonsolvability of the Dirichlet problem on negatively curved manifolds. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 217–237. (Zhongmin Shen) **99j:53043** 53C21
Borbély, Tamas (*with* Molnár, Pal R.; Fajszi, Bulcsu) On the pressure of electromagnetic radiation. (English summary) *The enigmatic photon, Vol.* 4, 205–218, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A40
Borcea, Julius Two approaches to Sendov's conjecture. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 46–54. (Timothy S. Norfolk) **99d:30007** 30C15
Borcea, Liliana (*with* Papanicolaou, George C.) Network approximation for transport properties of high contrast materials. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 501–539 (*electronic*). (David J. Bergman) **99f:73003** 73B27 (35Q60, 78A99, 94C05)
Borceux, Francis (*with* Grandjean, Françoise) Descent theory and Morita theory for ultrametric Banach modules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 105–116. (L. Narici) **99e:46058** 46H25 (12J25, 46S10)
— (*with* Quinteiro, C.; Rosický, Jiří) A theory of enriched sketches. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 3, 47–72 (*electronic*). (R. H. Street) **99i:18009** 18C10 (18D20)
— (*with* Pedicchio, Maria Cristina) Left exact presheaves on a small pretopos. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 9–22. (Summary) **99j:18012** 18F20 (18B25, 18C10)
Borcherds, Richard Ewen Vertex algebras. *Topological field theory, primitive forms and related topics (Kyoto*, 1996), 35–77, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Dražen Adamović) **99m:17034** 17B69
— What is Moonshine? Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 607–615 (*electronic*). (Geoffrey Mason) **99j:17001** 17–02 (11F22, 17B67, 17B69, 20D08)
— Modular moonshine. III. *Duke Math. J.* **93** (1998), *no.* 1, 129–154. (Koichiro Harada) **99e:17039** 17B69 (11F22, 20D08)
— Automorphic forms with singularities on Grassmannians. (English summary) *Invent. Math.* **132** (1998), *no.* 3, 491–562. (I. Dolgachev) **99c:11049** 11F37 (11F22, 14J28, 17B67, 57R57)
— (*with* Katzarkov, Ludmil; Pantev, Tony G.; Shepherd-Barron, N. I.) Families of $K3$ surfaces. *J. Algebraic Geom.* **7** (1998), *no.* 1, 183–193. (Mark Gross) **99d:14029** 14J28 (11F55, 14J05)
— (*with* Freitag, E.; Weissauer, R.) A Siegel cusp form of degree 12 and weight 12. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 141–153. (Rainer Schulze-Pillot) **99d:11047** 11F46 (11E45, 11F27)
— *see also* **Lepowsky, James et al.**, **99k:01066**; **Jackson, Allyn**; **Goddard, Peter**; **Rajan, C. S. et al.**; **Quirós, Adolfo**; **Harada, Kōichirō** *and* **Matsuo, Atsushi**
Borchers, Al (*with* Du, Ding Zhu; Gao, Biao; Wan, Peng Jun) The k-Steiner ratio in the rectilinear plane. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 1–17. (Summary) **99h:68128** 68R10 (05C85, 68Q25)
Borchers, Brian (*with* Furman, Judith) A two-phase exact algorithm for MAX-SAT and weighted MAX-SAT problems. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 299–306. 90C27 (90C35)
Borchers, H. J. Half-sided modular inclusions and structure analysis in quantum field theory. *Operator algebras and quantum field theory* (*Rome*, 1996), 589–608, *Internat. Press, Cambridge, MA*, 199?. (Stephen J. Summers) **99b:81135** 81T05 (46L60)
— Half-sided translations and the type of von Neumann algebras. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 283–290. (Summary) **99d:46080** 46L10 (81T05)
Borchers, W. (*with* Forestier, M. Y.; Kräutle, S.; Pasquetti, R.; Peyret, R.; Rautmann, R.; Ross, Nicole; Sabbah, Cyril) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)
ciurea-Borcia, Rodica *see* **Ciurea-Borcia, Rodica**
Bordag, M. (*with* Kirsten, Klaus; Vasilevich, D. V.) Path-integral quantization of electrodynamics in dielectric media. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2381–2389. (Summary) **99a:81197** 81V10 (81S40)
Bordalo, G. Hauser (*with* Da Silva, Ilda P. F.) A characterization of finite modular pseudocomplemented lattices. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 113–122. (Summary) **99b:06010** 06C05 (06D15)
— (*with* Berman, Joel D.) Finite distributive lattices and doubly irreducible elements. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 237–243. (Vlad Boicescu) **99c:06012** 06D05
Bordat, Jean-Paul (*with* Berry, Anne) Separability generalizes Dirac's theorem. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 43–53. (Martin Knor) **99f:05058** 05C35
Bordbar, B. (*with* Pym, John) The weakly almost periodic compactification of a direct sum of finite groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 421–449. (N. Hindman) **99g:22003** 22A15 (54D35, 54H11)
Borde, Pascal Perturbation infinitésimale d'un opérateur compact. [Infinitesimal perturbation of a compact operator] *Séminaire d'Analyse*, 1992–1993 (*Aubière*), Exp. *No.* 6, 28 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 8, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1996. (Manfred Wolff) **99b:47108** 47S20 (03H05, 47A55, 47B07)
— Spectre d'un opérateur S-compact. [Spectrum of an S-compact operator] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 16, 18 *pp.*, *Sémin. Anal. Univ. Blaise Pascal (Clermont II)*, 9, *Univ. Blaise Pascal (Clermont II)*, *Clermont-Ferrand*, 1996. (Manfred Wolff) **99b:47109** 47S20 (03H05, 47A10, 47B07)
— Strongly near-standard functions in Lebesgue's spaces. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 513–523. (Manfred Wolff) **99j:28019** 28E05 (26E35, 46S20, 47S20)
— (*with* Péraire, Yves) Un modèle du calcul de Dirac dans la théorie relative des ensembles. (English and French summaries) [A model of the Dirac calculus in relative set theory] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 543–548. (Władysław Lyantse) **99h:46066** 46F10 (03C65, 03H05)
Bordemann, Martin A nondegenerate trace on the universal enveloping algebra of a metrised Lie algebra. *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 23–43, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (Marie-Paule Malliavin) **99a:17015** 17B35
— Nondegenerate invariant bilinear forms on nonassociative algebras. (English summary) *Acta Math. Univ. Comenian. (N.S.)* **66** (1997), *no.* 2, 151–201. (Yvette Kosmann-Schwarzbach) **99k:17005** 17A60 (15A63, 17A01)
— (*with* Waldmann, Stefan) Formal GNS construction and states in deformation quantization. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 549–583. (Summary) **99h:58072** 58F06 (46L60, 81S10)
— (*with* Hoppe, Jens) Diffeomorphism invariant integrable field theories and hypersurface motions in Riemannian manifolds. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 683–694. (Summary) **99g:58029** 58E15
— (*with* Römer, Hartmann; Waldmann, Stefan) A remark on formal KMS states in deformation quantization. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 49–61. (Summary) **99f:58083** 58F06 (58H15, 82B10)
Borden, Robert S. ★ A course in advanced calculus. (English summary) Corrected reprint of the 1983 original. *Dover Publications, Inc., Mineola, NY*, 1998. *xii+402 pp. ISBN* 0-486-67290-5 26–01 (00–01)
Border, Kim C. (*with* Aliprantis, Charalambos D.; Burkinshaw, Owen) Market economies with many commodities. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 113–185. (Diethard Pallaschke) **99i:90025** 90A14 (46N10)
Bordes, J. (*with* Abdurrahman, A.) Relationship between the comma theory and Witten's string field theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086003, 14 *pp.* (Summary) **99k:81208** 81T30
Bordes, Laurent Unbiased estimation for several exponentials with a common shift and type II censoring. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 461–471. (Lutz Mattner) **99h:62019** 62F10 (62N05)
— (*with* Nikulin, Mikhail S.; Voinov, V. G.) Unbiased estimation for a multivariate exponential whose components have a common shift. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 199–221. (Truc Nguyen) **99c:62157** 62H12 (62H15)
Bordihn, H. (*with* Holzer, Markus) On a hierarchy of languages generated by cooperating distributed grammar systems. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 59–62. (Summary) **99i:68077** 68Q50 (68Q45)
Bordley, Robert F. Quantum mechanical and human violations of compound probability principles: toward a generalized Heisenberg uncertainty principle. (English summary) *Oper. Res.* **46** (1998), *no.* 6, 923–926. (Frank Antonsen) **99k:60005** 60A99 (81P05)
Bordner, Andrew J. Commuting charges of the quantum Korteweg-de Vries and Boussinesq theories from the reduction of W_∞ and $W_{1+\infty}$ algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 7, 541–552. (Zoltán Bajnok) **99i:81067** 81R10 (17B68, 58F07)
— (*with* Corrigan, E.; Sasaki, Ryu) Calogero-Moser models. I. A new formulation. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 6, 1107–1129. (Henrik Aratyn) **99m:58107** 58F07 (17B20, 17B81)
Bordoni, M. Spectral comparison between Dirac and Schrödinger operators. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 181–196. (De Tang Zhou) **99g:58124** 58G25 (35J10, 35P15)
Boreale, Michele (*with* De Nicola, Rocco; Pugliese, Rosario) Asynchronous observations of processes. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 95–109, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q10
— (*with* Sangiorgi, Davide) Bisimulation in name-passing calculi without matching. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 165–175, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10
— (*with* Sangiorgi, Davide) A fully abstract semantics for causality in the π-calculus. (English summary) *Acta Inform.* **35** (1998), *no.* 5, 353–400. (Summary) **99c:68084** 68Q10 (68Q55)
— (*with* Sangiorgi, Davide) Some congruence properties for π-calculus bisimilarities. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 159–176. (Gheorghe Ştefănescu) **99d:68072** 68Q10 (03B70, 68Q55, 68Q60)
Borel, Armand Groupes localement compacts. [Locally compact groups] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 29, 215–231, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 22D05
— Sous-groupes compacts maximaux des groupes de Lie. [Maximal compact subgroups of Lie groups] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 33, 271–279, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 22E10 (22E15)
— Cohomologie des espaces homogènes. [Cohomology of homogeneous spaces] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 45, 371–378, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 57T15
— Les espaces hermitiens symétriques. [Symmetric Hermitian spaces] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 62, 121–132, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 32M15 (22E46, 53C35)
— Groupes algébriques. [Algebraic groups] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 121, 229–238, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 20G15
— Travaux de Mostow sur les espaces homogènes. [Works of Mostow on homogeneous spaces] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 142, 73–84, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 22E40
— Cohomologie et rigidité d'espaces compacts localement symétriques [MR **31** #278]. [Cohomology and rigidity of locally symmetric compact spaces] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 265, 313–321, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 53C35
— Opérateurs de Hecke et fonctions zêta. [Hecke operators and zeta functions] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 307, 441–463, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 11G40 (11F25)
— Class functions, conjugacy classes and commutators in semisimple Lie groups. *Algebraic groups and Lie groups*, 1–19, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Dragomir Ž. Djoković) **99j:22020** 22E46 (22E47)
— Full reducibility and invariants for $SL_2(C)$. *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 71–90. (James E. Humphreys) **99h:20001** 20–03 (01A55, 01A60, 17B10, 20G05, 22E46)
— Twenty-five years with Nicolas Bourbaki, 1949–1973. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 1, 8–15. (Editors) **99k:01049b** 01A70 (01A60, 01A74)

— Twenty-five years with Nicolas Bourbaki, 1949–1973. *Notices Amer. Math. Soc.* **45** (1998), *no.* 3, 373–380. (Editors) **99k:01049a** 01A70 (01A60, 01A74)

Borelli, Costanza *see* **Borelli Forti, Costanza**

Borelli, Giovanni Alfonso *see* **Bertoloni Meli, Domenico**

Borelli Forti, Costanza On Hyers-Ulam stability for a class of functional equations. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 74–86. (László Székelyhidi) **99d:39027** 39B52 (39B72, 47H99)

Boretskiĭ, I. F. (*with* Kayumov, O. R.) Globally controllable systems of rigid bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 405–412; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 371–377. (Summary) **99m:70019** 70Q05 (70E99, 93B05, 93C15)

Borg, Emma Semantic category and surface form. *Analysis (Oxford)* **58** (1998), *no.* 3, 232–238. 03B65

Borga, Marco Reflections on the problem of consistency in arithmetic. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars (Italian) (Siena/Bologna/Pavia)*, 135–155, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03F30

Borgardt, A. A. (*with* Karpenko, D. Ya.) Fundamental solution of the Volkov problem (characteristic representation). (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 357–363. (Henryk Arodź) **99k:81055** 81Q05

Borgato, Maria Teresa The physical proof of the rotation of the Earth and the experiment of Guglielmini. (Italian) *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century (Italian) (Ferrara*, 1993), 201–261, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A50

Borgatti, Michele (*with* Rovatti, Riccardo; Guerrieri, Roberto) A geometric approach to maximum-speed n-dimensional continuous linear interpolation in rectangular grids. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 894–899. (Summary) **99f:65014** 65D05

Börger, Egon (*with* Grädel, Erich; Gurevich, Yuri) ★ The classical decision problem. With an appendix by Cyril Allauzen and Bruno Durand. Perspectives in Mathematical Logic. *Springer-Verlag, Berlin*, 1997. xii+482 *pp. ISBN* 3-540-57073-X (Roman Murawski) **99b:03004** 03–02 (03B10, 03B25, 03C13, 03D15, 03D35, 68Q15, 68Q68)

— (*with* Huggins, James K.) Abstract state machines 1988–1998: commented ASM bibliography. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 105–127. (Summary) **99d:68001** 68–00 (00A15, 68Q05)

Börger, Reinhard Non-existence of a cogenerator for ordered vector spaces. *Quaestiones Math.* **20** (1997), *no.* 4, 587–590. (Gerard Buskes) **99m:06035** 06F20 (18A99)

Börgers, Christoph *see* **Computational radiology and imaging, 99m:92012**

Borgersen, Hans Erik (*with* Skau, Ivar H.) A closer look at Pascal's theorem. (Norwegian. English summary) *Normat* **46** (1998), *no.* 1, 26–32, 48. (Summary) **99b:01010** 01A45 (51–03)

Borges, Carlos F. (*with* Frezza, Ruggero) On models of Gaussian reciprocal processes and the reconstruction of periodic Jacobi matrices. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 22 *pp.* (*electronic*). (Alexander Veretennikov) **99j:60048** 60G15 (65U05, 93E25)

Borges, Carlos R. Properties of locally separable or CCC spaces. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 19–28. (Summary) **99b:54032** 54D20

— A study of ordered spaces. (English summary) *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 205–215. (Summary) **99b:54042** 54F05 (54C65)

Borges, Ernesto P. On a q-generalization of circular and hyperbolic functions. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5281–5288. (Summary) **99g:33054** 33D99

— (*with* Roditi, Itzhak) A family of nonextensive entropies. (English summary) *Phys. Lett. A* **246** (1998), *no.* 5, 399–402. (A. K. Rajagopal) **99i:82004** 82B05

Borges, Leonardo (*with* Oliveira, Suely) A parallel Davidson-type algorithm for several eigenvalues. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 727–748. (Raffaella Pavani) **99g:65045** 65F15

Borges, P. F. (*with* Boschi-Filho, H.; Farina de Souza, Carlos) Generalized partition functions and interpolating statistics. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 843–852. (Summary) **99d:82010** 82B10 (81V70)

Borggaard, Jeff (*with* Pelletier, Dominique) Observations in adaptive refinement strategies for optimal design. (English summary) *Computational methods for optimal design and control (Arlington, VA*, 1997), 59–76, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 49Q10 (90C90)

— *see also* **Computational methods for optimal design and control, 99d:49001**

Borghardt, A. A. *see* **Borgardt, A. A.**

Borghi, Riccardo (*with* Gori, Franco[1]; Vicalvi, S.; Santarsiero, M.; Frezza, F.; Schettini, G.; Ambrosini, S.) An elementary approach to spinors. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 256–262. (Summary) **99c:81073** 81R25 (15A66, 53A50)

Borgida, Alex (*with* Baader, Franz; McGuinness, Deborah L.) Matching in description logics: preliminary results. (English summary) *Conceptual structures: theory, tools and applications (Montpellier*, 1998), 15–34, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T30 (68Q25)

Borgioli, G. (*with* Gerasimenko, V. I.; Lauro, Giuliana; Monaco, Roberto) A discrete velocity model of a gas: global in time solutions of the BBGKY hierarchy. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 431–442. (Carlo Cercignani) **99e:82078** 82C40 (76P05)

Borgs, C. (*with* Chayes, J. T.; Fröhlich, Jürg) Dobrushin states in quantum lattice systems. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 591–619. (Roberto Fernández) **99h:82005** 82B10 (60K35, 82B24, 82B26)

— (*with* Chayes, J. T.; Fröhlich, Jürg) Dobrushin states for classical spin systems with complex interactions. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 895–928. (Daniel Ueltschi) **99a:82005** 82B05 (82B20, 82B24, 82B26)

Borgwardt, Karl Heinz Ideas leading to a better bound on the average number of pivot steps for solving an LP. *Operations Research Proceedings* 1997 (*Jena*), 1–12, *Springer, Berlin*, 1998. (Joachim Käschel) **99g:90063** 90C05

— (*with* Huhn, Petra) An upper bound for the average number of iterations required in phase II of an interior-point-method. *Operations Research Proceedings* 1997 (*Jena*), 19–24, *Springer, Berlin*, 1998. (Joachim Käschel) **99g:90064** 90C05

— *see also* **Huhn, Petra, 99a:90123**

Borho, W. Zur Topologie der Dixmier-Abbildung. (English summary) [On the topology of the Dixmier map] *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 25–44. (William M. McGovern) **99m:17015** 17B35 (22E46)

Borichev, A. A. (*with* Sodin, Mikhail) Density of polynomials and the Hamburger moment problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 11–16. (Summary) **99e:41016** 41A30 (42A10, 44A60)

Boričić, Branislav (*with* Rašković, Miodrag) A probabilistic validity measure in intuitionistic propositional logic. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 365–372. (Frans Voorbraak) **99i:03022** 03B48 (03B20)

Borie, Richard B. (*with* Kortright, M. Eduardo) Applying recursively decomposable graph techniques to non-graph problems. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 11–34. (Summary) **99k:68141** 68R10 (05C85)

— (*with* Kortright, M. Eduardo; Gupta, Arobinda) Fast parallel algorithms for the balanced decomposition of series-parallel graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 193–218. (Summary) **99k:68142** 68R10 (05C85)

— (*with* Spinrad, Jeremy P.) Construction of a simple elimination scheme for a chordal comparability graph in linear time. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 287–292. (Summary) **99i:05187** 05C85

Borino, Guido (*with* Polizzotto, Castrenze) A thermodynamics-based formulation of gradient-dependent plasticity. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 741–761. (Summary) **99f:73038** 73E05 (73B30)

Borisenko, A. A. (*with* Ostroumov, S. A.) The structure of parabolic Kähler submanifolds in Kähler manifolds. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 60–77. (Oleg K. Mushkarov) **99b:53090** 53C55 (53C40)

— ★ Диференціальна геометрія і топологія. (Ukrainian. Ukrainian summary) [Differential geometry and topology] *"Osnova", Khar'kov*, 1995. 304 *pp. ISBN* 5-7768-0388-8 (A. L. Onishchik) **99b:53001** 53–01 (57–01, 57Rxx)

— (*with* Rabelo, M. L.; Tenenblat, K.) On saddle submanifolds of Riemannian manifolds. (English summary) *Geom. Dedicata* **67** (1997), *no.* 2, 233–243. (Yu Xin Dong) **99c:53025** 53C21 (53C42)

— (*with* Vlasenko, D. I.) Convex surfaces in Lobachevskiĭ space. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 278–285. (Z. Nádeník) **99b:53085** 53C45

— On foliations of negative extrinsic curvature on compact Riemannian manifolds. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 673–676; *translation in Math. Notes* **62** (1997), *no.* 5-6, 562–565 (1998). (Valery Marenich) **99d:53026** 53C12

— Extrinsic geometry of strongly parabolic multidimensional submanifolds. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 3–52; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1141–1190. (Ivko Dimitric) **99f:53053** 53C40

Borisenko, A. A., Jr. Harmonic morphisms associated with minimal strongly parabolic surfaces in Euclidean space. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 1, 3–12, 103; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 1, 1–8. (J. S. Joel) **99b:58058** 58E20 (53C40)

Borisenko, O. A. *see* **Borisenko, A. A.**

Borisenko, V. V. (*with* Belov, A. Ya.; Latyshev, V. N.) Monomial algebras. Algebra, 4. *J. Math. Sci. (New York)* **87** (1997), *no.* 3, 3463–3575. (Vesselin Drensky) **99f:16022** 16R10 (08B05, 16G60, 16P90, 16R20, 16S15, 68Q45)

Borisenok, S. V. Application of the method of convexification to find a multivalued integral. (English summary) Control and identification algorithms; Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 3, 187–195. (Vladimir Veliov) **99j:49062** 49L25 (65D30, 90D25, 93B03)

Borisov, A. A. (*with* Shtern, Vladimir; Hussain, Fazle) Vortex sinks with axial flow: solution and applications. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2941–2959. (Rupert Klein) **99c:76022** 76C05 (76D05)

Borisov, A. A. Determination of the optimal level of risk deduction by an insurance company. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 335–341. (Summary) **99i:62242** 62P05

Borisov, A. B. (*with* Kiselev, V. V.) Vortex dipoles on a soliton lattice background: solution of the boundary-value problem by inverse spectral transform. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 96–128. (Peter L. Christiansen) **99d:82078** 82D55 (35Q53)

Borisov, Adriyan V. (*with* Fedorov, Yu. N.) On two modified integrable problems in dynamics. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 102–105. (Igor Gashenenko) **99e:70019** 70E15 (70F25, 70H05)

— (*with* Tsygvintsev, A. V.) Kovalevskaya exponents and integrable systems of classical dynamics. I, II. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 15–28, 29–37. (Summary) **99g:70022** 70H05 (34A34, 58F05, 58F07, 70E15, 76C05)

— Necessary and sufficient conditions for integrability of Kirchhoff equations. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 61–76. (Summary) **99e:70020** 70E15 (58F05, 70H05)

— (*with* Tsygvintsev, A. V.) Kovalevskaya's method in the dynamics of a rigid body. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 30–36; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 27–32. (Summary) **99c:70007** 70E15 (34A25, 58F05, 70F25)

— (*with* Simakov, N. N.) Period-doubling bifurcations in the dynamics of a rigid body. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 64–74. (Summary) **99e:70021** 70E15 (58F40, 70K50)

— (*with* Mamaev, I. S.) Adiabatic chaos in the dynamics of a rigid body. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 65–78. (Summary) **99g:70014** 70E15 (58F13, 70K50)

— Measurability with respect to the group of the general similitudes in the Galilean plane. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 51–66. (Hans Sachs) **99c:53080** 53C65 (60D05)

— (*with* Pavlov, A. E.) Dynamics and statics of vortices on a plane and a sphere. I. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 28–38. (Summary)

99h:76013 76C05 (58F05, 70H05)

Borisov, Alexandr On some polynomials allegedly related to the *abc* conjecture. *Acta Arith.* **84** (1998), *no.* 2, 109–128. (F. Beukers) **99f:11140** 11R09

Borisov, I. S. Poisson approximation of the partial sum process in Banach spaces. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 723–731, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 627–634. (V. J. Paulauskas) **99i:60009** 60B12 (60F15, 60F17)

— (*with* Panchenko, D. A.) On consistency of maximum spacing estimators. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 1–7. (Jan Beirlant) **99d:62056** 62G30

— (*with* Panchenko, D. A.; Skilyagina, G. I.) On minimal smoothness conditions for asymptotic expansions of moments in the CLT. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 80–95. (Lothar Heinrich) **99k:60052** 60F05 (60E10, 60F25, 60G50)

— (*with* Baklanov, E. A.) Moment inequalities for generalized L-statistics. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 483–489; *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 415–421. (S. G. Maloshevskiĭ) **99h:60029** 60E15 (62G30)

Borisov, Lev A. (*with* Halpern, M. B.; Schweigert, Christoph) Systematic approach to cyclic orbifolds. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 1, 125–168. (Mirko Primc) **99i:81068** 81R10 (17B68, 81T40)

Borisov, N. M. (*with* Panin, M. P.) Adjoint Monte Carlo calculations of pulse-height-spectrum. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 273–284. 65C05

Borisov, N. V. (*with* Il′inskiĭ, K. N.; Kalinin, G. V.) New index formulas as a meromorphic generalization of the Chern-Gauss-Bonnet theorem. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 249–262. (Akira Asada) **99e:58173** 58G10 (81Q60)

Borisov, V. F. One-parameter families of self-similar solutions of the n-dimensional Fuller problem. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 442–444. (Sergey V. Nikitin) **99f:49002** 49J15 (49K15)

— Singular extremals of order 3 and chattering. (English summary) *Differential geometry and control (Boulder, CO, 1997)*, 135–147, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Andrei V. Sarychev) **99j:49008** 49J30 (34H05, 49K30, 93B29, 93B50)

Borisov, V. M. (*with* Kurilenko, Yu. V.) Computation of steady supersonic three-dimensional flows with a head shock wave by the method of characteristics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 659–668; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 634–643. (Summary) **99f:76087** 76M20 (76J20, 76L05)

Borisov, V. V. (*with* Okazawa, Noboru) Holomorphic families of linear operators in Banach spaces. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 189–205. (Horst Behncke) **99b:47051** 47B44 (34L05, 47D03, 47E05)

Borisovich, A. Yu. (*with* Marzantowicz, Wacław) Bifurcation of the equivariant minimal interfaces in a hydromechanics problem. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 291–304. (Summary) **99c:58035** 58E12 (35B32, 35J65, 76D45, 76M30)

— Bifurcation of a capillary minimal surface in a weak gravitational field. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 3, 17–48; *translation in Sb. Math.* **188** (1997), *no.* 3, 341–370. (Nikolai K. Smolentsev) **99f:58040** 58E12 (47H15, 53A10, 76D45, 76M30)

Borisovich, Yu. G. Global analysis of operator equations that arise in singular optimization problems. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 11–13. (S. Burýšek) **99d:58051** 58E25 (34C35, 47H15, 49J27)

Borissov, Anatoly *see* **Borisov, A. A.**

Borissov, Roumen (*with* De Pietri, Roberto; Rovelli, Carlo) Matrix elements of Thiemann's Hamiltonian constraint in loop quantum gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2793–2823. (Hugo A. Morales-Técotl) **99e:83025** 83C45

Borkar, Vivek S. (*with* Gupta, Piyush) Learning decentralized goal-based vector quantization. (English summary) *Complex Systems* **11** (1997), *no.* 2, 73–106. (Summary) **99m:94023** 94A29 (68T05, 90A80, 94A34, 94A40)

— (*with* Konda, Vijaymohan R.) The actor-critic algorithm as multi-time-scale stochastic approximation. (English summary) *Sādhanā* **22** (1997), *no.* 4, 525–543. (Onésimo Hernández Lerma) **99f:90178** 90C40 (62L20)

— (*with* Mundra, S. M.) Bayesian parameter estimation and adaptive control of Markov processes with time-averaged cost. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 3, 339–358. (George Yin) **99d:93066** 93E10 (62F15, 90C40)

— Convexity in stochastic control. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 37–49. (E. N. Barron) **99m:49042** 49K45 (93E20)

— (*with* Branicky, Michael S.; Mitter, Sanjoy K.) A unified framework for hybrid control: model and optimal control theory. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 31–45. (Anton A. Stoorvogel) **99a:93007** 93A30 (49J27)

— (*with* Bharath, B.) Robust parameter optimization of hidden Markov models. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 2, 119–130. (W. K. Klein Haneveld) **99j:90051** 90C15 (90C40)

— (*with* Bhatnagar, Shalabh) A two timescale stochastic approximation scheme for simulation-based parametric optimization. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 519–531. (George Yin) **99f:93144** 93E23 (62L20)

— Asynchronous stochastic approximations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 840–851 (*electronic*). (Kurt Marti) **99e:62140** 62L20 (93E25)

— Ergodic control of partially observed Markov chains. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 185–189. (Akira Ichikawa) **99f:93140** 93E20 (49K45, 60J10)

— (*with* Soumyanath, K.) An analog scheme for fixed-point computation. II. Applications. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 4, 442–451. 65H10

— (*with* Jain, Sanjay[2]; Rangarajan, Govindan) Evolutionary games with two timescales. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 155–166. (Ross Cressman) **99m:90182** 90D40 (90A16, 92D15, 92D50)

Borkovec, Milan (*with* Klüppelberg, Claudia) Extremal behavior of diffusion models in finance. (English summary) *Extremes* **1** (1998), *no.* 1, 47–80. (Angelos Dassios) **99m:60130** 60J70 (60H30, 60J60, 90A09)

Borkowf, Craig B. (*with* Gail, Mitchell H.) Parametric methods for bivariate quantile-partitioned tables and the efficiency of corresponding nonparametric methods. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 919–934. (Summary) **99e:62107** 62H17 (62P10)

Borkowski, Szczepan ★ Mechanika ogólna. Tom 2. (Polish. Polish summary) [General mechanics. Vol. 2] Dynamika newtonowska. [Newton's dynamics] *Wydawnictwo Politechniki Śląskiej, Gliwice*, 1998. *ii*+404 *pp. ISBN* 83-85718-59-1 70–01

— ★ Mechanika ogólna. Tom 1. (Polish) [General mechanics. Vol. 1] Kinematyka i statyka. [Kinematics and statics] *Wydawnictwo Politechniki Śląskiej, Gliwice*, 1998. *ii*+449 *pp. ISBN* 83-85718-24-9 70–01

Borkut, L. A. (*with* Klein, Abraham A.) Gröbner-Shirshov bases for exceptional Lie algebras. I. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 51–57. (Gordon E. Brown) **99i:17010** 17B25

Borlaf González, Javier Geometry of T-duality. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 721–739. (Yolanda Lozano) **99i:81175** 81T30

— (*with* Álvarez, Enrique; León, José H.) Killings, duality and characteristic polynomials. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 162–168. (Summary) **99a:81122** 81T30 (53C80)

Borland, Lisa (*with* Plastino, Angel Ricardo; Tsallis, Constantino) Information gain within nonextensive thermostatistics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6490–6501. (A. K. Rajagopal) **99k:82002a** 82B03 (82B30)

— Ito-Langevin equations within generalized thermostatistics. (English summary) *Phys. Lett. A* **245** (1998), *no.* 1-2, 67–72. (Summary) **99d:82047** 82C31

— (*with* Plastino, Angel Ricardo; Tsallis, Constantino) Erratum: "Information gain within generalized [non-extensive] thermostatistics". *J. Math. Phys.* **40** (1999), *no.* 4, 2196. (A. K. Rajagopal) **99k:82002b** 82B03 (82B30)

Borlói, Rudolf (*with* Barancsi, Éva; Bánki, Géza; Chikán, Attila; Kelle, Péter; Kulcsár, Tamás; Meszéna, György) ★ Inventory models. (English summary) Translated from the 1983 Hungarian original by B. Szőnyi and Kelle and revised by the authors. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 16. *Kluwer Academic Publishers, Dordrecht*, 1990. xii+419 *pp. ISBN* 0-7923-0494-2 (Heinz-Uwe Küenle) **99a:90085** 90B05 (90–02)

Borm, Peter (*with* Suijs, Jeroen; De Waegenaere, Anja) Stochastic cooperative games in insurance. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 209–228. (Summary) **99k:62202** 62P05

— (*with* Otten, Gert-Jan; Peleg, Bezalel; Tijs, Stef) The MC-value for monotonic NTU-games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 37–47. (Summary) **99b:90173** 90D12

Bormann, Karsten (*with* Antonsen, Frank) Time machines and the breakdown of unitarity. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2383–2393. (Summary) **99j:81022** 81P99

Bormisov, A. A. (*with* Gudkova, E. S.; Mukminov, F. Kh.) On the integrability of hyperbolic systems of the Riccati equation type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 261–275; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1418–1430 (1998). (Piotr G. Grinevich) **99c:58065** 58F07 (17B70, 35L70)

Born, Max (*with* Huang, Kun) ★ Dynamical theory of crystal lattices. (English summary) Reprint of the 1954 original. Oxford Classic Texts in the Physical Sciences. *The Clarendon Press, Oxford University Press, New York*, 199?. *xii*+420 *pp. ISBN* 0-19-850369-5 (Uwe C. Täuber) **99h:82001** 82–02 (82B10, 82D25)

Borndörfer, Ralf (*with* Grötschel, Martin; Löbel, Andreas) Alcuin's transportation problems and integer programming. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen*, 1995), 379–409, *Brepols, Turnhout*, 1998. (*see* **99i:00015**) 90C10 (01A35, 90C08)

Borne, Thomas (*with* Stumpf, Harald) Weak field gravitation as a composite particle effect. (English and French summaries) *Ann. Fond. Louis de Broglie* **23** (1998), *no.* 1, 38–53. (Summary) **99g:83022** 83C25 (83C60)

Bornemann, Folkmar A. (*with* Schütte, Christof) Homogenization approach to smoothed molecular dynamics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1805–1814. (Jair Koiller) **99b:70016** 70H05 (34E15, 58F05, 81V55)

— (*with* Schütte, Christof) Homogenization of Hamiltonian systems with a strong constraining potential. (English summary) *Phys. D* **102** (1997), *no.* 1-2, 57–77. (Gershon Wolansky) **99a:70025** 70H05 (34C29, 34E15, 58F05, 70F20)

— ★ Homogenization in time of singularly perturbed mechanical systems. Lecture Notes in Mathematics, 1687. *Springer-Verlag, Berlin*, 1998. *xii*+156 *pp. ISBN* 3-540-64447-4 (Denise Huet) **99g:34105** 34C99 (34E15, 58F25, 70H35, 70K99, 81Q15)

— (*with* Schütte, Christof) A mathematical investigation of the Car-Parrinello method. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 359–376. (Peter N. Zhevandrov) **99d:81183** 81V55 (34E15, 70F20, 81Q15)

Börner, Ferdinand (*with* Haddad, Lucien) Generating sets for clones and partial clones. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka*, 1998), 363–368, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 08A40

Bornert, M. (*with* Ponte Castañeda, P.) Second-order estimates of the self-consistent type for viscoplastic polycrystals. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 3035–3045. (Summary) **99g:73005** 73B27 (73E60)

Bornstein, Claudson F. (*with* Szwarcfiter, Jayme L.) Iterated clique graphs with increasing diameters. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 147–154. (R. Balakrishnan) **99g:05152** 05C75

Borobia, Alberto (*with* Kästner, J.; Dress, Andreas W. M.; Zylka, Ch.) Extremal majorizing and anti-majorizing matrices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 133–145. (Werner Kratz) **99f:15025** 15A39 (15A90)

— (*with* Moro, Julio) On the boundary of the set of real spectra of nonnegative matrices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 287–293. (Marc Artzrouni) **99g:15010** 15A18 (15A48)

Böröczky, Károly, Jr. Lattice points in large bodies. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo (2) Suppl. No.* 50 (1997), 67–76. (Uwe Schnell) **99b:52035** 52C07

— (*with* Schnell, Uwe) Asymptotic shape of finite packings. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 16–28. (Ren Ding) **99g:52035** 52C17 (05B40)

— (*with* Schnell, Uwe) Wulff shape for nonperiodic arrangements. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 81–94. (Richard Kenyon) **99e:52024** 52C17 (52C07, 82D25)
— (*with* Ludwig, Monika) Approximation of convex bodies and a momentum lemma for power diagrams. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 101–110. (H. W. Guggenheimer) **99m:52004** 52A27 (52C20)
Borodich, A. I. Calculation of the inverse operator of the transformation of the phase coordinates of the particles of a Hamiltonian system. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 82–86, 142. (Summary) **99j:70020** 70H05 (58F05)
Borodich, F. M. Scaling of microcrack patterns and crack propagation. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 235–244, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:73081** 73M25
— Parametric homogeneity and non-classical self-similarity. I. Mathematical background. (English summary) *Acta Mech.* **131** (1998), *no.* 1-2, 27–45. (J. S. Joel) **99h:00010** 00A69 (26A18, 28A80, 35A30, 73V99)
— Parametric homogeneity and non-classical self-similarity. II. Some applications. (English summary) *Acta Mech.* **131** (1998), *no.* 1-2, 47–67. (J. S. Joel) **99h:00011** 00A69 (26A18, 28A80, 35A30, 73V99)
— (*with* Gomatam, Jagannathan) An exact solution for the first stage of frictional collision of a die and an elastic half-space. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 563–576. (Summary) **99h:73068** 73T05
Borodin, A. I. *see* **Borodin, Aleksandr Ivanovich**
Borodin, A. M. Biorthogonal ensembles. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 3, 704–732. (Alexei Khorunzhy) **99m:82022** 82B41 (15A52)
Borodin, Aleksandr Ivanovich (*with* Peĭgin, S. V.) Three-dimensional flow around blunt bodies in the framework of the parabolized viscous shock layer model. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 1, 16–25. 76K05 (76N15)
— On the computation of the pressure gradient in a model of a parabolized viscous shock layer. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1001–1007; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 959–964. (Summary) **99f:76082** 76L05 (76K05, 76M25)
Borodin, Alexei *see* **Borodin, A. M.**
Borodin, Allan (*with* Raghavan, Prabhakar; Schieber, Baruch; Upfal, Eli) How much can hardware help routing? (English summary) *J. ACM* **44** (1997), *no.* 5, 726–741. (Luisa Gargano) **99b:68012** 68M10 (68Q22, 68R10)
— (*with* Beame, Paul; Raghavan, Prabhakar; Ruzzo, Walter L.; Tompa, Martin) A time-space tradeoff for undirected graph traversal by walking automata. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1051–1072 (*electronic*). (From the text) **99m:68077** 68Q25 (05C40, 68Q05, 68R10)
Borodin, O. V. Minimal vertex degree sum of a 3-path in plane maps. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 279–284. (Summary) **99b:05035** 05C10
— (*with* Kostochka, A. V.; Woodall, D. R.) List edge and list total colourings of multigraphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 184–204. (David E. Woolbright) **99d:05028** 05C15
— (*with* Kostochka, A. V.; Woodall, D. R.) Total colorings of planar graphs with large maximum degree. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 53–59. (Summary) **99j:05064** 05C15
— Triangulated 3-polytopes without faces of low weight. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 281–285. (P. McMullen) **99g:52009** 52B10
— (*with* Kostochka, A. V.; Nešetřil, Jaroslav; Raspaud, A.; Sopena, E.) On universal graphs for planar oriented graphs of a given girth. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 73–85. (Pavol Hell) **99e:05046** 05C15 (05C20)
— (*with* Kostochka, A. V.; Woodall, D. R.) On kernel-perfect orientations of line graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 45–49. (Summary) **99f:05043** 05C20
Borodin, P. A. Quasi-orthogonal sets and conditions for the Hilbert property of a Banach space. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 8, 63–74; *translation in Sb. Math.* **188** (1997), *no.* 8, 1171–1182. (Ting Fu Wang) **99a:46019** 46B20 (46C15)
keilis-Borok, V. I. *see* **Keilis-Borok, V. I.**
Boroomand, B. (*with* Zienkiewicz, O. C.; Zhu, Jian Zhong[1]) Recovery procedures in error estimation and adaptivity: adaptivity in linear problems. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 3–23, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99g:73111a** 73V05 (65N99)
— (*with* Zienkiewicz, O. C.) Recovery procedures in error estimation and adaptivity: adaptivity in non-linear problems of elasto-plasticity behaviour. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 383–410, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99g:73111b** 73V05 (65N99)
Boros, Endre (*with* Hammer, Peter L.; Ibaraki, Toshihide; Kogan, Alexander[1]) Logical analysis of numerical data. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 163–190. (Béla Vizvári) **99c:90079** 90C09 (65Y20, 90C27)
— (*with* Gurvich, V. A.; Vasin, A. A.) Stable families of coalitions and normal hypergraphs. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 107–123. (Frank Thuijsman) **99b:90170** 90D12 (05C65, 92H30)
— (*with* Čepek, Ondřej; Kogan, Alexander[1]) Horn minimization by iterative decomposition. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 321–343. (Summary) **99i:68058** 68Q25 (68N17, 68T15)
— (*with* Ibaraki, Toshihide; Makino, Kazuhisa) Error-free and best-fit extensions of partially defined Boolean functions. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 254–283. (Nicolae Ţăndăreanu) **99d:06017** 06E30 (68Q25, 68T05)
— (*with* Badics, Tamás) Minimization of half-products. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 649–660. (Marco Gaviano) **99m:90101** 90C09 (68Q25)
— (*with* Hammer, Peter L.; Minoux, Michel; Rader, David J., Jr.) Optimal cell flipping to minimize channel density in VLSI design and pseudo-Boolean optimization. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 69–88. (Summary) **99k:68123** 68R05 (68Q35)
— *see also* **Artificial intelligence and mathematics, 99m:68006**
Boros, George (*with* Moll, Victor H.) A criterion for unimodality. (English summary) *Electron. J. Combin.* **6** (1999), *no.* 1, *Research Paper* 10, 4 *pp.* (*electronic*). (Summary) **99k:05017** 05A20
Boros, Tibor (*with* Sayed, Ali H.; Lev-Ari, H.; Kailath, Thomas) A generalized Schur-type algorithm for the joint factorization of a structured matrix and its inverse. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 131–145 (1998). (Wen Yu Sun) **99f:65042** 65F05 (15A23)
— (*with* Sayed, Ali H.; Kailath, Thomas) A recursive method for solving unconstrained tangential interpolation problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 454–470. (Summary) **99m:93018** 93B17 (65F30, 93B40)
Boros, Zoltán Regular functions that preserve digital representation. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 309–316. (S. L. Segal) **99h:39025** 39B22 (39B52)
Borosh, I. (*with* Blakley, G. R.) A general theory of codes. I. Basic concepts. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 1–29, *Heyn, Klagenfurt*, 1998. (Bram van Asch) **99m:94062** 94B60
Borouchaki, Houman (*with* Frey, Pascal J.; George, Paul-Louis) 3D Delaunay mesh generation coupled with an advancing-front approach. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 115–131. (Summary) **99b:65162** 65N50 (65M50)
— (*with* Frey, Pascal J.) Geometric evaluation of finite element surface meshes. (English summary) *Finite Elem. Anal. Des.* **31** (1998), *no.* 1, 33–53. 65D17 (65Y25)
— (*with* Hecht, Frédéric; Frey, Pascal J.) Mesh gradation control. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 1143–1165. (Summary) **99g:76102** 76M25 (65M55)
— (*with* Frey, Pascal J.) Surface mesh quality evaluation. (English summary) *Internat. J. Numer. Methods Engrg.* **45** (1999), *no.* 1, 101–118. 65N55 (65N22)
Boroujerdi, Ali (*with* Uhlmann, Jeffrey) An efficient algorithm for computing least cost paths with turn constraints. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 317–321. (Summary) **99e:68118** 68R10 (68Q25)
Borovaya, È. N. (*with* Andon, F. I.) ★ Методы представления и обработки некорректных данных и знаний в интеллектуальных информационных системах. (Russian. Russian summary) [Methods for the representation and processing of incorrect data and knowledge in intelligent information systems] Препринт. Институт Кибернетики имени В. М. Глушкова. Национальная Академия Наук Украины [Preprint. V. M. Glushkov Institute of Cybernetics. National Academy of Sciences of Ukraine], 95-24. *Natsional'naya Akademiya Nauk Ukrainy, Institut Kibernetiki im. V. M. Glushkova, Kiev*, 1995. 29 *pp.* 68P15
Borovik, A. V. (*with* Gel'fand, Izrail' Moiseevich; White, Neil) Coxeter matroid polytopes. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 123–134. (Summary) **99d:05016** 05B35 (05E15, 52B40)
— On the number of maximal soluble subgroups of a finite group. *Comm. Algebra* **26** (1998), *no.* 12, 4041–4050. (Xiuyun Guo) **99k:20035** 20D06 (20D10, 20D60)
Borovkov, A. A. (*with* Korshunov, D. A.) Ergodicity in a sense of weak convergence, equilibrium-type identities and large deviations for Markov chains. *Probability theory and mathematical statistics* (*Vilnius*, 1993), 89–98, *TEV, Vilnius*, 1994. (*see* **99e:60004**) 60J05 (60F10)
— (*with* Mogul'skiĭ, A. A.; Sakhanenko, A. I.) Limit theorems for random processes. (Russian. Russian summary) *Probability theory*, 7 (*Russian*), 5–199, *Itogi Nauki i Tekhniki, Vsesoyuz. Inst. Nauchn. i Tekhn. Inform.* (*VINITI*), *Moscow*, 1995. (Anatolii A. Pukhal'skiĭ) **99d:60021b** 60Fxx
— (*with* Mogul'skiĭ, A. A.) Large deviations for stationary Markov chains in a quarter plane. *Probability theory and mathematical statistics* (*Tokyo*, 1995), 12–19, *World Sci. Publishing, River Edge, NJ*, 1996. (Paolo Baldi) **99d:60029** 60F10 (60J10)
— On conditional distributions associated with large deviations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 732–744, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 635–646. (Bronius Riauba) **99h:60048** 60F10
— (*with* Mogul'skiĭ, A. A.) The second function of deviations and asymptotic problems of the reconstruction and attainment of a boundary for multidimensional random walks. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 745–782, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 647–682. (R. Sh. Liptser) **99h:60139** 60J15 (60E10)
— Limit theorems for the time and place of the first crossing of the boundary by a multidimensional random walk. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 711–713. (D. V. Gusak) **99f:60056** 60F10 (60F17, 60J15)
— On boundedness of stochastic sequences and estimates of their moments. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 8–19. (Richard Isaac) **99i:60081** 60G07
Borovkov, K. A. An estimate for the distribution of a stopping time for a stochastic system. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 783–789, *i*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 683–689. (Vladimir Mazalov) **99k:60113** 60G40 (60F05, 60G05, 90D60)
— Propagation of chaos in queueing networks. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 449–460; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 385–394 (1998). (Věra Lánská) **99d:60100** 60K25 (60K20, 90B22)
Borovoi, Mikhail (*with* Kunyavskiĭ, Boris È.) On the Hasse principle for homogeneous spaces with finite stabilizers. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 481–497. (David Harari) **99b:11068** 11G35 (14G25, 20G30)
Borovskikh, Yu. V. (*with* Korolyuk, Vladimir S.) ★ Martingale approximation. *VSP, Utrecht*, 1997. *xii*+322 *pp. ISBN* 90-6764-271-1 (Pawel Hitczenko) **99f:60001** 60-01 (60G44)
Borowiec, Andrzej (*with* Kharchenko, V. K.) Coordinate calculi on associative algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 231–241, *PWN, Warsaw*, 1995. (Andrzej Sitarz) **99i:58013** 58B30 (12H05, 16E99)
— Vector fields and differential operators: noncommutative case. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1093–1100. (Andrzej Sitarz) **99e:58011** 58B30 (46L87)
— (*with* Ferraris, Marco; Francaviglia, Mauro; Volovich, I. V.) Universality of the Einstein equations for Ricci squared Lagrangians. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 43–55. (Hans P. Künzle) **99a:83003** 83C05
— (*with* Ferraris, Marco; Francaviglia, Mauro) Lagrangian symmetries of Chern-Simons theories. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8823–8833. (Charles G. Torre) **99m:81137** 81T13 (83C99)

Borowiecki, Mieczysław (*with* Broere, Izak; Frick, Marietjie; Mihók, Peter; Semanišin, Gabriel) A survey of hereditary properties of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 5–50. (Vadim E. Zverovich) **99d:05029** 05C15 (05C35, 05C75)

— (*with* Broere, Izak; Mihók, Peter) On generalized list colourings of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 127–132. (T. T. Raghunathan) **99e:05047** 05C15

— (*with* Michalak, Danuta) Generalized independence and domination in graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 51–56. (Summary) **99d:05044** 05C35

Borowiecki, Piotr (*with* Ivančo, Jaroslav) $\mathcal{P}$-bipartitions of minor hereditary properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 89–93. (Summary) **99b:05104** 05C70

— (*with* Hałuszczak, Mariusz) Partitions of some planar graphs into two linear forests. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 95–102. (Summary) **99b:05105** 05C70

Borrel, Michel (*with* Berde, B.) Numerical experiments on the accuracy of a discontinuous Galerkin method for the Euler equations. (English and French summaries) *Aerosp. Sci. Technol.* **2** (1998), *no.* 5, 279–288. (Summary) **99g:76101** 76M25 (76L05, 76N15)

Borrelli, Donato (*with* Morse, A. Stephen; Mosca, Edoardo) Discrete-time supervisory control of families of two-degrees-of-freedom linear set-point controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 178–181. (Summary) **99j:93063** 93C55 (93B50)

Borrelli, Vincent Maslov form and J-volume of totally real immersions. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 271–290. (Bang-yen Chen) **99f:53054** 53C40 (58F05)

Borri, Marco (*with* Bottasso, Carlo L.) Integrating finite rotations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 307–331. (Werner M. Seiler) **99i:70008** 70E15 (65L06, 70–08, 73K05, 73V05)

Borrill, Julian (*with* Achúcarro, Ana; Liddle, Andrew R.) Semilocal string formation in two dimensions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3742–3748. 83F05

Borşa, Emilia (*with* Petrila, Titus) Spectral methods for elliptic problems. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 101–109, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 35J20 (65N35)

— (*with* Petrila, Titus) Spectral methods for hyperbolic problems. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 111–118, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 35L99 (65M70)

— (*with* Petrila, Titus) Spectral methods for parabolic problems. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 119–128, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 35K10 (65M70)

Borsari, I. (*with* Camia, F.; Graffi, S.; Unguendoli, Francesco) Absence of glassy behaviour in the deterministic spherical and XY models. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1127–1139. (Summary) **99c:82011** 82B20

Borsboom, P-P. (*with* Levy, M. F.) RCS computations using a parabolic equation method. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 69–79, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Borsík, Ján On products of quasicontinuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 125–130. (Summary) **99b:54018** 54C08 (54B10, 54E52)

— (*with* Frič, Roman) Pointwise convergence fails to be strict. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 313–320. (Paul R. Meyer) **99g:54001** 54A05 (54C30, 54C35)

— Oscillation for quasicontinuity. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 117–125. (Summary) **99g:54008** 54C08

— *see also* **Real functions**, **99f:00022**

de Borst, R. (*with* Ganghoffer, J. F.; Sluys, L. J.) A reappraisal of nonlocal mechanics. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 17–46. (Summary) **99j:73057** 73E99 (73B99)

Borst, Sem (*with* Mitra, Debasis) Asymptotically achievable performance in ATM networks. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 568–585. (Charles Tier) **99k:60222** 60K20 (68M20, 90B12)

Borsuk, Karol Witold Hurewicz—life and work. Translated from the Polish original [MR 82f:01082] by Krystyna Kuperberg and Anna Kuperberg. *Handbook of the history of general topology, Vol.* 1, 79–84, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:01001**) 01A70 (54–03)

Borsuk, M. V. Behavior of solutions of the Cauchy problem for weakly nonlinear elliptic nondivergence equations in a neighborhood of a conical point of the boundary. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1085–1094, 1151; *translation in Differential Equations* **33** (1997), *no.* 8, 1092–1101 (1998). (Nicolai N. Tarkhanov) **99h:35058** 35J65 (35J70)

— On the solvability of the first boundary value problem for second-order elliptic equations in a domain with a conical point on the boundary. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 4, 428–452. (V. S. Rabinovich) **99a:35048** 35J25

— Dini continuity of the first derivatives of generalized solutions to the Dirichlet problem for linear elliptic second order equations in nonsmooth domains. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 2, 129–154. (Russell M. Brown) **99j:35034** 35J25 (35D10)

— On a certain criterion of the existence of generalized derivative from Orlicz class. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 173–178. (Marian Nowak) **99g:46030** 46E30 (26A24)

— (*with* Portnyagin, Dmitriy) Barriers on cones for degenerate quasilinear elliptic operators. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 11, 8 *pp.* (*electronic*). (Summary) **99a:35101** 35J70 (35J60)

— On the behaviour of solutions of the Dirichlet problem for elliptic nondivergence second order equations near the conical boundary point. (English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 2, 163–172. 35J25 (35B65)

Bortfeldt, Andreas (*with* Gehring, Hermann) Ein Tabu Search-Verfahren für Containerbeladeprobleme mit schwach heterogenem Kistenvorrat. (English and German summaries) [A tabu search algorithm for weakly heterogeneous container loading problems] *OR Spektrum* **20** (1998), *no.* 4, 237–250. 90C27 (90C90)

Borthwick, David Microlocal techniques for semiclassical problems in geometric quantization. *Perspectives on quantization* (*South Hadley, MA*, 1996), 23–37, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Harald Upmeier) **99a:58076** 58F06 (58G07)

— (*with* Uribe, Alejandro) Erratum to: "Almost complex structures and geometric quantization" [Math. Res. Lett. **3** (1996), no. 6, 845–861; MR 98e:58084]. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 211–212. (From the text) **99c:58061** 58F06 (58G15)

Bortone, Carlo (*with* Tebaldi, Claudio) Adaptive Lotka-Volterra systems as neural networks. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 379–396. (Summary) **99j:92015** 92D25 (34C05, 34D45, 92B20)

Bortot, Paola (*with* Tawn, Jonathan A.) Models for the extremes of Markov chains. (English summary) *Biometrika* **85** (1998), *no.* 4, 851–867. (Summary) **99j:62124** 62M10 (62M05)

Bortz, D. M. (*with* Kelley, C. T.) The simplex gradient and noisy optimization problems. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 77–90, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:90086** 90C30

Borue, Vadim (*with* Orszag, Steven A.) Local energy flux and subgrid-scale statistics in three-dimensional turbulence. (English summary) *J. Fluid Mech.* **366** (1998), 1–31. (Summary) **99e:76067** 76F99

Borukhov, V. T. The Grassmann manifold of linear infinite-dimensional controlled dynamical systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 23–25, 122. (N. N. Petrov) **99c:93029** 93B29 (58B20, 93B05)

— Grassmann manifolds and pairs of linear relations in the theory of descriptor dynamical systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1601–1606, 1725; *translation in Differential Equations* **33** (1997), *no.* 12, 1604–1610 (1998). (Emilia Petrisor) **99m:93049** 93C15 (47N70, 58E25, 93B28, 93C25)

— (*with* Gaĭshun, I. V.) Factorization of transfer operators and the structure of infinite zeros of infinite-dimensional linear dynamical systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 5–9, 122. (Summary) **99k:93057** 93C25 (93B60)

— (*with* Vabishchevich, Petr N.) Numerical solution of an inverse problem of source reconstructions in a parabolic equation. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 11, 93–100. 65M70 (65J20)

Borwein, David (*with* Kratz, Werner) A high indices Tauberian theorem. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 143–149. (E. Reimers) **99j:40009** 40E05 (40G99)

— Simple conditions for matrices to be bounded operators on l_p. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 10–14. (G. M. Leibowitz) **99b:47037** 47B37 (40C05, 47A30)

— (*with* Jakimovski, Amnon) A generalization of Hardy's inequality with applications. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 309–320. (Ling Yau Chan) **99m:26028** 26D15 (40G10)

Borwein, Jonathan M. (*with* Davidson, Kenneth R.) Mathematics in Canada: the future of mathematics in Canada 50 years later. Dual English-French text. *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 231–268, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A80 (01A67)

— (*with* Moors, Warren B.) Essentially smooth Lipschitz functions: compositions and chain rules. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 16–22, *Springer, Berlin*, 1997. (Marián Fabian) **99k:49031** 49J52 (46N10, 58C20)

— (*with* Borwein, Peter B.; Corless, Robert M.; Jörgenson, Loki; Sinclair, Nathalie) What is organic mathematics? *Organic mathematics* (*Burnaby, BC*, 1995), 1–18, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **99h:00014** 00A99 (00A30, 01A99)

— (*with* Vanderwerff, Jon D.) Convex functions on Banach spaces not containing l_1. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 1, 10–18. (Li Xin Cheng) **99a:46020** 46B20 (46A55, 46G05, 46N10, 52A41)

— (*with* Borwein, Peter B.) ★ Pi and the AGM. A study in analytic number theory and computational complexity. Reprint of the 1987 original. Canadian Mathematical Society Series of Monographs and Advanced Texts, 4. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xvi*+414 *pp. ISBN* 0-471-31515-X (From the preface) **99h:11147** 11Y60 (11B65, 68Q25)

— (*with* Wang, Xianfu) The converse of the mean value theorem may fail generically. *Amer. Math. Monthly* **105** (1998), *no.* 9, 847–848. 26A24

— (*with* Girgensohn, R.; Wang, Xianfu) On the construction of Hölder and proximal subderivatives. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 497–507. (Lionel Thibault) **99k:49032** 49J52 (26A16, 26A24)

— (*with* Bradley, David M.; Broadhurst, David J.; Lisoněk, Petr) Combinatorial aspects of multiple zeta values. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 38, 12 *pp.* (*electronic*). (J. Browkin) **99g:11100** 11M41 (05A19, 11Y60)

— (*with* Zhu, Qiji J.) Limiting convex examples for nonconvex subdifferential calculus. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 221–235. (Lionel Thibault) **99m:49023** 49J52 (26B05)

— (*with* Moors, Warren B.) A chain rule for essentially smooth Lipschitz functions. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 300–308 (*electronic*). (John R. Giles) **99g:49014** 49J52 (46N10, 58C20)

— (*with* Moors, Warren B.) Null sets and essentially smooth Lipschitz functions. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 309–323 (*electronic*). (John R. Giles) **99g:49013** 49J52 (46N10, 58C20)

— (*with* Mordukhovich, Boris S.; Shao, Yongheng) On the equivalence of some basic principles in variational analysis. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 228–257. (Abderrahim Jourani) **99j:49024** 49J52 (46N10)

Borwein, Peter B. (*with* Borwein, Jonathan M.; Corless, Robert M.; Jörgenson, Loki; Sinclair, Nathalie) What is organic mathematics? *Organic mathematics* (*Burnaby, BC*, 1995), 1–18, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **99h:00014** 00A99 (00A30, 01A99)

— (*with* Erdélyi, Tamás) Littlewood-type problems on subarcs of the unit circle. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1323–1346. (Jay M. Jahangiri) **99j:30004** 30C10

— (*with* Borwein, Jonathan M.) ★ Pi and the AGM. A study in analytic number theory and computational complexity. Reprint of the 1987 original. Canadian Mathematical Society Series of Monographs and Advanced Texts, 4. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xvi*+414 *pp. ISBN* 0-471-31515-X (From the preface) **99h:11147** 11Y60 (11B65, 68Q25)

— (*with* Erdélyi, Tamás) Müntz's theorem on compact subsets of positive measure. (English summary) *Approximation theory*, 115–131, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Yuri V. Kryakin) **99c:41006** 41A10 (41A17)

— (*with* Erdélyi, Tamás) A Remez-type inequality for non-dense Müntz spaces with explicit bound. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 450–457. (Summary) **99c:41027** 41A17

— (*with* Beaucoup, Franck; Boyd, David W.; Pinner, Christopher G.) Multiple roots of $[-1, 1]$ power series. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 135–147. (Raphaële Supper) **99c:30005** 30C15 (26C10, 30B10)

— (*with* Zhou, Ping[2]) On the irrationality of a certain q series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1605–1613. (Lawrence Washington) **99i:11057** 11J72 (41A21)

Bory Reyes, Juan (*with* Abreu Blaya, Ricardo) On an abstract singular integral operator on a Banach algebra of continuous functions. (Spanish. English and Spanish summaries) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 43–55. (Summary) **99k:47115** 47G10 (45E05, 45P05, 47A53)

— (*with* Abreu Blaya, Ricardo) Solvability of a Riemann linear conjugation problem on a fractal surface. *Extracta Math.* **13** (1998), *no.* 2, 239–241. (Michael V. Shapiro) **99m:30097** 30G35 (30E25)

von Borzeszkowski, Horst-Heino (*with* Treder, Hans-Jürgen) Classical gravity and quantum matter fields in unified field theory. (English summary) *Quantum gravity (Erice*, 1995), 32–42, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83064** 83D05

— (*with* Treder, Hans-Jürgen) Mixed field theories and Weyl-Cartan geometry. (English summary) *Quantum gravity (Erice*, 1995), 43–53, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83065** 83D05

— (*with* Treder, Hans-Jürgen) Implications of Mach's principle: dark matter and observable gravitons. *Causality and locality in modern physics (Toronto, ON*, 1997), 155–164, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (C. S. Sharma) **99m:83210** 83F05 (83C99)

Borzì, G. (*with* Alfonzetti, S.; Salerno, N.) Iteratively-improved Robin boundary conditions for the finite element solution of scattering problems in unbounded domains. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 4, 601–629. (Summary) **99b:78001** 78–08 (76Q05, 78A45)

Borzov, V. V. (*with* Damaskinskiĭ, E. V.; Egorov, S. B.) Representations of the deformed oscillator algebra under different choices of generators. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 80–106, 284. (Pavel Šťovíček) **99i:81089** 81R50 (17B37)

Borzykh, A. V. (*with* Bliev, N. K.; Myrzakulov, R.) Soliton solutions of the (2 + 1)-dimensional nonlinear Schrödinger equation. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1997**, *no.* 1, 34–40. 35Q55

Borzymowski, Andrzej (*with* Shaieb, Mustafa) Goursat-type problems containing the normal derivatives of the unknown functions. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 869–882. (Summary) **99a:35159** 35L30 (35C10)

Borzyszkowski, Tomasz Completeness of a logical system for structured specifications. (English summary) *Recent trends in algebraic development techniques (Tarquinia*, 1997), 107–121, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

Bos, Henk J. M. La structure de la *Géométrie* de Descartes. (English and French summaries) [The structure of Descartes's *Géométrie*] "Pour Descartes": mathématiques et physique cartésiennes (Paris, 1996). *Rev. Histoire Sci.* **51** (1998), *no.* 2-3, 291–317. (Massimo Galuzzi) **99m:01010** 01A45 (51–03)

Bos, L. P. (*with* Korevaar, J.) Characterization of algebraic curves by Chebyshev quadrature. (English summary) *J. Anal. Math.* **75** (1998), 233–246. (Wiesław Pleśniak) **99k:41049** 41A55 (32F05)

— (*with* Della Vecchia, B.; Mastroianni, Giuseppe) On the asymptotics of Christoffel functions for centrally symmetric weight functions on the ball in $\mathbf{R}^d$. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 277–290. (K. Pan) **99h:42043** 42C05

— (*with* Holland, Darius) Radial extensions of vertex data. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ*, 1996), 5–14, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 65D17 (41A63)

— (*with* De Marchi, S.) Limiting values under scaling of the Lebesgue function for polynomial interpolation on spheres. (English summary) *J. Approx. Theory* **96** (1999), *no.* 2, 366–377. (J. Szabados) **99k:41002** 41A05 (41A30)

Bosc, P. (*with* Lietard, L.; Pivert, O.) Flexible database querying and the division of fuzzy relations. (English summary) *Sci. Iran.* **2** (1996), *no.* 4, 329–340. 68P15 (03E72)

ten Bosch, A. Kinetic equation for Brownian particles. (English summary) *Phys. A* **262** (1999), *no.* 3-4, 396–404. 82C40 (82C31)

Bosch, Carlos (*with* Itza, Benjamín) A folding problem. (Spanish) *Miscelánea Mat. No.* 22 (1995), 23–36. 51M15

Bosch, Miquel (*with* Tatjer, J. C.) Smooth linearization for strongly dissipative two-dimensional maps. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:58170** 58F36

Bosch, P. (*with* Gómez Fernández, Juan Alfredo) Karush-Kuhn-Tucker theorem for operator constraints and the local Pontryagin maximum principle. (English summary) *Rev. Mat. Apl.* **18** (1997), *no.* 2, 79–106. (Wiesław Kotarski) **99a:49035** 49K27 (90C48)

van den Bosch, P. P. J. (*with* Lou, J. S.) A note on: "The asymptotic stability of linear autonomous systems with commensurate time delays" [IEEE Trans. Automat. Control **40** (1995), no. 6, 1114–1117; MR 96c:34176] by J. H. Su. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 943–946. 34K20 (93D05)

— (*with* Luo, Jian-san; Weiland, Siep; Goldenberg, Andrew A.) Design of performance robustness for uncertain linear systems with state and control delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1593–1596. (Summary) **99h:93061** 93C41 (93D09, 93D21)

Bosch, Robert A. (*with* Smith, Jason A.) Separating hyperplanes and the authorship of the disputed Federalist Papers. *Amer. Math. Monthly* **105** (1998), *no.* 7, 601–608. (A. Göpfert) **99f:90185** 90C90 (01A99)

Bosch, Siegfried (*with* Görtz, Ulrich) Coherent modules and their descent on relative rigid spaces. *J. Reine Angew. Math.* **495** (1998), 119–134. (Reinhold Hübl) **99b:14022** 14G20 (13J10, 14A20, 32P05)

Bosch Giral, Carlos *see* **Bosch, Carlos**

Boschi, D. (*with* Branca, S.; De Martini, Francesco; Hardy, Lucien; Popescu, Sandu) Experimental realization of teleporting an unknown pure quantum state via dual classical and Einstein-Podolsky-Rosen channels. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 6, 1121–1125. (Summary) **99b:81029** 81P99

Boschi-Filho, H. (*with* Borges, P. F.; Farina de Souza, Carlos) Generalized partition functions and interpolating statistics. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 843–852. (Summary) **99d:82010** 82B10 (81V70)

— (*with* Natividade, C. P.; de Souza Dutra, A.) Symmetry transform in Faddeev-Jackiw quantization of dual models. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065016, 9 *pp.* (Summary) **99m:81271** 81T70 (81T10)

Bosco, F. (*with* Antoniou, Ioannis) Spectral decomposition of contracting probabilistic dynamical systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 401–418. (Takehiko Morita) **99g:58100** 58F19 (60K40)

Bose, A. *see* **Bose, Anjan**

Bose, Amitabha (*with* Terman, David; Kopell, Nancy) Dynamics of two mutually coupled slow inhibitory neurons. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 241–275. (Joseph So) **99h:92010** 92C20 (34C25, 34D15)

Bose, Anil (*with* Cover, Alan; Rencke, James) Point dissipative 2D systems with conservative homogeneous nonlinear term. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv*, 1994), 10–19, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Summary) **99h:34073** 34D20 (34C99)

— (*with* Cover, Alan; Reneke, James) Linear feedback control of nonlinear systems with a dominating conservative quadratic term. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 507–518. (Summary) **99c:93046** 93B52 (93C10)

Bose, Anjan (*with* Carey, Graham F.) A class of data structures and object-oriented implementation for finite element methods on distributed memory systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 1-2, 109–121. 65Y05 (65N30)

Bose, Arup (*with* Boukai, Benzion) Sequential estimation of the mean of NEF-PVF distributions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 55–70. (Mohamed Tahir) **99h:62104** 62L12

— (*with* Neerchal, Nagaraj K.) Estimation of autoregressive parameters with systematic but incomplete sampling. *Frontiers in probability and statistics (Calcutta*, 1994/1995), 41–51, *Narosa, New Delhi*, 1998. (From the introduction) **99j:62125** 62M10

— A Glivenko-Cantelli theorem and strong laws for L-statistics. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 921–933. (Miguel A. Arcones) **99k:60081** 60F15

— (*with* Sen, Arusharka) The strong law of large numbers for Kaplan-Meier U-statistics. (English summary) *J. Theoret. Probab.* **12** (1999), *no.* 1, 181–200. (Miguel A. Arcones) **99m:60050** 60F15

Bose, Bella (*with* Tallini, Luca G.) Theory and design of adjacent asymmetric error masking codes. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 5, 544–555. (Summary) **99c:94069** 94C05

— (*with* Tallini, Luca G.) Design of balanced and constant weight codes for VLSI systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 5, 556–572. (Summary) **99c:94061** 94B60 (68Q35, 94C05)

Bose, Indranil (*with* Altinkemer, Kemal; Pal, Raktim) Average waiting time of customers in an $M/D/k$ queue with nonpreemptive priorities. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 317–328. (Summary) **99g:60166** 60K25 (90B22)

Bose, K. (*with* Mataga, P. A.; Ponte Castañeda, P.) Stable crack growth along a brittle/ductile interface. II. Small scale yielding solutions and interfacial toughness predictions. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 1, 1–34. (From the summary) **99k:73098** 73M25 (73E05, 73V05)

Bose, Mausumi Designs with repeated measurements on any number of units over varying periods. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 241–248. (K. Afsarinejad) **99i:62170** 62K15 (62K05)

Bose, N. K. (*with* Charoenlarpnopparut, C.) Minimax controller design using rate feedback. (English summary) *Circuits Systems Signal Process.* **18** (1999), *no.* 1, 17–25. 93B50

— (*with* Charoenlarpnopparut, C.) Errata: "Minimax controller design using rate feedback" [Circuits Systems Signal Process. **18** (1999), no. 1, 17–25]. *Circuits Systems Signal Process.* **18** (1999), *no.* 2, 189–190. 93B50

Bose, Prosenjit On embedding an outer-planar graph in a point set. (English summary) *Graph drawing (Rome*, 1997), 25–36, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

— (*with* Asberg, B.; Blanco Viejo, Gregoria; García López de Lacalle, Jesús; Overmars, Mark H.; Toussaint, G.; Wilfong, Gordon; Zhu, Binhai) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)

— (*with* Devroye, Luc) Intersections with random geometric objects. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 139–154. (Summary) **99b:68194** 68U05 (52B55)

— (*with* Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

Bose, R. C. *see* **Conference: Bose, Raj Chandra**, **99f:62005**; **99f:62006** *and* **Shrikhande, S. S., (99f:62006)**

Bose, S. K. *see* **Bose, Sujit Kumar**

Bose, S. N. *see* **Proceedings: Symposium on Mathematical Physics with Special Sessions on Bose's Works, 99b:00016** *and* **99b:00017**

Bose, Subir Kumar Quantum optical properties of the radiation field and the coherent states of the quantum groups $SU_q(2)$ and $SU_q(1,1)$. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 93–98. (*see* **99b:00016**) 81R30 (81R50, 81V80)

— (*with* Gupta, Ram Naresh) Exact solution of nonrelativistic Schrödinger equation for certain central physical potentials. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 3, 299–328. (Peter N. Zhevandrov) **99d:81030** 81Q05

Bose, Sudip On the transitivity of the posterior Pitman closeness criterion. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 263–274. (Song Gui Wang) **99g:62023** 62F10 (62C99)

— (*with* Dey, Dipak K.; Lou, Kou-Ren) A Bayesian approach to loss robustness. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 65–87. (Mark Steel) **99f:62040** 62F15 (62F35)

Bose, Sujit Kumar Transformation of chaotic nonlinear polynomial difference systems through Newton iterations. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 4, 411–423. (Antonio Falcó) **99c:58104** 58F13 (58F03)

— (*with* Gorain, Ganesh Chandra) Stability of the boundary stabilised internally damped wave equation $y'' + \lambda y''' = c^2(\Delta y + \mu \Delta y')$ in a bounded domain in $\mathbf{R}^n$. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 1–15. (Summary) **99i:35106** 35L75 (73F15, 73K12, 93C20, 93D15)

— (*with* Gorain, Ganesh Chandra) Exact controllability and boundary stabilization of torsional vibrations of an internally damped flexible space structure. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 423–442. (Vadim Komkov) **99i:93032** 93C20 (73K50, 93B05)

— (*with* Gorain, Ganesh Chandra) Exact controllability of a linear Euler-Bernoulli panel. (English summary) *J. Sound Vibration* **217** (1998), *no.* 4, 637–652. (Summary) **99h:93014** 93B05 (73K50, 93C20)

Bosetto, Elena Geometric probabilities of Buffon type in the Euclidean space E_3. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 77–87. (Summary) **99h:60017** 60D05 (52A22)

Bosgra, Okko H. (*with* Wortelboer, Pepijn M. R.; Steinbuch, Maarten) Iterative model and controller reduction using closed-loop balancing, with application to a compact disc mechanism. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 123–142. (*see* **99k:93005**) 93B11 (93B17, 93C85)

Boshernitzan, M. D. (*with* Carroll, C. R.) An extension of Lagrange's theorem to interval exchange transformations over quadratic fields. (English summary) *J. Anal. Math.* **72** (1997), 21–44. (P. Mendes) **99a:58101** 58F11 (11R45, 58F03)

Boshnakov, Georgi N. Periodically correlated solutions to a class of stochastic difference equations. *Stochastic differential and difference equations* (*Győr*, 1996), 1–9, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 60G99 (62M10)

— (*with* Esa, Sahib) Sufficient statistics for ARMA models with some fixed parameters. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1083–1099. (Summary) **99a:62129** 62M10

Boshuck, William (*with* Ballard, David) Definability and descent. *J. Symbolic Logic* **63** (1998), *no.* 2, 372–378. (Peter Johnstone) **99f:03092** 03G30 (03C40, 18B25, 18F99)

Bosi, Gianni A note on the existence of continuous representations of homothetic preferences on a topological vector space. (English summary) *Ann. Oper. Res.* **80** (1998), 263–268. (Summary) **99j:90004** 90A06 (06A06, 90A10)

Boskoff, Vladimir S-Riemannian manifolds and Barbilian spaces. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 317–325. 51C05 (53B99)

— (*with* Horja, P.) The characterization of some special Barbilian spaces using the Tzitzeica construction. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 5, 503–514. 54E35 (51M99)

— Finslerian and induced Riemannian structures for natural Barbilian spaces. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 9–16. 53B40

— Some remarks on i-derivable curves. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 31–40, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Themis Koufogiorgos) **99k:51022** 51M15 (53A04)

Bošković, Jovan D. A stable neural network-based adaptive controller for a class of unknown nonlinear plants. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 253–275. 93C40 (93C30)

Bosma, Wieb (*with* Cannon, John J.; Steel, Allan) Lattices of compatibly embedded finite fields. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 351–369. (Joachim von zur Gathen) **99a:11143** 11T30 (11Y16, 68Q40)

Bosov, A. V. (*with* Pankov, A. R.) Control algorithms for discrete systems of random structure. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 10, 113–125; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 2, 1647–1657 (1998). (Summary) **99i:93070** 93E20 (49K45)

Bosq, Denis (*with* Nguyen, Hung T.) ★ A course in stochastic processes. (English summary) Stochastic models and statistical inference. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 34. *Kluwer Academic Publishers Group, Dordrecht*, 1996. x+351 *pp. ISBN* 0-7923-4087-6 (John P. Lehoczky) **99i:60001** 60-01 (62M99)

— Parametric rates of nonparametric estimators and predictors for continuous time processes. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 982–1000. (Summary) **99c:62077** 62G05 (62M10)

— ★ Nonparametric statistics for stochastic processes. (English summary) Estimation and prediction. Second edition. Lecture Notes in Statistics, 110. *Springer-Verlag, New York*, 1998. *xvi*+210 *pp. ISBN* 0-387-98590-5 (Editors) **99d:62092** 62M99 (62G05)

— (*with* Shen, Jia) Estimation of an autoregressive semiparametric model with exogenous variables. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 105–127. (Peter M. Robinson) **99g:62131** 62M10 (62G05)

Bossavit, Alain ★ Computational electromagnetism. (English summary) Variational formulations, complementarity, edge elements. Electromagnetism. *Academic Press, Inc., San Diego, CA*, 1998. xx+352 *pp. ISBN* 0-12-118710-1 (Pierre Hillion) **99m:78001** 78–08 (65N99, 78–02, 78A30)

Bossert, M. (*with* Breitbach, Markus; Zyablov, Viktor V.; Sidorenko, Vladimir) Codes that correct multiple burst errors or erasures. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 15–25; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 297–306 (1998). (Summary) **99d:94039** 94B20

Bossert, Walter Uncertainty aversion in nonprobabilistic decision models. (English summary) *Math. Social Sci.* **34** (1997), *no.* 3, 191–203. (Frada Burstein) **99c:90006** 90A05 (90A06, 90A46)

— Opportunity sets and individual well-being. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 97–112. (Bhaskar Dutta) **99c:90012** 90A08

— Welfarism and rationalizability in allocation problems with indivisibilities. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 133–150. (Jan Węglarz) **99k:90016** 90A08 (90A10)

Bossi, A. (*with* Etalle, Sandro; Cocco, N.) Termination of well-moded programs. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 243–257. (Summary) **99i:68018** 68N17

Bossi, M. Chiara (*with* Vitillaro, Enzo) Asymptotic stability for damped strongly non-autonomous systems with applications to holonomic mechanical systems and nonlinear networks. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 147–166. (N. Chafee) **99d:34084** 34D05 (70F20, 70K20, 94C05)

Bossini, Serge Classification des courbes sur les surfaces rationelles génériques. (French summary) [Classification of curves on generic rational surfaces] *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 283–329, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Giorgio Bolondi) **99k:14060** 14J26

Bost, Jean-Benoît Analytic torsion of projective spaces and compatibility with immersions of Quillen metrics. *Internat. Math. Res. Notices* **1998,** *no.* 8, 427–435. (Tohru Nakashima) **99h:14030** 14G40 (14C40, 58G26)

Boston, B. *see* **Proceedings: Workshop on Compressible Turbulent Mixing, 99g:76002**

Boston, Nigel (*with* Leedham-Green, Charles) Counterexamples to a conjecture of Lemmermeyer. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 3, 177–179. (Franz Halter-Koch) **99m:11131** 11R37 (11R32, 20D15)

— The minimum distance of the [137, 69] binary quadratic residue code. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 282. (Summary) **99k:94052** 94B15

Bota, Constantin About a dynamical system described by an algebraic polynomial equation. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 68–70. 93B30 (93C20)

Botashev, Kh. I. On the construction of periodic solutions with given accuracy by the small parameter method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 728–733; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 698–703. (Summary) **99c:34080** 34C25 (34A45)

Botelho, Geraldo Cotype and absolutely summing multilinear mappings and homogeneous polynomials. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 145–153. (Ignacio Zalduendo) **99i:46006** 46B20 (46G20)

Botelho, Luiz C. L. A Polyakov fermionic string as a quantum state of Einstein theory of gravitation. (English summary) *Phys. Lett. B* **415** (1997), *no.* 3, 231–235. (Viqar Husain) **99a:83031** 83C45 (83E30)

— (*with* da Silva, Edson P.) Quantum geometry for the Brownian particle. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 28, 1191–1194. 81S20 (81S40)

— A simple renormalization scheme in random surface theory. (English summary) *Modern Phys. Lett. B* **13** (1999), *no.* 6-7, 203–207 (*electronic*). 82B41 (82B28)

Botha, J. D. Products of diagonalizable matrices over a field of characteristic two. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 37–44. (Ar. Meenakshi) **99k:15027** 15A23 (15A33)

Botkin, Nikolai D. Differentiability of solutions of an electro-elasticity model w.r.t. parameters. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 89–96, *VSP, Utrecht*, 1998. (Summary) **99g:73092** 73R05 (35Q72, 73D30, 73K10, 73K50)

— (*with* Hoffmann, Karl-Heinz[1]) Oscillations of nonlinear thin plates excited by piezoelectric patches. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 7, 495–503. (Introduction) **99d:73056** 73K10 (73D35, 73K50, 73R05)

— Homogenization of an equation describing linear thin plates excited by piezopatches. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 271–281. (Summary) **99k:73079** 73K10 (35B27, 35Q72, 73B27, 73K50, 73R05)

turova-Botkina, V. L. *see* **Turova-Botkina, V. L.**

Boto, J. P. On maps of type (p_0, p_1). (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 353–373. (Alexei Yu. Konstantinov) **99j:47068** 47F05 (35P25, 47A40)

Bott, E. (*with* Methfessel, M.; Krabs, Werner; Schmidt, P. C.) Nonsingular Hankel functions as a new basis for electronic structure calculations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3393–3425. (Ashok Kumar Mishra) **99h:82075** 82D20 (33D55, 81–08, 81V55)

Bott, Raoul Report on the fixed point formula. *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 295, 265–270, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 58G10

Bottacin, F. Poisson structures on Hilbert schemes of points of a surface and integrable systems. (English summary) *Manuscripta Math.* **97** (1998), *no.* 4, 517–527. (Raquel Mallavibarrena) **99m:14003** 14C05 (58F07)

Bottaro, Alessandro (*with* Luchini, Paolo) Görtler vortices: a backward-in-time approach to the receptivity problem. (English summary) *J. Fluid Mech.* **363** (1998), 1–23. (Summary) **99c:76035** 76D10 (76C05, 76E05)

— (*with* Luchini, Paolo) Görtler vortices: are they amenable to local eigenvalue analysis? (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 47–65. (Summary) **99j:76019** 76C05

Bottasso, Carlo L. A new look at finite elements in time: a variational interpretation of Runge-Kutta methods. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 355–368. (V. R. Ibragimov) **99f:65109** 65L06

— (*with* Borri, Marco) Integrating finite rotations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 307–331. (Werner M. Seiler) **99i:70008** 70E15

(65L06, 70–08, 73K05, 73V05)

— (*with* Bauchau, Olivier A.) On the design of energy preserving and decaying schemes for flexible, nonlinear multi-body systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 61–79. (Summary) **99j:73108** 73V15 (70–08, 73K12)

Bottazzini, Umberto Francisco Brioschi and scientific culture in post-union Italy. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *no.* 1, 59–78. (Luigi Pepe) **99m:01018** 01A55

— *see also* **Studies in the history of modern mathematics, 99i:01002**

Böttcher, Albrecht (*with* Karlovich, Yu. I.) Algebra of singular integral operators on a closed Carleson curve. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 7–10. (I. Spitkovsky) **99d:47022** 47B35 (30E20, 45E05, 47D30, 47G10)

— (*with* Grudskiĭ, Sergeĭ M.) On the composition of Muckenhoupt weights and inner functions. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 172–184. (Alberto Fiorenza) **99j:47033** 47B35 (42B30, 47B38, 47G10)

— (*with* Grudskiĭ, Sergeĭ M.) On the condition numbers of large semi-definite Toeplitz matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 285–301. (A. Bultheel) **99e:65076** 65F35 (15A12, 47B35)

— (*with* Karlovich, Yu. I.; Rabinovich, V. S.) Mellin pseudodifferential operators with slowly varying symbols and singular integrals on Carleson curves with Muckenhoupt weights. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 363–376. (Ron Kerman) **99i:47093** 47G30 (35Sxx, 45E05)

Böttcher, K.-J. Parameter sensitivity of deterministic and stochastic search methods. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 249–278, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C31 (90C15)

Botter, Denise A. (*with* Cordeiro, Gauss M.) Improved estimators for generalized linear models with dispersion covariates. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 91–104. (Summary) **99k:62135** 62J12

— (*with* Cordeiro, Gauss M.; Ferrari, Silvia L. de Paula; Cribari-Neto, Francisco) Modified maximum likelihood estimation in one-parameter exponential family models. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 1, 157–178. 62F10

Botterell, Andrew Mellor on negative properties. *Philos. Quart.* **48** (1998), *no.* 193, 523–526. 03A05

Bottoni, Paolo (*with* Levialdi, Stefano; Păun, Gheorghe) Successful visual human-computer interaction is undecidable. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 13–19. (Summary) **99c:68264** 68U99 (68Q99)

— (*with* Labella, Anna; Mussio, Piero; Păun, Gheorghe) Pattern control on derivations in context-free rewriting. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 3–28. (Summary) **99h:68108** 68Q50 (68Q45)

Bottreau, Anne (*with* Métivier, Yves) Minor searching, normal forms of graph relabelling: two applications based on enumerations by graph relabelling. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 110–124, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q42 (68R10)

— (*with* Di Bucchianico, Alessandro; Loeb, Daniel E.) Computer algebra and umbral calculus. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 65–72. (Heinrich Niederhausen) **99b:05009** 05A40

— (*with* Métivier, Yves) Some remarks on the Kronecker product of graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 55–61. (Martin Sonntag) **99i:05174** 05C75 (05C10, 05C40, 68R10)

Botvinnik, B. I. Bokshtein operators in cobordism theories of manifolds with singularities. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II (Russian)*, 19–69, 253, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 55N22

— (*with* Gilkey, Peter B.) The eta invariant and the Gromov-Lawson conjecture for elementary abelian groups of odd order. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 43–53. (Andrew J. Baker) **99f:58194** 58G12 (53C21, 57R19, 57R20)

Botyuk, A. O. A quasilinear periodic boundary value problem. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 12, 1690–1693; *translation in Ukrainian Math. J.* **49** (1997), *no.* 12, 1907–1911 (1998). (Summary) **99m:35160** 35L70 (35B10)

Bouabdallah, A. (*with* Heydemann, Marie-Claude; Opatrny, J.; Sotteau, Dominique) Embedding complete binary trees into star and pancake graphs. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 279–305. (Michael O. Albertson) **99d:68188** 68R10 (05C85, 68M99)

Boualem, Hassan (*with* Brouzet, Robert; Rakotondralambo, Joseph; Turiel, Francisco-Javier) Fibration lagrangienne munie d'une pseudo-métrique compatible. (English and French summaries) [Lagrangian fibration endowed with a compatible pseudometric] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1201–1204. (Carlo Morosi) **99i:53024** 53C15 (58F05)

Bouali, S. (*with* Charles, Josette) Generalized derivation and numerical range. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 563–570. (Introduction) **99i:47066** 47B47 (47A12)

de Bouard, Anne (*with* Saut, Jean-Claude) Symmetries and decay of the generalized Kadomtsev-Petviashvili solitary waves. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1064–1085. (Naruyoshi Asano) **99c:35208** 35Q53 (35B05, 35B40)

— (*with* Debussche, A.) On the stochastic Korteweg-de Vries equation. (English and French summaries) *J. Funct. Anal.* **154** (1998), *no.* 1, 215–251. (Igor D. Chueshov) **99c:35209** 35Q53 (35R60, 60H15, 76B15)

Bouaricha, Ali (*with* Schnabel, Robert B.) Algorithm 768: TENSOLVE: a software package for solving systems of nonlinear equations and nonlinear least-squares problems using tensor methods. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 174–195. 65Y15

— Tensor methods for large, sparse unconstrained optimization. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 3, 732–756. (Summary) **99f:90114** 90C30 (65K05)

— (*with* Schnabel, Robert B.) Tensor methods for large sparse systems of nonlinear equations. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 377–400. (Summary) **99d:65160** 65H10

Bouarroudj, S. (*with* Ovsienko, Valentin) Three cocycles on $\mathrm{Diff}(S^1)$ generalizing the Schwarzian derivative. *Internat. Math. Res. Notices* **1998**, *no.* 1, 25–39. (Janusz Grabowski) **99c:58020** 58D05 (34L99, 58B25)

Bouc, Serge ★ Green functors and G-sets. Lecture Notes in Mathematics, 1671. *Springer-Verlag, Berlin*, 1997. viii+342 *pp. ISBN* 3-540-63550-5 (Jacques Thévenaz) **99c:20010** 20C99 (19A22)

— Résolutions de foncteurs de Mackey. (English summary) [Resolutions of Mackey functors] *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 31–83, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Jacques Thévenaz) **99b:20015** 20C20 (19A22)

Boucetta, Mohamed Sur la variation des métriques à géodésiques périodiques. (English and French summaries) [On the variation of metrics with periodic geodesics] *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 17–20. (Anders Linnér) **99h:53047** 53C22 (58E10)

— Courbure sectionnelle et intégrales premières symétriques du flot géodésique: généralisation d'un théorème de S. Bochner. (English and French summaries) [Sectional curvature and symmetric first integrals of geodesic flow: a generalization of S. Bochner's theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1403–1406. (Edoh Amiran) **99k:58142** 58F17 (53C22)

Bouchaud, J. P. (*with* Claudin, P.; Cates, M. E.; Wittmer, J. P.) Models of stress propagation in granular media. (English summary) *Physics of dry granular media (Cargèse, 1997)*, 97–121, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:73041** 73E99 (73B99, 76A99)

Bouche, Daniel (*with* Molinet, Frédéric) ★ Méthodes asymptotiques en électromagnétisme. (French. French summary) [Asymptotic methods in electromagnetism] With a preface by Robert Dautray. Mathématiques & Applications [Mathematics & Applications], 16. *Springer-Verlag, Paris*, 1994. *xviii+416 pp. ISBN* 3-540-58229-0 (Pierre Hillion) **99a:78001** 78–02 (78A40, 78A45)

Bouchekif, Mohammed Some existence results for a class of quasilinear elliptic systems. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 203–219. (Xin Kang Guo) **99b:35063** 35J65 (58E05)

Bouchen, A. (*with* El Arni, A.; Ouknine, Youssef; N'Zi, Modeste) Intégration stochastique multivoque et inclusions différentielles stochastiques rétrogrades. (English summary) [Multivalued stochastic integration and backward stochastic differential inclusions] *Acta Math. Vietnam.* **23** (1998), *no.* 2, 325–345. (V. Mackevičius) **99j:60081** 60H10 (34A60, 34F05, 60H20)

Boucher, Thomas O. (*with* Gogus, Ozerk) Strong transitivity, rationality and weak monotonicity in fuzzy pairwise comparisons. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 133–144. (Summary) **99b:92066** 92G05 (90A05, 90A10)

Boucherie, Richard J. On the quasi-stationary distribution for queueing networks with defective routing. (English summary) *J. Austral. Math. Soc. Ser. B* **38** (1997), *no.* 4, 454–463. (Summary) **99a:60100** 60K25

— (*with* van Doorn, Erik A.) Uniformization for λ-positive Markov chains. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 171–186. (E. Seneta) **99d:60084** 60J27

— (*with* Stewart, Mark Andrew) Norton's equivalent for batch routing queueing networks with independently routing customers. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1091–1112. (Mark Kelbert) **99i:60165** 60K25 (90B12, 90B15)

— (*with* Sereno, Matteo) On closed support T-invariants and the traffic equations. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 473–481. (Peter Gerrard Taylor) **99k:60239** 60K30 (60K25, 90B22)

Boucherif, A. (*with* Bouguima, Sidi Mohammed) Nonlinear second order ordinary differential equations with nonlocal boundary conditions. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 73–85. (Summary) **99a:34042** 34B10 (34B15)

Boucheron, Stéphane (*with* Gardy, Danièle) An urn model from learning theory. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 43–67. (Hajime Yamato) **99e:60032** 60C05 (68T05)

Bouchet, André Multimatroids. I. Coverings by independent sets. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 626–646. (Gary Gordon) **99b:05027** 05B35

— Multimatroids. II. Orthogonality, minors and connectivity. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 8, 25 *pp.* (*electronic*). (Gary Gordon) **99b:05028** 05B35

— Multimatroids. IV. Chain-group representations. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 271–289. (Gary Gordon) **99k:05050** 05B35

Bouchitté, Guy (*with* Picard, Colette) Singular perturbations and homogenization in stratified media. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 307–341. (Summary) **99b:35007** 35B27 (73B27)

— (*with* Buttazzo, Giuseppe; Fragalà, Ilaria) Mean curvature of a measure and related variational problems. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 179–196 (1998). (Giovanni Bellettini) **99j:49082** 49Q20 (49J45)

— (*with* Alibert, J.-J.) Non-uniform integrability and generalized Young measures. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 129–147. (Michel Valadier) **99i:28007** 28A33 (49Q20)

— (*with* Bellieud, Michel) Homogenization of elliptic problems in a fiber reinforced structure. Nonlocal effects. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 407–436. (Steve Wright) **99h:35015** 35B27 (35J65, 73B27)

— (*with* Alberti, Giovanni; Seppecher, Pierre) Phase transition with the line-tension effect. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 1, 1–46. (Matthias Wilhelm Winter) **99j:76104** 76M30 (49Q20, 58E50, 76B45)

— (*with* Fonseca, Irene; Mascarenhas, Luisa) A global method for relaxation. (English summary) *Arch. Rational Mech. Anal.* **145** (1998), *no.* 1, 51–98. (Giovanni Alberti) **99j:49020** 49J45 (73B27, 73V25)

— (*with* Bellieud, Michel) Homogénéisation de problèmes elliptiques dégénérés. (English and French summaries) [Homogenization of degenerate elliptic equations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 787–792. (Summary) **99h:35016** 35B27 (35J25, 73B27)

— (*with* Fonseca, Irene; Malý, Jan) The effective bulk energy of the relaxed energy of multiple integrals below the growth exponent. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 463–479. (Georg K. Dolzmann) **99i:73024** 73C50 (49J99, 49Q20, 73V25)

Bouchitté, Vincent (*with* Todinca, Ioan) Minimal triangulations for graphs with "few" minimal separators. (English summary) *Algorithms—ESA '98 (Venice)*, 344–355, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:05147** 05C85 (68R10)

Bouchon-Meunier, Bernadette (*with* Kosheleva, Olga M.; Kreinovich, Vladik; Nguyen, Hung T.) Fuzzy numbers are the only fuzzy sets that keep invertible operations invertible. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 155–163. (Summary) **99a:04006** 04A72

— *see also* **Aggregation and fusion of imperfect information, 99e:04005**

Bouchut, François Un formalisme pour les estimations de type Kružkov pour les lois de conservation scalaires. (French summary) [A formalism for Kruzhkov estimates for scalar conservation laws] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* XVIII, 14 *pp.*, *École Polytech., Palaiseau*, 1997. (Vyacheslav V. Chistyakov) **99b:35129** 35L65

— (*with* James, François) Solutions en dualité pour les gaz sans pression. (English and French summaries) [Duality solutions for pressureless gases] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1073–1078. (Summary) **99e:35180** 35Q35 (76N10)

— (*with* Desvillettes, Laurent) A proof of the smoothing properties of the positive part of Boltzmann's kernel. (English and French summaries) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 47–61. (Carlo Cercignani) **99g:82067** 82C40 (45K05, 76P05)

Bouckaert, Remco R. (*with* Studený, Milan) On chain graph models for description of conditional independence structures. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1434–1495. (P. N. Rathie) **99k:62123** 62H99 (68R10)

Boudabbous, Youssef (*with* Dammak, Jamel) Sur la $(-k)$-demi-reconstructibilité des tournois finis. (English and French summaries) [On the $(-k)$-half-reconstructibility of finite tournaments] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1037–1040. (T. T. Raghunathan) **99j:05147** 05C60 (05C20)

— Sur la détermination d'une relation binaire à partir d'informations locales. (English summary) [Determining a binary relation from local information] *Math. Logic Quart.* **44** (1998), *no.* 2, 265–276. (Gerhard Behrendt) **99g:04001** 04A05 (06A07)

le Boudec, J.-Y. *see* **Le Boudec, J.-Y.**

Boudellioua, M. S. (*with* Pugh, A. C.; McInerney, S. J.; Johnson, Dean Spencer; Hayton, G. E.) A transformation for 2-D linear systems and a generalization of a theorem of Rosenbrock. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 491–503. (Summary) **99h:93059** 93C30 (93B25)

— (*with* Pugh, A. C.; McInerney, S. J.; Hayton, G. E.) Matrix pencil equivalents of a general 2-D polynomial matrix. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1027–1050. (T. Kaczorek) **99j:93023** 93B25 (15A22, 93C55)

Boudet, Roger The Glashow-Salam-Weinberg electroweak theory in the real algebra of spacetime. The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 321–336. (Piotr Kosiński) **99h:81227** 81V15 (15A66, 81R05)

Boudhraa, Zineddine Some properties of relatively locally finite spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 135–144. (Summary) **99f:54006** 54A10 (54D30)

Boudjellaba, Hafida (*with* Sari, Tewfik) Stability loss delay in harvesting competing populations. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 394–408. (Summary) **99m:92024** 92D25 (34C23, 34E15, 90A30)

Boudol, Gérard Typing the use of resources in a concurrent calculus (extended abstract). (English summary) *Advances in computing science—ASIAN'97 (Kathmandu*, 1997), 239–253, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (03B40, 68Q10)

Boudouvis, Andreas G. (*with* Georgiou, Georgios C.) Converged solutions of the Newtonian extrudate-swell problem. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 363–371. 76M10

Boudreaux-Bartels, G. F. Time-varying signal processing using Wigner distribution synthesis techniques. (English summary) *The Wigner distribution*, 269–317, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12

Boué, Michelle (*with* Dupuis, Paul) A variational representation for certain functionals of Brownian motion. (English summary) *Ann. Probab.* **26** (1998), *no.* 4, 1641–1659. (Catherine Donati-Martin) **99m:60124** 60J65 (60F10, 60H99)

Boufkhad, Yacine Algorithms for propositional KB approximation. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 280–285, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30 (03B70, 68T27)

Boufoussi, B. (*with* Eddahbi, M'Hamed; Kamont, Anna) Sur la dérivée fractionnaire du temps local brownien. (English summary) [On the fractional derivative of Brownian local time] *Probab. Math. Statist.* **17** (1997), *no.* 2, 311–319 (19*N*). (Philippe Biane) **99c:60167** 60J55

Bougé, Luc (*with* Cachera, David; Le Guyadec, Yann; Utard, Gil; Virot, Bernard) Formal validation of data-parallel programs: a two-component assertional proof system for a simple language. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 71–107. (Dorothy Bollman) **99c:68169** 68Q60

Boughariou, Morched Generalized solutions of first order singular Hamiltonian systems. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 431–444. (Vittorio Coti Zelati) **99b:58192** 58F22 (34C25, 58E05, 58F05, 70H05)

Boughton, Edward M. (*with* Fogel, David B.; Wasson, Eugene C.; Porto, Vincent W.; Shively, Jamen W.) Initial results of training neural networks to detect breast cancer using evolutionary programming. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 497–510. (*see* **99b:90008**) 90C90 (92B20, 92C50)

— (*with* Fogel, David B.; Wasson, Eugene C.; Porto, Vincent W.; Shively, Jamen W.) Erratum: "Initial results of training neural networks to detect breast cancer using evolutionary programming" [Control Cybernet. **26** (1997), no. 3, 497–510]. *Control Cybernet.* **26** (1997), *no.* 4, 665. 90C90 (92B20, 92C50)

Bougrini, H. (*with* Piriou, Alain; Varenne, J. P.) Propagation et interaction des symboles principaux pour les ondes conormales semi-linéaires. [Propagation and interaction of principal symbols for semilinear conormal waves] *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 333–370. (Alan Jeffrey) **99c:35003** 35A20 (35L60)

Bouguecha, Mohamed Modèle de Skyrme et résultats de symétrie. (English and French summaries) [Symmetry results for the Skyrme model] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 819–822. (Maria J. Esteban) **99i:58043** 58E30 (35Q40)

Bouguima, Sidi Mohammed (*with* Boucherif, A.) Nonlinear second order ordinary differential equations with nonlocal boundary conditions. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 73–85. (Summary) **99a:34042** 34B10 (34B15)

— (*with* Addou, Idris; Derhab, Mohammed; Raffed, Yazid Said) On the number of solutions of a quasilinear elliptic class of B.V.P. with jumping nonlinearities. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 575–600. (Michal Fečkan) **99m:34030** 34B15 (35J60)

Bouhaddi, N. (*with* Fillod, R.) Substructuring by a two level dynamic condensation method. (English summary) *Comput. & Structures* **60** (1996), *no.* 3, 403–409. (Summary) **99g:73101** 73V05

Bouhamidi, A. (*with* Le Méhauté, Alain) Splines in approximation and differential operators: (m, l, s) interpolating-spline. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ*, 1996), 77–87, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:41020** 41A15 (41A63, 65D07)

Bouhchouch, A. (*with* Lee, Hyo-Seong; Dallery, Yves; Frein, Y.) Performance evaluation of open queueing networks with arbitrary configuration and finite buffers. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 181–206. (From the summary) **99b:90056** 90B22 (60K25, 90B12)

Bouhennache, Tark Analyse spectrale d'une bande élastique isotrope stratifiée et applications. (English and French summaries) [Spectral analysis of a stratified isotropic elastic strip and applications] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 641–644. (Summary) **99g:73033** 73C99 (35Q72, 73B27, 73D25)

Bouillard, Ph. (*with* Ihlenburg, Frank) Error estimation and adaptivity for the finite element method in acoustics. *Advances in adaptive computational methods in mechanics (Cachan*, 1997), 477–492, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 76M10 (76Q05)

Boukai, Benzion (*with* Bose, Arup) Sequential estimation of the mean of NEF-PVF distributions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 55–70. (Mohamed Tahir) **99h:62104** 62L12

— (*with* Berger, James O.; Wang, Yin Ping) Unified frequentist and Bayesian testing of a precise hypothesis. (English summary) With comments by Dennis V. Lindley, Thomas A. Louis and David Hinkley and a rejoinder by the authors. *Statist. Sci.* **12** (1997), *no.* 3, 133–160. (Christian P. Robert) **99e:62003** 62A10 (62A15, 62F15)

Boukas, El-Kébir (*with* El-Férik, Sami; Malhamé, Roland P.) A tractable class of maximal hedging policies in multi-part manufacturing systems. (English summary) *Discrete Event Dyn. Syst.* **8** (1998), *no.* 3, 299–331. 90B30 (93E20)

— (*with* Benjelloun, K.) Mean square stochastic stability of linear time-delay system with Markovian jumping parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1456–1460. (Daoyi Xu) **99g:93082** 93E15 (93C30)

— (*with* Shi, Peng) Stochastic stability and guaranteed cost control of discrete-time uncertain systems with Markovian jumping parameters. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1155–1167. (Tomás Caraballo) **99j:93110** 93E15 (93D09, 93E20)

— Hedging point policy improvement. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 47–70. (Summary) **99d:90057** 90B25

— (*with* Kenne, J. P.) Optimal control of failure prone manufacturing systems with corrective maintenance. *Systems modelling and optimization (Detroit, MI*, 1997), 468–476, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B25

Boukas, L. A. (*with* Missirlis, N. M.) The parallel local modified SOR for nonsymmetric linear systems. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 153–174. (Summary) **99m:65205** 65N22 (65F10)

Boukerrou, Kamel (*with* Kurz, Ludwik) Suppression of "salt and pepper" noise based on Youden designs. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 217–235. 68U10 (62K10)

el Boukfaoui, Y. *see* **El Boukfaoui, Y.**

Boukir, K. (*with* Maday, Yvon; Métivet, Brigitte; Razafindrakoto, E.) A high-order characteristics/finite element method for the incompressible Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **25** (1997), *no.* 12, 1421–1454. (M. M. Sussman) **99a:76082** 76M10 (65M12, 76D05)

Boukricha, Abderrahman (*with* Bel Hadj Rhouma, Nadra; Mosbah, Mahel) Perturbations et espaces harmoniques non linéaires. (English summary) [Perturbations and nonlinear harmonic spaces] *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 33–58. (N. Boboc) **99f:31014** 31D05 (35J60, 35K60)

Boukrouche, Mahdi *see* **Proceedings: Congress of Numerical Analysis, 99e:00012**

Boulaamayel, Bennasser (*with* Barthélemy, Louise) Sous-solutions de problèmes aux limites en dimension 1. (English summary) [Subsolutions of boundary value problems in dimension 1] *Positivity* **1** (1997), *no.* 2, 125–143. (Dan Tiba) **99m:34031** 34B15 (47H05, 47H15, 47N20)

Boulagouaz, M'hammed Une généralisation du lemme de Hensel. (French summary) [A generalization of Hensel's lemma] *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, 665–673. (Jean Guérindon) **99i:13034** 13J15 (12J10, 13A18)

— Algèbre à division graduée centrale. [Central graded division algebra] *Comm. Algebra* **26** (1998), *no.* 9, 2933–2947. (André Leroy) **99i:16035** 16K20 (13A20)

Boulahouache, Chaouki (*with* Thompson, George) One-loop effects in various dimensions and D-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 31, 5409–5423. (Summary) **99i:81151** 81T15 (81T13, 81T60)

Boulanger, Christophe Feedback stabilization of nonlinear stochastic systems by locally bounded controls. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 17–27. (Summary) **99k:93074** 93D15 (93E03)

Boulanger, Ph. (*with* Hayes, Michael A.) Bounds on elastic wave speeds in crystals: theory and applications. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1977, 2289–2322. (Summary) **99h:73027** 73D15 (73B40)

— (*with* Hayes, Michael A.) Acoustic axes for elastic waves in crystals: theory and applications. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1977, 2323–2346. (Summary) **99h:73028** 73D15 (73B40)

— Energy flux for damped inhomogeneous plane waves in viscoelastic fluids. (English summary) *Wave Motion* **28** (1998), *no.* 3, 215–225. (Summary) **99e:76005** 76A10

Boulanouar, Mohamed Un modèle de Rotenberg avec des vitesses de maturité nulles. (English and French summaries) [A Rotenberg model with maturation velocity nil] *C.*

R. Acad. Sci. Paris Sér. I Math. **326** (1998), *no.* 4, 443–446. (Summary) **99k:92023** 92D25 (35Q80, 92C30)
— Un modèle de Rotenberg avec la loi à mémoire parfaite. (English and French summaries) [A Rotenberg model with perfect memory rule] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 965–968. (Summary) **99k:92009** 92C30 (47D06, 47N60, 92D25)
Boulatov, Dimitri V. Quantum deformation of lattice gauge theory. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 295–322. (Joanna Kania-Bartoszynska) **99j:57016** 57N10 (17B37, 81T25)
— (*with* Ambjørn, Jan; Nielsen, Jakob L.; Rolf, Juri; Watabiki, Yoshiyuki) The spectral dimension of 2D quantum gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 10, 8 *pp.* (*electronic*). (Summary) **99c:83026** 83C45
— Three-dimensional simplicial gravity and combinatorics of group presentations. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 10, 24 *pp.* (*electronic*). (José A. Zapata) **99i:83024** 83C27 (20F32, 83C45)
Boulbrachene, M. The noncoercive quasi-variational inequalities related to impulse control problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 101–108. (Ursula Felgenhauer) **99f:49048** 49M15 (35J85, 49J20, 65N30)
Boulet, Benoit (*with* Francis, Bruce Allen) Consistency of open-loop experimental frequency-response data with coprime factor plant models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1680–1691. (Yuri V. Zaika) **99j:93095** 93E03 (93B36, 93E12)
Boulet, Pierre (*with* Dongarra, Jack J.; Robert, Yves; Vivien, Frédéric) Static tiling for heterogeneous computing platforms. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 547–568. 68M20
Boulmezaoud, Tahar Zamène Espaces de Sobolev avec poids pour l'équation de Laplace dans le demi-espace. (English and French summaries) [Weighted Sobolev spaces for the Laplace equation in the half-space] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 221–226. (Summary) **99j:35035** 35J25 (35J05, 46E35)
— On the existence of non-linear Beltrami fields. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 437–442. (Manuel Núñez Jiménez) **99m:76118** 76W05 (35Q35, 78A30)
Boulton, Richard J. Generating embeddings from denotational descriptions. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 67–86, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (68Q55, 68T15)
Boumaza, Rachid Distribution asymptotique de l'affinité L^2 de densités gaussiennes. (English and French summaries) [Asymptotic distribution of L^2-affinity between Gaussian densities] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 6, 527–529. (Summary) **99k:62046** 62F12 (60F05, 60G15)
Boumenir, Amin Inverse spectral problem for the Laguerre differential operator. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 218–240. (M. Krishna) **99g:34164** 34L40 (34A55)
— Eigenvalues of periodic Sturm-Liouville problems by the Shannon-Whittaker sampling theorem. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1057–1066. (Summary) **99i:34118** 34L15 (65L15)
Bounabat, A. (*with* Gauthier, J. P.; Xu, Cheng-Zhong) An observer for infinite-dimensional skew-adjoint bilinear systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 20 *pp.* (*electronic*). (Summary) **99g:93016** 93B07 (93C10)
Bounds, S. (*with* Davey, Keith) A generalized SOR method for dense linear systems of boundary element equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 953–967 (*electronic*). (Summary) **99b:65032** 65F10 (15A12, 65N22, 65N38)
Bouno, Hironori (*with* Iwama, Kazuo) Unsatisfiability threshold values for randomly generated sum-product logic formulas. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 56–62. (*see* **99i:65003**) 68Q25 (03B05, 06E30)
Bountis, Tassos C. (*with* Rothos, Vassilios M.) The second order Mel′nikov vector. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 26–35. (Guido Gentile) **99g:34104** 34C37 (34C23, 58F30)
— (*with* Kollmann, Michael) A Mel′nikov approach to soliton-like solutions of systems of discretized nonlinear Schrödinger equations. (English summary) Fluctuations, nonlinearity and disorder (Crete, 1996). *Phys. D* **113** (1998), *no.* 2-4, 397–406. (B. M. Herbst) **99h:39019** 39A12
Bouquet, S. (*with* Feix, Marc R.; Geronimi, C.; Cairó, Laurent; Leach, P. G. L.; Lemmer, R. L.) On the singularity analysis of ordinary differential equations invariant under time translation and rescaling. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7437–7461. (Summary) **99i:34015** 34A34 (34A20)
— (*with* Bourdier, A.) Notion of integrability for time-dependent Hamiltonian systems: illustrations from the relativistic motion of a charged particle. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1273–1283. (Robert L. Warnock) **99b:70014** 70H05 (58F07, 78A35)
Bouras, A. (*with* Foufou, S.; Brun, J. M.) Surfaces intersection for solid algebra: a classification algorithm. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 114–131, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65193** 65Y25
Bourbaki, Nicolas *see* **Aubin, David**, **99g:01044**; **Borel, Armand**, **99k:01049a** *and* **99k:01049b**
Bourdache-Siguerdidjane, Houria (*with* Sira-Ramírez, Hebertt) A redundant dynamical sliding mode control scheme for an asymptotic space vehicle stabilization. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 901–912. 93D21 (93C95)
Bourdarias, C. Approximation of the solution to a system modeling heatless adsorption of gases. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 13–30 (*electronic*). (Wei Zhong Dai) **99c:65163** 65M12 (35L65, 35Q99, 65C20, 65M15)
Bourdaud, Gérard (*with* Sickel, Winfried) Homeomorphisms which act on Besov spaces. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 1–16, *Prometheus, Prague*, 1996. (Moshe Marcus) **99a:47042** 47B38
Bourdeau, Michèle (*with* Bakas, Ioannis; Cardoso, Gabriel Lopes) Supersymmetric solutions in three-dimensional heterotic string theory. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 103–138. (Sergey Nikolaevich Roshchupkin) **99d:81105** 81T30 (83E30)
— (*with* Cardoso, Gabriel Lopes) Finite energy solutions in three-dimensional heterotic string theory. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 137–157. (Marco Spaans) **99h:81155** 81T30 (83E30)
Bourdier, A. (*with* Bouquet, S.) Notion of integrability for time-dependent Hamiltonian systems: illustrations from the relativistic motion of a charged particle. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1273–1283. (Robert L. Warnock) **99b:70014** 70H05 (58F07, 78A35)
Bourdon, Marc (*with* Pajot, Hervé) Poincaré inequalities and quasiconformal structure on the boundary of some hyperbolic buildings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2315–2324. (M. Yu. Vasil′chik) **99j:30024** 30C65 (51E24)
Bourdon, P. S. (*with* Cima, Joseph; Matheson, A. L.) Compact composition operators on BMOA. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2183–2196. (Wayne Stewart Smith) **99i:47052** 47B38 (30D50)
de la Bourdonnaye, Armel *see* **de La Bourdonnaye, Armel**
Bourennane, Mohamed (*with* Karlsson, Anders) Quantum teleportation using three-particle entanglement. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4394–4400. (Summary) **99k:81043** 81P99
Bourgain, Jean Hamiltonian methods in nonlinear evolution equations. *Fields Medallists' lectures*, 542–554, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Peter E. Zhidkov) **99h:35195** 35Q55 (35K99)
— Analysis results and problems related to lattice points on surfaces. (English summary) *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 85–109, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (C. Eugene Wayne) **99c:42012** 42B05 (11P21, 35P20, 35Q55)
— Gibbs measures, quasi-periodic solutions and nonlinear partial differential equations. (English summary) *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 53–63, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:35207** 35Q55 (35B99, 58F27)
— (*with* Wang, Wen Sheng[1]) Construction of blowup solutions for the nonlinear Schrödinger equation with critical nonlinearity. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 197–215 (1998). (Marcel Oliver) **99m:35219** 35Q55 (35B99, 35C99)
— Refinements of Strichartz' inequality and applications to 2D-NLS with critical nonlinearity. (English summary) *Internat. Math. Res. Notices* **1998**, *no.* 5, 253–283. (Tohru Ozawa) **99f:35184** 35Q55
— Scattering in the energy space and below for 3D NLS. *J. Anal. Math.* **75** (1998), 267–297. (Tohru Ozawa) **99m:35180** 35P25 (35J10, 35Q55)
— Random points in isotropic convex sets. (English summary) *Convex geometric analysis* (*Berkeley, CA*, 1996), 53–58, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Hui Ling Le) **99m:60021** 60D05 (52A22, 60F05)
— (*with* Zhang, Gaoyong) On a generalization of the Busemann-Petty problem. (English summary) *Convex geometric analysis* (*Berkeley, CA*, 1996), 65–76, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Summary) **99m:52011** 52A40 (52A20, 52A38)
— Global wellposedness of defocusing critical nonlinear Schrödinger equation in the radial case. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 145–171. (Tohru Ozawa) **99e:35208** 35Q55
— *see also* **Caffarelli, Luis A.**, **99b:00010**)
Bourgeat, Alain (*with* Mikelić, Andro; Wright, Stephen James) Stochastic two-scale convergence in the mean and applications. *J. Reine Angew. Math.* **456** (1994), 19–51. (From the introduction) **99b:35008** 35B27 (35R60, 60H15, 73B27)
— (*with* Amaziane, B.; El Amri, H.) Existence of solutions to various rock types model of two-phase flow in porous media. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 121–132. (Summary) **99a:76141** 76S05 (35K60, 35Q35, 76T05)
— (*with* Luckhaus, Stephan; Mikelić, Andro) Convergence of the homogenization process for a double-porosity model of immiscible two-phase flow. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1520–1543. (Vasily V. Zhikov) **99a:76143** 76S05 (35B27, 35K55, 35Q35, 73B27, 76T05)
— (*with* Esselaoui, D.; Loukili, Y.) Perfection of the simulation of freshwater/saltwater interface motion. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 117–129, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 86A05 (76M25, 76S05)
— (*with* Bakhvalov, N. S.) Precise estimates of the difference between the homogenized solution with its first corrector and the original one. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 45–60. (Summary) **99k:65102** 65N15 (35J99, 65N12, 73B27)
— (*with* Mikelić, Andro; Pyatnitskii, Andrei L.) Modèle de double porosité aléatoire. (English and French summaries) [Random double porosity model] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 99–104. (Antonio Fasano) **99i:76141** 76S05 (35B25, 35Q35, 73B27, 76M35)
— (*with* Marušić-Paloka, Eduard) Mathematical modelling of a non-Newtonian viscous flow through a thin filter. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 607–612. (Samia Lyaghfouri-Challal) **99i:76003** 76A05 (35Q35, 73B27, 76D30, 76S05)
— (*with* Marušić-Paloka, Eduard) Nonlinear effects for flow in periodically constricted channel caused by high injection rate. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 379–405. (Samia Lyaghfouri-Challal) **99g:76032** 76D05 (35Q35, 76D20, 76S05)
Bourgeois, Anu G. (*with* Trahan, Jerry L.; Vaidyanathan, Ramachandran) Tighter and broader complexity results for reconfigurable models. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 271–282. (Summary) **99f:68019** 68M10
Bourgeois, Christian (*with* Nicaise, Serge) Prewavelet approximations for a system of boundary integral equations for plates with free edges on polygons. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1233–1267. (Summary) **99f:65182** 65N38 (45L05, 65R20, 73K10, 73V20)
Bourguignon, Jean Pierre Métriques d'Einstein-Kähler sur les variétés de Fano: obstructions et existence (d'après Y. Matsushima, A. Futaki, S. T. Yau, A. Nadel et G. Tian). (French summary) [Einstein-Kähler metrics on Fano manifolds: obstructions and existence (after Y. Matsushima, A. Futaki, S.-T. Yau, A. Nadel and G. Tian)] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 830, 5, 277–305. (Thalia D. Jeffres) **99i:32033** 32L07 (14J45, 53C25, 53C55)
— (*with* Hindry, Marc; Duby, Jean-Jacques; Laumond, Jean-Paul; Châtelet, Gilles; Risler, Jean-Jacques; Schapira, Pierre) Le rôle des mathématiques. [The role of mathematics]

Gaz. Math. No. 74 (1997), 5–25. (Editors) **99g:00021** 00A30 (01A80)

— *see also* **Chevalley, Claude**, **99f:01028**

Bourke, Mary M. (*with* Fisher, D. Grant) Solution algorithms for fuzzy relational equations with max-product composition. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 61–69. (Summary) **99j:04001** 04A72

Bourlard, Maryse (*with* Nicaise, Serge) Abstract Green formula and applications to boundary integral equations. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 667–689. (A. P. Soldatov) **99b:47071** 47G10 (35J25, 45P05, 73K10)

— (*with* Nicaise, Serge) A refined boundary element method for the heat equation. *Analysis, numerics and applications of differential and integral equations* (*Stuttgart*, 1996), 36–40, *Pitman Res. Notes Math. Ser.*, 379, *Longman, Harlow*, 1998. (Erwin Schechter) **99d:65335** 65N38 (35K05, 65N50)

— An adapted boundary element method for the clamped plate problem in a polygonal plane domain. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 505–527. (R. Kodnár) **99j:65216** 65N38 (65N30, 73K10, 73V10)

Bourlès, Henri (*with* Fliess, Michel) Finite poles and zeros of linear systems: an intrinsic approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 897–922. 93B55 (93C05)

— (*with* El Mrabet, Yamina) Periodic-polynomial interpretation for structural properties of linear periodic discrete-time systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 241–251. (Ewa Pawłuszewicz) **99a:93064** 93C55 (93B07, 93B25)

Bourne, N. K. (*with* Field, John Edwin) Shock-induced collapse and luminescence by cavities. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 295–311. (*see* **99k:76002**) 76Q05 (78A99)

Bournez, Olivier Achilles and the tortoise climbing up the hyper-arithmetical hierachy. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 21–71. (Cristian Calude) **99k:68047** 68Q05 (03D55)

— Some bounds on the computational power of piecewise constant derivative systems. (English summary) *Theory Comput. Syst.* **32** (1999), *no.* 1, 35–67. (Klaus Meer) **99k:68048** 68Q05 (03D15)

Bourov, A. *see* **Burov, A. A.**

Bourquin, Frédéric (*with* Namar, Rabah) A semi-dual mode synthesis method for plate bending vibrations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 384–390, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99h:73085** 73V20 (65N25, 65N55, 73K10, 73K12)

Bourreau, Emmanuel (*with* Beckermann, Bernhard) How to choose modified moments? (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 81–98. (Summary) **99g:65024** 65D20 (33C45)

Bouscaren, Elisabeth *see* **Model theory and algebraic geometry**, **99k:03032**

Bouslous, H. (*with* Erraoui, M.; El Boukfaoui, Y.) Stabilizability of infinite-dimensional uncertain system. (English summary) *Int. J. Appl. Math.* **1** (1999), *no.* 1, 1–10. 93D15 (34D99, 34H05, 93C25)

Bousquet, Jacques (*with* Daniel, Marc) Flaw removal on surfaces. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 43–52, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

Bousquet-Mélou, Mireille (*with* Eriksson, Kimmo) Lecture hall partitions. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 101–111. (Christian Krattenthaler) **99c:05015** 05A17 (05A15, 05A30, 11P81, 20F55)

— (*with* Eriksson, Kimmo) Lecture hall partitions. II. (English summary) *Ramanujan J.* **1** (1997), *no.* 2, 165–185. (Christian Krattenthaler) **99c:05016** 05A17 (05A15, 05A30, 11P81, 20F55)

— Multi-statistic enumeration of two-stack sortable permutations. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 21, 12 *pp.* (*electronic*). (Toshihiro Watanabe) **99b:05001** 05A15 (20B40)

Boussaïd, S. (*with* Guérin, J. P.) Feedback representation of precompensators: the general case. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 195–206. 93B52 (93C05)

— (*with* Guérin, J. P.) Feedback representation of precompensators: application to decoupling linear multi-input multi-output plants. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 207–221. 93B52 (93C05)

Boussari, A. (*with* Maschke, Erich K.; Saramito, Bernard) Bifurcations of stationary tearing modes with a resistivity depending on a flux function. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 61–68. (Summary) **99c:76114** 76W05 (35B32, 35Q35, 76E25, 76M25)

Boussejra, Abdelhamid Solutions du système d'équations différentielles de Hua et intégrales de Poisson-Shilov des fonctions de carré intégrable sur la frontière de Shilov de la boule matricielle de rang deux. (English and French summaries) [Solutions of the Hua system of differential equations and the L^2 range of the Poisson-Shilov transform on the Shilov boundary of the matrix ball of rank two] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 793–798. (Summary) **99j:35021** 35F99

Bousso, Raphael (*with* Hawking, Stephen W.) Trace anomaly of dilaton-coupled scalars in two dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7788–7791. (Summary) **99c:83047** 83C57 (81T20, 83C47)

— (*with* Hawking, Stephen W.) (Anti-)evaporation of Schwarzschild-de Sitter black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2436–2442. (Gil De Oliveira-Neto) **99b:83047** 83C57 (83C47)

— Proliferation of de Sitter space. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 083511, 7 *pp.* (Summary) **99k:83056** 83C57 (83F05)

— (*with* Chamblin, Andrew) Open inflation from nonsingular instantons: wrapping the universe with a membrane. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063504, 10 *pp.* 83F05 (83C45)

Boutabaa, Abdelbaki Solutions entières p-adiques d'une certaine équation fonctionnelle. [p-adic integral solutions of a certain functional equation] *Séminaire d'Analyse*, 1992–1993 (*Aubière*), Exp. *No.* 9, 9 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 8, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (Daniel Barsky) **99a:11085** 11J25 (30D35, 30G06, 39B52)

— (*with* Escassut, Alain; Haddad, Labib) On uniqueness of p-adic entire functions. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 145–155. (Daniel Barsky) **99j:30051** 30G06 (11S80, 12J25, 46S10)

— (*with* Escassut, Alain) On uniqueness of p-adic meromorphic functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2557–2568. (M. S. Rangachari) **99a:46136** 46S10 (12J25, 30G30, 46J15)

Boutet de Monvel, A. *see* **Boutet de Monvel-Berthier, Anne-Marie**

Boutet de Monvel, Anne *see* **Boutet de Monvel-Berthier, Anne-Marie**

Boutet de Monvel, J. H. (*with* Houdayer, J.; Martin, Olivier C.) Comparing mean field and Euclidean matching problems. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **6** (1998), *no.* 3, 383–393. (Summary) **99i:82023** 82B44 (82D30)

Boutet de Monvel, Louis (*with* Khruslov, Evgenii Ya.) An averaged model of the diffusion of colored particles in domains with small obstacles. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 78–101. (Taras A. Mel'nyk) **99c:35020** 35B27 (35K99, 73B27)

— Opérateurs pseudo-différentiels. Application au problème de Neumann à dérivée oblique (d'après L. Hörmander). [Pseudodifferential operators. Application to the oblique derivative Neumann problem (after L. Hörmander)] *Séminaire Bourbaki, Vol. 9, Exp. No.* 308, 465–478, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 35S15 (35J25)

— On the holonomic character of the elementary solution of a partial differential operator. (English summary) *New trends in microlocal analysis* (*Tokyo*, 1995), 171–177, *Springer, Tokyo*, 1997. (Andrea D'Agnolo) **99j:58192** 58G07 (35A20)

— (*with* Chueshov, Igor D.; Khruslov, Evgenii Ya.) Homogenization of attractors for semilinear parabolic equations on manifolds with complicated microstructure. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 297–322. (Ioannis G. Stratis) **99e:35095** 35K55 (34G20, 35B27, 35B40, 47H20, 58G30)

— (*with* Iordan, A.) Peak curves in weakly pseudoconvex boundaries in $\mathbf{C}^2$. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 1–15. (Gregor Herbort) **99e:32016** 32E25 (32F30)

— (*with* Khruslov, Evgenii Ya.) Averaging of a diffusion equation on Riemannian manifolds of complex microstructure. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 158–186; *translation in Trans. Moscow Math. Soc.* **1997**, 137–161. (Jürgen Eichhorn) **99j:58198** 58G11 (35B27, 35K15)

— (*with* Chueshov, Igor D.; Rezunenko, A. V.) Inertial manifolds for retarded semilinear parabolic equations. *Nonlinear Anal.* **34** (1998), *no.* 6, 907–925. (J. Milota) **99h:35218** 35R10 (34K30, 35K55, 47H20)

— (*with* Iordan, A.) Real analytic maximum-modulus sets. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 81–88. (Gregor Herbort) **99k:32019** 32E25 (32F25)

Boutet de Monvel-Berthier, Anne-Marie (*with* Mantoiu, Marius) The method of the weakly conjugate operator. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 204–226, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (Alexei Yu. Konstantinov) **99d:47021** 47B25 (35P05, 47A10, 47N50, 81Q10)

— (*with* Egorova, Ira) On solutions of nonlinear Schrödinger equations with Cantor-type spectrum. (English summary) *J. Anal. Math.* **72** (1997), 1–20. (R. G. Airapetyan) **99d:35148** 35Q55 (34L40)

— (*with* Sahbani, Jaouad) On the spectral properties of discrete Schrödinger operators. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1145–1150. (M. Krishna) **99g:47073** 47B39 (47N50, 81Q10)

— (*with* Chueshov, Igor D.) Uniqueness theorem for weak solutions of von Karman evolution equations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 419–429. (R. Kodnár) **99g:35088** 35L75 (35D05, 35Q72, 73D35, 73K10)

— (*with* Khorunzhiĭ, A. M.) Limit theorems for random matrices. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 175–197. (Boris A. Khoruzhenko) **99k:60100** 60F99 (15A52, 82B44)

Boutilier, Craig (*with* Friedman, Nir; Goldszmidt, Moisés; Koller, Daphne) Context-specific independence in Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 115–123, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

— (*with* Friedman, Nir; Halpern, Joseph Y.) Belief revision with unreliable observations. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 127–134, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 03B70 (68T27)

— (*with* Meuleau, Nicolas; Hauskrecht, Milos; Kim, Kee-Eung; Peshkin, Leonid; Kaelbling, Leslie Pack; Dean, Thomas) Solving very large weakly coupled Markov decision processes. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 165–172, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C40

— A unified model of qualitative belief change: a dynamical systems perspective. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 281–316. (David Makinson) **99f:68185** 68T27 (03B40, 03B70, 68T30)

Boutin, Claude (*with* Wong, Henri) Study of thermosensitive heterogeneous media via space-time homogenisation. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 939–968. (Małgorzata Peszyńska) **99k:73010** 73B27 (73B30, 80A20)

Bouton, Catherine (*with* Pagès, Gilles) About the multidimensional competitive learning vector quantization algorithm with constant gain. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 679–710. (Min Ping Qian) **99a:60075** 60J20 (60F99, 60J05, 68T05, 92B20)

Boutot, Jean-François Uniformisation p-adique des variétés de Shimura. (French summary) [p-adic uniformization of Shimura varieties] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 831, 5, 307–322. (Harry Tamvakis) **99i:14028** 14G35 (11G18, 14G20, 14L05)

Boutreux, Thomas (*with* Raphaël, Elie; de Gennes, Pierre-Gilles) Surface flows of granular materials: a modified picture for thick avalanches. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4692–4700. (Summary) **99h:73035** 73E99 (73N20, 76A99, 86A99)

Boutros, Joseph (*with* Viterbo, Emanuele) Signal space diversity: a power- and bandwidth-efficient diversity technique for the Rayleigh fading channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1453–1467. 94A14 (94A40)

Boutros, Y. Z. (*with* Abd-el-Malek, Mina B.; El-Awadi, I. A.; El-Mansi, S. M. A.) Group method analysis of the potential equation in triangular regions. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 418–428, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35A30 (80A20)

— (*with* Abd-el-Malek, Mina B.; El-Awadi, I. A.; El-Mansi, S. M. A.) Group method for temperature analysis of thermally stagnant lakes. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 131–144. (Summary) **99h:86004** 86A05 (86–08)

Bouvier, Catherine Diviseurs essentiels, composantes essentielles des variétés toriques singulières. [Essential divisors, essential components of singular toric varieties] *Duke Math. J.* **91** (1998), *no.* 3, 609–620. (Nicolas Pouyanne) **99a:14076** 14M25

Bouwkamp, C. J. ★ Simple perfect squared squares of order 27. (English summary) EUT Report-WSK, 98-1. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1998. *xx*+227 *pp.* (Summary) **99g:05049** 05B45

— ★ Tiling the surface of a cube by 12 identical pentominoes. (English summary) EUT Report-WSK, 98-02. *Eindhoven University of Technology, Department of Mathematics and Computing Science, Eindhoven*, 1998. *x*+164 *pp.* (Summary) **99k:05054** 05B40

Bouwknegt, Peter (*with* McCarthy, James G.; Pilch, Krzysztof) Operator algebra of the 4D $\mathscr{W}_3$ string. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 63–76, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81069** 81R10 (17B68, 81T30, 81T70)

— (*with* Pilch, Krzysztof) On deformed $\mathscr{W}$-algebras and quantum affine algebras. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 357–397. (Mirko Primc) **99i:81090** 81R50 (17B68, 81R10)

— *see also* **Strings '95, 99h:81008**

Bouwmeester, Dik (*with* Pan, Jian-Wei; Daniell, Matthew; Weinfurter, Harald; Zeilinger, Anton) Observation of three-photon Greenberger-Horne-Zeilinger entanglement. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 7, 1345–1349. 81P15

Bouyekhf, R. (*with* El Moudni, A.) Stabilization and regulation of class of non-linear singularly perturbed discrete-time systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 963–982. (Vladimir Veliov) **99f:93125** 93D21 (93C55, 93C70, 93C73)

— (*with* Grujić, Ljubomir T.) Lyapunov-like solutions to stability problems for discrete-time systems on asymptotically contractive sets. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 2, 107–127. (Olusola Akinyele) **99m:93068** 93D05 (34D20, 39A12)

Bouyssou, D. (*with* Pirlot, Marc; Vincke, Ph.) A general model of preference aggregation. (English summary) *Essays in decision making*, 120–134, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A06)

Bouza Herrera, Carlos N. Asymptotical bias of total predictors in poststratified sampling. (English and Esperanto summaries) *Investigación Oper.* **16** (1995), *no.* 3, 91–96. 62D05

— (*with* Ojeda, Mario Miguel) Superpopulation models and some applications in sampling and in experimental design. (Spanish. English and Spanish summaries) *Investigación Oper.* **16** (1995), *no.* 3, 107–124. 62D05

— (*with* Allende Alonso, Sira; Garcet Rodríguez, Sandra A.; Suárez Fariñas, Mayte) A parametric programming algorithm for learning in artificial neural networks through linear regression curve fitting. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 55–60. 90C31 (65K05)

— Robustness of equilibrated stratification strategies under nonresponses. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 69–76. 62D05

— (*with* Allende Alonso, Sira) Bounds of the expected approximation error in optimal inventory policies. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 8 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 90B05

— (*with* Suárez Fariñas, Mayte; Garcet Rodríguez, Sandra A.; Allende Alonso, Sira) The parametric problem of linear complementarity. Solution algorithms. Application to the fit of a multivariate linear regression model with LS-LAD criterion. (Spanish. English and Spanish summaries) *Investigación Oper.* **18** (1997), *no.* 1-3, 11–56. (Summary) **99j:62097** 62J05 (90C33)

Bouziad, Ahmed A note on consonance of G_δ subsets. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 53–61. (Oleksandr V. Sobchuk) **99c:54013** 54B20 (54A10, 54B05, 54B10)

Bouziani, Abdelfatah Solution forte d'un problème de transmission parabolique-hyperbolique pour une structure pluridimensionnelle. [Strong solution of a parabolic-hyperbolic jump problem for a multidimensional structure] *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **7** (1996), *no.* 7-12, 369–386 (1997). (Nickolai A. Lar'kin) **99c:35173** 35M10 (35L80)

— Solution forte d'un problème mixte avec une condition non locale pour une classe d'équations hyperboliques. (English and French summaries) [Strong solution of a mixed problem with a nonlocal condition for a class of hyperbolic equations] *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **8** (1997), *no.* 1-6, 53–70. (Sergio Spagnolo) **99f:35118** 35L20

— Solution forte d'un problème mixte avec condition intégrale pour une classe d'équations paraboliques. (English, French and Arabic summaries) [Strong solutions of a mixed problem with an integral condition for a class of parabolic equations] *Maghreb Math. Rev.* **6** (1997), *no.* 1, 1–17. (Maurice Gaultier) **99a:35109** 35K20

— (*with* Benouar, Nour-Eddine) Mixed problem with integral conditions for a third order parabolic equation. (English summary) *Kobe J. Math.* **15** (1998), *no.* 1, 47–58. (I. N. Tavkhelidze) **99j:35087** 35K35

el Bouzid, Hassan *see* **El Bouzid, Hassan**

Bouzouina, Abdelkader (*with* de Bièvre, Stephan) Équidistribution des valeurs propres et ergodicité semi-classique de symplectomorphismes du tore quantifiés. (English and French summaries) [Uniform distribution of eigenvalues and semiclassical ergodicity of quantized symplectomorphisms of the torus] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1021–1024. (M. Combescure) **99i:81048** 81Q50 (58F11, 58F19, 81Q20)

Bovbel', E. I. (*with* Rubanov, Nikolai S.; Kukharchik, Peter D.; Bodrov, Vitaly J.) The modified number-theoretic transform over the direct sum of finite fields to compute the linear convolution. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 813–817. 94A12

Bovdi, A. A. The group of units of a group algebra of characteristic *p*. *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 193–244. (Sudarshan K. Sehgal) **99b:16051** 16U60 (16S34)

Bove, Antonio (*with* Bernardi, Enrico) Geometric transition for a class of hyperbolic operators with double characteristics. *Japan. J. Math.* (*N.S.*) **23** (1997), *no.* 1, 1–87. (Min You Qi) **99c:35007** 35A27 (35L25, 35S10, 58G16)

— (*with* Benvenuti, Stefano) On a class of hyperbolic systems with multiple characteristics. *Osaka J. Math.* **35** (1998), *no.* 2, 313–356. (Alan Jeffrey) **99g:35077** 35L45

Bovea, M. D. (*with* Navarro-Esbrí, J.; Verdú Martín, Gumersindo; Ginestar, D.; Jiménez Olivo, Pedro José; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Complex Lyapunov exponents of a system with Hopf bifurcation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 977–982, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23

Boven, A. *see* **Boivin, André**

Bovier, Anton Bernoulli convolutions, dynamical systems and automata. *Disordered systems* (*Temuco*, 1991/1992), 63–86, *Travaux en Cours*, 53, *Hermann, Paris*, 1996. (Bernard Schmitt) **99f:58118** 58F11

— (*with* Picco, Pierre) Limit theorems for Bernoulli convolutions. *Disordered systems* (*Temuco*, 1991/1992), 135–158, *Travaux en Cours*, 53, *Hermann, Paris*, 1996. (H. Teicher) **99c:60062** 60F15 (60F05)

— Comment on: "Capacity of the Hopfield model" [J. Phys. A **30** (1997), no. 10, 3383–3391; MR 99a:82071] by J. Feng and B. Tirozzi. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7993–7996. (Matthias Löwe) **99f:82052** 82C32 (92B20)

— (*with* Gayrard, Véronique) Statistical mechanics of neural networks: the Hopfield model and the Kac-Hopfield model. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 393–422. (Barbara Gentz) **99b:82080** 82C32 (60K35, 82B44)

— (*with* Gayrard, Véronique) Hopfield models as generalized random mean field models. *Mathematical aspects of spin glasses and neural networks*, 3–89, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Aernout C. D. van Enter) **99a:82049** 82B44 (82–02, 82C32, 92B20)

— (*with* Gayrard, Véronique; Picco, Pierre) Typical profiles of the Kac-Hopfield model. *Mathematical aspects of spin glasses and neural networks*, 187–241, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Peter Eichelsbacher) **99c:82035** 82B44 (60K35)

— The Kac version of the Sherrington-Kirkpatrick model at high temperatures. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 459–474. (Barbara Gentz) **99f:82030** 82B44 (60K35, 82B20)

Bovik, Alan C. (*with* Wei, Dong) Sampling approximation of smooth functions via generalized coiflets. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1133–1138. (Summary) **99h:94009** 94A11 (42C15)

Bowcock, Peter Classical backgrounds and scattering for affine Toda theory on a half-line. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 8, 27 *pp.* (*electronic*). (Henrik Aratyn) **99e:81137** 81T10 (58F07, 81T40)

— (*with* Hayes, M. R.; Taormina, A.) Characters of admissible representations of the affine superalgebra $\widehat{\mathrm{sl}}(2|1;\mathbf{C})_k$. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 739–763. (Jun'ichi Shiraishi) **99f:81074** 81R10 (11F22, 17B67)

— (*with* Perkins, Michael) Quantum corrections to the classical reflection factor in $a_2^{(1)}$ Toda field theory. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 612–630. (Summary) **99j:81116** 81T10 (81T15)

Bowditch, Brian H. Cut points and canonical splittings of hyperbolic groups. *Acta Math.* **180** (1998), *no.* 2, 145–186. (Eric M. Freden) **99g:20069** 20F32 (20E06, 20E08, 57M07)

— Spaces of geometrically finite representations. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 389–414. (Feng Luo) **99j:57013** 57M50

— Continuously many quasi-isometry classes of 2-generator groups. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 232–236. (Ilya Kapovich) **99f:20062** 20F32 (20F05)

— A topological characterisation of hyperbolic groups. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 643–667. (Jane Gilman) **99c:20048** 20F32 (53C23, 54H15, 57S30)

— Markoff triples and quasi-Fuchsian groups. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 697–736. (Athanase Papadopoulos) **99f:57014** 57M50 (11D25)

— Group actions on trees and dendrons. *Topology* **37** (1998), *no.* 6, 1275–1298. (William A. Bogley) **99i:20039** 20E08 (20F32, 57M07)

Bowers, Kenneth L. (*with* Morlet, Anne C.; Lybeck, Nancy J.) The Schwarz alternating sinc domain decomposition method. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 461–483. (Larisa V. Maslovskaya) **99c:65145** 65L10 (65N55)

— (*with* Morlet, Anne C.; Lybeck, Nancy J.) Convergence of the sinc overlapping domain decomposition method. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 209–227. (Weimin Han) **99i:65142** 65N55 (65L10, 65N35)

Bowers, M. E. (*with* Hagen, C. R.) Casimir energy of a spherical shell. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 025007, 6 *pp.* 81T20

Bowers, Philip L. (*with* Stephenson, Kenneth) A "regular" pentagonal tiling of the plane. (English summary) *Conform. Geom. Dyn.* **1** (1997), 58–68 (*electronic*). (Frédéric Mathéus) **99d:52016** 52C15 (05B45, 30C20, 52C20, 57Q15)

— Negatively curved graph and planar metrics with applications to type. *Michigan Math. J.* **45** (1998), *no.* 1, 31–53. (Vadim A. Kaĭmanovich) **99f:53034** 53C20 (52C15, 53C23, 60J15)

Bowers Lassiter, Julie (*with* Adams, Warren P.; Sherali, Hanif D.) Persistency in 0-1 polynomial programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 359–389. (Jesús A. de Loera) **99d:90075** 90C09 (90C11, 90C30)

Bowles, R. G. A. (*with* Dodia, B. T.; Smith, Frank T.) On effects of increasing amplitude in a boundary-layer spot. (English summary) *Mathematika* **45** (1998), *no.* 1, 1–24. (Summary) **99f:76046** 76D10 (76E99)

Bowles, R. I. (*with* Li, Linzhong; Walker, J. D. A.; Smith, Frank T.) Short-scale break-up in unsteady interactive layers: local development of normal pressure gradients and vortex wind-up. (English summary) *J. Fluid Mech.* **374** (1998), 335–378. (Murad Brutyan) **99k:76047** 76D10 (76F99, 76M25)

— (*with* Caporn, P.; Timoshin, S. N.) Nonlinear shortwave Tollmien-Schlichting instability in a boundary layer on a film-coated wall. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3223–3256. (Summary) **99h:76043** 76E30 (76D10)

Bowman, Chris (*with* Passot, Thierry; Assenheimer, Michel; Newell, Alan C.) A wavelet based algorithm for pattern analysis. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 250–282. (Summary) **99f:76096** 76M25 (76E15)

Bowman, H. *see* **Bowman, Howard**

Bowman, Harold (*with* Golberg, Michael) Optimal convergence rates for some discrete projection methods. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 237–271. (Ivan K. Lifanov) **99j:65238** 65R20

— (*with* Golberg, Michael; Chen, Ching Shyang; Power, Henry) Some comments on the use of radial basis functions in the dual reciprocity method. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 61–69. (Summary) **99d:65296** 65M99

Bowman, Howard (*with* Thompson, Simon) A tableau method for interval temporal logic with projection. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 108–123, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)

— (*with* Boiten, E. A.; Derrick, John; Steen, M. W. A.) Strategies for consistency checking based on unification. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 3, 261–298. 68N99

Bowman, John C. (*with* Shadwick, B. A.; Morrison, P. J.) Exactly conservative integrators. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1112–1133 (*electronic*). (Summary) **99m:65136** 65L06 (34A45, 70–08, 70H05)

Bownik, Marcin Tight frames of multidimensional wavelets. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 525–542. (Hans W. Volkmer) **99c:42057** 42C15

Box, George (*with* Tyssedal, John) Projective properties of certain orthogonal arrays. (English summary) *Biometrika* **83** (1996), *no.* 4, 950–955. (E. Seiden) **99a:62113** 62K15 (05B15, 05B20)

Boxma, O. J. (*with* Núñez-Queija, R.) Analysis of a multi-server queueing model of ABR. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 339–354. (Summary) **99e:60206** 60K25 (90B22)

Boya, Luis J. Representations of simple Lie groups. II. Addendum et corrigendum. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 87–89. (A. L. Onishchik) **99c:22018** 22E46

— (*with* Chisolm, Eric; Mahajan, S. M.; Sudarshan, E. C. G.) Exotic representations of the isotropic harmonic oscillator. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3347–3360. (Summary) **99c:81057** 81R05 (81Q05)

Boyadjiev, L. *see* **Boyadzhiev, L. I.**

Boyadjiev, L. I. *see* **Boyadzhiev, L. I.**

Boyadzhiev, Khristo N. Norm estimates for commutators of operators. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 739–745. (Fuad Kittaneh) **99k:47050** 47B15 (47A30, 47B47)

Boyadzhiev, L. I. (*with* Dobner, Hans-Jürgen) Analytical and numerical treatment of a multidimensional fractional FEL equation. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 1–18. (Summary) **99i:45012** 45J05 (45L05, 65R20, 78A55)

— (*with* Dobner, Hans-Jürgen) On the solution of a fractional free electron laser equation. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 4, 385–400. (Summary) **99h:45011** 45J05 (47G99, 65D15, 78A60)

— (*with* Dobner, Hans-Jürgen; Kalla, Shyam L.) A fractional integro-differential equation of Volterra type. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 103–113. (Summary) **99i:45013** 45J05 (45L05, 78A60)

— (*with* Dobner, Hans-Jürgen) On automatic differentiation and fractional derivatives. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 106–112, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65D15 (26A33, 33B15)

Boyallian, Carina On Bernstein polynomials for compact Lie groups. (English summary) *J. Algebra* **210** (1998), *no.* 1, 271–290. (Stephen Slebarski) **99k:22023** 22E46

— (*with* Kac, Victor G.; Liberati, José I.; Yan, Catherine Huafei) Quasifinite highest weight modules over the Lie algebra of matrix differential operators on the circle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2910–2928. (Kyo Nishiyama) **99c:17012** 17B10 (17B66, 17B69)

Boyanov, Borislav D. (*with* Guessab, Allal) Gaussian quadrature formula of Birkhoff's type. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 41–50 (1998). (V. I. Polovinkin) **99j:65033** 65D32 (41A55)

— Notes on miscellaneous approximation problems. (English summary) *Approximation theory*, 97–113, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (J. Szabados) **99d:41001** 41–02 (41A10)

— Remarks on the Jackson and Whitney constants. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 161–174, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (L. G. Labsker) **99c:41034** 41A25 (41A10)

— A note on the Hobby-Rice and Gauss-Krein theorems. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 371–377. (Allan Pinkus) **99i:41027** 41A55

— (*with* Petrova, Guergana) Numerical integration over a disc. A new Gaussian quadrature formula. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 39–59. (Hans Strauss) **99j:41048** 41A55 (65D32)

Boyanovsky, D. (*with* de Vega, H. J.; Holman, Richard; Salgado, J. F. J.) Preheating and reheating in inflationary cosmology: a pedagogical survey. (English summary) *String theory in curved space times* (*Paris*, 1996), 260–280, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83F05

Boyar, Joan (*with* Fagerberg, Rolf; Larsen, Kim S.) Amortization results for chromatic search trees, with an application to priority queues. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 504–521. (Ricardo Baeza-Yates) **99b:68041** 68P05 (68Q10, 68Q25)

Boyarchenko, S. I. (*with* Levendorskiĭ, S. Z.) An asymptotic formula for the number of eigenvalue branches of a divergence form operator $A + \lambda B$ in a spectral gap of *A*. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1771–1786. (George D. Raikov) **99e:35165** 35P20 (35J15, 47F05)

— (*with* Levendorskiĭ, S. Z.) Spectral asymptotics of Laplace operators on a cusp: the case of a rapidly growing counting function. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 70–73; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 198–200 (1999). (Günter Berger) **99m:35178** 35P20 (35J05, 47F05)

Boyarshina, L. G. (*with* Koval'chuk, P. S.) On an approach to the computation of three-dimensional auto-oscillations of a rigid body with a cylindrical cavity partially filled with a liquid. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **34** (1998), *no.* 4, 85–93; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 4, 377–384. 70E15 (76B99)

Boyarshinova, A. V. On the space of essential infinitesimal deformations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 8, 3–12; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 8, 1–9 (1998). (J. Vanžura) **99c:58183** 58H15

Boyarsky, Abraham (*with* Góra, Paweł) ★ Laws of chaos. (English summary) Invariant measures and dynamical systems in one dimension. Probability and its Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xvi+399 *pp. ISBN* 0-8176-4003-7 (Feliks Przytycki) **99a:58102** 58F11 (28D05, 47B38, 58F03, 58F13)

— (*with* Góra, Paweł; Lioubimov, Vadim) Dynamics on spaces of compact subsets with application to brain modeling. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 569–580. (Joseph So) **99k:92008** 92C20 (28C99, 58F11)

Boybeyi, Zafer (*with* Raman, Sethu) Mesoscale atmospheric transport and diffusion processes. (English summary) *Dynamics of atmospheric flows*, 155–191, *Adv. Fluid Mech.*, 18, *Comput. Mech., Southampton*, 1998. (Summary) **99m:86008** 86A10 (76R50)

Boyd, A. V. (*with* Manas, Gary J.) New estimators for Pareto parameters based on frequency moments. (English summary) *South African Statist. J.* **31** (1997), *no.* 1, 107–124. 62F10

Boyd, Christopher (*with* Ryan, Raymond A.) Bounded weak continuity of homogeneous polynomials at the origin. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 211–218. (Richard M. Aron) **99k:46076** 46G20 (46E50)

— (*with* Dineen, Seán) Compact sets of holomorphic mappings. (English summary) *Math. Nachr.* **193** (1998), 27–36. (Luiza Amália de Moraes) **99m:46111** 46G20 (46E50)

Boyd, Colin *see* **Information security and privacy, 99i:94060**

Boyd, David W. Uniform approximation to Mahler's measure in several variables. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 125–128. (Christopher Smyth) **99e:11134** 11R09 (11C08)

— Mahler's measure and special values of *L*-functions. (English summary) *Experiment. Math.* **7** (1998), *no.* 1, 37–82. (Jan Nekovář) **99d:11070** 11G40 (11R06, 11Y35)

— (*with* Beaucoup, Franck; Borwein, Peter B.; Pinner, Christopher G.) Multiple roots of [−1, 1] power series. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 135–147. (Raphaël Supper) **99c:30005** 30C15 (26C10, 30B10)

Boyd, E. Andrew (*with* Yan, Xiao-Qing) Cutting planes for mixed-integer knapsack polyhedra. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 257–262. (Summary) **99a:90138** 90C10 (90C27)

Boyd, John Philip ★ Weakly nonlocal solitary waves and beyond-all-orders asymptotics. (English summary) Generalized solitons and hyperasymptotic perturbation theory. Mathematics and its Applications, 442. *Kluwer Academic Publishers, Dordrecht*, 1998. *xx*+590 *pp. ISBN* 0-7923-5072-3 (Alan Jeffrey) **99h:35180** 35Q51 (35Q35, 58G40, 76B15, 76B25, 78A60)

— Global approximations to the principal real-valued branch of the Lambert *W*-function. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 27–31. (Summary) **99h:30035** 30E10 (33B10, 65D20)

Boyd, Sheri J. (*with* Gould, Matthew; Nelson, Amy) Interassociativity of semigroups. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 33–51, *World Sci. Publishing, River Edge, NJ*, 1997. (M. Yamada) **99c:20083** 20M10

Boyd, Stephen (*with* Vandenberghe, Lieven) Connections between semi-infinite and semidefinite programming. (English summary) *Semi-infinite programming*, 277–294, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90143** 90C34 (90C30)

— (*with* Lobo, Miguel Sousa; Vandenberghe, Lieven; Lebret, Hervé) Applications of second-order cone programming. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 193–228. (Jos F. Sturm) **99k:90103** 90C08 (90C20, 90C90, 93B40)

— (*with* Vandenberghe, Lieven; Wu, Shao-Po) Determinant maximization with linear matrix inequality constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 499–533 (*electronic*). (Mei-Qin Chen) **99g:90086** 90C25 (65F30)

— (*with* Vandenberghe, Lieven) Applications of semidefinite programming. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 283–299. (Summary) **99k:90165** 90C30 (90C25, 90C90)

Boyd, W. G. C. Recent developments in asymptotics obtained via integral representations of Stieltjes-transform type. (English summary) Algebraic analysis of singular perturbations (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 968 (1996), 1–30. (Donald A. Lutz) **99d:34100** 34E05 (33C10, 41A60, 44A05)

Boyer, Alain Popper et les mathématiques. [Popper and mathematics] *Les philosophes et les mathématiques*, 284–301, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

Boyer, Charles P. (*with* Galicki, Krzysztof; Mann, Benjamin M.; Rees, Elmer G.) Einstein manifolds of positive scalar curvature with arbitrary second Betti number. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 1–7. (Andrew Swann) **99c:53041** 53C25 (14J45, 57S25)

— (*with* Galicki, Krzysztof; Mann, Benjamin M.) Quaternionic geometry and 3-Sasakian manifolds. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 7–24 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Roger Bielawski) **99j:53061** 53C25

— (*with* Galicki, Krzysztof; Mann, Benjamin M.; Rees, Elmer G.) Compact 3-Sasakian 7-manifolds with arbitrary second Betti number. *Invent. Math.* **131** (1998), *no.* 2, 321–344. (Roger Bielawski) **99b:53066** 53C25 (14J45, 57S25)

— (*with* Galicki, Krzysztof; Mann, Benjamin M.) Hypercomplex structures from 3-Sasakian structures. (English summary) *J. Reine Angew. Math.* **501** (1998), 115–141. (Maria Dolores Monar) **99g:53049** 53C25 (53C55)

— (*with* Galicki, Krzysztof; Mann, Benjamin M.) A note on smooth toral reductions of spheres. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 149–158. (Andrew Swann) **99c:53042** 53C25 (57S25)

Boyer, Elizabeth D. (*with* Fisher, David C.; McKenna, Patricia A.) Hamiltonicity, diameter, domination, packing, and biclique partitions of Mycielski's graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 93–105. (Jerrold W. Grossman) **99f:05089** 05C70 (05C15, 05C35, 05C45, 05C50)

Boyer, F. (*with* Glandais, N.; Khalil, Wisama) Jacobian of a flexible manipulator undergoing large elastic displacements. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 501–510, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Boyer, Jean-Yves (*with* Hickel, Michel) Une généralisation de la loi de transformation pour les résidus. (English and French summaries) [A generalization of the transformation formula for residues] *Bull. Soc. Math. France* **125** (1997), *no.* 3, 315–335. (Mohammed El Amrani) **99c:32002** 32A27

Boyer, Robert S. (*with* Moore, J. Strother) Mechanized formal reasoning about programs and computing machines. *Automated reasoning and its applications*, 147–176, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 68Q60 (68T15)

Boyer, Steven (*with* Mattman, T.; Zhang, Xing Ru) The fundamental polygons of twist knots and the (−2, 3, 7) pretzel knot. (English summary) *KNOTS '96* (*Tokyo*), 159–172, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57008** 57M25

— Dehn surgery on knots. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 657–670. (Masahico Saito) **99d:57010** 57N10 (57M25, 57M50)

Boyett, James M. (*with* Luo, Xiaolong) Estimations of a threshold parameter in Cox regression. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2329–2346. (Hung Trung Nguyen) **99b:62168** 62P99 (62F10)

Boykabilov, B. (*with* Rakhimov, Abdugafur) Injectivity, amenability, semidiscreteness and hyperfiniteness in real W^*-algebras. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 193–201, *Kluwer Acad. Publ., Dordrecht*, 1998. (E. Størmer) **99m:46146** 46L10 (46L35)

Boykett, Timothy H. H. Combinatorial construction of one-dimensional reversible cellular automata. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 81–90, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Do Long Van) **99c:68179** 68Q80 (20B30, 20L05, 68Q68)

— (*with* Moore, Cristopher) Commuting cellular automata. (English summary) *Complex Systems* **11** (1997), *no.* 1, 55–64. (Karel Culik, II) **99i:68084** 68Q80

— (*with* Nöbauer, Christof) A class of groups which cannot be the additive groups of near-rings with identity. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 89–99, *Heyn, Klagenfurt*, 1998. (Howard E. Bell) **99i:16078** 16Y30 (20F99)

Boyko, Vyacheslav *see* **Boĭko, V. K.**

Boylan, Richard T. Coalition-proof implementation. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 132–143. (Summary) **99g:90167** 90D12

Boyle, Mike Factoring factor maps. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 491–502. (François Blanchard) **99i:58048** 58F03 (54H20)

— (*with* Tomiyama, Jun) Bounded topological orbit equivalence and C^*-algebras. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 317–329. (Claire Anantharaman-Delaroche) **99d:46088** 46L55 (54H20)

Boyvalenkov, Peter G. (*with* Danev, Danyo) On maximal codes in polynomial metric spaces. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 29–38, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94044** 94B65

— (*with* Nikova, Svetla Iordanova) Improvements of the lower bounds on the size of some spherical designs. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 151–160. (Summary) **99j:05045** 05B30 (90C08)

— (*with* Danev, Danyo) On linear programming bounds for codes in polynomial metric spaces. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 16–31; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 108–120. (Vladimir D. Tonchev) **99k:94067** 94B65 (90C90)

— (*with* Danev, Danyo; Nikova, Svetla Iordanova) Nonexistence of certain spherical designs of odd strengths and cardinalities. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 143–156. (Giuseppe Pellegrino) **99k:05025** 05B05

Boza, Santiago (*with* Carro, María J.) Discrete Hardy spaces. (English summary) *Studia Math.* **129** (1998), *no.* 1, 31–50. (Loukas Grafakos) **99c:42025** 42B20 (42B25)

Bozapalidis, Symeon Positive tree representations and applications to tree automata. (English summary) *Inform. and Comput.* **139** (1997), *no.* 2, 130–153. (Zdzisław Grodzki) **99b:68131** 68Q68 (68Q70)

Bozdogan, Hamparsum (*with* Haughton, Dominique M. A.) Informational complexity criteria for regression models. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 1, 51–76. 62J05 (62B10)

Bożejko, Marek *see* **Quantum probability**, **99d:00029**

Bozhilov, P. Tensionless branes and the null string critical dimension. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 32, 2571–2583. (Summary) **99g:81220** 81T70 (81T30)

— $N = 1$, $D = 10$ tensionless superbranes. (English summary) *Phys. Lett. B* **440** (1998), *no.* 1-2, 35–42. (Sergey Nikolaevich Roshchupkin) **99j:81134** 81T30

— $N = 1$, $D = 10$ tensionless superbranes. II. (English summary) *Phys. Lett. B* **454** (1999), *no.* 1-2, 27–30. 81T30

Bozhkov, Yuri D. (*with* Rodrigues, Waldyr Alves, Jr.; Maiorino, José E.) New solutions of the main relativistic wave equations. *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 201–229, *Univ. Stud. Bologna, Bologna*, 1998. (Dominique Lambert) **99h:81073** 81R20 (35Q40, 35Q75)

Božić, Mirjana (*with* Arsenović, D.; Marić, Zvonko) Quantization of magnetic top in the spinor representation. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 169–177. (Wojciech Lisiecki) **99h:81099** 81S10 (81R25)

— (*with* Marić, Zvonko; Arsenović, D.) Magnetic top in terms of spinors—the classical system with constraints. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1091–1120. (Summary) **99h:70013** 70E15 (70F20, 70H05, 78A99)

Božičević, Mladen (*with* Barbasch, Dan) The associated variety of an induced representation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 279–288. (Jen-Tseh Chang) **99b:22024** 22E46

Božikov, Zdravka Symmetric designs with parameters (69, 17, 4) and F_{39} as a group of automorphisms. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 231–233. (Summary) **99e:05016** 05B05 (20B25)

Bozin, Dragana Alternative combining operations in extensive measurement. (English summary) *Philos. Sci.* **65** (1998), *no.* 1, 136–150. (Lawrence Sklar) **99i:00006** 00A30 (00A79)

Božin, Vladimir (*with* Marković, V.; Mateljević, M.) Unique extremality in the tangent space of the universal Teichmuller space. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 145–149. (Summary) **99d:30023** 30C62 (30C70, 32G15)

— (*with* Hruška, Marina; Paunković, Nikola; Herbut, Fedor) On statistical and deterministic quantum teleportation. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4403–4435. (S. Gudder) **99e:81022** 81P15

Bozis, G. (*with* Meletlidou, Efthymia) Nonintegrability detected from geometrically similar orbits. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 335–346. (Summary) **99a:70011** 70D05

Bozkurt, Durmuş On the l_p norms of Cauchy-Toeplitz matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 341–346. (Summary) **99g:15034** 15A60

— On the l_p norms of Cauchy-Toeplitz matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 125–130. (Summary) **99h:15025** 15A60

Bozorg, Mohammad (*with* Nebot, Eduardo M.) l^p parameter perturbation and design of robust controllers for linear systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 267–275. (Summary) **99k:93045** 93B36 (93B51)

Bozzini, M. (*with* Lenarduzzi, L.) Recovering a function with discontinuities from correlated data. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 1–16, *Ser. Approx. Decompos.*, 8, *World-Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A30 (42C15)

— (*with* Paracelli, C.) Approximating a function with noise by a spline agreeing with the graph of the function. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 43–62 (1997). (Kairat T. Mynbaev) **99d:41013** 41A15

Bozzo, E. On algebras having displacement structure. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 37–45 (1998). (Israel Koltracht) **99g:15027** 15A57 (47B35)

Braakhuis, H. A. G. Obligations in early thirteenth century Paris: the *Obligationes* of Nicholas of Paris(?) (Ms Paris, B. N. lat., 11.412). *Vivarium* **36** (1998), *no.* 2, 152–233. 03-03 (01A35)

Braaksma, Barteld Singular Hopf bifurcation in systems with fast and slow variables. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 5, 457–490. (Pinia G. Aïzengendler) **99f:34054** 34C23 (34C20, 34E15, 58F14)

Braasch, Peter On quasistationary solutions of the relativistic Vlasov-Maxwell system. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 11, 1015–1033. (R. Glassey) **99h:35213** 35Q99 (35J60, 35L60, 76X05, 82D10)

— (*with* Rein, Gerhard; Vukadinović, Jesenko) Nonlinear stability of stationary plasmas—an extension of the energy-Casimir method. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 831–844 (*electronic*). (Tadeusz Nadzieja) **99m:35247** 35Q99 (35B35, 76X05, 82D10)

Braatz, Richard D. (*with* Crisalle, Oscar D.) Robustness analysis for systems with ellipsoidal uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1113–1117. (Summary) **99g:93062** 93D09 (93B35)

Bracci, Filippo Commuting holomorphic maps in strongly convex domains. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 1, 131–144 (1999). (Marco Abate) **99k:32045** 32H40 (32H15, 32H50)

— Common fixed points of commuting holomorphic maps in the unit ball of $\mathbb{C}^n$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1133–1141. (Chiara de Fabritiis) **99f:32034** 32H02 (32A30)

Bracciali, C. F. (*with* McCabe, J. H.) Computing the coefficients of some continued fractions. *Comm. Anal. Theory Contin. Fractions* **6** (1997), 74–82. (L. J. Lange) **99a:30004** 30B70

— (*with* Capela, J. M. V.; Sri Ranga, Alagacone) Symmetric orthogonal L-polynomials in the complex plane. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 57–67, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Peter A. McCoy) **99k:42050** 42C05 (30E20, 33C45, 33C50)

Brachinger, H. W. (*with* Weber, Martin[1]) Risk as a primitive: a survey of measures of perceived risk. (English and German summaries) *OR Spektrum* **19** (1997), *no.* 4, 235–250. (Wojciech Szatzschneider) **99a:90075** 90A46

Brack, M. (*with* Meier, Peter; Tanaka, Kaori) Uniform trace formulae for SU(2) and SO(3) symmetry breaking. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 331–353. (Summary) **99j:81065** 81R40 (81Q15)

— (*with* Bhaduri, R. K.; Whelan, Niall D.; Miller, H. G.; Murthy, M. V. N.) Weyl series and the trace formula: a prescription for adding them. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, *R*911–*R*914. (Summary) **99k:81063** 81Q20

Bracken, Anthony J. (*with* McAnally, D. S.) Uncolouring of Lie colour algebras. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 425–452. (Summary) **99b:81107** 81R50 (17B37, 81R05)

— (*with* Melloy, G. F.) Probability backflow for a Dirac particle. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 505–514. (Summary) **99i:81013** 81P05

— (*with* Ge, Xiang-Yu; Zhang, Yao-Zhong; Zhou, Huan-Qiang) Integrable open-boundary conditions for the q-deformed supersymmetric U model of strongly correlated electrons. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 588–602. (Rinat M. Kashaev) **99e:82023** 82B23 (81R50)

— (*with* Ge, Xiang-Yu; Zhang, Yao-Zhong; Zhou, Huan-Qiang) An open-boundary integrable model of three coupled XY spin chains. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 603–622. (Rinat M. Kashaev) **99e:82024** 82B23 (81R50)

Bracken, Paul (*with* Čížek, Jiří Karel) Reconstruction of secular polynomials for Hubbard model from energy perturbation series for weak and strong coupling cases. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5493–5504. (Bálint Tóth) **99d:82013** 82B20

— Relativistic equations of motion from Poisson brackets. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1625–1640. (Frans Cantrijn) **99d:58060** 58F05 (70H05, 70H40, 78A25)

— A hidden symmetry in an excited state of the one-dimensional Hubbard model. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 75–79. (Summary) **99b:82017** 82B20

Brackenridge, J. Bruce ★ The key to Newton's dynamics. (English summary) The Kepler problem and the *Principia*. Containing English translations from the Latin by Mary Ann Rossi of Sections 1, 2, and 3 of book one from the first (1687) edition of Newton's *Mathematical principles of natural philosophy*. *University of California Press, Berkeley, CA*, 1995. *xiv*+299 *pp. ISBN* 0-520-20217-1 (Massimo Galuzzi) **99j:01006** 01A45 (01A50, 70-03, 70D05, 70F05)

— The role of curvature in Newton's dynamics. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1361–1375. (Niccolò Guicciardini) **99k:01012** 01A45 (70-03)

— *see also* **Nauenberg, Michael**, **99j:01007**

Braconnier, Jean Sur les suites de composition d'un groupe et la tour des groupes d'automorphismes d'un groupe fini (d'après H. Wielandt). [On the composition sequences of a group and the tower of groups of automorphisms of a finite group (after H. Wielandt)] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 7, 39–43, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 20D30 (20D45)

— Sous-algèbres sous-invariantes d'une algèbre de Lie et tour des dérivations (d'après E. Schenkman). [Subinvariant subalgebras of a Lie algebra and tower of derivations (after E. Schenkman)] *Séminaire Bourbaki, Vol. 2, Exp. No. 56, 59–65, Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 17B40
— Sur les groupes de Lie compacts opérant dans une variété compacte (d'après G. D. Mostow et E. E. Floyd) [MR **21** #3512]. [On compact Lie groups acting in a compact manifold (after G. D. Mostow and E. E. Floyd)] *Séminaire Bourbaki, Vol. 4, Exp. No. 163, 367–378, Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 57S15

Bradáč, Ivan Automorphisms of spatial curves. (English summary) *Arch. Math. (Brno)* **33** (1997), *no.* 3, 213–243. (J. Chrastina) **99b:58014** 58A17 (58A20)

Bradbury, R. (*with* Antonelli, Peter L.; Auger, Pierre M.) Corals and starfish waves on the Great Barrier Reef: analytical trophodynamics and 2-patch aggregation methods. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 121–135. (F. Berezovskaya) **99f:92016** 92D25 (34C99, 92D40)

Brădean, Radu Variational approximation for a Dirichlet-Neumann problem of the heat conduction through rectangular plates. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 23–36. (Krystyna Twardowska) **99c:80003** 80A20 (35K05, 65N30)

Brădeanu, Cristina (*with* Brădeanu, Doina) Application of the Ritz variational method for the problem of heat conduction through non-convex thick plates. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 23–37. (B. Vujanović) **99c:80004** 80A20 (49R10)

Brădeanu, Doina (*with* Brădeanu, Cristina) Application of the Ritz variational method for the problem of heat conduction through non-convex thick plates. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 23–37. (B. Vujanović) **99c:80004** 80A20 (49R10)
— The application of Kantorovich-Ritz method to the flow of an incompressible potential fluid between two solid walls. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 23–31. (Komali S. Sastri) **99b:76052** 76M20 (65M60, 76B99)

Braden, H. W. (*with* Bukhshtaber, V. M.) The general analytic solution of a functional equation of addition type. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 903–923. (V. Leksin) **99h:39027** 39B32 (33E05, 58F07, 70F10)
— A conjectured R-matrix. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1733–1741. (Rinat M. Kashaev) **99e:81090** 81R50 (81V70)
— (*with* Marshakov, A.; Mironov, A. D.; Morozov, A. Yu.) Seiberg-Witten theory for a non-trivial compactification from five to four dimensions. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 195–202. (Summary) **99k:81293** 81T60 (81T13)
— The equations $A^{\mathsf{T}}X \pm X^{\mathsf{T}}A = B$. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 295–302 (*electronic*). (Yao Zhang) **99h:15014** 15A24 (15A09, 58F07, 70H05)

Bradfield, J. C. Simplifying the modal mu-calculus alternation hierarchy. (English summary) *STACS 98 (Paris, 1998)*, 39–49, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68112** 68Q60 (03B45)
— The modal mu-calculus alternation hierarchy is strict. (English summary) Concurrency theory (Pisa, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 2, 133–153. (Damian Niwiński) **99g:03031** 03B70 (03D15, 03D70, 68Q60)

Bradford, Phillip G. (*with* Golin, Mordecai J.; Larmore, Lawrence L.; Rytter, Wojciech) Optimal prefix-free codes for unequal letter costs: dynamic programming with the Monge property. (English summary) *Algorithms—ESA '98 (Venice)*, 43–54, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 94A45 (68P10, 68Q25)
— (*with* Rawlins, Gregory J. E.; Shannon, Gregory E.) Efficient matrix chain ordering in polylog time. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 466–490 (*electronic*). (Summary) **99f:90089** 90C27 (68Q25, 90C60)

Bradić, M. (*with* Rašković, Miodrag; Đorđević, Radosav Ž.) Weak cylindric probability algebras. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 6–16. (S. Comer) **99e:03043** 03G25 (03C70)

Bradley, David M. (*with* Diamond, Harold George) A difference differential equation of Euler-Cauchy type. (English summary) *J. Differential Equations* **138** (1997), *no.* 2, 267–300. (M. Ram Murty) **99a:34172** 34K05 (11N35, 39A10, 47B39)
— (*with* Borwein, Jonathan M.; Broadhurst, David J.; Lisoněk, Petr) Combinatorial aspects of multiple zeta values. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 38, 12 *pp.* (*electronic*). (J. Browkin) **99g:11100** 11M41 (05A19, 11Y60)

Bradley, Elizabeth (*with* Robins, V.; Meiss, James D.) Computing connectedness: an exercise in computational topology. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 913–922. (Beverly Diamond) **99g:54017** 54D05 (68U05)

Bradley, Margaret ★ A career biography of Gaspard Clair François Marie Riche de Prony, bridge-builder, educator and scientist. With a preface by I. Grattan-Guinness. Studies in French Civilization, 13. *Edwin Mellen Press, Lewiston, NY*, 1998. *xii*+441 *pp. ISBN* 0-7734-8485-X (Ll. G. Chambers) **99i:01031** 01A70 (01A50, 01A55)

Bradley, Mary E. Local controllability of a nonlinear shallow spherical shell. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 12 *pp.* (*electronic*). (Sergei A. Ivanov) **99i:93006** 93B05 (73K15, 73K50, 93C20)
— (*with* Lasiecka, Irena) Exact boundary controllability of a nonlinear shallow spherical shell. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 927–955. (Mary Ann Horn) **99g:93010** 93B05 (73K15, 73K50)
— (*with* McMillan, Christine Alicia) Well-posedness for a nonlinear shallow spherical shell. *Nonlinear Anal.* **34** (1998), *no.* 3, 405–425. (Guenter Leugering) **99m:35242** 35Q72 (73K15)

Bradley, P. S. (*with* Mangasarian, O. L.; Rosen, J. B.) Parsimonious least norm approximation. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 5–21. (Sven-Åke Gustafson) **99i:65045** 65F20 (90C31, 90C90)
— (*with* Mangasarian, O. L.; Street, W. N.) Feature selection via mathematical programming. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 209–217. (Summary) **99c:90114** 90C30 (68T05, 90C90)

Bradley, Richard C. (*with* Utev, Sergei) On second-order properties of mixing random sequences and random fields. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 99–120, *TEV, Vilnius*, 1994. (Summary) **99f:60092** 60G60 (60G10)
— A "coboundary" theorem for sums of random variables taking their values in a Banach space. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 201–224. (Dalibor Volný) **99e:60016** 60B11 (28D05)
— On the simultaneous behavior of the dependence coefficients associated with three mixing conditions. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 393–415. (J. Hüsler) **99i:60084** 60G10
— On the growth of variances in a central limit theorem for strongly mixing sequences. (English summary) *Bernoulli* **5** (1999), *no.* 1, 67–80. (Miguel A. Arcones) **99k:60053** 60F05

Bradley Bassler, O. Leibniz on intension, extension, and the representation of syllogistic inference. (English summary) *Synthese* **116** (1998), *no.* 2, 117–139. 03-03 (01A45, 03A05)

Bradlow, Eric T. (*with* Wainer, Howard) Some statistical and logical considerations when rescoring tests. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 713–728. 62P15

Bradlow, Steven (*with* Glazebrook, James; Kamber, Franz) A new look at the vortex equations and dimensional reduction. (English summary) *Geometry, topology and physics (Campinas, 1996)*, 83–106, *de Gruyter, Berlin*, 1997. (Manfred Lehn) **99a:32040** 32L07 (53C07, 53C55)

Bradshaw, Jason (*with* Wan, K. Kong; Trueman, Colin; Harrison, F. E.) Classical systems, standard quantum systems, and mixed quantum systems in Hilbert space. (English summary) *Found. Phys.* **28** (1998), *no.* 12, 1739–1783. (S. Gudder) **99k:81027** 81P05 (81P15, 81S05)

Brady, Mark A. (*with* Leonard, A.; Pullin, D. I.) Regularized vortex sheet evolution in three dimensions. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 520–545. (Summary) **99f:76034** 76C05 (76M25)

Brady, Martin L. A fast discrete approximation algorithm for the Radon transform. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 107–119 (*electronic*). (Gabor T. Herman) **99f:44002** 44A12 (44-04, 65R10, 68U10)

Brady, Noel (*with* Farb, Benson) Filling-invariants at infinity for manifolds of nonpositive curvature. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3393–3405. (Michel Coornaert) **99c:53039** 53C23 (20F32, 53C21, 53C35)

Brady, Patrick R. (*with* Ottewill, Adrian C.) Quantum corrections to critical phenomena in gravitational collapse. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024006, 6 *pp.* 83C47 (83C57)
— (*with* Droz, Serge; Morsink, Sharon M.) Late-time singularity inside nonspherical black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084034, 15 *pp.* (Summary) **99m:83099** 83C57
— (*with* Moss, Ian G.; Myers, Robert C.) Cosmic censorship: as strong as ever. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 16, 3432–3435. (Robert J. Low) **99c:83065** 83C75

Braess, Dietrich Stability of saddle point problems with penalty. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **30** (1996), *no.* 6, 731–742. (Summary) **99k:65099** 65N12 (49J35, 73K10)

Brafman, Ronen I. (*with* Latombe, Jean-Claude; Moses, Yoram; Shoham, Yoav) Applications of a logic of knowledge to motion planning under uncertainty. (English summary) *J. ACM* **44** (1997), *no.* 5, 633–668. (I. M. Havel) **99b:68182** 68T30 (03B70, 68Q60, 68U05)
— A first-order conditional logic with qualitative statistical semantics. (English summary) *J. Logic Comput.* **7** (1997), *no.* 6, 777–803. (Frans Voorbraak) **99e:68148** 68T27 (03B48, 03B60, 03B70)

Braga, Gastão A. (*with* Lima, Paulo C.; O'Carroll, Michael L.) Exponential decay of truncated correlation functions via the generating function: a direct method. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 429–438. (Gustavo R. Guerberoff) **99e:82013** 82B20

Braga, Nelson R. F. (*with* Abreu, Everton M. C.; Godinho, Cresus F. L.) Canonical transformations and gauge fixing in the triplectic quantization. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 779–790. (Summary) **99g:81217** 81T70 (58Z05)
— (*with* Amorim, R.; Thibes, R.) Axial and gauge anomalies in the field-antifield quantization of the generalized Schwinger model. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 325–330. (Mohamed Kachkachi) **99k:81287** 81T50 (81T13, 81T70)

lloyd-Braga, Teresa *see* **Lloyd-Braga, Teresa**

Braga Barros, Carlos José (*with* San Martin, Luiz A. B.) On the action of semigroups in fiber bundles. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 1–19. (Summary) **99d:93017** 93B27 (54H15, 55R91, 58E25, 93C25)

Bragard, J. (*with* Velarde, M. G.) Bénard-Marangoni convection: planforms and related theoretical predictions. (English summary) *J. Fluid Mech.* **368** (1998), 165–194. (Summary) **99e:76046** 76E15 (76R10)

Bragg, Louis R. Polynomial expansions of solutions of Cauchy problems that involve one space variable. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 102–127. (Summary) **99f:35072** 35K30 (35C10)
— A class of Cauchy problems that involve factorable differential operators. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 745–773. (Paulo Domingos Cordaro) **99e:35021** 35E15 (35C15)

Braham, S. P. (*with* Gegenberg, J.) Yang-Mills flow and uniformization theorems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2242–2253. (Summary) **99k:58041** 58E15 (53C07)

Brahe, Tycho *see* **Howell, Kenneth J.** *and* **Christianson, J. R.**

rama Brahmam, G. S. *see* **Rama Brahmam, G. S.**

Braianov, Ilia A. (*with* Kandilarov, Juri D.) On the realization and stability of difference schemes for diffusion problems with localized reactions. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997)*, 201–209, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N06
— (*with* Volkov, Lyuben G.) Finite difference schemes with variable weights for parabolic equations with concentrated capacity. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997)*, 210–218, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N06

Braicov, A. V. (*with* Makar', P. M.; Popa, M. N.; Port, S. A.) Hilbert's series for comitants graded algebras of differential equations. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 5–14, 150, 153. (Summary) **99j:34013** 34A34 (34A25, 34C05)

Braides, Andrea ★ Approximation of free-discontinuity problems. Lecture Notes in Mathematics, 1694. *Springer-Verlag, Berlin*, 1998. *xii*+149 *pp. ISBN* 3-540-64771-6 (Giovanni Bellettini) **99j:49001** 49-02 (35A35, 35B99, 49J45, 49Q20, 73C50, 73V25)
— (*with* Garroni, Adriana) On the non-local approximation of free-discontinuity problems. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 817–829. (Sisto Baldo)

99e:49012 49J45 (49Q10)
— (*with* Ambrosio, Luigi; Garroni, Adriana) Special functions with bounded variation and with weakly differentiable traces on the jump set. *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 219–243. (Giovanni Bellettini) **99d:49075** 49Q15 (49J52)
Braïtbakh, M. *see* **Breitbach, Markus**
Braithwaite, M. (*with* Lynch, P. M.; Parker, I. B.; Jones, A. F.; Wilson, Simon David Redfern) Compressional heating of isolated gas bubbles in reactive media. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 361–387. (Summary) **99j:80009** 80A32 (76N99)
Brajnik, Giorgio (*with* Clancy, Daniel J.) Focusing qualitative simulation using temporal logic: theoretical foundations. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 59–86. (Summary) **99a:68154** 68T27 (03B45, 03B70, 93C83)
Brak, R. (*with* Essam, J. W.; Owczarek, Aleksander L.) New results for directed vesicles and chains near an attractive wall. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 155–192. (Summary) **99g:82027** 82B41 (82D60)
— (*with* Essam, J. W.) Directed compact percolation near a wall. III. Exact results for the mean length and number of contacts. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 355–367. (Summary) **99k:82036** 82B43
Brakcen, A. J. *see* **Bracken, Anthony J.**
Bräker, H. (*with* Hsing, Tailen; Bingham, N. H.) On the Hausdorff distance between a convex set and an interior random convex hull. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 295–316. (Irene Hueter) **99f:60020** 60D05 (52A22)
— (*with* Hsing, Tailen) On the area and perimeter of a random convex hull in a bounded convex set. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 517–550. (Irene Hueter) **99j:60015** 60D05 (60F05)
Brakke, Ken A. (*with* Francis, George K.; Sullivan, John M.; Kusner, Robert B.; Hartman, Chris; Chappell, Glenn) The minimax sphere eversion. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 3–20, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— (*with* Sullivan, John M.) Using symmetry features of the surface evolver to study foams. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 95–117, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
Brakkee, Erik (*with* Wilders, Peter) The influence of interface conditions on convergence of Krylov-Schwarz domain decomposition for the advection-diffusion equation. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 1, 11–30. (Tsorng-Whay Pan) **99a:65118** 65M55
— (*with* Vuik, C.; Wesseling, Pieter) Domain decomposition for the incompressible Navier-Stokes equations: solving subdomain problems accurately and inaccurately. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 10, 1217–1237. (Summary) **99a:76107** 76M25 (76D05)
Bramanti, Marco (*with* Cerutti, M. Cristina) Commutators of singular integrals on homogeneous spaces. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 4, 843–883. (Richard Rochberg) **99c:42026** 42B20 (47B38)
Brambila, Leticia *see* **Brambila Paz, Leticia**
Brambila-Paz, Fernando (*with* Alonso, Alberto) L^p-continuity of conditional expectations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 161–176. (M. M. Rao) **99d:60047** 60G05 (28A20, 60A10)
Brambila Paz, Leticia (*with* Newstead, Peter E.) Subvarieties of moduli space. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 43–53, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Francisco J. Plaza Martin) **99g:14014** 14D20 (14H60)
— (*with* Muciño-Raymundo, Jesús) Stability of vector bundles in products of varieties. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 173–178, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99g:14050** 14J60
— (*with* Hidalgo-Solís, Laura) A restriction theorem. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 31–36, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:14048** 14K05
— (*with* Muciño-Raymundo, Jesús) Stability of the tangent bundle, endomorphisms and vector fields. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 37–43, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:14013** 14D20 (14J60)
— (*with* Balaji, V.; Newstead, Peter E.) Stability of the Poincaré bundle. (English summary) *Math. Nachr.* **188** (1997), 5–15. (Jean-Marc Drezet) **99a:14013** 14D20 (14H60)
— (*with* Lange, Herbert) A stratification of the moduli space of vector bundles on curves. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 173–187. (William Oxbury) **99e:14007** 14D20 (14H60)
— (*with* Ballico, Edoardo; Russo, Barbara) Exact sequence of stable vector bundles on projective curves. (English summary) *Math. Nachr.* **194** (1998), 5–11. (Atsushi Noma) **99j:14035** 14H60 (14D20)
Brambilla, Francisco *see* **Cifarelli, Donato Michele**
Brambilla, Nora (*with* Montaldi, Emilio) Remarks on some series considered by Ramanujan. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 153–168. (Bruce C. Berndt) **99g:33055** 33D99 (11M06)
Bramble, James H. (*with* Lazarov, Raïcho D.; Pasciak, Joseph E.) Least-squares for second-order elliptic problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 195–210. (Pekka Neittaanmäki) **99a:65145** 65N30
— (*with* Sun, Tong) A locking-free finite element method for Naghdi shells. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 119–133. (R. Kodnár) **99h:65186** 65N30 (73K15, 73V05)
— (*with* Sun, Tong) A negative-norm least squares method for Reissner-Mindlin plates. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 901–916. (Rolf Rannacher) **99d:73086** 73V05 (65F30, 73K10)
Bramel, Julien (*with* Rhee, WanSoo T.; Simchi-Levi, David) Average-case analysis of the bin-packing problem with general cost structures. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 673–686. (N. I. Yanev) **99d:90091** 90C27
— (*with* Simchi-Levi, David) On the effectiveness of set covering formulations for the vehicle routing problem with time windows. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 295–301. (Neville G. F. Sancho) **99g:90040** 90B06 (90C08)
— (*with* Chan, Lap Mui Ann; Simchi-Levi, David) Worst-case analyses, linear programming and the bin-packing problem. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 213–227. (José F. Fontanari) **99h:90080** 90C27
— (*with* Anily, Shoshana; Hertz, Alain) A $\frac{5}{3}$-approximation algorithm for the clustered traveling salesman tour and path problems. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 29–35. (Summary) **99m:90112** 90C27 (90C35)
Brams, Steven J. The rationality of surprise: unstable Nash equilibria and the theory of moves. (English summary) *Math. Japon.* **49** (1999), *no.* 2, 293–316. 90D05 (90A05)
Bramson, Maury (*with* Neuhauser, Claudia) Coexistence for a catalytic surface reaction model. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 3, 565–614. (T. M. Liggett) **99a:60113** 60K35 (92E20)
— (*with* Cox, J. Theodore; Durrett, Richard) A spatial model for the abundance of species. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 658–709. (T. M. Liggett) **99f:60166** 60K35 (92D25, 92D40)
— State space collapse for queueing networks. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 213–222 (*electronic*). (Summary) **99i:60166** 60K25 (90B22)
— Stability of two families of queueing networks and a discussion of fluid limits. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 7–31. (Summary) **99c:60200** 60K25 (90B22)
— State space collapse with application to heavy traffic limits for multiclass queueing networks. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 1-2, 89–148. (Mark Kelbert) **99k:60225** 60K25 (90B22)
franco Brañas, José R. *see* **Franco Brañas, José R.**
Branca, S. (*with* Boschi, D.; De Martini, Francesco; Hardy, Lucien; Popescu, Sandu) Experimental realization of teleporting an unknown pure quantum state via dual classical and Einstein-Podolsky-Rosen channels. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 6, 1121–1125. (Summary) **99b:81029** 81P99
Brancher, J. P. (*with* Stomp, Ch.) Viscous fluid flow near a corner induced by a DC electric current distribution. (English summary) *Magnetohydrodynamics* **33** (1997), *no.* 3, 225–238 (1998). (Summary) **99e:76130** 76W05
— (*with* Genevaux, J.-M.; Chai, X.-J.) Gravity effects on the coupled frequencies of a 2D fluid-structure problem with a free surface. (English summary) *J. Sound Vibration* **215** (1998), *no.* 2, 331–342. (Summary) **99c:73059** 73K70 (73K12, 76–05, 76B99)
— (*with* Loueslati, K.) Absolute and convective MHD stability of a capillary liquid metal jet with azimuthal velocity. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 77–92, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:76124** 76W05 (76E25)
Branco, João Probing a D6 + D0 state with D6-branes: SYM-supergravity correspondence at subleading level. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3739–3748. (David S. Berman) **99m:81242** 81T60 (83E30, 83E50)
Branco, Mário J. J. The kernel category and variants of the concatenation product. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 4, 487–509. (Howard Straubing) **99c:68149** 68Q45 (08A70, 20M35)
Brand, Andreas (*with* Wolf, Thomas Otto; Mohammadzadeh, Majid) Computer algebra algorithms and routines for the computation of conservation laws and fixing of gauge in differential expressions. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 221–238. 65M06 (35–04, 65–04, 65M30)
Brand, Helmut R. (*with* Deissler, Robert J.) Transition from propagating localized states to spatiotemporal chaos in phase dynamics. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R4064–R4067*. 58F39 (58F13)
Brand, Neal (*with* Morton, Margaret) A note on the growth rate of planar graphs. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 147–157, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05039** 05C10
Brandão, Adilson J. V. (*with* Rojas Medar, Marko A.; Silva, Geraldo Nunes) Nonsmooth continuous-time optimization problems: sufficient conditions. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 305–318. (Vera Zeidan) **99j:49031** 49K05
Brandão, Augusto Symplectic structure for Gaussian diffusions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4257–4283. (Jean-Claude Zambrini) **99k:81129** 81S10 (60H10, 81S40)
— (*with* Kolsrud, Torbjörn) Phase space transformations of Gaussian diffusions. (English summary) *Potential Anal.* **10** (1999), *no.* 2, 119–132. (Boualem Djehiche) **99m:60116** 60J60 (58G32, 60G15)
Brändas, E. (*with* Hessmo, B.) Indirect measurements and the mirror theorem: a Liouville formulation of quantum mechanics. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 359–375, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Adonai S. Sant'Anna) **99h:81020** 81P15 (81R30)
Brandenberger, Robert H. Physics of the very early universe. (English summary) *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 491–502, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83F05
Brandenburg, Axel (*with* Moss, David Leonard; Soward, Andrew M.) New results for the Herzenberg dynamo: steady and oscillatory solutions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1283–1300. (Summary) **99d:76097** 76W05 (78A99, 86A25)
— (*with* Moss, David Leonard; Soward, Andrew M.) Erratum: "New results for the Herzenberg dynamo: steady and oscillatory solutions" [R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci. **454** (1998), no. 1973, 1283–1300; MR 99d:76097]. *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3275. 76W05 (78A99, 86A25)
— (*with* Bigazzi, Alberto; Moss, David Leonard) Vortex tube models for turbulent dynamo action. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 72–80. (Summary) **99j:76131** 76W05 (76C05, 76F99, 85A30)
Brander, Olle (*with* Hedenfalk, Joakim) A new formulation of the general solution to Burgers' equation. (English summary) *Wave Motion* **28** (1998), *no.* 4, 319–332. (Summary) **99g:76048** 76D99 (35Q35)

Brandes, T. Static potential renormalization in time-dependent fields. (English summary) *Ann. Physik* (8) **7** (1998), *no.* 2, 120–131. (Summary) **99e:81255** 81U99

Brandes, Ulrik (*with* Handke, Dagmar) NP-completeness results for minimum planar spanners. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 85–99, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68Q25 (68R10)

— (*with* Handke, Dagmar) NP-completeness results for minimum planar spanners. (English summary) *Discrete Math. Theor. Comput. Sci.* **3** (1998/99), *no.* 1, 1–10 (*electronic*). (Summary) **99k:68130** 68R10 (05C85, 68Q25, 90B12)

Brandhuber, Andreas (*with* Itzhaki, Nissan; Sonnenschein, Jacob; Theisen, Stefan; Yankielowicz, Shimon) On the M-theory approach to (compactified) 5D field theories. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 127–134. (Gonzalo Violero) **99a:81129** 81T30 (81T13, 81T60, 83E30)

— (*with* Itzhaki, Nissan; Sonnenschein, Jacob; Yankielowicz, Shimon) Wilson loops, confinement, and phase transitions in large N gauge theories from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 1, 20 *pp.* (*electronic*). (Summary) **99c:81232** 81T60 (81T13, 81T30, 83E30)

— (*with* Itzhaki, Nissan; Sonnenschein, Jacob; Yankielowicz, Shimon) Baryons from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 20, 11 *pp.* (*electronic*). (Summary) **99i:83087** 83E30 (81T30, 83E50)

— (*with* Armoni, Adi) Comments on (non-)chiral gauge theories and type IIB branes. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 261–266. (Summary) **99i:81220** 81T60 (81T13)

Brandi, Primo (*with* Kamont, Z.; Salvadori, Anna) Difference methods for nonlinear first order partial differential equations with mixed initial boundary conditions. (English summary) *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 2-3, 249–269. (V. D. Glushenkov) **99c:65154** 65M06 (65M12)

— (*with* Ceppitelli, Rita) A hypertopology intended for functional-differential equations. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 73–88. (Summary) **99a:54010** 54C20 (34K05, 35R10, 54B20)

— (*with* Marcelli, Cristina) On mixed problem for first order partial differential functional equations. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 497–510. (Krzysztof A. Topolski) **99j:35225** 35R10 (35B30, 35D05, 35F99)

Brandière, Odile The dynamic system method and the traps. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 137–151. (Michel Benaïm) **99g:62124** 62L20 (58F30)

— Some pathological traps for stochastic approximation. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1293–1314 (*electronic*). (K. M. Ramachandran) **99h:62106** 62L20

Brandolini, Luca (*with* Colzani, Leonardo; Travaglini, Giancarlo) Average decay of Fourier transforms and integer points in polyhedra. *Ark. Mat.* **35** (1997), *no.* 2, 253–275. (Driss Essouabri) **99e:42021** 42B08 (11P21, 42B10)

— (*with* Rigoli, Marco; Setti, Alberto G.) Positive solutions of Yamabe-type equations on the Heisenberg group. *Duke Math. J.* **91** (1998), *no.* 2, 241–296. (Chu Li Fu) **99d:35027** 35H05 (35B05, 58G99)

— Imbedding theorems for Lipschitz spaces generated by the weak-L^p metric. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 173–190. (J. Musielak) **99f:46036** 46E30 (26B35)

Brandon, J. A. (*with* Benoît, Eric; Jezequel, L.) Subtle bifurcation in the vibration of a system with an interface nonlinearity. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 393–400. (Summary) **99b:70027** 70K99 (73K12)

Brandsma, Henno (*with* van Mill, Jan) A compact HL-space need not have a monolithic hyperspace. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3407–3411. (J. E. Vaughan) **99a:54007** 54B20 (54A20, 54A25, 54A35, 54D30, 54G20)

— (*with* van Mill, Jan) Monotone normality, measures and hyperspaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 287–298. (Gary Gruenhage) **99f:54027** 54D15 (28C15, 54A25, 54B20, 54D30)

Brandstädt, Andreas (*with* Chepoĭ, V. D.; Dragan, Feodor F.) The algorithmic use of hypertree structure and maximum neighbourhood orderings. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 43–77. (Gary MacGillivray) **99e:68119** 68R10 (05C85)

— (*with* Le Van Bang; Szymczak, Thomas) The complexity of some problems related to graph 3-colorability. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 59–73. (Summary) **99i:68059** 68Q25 (05C15, 05C85, 68R10)

— Corrigendum: "Partitions of graphs into one or two independent sets and cliques" [Discrete Math. **152** (1996), no. 1-3, 47–54; MR 96m:05148]. *Discrete Math.* **186** (1998), *no.* 1-3, 295. (From the text) **99c:05148** 05C70 (05C85)

— (*with* Dragan, Feodor F.) A linear-time algorithm for connected r-domination and Steiner tree on distance-hereditary graphs. (English summary) *Networks* **31** (1998), *no.* 3, 177–182. (Summary) **99b:05129** 05C85

— (*with* Dragan, Feodor F.; Chepoĭ, V. D.; Voloshin, V. I.) Dually chordal graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 437–455 (*electronic*). (Valentin E. Brimkov) **99i:05175** 05C75 (05C65, 68R10)

— (*with* Chepoĭ, V. D.; Dragan, Feodor F.) Distance approximating trees for chordal and dually chordal graphs. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 166–184. (Summary) **99k:05058** 05C05 (05C12)

Brandt, Achi The Gauss Center research in multiscale scientific computation. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 1–34 (*electronic*). (Summary) **99a:65002** 65–03 (01A65)

— (*with* Livshits, I. Z.) Wave-ray multigrid method for standing wave equations. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 162–181 (*electronic*). (Dietrich Braess) **99d:65342** 65N55

— (*with* Yavneh, Irad; Venner, Cornelis H.) Fast multigrid solution of the advection problem with closed characteristics. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 111–125 (*electronic*). (Summary) **99d:65358** 65N55 (65N12, 76D05, 76M20)

— (*with* Venner, Cornelis H.) Multilevel evaluation of integral transforms with asymptotically smooth kernels. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 468–492 (*electronic*). (Summary) **99a:65185** 65R10 (65R20)

Brandt, Andreas (*with* Brandt, Manfred) On the sojourn times for many-queue head-of-the-line processor-sharing systems with permanent customers. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 181–220. (Summary) **99j:90032** 90B22 (60K25)

Brandt, F. T. (*with* Frenkel, Josif; Guerra, A.) The Boltzmann equation in scalar field theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4281–4288. (Summary) **99d:81074** 81T10 (82C40)

Brandt, Friedemann Gauge covariant algebras and local BRST cohomology. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 53–67, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Bani Mitra Södermark) **99k:58203** 58H99 (17B56, 58F17, 81T70)

— (*with* Gomis, Joaquim; Simón, Joan) Cohomological analysis of bosonic D-strings and 2d sigma models coupled to abelian gauge fields. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 623–662. (Jan Sładkowski) **99e:81249** 81T70 (81T13, 81T30, 81T50)

— (*with* Gomis, Joaquim; Mateos, David; Simón, Joan) Infinitely many rigid symmetries of kappa-invariant D-string actions. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 147–152. (Summary) **99h:81156** 81T30

— (*with* Gomis, Joaquim; Simón, Joan) D-string on near horizon geometries and infinite conformal symmetry. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1770–1773. (Summary) **99d:83090** 83E30 (81T30)

— Deformations of global symmetries in the extended antifield formalism. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 1023–1040. (Jan Sładkowski) **99k:81321** 81T70 (81T13)

Brandt, Jørgen[1] (*with* Damgård, Ivan B.; Landrock, Peter; Pedersen, Torben) Zero-knowledge authentication scheme with secret key exchange. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 147–159. (Summary) **99c:94026** 94A60

— Cycles of medians. *Util. Math.* **54** (1998), 111–126. (I. Strazdiņš) **99m:94006** 94A12 (05A15)

Brandt, Manfred (*with* Brandt, Andreas) On the sojourn times for many-queue head-of-the-line processor-sharing systems with permanent customers. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 181–220. (Summary) **99j:90032** 90B22 (60K25)

Brandt, Michael (*with* Henglein, Fritz) Coinductive axiomatization of recursive type equality and subtyping. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 63–81, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (From the summary) **99b:03024** 03B40 (68N15, 68Q55)

Brandt, Siegmund ★ Analiza danych. (Polish. Polish summary) [Data analysis] Metody statystyczne i obliczeniowe. [Statistical and computational methods] Translated from the 1997 English edition by Lech Szymanowski. With 1 CD-ROM (DOS, QuickWin and Windows). *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 728 *pp. ISBN* 83-01-12425-3 (Editors) **99i:62002** 62–02 (62–07)

Brandt, Stephan Computing the independence number of dense triangle-free graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 100–108, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68Q25 (05C85, 68R10)

— The local density of triangle-free graphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 17–25. (Ralph Faudree) **99a:05068** 05C35

— (*with* Pisanski, Tomaž) Another infinite sequence of dense triangle-free graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 43, 5 *pp.* (*electronic*). (John M. Harris) **99h:05062** 05C35

— (*with* Faudree, Ralph J.; Goddard, Wayne) Weakly pancyclic graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 3, 141–176. (Feng Tian) **99a:05082** 05C38

Brandt, Steven (*with* Anninos, Peter; Walker, Paul) New orthogonal body-fitting coordinates for colliding black hole spacetimes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6158–6167. (Summary) **99m:83092** 83C57 (83–08)

Branicky, Michael S. (*with* Borkar, Vivek S.; Mitter, Sanjoy K.) A unified framework for hybrid control: model and optimal control theory. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 31–45. (Anton A. Stoorvogel) **99a:93007** 93A30 (49J27)

— Multiple Lyapunov functions and other analysis tools for switched and hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 475–482. (Engin Yaz) **99c:93077** 93D05 (34H05, 93C15)

Brankin, R. W. (*with* Gladwell, Ian) Algorithm 771: rksuite.90: Fortran 90 software for ordinary differential equation initial-value problems. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 402–415. 65Y15

Branković, Ljiljana (*with* Miller, Mirka; Plesník, Ján; Ryan, Joseph; Širáň, Jozef) Large graphs with small degree and diameter: a voltage assignment approach. (English summary) *Australas. J. Combin.* **18** (1998), 65–76. (Summary) **99h:05063** 05C35

— (*with* Horák, Peter; Miller, Mirka) A combinatorial problem in database security. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 119–126. (Summary) **99k:68124** 68R05 (68P15, 94A60)

Brannan, David A. On univalence, multivalence and infinite-valence. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 63–74. (Summary) **99a:30010** 30C25 (30C45, 30C55)

Brännäs, Kurt (*with* De Gooijer, Jan G.; Teräsvirta, Timo) Testing linearity against nonlinear moving average models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2025–2035. 62M10

Branner, Bodil (*with* Sørensen, Dan Erik Krarup) Cover illustration: the limit elephant. *Nonlinearity* **11** (1998), *no.* 1, 1–4. (I. N. Baker) **99b:58196** 58F23 (30D05)

Brannon, R. M. Caveats concerning conjugate stress and strain measures for frame indifferent anisotropic elasticity. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 107–116. (Summary) **99b:73004** 73B27 (73C50, 73G05, 73K20)

Branquinho, A. (*with* Foulquié Moreno, Ana; Marcellán, Francisco) On inverse problems for orthogonal polynomials satisfying a differential equation. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 87–108. (Paolo Emilio Ricci) **99k:33022** 33C45 (42C05)

Brans, Carl H. Gravity and the tenacious scalar field. (English summary) *On Einstein's path* (*New York*, 1996), 121–138, *Springer, New York*, 1999. (Edson Stédile) **99j:83060** 83D05

Branson, Thomas Stein-Weiss operators and ellipticity. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 334–383. (Gerald B. Folland) **99b:58219** 58G05 (22E45, 43A85, 47F05)

— (*with* Ólafsson, Gestur) Asymptotics of the d'Alembertian with potential on a pseudo-Riemannian manifold. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1339–1345. (Sergei S. Platonov) **99h:58189** 58G16 (35A08, 35C20)

Brants, Thorsten Estimating hidden Markov model topologies. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers* (*Gudauri*, 1995), 163–176, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 68S05

Brânzei, Rodica A dynamic approach to the three-persons cooperative games. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform.* (*N.S.*) **5/6** (1996/97), 49–66 (1998). (Sabbir Ahmed Syed) **99j:90120** 90D12

— Entropic decision criteria for random behaviour systems. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 193–204. (Onésimo Hernández Lerma) **99j:90107** 90C40 (49N15, 60J10, 94A17)

Brasche, Johannes (*with* Albeverio, Sergio; Neidhardt, Hagen) On inverse spectral theory for self-adjoint extensions: mixed types of spectra. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 130–173. (Vladimir Derkach) **99h:47029** 47B25 (47A10, 47E05, 47F05, 81U40)

— (*with* Figari, R.; Teta, A.) Singular Schrödinger operators as limits of point interaction Hamiltonians. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 163–178. (Summary) **99a:35040** 35J10 (35P05, 81Q10)

Bräsel, Heidemarie (*with* Shakhlevich, Natalia) On the solution region for certain scheduling problems with preemption. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 1–21. (S. Csibi) **99k:90084** 90B35 (60K25, 90B22)

— *see also* **Models and algorithms for planning and scheduling problems**, **99g:90009**

Braselton, James P. (*with* Abell, Martha L.; Rafter, John A.) ★ Statistics with Mathematica®. (English summary) With 1 CD-ROM (Macintosh, Windows, DOS and UNIX) [ISBN: 0-12-041555-0]. *Academic Press, Inc., San Diego, CA*, 1999. *xiv*+632 *pp. ISBN* 0-12-041554-2 (Editors) **99m:62006** 62–04 (62–01, 65U05)

Brask, D. A. (*with* Carroll, R. B.) A practical implementation for solutions to the algebraic matrix Riccati equation in a LQCM setting. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 1–7. 65F30 (93B40)

Braslavsky, J. H. (*with* Seron, M. M.; Kokotović, Petar V.; Mayne, D. Q.) Feedback limitations in nonlinear systems: from Bode integrals to cheap control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 829–833. (Summary) **99m:93042** 93B52 (93C10)

Brass, Helmut (*with* Fischer, Jan-Wilhelm; Petras, Knut) The Gaussian quadrature method. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 115–150 (1997). (I. P. Mysovskikh) **99a:65032** 65D32

— Linear algorithms with finite deviation. (English summary) *J. Complexity* **14** (1998), *no.* 1, 85–101. (Arthur G. Werschulz) **99c:65025** 65D15

Braß, Peter Häufige Abstände in endlichen Punktmengen. [Frequent distances in finite point sets] *Überblicke Mathematik* 1998, 66–75, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 05C12

— On the diameter of sets with maximum number of unit distances. *Geombinatorics* **8** (1998), *no.* 1, 149–153. (W. Moser) **99g:52029** 52C10

— Isoperimetric inequalities for densities of lattice-periodic sets. (English summary) *Monatsh. Math.* **127** (1999), *no.* 3, 177–181. (Summary) **99m:52022** 52C07

Brass, Stefan (*with* Zukowski, Ulrich; Freitag, Burkhard) Improving the alternating fixpoint: the transformation approach. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 40–59, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68034** 68N17

— (*with* Dix, Jürgen) Characterizations of the disjunctive well-founded semantics: confluent calculi and iterated GCWA. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 143–165. (Summary) **99c:68036** 68N17 (03B70)

Brassard, Gilles (*with* Bennett, Charles H.; Bernstein, Ethan; Vazirani, Umesh) Strengths and weaknesses of quantum computing. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1510–1523. (Robert M. Baer) **99e:68034** 68Q05 (03D10, 03D15, 68Q15, 81P99)

— (*with* Høyer, Peter; Tapp, Alain) Quantum cryptanalysis of hash and claw-free functions (invited paper). (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 163–169, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99g:94013** 94A60

— (*with* Braunstein, Samuel L.; Cleve, Richard) Teleportation as a quantum computation. (English summary) PhysComp96 (Boston, MA). *Phys. D* **120** (1998), *no.* 1-2, 43–47. (V. Ya. Kreinovich) **99m:81028** 81P99 (68Q05, 68Q75, 94A05)

— (*with* Chuang, Isaac; Lloyd, Seth; Monroe, Christopher) Quantum computing. *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 19, 11032–11033 (*electronic*). (Emanuel H. Knill) **99g:81029** 81P99 (68Q05)

Brasselet, Jean-Paul Poincaré morphism and divisors of compact toric varieties. *Real and complex singularities* (*São Carlos*, 1994), 189–202, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Sandra Di Rocco) **99b:14055** 14M25 (14C20)

— Geometry of toric varieties. *Algebraic geometry* (*Ankara*, 1995), 53–87, *Lecture Notes in Pure and Appl. Math.*, 193, *Dekker, New York*, 1997. (Alicia Dickenstein) **99a:14077** 14M25 (14F25, 14F32)

— Classes caractéristiques et nombres caractéristiques des ensembles analytiques complexes: un bilan. [On characteristic classes and characteristic numbers of complex analytic fields] *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 15–23, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (Vasile Brînzănescu) **99c:32057** 32S60 (14C17, 14F32)

Brassolatti, Daniela (*with* Louzada-Neto, Francisco) Bayesian analysis of the reliability function of products subjected to accelerated tests: the exponential case. (Portuguese. Portuguese summary) *Rev. Mat. Estatist.* **15** (1997), 17–27. 62N05 (62F15)

Bratchikov, A. V. Constrained current algebras and $\mathfrak{g}/\mathfrak{u}(1)^d$ conformal field theories. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 285–288. (Isabel P. Ennes) **99c:81218** 81T40 (81R10)

Bratiichuk, M. S. Properties of operators associated with Markov additive processes. I. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 20–29; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 19–28 (1998). (Leonid I. Piterbarg) **99e:60147** 60J10 (60J20)

Bratiichuk, N. S. (*with* Konovalyuk, V. S.) The queue length in a queueing system of type *GI/GI*/1. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 20–25. (Joseph Kreimer) **99m:90073** 90B22 (60K25)

Bratko, Ivan (*with* Zupan, Blaž; Bohanec, Marko; Demšar, Janez) Learning by discovering concept hierarchies. (English summary) *Artificial Intelligence* **109** (1999), *no.* 1-2, 211–242. 68T05

Bratsos, A. G. (*with* Twizell, E. H.) A family of parametric finite-difference methods for the solution of the sine-Gordon equation. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 117–137. (Meng Zhao Qin) **99d:65246** 65M06

— The solution of the Boussinesq equation using the method of lines. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 33–44. (Summary) **99c:76080** 76M25 (76D99, 76M20)

— (*with* Twizell, E. H.) An explicit finite-difference scheme for the solution of the Kadomtsev-Petviashvili equation. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 175–187. 65M06

Bratteli, Ola (*with* Jorgensen, Palle E. T.) A connection between multiresolution wavelet theory of scale N and representations of the Cuntz algebra $\mathcal{O}_N$. *Operator algebras and quantum field theory* (*Rome*, 1996), 151–163, *Internat. Press, Cambridge, MA*, 199?. (Introduction) **99j:46062** 46L05 (42C15)

— (*with* Jorgensen, Palle E. T.) Isometries, shifts, Cuntz algebras and multiresolution wavelet analysis of scale N. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 4, 382–443. (Paul Jolissaint) **99k:46094b** 46Lxx (22D25, 39B12, 42C15, 46N40, 47D25)

— (*with* Elliott, George A.; Evans, David E.; Kishimoto, Akitaka) Homotopy of a pair of approximately commuting unitaries in a simple C^*-algebra. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 2, 466–523. (Carla Farsi) **99m:46132** 46L05 (46L80)

— (*with* Jorgensen, Palle E. T.) Iterated function systems and permutation representations of the Cuntz algebra. (English summary) *Mem. Amer. Math. Soc.* **139** (1999), *no.* 663, *x*+89 *pp.* (Paul Jolissaint) **99k:46094a** 46Lxx (11B85, 22D25, 39B12, 42C15, 47D25)

Bratten, Tim (*with* Araujo, Jose) The Bernstein polynomial in one variable. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4159–4170. (André Leroy) **99k:16055** 16S32 (16S36)

Bratti, G. On a noteworthy differential operator in the algebra of holonomic modules. (Italian. English and Italian summaries) *Rend. Sem. Mat. Univ. Politec. Torino* **55** (1997), *no.* 1, 85–92. (Summary) **99c:16023** 16S32 (35A20)

Brattka, Vasco Recursive characterization of computable real-valued functions and relations. (English summary) Real numbers and computers. *Theoret. Comput. Sci.* **162** (1996), *no.* 1, 45–77. (Summary) **99e:03041** 03F60 (03D10, 68Q05)

Bratu, Nicolae On the quaternary quadratic Diophantine equations. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 145–148, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11D09

Brau, F. Integral equation formulation of the spinless Salpeter equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2254–2263. (Woodford W. Zachary) **99d:81040** 81Q40

große-Brauckmann, Karsten *see* **Große-Brauckmann, Karsten**

Brauer, Uwe Breakdown of smooth solutions of the three-dimensional Euler-Poisson system. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1050–1074. (Norbert Noutchegueme) **99c:35194** 35Q35 (35L99, 76N15, 83C05)

molitor-Braun, Carine *see* **Molitor-Braun, Carine**

Braun, Hel *see* **Pieper-Seier, Irene**, **99d:01034**

Braun, Oleg M. (*with* Kivshar, Yu. S.) Nonlinear dynamics of the Frenkel-Kontorova model. (English summary) *Phys. Rep.* **306** (1998), *no.* 1-2, 108 *pp.* (Summary) **99j:82050** 82C05 (82D99)

Braun, R. *see* **Braun, Robert**

Braun, Robert (*with* Ranestad, Kristian) Conic bundles in projective fourspace. *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 331–339, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (James E. Alexander) **99j:14039** 14J26 (14J25)

Braun, Robert (*with* Witt, Annette; Feudel, Fred; Grebogi, Celso; Kurths, Jürgen) Tracer dynamics in a flow of driven vortices. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1605–1614. 76F20 (76D05)

Braun, Rüdiger W. (*with* Meise, Reinhold; Taylor, B. A.) An example concerning radial Phragmén-Lindelöf estimates for plurisubharmonic functions on algebraic varieties. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 24–29. (Norman Levenberg) **99d:32016** 32F05

Braun, W. John (*with* Li, Wei; Zhao, Yiqiang Q.) Stochastic scheduling on a repairable machine with Erlang uptime distribution. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 4, 1073–1088. (Jean B. Lasserre) **99k:90089** 90B35 (60K30, 62M20, 62N05)

Brauner, Claude-Michel (*with* Hulshof, Josephus; Schmidt-Lainé, Claudine) The saddle point property for focusing selfsimilar solutions in a free boundary problem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 473–479. (Galina I. Bizhanova) **99c:35262** 35R35 (35C20, 35K05)

Braüner, Torben A general adequacy result for a linear functional language. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 27–58. (Summary) **99c:03097** 03F50 (03B70, 68N15, 68Q55)

— A simple adequate categorical model for PCF. II. (English summary) Typed lambda-calculi and applications (Nancy, 1997). *Fund. Inform.* **33** (1998), *no.* 4, 339–368. (Summary) **99j:68008** 68N15 (03B70, 68Q55)

Braunstein, Samuel L. Generalized phase-integrals for linear homogeneous ODEs. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5767–5773. (Summary) **99c:34122** 34E20

— (*with* Brassard, Gilles; Cleve, Richard) Teleportation as a quantum computation. (English summary) PhysComp96 (Boston, MA). *Phys. D* **120** (1998), *no.* 1-2, 43–47. (V.

Ya. Kreinovich) **99m:81028** 81P99 (68Q05, 68Q75, 94A05)
— (*with* Lloyd, Seth) Quantum computation over continuous variables. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 8, 1784–1787. (Summary) **99j:81024** 81P99
Braverman, Alexander (*with* Joseph, Anthony) The minimal realization from deformation theory. *J. Algebra* **205** (1998), *no.* 1, 13–36. (Darin R. Stephenson) **99h:16043** 16S80 (16S30)
Braverman, E. Ya. (*with* Israeli, Moshe; Averbuch, Amir; Vozovoi, Lev) A fast 3D Poisson solver of arbitrary order accuracy. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 109–136. (Summary) **99c:65251** 65T20 (65N30)
— (*with* Berezanskiĭ, L. M.) Some oscillation problems for a second order linear delay differential equation. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 719–740. (Ch. G. Philos) **99a:34182** 34K15 (34C10)
Braverman, Maxim (*with* Farber, Michael) Novikov type inequalities for differential forms with non-isolated zeros. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 357–375. (Patrick T. McDonald) **99b:58220** 58G05 (58E05, 58G25, 58G26)
— Holomorphic Morse inequalities and symplectic reduction. (English summary) *Topology* **38** (1999), *no.* 1, 71–78. (Kenji Tsuboi) **99h:58178** 58G10 (32L10, 58F06)
Braverman, Michael Suprema and sojourn times of Lévy processes with exponential tails. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 265–283. (Loïc Chaumont) **99f:60025** 60E07
— (*with* Samorodnitsky, Gennady) Distribution tails of sample quantiles and subexponentiality. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 45–60. (Angelos Dassios) **99i:60033** 60E07 (60G70)
— (*with* Samorodnitsky, Gennady) Symmetric infinitely divisible processes with sample paths in Orlicz spaces and absolute continuity of infinitely divisible processes. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 1–26. (Rimas Norvaiša) **99h:60009** 60B11 (60E07, 60G17)
— (*with* Rubshtein, Ben-Zion; Veksler, A. S.) Dominated ergodic theorems in rearrangement invariant spaces. (English summary) *Studia Math.* **128** (1998), *no.* 2, 145–157. (Radu Zaharopol) **99b:47014** 47A35 (28D05, 46E30, 47B38)
Bravetti, Mario (*with* Bernardo, Marco; Gorrieri, Roberto) Towards performance evaluation with general distributions in process algebras. (English summary) *CONCUR'98: concurrency theory (Nice)*, 405–422, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68M20, 68Q60)
Bravo, Elba (*with* Claeyssen, Julio R.; Platte, Rodrigo B.) A direct one-step pressure actualization for incompressible flow with pressure Neumann condition. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 43–53. (Summary) **99m:76086** 76M20 (76D05)
blanquero-Bravo, R. *see* **Blanquero-Bravo, R.**
Bravo Castillero, Julián (*with* Otero Hernández, José A.; Ramos, R. R.; Diaz, R. G.) The overall properties of piezocomposite materials with cylindrical fibres. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995)*, 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (David J. Bergman) **99j:73006** 73B27 (73R05, 73V35)
Bravo de la Parra, Rafael (*with* Arino, Ovide; Hbid, Moulay Lhassan) A mathematical model of growth of population of fish in the larval stage: density-dependence effects. (English summary) *Math. Biosci.* **150** (1998), *no.* 1, 1–20. (Summary) **99b:92034** 92D25
— (*with* Sánchez, Eva) Aggregation methods in population dynamics discrete models. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 23–39. (Arthur I. Csetényi) **99f:92017** 92D25 (92D40)
— (*with* Auger, Pierre M.; Sánchez, Eva) Hawk-dove game and competition dynamics. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 89–98. (Summary) **99b:92035** 92D25
— (*with* Arino, Ovide; Sánchez, Eva) A model of an age-structured population in a multipatch environment. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 137–150. (Summary) **99c:92034** 92D25 (35K05, 35Q80)
Bravo Yuste, Santos (*with* Porrà, Josep M.) Demonstration of a conjecture for random walks in d-dimensional Sierpinski fractals. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6589–6593. (Summary) **99e:82049** 82B41
Brawley, Joel V. (*with* Teitloff, Timothy C.) Similarity to symmetric matrices over finite fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 261–274. (Gary L. Mullen) **99g:15017** 15A33 (11T06)
— (*with* Gao, Shu Hong; Mills, Donald) Computing composed products of polynomials. (English summary) *Finite fields: theory, applications, and algorithms (Waterloo, ON*, 1997), 1–15, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Vincenzo Acciaro) **99i:12008** 12Y05 (68Q25)
Brax, Ph. (*with* Turok, Neil G.) Exponentially small couplings between twisted fields of orbifold string theories. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3255–3274. (Summary) **99c:81167** 81T30
Bray, William O. (*with* Pinsky, Mark A.) Pointwise Fourier inversion on rank one symmetric spaces and related topics. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 306–333. (Khélifa Trimèche) **99d:43016** 43A85 (35J99, 42B10)
Brazier, J. Ph. (*with* Roget, C.; Cousteix, J.; Mauss, J.) A contribution to the physical analysis of separated flows past three-dimensional humps. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 307–329. (Summary) **99e:76036** 76D15 (76D10)
Brazil, M. (*with* Rubinstein, Joachim H.; Thomas, Doreen A.; Weng, J. F.; Wormald, Nicholas C.) Minimal Steiner trees for rectangular arrays of lattice points. (English summary) *J. Combin. Theory Ser. A* **79** (1997), *no.* 2, 181–208. (From the text) **99d:05022** 05C05
— (*with* Thomas, Doreen A.; Weng, J. F.) A polynomial time algorithm for rectilinear Steiner trees with terminals constrained to curves. (English summary) *Networks* **33** (1999), *no.* 2, 145–155. (Summary) **99j:05174** 05C85 (68Q35, 68R10)
Brāzma, Alvis (*with* Jonassen, Inge; Vilo, Jaak; Ukkonen, Esko) Pattern discovery in biosequences. (English summary) *Grammatical inference (Ames, IA*, 1998), 257–270, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 92D20
Brdička, Miroslav Reminiscences about Professor Trkal (on his 110th birthday). (Czech) *Pokroky Mat. Fyz. Astronom.* **43** (1998), *no.* 2, 156–159. 01A70
Breazu-Tannen, Val (*with* Lellahi, Seyed-Kazem) A calculus for collections and aggregates. (English summary) *Category theory and computer science (Santa Margherita Ligure*, 1997), 261–280, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68P15
— (*with* Suciu, Dan) A query language for NC. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 299–321. (Summary) **99d:68087** 68Q15 (03D15, 68P15)
Brebbia, C. A. (*with* Chen, Ching Shyang; Power, Henry) Dual reciprocity method using compactly supported radial basis functions. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 2, 137–150. 65N38 (65D15)
— *see also* **Boundary elements, 99c:65003**; **Boundary element research in Europe, 99k:73001** *and* **Advances in fluid mechanics, 99k:76003**
Brecher, D. BPS states of the non-abelian Born-Infeld action. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 117–124. (Summary) **99h:81157** 81T30
Breckner, Brigitte Inductively closed families in semigroups. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 3–14. (K. D. Magill, Jr.) **99c:22003** 22A15 (20M12, 54H11)
Breckner, Wolfgang W. Continuity of generalized convex and generalized concave set-valued functions. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 39–51. (W. Smajdor) **99c:47080** 47H04 (26B25, 26E25, 39B72, 47N20)
— Professor József Kolumbán at his 60th anniversary. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 109–116. (Editors) **99k:01050** 01A70
Bredikhin, D. A. Representations of inverse semigroups by difunctional multipermutations. *Transformation semigroups (Colchester*, 1993), 1–10, *Univ. Essex, Colchester*, 199?. (S. Sribala) **99b:20095** 20M18
— On clones generated by primitive-positive operations of Tarski's relation algebras. *Algebra Universalis* **38** (1997), *no.* 2, 165–174. (Manuel Abad) **99h:03040** 03G15
— Representations of lattice terms by means of graphs. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 247–251. (Md. Fazlee Hossain) **99m:05154** 05C99 (06B20)
Bredrup, Edvin (*with* Zhang, Li-Chun) Imperfectly shuffled decks in bridge. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 2, 173–179. 60C05 (60J10, 62E15)
Brée, David S. (*with* Ollerenshaw, Kathleen) Pandiagonal magic squares from mixed auxiliary squares. (English summary) *Math. Today (Southend-on-Sea)* **34** (1998), *no.* 4, 105–111. (Summary) **99g:05033** 05B15
— (*with* Ollerenshaw, Kathleen) Most-perfect pandiagonal magic squares. (English summary) *Math. Today (Southend-on-Sea)* **34** (1998), *no.* 5, 139–143. (Rong Si Chen) **99j:05038** 05B15
Breen, Lawrence Braided n-categories and Σ-structures. (English summary) *Higher category theory (Evanston, IL*, 1997), 59–81, *Contemp. Math.*, 230, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99k:18011** 18D10 (19D23)
Breen, Marilyn A staircase analogue of the prison yard problem for orthogonal polygons. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 143–158. (Clemente Zanco) **99g:52003** 52A30
— The dimension of the kernel in planar sets which are starshaped via α-paths. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 137–144. (John D. Baildon) **99g:52004** 52A30 (52A35)
Breen, Michael (*with* Hume, David) Properties of a standard form for a Boolean matrix. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 49–65. (K. P. S. Bhaskara Rao) **99a:15005** 15A33
Brega, Alfredo O. On the unitary dual of Spin($2n$, **C**). (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 403–415. (Kyo Nishiyama) **99c:22019** 22E46 (22D10, 22E47)
Bregenzer, Thomas (*with* Lehmacher, Walter) Directional tests for the analysis of clinical trials with multiple endpoints allowing for incomplete data. (English summary) *Biom. J.* **40** (1998), *no.* 8, 911–928. 62P10
Brehm, Ulrich (*with* Et-Taoui, Boumediene) Congruence criteria for finite subsets of complex projective and complex hyperbolic spaces. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 81–95. (Sergey N. Astrakov) **99e:51021** 51M10 (51A05, 51A45, 51M15)
Breidt, F. Jay (*with* Davis, Richard Alan) Extremes of stochastic volatility models. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 664–675. (Wolfgang Schmid) **99g:60091** 60G70 (62M10, 90A09)
Breiman, Leo Arcing classifiers. (English summary) With discussion and a rejoinder by the author. *Ann. Statist.* **26** (1998), *no.* 3, 801–849. (Peter A. Lachenbruch) **99g:62083** 62H30
Breinholt, Greg (*with* Schierz, Christoph) Algorithm 781: generating Hilbert's space-filling curve by recursion. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 184–189. 65–04
Breitbach, Markus (*with* Bossert, M.; Zyablov, Viktor V.; Sidorenko, Vladimir) Codes that correct multiple burst errors or erasures. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 15–25; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 297–306 (1998). (Summary) **99d:94039** 94B20
Breitbart, Yuri (*with* Vingralek, Radek; Ye, Haiyan; Schek, H.-J.) Unified transaction model for semantically rich operations. (English summary) *Database theory—ICDT '95 (Prague)*, 148–161, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15
— (*with* Rastogi, Rajeev; Mehrotra, Sharad; Korth, Henry F.; Silberschatz, Avi) On correctness of nonserializable executions. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 68–82. (Armin Cremers) **99c:68074** 68P15 (68Q10)
Breitenecker, M. (*with* Baumgartner, B.; Urbantke, Helmuth K.) On group structure in Copernican quasicrystallography. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 845–848. (Summary) **99m:20122** 20H15 (82D25)
Breitenlohner, Peter (*with* Lavrelashvili, G. V.; Maison, Dieter) Mass inflation and chaotic behaviour inside hairy black holes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 427–443. (Summary) **99c:83048** 83C57

— (*with* Maison, Dieter; Hollmann, Helia) Quantization of the Reissner-Nordström black hole. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 293–297. (Marco Cavaglià) **99g:83031** 83C45 (83C22, 83C47, 83C57)

Breitfeld, Marc G. (*with* Shanno, David F.; Simantiraki, Evangelia M.) Implementing barrier methods for nonlinear programming. (English summary) *Interior point methods of mathematical programming*, 399–414, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C30 (65K05)

Breitner, Michael H. Numerical solution of optimal control problems in macroeconomics and microeconomics: are direct or indirect methods more favorable? *Operations Research Proceedings* 1996 (*Braunschweig*), 462–467, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90A16 (49M05)

Breitung, Jörg (*with* Franses, Philip Hans) On Phillips-Perron-type tests for seasonal unit roots. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 200–221. (Summary) **99c:62242** 62M10 (62P20)

Breitung, K. (*with* Casciati, F.; Faravelli, L.) Optimization methods in structural reliability. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 359–369, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C90 (90B25, 90C15)

Breizman, B. N. (*with* Candy, J.; Porcelli, F.; Berk, H. L.) On the theory of internal kink oscillations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2326–2333. (Summary) **99b:76098** 76X05

Brekelmans, W. A. M. (*with* van Rens, B. J. E.; Baaijens, F. P. T.) Homogenization of the elastoplastic behavior of perforated plates. (English summary) *Comput. & Structures* **69** (1998), *no.* 4, 537–545. (Summary) **99e:73014** 73B27 (73E05, 73K10)

Bremer, Hartmut Controlled elastic robots. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 245–256. (K. Desoyer) **99e:70068** 70Q05 (70B15, 73K99, 93C85)

Bremer, M. S. (*with* Lu, Hong[1]; Pope, C. N.; Stelle, K. S.) Dirac quantisation conditions and Kaluza-Klein reduction. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 259–294. (Gianguido Dall'Agata) **99m:81175** 81T30 (83E15, 83E30)

Bremke, Kirsten (*with* Malle, Gunter) Reduced words and a length function for $G(e, 1, n)$. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 453–469. (Robert Bédard) **99d:20062** 20F55 (20C20, 20H15)

— (*with* Malle, Gunter) Root systems and length functions. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 83–97. (Robert Bédard) **99g:20075** 20F55 (51F15)

— (*with* Fan, C. K.) Comparison of a-functions. (English summary) *J. Algebra* **203** (1998), *no.* 2, 355–360. (Jian Yi Shi) **99d:20063** 20F55

Bremler, Anat (*with* Afek, Yehuda) Self-stabilizing unidirectional network algorithms by power supply. (English summary) *Chicago J. Theoret. Comput. Sci.* **1998**, *Article* 3, 48 *pp.* (*electronic*). (Summary) **99g:68076** 68Q20 (68Q10)

Bremner, D. (*with* Fukuda, Komei; Marzetta, A.) Primal-dual methods for vertex and facet enumeration. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 333–357. (Jesús A. de Loera) **99h:52016** 52B55 (68Q25, 68U05, 90C27)

— Incremental convex hull algorithms are not output sensitive. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 57–68. (Summary) **99m:68206** 68U05 (52B55)

Bremner, Murray Varieties of anticommutative n-ary algebras. (English summary) *J. Algebra* **191** (1997), *no.* 1, 76–88. (Seymour Kass) **99f:17002** 17A42 (20C30)

— Lie invariants of degree ten. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 115–122. (Vesselin Drensky) **99h:17004** 17B01 (17B10, 20C30)

— Identities for the ternary commutator. (English summary) *J. Algebra* **206** (1998), *no.* 2, 615–623. (Joseph C. Ferrar) **99h:16071** 16Y99 (20C30)

Brendle, Jörg Mob families and mad families. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 3, 183–197. (Eva Coplakova) **99m:03098** 03E35 (03E05, 03E15)

Brener, Efim A. (*with* Marchenko, V. I.) Nonlinear theory of dislocations in smectic crystals: an exact solution. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, R4752–R4757. 76A10 (82D30)

Brenier, Yann (*with* Roesch, Michel) Reconstruction d'écoulements incompressibles à partir de données lagrangiennes. (French summary) [Reconstructing incompressible flows from Lagrangian data] *Actes du 29ème Congrès d'Analyse Numérique: CANum'97* (*Larnas*, 1997), 11–22 (*electronic*), *ESAIM Proc.*, 3, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99e:76026** 76C99 (76D05, 76M25)

— (*with* Corrias, L.) A kinetic formulation for multi-branch entropy solutions of scalar conservation laws. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 169–190. (Lorenzo Pareschi) **99f:35126** 35L65 (82C40)

— (*with* Benamou, Jean-David) Weak existence for the semigeostrophic equations formulated as a coupled Monge-Ampère/transport problem. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1450–1461 (*electronic*). (Andrew C. Fowler) **99i:35162** 35Q99 (35D05, 76C05, 76U05, 86A05)

— (*with* Grenier, Emmanuel) Sticky particles and scalar conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2317–2328 (*electronic*). (Christophe Cheverry) **99j:35129** 35L65 (76P05)

— (*with* Benamou, Jean-David) A numerical method for the optimal time-continuous mass transport problem and related problems. (English summary) *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 1–11, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Mohammad Asadzadeh) **99j:65151** 65M25 (49N55, 65K10)

Brenig, Léon (*with* Louies, S.) Structure and convergence of Poncaré-like normal forms. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 184–192. (Ahmadjon Soleev) **99a:34112** 34C20 (58F36)

— (*with* Figueiredo, Annibal; Rocha Filho, Tarcísio M.) Algebraic structures and invariant manifolds of differential systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2929–2946. (Michael K. Kinyon) **99h:34010** 34A34 (17A99, 34C20)

— (*with* Hernández Bermejo, Benito; Fairén, Víctor) Algebraic recasting of nonlinear systems of ODEs into universal formats. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2415–2430. (W.-H. Steeb) **99g:34030** 34A34

— (*with* Rocha Filho, Tarcísio M.; Figueiredo, Annibal) [QPSI] a MAPLE package for the determination of quasi-polynomial symmetries and invariants. (English summary) *Comput. Phys. Comm.* **117** (1999), *no.* 3, 263–272. 65-04 (65C20)

Brennan, J. J. (*with* Geist, Bruce) Analysis of iterated modular exponentiation: the orbits of $x^a \bmod N$. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 229–245. (Robert F. Tichy) **99b:11086** 11K45 (65C10, 68P25, 94A60)

Brennan, Michael A reduction argument for a variable times impulsive differential equation. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 203–209. (Lidia Skóra) **99c:34015** 34A37 (34A12)

Brennan, Thomas (*with* Harrison, John Watkins; Gapinski, Steven) The Gergonne p-pile problem and the dynamics of the function $x \mapsto \lfloor (x + r)/p \rfloor$. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 103–113. (Christian Radoux) **99m:05001** 05A05 (11B37)

Brenner, A. V. The mixed problems in several time variables and problems with parameters. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 282–287, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K35 (35J40)

Brenner, Michael P. (*with* Witelski, Thomas P.) On spherically symmetric gravitational collapse. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 863–899. (Summary) **99k:85003** 85A30 (76N10)

— (*with* Lister, John R.; Day, Richard F.; Hinch, E. John; Stone, Howard A.) Singularities and similarity solutions in capillary breakup. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 257–269, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D45

— Screening mechanisms in sedimentation. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 754–772. (Summary) **99k:76142** 76T05

Brenner, Sheila The Auslander translate of a short exact sequence. *Colloq. Math.* **78** (1998), *no.* 1, 49–56. (Christof Geiß) **99m:16029** 16G70

Brenner, Susanne C. (*with* Sung, Li-yeng) Multigrid methods for the computation of singular solutions and stress intensity factors. II. Crack singularities. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 623–643. (Harry Yserentant) **99i:65139** 65N55 (65N30, 73B50, 73V05)

— Overcoming corner singularities using multigrid methods. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1883–1892 (*electronic*). (Dietrich Braess) **99f:65189** 65N55 (65N30)

— (*with* Sung, Li-yeng) Lower bounds for two-level additive Schwarz preconditioners for nonconforming finite elements. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 585–604, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Qian Li) **99j:65196** 65N30

— Convergence of nonconforming multigrid methods without full elliptic regularity. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 25–53. (Do Young Kwak) **99c:65229** 65N55 (65N30)

— Multigrid methods for the computation of singular solutions and stress intensity factors. I. Corner singularities. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 559–583. (Harry Yserentant) **99i:65138** 65N55 (65N30, 73B50, 73V05)

Brent, Richard P. Factorization of the tenth Fermat number. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 429–451. (Samuel S. Wagstaff, Jr.) **99e:11154** 11Y05 (11A51)

Brenti, Francesco Combinatorial expansions of Kazhdan-Lusztig polynomials. (English summary) *J. London Math. Soc.* (2) **55** (1997), *no.* 3, 448–472. (Toshiyuki Tanisaki) **99a:05143** 05E15 (20F55, 20G05)

— Upper and lower bounds for Kazhdan-Lusztig polynomials. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 283–297. (Andrew P. Mathas) **99j:05193** 05E15 (06A07, 20C33)

— Hilbert polynomials in combinatorics. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 2, 127–156. (Ralf Fröberg) **99e:13020** 13D40 (05A15, 16W99)

Brešar, Boštjan On clique-gated graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 201–205. (Summary) **99k:05134** 05C75

Brešar, Matej (*with* Šemrl, Peter) Linear preservers on $\mathcal{B}(X)$. *Linear operators* (*Warsaw*, 1994), 49–58, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (From the introduction) **99c:47044** 47B49 (47B48)

— (*with* Chebotar, M. A.) On a certain functional identity in prime rings. *Comm. Algebra* **26** (1998), *no.* 11, 3765–3781. (Andrei Kelarev) **99h:16037** 16N60

— On certain pairs of automorphisms of rings. II. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 162–168. (Howard E. Bell) **99f:16038** 16W20

— (*with* Šemrl, Peter) Finite rank elements in semisimple Banach algebras. (English summary) *Studia Math.* **128** (1998), *no.* 3, 287–298. (Volker Runde) **99a:46089** 46H05 (46H10)

— (*with* Hvala, Bojan) On additive maps of prime rings. II. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 39–54. (J. Hausen) **99m:16035** 16N60 (16R50, 16W25)

— (*with* Šemrl, Peter) On locally linearly dependent operators and derivations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1257–1275. (Volker Runde) **99e:47039** 47B48 (15A04, 16W25, 46H40, 47A99)

Bresch, Didier (*with* Lemoine, Jérôme) Sur l'existence et l'unicité de solution des fluides de grade 2 ou 3. (English and French summaries) [On the existence and uniqueness of a solution for second- or third-grade fluids] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 605–610. (Summary) **99a:76003a** 76A05 (35Q35)

— (*with* Simon, Jacques) Modèles stationnaires de lacs et mers. (French summary) [Stationary models of lakes and seas] *Équations aux dérivées partielles et applications*, 239–269, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99f:76130** 76U05 (35Q35, 76D99, 86A05)

— (*with* Lemoine, Jérôme; Simon, Jacques) Écoulement engendré par le vent et la force de Coriolis dans un domaine mince. II. Cas d'évolution. (English and French summaries) [Motion driven by wind and by Coriolis force in a thin domain. II. Nonstationary case] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 329–334. (Summary) **99h:86005** 86A05 (35Q30, 76D05, 76U05)

— (*with* Simon, Jacques) Sur les variations normales d'un domaine. (French summary) [On the normal variations of a domain] *ESAIM Control Optim. Calc. Var.* **3** (1998), 251–261 (*electronic*). (H. R. Gluck) **99f:49064** 49Q10 (49Q20)

— *see also* **Errata: "On the existence and uniqueness of a solution for second- or third-grade fluids"**, **99a:76003b**

Bresinsky, Henrik (*with* Schenzel, Peter; Stückrad, J.) Quasi-complete intersection ideals of height 2. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 137–145. (R. A.

Wiegand) **99d:13014** 13C40 (14M05)
— (*with* Lê Tuân Hoa) On the reduction number of some graded algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1257–1263. (C. R. Fletcher) **99h:13027** 13F20
Breslauer, Dany (*with* Apostolico, Alberto) Of periods, quasiperiods, repetitions and covers. (English summary) *Structures in logic and computer science*, 236–248, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (*see* **99b:68008**) 68R15
— On competitive on-line paging with lookahead. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 365–375. (Summary) **99f:68086** 68Q25 (68N25)
Bressan, Alberto On the Cauchy problem for systems of conservation laws. (English summary) *Actes du 29ème Congrès d'Analyse Numérique: CANum'97* (*Larnas*, 1997), 23–36 (*electronic*), *ESAIM Proc.*, 3, *Soc. Math. Appl. Indust., Paris*, 1998. (Pavel Dubovskiĭ) **99h:35123** 35L65
— (*with* Colombo, Rinaldo M.) Decay of positive waves in nonlinear systems of conservation laws. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 133–160. (Christophe Cheverry) **99e:35136** 35L65 (35B05)
— (*with* Marson, Andrea) Error bounds for a deterministic version of the Glimm scheme. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 155–176. (Petr N. Vabishchevich) **99f:65134** 65M15 (35L65, 65M06)
— (*with* Shen, Wen) Uniqueness for discontinuous ODE and conservation laws. *Nonlinear Anal.* **34** (1998), *no.* 5, 637–652. (Denis Serre) **99d:34005** 34A12 (34A99, 35L65)
— (*with* Piccoli, Benedetto) A generic classification of time-optimal planar stabilizing feedbacks. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 12–32 (*electronic*). (Henk Nijmeijer) **99c:93085** 93D15 (49J15, 93B29)
Bressan, Aldo Some answers to Max Urchs' comments on a paper by Bressan: "Again on relativistic semantics" [Logic Log. Philos. No. 3 (1995), 23–42; MR 97h:03012]. *Logic Log. Philos. No.* 4 (1996), 123–131. 03B30 (00A30, 00A79, 83A05)
Bressan, Stephane F. (*with* Goh, Cheng Hian; Lee, Thomas Y.; Madnick, S.; Siegel, Michael) A procedure for mediation of queries to sources in disparate contexts. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 213–227, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68P15)
Bressange, G. F. (*with* Hogan, P. A.; Barrabès, C.) Colliding plane waves in Einstein-Maxwell theory. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 263–265. (J. B. Griffiths) **99b:83023** 83C22 (83C35)
Bressler, Paul (*with* Nest, Ryszard; Tsygan, Boris) A Riemann-Roch type formula for the microlocal Euler class. *Internat. Math. Res. Notices* **1997**, *no.* 20, 1033–1044. (Markus J. Pflaum) **99g:58118** 58G12 (14C40, 32L10, 58F06)
— (*with* Brylinski, Jean-Luc) On the singularities of theta divisors on Jacobians. *J. Algebraic Geom.* **7** (1998), *no.* 4, 781–796. (José M. Muñoz Porras) **99i:14034** 14H42 (14F32)
— (*with* Saito, Morihiko; Youssin, Boris) Filtered perverse complexes. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 119–136. (Stéphane Guillermou) **99i:14022** 14F32 (14D07, 14F40, 32C38)
Bressloff, P. C. (*with* Coombes, S.) Travelling waves in a circular array of integrate-and-fire neurons. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 287–292, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 92C30 (92C05)
— (*with* De Souza, B.) Neural pattern formation in networks with dendritic structure. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 124–144. (Summary) **99b:92011** 92C15
— (*with* Coombes, S.) Symmetry and phase-locking in a ring of pulse-coupled oscillators with distributed delays. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 99–122. (Summary) **99k:34151** 34K15 (34C15, 34C23)
Bressoud, David M. Elementary proof of MacMahon's conjecture. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 3, 253–257. (Markus E. Fulmek) **99g:05179** 05E05
Bretagnolle, Jean (*with* Bon, Jean-Louis) Évaluation a priori de la probabilité de défaillance d'un système réparable. (English and French summaries) [Approximation of failure probability for large systems with non-Markovian repair times] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 743–748. (Philip J. Boland) **99m:60139** 60K10 (62N05, 90B25)
de la Bretèche, R. *P*-régularité de sommes d'exponentielles. [*P*-regularity of exponential sums] *Mathematika* **45** (1998), *no.* 1, 145–175. (D. R. Heath-Brown) **99g:11098** 11L07 (11N37)
— Sommes d'exponentielles et entiers sans grand facteur premier. [Exponential sums and integers without large prime factors] *Proc. London Math. Soc.* (3) **77** (1998), *no.* 1, 39–78. (A. J. Hildebrand) **99f:11120** 11N25 (11L07)
Brethé, D. (*with* Loiseau, Jean-Jacques) An effective algorithm for finite spectrum assignment of single-input systems with delays. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 339–348. (Summary) **99c:93048** 93B55 (93C25)
le Breton, Alain *see* **Le Breton, Alain**
le Breton, Michel *see* **Le Breton, Michel**
Bretón Báez, Nora (*with* García Díaz, Alberto) Colliding waves in dilaton-axion gravity. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 508–512, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83C15 (83C35)
— (*with* Manko, Vladimir S.; Aguilar Sánchez, J.) On the equilibrium of charged masses in general relativity: the electrostatic case. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3071–3083. (Leonardo Fernández-Jambrina) **99i:83012** 83C15
— (*with* García Díaz, Alberto; Manko, Vladimir S.; Denisova, T. E.) Arbitrarily deformed Kerr-Newman black hole in an external gravitational field. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3382–3388. (Summary) **99m:83100** 83C57 (83C22)
Bretto, A. (*with* Laget, B.) Helly property associated with the discrete planes. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 56–63 (*electronic*). (Joseph Zaks) **99m:52005** 52A35 (05C65, 52B40, 52C05)
Breuer, Heinz-Peter (*with* Petruccione, Francesco) Relativistic formulation of quantum-state diffusion. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 33–52. (Summary) **99k:82049** 82C10 (82C31)
Breuer, Thomas Integral bases for subfields of cyclotomic fields. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 279–289. (Wieb Bosma) **99a:11120** 11R18
— (*with* Pfeiffer, Götz) Finding possible permutation characters. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 343–354. (Cheryl E. Praeger) **99e:20005** 20B99 (20B40, 20C15, 20C40)
Breuer, Thomas Othmar ★ Quantenmechanik: ein Fall für Gödel? (German. German summary) [Quantum mechanics: a case for Gödel?] *Spektrum Akademischer Verlag GmbH, Heidelberg*, 1997. ii+138 *pp. ISBN* 3-8274-0191-7 (From the text) **99m:00006** 00A30 (00A79, 81-03, 81P05)
— Ignorance of the own past. (English summary) *Erkenntnis* **48** (1998), *no.* 1, 39–46. 03B30 (03A05)
— How the classical pointer moves. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 235–240. (Jos Uffink) **99g:81019** 81P15
van Breugel, Franck ★ Comparative metric semantics of programming languages. (English summary) Nondeterminism and recursion. Progress in Theoretical Computer Science. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xx*+220 *pp. ISBN* 0-8176-3927-6 (B. H. Mayoh) **99f:68131** 68Q55 (03B70, 68-02, 68N15)
— Terminal metric spaces of finitely branching and image finite linear processes. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 223–230. (Summary) **99c:68085** 68Q10 (54E35, 68Q55)
Breuil, Christophe Construction de représentations *p*-adiques semi-stables. (English and French summaries) [Construction of semistable *p*-adic representations] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 3, 281–327. (Adolfo Quirós) **99k:14034** 14F30 (11F85, 11G25, 14F20, 14F40)
— Cohomologie étale de *p*-torsion et cohomologie cristalline en réduction semi-stable. [*p*-torsion étale cohomology and crystalline cohomology in semistable reduction] *Duke Math. J.* **95** (1998), *no.* 3, 523–620. (Guy Laffaille) **99m:14036** 14F30 (14F20, 14F40, 14G20)
— Schémas en groupe et modules filtrés. (English and French summaries) [Group schemes and filtered modules] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 2, 93–97. (Summary) **99m:14086** 14L15
Breulmann, Stefan Estimates for Fourier coefficients of Siegel cusp forms of degree genus three. *Math. Ann.* **310** (1998), *no.* 1, 129–160. (B. Ramakrishnan) **99a:11054a** 11F30 (11F46)
— Erratum: "Estimates for Fourier coefficients of Siegel cusp forms of degree three". *Math. Ann.* **310** (1998), *no.* 4, 795. (B. Ramakrishnan) **99a:11054b** 11F30 (11F46)
Breusch, T. S. (*with* Robertson, J. C.; Welsh, Alan H.) The emperor's new clothes: a critique of the multivariate *t* regression model. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 269–286. (Xuming He) **99a:62087** 62J05 (62F35)
Brevdo, Leonid Wave packets, signaling and resonances in a homogeneous waveguide. (English summary) *J. Elasticity* **49** (1997/98), *no.* 3, 201–237. (Summary) **99d:73037** 73D25 (35Q72, 73N20, 86A15)
— Axisymmetric resonant disturbances in a homogeneous wave guide. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 979–999. (Summary) **99k:73051** 73D15 (73D10, 73H99, 86A15)
— (*with* Il'ichev, A. T.) Exponential neutral stability of a floating ice layer. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 401–419. (Summary) **99c:73064** 73N20 (73D15, 73H99, 73K70, 76B99, 86A05)
— High-order resonances in a homogeneous waveguide. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 152–169. (A. S. Silbergleit) **99m:73033** 73D99 (35Q72, 86A15)
Breveglieri, L. Fair expressions and regular languages over list. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 1, 15–66. (Summary) **99e:68086** 68Q45
Brevik, I. (*with* Bytsenko, Andrei A.; Nielsen, Holger Bech) Thermodynamic properties of the piecewise uniform string. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3383–3395. (Summary) **99h:81158** 81T30 (81T16, 82B05)
— (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.; Williams, Floyd L.) Zeta-function regularization and the thermodynamic potential for quantum fields in symmetric spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4437–4448. (Emili Elizalde) **99e:81159** 81T16 (58G26, 81T20)
— (*with* Matsas, George E. A.; Moreira, E. S., Jr.) Note on the point-splitting procedure to evaluate vacuum fluctuation in certain cylindrically symmetric backgrounds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 027502, 4 *pp.* 81T20
— (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.) Mass and decay spectra of the piecewise uniform string. (English summary) *Phys. Lett. B* **453** (1999), *no.* 3-4, 217–221. 81T30
Brewer, Dennis (*with* Rai, Sanjay) Analysis of a nonlinear FDE for an age-structured population. (English summary) *J. Natur. Geom.* **11** (1997), *no.* 1, 57–74. (Summary) **99a:92029** 92D25 (34K15)
Brewin, Leo An ADM 3 + 1 formulation for smooth lattice general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2427–2449. (Summary) **99h:83017** 83C27 (83-08)
— Riemann normal coordinates, smooth lattices and numerical relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3085–3120. (José A. Zapata) **99j:83024** 83C27 (83-08)
Brewka, Gerhard (*with* Gottlob, Georg) Well-founded semantics for default logic. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 221–236. (G. Mirkowska) **99m:03053** 03B60 (03B70, 68T27)
— (*with* Dix, Jürgen) Knowledge representation with logic programs. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 1–51, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68136** 68T30 (68N15)
— *see also* **KI-97: advances in artificial intelligence, 99d:68006**
Brewley, Denise N. (*with* Mickens, Ronald E.; Russell, Matasha L.) A model of dieting. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 667–672 (*electronic*). (Summary) **99d:92004** 92B05 (34C99, 34D99)
Brewster, Ben (*with* Hauck, Peter) Sylow intersections in finite groups. *J. Algebra* **206** (1998), *no.* 1, 261–292. (Gernot Stroth) **99k:20045a** 20D20
— (*with* Hauck, Peter) Erratum: "Sylow intersections in finite groups". *J. Algebra* **213** (1999), *no.* 1, 379. (Gernot Stroth) **99k:20045b** 20D20

Brewster, M. E. (*with* Beylkin, Gregory; Gilbert, Anna Catherine) A multiresolution method for numerical reduction and homogenization of nonlinear ODEs. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 450–486. (Iulian Coroian) **99i:65080** 65L99 (34A45)

de Brey, M. J. D. *see* **De Brey, M. J. D.**

Breymann, Wolfgang (*with* Tél, Tamás; Vollmer, Jürgen) Entropy balance, time reversibility, and mass transport in dynamical systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 396–408. (Summary) **99f:58119** 58F11 (58F40)

Brézin, E. (*with* Zee, A.) Non-Hermitean delocalization: multiple scattering and bounds. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 599–614. (George K. Savvidy) **99e:82044** 82B41 (82B27, 82D55)

— (*with* Hikami, S.) Universal singularity at the closure of a gap in a random matrix theory. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4140–4149. (Estelle L. Basor) **99i:82021** 82B44

— (*with* Hikami, S.) Level spacing of random matrices in an external source. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7176–7185. (Alexei Khorunzhy) **99m:82023** 82B41 (15A52)

— (*with* Deo, Nivedita) Correlations and symmetry breaking in gapped matrix models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3901–3910. (Summary) **99m:82024** 82B41

Brezin, Jonathan (*with* Shub, Michael) Stable ergodicity in homogeneous spaces. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 197–210. (Alexander Starkov) **99a:58103** 58F11

Brezina, Marian (*with* Vaněk, Petr; Mandel, Jan) Two-level algebraic multigrid for the Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 349–356, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (78–08)

Brezinski, Claude ★ El oficio de investigador. (Spanish. Spanish summary) [The office of researcher] Translated by Mariano Hormigón, Ma. Angeles Velamazán, and Ma. Dolores Ugarte. Ciencia. [Science] *Siglo XXI de España Editores, S.A., Madrid*, 1993. xii+191 *pp. ISBN* 84-323-0805-6 (Pierre Crépel) **99c:01002** 01A05 (00A35)

— ★ Projection methods for systems of equations. Studies in Computational Mathematics, 7. *North-Holland Publishing Co., Amsterdam*, 1997. *viii*+400 *pp. ISBN* 0-444-82777-3 (W. C. Rheinboldt) **99f:65004** 65–02 (65F10, 65F50, 65H10)

— (*with* Redivo-Zaglia, M.; Sadok, H.) Problems of breakdown and near-breakdown in Lanczos-based algorithms. *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 255–270, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Guo Liang Chen) **99g:65052** 65F30

— Hybrid methods for solving systems of equations. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 271–290, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Guo Liang Chen) **99g:65037** 65F10 (65F30)

— (*with* Redivo-Zaglia, M.) Transpose-free Lanczos-type algorithms for nonsymmetric linear systems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 67–103. (Guo Liang Chen) **99g:65050** 65F25 (65F30)

— (*with* Chehab, Jean-Paul) Nonlinear hybrid procedures and fixed point iterations. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 465–487. (B. Kellogg) **99e:65091** 65H10 (65B05)

— (*with* Redivo-Zaglia, M.; Rodriguez, Giuseppe; Seatzu, Sebastiano) Extrapolation techniques for ill-conditioned linear systems. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 1–29. (Thomas A. Atchison) **99j:65069** 65F30 (65B05, 65J20)

Brezis, Haïm (*with* Marcus, Moshe) Hardy's inequalities revisited. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 217–237 (1998). (Seng-Kee Chua) **99m:46075** 46E35 (26D10)

— (*with* Vázquez, Juan Luis) Blow-up solutions of some nonlinear elliptic problems. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 443–469. (C. A. Swanson) **99a:35081** 35J65 (35B05, 35P30, 35Q55)

— (*with* Nirenberg, Louis) Removable singularities for nonlinear elliptic equations. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 201–219. (Nicolai N. Tarkhanov) **99a:35082** 35J65 (35A20)

— (*with* Browder, Felix) Partial differential equations in the 20th century. *Adv. Math.* **135** (1998), *no.* 1, 76–144. (Introduction) **99i:35001** 35–03 (01A55, 01A60, 47N20)

— (*with* Cabré, Xavier) Some simple nonlinear PDE's without solutions. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 223–262. (Alan V. Lair) **99j:35001** 35A07 (35D05, 35J65, 35K60)

— Symmetry in nonlinear PDE's. (English summary) *Differential equations: La Pietra* 1996 (*Florence*), 1–12, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Introduction) **99k:35044** 35J60 (35A30, 58E20)

Brezzi, Franco (*with* Franca, Leopoldo P.; Hughes, Thomas J. R.; Russo, Alessandro) Stabilization techniques and subgrid scales capturing. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 391–406, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (I. Norman Katz) **99f:65162** 65N30

— (*with* Boffi, Daniele; Gastaldi, Lucia) On the convergence of eigenvalues for mixed formulations. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 131–154 (1998). (I. Norman Katz) **99i:65121** 65N25 (65J99, 65K99, 65M60)

— (*with* Gérard, Patrick; Sanchez-Palencia, Évariste) Remarks on ellipticity and regularity for non-inhibited shells and other constrained systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1155–1162. (Peter R. Popivanov) **99i:73046** 73K15 (35J99, 73C99, 73K10)

— (*with* Franca, Leopoldo P.; Russo, Alessandro) Further considerations on residual-free bubbles for advective-diffusive equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 25–33. (Martin Stynes) **99j:65197** 65N30 (65N12, 76M10, 76Rxx)

— (*with* Marini, Donatella; Russo, Alessandro) Applications of the pseudo residual-free bubbles to the stabilization of convection-diffusion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 51–63. (Martin Stynes) **99j:65198** 65N30 (65N12, 76M10, 76Rxx)

Briales, Emilio (*with* Pisón, Pilar; Campillo, Antonio; Marijuán López, Carlos) Combinatorics of syzygies for semigroup algebras. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 239–256. (P. Schenzel) **99m:13024** 13D02 (13H10, 14M25)

Briancon, Joël (*with* Biosca, Hélène; Maisonobe, Philippe; Maynadier, Hélène) Espaces conormaux relatifs. II. Modules différentiels. [Relative conormal spaces. II. Differential modules] *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 123–134. (Orlando Neto) **99i:32044** 32S40

Briand, Philippe (*with* Hu, Ying) Stability of BSDEs with random terminal time and homogenization of semilinear elliptic PDEs. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 455–494. (Sergey V. Lototsky) **99e:35015** 35B27 (35J60, 35K55, 35R60, 60H10)

— BSDE's and viscosity solutions of semilinear PDE's. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 1–32. (Summary) **99e:60129** 60H10 (49L25, 60H30)

Briane, M. (*with* Mazliak, Laurent) Homogenization of two randomly weakly connected materials. *Portugal. Math.* **55** (1998), *no.* 2, 187–207. (Jacqueline Mossino) **99e:73010** 73B27 (73B35)

Briani, Ariela (*with* Falcone, Maurizio) A priori estimates for the approximation of a parabolic boundary control problem. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 49–65, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Enrique Zuazua) **99g:93041** 93C20 (35K05, 65K10, 65N06)

aranda-Bricaire, Eduardo *see* **Aranda-Bricaire, Eduardo**

Bricher, Stephen (*with* Akdoğu, Evrim) The asymptotic behavior for gaseous ignition models. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 23–37. (Summary) **99h:35083** 35K55 (35B40, 76N10, 80A25)

Brick, Stephen G. (*with* Corson, Jon M.) Annular Dehn functions of groups. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 453–464. (D. E. Cohen) **99m:20068** 20F10 (20E06, 20F32)

— (*with* Corson, Jon M.) Dehn functions and complexes of groups. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 33–46. (Philip L. Bowers) **99e:20042** 20F06 (20F05, 57M07)

Brickmann, J. (*with* Gudowska-Nowak, Ewa; Papp, Gábor) Characteristics of quantum open systems: free random variables approach. (English summary) Marian Smoluchowski Symposium on Statistical Physics (Zakopane, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 6, 1803–1814. (Summary) **99g:82053** 82C10

Bricmont, J. Science of chaos or chaos in science? (English summary) *The flight from science and reason* (*New York*, 1995), 131–175, *Ann. New York Acad. Sci.*, 775, *New York Acad. Sci., New York*, 1996. (Andrew C. Fowler) **99h:00012** 00A69 (00A30, 58F13)

— (*with* Kupiainen, Antti) Renormalization group for fronts and patterns. (English summary) *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 121–130, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Summary) **99f:82050** 82C28 (35A30)

— (*with* Kupiainen, Antti; Lefevere, R.) Renormalization group pathologies and the definition of Gibbs states. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 359–388. (Emilio N. M. Cirillo) **99j:82035** 82B28

Bridgeland, Tom Fourier-Mukai transforms for elliptic surfaces. (English summary) *J. Reine Angew. Math.* **498** (1998), 115–133. (Antony Maciocia) **99f:14013** 14D20 (14J27, 14J60)

— Equivalences of triangulated categories and Fourier-Mukai transforms. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 25–34. (Daniel Hernández Ruipérez) **99k:18014** 18E30 (14J28)

Bridgeman, Martin Average bending of convex pleated planes in hyperbolic three-space. (English summary) *Invent. Math.* **132** (1998), *no.* 2, 381–391. (Michel Coornaert) **99f:57015** 57M50 (30F40, 30F50, 53A35)

— Bounds on volume increase under Dehn drilling operations. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 415–436. (Carlo Petronio) **99f:57019** 57N10 (51M10, 51M20, 51M25, 52C25, 57M50)

Bridger, Mark (*with* Alper, Joseph S.) Newtonian supertasks: a critical analysis. (English summary) *Synthese* **114** (1998), *no.* 2, 355–369. (Summary) **99e:03010** 03B30 (70A05, 70D05)

Bridges, Douglas (*with* Ishihara, Hajime) Spectra of selfadjoint operators in constructive analysis. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 1, 11–35. (Summary) **99a:47003** 47A10 (03F60)

— (*with* Richman, Fred; Wang, Yuchuan) Sets, complements and boundaries. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 425–445. (A. Kučera) **99f:03087** 03F65 (46S30, 54E99)

— (*with* Dediu, Luminiţa) Paradise lost, or paradise regained? (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 141–155. (Roman Murawski) **99m:00007** 00A30 (00A35, 01A60, 03–03, 03F60, 03F65)

— (*with* Wang, Yuchuan) Constructing cutoff functions. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 1, 25–30. (Rudolf J. Taschner) **99d:03058** 03F60 (26E40)

— (*with* Wang, Yuchuan) Constructing best approximations on a Jordan curve. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 222–234. (D. E. Wulbert) **99g:41038** 41A52 (41A50)

— (*with* Wang, Yuchuan) Constructive weak solutions of the Dirichlet problem. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 655–667. (A. Kučera) **99k:35032** 35J25 (03F60)

— (*with* Mines, Ray) Sequentially continuous linear mappings in constructive analysis. *J. Symbolic Logic* **63** (1998), *no.* 2, 579–583. (A. Kučera) **99f:03085** 03F60 (54C99)

— (*with* Ishihara, Hajime) A definite constructive open mapping theorem? (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 4, 545–552. (Summary) **99f:46009** 46A30 (03F60, 26E40, 46S30, 47S30)

— (*with* Wang, Yuchuan) Weak solutions of the Dirichlet problem and the locatedness of $H_0^1(\Omega)$. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 1–5. (Summary) **99c:35029** 35D05 (03F60, 35J05, 46E35, 46S30)

— (*with* Dudley Ward, Nicholas F.) Constructing ultraweakly continuous functionals on $\mathcal{B}(H)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3347–3353. (A. Kučera) **99a:47067** 47D15 (03F65, 46L99, 46S30, 47S30)

— *see also* **Combinatorics, complexity, & logic, 99d:68003; Proceedings: Workshop on Logic in Computer Science, 99g:68006** *and* **Kalnins, E. G., 99k:01063**

Bridges, Thomas J. (*with* Furter, J. E.; Lahiri, Avijit) Instability and bifurcation near the symplectic 1:4 resonance. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 271–292. (Jörg M. Härterich) **99d:58127** 58F14 (34C23, 34C25, 70H05, 70K99)
— Toral-equivariant partial differential equations and quasiperiodic patterns. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 467–500. (James F. Reineck) **99e:58149** 58F27 (35B35, 35Q55, 76E30)
— Poisson structure of the reversible 1:1 resonance. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 40–49. (Benedict J. Leimkuhler) **99b:58091** 58F05 (58F14, 70H05, 76E99)
— (*with* Derks, Gianne) Hodge duality and the Evans function. (English summary) *Phys. Lett. A* **251** (1999), *no.* 6, 363–372. (Summary) **99m:58009** 58A14 (34A30, 35Q51)
Bridgman, Percy Williams *see* **Takuji, Okamoto, 99k:01040**
Bridson, Martin R. (*with* Baumslag, Gilbert; Gruenberg, Karl W.) On the absence of cohomological finiteness in wreath products. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 222–230. (J. R. J. Groves) **99f:20050** 20E22 (20J05)
— On the semisimplicity of polyhedral isometries. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2143–2146. (Summary) **99m:53086** 53C23 (20F32)
Briem, Eggert Functional calculus for Banach function algebras and Banach function spaces of continuous functions vanishing at infinity. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 166–176. (H. G. Dales) **99a:46095** 46J10 (46E25, 46H30)
Brieskorn, Egbert *see* **Singularities, 99e:00031**; **Greuel, Gert-Martin, 99m:01061a** *and* **Bibliography: Brieskorn, Egbert V., 99m:01061b**
Brif, C. (*with* Mann, Ady) A general theory of phase-space quasiprobability distributions. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L9–L17*. (Apostolos Vourdas) **99e:81120** 81S30
— (*with* Mann, Ady; Revzen, M.) Generalized coherent states are unique Bell states of quantum systems with Lie-group symmetries. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 2, 742–745. (Summary) **99b:81090** 81R30
Brigaglia, Aldo The Circolo Matematico di Palermo and its Rendiconti: the contribution of Italian mathematical community to the diffusion of international mathematical journals 1884–1914. *Messengers of mathematics: European mathematical journals* (1800–1946), 71–93, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99
Brigger, Patrick (*with* Müller, Frank; Illgner, Klaus; Unser, Michael) Multiresolution approximation using shifted splines. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2555–2558. 94A11
Briggs, Cheryl J. (*with* Nisbet, Roger M.; Murdoch, William W.) Delayed feedback and multiple attractors in a host-parasitoid system. (English summary) *J. Math. Biol.* **38** (1999), *no.* 4, 317–345. 92D25
Briggs, K. M. (*with* Dixon, Tony W.; Szekeres, George) Analytic solutions of the Cvitanović-Feigenbaum and Feigenbaum-Kadanoff-Shenker equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 347–357. (Helena E. Nusse) **99h:58054** 58F03 (39B12)
Brigham, Robert C. (*with* Dutton, Ronald D.) Domination in claw-free graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 69–75. (Summary) **99j:05105** 05C35
— (*with* Cherry, Kathleen G.) Preliminary results on greatest common subgraphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 67–78. (Summary) **99j:05102** 05C35 (05C85)
Brighi, Bernard (*with* Chipot, Michel) Approximation of infima in the calculus of variations. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 273–287. (Viorel Arnautu) **99k:49069** 49M25 (65N30)
— (*with* Chipot, Michel; Gut, Erich) Finite differences on triangular grids. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 567–579. (Jiuhua Chen) **99f:65150** 65N06 (65N12)
Brighouse, Carolyn Determinism and modality. (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 4, 465–481. (Philip L. Quinn) **99b:03020** 03B30 (81P99)
Brightwell, Graham R. (*with* Franciosa, Paolo Giulio) On the Boolean dimension of spherical orders. (English summary) *Order* **13** (1996), *no.* 3, 233–243. (K. P. Bogart) **99c:06002** 06A07 (05C10, 68P20, 68R05)
— Partial orders. (English summary) *Graph connections*, 52–69, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 06A06 (05C99)
— (*with* Bollobás, Béla) The structure of random graph orders. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 2, 318–335. (Colin J. H. McDiarmid) **99e:06001** 06A06 (05C80)
— (*with* Trotter, William T.) The order dimension of planar maps. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 515–528. (Douglas B. West) **99c:06003** 06A07 (05C10, 05C35, 52B05)
— (*with* Balińska, Krystyna T.; Quintas, Louis V.) Graphs whose vertices are graphs with bounded degree: distance problems. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 109–121. (Martin Knor) **99h:05031** 05C12
— *see also* **Conference: Combinatorial, 99h:00023**
Brignole, Diana M. (*with* Entizne, Rosana V.) Boolean elements and representation of residuated lattices. (Spanish. Spanish summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahia Blanca*, 1997), 105–117, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (Summary) **99f:06011** 06B15
Brignole, Nélida B. (*with* Ponzoni, Ignacio; Sánchez, Mabel C.) Permutation of sparse matrices to a specific lower BTF using graph decompositions. (English summary) *Electron. J. SADIO* **1** (1998), *no.* 1, 76–87 (*electronic*). 65F50
Brigo, Damiano On nonlinear SDE's whose densities evolve in a finite-dimensional family. *Stochastic differential and difference equations (Győr*, 1996), 11–19, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 60H10 (93E11)
— (*with* Hanzon, Bernard; LeGland, François) A differential geometric approach to nonlinear filtering: the projection filter. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 247–252. (Pham Tran Nhu) **99a:93095** 93E11
— (*with* Hanzon, Bernard) On some filtering problems arising in mathematical finance. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 53–64. (Summary) **99e:90011** 90A09 (93E11)
Brihaye, Yves (*with* Nuyts, Jean) The hidden symmetry algebras of a class of quasi-exactly solvable multi-dimensional operators. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 445–459. (Allina A. Suzko) **99i:58158** 58G35 (81Q05, 81R05)
— (*with* Arthur, Kieran; Tchrakian, D. H.) Interaction energy of generalized abelian Higgs vortices. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3031–3042. (Summary) **99c:58037** 58E15 (81–08, 81T13)
— Quommutator deformations of spl(N, 1). (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4923–4927. (Marcelo R. Ubriaco) **99i:81091** 81R50 (17B37)
— (*with* Kosiński, Piotr) Quasi-exactly solvable radial Dirac equations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1445–1452. (M. Znojil) **99h:81029** 81Q05 (34L40)
— (*with* Tchrakian, D. H.) Solitons/instantons in d-dimensional SO(d) gauged O($d+1$) Skyrme models. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 891–911. (Bernd J. Schroers) **99f:58059** 58E50 (81T13)
— (*with* Kosiński, Piotr) Quasi-exactly solvable matrix models in sl(n). (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 43–47. (Violeta V. Tretynyk) **99h:81062** 81R05 (15A72, 17B10)
— (*with* Hartmann, Betti; Kunz, Jutta) Gravitating dyons and dyonic black holes. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 77–82. (Summary) **99h:83033** 83C57 (83C15)
Brill, Dieter (*with* Åminneborg, Stefan; Bengtsson, Ingemar; Holst, Sören; Peldán, Peter) Black holes and wormholes in 2 + 1 dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 627–644. (Kirill V. Krasnov) **99c:83043** 83C57 (83C75)
Brillard, Alain Asymptotic analysis of nonlinear thin layers. (English and French summaries) *General inequalities*, 7 (*Oberwolfach*, 1995), 321–338, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Gérard Michaille) **99a:35013** 35B25 (35J99, 73C99)
— (*with* Ganghoffer, J. F.; Schultz, Jacques) Modelling of the mechanical behaviour of joints bonded by a nonlinear incompressible elastic adhesive. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 255–276. (Summary) **99c:73072** 73T05 (73C50, 73V25)
— (*with* El Miloudi, Marhrani) Asymptotics for quasilinear equations with nearly critical growth. *Extracta Math.* **12** (1997), *no.* 3, 277–290. (Kanishka S. Perera) **99d:35054** 35J65 (35B40, 49J20)
— (*with* Ganghoffer, J. F.; Schultz, Jacques) Mechanical modelling of adhesion and adherence between two solids. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 305–326. (Ján Lovišek) **99h:73072** 73T05 (49J40, 73V05)
Brillhart, John Note on Fibonacci primality testing. *Fibonacci Quart.* **36** (1998), *no.* 3, 222–228. (Péter Kiss) **99d:11004** 11A51 (11B39)
Brillinger, David R. A particle migrating randomly on a sphere. (English summary) Dedicated to Murray Rosenblatt. *J. Theoret. Probab.* **10** (1997), *no.* 2, 429–443. (N. M. Zinchenko) **99d:60090** 60J65 (60D05, 60H10, 60J60)
— *see also* **Practice of data analysis, 99b:62003**
Brilman, Matthieu (*with* Vincent, Jean-Marc) On the estimation of the throughput for a class of stochastic resources sharing systems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 305–321. (Summary) **99b:60155** 60K25 (90B22)
Brim, Luboš *see* **Mathematical foundations of computer science, 99m:68010**
Brimberg, Jack (*with* Chen, Reuven) A note on convergence in the single facility minisum location problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 25–31. (Summary) **99a:90113** 90B80 (90C27)
— (*with* Love, Robert F.) Solving a class of two-dimensional uncapacitated location-allocation problems by dynamic programming. (English summary) *Oper. Res.* **46** (1998), *no.* 5, 702–709. (Summary) **99f:90175** 90C39 (90B80)
— (*with* Chen, Reuven; Chen, Doron) Accelerating convergence in the Fermat-Weber location problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 151–157. (I. Norman Katz) **99h:90059** 90B40 (90C30)
Brin, Matthew G. The chameleon groups of Richard J. Thompson: automorphisms and dynamics. *Inst. Hautes Études Sci. Publ. Math. No.* 84 (1996), 5–33 (1997). (Darryl McCullough) **99e:57003** 57M07 (20F38)
— (*with* Guzmán, Fernando) Automorphisms of generalized Thompson groups. *J. Algebra* **203** (1998), *no.* 1, 285–348. (D. E. Cohen) **99d:20056** 20F28
Brindejonc, Vincent Einstein-Yang-Mills black hole solutions in three dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3599–3608. (Philippe Spindel) **99k:83057** 83C57 (58G40)
Brindley, J. (*with* Kapitaniak, T.) Practical stability of chaotic attractors. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 43–50. (Frederick R. Marotto) **99b:58162** 58F13 (34C35)
— (*with* Kapitaniak, T.; Maïstrenko, Yuriĭ L.; Stefanski, A.) Bifurcations from locally to globally riddled basins. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, *R6253–R6256*. (Pere Mumbrú) **99f:58140** 58F13 (58F14)
Brindza, Béla (*with* Liptai, Kálmán; Szalay, László) On products of the terms of linear recurrences. (English summary) *Number theory (Eger*, 1996), 101–106, *de Gruyter, Berlin*, 1998. (T. N. Shorey) **99e:11015** 11B37 (11J86)
— (*with* Pintér, Ákos) On the Kronecker-Győry specialization. *Number theory (Eger*, 1996), 107–113, *de Gruyter, Berlin*, 1998. (Aleksander Grytczuk) **99f:11048** 11D99
— On a generalization of the Ramanujan-Nagell equation. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 225–233. (Mao Hua Le) **99j:11032** 11D61
— (*with* Bérczes, A.; Hajdu, L.) On the power values of polynomials. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 375–381. (Yann Bugeaud) **99h:11028** 11D41
sánchez Bringas, F. *see* **Sánchez Bringas, F.**
Brini, F. (*with* Siboni, S.) Estimates to correlation decay in discrete dynamical systems by spectral methods. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 639–656. (Nikolai Chernov) **99e:28025** 28D05 (58F11)
Brink, Brigitte The set of dominance-minimal roots. (English summary) *J. Algebra* **206** (1998), *no.* 2, 371–412. (Hiroshi Naruse) **99k:20083** 20F55
Brink, C. *see* **Relational methods in computer science, 99f:68148**
van den Brink, René (*with* van der Laan, Gerard) Axiomatization of a class of share functions for N-person games. (English summary) *Theory and Decision* **44** (1998), *no.* 2, 117–148. (Frank Thuijsman) **99j:90124** 90D12
Brink, Ulrich (*with* Kreienmeyer, M.; Stein, Erwin) Different methodologies for coupled BEM and FEM with implementation on parallel computers. *Boundary element topics*

(*Stuttgart*, 1995), 317–337, *Springer, Berlin*, 1997. (*see* **99e:00017**) 65N38 (65N30, 65Y05)
— (*with* Stein, Erwin) A posteriori error estimation in large-strain elasticity using equilibrated local Neumann problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 1-2, 77–101. (I. N. Molchanov) **99h:73074** 73V05 (73C50)
den Brinker, Albertus C. (*with* Belt, Harm J. W.) Optimal free parameters in orthonormal approximations. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2081–2087. (Summary) **99i:41028** 41A58 (65D10, 94A11)
Brinkhaus, J. H. (*with* Bik, Aart J. C.; Knijnenburg, Peter M. W.; Wijshoff, Harry A. G.) The automatic generation of sparse primitives. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 190–225. 65F50 (65–04, 68N20)
Brinkman, John Generators of order two for B_n and three of its double covers. *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 19–30. (Colin M. Campbell) **99c:20036** 20F05
Brinkmann, Gunnar (*with* Meringer, Markus) The smallest 4-regular 4-chromatic graphs with girth 5. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 40–41. (*see* **99k:05003**) 05C15
— (*with* Dress, Andreas W. M.) A constructive enumeration of fullerenes. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 345–358. (Douglas J. Klein) **99b:92064** 92E10 (05C30)
— (*with* Dress, Andreas W. M.) PentHex puzzles: a reliable and efficient top-down approach to fullerene-structure enumeration. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 473–480. (Summary) **99e:92037** 92E10 (05A15)
— (*with* Steffen, Eckhard) Snarks and reducibility. (English summary) *Ars Combin.* **50** (1998), 292–296. (Summary) **99i:05176** 05C75
— All Ramsey numbers $r(K_3, G)$ for connected graphs of order 7 and 8. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 129–140. (Stanisław P. Radziszowski) **99f:05078** 05C55
— (*with* Steffen, Eckhard) Chromatic-index-critical graphs of orders 11 and 12. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 889–900. (Sheshayya A. Choudum) **99m:05061** 05C15
— (*with* Bajnok, Béla) On the independence number of triangle free graphs with maximum degree three. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 237–254. (Kathryn Fraughnaugh) **99b:05081** 05C35 (05C85)
Brinksma, Rene (*with* Houba, Harold; Tieman, Alexander F.) The Nash bargaining solution for decision weight utility functions. (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 41–48. (Summary) **99f:90021** 90A10 (90A60)
Brinson, L. C. (*with* Huang, Miinshiou) A multivariant model for single crystal shape memory alloy behavior. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1379–1409. 73B30 (73C50, 73S10)
Brînzănescu, Vasile (*with* Aprodu, Marian) Numerical invariants and stability of 2-vector bundles over ruled surfaces. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 9–15. (Atsushi Noma) **99b:14042** 14J60 (14J26)
— (*with* Aprodu, Marian) Existence of stable 2-vector bundles over ruled surfaces. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 47–56. (Wei-Ping Li) **99k:14067** 14J60 (14J26)
— Néron-Severi group for nonalgebraic elliptic surfaces. III. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 89–95. (Yoshio Fujimoto) **99m:32035** 32J15
Brio, M. (*with* Webb, G. M.; Zakharian, A.; Zank, G. P.) Hamiltonian aspects of three-wave resonant interactions in gas dynamics. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4227–4257. (Peter L. Christiansen) **99b:76076** 76N15 (35Q35, 58F40, 76M30)
Brion, Michel Piecewise polynomial functions, convex polytopes and enumerative geometry. *Parameter spaces* (*Warsaw*, 1994), 25–44, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (From the introduction) **99h:14052** 14M25 (14N10, 52A39, 52B20)
— Curves and divisors in spherical varieties. *Algebraic groups and Lie groups*, 21–34, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Dmitrii A. Timashëv) **99f:14006** 14C17 (14C20, 14C22, 14F17, 14L30)
— Sur certains modules gradués associés aux produits symétriques. (English and French summaries) [Some graded modules associated with symmetric products] *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 157–183, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Laurent Manivel) **99e:20054** 20G05 (13H10, 14L35, 20C30)
— Equivariant Chow groups for torus actions. (English summary) *Transform. Groups* **2** (1997), *no.* 3, 225–267. (Dan Edidin) **99c:14005** 14C15 (14L30, 14M15)
— Equivariant cohomology and equivariant intersection theory. (English summary) Notes by Alvaro Rittatore. *Representation theories and algebraic geometry* (*Montreal, PQ*, 1997), 1–37, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dan Edidin) **99m:14005** 14C17 (14L30, 14M15, 55N91)
— The behaviour at infinity of the Bruhat decomposition. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 137–174. (Lucy Moser-Jauslin) **99b:14049** 14L30 (14M15, 14M17)
Brioschi, Francesco[1] *see* **Bottazzini, Umberto, 99m:01018**
Briozzo, Adriana C. (*with* Natale, María F.; Tarzia, Domingo A.) Determination of unknown thermal coefficients for Storm's-type materials through a phase-change process. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 329–340. (Toyohiko Aiki) **99k:80005** 80A22 (35R30)
le Bris, Claude *see* **Le Bris, Claude**
Brisaboa, Nieves R. (*with* González-Tuchmann, Agustin; Hernández, Héctor J.; Paramá, José R.) Chasing programs in Datalog. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming* (*DDLP'98*) (*Manchester*, 1998), 13–23, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68N17)
Briskin, Miriam (*with* Françoise, Jean-Pierre; Yomdin, Yosef) Une approche au problème du centre-foyer de Poincaré. (English and French summaries) [An approach to Poincaré's center-focus problem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1295–1298. (Robert Roussarie) **99j:34030** 34C05 (34C29, 34E05, 58F21)
— (*with* Françoise, Jean-Pierre; Yomdin, Yosef) The Bautin ideal of the Abel equation. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 431–443. (Lubomir Gavrilov) **99d:58128** 58F14 (34C05)
Bristeau, M. O. (*with* Glowinski, Roland; Périaux, Jacques) Controllability methods for the computation of time-periodic solutions; application to scattering. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 265–292. (Narahari Parhi) **99k:65093** 65M60 (35P25, 93B05)
— (*with* Erhel, Jocelyne) Augmented conjugate gradient. Application in an iterative process for the solution of scattering problems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 71–90. (P. Rochus) **99j:65041** 65F10 (65C99)
Brito, Alejandro E. (*with* Kosheleva, Olga M.) Interval + image = wavelet: for image processing under interval uncertainty, wavelets are optimal. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 291–301. (Summary) **99e:94006** 94A12
pérez-Brito, Dionisio *see* **Pérez-Brito, Dionisio**
Brito, F. *see* **Brito, Fabiano Gustavo Braga**
Brito, F. A. (*with* Edelstein, José D.; Trobo, M. L.; Bazeia, D.) Kinks inside supersymmetric domain ribbons. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7561–7569. (Summary) **99k:81304** 81T60
Brito, Fabiano Gustavo Braga (*with* Gonçalves, Daciberg Lima) Real and complex homogeneous polynomial ordinary differential equations in n-space and m-ary real and complex non-associative algebras in n-space. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 327–333 (1997). (Michael K. Kinyon) **99a:34024** 34A34 (17A01)
— (*with* de Almeida, Sebastião Carneiro) Closed hypersurfaces of S^4 with two constant symmetric curvatures. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 187–202. (Ricardo Sa Earp) **99a:53075** 53C42 (53C40)
— (*with* Sa Earp, Ricardo) On the structure of certain Weingarten surfaces with boundary a circle. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 243–255. (Luis J. Alías) **99a:53005** 53A05 (53A10)
Brito, M. *see* **Brito, Margarida**
Brito, M. R. (*with* Chávez, E. L.; Quiroz, Adolfo J.; Yukich, J. E.) Connectivity of the mutual k-nearest-neighbor graph in clustering and outlier detection. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 33–42. (Tamas Lengyel) **99c:62165** 62H30
Brito, Margarida (*with* Bacro, J. N.) A tail bootstrap procedure for estimating the tail Pareto-index. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 245–260. (Summary) **99f:62061** 62G09
Brito, Paula Symbolic clustering of probabilistic data. (English summary) *Advances in data science and classification* (*Rome*, 1998), 385–390, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30
Britten, D. J. (*with* Lemire, F. W.) The torsion free Pieri formula. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 266–289. (Kyo Nishiyama) **99f:17005** 17B10 (05E15)
— (*with* Lemire, F. W.) On modules of bounded multiplicities for the symplectic algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3413–3431. (Andrej A. Zolotykh) **99m:17008** 17B10 (17B20)
Brittenham, Mark Essential laminations, exceptional Seifert-fibered spaces, and Dehn filling. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 425–432. (Colin C. Adams) **99g:57017** 57M50
— Exceptional Seifert-fibered spaces and Dehn surgery on 2-bridge knots. (English summary) *Topology* **37** (1998), *no.* 3, 665–672. (Charles Livingston) **99d:57011** 57N10 (57M25)
Britton, Tom (*with* Andersson, Håkan) Heterogeneity in epidemic models and its effect on the spread of infection. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 3, 651–661. (Summary) **99m:92045** 92D30
— On critical vaccination coverage in multitype epidemics. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 4, 1003–1006. (Summary) **99j:92023** 92D30
— Estimation in multitype epidemics. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 663–679. (Niels Keiding) **99k:62204** 62P10 (62M05)
— (*with* Becker, Niels G.) Statistical studies of infectious disease incidence. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 287–307. 62P10
Britto-Pacumio, Ruth A. Limits of iterated H-line graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 1–10. (Summary) **99j:05157** 05C75 (05C45)
Brnetić, Ilko (*with* Pečarić, Josip) Note on generalization of Godunova-Levin-Opial inequality. *Demonstratio Math.* **30** (1997), *no.* 3, 545–549. (B. G. Pachpatte) **99b:26031** 26D10
— (*with* Pečarić, Josip) Some new Opial-type inequalities. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 385–390. (Lucio Renato Berrone) **99i:26018** 26D10 (26D15)
Broadbridge, Philip (*with* Goard, Joanna M.) Nonlinear superposition principles obtained by Lie symmetry methods. *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 633–657. (Irina Yehorchenko) **99j:35009** 35A30 (58G35, 58G37)
— (*with* Goard, Joanna M.; Lavrent'ev, M. M., Jr.) Degenerate nonlinear diffusion with an initially sharp front. *Stud. Appl. Math.* **99** (1997), *no.* 4, 377–391. (Zhuo Qun Wu) **99a:35149** 35K65 (35B99, 35Q35, 76R50, 76S05)
— (*with* Fulford, G. R.; Fowkes, N. D.; Chan, D. Y. C.; Lassig, C.) Bubbles in wet, gummed wine labels. (English summary) *SIAM Rev.* **41** (1999), *no.* 2, 363–372 (*electronic*). (Summary) **99m:76051** 76D08 (73H05, 76S05)
Broadhurst, David J. (*with* Borwein, Jonathan M.; Bradley, David M.; Lisoněk, Petr) Combinatorial aspects of multiple zeta values. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 38, 12 *pp.* (*electronic*). (J. Browkin) **99g:11100** 11M41 (05A19, 11Y60)
— (*with* Kreimer, Dirk) Feynman diagrams as a weight system: four-loop test of a four-term relation. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 339–346. (Summary) **99c:81150** 81T18 (57M25)
Broadie, Mark (*with* Glasserman, Paul; Kou, Shing-Gang) A continuity correction for discrete barrier options. (English summary) *Math. Finance* **7** (1997), *no.* 4, 325–349. (Summary) **99k:90023** 90A09 (60K40)
— (*with* Acworth, Peter; Glasserman, Paul) A comparison of some Monte Carlo and quasi-Monte Carlo techniques for option pricing. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 1–18, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:90010** 90A09 (65C05)
Broadwell, James E. Shocks and energy dissipation in inviscid fluids: a question posed by Lord Rayleigh. (English summary) *J. Fluid Mech.* **347** (1997), 375–380. (Philippe G. LeFloch) **99f:76083** 76L05

Brocato, Maurizio Historical notes and hints for the study of the linear elastic behavior of a system of particles seen as a continuum. (Italian. English and Italian summaries) *Atti Accad. Ligure Sci. Lett.* (5) **53** (1996), 87–108 (1997). (From the summary) **99b:73013** 73B99 (73–03)

Brock, David C. (*with* Wise, M. Norton) The culture of quantum chaos. Cultures of theory. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 3, 369–389. (*see* **99b:01002**) 01A60 (81–03, 81Q50)

Brock, L. M. Rapid crack growth in a thermoelastic solid under mixed-mode thermo-mechanical loading. (English summary) *IMA J. Appl. Math.* **62** (1999), *no.* 1, 31–44. (Summary) **99k:73099** 73M25 (73B30)

Brock, William A. (*with* de Lima, Pedro J. F.) Nonlinear time series, complexity theory, and finance. *Statistical methods in finance*, 317–361, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62111** 62M10 (62P20, 90A09)

— (*with* Hommes, Cars H.) Heterogeneous beliefs and routes to chaos in a simple asset pricing model. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1235–1274. (Summary) **99k:90024** 90A09

Bröcker, Olaf A non-Miquelian Laguerre plane satisfying a theorem of Miquelian type. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 32–38. (Rainer Löwen) **99a:51004** 51B15 (51H15)

Brockett, Roger Ware A rational flow for the Toda lattice equations. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 33–44, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Summary) **99a:58085** 58F07 (58F40, 93B15)

— (*with* Wong, Wing Shing) Systems with finite communication bandwidth constraints. I. State estimation problems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 9, 1294–1299. (Summary) **99h:94031** 94A24 (94A34, 94A45)

— *see also* **Mathematical control theory**, **99g:93004** *and* **Biography: Brockett, Roger Ware**, **99m:01098**

Brockman, Mark L. (*with* Corless, Martin) Quadratic boundedness of nominally linear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1105–1117. (Pablo A. Iglesias) **99j:93070** 93D05 (93C10, 93C85)

Brockmann, Klaus (*with* Dangelmaier, Wilhelm; Holthöfer, Norbert) Parallel branch & bound algorithm for makespan optimal scheduling in flow shops with multiple processors. *Operations Research Proceedings* 1997 (*Jena*), 428–433, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B35

Brockmann, Werner (*with* Huwendiek, O.) Function approximation with decomposed fuzzy systems. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 273–286. (*see* **99k:93004**) 93C42 (65D15)

Brockwell, P. J. (*with* Mitchell, Heather) Linear prediction for a class of multivariate stable processes. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 297–310. (A. Weron) **99d:60050** 60G25 (60E07, 62M20)

Broda, Bogusław Antisymmetric-tensor gauge theory and polynomial invariants of links. (English summary) Colloquium on the Quantum Groups (Prague, 1992). *Czechoslovak J. Phys.* **42** (1992), *no.* 12, 1273–1278. (Summary) **99e:81250** 81T70 (57M25, 57R57, 58D29)

— Topological contents of 3D Seiberg-Witten theory. *New developments in quantum field theory* (*Zakopane*, 1997), 261–268, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (M. I. Monastyrskiĭ) **99j:81191** 81T70 (58D29)

— (*with* Bakalarska, Małgorzata) Topology of 3-dimensional Seiberg-Witten theory. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 995–999. (Summary) **99k:57066** 57R57 (57M25, 58D29)

Brodal, Gerth Stølting (*with* Katajainen, Jyrki) Worst-case efficient external-memory priority queues. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 107–118, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68N25 (68P05)

— (*with* Pinotti, M. Cristina) Comparator networks for binary heap construction. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 158–168, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68P05

— Finger search trees with constant insertion time. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 540–549, *ACM, New York*, 1998. (*see* **99d:68011**) 68P05

Broday, D. (*with* Kimmel, E.) On the axial dispersion induced by vibrations of a flexible tube. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 7, 863–881. 73K70 (73D99)

Brodbeck, Othmar (*with* Straumann, Norbert) Zero modes of the Dirac operator for regular Einstein-Yang-Mills background fields. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 585–596. (Kenji Tsuboi) **99f:58188** 58G10 (81T13, 81T20)

Broder, Andrei Z. (*with* Frieze, Alan M.; Upfal, Eli) Dynamic packet routing on arrays with bounded buffers. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 273–281, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99g:68012** 68M10

— (*with* Frieze, Alan M.; Upfal, Eli) Static and dynamic path selection on expander graphs: a random walk approach. (English summary) *Random Structures Algorithms* **14** (1999), *no.* 1, 87–109. (Tatiana Smirnova-Nagnibeda) **99m:05144** 05C80 (60J15)

— (*with* Frieze, Alan M.; Suen, W.-C. Stephen; Upfal, Eli) Optimal construction of edge-disjoint paths in random graphs. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 542–574 (*electronic*). (Zbigniew Palka) **99f:05068** 05C38 (05C85, 68R10, 90B10)

Brodersen, Hans Sufficiency of jets with respect to $\mathscr{L}$-equivalence. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 78–83, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Yang Cheng Li) **99h:58017** 58C27

Brodie, John H. (*with* Hanany, Amihay) Type IIA superstrings, chiral symmetry, and $N = 1$ 4D gauge theory dualities. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 157–182. (Angel Maria Uranga) **99b:81232** 81T60 (81T13, 81T30)

— Exact solutions of exceptional gauge theories from toric geometry. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 183–198. (Angel Maria Uranga) **99c:81168** 81T30 (14J32, 32J17, 81T13, 81T60, 83E30)

— Two-dimensional mirror symmetry from M-theory. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 36–52. (Richard A. Corrado) **99e:81179** 81T30 (81T60)

— (*with* Ramgoolam, Sanjaye) On Matrix models of M5 branes. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 139–160. (Summary) **99d:81110** 81T30 (81T60)

— (*with* Strassler, Matthew J.) Patterns of duality in $N = 1$ SUSY gauge theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 224–250. (Daniel N. Kabat) **99j:81180** 81T60 (81T13)

— Fractional branes, confinement, and dynamically generated superpotentials. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 137–152. (Summary) **99i:81222** 81T60 (81T13)

— Branes and chiral symmetry. *Strings, branes and dualities* (*Cargèse*, 1997), 437–440, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81T30

— (*with* Gutperle, Michael) String corrections to four point functions in the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 296–306. (Summary) **99k:81224** 81T30 (81T60)

Brodmann, M. P. (*with* Sharp, Rodney Y.) ★ Local cohomology: an algebraic introduction with geometric applications. (English summary) Cambridge Studies in Advanced Mathematics, 60. *Cambridge University Press, Cambridge*, 1998. *xvi*+416 *pp. ISBN* 0-521-37286-0 (Lê Tuân Hoa) **99h:13020** 13D45 (14B15)

Brodovich, M. T. On a criterion for the holomorphy of an arbitrary mapping of a plane domain into a plane. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1005–1007, i; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 868–870. (Stanislav Ponomarev) **99c:30001** 30A05

Brodskiĭ, N. B. (*with* Shchepin, E. V.) Selections of filtered multivalued mappings. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 220–240. (Volodymyr K. Maslyuchenko) **99g:54014** 54C65 (54C60)

Brodskiĭ, Ya. S. (*with* Slipenko, A. K.) Functional equations and groups: a formal introduction. *Quantum* **9** (1998), *no.* 2, 14–19. 39–01 (20A99, 39B52)

Brodsky, Julia (*with* Hurvich, Clifford M.; Deo, Rohit) The mean squared error of Geweke and Porter-Hudak's estimator of the memory parameter of a long-memory time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 19–46. (Roger Gay) **99h:62114** 62M10

Brodsky, Stanley J. (*with* Pauli, Hans-Christian; Pinsky, Stephen S.) Quantum chromodynamics and other field theories on the light cone. (English summary) *Phys. Rep.* **301** (1998), *no.* 4-6, 299–486. (Summary) **99d:81176** 81V05 (81T15)

Brodsky, V. (*with* Glozman, D.; Shoham, M.) Double circular-triangular six-degrees-of-freedom parallel robot. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 155–164, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Brodsky, Y. S. *see* **Brodskiĭ, Ya. S.**

Brody, Dorje C. (*with* Hughston, Lane P.) Geometric models for quantum statistical inference. *The geometric universe* (*Oxford*, 1996), 265–276, *Oxford Univ. Press, Oxford*, 1998. (John W. Rice) **99g:81030** 81P99

Brodzik, M. L. The computation of simplicial approximations of implicitly defined p-dimensional manifolds. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 93–113. (Summary) **99g:65137** 65Y25 (65D17)

Brodzki, Jacek ★ An introduction to K-theory and cyclic cohomology. (English summary) Advanced Topics in Mathematics. *PWN—Polish Scientific Publishers, Warsaw*, 1998. 129 *pp. ISBN* 83-01-12474-1 (Ulrike Tillmann) **99h:19001** 19–01 (19D55, 46H25, 46L80, 46M20)

vanden-Broeck, Jean-Marc *see* **Vanden-Broeck, Jean-Marc**

Broer, Abraham A vanishing theorem for Dolbeault cohomology of homogeneous vector bundles. (English summary) *J. Reine Angew. Math.* **493** (1997), 153–169. (Laurent Manivel) **99e:32052** 32L20 (14F17, 14M17, 32M10)

— Decomposition varieties in semisimple Lie algebras. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 929–971. (Dmitri I. Panyushev) **99k:14077** 14L30 (14M17, 17B45)

— Normal nilpotent varieties in F_4. *J. Algebra* **207** (1998), *no.* 2, 427–448. (Dmitri I. Panyushev) **99e:14056** 14L30 (14M17, 17B45)

— *see also* **Representation theories and algebraic geometry**, **99e:00028**

Broer, Hendrik W. (*with* Huitema, George B.; Sevryuk, Mikhail B.) ★ Quasi-periodic motions in families of dynamical systems. Order amidst chaos. Lecture Notes in Mathematics, 1645. *Springer-Verlag, Berlin*, 1996. xii+196 *pp. ISBN* 3-540-62025-7 (Luigi Chierchia) **99d:58142** 58F27 (34C27, 34C35, 70H05)

— (*with* Osinga, H. M.; Vegter, Gert) Algorithms for computing normally hyperbolic invariant manifolds. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 3, 480–524. (Joan Carles Tatjer) **99a:58119** 58F15 (34C30, 58F30, 65H99)

— (*with* Osinga, H. M.; Vegter, Gert) Computing a normally attracting invariant manifold of a Poincaré map. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 541–549, *Brepols, Turnhout*, 1998. (Summary) **99k:58132** 58F15 (58F12)

— (*with* Simó, Carles) Hill's equation with quasi-periodic forcing: resonance tongues, instability pockets and global phenomena. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 2, 253–293. (James A. Murdock) **99m:34109** 34C99 (34C29, 34D08, 58F27, 70J40)

— (*with* Hoveijn, I.; van Noort, M.) A reversible bifurcation analysis of the inverted pendulum. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 50–63. (Mikhail B. Sevryuk) **99b:58168** 58F14 (34C20, 58F36, 70H05, 70H33, 70K40)

— (*with* Lunter, G. A.; Vegter, Gert) Equivariant singularity theory with distinguished parameters: two case studies of resonant Hamiltonian systems. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 64–80. (Peter Ashwin) **99b:58092** 58F05 (34C23, 34C25, 58F14, 70H33)

Broere, Izak (*with* Borowiecki, Mieczysław; Frick, Marietjie; Mihók, Peter; Semanišin, Gabriel) A survey of hereditary properties of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 5–50. (Vadim E. Zverovich) **99d:05029** 05C15 (05C35, 05C75)

— (*with* Frick, Marietjie; Semanišin, Gabriel) Maximal graphs with respect to hereditary properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 51–66. (Vadim E. Zverovich) **99e:05072** 05C35 (05C15, 05C75)

— (*with* Frick, Marietjie; Mihók, Peter) The order of uniquely partitionable graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 115–125. (Summary)

99b:05106 05C70
— (*with* Borowiecki, Mieczysław; Mihók, Peter) On generalized list colourings of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 127–132. (T. T. Raghunathan) **99e:05047** 05C15
— (*with* Dunbar, Jean E.; Hattingh, Johannes H.) Minus k-subdomination in graphs. (English summary) *Ars Combin.* **50** (1998), 177–186. (Summary) **99j:05098** 05C35
— (*with* Dorfling, Michael; Dunbar, Jean E.; Frick, Marietjie) A path(ological) partition problem. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 113–125. (Peter Mihók) **99i:05159** 05C70 (05C38)
Broersen, P. M. T. (*with* Wensink, H. E.) Autoregressive model order selection by a finite sample estimator for the Kullback-Leibler discrepancy. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 2058–2061. (Summary) **99i:62199** 62M10
Broersma, H. J. (*with* Dahlhaus, Elias; Kloks, Ton) Algorithms for the treewidth and minimum fill-in of HHD-free graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 109–117, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (05C85, 68Q25)
— (*with* Li, Xueliang) Spanning trees with many or few colors in edge-colored graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 259–269. (Summary) **99b:05033** 05C05 (05B35, 05C15)
— (*with* Huck, Andreas; Kloks, Ton; Koppius, Otto; Kratsch, Dieter; Müller, Haiko; Tuinstra, Hilde) Degree-preserving forests. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 713–721, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q25)
— (*with* Trommel, H.) Closure concepts for claw-free graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 231–238. (Summary) **99a:05119** 05C75 (05C45)
— (*with* Tuinstra, Hilde) Independence trees and Hamilton cycles. (English summary) *J. Graph Theory* **29** (1998), *no.* 4, 227–237. (David A. Pike) **99j:05052** 05C05 (05C45)
— (*with* Hoede, Cornelis) Another equivalent of the graceful tree conjecture. (English summary) *Ars Combin.* **51** (1999), 183–192. (Summary) **99j:05166** 05C78 (05C05)
Brogi, Antonio (*with* Contiero, Simone; Turini, Franco) Composing general logic programs. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 273–288, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17
— (*with* Lamma, Evelina; Mancarella, Paolo; Mello, Paola) A unifying view for logic programming with non-monotonic reasoning. (English summary) *Theoret. Comput. Sci.* **184** (1997), *no.* 1-2, 1–59. (Summary) **99g:68031** 68N17 (03B60, 03B70, 68T27)
— (*with* Jacquet, Jean-Marie) On the expressiveness of Linda-like concurrent languages. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS '98*) (*Nice*), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68N15 (68Q10)
— (*with* Contiero, Simone; Turini, Franco) Programming by combining general logic programs. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 7–24. (Summary) **99k:68026** 68N17 (03B70)
Broglia, Fabrizio (*with* Luminati, Domenico) Connected sum of compact analytic hypersurfaces. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 203–211. (Zbigniew Szafraniec) **99d:32006** 32C05 (14P15)
— (*with* Acquistapace, F.; Andradas, C.) Classification of obstructions for separation of semialgebraic sets in dimension 3. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 27–49. (Summary) **99m:14108** 14P10
— (*with* Acquistapace, F.; Andradas, C.) Separation of semialgebraic sets. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 3, 703–728. (Victoria Powers) **99m:14109** 14P10
Brogliato, Bernard (*with* Orhant, P.) Contact stability analysis of a one degree-of-freedom robot. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 37–53. (Krzysztof Tchoń) **99a:70043** 70Q05 (70B15, 93C85)
— (*with* Zavala-Río, A.) On the control of a one degree-of-freedom juggling robot. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 67–90. (Summary) **99j:70009** 70B15 (70Q05, 93C85)
— (*with* Villani, Luigi; Canudas de Wit, Carlos) An exponentially stable adaptive control for force and position tracking of robot manipulators. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 798–802. 93C40 (70Q05, 93C85)
de Broglie, Louis Divers problèmes concernant les ondes et les corpuscules. Cours professé à l'Institut Henri Poincaré en 1956–1957. [Various problems concerning waves and particles. Course given at the Institut Henri Poincaré in 1956–1957] *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 4, 335–359. 81P99 (01A75)
— Étude de deux questions concernant l'interprétation de la mécanique ondulatoire par la théorie de la double solution. (French summary) [Study of two questions concerning the interpretation of wave mechanics using the double-solution theory] *Ann. Fond. Louis de Broglie* **23** (1998), *no.* 1, 1–10. (Summary) **99j:81023** 81P99
Brokate, Martin (*with* Krejčí, Pavel) On the wellposedness of the Chaboche model. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 67–79, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Mircea Sofonea) **99e:73047** 73E05 (47H30, 73E99)
— Elastoplastic constitutive laws of nonlinear kinematic hardening type. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 238–272, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Pavel Krejčí) **99a:73058** 73E05 (47H30)
— (*with* Khludnev, A. M.) Regularization and existence of solutions of three-dimensional elastoplastic problems. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 551–564. (Mircea Sofonea) **99a:73038** 73C50 (35J85, 35Q72, 73C35, 73E99)
— (*with* Ansari, Qamrul Hasan) An iterative method for nonlinear variational inequalities arising in elastoplasticity. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 949–959. (Weimin Han) **99i:73077** 73V25 (49J40, 73E99)
— (*with* Krejčí, Pavel) Wellposedness of kinematic hardening models in elastoplasticity. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 177–209. (Mircea Sofonea) **99e:73048** 73E05 (73E50, 73E60)
Bromberg, Sh. (*with* Medina, A.) Complétude de l'équation d'Euler. (English summary) [Completeness of the Euler equation] *Algebra and operator theory* (*Tashkent*, 1997), 127–144, *Kluwer Acad. Publ., Dordrecht*, 1998. (Frans Cantrijn) **99h:58141** 58F17 (17B99, 34A12, 70E15, 70H99)
Bromley, Allan G. Charles Babbage's analytical engine, 1838. (English summary) *IEEE Ann. Hist. Comput.* **20** (1998), *no.* 4, 29–45. (Summary) **99i:01016** 01A55 (68–03)
Bromley, D. Allan *see* **Greiner, Walter**, **99g:81001** *and* **99h:78001**
Brona, Yu. I. (*with* Red'ko, V. N.; Buĭ, D. B.) Relational algebras: projection and join operations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 89–100, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 530–539 (1998). (Jānis Cīrulis) **99a:68048** 68P15 (03G15)
— (*with* Red'ko, V. N.; Buĭ, D. B.) Relational algebras: division and renaming operations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 3–15, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 615–623 (1998). (Summary) **99k:68045** 68P15
Broniatowski, M. (*with* Weber, Michel Jean Georges) Strong laws for sums of extreme values. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 553–563; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 395–404 (1998). (Erich Haeusler) **99d:60039** 60F15 (60G70)
— (*with* Barbe, Philippe) Large deviation principle for sequential rank processes. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 98–110. (M. Hušková) **99g:62120** 62L10 (60F10, 62G20)
Bronnikov, A. A. (*with* Sharipov, R. A.) Axially symmetric dynamical systems accepting the normal shift in $\mathbf{R}^n$. (English summary) *Integrability in dynamical systems* (*Russian*), 62–69, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (Valentin V. Lychagin) **99e:34008** 34A26 (34C35, 70G50)
Bronnikov, A. M. (*with* Kruglov, S. P.) Simplified conditions for the adaptability of a control system with an identifier and a reference model. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 107–117; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 993–1001. 93C40 (93E35)
Bronnikov, K. A. (*with* Clément, Gérard; Constantinidis, C. P.; Fabris, Júlio C.) Structure and stability of cold scalar-tensor black holes. (English summary) *Phys. Lett. A* **243** (1998), *no.* 3, 121–127. (Summary) **99b:83048** 83C57 (83D05)
Brönnimann, Hervé (*with* Chazelle, Bernard) Optimal slope selection via cuttings. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 23–29. (Summary) **99a:68170** 68U05
— (*with* Emiris, Ioannis Z.; Pan, Victor Y.; Pion, Sylvain) Sign determination in residue number systems. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 173–197. (Summary) **99h:68094** 68Q40 (68U05)
— *see also* **Boissonnat, Jean-Daniel**, **99g:68207**
Brøns, Morten (*with* Aref, Hassan) On stagnation points and streamline topology in vortex flows. (English summary) *J. Fluid Mech.* **370** (1998), 1–27. (Yuri N. Skiba) **99i:76026** 76C05 (58F40, 76A02)
Bronsard, Lia (*with* Stoth, Barbara) The Ginzburg-Landau equations of superconductivity and the one-phase Stefan problem. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 3, 371–397. (J. R. Ockendon) **99e:82098** 82D55 (35Q55, 35R35, 58E50, 80A22)
— (*with* Alikakos, Nicholas D.; Fusco, Giorgio) Slow motion in the gradient theory of phase transitions via energy and spectrum. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 1, 39–66. (Stanislaus Maier-Paape) **99d:82025** 82B26 (35Q72, 73B30)
Bronshteĭn, E. M. On convex cones with the Schwarz-Zamfirescu property. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 73–75; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 201–202 (1999). (Constantin Zălinescu) **99j:54029** 54E52
Bronshteĭn, I. N. (*with* Semendyaev, K. A.) ★ Matematyka. (Polish. Polish summary) [Mathematics] Poradnik encyklopedyczny. [An encyclopedic handbook] Fourteenth edition. Translated from the Russian and the German by Stefan Czarnecki and Robert Bartoszyński. *Wydawnictwo Naukowe PWN, Warsaw*, 1997. 856 *pp. ISBN* 83-01-11658-7 (Editors) **99g:00016** 00A20
Bronshteĭn, I. U. (*with* Anosov, D. V.; Aranson, S. Kh.; Arnol'd, Vladimir Igorevich; Grines, V. Z.; Il'yashenko, Yu. S.) ★ Ordinary differential equations and smooth dynamical systems. Translated from the 1985 Russian original by E. R. Dawson and D. O'Shea. Third printing of the 1988 translation [*Dynamical systems. I*, Encyclopaedia Math. Sci., I, Springer, Berlin, 1988; MR 89g:58060]. *Springer-Verlag, Berlin*, 1997. *vi*+233 *pp. ISBN* 3-540-61220-3 (Robert Roussarie) **99h:58053** 58Fxx (34Axx, 34Cxx, 54H20)
— (*with* Shcherbakov, B. A.) Konstantin Sergeevich Sibirsky (1928–1990) (a tribute in honor of his 70th birthday). *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 3–4. 01A70
— (*with* Kopanskiĭ, A.) Smooth linearization near a three-dimensional saddle. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 15–20, 150, 153. (Patrick Bonckaert) **99m:58169** 58F36 (34C20)
— (*with* Aranson, S. Kh.; Zhuzhoma, E. V.; Nikolaev, I. V.) Qualitative theory of foliations on closed surfaces. Dynamical systems, 5. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 3, 2111–2149. (Athanase Papadopoulos) **99m:58148** 58F18 (57R30, 58F09, 58F10)
— (*with* Nikolaev, I. V.) Structurally stable fields of line elements on surfaces. *Nonlinear Anal.* **34** (1998), *no.* 3, 461–477. (Ronaldo Alves Garcia) **99j:58113** 58F10 (34A26, 34C05, 34D30)
Bronshteĭn, M. P. M. P. Bronshteĭn [1906–1938] about himself. (Russian) *Priroda* **1998**, *no.* 6, 127–128. 01A70
— *see also* **Uspenskaya, N. V.**
Bronshteyn, I. *see* **Bronshteĭn, I. U.**
Bronshteyn, I. U. *see* **Bronshteĭn, I. U.**
Bronshteyn, Idel *see* **Bronshteĭn, I. U.**
Bronstein, I. U. *see* **Bronshteĭn, I. U.**
Bronstein, Manuel *see* **Symbolic rewriting techniques**, **99a:68014**
Bronstering, Rolf (*with* Chen, Min[6]) Bifurcations of finite difference schemes and their approximate inertial forms. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 715–728. (Summary) **99f:65126** 65M06 (34G20, 35A35)
Bronsztejn, I. N. *see* **Bronshteĭn, I. N.**
Brookes, Robert W. (*with* Bube, Kenneth P.) Convergence of numerical methods for inverse problems with general input sources. (English summary) *Inverse problems in wave*

propagation (*Minneapolis, MN*, 1995), 45–83, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Guan Quan Zhang) **99a:65111** 65M30 (73D50, 86A22)

Brookmeyer, Ron (*with* Gray, Sarah M.) Estimating a treatment effect from multidimensional longitudinal data. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 976–988. (Summary) **99f:62123** 62P10

Brooks, J. K. (*with* Neal, David K.) Generalized stochastic integration on nuclear spaces. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 83–98. (V. Mackevičius) **99h:60107** 60H05 (46G12)

— (*with* Candeloro, Domenico; Martellotti, A.) On finitely additive measures in nuclear spaces. (Italian summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 37–50. (W. Hackenbroch) **99e:28017** 28B05 (46G10)

— (*with* Neal, David K.) Generalized stochastic integral for real and Hilbert processes. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 189–247. (Ali Süleyman Üstünel) **99h:60106** 60H05 (46N30)

Brooks, Michael J. (*with* Chojnacki, Wojciech; Gibbins, Daniel) On the feasibility of determining light-source direction from an image. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 289–307. (Menachem Dishon) **99g:68178** 68T10 (35R30, 68U10, 78A10)

Brooks, Robert Wolfe Isospectral graphs and isospectral surfaces. *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 105–113, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Dorothee Schueth) **99f:58209** 58G25 (05C25, 05C50)

— (*with* Gornet, Ruth; Gustafson, William H.) Mutually isospectral Riemann surfaces. *Adv. Math.* **138** (1998), *no.* 2, 306–322. (Carolyn Gordon) **99k:58184** 58G25 (11F72, 11R42)

— Platonic surfaces. (English summary) *Comment. Math. Helv.* **74** (1999), *no.* 1, 156–170. (Christopher M. Judge) **99k:58185** 58G25 (11F72, 30F10, 30F45)

Brooks, Roger The physics inside of topological quantum field theories. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, L87–L91. (Summary) **99a:58023** 58D29 (57R57, 81T70)

Brooks, Stephen P. MCMC convergence diagnosis via multivariate bounds on log-concave densities. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 398–433. (Michael J. Evans) **99d:65012** 65C05 (62F15, 65C20)

— (*with* Gelman, Andrew) General methods for monitoring convergence of iterative simulations. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 4, 434–455. (Summary) **99k:62055** 62F15

Broomhead, David S. (*with* Muldoon, Mark R.; Huke, Jeremy P.; Hegger, Rainer) Delay embedding in the presence of dynamical noise. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 175–186. (Dieter Beule) **99d:58158** 58F40 (65U05)

Bros, Jacques Périnoyaux sur l'hyperboloïde complexe et applications à la théorie quantique des champs. (English and French summaries) [Perikernels on the complex hyperboloid and applications to quantum field theory] *Géométrie complexe* (*Paris*, 1992), 151–174, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Jacques Faraut) **99i:43012** 43A85 (81Q40, 81T05)

— (*with* Viano, Giovanni Alberto) Connection between the harmonic analysis on the sphere and the harmonic analysis on the one-sheeted hyperboloid: an analytic continuation viewpoint. II. (English summary) *Forum Math.* **8** (1996), *no.* 6, 659–722. (Jacques Faraut) **99b:43008** 43A90 (44A10)

— (*with* Viano, Giovanni Alberto) Connection between the harmonic analysis on the sphere and the harmonic analysis on the one-sheeted hyperboloid: an analytic continuation viewpoint. III. (English summary) *Forum Math.* **9** (1997), *no.* 2, 165–191. (Jacques Faraut) **99b:43009** 43A90 (44A10)

— (*with* Epstein, Henri; Moschella, Ugo) Analyticity properties and thermal effects for general quantum field theory on de Sitter space-time. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 535–570. (Michael Keyl) **99i:81135** 81T05 (32C81, 46N50, 81T20)

Brosens, F. (*with* Devreese, J. T.; Lemmens, L. F.) Many-body diffusion for identical particles. (English summary) *Path integrals: Dubna '96*, 236–239, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40 (81V70)

Bross, Sebastian (*with* Sangi, D.; Steck, E. A.) Simulation of self-organised dislocation structures in f.c.c. and b.c.c. single crystals. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 93–112. (Summary) **99g:73059** 73E99 (73S10, 73V20)

Bross, Shraga I. (*with* Blake, Ian F.) Upper bound for uniquely decodable codes in a binary input N-user adder channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 334–340. (Summary) **99a:94060** 94B60 (94A40)

Brothers, Jerry D. (*with* Haberman, Richard) Slow passage through a homoclinic orbit with subharmonic resonances. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 2, 211–232. (Sergei A. Dovbysh) **99j:34078** 34E10 (34C37, 70H99, 70K99)

— (*with* Haberman, Richard) Accurate phase after slow passage through subharmonic resonance. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 347–364 (*electronic*). (Summary) **99g:34075** 34C15 (34C29, 34E05, 70K30)

Broto, Carlos (*with* Viruel, Antonio) Homotopy uniqueness of $BPU(3)$. *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 85–93, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (John F. Oprea) **99a:55013** 55R35 (55P10, 57T10)

— (*with* Crespo, Juan A.) H-spaces with Noetherian mod two cohomology algebra. (English summary) *Topology* **38** (1999), *no.* 2, 353–386. (Samuel B. Smith) **99i:55013** 55P45 (55P15, 55P60)

Brotz, Thorsten (*with* Bañados, Máximo; Ortiz, Miguel E.) Quantum three-dimensional de Sitter space. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046002, 5 *pp.* (Summary) **99m:83063** 83C45 (81T20)

koua Brou, Jean-Claude *see* **Koua Brou, Jean-Claude**

Broude, Natalia E. (*with* Smith, Cassandra L.; Sano, Takeshi[2]; Cantor, Charles R.) Parallel strategies for DNA manipulation and analysis. (English summary) *Mathematical support for molecular biology*, 199–212, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92023** 92D20

Broué, Michel (*with* Malle, Gunter; Rouquier, Raphaël) Complex reflection groups, braid groups, Hecke algebras. (English summary) *J. Reine Angew. Math.* **500** (1998), 127–190. (Arjeh M. Cohen) **99m:20088** 20F55 (20C05, 20F36)

Brough, D. (*with* Rivers, A. D.) A symmetrical-time resolution of the clock paradox. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 200–212. 83A05

Broughan, Kevin (*with* Zhu, Nan) On aggregating two linear Diophantine equations. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 231–246. (Stefan M. Ritter) **99d:11025** 11D04

Broughton, S. A. (*with* Bujalance, Emilio; Costa, Antonio F.; Gamboa, J. M.; Gromadzki, G.) Symmetries of Accola-Maclachlan and Kulkarni surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 637–646. (Víctor González-Aguilera) **99f:14036** 14H55 (30F10, 30F35)

Brouns, Leen (*with* Tent, Katrin; Van Maldeghem, Hendrik) Groups of projectivities of generalized quadrangles. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 165–180. (Norbert Knarr) **99m:51006** 51E12

Brousek, Jan Minimal 2-connected non-Hamiltonian claw-free graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 57–64. (Zdeněk Ryjáček) **99i:05132** 05C45 (05C75)

— (*with* Ryjáček, Zdeněk; Favaron, Odile) Forbidden subgraphs, Hamiltonicity and closure in claw-free graphs. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 29–50. (Ralph Faudree) **99m:05099** 05C45 (05C38)

— (*with* Ryjáček, Zdeněk; Schiermeyer, Ingo) Forbidden subgraphs, stability and Hamiltonicity. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 143–155. (Summary) **99j:05158** 05C75 (05C45)

Broussous, Paul Hereditary orders and embeddings of local fields in simple algebras. *J. Algebra* **204** (1998), *no.* 1, 324–336. (Carl Riehm) **99h:22021** 22E50 (20G25)

— Extension du formalisme de Bushnell et Kutzko au cas d'une algèbre à division. [Extension of the Bushnell-Kutzko formalism to the case of a division algebra] *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 292–326. (Ernst-Wilhelm Zink) **99k:22025** 22E50 (11S37)

Brout, R. Notes on Connes' construction of the standard model. (English summary) The irresistible rise of the standard model (San Miniato, 1997). *Nuclear Phys. B Proc. Suppl.* **65** (1998), 3–15. (Mauro Spera) **99e:81257** 81V22 (58B30)

— (*with* Gabriel, Cl.; Lubo, M.; Spindel, Ph.) Minimal length uncertainty principle and the trans-Planckian problem of black hole physics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044005, 6 *pp.* 83C57 (83C45)

Brouwer, Andries E. (*with* Blok, Rieuwert J.) The geometry far from a residue. (English summary) *Groups and geometries* (*Siena*, 1996), 29–38, *Trends Math., Birkhäuser, Basel*, 1998. (Harald Gottschalk) **99k:51015** 51E24

— Linear spaces of quadrics and new good codes. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 177–180. (Jonathan I. Hall) **99j:94073** 94B27 (51A45, 51E22)

— (*with* Riebeek, Remko Juriën) The spectrum of the second subconstituent of the bilinear forms graph $H_q(d, e)$. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 299–305. (Sylvia A. Hobart) **99c:05130** 05C50 (05E30)

— (*with* Hämäläinen, Heikki O.; Östergård, Patric R. J.; Sloane, Neil J. A.) Bounds on mixed binary/ternary codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 140–161. (Summary) **99b:94057** 94B65

— (*with* Riebeek, Remko Juriën) The spectra of Coxeter graphs. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 15–28. (D. Cvetković) **99g:05129** 05C50 (05E30)

— (*with* Koolen, J. H.; Riebeek, Remko Juriën) A new distance-regular graph associated to the Mathieu group M_{10}. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 2, 153–156. (Summary) **99g:05184** 05E30 (20D08)

— (*with* Blok, Rieuwert J.) Spanning point-line geometries in buildings of spherical type. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 26–35. (Harald Gottschalk) **99f:51019** 51E24

Brouwer, L. E. J. *see* **Placek, Tomasz, 99h:03002**

Brouzet, Robert (*with* Boualem, Hassan; Rakotondralambo, Joseph; Turiel, Francisco-Javier) Fibration lagrangienne munie d'une pseudo-métrique compatible. (English and French summaries) [Lagrangian fibration endowed with a compatible pseudometric] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1201–1204. (Carlo Morosi) **99i:53024** 53C15 (58F05)

Browder, Felix (*with* Brezis, Haïm) Partial differential equations in the 20th century. *Adv. Math.* **135** (1998), *no.* 1, 76–144. (Introduction) **99i:35001** 35–03 (01A55, 01A60, 47N20)

Browkin, Jerzy (*with* Filaseta, Michael; Greaves, G. R. H.; Schinzel, Andrzej) Squarefree values of polynomials and the *abc*-conjecture. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 65–85, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (D. R. Heath-Brown) **99d:11101** 11N32 (11D99)

— (*with* Gangl, Herbert) Tame and wild kernels of quadratic imaginary number fields. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 291–305. (Jurgen Hurrelbrink) **99c:11144** 11R70 (11R11, 19C99, 19F27)

Brown, Aldric L. *see* **Oram, J. A., 99k:41031**

Brown, B. Malcolm (*with* Benammar, M.; Bennewitz, C. W.; Beynon, M. J.; Dias, N. G. J.; Evans, William Desmond; Everitt, W. N.; Kirby, V. G.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)

— (*with* Eastham, Michael S. P.; McCormack, Daniel K. R.) Absolute continuity and spectral concentration for slowly decaying potentials. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 181–197. (Alexander Alenitsyn) **99g:34165** 34L40 (34B24, 65L10)

— (*with* Eastham, Michael S. P.; Hinz, Andreas M.; Kriecherbauer, Thomas; McCormack, Daniel K. R.; Schmidt, Karl Michael) Welsh eigenvalues of radially periodic Schrödinger operators. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 347–357. (Carol Shubin) **99m:34196** 34L40 (35J10, 35P15)

— (*with* Eastham, Michael S. P.; McCormack, Daniel K. R.) Extensions of a new algorithm for the numerical solution of linear differential systems on an infinite interval. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 547–558. (Marco Marletta) **99f:65099** 65L05 (34A45)

— (*with* Marletta, Marco) On a conjecture of Bennewitz, and the behaviour of the Titchmarsh-Weyl matrix near a pole. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1383–1406. (Anton Zettl) **99c:34043** 34B20 (34L05)

— (*with* Eastham, Michael S. P.; McCormack, Daniel K. R.; Plum, Michael) On a new algorithm for the computation of enclosures for the Titchmarsh-Weyl *m*-function. *Results Math.* **33** (1998), *no.* 1-2, 50–64. (Anton Zettl) **99b:34138** 34L40 (34B24, 34E05, 34E20, 65L05)

Brown, Bryson Adjunction and aggregation. *Noûs* **33** (1999), *no.* 2, 273–283. 03A05 (03B48)

heath-Brown, D. R. *see* **Heath-Brown, D. R.**

Brown, David J. (*with* Christie, Douglas R.) Fully nonlinear solitary waves in continuously stratified incompressible Boussinesq fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2569–2586. (Summary) **99i:76032** 76C10 (76V05, 86A10)

Brown, Edward F. (*with* Hassanein, Khatab M.) Estimation of reliability when times to failure follow the Rayleigh distribution. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 65–84. 62N05

— (*with* Hassanein, Khatab M.) Jackknife and robust estimation for the parameters in pharmacokinetics. (English summary) *Applied statistical science, III*, 401–409, *Nova Sci. Publ., Commack, NY*, 1998. (*see* **99j:62001**) 62G09

Brown, G. *see* **Brown, Gavin[1]**

Brown, Gary S. (*with* Awadallah, Ra'id S.) A Luneburg-Kline representation for wave propagation in a continuously inhomogeneous medium. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 12, 1884–1886. (Summary) **99i:78016** 78A40

— *see also* **Ishimaru, Akira**, **99g:78019**

Brown, Gavin[1] (*with* Koumandos, Stamatis) A new bound for the Fejér-Jackson sum. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 21–30. (Gradimir V. Milovanović) **99f:42003** 42A05 (42A32)

— (*with* Yin, Qinghe) Inequalities arising from measure theory. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 459–473. (Summary) **99g:28002** 28A12 (26D20)

— (*with* Wang, Kun Yang[1]) On a conjecture of F. Móricz. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3527–3537. (F. Móricz) **99b:42015** 42B05

Brown, Harvey R. (*with* Holland, Peter R.) The Galilean covariance of quantum mechanics in the case of external fields. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 204–214. (Summary) **99k:81124** 81R99 (81S99)

— (*with* Sjöqvist, Erik; Bacciagaluppi, Guido) Remarks on identical particles in de Broglie-Bohm theory. (English summary) *Phys. Lett. A* **251** (1999), *no.* 4, 229–235. (Summary) **99k:81016** 81P05

Brown, I. C. (*with* Larcombe, P. J.) A survey of customised computer algebra programs for multibody dynamic modelling. *Symbolic methods in control system analysis and design*, 53–78, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93A30 (70–04, 70B15, 70E15)

Brown, J. C. (*with* Piana, Michele) Analytical and regularized solutions of the synchrotron integral equation. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 75–88. (Summary) **99e:78022** 78A35 (45B05, 45L05, 76X05)

Brown, J. L. *see* **Brown, Jeffrey Lawrence**

Brown, J. M. *see* **Brown, Joanna Mary**

Brown, Jack B. C^1-intersection variant of Blumberg's theorem. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 127–136. (M. Laczkovich) **99k:26013** 26A99 (54C30)

— (*with* Darji, Udayan B.; Larsen, Eric P.) Nowhere monotone functions and functions of nonmonotonic type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 173–182. (Yu. V. Trubnikov) **99b:26015** 26A48

Brown, Jason I. Chromatic polynomials and order ideals of monomials. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 43–68. (W. T. Tutte) **99f:05035** 05C15 (13P10)

— On the roots of chromatic polynomials. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 251–256. (W. T. Tutte) **99b:05054** 05C15

Brown, Jeffrey Lawrence (*with* Etheridge, W. L.) Local approximation of functions over points scattered in $\mathbf{R}^m$. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 189–199. (Summary) **99j:65018** 65D15 (65D05)

Brown, Joanna Mary (*with* Bloor, Malcolm I. G.; Bloor, M. Susan; Wilson, Michael John) The accuracy of *B*-spline finite element approximations to PDE surfaces. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 221–234. (Summary) **99c:65029** 65D17 (65Y25)

— (*with* Bloor, Malcolm I. G.; Bloor, M. Susan; Wilson, Michael John) *B*-spline surface approximations of a six-sided PDE patch. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 211–231. (*see* **99i:65004**) 65D17 (65Y25)

Brown, Julia M. Nowlin A remark on a construction of Grundhöfer. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 181–185. (Summary) **99c:51008** 51E15 (51A35)

Brown, K. J. (*with* Afrouzi, G. A.) On a diffusive logistic equation. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 326–339. (Summary) **99g:35130** 35Q80 (35K57, 92D25)

— (*with* Afrouzi, G. A.) Positive solutions for a semilinear elliptic problem with sign-changing nonlinearity. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 507–510. 35J65 (34B15, 35B05)

— (*with* Afrouzi, G. A.) On principal eigenvalues for boundary value problems with indefinite weight and Robin boundary conditions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 125–130. (Summary) **99b:35035** 35J25

Brown, Kenneth A. (*with* Goodearl, K. R.) Homological aspects of Noetherian PI Hopf algebras of irreducible modules and maximal dimension. (English summary) *J. Algebra* **198** (1997), *no.* 1, 240–265. (Edward S. Letzter) **99c:16036** 16W30 (17B37)

— Representation theory of Noetherian Hopf algebras satisfying a polynomial identity. (English summary) *Trends in the representation theory of finite-dimensional algebras (Seattle, WA, 1997)*, 49–79, *Contemp. Math.*, 229, *Amer. Math. Soc., Providence, RI*, 1998. (Mitsuhiro Takeuchi) **99m:16056** 16W30 (16R50)

Brown, Kenneth S. ★ Buildings. Reprint of the 1989 original. Springer Monographs in Mathematics. *Springer-Verlag, New York*, 1998. *viii+215 pp. ISBN* 0-387-98624-3 (Editors) **99d:20042** 20E42

Brown, Lawrence D. (*with* Hwang, J. T. Gene; Munk, Axel) An unbiased test for the bioequivalence problem. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2345–2367. (Holger Dette) **99b:62025** 62F04 (62P10)

— (*with* Low, Mark G.; Zhao, Linda H.) Superefficiency in nonparametric function estimation. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2607–2625. (Theo Gasser) **99b:62045** 62G05 (62B15, 62G20, 62M05)

— (*with* Zhang, Cun-Hui) Asymptotic nonequivalence of nonparametric experiments when the smoothness index is 1/2. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 279–287. (Uttara V. Naik-Nimbalkar) **99f:62058** 62G07 (62G20, 62M05)

Brown, Lawrence M. (*with* Diker, Murat) Ditopological texture spaces and intuitionistic sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 217–224. (Summary) **99d:03046** 03E72 (03F55, 54A40)

— (*with* Diker, Murat) Paracompactness and full normality in ditopological texture spaces. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 144–165. (Summary) **99f:54010** 54A40 (54D15, 54D20)

Brown, Malcolm (*with* Greenberg, Leon; Marletta, Marco) Convergence of regular approximations to the spectra of singular fourth-order Sturm-Liouville problems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 907–944. (Anton Zettl) **99h:34122** 34L40 (34B24, 47E05)

Brown, Matthew R. Semipartial geometries and generalized quadrangles of order (r, r^2). (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 187–205. (Norbert Knarr) **99f:51008** 51E12 (51D20, 51E14)

Brown, P. J. (*with* Vannucci, M.; Fearn, T.) Multivariate Bayesian variable selection and prediction. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 627–641. (Summary) **99a:62029** 62F15 (62J05)

Brown, Paul R. Buildings and non-positively curved polygons of finite groups. (English summary) *New York J. Math.* **4** (1998), 237–248 (*electronic*). (Summary) **99m:20079** 20F32 (20E42, 20F55, 51E24)

Brown, Peter Non-split extensions over representation-finite hereditary algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1005–1015. (Bang Ming Deng) **99b:16023** 16G20 (16G70)

Brown, Peter N. (*with* Hindmarsh, Alan C.; Petzold, Linda R.) Consistent initial condition calculation for differential-algebraic systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1495–1512 (*electronic*). (Gennady Y. Kulikov) **99d:65202** 65L05 (34A09)

Brown, R. *see* **Brown, Ronald**

Brown, Ray (*with* Chua, Leon O.) Chaos: generating complexity from simplicity. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2427–2436. (Remo Badii) **99d:58119** 58F13 (58F03)

— (*with* Chua, Leon O.) Clarifying chaos. II. Bernoulli chaos, zero Lyapunov exponents and strange attractors. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 1–32. (Frederick R. Marotto) **99i:58101** 58F13

Brown, Richard J. Anosov mapping class actions on the SU(2)-representation variety of a punctured torus. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 539–554. (Jonathan A. Poritz) **99j:58150** 58F15 (57S15, 58D29, 58F11, 58F27)

Brown, Robert A. (*with* Wright, Mary H.) Decompositions of D1 modules. *Advances in ring theory (Granville, OH, 1996)*, 49–64, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Riccardo Colpi) **99c:16005** 16D70 (16P70)

Brown, Ron *see* **Brown, Ronald Paul**

Brown, Ronald (*with* Porter, Timothy) On the Schreier theory of non-abelian extensions: generalisations and computations. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 213–227. (Johannes Huebschmann) **99j:20057** 20J05 (18G50, 18G55, 20F05)

— (*with* Golasiński, Marek; Porter, Timothy; Tonks, A.) Spaces of maps into classifying spaces for equivariant crossed complexes. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 157–172. (Pilar C. Carrasco) **99j:18015** 18G55 (18D20, 55P91)

— Knots, mathematics and art. (Catalan) Translated from the English by Gemma Bastardas. *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 2, 7–19. 00A05 (00A69, 57M25)

— (*with* Janelidze, George) Galois theory of second order covering maps of simplicial sets. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 23–31. (David A. Blanc) **99k:55021** 55U10 (18G55, 57M10)

Brown, Ronald Paul (*with* Harrison, David K.) Abelian Frobenius kernels and modules over number rings. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 51–86. (Gary L. Walls) **99h:20026** 20D10 (11R04, 20J99)

Brown, Russell M. (*with* Perry, Peter A.; Shen, Zhongwei) The additive turbulent decomposition for the two-dimensional incompressible Navier-Stokes equations: convergence theorems and error estimates. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 139–155 (*electronic*). (Alain Miranville) **99i:35124** 35Q30 (65M70, 76D05, 76M25)

Brown, Scott W. (*with* Ko, Eungil) Operators of Putinar type. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 49–57, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Jörg Eschmeier) **99h:47028** 47B20 (47A15)

Brown, Thomas Craig (*with* Shiue, Peter Jau-Shyong; Yu, Xiu Yuan) Sequences with translates containing many primes. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 15–19. (Gérald Tenenbaum) **99b:11105** 11N25 (11N32, 11N56)

Brown, Thomas John (*with* Bartoszek, Wojciech) On Frobenius-Perron operators which overlap supports. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 183–186. (*see* **99f:58002**) 47A35 (47B38)

Brown, Timothy C. (*with* Hamza, Kais; Xia, Aihua) On the variance to mean ratio for random variables from Markov chains and point processes. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 303–312. (M. Iosifescu) **99f:60134** 60J27 (60E15, 60G55)

Brown, Tom *see* **Brown, Thomas John**

Brown, William C. Null ideals and spanning ranks of matrices. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2401–2417. (N. J. Pullman) **99d:15001** 15A03

Brownawell, W. Dale A pure power product version of the Hilbert Nullstellensatz. *Michigan Math. J.* **45** (1998), *no.* 3, 581–597. (P. Schenzel) **99m:13038** 13F20 (11C08, 13D45)

Browne, Sid The return on investment from proportional portfolio strategies. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 216–238. (Martin Schweizer) **99g:90026** 90A09 (60H10, 60J60)

Browning, Sharon (*with* Wu, Chih-Hang; Ventura, José A.) Computational comparisons of dual conjugate gradient algorithms for strictly convex networks. (English summary)

Comput. Oper. Res. **25** (1998), *no.* 4, 333–349. 90C35 (90B10)

Broy, Manfred Mathematical methods in system and software engineering. (English summary) *Mathematical methods in program development* (*Marktoberdorf*, 1996), 271–312, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (Summary) **99c:68030** 68N05 (68Q60)

— Compositional refinement of interactive systems. (English summary) *J. ACM* **44** (1997), *no.* 6, 850–891. (Ryszard Janicki) **99g:68129** 68Q60 (68Q10)

Broyden, C. G. Look-ahead block-CG algorithms. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 197–215, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Marlis Hochbruck) **99d:65099** 65F10

— A simple algebraic proof of Farkas's lemma and related theorems. (English summary) *Optim. Methods Softw.* **8** (1998), *no.* 3-4, 185–199. (Summary) **99a:90181** 90C30 (90C08)

Broze, Laurence (*with* Scaillet, Olivier; Zakoïan, Jean-Michel) Quasi-indirect inference for diffusion processes. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 161–186. (Summary) **99d:62083** 62M10 (62P20)

— (*with* Gouriéroux, Christian) Pseudo-maximum likelihood method, adjusted pseudo-maximum likelihood method and covariance estimators. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 75–98. (Summary) **99b:62159** 62P20 (62F10)

pawlikowska-Brożek, Zofia *see* **Pawlikowska-Brożek, Zofia**

Bru, Bernard (*with* Bru, Marie-France; Bienaymé, Olivier) La statistique critiquée par le calcul des probabilités: deux manuscrits inédits d'Irenée Jules Bienaymé. (English and French summaries) [The critique of statistics on the grounds of probability theory: two unpublished manuscripts of Irenée Jules Bienaymé] *Rev. Histoire Math.* **3** (1997), *no.* 2, 137–239. (Pierre Crépel) **99c:01011** 01A55 (60–03, 62–03)

Bru, J.-B. (*with* Zagrebnov, V. A.) Exact solution of the Bogoliubov Hamiltonian for weakly imperfect Bose gas. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9377–9404. (Summary) **99g:82002** 82B05

— (*with* Zagrebnov, V. A.) Exact phase diagram of the Bogoliubov weakly imperfect Bose gas. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 371–376. (Summary) **99c:82005** 82B05 (82B26)

Bru, Marie-France (*with* Bru, Bernard; Bienaymé, Olivier) La statistique critiquée par le calcul des probabilités: deux manuscrits inédits d'Irenée Jules Bienaymé. (English and French summaries) [The critique of statistics on the grounds of probability theory: two unpublished manuscripts of Irenée Jules Bienaymé] *Rev. Histoire Math.* **3** (1997), *no.* 2, 137–239. (Pierre Crépel) **99c:01011** 01A55 (60–03, 62–03)

Bru, Rafael (*with* Thome, Néstor) Group inverse and group involutory matrices. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 207–218. (Summary) **99h:15006** 15A09 (15A23)

Bruce, Andrew G. (*with* Gao, Hong-Ye[2]; Stuetzle, Werner) Subset-selection and ensemble methods for wavelet de-noising. (English summary) *Statist. Sinica* **9** (1999), *no.* 1, 167–182. 62G07 (42C15)

Bruce, J. W. (*with* Giblin, Peter J.; Tari, F.) Families of surfaces: height functions and projections to planes. *Math. Scand.* **82** (1998), *no.* 2, 165–185. (Maria Carmen Romero-Fuster) **99j:53001** 53A05 (57R45, 58C27)

— (*with* Nogueira, Antonio Carlos) Surfaces in $\mathbf{R}^4$ and duality. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 433–443. (Maria Aparecida Soares Ruas) **99j:53002** 53A05 (58C27)

— (*with* Giblin, Peter J.; Tari, F.) Families of surfaces: focal sets, ridges and umbilics. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 243–268. (Maria Carmen Romero-Fuster) **99h:58018** 58C27 (53A05, 57R45)

Bruch, J. C., Jr. (*with* Sloss, J. M.; Sadek, Ibrahim S.; Adali, Sarp) Maximum principle for optimal boundary control of vibrating structures with applications to beams. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 355–375. (L. P. Lebedev) **99k:49055** 49K20 (73K12, 73K50, 93D15)

— (*with* Sadek, Ibrahim S.; Sloss, J. M.; Adali, Sarp) A maximum principle for optimal control using spatially distributed pointwise controllers. (English summary) *J. Vib. Control* **4** (1998), *no.* 4, 445–462. (Vadim Komkov) **99d:49043** 49K20 (73K50)

Brüchert, Gerd Trace class elements and cross sections in Kac-Moody groups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 972–1006. (Paolo Casati) **99k:22030** 22E65 (17B65)

Bruck, Jehoshua Reflections on: "Representations of sets of Boolean functions by commutative rings" [Comput. Complexity **6** (1996/1997), no. 3, 199–208; MR 99c:68101] by R. Smolensky. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 209–212. (Christoph Meinel) **99c:68102** 68Q15 (13A99, 68Q05, 68R99, 94C10)

— (*with* Blaum, Mario; Vardy, Alexander) Interleaving schemes for multidimensional cluster errors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 730–743. (Summary) **99c:94055** 94B20

— (*with* Xu, Lihao) X-code: MDS array codes with optimal encoding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 272–276. (Summary) **99k:94065** 94B60

Brücker, Christoph Structure and dynamics of the wake of bubbles and its relevance for bubble interaction. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1781–1796. 76D99 (76D25, 76T05)

Brucker, Peter ★ Scheduling algorithms. (English summary) Second edition. *Springer-Verlag, Berlin*, 1998. *xii*+342 *pp. ISBN* 3-540-64105-X (Knut Richter) **99g:90053** 90B35 (68M20, 90–02)

— Scheduling: theory and applications. *Operations Research Proceedings* 1997 (*Jena*), 414–427, *Springer, Berlin*, 1998. (From the introduction) **99e:90046** 90B35

— (*with* Kovalëv, M. Ya.; Shafranskiĭ, Ya. M.; Werner, Frank) Batch scheduling with deadlines on parallel machines. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 23–40. (Roman Słowiński) **99k:90082** 90B25 (65Y05, 68Q25)

— (*with* Neyer, Jürgen) Tabu-search for the multi-mode job-shop problem. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 21–28. (Summary) **99a:90107** 90B35 (90C27)

— (*with* Kravchenko, Svetlana A.; Sot·skov, Yu. N.) Preemptive job-shop scheduling problems with a fixed number of jobs. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 41–76. (Edward J. Anderson) **99m:90084** 90B35 (90C60)

Bruckman, Paul S. (*with* Anderson, Peter G.) Conjectures on the Z-densities of the Fibonacci sequence. *Fibonacci Quart.* **36** (1998), *no.* 3, 263–271. (Sergeĭ V. Konyagin) **99i:11007** 11B05 (11B39, 11N25)

Brückmann, Peter (*with* Müller, Dirk) Birational invariants in the case of prime characteristic. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 413–429. (Reinhold Hübl) **99f:14023** 14F10 (13A35, 14M10)

krieg-Brückner, Bernd *see* **Krieg-Brückner, Bernd**

Bruckner, Gottfried (*with* Prössdorf, Siegfried; Vainikko, Gennadi) Error bounds of discretization methods for boundary integral equations with noisy data. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 25–37. (Summary) **99a:65187** 65R20 (45L05)

— (*with* Handrock-Meyer, S.; Langmach, H.) An inverse problem from 2D ground-water modelling. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 835–851. (Summary) **99d:35177** 35R30 (35J25, 76S05)

Brucks, K. (*with* Galeeva, R.; Mumbrú, Pere; Rockmore, Daniel N.; Tresser, Charles) On the $*$-product in kneading theory. (English summary) *Fund. Math.* **152** (1997), *no.* 3, 189–209. (Summary) **99c:54055** 54H20

Bruckstein, Alfred M. (*with* Wagner, Israel A.; Lindenbaum, Michael) Efficiently searching a graph by a smell-oriented vertex process. (English summary) Artificial intelligence and mathematics, VIII (Fort Lauderdale, FL, 1998). *Ann. Math. Artificial Intelligence* **24** (1998), *no.* 1-4, 211–223 (1999). (*see* **99m:68006**) 68T20 (68R10)

— (*with* O'Gorman, Larry; Orlitsky, Alon) Design of shapes for precise image registration. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3156–3162. 94A12 (68U10)

Brüderlin, Beat (*with* Hsu, Ching-yao) A degree-of-freedom graph approach. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 132–155, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65023** 65D17

— *see also* **Geometric constraint solving and applications**, **99e:68167**

Brüdern, Jörg (*with* Cook, Roger J.; Perelli, A.) The values of binary linear forms at prime arguments. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 87–100, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Alessandro Zaccagnini) **99f:11130** 11P32 (11P55)

— (*with* Perelli, A.) Goldbach numbers in sparse sequences. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 353–378. (Daniel A. Goldston) **99j:11119** 11P32 (11L07, 11P55)

— (*with* Wooley, Trevor D.) The addition of binary cubic forms. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 701–737. (D. R. Heath-Brown) **99e:11128** 11P05

— (*with* Granville, Andrew; Perelli, A.; Vaughan, R. C.; Wooley, Trevor D.) On the exponential sum over k-free numbers. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 739–761. (D. R. Heath-Brown) **99c:11125** 11P55 (11L99)

Brudnyi, Alexander Holomorphic functions of polynomial growth on abelian coverings of a compact complex manifold. (English summary) *Comm. Anal. Geom.* **6** (1998), *no.* 3, 485–510. (Finnur Lárusson) **99h:32032** 32J18

Brudnyĭ, Yu. A. Timan's type result on approximation by algebraic polynomials. *New results in operator theory and its applications*, 92–101, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Dimitar Kolev Dimitrov) **99c:41007** 41A10 (41–02)

— (*with* Shteinberg, Alexander) Calderón constants of finite-dimensional couples. (English summary) *Israel J. Math.* **101** (1997), 289–322. (Mieczysław Mastyło) **99e:46099** 46M35

Brueckner, Anthony Moore inferences. *Philos. Quart.* **48** (1998), *no.* 192, 366–369. 03B45 (03A05)

Bruel, P. (*with* Corvellec, C.; Sabel'nikov, V. A.) A time-accurate scheme for the calculations of unsteady reactive flows at low Mach number. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 207–227. (Summary) **99i:80013** 80A25 (76F99, 76M25, 80–08)

Bruen, Aiden A. (*with* Haddad, Lucien; Wehlau, David L.) Intersection-sets in PG(n, 2). (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 3–11. (György Kiss) **99c:51009** 51E15 (05B25, 51E20, 51E22)

— (*with* Drudge, Keldon) On the non-existence of certain Cameron-Liebler line classes in PG(3, q). (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 127–132. (Antonio Pasini) **99b:51007** 51E20 (51E23)

— (*with* Haddad, Lucien; Wehlau, David L.) Binary codes and caps. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 275–284. (Italo José Dejter) **99i:94062** 94B05 (05B25, 51E20, 51E25)

ter Brugge, Mark H. (*with* Nijhuis, Jos A. G.; Spaanenburg, Lambert) Transformational DT-CNN design from morphological specifications. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 879–888. 68U10 (68Q80, 68T05)

Bruggeman, R. W. (*with* Miatello, R. J.) Sum formula for SL_2 over a number field and Selberg type estimate for exceptional eigenvalues. *Geom. Funct. Anal.* **8** (1998), *no.* 4, 627–655. (Stefan Kühnlein) **99m:11061** 11F72 (11F55)

Brüggemann, D. (*with* Gerlinger, P.; Stoll, P.) An implicit multigrid method for the simulation of chemically reacting flows. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 322–345. (Summary) **99e:80001** 80–08 (76J20, 76M25, 80A32)

Brüggemann-Klein, Anne (*with* Wood, Derick) One-unambiguous regular languages. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 229–253. (Jetty Kleijn) **99a:68104** 68Q45 (68U15)

— (*with* Wood, Derick) One-unambiguous regular languages. (English summary) *Inform. and Comput.* **142** (1998), *no.* 2, 182–206. (Rani Siromoney) **99g:68109** 68Q45

Brügmann, Bernd Binary black hole mergers in 3d numerical relativity. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 1, 85–100. 83–08 (83C57)

Brugnano, Luigi (*with* Amodio, Pierluigi) A note on the efficient implementation of implicit methods for ODEs. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 1–9. (Gabriela Kirlinger) **99b:65084** 65L06 (65F30, 65H10, 65L05)

— (*with* Trigiante, Donato) ★ Solving differential problems by multistep initial and boundary value methods. (English summary) Stability and Control: Theory, Methods and Applications, 6. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *xvi*+418 *pp. ISBN* 90-5699-107-8 (Iulian Coroian) **99m:65001** 65–02 (34A09, 34A45, 34B15, 65Lxx)

— (*with* Amodio, Pierluigi) ParalleloGAM: a parallel code for ODEs. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad,

1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 95–106. (Summary) **99j:65112** 65L05 (65Y05)
— (*with* Trigiante, Donato) Parallel implementation of block boundary value methods on nonlinear problems: theoretical results. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 127–141. (Ram Krishan Sharma) **99k:65060** 65L10 (65Y99)
— (*with* Trigiante, Donato) Boundary value methods: the third way between linear multistep and Runge-Kutta methods. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 269–284. (Summary) **99i:65071** 65L06
Bruhat, François Représentations induites des groupes localement compacts. [Induced representations of locally compact groups] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 68, 185–192, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 22D30
— Structure des algèbres de Lie semi-simples. [Structure of semisimple Lie algebras] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 107, 61–68, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 17B20
— Prolongement des sous-variétés analytiques (d'après W. Rothstein). [Extension of analytic subvarieties (after W. Rothstein)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 122, 239–250, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 32C25
— Travaux de Harish-Chandra. [Works of Harish-Chandra] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 143, 85–93, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 22E46 (17B99)
— Travaux de Sternberg. [Works of Sternberg] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 217, 179–196, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 58H05 (22E65)
— Intégration *p*-adique (d'après F. Tomas). [*p*-adic integration (after F. Tomás)] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 229, 97–112, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 11S80 (11S85, 28B99)
— Points entiers sur les courbes de genre ≥ 1 (d'après Serge Lang). [Integral points on curves of genus ≥ 1 (after Serge Lang)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 247, 93–104, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 14G25 (14G05)
— Sous-groupes compacts maximaux des groupes semi-simples p-adiques [MR **31** #2351]. [Maximal compact subgroups of p-adic semisimple groups] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 271, 413–423, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 22E55
choquet-Bruhat, Yvonne *see* **Choquet-Bruhat, Yvonne**
Bruhns, Otto Timme (*with* Xiao, Heng; Meyers, Albert Thomas Marie) On symmetric tensor-valued isotropic functions of a symmetric tensor and a skewsymmetric tensor and related transversely isotropic functions. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 4, 731–741. (Summary) **99j:73005** 73B10 (73B40)
— (*with* Xiao, Heng; Meyers, Albert Thomas Marie) On objective corotational rates and their defining spin tensors. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 30, 4001–4014. (Summary) **99f:73022** 73B99 (73C99)
— (*with* Xiao, Heng; Meyers, Albert Thomas Marie) Strain rates and material spins. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 1–41. (Summary) **99m:73021** 73C50 (73B05, 73B99)
— (*with* Xiao, Heng; Meyers, Albert Thomas Marie) Direct relationship between the Lagrangean logarithmic strain and the Lagrangean stretching and the Lagrangean Kirchhoff stress. *Mech. Res. Comm.* **25** (1998), *no.* 1, 59–67. (P. Villaggio) **99b:73003** 73B05
— (*with* Xiao, Heng; Meyers, Albert Thomas Marie) On representations of yield functions for crystals, quasicrystals and transversely isotropic solids. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 47–67. (Summary) **99j:73049** 73E05 (73B40)
— *see also* **IUTAM Symposium: Micro- and Macrostructural Aspects of Thermoplasticity**
Bruĭ, I. N. Trigonometric series of the classes $L^p(\mathbf{T})$, $p \in]1;\infty[$, and their conservative means. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 677–686; *translation in Math. Notes* **62** (1997), *no.* 5-6, 566–574 (1998). (J. Németh) **99j:40005** 40C05 (42A24)
— (*with* Schmieder, Gerald) Real trigonometric series of class BMO and $(C, 1)$-means. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 483–488. (Summary) **99i:42022** 42B25 (30D50)
de Bruijn, N. G. Philosophical aspects of computerized verification of mathematics. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 1–9, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35
Bruin, Henk The existence of absolutely continuous invariant measures is not a topological invariant for unimodal maps. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 555–565. (Jérôme Buzzi) **99i:58090** 58F11 (58F03)
— For almost every tent map, the turning point is typical. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 215–235. (Serge E. Troubetzkoy) **99c:58090** 58F11
— Topological conditions for the existence of absorbing Cantor sets. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2229–2263. (Hartje Kriete) **99f:58064** 58F03 (30D05, 58F13, 58F23)
de Bruin, M. G. (*with* Sharma, Ambikeshwar; Szabados, J.) Birkhoff type interpolation on perturbed roots of unity. (English summary) *Approximation theory*, 167–179, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41003** 41A05 (30E05)
de Bruin, R. (*with* Salomé, D.; Schaafsma, W.) A semi-Bayesian method for nonparametric density estimation. (English summary) *Comput. Statist. Data Anal.* **30** (1999), *no.* 1, 19–30. (Summary) **99m:62055** 62G07
Bruinier, J. H. On a theorem of Vignéras. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 163–168. (M. Ram Murty) **99k:11069** 11F37 (11F30, 11F67)
Bruj, Igor *see* **Bruĭ, I. N.**
rotariu-Bruma, A. I. *see* **Rotariu-Bruma, A. I.**
Brumatti, Paulo (*with* Gimenez, Philippe; Simis, Aron) On the Gauss algebra associated to a rational map $\mathbf{P}^d \to \mathbf{P}^n$. (English summary) *J. Algebra* **207** (1998), *no.* 2, 557–571. (Santiago Zarzuela Armengou) **99h:14053** 14M25 (13F20, 14E05)
Brumback, Babette A. (*with* Rice, John A.) Smoothing spline models for the analysis of nested and crossed samples of curves. (English summary) With comments and a rejoinder by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 961–994. (Summary) **99e:62038** 62G05 (62G09)
Brumer, Armand Travaux récents d'Iwasawa et de Leopoldt. [Recent works of Iwasawa and of Leopoldt] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 325, 189–202, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 11R23
van Brummelen, Glen *see* **Van Brummelen, Glen**
Brummelhuis, Raymond (*with* Ruskai, Mary Beth) A simple one-dimensional model for atoms in strong magnetic fields. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 109–119, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Giorgio Cattapan) **99b:81279** 81V45
— (*with* Nourrigat, J.) Scattering amplitude for Dirac operators. *Comm. Partial Differential Equations* **24** (1999), *no.* 1-2, 377–394. (Frédéric Klopp) **99m:81277** 81U05 (35P25, 35Q40, 47G30, 81Q20, 81R30)
Brun, J. M. (*with* Foufou, S.; Bouras, A.) Surfaces intersection for solid algebra: a classification algorithm. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 114–131, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65193** 65Y25
Brun, Morten (*with* Bökstedt, Marcel; Dupont, Johan L.) Homology of $O(n)$ and $O^1(1, n)$ made discrete: an application of edgewise subdivision. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 131–152. (Veena Sharma) **99c:20061** 20G10 (22E15, 55R45, 57T10)
Bruna, Joaquim (*with* Ortega-Cerdà, Joaquim) On L^p-solutions of the Laplace equation and zeros of holomorphic functions. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 571–591. (Steven George Krantz) **99c:31011** 31B10 (31A10, 35J05)
— (*with* Ortega, Joaquín Ma.) Interpolation along manifolds in Hardy-Sobolev spaces. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 17–45. (H. Triebel) **99j:32003** 32A35 (32E30, 42B30, 46E35)
— (*with* Charpentier, Philippe; Dupain, Yves) Zero varieties for the Nevanlinna class in convex domains of finite type in $\mathbf{C}^n$. *Ann. of Math.* (2) **147** (1998), *no.* 2, 391–415. (Der-Chen E. Chang) **99e:32023** 32F20 (32E99)
— (*with* Bonami, Aline; Grellier, Sandrine) On Hardy, BMO and Lipschitz spaces of invariantly harmonic functions in the unit ball. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 665–696. (Steven George Krantz) **99g:31008** 31B05 (31B20, 32A37, 46E15)
Brunat, Josep M. (*with* Maureso, M.; Mora, Mercè) Endo-circulant digraphs: connectivity and generalized cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 157–167. (Summary) **99i:05089** 05C20 (05C38, 05C40, 05C75)
Brundan, Jonathan Dense orbits and double cosets. *Algebraic groups and their representations* (*Cambridge*, 1997), 259–274, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ross Ian Lawther) **99k:20090** 20G15
— Lowering operators for $GL(n)$ and quantum $GL(n)$. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 95–114, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Ben Ford) **99c:20058** 20G05 (17B37, 20C20)
— Double coset density in exceptional algebraic groups. *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 63–83. (James E. Humphreys) **99k:20091** 20G15 (14M17)
— (*with* Kleshchev, Alexander S.; Suprunenko, Irina D.) Semisimple restrictions from $GL(n)$ to $GL(n-1)$. (English summary) *J. Reine Angew. Math.* **500** (1998), 83–112. (Ben Ford) **99h:20069** 20G05 (20C20, 20G15)
Brundu, Michela (*with* Sacchiero, Gianni) On the varieties parametrizing trigonal curves with assigned Weierstrass points. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3291–3312. (Montserrat Teixidor i Bigas) **99g:14040** 14H55 (14H10)
— (*with* Logar, A.) Parametrization of the orbits of cubic surfaces. (English summary) *Transform. Groups* **3** (1998), *no.* 3, 209–239. (Bernard Mourrain) **99m:14114** 14Q10 (14J25)
Bruneau, Charles-Henri Calcul d'écoulements incompressibles derrière des obstacles et analyse des solutions transitoires. (French summary) [Calculation of incompressible flows behind obstacles and analysis of the transient solutions] *Actes du 29ème Congrès d'Analyse Numérique: CANum'97* (*Larnas*, 1997), 37–50 (*electronic*), *ESAIM Proc.*, 3, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99e:76080** 76M20 (76M25)
— (*with* Besse, Christophe) Numerical study of elliptic-hyperbolic Davey-Stewartson system: dromions simulation and blow-up. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1363–1386. (Summary) **99g:76086** 76M20 (76B15, 76B45)
Bruneau, Michel² (*with* Gusev, Vitalyi; Bailliet, Hélène; Lotton, Pierrick) Interaction of counterpropagating acoustic waves in media with nonlinear dissipation and in hysteretic media. (English summary) *Wave Motion* **29** (1999), *no.* 3, 211–221. (Summary) **99k:76131** 76Q05 (73D15)
Bruneau, O. (*with* Ouezdou, F. B.; Guinot, J. C.) Dynamic analysis tool for legged robots. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 369–391. (Summary) **99h:70006** 70B15 (70E99)
Bruneau, Vincent Asymptotique de la phase de diffusion à haute énergie pour l'opérateur de Dirac. (English and French summaries) [Asymptotics of the high-energy scattering phase for the Dirac operator] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 207–231. (Lech Zielinski) **99k:81064** 81Q20 (35C20, 35P20, 81U05)
— (*with* Robert, Didier) Asymptotics of the scattering phase for the Dirac operator: high energy, semi-classical and non-relativistic limits. (English summary) *Ark. Mat.* **37** (1999), *no.* 1, 1–32. (Hitoshi Kitada) **99m:35179** 35P20 (35J99, 47A40, 47N50, 81U05)
Bruneel, Herwig (*with* Wittevrongel, Sabine) Discrete-time queues with correlated arrivals and constant service times. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 93–108. 90B22
Brunella, Marco Instability of equilibria in dimension three. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 5, 1345–1357. (Patrick Bonckaert) **99i:34040** 34C05 (34D20, 58F14)
— Sur les courbes intégrales propres des champs de vecteurs polynomiaux. [On proper integral curves of polynomial vector fields] *Topology* **37** (1998), *no.* 6, 1229–1246. (M. G. Soares) **99e:32056** 32L30 (58F18)
Brunelli, J. C. (*with* Das, Ashok) The supersymmetric two boson hierarchy. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 1–10, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:58108** 58F07 (81Q60, 81R10)
— (*with* Das, Ashok) Integrable models and the higher-dimensional representations of graded Lie algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 133–144. (Youjin Zhang) **99h:58081** 58F07 (17B70)
— (*with* Das, Ashok) A Lax representation for the Born-Infeld equation. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 57–63. (Summary) **99d:78010** 78A25

(58F40)

Bruner, Robert R. Some root invariants and Steenrod operations in $\mathrm{Ext}_A(F_2, F_2)$. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 27–33, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Edgar H. Brown, Jr.) **99g:55017** 55Q45 (55P42, 55Q35, 55Q91, 55S10, 55T15)

— Some remarks on the root invariant. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 31–37, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Donald M. Davis) **99b:55023** 55Q45 (55P42, 55P91, 55Q35, 55Q91, 55T15)

Brunet, Bernard Dimension d'Alexandroff d'un espace uniforme. (English summary) [Aleksandrov dimension of a uniform space] *Ital. J. Pure Appl. Math. No.* 1 (1997), 109–114 (1998). (Summary) **99j:54033** 54F45 (54D20, 54E15)

— On the compactification of generalized ordered spaces. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 63–73. (Peter Johnstone) **99m:54032** 54J05 (54D35, 54F05)

Brunet, Pere (*with* Vigo, Marc; Pla, Núria) From degenerate patches to triangular and trimmed patches. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 435–444, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Vigo, Marc; Garcia Garcia, Nuria) Directional adaptive surface triangulation. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 107–126. (Summary) **99j:65028** 65D17 (65N30)

Brunetta, Lorenzo (*with* Guastalla, Guglielmo; Navazio, Lisa) Solving the multi-airport ground holding problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 271–287. (*see* **99b:90006**) 90C90 (90C27)

Brunetti, Maurizio A new cohomological criterion for the p-nilpotence of groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 20–22. (Dirk Scevenels) **99b:55004** 55N20 (20D15, 55N22)

Brunetti, S. (*with* Barcucci, E.; Del Lungo, A.; Del Ristoro, F.) A combinatorial interpretation of the recurrence $f_{n+1} = 6f_n - f_{n-1}$. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 235–240. (Summary) **99f:05001** 05A10

Brungs, Hans-Heinrich (*with* Strambach, Karl) Algebras and orthogonal groups. II. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 1–18. (Sebastian Walcher) **99b:17002** 17A30 (17A36, 51F25)

— (*with* Törner, Günter) Ideal theory of right cones and associated rings. (English summary) *J. Algebra* **210** (1998), *no.* 1, 145–164. (David F. Anderson) **99k:20113** 20M12 (16U99)

Bruni, C. (*with* Ferrante, L.; Koch, Giorgio) Identifiability of a stochastic model for cell debris in flow cytometry. (English summary) *J. Math. Biol.* **37** (1998), *no.* 4, 329–340. (Summary) **99i:92013** 92D20 (60K40)

Bruni, Marco (*with* Matarrese, Sabino; Pantano, Ornella) Dynamics of silent universes with and without Λ. 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 443–451, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05

— (*with* Sonego, Sebastiano) Gauge dependence in the theory of non-linear spacetime perturbations. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 209–218. (Simonetta Frittelli) **99a:83025** 83C25

— (*with* Matarrese, Sabino; Mollerach, Silvia) Relativistic second-order perturbations of the Einstein-de Sitter universe. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 043504, 22 *pp.* 83C25

Bruni, Roberto (*with* Montanari, Ugo) Zero-safe nets: the individual token approach. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 122–140, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q90 (68Q10, 68Q55)

Brüning, E. (*with* Nagamachi, S.) Closure of field operators, asymptotic abelianness, and vacuum structure in hyperfunction quantum field theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5098–5111. (Roman Gielerak) **99k:81169** 81T05 (46F15, 47N50)

Brüning, Jochen (*with* Lesch, Matthias) On the η-invariant of certain nonlocal boundary value problems. *Duke Math. J.* **96** (1999), *no.* 2, 425–468. (John G. Miller) **99m:58180** 58G10 (58G11, 58G20)

Brüning, Stefan (*with* Schaub, Torsten H.) Prolog technology for default reasoning: proof theory and compilation techniques. (English summary) *Artificial Intelligence* **106** (1998), *no.* 1, 1–75. (Summary) **99j:68135** 68T27 (68N17)

Brunn, P. O. (*with* Ryssel, E.) Steady non-swirling axisymmetric flows: flow classification and rheological consequences. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 349–357. (Summary) **99i:76010** 76A99 (76A05)

Brunner, A. M. (*with* Sidki, Said) The generation of $\mathrm{GL}(n, \mathbf{Z})$ by finite state automata. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 1, 127–139. (Olympia Talelli) **99f:20055** 20F10 (68Q68)

— (*with* Sidki, Said; Vieira, Ana Cristina) A just nonsolvable torsion-free group defined on the binary tree. (English summary) *J. Algebra* **211** (1999), *no.* 1, 99–114. (Olympia Talelli) **99m:20054** 20E08

Brunner, Edgar (*with* Puri, Madan L.) Nonparametric methods in design and analysis of experiments. *Design and analysis of experiments*, 631–703, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62G10 (62J10)

Brunner, Hermann (*with* Makroglou, A.; Miller, Richard Keith[1]) Mixed interpolation collocation methods for first and second order Volterra integro-differential equations with periodic solution. (English summary) *Appl. Numer. Math.* **23** (1997), *no.* 4, 381–402. (Summary) **99b:65171** 65R20 (45L05)

— (*with* Zhang, Wenkui) Collocation approximations for second-order differential equations and Volterra integro-differential equations with variable delays. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 3, 269–285. (Iulian Coroian) **99j:65243** 65R20 (34K99, 45L05)

— (*with* Bandle, Catherine) Blowup in diffusion equations: a survey. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 3–22. (Summary) **99g:35061** 35K57 (35B05, 65Mxx)

— (*with* Lin, Yanping; Zhang, Shu Hua[3]) Higher accuracy methods for second-kind Volterra integral equations based on asymptotic expansions of iterated Galerkin methods. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 375–396. (Yury Petrovich Yatsenko) **99m:65244** 65R20 (45L05)

— (*with* Sizikov, V. S.) On a suboptimal filtration method for solving convolution-type integral equations of the first kind. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 292–308. (Summary) **99g:45013** 45L05 (45E10, 65R20)

— The use of splines in the numerical solution of differential and Volterra integral equations. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 15–31, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 65L60 (34A45, 45L05, 65–02, 65R20)

Brunner, Ilka (*with* Karch, Andreas) Branes at orbifolds versus Hanany-Witten in six dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 3, 25 *pp.* (*electronic*). (Angel Maria Uranga) **99d:81151** 81T60 (81T13, 81T30, 83E30)

— (*with* Karch, Andreas) Matrix description of M-theory on T^6. (English summary) *Phys. Lett. B* **416** (1998), *no.* 1-2, 67–74. (Sergey A. Cherkis) **99e:81180** 81T30 (83E30)

— (*with* Behrndt, Klaus; Gaida, Ingo) Entropy and conformal field theories of AdS_3 models. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 310–316. (Summary) **99c:83082** 83E30 (81T30, 81T40, 83C57)

Brunner, N. (*with* Howard, Paul E.; Rubin, Jean E.) Choice principles in Węglorz' models. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 97–121. (J. M. Plotkin) **99e:03033** 03E25 (00A30, 06E99, 46A22)

Brunner, S. (*with* Fivaz, M.; Tran, T. M.; Vaclavik, J.) Global approach to the spectral problem of microinstabilities in tokamak plasmas using a gyrokinetic model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3929–3949. (Summary) **99h:76096** 76X05 (76E25)

Brunnett, Guido (*with* Kiefer, Jörg) Two variational models of fair curves. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 55–65, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (93C85)

— (*with* Wendt, Jörg) Elastic splines with tension control. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 33–40, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65035** 65D17 (65D07)

Bruno, Alexander D. (*with* Varin, V. P.) The limit problems for the equation of oscillations of a satellite. (English summary) *Celestial Mech. Dynam. Astronom.* **67** (1997), *no.* 1, 1–40. (Summary) **99f:70029** 70K99 (34C15, 70M20)

— Power geometry. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 4, 471–491. (Summary) **99h:34060** 34C20 (12H20, 34A25, 34E05, 70F15, 70K99)

— (*with* Parusnikov, V. I.) Comparison of various generalizations of continued fractions. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 339–348; *translation in Math. Notes* **61** (1997), *no.* 3-4, 278–286. (Aleksander Grytczuk) **99d:11005** 11A55

— Algorithms of the local nonlinear analysis. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4683–4694. (Ahmadjon Soleev) **99g:34024** 34A25 (34C20)

— Normal forms. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 413–427. (Alain Jacquemard) **99g:34077** 34C20 (58F36)

— Newton polyhedra and power transformations. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 429–443. (Alain Jacquemard) **99g:34078a** 34C20 (34A45, 34E05, 35A30, 65L99)

— Erratum to: "Newton polyhedra and power transformations". *Math. Comput. Simulation* **48** (1998), *no.* 2, 235. (Alain Jacquemard) **99g:34078b** 34C20 (34A45, 34E05, 35A30, 65L99)

— *see also* **Simplification of systems of algebraic and differential equations with applications, 99a:00047**

Bruno, Oscar P. (*with* Sei, Alain) A fast high-order solver for problems of scattering by heterogeneous bodies. *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 270–274, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78–08 (78A45)

— (*with* Reitich, Fernando) Bounds on the effective elastic properties of martensitic polycrystals. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 51–62, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Summary) **99f:73008** 73B30 (73C99, 73S10)

Bruno, W. J. (*with* Knill, Emanuel; Torney, D. C.) Non-adaptive group testing in the presence of errors. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 261–290. (Ding Zhu Du) **99m:92021** 92D20

— (*with* Sun, Feng Zhu; Torney, D. C.) Optimizing nonadaptive group tests for objects with heterogeneous priors. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1043–1059 (*electronic*). (Summary) **99a:62115** 62K99

Brunovský, Pavol (*with* Poláčik, Peter) On the local structure of ω-limit sets of maps. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 976–986. (Eduard Feireisl) **99a:34143** 34D05 (47H99, 58C30, 58F99)

— S-shaped bifurcation of a singularly perturbed boundary value problem. *J. Differential Equations* **145** (1998), *no.* 1, 52–100. (P. W. Bates) **99i:34066** 34C37 (34B15, 34C23, 34E15, 35Q99)

Bruns, Arno (*with* Klose, Andreas) A "locate first—route second" heuristic for a combined location-routeing problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 49–54, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B80 (90C35)

Bruns, Gunter (*with* Harding, John) Amalgamation of ortholattices. (English summary) *Order* **14** (1997/98), *no.* 3, 193–209. (Jānis Cīrulis) **99f:06014** 06C15 (03G12, 08B25)

Bruns, Winfried (*with* Boffi, G.; Guerrieri, Anna) On the Jacobian ideal of a trilinear form. *J. Algebra* **197** (1997), *no.* 2, 521–534. (Aldo Conca) **99c:13027** 13C40

— (*with* Gubeladze, Joseph; Ngô Viêt Trung) Normal polytopes, triangulations, and Koszul algebras. *J. Reine Angew. Math.* **485** (1997), 123–160. (G. Ewald) **99c:52016** 52B20 (13F99, 13P10, 14M25, 16S36)

— (*with* Vetter, Udo) A remark on Koszul complexes. *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 249–254. (Jaime-Luis Garcia-Roig) **99g:13024** 13D25

— (*with* Conca, Aldo) KRS and powers of determinantal ideals. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 111–122. (Ngô Viêt Trung) **99e:13017** 13C40 (05E10, 13A30, 13P10)

— (*with* Conca, Aldo) F-rationality of determinantal rings and their Rees rings. *Michigan Math. J.* **45** (1998), *no.* 2, 291–299. (Ngô Viêt Trung) **99g:13016** 13C40 (13A35, 13F50)

— (*with* Guerrieri, Anna) The Dedekind-Mertens formula and determinantal rings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 657–663. (Alberto Corso)

99f:13013 13C40 (13C14, 13D40, 13P10)

van-Brunt, Bruce (*with* Little, Charles H. C.) A condition for a normal semicycle to separate an orientable 3-graph. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 330–337, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99g:05116** 05C38 (05C40)

Brusco, Michael J. (*with* Jacobs, Larry W.; Thompson, Gary M.) A morphing procedure to supplement a simulated annealing heuristic for cost- and coverage-correlated set-covering problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 611–627. (*see* **99k:90002**) 90C27 (90C35)

Brusdal, K. (*with* Karlsen, Kenneth Hvistendahl; Dahle, H. K.; Evje, S.; Lie, Knut-Andreas) The corrected operator splitting approach applied to a nonlinear advection-diffusion problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 3-4, 239–260. (Summary) **99j:76090** 76M25 (76R50)

Brushe, Gary D. (*with* Mahony, Robert E.; Moore, John Barratt) A soft output hybrid algorithm for ML/MAP sequence estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3129–3140. (Summary) **99i:94007** 94A12

Brusoni, Vittorio (*with* Console, Luca; Terenziani, Paolo; Theseider Dupré, Daniele) A spectrum of definitions for temporal model-based diagnosis. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 39–79. 68T27

Bruss, F. Thomas Quick solutions for general best choice problems in continuous time. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 241–264. (S. M. Samuels) **99g:60082** 60G40 (62L15)

Brutman, Lev On rational interpolation to $|x|$ at the adjusted Chebyshev nodes. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 146–152. (Andrei Martínez Finkelshtein) **99h:41002** 41A05 (41A20, 41A25)

Brutyan, V. K. Uniform decoupling of time-dependent systems with application of output feedback. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 281–288 (1994). 93B52 (93B17)

— (*with* Sargsyan, V. V.) Some generalizations of the theory of linear synthesis of controlled systems. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 24–31. (Valery I. Korobov) **99k:49081** 49N35 (93C15)

Bruyère, Véronique (*with* Derencourt, Denis; Latteux, Michel) The meet operation in the lattice of codes. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 117–129. (Dong Yang Long) **99c:68150** 68Q45 (20M05, 68R15)

— (*with* Reutenauer, Christophe) A proof of Choffrut's theorem on subsequential functions. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 329–335. (From the text) **99m:68129** 68Q70 (68Q45)

le Bruyn, Lieven *see* **Le Bruyn, Lieven**

de Bruyne, Franky *see* **De Bruyne, Franky**

Bruyninckx, H. (*with* De Schutter, Joris) Unified kinetostatics for serial, parallel and mobile robots. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 343–352, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Bruynooghe, Maurice (*with* Ramon, Jan) A framework for defining distances between first-order logic objects. (English summary) *Inductive logic programming (Madison, WI, 1998)*, 271–280, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68T05 (03B70)

Bruzón, M. S. Classical and nonclassical symmetries of a generalized Korteweg-de Vries equation. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 389–394, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35Q53 (35A30)

— (*with* Gandarias-Núñez, M. L.) Classical and nonclassical symmetries of a generalized Boussinesq equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 8–12. (Vladislav G. Dubrovsky) **99b:35183** 35Q53 (35A30)

Bruzual, Ramón Representation of measurable positive definite generalized Toeplitz kernels in **R**. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 251–260. (Aleksandr Koldobsky) **99c:42010** 42A82 (47A57, 47B35)

Bruzzo, Ugo (*with* Bartocci, Claudio; Hernández Ruipérez, Daniel) Moduli of reflexive $K3$ surfaces. *Complex analysis and geometry (Trento, 1995)*, 60–68, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Bangere P. Purnaprajna) **99e:14038** 14J10 (14J28)

— (*with* Bartocci, Claudio; Hernández Ruipérez, Daniel; Pestov, Vladimir G.) Quotient supermanifolds. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 107–120. (Fausto Ongay-Larios) **99i:58009** 58A50

— (*with* Bartocci, Claudio; Hernández Ruipérez, Daniel; Muñoz Porras, José María) Mirror symmetry on $K3$ surfaces via Fourier-Mukai transform. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 79–93. (Alexander E. Polishchuk) **99f:14046** 14J28 (14J27, 32G05, 32J81)

— (*with* Bartocci, Claudio; Hernández Ruipérez, Daniel) A hyper-Kähler Fourier transform. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 239–249. (Antony Maciocia) **99f:32049** 32L07 (14J28, 14J60, 32L25)

— (*with* Sanguinetti, Guido) Mirror symmetry on $K3$ surfaces as a hyper-Kähler rotation. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 4, 295–301. (Mark Gross) **99k:14064** 14J32 (14J28, 32J27, 53C25)

Bryan, Jim Seiberg-Witten theory and $\mathbf{Z}/2^p$ actions on spin 4-manifolds. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 165–183. (Paolo Lisca) **99f:57036** 57R57 (57M60, 57R95, 58G10)

Bryan, Kurt (*with* Vogelius, Michael) Effective behavior of clusters of microscopic cracks inside a homogeneous conductor. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 2, 141–179. (Jacqueline Mossino) **99f:73004** 73B27 (35B27, 78A99)

— (*with* Caudill, Lester F., Jr.) Stability and reconstruction for an inverse problem for the heat equation. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1429–1453. (Peter G. Danilaev) **99m:35258** 35R30 (35K05, 65M12)

Bryan, Ronald Are quarks and leptons dynamically confined in four flat extra dimensions? (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 232–242. (Summary) **99f:81220** 81V22 (81T13)

Bryans, Jeremy (*with* Pearson, Justin) Combining communicating sequential processes and temporal logic. (English and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **4** (1998), *no.* 2, 130–137. (Summary) **99h:68114** 68Q60

Bryant, C. F. (*with* Emson, C. R. I.; Simkin, J.; Trowbridge, C. W.; Nitta, K.) A comparison of Lorentz and Coulomb gauges in the solution of Maxwell's equations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 301–312, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78002** 78–08 (78A25)

Bryant, Darryn E. (*with* Maenhaut, Barbara M.) Defining sets of G-designs. (English summary) *Australas. J. Combin.* **17** (1998), 257–266. (Summary) **99a:05010** 05B05

— Large sets of Hamilton cycle and path decompositions. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 147–151. (Summary) **99j:05129** 05C45

— (*with* Diamond, Phil; Vladimirov, Igor) Generalized optimal lattice covering of finite-dimensional Euclidean space. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 311–324. (Stelian S. Dumitrascu) **99j:52022** 52C17 (52C15, 65Y25)

— (*with* Khodkar, A.) 5-cycle systems of $K_v - F$ with a hole. (English summary) *Util. Math.* **54** (1998), 59–73. (Summary) **99g:05020** 05B05 (05C38)

— (*with* Khodkar, A.; El-Zanati, S. I.) Small embeddings for partial G-designs when G is bipartite. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 86–90. (Summary) **99m:05017** 05B05 (05C38)

— (*with* Adams, Peter; Khodkar, A.) On the number of repeated triples in balanced ternary designs with index two. (English summary) *Util. Math.* **55** (1999), 55–64. (Summary) **99m:05016** 05B05

Bryant, R. M. *see* **Bryant, Roger M.**

Bryant, Robert L. On extremals with prescribed Lagrangian densities. *Manifolds and geometry (Pisa, 1993)*, 86–111, *Sympos. Math., XXXVI, Cambridge Univ. Press, Cambridge*, 1996. (Caio J. C. Negreiros) **99a:58043** 58E20 (53C42)

— *see also* **Russell, Thomas, 99f:90029**

Bryant, Roger M. (*with* Roman'kov, V. A.) The automorphism groups of relatively free algebras. *J. Algebra* **209** (1998), *no.* 2, 713–723. (J. R. J. Groves) **99k:20073** 20F28

Bryant, Victor A result on tournaments deduced from a marriage theorem. (English summary) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A (Arad, 1996)*, 9–12, *"Aurel Vlaicu" Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 05A05 (05C20)

Bryce, R. A. (*with* Cossey, John) A note on groups with Hamiltonian quotients. (English summary) *Rend. Sem. Mat. Univ. Padova* **100** (1998), 1–11. (Andreas Caranti) **99k:20042** 20D15 (20D25, 20F14)

Brydon, David (*with* Pearson, John E.; Marder, Michael) Solving stiff differential equations with the method of patches. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 280–298. (Summary) **99d:65203** 65L05

Brykalov, S. A. Cauchy-Nicoletti boundary conditions help study nonlinear functional ones. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 29–38. (Tadeusz Dłotko) **99g:34045** 34B10 (34B15, 34K10)

Bryksina, N. A. (*with* Sheplev, V. S.; Slin'ko, M. G.) An algorithm for computing Lyapunov quantities in the analysis of chemical self-induced oscillations. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6, 789–792. 34C99 (92E20)

Bryla, Philippe AS-Descartes: a ray-tracing code, including diffraction capabilities for the RCS calculation of complex targets. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 275–300, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Brylinski, Jean-Luc (*with* McLaughlin, D. A.) The converse of the Segal-Witten reciprocity law. *Internat. Math. Res. Notices* **1996**, *no.* 8, 371–380. (Alan L. Carey) **99c:58026** 58D29 (22E67, 58B25)

— (*with* Bressler, Paul) On the singularities of theta divisors on Jacobians. *J. Algebraic Geom.* **7** (1998), *no.* 4, 781–796. (José M. Muñoz Porras) **99i:14034** 14H42 (14F32)

— (*with* Zuckerman, Gregg J.) The outer derivation of a complex Poisson manifold. (English summary) *J. Reine Angew. Math.* **506** (1999), 181–189. (Johannes Huebschmann) **99k:58064** 58F05 (32S65)

— *see also* **Advances in geometry, 99h:00015**

Brylinski, Ranee Quantization of the 4-dimensional nilpotent orbit of SL(3, **R**). (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 916–943. (Harald Upmeier) **99b:58102** 58F06 (22E46)

— *see also* **Advances in geometry, 99h:00015**

Bryniarski, Edward (*with* Bonikowski, Zbigniew; Wybraniec-Skardowska, Urszula) Extensions and intentions in the rough set theory. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 149–167. (Janusz J. Szuster) **99f:04003** 04A72

Bryuno, A. D. *see* **Bruno, Alexander D.**

Brzdęk, Janusz On orthogonally exponential functionals. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 247–267. (John A. Baker) **99c:39035** 39B52

Brzezina, M. (*with* Antoch, Jaromír; Linka, A.) Asymptotic approximation of Bayes risk of estimators of reliability for exponentially distributed data. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 241–253. (Mohamed E. Ghitany) **99b:62044** 62G05 (62F15, 62N05)

Brzeziński, Tomasz Remarks on quantum principal bundles. (English summary) *Quantum groups (Karpacz, 1994)*, 3–11, *PWN, Warsaw*, 1995. (Pavel Šťovíček) **99j:58017** 58B30 (17B37)

— (*with* Merabet, Houari) Nahm's equations and root systems. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1101–1106. (Conor J. Houghton) **99g:53029** 53C07 (81T13)

— Quantum homogeneous spaces and coalgebra bundles. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 179–185. (Władysław Marcinek) **99e:58012** 58B30 (16W30, 17B37, 81R50)

— (*with* Majid, Shahn) Coalgebra bundles. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 467–492. (Andreas Cap) **99d:58021** 58B30 (16W30)

Brzeźniak, Zdzisław (*with* Elworthy, K. D.) Stochastic flows of diffeomorphisms. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 107–138, *World Sci. Publishing, River Edge, NJ*, 1996. (Ming Liao) **99b:60077** 60H10 (58G32)

— (*with* Albeverio, Sergio; Haba, Z.) On the Schrödinger equation with potentials which are Laplace transforms of measures. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 65–82. (Summary) **99k:35152** 35Q40 (58D30, 81Q05)

Brzoska, Christoph Programming in metric temporal logic. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 55–125. (Neculai Curteanu) **99e:68015** 68N17 (03B45, 03B70, 68Q55, 68T15, 68T27)

Brzozowski, J. A. (*with* Lou, J. J.; Negulescu, R.) A characterization of finite ternary algebras. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 713–721. (Wiesław A. Dudek) **99d:06014** 06D30

— (*with* Shi, C.-J.) A characterization of signed hypergraphs and its applications to VLSI via minimization and logic synthesis. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 223–243. (Italo José Dejter) **99m:68155** 68R10 (05C85, 68Q35, 94C10)

Bshouty, Daoud (*with* Hengartner, Walter) Boundary values versus dilatations of harmonic mappings. (English summary) *J. Anal. Math.* **72** (1997), 141–164. (Abdallah Lyzzaik) **99c:30061** 30D40 (30C55, 31A05)

— (*with* Bshouty, Nader H.) On interpolating arithmetic read-once formulas with exponentiation. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 112–124. (Summary) **99b:68139** 68Q99 (68T05)

Bshouty, Nader H. (*with* Mansour, Yishay) Simple learning algorithms for decision trees and multivariate polynomials. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 304–311, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05

— (*with* Burroughs, Lynn) Massaging a linear programming solution to give a 2-approximation for a generalization of the vertex cover problem. (English summary) *STACS 98 (Paris, 1998)*, 298–308, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:90071** 90C08 (90C35)

— (*with* Tamon, Christino; Wilson, David K.) Learning matrix functions over rings. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 91–111. (Nicolae Ţăndăreanu) **99j:68114** 68T05 (13E10)

— (*with* Tamon, Christino; Wilson, David K.) On learning width two branching programs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 217–222. (Summary) **99a:68141** 68T05 (68Q99)

— (*with* Goldman, Sally A.; Mathias, H. David; Suri, Subhash; Tamaki, Hisao) Noise-tolerant distribution-free learning of general geometric concepts. (English summary) *J. ACM* **45** (1998), *no.* 5, 863–890. (Summary) **99m:68159** 68T05 (68Q99)

— On the direct sum conjecture in the straight line model. (English summary) *J. Complexity* **14** (1998), *no.* 1, 49–62. (Summary) **99c:13056** 13P99

— (*with* Bshouty, Daoud) On interpolating arithmetic read-once formulas with exponentiation. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 112–124. (Summary) **99b:68139** 68Q99 (68T05)

— (*with* Hellerstein, Lisa) Attribute-efficient learning in query and mistake-bound models. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 310–319. (Sanjay Jain) **99g:68169** 68T05 (68Q99)

— (*with* Cleve, Richard) Interpolating arithmetic read-once formulas in parallel. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 401–413 (*electronic*). (Summary) **99b:68086** 68Q20 (68T05)

— (*with* Goldberg, Paul W.; Goldman, Sally A.; Mathias, H. David) Exact learning of discretized geometric concepts. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 675–700 (*electronic*). (Summary) **99e:68065** 68Q25 (68T05)

— (*with* Jackson, Jeffrey C.) Learning DNF over the uniform distribution using a quantum example oracle. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1136–1153 (*electronic*). (Summary) **99k:68049** 68Q05 (68T05)

Bu, Charles On the forced nonlinear systems. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 45–53, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 35Q55

Bu, Guan Ying The equivalence problem for Costas arrays. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 1, 29–33. (Summary) **99c:05038** 05B20

Bu, Juanyu (*with* Sznaier, Mario) Mixed $l_1/\mathscr{H}_\infty$ control of MIMO systems via convex optimization. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1229–1241. (Takehiro Mori) **99f:93051** 93B36 (93B40)

Bu, Qing Ying (*with* Ren, Li Wei[2]; Ye, Yi Ning) Weak sequential completeness of Bochner function spaces $L_p(\mu, X)$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 559–564. (Summary) **99e:46046** 46E40

Bu, Shangquan (*with* Guerre-Delabrière, Sylvie) Imaginary powers and interpolation spaces of unbounded operators. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 91–100 (1997). (Alberto Venni) **99c:47018** 47A60 (46M35, 47D06)

— The analytic Krein-Milman property in Banach spaces. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 17–24. (G. M. Ustinov) **99e:46024** 46B22 (46G20)

— (*with* Clément, Philippe; Guerre-Delabrière, Sylvie) Regularity of pairs of positive operators. *Illinois J. Math.* **42** (1998), *no.* 3, 357–370. (Alberto Venni) **99i:47019** 47A50 (34G10, 46B99, 46M35, 47A05, 47N20)

— The existence of Jensen boundary points in complex Banach spaces. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 8–12. (John R. Giles) **99m:46048** 46B22 (46B20)

Bu, Yuehua (*with* Zhang, Ke Min[1]) On the exponent set of primitive locally semicomplete digraphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 377. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 267–286. (Yong Bing Shi) **99a:05060** 05C20

Buan, Aslak Bakke (*with* Solberg, Øyvind) Relative cotilting theory and almost complete cotilting modules. *Algebras and modules, II (Geiranger, 1996)*, 77–92, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Flávio Ulhoa Coelho) **99i:16022** 16G10 (16E10, 16G70)

Bub, Jeffrey ★ Interpreting the quantum world. (English summary) *Cambridge University Press, Cambridge*, 1997. xiv+298 *pp. ISBN* 0-521-56082-9 (Paul Busch) **99f:81006** 81Pxx (00A30, 00A79, 81–02)

Bube, Kenneth P. (*with* Brookes, Robert W.) Convergence of numerical methods for inverse problems with general input sources. (English summary) *Inverse problems in wave propagation (Minneapolis, MN, 1995)*, 45–83, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Guan Quan Zhang) **99a:65111** 65M30 (73D50, 86A22)

— (*with* Wiegmann, Andreas) The immersed interface method for nonlinear differential equations with discontinuous coefficients and singular sources. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 177–200 (*electronic*). (Jian-Ping Zhu) **99c:65162** 65M06 (76M20)

Bubley, Russ (*with* Dyer, Martin E.) Faster random generation of linear extensions. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 350–354, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 06A07, 52B55, 90C35)

— (*with* Dyer, Martin E.; Greenhill, Catherine) Beating the 2Δ bound for approximately counting colourings: a computer-assisted proof of rapid mixing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 355–363, *ACM, New York*, 1998. (*see* **99d:68011**) 05C15 (05C85, 68Q25, 90C35)

Bublik, B. N. On a problem of the stabilization of an oscillatory distributed two-dimensional system. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 163–166, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 589–592 (1998). (Ján Lovišek) **99d:93052** 93D15 (35L05, 93C20)

Bublik, G. F. (*with* Ivanov, Yu. E.) Analysis of discretization methods for continuous dynamical systems in modeling and control problems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 83–95, 158. 93B40 (93A30)

Bublik, Vasilii Vitalievich Invariant solutions of rank 1 of equations of plane motions of a viscous heat-conducting gas. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 3, 26–31; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 3, 351–356. (From the text) **99e:76100** 76N15 (35Q35)

Bubner, Nikolaus (*with* Sprekels, Jürgen) Optimal control of martensitic phase transitions in a deformation-driven experiment on shape memory alloys. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 299–325. (Matthias Wilhelm Winter) **99e:49006** 49J20 (35Q72, 49K20, 73B30)

— (*with* Sokołowski, Jan; Sprekels, Jürgen) Optimal boundary control problems for shape memory alloys under state constraints for stress and temperature. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 489–498. (Bernard Rousselet) **99k:49085** 49Q10 (73B30, 73K50, 93C20)

Bubnicki, Zdzisław Knowledge updating in a class of knowledge-based learning control systems. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 19–36 (1998). 93E35 (93C83)

— *see also* **Birthday: Bubnicki, Zdzisław**

Bubnov, B. M. (*with* Linden, Paul F.) Diffusion stratification in a rotating linearly-stratified fluid. *Fluid Dynam.* **33** (1998), *no.* 2, 201–208; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gazu* **1998**, *no.* 2, 58–67 (*Russian. Russian summary*). 76-05 (76U05, 76V05)

Bubnov, Ivan Grigor'evich *see* **Grigolyuk, È. I.**

Bucalo, Anna (*with* Rosolini, Giuseppe) Lifting. (English summary) *Category theory and computer science (Santa Margherita Ligure, 1997)*, 281–292, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99g:18003** 18B99 (68Q99)

— (*with* Rosolini, Giuseppe) Repleteness and the associated sheaf. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 147–151. (Summary) **99k:18005** 18B25 (18A40, 18D15, 18F20)

Bucătaru, Ioan (*with* Anastasiei, Mihai) A notable submersion in the higher order geometry. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995)*, 1–10, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Vladimir Balan) **99h:53097** 53C60

— Characterizations of nonlinear connection in higher order geometry. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 13–22. (L. Tamássy) **99k:53033** 53C05 (58A20)

— (*with* Anastasiei, Mihai) Jacobi fields in generalized Lagrange spaces. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 689–695. (Zoltan Kovacs) **99k:53024** 53B40 (53C99)

Buccafurri, Francesco (*with* Leone, Nicola; Rullo, Pasquale) Strong and weak constraints in disjunctive Datalog. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 2–17, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68026** 68N17 (68P15)

di Bucchianico, Alessandro *see* **Di Bucchianico, Alessandro**

Bucci, Francesca Singular perturbation for controlled wave equations. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 3, 15 *pp.* (*electronic*). (Summary) **99h:93056** 93C20 (35B25, 35L05)

— (*with* Pandolfi, Luciano) The value function of the singular quadratic regulator problem with distributed control action. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 115–136 (*electronic*). (Dan Tiba) **99f:49004** 49J20 (49K40, 49N10)

Bucciarelli, Antonio (*with* Salvo, Ivano) Totality, definability and Boolean circuits. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 808–819, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q55 (68N15)

Buchanan, J. Robert Discontinuous forcing of periodic solutions in $\mathscr{E}^1$ vector fields with applications to population models. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Natur. Resource Modeling* **11** (1998), *no.* 1, 5–19. (Summary) **99d:34067** 34C25 (34C29, 92D25)

— Asymptotic behavior of two interacting pioneer/climax species. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 51–63, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:92040** 92D40 (34C23, 34C25, 92D25)

Buchanan, James L. (*with* Gilbert, Robert Pertsch; Xu, Yongzhi) Green's function representation for acoustic pressure over a poroelastic seabed. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 57–68. (Summary) **99j:76111** 76Q05 (86A05)

— (*with* Gilbert, Robert Pertsch) Comparison of the parabolic approximation with residue calculus in ocean acoustics. (English summary) *Generalized analytic functions (Graz, 1997)*, 241–253, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:76103** 76Q05 (86A05)

— (*with* Gilbert, Robert Pertsch) Determination of the coefficients of an elastic seabed. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 75–86. (Summary) **99a:73057** 73D50 (86A22)

Buchbinder, E. I. *see* **Bukhbinder, E. I.**

Buchbinder, I. L. *see* **Bukhbinder, I. L.**

Buchbinder, Ioseph L. *see* **Bukhbinder, I. L.**

Buchel, Alex (*with* Argyres, Philip C.) The nonperturbative gauge coupling of $N = 2$ supersymmetric theories. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 180–184. (Summary) **99h:81202** 81T60 (81T13)

Bucher, Christian (*with* Matthies, Hermann G.) Finite elements for stochastic media problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 3–17. 65N30 (73K35, 73V05)

Bucher, I. Exact adjustment of dynamic forces in presence of non-linear feedback and singularity—theory and algorithm. (English summary) *J. Sound Vibration* **218** (1998), *no.* 1, 1–27. 93D15 (70K99, 70Q05)

Buchheit, M. (*with* Donini, Francesco M.; Nutt, Werner; Schaerf, Andrea) A refined architecture for terminological systems: terminology=schema+views. (English summary) *Artificial Intelligence* **99** (1998), *no.* 2, 209–260. (Summary) **99a:68161** 68T30 (68Q15)

Buchholz, Artur L_∞-Khintchine-Bonami inequality in free probability. (English summary) *Quantum probability (Gdańsk, 1997)*, 105–109, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Dimitri Y. Shlyakhtenko) **99k:46112** 46L50 (46L05, 60E99)

— Norm of convolution by operator-valued functions on free groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1671–1682. (George A. Willis) **99i:43007** 43A30 (43A65)

Buchholz, Detlev (*with* Doplicher, Sergio; Morchio, Gianni; Roberts, John E.; Strocchi, Franco) A model for charges of electromagnetic type. *Operator algebras and quantum field theory (Rome, 1996)*, 647–660, *Internat. Press, Cambridge, MA*, 199?. (Władysław Adam Majewski) **99a:81092** 81T05 (46L60)

— (*with* Ojima, Izumi) Spontaneous collapse of supersymmetry. (Japanese. Japanese summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 117–130. (*see* **99b:00018**) 81R40 (46N50, 81T05, 81T60)

— Scaling algebras in local relativistic quantum physics. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 109–112 (*electronic*). (Gerald Hofmann) **99m:81123** 81T05 (46L60)

— (*with* Verch, R.) Scaling algebras and renormalization group in algebraic quantum field theory. II. Instructive examples. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 775–800. (Stephen J. Summers) **99j:81097** 81T05 (46L60, 81T10, 81T17)

Buchholz, Ralph H. (*with* Rathbun, Randall L.) Heron triangles and elliptic curves. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 411–421. (Andrew Bremner) **99h:11026** 11D25 (11G05, 51M04)

Buchholz, Thomas (*with* Kutrib, Martin) On time computability of functions in one-way cellular automata. (English summary) *Acta Inform.* **35** (1998), *no.* 4, 329–352. (Summary) **99k:68115** 68Q80 (03D05, 03D15)

Buchholz, Wilfried Explaining Gentzen's consistency proof within infinitary proof theory. *Computational logic and proof theory (Vienna, 1997)*, 4–17, *Lecture Notes in Comput. Sci.*, 1289, *Springer, Berlin*, 1997. (Christian Bennet) **99h:03035** 03F15 (03F05, 03F25, 03F30)

— An intuitionistic fixed point theory. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 1, 21–27. (Constantine Dimitracopoulos) **99c:03090** 03F30 (03F55)

Buchinsky, Moshe (*with* Hahn, Jinyong) An alternative estimator for the censored quantile regression model. (English summary) *Econometrica* **66** (1998), *no.* 3, 653–671. (Summary) **99e:62039** 62G05 (62P20)

Buchmann, Johannes (*with* Eisenbrand, Friedrich) On factor refinement in number fields. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 345–350. (Michel Olivier) **99e:11155** 11Y40 (11R04, 11R27)

Buchner, Klaus (*with* Gerstner, Manfred) The topology of differential spaces. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 101–111. (From the introduction) **99e:58008** 58A40

— (*with* Craioveanu, Mircea; Puta, Mircea) Recent progress in the integration of Poisson systems via the mid-point rule and Runge-Kutta algorithm. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 9–19. (Ram Krishan Sharma) **99d:70003** 70–08 (65L06, 70H05)

— (*with* Abdel-Megied, M.; Gad, R. M. M.) Topologie und Verklebung singulärer Raum-Zeiten. (English summary) [Topology and glueing of singular space-times] *Proceedings of the 4th International Congress of Geometry (Thessaloniki, 1996)*, 57–68, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Wiesław Sasin) **99a:58006** 58A40 (83C99)

— (*with* Hartkorn, K.) On causality in the exterior Schwarzschild space-time. Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 767–773. (Volker Perlick) **99i:83060** 83C57 (83C15, 83C75)

Buchsbaum, Adam L. (*with* Giancarlo, Raffaele) Algorithmic aspects in speech recognition: an introduction. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 44 *pp.* (*electronic*). (Summary) **99f:68168** 68S05 (68T10)

— (*with* Abello, James; Westbrook, Jeffery R.) A functional approach to external graph algorithms. (English summary) *Algorithms—ESA '98 (Venice)*, 332–343, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85, 68Q20, 68Q25)

— (*with* Giancarlo, Raffaele; Westbrook, Jeffery R.) On the determinization of weighted finite automata. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 482–493, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q45 (68T99)

Buchsbaum, David A. Intertwined with Maurice. *Representation theory and algebraic geometry (Waltham, MA, 1995)*, 31–43, *London Math. Soc. Lecture Note Ser.*, 238, *Cambridge Univ. Press, Cambridge*, 1997. (From the text) **99g:20078** 20G05 (01A70, 13-03, 13D25)

— Letter-place methods and homotopy. *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 41–62, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Stuart Martin) **99e:20055** 20G05 (13D25)

Buchstaber, V. M. *see* **Bukhshtaber, V. M.**

Buchstaber, Victor M. *see* **Bukhshtaber, V. M.**

Buchukuri, Tengiz (*with* Gegelia, Tengiz) Some dynamic problems of the theory of electroelasticity. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **10** (1997), 1–53. (From the introduction) **99e:73029** 73C02 (35Q72, 73D30, 73R05)

— Tengiz Gegelia's 70th birthday anniversary. *Mem. Differential Equations Math. Phys.* **15** (1998), 1–5. (Editors) **99m:01044** 01A70

Buchwald, V. T. (*with* Viera, F.) Linearised evaporation from a soil of finite depth above a water table. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 557–576. (Summary) **99a:76144** 76S05 (86A05)

— *see also* **Sloan, Ian H.**

Buchwalter, S. A. (*with* Moylan, Patrick Joseph) Representations of the Poincaré Lie algebra from unitary representations of SO(1, 4). (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2264–2272. (A. J. Coleman) **99d:17008** 17B10 (81R05)

Buchynchyk, Violeta V. On symmetries of a generalized diffusion equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 237–240, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35K99 (35A30)

Buck, Gregory (*with* Simon, Jonathan K.) Thickness and crossing number of knots. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 245–257. (Sadayoshi Kojima) **99k:57026** 57M25

Buckdahn, Rainer (*with* Hu, Ying) Hedging contingent claims for a large investor in an incomplete market. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 239–255. (Rüdiger Kiesel) **99h:90013** 90A09 (60H30)

— (*with* Peng, Shige; Quincampoix, Marc; Rainer, Catherine) Existence of stochastic control under state constraints. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 17–22. (Summary) **99h:49029** 49J55

— (*with* Hu, Ying) Probabilistic approach to homogenizations of systems of quasilinear parabolic PDEs with periodic structures. *Nonlinear Anal.* **32** (1998), *no.* 5, 609–619. (Katsuyuki Ishii) **99g:35017** 35B27 (35K55)

Bücker, H. M. (*with* Sauren, M.) On deriving the quasi-minimal residual method. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 922–926 (*electronic*). (Summary) **99g:65043** 65F10

Bucki, Andrzej Product submanifolds of almost r-paracontact Riemannian manifolds of P-Sasakian type. (English summary) *Soochow J. Math.* **24** (1998), *no.* 4, 255–259. (Domingo Chinea) **99k:53050** 53C15 (53C25)

Bucklew, James The blind simulation problem and regenerative processes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2877–2891. (Summary) **99j:65005** 65C05 (60F10, 60G35)

Buckley, James J. (*with* Hayashi, Yoichi) Applications of fuzzy chaos to fuzzy simulation. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 151–157. 90C70

— (*with* Siler, W.) A new t-norm. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 283–290. (Summary) **99g:03055** 03E72

— Corrigendum: "Stability and the fuzzy controller" [Fuzzy Sets and Systems **77** (1996), no. 2, 167–173]. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 377–379. 93C42 (93D05)

— (*with* Feuring, Thomas; Lippe, Wolfram-M.; Tenhagen, Andreas) Stability analysis of neural net controllers using fuzzy neural networks. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 303–313. (*see* **99k:93004**) 93C42 (93D05)

— (*with* Hayashi, Yoichi) Can neural nets be universal approximators for fuzzy functions? (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 323–330. (Summary) **99j:68115** 68T05 (03E72)

— (*with* Feuring, Thomas; Hayashi, Yoichi) Neural net solutions to fuzzy linear programming. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 99–111. 90C70 (68T05)

Buckley, Stephen M. Pointwise multipliers for reverse Hölder spaces. II. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 193–204. (A. È. Djrbashian) **99k:42039** 42B25 (46E15)

— (*with* Koskela, Pekka) New Poincaré inequalities from old. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 251–260. (Seng-Kee Chua) **99a:46057** 46E35

— Strong doubling conditions. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 533–542. (Joan Orobitg) **99g:28007** 28A75 (42B20)

Bucko, Jozef (*with* Frick, Marietjie; Mihók, Peter; Vasky, Roman) Uniquely partitionable graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 103–113. (Summary) **99b:05107** 05C70

— (*with* Mihók, Peter; Voigt, Margit) On uniquely partitionable planar graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 149–158. (A. G. Thomason) **99h:05029** 05C10 (05C15)

Buckwar, Evelyn (*with* Luchko, Yurii F.) Invariance of a partial differential equation of fractional order under the Lie group of scaling transformations. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 81–97. (Summary) **99h:35007** 35A30

Bucur, Dorin (*with* Zolésio, Jean-Paul) Anatomy of the shape Hessian via Lie brackets. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 127–143. (Maïtine Bergounioux) **99d:49073** 49Q10 (58E25)

— (*with* Zolésio, Jean-Paul) Wiener's criterion and shape continuity for the Dirichlet problem. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 757–771. (Neil A. Watson) **99b:35037** 35J25 (31B20, 35B35, 49Q10)

— (*with* Buttazzo, Giuseppe; Henrot, Antoine) Existence results for some optimal partition problems. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 571–579. (Muthusamy Vanninathan) **99k:49004** 49J10 (35J99, 49Q10)

— Concentration-compacité et γ-convergence. (English and French summaries) [Concentration-compactness principle and γ-convergence] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 255–258. (Kamel Hamdache) **99h:35017** 35B27 (35J15, 49J45)

— (*with* Zolésio, Jean-Paul) Spectrum stability of an elliptic operator to domain perturbations. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 19–30. (Vladimir Tulovsky) **99i:35115** 35P05 (35J25, 49K20)

— (*with* Trebeschi, Paola) Shape optimisation problems governed by nonlinear state equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 945–963. (Sergei Pavlovich Ohezin) **99i:49048** 49Q10 (49J45)

Bucur, Gheorghe (*with* Boboc, Nicu) Potential theory on ordered sets. (English summary) *Analysis and topology*, 165–190, *World Sci. Publishing, River Edge, NJ*, 1998. (Eugen Popa) **99m:31018** 31D05 (06A06)

— (*with* Boboc, Nicu) Characterization of Dirichlet forms by their excessive and co-excessive elements. (English summary) *Potential Anal.* **8** (1998), *no.* 4, 345–357. (Zhi Ming Ma) **99f:31013** 31C25 (31C12, 31D05, 35J99)

Bucur, Liliana-Maria Sur la dynamique chaotique des quelques applications monotones sur morceaux. [Chaotic dynamic of some piecewise monotonic mappings] *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 44–49 (1995). 58F13 (26A18)
— Transitive random systems. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 36–41 (1998). 54H20 (58F11)
Buczkowski, Ryszard 21-node hexahedral isoparametric element for analysis of contact problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 681–692. 73V05 (65R20, 73T05)
Buczolich, Zoltán (*with* Pfeffer, Washek F.) When absolutely continuous implies σ-finite. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **8** (1997), *no.* 1-6, 155–160. (B. Bongiorno) **99i:28010** 28A75 (26B15, 26B30)
— (*with* Darji, Udayan B.; O'Malley, R. J.) Irrational rotations and differentiability. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 305–313. (Michael Evans) **99b:26005** 26A24
— Functions of two variables with large tangent plane sets. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 562–570. (V. V. Mykhaylyuk) **99b:26017** 26B05 (28A75)
— (*with* Pfeffer, Washek F.) On absolute continuity. *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 64–78. (B. Bongiorno) **99i:28011** 28A75 (26B15, 26B30)
— Lipschitz images with fractal boundaries and their small surface wrapping. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3589–3595. (Miguel Angel Martín) **99b:28007** 28A75 (28A80)
Budaev, Bair V. (*with* Bogy, D. B.) Rayleigh wave scattering by two adhering elastic wedges. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 2949–2996. (George Dassios) **99j:73042** 73D25
— (*with* Demeterscu, Christian; Constantinou, Constantinos C.; Mehler, Michel J.) TM electromagnetic scattering by a transparent wedge with resistive faces. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 47–54. (Summary) **99m:78011** 78A45
Budd, C. J. (*with* Humphries, A. R.; Wathen, Andrew J.) Finite element method solutions for semi-linear elliptic PDEs with critical Sobolev exponents on non-spherical 3D domains. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 418–425, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65N30
— (*with* Collins, G. J.) Symmetry based numerical methods for partial differential equations. (English summary) *Numerical analysis 1997 (Dundee)*, 16–36, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65113** 65L99 (65M99)
— (*with* Humphries, A. R.) Weak finite-dimensional approximations of semi-linear elliptic PDEs with near-critical exponents. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 3, 185–220. (Manil Suri) **99g:65109** 65N30 (34B15, 35C20, 35J60, 65N12)
— (*with* di Bernardo, Mario; Champneys, A. R.) Grazing, skipping and sliding: analysis of the non-smooth dynamics of the DC/DC buck converter. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 859–890. (Summary) **99c:34072** 34C23 (58F13, 94C05)
— (*with* Galaktionov, V. A.; Chen, Jianping) Focusing blow-up for quasilinear parabolic equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 965–992. (Ya Zhe Chen) **99h:35084** 35K55 (35B40, 35K65)
— (*with* Koomullil, G. P.; Stuart, Andrew M.) On the solution of convection-diffusion boundary value problems using equidistributed grids. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 591–618 (*electronic*). (André Nachbin) **99i:65100** 65M50 (65N50, 76M25, 76Rxx)
Budden, Tim A star in the Minkowskian sky: anisotropic special relativity. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 3, 325–361. (Jaume J. Carot) **99b:83007** 83C05 (00A79, 51P05)
— Geometric simultaneity and the continuity of special relativity. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 4, 343–357. (Summary) **99j:83003** 83A05
Budelli, Ruben Dynamics of neuron networks. (Spanish) *Chaos in Uruguay (Spanish)* (*Piriápolis*, 1996), 111–126, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 92B20
Budhiraja, Amarjit (*with* Kallianpur, Gopinath) Two results on multiple Stratonovich integrals. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 907–922. (David Nualart) **99b:60067** 60H05
— (*with* Kushner, Harold J.) Robustness of nonlinear filters over the infinite time interval. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1618–1637 (*electronic*). (O. A. Glonti) **99f:93133** 93E11 (60H10)
— A limit theorem for symmetric statistics of Brownian particles. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 155–174. (Marco Ferrante) **99h:60108** 60H05 (60H15, 60K35)
Budhraja, R. K. (*with* Bhatia, Davinder; Kumar, Narender) Duality for nonsmooth multiobjective fractional programs under generalized (F, ρ)-convexity. (English summary) *Opsearch* **35** (1998), *no.* 2, 115–126. 90C29 (49N15)
Budiansky, Bernard (*with* Fleck, N. A.; Amazigo, J. C.) On kink-band propagation in fiber composites. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 9, 1637–1653. 73D99 (73E70, 73K20, 73M25)
— On the minimum weights of compression structures. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 24, 3677–3708. (Summary) **99m:73056** 73K40
Budíková, Marie Confidence intervals for the kernel estimator of the regression function in the stochastic design model. *Summer Schools MATLAB 94, 95 Proceedings (Velké Karlovice, 1994; Čeřinek, 1995)*, 3–6, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math., 5, Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 62G15
— (*with* Horová, Ivana) Multivariate kernel estimators. (English summary) *Summer Schools MATLAB 94, 95 Proceedings (Velké Karlovice, 1994; Čeřinek, 1995)*, 7–16, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math., 5, Masaryk Univ., Brno*, 1997. (Summary) **99c:62096** 62G05
Budinčević, Mirko Oscillation of a second order neutral difference equation. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 1–8. (I. P. Stavroulakis) **99g:39001** 39A10
— Oscillation of second order neutral nonlinear differential equations. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 49–56. (Vladimir Sh. Burd) **99i:34095** 34K15 (34K40)
Budini, Adrián A. (*with* Cáceres, Manuel O.) The generalized Ornstein-Uhlenbeck process. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8427–8444. (Ioana-Carla Bîrzu) **99i:82030** 82C31
Budinich, P. On dual lattices in compactified phase space. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 905–914. (Summary) **99m:83158** 83C99 (81T20, 83F05)
Budkin, A. I. On maximal quasivarieties of groups. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 3, 279–290, 375; *translation in Algebra and Logic* **37** (1998), *no.* 3, 157–163. (Vladimir S. Anashin) **99m:20057** 20E10
Budoi, D. (*with* Tabirca, Tatiana; Vasilescu, Anca) Inductive engendering of Hamming-code-matrices. (English and Romanian summaries) *Bull. Transilv. Univ. Braşov Ser. B (N.S.)* **2(37)** (1995), 19–23. (Summary) **99d:94036** 94B05
Budrelko, E. N. Calendar of anniversaries. (Russian) *Voprosy Istor. Estestvoznan. i Tekhn.* **1998**, *no.* 3, 115–116. (Editors) **99m:01045** 01A70
Budzban, Gregory (*with* Beintema, Mark B.) Semigroups of binary stochastic matrices and convergence of nonhomogeneous Markov chains. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 348–358. (Göran Högnäs) **99k:60011** 60B15 (20M20, 60J10)
Buecker, Karsten On the control theorem for the symplectic group. (English summary) *Compositio Math.* **113** (1998), *no.* 1, 91–115. (Alexey A. Panchishkin) **99m:11056** 11F46 (11F67, 11F75, 11G18)
Buehrer, Daniel J. An object-oriented class algebra. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 669–685 (*electronic*). (*see* **99d:68010**) 68P15
Bueken, P. (*with* Vanhecke, Lieven) Weakly disk-homogeneous spaces. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 249–270. (Jürgen Berndt) **99h:53056** 53C25 (53C30)
Buekenhout, Francis La relation des groupes simples finis et de la géométrie d'incidence. [The relation of finite simple groups and incidence geometry] *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **8** (1997), *no.* 1-6, 121–125. (From the text) **99c:20011** 20D05 (20E42, 51E24)
— (*with* Dehon, Michel; Leemans, Dimitri) On flag-transitive incidence geometries of rank 6 for the Mathieu group M_{12}. (English summary) *Groups and geometries (Siena, 1996)*, 39–54, *Trends Math., Birkhäuser, Basel*, 1998. (Barbara Baumeister) **99m:51017** 51E24 (20D08)
— (*with* Cara, Philippe) Some properties of inductively minimal geometries. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 213–219. (J. Cofman) **99f:51020** 51E24
— (*with* Dehon, Michel; Cara, Philippe) Geometries of small almost simple groups based on maximal subgroups. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **1998**, *suppl., ii*+128 *pp.* (Antonio Pasini) **99c:51017** 51E24 (20D06)
— (*with* Parker, Monique) The number of nets of the regular convex polytopes in dimension ≤ 4. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 69–94. (P. McMullen) **99f:52015** 52B15
— *see also* **Finite geometry and combinatorics, 99a:51001**
Bueler, Edward L. The heat kernel weighted Hodge Laplacian on noncompact manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 683–713. (Jürgen Eichhorn) **99d:58164** 58G05 (58G11, 58G25)
gamboa de Buen, Berta *see* **Gamboa de Buen, Berta**
Buendía, Enrique[1] (*with* Álvarez-Nodarse, Renato; Dehesa, Jesús S.) The distribution of zeros of general q-polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6743–6768. (Mizan Rahman) **99a:33011** 33D45
Bueno, F. (*with* Muthukumar, K.; García de la Banda, Maria; Hermenegildo, Manuel) Automatic compile-time parallelization of logic programs for restricted, goal level, independent and-parallelism. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 165–218. (Summary) **99h:68032** 68N17 (68N20)
pérez Bueno, J. C. *see* **Pérez Bueno, J. C.**
Bueno, Otávio (*with* da Costa, Newton C. A.; Béziau, Jean-Yves) Paraconsistent logic in a historical perspective. *Logique et Anal. (N.S.)* **38** (1995), *no.* 150-152, 111–125. (Henri Volken) **99f:03025** 03B53 (01A60, 03–03)
— (*with* de Souza, Edelcio G.) The concept of quasi-truth. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 183–199. (Ignacio Angelelli) **99m:03007** 03A05
— (*with* Krause, Décio; Béziau, Jean-Yves) Structure in science. (Portuguese. English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 91–111 (1998). (Summary) **99g:00026** 00A35 (00A30)
— Empirical adequacy: a partial structures approach. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 4, 585–610. (Lawrence Sklar) **99c:00004** 00A30
— (*with* da Costa, Newton C. A.; French, Steven) Is there a Zande logic? (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 1, 41–54. (Summary) **99a:03031** 03B60
morales-Bueno, R. *see* **Morales-Bueno, R.**
Buescu, Jorge ★ Exotic attractors. (English summary) From Liapunov stability to riddled basins. Progress in Mathematics, 153. *Birkhäuser Verlag, Basel*, 1997. xiv+130 *pp. ISBN* 3-7643-5793-2 (Alexander Loskutov) **99f:58135** 58F12 (58–01, 58F03, 58F13, 58F15)
— Transverse instability of attractors in invariant submanifolds. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 288–294, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 58F12
Bueso, José L. (*with* Gómez Torrecillas, José; Lobillo, F. J.; Castro-Jiménez, Francisco Jesús) An introduction to effective calculus in quantum groups. *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 55–83, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Şerban Raianu) **99g:16046** 16W30 (16P90)
Buet, Christophe (*with* Dellacherie, Stéphane; Sentis, Rémi) Résolution numérique d'une équation de Fokker-Planck ionique avec température électronique. (English and French summaries) [Numerical solution of an ionic Fokker-Planck equation with electronic temperature] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 93–98. (Summary) **99e:82066** 82C31 (65M99)
— (*with* Cordier, Stéphane; Degond, Pierre) Regularized Boltzmann operators. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 55–74. (Nicola Bellomo) **99b:82081** 82C40 (47N55, 76P05)
— (*with* Cordier, Stéphane) Conservative and entropy decaying numerical scheme for the isotropic Fokker-Planck-Landau equation. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 228–245. (Victor I. Stepanov) **99h:82054** 82C31 (65M99, 82D10)
Bufardi, Ahmed On the fuzzification of the classical definition of preference structure. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 323–332. 90C70 (03E72)

Buff, Xavier Ensembles de Julia de mesure positive (d'après van Strien et Nowicki). (French summary) [Julia sets of positive measure (after van Strien and Nowicki)] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 820, 3, 7–39. (Walter Bergweiler) **99f:58170** 58F23 (30D05)

Buffard, Thierry (*with* Gallouët, Thierry; Hérard, Jean-Marc) Un schéma simple pour les équations de Saint-Venant. (English and French summaries) [A naive scheme for solving the Saint-Venant shallow-water equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 385–390. (Summary) **99g:76089** 76M20 (76B15)

Buffoni, Boris (*with* Dancer, Edward Norman; Toland, John Francis) Sur les ondes de Stokes et une conjecture de Levi-Civita. (English and French summaries) [On Stokes waves and a conjecture of Levi-Civita] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1265–1268. (Summary) **99g:76014** 76B15 (35Q30)

Bufler, H. (*with* Huang, Mo Jia; Fu, Ming Fu) A self-consistent analysis for coupled elastoplastic damage problems. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 12, 1217–1226; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1119–1126 (*Chinese. English and Chinese summaries*). 73M25 (73B30, 73E99)

— (*with* Huang, Mo Jia) Updated Lagrangian polar decomposition method in non-linear elasticity and its shell element implementation. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 3, 167–181. (Summary) **99m:73069** 73V05 (65F10, 65N30, 73C50)

Bugajewska, Daria On the equation of nth order and the Denjoy integral. *Nonlinear Anal.* **34** (1998), *no.* 7, 1111–1115. (B. B. Pakholok) **99h:34009** 34A34 (26A39)

Bugajewski, Dariusz On the Volterra integral equation and the Henstock-Kurzweil integral. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 141–145. (Summary) **99a:45009** 45G10 (26A39, 34A12, 45D05)

— (*with* Wójtowicz, Daria) On generalized Carathéodory's conditions in ordinary differential equations. (English summary) *Math. Nachr.* **199** (1999), 71–75. (Stanislav L. Sobolevsky) **99m:34005** 34A12

Bugeaud, Yann On the greatest prime factor of $ax^m + by^n$. *Number theory* (*Eger*, 1996), 115–122, *de Gruyter, Berlin*, 1998. (Paul M. Voutier) **99h:11029** 11D41

— On the greatest prime factor of $(ab + 1)(bc + 1)(ca + 1)$. *Acta Arith.* **86** (1998), *no.* 1, 45–49. (K. Győry) **99k:11141** 11N32 (11D61, 11J86)

— On the size of integer solutions of elliptic equations. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 199–206. (Dimitrios Poulakis) **99h:11027** 11D25 (11G05)

— Sur le plus grand facteur premier de $ax^m + by^n$. (English and French summaries) [On the greatest prime factor of $ax^m + by^n$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 661–665. (Michel Waldschmidt) **99j:11033** 11D75 (11D61, 11J25, 11J86)

— (*with* Weber, Michel Jean Georges) Examples and counterexamples for Riemann sums. (English summary) *Indag. Math.* (*N.S.*) **9** (1998), *no.* 1, 1–13. (U. Krengel) **99h:28040** 28D99 (28A20, 60F15)

— Bornes effectives pour les solutions des équations en S-unités et des équations de Thue-Mahler. (English summary) [Effective bounds for the solutions of S-unit and Thue-Mahler equations] *J. Number Theory* **71** (1998), *no.* 2, 227–244. (Yuri Bilu) **99e:11102** 11J86 (11D57, 11D61, 11J61, 11J68, 11J82)

— Algebraic numbers close to 1 in non-Archimedean metrics. (English summary) *Ramanujan J.* **2** (1998), *no.* 4, 449–457. (Maurice Mignotte) **99i:11055** 11J61 (11J68)

Büger, Matthias Torsion numbers, a tool for the examination of symmetric reaction-diffusion systems related to oscillation numbers. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 691–708. (Vladimir Grebenev) **99i:35067** 35K57

— On the composition of polynomials of the form $z^2 + c_n$. *Math. Ann.* **310** (1998), *no.* 4, 661–683. (Walter Bergweiler) **99c:30050** 30D05 (58F23)

Bugiel, Piotr Distortion inequality for the Frobenius-Perron operator and some of its consequences in ergodic theory of Markov maps in $\mathbf{R}^d$. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 125–157. (Paweł Góra) **99b:28014** 28D05 (47A35, 47B38)

Bugir, M. K. Multicontour problems for partial differential equations in spaces of constant curvature. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1288–1290, 1296; *translation in Differential Equations* **33** (1997), *no.* 9, 1299–1302 (1998). (Zinovi Sheftel) **99i:35026** 35J40 (53A35)

— Nonoscillation of solutions of partial differential equations on manifolds of constant curvature, and mean-value theorems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1008–1017, i; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 871–880. (Peter R. Popivanov) **99a:35034** 35J05 (35B05, 58G03)

— Investigation of the oscillatory properties of solutions of partial differential equations by means of values averaged over a sphere. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 4, 448–450. 35B05 (35J99)

Bugliesi, Michele (*with* Jamil, Hasan M.) A stable model semantics for behavioral inheritance in deductive object oriented languages (extended abstract). (English summary) *Database theory—ICDT '95* (*Prague*), 222–237, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68N15 (68N17)

Bugrov, D. I. Construction of a stabilizing control for an aircraft using the Lyapunov function. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 719–723; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 713–716. (Summary) **99c:70037** 70Q05 (70E15, 93D15)

Bugueva, T. V. Determining of the density function in the multi-dimensional inverse problem of isotropic elasticity in a sphere. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 173–203. (Guan Quan Zhang) **99i:35174** 35R30 (35Q72, 73C02, 73D50, 86A22)

Buhagiar, David (*with* Miwa, Takuo) Ordered uniform completions of GO-spaces. (English summary) *Topology Proc.* **22** (1997), 59–80. (Summary) **99i:54045** 54F05 (54D20, 54D35, 54E15)

— Invariance of strong paracompactness under closed-and-open maps. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 6, 90–92. (Summary) **99h:54022** 54C10 (54D20)

— (*with* Miwa, Takuo) Covering properties on maps. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 53–66. (Summary) **99a:54016** 54D20 (54C10, 54D15)

— (*with* Miwa, Takuo; Pasynkov, Boris A.) Superparacompact type properties. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 71–86. (Summary) **99k:54013** 54D20 (54C10)

— Correction: "Paracompact maps" [Questions Answers Gen. Topology **15** (1997), no. 2, 203–223; MR 98g:54038]. *Questions Answers Gen. Topology* **17** (1999), *no.* 1, 117–118. 54C99 (54D20)

de Buhan, Patrick (*with* Chateau, Xavier; Dormieux, Luc) The constitutive equations of finite strain poroelasticity in the light of a micro-macro approach. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 909–921. (Summary) **99k:73006** 73B05 (73C50, 73G05, 73S10, 76S05)

Buheerdun Degree of approximation by Bernstein-Durrmeyer operators in Orlicz spaces. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **1997**, *no.* 4, 6–9. (Yuan Ren Lou) **99m:41026** 41A25 (41A35)

Buhler, Joe (*with* Koblitz, Neal) Lattice basis reduction, Jacobi sums and hyperelliptic cryptosystems. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 147–154. (Jean-Marc Couveignes) **99j:11145** 11T71 (11G20, 11Y40, 94A60)

Bühler, Katja (*with* Paluszny, Marco) Canal surfaces and inversive geometry. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 367–374, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:65196** 65Y25 (51N35)

Bühler, Oliver A shallow-water model that prevents nonlinear steepening of gravity waves. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 17, 2884–2891. (Summary) **99d:76009** 76B15 (86A10)

— (*with* Haynes, Peter H.) Constraints on the mean mass transport across potential vorticity contours. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 7, 942–947. (Summary) **99k:86004** 86A10 (76C15)

Bühlmann, Hans Mathematische Paradigmen in der Finanzwirtschaft. (German summary) [Mathematical paradigms in finance] *Elem. Math.* **53** (1998), *no.* 4, 159–176. 90A09

Bühlmann, Peter Sieve bootstrap for time series. (English summary) *Bernoulli* **3** (1997), *no.* 2, 123–148. (Somnath Datta) **99c:62243** 62M10 (62G09)

— Sieve bootstrap for smoothing in nonstationary time series. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 48–83. (Arup Bose) **99b:62072** 62G09 (62G05, 62M10)

Buhmann, Joachim M. (*with* Hofmann, Thomas) Competitive learning algorithms for robust vector quantization. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1665–1675. (Summary) **99j:94007** 94A12 (92B20, 94A29)

Buhmann, Martin D. (*with* Micchelli, Charles A.; Ron, Amos) Asymptotically optimal approximation and numerical solutions of differential equations. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 59–82, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99f:65023** 65D15 (65M06)

— Radial functions on compact support. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 33–46. (P. Vértesi) **99d:41005** 41A05 (65D05)

— (*with* Pinkus, Allan) Identifying linear combinations of ridge functions. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 1, 103–118. (Andrei Martínez Finkelshtein) **99k:41028** 41A30 (26B40)

Buhrman, Harry (*with* Fortnow, Lance; Torenvliet, Leen) Using autoreducibility to separate complexity classes. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 520–527, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15 (03D15)

— (*with* Franklin, Matthew; Garay, Juan A.; Hoepman, Jaap-Henk; Tromp, John; Vitányi, Paul) Mutual search (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 481–489, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q10 (68R10)

— (*with* van Melkebeek, Dieter; Regan, Kenneth W.; Sivakumar, D.; Strauss, Martin Joel) A generalization of resource-bounded measure, with an application (extended abstract). (English summary) *STACS 98* (*Paris*, 1998), 161–171, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15

— (*with* Fortnow, Lance; Thierauf, Thomas) Nonrelativizing separations. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 8–12, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68043** 68Q15

— (*with* Fortnow, Lance) Two queries. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 13–19, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68042** 68Q15

— (*with* van Melkebeek, Dieter) Hard sets are hard to find. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 170–181, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

— (*with* Torenvliet, Leen) Randomness is hard. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 249–260, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99h:68088** 68Q30

— (*with* Hoene, Albrecht; Torenvliet, Leen) Splittings, robustness, and structure of complete sets. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 637–653 (*electronic*). (Uwe Schöning) **99d:68079** 68Q15 (03D15, 03D20)

— (*with* Kadin, J.; Thierauf, Thomas) Functions computable with nonadaptive queries to NP. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 77–92. (Summary) **99d:68080** 68Q15

Buĭ, D. B. (*with* Red'ko, V. N.; Brona, Yu. I.) Relational algebras: projection and join operations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 89–100, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 530–539 (1998). (Jānis Cīrulis) **99a:68048** 68P15 (03G15)

— (*with* Red'ko, V. N.; Brona, Yu. I.) Relational algebras: division and renaming operations. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 3–15, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 615–623 (1998). (Summary) **99k:68045** 68P15

Bui, Huu Hung Compact quantum groups and their corepresentations. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 73–91. (Vladimir A. Stukopin) **99f:46104** 46L89 (43A99)

Bui, Huy Duong (*with* Andrieux, Stéphane; Ben Abda, Amel) Reciprocity principle and crack identification. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 59–65. (Summary) **99k:35186** 35R30 (35Q72, 73C02, 73M25)

Bui, Huy-Qui Bernstein's theorem on weighted Besov spaces. (English summary) *Forum Math.* **9** (1997), *no.* 6, 739–750. (C. Carton-Lebrun) **99c:42017** 42B10 (42B15, 42B30, 46E35, 47B38)

— (*with* Paluszyński, M.; Taibleson, M.) Characterization of the Besov-Lipschitz and Triebel-Lizorkin spaces. The case $q < 1$. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 837–846. (Lanzhe Liu) **99d:46045** 46E35 (42B25)

Bui, Quang M. (*with* Huggins, Richard M.) Robust inference for the bivariate bifurcating autoregressive model. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 151–163. (Summary) **99d:62084** 62M10 (62F10, 62P10, 92B05)

Bui, T. D. (*with* Li, Zi Cai; Nguyen, H. V.) Numerical simulation of liquid redistribution in permeable media involving hysteresis. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 81–103. (Summary) **99j:76081** 76M20 (76S05)

Buica, Adriana Data dependence theorems on coincidence problems. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 33–40. 54H25 (34A12, 47H99, 90C33)

Buick, J. M. (*with* Greated, C. A.) Lattice Boltzmann modeling of interfacial gravity waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1490–1511. (Summary) **99c:76081** 76M25 (76B15)

Bui Dac Tac (*with* Nguyen Van Hao) Weakly holomorphic extensions and the condition (L). (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 317–323. (Jorge Mujica) **99j:46051** 46G20

Bui Doan, Khanh A computational algorithm for the exponential Radon transform. Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 82–92. (From the introduction) **99k:65023** 65D30 (65R10)

Bui Khoi Dam Approximation orders in the conditional central limit theorem for weakly dependent random variables. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 347–358. (Lajos Horváth) **99i:60045** 60F05 (60G10)

Bui Minh Phong (*with* Fehér, János; Kátai, Imre) On multiplicative functions satisfying a special relation. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 49–57. (Péter Kiss) **99f:11007** 11A25 (11N64)

Buium, Alexandru ★ Differential algebra and Diophantine geometry. (English summary) Actualités Mathématiques. [Current Mathematical Topics] *Hermann, Paris*, 1994. x+182 *pp. ISBN* 2-7056-6226-X (A. N. Parshin (Zbl 870.12007)) **99k:12010** 12H05 (11G10, 14K05)

— Intersection multiplicities on abelian varieties. *Math. Ann.* **310** (1998), *no.* 4, 653–659. (Fumio Hazama) **99f:14061** 14K05 (14C20, 14G25)

Bujalance, Emilio (*with* Costa, Antonio F.; Izquierdo Barrios, Milagros) A note on isolated points in the branch locus of the moduli space of compact Riemann surfaces. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 25–32. (Steffen Timmann) **99a:30038** 30F10 (14H15, 30F35, 30F50, 30F60)

— (*with* Broughton, S. A.; Costa, Antonio F.; Gamboa, J. M.; Gromadzki, G.) Symmetries of Accola-Maclachlan and Kulkarni surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 637–646. (Víctor González-Aguilera) **99f:14036** 14H55 (30F10, 30F35)

Bujanda, B. (*with* Jorge, J. C.) Design of new alternating directions methods applied to the solution of convection-diffusion problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 611–616, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

Bujosa, A. (*with* Criado, R.; Vega, C.) Jordan normal form via elementary transformations. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 947–956 (*electronic*). (Summary) **99h:15012** 15A21

Bukatin, Michael A. (*with* Scott, Joshua S.) Towards computing distances between programs via Scott domains. (English summary) *Logical foundations of computer science (Yaroslavl*, 1997), 33–43, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **99a:68117** 68Q55 (06B35)

— (*with* Shorina, Svetlana Yu.) Partial metrics and co-continuous valuations. (English summary) *Foundations of software science and computation structures (Lisbon*, 1998), 125–139, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99g:68125** 68Q55 (06B35)

Bukhanovsky, A. V. (*with* Porubov, A. V.; Samsonov, A. M.; Velarde, M. G.) Strain solitary waves in an elastic rod embedded in another elastic external medium with sliding. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3854–3864. 73D35 (73K05)

Bukhbinder, E. I. (*with* Ivanov, Evgeniĭ Alekseevich[2]; Bukhbinder, I. L.; Kuzenko, Sergei M.) Central charge as the origin of holomorphic effective action in $N = 2$ gauge theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1071–1082. (Piet Termonia) **99h:81204** 81T60 (81T13, 81T15)

— (*with* Bukhbinder, I. L.; Kuzenko, Sergei M.) Non-holomorphic effective potential in $N = 4$ SU(n) SYM. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 216–223. (Summary) **99i:81223** 81T60 (81T13, 81T15)

Bukhbinder, I. L. (*with* Pershin, V. D.; Toder, G. B.) On a canonical formulation of string theory in massive background fields. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow*, 1996), 382–385, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T30

— (*with* Kuzenko, Sergei M.) On the off-shell massive hypermultiplets. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, L157–L162. (Summary) **99f:81191** 81T60 (81T13)

— (*with* Kuzenko, Sergei M.) ★ Ideas and methods of supersymmetry and supergravity. (English summary) Or a walk through superspace. Revised edition. Studies in High Energy Physics Cosmology and Gravitation. *IOP Publishing, Ltd., Bristol*, 1998. *xx*+656 *pp. ISBN* 0-7503-0506-1 (From the preface) **99g:81208** 81T60 (53C80, 58C50, 81–02, 81T13, 83E50)

— (*with* Bukhbinder, E. I.; Ivanov, Evgeniĭ Alekseevich[2]; Kuzenko, Sergei M.) Central charge as the origin of holomorphic effective action in $N = 2$ gauge theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1071–1082. (Piet Termonia) **99h:81204** 81T60 (81T13, 81T15)

— (*with* Kuzenko, Sergei M.) Comments on the background field method in harmonic superspace: non-holomorphic corrections in $N = 4$ SYM. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 20, 1623–1635. (Ilya Shapiro) **99f:81192** 81T60

— (*with* Bukhbinder, E. I.; Kuzenko, Sergei M.) Non-holomorphic effective potential in $N = 4$ SU(n) SYM. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 216–223. (Summary) **99i:81223** 81T60 (81T13, 81T15)

Bukhgeĭm, A. L. (*with* Arbuzov, È. V.; Kazantsev, S. G.) Two-dimensional problems in tomography, and the theory of A-analytic functions. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk*, 1996), 6–20, 189, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Faizo A. Shamoyan) **99m:44003** 44A12 (30G20, 92C55)

— (*with* Arbuzov, È. V.) Carleman's formulas for A-analytic function in a half-plane. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 491–505 (1998). (Manfred W. Kracht) **99i:30058** 30E25 (35C99, 35J99, 47G10, 73C02, 76D05)

— (*with* Cheng, Jin[2]; Yamamoto, Masahiro) Uniqueness and stability for an inverse problem of determining a part of boundary. (English summary) *Inverse problems in engineering mechanics (Nagano*, 1998), 327–336, *Elsevier, Oxford*, 1998. (Summary) **99m:35259** 35R30 (35J05, 78A99)

— (*with* Kardakov, V. B.) Stability for the inverse problem of finding the boundary condition. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 309–318. (Summary) **99h:35225** 35R30 (35J25)

Bukhnikashvili, I. A. On a normalized polynomial with least deviation and zero derivative at a fixed point. (Russian. German and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 173–180 (1996). 41A10

Bukhshtaber, V. M. (*with* Leĭkin, D. V.; Ènol'skiĭ, V. Z.) A recursive family of differential polynomials generated by the Sylvester identity, and addition theorems for hyperelliptic Klein functions. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 19–33, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 240–251 (1998). (Iskander A. Taimanov) **99f:33025** 33E05

— (*with* Braden, H. W.) The general analytic solution of a functional equation of addition type. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 903–923. (V. Leksin) **99h:39027** 39B32 (33E05, 58F07, 70F10)

— (*with* Rees, Elmer G.) Multivalued groups, their representations and Hopf algebras. (English summary) *Transform. Groups* **2** (1997), *no.* 4, 325–349. (P. S. Landweber) **99b:20071** 20F99 (16W30)

— (*with* Fel'dman, K. È.) An addition formula for the first half-integer Pontryagin class in complex cobordisms. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 151–152; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1287–1288. (From the text) **99c:57057** 57R20

— (*with* Rees, Elmer G.) Multivalued groups, n-Hopf algebras and n-ring homomorphisms. (English summary) *Lie groups and Lie algebras*, 85–107, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Nobuaki Obata) **99f:20111** 20N20 (05E05, 16W30)

— (*with* Ray, Nigel) Flag manifolds and the Landweber-Novikov algebra. (English summary) *Geom. Topol.* **2** (1998), 79–101 (*electronic*). (Mark Hovey) **99c:57064** 57R77 (55N22, 55S25)

— (*with* Panov, T. E.) Algebraic topology of manifolds defined by simple polyhedra. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 195–196; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 623–625. (Alexander I. Barvinok) **99m:14098** 14M25 (52B20, 52B70, 57N65)

Bukina, E. N. (*with* Shtykov, N. N.) Evaluation of vacuum energy for tensor fields on spherical spaces. (English summary) *Path integrals: Dubna* '96, 203–206, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81T20 (81T16)

Bukor, Jozsef (*with* Erdős, Paul[1]; Šalát, Tibor; Tóth, János T.) Remarks on the (R)-density of sets of numbers. II. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 517–526. (W. Narkiewicz) **99e:11013** 11B05 (11K16)

— (*with* Filakovszky, Péter; Tóth, János T.) On the Diophantine equation $x_1x_2\cdots x_n = h(n)(x_1 + x_2 + \cdots + x_n)$. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 123–130. (Lajos Hajdu) **99k:11050** 11D72

Bukov, V. N. (*with* Maksimenko, I. M.; Ryabchenko, V. N.) Control of multi-coupled systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 6, 97–110; *translation in Automat. Remote Control* **59** (1998), *no.* 6, *part* 1, 832–842. (Summary) **99k:93058** 93C35 (93B52, 93D15)

Bukovský, Lev Trigonometric thin sets and γ-set. *Proceedings of the Eighth Prague Topological Symposium* (1996), 22–25 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 42A20 (26A21, 42A28)

Buksas, M. W. (*with* Banks, H. T.; Wang, Yun) A time domain formulation for identification in electromagnetic dispersion. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99h:78010** 78A25 (93B30)

Bulacu, D. (*with* Dăscălescu, Sorin; Grünenfelder, L.) Modules graded by G-sets: duality and finiteness conditions. *J. Algebra* **195** (1997), *no.* 2, 624–633. (Piotr Grzeszczuk) **99d:16049** 16W50 (16S35, 16W20)

Bulacu, Fevronia $I \times J \times K$ contingency tables. Testing for partial linear dependence using the covariance weighted with fuzzy weights. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 203–210. (Nariaki Sugiura) **99k:62119** 62H17

— Gâteaux metric in probability spaces. Rao distance in the verification of statistical hypotheses. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 17–24. (Summary) **99m:60008** 60B05 (62F03)

Bulanov, S. V. Instability of interchange modes in a stellarator plasma with fast particles. (Russian. English and Russian summaries) *Magnetic reconnection in two- and three-dimensional configurations (Russian)*, 147–193, 197, *Trudy IOFAN*, 51, *Fizmatlit "Nauka", Moscow*, 1996. (Summary) **99b:76037** 76E25 (76W05, 76X05)

— (*with* Echkina, E. Yn.; Inovenkov, I. N.; Pegoraro, F.; Pichushkin, V. V.) On the structural stability of magnetic configurations with two null lines. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 802–815. (Summary) **99k:76151** 76W05

Bulatek, W. (*with* Lemańczyk, Mariusz; Rudolph, Daniel J.) Constructions of cocycles over irrational rotations. (English summary) *Studia Math.* **125** (1997), *no.* 1, 1–11. (S. I. Bezuglyĭ) **99b:28015** 28D05

Bulatov, A. V. (*with* Bobylev, N. A.) On the robust stability of linear discrete systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 8, 138–145; *translation in Automat. Remote Control* **59** (1998), *no.* 8, *part* 2, 1165–1170 (1999). (Alexander M. Kovalev) **99m:93073** 93D09 (93C55)

— On the adjointness of the Darboux and the Dirichlet problems for degenerate hyperbolic equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 69–77, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 70–78. (Summary) **99i:35090** 35L20

Bulatov, M. V. Reduction of degenerate systems of Volterra-type integral equations to systems of the second kind. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 14–21. (Jaan Janno) **99k:45014** 45F15 (45D05)

— Numerical solution of systems of Volterra integral equations of the first kind. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 607–611; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 585–589. (Summary) **99d:45012** 45L05 (65R20)

— On difference schemes for differential-algebraic systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1641–1650; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1571–1579. (Summary) **99f:65122** 65L12 (34A09)

Bulatov, V. I. Conditions for the existence of solutions of regular discrete and linear differential systems. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 1, 66–67, 78. 34A12 (39A10, 39A12)

Bulatov, V. P. Numerical methods for solution of the multiextremal problems connected with the inverse mathematical programming problems. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 405–413. (Summary) **99d:90084** 90C26

Bulatov, V. V. (*with* Vladimirov, Yu. V.) Uniform far field asymptotics of internal gravity waves from a source moving in a stratified fluid layer with smoothly varying bottom. *Fluid Dynam.* **33** (1998), *no.* 3, 388–395; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 111–120 (*Russian. Russian summary*). (Stefan G. Llewellyn Smith) **99j:76129** 76V05 (34E20, 76C10)

Bulatov, Valerian *see* **Bulatov, V. P.**

Bulatović, Ranislav A remark on the stability of linear gyroscopic systems. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1997), *no.* 7, 255–258. (Summary) **99b:70021** 70J25

— On the stability of linear potential gyroscopic systems in cases when the potential energy has a maximum. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 385–389; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 371–375. (Summary) **99g:70026** 70J25 (34D99)

— A nonspectral stability criterion for linear conservative gyroscopic systems. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 2, 539–541. (Alexander P. Seyranian) **99g:70027** 70J25

— Geometric analysis of a linear potential system stabilized by gyroscopic forces. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 46–49, 80. (Igor Gashenenko) **99e:70055** 70J05 (34C99, 70H35)

Bulavatskiĭ, V. M. (*with* Yurik, Ĭ. Ĭ.) Nonlinear boundary-value problem for the heat mass transfer model of W. Fushchych. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 492–494, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 80A20

— A biparabolic mathematical model of the filtration consolidation process. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 13–17. 73N20 (76S05)

— (*with* Yurik, Ĭ. Ĭ.) Mathematical modeling of the process of underground leaching based on a biparabolic filtration model. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 7–10. 76S05

Bulavskiĭ, V. A. (*with* Isac, George; Kalashnikov, Vyacheslav Vital'evich) Application of topological degree theory to complementarity problems. (English summary) *Multilevel optimization: algorithms and applications*, 333–358, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Author's review (G.I.)) **99g:90144** 90C33 (47H11, 47N10, 49J40)

— (*with* Kalashnikov, Vyacheslav Vital'evich) A Newton-like approach to solving an equilibrium problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 115–128. (*see* **99b:90006**) 90C30 (65K05)

Bulboaca, I. (*with* Lassaut, M.; Lombard, R. J.) The eikonal phase of supersymmetric Coulomb partners. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7801–7808. 81Q20

Bulboacă, Teodor The order of alpha-convexity and subordination-preserving properties for some integral operators. *Mathematica* **37(60)** (1995), *no.* 1-2, 45–54. (T. N. Shanmugam) **99b:30012** 30C45

— On a special integral subordination. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 3, 361–369. (Summary) **99b:30029** 30C80 (30C45)

— Classes of integral operators on Bazilevič functions. *Mathematica* **39(62)** (1997), *no.* 2, 181–193. (Otto Fekete) **99g:30009** 30C45

Buldakov, E. V. (*with* Egorov, I. V.; Sychëv, Vladimir Vasil'evich) Certain features of similarity solutions for flows in viscous vortex cores. *Fluid Dynam.* **33** (1998), *no.* 1, 31–35; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 38–43 (*Russian. Russian summary*). (Summary) **99b:76027** 76D99 (76C05)

— (*with* Egorov, I. V.; Sychëv, Vladimir Vasil'evich) Properties of similarity solutions for flows in turbulent vortex cores. *Fluid Dynam.* **33** (1998), *no.* 3, 346–350; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 60–64 (*Russian. Russian summary*). (Summary) **99h:76021** 76D05 (76C05, 76F99)

Buldas, Ahto Graphs and lattice varieties. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 2, 100–109. (Summary) **99c:06009** 06B20 (05C25, 08A30)

Buldygin, V. V. (*with* Kozachenko, Yu. V.) Bernstein functionals and exponential inequalities for distributions of sums of random variables. (Ukrainian) *Mathematics today '94, No.* 9 (*Ukrainian*), 55–79, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 60E15 (60G50)

— (*with* Fu-Li) On the asymptotic normality of estimators of impulse transfer functions of linear systems. I. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 16–24; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 17–24. (Zuzana Prášková) **99k:62176** 62M20 (60G25)

— (*with* Fu-Li) On the asymptotic normality of estimators of impulse transfer functions of linear systems. II. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 30–37; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 29–36 (1998). (Zuzana Prášková) **99k:62177** 62M20 (60G25)

Buleev, S. N. (*with* Agoshkov, V. I.) Numerical solution of the convection-diffusion equation with a small "viscosity" coefficient. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1670–1677, 1726; *translation in Differential Equations* **32** (1996), *no.* 12, 1663–1670 (1997). (Reinhard Redlinger) **99c:65192** 65N12 (35B25, 65M60, 65N30, 76M10)

Bulgac, Aurel (*with* Dang, Giu Do; Kusnezov, Dimitri) Quantum diffusion and tunneling with parametric banded random matrix Hamiltonians. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1149–1168. (Jacobus Verbaarschot) **99d:82030** 82B44 (82B35)

Bulgakov, A. I. (*with* Tkach, L. I.) Perturbation of a convex-valued operator by a Hammerstein-type multivalued mapping with nonconvex images, and boundary value problems for functional-differential inclusions. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 3–32; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 821–848. (Tzanko D. Donchev) **99k:47128** 47H04 (34K10, 47H30)

Bulgakov, A. Ya. An algorithm of guaranteed accuracy for the solution of the Lur'e-Riccati matrix equation. (Russian. Russian summary) *Theoretical and computational problems in mathematical physics* (*Russian*), 63–104, 174, *Trudy Inst. Mat.*, 24, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (M. M. Konstantinov) **99a:93033** 93B40 (15A24, 65G10)

Bulgakov, S. (*with* Jiménez, Salvador; Vázquez, Luis) Efficient shooting algorithms for solving the nonlinear one-dimensional scalar Helmholtz equation. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 101–114. 65N99 (65N12)

Bulger, D. W. (*with* Wood, G. R.) Hesitant adaptive search for global optimisation. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 89–102. (Th. M. Liebling) **99e:90059** 90C15

Bulia, N. On some restrictions of quasi-regular and quasi-irregular numbers. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 392–394 (1995). 11D41

Bulienkov, N. A. Three possible branches of determinate modular generalization of crystallography. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 67–134, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:52026** 52C22 (82D25)

Buliga, Marius The topological substratum of the derivative. I. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 6, 453–465. 26A24 (54C99)

Bulinskiĭ, A. V. (*with* Amosov, G. G.) The Powers-Arveson index for quasifree dynamical semigroups. (Russian) *Mat. Zametki* **62** (1997), *no.* 6, 933–936; *translation in Math. Notes* **62** (1997), *no.* 5-6, 781–784 (1998). (Aldo J. Lazar) **99g:46091** 46L55 (46L57)

Bulirsch, Roland Constantin Carathéodory Bauingenieur und Mathematiker. Griechenland in München. [Constantin Carathéodory—architectural engineer and mathematician. Greece in Munich] *Mitt. Dtsch. Math.-Ver.* **1999**, *no.* 1, 4–9. (R. L. Cooke) **99k:01051** 01A70

— *see also* **Public image of mathematics**, (**99e:00019**)

Bulla, W. (*with* Gesztesy, Fritz; Holden, Helge; Teschl, Gerald) Algebro-geometric quasi-periodic finite-gap solutions of the Toda and Kac-van Moerbeke hierarchies. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 641, *x*+79 *pp.* (Mihai Pascu) **99b:58109** 58F07 (35Q55, 39A12)

Bullard, Jeffrey W. *see* **Computational and mathematical models of microstructural evolution**, **99k:73002**

Bullejos, M. (*with* G. Cabello, Julia; Faro, E.) On the equivariant 2-type of a G-space. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 215–245. (R. E. Stong) **99c:55013** 55P91 (55N91, 55R91, 55S45)

— (*with* G. Cabello, Julia) The homotopy type of spaces X with fundamental groupoid $\mathcal{G}$ and an unique non-trivial homotopy $\mathcal{G}$-module $\Pi_n(X)$. *Comm. Algebra* **27** (1999), *no.* 2, 725–753. (Donald M. Davis) **99k:55006** 55P15

Bullen, P. S. Inequalities due to T. S. Nanjundiah. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 203–211, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Hrvoje Šikić) **99i:26022** 26D15 (26D20)

— The Jensen-Steffensen inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 391–401. (Hrvoje Šikić) **99k:26022** 26D15

— (*with* Alić, M.; Pečarić, Josip; Volenec, Vladimir) Gerber's inequality and some related inequalities. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 507–516. (L. Losonczi) **99i:26020** 26D15

Bullock, Doug Estimating the states of the Kauffman bracket skein module. (English summary) *Knot theory* (*Warsaw*, 1995), 23–28, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57011** 57M25

— (*with* Frohman, Charles; Kania-Bartoszyńska, Joanna) Skein homology. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 140–144. (Daniel Ruberman) **99g:57006** 57M25 (55N35)

— (*with* Kania-Bartoszyńska, Joanna; Frohman, Charles) Skein quantization and lattice gauge field theory. Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 811–824. (S. V. Duzhin) **99f:57006** 57M25 (81T25)

Bulmer, Michael Ross Inductive theories from equational systems. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 78–91, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T15 (03B35, 68T05)

Bulota, K. On incomplete quotients of a class of algebraic numbers. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 196–251, 255, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11R04

Bülow, A. (*with* Hennig, D.; Gabriel, H.) Soliton interaction for a nonlinear discrete double chain. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part B*, 2380–2392. 35Q55 (70K99)

Bulsara, Adi *see* **Applied nonlinear dynamics and stochastic systems near the millenium**, **99h:00022**

Bulteau, Stéphane (*with* El Khadiri, Mohamed) A Monte Carlo estimator based on a state space decomposition methodology for flow network reliability. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 161–175, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:90031** 90B10 (65C05, 90B12)

— (*with* El Khadiri, Mohamed) A Monte Carlo simulation of the flow network reliability using importance and stratified sampling. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 271–287. (*see* **99e:90004**) 90B25 (90B10)

Bultena, Bette (*with* Ruskey, Frank) An Eades-McKay algorithm for well-formed parentheses strings. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 255–259. (Summary) **99h:68127** 68R05

Bultheel, Adhemar (*with* Van Barel, Marc) ★ Linear algebra, rational approximation and orthogonal polynomials. Studies in Computational Mathematics, 6. *North-Holland Publishing Co., Amsterdam*, 1997. xviii+446 *pp. ISBN* 0-444-82872-9 (Editors) **99e:65001** 65-01 (15-01, 65D15, 65F25)

— (*with* De Samblanx, Gorik; Meerbergen, Karl) The implicit application of a rational filter in the RKS method. (English summary) *BIT* **37** (1997), *no.* 4, 925–947. (Raffaella Pavani) **99a:65046** 65F15

— (*with* González-Vera, Pablo; Hendriksen, Erik; Njåstad, Olav) A rational moment problem on the unit circle. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 283–310. (Jia Rong Yu) **99b:30056** 30E05 (42C10, 44A60, 47A57)

— (*with* González-Vera, Pablo; Hendriksen, Erik; Njåstad, Olav) Interpolation of Nevanlinna functions by rationals with poles on the real line. (English summary) *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 101–110, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Summary) **99h:41020** 41A20 (30E05)

— (*with* González-Vera, Pablo; Hendriksen, Erik; Njåstad, Olav) Orthogonal rational functions and interpolatory product rules on the unit circle. I. Recurrence and interpolation. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 2, 167–183. (A. G. Law) **99i:30053** 30E05 (33C45, 41A20)

— (*with* González-Vera, Pablo; Hendriksen, Erik; Njåstad, Olav) Orthogonal rational functions and interpolatory product rules on the unit circle. II. Quadrature and convergence. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 2, 185–200. (A. G. Law) **99i:30054** 30E05 (33C45, 33E05, 41A20)

— (*with* De Samblanx, Gorik) Nested Lanczos: implicitly restarting an unsymmetric Lanczos algorithm. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 31–50. (Marc Van Barel) **99j:65054** 65F15 (65F10)

— (*with* De Samblanx, Gorik) Restrictions on implicit filtering techniques for orthogonal projection methods. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 45–68. (G. Maess) **99m:65070** 65F15

Bulychev, Yu. G. (*with* Manin, A. A.) Analytic construction of control systems under conditions of a priori uncertainty. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 74–84; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1592–1599 (1997). (Vladimir B. Larin) **99d:93023** 93B40 (93B51)

— (*with* Burlaĭ, I. V.) Correction of controls of nonstationary objects based on invariance properties of the Riccati equation. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 25–36, 156. 93B51 (93C50)

— (*with* Eliseev, A. V.) Algorithms for solving Riccati equations in problems of the control of time-dependent plants. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 102–110. 93B40 (93C05)

— (*with* Burlaĭ, I. V.) Information processing in a class of functions with a compactly supported spectrum. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 40–49; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 224–232 (1998). (Radomir S. Stanković) **99d:94002** 94A11 (43A75)

— The theory of support-projection computations in optimal control problems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 33–44; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 180–189. (O. V. Vasil'ev) **99m:49053** 49M30 (93E20)

— (*with* Eliseev, A. V.) The use of the method of supporting integral curves for overcoming the stiffness of nonlinear filtering equations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 3, 8–14. 93E11 (65U05)

— Construction of parametrized solutions of linear operator equations, based on a modified Galerkin method. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 21–29. (Jiří Nedoma) **99j:65102** 65J10 (47A50)

— (*with* Eliseev, A. V.) The stiffness problem for stochastic systems and a method for its solution. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 950–956. 65U05 (34F05)

Bulygin, A. N. (*with* Aèro, È. L.; Bessonov, N. M.) Dynamics of a momentum anisotropic fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 778–785; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 769–775. (Summary) **99c:76033** 76D08 (76A99)

Bump, Daniel (*with* Ginzburg, David) The adjoint L-function of GL(4). (English summary) *J. Reine Angew. Math.* **505** (1998), 119–172. (Dihua Jiang) **99h:11051** 11F70 (22E46)

Bun′, R. A. (*with* Semykina, A. V.) Determination of the domains of stability of numerical methods for solving higher-order differential equations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 120–126, 152. 65L20

Bunakov, V. E. Nuclear physics, symmetries, and quantum chaos. *Phys. Atomic Nuclei* **62** (1999), *no.* 1, 1–18; *translated from Yadernaya Fiz.* **62** (1999), *no.* 1, 5–23 (*Russian*). (Summary) **99j:81045** 81Q50 (81V35)

Bunce, L. J. (*with* Saitô, Kazuyuki; Wright, J. D. Maitland) Completely additive measures on von Neumann algebras. *Exposition. Math.* **16** (1998), *no.* 2, 185–189. (Sh. A. Ayupov) **99e:46086** 46L50 (46L10)

— (*with* Chu, Cho-Ho) Unique extension of pure states of C^*-algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 319–338. (Summary) **99a:46107** 46L30 (46L05)

— (*with* Chu, Cho-Ho; Stachó, László; Zalar, B.) On prime JB^*-triples. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 279–290. (Sh. A. Ayupov) **99j:46085** 46L70 (17C65)

— (*with* Saitô, Kazuyuki; Wright, J. D. Maitland) A Dixmier-Schafer-Zhang theorem for operator algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 10, 2975–2979. (C. J. K. Batty) **99m:46147** 46L30 (28C15, 46A55)

Bunchaft, F. (*with* Carneiro, Saulo) The static spacetime relative acceleration for general free fall and its possible experimental test. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1557–1566. (Summary) **99i:83010** 83C10 (83B05)

Bundaru, M. (*with* Grünfeld, C. P.) On a phase transition in a one-dimensional non-homogeneous model. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 875–884. 82B26

Bunde, Armin (*with* Kantelhardt, Jan W.) Wave functions in the Anderson model and in the quantum percolation model: a comparison. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 400–405. (Summary) **99i:82024** 82B44 (82B43)

Bunder, Martin (*with* Dekkers, W. J. M.; Geuvers, J. H.) Equivalences between illative combinatory logics and pure type systems. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 119–135. (*see* **99d:03003**) 03B40

— (*with* Dekkers, W. J. M.; Barendregt, Henk) Completeness of two systems of illative combinatory logic for first-order propositional and predicate calculus. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 327–341. (Alessandro Berarducci) **99m:03025** 03B40

Bündgen, Reinhard (*with* Amrhein, Beatrice; Küchlin, Wolfgang) Parallel completion techniques. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 1–34, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Summary) **99b:68107** 68Q42 (68Q40)

— Symmetrization based completion. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 47–70, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Summary) **99c:68141** 68Q40 (13P10, 68Q42)

Bundschuh, Peter Gel'fond's transcendence method by elementary means. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 3–9, *VSP, Utrecht*, 1997. (Michel Waldschmidt) **99i:11058** 11J81 (26A99)

— On simple continued fractions with partial quotients in arithmetic progressions. (Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 19–33; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 1, 15–26. (Edward B. Burger) **99k:11109** 11J70 (11J04, 11J82)

Bundy, Alan (*with* Giunchiglia, Fausto; Villafiorita, Adolfo; Walsh, Toby) Abstract proof checking: an example motivated by an incompleteness theorem. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 3, 319–346. (Bernd Dahn) **99b:03022** 03B35 (68T15)

— A science of reasoning (extended abstract). (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 10–17, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

— (*with* Armando, Alessandro; Gallagher, Jason; Smaill, Alan) Automating the synthesis of decision procedures in a constructive metatheory. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 259–279. (Summary) **99e:03013** 03B35 (03B05, 68T15)

— (*with* Madden, Peter; Smaill, Alan) Recursive program optimization through inductive synthesis proof transformation. (English summary) *J. Automat. Reason.* **22** (1999), *no.* 1, 65–115. (Summary) **99j:68124** 68T15 (68N99)

Buneman, Peter (*with* Davidson, Susan; Fernandez, Mary; Suciu, Dan) Adding structure to unstructured data. (English summary) *Database theory—ICDT '97* (*Delphi*), 336–350, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68T30 (68P15)

Bungartz, Hans-Joachim A multigrid algorithm for higher order finite elements on sparse grids. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 63–77 (*electronic*). (Summary) **99a:65174** 65N55 (65N30)

Bunge, Marta C. (*with* Funk, Jonathon) Spreads and the symmetric topos. II. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 1, 49–84. (Peter Johnstone) **99k:18006a** 18B25 (18A32, 18C15, 54B30, 54C10)

— (*with* Funk, Jonathon) Erratum to: "Spreads and the symmetric topos. II". *J. Pure Appl. Algebra* **133** (1998), *no.* 3, 327–328. (Peter Johnstone) **99k:18006b** 18B25 (18A32, 18C15, 54B30, 54C10)

Bunimovich, A. I. (*with* Dubinskiĭ, A. V.) Development of the theory of local interaction. (Russian) *Studies in the history of physics and mechanics*, 1991–1992 (*Russian*), 198–219, "*Nauka*", *Moscow*, 1997. (*see* **99g:01002**) 81–03

Bunimovich, Leonid A. (*with* Rehacek, Jan) On the ergodicity of many-dimensional focusing billiards. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 421–448. (Serge E. Troubetzkoy) **99g:58070** 58F11

— (*with* Rehacek, Jan) How high-dimensional stadia look like. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 277–301. (András Krámli) **99k:58133** 58F15 (82C05)

— (*with* Turaev, D. V.) Localized solutions in lattice systems and their bifurcations caused by spatial interactions. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1539–1545. (Hans Henrik Rugh) **99k:58126** 58F14 (34C35, 58F10, 70K99)

Bunina, E. I. Elementary equivalence of unitary linear groups over rings and skew fields. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 137–138; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 374–376. 20G35

kleine Büning, Hans *see* **Kleine Büning, Hans**

Büning, Hans Kleine *see* **Kleine Büning, Hans**

Bunk, B. (*with* Elser, S.; Frezzotti, R.; Jansen, Karl) Ordering monomial factors of polynomials in the product representation. (English summary) *Comput. Phys. Comm.* **118** (1999), *no.* 2-3, 95–109. 81–08

Bunke, Horst Error-tolerant graph matching: a formal framework and algorithms. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 1–14, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T10

— (*with* Jiang, Xiao-Yi) Marked subgraph isomorphism of ordered graphs. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 122–131, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (Summary) **99m:68152** 68R10

— (*with* Jiang, Xiao-Yi) On the coding of ordered graphs. (English summary) *Computing* **61** (1998), *no.* 1, 23–38. (William L. Kocay) **99g:05171** 05C99 (05C75)

Bunke, Olaf (*with* Milhaud, Xavier) Asymptotic behavior of Bayes estimates under possibly incorrect models. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 617–644. (Tapas Samanta) **99g:62032** 62F15

Bunke, Ulrich (*with* Olbrich, Martin) Cohomological properties of the canonical globalizations of Harish-Chandra modules. Consequences of theorems of Kashiwara-Schmid, Casselman, and Schneider-Stuhler. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 5, 401–418. (William M. McGovern) **99b:22025** 22E46 (22E41, 22E50)

— (*with* Olbrich, Martin) Resolutions of distribution globalizations of Harish-Chandra modules and cohomology. *J. Reine Angew. Math.* **497** (1998), 47–81. (Gestur Ólafsson) **99j:11056** 11F75 (11M36, 22E46)

— (*with* Koch, Herbert) The η-form and a generalized Maslov index. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 189–212. (Paul A. Kirk) **99b:58221** 58G10 (58F05)

Bunse-Gerstner, Angelika (*with* Faßbender, Heike) Error bounds in the isometric Arnoldi process. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA,

1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 53–72. (Raffaella Pavani) **99b:65043** 65F15 (15A18)

— (*with* Mehrmann, Volker) Ludwig Elsner and his contributions to core, applied and numerical linear algebra. Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 3–10. (Editors) **99m:01046** 01A70

— (*with* Stöver, Ronald) On a conjugate gradient-type method for solving complex symmetric linear systems. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 105–123. (S. F. McCormick) **99j:65078** 65F50

— *see also* **Special Issue: Celebrating the 60th birthday of Ludwig Elsner**

Buntine, Wray L. Chain graphs for learning. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ,* 1995), 46–54, *Morgan Kaufmann, San Francisco, CA,* 1995. (*see* **99a:68017**) 68T05 (68T30)

Bunting, Charles F. (*with* Davis, William A.) A functional for dynamic finite-element solutions in electromagnetics. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 149–156. 78–08

Buntrock, Gerhard (*with* Otto, Friedrich) Growing context-sensitive languages and Church-Rosser languages. (English summary) *Inform. and Comput.* **141** (1998), *no.* 1, 1–36. (Peter R. J. Asveld) **99b:68112** 68Q45 (03D05, 68Q42, 68Q68)

Buonanno, Alessandra (*with* Damour, Thibault) Effective action and tension renormalization for cosmic and fundamental strings. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 51–57. (Summary) **99c:83103** 83F05 (83E30)

Buoncristiano, Sandro (*with* Veit, A. Barbara) The cohomology of generalized Stiefel manifolds. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 93–115 (1998). (Edgar H. Brown, Jr.) **99e:55025** 55R10 (55R20, 55T10)

nguyễn Bu'ò'ng *see* **Nguyễn Bu'ò'ng**

Buong, Nguyen *see* **Nguyễn Bu'ò'ng**

Buono, Pietro-Luciano (*with* Golubitsky, Martin; Stewart, Ian N.; Collins, James J.) A modular network for legged locomotion. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 56–72. (Summary) **99d:92051** 92D50 (34C99)

Buonomo, A. The periodic solution of van der Pol's equation. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 156–171 (*electronic*). (Summary) **99f:34059** 34C25 (34E05, 70K99)

Bura, Efstathia (*with* Cook, R. Dennis) Testing the adequacy of regression functions. (English summary) *Biometrika* **84** (1997), *no.* 4, 949–956. (Summary) **99c:62177** 62J05

Burachik, Regina S. (*with* Iusem, Alfredo N.) A generalized proximal point algorithm for the variational inequality problem in a Hilbert space. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 197–216 (*electronic*). (Igor' V. Konnov) **99b:49033** 49M30 (47H17, 47H19, 49J40, 65K10)

Burago, D. Yu. Geometry of tori: Riemannian versus Finsler? *European Congress of Mathematics, Vol. I (Budapest,* 1996), 131–135, *Progr. Math.,* 168, *Birkhäuser, Basel,* 1998. (Igor Belegradek) **99h:53039** 53C20 (53C60)

— (*with* Ferleger, S.; Kononenko, Alexey Vladimir) Uniform estimates on the number of collisions in semi-dispersing billiards. *Ann. of Math.* (2) **147** (1998), *no.* 3, 695–708. (Nikolai Chernov) **99f:58120** 58F11 (58F99, 70F10, 70F35)

— Hard balls gas and Alexandrov spaces of curvature bounded above. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II,* 289–298 (*electronic*). (Anton Petrunin) **99j:53054** 53C23 (58F17)

— (*with* Ferleger, S.; Kononenko, Alexey Vladimir) A geometric approach to semi-dispersing billiards. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 303–319. (Nikolai Chernov) **99c:58091** 58F11 (58F20)

— (*with* Ferleger, S.; Kononenko, Alexey Vladimir) Topological entropy of semi-dispersing billiards. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 791–805. (Valery Covachev) **99m:58146** 58F17 (58F22)

— (*with* Kleiner, Bruce) Separated nets in Euclidean space and Jacobians of bi-Lipschitz maps. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 2, 273–282. (Maciej Sablik) **99d:26018** 26B35 (26B12, 54E99)

— (*with* Ivanov, Sergei Vladimirovich) On asymptotic isoperimetric constant of tori. *Geom. Funct. Anal.* **8** (1998), *no.* 5, 783–787. (João Lucas Marques Barbosa) **99j:53034** 53C20

Burago, Yu. D. (*with* Buyalo, S. V.) Metrics with upper-bounded curvature on 2-polyhedra. II. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 62–112. (Vladimir G. Tkachev) **99j:53086** 53C45

Buratti, Marco (*with* Burosch, Gustav; Ceccherini, Pier Vittorio) A characterization of hypergraphs which are products of a finite number of edges. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 373–385. (Martin Sonntag) **99a:05104** 05C65 (05C75)

— Some constructions for 1-rotational BIBD's with block size 5. (English summary) *Australas. J. Combin.* **17** (1998), 199–227. (M. J. Grannell) **99e:05017** 05B05

— (*with* Zuanni, Fulvio) G-invariantly resolvable Steiner 2-designs which are 1-rotational over G. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 221–235. (K. T. Phelps) **99k:05026** 05B05 (51E10)

— Recursive constructions for difference matrices and relative difference families. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 165–182. (Dieter Jungnickel) **99a:05016** 05B10 (05B05, 05B15)

— 1-rotational Kirkman triple systems generate dicyclic Steiner 2-designs with block size 4. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 91–95. (Summary) **99m:05028** 05B07

Burban, Ivan M. (*with* Klimyk, A. U.) P,Q-differentiation, P,Q-integration, and P,Q-hypergeometric functions related to quantum groups. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 1, 15–36. (Summary) **99f:33023** 33D80 (17B37, 81R50)

Burchuladze, D. (*with* Burchuladze, Tengiz) On three-dimensional dynamic problems of generalized thermoelasticity. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 25–48. (Andrzej Chrzęszczyk) **99b:73009** 73B30 (35Q72, 73C35, 80A20)

Burchuladze, Tengiz On dynamic three-dimensional contact problems of generalized theory of elastothermodiffusion. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 223–228 (1995). 73B30 (35Q72, 73C99)

— To the theory of mathematical problems of generalized elastothermodiffusion. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 201–205. (Summary) **99f:73009** 73B30 (35Q72, 73C99)

— (*with* Rukhadze, R.) Fourier method in three-dimensional boundary-contact dynamic problems of moment elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 352–355. (Summary) **99h:73069** 73T05 (73C99, 73D99)

— On nonstationary three-dimensional contact problems of the generalized theory of elastothermodiffusion. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, 33–37. (Summary) **99c:73068** 73T05 (35Q72, 73B30)

— (*with* Rukhadze, R.) The Fourier method in three-dimensional dynamic problems of the linear theory of elasticity of mixtures. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 31–36. (Summary) **99g:73021** 73C02 (35Q72, 73B99, 73D99)

— (*with* Rukhadze, R.) Asymptotic distribution of eigen-functions and eigen-values of the basic boundary-contact oscillation problems of elasticity. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 377–380. 35P20 (35Q72, 73C02, 73T05)

— On three-dimensional dynamical problems of the generalized theory of elastothermodiffusion. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 22–32. (Summary) **99f:73010** 73B30 (35Q72, 73C99, 73D99)

— (*with* Rukhadze, R.) Asymptotic distribution of eigenfunctions and eigenvalues of the basic boundary-contact oscillation problems of couplestress elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 18–22. (Summary) **99g:73034** 73C99 (73D99)

— (*with* Burchuladze, D.) On three-dimensional dynamic problems of generalized thermoelasticity. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 25–48. (Andrzej Chrzęszczyk) **99b:73009** 73B30 (35Q72, 73C35, 80A20)

Burckel, R. B. (*with* Minda, David) A characterization of simple and double connectivity. (English summary) *Exposition. Math.* **16** (1998), *no.* 2, 133–144. (D. Gaier) **99d:30011** 30C35

Burczyński, T. (*with* Skrzypczyk, J.) Theoretical and computational aspects of the stochastic boundary element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 321–344. (Summary) **99j:73105** 73V10 (73V30)

Burda, P. On the FEM for the Navier-Stokes equations in the domains with corner singularities. (English summary) *Finite element methods (Jyväskylä,* 1997), 41–52, *Lecture Notes in Pure and Appl. Math.,* 196, *Dekker, New York,* 1998. (Markku Lindroos) **99a:76083** 76M10 (65M60, 76D05)

Burda, Zdzisław (*with* Bialas, Piotr; Johnston, Desmond A.) Surplus anomaly and random geometries. *New developments in quantum field theory (Zakopane,* 1997), 251–259, *NATO Adv. Sci. Inst. Ser. B Phys.,* 366, *Plenum, New York,* 1998. (*see* **99e:81002**) 82B41 (83C27)

— Lattice models of random geometries. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 3, 573–617. (E. J. Janse van Rensburg) **99e:82045** 82B41 (82D60, 83C27)

— (*with* Bialas, Piotr; Jurkiewicz, Jerzy Władysław) Correlation functions and critical behaviour on fluctuating geometries. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 86–92. (Summary) **99a:82042** 82B27 (82D60)

— (*with* Bilke, S.; Krzywicki, Andrzej; Petersson, B.; Tabaczek, J.; Thorleifsson, Gudmar) 4d simplicial quantum gravity: matter fields and the corresponding effective action. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 279–286. (Summary) **99d:83030** 83C27 (83C45)

— (*with* Bialas, Piotr; Johnston, Desmond A.) Phase diagram of the mean field model of simplicial gravity. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 413–424. (Summary) **99j:83023** 83C27 (83C45)

Burdakov, S. F. Synthesis of the control of a flexible robot under uncertainty in the mathematical model of the method of indirect compensation. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 149–155. 93C85 (93C95)

Burde, Dietrich On a refinement of Ado's theorem. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 118–127. (José María Ancochea Bermúdez) **99b:17005** 17B10 (17B30)

— Erratum: "Simple left-symmetric algebras with solvable Lie algebra" [Manuscripta Math. **95** (1998), no. 3, 397–411; MR 98m:17006]. *Manuscripta Math.* **96** (1998), *no.* 3, 393–395. 17A30 (17D25)

Burde, Gerhard Real representation spaces of 2-bridge knot groups and isometries of the hyperbolic plane. *KNOTS '96 (Tokyo),* 99–108, *World Sci. Publishing, River Edge, NJ,* 1997. (Introduction) **99k:57008** 57M25

— (*with* Schwarz, Wolfgang Karl) Wolfgang Franz zum Gedächtnis. [Wolfgang Franz in memoriam] *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 4, 284–292. (Editors) **99m:01047** 01A70

Burden, C. J. (*with* Walker, Michael Luke) Chiral symmetry in supersymmetric three-dimensional quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 12, 125013, 7 *pp.* 81V10

Burden, Richard (*with* Faires, J. Douglas) ★ Numerical methods. Second edition. With 1 IBM-PC floppy disk (3.5 inch; HD). *Brooks/Cole Publishing Co., Pacific Grove, CA,* 1998. *xii+594 pp. ISBN* 0-534-35187-5 65–01

Burdet, G. (*with* Perrin, Martine Jacqueline) Conformal implementation of the projective equivalence over statistical manifolds. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 7–17. (John W. Rice) **99f:53014** 53B05 (62B99)

Burdett, Kenneth (*with* Coles, M. G.) Separation cycles. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 7, 1069–1090. 90A50 (92H10)

— (*with* Wright, Randall) Two-sided search with nontransferable utility. (English summary) *Rev. Econ. Dyn.* **1** (1998), *no.* 1, 220–245. (Summary) **99j:90019** 90A10

Burdick, Joel W. (*with* Ostrowski, Jim P.) Controllability for mechanical systems with symmetries and constraints. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 305–331. (Summary) **99d:70042** 70Q05 (70B15, 70F25, 93C85)

— (*with* Chirikjian, Gregory S.) The kinematics of hyper-redundant robots. (English summary) *Essays on mathematical robotics (Minneapolis, MN,* 1993), 61–89, *IMA Vol.*

Math. Appl., 104, *Springer, New York*, 1998. (Summary) **99g:70005** 70B15 (70Q05, 93C85)

Burdík, Č. (*with* Krejcar, R.; Navrátil, O.) Boson realization of Yangians $Y(B_2)$. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 100–103, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81R50

— *see also* **Quantum groups and integrable systems, 99b:17001**; **99b:81005** *and* **99k:81007**

Burdzy, Krzysztof (*with* Mądrecki, Andrzej) Itô formula for an asymptotically 4-stable process. (English summary) *Ann. Appl. Probab.* **6** (1996), *no.* 1, 200–217. (J. Picard (Zbl 856.60042)) **99a:60042** 60G18 (60H05)

— (*with* Barlow, Martin T.; Bass, Richard F.) Positivity of Brownian transition densities. (English summary) *Electron. Comm. Probab.* **2** (1997), 43–51 (*electronic*). (Loïc Chaumont) **99e:60166** 60J35 (60J65)

— (*with* Frankel, David M.; Pauzner, Ady) On the time and direction of stochastic bifurcation. *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 483–500, *North-Holland, Amsterdam*, 1998. (Lorenzo Peccati) **99k:60148** 60H10

— (*with* Khoshnevisan, Davar) Brownian motion in a Brownian crack. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 708–748. (Zoran Vondraček) **99g:60147** 60J65 (60F17)

— (*with* Adelman, Omer; Pemantle, Robin) Sets avoided by Brownian motion. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 429–464. (Mathew D. Penrose) **99i:60152** 60J65

— (*with* Chen, Zhen-Qing) Weak convergence of reflecting Brownian motions. *Electron. Comm. Probab.* **3** (1998), 29–33 (*electronic*). (Youngmee Kwon) **99d:60091** 60J65

— (*with* Bass, Richard F.) Cutting Brownian paths. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 657, $x+95$ *pp.* (Jean Bertoin) **99g:60146** 60J65 (60G17)

— (*with* Salisbury, Thomas S.) On minimal parabolic functions and time-homogeneous parabolic h-transforms. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3499–3531. (Mamoru Kanda) **99m:60113** 60J45 (31B25, 60J50, 60J65)

Burenkov, Viktor I. ★ Sobolev spaces on domains. Teubner-Texte zur Mathematik [Teubner Texts in Mathematics], 137. *B. G. Teubner Verlagsgesellschaft mbH, Stuttgart*, 1998. 312 *pp. ISBN* 3-8154-2068-7 (J. Horváth) **99g:46040** 46E35

— (*with* Schulze, Bert-Wolfgang; Tarkhanov, Nikolai N.) Extension operators for Sobolev spaces commuting with a given transform. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 291–296. (Georgi E. Karadzhov) **99d:46046** 46E35 (47G30)

— (*with* Berezhnoĭ, E. I.) Refined interpolation theorems for a class of operators. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 4, 3–24; *translation in Izv. Math.* **62** (1998), *no.* 4, 651–671. (Georgi E. Karadzhov) **99k:46041** 46E30 (46M35)

— (*with* Evans, William Desmond) Weighted Hardy-type inequalities for differences and the extension problem for spaces with generalized smoothness. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 209–230. (Luboš Pick) **99c:46025** 46E35

— (*with* Evans, William Desmond) On the evaluation of the norm of an integral operator associated with the stability of one-electron atoms. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 993–1005. (Saidachmat N. Lakaev) **99i:47091** 47G10 (45P05, 81V45)

Bureš, Jaroslím (*with* Souček, Vladimír) The inverse Penrose transform for the Dirac and complex Laplace equations. (French summary) *Géométrie complexe (Paris, 1992)*, 3–22, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Michael G. Eastwood) **99e:32053** 32L25 (81R25)

— Spin structures and harmonic spinors on nonhyperelliptic Riemann surfaces of small genera. (English summary) *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 31–43, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Hans-Bert Rademacher) **99d:58172** 58G25 (14H55)

van der Burg, A. H. P. *see* **Planar nonlinear dynamical systems, 99g:00053**

Burgat, Christian (*with* Tarbouriech, Sophie) Comments on the paper: "Some new results on closed-loop stability in the presence of control saturation" [Internat. J. Control **62** (1995), no. 3, 619–631] by A. W. Lee and J. K. Hedrick. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1203–1207. 93D05 (93B52)

— (*with* Tarbouriech, Sophie) Intelligent anti-windup for systems with input magnitude saturation. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1085–1100. (Summary) **99f:93098** 93C83 (93C40)

Burgdörfer, Joachim (*with* Qiu, Yanghui; Müller, Jörg) Periodic orbit spectra of simple atoms. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 304–338, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45 (81Q50)

Burge, Tyler Frege on knowing the foundation. (English summary) *Mind* **107** (1998), *no.* 426, 305–347. (Lila Luce) **99i:03001** 03-03 (01A55, 03A05, 03B30)

Burger, Marc (*with* Valette, Alain) Idempotents in complex group rings: theorems of Zalesskii and Bass revisited. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 219–228. (E. Formanek) **99j:16016** 16S34

Burger, Markus Finite sets of piecewise linear inequalities do not characterize zonoids. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 160–168. (Daniel Hug) **99b:52007** 52A21 (52A40)

Burger, Martin (*with* Capasso, Vincenzo; Engl, Heinz W.) Inverse problems related to crystallization of polymers. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 155–173. (Summary) **99j:80001** 80-08 (35R30, 80A22)

Bürger, Raimund (*with* Concha, F.) Wave propagation phenomena in the theory of sedimentation: mathematical theory of gravitational solid-liquid separation processes. *Numerical methods for wave propagation (Manchester, 1995)*, 173–196, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sergey L. Gavrilyuk) **99m:76111** 76T05 (35Q35, 76M25)

— (*with* Wendland, Wolfgang L.) Entropy boundary and jump conditions in the theory of sedimentation with compression. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 865–882. (Vitaly A. Volpert) **99e:35181** 35Q35 (35K65, 76T05)

Burgess, Clifford P. (*with* de la Macorra, Axel; Quevedo, Fernando; Maksymyk, Ivan) Supersymmetric models with product groups and field dependent gauge couplings. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 7, 30 *pp.* (*electronic*). (Summary) **99g:81209** 81T60 (81T13)

— (*with* Ibáñez, Luis E.; Quevedo, Fernando) Strings at the intermediate scale or is the Fermi scale dual to the Planck scale? (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 257–265. (Summary) **99k:81344** 81V22 (81T30)

Burgess, Colin J. (*with* Chalmers, Alan G.) Optimisation of irregular multiprocessor computer architectures using genetic algorithms. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 239–257. (*see* **99k:90002**) 90C35 (68M07)

Burgess, John P. (*with* Rosen, Gideon) ★ A subject with no object. (English summary) Strategies for nominalistic interpretation of mathematics. *The Clarendon Press, Oxford University Press, New York*, 1997. xii+259 *pp. ISBN* 0-19-823615-8 (Alex Blum) **99a:00004** 00A30 (03A05)

Burgess, Kevin (*with* Passino, Kevin M.) Path-clearing policies for flexible manufacturing systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 573–578. 93E20 (90B60)

Burgess, W. D. (*with* Raphael, R. M.) On extensions of regular rings of finite index by central elements. (English summary) *Advances in ring theory (Granville, OH, 1996)*, 73–86, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Pere Ara) **99b:16013** 16E50

— (*with* Du, Jianbo) On the isomorphism problem for finite-dimensional diagram algebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 955–960. (Jeremy Haefner) **99m:16022** 16G30 (16P10)

Burggraf, O. R. (*with* Lee, J. A.; Conlisk, A. T.) On the impulsive blocking of a vortex-jet. (English summary) *J. Fluid Mech.* **369** (1998), 301–331. (Summary) **99f:76036** 76C05 (76D25)

Burghardt, B. (*with* Stolze, J.) Numerical evaluation of coherent-state path integrals in quantum dynamics. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2075–2090. 81R30 (81S40)

Burgiel, H. (*with* Reiner, Victor) Two signed associahedra. (English summary) *New York J. Math.* **4** (1998), 83–95 (*electronic*). (Volkmar Welker) **99g:52013** 52B12

Bürgisser, Peter (*with* Clausen, Michael; Shokrollahi, M. Amin) ★ Algebraic complexity theory. With the collaboration of Thomas Lickteig. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 315. *Springer-Verlag, Berlin*, 1997. xxiv+618 *pp. ISBN* 3-540-60582-7 (Alexander I. Barvinok) **99c:68002** 68-02 (12Y05, 65Y20, 68Q05, 68Q15, 68Q25, 68Q40)

— On the structure of Valiant's complexity classes. (English summary) *STACS 98 (Paris, 1998)*, 194–204, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68051** 68Q15 (68Q05)

— On the parallel complexity of the polynomial ideal membership problem. (English summary) *J. Complexity* **14** (1998), *no.* 2, 176–189. (Ralf Fröberg) **99d:13031** 13P10 (68Q25)

Burgos, Jose Ignacio Arithmetic Chow rings and Deligne-Beilinson cohomology. *J. Algebraic Geom.* **6** (1997), *no.* 2, 335–377. (Jörg Jahnel) **99d:14015** 14G40 (14C15, 14F99)

— (*with* Wang, Steve) Higher Bott-Chern forms and Beilinson's regulator. (English summary) *Invent. Math.* **132** (1998), *no.* 2, 261–305. (Jörg Jahnel) **99j:14008** 14C35 (14F99, 14G40, 19E20)

Burgos, M. E. Which natural processes have the special status of measurements? (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1323–1346. (Jos Uffink) **99m:81022** 81P15

González-Burgos, Manuel *see* **González-Burgos, Manuel**

Burgos Ariosa, Tomás (*with* Valdés Castro, Concepción) Queuing system with multiple vacations and limited waiting time. (Spanish. English and Spanish summaries) *Investigación Oper.* **18** (1997), *no.* 1-3, 87–94. 60K25 (90B22)

Burgoyne, Richard (*with* Roweis, Sam; Winfree, Erik; Chelyapov, Nickolas V.; Goodman, Myron F.; Rothemund, Paul W. K.; Adleman, Leonard M.) A sticker based model for DNA computation. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 1–29, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68059** 68Q05 (92D20)

Burgueño, C. (*with* Mallol, Cristián; Varro, R.) Dérivations de Peirce et une classe d'algèbres de Bernstein Jordan d'ordre 2. (French summary) [Peirce derivations and a class of second-order Bernstein-Jordan algebras] *Algebras Groups Geom.* **15** (1998), *no.* 2, 239–244. (Consuelo Martínez) **99m:17043** 17D92 (17A36)

Burić, N. (*with* Mudrinić, M.) Modular smoothing of action. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1875–1892. (Summary) **99b:58205** 58F27 (58F22)

— (*with* Mudrinić, M.; Todorović, K.) Universal scaling of critical quasiperiodic orbits in a class of twist maps. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7847–7854. (Summary) **99h:58163** 58F27

Buriev, K. (*with* Arkhipov, G. I.; Chubarikov, V. N.) On the power of a singular set in binary additive problems with prime numbers. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 28–57. (Leszek Kaniecki) **99k:11157** 11P32

Burillo, José Quasi-isometrically embedded subgroups of Thompson's group F. (English summary) *J. Algebra* **212** (1999), *no.* 1, 65–78. (Katalin Bencsath) **99m:20051** 20E06 (20F10)

Burinskiĭ, A. Kerr spinning particle and superparticle models. *Supersymmetry and quantum field theory (Kharkov, 1997)*, 214–219, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 83C10 (81T60)

Burkard, Rainer E. (*with* Çela, Eranda; Pardalos, Panos M.; Pitsoulis, Leonidas S.) The quadratic assignment problem. *Handbook of combinatorial optimization, Vol.* 3, 241–237, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90-02, 90C10)

— (*with* Tan, Zeguang) The simple block iterative algorithm of an extended entropy model and its convergence. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 1, 96–105. (Summary) **99b:90093** 90C26 (65K05)

— (*with* Krarup, Jakob) A linear algorithm for the pos/neg-weighted 1-median problem on a cactus. (English summary) *Computing* **60** (1998), *no.* 3, 193–215. (Summary) **99d:90065** 90B80 (90C27, 90C35)

— (*with* He, Yong[1]; Kellerer, Hans[2]) A linear compound algorithm for uniform machine scheduling. (English summary) *Computing* **61** (1998), *no.* 1, 1–9. (Frank Werner) **99f:90044** 90B35 (68Q25, 90C27)

— (*with* He, Yong[1]) A note on MULTIFIT scheduling for uniform machines. (English summary) *Computing* **61** (1998), *no.* 3, 277–283. (Summary) **99g:90054** 90B35 (90C27)

— (*with* Deĭneko, Vladimir G.) On the traveling salesman problem with a relaxed Monge matrix. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 231–237. (Summary)

99f:90090 90C27
— (*with* Çela, Eranda; Rote, Günter; Woeginger, Gerhard J.) The quadratic assignment problem with a monotone anti-Monge and a symmetric Toeplitz matrix: easy and hard cases. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 125–158. (Roman Słowiński) **99i:90078** 90C27 (90C20)
— (*with* Deĭneko, Vladimir G.; van Dal, René; van der Veen, Jack A. A.; Woeginger, Gerhard J.) Well-solvable special cases of the traveling salesman problem: a survey. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 496–546 (*electronic*). (Anton Volgenant) **99i:90077** 90C27 (90–02)
— (*with* Deĭneko, Vladimir G.; Woeginger, Gerhard J.) The travelling salesman problem on permuted Monge matrices. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 333–350. (Jesús A. de Loera) **99k:90127** 90C27 (90C35)
— (*with* Feldbacher, Karin; Klinz, Bettina; Woeginger, Gerhard J.) Minimum-cost strong network orientation problems: classification, complexity, and algorithms. (English summary) *Networks* **33** (1999), *no.* 1, 57–70. (K. G. Murty) **99k:90185** 90C35 (05C20, 90C27)
— *see also* **Algorithms—ESA '97, 99d:68002**

Burkart, Olaf Queues as processes. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 11 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q42)

Burke, Dennis K. (*with* Moore, J. Tatch) Subspaces of the Sorgenfrey line. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 57–68. (Paul R. Meyer) **99j:54030** 54F05

Burke, James *see* **Morgan, Christopher, 99g:01034**

Burke, James V. (*with* Xu, Song) The global linear convergence of a noninterior path-following algorithm for linear complementarity problems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 719–734. (R. N. Kaul) **99h:90103** 90C33
— (*with* Qian, Maijian) A variable metric proximal point algorithm for monotone operators. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 353–375 (*electronic*). (Claudia A. Sagastizábal) **99h:90093** 90C30 (47H05, 47N10, 49M30)

Burke, M. D. (*with* Yuen, K. C.) A test of fit for a semiparametric additive risk model. (English summary) *Biometrika* **84** (1997), *no.* 3, 631–639. (Lajos Horváth) **99c:62138** 62G10 (62G09)

Burke, Maxim R. (*with* Ciesielski, Krzysztof[2]) Sets on which measurable functions are determined by their range. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1089–1116. (Klaas Pieter Hart) **99i:28004** 28A05 (03E35, 03E50, 28A20, 54C05)
— Forcing axioms. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 1–21, *Kluwer Acad. Publ., Dordrecht*, 1998. (Miroslav Repický) **99f:03072** 03E65 (03E05, 03E35, 03E40, 03E50)

Burken, John J. (*with* Lu, Ping) Controlling aircraft with engine thrust only: nonlinear challenges. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 21–35. 93C95 (49N55)

Burkett, Matthew L. (*with* Rennó, Nilton O.; Larkin, Matthew P.) A simple thermodynamical theory for dust devils. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 21, 3244–3252. (Summary) **99h:86014** 86A10 (76C05)

Burkhard, Hans-Dieter Defining BDI with abstract languages. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 237–252. (Summary) **99c:68229** 68T27 (03B60, 03B70)
— Fairness and control in multi-agent systems. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 109–127. (A. Aiello) **99b:68068** 68Q10 (68Q22)

Burkill, H. Obituary: Gordon Marshall Petersen. *Bull. London Math. Soc.* **31** (1999), *no.* 1, 97–107. (Editors) **99k:01052** 01A70

Burkinshaw, Owen (*with* Aliprantis, Charalambos D.; Border, Kim C.) Market economies with many commodities. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 113–185. (Diethard Pallaschke) **99i:90025** 90A14 (46N10)
— (*with* Abramovich, Yuri A.; Aliprantis, Charalambos D.) Multiplication and compact-friendly operators. (English summary) *Positivity* **1** (1997), *no.* 2, 171–180. (Gerard Buskes) **99k:47076** 47B60 (47A15, 47B65)
— (*with* Aliprantis, Charalambos D.) ★ Problems in real analysis. (English summary) A workbook with solutions. Second edition. *Academic Press, Inc., San Diego, CA*, 1999. *viii*+403 *pp. ISBN* 0-12-050253-4 (Editors) **99g:28001** 28–01 (00A07, 26–01)

Burko, Lior M. (*with* Ori, Amos) Analytic study of the null singularity inside spherical charged black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, *R*7084–*R*7088. 83C57 (83C75)
— Beyond the horizon to unknown territories: the singularity inside black holes. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 15, 1015–1019. 83C57 (83C75)
— Singularity deep inside the spherical charged black hole core. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 024011, 5 *pp.* 83C57

Burkov, I. V. (*with* Freĭdovich, L. B.) Stabilization of the position of a Lagrangian system with elastic elements under constraints on the control with and without measurement of velocity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 447–456; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 433–441. (A. E. Zakrzhevskiĭ) **99d:70037** 70K99 (70B15, 70Q05, 73K12, 93D15)

Burkov, Vladimir N. (*with* Novikov, Dmitriĭ Aleksandrovich; Petrakov, Sergei N.) Mechanism design in economies with private goods: truthtelling and feasible message sets. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 71–78. 90A53

Burlaĭ, I. V. (*with* Bulychev, Yu. G.) Correction of controls of nonstationary objects based on invariance properties of the Riccati equation. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 25–36, 156. 93B51 (93C50)
— Parametric identification of control systems based on an extended model of observations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 29–34. 93B30 (93E10)
— (*with* Bulychev, Yu. G.) Information processing in a class of functions with a compactly supported spectrum. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 40–49; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 224–232 (1998). (Radomir S. Stanković) **99d:94002** 94A11 (43A75)

Burlakov, M. P. Clifford structures on manifolds. Geometry, 3. *J. Math. Sci.* (*New York*) **89** (1998), *no.* 3, 1311–1333. (John Ryan) **99i:53008** 53A50 (53C20)

Burlakov, Vladimir Mikhaĭlovich (*with* Stenin, A. A.; Strakhova, N. V.) Control, optimal with respect to fuel consumption, of the angular position of a spacecraft. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 109–118, 154. 49N55 (93C95)

Burlakova, L. A. On the stability of nonconservative systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 11–19; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 1, 9–17. (A. Ya. Savchenko) **99c:34103** 34D20 (70K20)

Burlet, Michel (*with* Goldschmidt, Olivier) A new and improved algorithm for the 3-cut problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 225–227. (Summary) **99b:90145** 90C35 (05C85)

Burman, Prabir (*with* Bhattacharya, Prodyot Kumar) Semiparametric estimation in the multivariate Liouville model. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 1, 1–18. (Li-Xing Zhu) **99h:62032** 62G05 (62G20)

Burnap, Charles (*with* Kazemi-Dehkordi, M. A.) Optimal control of a system governed by nonlinear Volterra integral equations with delay. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 73–89. (Manfred Goebel) **99k:49057** 49K22 (49K25)
— (*with* Lambert, Alan) Controlling and supporting sets in operator algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1357–1362. (Martin Mathieu) **99h:46103** 46L05 (46H20, 47B47, 47D25)

Burnashev, Marat V. On one useful inequality in testing of hypotheses. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1668–1670. 62C20
— (*with* Kholevo, A. S.) On the reliability function for a quantum communication channel. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 3–15; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 97–107. (Summary) **99h:94039** 94A40 (81P99)

Burnat, Marek (*with* Zajączkowski, Wojciech M.) On local motion of a compressible barotropic viscous fluid with the boundary slip condition. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 195–223. (Raphaël Danchin) **99h:35175** 35Q35 (76N10)

Burnecki, Maciej Invertible transformations acting on Orlicz spaces. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 4, 319–330. (Da Chun Yang) **99a:46044** 46E30 (46B03, 47B38)

Burnel, A. Renormalization of gauge field theories. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2441–2451. (Summary) **99b:81150** 81T15

Burnell, Stephen J. (*with* Evans, Lewis; Yao, Shuntian) The ultimatum game: optimal strategies without fairness. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 2, 221–252. (Summary) **99k:90205** 90D05

Burnetas, Apostolos N. (*with* Katehakis, Michael N.) Dynamic allocation policies for the finite horizon one armed bandit problem. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 811–824. (John C. Gittins) **99m:62123** 62L15 (90B80, 90C40)

Burnett, Charles King Ptolemy and Alchandreus the Philosopher: the earliest texts on the astrolabe and Arabic astrology at Fleury, Micy and Chartres. (English summary) *Ann. of Sci.* **55** (1998), *no.* 4, 329–368. 01A20 (01A30)

Burnett, David S. (*with* Holford, Richard L.) Multipole-based 3-D infinite elements: an ellipsoidal acoustic element and a spherical electromagnetic element. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 53–62, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 78–08
— (*with* Holford, Richard L.) Prolate and oblate spheroidal acoustic infinite elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 117–141. (Summary) **99a:76136** 76Q05 (76M25)
— (*with* Holford, Richard L.) An ellipsoidal acoustic infinite element. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 49–76. (Summary) **99i:76105** 76M25 (65M60, 76Q05)

Burnett, R. T. (*with* Zidek, James V.; Le, Nhu D.; Wong, Huber) Including structural measurement errors in the nonlinear regression analysis of clustered data. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 4, 537–548. 62J02

Burnham, K. J. (*with* Dunoyer, A.; Balmer, L.; James, D. J. G.) On the discretization of single-input single-output bilinear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 361–372. 93A30 (93C55)

Burns, Alan (*with* Audsley, N. C.) On fixed priority scheduling, offsets and co-prime task periods. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 65–69. 68M20

Burns, David J. (*with* Agboola, A.) On the Galois structure of equivariant line bundles on curves. (English summary) *Amer. J. Math.* **120** (1998), *no.* 6, 1121–1163. (Nigel Byott) **99k:11177** 11R33 (14G15, 14H60)

Burns, J. *see* **Burns, John M.**

Burns, J. A. *see* **Burns, John A.**

Burns, Jean E. Entropy and vacuum radiation. (English summary) *Found. Phys.* **28** (1998), *no.* 7, 1191–1207. (Summary) **99f:82040** 82C05 (81P20, 82C31)

Burns, John *see* **Burns, John M.**

Burns, John A. (*with* Stanley, Lisa G.; Stewart, Dawn L.) A projection method for accurate computation of design sensitivities. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 40–66, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Werner Horn) **99e:65103** 65K10 (49M25, 65N30)
— (*with* King, Belinda B.; Rubio, Diana) Feedback control of a thermal fluid using state estimation. Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 93–112. (*see* **99k:76005**) 93E11 (76D99)
— (*with* King, Belinda B.) A note on the mathematical modelling of damped second order systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 12 *pp.* (*electronic*). (From the text) **99h:34080** 34G10 (34H05, 73K50, 93A30)
— (*with* Balogh, A.; Gilliam, David S.; Shubov, V. I.) Numerical stationary solutions for a viscous Burgers' equation. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 16 *pp.* (*electronic*). (Summary) **99i:76045** 76D99 (35Q53, 65M99, 76M25)
— (*with* King, Belinda B.) A reduced basis approach to the design of low-order feedback controllers for nonlinear continuous systems. (English summary) *J. Vib. Control* **4** (1998), *no.* 3, 297–323. (Summary) **99a:93046** 93B52 (93C10)
— *see also* **Computational methods for optimal design and control, 99d:49001**

Burns, John M. (*with* Goldsmith, Brendan) The trace of an abelian group—an application to digraphs. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 75–79. (Summary) **99f:20006** 20B25 (05C20)

— (*with* Ellis, Graham J.; MacHale, Desmond; Ó Murchú, P.; Sheehy, R.; Wiegold, James) Lower central series of groups with small upper central factors. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 113–122. (O. Yu. Dashkova) **99g:20061** 20F14

— (*with* Ellis, Graham J.) Inequalities for Baer invariants of finite groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 385–391. (Andrea Lucchini) **99i:20028** 20D15 (20C25, 20D30)

Burns, Richard N. (*with* Narasimhan, Rangarajan; Smith, L. Douglas) A set-processing algorithm for scheduling staff on 4-day or 3-day work weeks. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 8, 839–853. (Summary) **99g:90055** 90B35 (90C90)

Burns, Robert G. (*with* Chau, T. C.; Kam, S.-M.) On the rank of intersection of subgroups of a free product of groups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 31–45. (B. H. Neumann) **99a:20025** 20E06 (20E07)

— *see also* **Ivanov, O. A., 99g:00001**

Burnside, Craig Solving asset pricing models with Gaussian shocks. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 3, 329–340. (Summary) **99a:90034** 90A09

Burnside, William *see* **Lam, T. Y., 99e:01018b**

Burnton, Christopher (*with* Scherer, Rudolf) Gauss-Runge-Kutta-Nyström methods. (English summary) *BIT* **38** (1998), *no.* 1, 12–21. (Masaharu Nakashima) **99d:65209** 65L06 (65L20)

Burosch, Gustav (*with* Buratti, Marco; Ceccherini, Pier Vittorio) A characterization of hypergraphs which are products of a finite number of edges. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 373–385. (Martin Sonntag) **99a:05104** 05C65 (05C75)

— *see also* **Schmidt, Vasco Alexander, 99b:01023**

Burov, A. A. (*with* Chevallier, D. P.) On motion of a rigid body about a fixed point with respect to a rotating frame. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 66–75. (Summary) **99i:70009** 70E15

— (*with* Chevallier, D. P.) On Routh reduction and its application in rigid body dynamics. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 695–702. (Jair Koiller) **99k:70022** 70H35 (70E15, 70F25, 70K20)

Burovoi, I. A. (*with* Emel'yanov, S. V.; Levada, F. Yu.) ★ Control of indefinite nonlinear dynamic systems. (English summary) Induced internal feedback. Translated from the Russian by P. S. Ivanov. Lecture Notes in Control and Information Sciences, 231. *Springer-Verlag London, Ltd., London*, 1998. xvi+196 *pp. ISBN* 3-540-76245-0 (Engin Yaz) **99a:93040** 93B51 (93–02, 93A30, 93C10)

Burq, Nicolas Mesures semi-classiques et mesures de défaut. (French summary) [Semiclassical measures and defect measures] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 826, 4, 167–195. (Jean-Marc Delort) **99f:35011** 35B27 (35A27, 35L05, 46N20, 93B05)

— Scattering resonances generated by corners. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 360–363, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35P25

— Absence de résonance près du réel pour l'opérateur de Schrödinger. (French summary) [Absence of resonance near the real axis for the Schrödinger operator] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XVII*, 9 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35J10 (47F05, 47N50, 81Q05)

— Décroissance de l'énergie locale de l'équation des ondes pour le problème extérieur et absence de résonance au voisinage du réel. [Decay of the local energy of the wave equation for the exterior problem and absence of resonance near the real axis] *Acta Math.* **180** (1998), *no.* 1, 1–29. (R. G. Aĭrapetyan) **99j:35119** 35L05 (35B40)

Burr, Wolfgang (*with* Hartung, Volker) A characterization of the Σ_1-definable functions of KPω + (uniform AC). (English summary) *Arch. Math. Logic* **37** (1997), *no.* 3, 199–214. (Cristian Calude) **99j:03032** 03D60

Burrage, Kevin (*with* Jackiewicz, Z.; Welfert, B.) Block-Toeplitz preconditioning for static and dynamic linear systems. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 51–74. (Summary) **99d:65204** 65L05

— (*with* Erhel, Jocelyne) On the performance of various adaptive preconditioned GMRES strategies. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 2, 101–121. (Summary) **99a:65040** 65F10

— (*with* Erhel, Jocelyne; Pohl, B.; Williams, Alan) A deflation technique for linear systems of equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1245–1260 (*electronic*). (Summary) **99b:65044** 65F15 (65F10)

Burrell, Anthony (*with* Papantoni-Kazakos, P.; Kogiantis, Achilles G.) Detecting changes in acting stochastic models and model implementation via stochastic binary neural networks. *Statistical methods in control and signal processing*, 481–497, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 92B20

Burris, A. C. (*with* Schelp, Richard H.) Vertex-distinguishing proper edge-colorings. (English summary) *J. Graph Theory* **26** (1997), *no.* 2, 73–82. (Summary) **99g:05073** 05C15

Burroughs, Lynn (*with* Bshouty, Nader H.) Massaging a linear programming solution to give a 2-approximation for a generalization of the vertex cover problem. (English summary) *STACS* 98 (*Paris*, 1998), 298–308, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99g:90071** 90C08 (90C35)

Burrus, Charles S. (*with* Wei, Dong; Tian, Jun[1]; Wells, Raymond O., Jr.) A new class of biorthogonal wavelet systems for image transform coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 7, 1000–1013. (Summary) **99j:94004** 94A11

— (*with* Guo, Haitao; Sitton, Gary A.) The quick Fourier transform: an FFT based on symmetries. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 2, 335–341. (Summary) **99i:65151** 65T20 (94A12)

— (*with* Odegard, Jan E.) Coiflet systems and zero moments. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 761–766. (Summary) **99h:42055** 42C15

Burskiĭ, V. P. Boundary value problems for a differential equation with constant coefficients, and a moment problem. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 3, 295–298. (Gennadii V. Demidenko) **99a:35022** 35E20 (44A60)

Burstall, F. E. (*with* Guest, Martin A.) Harmonic two-spheres in compact symmetric spaces, revisited. *Math. Ann.* **309** (1997), *no.* 4, 541–572. (Anne-Joëlle Vanderwinden) **99f:58046** 58E20 (53C35)

Bursztyn, Dizza (*with* Steinberg, David M.) Noise factors, dispersion effects, and robust design. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 67–85. (Summary) **99a:62110** 62K05 (62N10)

Burton, Donald Eugene (*with* Caramana, E. J.; Shashkov, Mikhail; Whalen, P. P.) The construction of compatible hydrodynamics algorithms utilizing conservation of total energy. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 227–262. (Summary) **99g:76103** 76M25 (76M20)

Burton, G. R. (*with* Douglas, Robert John) Rearrangements and polar factorisation of countably degenerate functions. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 671–681. (Robert J. McCann) **99h:28031** 28D05 (26A48, 46E30, 52A99)

Burton, Howard (*with* Mann, Robert B.) Palatini variational principle for N-dimensional dilaton gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1375–1385. (Hans P. Künzle) **99d:83106** 83E99 (83C05)

— (*with* Mann, Robert B.) Palatini variational principle for an extended Einstein-Hilbert action. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4754–4759. (Summary) **99m:83011** 83C05

Burton, M. H. The fuzzy uniformisation of function spaces. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 283–290. (Summary) **99f:54011** 54A40 (54C35)

— (*with* Gutiérrez García, J.; de Prada Vicente, María Angeles) Embeddings into the category of super uniform spaces. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 311–326. (Summary) **99h:54006** 54A40 (54E15)

— (*with* Muraleetharan, M.; Gutiérrez García, J.) Generalised filters. I. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 275–284. 54A40 (18A22, 54A20, 54E15)

— (*with* Gutiérrez García, J.; Mardones Pérez, I.) The relationship between various filter notions on a GL-monoid. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 291–302. (Summary) **99k:54002** 54A40 (04A72, 54E99)

Burton, Robert M., Jr. (*with* Steif, Jeffrey E.) Coupling surfaces and weak Bernoulli in one and higher dimensions. (English summary) *Adv. Math.* **132** (1997), *no.* 1, 1–23. (B. M. Gurevich) **99c:28043** 28D05 (28D15, 60G60, 60K35)

— (*with* Dajani, Karma; Meester, Ronald) Entropy for random group actions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 109–124. (Thomas Bogenschütz) **99b:28021** 28D20

— (*with* Alonso, Juan Manuel; Bogley, W. A.; Pride, Stephen J.; Wang, Xiao Feng[1]) Second order Dehn functions of groups. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 1–30. (Athanase Papadopoulos) **99c:20047** 20F32 (57M07)

Burton, T. A. (*with* Huang, Qichang) Asymptotic stability and boundedness for functional-differential equations. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 640. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 3, 363–372. (Summary) **99d:34128** 34K15 (34K20)

— Linear integral equations and periodicity. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 313–326. (Pyotr M. Simonov) **99f:45009** 45J05 (34K15, 45M15)

— Krasnoselskii's inversion principle and fixed points. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 3975–3986. (V. V. Obukhovskiĭ) **99a:47093** 47H15 (34C25, 34K15, 47H10, 47N10)

— (*with* Makay, G.) Marachkov type stability results for functional-differential equations. *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 1, 17 *pp.* (*electronic*). (George Seifert) **99b:34121** 34K20

— (*with* Furumochi, Tetsuo) Periodic solutions of a neutral integro-differential equation. *Funkcial. Ekvac.* **41** (1998), *no.* 2, 327–336. (George Seifert) **99m:34187** 34K40 (45J05)

— (*with* Kirk, Colleen) A fixed point theorem of Krasnoselskii-Schaefer type. (English summary) *Math. Nachr.* **189** (1998), 23–31. (S. N. Askhabov) **99a:47081** 47H10 (34K15, 45G10)

— Basic neutral integral equations of advanced type. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 295–310. (Andrey Ponomaryov) **99a:34216** 34K40 (45G10, 45M15)

— An existence theorem for a neutral equation. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 1–6. (Elena Litsyn) **99c:34186** 34K40

Burtsev, S. P. (*with* Camassa, Roberto; Timofeyev, I.) Numerical algorithms for the direct spectral transform with applications to nonlinear Schrödinger type systems. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 166–186. (Summary) **99g:34036** 34A45 (34A55, 34L25, 78–08, 78A60)

Burusco Juandeaburre, A. (*with* Fuentes-González, R.) Construction of the L-fuzzy concept lattice. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 109–114. (Summary) **99i:06003** 06A23 (03E72)

Buryachenko, V. A. (*with* Rammerstorfer, Franz G.) Thermoelastic stress fluctuations in random-structure coated particulate composites. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 763–788. (Summary) **99g:73010** 73B30 (73B35, 73K20, 73V30)

— Triply periodical particulate matrix composites in varying external stress fields. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 25, 3837–3859. 73K20

— Effective thermoelastic properties of graded doubly periodic particulate matrix composites in varying external stress fields. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 25, 3861–3885. 73K20 (73B27)

Buryak, Alexander V. (*with* Bang, Ole; Kivshar, Yu. S.; De Rossi, Alfredo; Trillo, Stefano) Two-dimensional solitary waves in media with quadratic and cubic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5057–5069. (Summary) **99h:78023** 78A60 (35Q51)

Buryĭ, A. S. (*with* Polous, A. I.; Shlyakonov, V. A.) A functional diagnostic method for program-controlled plants. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 173–178; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 599–602. 93B30 (90B25)

Burykin, A. A. (*with* Denisov, A. M.) Determination of the unknown sources in the heat-conduction equation. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 309–313. (Summary) **99a:65112** 65M30

Burýšek, S. (*with* Burýšková, V.) On the spectrum of the couple of symmetric homogeneous operators. (English summary) *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 4, 407–418. (A. A. Fonarev) **99d:47060** 47H12 (47H15)

Burýšková, V. (*with* Burýšek, S.) On the spectrum of the couple of symmetric homogeneous operators. (English summary) *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 4, 407–418. (A. A. Fonarev) **99d:47060** 47H12 (47H15)

Burzlaff, J. (*with* Zakrzewski, Wojciech J.) CP^2 soliton scattering: the collective coordinate approximation. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1311–1320. (Bernd J. Schroers) **99h:81128** 81T10 (58E50)

Burzyk, Józef (*with* Kamiński, Andrzej) Operations on convergences. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 199–212. (Zbigniew Grande) **99i:54006** 54A20 (28A20, 54B10, 54D99)

Busard, Hubert L. L. Über den lateinischen Euklid im Mittelalter. (English and French summaries) [On the Latin Euclid in the Middle Ages] *Arabic Sci. Philos.* **8** (1998), *no.* 1, 4, 6, 97–129. (Eberhard Knobloch) **99d:01014** 01A35 (01A20)

Busawon, K. K. (*with* Saif, Mehrdad) An observer for a class of disturbance driven nonlinear systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 109–113. 93E10 (93B07)

— (*with* Farza, M.; Hammouri, H.) Observer design for a special class of nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 405–418. (Summary) **99h:93021** 93B07 (93B50)

Busca, Jérôme (*with* Aftalion, Amandine) A Serrin type result for infinite cylinders. *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson, 1997)*, 1–6, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (*see* **99d:35003**) 35J65 (35B05, 35N10)

— (*with* Aftalion, Amandine) Radial symmetry of overdetermined boundary-value problems in exterior domains. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 2, 195–206. (Summary) **99h:35057** 35J65 (35B05, 35N10)

Busch, Paul Can "unsharp objectification" solve the quantum measurement problem? (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 241–247. (Jos Uffink) **99g:81020** 81P15

Buschlinger, Wolfgang ★ Wider das Verbot der semantischen Geschlossenheit einer Sprache. (German. German summary) [Against the prohibition of semantic closure of a language] Der Wert unliebsamer sprachlicher Strukturen für die Reduktion von Graphentheorie auf Logik. [The value of unpleasant linguistic structures for the reduction of graph theory to logic] Europäische Hochschulschriften. Reihe XX. Philosophie [European University Publications. Series XX. Philosophy], 541. *Peter Lang, Frankfurt am Main*, 1997. 287 *pp. ISBN* 3-631-31918-5 (Roman Murawski) **99c:03004** 03A05

Buschman, R. G. Contiguous function relations for associated hypergeometric functions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 659–662. (Summary) **99j:33004** 33C05

Buşe, Constantin (*with* Barbu, Dorel) The Lyapunov equations and nonuniform exponential stability. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 25–31. (R. F. Datko) **99k:47084** 47D06 (34D99, 34G10)

— On nonuniform asymptotic stability of impulsive differential equations. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 485–497. (O. S. Chernikova) **99m:34117** 34D99 (34A37, 34G10)

Busenberg, Stavros (*with* Langlais, Michel) Global behaviour in age structured S.I.S. models with seasonal periodicities and vertical transmission. *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 511–533. (K. Gopalsamy) **99f:92035** 92D30 (45K05)

Buser, Peter (*with* Seppälä, Mika) Computing on Riemann surfaces. (English summary) *Topology and Teichmüller spaces (Katinkulta, 1995)*, 5–30, *World Sci. Publishing, River Edge, NJ*, 1996. (Thomas A. Schmidt) **99k:30071** 30F10 (14H55, 14Q05, 14Q10, 30F35)

Bush, Seth D. (*with* Rourke, David E.) Inversion of the Bloch equations with T_2 relaxation: an application of the dressing method. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7216–7230. (Summary) **99e:81276** 81V80 (35Q60, 78A99)

Busha, J. (*with* Airapetyan, R. G.; Zhidkov, E. P.) Numerical method for solving the inverse problem of quantum scattering theory. (English summary) *Computational modelling and computing in physics (Dubna, 1996)*, 27–31, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 81U40 (34L25, 65R20)

Bushenkov, Yu. N. (*with* Dobrinskiĭ, V. I.) 2, 5-D migration algorithm in the spatial-time domain. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 6, 577–581. (Summary) **99k:73052** 73D15 (65M70)

Bushnell, Colin J. (*with* Henniart, Guy M.; Kutzko, Philip C.) Correspondance de Langlands locale pour GL_n et conducteurs de paires. (English and French summaries) [Local Langlands correspondence for GL_n and conductors for pairs] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 537–560. (Rebecca Herb) **99h:22011** 22E40 (22E35)

— (*with* Henniart, Guy M.) Supercuspidal representations of GL_n: explicit Whittaker functions. *J. Algebra* **209** (1998), *no.* 1, 270–287. (Goran Muić) **99j:22022** 22E50

— (*with* Henniart, Guy M.; Kutzko, Philip C.) Local Rankin-Selberg convolutions for GL_n: explicit conductor formula. *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 703–730. (Roman Bezrukavnikov) **99h:22022** 22E50 (11F70, 11S37)

Busi, Italo (*with* Pattavina, Achille) Non-blocking multistage interconnection networks with limited depth. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 119–146, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94063** 94C10 (05C90, 68M10, 90B12)

Büskens, Ch. (*with* Mäurer, Helmut^2; Feichtinger, Gustav) Solution techniques for periodic control problems: a case study in production planning. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 185–203. (Summary) **99e:90022** 90A16 (49N20)

Buskes, Gerard (*with* Summerville, Jamie) On the biadjoint of Riesz-like homomorphisms on partially ordered vector spaces. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 473–481. (Peter Meyer-Nieberg) **99a:46008** 46A40 (47B60)

— (*with* van Rooij, Arnoud C. M.) Representation of Riesz spaces without the Axiom of Choice. (English summary) *Nepali Math. Sci. Rep.* **16** (1997), *no.* 1-2, 19–22. (Summary) **99h:46003** 46A40

Buslaev, V. I. (*with* Buslaeva, S. F.) Compositions of linear-fractional transformations. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 332–338; *translation in Math. Notes* **61** (1997), *no.* 3-4, 272–277. (Igor N. Blinov) **99c:30051** 30D05

Buslaev, Vladimir (*with* Buslaeva, M. V.) Singularity of the Green function of the nonstationary Schrödinger equation. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 80–83; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 132–134. (V. S. Rabinovich) **99j:35028** 35J10 (35C20, 47F05)

— (*with* Grigis, Alain) Imaginary parts of Stark-Wannier resonances. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2520–2550. (Philippe Briet) **99d:34164** 34L40 (34L05, 81Q20, 81U05)

Buslaeva, L. T. On the stability of a route optimization algorithm. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 5, 179–183, 191; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 5, 754–756 (1998). 90C27 (90C35)

Buslaeva, M. V. (*with* Buslaev, Vladimir) Singularity of the Green function of the nonstationary Schrödinger equation. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 80–83; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 132–134. (V. S. Rabinovich) **99j:35028** 35J10 (35C20, 47F05)

Buslaeva, S. F. (*with* Buslaev, V. I.) Compositions of linear-fractional transformations. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 332–338; *translation in Math. Notes* **61** (1997), *no.* 3-4, 272–277. (Igor N. Blinov) **99c:30051** 30D05

Buslyuk, D. V. Construction of the last multiplier of a system of partial differential equations on admissible operators. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 3, 20–23, 78. (Summary) **99m:35009** 35A20

Bușneag, Dumitru Injective objects in the bounded Hertz algebras category. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 29–35 (1994). 18C05 (03G25, 08C05)

— A representation theorem for maximal Hertz algebra of quotients. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 3–8 (1995). 03G25 (06D20)

— A representation theorem for maximal lattice of quotients. *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 219–222. 06D05

Busoni, Giorgio (*with* Belleni-Morante, A.) A three-dimensional Boltzmann-like model of outgassing and contamination. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 2, 229–249. (Summary) **99e:82076** 82C40 (76P05, 76R50)

— (*with* Matucci, Serena) A problem of optimal harvesting policy in two-stage age-dependent populations. (English summary) *Math. Biosci.* **143** (1997), *no.* 1, 1–33. (K. E. Swick) **99a:92024** 92D25

Busquier, Sonia (*with* Amat, Sergio; Candela, Vicente F.) Comparison of stability in the extrapolation of various solution methods for ordinary differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 557–562, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L20

Buss, Jonathan F. (*with* Bloch, Stephen A.; Goldsmith, Judy) Sharply bounded alternation within P (extended abstract). (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 131–146, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 68Q15

— (*with* Barnes, Greg; Ruzzo, Walter L.; Schieber, Baruch) A sublinear space, polynomial time algorithm for directed s-t connectivity. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1273–1282 (*electronic*). (Marek Kubale) **99e:68117** 68R10 (05C40, 05C85, 68Q25)

Buss, Samuel R. (*with* Impagliazzo, Russell; Krajíček, Jan; Pudlák, Pavel; Razborov, A. A.; Sgall, Jiří) Proof complexity in algebraic systems and bounded depth Frege systems with modular counting. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 256–298. (Mariko Yasugi) **99g:03060** 03F20

— Bounded arithmetic and propositional proof complexity. (English summary) *Logic of computation (Marktoberdorf, 1995)*, 67–121, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (Jan Krajíček) **99b:03073** 03F20 (03F30, 68Q15)

— (*with* Alekhnovich, Michael; Moran, Shlomo; Pitassi, Toniann) Minimum propositional proof length is NP-hard to linearly approximate (extended abstract). (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 176–184, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (03F20, 68Q15)

— Lower bounds on Nullstellensatz proofs via designs. (English summary) *Proof complexity and feasible arithmetics (Rutgers, NJ, 1996)*, 59–71, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Piotr Wojtylak) **99c:03083** 03F20 (03B05, 13P10, 68R05)

— (*with* Yianilos, Peter N.) Linear and $O(n \log n)$ time minimum-cost matching algorithms for quasi-convex tours. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 170–201 (*electronic*). (Rainer Burkard) **99c:90144** 90C35 (68Q25, 68R10)

— *see also* **Handbook: Proof theory, 99d:03051**

van den Bussche, Jan *see* **Van den Bussche, Jan**

Busse, F. H. (*with* Clever, R. M.) Nonlinear waves and thermal convection. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 165–180, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:76059** 76E15 (76R10)

— (*with* Hoffmann, Norbert; Chen, W.-L.) Transitions to complex flows in the Ekman-Couette layer. (English summary) *J. Fluid Mech.* **366** (1998), 311–331. (Summary) **99c:76045** 76E10 (76U05)

— (*with* Herrmann, Jürgen Georg) Stationary and time dependent convection in the rotating cylindrical annulus with modulated height. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1611–1620. (Summary) **99b:76034** 76E15 (76U05)

grzymala-Busse, Jerzy W. *see* **Grzymala-Busse, Jerzy W.**

bartolini Bussi, Maria G. *see* **Bartolini Bussi, Maria G.**

Bussieck, Michael R. (*with* Lübbecke, Marco E.) The vertex set of a 0/1-polytope is strongly P-enumerable. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 103–109. (Summary) **99i:68119** 68U05 (52B55, 68Q25)

— (*with* Blasum, Ulrich; Hochstättler, Winfried; Moll, Christoph; Scheel, Hans-Helmut; Winter, Thomas) Scheduling trams in the morning. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 137–148. (Summary) **99m:90083** 90B35 (90C27)

Büssow, Robert (*with* Grieskamp, Wolfgang) Combining Z and temporal interval logics for the formalization of properties and behaviors of embedded systems. (English summary) *Advances in computing science—ASIAN'97 (Kathmandu, 1997)*, 46–56, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (03B45)

Bustamante González, Jorge (*with* Escobedo Conde, Raúl) When a composition algebra is barrelled? *Extracta Math.* **12** (1997), *no.* 1, 19–23. (Denny Gulick) **99a:46005** 46A08 (46H05, 54C30)

— (*with* Arrazola, José R.; Escobedo Conde, Raúl) A-realcompact spaces. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 17–29. (A. H. Stone) **99e:54017** 54D20

(46E25, 46J99, 54C40)

— *see also* **Proceedings: Conference on Approximation and Optimization in the Caribbean, 99e:00022**

Bustince Sola, Humberto (*with* Calderón, M.; Mohedano, V.) Some considerations about a least squares model for fuzzy rules of inference. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 315–336. (Summary) **99d:03019** 03B52

Bustoz, Joaquin (*with* Suslov, Sergei K.) Basic analog of Fourier series on a q-quadratic grid. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 1, 1–38. (Stamatis Koumandos) **99e:33020** 33D15 (33B10, 33C10, 42C10)

Busvelle, E. (*with* Viel, F.; Gauthier, J. P.) A stable control structure for binary distillation columns. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 475–505. 93C95 (93D15)

Buszkowski, Wojciech (*with* Kołowska-Gawiejnowicz, Mirosława) Representation of residuated semigroups in some algebras of relations (the method of canonical models). (English summary) *Fund. Inform.* **31** (1997), *no.* 1, 1–12. (Libor Polák) **99g:06020** 06F05 (03G15, 20M99, 68S05)

— (*with* Orłowska, Ewa) Indiscernibility-based formalization of dependencies in information systems. (English summary) *Incomplete information: rough set analysis*, 293–315, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T30 (03B70)

— (*with* Orłowska, Ewa) Relational logics for formalization of database dependencies. *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 3, 138–143. 03B70

— Algebraic structures in categorial grammar. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 5–24. (Katalin Bimbó) **99m:03056** 03B65 (68Q45, 68S05)

Butakov, V. V. (*with* Martynov, L. M.) Semigroups all of whose noncyclic subsemigroups are ideals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 94–96. 20M12

Butcher, E. A. (*with* Sinha, S. C.) Symbolic computation of local stability and bifurcation surfaces for nonlinear time-periodic systems. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 1–21. (Summary) **99e:78003** 78–08 (70K28)

— (*with* Sinha, S. C.) Canonical perturbation of a fast time-periodic Hamiltonian via Liapunov-Floquet transformation. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 1, 209–217. (James A. Murdock) **99e:70056** 70K28 (70H05, 70H30)

Butcher, J. C. (*with* Jackiewicz, Z.) Construction of high order diagonally implicit multistage integration methods for ordinary differential equations. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 1–12. (S. Hitotumatu) **99f:65110** 65L06 (65L05)

— Order and effective order. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 179–191. (Severiano Gonzalez-Pinto) **99k:65056** 65L06

— (*with* Chen, D. J. L.) ESIRK methods and variable stepsize. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 193–207. (Summary) **99f:65111** 65L06

— (*with* Diamantakis, M. T.) DESIRE: diagonally extended singly implicit Runge-Kutta effective order methods. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 121–145. (Summary) **99c:65131** 65L06

— ARK methods up to order five. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 193–221. 65L06

Bute de Monvel', L. *see* **Boutet de Monvel, Louis**

Butenina, N. N. Constructing the controllability set to an arbitrary point in a plane. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 24–27. (Patrick Saint-Pierre) **99g:93008** 93B03 (34H05)

Butera, Jeffrey V. (*with* Fitzpatrick, Ben G.; Wypasek, Christian J.) Dispersion modeling and simulation in subsurface contaminant transport. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1183–1197. (Summary) **99h:86006** 86A05 (76S05, 86–08, 93A30)

Buth, Manfred Über einen methodisch geordneten Aufbau der speziellen Relativitätstheorie. (English summary) [On a methodically ordered reconstruction of the theory of special relativity] *J. Gen. Philos. Sci.* **29** (1998), *no.* 1, 21–36. (Helmuth K. Urbantke) **99g:83004** 83A05 (00A35, 01A60)

Butković, D. *see* **Functional analysis, 99h:00028**

Butkovič, Peter (*with* Gaubert, Stéphane; Cuninghame-Green, Raymond) Minimal (max, +) realization of convex sequences. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 137–147 (*electronic*). (Valeriu Prepeliţă) **99f:93100** 93C83 (15A15, 15A33, 93B51)

Butkovskiĭ, A. G. Cybernetics and structures. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 8–20, 295. 93A05 (93–02)

— Geometrical structures in control theory. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 121–126. 93A10 (93B27)

Butler, David C. Families of maximal subbundles for rank two bundles on a curve. *Math. Ann.* **307** (1997), *no.* 1, 29–39. (Enrique Arrondo) **99d:14023** 14H60

Butler, David J. A choice-rule formulation of intransitive utility theory. (English summary) *Econom. Lett.* **59** (1998), *no.* 3, 323–329. (Summary) **99d:90022** 90A10

Butler, Geoffrey J. *see* **Conference: Differential Equations and Mathematical Biology**

Butler, Jon T. (*with* Sasao, Tsutomu) On the properties of multiple-valued functions that are symmetric in both variable values and labels. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 83–88, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Butler, M. J. *see* **Butler, Matthew J.**

Butler, Mark H. (*with* Paton, Ray C.; Leng, Paul H.) Unconventional approaches for biologically inspired computing. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 118–130, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05

Butler, Matthew J. (*with* Duck, P. W.; Stansby, P. K.) An asymptotic description of the attached, turbulent, oscillatory boundary layer. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 335–357. (Summary) **99g:76042** 76D10 (76D15, 76F99)

Butler, Michael J. (*with* Back, Ralph-Johan) Fusion and simultaneous execution in the refinement calculus. (English summary) *Acta Inform.* **35** (1998), *no.* 11, 921–949. (Annabelle McIver) **99k:68105** 68Q60 (68Q65)

— Calculational derivation of pointer algorithms from tree operations. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 3, 221–260. 68N05

Butler, Neil A. A frequency domain comparison of estimation methods for Gaussian fields. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2325–2342. 62M40

— The efficiency of ordinary least squares in designed experiments subject to spatial or temporal variation. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 73–81. (Summary) **99h:62087** 62J05

Butler, P. H. (*with* McAven, L. F.; Hamel, A. M.) Split bases and multiplicity separations in symmetric group transformation coefficients. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8363–8372. (Himmet Can) **99m:05164** 05E10 (20C30, 81R05)

Butler, Ronald W. (*with* Sutton, Richard K.) Saddlepoint approximation for multivariate cumulative distribution functions and probability computations in sampling theory and outlier testing. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 596–604. (Summary) **99b:62016** 62E17

— Generalized inverse Gaussian distributions and their Wishart connections. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 69–75. (Gérard Letac) **99g:62071** 62H10

Butnariu, Dan (*with* Iusem, Alfredo N.; Isnard, Carlos A.) A mixed Hölder and Minkowski inequality. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2405–2415. (Jiří Rákosník) **99j:26019** 26D15 (46B10, 46E30)

Butt, Rizwan Finite element approximation for optimal shape design. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 87–104. (Summary) **99b:65137** 65N30

Butt, Sohail (*with* Hussain, Malik Zawwar; Sarfraz, Muhammad) Locally constructed C^2 spline. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 73–79. (Zygmunt Wronicz) **99d:41014** 41A15 (41A20)

Buttà, Paolo (*with* Benois, O.; Bodineau, Thierry; Presutti, E.) On the validity of van der Waals theory of surface tension. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 2, 175–198. (Agoston Pisztora) **99e:82033** 82B24 (60F10, 82B20, 82B26)

— (*with* Picco, Pierre) Large-deviation principle for one-dimensional vector spin models with Kac potentials. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 101–150. (Barbara Gentz) **99f:82003** 82B05 (60F10)

— (*with* De Masi, Anna) Fine structure of the interface motion. (English summary) *Differential Integral Equations* **12** (1999), *no.* 2, 207–259. (Giovanni Bellettini) **99m:82035** 82C24 (35K99, 45K05, 47N20)

Buttazzo, Giuseppe (*with* Bouchitté, Guy; Fragalà, Ilaria) Mean curvature of a measure and related variational problems. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 179–196 (1998). (Giovanni Bellettini) **99j:49082** 49Q20 (49J45)

— (*with* Guasoni, Paolo) Shape optimization problems over classes of convex domains. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 343–351. (Maïtine Bergounioux) **99b:49039** 49Q10 (49J10)

— On the existence of minimizing domains for some shape optimization problems. (English summary) *Actes du 29ème Congrès d'Analyse Numérique: CANum'97* (*Larnas*, 1997), 51–64 (*electronic*), *ESAIM Proc.*, 3, *Soc. Math. Appl. Indust., Paris*, 1998. (Maïtine Bergounioux) **99g:49038** 49Q10 (49J20, 73K40)

— (*with* Bucur, Dorin; Henrot, Antoine) Existence results for some optimal partition problems. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 571–579. (Muthusamy Vanninathan) **99k:49004** 49J10 (35J99, 49Q10)

— (*with* Adly, Samir; Théra, Michel) Critical points for nonsmooth energy functions and applications. *Nonlinear Anal.* **32** (1998), *no.* 6, 711–718. (Vitaly B. Moroz) **99b:49013** 49J52 (35J85, 35R05, 46N20, 58E35)

Butuzov, V. F. (*with* Vasil'eva, A. B.; Nefëdov, N. N.) Asymptotic theory of contrast structures (a survey). (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 4–32; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1068–1091. (Daniel Ševčovič) **99k:34121** 34E15 (34C99, 34E05, 35B25, 93C20)

— (*with* Nefëdov, N. N.) A singularly perturbed boundary value problem for a second-order equation in the case of change of stability. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 354–362; *translation in Math. Notes* **63** (1998), *no.* 3-4, 311–318. (Summary) **99d:34104** 34E15 (34B15)

— (*with* Nefëdov, N. N.; Schneider, Klaus R.) Singularly perturbed boundary value problems in case of exchange of stabilities. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 543–562. (Hideo Ikeda) **99k:34041** 34B15 (34E15)

Butz, Carsten (*with* Johnstone, Peter) Classifying toposes for first-order theories. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 1, 33–58. (Anna Labella) **99b:03081** 03G30 (03C75, 18B25)

— (*with* Moerdijk, Ieke) Representing topoi by topological groupoids. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 3, 223–235. (Kimmo I. Rosenthal) **99i:18005** 18B25 (18B35, 18B40, 22A22)

Butzer, Paul Leo (*with* Jansche, Stefan) Mellin transform theory and the role of its differential and integral operators. (English summary) *Transform methods & special functions, Varna '96*, 63–83, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:44005** 44A15 (45P05, 47E05, 47G10)

— (*with* Jansche, Stefan) The exponential sampling theorem of signal analysis. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 99–122. (Dale H. Mugler) **99m:94007** 94A12 (42A38, 44A05)

— (*with* Lei, Junjiang) Errors in truncated sampling series with measured sampled values for not-necessarily bandlimited functions. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 25–39. (Peter A. McCoy) **99m:42003** 42A10 (41A30, 42B08, 46N40, 94A12)

— (*with* Jansche, Stefan) The finite Mellin transform, Mellin-Fourier series, and the Mellin-Poisson summation formula. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 55–81. (Henri-Michel Maire) **99j:44009** 44A15 (11F99, 40A25)

— (*with* Jongmans, François) P. L. Chebyshev (1821–1894). A guide to his life and work. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 111–138. (F. Smithies) **99m:01019** 01A55 (01A70)

— *see also* **Vinti, C., 99c:41001; Charlemagne and his heritage. 1200 years of civilization and science in Europe, 99i:00015; Higgins, J. R., 99m:01069a; Görlich, E. et al., 99m:01069b; Dedicated to Paul Leo Butzer** *and* **Benz, Walter**

van Buuren, René (*with* Strating, Patrick) Fast computation of stationary inviscid flow around an airfoil. (English summary) *J. Engrg. Math.* **35** (1999), *no.* 4, 437–453. 76M20 (76B05, 76H05)

Buvaev, K. T. (*with* Ashurov, R. R.) On the divergence almost everywhere of spectral expansions of functions from L^a_1. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 3–8. (Georgi E. Karadzhov) **99f:35146** 35P10 (47F05)

— (*with* Ashurov, R. R.) On the convergence almost everywhere of spectral expansions of functions in L^a_p. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1998), 14–23. 35P10

Buyalo, S. V. Geodesics in Hadamard spaces. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 93–123. (Igor Belegradek) **99c:53034** 53C22 (53C21)

— (*with* Burago, Yu. D.) Metrics with upper-bounded curvature on 2-polyhedra. II. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 62–112. (Vladimir G. Tkachev) **99j:53086** 53C45

Buys, A. Uniformly strongly prime radicals. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 149–156. (Edmund R. Puczyłowski) **99k:16041** 16N60 (16N80)

Büyükaksoy, Alinur (*with* Polat, Burak) Diffraction of acoustic waves by a semi-infinite cylindrical impedance pipe of certain wall thickness. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 4, 333–352. 76Q05

Büyükkılıç, Fevzi (*with* Özeren, S. F.; Tırnaklı, U.; Demirhan, Doğan) Landau diamagnetism within Tsallis thermostatistics and quantum groups. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **2** (1998), *no.* 1, 101–106. (Summary) **99e:82010** 82B05

— (*with* Eğrifes, Harun; Demirhan, Doğan) Polynomial solutions of the Schrödinger equation for the "deformed" hyperbolic potentials by Nikiforov-Uvarov method. (English summary) *Phys. Scripta* **59** (1999), *no.* 2, 90–94. 81Q05

Buzacott, John A. (*with* Cheng, Dinah W.) Improved bounds for queues with delayed arrivals. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 295–316. (Summary) **99d:60101** 60K25

Buzano, Ernesto (*with* Boggiatto, Paolo; Rodino, Luigi) Spectral asymptotics for hypoelliptic operators. (English summary) *Differential equations, asymptotic analysis, and mathematical physics* (*Potsdam*, 1996), 40–46, *Math. Res.*, 100, *Akademie Verlag, Berlin*, 1997. (Leonid B. Parnovskiĭ) **99a:35194** 35P20 (35H05, 47F05)

— (*with* Boggiatto, Paolo) Spectral asymptotics for multi-quasi-elliptic operators in $\mathbf{R}^n$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 511–536. (Vania Sordoni) **99i:35119** 35P20 (35J70, 47F05)

Buzas, Jeffrey S. Unbiased scores in proportional hazards regression with covariate measurement error. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 247–257. (Jack Cuzick) **99i:62248** 62P10 (62N05)

Buzdin, A. Tangential decomposition. (English summary) *Computing* **61** (1998), *no.* 3, 257–276. (Robert Beauwens) **99k:65030** 65F10 (65F50, 65N22)

Buzhan, V. V. (*with* Babeshko, V. A.; Natal'chenko, A. V.; Smirnova, A. V.) On the problem of computing the strength of welded structures. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 2, 12–16, 101. 73K99

Buzhinskiĭ, V. A. Vortex damping of sloshing in tanks by baffles. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 234–242; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 217–224. 76D99

Buzlanov, A. V. Finite solvable groups with given maximal subgroups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 35–45, 103, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— Finite solvable groups with a normal maximal metanilpotent subgroup. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 22–30, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

Buzyakova, Raushan Z. Improving properties of products by condensations. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 26–29 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99c:54005** 54A10 (54B10)

— (*with* Arkhangel'skiĭ, A. V.) Convergence in compacta and linear Lindelöfness. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 159–166. (Ljubiša Kočinac) **99c:54034** 54D30 (54A25, 54E35, 54F99)

— (*with* Arkhangel'skiĭ, A. V.) On linearly Lindelöf and strongly discretely Lindelöf spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2449–2458. (Dimitrina Stavrova) **99j:54006** 54A25 (54A35)

Buzzard, Gregery T. Kupka-Smale theorem for automorphisms of $\mathbf{C}^n$. *Duke Math. J.* **93** (1998), *no.* 3, 487–503. (Dan Coman) **99g:32046** 32H50 (58F23)

— *see also* **Smillie, John, 99b:32043**

Buzzi, Jérôme Intrinsic ergodicity of smooth interval maps. (English summary) *Israel J. Math.* **100** (1997), 125–161. (Jan Kwiatkowski) **99g:58071** 58F11 (28D99)

— Ergodicité intrinsèque de produits fibrés d'applications chaotiques unidimensionelles. (English and French summaries) [Intrinsic ergodicity of pullbacks of one-dimensional chaotic maps] *Bull. Soc. Math. France* **126** (1998), *no.* 1, 51–77. (Heber Enrich) **99g:58072** 58F11 (28D20)

Byard, Kevin (*with* Jennings, Derek) An extension for residue difference sets. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 405–410. (Dieter Jungnickel) **99b:05021** 05B10 (11A07)

— (*with* Jennings, Derek) Qualified residue difference sets with zero. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 283–288. (Ronald J. Evans) **99c:11004** 11A15 (05B10)

Byatt-Smith, J. G. B. Formulation and summation of hyperasymptotic expansions obtained from integrals. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 159–185. (Eberhard Wagner) **99k:41050** 41A60 (65D20)

Bychek, O. V. (*with* Sadovskiĭ, V. M.) On the investigation of the dynamic contact interaction of deformable bodies. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 167–173; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 628–633 (1999). (Summary) **99i:73062** 73T05 (73V20, 73V25)

Bychkov, A. B. A basis of Haar functions in the space $C^0_\alpha(\Delta)$. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 1, 3–5, 85. (Summary) **99j:46028** 46E15 (42B25, 46B25)

— Interpolating bases in the function spaces $C^0_\omega(K)$ and $H^0_\omega(K)$. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 3–9; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 3, 1–6. (Inna Boricheva) **99j:46029a** 46E15 (41A10)

— Errata: "Interpolating bases in the function spaces $C^0_\omega(K)$ and $H^0_\omega(K)$". (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. (Inna Boricheva) **99j:46029b** 46E15 (41A10)

Bychkov, A. S. The stability of the neutral type linear stochastic system. Optimal characteristic of solutions. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 99–106, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:34104** 34K20 (34K50, 93E15)

Bychkov, B. M. (*with* Grober, V. M.) A Schauder basis in the space C^0_α. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Severo-Kavkaz. Reg. Estestv.·Nauk.* **1994**, *no.* 4, 10–13, 85 (1995). (Yu. I. Petunin) **99m:46066** 46E15 (46B15)

Bychkov, Vitaliy V. Nonlinear equation for a curved stationary flame and the flame velocity. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2091–2098. (Summary) **99c:80007** 80A25

— Stabilization of the hydrodynamic flame instability by a weak shock. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2669–2675. (Summary) **99i:80012** 80A25 (76L05)

Byczkowska, H. (*with* Byczkowski, Tomasz) Zero-one law for symmetric convolution semigroups of measures on groups. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 633–643. (Gyula Pap) **99k:60012** 60B15 (60F20)

Byczkowski, Tomasz (*with* Byczkowska, H.) Zero-one law for symmetric convolution semigroups of measures on groups. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 633–643. (Gyula Pap) **99k:60012** 60B15 (60F20)

— (*with* Bogdan, Krzysztof) Potential theory for the α-stable Schrödinger operator on bounded Lipschitz domains. (English summary) *Studia Math.* **133** (1999), *no.* 1, 53–92. (D. G. Natroshvili) **99m:31010** 31B25 (35J10, 60J50)

Byeon, Dongho Special values of zeta functions of the simplest cubic fields and their applications. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 13–15. (T. Metsänkylä) **99c:11141** 11R42 (11R16, 11R29)

Byeon, Eui-Seok (*with* Wu, S. David; Storer, Robert H.) A graph-theoretic decomposition of the job shop scheduling problem to achieve scheduling robustness. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 113–124. (Summary) **99m:90077** 90B22

Byeon, Jaeyoung Nonlinear elliptic problems on rotationally symmetric domains. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 5–19. (Kanishka S. Perera) **99i:35044** 35J65 (35B05, 58E05)

Byer, Owen D. Some new bounds for the maximum number of vertex colorings of a (v, e)-graph. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 115–128. (Felix Lazebnik) **99j:05065** 05C15

— Two path extremal graphs and an application to a Ramsey-type problem. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 51–64. (Ke Min Zhang) **99j:05159** 05C75 (05C55)

Byers, Nina E. Noether's discovery of the deep connection between symmetries and conservation laws. *The heritage of Emmy Noether* (*Ramat-Gan*, 1996), 67–81, *Israel Math. Conf. Proc.*, 12, *Bar-Ilan Univ., Ramat Gan*, 1999. (Hans P. Künzle) **99m:58001** 58–03 (01A60)

Byers, Ralph (*with* Benner, Peter) An exact line search method for solving generalized continuous-time algebraic Riccati equations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 101–107. (Vladimir B. Larin) **99c:93042** 93B40 (65F30)

— (*with* He, Chun Yang; Mehrmann, Volker) Where is the nearest non-regular pencil? (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 81–105. (Bo Kågström) **99k:15026** 15A22 (15A18, 65F15, 65F35)

Bykadorov, I. A. (*with* Rubinshteĭn, G. Sh.) Some families of discrete extremal problems on unbounded locally compact metric spaces. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 4, 443–445. (Vladimir L. Levin) **99c:28040** 28C99 (54E45, 90C27)

Bykov, A. A. (*with* Popov, Victor Yu.) On the lifetime of one-dimensional transient contrast structures. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 280–288. 35Q99 (35K99)

Bykov, Nikolai (*with* Belitskiĭ, G. R.) Spaces of cohomologies associated with linear functional equations. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 343–356. (Mahesh Nerurkar) **99m:58168** 58F32 (47B38, 54H20, 58F09)

Bykov, V. P. Nature of subsidiary conditions (links) in QED. *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 4, 423–440. 81V10

Bykov, V. V. On bifurcations leading to chaos in Chua's circuit. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 4, 685–699. (Summary) **99e:58129** 58F13 (58F14)

Bykovskiĭ, V. A. (*with* Vinogradov, A. I.) An estimate for Waldspurger series at a critical point. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II* (*Russian*), 139–159, 255, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11F11

— *see also* **Automorphic functions and number theory, 99k:11003**

Byland, Samuel (*with* Scialom, David) Evolution of the Bianchi type I, Bianchi type III, and the Kantowski-Sachs universe: isotropization and inflation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6065–6074. (Summary) **99m:83211** 83F05

Bylander, Tom Worst-case analysis of the perceptron and exponentiated update algorithms. (English summary) *Artificial Intelligence* **106** (1998), *no.* 2, 335–352. (Summary) **99j:68116** 68T05

Bylka, Czesław Coincidence theorems in random normed spaces. (English summary) *Fasc. Math. No.* 28 (1998), 9–18. (Ramendra Krishna Bose) **99i:47099** 47H10 (47S50, 54H25)

Bylka, Stanisław Strong turnpike policies in the single-item capacitated lot-sizing problem with periodical dynamic parameter. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 8, 775–790. (Summary) **99g:90061** 90B80 (90C27)

— (*with* Idzik, Adam; Tuza, Zsolt) Maximum cuts: improvements and local algorithmic analogues of the Edwards-Erdős inequality. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 39–58. (Italo José Dejter) **99i:05104** 05C35 (68R10)

Bylok, Ted Zdzisław Maxwell's equations in three-dimensional space. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 79–86, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 78A25

Byott, Nigel P. Associated orders of certain extensions arising from Lubin-Tate formal groups. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 449–462. (Werner Bley) **99d:11126** 11S23 (11R33, 11S20, 11S31)

— Tame realisable classes over Hopf orders. (English summary) *J. Algebra* **201** (1998), *no.* 1, 284–316. (Lindsay N. Childs) **99d:11120** 11R33 (16H05, 16W30)

Byrd, Mark Differential geometry on SU(3) with applications to three state systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6125–6136. (Elvira Graziano) **99j:81049** 81R05 (53C80)

— (*with* Sudarshan, E. C. G.) SU(3) revisited. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9255–9268. (A. Ventura) **99m:81071** 81R05 (81–02, 81V05)

Byrd, Richard H. (*with* Zhu, Ciyou; Lu, Peihuang; Nocedal, Jorge) Algorithm 778: L-BFGS-B: Fortran subroutines for large-scale bound-constrained optimization. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 550–560. 65Y15

— (*with* Liu, Guang Hui; Nocedal, Jorge) On the local behaviour of an interior point method for nonlinear programming. (English summary) *Numerical analysis* 1997 (*Dundee*), 37–56, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Tamás Terlaky) **99g:90116** 90C30 (65K05)

— (*with* Nocedal, Jorge) Active set and interior methods for nonlinear optimization. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 667–676 (*electronic*). (Shinji Mizuno) **99h:90094** 90C30 (65K05)

Byrne, Charles L. Accelerating the EMML algorithm and related iterative algorithms by rescaled block-iterative methods. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 1, 100–109. (Summary) **99j:94005** 94A12

— Iterative algorithms for deblurring and deconvolution with constraints. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1455–1467. (Otmar Scherzer) **99m:65245** 65R20 (45A05, 65J99)

Byrne, H. M. (*with* Chaplain, Mark A. J.) Free boundary value problems associated with the growth and development of multicellular spheroids. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 639–658. (Summary) **99c:92020** 92C50 (35Q80, 35R35)

Byrnes, Christopher I. (*with* Lindquist, Anders) On the partial stochastic realization problem. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1049–1070. (Summary) **99f:93129** 93E03 (93B15)

— (*with* Gilliam, David S.; Shubov, V. I.) On the global dynamics of a controlled viscous Burgers' equation. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 457–519. (Grzegorz Karch) **99k:35154** 35Q53 (76D99, 93C20)

— On the Riccati partial differential equation for nonlinear Bolza and Lagrange problems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 54 *pp.* (*electronic*). (È. G. Al'brekht) **99i:49022** 49K20 (35F20)

— On the global analysis of linear systems. (English summary) *Mathematical control theory*, 99–139, *Springer, New York*, 1999. (Allen Tannenbaum) **99k:93002** 93–02 (93B25, 93B27, 93C05)

— (*with* Gusev, Sergei V.; Lindquist, Anders) A convex optimization approach to the rational covariance extension problem. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 211–229 (*electronic*). (Sergey V. Lototsky) **99f:93135** 93E12 (93B55)

Byrnes, G. B. (*with* Prince, G. E.; Aldridge, J. E.) A universal Hamilton-Jacobi equation for second-order ODEs. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 827–844. (Paola Morando) **99m:58097** 58F05 (34A26, 58E30, 70H20)

Byrnes, J. S. A low complexity energy spreading transform coder. (English summary) *Signal and image representation in combined spaces*, 167–187, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (*see* **98m:94002**) 94A12

Byrnes, John (*with* Sieg, Wilfried) K-graph machines: generalizing Turing's machines and arguments. (English summary) *Gödel'96* (*Brno*, 1996), 98–119, *Lecture Notes Logic*, 6, *Springer, Berlin*, 1996. (Robert M. Baer) **99b:03055** 03D03 (03A05, 03D10, 03D20, 68Q05)

Bystrov, P. I. Nonstandard rules of inference and their role in logical systems. (Russian) *Logical investigations, No.* 4 (*Russian*), 245–256, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03F03 (03B45, 03B46)

Byszewski, Ludwik Parabolic differential problems together with impulsive nonlocal conditions. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 20–29, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Summary) **99g:35135** 35R10 (35K55)

— Application of properties of the right-hand sides of evolution equations to an investigation of nonlocal evolution problems. *Nonlinear Anal.* **33** (1998), *no.* 5, 413–426. (Tamara G. Sukacheva) **99e:34084** 34G20 (34K30, 47D06, 47H20)

— (*with* Akca, Haydar) Existence of solutions of a semilinear functional-differential evolution nonlocal problem. *Nonlinear Anal.* **34** (1998), *no.* 1, 65–72. (Ti Jun Xiao) **99c:34180** 34K30

Bytner, S. Conservation laws for coupled magnetothermoelasticity. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 2, 349–355. (From the introduction) **99i:73007** 73B30 (73R05, 73V25)

Bytsenko, Andrei A. (*with* Odintsov, Sergei D.; Zerbini, Sergio) The effective action in gauged supergravity and cosmological constant problem. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 381–387, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83071** 83E50

— (*with* Gonçalves, Antonio E.; Nojiri, Shin'ichi; Odintsov, Sergei D.) Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1103–1110. (Sergey Nikolaevich Roshchupkin) **99d:81111a** 81T30 (81T60)

— (*with* Gonçalves, Antonio E.; Nojiri, Shin'ichi; Odintsov, Sergei D.) Corrigendum: "Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field". *Classical Quantum Gravity* **15** (1998), *no.* 7, 2039. (Sergey Nikolaevich Roshchupkin) **99d:81111b** 81T30 (81T60)

— (*with* Brevik, I.; Nielsen, Holger Bech) Thermodynamic properties of the piecewise uniform string. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3383–3395. (Summary) **99h:81158** 81T30 (81T16, 82B05)

— (*with* Williams, Floyd L.) Zeta functions on a product of Einstein manifolds, and the multiplicative anomaly. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1075–1086. (Giampiero Esposito) **99a:58162** 58G26 (81T20)

— (*with* Brevik, I.; Gonçalves, Antonio E.; Williams, Floyd L.) Zeta-function regularization and the thermodynamic potential for quantum fields in symmetric spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4437–4448. (Emili Elizalde) **99e:81159** 81T16 (58G26, 81T20)

— (*with* Gonçalves, Antonio E.; Williams, Floyd L.) The conformal anomaly in general rank 1 symmetric spaces and associated operator product. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 99–108. (Thomas Ackermann) **99g:81206** 81T50 (58G26, 81T20)

— (*with* Gonçalves, Antonio E.; da Cruz, W.) Torsion on hyperbolic manifolds and the semiclassical limit for Chern-Simons theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2453–2461. (David H. Adams) **99j:58219** 58G26 (11M36, 58D30, 81T13)

— (*with* Nojiri, Shin'ichi; Odintsov, Sergei D.) Quantum generation of Schwarzschild-de Sitter (Nariai) black holes in effective dilaton-Maxwell gravity. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 121–126. (Summary) **99h:83034** 83C57 (83E30)

— (*with* Vanzo, Luciano; Zerbini, Sergio) Quantum correction to the entropy of the $(2+1)$-dimensional black hole. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4917–4924. (Summary) **99m:83101** 83C57

— (*with* Gonçalves, Antonio E.; Williams, Floyd L.) The conformal anomaly associated with an operator product acting in rank 1 symmetric spaces. *JETP Lett.* **67** (1998), *no.* 3, 176–181; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 3, 166–171 (*Russian*). (Thomas Ackermann) **99b:81221** 81T50 (58G26)

— (*with* Vanzo, Luciano; Zerbini, Sergio) One-loop quantum holography for higher-dimensional black holes. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 168–172. (Summary) **99m:83102** 83C57

— (*with* Brevik, I.; Gonçalves, Antonio E.) Mass and decay spectra of the piecewise uniform string. (English summary) *Phys. Lett. B* **453** (1999), *no.* 3-4, 217–221. 81T30

Bytsko, Andrei G. Fusion of q-tensor operators: quasi-Hopf-algebraic point of view. (English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 107–129, 284. (Mohammad Khorrami) **99g:17026** 17B37 (16W30, 81R50)

— (*with* Schomerus, Volker) Vertex operators—from a toy model to lattice algebras. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 87–136. (Kilian Koepsell) **99g:17049** 17B69 (81R10, 81T40)

— (*with* Fring, Andreas) Anyonic interpretation of Virasoro characters and the thermodynamic Bethe ansatz. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 3, 573–591. (Rinat Kedem) **99g:81068** 81R10 (17B68, 82B20)

— (*with* Fring, Andreas) Thermodynamic Bethe ansatz with Haldane statistics. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 3, 588–608. (Summary) **99f:82004** 82B05 (81V70)

Byun, Chang-Ho (*with* Kim, Dong-Seo) The index for the type III factors $\mathscr{W}^*(\mathscr{R}_G)$. *Honam Math. J.* **19** (1997), *no.* 1, 87–95. (Hisashi Choda) **99a:46108** 46L35 (46L37)

Byun, Hee-Young (*with* Kim, Young Key) F-proximal flows. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 131–136. (A. Pelczar) **99d:54022** 54H20

Byun, J. (*with* Shim, Hyungbo; Seo, Jin H.) Comments on: "Observers for nonlinear systems in steady state" [IEEE Trans. Automat. Control **39** (1994), no. 10, 2113–2118; MR 95e:93014] by L. R. Hunt and M. S. Verma. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 587. 93B07 (93C10)

Byun, Yanghyun Poincaré embedding of the diagonal. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3537–3553. (Summary) **99f:57026** 57P10

–C–

Cabada, Alberto (*with* Nieto, Juan J.; Heikkilä, Seppo) Rapid convergence of approximate solutions for second order nonlinear boundary value problems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 295–299, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34B15 (34A45)

— (*with* Liz, Eduardo; Lois, Susana) Monotonic approximation techniques for second- and third-order impulsive periodic problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 207–212, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Raúl M. Naulin) **99m:34010** 34A37 (34A45)

— (*with* Lois, Susana) Existence of solutions for third-order boundary value problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 213–218, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Eduardo Liz) **99d:34032** 34B15 (34A45)

— (*with* Pouso, Rodrigo L.) Monotonic approximation of solutions for φ-Laplacian equations with Neumann conditions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 219–224, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Eduardo Liz) **99e:34025** 34B15 (34A45)

— (*with* Nieto, Juan J.; Heikkilä, Seppo) Rapid convergence of approximate solutions for first order nonlinear boundary value problems. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 499–505. (Summary) **99a:34049** 34B15 (34A45)

— (*with* Lois, Susana) Existence results for nonlinear problems with separated boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 449–456. (From the introduction) **99i:34032** 34B15

Caballero, María Emilia (*with* Fernández, Begoña; Nualart, David) Composition of skeletons and support theorems. (English summary) *Stochastic differential and difference equations (Győr, 1996)*, 21–33, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (V. Mackevičius) **99f:60107** 60H10 (28C20, 60B05)

— (*with* Fernández, Begoña; Nualart, David) Estimation of densities and applications. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 831–851. (Shi Zan Fang) **99f:60103** 60H07 (60H15, 60J60)

Caballero, Rafael (*with* Soto, Fernando; Osejo, Edgar) Peirce's enumeration of the rationals. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 2, 83–96. (Summary) **99d:04001** 04A05

Caballero Fernández, Rafael E. (*with* Calderón Montero, Susana; Hidalgo Sánchez, Ramón) Direct collocation in nonlinear control problems. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65K10 (49M25)

— (*with* Ruiz, Francisco; Gómez, Trinidad; González, Mercedes; Rey, Lourdes) The static approach to quadratic dynamic goal programming. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 138–148, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C20 (90C39)

Caban, P. (*with* Rembieliński, Jakub) Localization problem in the relativistic quantum mechanics. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 303–311, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Matej Pavšič) **99k:81038** 81P99 (83A05)

Cabaña, A. (*with* Cabaña, Enrique M.) Modified Anderson-Darling tests with selective improvement of power. (Spanish. Spanish summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish)* (*Bahia Blanca*, 1997), 33–38, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (*see* **99a:00040**) 62G10

— (*with* Cabaña, Enrique M.) Transformed empirical processes and modified Kolmogorov-Smirnov tests for multivariate distributions. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2388–2409. (Jan Beirlant) **99b:62075** 62G10

Cabaña, Enrique M. Inference based on transformed empirical processes. (Spanish) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish)* (*Bahia Blanca*, 1997), 1–16, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (*see* **99a:00040**) 62G10

— (*with* Cabaña, A.) Modified Anderson-Darling tests with selective improvement of power. (Spanish. Spanish summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish)* (*Bahia Blanca*, 1997), 33–38, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (*see* **99a:00040**) 62G10

— (*with* Cabaña, A.) Transformed empirical processes and modified Kolmogorov-Smirnov tests for multivariate distributions. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2388–2409. (Jan Beirlant) **99b:62075** 62G10

Cabanal-Duvillard, Thierry (*with* Ionescu, Valentin) Un théorème central limite pour des variables aléatoires non-commutatives. (English and French summaries) [A central limit theorem for noncommutative random variables] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1117–1120. (Summary) **99a:46135** 46N30 (46K99, 46L50)

Cabanes, Marc Algèbres de Hecke comme algèbres symétriques et théorème de Dipper. (English and French summaries) [Hecke algebras as symmetric algebras and a theorem of Dipper] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 531–536. (Cathy E. Kriloff) **99m:20018** 20C99 (16D90, 16S50)

Cabannes, Henri (*with* Sibgatullin, N. R.) The Cauchy problem for a semi-continuous model of the two-dimensional homogeneous Boltzmann equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 2, 217–222. (Summary) **99f:82053** 82C40 (35Q99, 45K05, 76P05)

Cabello, Adán Ladder proof of nonlocality without inequalities and without probabilities. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1687–1693. (Martin Daumer) **99i:81009** 81P05

Cabello, J. C. *see* **Cabello Piñar, Juan Carlos**

Cabello, J. G. *see* **G. Cabello, Julia**

Cabello, Juan Carlos *see* **Cabello Piñar, Juan Carlos**

g. Cabello, Julia *see* **G. Cabello, Julia**

Cabello Piñar, Juan Carlos (*with* Nieto, Eduardo; Oja, Eve) On ideals of compact operators satisfying the $M(r,s)$-inequality. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 334–348. (Jesús M. F. Castillo) **99f:46018** 46B20 (46B28, 47B10, 47D50)

— (*with* Nieto, Eduardo) On properties of M-ideals. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 61–93. (Ehrhard Behrends) **99b:46011** 46B20

— (*with* Nieto, Eduardo) An ideal characterization of when a subspace of certain Banach spaces has the metric compact approximation property. (English summary) *Studia Math.* **129** (1998), *no.* 2, 185–196. (R. W. Cross) **99b:46012** 46B20

Cabello Sánchez, Félix Regards sur le problème des rotations de Mazur. [Observations about the Mazur rotation problem] II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 97–116. (Yves Raynaud) **99m:46017** 46B04 (46B20, 46C15)

— Some remarks stemming from Ulam's problem about nearly additive mappings. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 233–242. (K. D. Magill, Jr.) **99k:39073** 39B72 (39B52)

— Transitivity of M-spaces and Wood's conjecture. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 513–520. (Ehrhard Behrends) **99i:46007** 46B20

— Twisted Hilbert spaces. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 2, 177–180. (Summary) **99m:46030** 46B20 (46C05)

— On ring homomorphisms. *Exposition. Math.* **17** (1999), *no.* 1, 91–95. 16W20

Cabezas, J. M. (*with* Gómez Martín, José Ramón; Jimenéz-Merchán, A.) Family of p-filiform Lie algebras. (English summary) *Algebra and operator theory (Tashkent, 1997)*, 93–102, *Kluwer Acad. Publ., Dordrecht*, 1998. (Duncan J. Melville) **99j:17013** 17B30

Cabibbo, Luca On the power of stratified logic programs with value invention for expressing database transformations. (English summary) *Database theory—ICDT '95 (Prague)*, 208–221, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68N17 (68P15)

— (*with* Van den Bussche, Jan) Converting untyped formulas to typed ones. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 637–643. (Summary) **99d:03027** 03B70 (03B10)

— The expressive power of stratified logic programs with value invention. (English summary) *Inform. and Comput.* **147** (1998), *no.* 1, 22–56. (Summary) **99i:68016** 68N17 (68P15)

Cabo, Alejandro (*with* Lucio Martínez, J. L.; Villanueva, V. M.) Non-Noether charges in classical mechanics. (English summary) *Particles and fields (Morelia, 1997)*, 348–351, *AIP Conf. Proc.*, 445, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Frans Cantrijn) **99k:58074** 58F05 (70H05, 70H33)

— (*with* Ayón, Eloy) About black holes with nontrapping interior. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 13, 2013–2022. 83C57

Caboara, Massimo (*with* Conti, Pasqualina; Traverso, Carlo) Yet another ideal decomposition algorithm. *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 39–54, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (From the introduction) **99c:13051** 13P10 (68Q40)

— (*with* Riccomagno, Eva) An algebraic computational approach to the identifiability of Fourier models. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 245–260. (Gerton Lunter) **99j:68058** 68Q40 (13P10, 62K99)

Cabós, Joan (*with* Sangüesa, Ramón; Cortés, Ulises) Possibilistic conditional independence: a similarity-based measure and its application to causal network learning. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 145–167. 68T30

pijaudier-Cabot, Gilles *see* **Pijaudier-Cabot, Gilles**

Cabra, Daniel C. (*with* Rothe, Klaus D.) Fermionic coset realization of primaries in critical statistical models. (English summary) *Ann. Physics* **251** (1996), *no.* 2, 337–362. (Summary) **99c:81064** 81R10 (81T40, 82B27)

— (*with* Honecker, A.; Mussardo, G.; Pujol, P.) A non-perturbative approach to the random-bond Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8415–8426. (Aernout C. D. van Enter) **99d:82031** 82B44 (81T99)

— (*with* Rossini, Gerardo L.) Spinons as composite fermions. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 4, 265–276. (Summary) **99b:81214** 81T40

— Spinons and parafermions in fermion cosets. (English summary) *Supersymmetry and quantum field theory (Kharkov, 1997)*, 220–229, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81277** 81T40

— Quasiparticles operators in conformal field theories. (English summary) *Trends in theoretical physics (La Plata, 1997)*, 432–435, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99g:81196** 81T40

— (*with* Moreno, Enrique Francisco; Rossini, Gerardo L.) Quasiparticle operators with non-abelian braiding statistics. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 362–368. (Matthias Dörrzapf) **99h:81068** 81R10 (81T40)

Cabral, Luís (*with* Arvan, Lanny; Santos, Vasco) Meaningful cheap talk must improve equilibrium payoffs. (English summary) *Math. Social Sci.* **37** (1999), *no.* 1, 97–106. (Summary) **99i:90123** 90D12 (90A14)

Cabral, Marco (*with* Costa, Bruno; Temam, Roger; Wang, Shou Hong) The primitive equations of the atmosphere with chemistry. (English summary) *Équations aux dérivées partielles et applications*, 271–308, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Bruno Scheurer) **99i:86012** 86A10 (35Q99, 76C99, 80A32)

Cabral Morais, Manuel (*with* Pacheco, António) Two stochastic properties of one-sided exponentially weighted moving average control charts. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 937–952. 62N10

Cabré, Xavier (*with* Brezis, Haïm) Some simple nonlinear PDE's without solutions. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 223–262. (Alan V. Lair) **99j:35001** 35A07 (35D05, 35J65, 35K60)

— (*with* Martel, Yvan) Weak eigenfunctions for the linearization of extremal elliptic problems. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 30–56. (Qi Tang) **99e:35058** 35J65 (35B05, 35P30)

— (*with* Chanillo, Sagun) Stable solutions of semilinear elliptic problems in convex domains. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 1–10. (Summary) **99a:35083** 35J65

Cabrelli, Carlos A. (*with* Heil, Christopher; Molter, Ursula M.) Accuracy of lattice translates of several multidimensional refinable functions. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 5–52. (Steen Pedersen) **99g:42038** 42C15 (39B62)

— (*with* Molter, Ursula M.) Generalized self-similarity. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 251–260. (Andreas Schief) **99k:28011** 28A80 (39B22, 58F11)

alba Cabrera, Eduardo *see* **Alba Cabrera, Eduardo**

martín Cabrera, Francisco *see* **Martín Cabrera, Francisco**
pijeira-Cabrera, Héctor *see* **Pijeira-Cabrera, Héctor**
Cabrera, I. J. (*with* Sadarangani, Kishin B.) A measure of weak noncompactness in $L^1(\Omega, \Sigma, \lambda)$. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 9–13. (Henryk Hudzik) **99j:46033** 46E30 (46B20)
— (*with* Sadarangani, Kishin B.) On the modulus of noncompact convexity in Banach sequence spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 21–24. (Józef Banaś) **99m:46052** 46B45
de las peñas Cabrera, Inmaculada *see* **De Las Peñas Cabrera, Inmaculada**
Cabrera, O. (*with* El Jaï, Abdelhak; Kassara, K.) Spray control. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 709–730. 93A30 (93C30)
Cabrera, Sergio D. (*with* Kosheleva, Olga M.; Gibson, Glenn A.; Koshelev, Misha) Fast implementations of morphological operations using fast Fourier transform (FFT). (English summary) *Geombinatorics* **8** (1999), *no.* 3, 86–92. 65T20 (68U10)
Cabrera García, M. (*with* Moreno Galindo, A.; Rodríguez-Palacios, Ángel) Zel'manov's theorem for primitive Jordan-Banach algebras. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 231–244. (Antonio Fernández López) **99g:46066** 46H70
Cabrera Suárez, Francisco S. (*with* Hayek Calil, Nácere; Hernández Suárez, Víctor) On the third-order Bessel-Clifford differential operator. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 10 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 44A40
— (*with* Hayek Calil, Nácere; Hernández Suárez, Víctor) Asymptotic solutions of the nth-order Bessel-Clifford differential equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997), 285–290, Colecc. Congr., 9, Univ. Vigo, Vigo, 1998.* (*see* **99d:00018**) 33C10 (34B30)
Cabrerizo, J. L. (*with* Fernández, L. M.; Fernández Andrés, Manuel; Guo, Zhen[1]) The structure of a class of K-contact manifolds. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 4, 331–340. (David Blair) **99m:53051** 53C15 (53C25)
Cabus, Patricia Un test de type Kolmogorov-Smirnov dans le cadre de comparaison de fonctions de régression. (English and French summaries) [A Kolmogorov-Smirnov test for checking the equality of two regression curves] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 939–942. (Hartmut Milbrodt) **99k:62091** 62G10 (62J02)
nguyen phuong Các *see* **Nguyen Phuong Các**
Caccavale, Fabrizio (*with* Wróblewski, Waldemar) A spatial algebra approach to kinematic control of dual-arm systems. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998), 197–206, Kluwer Acad. Publ., Dordrecht, 1998.* (Summary) **99e:70015** 70B15 (70Q05, 93C85)
— (*with* Chiacchio, Pasquale; Chiaverini, Stefano) Stability analysis of a joint space control law for a two-manipulator system. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 85–88. 93C85 (93D05)
Caccetta, Louis (*with* Anstee, Richard P.) Recognizing diameter critical graphs. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996), 105–112, Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore, 1997.* (Summary) **99e:68115** 68R10 (05C85)
— (*with* Achuthan, N. R.; Hill, S. P.) Capacitated vehicle routing problem: some new cutting planes. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 109–123. (Summary) **99f:90157** 90C35 (90C27)
— (*with* Jia, Rui Zhong) On a problem concerning ordered colourings. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 241–245. (Summary) **99d:05030** 05C15
— *see also* **Dynamics and optimization, 99g:49003**
Cacciafesta, Fabrizio A geometric property of indifference curves in the (mean-standard deviation) plane. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 33–38. 90A09
Cacciatori, S. (*with* Preparata, G.; Rovelli, S.; Spagnolatti, I.; Xue, S.-S.) On the ground state of quantum gravity. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 254–260. (Summary) **99c:83028** 83C45
Caceres, Elena (*with* Kaplunovsky, Vadim S.; Mandelberg, Michael) On the impossibility of a large radius compactification in realistic string theories. (English summary) *Strings '95 (Los Angeles, CA, 1995), 77–79, World Sci. Publishing, River Edge, NJ, 1996.* (*see* **99h:81008**) 81T30
Cáceres, Manuel O. (*with* Budini, Adrián A.) The generalized Ornstein-Uhlenbeck process. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8427–8444. (Ioana-Carla Bîrzu) **99i:82030** 82C31
Cachafeiro López, Ma. Alicia (*with* Suárez Rodríguez, M. Carmen) Orthogonal polynomials related to the unit circle and differential-difference equations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 403–421. (Antonio J. Durán) **99g:33019** 33C45
— (*with* Berriochoa, E.) Lebesgue Sobolev orthogonality on the unit circle. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 27–34. (Summary) **99i:42038** 42C10 (33C45)
Cachera, David (*with* Bougé, Luc; Le Guyadec, Yann; Utard, Gil; Virot, Bernard) Formal validation of data-parallel programs: a two-component assertional proof system for a simple language. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 71–107. (Dorothy Bollman) **99c:68169** 68Q60
Cacoullos, T. (*with* Papathanasiou, V.) Characterizations of distributions by generalizations of variance bounds and simple proofs of the CLT. *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 157–171. (M. Sreehari) **99c:60030** 60E15 (60F05, 62E10)
Căbariu, L. (*with* Gâvruţă, P.) Inequalities for approximately additive mappings. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 24–30. (Summary) **99k:39074** 39B72 (47H99)
Cadavid, A. C. (*with* Finkelstein, Robert J.) General relativistic solitons. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7318–7326. (Summary) **99k:83098** 83C99 (83–08)
— (*with* Finkelstein, Robert J.) Kerr-Schild description of a rotating dyon. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 31–51. (Alberto Saa Vazquez) **99m:83028** 83C15 (83C22)
Caddemi, S. (*with* Muscolino, G.) Pre-envelope covariance differential equations for white and nonwhite input processes. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 1, 1–10. (Summary) **99a:73096** 73K35 (34F05, 70L05)
Cadeddu, L. (*with* Gramchev, Todor) Singular asymptotic expansions and delta waves for Burgers' equation. (English summary) *Monatsh. Math.* **126** (1998), *no.* 2, 91–107. (Grzegorz Karch) **99h:35182** 35Q53 (35C20, 35D99)
Čadek, Martin (*with* Vanžura, Jiří) Various structures in 8-dimensional vector bundles over 8-manifolds. (English summary) *Homotopy and geometry (Warsaw, 1997), 183–197, Banach Center Publ., 45, Polish Acad. Sci., Warsaw, 1998.* (Summary) **99m:57024** 57R22 (55R25, 57R25)
— (*with* Vanžura, Jiří) On 4-fields and 4-distributions in 8-dimensional vector bundles over 8-complexes. *Colloq. Math.* **76** (1998), *no.* 2, 213–228. (R. E. Stong) **99b:55030** 55R25 (57R22, 57R25)
— (*with* Vanžura, Jiří) Almost quaternionic structures on eight-manifolds. *Osaka J. Math.* **35** (1998), *no.* 1, 165–190. (P. G. Walczak) **99f:57031** 57R15 (57R20)
— *see also* **Proceedings: School "Geometry and Physics", 99g:00047**
cavazos-Cadena, Rolando *see* **Cavazos-Cadena, Rolando**
Cadenas, José M. (*with* Jiménez, Fernando) A dual approach in fuzzy linear programming. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 383–394. (Roman Słowiński) **99a:90235** 90C70 (04A72, 90C08)
— (*with* Flores-Sintas, Antonio; Martin, Fernando) A local geometrical properties application to fuzzy clustering. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 245–256. (Summary) **99h:62082** 62H30
Cadic, Christophe Modules de Drinfeld formels et algébricité. (English and French summaries) [Formal Drinfel'd modules and algebraicity] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 335–338. (Yoshinori Hamahata) **99f:11072** 11G09
Cadilhac, Michel (*with* Blaive, Bruno) Expansion of the hydrogen-like wave functions in the inverse principal quantum number, for the discrete and continuous spectra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5693–5699. (M. Znojil) **99h:81028** 81Q05 (33C10, 34E05)
Cadoli, Marco (*with* Giovanardi, Andrea; Schaerf, Marco) An algorithm to evaluate quantified Boolean formulae. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998), 262–267, MIT Press, Cambridge, MA, 1998.* (*see* **99f:68005**) 68Q25 (03B05, 03B70, 03D15)
— (*with* Palopoli, Luigi; Lenzerini, Maurizio) Datalog and description logics: expressive power. (English summary) *Database programming languages (Estes Park, CO, 1997), 281–298, Lecture Notes in Comput. Sci., 1369, Springer, Berlin, 1998.* (*see* **99h:68004**) 68P15
— (*with* Palopoli, Luigi) Circumscribing DATALOG: expressive power and complexity. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 215–244. (Minoru Ito) **99d:68062** 68P15 (68N17, 68T25)
Cadoni, Mariano 2D extremal black holes as solitons. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104001, 7 *pp.* (Summary) **99k:83058** 83C57 (81T40)
— Dualities, compositeness and space-time structure of 4D extreme stringy black holes. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1015–1034. (Summary) **99m:83103** 83C57 (83E30)
Cadre, Benoît Une preuve standard du principe d'invariance de Stoll. [A standard proof of Stoll's invariance principle] *Séminaire de Probabilités, XXXI, 85–102, Lecture Notes in Math., 1655, Springer, Berlin, 1997.* (Paul McGill) **99e:60169** 60J55 (60F17, 60J15, 60J65)
— Functional asymptotic behavior of some random multilinear forms. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 49–64. (Z. Praskova (Zbl 890.60018)) **99g:60044** 60F05 (60H05)
— On a functional version of the convergence of a quadratic form in independent martingales to a χ^2 distribution. (Russian summary) *Teor. Veroyatnost. i Primenen.* **43** (1998), *no.* 1, 82–96. (Dominique Lépingle) **99m:60056** 60F17 (60G42)
de Caen, D. An upper bound on the sum of squares of degrees in a graph. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 245–248. (Summary) **99a:05069** 05C35
— The spectra of complementary subgraphs in a strongly regular graph. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 559–565. (Jaume Pujol) **99g:05185** 05E30
— Stellar permutations of the two-element subsets of a finite set. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 381–387. (Chris Rodger) **99g:05044** 05B30 (05C70)
— Matrix inequalities of cubic type. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 251–254. (Summary) **99c:15032** 15A45
Caenepeel, Stefaan Harrison cocycles and the group of Galois coobjects. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants (Reims, 1995), 83–101, Sémin. Congr., 2, Soc. Math. France, Paris, 1997.* (Akira Masuoka) **99a:16030** 16W30
— ★ Brauer groups, Hopf algebras and Galois theory. (English summary) *K*-Monographs in Mathematics, 4. *Kluwer Academic Publishers, Dordrecht, 1998.* xvi+488 *pp. ISBN* 0-7923-4829-X (Blas Torrecillas Jover) **99b:16028** 16H05 (16W30)
— Kummer theory for monogenic Larson orders. (English summary) *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996), 85–102, Lecture Notes in Pure and Appl. Math., 197, Dekker, New York, 1998.* (Lindsay N. Childs) **99f:16040** 16W30 (14L30)
— (*with* Dăscălescu, Sorin) Pointed Hopf algebras of dimension p^3. (English summary) *J. Algebra* **209** (1998), *no.* 2, 622–634. (Nicolás Andruskiewitsch) **99k:16076** 16W30
— (*with* Dăscălescu, Sorin) On pointed Hopf algebras of dimension 2^n. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 17–24. (Sara Westreich) **99i:16065** 16W30
— *see also* **Rings, Hopf algebras, and Brauer groups, 99a:16001**
Caers, Jef (*with* Van Dyck, Jozef) Nonparametric tail estimation using a double bootstrap method. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 191–211. 62G09
Caetano, António M. About approximation numbers in function spaces. (English summary) *J. Approx. Theory* **94** (1998), *no.* 3, 383–395. (H. Triebel) **99g:46041** 46E35 (41A65, 47B06)
— Eigenvalue asymptotics of the Stokes operator for fractal domains. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 579–602. (Russell M. Brown) **99h:35151** 35P20 (35J99, 35Q30, 47F05, 58G25)
Caffarelli, Luis A. The work of Jean Bourgain [see MR 97c:00049]. *Fields Medallists' lectures, 537–539, World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ, 1997.* (*see* **99b:00010**) 01A70

— (*with* Gutiérrez, Cristian E.) Singular integrals related to the Monge-Ampère equation. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 3–13, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Marco Bramanti) **99f:42030** 42B20 (26B25, 35J60, 43A85)

— (*with* Lederman, Claudia; Wolanski, Noemi) Pointwise and viscosity solutions for the limit of a two phase parabolic singular perturbation problem. *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 719–740. (Naoki Yamada) **99c:35116** 35K60 (35B25)

— (*with* Kenig, Carlos E.) Gradient estimates for variable coefficient parabolic equations and singular perturbation problems. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 391–439. (Alain Brillard) **99b:35081** 35K10 (35B05, 35B25, 35K60)

— (*with* Peral Alonso, Ireneo) On $W^{1,p}$ estimates for elliptic equations in divergence form. *Comm. Pure Appl. Math.* **51** (1998), *no.* 1, 1–21. (H. J. Kuiper) **99c:35053** 35J60 (35B27)

— (*with* Athanasopoulos, I.; Salsa, Sandro) Phase transition problems of parabolic type: flat free boundaries are smooth. *Comm. Pure Appl. Math.* **51** (1998), *no.* 1, 77–112. (Lisa Santos) **99b:35220** 35R35 (35K10, 80A22)

— (*with* Vázquez, Juan Luis) Viscosity solutions for the porous medium equation. *Differential equations: La Pietra* 1996 (*Florence*), 13–26, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Li Shang Jiang) **99m:35029** 35D10 (35K65, 35R35, 76S05)

— (*with* Kochengin, S. A.; Oliker, Vladimir I.) On the numerical solution of the problem of reflector design with given far-field scattering data. (English summary) *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 13–32, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:65098** 65M30 (78–08, 78A45)

— *see also* **Monge Ampère equation: applications to geometry and optimization, 99f:00018** *and* **Hyperbolic equations and frequency interactions, 99h:35002**

Caflisch, Russel E. (*with* Morokoff, William J.) Quasi-Monte Carlo simulation of random walks in finance. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 340–352, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (*see* **99d:65005**) 90A09 (65C05)

— (*with* Sammartino, Marco) Zero viscosity limit for analytic solutions, of the Navier-Stokes equation on a half-space. I. Existence for Euler and Prandtl equations. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 433–461. (Zhi Min Chen) **99d:35129a** 35Q30 (76C99, 76D05)

— (*with* Sammartino, Marco) Zero viscosity limit for analytic solutions of the Navier-Stokes equation on a half-space. II. Construction of the Navier-Stokes solution. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 463–491. (Zhi Min Chen) **99d:35129b** 35Q30 (76C99, 76D05)

— (*with* Kao, Shin-Shin) Steady buoyant droplets with circulation. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1891–1902. (Summary) **99d:76017** 76C05 (76M25)

— (*with* Hou, Thomas Yizhao; Lowengrub, John) Almost optimal convergence of the point vortex method for vortex sheets using numerical filtering. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1465–1496. (Barak Galanti) **99m:76035** 76C05 (65M12, 76M25)

Caginalp, Gunduz (*with* Xie, Weiqing) An analysis of phase-field alloys and transition layers. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 4, 293–329. (Vitaly A. Volpert) **99g:80007** 80A22 (35K99)

— (*with* Chen, Xinfu) Convergence of the phase field model to its sharp interface limits. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 4, 417–445. (Weiqing Xie) **99i:80011** 80A22 (35K55, 35R35)

Cagliari, Francesca (*with* Mantovani, Sandra) The exponentiable morphisms in Kelley are the open maps. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 721–728. (Summary) **99b:18008** 18B30 (18D15, 54B30, 54D50)

— (*with* Mantovani, Sandra) Fibrewise smash product and fibrewise mapping spaces. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 127–132. (Peter Johnstone) **99e:18003** 18B30 (18D15, 54B30, 54C35)

Caglioti, E. (*with* Maffei, C.) Scattering theory: a possible approach to the homogenization problem for the Euler equations. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 445–475. (J. Thomas Beale) **99a:76019** 76C05 (35B27, 35Q35)

— (*with* Maffei, C.) Time asymptotics for solutions of Vlasov-Poisson equation in a circle. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 301–323. (Summary) **99e:82093** 82D10

Cagnol, John (*with* Zolésio, Jean-Paul) Hidden shape derivative in the wave equation with Dirichlet boundary condition. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1079–1084. (Summary) **99h:35118** 35L05 (35B65)

— (*with* Marmorat, Jean-Paul) Static equilibrium of hyperelastic thin shell: symbolic and numerical computation. (English summary) *Math. Comput. Simulation* **46** (1998), *no.* 2, 103–115. (Summary) **99c:73047** 73K15 (73–04, 73V20)

Cahalan, Robert F. (*with* Davis, Anthony B.; Marshak, Alexander L.; Wiscombe, Warren J.) Multifractal characterizations of intermittency in nonstationary geophysical signals and fields: a model-based perspective on ergodicity issues illustrated with cloud data. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 97–158, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:60003**) 86A32

Cahen, Benjamin (*with* Arnal, Didier; Benamor, Hédi) Minimal realizations of classical simple Lie algebras through deformations. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 169–184. (Alexander N. Rudyĭ) **99m:17012** 17B20 (17B10)

Cahen, Michel (*with* Gutt, Simone; Trautman, Andrzej) Pin structures and the Dirac operator on real projective spaces and quadrics. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 391–399, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Hans-Bert Rademacher) **99d:58160** 58G03 (53A50, 58G25)

Cahen, Paul-Jean (*with* Haouat, Youssef) Spectre des anneaux de polynômes à valeurs entières à plusieurs indéterminées. [Spectrum of rings of integer-valued polynomials with several indeterminates] *Anneaux et modules* (*Colmar*, 1991), 27–54, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (David E. Rush) **99c:13013** 13B25 (13F20)

— (*with* Ayache, Ahmed) Radical valuatif et sous-extensions. (French summary) [Valuative radical and subextensions] *Comm. Algebra* **26** (1998), *no.* 9, 2767–2787. (Salah-Eddine Kabbaj) **99f:13011** 13C15 (13F20)

— (*with* Loper, K. Alan) Rings of integer-valued rational functions. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 179–193. (Lahoucine Izelgue) **99g:13028** 13F20 (13F05, 13F30)

— (*with* Chabert, Jean-Luc; Houston, Evan; Lucas, Thomas G.) Skolem properties, value-functions, and divisorial ideals. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 3, 207–223. (David F. Anderson) **99m:13039** 13F20 (13F05)

Cahit, I. (*with* Yilmaz, R.) *E*-cordial graphs. (English summary) *Ars Combin.* **46** (1997), 251–266. (J. Mitchem) **99b:05124** 05C78

— On 2-visibility drawings of non-planar graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 24–26. (Summary) **99c:05050** 05C10

— *see also* **Hutchinson, Joan P.**

Cahlon, Baruch (*with* Schmidt, Darrell) Generic oscillations for delay differential equations. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 288–301. (István Győri) **99e:34095** 34K15

— (*with* Hu, Guang-Da) Estimations on numerically stable step-size for neutral delay differential systems with multiple delays. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 221–234. (Summary) **99j:65116** 65L05 (34K05, 65L06)

samuel-Cahn, Ester *see* **Samuel-Cahn, Ester**

Cahn, John W. (*with* Mallet-Paret, John; Van Vleck, Erik S.) Traveling wave solutions for systems of ODEs on a two-dimensional spatial lattice. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 455–493 (*electronic*). (Igor D. Chueshov) **99j:35220** 35Q99 (34K15, 35K57, 70K99, 73D99)

Cai, Chuan Ren (*with* Fang, Hong Jin; Wei, Jun Chao) Graded antisimple radicals. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 3, 207–216. (Stefan Veldsman) **99m:16037** 16N80 (16W50)

Cai, David (*with* McLaughlin, David W.; Shatah, Jalal) Spatiotemporal chaos and effective stochastic dynamics for a near-integrable nonlinear system. (English summary) *Phys. Lett. A* **253** (1999), *no.* 5-6, 280–286. (Summary) **99m:58175** 58F39 (58F13)

Cai, Dayong (*with* Liu, Ying) Inhomogeneous eigenvalue problems. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1260–1264. (M. Znojil) **99j:65059** 65F15 (15A18)

Cai, Dong Han An improved Cass-Koopmans model with endogenous fertility under the CES production technology. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 4, 411–417. 90A16

— Multiple growth paths, multiple steady states and bifurcations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 348–354. (Summary) **99m:90042** 90A16 (34C23)

Cai, Fan (*with* Liu, Chun Ping) The homogeneous balance method and exact solutions of the Burgers-KdV equation. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 4, 11–13. 35Q53

Cai, Hai Tao (*with* Xiao, Tiao Jun) Production equilibrium problems in Banach lattices without ordered preferences. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 1–7. 90A14 (90C48)

Cai, Hong (*with* Li, Yan Da) A fuzzy neural network optimization method based on Hopfield neural networks. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 86–89. 90C70 (68T05)

Cai, Hong Ying Exact solitary wave solutions to a higher-order water wave equation. (Chinese) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 5, 32–33. 35Q51 (35C05, 76B15)

Cai, Huai (*with* Mei, Denghua; Xu, Zhigen) Decision-making in fuzzy environment. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 199–203. 90A05 (90C70)

Cai, Hui (*with* Hu, Yu Da) Paradox of voting and the trivial preference set of group decision making. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 550–553. 90A05

Cai, Jin-fang (*with* Wang, Shi-kun; Wu, Ke[1]; Zhao, Wei-zhong) Quantum affine superalgebra $U_q(\widehat{\mathrm{gl}(1|1)})$ and its Drinfeld realization. (English summary) *Commun. Theor. Phys.* (*Beijing*) **28** (1997), *no.* 1, 1–2. (From the text) **99j:17017** 17B37 (81R50)

— (*with* Ju, Guo-Xing; Guo, Han-Ying; Wu, Ke[1]; Wang, Shi-kun) Super-Yangian $Y(\mathrm{gl}(1|1))$ and its oscillator realization. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6155–6161. (Mariano A. del Olmo) **99a:81074** 81R50 (17B37)

— (*with* Wang, Shi-kun; Wu, Ke[1]; Zhao, Wei-zhong) Drinfel'd realization of quantum affine superalgebra $U_q(\widehat{\mathrm{gl}(1|1)})$. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1989–1994. (Jun'ichi Shiraishi) **99k:81106** 81R50 (17B37)

Cai, Jin-Xing A note on abelian automorphism groups of surfaces of general type. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1057–1067. (M. Kh. Gizatullin) **99b:14041** 14J50 (14J29)

— Irregularity of certain algebraic fiber spaces. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 273–287. (Luciana Picco Botta) **99a:14068** 14J99 (14J40)

Cai, Jin-Yi (*with* Regan, Kenneth W.; Sivakumar, D.) Pseudorandom generators, measure theory, and natural proofs. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 26–35, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

— (*with* Sivakumar, D.) The resolution of a Hartmanis conjecture. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 362–371, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (Summary) **99b:68079** 68Q15

— (*with* Ogihara, Mitsunori) Sparse sets versus complexity classes. (English summary) *Complexity theory retrospective, II*, 53–80, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— (*with* Hemaspaandra, Lane A.; Wechsung, Gerd) Robust reductions. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 174–183, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q15

— (*with* Nerurkar, Ajay) Approximating the SVP to within a factor $(1 + 1/\dim^{\varepsilon})$ is NP-hard under randomized reductions. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 46–55, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68044** 68Q15

— (*with* Cai, Pu; Zhu, Yixin) On a scheduling problem of time deteriorating jobs. (English summary) *J. Complexity* **14** (1998), *no.* 2, 190–209. (Stanislav Palúch) **99e:90047** 90B35 (68Q25)

— A relation of primal-dual lattices and the complexity of shortest lattice vector problem. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 105–116. (Summary) **99i:68060** 68Q25 (68Q15)

— Frobenius's degree formula and Toda's polynomials. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 67–75. (Hiro-Fumi Yamada) **99a:12013** 12Y05 (20C30)

— *see also* **IEEE Conference: Computational Complexity, 99g:68002**

Cai, Jun (*with* Garrido, José) Aging properties and bounds for ruin probabilities and stop-loss premiums. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 1, 33–43. (Summary) **99k:62199** 62P05

Cai, Kairen Mean curvature flow of hypersurfaces in Einsteinian manifold. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 139–149. (Barbara Priwitzer) **99k:53076** 53C21 (35K15, 53C25)

Cai, Leizhen (*with* Xu, Yin-Feng; Zhu, Binhai) Computing the optimal bridge between two convex polygons. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 127–130. (Summary) **99k:68191** 68U05

Cai, Lilong (*with* Song, Gangbing; Wang, Yiping; Longman, Richard W.) A sliding-mode based smooth adaptive robust controller for friction compensation. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 725–739. 93C40 (70Q05, 93B35)

Cai, Liming (*with* Chen, Jianer) On fixed-parameter tractability and approximability of NP optimization problems. (English summary) *J. Comput. System Sci.* **54** (1997), *no.* 3, 465–474. (Rodney G. Downey) **99b:68080** 68Q15 (68Q25)

Cai, Lin Fu Existence of global smooth solutions to a certain problem for quasilinear hyperbolic systems. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 50–53. (Summary) **99c:35141** 35L60 (35B60)

Cai, Mao Cheng (*with* Yuan, Xudong) Tree decomposition. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 19, 1599–1601. (Summary) **99i:05173** 05C70 (05C05)

— (*with* Li, Yanjun) A degree condition for a graph to have $[a, b]$-factors. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 1–6. (K. Jay Bagga) **99e:05098** 05C70 (68R10)

— (*with* Zhang, Jian Zhong) Inverse problem of minimum cuts. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 51–58. (Summary) **99a:90222** 90C35 (05C20)

— (*with* Li, Yanjun; Kano, Mikio) A $[k, k+1]$-factor containing given Hamiltonian cycle. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 933–938. (Summary) **99i:05160** 05C70 (05C45)

Cai, Mingliang L^p Willmore functionals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 569–575. (Udo Hertrich-Jeromin) **99c:53061** 53C42

Cai, Ning (*with* Ahlswede, Rudolf) Shadows and isoperimetry under the sequence-subsequence relation. *Combinatorica* **17** (1997), *no.* 1, 11–29. (Hugo S. Sun) **99d:04003** 04A20 (05A20, 05D05, 68R15)

— (*with* Ahlswede, Rudolf) Models of multi-user write-efficient memories and general diametric theorems. (English summary) *Inform. and Comput.* **135** (1997), *no.* 1, 37–67. (Summary) **99a:68050** 68P20 (68R05)

— (*with* Ahlswede, Rudolf) Isoperimetric theorems in the binary sequences of finite lengths. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 121–126. (Summary) **99c:05018** 05A99

— (*with* Ahlswede, Rudolf) Information and control: matching channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 542–563. (Summary) **99f:94009** 94A40

Cai, Pu (*with* Cai, Jin-Yi; Zhu, Yixin) On a scheduling problem of time deteriorating jobs. (English summary) *J. Complexity* **14** (1998), *no.* 2, 190–209. (Stanislav Palúch) **99e:90047** 90B35 (68Q25)

Cai, Qi Fu (*with* Gao, Xi Ling) A numerical method for a system of shallow water equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 4, 467–471. 76M20 (76B15)

— (*with* Gao, Xi Ling; Xiang, Yu Zhang; Ge, Ji Chuan) A second-order finite volume method for the 2D shallow water equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 18–22. 76M20 (76B15)

Cai, Ri Zeng (*with* Wu, Jian Cheng) The semi-discrete method for solving high-dimension wave equation. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 5, 489–496; *translated from Appl. Math. Mech.* **19** (1998), *no.* 5, 457–464 (*Chinese. English and Chinese summaries*). (Summary) **99e:65143** 65M99

— (*with* Wu, Jian Cheng; Zheng, Jia Mao) A semidiscrete method for solving direct and inverse problems of the 2-D wave equation. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 66–70. 65M06 (65M70)

Cai, Rong-Gen (*with* Ji, Jeong-Young; Soh, Kwang-Sup) Action and entropy of black holes in spacetimes with a cosmological constant. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2783–2793. (Marco Cavaglià) **99j:83042** 83C57

— Propagation of vacuum polarized photons in topological black hole spacetimes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 639–657. (Summary) **99c:83037** 83C47 (83C57)

— (*with* Ji, Jeong-Young; Soh, Kwang-Sup) Ultrarelativistic limits of boosted dilaton black holes. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 265–282. (Summary) **99g:83051** 83C57 (83E30)

— (*with* Ji, Jeong-Young; Soh, Kwang-Sup) Topological dilaton black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6547–6550. (Summary) **99k:83059** 83C57

— (*with* Ji, Jeong-Young) Hairs on the cosmological horizon. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 24002, 8 *pp.* 83C57

— (*with* Soh, Kwang-Sup) Topological black holes in the dimensionally continued gravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044013, 13 *pp.* (Summary) **99m:83166** 83D05 (83C57)

Cai, Ruixian (*with* Zhang, Na) Explicit analytical solutions of non-Fourier heat conduction equation for IC chip. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 13, 1080–1084. (Summary) **99j:80003** 80A20

Cai, Shao Hong (*with* Dai, Ling Jiang) A possible unified form of extremum principles. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 3, 64–70. 70H30 (70H25)

Cai, Shi Dong (*with* Zhu, Xiong Wei; Chen, Yan Ping) Progress in gyrokinetics. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1793–1799. 78A35 (76X05)

Cai, Shoufu (*with* Xu, Jingbo; Gao, Mu; Wang, Qinmei) Properties of the states generated by the excitations on a q-coherent state. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 4, 633–636. (K. Wódkiewicz) **99k:81104** 81R30 (81R50)

Cai, Suilin (*with* Li, Jinming) Global analyses of a class of cubic systems. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 207–220. (Introduction) **99h:34047** 34C05 (58F21)

— (*with* Xie, Xiang Dong) On the decision problem of the center or focus for a class of planar polynomial fields. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 79–88. (A. P. Sadovskiĭ) **99g:34067** 34C05

Cai, Tian Xin On Euler's equation $\varphi(x) = k$. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 3, 224–226. (G. Greaves) **99h:11104** 11N37 (11N36)

— (*with* Jiao, Rong Zheng) On the Diophantine equation $xy + yz + zx = m$. II. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 20, 2154–2156. 11D09 (11D85)

Cai, W. *see* **Cai, Wentong**

Cai, Wenli (*with* Dong, Feng; Shi, Jiao Ying) Stream surface construction using mass conservative interpolation. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 45–53. (Summary) **99k:76108** 76M25

Cai, Wentong (*with* Zhang, Ke Wei[1]; Turner, S. J.; Sun, Chengzheng) Interlock avoidance in transparent and dynamic parallel program instrumentation using logical clocks. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 569–591. 68Q10 (68Q60)

Cai, X. *see* **Cai, Xiao Tao**

Cai, X. Q. *see* **Cai, Xiao-Qiang**

Cai, Xiao-Chuan (*with* Goossens, Serge; Roose, Dirk) Overlapping nonmatching grids method: some preliminary studies. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 254–261, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65F10, 65N22)

— (*with* Casarin, Mario A.; Elliott, Frank W., Jr.; Widlund, Olof B.) Overlapping Schwarz algorithms for solving Helmholtz's equation. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 391–399, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65N35)

— (*with* Wu, Yunhai; Keyes, David E.) Additive Schwarz methods for hyperbolic equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 468–476, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65M55 (65F10, 65N30)

— (*with* Farhat, Charbel; Sarkis, Marcus V.) A minimum overlap restricted additive Schwarz preconditioner and applications in 3D flow simulations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 479–485, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76106** 76M25 (65M55, 76H05, 76J20)

— (*with* Sarkis, Marcus V.) Local multiplicative Schwarz algorithms for steady and unsteady convection-diffusion equations. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 27–41. (Summary) **99c:65197** 65N30 (65F10)

— (*with* Gropp, William D.; Keyes, David E.; Melvin, Robin G.; Young, David P.) Parallel Newton-Krylov-Schwarz algorithms for the transonic full potential equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 246–265 (*electronic*). (Summary) **99b:65138** 65N30 (65H20, 65Y05, 76H05, 76M10)

— *see also* **Domain decomposition methods, 99f:65005**

Cai, Xiao-Qiang (*with* Lee, H. W. J.; Teo, Kok Lay) An optimal control approach to nonlinear mixed integer programming problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 87–105. (Summary) **99d:90078** 90C11

— (*with* Cheng, T. C. Edwin) Multi-machine scheduling with variance minimization. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 55–70. (Yuri Nazarovich Sotskov) **99e:90048** 90B35

Cai, Xiao Tao (*with* Shreve, Warren E.) (1 mod 3)-cycles. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 179–185. (Summary) **99m:05082** 05C38

Cai, Xing (*with* Mehlum, Even) Application of Cauchy integrals and singular integral equations in scattered data problems. (English summary) *BIT* **38** (1998), *no.* 2, 242–255. (Kai Diethelm) **99f:65025** 65D17 (45E05, 65N38, 65R20)

— (*with* Langtangen, Hans Petter; Nielsen, Bjørn Fredrik; Tveito, Aslak) A finite element method for fully nonlinear water waves. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 544–568. (Summary) **99b:76049** 76M10 (76B15)

Cai, Xu *see* **Xu, Cai**

Cai, Xunwu A type of fuzzy neural network. (English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 221–224. 68T05

Cai, Yingchun On the distribution and moments of the Fourier coefficients of cusp forms. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 289–294. (Noemi Patricia Kisbye) **99f:11057** 11F30

— On the third and fourth power moments of Fourier coefficients of cusp forms. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 443–452. (Stefan Breulmann) **99b:11048** 11F30

— (*with* Lu, Minggao) Chen's theorem in short intervals. *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1401–1403. (Alessandro Languasco) **99m:11116** 11P32 (11N36, 11N64)

Cai, Yong Yu (*with* Huang, Li Ping[3]) A weighted power mean inequality for determinants of positive definite Hermitian matrices. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 91–94. 15A45

Cai, Yuan Hu (*with* Jiang, Da Wei; Li, An Ping) Fairing B-spline curves with fixed area constraints. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 90–98. 65D07 (65D17)

Cai, Yue Jiang (*with* Xin, Yu Mei; Xie, Hong Zheng) S-convergence and S-compactness on topological spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 6–7, 10. 54A20

Cai, Z. *see* **Cai, Zhi Qiang**

Cai, Zhi Jie Multiple parameters identification problems in resistivity well-logging. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 533. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 265–272. (Summary) **99k:86008** 86A20 (35R30, 86A22)

— Modified four-point scheme and its application. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 3, 251–260. (Heinz H. Gonska) **99d:65036** 65D17 (41A63)

Cai, Zhi Qiang (*with* Douglas, Jim, Jr.) Stabilized finite element methods with fast iterative solution algorithms for the Stokes problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 115–129. (Summary) **99i:76087** 76M10 (65N30, 76D07)
— (*with* Manteuffel, Thomas A.; McCormick, Stephen F.; Parter, Seymour V.) First-order system least squares (FOSLS) for planar linear elasticity: pure traction problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 320–335 (*electronic*). (Summary) **99a:73119** 73V05 (73C02)
— (*with* Bochev, Pavel B.; Manteuffel, Thomas A.; McCormick, Stephen F.) Analysis of velocity-flux first-order system least-squares principles for the Navier-Stokes equations. I. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 990–1009 (*electronic*). (Summary) **99a:76106** 76M25 (65N12, 65N30, 76D05)
— (*with* Hou, Thomas Yizhao; Wu, Xiao-Hui) Convergence of a multiscale finite element method for elliptic problems with rapidly oscillating coefficients. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 913–943. (Larisa V. Maslovskaya) **99i:65126** 65N30 (65N12)
Cai, Zixing (*with* Wang, Jing[?]; Jia, Limin) Direct fuzzy neural control with application to automatic train operation. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 391–399. 93C42 (93C90)
Cai, Zongwu (*with* Roussas, George G.) Smooth estimate of quantiles under association. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 275–287. (Michael Falk) **99b:62046** 62G05
— (*with* Hurvich, Clifford M.; Tsai, Chih-Ling) Score tests for heteroscedasticity in wavelet regression. (English summary) *Biometrika* **85** (1998), *no.* 1, 229–234. (Summary) **99c:62170** 62J02 (62G05)
— (*with* Roussas, George G.) Efficient estimation of a distribution function under quadrant dependence. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 211–224. (Hajime Yamato) **99d:62029** 62G05
— Asymptotic properties of Kaplan-Meier estimator for censored dependent data. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 381–389. (Summary) **99b:62047** 62G05 (62N05)
Cai, Zongxi (*with* Dai, Hui-Hui) Uniform asymptotic analysis for waves in an incompressible elastic rod. II. Disturbances superimposed on a pre-stressed state. (English summary) *IMA J. Appl. Math.* **62** (1999), *no.* 1, 1–29. (Summary) **99k:73053** 73D15 (35Q72, 73K05, 73K12)
Caicedo, Xavier Subdirect decomposition of *n*-chromatic graphs. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 2, 157–168. (S. I. Gendler) **99m:05057** 05C15
— *see also* **Models, algebras, and proofs, 99k:03005**
Caifeng, Tu *see* **Tu, Caifeng**
Caillerie, D. (*with* Chambon, R.; El Hassan, N.) One-dimensional localisation studied with a second grade model. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 637–656. (Summary) **99e:73053** 73E99 (73B99, 73G20, 73V05)
Cailletaud, G. (*with* Le Riche, R.) A mixed evolutionary/heuristic approach to shape optimization. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 8, 1463–1484. (Summary) **99a:73097** 73K40
Caines, Peter E. (*with* Wei, Yuan-Jun) Hierarchical hybrid control systems: a lattice-theoretic formulation. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 501–508. (Krzysztof Malinowski) **99j:93004** 93A13 (93C30)
Caínzos, Xan On the spectral perturbation of a viscoelastic body in an ideal gas. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 395–398, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73F15 (73K70)
Caires, Luís (*with* Monteiro, Luís) Proof net semantics of proof search computation. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 194–208, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (03F50, 68Q55, 68Q60)
Cairnie, Niall (*with* Edwards, Keith) The achromatic number of bounded degree trees. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 87–97. (Gary MacGillivray) **99e:05048** 05C15 (05C05, 68Q25)
Cairns, Grant (*with* Armstrong, Grant F.; Kim, Gunky) Lie algebras of cohomological codimension one. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 709–714. (Sen Qiu) **99f:17024** 17B56
Cairns, Robert D. Sufficient conditions for a class of investment problems. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 55–69. (Gerhard Sorger) **99j:49033** 49K15 (90A09)
Cairó, Laurent (*with* Feix, Marc R.; Geronimi, C.; Leach, P. G. L.; Lemmer, R. L.; Bouquet, S.) On the singularity analysis of ordinary differential equations invariant under time translation and rescaling. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7437–7461. (Summary) **99i:34015** 34A34 (34A20)
— (*with* Feix, Marc R.) Similarity and rescaling. *Extracta Math.* **13** (1998), *no.* 1, 1–19. (P. G. L. Leach) **99j:34008** 34A25 (35A30)
Çakalli, Hüseyin Generalized multiplicative series methods in topological groups. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 7–15. (D. Butković) **99b:40005** 40J05 (43A55)
— On statistical convergence in topological groups. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 27–31. (Summary) **99b:40006** 40J05 (22A10)
Çakar, Öner (*with* Krall, Allan M.; Bairamov, È. M.) Spectrum and spectral singularities of a quadratic pencil of a Schrödinger operator with a general boundary condition. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 252–267. (Christian Remling) **99k:34036** 34B05 (34L05, 34L40, 47E05)
— (*with* Baĭramov, È. M.; Krall, Allan M.) An eigenfunction expansion for a quadratic pencil of a Schrödinger operator with spectral singularities. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 268–289. (Christian Remling) **99k:34037** 34B05 (34L05, 34L10, 34L40, 47E05)
Çakçak, Emrah A remark on the minimal polynomial of the product of linear recurring sequences. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 87–97. (Jau-Shyong Shiue) **99b:11009** 11B37 (11T06, 94A60)
Cakmak, S. (*with* Fraser, Donald A. S.; McDunnough, Philip; Reid, N.; Yuan, Xiaojin) Likelihood centered asymptotic model exponential and location model versions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 211–222. (Summary) **99g:62019** 62F03
Çakmak, Y. (*with* Amirov, R. Kh.) Trace formula for the Sturm-Liouville operator with singularity. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 9–16, *VSP, Utrecht*, 1998. (Summary) **99g:34163** 34L40 (34B24, 34L20, 81Q05)
Cakoni, Fioralba (*with* Dassios, George) The coated thermoelastic body within a low-frequency elastodynamic field. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 15, 1815–1838. (Summary) **99j:73043** 73D25 (73B30)
Calamoneri, T. (*with* Avior, A.; Even, Shimon; Litman, Ami; Rosenberg, Arnold L.) A tight layout of the butterfly network. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 475–487. (Summary) **99b:68011** 68M10 (05C85, 68Q35)
Cala Rodríguez, F. (*with* López Lagomasino, G.) Multipoint Padé-type approximants. Exact rate of convergence. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 259–272. (Annie A. M. Cuyt) **99i:41016** 41A21 (41A20)
— (*with* Bello Hernández, M.; Guadalupe Hernández, José Javier; López Lagomasino, G.) Convergence rate of Padé-type approximants for Stieltjes functions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 47–53. (Summary) **99i:41013** 41A20
Calbrix, Jean (*with* Alleche, Boualem) Multifunctions and Čech-complete spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 30–36 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C65 (54C60, 54E30, 54E35)
— (*with* Arkhangel'skiĭ, A. V.) A characterization of σ-compactness of a cosmic space X by means of subspaces of R^X. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2497–2504. (Donald Plank) **99j:54019** 54C35 (54D45, 54H05)
Calcev, G. (*with* Gorez, R.; De Neyer, M.) Passivity approach to fuzzy control systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 339–344. (Summary) **99a:93063** 93C42
garcía-Calcines, J. M. *see* **García-Calcines, J. M.**
Caldarelli, Marco M. Quantum implementation of the cosmic censorship conjecture for toroidal black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064008, 7 *pp.* (Summary) **99m:83148** 83C75 (83C47, 83C57)
Caldas, I. L. (*with* Corso, G.; Pakter, R.; Rizzato, F. B.) Bifurcation-reconnection sequences in nonpendular resonance. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 377–392. (Summary) **99a:70030** 70K20 (70H05, 78A35)
Caldas Cueva, Miguel A non-Archimedean analogue of *c*-infrabarrelled spaces. (Spanish. English and Spanish summaries) *Rev. Colombiana Mat.* **31** (1997), *no.* 2, 63–70. (Athanasios K. Katsaras) **99m:46178** 46S10 (46A08)
— A non-Archimedean analogue of c-infrabarrelled spaces. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 1, 15–20. (Summary) **99k:46130** 46S10 (46A08)
— (*with* Pombo, Dinamérico P., Jr.) On a characterization of polynomially barrelled spaces. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 93–96. (Summary) **99f:46004** 46A08 (46E50, 46G20)
— (*with* Dontchev, Julian) On spaces with hereditarily compact α-topologies. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 121–129. (Richard A. Alò) **99j:54035** 54F65 (54D99, 54G05)
Caldeira, Cristina Critical pairs of matrices for the degree of the minimal polynomial of the Kronecker sum. (English summary) *Linear and Multilinear Algebra* **42** (1997), *no.* 1, 73–88. (Summary) **99c:15033** 15A45
Calderbank, A. Robert (*with* Daubechies, Ingrid C.; Sweldens, Wim; Yeo, Boon-Lock) Wavelet transforms that map integers to integers. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 332–369. (Ahmed I. Zayed) **99h:94012** 94A12 (42C15, 94B60)
— (*with* Rains, Eric M.; Shor, Peter W.; Sloane, Neil J. A.) Quantum error correction via codes over GF(4). (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1369–1387. (Dennis Dieks) **99m:94063** 94B60
— (*with* Fan, John L.) A modified concatenated coding scheme, with applications to magnetic data storage. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1565–1574. 94B12
— The art of signaling: fifty years of coding theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2561–2595. (Summary) **99i:94026** 94A24 (94–02, 94A40, 94Bxx)
— (*with* Duel-Hallen, Alexandra; Fishburn, Peter C.; Rabinovich, Asya) Interpolation by convolutional codes, overload distortion, and the erasure channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 94–105. 94B10 (94B35)
— (*with* Tarokh, Vahid; Naguib, Ayman; Seshadri, Nambi) Combined array processing and space-time coding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 4, 1121–1128. 94A05 (78A55)
Calderbank, David M. J. Möbius structures and two-dimensional Einstein-Weyl geometry. (English summary) *J. Reine Angew. Math.* **504** (1998), 37–53. (Michael G. Eastwood) **99j:53062** 53C25 (53A30)
Calderer, M. Carme Dissipation, surface energy and defects. (English summary) Mathematical models of liquid crystals (Durham, 1995). *European J. Appl. Math.* **8** (1997), *no.* 3, 301–310. (Paolo Biscari) **99i:76008** 76A15 (82D30)
— (*with* Liu, Chun; Voss, Karl) Radial configurations of smectic A materials and focal conics. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 11–22. (Paolo Biscari) **99j:76004** 76A15 (76M30, 82D30)
Caldero, Philippe Invariants in the enveloping algebra of a semisimple Lie algebra for the adjoint action of a nilpotent Lie subalgebra. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 699–707. (Darin R. Stephenson) **99a:17016** 17B35
— Isomorphisms of finite invariant for enveloping algebras, semi-simple case. (English summary) *Adv. Math.* **134** (1998), *no.* 2, 294–307. (Ian M. Musson) **99e:17013** 17B35
— On the q-commutations in $U_q(\mathfrak{n})$ at roots of one. (English summary) *J. Algebra* **210** (1998), *no.* 2, 557–576. (Roberto Casalbuoni) **99i:17014** 17B37
Calderón, Alberto Pedro Reflections on learning and teaching mathematics. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 1, 80–88. 00A35

— *see also* **Stein, Elias M., 99f:42002** *and* **Christ, Michael et al., 99k:01054**
Calderón, C. *see* **Calderón, Catalina**
Calderón, Calixto P. (*with* Vera de Serio, Virginia N.) Successive approximations and Osgood's theorem. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 73–81. (Summary) **99a:34030** 34A45 (34A12, 35K99)
Calderón, Catalina (*with* Zárate Azcuna, María José) Note on a paper by A. Ivić. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **8** (1997), 72–78. (Lutz Gerhard Lucht) **99b:11107** 11N37
gomez-Calderon, Javier *see* **Gomez-Calderon, Javier**
Calderón, M. (*with* Bustince Sola, Humberto; Mohedano, V.) Some considerations about a least squares model for fuzzy rules of inference. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 315–336. (Summary) **99d:03019** 03B52
rzedowski-Calderón, Martha *see* **Rzedowski-Calderón, Martha**
Calderón Martín, A. J. (*with* Martín González, Cándido) Dual pairs techniques in H^*-theories. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 59–63. (Alain D'Amour) **99j:17047** 17C50 (17C65)
Calderón Montero, Susana (*with* Caballero Fernández, Rafael E.; Hidalgo Sánchez, Ramón) Direct collocation in nonlinear control problems. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 7 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65K10 (49M25)
Calderón Segura, Apolinar BROYDT: Fortran subroutines for solving systems of nonlinear equations with singular Jacobians. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994), 179–186, Aportaciones Mat. Comun., 16, Soc. Mat. Mexicana, México, 1995.* (*see* **99f:00013**) 65–04 (65H10)
Caldiroli, Paolo (*with* Nolasco, Margherita) Multiple homoclinic solutions for a class of autonomous singular systems in $\mathbf{R}^2$. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 1, 113–125. (Ugo C. Bessi) **99b:58049** 58E05 (34C37, 58F05)
— (*with* Alessio, Francesca; Montecchiari, Piero) On the existence of infinitely many solutions for a class of semilinear elliptic equations in $\mathbf{R}^N$. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 3, 157–165. (Summary) **99m:35055** 35J60 (35B99)
Caldwell, Chris K. Unique (period) primes and the factorization of cyclotomic polynomials minus one. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 189–195. (Lawrence Washington) **99b:11139** 11Y11 (11R18, 12E10)
Caldwell, James (*with* Shum, P.) Solution of the nonlinear Burgers' equation using a split-step finite element analysis technique. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 2, 153–161. (Summary) **99m:65181** 65M60
— (*with* Shum, P.; So, K. L.) Solving the nonlinear Burgers' equation by the use of split-step finite element analysis method with various adaptive techniques. (English summary) *J. Math. Sci. (Calcutta)* **9** (1998), *no.* 2, 185–198. (Summary) **99m:65182** 65M60
Caldwell, James L. Classical propositional decidability via Nuprl proof extraction. (English summary) *Theorem proving in higher order logics (Canberra, 1998), 105–122, Lecture Notes in Comput. Sci., 1479, Springer, Berlin, 1998.* (*see* **99k:68014**) 03B35 (68T15)
Caleiro, Carlos (*with* Sernadas, Amílcar; Sernadas, Cristina) Synchronization of logics. (English summary) *Studia Logica* **59** (1997), *no.* 2, 217–247. (Marcus Kracht) **99c:03013** 03B22 (03B70, 68Q60)
Calera-Rubio, Jorge (*with* Carrasco, Rafael C.; Oncina, Jose) Stochastic inference of regular tree languages. (English summary) *Grammatical inference (Ames, IA, 1998), 187–198, Lecture Notes in Comput. Sci., 1433, Springer, Berlin, 1998.* (*see* **99h:68006**) 68T05 (68Q45)
— (*with* Carrasco, Rafael C.) Computing the relative entropy between regular tree languages. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 283–289. (Summary) **99i:68074** 68Q45 (68T05)
Califano, C. (*with* Monaco, Salvatore; Normand-Cyrot, D.) On the discrete-time normal form. *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1654–1658. (Sauro Longhi) **99j:93049** 93C10 (93B10, 93C55)
hayek Calil, Nácere *see* **Hayek Calil, Nácere**
Călin, C. Semi-invariant submanifolds of a quasi-K-Sasakian manifold. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 95–103 (1997). (Domingo Chinea) **99c:53043** 53C25 (53C15, 53C40)
Călin, O. (*with* Ianuş, Stere) A note on harmonic maps of semi-Riemannian manifolds. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995), 33–37, BSG Proc., 1, Geom. Balkan Press, Bucharest, 1997.* (Anne-Joëlle Vanderwinden) **99j:58054** 58E20
Călinescu, Gruia (*with* Fernandes, Cristina G.; Finkler, Ulrich; Karloff, Howard) A better approximation algorithm for finding planar subgraphs. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 269–302. (Summary) **99b:05130** 05C85 (68Q25, 68R10)
Calini, Annalisa (*with* Ivey, Thomas) Bäcklund transformations and knots of constant torsion. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 6, 719–746. (Anders Linnér) **99m:53004** 53A04 (57M25, 58F37)
Calinov, Irina-Ana (*with* Gherghe, Cătălin) Pluriharmonic maps on tangent bundles of a Riemannian or Hermitian manifold. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 3–8. (Anne-Joëlle Vanderwinden) **99f:58047** 58E20 (53C55)
Caliński, Tadeusz (*with* Kageyama, Sanpei) Block designs: their combinatorial and statistical properties. *Design and analysis of experiments, 809–873, Handbook of Statist., 13, North-Holland, Amsterdam, 1996.* (*see* **99f:62002**) 62K10 (05B05)
— (*with* Lejeune, Michel) Dimensionality in MANOVA tested by a closed testing procedure. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 181–194. (C. R. Rao) **99i:62129** 62H15
Calio, Gloria L. (*with* Jing, Zhu-Jun; Sy, Polly Wee) Qualitative analysis of a mathematical model for predator-prey system. (English summary) *Functional analysis and global analysis (Quezon City, 1996), 31–36, Springer, Singapore, 1997.* (Summary) **99j:92016** 92D25 (34C05, 34C23, 34D20)
Calixto, M. (*with* Aldaya, V.; Becerra Guerrero, Julio) Generalized conformal symmetry and extended objects from the free particle. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 28, 4889–4911. (Anton V. Galajinsky) **99k:81130** 81S10 (81R99)
Calkin, Neil J. Factors of sums of powers of binomial coefficients. *Acta Arith.* **86** (1998), *no.* 1, 17–26. (Laurent Habsieger) **99i:11011** 11B65 (05A10, 05A30)
— (*with* Cameron, Peter J.) Almost odd random sum-free sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 27–32. (Georges Grekos) **99c:11012** 11B13 (11B75, 11K99)
— On the structure of a random sum-free set of positive integers. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 247–257. (Georges Grekos) **99f:11015** 11B13 (11B75)
— (*with* Wilf, Herbert S.) The number of independent sets in a grid graph. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 54–60 (*electronic*). (Konrad Engel) **99e:05010** 05A16 (05C50)
Callahan, Patrick J. (*with* Reid, Alan W.) Hyperbolic structures on knot complements. Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 705–738. (Michael Heusener) **99e:57022** 57M50 (57M25)
— (*with* Hildebrand, Martin V.; Weeks, Jeffrey R.) A census of cusped hyperbolic 3-manifolds. (English summary) With microfiche supplement. *Math. Comp.* **68** (1999), *no.* 225, 321–332. (Colin C. Adams) **99c:57035** 57M50 (57N10)
Callahan, Paul B. Output-sensitive generation of random events. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998), 374–383, ACM, New York, 1998.* (Summary) **99f:05106** 05C85 (68R05)
Callan, Curtis G., Jr. (*with* Maldacena, Juan M.) Brane dynamics from the Born-Infeld action. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 198–212. (Summary) **99c:81169** 81T30 (83E30)
— (*with* Thorlacius, Lárus) World-sheet dynamics of string junctions. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 121–136. (Angel Maria Uranga) **99k:81225** 81T30
Callan, David An exploratory approach to Kaplansky's lemma leads to a generalized resultant. *Amer. Math. Monthly* **104** (1997), *no.* 8, 709–712. (Mei-Qin Chen) **99g:15002** 15A03
Callebaut, Dirk K. Exact solution of some systems of non-selfadjoint partial differential equations. (English summary) *Transform methods & special functions, Varna '96, 84–90, Bulgarian Acad. Sci., Sofia, 1998.* (*see* **99i:00031**) 35C05 (35Q99)
— (*with* Khater, A. H.; Ibrahim, R. S.; El-Kalaawy, O. H.) Bäcklund transformations and exact soliton solutions for some nonlinear evolution equations of the ZS/AKNS system. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1847–1855. (Summary) **99i:35150** 35Q55 (58F37)
— (*with* Ndayirinde, I.) Rational solitary-wave solutions of the generalised Burgers-Huxley equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 4, 523–527. (Summary) **99e:35202** 35Q53
— (*with* Khater, A. H.; El-Kalaawy, O. H.) Bäcklund transformations and exact soliton solutions for nonlinear Schrödinger-type equations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1121–1130. 35Q55 (58F37)
Callen, J. D. (*with* Kruger, S. E.; Hegna, C. C.) Generalized reduced magnetohydrodynamic equations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4169–4182. (Summary) **99i:76149** 76W05
Callender, Craig The view from no-when. *British J. Philos. Sci.* **49** (1998), *no.* 1, 135–159. (Lawrence Sklar) **99d:82037** 82C03 (81P05)
de la Calle Ysern, B. (*with* López Lagomasino, G.) Strong asymptotics of orthogonal polynomials with varying measures and Hermite-Padé approximants. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 91–103. (Summary) **99i:42035** 42C05 (30E10)
Callialp, Fethi (*with* Eren, Senol) On the calculation for units of ring of coefficients for a module in the algebraic number fields. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 77–81. (W. Narkiewicz) **99h:11125** 11R27
Callier, Frank M. (*with* Dumortier, Laurence) Partially stabilizing LQ-optimal control for stabilizable semigroup systems. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 119–151. (Olof J. Staffans) **99i:93049** 93D15 (47N70, 49K27, 49N10)
Calmet, Jacques (*with* Lu, James J.; Schü, Joachim) Computing multiple-valued logic programs. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 129–153. (Summary) **99m:03057** 03B70 (03B50, 68N17)
— Computer algebra and artificial intelligence. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 73–82. (*see* **99a:00035**) 68Q40 (68T01)
— *see also* **Artificial intelligence and symbolic computation, 99k:68005**
Calò, Daniela G. Projection pursuit density estimation and cluster analysis: an interaction. (Italian. English and Italian summaries) *Statistica (Bologna)* **57** (1997), *no.* 4, 533–552 (1998). 62G05
Calogeracos, A. (*with* Dombey, N.) Klein tunnelling and the Klein paradox. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 631–643. 81Q05 (81P05)
Calogero, A. Wavelets on general lattices, associated with general expanding maps of $\mathbf{R}^n$. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **5** (1999), 1–10 (*electronic*). (Peter R. Massopust) **99i:42042** 42C15
Calogero, F. (*with* Françoise, Jean-Pierre) Hamiltonian character of the motion of the zeros of a polynomial whose coefficients oscillate over time. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 211–218. (Jean-Pierre Marco) **99b:58093** 58F05 (34A26)
— Generalized Lagrangian interpolation, finite-dimensional representations of shift operators, remarkable matrices, trigonometric and elliptic identities. (English summary) *Special functions and differential equations (Madras, 1997), 50–59, Allied Publ., New Delhi, 1998.* (Summary) **99i:41002** 41A10 (33E05)
— Three solvable many-body problems in the plane. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 1, 93–111. (Chris Athorne) **99a:70018** 70F10 (58F07, 70H05)
— Integrable and solvable many-body problems in the plane via complexification. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5268–5291. (Kazuhiro Hikami) **99f:70021** 70F10 (58F07, 81V70)
— A solvable many-body problem in the plane. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 289–293. (Summary) **99d:70017** 70F10 (58F07)
— Remarkable matrices and trigonometric identities. II. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 267–270. (Summary) **99m:15010** 15A24

Calsina Ballesta, Ángel (*with* Saldaña, Joan) Asymptotic behaviour of a model of hierarchically structured population dynamics. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 967–987. (Ying Guo Lei) **99d:92021** 92D25 (35Q80)

Calude, Cristian S. (*with* Calude, Elena; Khusainov, B. M.) Deterministic automata: simulation, universality and minimality. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 263–276. (Leonid P. Lisovik) **99a:68125** 68Q68 (03D05)

— A genius's story: two books on Gödel. *Complexity* **3** (1997), *no.* 2, 11–15. (Editors) **99a:01019** 01A70 (03–03)

— (*with* Yu, Sheng) Language-theoretic complexity of disjunctive sequences. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 203–209. (Summary) **99a:68105** 68Q45 (68Q30)

— (*with* Nies, André) Chaitin Ω numbers and strong reducibilities. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1162–1166 (*electronic*). (Summary) **99i:03049** 03D30 (68Q30)

— (*with* Hertling, Peter H.; Khusainov, B. M.; Wang, Yongge) Recursively enumerable reals and Chaitin Ω numbers. (English summary) *STACS* 98 (*Paris*, 1998), 596–606, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68089** 68Q30 (03D25)

— (*with* Calude, Elena; Ştefănescu, Cătălina) Computational complementarity for Mealy automata. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 139–150. (Summary) **99f:68136** 68Q68 (68Q45)

— (*with* Zamfirescu, Tudor) The typical number is a lexicon. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 7–13. (Douglas S. Bridges) **99f:03086** 03F60

— (*with* Hertling, Peter H.; Svozil, Karl) Kochen-Specker theorem: two geometric proofs. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 133–142. (Anatolij Dvurečenskij) **99i:81020** 81P15 (03G12, 81P10)

— *see also* **Combinatorics, complexity, & logic, 99d:68003**; **Unconventional models of computation, 99f:68012**; **Proceedings: Workshop on Logic in Computer Science, 99g:68006** *and* **J.UCS. The Journal of Universal Computer Science, 99k:68011**

Calude, Elena (*with* Calude, Cristian S.; Khusainov, B. M.) Deterministic automata: simulation, universality and minimality. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 263–276. (Leonid P. Lisovik) **99a:68125** 68Q68 (03D05)

— (*with* Lipponen, Marjo) Minimal deterministic incomplete automata. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1180–1193 (*electronic*). (Summary) **99h:68120** 68Q68 (03D05)

— (*with* Lipponen, Marjo) Deterministic incomplete automata: simulation, universality and complementarity. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 131–149, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99g:68055** 68Q05 (68Q68)

— (*with* Calude, Cristian S.; Ştefănescu, Cătălina) Computational complementarity for Mealy automata. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 139–150. (Summary) **99f:68136** 68Q68 (68Q45)

Călugăreanu, Grigore Correction: "The $\mathcal{J}$-topology of an abelian group" [Studia Univ. Babeş-Bolyai Math. **40** (1995), no. 4, 1–12; MR 97j:54039]. (French. English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 107–108. (Summary) **99h:54054** 54H11 (20K40, 22A99)

— Coatomic lattices and related abelian group topics. (English summary) *Libertas Math.* **17** (1997), 125–131. (Summary) **99m:06012** 06B05 (20K99)

— Pure subgroups of mixed abelian groups including the torsion part. *Mathematica* **39(62)** (1997), *no.* 1, 29–35. (A. Mader) **99c:20077** 20K21

— Essential-pure subgroups of abelian groups. *Mathematica* **39(62)** (1997), *no.* 2, 195–200. (A. Mader) **99d:20091** 20K99

— On a problem of Prof. A. Orsatti. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 105–112, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (K. M. Rangaswamy) **99m:20134** 20K40 (20K21)

Calura, Mirco (*with* Montanari, Enrico; Fortini, Pierluigi) Lagrangian planetary equations in Schwarzschild spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3121–3129. (Summary) **99g:83012** 83C10 (83C15)

Calvanese, Diego (*with* De Giacomo, Giuseppe; Lenzerini, Maurizio) What can knowledge representation do for semi-structured data? (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 205–210, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30

Calvario Acócal, J. L. (*with* Torres del Castillo, G. F.) On the dynamical symmetry of the quantum Kepler problem. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 4, 344–352. (Summary) **99e:81069** 81R05 (70F05, 81Q05)

Calvaruso, G. (*with* Vanhecke, Lieven) Special ball-homogeneous spaces. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 789–800. (Vicente Miquel) **99d:53044** 53C30 (53C20)

— (*with* Vanhecke, Lieven) Semi-symmetric ball-homogeneous spaces and a volume conjecture. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 109–115. (O. Kowalski) **99d:53045** 53C30 (53C35)

garcés Calvelo, Alejandro *see* **Garcés Calvelo, Alejandro**

Calvert, Bruce Strictly plus functionals on a super-additive normed linear space. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 27–43. 46B99

garcia-Calvés, Pere *see* **Garcia-Calvés, Pere**

Calvete Fernández, Herminia Inmaculada (*with* Galé, C.) On the quasiconcave bilevel programming problem. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 613–622. (Stephan Dempe) **99f:90115** 90C30 (90D65)

Calvetti, D. (*with* Baglama, J.; Reichel, L.) Fast Leja points. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 124–140 (*electronic*). (Summary) **99j:65036** 65E05 (65D20, 65F99)

— (*with* Reichel, L.) A hybrid iterative method for symmetric indefinite linear systems. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 109–133. (Zhenyue Zhang) **99e:65050** 65F10

— (*with* Baglama, J.; Golub, Gene H.; Reichel, L.) Adaptively preconditioned GMRES algorithms. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 243–269 (*electronic*). (Summary) **99d:65097** 65F10

Calvez, L. C. (*with* Azou, S.; Vilbe, P.) Balanced realization using an orthogonalization procedure and modular polynomial arithmetic. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 8, 1507–1518. (Summary) **99d:93010** 93B15 (93B40)

le Calvez, Patrice *see* **Le Calvez, Patrice**

Calvi, Jean-Paul (*with* Bloom, Thomas) A convergence problem for Kergin interpolation. II. (English summary) *Approximation theory VIII, Vol.* 1 (*College Station, TX*, 1995), 79–86, *Ser. Approx. Decompos.*, 6, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99h:32015** 32E30

— (*with* Bloom, Thomas) The distribution of extremal points for Kergin interpolation: real case. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 205–222. (Wiesław Pleśniak) **99c:32015** 32E30 (41A05, 41A63)

Calvo, M. *see* **Calvo Pinilla, Manuel**

Calvo, Mari Paz (*with* López Marcos, M. A.; Sanz Serna, J. M.) Variable step implementation of geometric integrators. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 1–16. (Summary) **99d:65236** 65L99 (58F05, 70–08, 70H05)

del carmen Calvo, Maria *see* **Del Carmen Calvo, Maria**

Calvo, N. (*with* Durany, J.; Vázquez Cendón, C.) Numerical solution of a free boundary problem in temperate glaciers. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 617–622, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A23 (35R35)

luque-Calvo, P.-L. *see* **Luque-Calvo, P.-L.**

Calvo, Tomasa (*with* Fodor, János C.) Aggregation functions defined by t-norms and t-conorms. (English summary) *Aggregation and fusion of imperfect information*, 36–48, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72 (90C70)

— Automorphisms of aggregation De Morgan triplets. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 133–139. (Summary) **99m:03109** 03E72

Calvo Pinilla, Manuel (*with* Laburta, M. P.; Montijano, J. I.; Rández, L.) Numerical solution of unit flows by the Runge-Kutta method. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 623–628, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L06

— (*with* Gonzalez-Pinto, S.; Montijano, J. I.) On the convergence of Runge-Kutta methods for stiff non-linear differential equations. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 31–51. (T. E. Simos) **99j:65121** 65L06

herranz Calzada, J. *see* **Herranz Calzada, J.**

Calzada, Maria E. Numerical study of flame propagation in boundary layers. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 1–7 (*electronic*). (Summary) **99f:80006** 80A25 (76D10, 76M25, 80–08)

Calzada Canalejo, M. C. (*with* Marín Beltrán, M.; Cruz Soto, J. L.) Parallelization of the fractional-step θ-scheme for Navier-Stokes equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 823–828, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99 (65Y05, 76D05, 76M25)

Calzolari, Antonella (*with* Marchetti, Federico) Limit motion of an Ornstein-Uhlenbeck particle on the equilibrium manifold of a force field. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 924–938. (Krystyna Twardowska) **99b:60135** 60J65 (58G32, 60H10)

Çam, Hasan Preventing conflicts in input buffering baseline-based ATM switches. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 245–271, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 68M10 (68M20)

le Cam, L. *see* **Le Cam, L.**

Camacho, Abel (*with* Dehnen, H.) Higgs field and localization problem. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 11, 1711–1719. 81V25

Camacho, Carlos J. (*with* Bellissard, Jean; Barelli, Armelle; Claro, Francisco) Exact random walk distributions using noncommutative geometry. (English summary) *J. Phys. A* **30** (1997), *no.* 21, L707–L709. (Francois Vanderseypen) **99d:82027** 82B41 (58B30, 60J15)

Camacho, Javier (*with* Jódar, Lucas; Navarro, E.) Exact solution of coupled mixed diffusion problems with coupled boundary conditions. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 65–76. (Summary) **99e:35088** 35K10 (35C05)

Camacho, Maria Izabel Tavares (*with* Benazic Tome, Renato Mario) Topological equivalence of dicritical holomorphic vector fields. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 521–537. (Eugenii Shustin) **99k:32056** 32S05 (57R30)

— On the local structure of real vector fields at a dicritical singularity. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 256–273. (Patrick Bonckaert) **99m:58170** 58F36 (34C05, 34C20, 58F14, 58F21)

Câmara, M. C. (*with* dos Santos, A. F.) A nonlinear approach to generalized factorization of matrix functions. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 21–37, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Sergei Grudskiĭ) **99g:47035** 47A68 (30E25)

Cámara, María T. (*with* Cuenca, Javier; Giménez, Domingo) Acceleration of convergence in Jacobi methods for the symmetric eigenvalue problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 31 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65F30 (15A18)

Camarão, Carlos (*with* Figueiredo, Lucília) Towards higher-order types. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68N15

Camarda, Karen (*with* Anninos, Peter; Libson, Joseph; Massó, Joan; Seidel, Edward; Suen, Wai-Mo) Finding apparent horizons in dynamic 3D numerical spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024003, 12 *pp.* 83–08 (83C57)

Camarena, V. (*with* López Lacasta, Carlos) Transfer orbits: geometry and graph representations. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1057–1062, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70F15 (70Q05)

de Camargo, Murilo S. (*with* Martins, Ricardo F.; Scheffel, Roberto M.) Formal specification, verification and simulation of time-dependent systems: a timed process algebra approach. (English summary) *US-Brazil Joint Workshop on the Formal*

Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997), 24 pp. (electronic), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q60 (68Q10)

Camarinopoulos, L. (*with* Behr, A.) On the domination of hypergraphs by their edges. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 31–38. (Summary) **99b:05103** 05C65 (05C35)

— (*with* Behr, A.) On matroid base families and the reliability computation of totally amenable systems. (English summary) *Statistical and probabilistic models in reliability (Bucharest, 1997)*, 295–305, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (Summary) **99m:05044** 05B35 (90C27)

Camassa, Roberto (*with* Burtsev, S. P.; Timofeyev, I.) Numerical algorithms for the direct spectral transform with applications to nonlinear Schrödinger type systems. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 166–186. (Summary) **99g:34036** 34A45 (34A55, 34L25, 78–08, 78A60)

— (*with* Hyman, James M.; Luce, Benjamin P.) Nonlinear waves and solitons in physical systems. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 1–20. (*see* **99h:00031**) 35Q51 (35Q53, 76B15)

— *see also* **Nonlinear waves and solitons in physical systems, 99h:00031**

Cambanis, Stamatis *see* **Stochastic processes and related topics, 99e:60007; Kallianpur, Gopinath, (99e:60007)** *and* **Publications of Stamatis Cambanis, (99e:60007)**

Cambini, Alberto (*with* Martein, Laura; Cambini, Riccardo) Some optimality conditions in multiobjective programming. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 168–178, *Springer, Berlin*, 1997. (Summary) **99d:90100** 90C29

— (*with* Komlósi, Sándor; Martein, Laura) Recent developments in second order necessary optimality conditions. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 347–356, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:90116** 90C30 (49J52)

— (*with* Martein, Laura) Generalized concavity in multiobjective programming. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 453–467, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90105** 90C29 (90C26)

Cambini, Riccardo (*with* Cambini, Alberto; Martein, Laura) Some optimality conditions in multiobjective programming. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 168–178, *Springer, Berlin*, 1997. (Summary) **99d:90100** 90C29

— (*with* Gallo, Giorgio; Scutellà, Maria Grazia) Flows on hypergraphs. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 195–217. (Summary) **99g:90153** 90C35 (05C65)

— (*with* Komlósi, Sándor) On the scalarization of pseudoconcavity and pseudomonotonicity concepts for vector valued functions. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 277–290, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:90089** 90C29 (49J52)

— Generalized concavity for bicriteria functions. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 439–451, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90106** 90C29 (90C26)

Cambon, Claude (*with* Scott, Julian F.) Linear and nonlinear models of anisotropic turbulence. (English summary) *Annual review of fluid mechanics, Vol.* 31, 1–53, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99j:76057** 76F99

Cambou, Bernard Micromechanical approach in granular materials. *Behaviour of granular materials*, 171–216, *CISM Courses and Lectures*, 385, *Springer, Vienna*, 1998. (*see* **99g:73001**) 73S10 (73E99)

— *see also* **Behaviour of granular materials, 99g:73001**

Cambuli, Francesco (*with* Tam, Christopher K. W.; Auriault, Laurent) Perfectly matched layer as an absorbing boundary condition for the linearized Euler equations in open and ducted domains. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 213–234. (Summary) **99d:76079** 76M25 (76N15)

amelino-Camelia, Giovanni *see* **Amelino-Camelia, Giovanni**

Camelier, Ricardo (*with* Gutierrez, Carlos) Affine interval exchange transformations with wandering intervals. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1315–1338. (Vadim A. Kaĭmanovich) **99e:58117** 58F11 (26A18, 28D05)

la Camera, M. *see* **La Camera, M.**

Cameron, A. Colin (*with* Trivedi, Pravin K.) Count data models for financial data. (English summary) *Statistical methods in finance*, 363–391, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62134** 62P20 (90A09)

— (*with* Trivedi, Pravin K.) ★ Regression analysis of count data. (English summary) Econometric Society Monographs, 30. *Cambridge University Press, Cambridge*, 1998. *xviii+411 pp. ISBN* 0-521-63567-5 (Jon Stene) **99m:62002** 62–01 (62J12, 62M10)

Cameron, Helen Fringe thickness and maximum path length of binary trees. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 75–97. (Martin Klazar) **99j:05053** 05C05 (05C12, 05C35)

Cameron, J. R. Plural reference. (English summary) *Ratio (N.S.)* **12** (1999), *no.* 2, 128–147. 03B65

Cameron, Kathie (*with* Edmonds, Jack) Lambda composition. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 9–16. (Summary) **99c:05149** 05C70

Cameron, Peter J. First-order logic. (English summary) *Graph connections*, 70–85, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 03C65 (05C99)

— Groups. (English summary) *Graph connections*, 128–140, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 05C25 (20B25)

— Oligomorphic groups and homogeneous graphs. (English summary) *Graph symmetry (Montreal, PQ, 1996)*, 23–74, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (Martin Škoviera) **99d:05038** 05C25 (20B27)

— ★ Introduction to algebra. (English summary) Oxford Science Publications. *Oxford University Press, Oxford*, 1998. *x+295 pp. ISBN* 0-19-850195-1 00A05 (12Fxx, 13–01, 20–01)

— (*with* Calkin, Neil J.) Almost odd random sum-free sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 27–32. (Georges Grekos) **99c:11012** 11B13 (11B75, 11K99)

— A census of infinite distance-transitive graphs. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 11–26. (Robert Beezer) **99j:05195** 05E30

— On an algebra related to orbit-counting. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 173–179. (H. Dugald Macpherson) **99b:20003** 20B07

Camia, F. (*with* Borsari, I.; Graffi, S.; Unguendoli, Francesco) Absence of glassy behaviour in the deterministic spherical and *XY* models. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1127–1139. (Summary) **99c:82011** 82B20

Camillo, Victor (*with* Barnett, Christopher) Uniform limits of step functions. (English summary) *Math. Sci.* **22** (1997), *no.* 2, 65–68. (Jack B. Brown) **99a:26009** 26A45

— (*with* Anderson, D. D.) Armendariz rings and Gaussian rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2265–2272. (J. W. Brewer) **99e:16041** 16U99 (13A99)

Camina, A. R. (*with* Camina, R. D.) Implications of conjugacy class size. *J. Group Theory* **1** (1998), *no.* 3, 257–269. (M. Herzog) **99g:20033** 20D10

Camina, R. D. (*with* Camina, A. R.) Implications of conjugacy class size. *J. Group Theory* **1** (1998), *no.* 3, 257–269. (M. Herzog) **99g:20033** 20D10

Camino, J. M. (*with* Ramallo, A. V.; Sánchez de Santos, J. M.) Graded parafermions. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 715–741. (Mark A. Walton) **99k:81090** 81R10

Camiz, Sergio (*with* Tulli, V.) A comparison of algorithms for computing the eigenvalues and the eigenvectors of symmetrical matrices. (English summary) *Matrices and graphs (Brescia, 1993/1995)*, 72–91, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:65032** 65F15 (15A18, 65Y05, 65Y20)

— I/O analysis: old and new analysis techniques. (English summary) *Matrices and graphs (Brescia, 1993/1995)*, 92–119, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:65042** 65F99 (90A09)

— *see also* **Matrices and graphs, 99h:00029**

Cammaroto, Agatina (*with* Durán, Mirelli; González, Samuel) Zero sum and barycentric problems. (Spanish. English and Spanish summaries) *Divulg. Mat.* **4** (1996), *no.* 1-2, 33–47 (1998). (Summary) **99c:05138** 05C55

Cammaroto, F. *see* **Cammaroto, Filippo[2]**

Cammaroto, Filippo[1] (*with* Bonanzinga, Maddalena) On cleavability over $T_{i,p}$ spaces. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 479–492. (Summary) **99b:54004** 54A20 (54C05, 54E18)

— (*with* Fedorchuk, V. V.; Porter, Jack R.) H-closed functions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 563–572. 54C10 (54C20, 54D25)

Cammaroto, Filippo[2] (*with* Chinni, Antonia; Sturiale, G.) On an extension of Ekeland's principle for vector-valued functions. (English summary) *Optimization* **43** (1998), *no.* 1, 19–28. (Summary) **99a:49023** 49J52 (90C29, 90C48)

Camp, T. (*with* Terekhov, I.) Time efficient deadlock resolution algorithms. *Inform. Process. Lett.* **69** (1999), *no.* 3, 149–154. 68Q10

Campadelli, Paola (*with* Bertoni, Alberto; Posenato, Roberto) An upper bound for the maximum cut mean value. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 78–84, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68185** 68R10 (05C35, 68Q25)

Campana, Frédéric Un théorème de finitude pour les variétés de Fano suffisamment uniréglées. [A finiteness theorem for sufficiently uniruled Fano varieties] *Géométrie complexe (Paris, 1992)*, 23–33, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Yuri G. Prokhorov) **99a:14060** 14J45 (14J10)

— Kodaira dimension and fundamental group of compact Kähler manifolds. *Higher-dimensional complex varieties (Trento, 1994)*, 89–161, *de Gruyter, Berlin*, 1996. (Eriko Hironaka) **99d:32036** 32J27

— (*with* Peternell, Thomas) Towards a Mori theory on compact Kähler threefolds. I. (English summary) *Math. Nachr.* **187** (1997), 29–59. (Ulf Persson) **99f:32046** 32J17 (32J27)

— (*with* Demailly, Jean-Pierre; Peternell, Thomas) The algebraic dimension of compact complex threefolds with vanishing second Betti number. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 77–91. (Sándor J. Kovács) **99e:32047** 32J17

— Negativity of compact curves in infinite covers of projective surfaces. *J. Algebraic Geom.* **7** (1998), *no.* 4, 673–693. (Azniv Kasparian) **99h:14014** 14E20 (14C17, 14J50)

— (*with* Peternell, Thomas) Rational curves and ampleness properties of the tangent bundle of algebraic varieties. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 59–74. (Massimiliano Mella) **99g:14051** 14J60 (14J30, 14M20)

Campbell, Alain (*with* Nazarov, Sergei A.) An asymptotic study of a plate problem by a rearrangement method. Application to the mechanical impedance. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 579–610. (Maria Specovius-Neugebauer) **99g:73022** 73C02 (31A30, 35J40, 73K10, 73K12)

Campbell, C. M. *see* **Campbell, Colin Matthew**

Campbell, Colin *see* **Campbell, Colin Matthew**

Campbell, Colin MacKenzie Coordination in auctions with entry. (English summary) *J. Econom. Theory* **82** (1998), *no.* 2, 425–450. (Summary) **99k:90061** 90A60 (90D12)

Campbell, Colin Matthew (*with* Miyamoto, Izumi; Robertson, Edmund; Williams, P. D.) The efficiency of PSL$(2, p)^3$ and other direct products of groups. *Glasgow Math. J.* **39** (1997), *no.* 3, 259–268. (Julian Petresco) **99c:20037** 20F05 (20G40)

— (*with* Havas, George; Linton, Stephen; Robertson, Edmund) Symmetric presentations and orthogonal groups. (English summary) *The atlas of finite groups: ten years on (Birmingham, 1995)*, 1–10, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Saïd N. Sidki) **99m:20112** 20G40 (20F05)

Campbell, David K. (*with* Mayer-Kress, Gottfried) Chaos and politics: applications of nonlinear dynamics to socio-political issues. (English summary) *The impact of chaos on science and society (Tokyo, 1991)*, 18–63, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92K10 (58F13)

Campbell, Donald E. (*with* Kelly, Jerry S.) Relaxing Pareto optimality in economic environments. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 115–130. (Fouad T. Aleskerov) **99k:90013** 90A06 (90A08)

— (*with* Kelly, Jerry S.) Quasitransitive social preference: why some very large coalitions have very little power. (English summary) *Econom. Theory* **12** (1998), *no.* 1, 147–162. (Summary) **99k:90017** 90A08

— (*with* Kelly, Jerry S.) Incompatibility of strategy-proofness and the Condorcet principle. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 583–592. (Summary) **99e:90006**

90A08

Campbell, Geoffrey B. A closer look at some new identities. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 581–586. (David M. Bressoud) **99d:11110** 11P81

— Visible point vector summations from hypercube and hyperpyramid lattices. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 741–748. (Xiu Yuan Yu) **99h:11014** 11B65 (05A19, 11H06)

Campbell, H. E. A. (*with* Hughes, I. P.) Rings of invariants of certain p-groups over the field $\mathbf{F}_p$. (English summary) *J. Algebra* **211** (1999), *no.* 2, 549–561. (Gene Freudenburg) **99m:13009** 13A50 (20D20)

Campbell, L. L. (*with* McKellips, A. L.; Wittke, P. H.) Correction: "Distributions and expectations of singular random variables" [J. Appl. Probab. **32** (1995), no. 4, 1032–1040; MR 96m:60046]. *J. Appl. Probab.* **35** (1998), *no.* 1, 253. (From the text) **99b:60031** 60E99 (94A40)

Campbell, M. (*with* Chayes, L.) The isotropic O(3) model and the Wolff representation. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L255–L259.* (Summary) **99a:82047** 82B43 (82B26)

Campbell, Stephen *see* **Campbell, Stephen R.**

Campbell, Stephen L. (*with* Zhong, Yangchun) Jacobian reuse in explicit integrators for higher index DAEs. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 391–412. (Michael Hanke) **99c:65124** 65L05 (34A45)

— (*with* von Wissel, D.; Nikoukhah, Ramine; Delebecque, F.) The effects of computational delay in descriptor-based trajectory tracking control. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 251–273. 93C41 (93D15)

— (*with* Yeomans, Kevin D.) Behavior of the nonunique terms in general DAE integrators. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 209–226. (J. R. Cash) **99j:65114** 65L05 (65L99)

— (*with* Nikoukhah, Ramine; Delebecque, F.) Observer design for general linear time-invariant systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 575–583. (Summary) **99c:93015** 93B07 (93B40)

— (*with* Hollenbeck, R.; Yeomans, Kevin D.; Zhong, Yangchun) Mixed symbolic-numerical computations with general DAEs. I. System properties. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 73–83. (Summary) **99m:65150** 65L99 (34–04, 34A09)

— (*with* Marszalek, Wieslaw) Mixed symbolic-numerical computations with general DAEs. II. An applications case study. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 85–94. (Summary) **99m:65151** 65L99 (34–04, 34A09)

Campbell, Stephen R. (*with* Osipenko, G. S.) Applied symbolic dynamics: attractors and filtrations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 43–60. (Michael Hurley) **99j:58135** 58F12 (58F03)

Campbell, Sue Ann (*with* LeBlanc, Victor G.) Resonant Hopf-Hopf interactions in delay differential equations. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 2, 327–346. (Ovide Arino) **99j:34095** 34K15

— Stability and bifurcation of a simple neural network with multiple time delays. (English summary) *Differential equations with applications to biology (Halifax, NS,* 1997), 65–79, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI,* 1999. (Summary) **99g:92005** 92B20 (34K15, 34K20)

Campêlo, Manoel B. (*with* Klein, Sulamita) Maximum vertex-weighted matching in strongly chordal graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 71–77. (Summary) **99a:05108** 05C70 (05C85)

van Campen, D. H. (*with* Etman, L. F. P.; Schoofs, A. J. G.) Design optimization of multibody systems by sequential approximation. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 393–415. 70E99 (90C90)

Campi, M. C. Performance of RLS identification algorithms with forgetting factor: a φ-mixing approach. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 3, 25 *pp.* (*electronic*). (Summary) **99g:93081** 93E12

— (*with* Prandini, M.; Bittanti, Sergio) A penalized identification criterion for securing controllability in adaptive control. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 19 *pp.* (*electronic*). (Sauro Longhi) **99j:93060** 93C40 (93B05)

— (*with* Kumar, Panganamala Ramana) Adaptive linear quadratic Gaussian control: the cost-biased approach revisited. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1890–1907 (*electronic*). (Bożenna Pasik-Duncan) **99f:93141** 93E20 (49K45, 93B40)

— (*with* Kumar, Panganamala Ramana) Learning dynamical systems in a stationary environment. (English summary) Learning theory. *Systems Control Lett.* **34** (1998), *no.* 3, 125–132. (Summary) **99f:93146** 93E35 (68T05)

— (*with* Prandini, M.) A new recursive identification algorithm for singularity free adaptive control. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 177–183. (Summary) **99d:93071** 93E12 (93B30, 93C40)

Campi, Stefano (*with* Colesanti, Andrea; Gronchi, Paolo) Blaschke-decomposable convex bodies. (English summary) *Israel J. Math.* **105** (1998), 185–195. (P. R. Goodey) **99g:52001** 52A20 (52A38, 52B12)

Campillo, Antonio (*with* González-Sprinberg, Gérard) On characteristic cones, clusters and chains of infinitely near points. *Singularities (Oberwolfach,* 1996), 251–261, *Progr. Math.*, 162, *Birkhäuser, Basel,* 1998. (Georgy Khristov Georgiev) **99i:14019** 14E15 (14B10, 14C10, 14E05)

— (*with* Briales, Emilio; Pisón, Pilar; Marijuán López, Carlos) Combinatorics of syzygies for semigroup algebras. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 239–256. (P. Schenzel) **99m:13024** 13D02 (13H10, 14M25)

Campillo Herrero, Pedro (*with* Pérez Carreras, Pedro) The notion of continuity from the viewpoint of van Hiele's levels. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 69–80. (U. D'Ambrosio) **99m:00012** 00A35 (01A99, 26A03)

Campin, Jean-Michel (*with* Deleersnijder, Eric; Beckers, Jean-Marie; El Mohajir, Mohammed; Fichefet, Thierry; Luyten, Patrick) Some mathematical problems associated with the development and use of marine models. *The mathematics of models for climatology and environment (Puerto de la Cruz,* 1995), 39–86, *NATO ASI Ser. Ser. I Glob. Environ. Change,* 48, *Springer, Berlin,* 1997. (*see* **99d:86001**) 86A05

Campisi, Domenico (*with* Nastasi, Alberto; Reverberi, Pierfrancesco) Multidimensional signalling and entry decision strategies. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 313–318, *Springer, Berlin,* 1997. (*see* **99a:90009**) 90A05

Campiti, M. (*with* Metafune, G.) Ventcel's boundary conditions and analytic semigroups. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 5, 377–390. (Jacek Banasiak) **99e:47043** 47D06 (35B65, 35K65, 47D07)

— (*with* Metafune, G.; Pallara, Diego) Degenerate self-adjoint evolution equations on the unit interval. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 1–36. (Paolo Acquistapace) **99e:35119** 35K65 (34D05, 47D06)

rivera-Campo, Eduardo *see* **Rivera-Campo, Eduardo**

del Campo Cañizares, S. *see* **Del Campo Cañizares, S.**

rapoport Campodónico, Diego Lucio *see* **Rapoport Campodónico, Diego Lucio**

a'Campo-Neuen, Annette *see* **A'Campo-Neuen, Annette**

Camporesi, Roberto The Helgason Fourier transform for homogeneous vector bundles over Riemannian symmetric spaces. (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 263–300. (Gestur Ólafsson) **99c:43015** 43A85 (22E30, 22E46, 43A90)

Campos, B. (*with* Martínez Alfaro, J.; Vindel, P.) Links and bifurcations in nonsingular Morse-Smale systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 8, 1717–1736. (Robert Ghrist) **99f:58110** 58F09 (57M25)

sánchez Campos, Esperanza *see* **Sánchez Campos, Esperanza**

Campos, Frederico F. (*with* Birkett, Nick R. C.) An efficient solver for multi-right-hand-side linear systems based on the CCCG(η) method with applications to implicit time-dependent partial differential equations. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 126–138 (*electronic*). (*see* **99a:65007**) 65F10 (65F50, 65M60)

barrantes Campos, Hugo *see* **Barrantes Campos, Hugo**

Campos, Isabel (*with* Cruz, A.; Tarancón, A.) First order signatures in 4D pure compact U(1) gauge theory with toroidal and spherical topologies. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 328–334. (Summary) **99b:81255** 81T80 (81T13, 81T25)

Campos, Juan[2] (*with* Arias, Margarita) Exact number of solutions of a one-dimensional Dirichlet problem with jumping nonlinearities. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 139–161. (Xin Kang Guo) **99m:35072** 35J65 (34B15, 35B99)

— (*with* Torres, Pedro J.) On the structure of the set of bounded solutions on [of] a periodic Liénard equation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1453–1462. (Alessandro Fonda) **99h:34062** 34C25

Campos, L. M. B. C. (*with* Serrão, P. G. T. A.) On the acoustics of an exponential boundary layer. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2335–2378. (Summary) **99g:76131** 76Q05

de Campos, Luis M. *see* **de Campos Ibáñez, Luis Miguel**

rodríguez-Campos, M. Celia *see* **Rodríguez-Campos, M. Celia**

de Campos Ibáñez, Luis Miguel (*with* Moral, Serafín) Independence concepts for convex sets of probabilities. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ,* 1995), 108–115, *Morgan Kaufmann, San Francisco, CA,* 1995. (*see* **99a:68017**) 60A99 (68T30)

— (*with* Acid, Silvia) An algorithm for finding minimum d-separating sets in belief networks. (English summary) *Uncertainty in artificial intelligence (Portland, OR,* 1996), 3–10, *Morgan Kaufmann, San Francisco, CA,* 1996. (*see* **99a:68018**) 68T30

— (*with* Huete, Juan F.) Independence concepts in possibility theory. I. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 127–152. (Summary) **99j:68131** 68T27

Campostrini, Massimo (*with* Rossi, Paolo[1]; Vicari, Ettore) The large-N expansion of unitary-matrix models. (English summary) *Phys. Rep.* **302** (1998), *no.* 4, 143–209. (Summary) **99d:81080** 81T10 (81T13, 81T25, 81T27, 81V05)

de Campos Velho, Haroldo F. (*with* Muniz, Wagner Barbosa; Ramos, Fernando Manuel) A comparison of some inverse methods for estimating the initial condition of the heat equation. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 145–163. (Summary) **99k:65086** 65M30 (35K05)

vigueras Campuzano, Antonio *see* **Vigueras Campuzano, Antonio**

Camussi, R. (*with* Guj, G.) Statistical analysis of local turbulent energy fluctuations. (English summary) *J. Fluid Mech.* **382** (1999), 1–26. 76F05 (76M35)

Can, Himmet Representations of the imprimitive complex reflection groups $G(m, 1, n)$. *Comm. Algebra* **26** (1998), *no.* 8, 2371–2393. (O. V. Shvartsman) **99e:20009** 20C15 (20F55)

— On the perfect systems of the Specht modules of the Weyl groups of type C_n. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 253–269. (Jian Yi Shi) **99j:20008** 20C15 (20F55)

Can, M. (*with* Mamedov, Y. A.) Application of the residue method to a mixed problem. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 305–321. (Emmanuel Grenier) **99d:35134** 35Q35 (35A25, 76V05)

Cañada, A. (*with* Gámez, J. L.; Montero, J. A.) Uniqueness of the optimal for a nonlinear elliptic control problem arising from population dynamics. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic,* 1995), 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona,* 199?. (*see* **99g:00036**) 49J20 (35J25, 92D25)

— (*with* Roca, Francisco) Some qualitative properties of the range of conservative pendulum-like operators with Dirichlet boundary conditions. (English summary) *International Conference on Differential Equations (Lisboa,* 1995), 300–305, *World Sci. Publishing, River Edge, NJ,* 1998. (*see* **99d:00015**) 34B15 (47H15)

— (*with* Roca, Francisco) Lagrange multiplier method and nonlinear elliptic boundary value problems with periodic nonlinearity. *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson,* 1997), 58–66, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow,* 1998. (Jie Yang) **99j:35062** 35J65 (49K20)

— (*with* Gámez, J. L.; Montero, J. A.) Study of an optimal control problem for diffusive nonlinear elliptic equations of logistic type. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1171–1189 (*electronic*). (Srdjan Stojanovic) **99m:49005** 49J20 (35Q99, 49M25, 92D25)

Čanak, M. Some Yugoslavian contributions to the theory of generalized analytic functions. *Generalized analytic functions (Graz,* 1997), 33–39, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht,* 1998. (*see* **99d:00020**) 30G20 (01A60)

Canale, Anna (*with* Di Gironimo, Patrizia; Vitolo, Antonio) Functions with derivatives in spaces of Morrey type and elliptic equations in unbounded domains. (English summary) *Studia Math.* **128** (1998), *no.* 3, 199–218. (Jiří Rákosník) **99h:35036** 35J25 (46E35)

Canale, Eduardo (*with* Markarian, Roberto; Kamphorst, Sylvie Oliffson; Pinto de Carvalho, Sônia) A lower bound for chaos on the elliptical stadium. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 189–202. (András Krámli) **99f:58121** 58F11 (58F13)

calzada Canalejo, M. C. *see* **Calzada Canalejo, M. C.**

ruíz-Canales, P. *see* **Ruíz-Canales, P.**

Canals, G. (*with* Godart, C.; Molli, P.; Munier, Manuel) A criterion to enforce correctness of indirectly cooperating applications. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 279–302. 68Q10

Canals, José (*with* Vega-Redondo, Fernando) Multi-level evolution in population games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 21–35. (Summary) **99c:90178** 90D40

Canals-Frau, Damian Bell's theorem: a new perspective. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 1, 46–52. (Emilio Santos) **99h:81009** 81P05

Canarutto, Daniel (*with* Jadczyk, Arkadiusz) A 2-spinor approach to Einstein-Cartan-Maxwell-Dirac fields. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 261–265, *World Sci. Publishing, River Edge, NJ*, 1997. (Andreas Bette) **99d:83071** 83C60 (83C22)

— (*with* Jadczyk, Arkadiusz) Fundamental geometric structures for the Dirac equation in general relativity. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 1, 59–92. (Jayme Vaz, Jr.) **99b:81083** 81R20 (81R25, 81T20, 83C10)

— Possibly degenerate tetrad gravity and Maxwell-Dirac fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4814–4823. (Alexander N. Petrov) **99f:83018** 83C22 (83C60)

— (*with* Jadczyk, Arkadiusz) Two-spinors and Einstein-Cartan-Maxwell-Dirac fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 1, 49–67. (Jorge Goncalves Cardoso) **99b:83054** 83C60 (53C80)

Canbolat, H. (*with* Dawson, Darren M.; Rahn, Christopher D.; Nagarkatti, S.) Adaptive boundary control of out-of-plane cable vibration. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 963–969. (Summary) **99j:73075** 73K50 (93C20)

Cancès, Eric (*with* Mennucci, Benedetta) New applications of integral equations methods for solvation continuum models: ionic solutions and liquid crystals. (English summary) *J. Math. Chem.* **23** (1998), *no.* 3-4, 309–326. (Summary) **99d:82076** 82D30 (45L05)

— (*with* Le Bris, Claude) On the perturbation methods for some nonlinear quantum chemistry models. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 55–94. (Giorgio Cattapan) **99b:81284** 81V55 (47N50, 81Q15)

— (*with* Le Bris, Claude; Mennucci, Benedetta; Tomasi, Jacopo) Integral equation methods for molecular scale calculations in the liquid phase. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 35–44. (Summary) **99j:92030** 92E20 (92C40)

Cancrini, Nicoletta (*with* Bertini, Lorenzo) The two-dimensional stochastic heat equation: renormalizing a multiplicative noise. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 615–622. (Summary) **99c:82051** 82C31 (60H15)

Candeal-Haro, Juan Carlos (*with* Induráin Eraso, Esteban; Olóriz Urriza, Esteban) Bivariate maps that represent ordered semigroups. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **90** (1996), *no.* 3, 157–170. (Summary) **99f:06017** 06F05

— (*with* De Miguel, Juan Ramón; Induráin Eraso, Esteban; Olóriz Urriza, Esteban) Associativity equation revisited. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 133–144. (K. D. Magill, Jr.) **99a:90019** 90A06 (39B52, 54F05)

— (*with* Olóriz Urriza, Esteban; Induráin Eraso, Esteban) Representability of interval orders. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 219–227. (Summary) **99f:90011** 90A06

— (*with* Hervés-Beloso, Carlos; Induráin Eraso, Esteban) Some results on representation and extension of preferences. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 75–81. (Yew-Kwang Ng) **99a:90020** 90A06 (90A10)

— (*with* Induráin Eraso, Esteban; Olóriz Urriza, Esteban) Weak extensive measurement without translation-invariance axioms. (English summary) *J. Math. Psych.* **42** (1998), *no.* 1, 48–62. (Jean-Paul Doignon) **99i:92035** 92G05

— (*with* De Miguel, Juan Ramón; Induráin Eraso, Esteban) Universal semigroups in additive utility. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 288–296. (Frank A. Smith) **99b:06013** 06F05 (06F20, 20M30)

Candel, A. (*with* de la Llave, R.) On the Aubry-Mather theory in statistical mechanics. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 649–669. (M. L. Blank) **99b:82018** 82B20 (58F27)

— Laminations with transverse structure. *Topology* **38** (1999), *no.* 1, 141–165. (Sandra L. Shields) **99h:57025** 57M50 (57N10, 58F18)

Candela, A. M. (*with* Salvatore, A.) Multiplicity results of an elliptic equation with non-homogeneous boundary conditions. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 1–18. (Elvira Mascolo) **99i:35045** 35J65 (35B40)

Candela, Vicente F. (*with* Amat, Sergio; Busquier, Sonia) Comparison of stability in the extrapolation of various solution methods for ordinary differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 557–562, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L20

— (*with* Raga, M. Carmen) Representation of the shift operator in spaces of wavelets generated by splines. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 629–634, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65T99

Candelas, Philip (*with* Perevalov, Eugene; Rajesh, Govindan) Toric geometry and enhanced gauge symmetry of F-theory/heterotic vacua. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 445–474. (Angel Maria Uranga) **99d:81112** 81T30 (14M25, 32J81)

— (*with* Skarke, Harald) F-theory, SO(32) and toric geometry. (English summary) *Phys. Lett. B* **413** (1997), *no.* 1-2, 63–69. (Mark Gross) **99a:14051** 14J28 (14M25, 32J81, 81T30)

— (*with* Perevalov, Eugene; Rajesh, Govindan) Matter from toric geometry. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 225–238. (Harald Skarke) **99e:81181** 81T30 (14J32, 14M25, 32J81)

Candeloro, Domenico Some remarks on the first digit problem. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 511–532. (Peter Schatte) **99k:60047** 60E99 (28D99, 60A10)

— (*with* Brooks, J. K.; Martellotti, A.) On finitely additive measures in nuclear spaces. (Italian summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 37–50. (W. Hackenbroch) **99e:28017** 28B05 (46G10)

Candelpergher, B. (*with* Coppo, M. A.; Delabaere, Eric) La sommation de Ramanujan. (French summary) [The Ramanujan summation] *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 93–132. (Andreas Guthmann) **99a:11149** 11Y60 (11M99)

Candy, J. (*with* Breizman, B. N.; Porcelli, F.; Berk, H. L.) On the theory of internal kink oscillations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 6, 2326–2333. (Summary) **99b:76098** 76X05

Caner, Mehmet A locally optimal seasonal unit-root test. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 349–356. (Summary) **99e:62153** 62M10

— Tests for cointegration with infinite variance errors. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 155–175. (Victoria Parkhomenko) **99m:62159** 62P20 (60E07)

Caneschi, L. (*with* Lysiansky, M.) Chiral quantization of the WZW SU(*n*) model. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 701–726. (Dileep P. Jatkar) **99b:81215** 81T40

montes Cañete, Guillermo *see* **Montes Cañete, Guillermo**

Canetti, Ran (*with* Dwork, Cynthia; Naor, Moni; Ostrovsky, Rafail) Deniable encryption. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 90–104, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94025** 94A60

— (*with* Irani, Sandy) Bounding the power of preemption in randomized scheduling. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 993–1015 (*electronic*). (Summary) **99c:68026** 68M20 (68M10, 90B12)

Canfes, Elif Özkara (*with* Özdeğer, Abdülkadir) Some applications of prolonged covariant differentiation in Weyl spaces. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 7–16. (Henrik Pedersen) **99a:53015** 53B25 (53C40)

Canfield, E. Rodney (*with* Corteel, Sylvie; Savage, Carla D.) Durfee polynomials. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 32, 21 *pp.* (*electronic*). (Summary) **99h:05007** 05A17 (05A16, 05A20, 11P81)

— The size of the largest antichain in the partition lattice. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 188–201. (Konrad Engel) **99i:05017** 05A18 (05A16, 06A07)

Cang, S. (*with* Paris, R. B.) An exponentially-smoothed Gram-type formula for the Riemann zeta function. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 326–338. (Douglas Hensley) **99b:11142** 11Y35 (11M06)

— (*with* Paris, R. B.) An asymptotic representation for $\zeta(\frac{1}{2}+it)$. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 449–470. (Matti Jutila) **99b:11097** 11M06 (11Y35)

Canga, Marcelo E. (*with* Becker, Eric B.) An iterative technique for the finite element analysis of near-incompressible materials. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 79–101. (Summary) **99k:73112** 73V05 (73C50)

Čangalović, M. M. (*with* Kovačević-Vujčić, V. V.; Ašić, M. D.; Ivanović, L.; Dražić, M.) TABU search methodology in global optimization. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 125–133. (Summary) **99k:90157** 90C30 (65K05)

Cangelmi, L. (*with* Cellini, Paola) A representation of even permutations. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 419–422. (Summary) **99d:05001** 05A05

Cangemi, L. (*with* Cocu, M.; Raous, M.) Approximation results for a class of quasistatic contact problems including adhesion and friction. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 211–218, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99k:73109** 73T05 (73B30)

Čanić, Sunčica Quadratic systems of conservation laws with generic behavior at infinity. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 3, 401–426. (Summary) **99c:35144** 35L65 (34C35, 58F39)

— (*with* Keyfitz, Barbara Lee) Quasi-one-dimensional Riemann problems and their role in self-similar two-dimensional problems. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 3, 233–258. (V. D. Sharma) **99j:35127** 35L60 (35M10, 76N10)

— On the influence of viscosity on Riemann solutions. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 109–149. (Christophe Cheverry) **99b:35130** 35L65 (34C37, 35B30)

— (*with* Plohr, Bradley J.) Erratum to: "The role of limit cycles in the admissibility of shock waves" [Mat. Contemp. **8** (1995), 63–88; MR 96a:35114] by Čanić. (English summary) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 43–44. (From the text) **99k:35117** 35L67 (35B40, 58F21, 58F39, 76L05)

— (*with* Keyfitz, Barbara Lee) Riemann problems for the two-dimensional unsteady transonic small disturbance equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 636–665 (*electronic*). (Pavel Dubovskiĭ) **99f:35127** 35L65 (76H05, 76L05)

— (*with* Mirković, Dragan) A numerical study of Riemann problems for the two-dimensional unsteady transonic small disturbance equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1365–1393 (*electronic*). (Summary) **99c:35145** 35L65 (35L67, 65M99, 76H05, 76L05, 76M25)

Cani-Gascuel, Marie-Paule Implicit surfaces in physically based animation. *Introduction to implicit surfaces*, 270–293, *Morgan Kaufmann Ser. Comput. Graph. Geom. Model., Morgan Kaufmann, San Francisco, CA*, 1997. (*see* **99i:00008**) 00A69 (65Y25)

Canino, Lawrence F. (*with* Ottusch, John J.; Stalzer, Mark A.; Visher, John L.; Wandzura, Stephen M.) Numerical solution of the Helmholtz equation in 2D and 3D using a high-order Nyström discretization. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 627–663. 65M60 (78–08)

del campo Cañizares, S. *see* **Del Campo Cañizares, S.**

Çankaya, I. (*with* Peyton Jones, J. C.; Zhuang, M.) Symbolic computation of harmonic balance equations. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 449–460. 93B40

Cannarsa, Piermarco (*with* Mennucci, Andrea; Sinestrari, Carlo) Regularity results for solutions of a class of Hamilton-Jacobi equations. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 197–223. (Martino Bardi) **99e:49032** 49L25 (35D10, 35F25, 49N60)

— (*with* Tessitore, Maria Elisabetta) On the behaviour of the value function of a Mayer optimal control problem along optimal trajectories. (English summary) *Control and*

estimation of distributed parameter systems (*Vorau*, 1996), 81–88, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Fabio Camilli) **99g:49020** 49K15 (49L20)

— (*with* Albano, Paolo) Singularities of the minimum time function for semilinear parabolic systems. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 59–72 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Ovidiu Cârjă) **99k:49010** 49J20 (35K55, 49K20, 49K40)

— (*with* Da Prato, Giuseppe) Potential theory in Hilbert spaces. *Recent advances in partial differential equations, Venice* 1996, 27–51, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99a:35267** 35R15 (46G12, 47D06, 47N20)

Cannata, Francesco (*with* Terenzi, A.) Perturbation theory in Bohmian mechanics. (English summary) *Found. Phys. Lett.* **10** (1997), *no.* 4, 347–356. (Summary) **99e:81014** 81P05

— (*with* Andrianov, A. A.; Dedonder, J.-P.; Ioffe, M. V.) Deformed supersymmetry, q-oscillator algebra and the scattering problem in quantum mechanics. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 22–48, 282–283. (Pavel Šťovíček) **99i:81050** 81Q60 (81R50)

— (*with* Junker, Georg; Trost, Johannes) Schrödinger operators with complex potential but real spectrum. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 219–226. (Peter N. Zhevandrov) **99g:81034** 81Q05 (81Q20)

Cannon, James W. (*with* Floyd, William J.; Kenyon, Richard; Parry, Walter R.) Hyperbolic geometry. *Flavors of geometry*, 59–115, *Math. Sci. Res. Inst. Publ.*, 31, *Cambridge Univ. Press, Cambridge*, 1997. (Lee Mosher) **99c:57036** 57M50 (57N10)

Cannon, John J. (*with* Bosma, Wieb; Steel, Allan) Lattices of compatibly embedded finite fields. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 351–369. (Joachim von zur Gathen) **99a:11143** 11T30 (11Y16, 68Q40)

Cannon, John R. (*with* Yin, Hong-Ming) Blowup of solutions for parabolic equations with nonlocal functionals. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 285–298. (Summary) **99a:35114** 35K55 (35B05, 35R25)

— (*with* DuChateau, Paul) Structural identification of an unknown source term in a heat equation. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 535–551. (Maurizio Grasselli) **99g:35142** 35R30 (35K05, 35K60, 80A23)

Cannon, M. (*with* Kouvaritakis, B.) Fast suboptimal predictive control with guaranteed stability. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 19–29. (Summary) **99e:93085** 93E20 (49K15)

— (*with* Kouvaritakis, B.; Rossiter, J. A.) Recent developments in generalized predictive control for continuous-time systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 164–173. (De Xing Feng) **99m:93058** 93C40 (93E35)

Cannone, Marco A generalization of a theorem by Kato on Navier-Stokes equations. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 3, 515–541. (Alexander Yurjevich Chebotarev) **99d:35121** 35Q30 (76D05)

— (*with* Planchon, Fabrice) Maximal functions inequalities and Navier-Stokes. (English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 139–159. (Summary) **99h:35156** 35Q30 (42B25, 76D05)

díaz-Cano, A. *see* **Díaz-Cano, A.**

Cano, B. (*with* Sanz Serna, J. M.) Asymptotic behavior of reversible numerical methods when periodic orbits are integrated. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65L05 (34A45, 34C25)

— Numerical integration of periodic orbits using multistep methods. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 635–640, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70–08 (70F15)

— (*with* Sanz Serna, J. M.) Error growth in the numerical integration of periodic orbits by multistep methods, with application to reversible systems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 57–75. (Ram Krishan Sharma) **99d:65237** 65L99 (34A45, 34C25, 65L70)

Canonero, G. (*with* Serpico, M. E.) On the double locus of a determinantal hypersurface. (Italian. English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 211–214. (Summary) **99g:14062** 14M12 (14N05)

Cánovas Peña, José Salvador (*with* Balibrea Gallego, Francisco; Jiménez López, Víctor) Some results on sequential entropy. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 169–173, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 28D20

Canoy, Sergio R. (*with* Carpio, Harry M.) On the primitives of integrals in local systems. (English summary) *Matimyás Mat.* **20** (1997), *no.* 1, 15–22. (Summary) **99m:26012** 26A39

— (*with* Navarro, Milagros P.) Nonlinear integral representation of orthogonally additive operators. (English summary) *Matimyás Mat.* **20** (1997), *no.* 2, 15–20. (Serguey A. Malyugin) **99m:26013** 26A39 (28B05, 46G10, 47H99)

Canright, D. (*with* Beaver, P.) The quasimonotonicity of linear differential systems. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 67–73. (Summary) **99i:34070** 34D20 (34C99)

Canright, Geoff (*with* Watson, Greg I.; Somer, Frank L., Jr.) Reasonable and robust Hamiltonians violating the third law of thermodynamics. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 6459–6465. (Nicolae Angelescu) **99a:82026** 82B20

Cant, R. S. (*with* Prosser, R.) On the use of wavelets in computational combustion. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 337–361. (Summary) **99h:80002** 80–08 (80A25)

Canta, Gerardo R. (*with* Poggi, Giovanni) Kronecker-product gain-shape vector quantization for multispectral and hyperspectral image coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 5, 668–678. (Henk J. A. M. Heijmans) **99m:94021** 94A29 (68U10, 94A12)

Cantarella, Jason (*with* Johnston, Heather) Nontrivial embeddings of polygonal intervals and unknots in 3-space. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 8, 1027–1039. (Peiyi Zhao) **99m:57002** 57M25

Cantarelli, Giancarlo On a remark of Pucci and Serrin about the global asymptotic stability for nonlinear second order systems. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 71–78. (Summary) **99c:34096** 34D05

Cante, Juan Carlos (*with* Oliver, Javier; Oller, Sergio) Numerical simulation of powder compaction processes. I. Constitutive model, contact and friction. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 1, 67–99. (Summary) **99d:73047a** 73E60 (73G20, 73V20)

— (*with* Oliver, Javier; Oller, Sergio) Numerical simulation of powder compaction processes. II. Numerical assessment and industrial application. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 1, 101–116. (Summary) **99d:73047b** 73E60 (73G20, 73V20)

Cantelaube, F. (*with* Didwania, A. K.; Goddard, Joe D.) Elastoplastic arching in two-dimensional granular heaps. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 123–127, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E99

Canterle, E. (*with* Grossi, R. O.; Scotto, Roberto) On the existence of weak solutions in the study of beams. *J. Sound Vibration* **212** (1998), *no.* 3, 559–563. (L. P. Lebedev) **99c:73039** 73K05 (34B05, 73K12, 73V25)

Cantero, María José (*with* Alfaro, Manuel; Moral, Leandro) Semiorthogonal functions and orthogonal polynomials on the unit circle. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 3–14. (Pascal Maroni) **99k:33016** 33C45 (42C05)

Cantón, Alicia (*with* Anderson, James Milne; Fernández-Pérez, José L.) On smoothness of symmetric mappings. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 161–169. 30C62

— Singular measures and the little Bloch space. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 211–222. (Maria T. Nowak) **99g:30046** 30D45

Cantoni, Vittorio (*with* Semplice, Matteo) Clifford fields and the relativistic equation of the nucleon. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1721–1733. (Jayme Vaz, Jr.) **99j:81054** 81R20 (81R25)

Cantor, Charles R. (*with* Smith, Cassandra L.; Sano, Takeshi[2]; Broude, Natalia E.) Parallel strategies for DNA manipulation and analysis. (English summary) *Mathematical support for molecular biology*, 199–212, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92023** 92D20

Cantor, Georg *see* **Belna, Jean-Pierre, 99g:01019**

Cantrell, Robert Stephen (*with* Cosner, Chris) Bounds on trajectories in diffusive predator-prey models. (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 733–746, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:92025** 92D25

— (*with* Avila-Vales, Eric Jose) Permanence of three competitors in seasonal ecological models with spatial heterogeneity. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 145–169. (K. Gopalsamy) **99i:92016** 92D25 (34C35, 35K57, 35Q80, 92D40)

— (*with* Cosner, Chris) On the effects of spatial heterogeneity on the persistence of interacting species. (English summary) *J. Math. Biol.* **37** (1998), *no.* 2, 103–145. (Thomas J. Hillen) **99m:92025** 92D25 (35K57)

— (*with* Cosner, Chris; Fagan, William F.) Competitive reversals inside ecological reserves: the role of external habitat degradation. (English summary) *J. Math. Biol.* **37** (1998), *no.* 6, 491–533. (Summary) **99j:92026** 92D40 (35Q80, 92D25)

Cantrijn, F. (*with* Ibort, Luis Alberto; de León, Manuel) Hamiltonian structures on multisymplectic manifolds. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 225–236. (Jesús Marín-Solano) **99e:58067** 58F05 (70G50, 70H05)

— (*with* Sarlet, W.; Sahadevan, R.) Symmetries, separability and volume forms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5908–5924. (Manuel de León) **99m:58098** 58F05 (70H05, 70H33)

Cantwell, John Resolving conflicting information. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 2, 191–220. (Zoran Ognjanović) **99m:03054** 03B60 (03B70, 68T27)

Cantwell, John C. (*with* Conlon, Lawrence) Generic leaves. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 306–336. (Athanase Papadopoulos) **99d:57019** 57R30

Canudas de Wit, Carlos Comments on: "A new model for control of systems with friction" [IEEE Trans. Automat. Control **40** (1995), no. 3, 419–425] by Canudas-de-Wit, H. Olsson, K. J. Åström and P. Lischinsky. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1189–1190. 93A30 (93B50)

— (*with* Villani, Luigi; Brogliato, Bernard) An exponentially stable adaptive control for force and position tracking of robot manipulators. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 798–802. 93C40 (70Q05, 93C85)

— (*with* Ramirez, Jose) Optimal torque control for current-fed induction motors. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1084–1089. 93C95 (49N55)

Canuto, Claudio (*with* Tabacco Vignati, Anita) Multilevel decompositions of functional spaces. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 6, 715–742. (B. S. Rubin) **99e:46039** 46E35 (42C15, 46M35)

— (*with* Russo, Alessandro; van Kemenade, Vincent) Stabilized spectral methods for the Navier-Stokes equations: residual-free bubbles and preconditioning. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 65–83. (Summary) **99i:76107** 76M25 (76D05)

— (*with* Tabacco Vignati, Anita; Urban, Karsten) The wavelet element method. I. Construction and analysis. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 1, 1–52. (Albert Cohen) **99k:42055** 42C15 (41A15, 65T20)

Canuto, Enrico (*with* Donati, Francesco; Vallauri, Maurizio) Manufacturing algebra: a new mathematical tool for discrete-event modelling of manufacturing systems. *Systems: theory and practice*, 269–312, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 90B30 (93A30)

Canuto, V. M. (*with* Dubovikov, M. S.) Response to: "Some remarks concerning recent work on rotating turbulence" [Phys. Fluids **10** (1998), no. 12, 3242–3244; 1 657 285] by Y. Zhou, C. G. Speziale and R. Rubinstein. *Phys. Fluids* **10** (1998), *no.* 12, 3245–3246. 76F99 (76U05)

— (*with* Dubovikov, M. S.) A dynamical model for turbulence. VII. Complete system of five orthogonal tensors for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 659–664. (Summary) **99k:76076** 76F99

— (*with* Dubovikov, M. S.; Yu, Guang) A dynamical model for turbulence. VIII. IR and UV Reynolds stress spectra for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 665–677. (Summary) **99k:76077** 76F99

— (*with* Dubovikov, M. S.; Yu, Guang) A dynamical model for turbulence. IX. Reynolds stresses for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 678–691. (Summary) **99k:76078** 76F99

Cao, C. *see* **Cao, Chun**

Cao, Cewen (*with* Geng, Xian-Guo; Wu, Yong-Tang) Quasi-periodic solutions of the modified Kadomtsev-Petviashvili equation. (English summary) *J. Phys. A* **32** (1999), *no.* 20, 3733–3742. 35Q53 (35B15, 58F39)

Cao, Chang Xiu (*with* Ye, Zhong Quan; Zhang, Bang Li) Convergence analysis of minimax neural networks. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **26** (1997), *no.* 1, 1–6. (Kaiqi Xiong) **99a:92003** 92B20 (49J35)

Cao, Chong Guang (*with* Feng, Li Xin) Additive operators that preserve inverse matrices. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 3–6. 15A09 (15A33)

— (*with* Yu, Xian Jun) Inverse-preserving modular endomorphisms of matrices over a commutative ring. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 1, 9–12. 15A33

— (*with* Zhang, Xian[2]) Multiplicative semigroup automorphisms of upper triangular matrices over rings. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 85–90. (Summary) **99m:15017** 15A33

Cao, Chun (*with* Gehring, F. W.; Martin, G. J.) Lattice constants and a lemma of Zagier. (English summary) *Lipa's legacy* (*New York*, 1995), 107–120, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (C. Maclachlan) **99a:30040** 30F40 (11H06, 20H10, 57S30)

Cao, Chun Fuzzy approaching set and fuzzy approaching functional mapping. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 11, 1083–1093; *translated from Appl. Math. Mech.* **19** (1998), *no.* 11, 1005–1013 (*Chinese. English and Chinese summaries*). (From the summary) **99k:62153** 62M10 (03E72)

Cao, Daomin (*with* Noussair, Ezzat S.; Yan, Shusen) Existence and uniqueness results on single-peaked solutions of a semilinear problem. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 1, 73–111. (Dian K. Palagachev) **99d:35053** 35J65 (35B99, 35J20)

— (*with* Noussair, Ezzat S.) Multiplicity results for an inhomogeneous nonlinear elliptic problem. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 47–59. (Summary) **99a:35072** 35J60 (35B05)

— *see also* **Advances in nonlinear partial differential equations and related areas, 99m:35002**

Cao, Dasong (*with* Nemhauser, George L.) Polyhedral characterizations and perfection of line graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 141–154. (Dieter Kratsch) **99h:05099** 05C75

Cao, De Xin (*with* Shen, Zu He) Interval algorithms for a class of nonsmooth optimization problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 23–33. 90C30 (65G10)

Cao, Deng Qing Stability analysis of uncertain nonlinear dynamical systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 1, 97–100, *VIII.* 93D05 (93C10)

Cao, Fei Long Approximation theorems for Stancu polynomials. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 25–30. (Shun Sheng Guo) **99k:41020** 41A25 (41A36)

Cao, Feng *see* **Cao, Feng[2]**

Cao, Feng[1] Routing and topology embedding in lightwave networks. *Handbook of combinatorial optimization, Vol.* 3, 171–239, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C35 (90–02, 90B10)

— (*with* Du, Ding Zhu; Hsu, D. Frank; Hwang, Lihui; Wu, Weili) Super line-connectivity of consecutive-d digraphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 27–38. (A. Ádám) **99b:05071** 05C20 (05C40)

— (*with* Du, Ding Zhu; Hsu, D. Frank; Teng, Shang-Hua) Fault tolerance properties of pyramid networks. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 88–93. (Summary) **99j:68002** 68M10 (68M15)

Cao, Feng[2] (*with* Chen, Lan Sun) Asymptotic behavior of nonautonomous diffusive Lotka-Volterra model. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 107–111. (Summary) **99b:92036** 92D25 (34D20)

Cao, Frédéric Absolutely minimizing Lipschitz extension with discontinuous boundary data. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 563–568. (Summary) **99h:49042** 49L25 (35J60, 65D15)

— Partial differential equations and mathematical morphology. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 9, 909–941. (John Urbas) **99m:35097** 35K55 (35Q80, 58E99, 68U10)

Cao, Guang Fu Bounded composition operators on Hardy spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 777–782. (Li Zhong Peng) **99c:47032** 47B38

— (*with* Ghatage, P.; Elias, N.; Yu, Da Hai) Composition operators on a Banach space of analytic functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 235–240. (Ke He Zhu) **99j:47042** 47B38 (46E15)

— (*with* Zhong, Chang Yong) Collective compactness of sequences of Toeplitz operators on function spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 393–398. (Li Zhong Peng) **99i:47050** 47B35

— (*with* Zhong, Chang Yong) Automorphism group of Toeplitz algebras on certain pseudoconvex domains. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 112–118. (Raúl E. Curto) **99m:47052** 47D25 (32F15, 47A13, 47A53, 47B35)

— (*with* Zhong, Chang Yong) The Fredholm spectra and indices of multi-Toeplitz operators in $H^p(T)$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 1–4. (Ke He Zhu) **99c:47029** 47B35 (47A53)

Cao, Hongjun (*with* Liu, Zheng-rong; Li, Ji Bin) Conditions for identity of bifurcations in cubic Hamiltonian systems with symmetry or nonsymmetry perturbations. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 57–61, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Henryk Żołądek) **99d:34044** 34C05 (34C23, 58F21)

Cao, Huai-Dong Limits of solutions to the Kähler-Ricci flow. *J. Differential Geom.* **45** (1997), *no.* 2, 257–272. (Ben Andrews) **99g:53042** 53C21 (53C55)

— (*with* Shen, Ying; Zhu, Shunhui) The structure of stable minimal hypersurfaces in $\mathbf{R}^{n+1}$. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 5, 637–644. (William P. Minicozzi, II) **99a:53037** 53C21 (53C42, 58E15)

— (*with* Shen, Ying; Zhu, Shunhui) A Bernstein theorem for complete spacelike constant mean curvature hypersurfaces in Minkowski space. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 2, 141–157. (Rabah Souam) **99h:53007** 53A10 (53C50)

— (*with* Zhou, Jian) Equivariant cohomology and wall crossing formulas in Seiberg-Witten theory. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 6, 711–721. (Ignasi Mundet-Riera) **99k:57067** 57R57 (55N91)

— (*with* Chow, Bennett) Recent developments on the Ricci flow. (English summary) *Bull. Amer. Math. Soc.* (*N.S.*) **36** (1999), *no.* 1, 59–74. (Man Chun Leung) **99j:53044** 53C21 (58G11)

Cao, Huai Xin Approximation by positive elements in C^*-algebras. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 5, 374–376. 46L05

— (*with* Fang, Yang Wang; Han, Chong Zhao) An algorithm for iterative computation of nonlinear transfer functions for discrete nonlinear systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 16–20. 93B40 (65D15)

Cao, Hui The rate of convergence of the distribution function of the smooth Cramér–von Mises statistic. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 28–32. 62G30

Cao, Hui-Qin (*with* Sun, Zhi Wei[1]) On sums of distinct representatives. *Acta Arith.* **87** (1998), *no.* 2, 159–169. (Vsevolod F. Lev) **99k:11021** 11B13 (11B75)

Cao, Jia-Ding (*with* Gonska, Heinz H.; Kacsó, Daniela P.) Simultaneous approximation by discretized convolution-type operators. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 203–218, *Transilvania, Cluj-Napoca*, 1997. (Octavian Agratini) **99a:41022** 41A28 (41A10, 41A36)

Cao, Jian (*with* Hu, Shou Song; He, Ya Qun) Tracking large-scale interconnected systems with strong stability. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 341–345. 93D10 (93A15)

Cao, Jian Fu (*with* Han, Chong Zhao) A frequency stability criterion for a class of nonlinear control systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 3, 24–27. 93D05 (93C80)

Cao, Jian Sheng Two classes of best approximation problems for matrices over a linear manifold. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 147–152. (Summary) **99d:65125** 65F30

Cao, Jianguo Topics in geometric analysis via Gromov's methods. (English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 6, 481–506. (Andrea Sambusetti) **99d:53038** 53C23 (20F32, 53–02)

Cao, Jiling (*with* Reilly, Ivan L.; Romaguera, Salvador) Some properties of quasiuniform multifunction spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 169–177. (Zbigniew Grande) **99c:54019** 54C35 (54C60, 54E15)

— (*with* Künzi, Hans-Peter A.; Reilly, Ivan L.; Romaguera, Salvador) Quasi-uniform hyperspaces of compact subsets. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 117–126. (J. R. Isbell) **99c:54014** 54B20 (54E15)

Cao, Jin De (*with* Li, Ji Bin; Lin, Yiping) An applicable formula for the Hopf bifurcation direction of four-dimensional systems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 304–309, *World Sci. Publishing, River Edge, NJ*, 1998. (Introduction) **99j:34053** 34C23 (34C25, 58F14)

— (*with* Wan, Shidong; Li, Ji Bin) Periodic solutions of a class of forced second order Hamiltonian systems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 310–315, *World Sci. Publishing, River Edge, NJ*, 1998. (Anna Germinario) **99j:34057** 34C25 (58E05, 58F22, 70H05)

— (*with* Wan, Shidong) Periodic solutions of higher-dimensional periodic systems with delay. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 316–319, *World Sci. Publishing, River Edge, NJ*, 1998. (From the text) **99j:34096** 34K15 (34C25)

— (*with* Zhang, Bao Sheng) A regular Cauchy problem for a class of singular hyperbolic equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 419–426. (Hidetoshi Tahara) **99g:35089** 35L80 (35L15)

— (*with* Zhou, Dong Ming[2]; Li, Ji Bin) Stability analysis of Hopfield neural networks with delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 460–467. (Summary) **99e:34111** 34K20 (92B20)

— (*with* Li, Ji Bin) The stability in neural networks with interneuronal transmission delays. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 5, 457–462; *translated from Appl. Math. Mech.* **19** (1998), *no.* 5, 425–430 (*Chinese. English and Chinese summaries*). (Summary) **99e:34105** 34K20 (92B20)

— (*with* Zhou, Dong Ming[2]) Stability analysis of delayed cellular neural networks. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 32–36, 45. (Summary) **99g:92009** 92B20

— (*with* Zhou, Dong Ming[2]) Stability of a class of models with continuously distributed delays. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 292–295. 34K20

— (*with* Li, Qiong; Wan, Shidong) Positive periodic solution for a neutral delay model in population. (English summary) *J. Biomath.* **13** (1998), *no.* 4, 435–438. (Summary) **99m:92032** 92D25

Cao, Jing Long (*with* Shi, Sheng Ming) A generalization of Brauer's Problem 24. (Chinese. English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 1, 78–80. (Summary) **99f:20016** 20C20 (20D20)

Cao, Jinhua (*with* Liu, Bin[5]) Production control of an unreliable manufacturing system under the assumption of no backlog. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 103–117. (D. Kalin) **99a:90103** 90B30 (90B05)

— (*with* Liu, Bin[5]) Inventory analysis of an unreliable production-inventory system. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 367–374. (Peter Köchel) **99h:90037** 90B05 (90B22)

— (*with* Liu, Bin[5]) Analysis of a production-inventory system with machine breakdowns and shutdowns. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 1, 73–91. 90B30

(90B25)

Cao, Ju Sheng Existence for periodic solution of forced Liénard equation. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **20** (1997), *no.* 4, 14–19. (Alessandro Fonda) **99f:34060** 34C25 (47H11, 47N20)

— (*with* Huang, Wen Hua; Shen, Zu He) On the solution of nonlinear two-point boundary value problem $u'' + g(t,u) = f(t)$, $u(0) = u(2\pi) = 0$. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 9, 889–894; *translated from Appl. Math. Mech.* **19** (1998), *no.* 9, 821–826 (*Chinese. English and Chinese summaries*). (Lorenzo Pisani) **99m:34034** 34B15 (47H15)

Cao, Ke-Fei (*with* Peng, Shou-Li; Zhang, Xu-Sheng) Dual star products and metric universality in symbolic dynamics of three letters. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 87–96. (Summary) **99i:58054** 58F03 (58F13)

Cao, Li Qun (*with* Cui, Jun Zhi) Finite element methods based on two-scale asymptotic analysis. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 89–102. (Zhangxin Chen) **99c:73077** 73V05 (65N30, 73K20)

— (*with* Cui, Jun Zhi) Finite element computation for elastic structures of composite materials formed by entirely basic configurations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 279–290. (Summary) **99m:73067** 73V05 (65N30, 73K20)

— (*with* Cui, Jun Zhi) Two-scale asymptotic analysis methods for a class of elliptic boundary value problems with small periodic coefficients. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 19–28. (Summary) **99m:65242** 65N99 (35B25, 35J25)

Cao, Lilun (*with* Zhu, Jian Ping[2]) Efficient and accurate local time stepping algorithm for multi-rate problems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 97–104, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65M06

Cao, Q. *see* **Cao, Qing Jie**

Cao, Qi Guo (*with* Shao, Hai Ming; Sun, Yu Geng) The best connectivity hypergraph based on the DBB design. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 6, 713–718. 05C65

Cao, Qing Jie (*with* Zhang, Tian De; Li, Jiu Ping; Price, G. W.; Djidjeli, K.; Twizell, E. H.) Soliton solutions of a class of generalized N-dimensional nonlinear Schrödinger equations and their properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2166–2173. (Summary) **99c:35217** 35Q55

— (*with* Zhang, Tian De; Djidjeli, K.; Price, G. W.; Twizell, E. H.) Soliton solutions of a class of generalized nonlinear Schrödinger equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 389–398. (Hong Yuan Fu) **99b:65096** 65M06 (35Q55)

— (*with* Zhang, Tian De; Price, G. W.; Djidjeli, K.; Twizell, E. H.) Applications of the weighted scheme for GNLS equations in solving soliton solutions. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 525–541. (Summary) **99f:35198** 35Q55 (65M06)

— (*with* Djidjeli, K.; Price, W. G.; Twizell, E. H.) Periodic and chaotic behaviour in a reduced form of the perturbed generalized Korteweg-de Vries and Kadomtsev-Petviashvili equations. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 201–221. (Summary) **99j:35182** 35Q53 (58F39, 65D99, 65M99)

Cao, Ricardo *see* **Cao-Abad, R.**

Cao, S. G. (*with* Rees, N. W.; Feng, Gang[1]) Stability analysis and design for a class of continuous-time fuzzy control systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1069–1087. 93C42 (93D10)

— (*with* Feng, Gang[1]; Rees, N. W.; Ma, Jian) H_∞ control of fuzzy dynamic systems. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 4, 559–576. 93B36 (93C42)

Cao, Shi Yi (*with* Wang, Da Cheng) A new topological nonempty intersection theorem with applications to equilibrium problems in abstract economics. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **14** (1997), *no.* 4, 14–20. (Summary) **99e:90021** 90A14

— (*with* Yong, Xue Rong) Evaluation of an integral arising in compution [computing] the energy of crystals in terms of gamma functions. *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 2, 9–11. 65D30

Cao, Thang Adaptive H- and H-R methods for Symm's integral equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 1–17. (B. P. Parashar) **99h:65212** 65R20 (45L05, 65N30, 65N38)

— BPX preconditioner for hypersingular integral equations. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 2, 141–167. (Ivan K. Lifanov) **99i:65147** 65R20 (45L05)

Cao, Tian Yu ★ Conceptual developments of 20th century field theories. *Cambridge University Press, Cambridge*, 1997. *xx*+433 *pp. ISBN* 0-521-43178-6 (Massimo Di Pierro) **99d:81001** 81–02 (70–02, 70G50, 81–03, 81Txx)

Cao, Tru H. (*with* Creasy, Peter N.) Fuzzy order-sorted logic programming in conceptual graphs with a sound and complete proof procedure. (English summary) *Conceptual structures: theory, tools and applications (Montpellier, 1998)*, 270–284, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68N17

Cao, Wei-ming (*with* Guo, Benqi) Inexact solvers on element interfaces for the p and h-p finite element method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 173–189. (Mark Ainsworth) **99a:73122** 73V05 (65N30)

— (*with* Guo, Benqi) Domain decomposition method for the h-p version finite element method. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 425–440. (Summary) **99e:65171** 65N55

— (*with* Li, Jian[3]; Guo, Ben Yu) Fourier-Chebyshev pseudospectral method for three-dimensional vorticity equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 417–436. (Timothy Nigel Phillips) **99j:76093** 76M25 (65N35, 76D05)

— (*with* Guo, Benqi) An additive Schwarz method for the h-p version of the finite element method in three dimensions. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 632–654 (*electronic*). (Zheng Hui Xie) **99f:65166** 65N30 (65F10, 65N55)

— (*with* Huang, Wei Zhang[1]; Russell, Robert D.) An r-adaptive finite element method based upon moving mesh PDEs. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 221–244. 65N30 (65N55)

Cao, Xi-Ren (*with* Chen, Han-Fu) Perturbation realization, potentials, and sensitivity analysis of Markov processes. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1382–1393. (Summary) **99h:60143** 60J27 (60J45, 90C40, 93E10)

— The Maclaurin series for performance functions of Markov chains. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 676–692. (Jean B. Lasserre) **99k:60171** 60J10 (60J20)

— (*with* Fu, Michael C.; Hu, Jian-Qiang) On performance potentials and conditional Monte Carlo for gradient estimation for Markov chains. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 263–272. (*see* **99m:90004**) 65C05 (65U05)

Cao, Xi Wang Decompositions of quaternion matrices. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **19** (1999), *no.* 1, 19–22. 15A33

Cao, Xi Yu Two theorems on the existence of (u,v)-5 paths in claw-free graphs. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 3, 263–268. (Summary) **99m:05083** 05C38

— Degrees and Hamiltonian connectivity of claw-free graphs. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 34–35. 05C45

Cao, Xian Tong Synchronous 2-cycles in a competition model with differential viability. (Chinese. English and Chinese summaries) *J. Biomath.* **11** (1996), *no.* 2, 51–55. (Wan Biao Ma) **99b:92037** 92D25 (39A10)

Cao, Xiao Dong[1] On the distribution of square-full integers. (English summary) *Period. Math. Hungar.* **34** (1997), *no.* 3, 169–175. (Alessandro Zaccagnini) **99a:11104** 11N25

— (*with* Zhai, Wen Guang) On the average number of unitary factors of finite abelian groups. *Acta Arith.* **85** (1998), *no.* 4, 293–300. (R. C. Baker) **99e:11124** 11N45

Cao, Xiao Hong (*with* Wang, Yong Ge) Hypercyclic and supercyclic operators. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 4–7. (Shan Li Sun) **99m:47018** 47A60 (47A99, 47B99)

Cao, Xiaodong *see* **Cao, Xiao Dong[1]**

Cao, Xing Qin (*with* Qin, Zhong Ping) Construction of authentication codes using reversible linear transformations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 3, 103–104. 94A60

Cao, Xuan Chuan Alternative approach to the concept of shape invariance in quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2439–2448. (Summary) **99h:81030** 81Q05

— Higher order generation of exactly solvable supersymmetric systems. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 745–756. (Summary) **99k:81074** 81Q60

Cao, Y. J. (*with* Wu, Qing-He; Cheng, Shi Jie) An improved Lyapunov function for power system stability analysis. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 791–802. 93D05 (34D25)

Cao, Yang[2] (*with* Li, Qing Yang) Nonlinear Runge-Kutta methods for solving differential-algebraic equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 276–287. (Summary) **99c:65132** 65L06

— (*with* Li, Qing Yang) Highest order multistep formula for solving index-2 differential-algebraic equations. (English summary) *BIT* **38** (1998), *no.* 4, 663–673. (Summary) **99i:65065** 65L05 (34A09, 34A45)

— (*with* Li, Qing Yang) Predictor-corrector formula for solving index-2 differential-algebraic equations. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 65–74. (Summary) **99m:65152** 65L99

Cao, Yanzhao (*with* Gunzburger, Max D.; Turner, James C., Jr.) On exact controllability and convergence of optimal controls to exact controls of parabolic equations. (English summary) *Optimal control (Gainesville, FL, 1997)*, 67–83, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sergei A. Ivanov) **99c:93006** 93B05 (35K10, 49J20, 93C20)

Cao, Yong Lin The structure of semilattices of rectangular unipotent monoids. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 135–138. 06F05 (20M10)

Cao, Yong Luo The abundance of strange attractor in the families of nearby singular diffeomorphism. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 320. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 90–96. (Alexander Loskutov) **99a:58113** 58F13 (58F12)

— (*with* Liu, Zeng Rong) Strange attractors in the orientation-preserving Lozi map. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1857–1863. (Summary) **99i:58102** 58F13

— Nonwandering sets of some Henon mappings. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 10, 1041–1046. 58F13

— The transversal homoclinic points are dense in the codimension-1 Hénon-like strange attractors. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1877–1883. (Eleonora Catsigeras) **99i:58117** 58F15 (58F13)

Cao, Yong-Yan (*with* Sun, You Xian) Comment on: "Eigenvalue placement in a specified sector for variable structure control systems" [Internat. J. Control **57** (1993), no. 5, 1021–1037; MR 93m:93022] by C. A. Woodham and A. S. I. Zinober. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 721–723. (Summary) **99h:93024** 93B12 (93B55)

— (*with* Sun, You Xian) Synthesis of a strongly positive real controller with output feedback for discrete-time systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 85–89. 93B50 (93C55)

— (*with* Sun, You Xian) Robust stabilization for uncertain time-varying time-delay systems with multi-state delay. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 377–381. 93D21

— (*with* Sun, You Xian) Simultaneous stabilization of strictly proper MIMO plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 528–533. 93D15

— (*with* Mao, Wei Jie; Sun, You Xian) Output feedback stabilization of linear systems with time-varying delayed states and controls. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 972–974. 93D21 (93C30)

— (*with* Sun, You Xian; Mao, Wei Jie) A new necessary and sufficient condition for static output feedback stabilizability and comments on: "Stabilization via static output feedback" [IEEE Trans. Automat. Control **38** (1993), no. 5, 764–765; MR 94d:93122] by A. Trofino-Neto and V. Kučera. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1110–1111. (Summary) **99e:93061** 93D15 (49N10)

— (*with* Sun, You Xian) Robust stabilization of uncertain systems with time-varying multistate delay. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1484–1488. (Summary) **99f:93126** 93D21 (93C30)

— (*with* Sun, You Xian; Cheng, Chu Wang) Delay-dependent robust stabilization of uncertain systems with multiple state delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1608–1612. (K. B. Datta) **99m:93089** 93D21

— (*with* Sun, You Xian) Simultaneous stabilization problems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 3, 161–166. 93D21

— (*with* Sun, You Xian; Lam, James) Simultaneous stabilization via static output feedback and state feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1277–1282. 93D15

Cao, You'an (*with* Yan, Wen; Zou, Jingye) On the explicit limitations of irreducible unitary representations for nonsplit F_4. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 121–128. (Ivan V. Arzhantsev) **99d:22024** 22E46

Cao, Zhen (*with* Hwa, Rudolph C.) Phase transition in evolutionary games. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 10, 1551–1559. 90D12

Cao, Zhen Chao (*with* Wang, Bi Xiang; Guo, Bo Ling) Existence of global solutions to the two-dimensional Ginzburg-Landau equation with derivative terms. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1809–1812. 35K55 (35Q35, 76E30)

— (*with* Guo, Bo Ling; Wang, Bi Xiang) Global existence theory for the two-dimensional derivative Ginzburg-Landau equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 393–395. (Yisong Yang) **99b:35191** 35Q55 (76E30)

— A condition for blowup of solutions of the Cauchy problem. (Chinese. English summary) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 612–614. 35L70 (35B05)

Cao, Zhen Fu Finite set theory and its application to cryptology. (English summary) Shanghai Conference Issue on Designs, Codes, and Finite Geometries, Part I (Shanghai, 1993). *J. Statist. Plann. Inference* **51** (1996), *no.* 2, 129–136. (Summary) **99a:94025** 94A60

— The class numbers of some imaginary quadratic fields and a class of Diophantine equations. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 5, 36–39. (Xianke Zhang) **99b:11118** 11R11 (11D61, 11R29)

— (*with* Jing, Cheng Ming) On the number of solutions of Znám's problem. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 46–49. (Mao Hua Le) **99i:11022** 11D68 (11D79)

— (*with* Grytczuk, Aleksander) Fermat's type equations in the set of 2×2 integral matrices. *Tsukuba J. Math.* **22** (1998), *no.* 3, 637–643. (Péter Kiss) **99m:11025** 11C20 (11D41)

— The Diophantine equations $x^4 - y^4 = z^p$ and $x^4 - 1 = dy^q$. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **21** (1999), *no.* 1, 23–27. (P. G. Walsh) **99m:11030** 11D41

Cao, Zhen Hua The variance of quadratic forms with block matrices. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 51–55. 62H10 (62J10)

Cao, Zhi-Hao (*with* Chen, Guangxi; Hou, Xiaodong) A convergent restarted GMRES algorithm. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 645–651. 65F10

— A note on convergence of quasi-minimal residual smoothing. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 289–297. (Summary) **99e:65080** 65F50

— On the QMR approach for iterative methods including coupled three-term recurrences for solving nonsymmetric linear systems. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 123–140. (Summary) **99c:65051** 65F10

— A convergence theorem on an extrapolated iterative method and its applications. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 203–209. (Summary) **99d:65100** 65F10

— Total generalized minimum backward error algorithm for solving nonsymmetric linear systems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 539–550. (Summary) **99j:65042** 65F10

— Nonstationary two-stage multisplitting methods with overlapping blocks. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 153–163. (Summary) **99h:65051** 65F10

— (*with* Liu, Zhong-Yun) Symmetric multisplitting of a symmetric positive definite matrix. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 309–319. (Summary) **99j:65070** 65F30 (15A48)

Cao, Zhi Yuan (*with* Tang, Shou Gao) Complex fundamental solutions for semi-infinite plane and infinite plane with hole under various boundary conditions. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 4, 335–344; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 311–319 (*Chinese. English and Chinese summaries*). (Summary) **99c:73015** 73C02 (73V35)

Cao, Zhijiang (*with* Xu, Yanbo) On self-adjointness of singular Dirac operators. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 364–374. (Evgeney V. Cheremnikh) **99e:47060** 47E05 (34L40)

Cao-Abad, R. (*with* Rodríguez-Campos, M. Celia; González-Manteiga, Wenceslao) Testing the hypothesis of a generalized linear regression model using nonparametric regression estimation. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 99–122. (Andrzej S. Kozek) **99j:62069** 62G10

ha dang Cao Tung *see* **Ha Dang Cao Tung**

Cap, F. F. A new numerical method to calculate the vibrations of clamped Kirchhoff-plates of arbitrary form. (English summary) *Computing* **61** (1998), *no.* 2, 181–188. (Summary) **99f:65183** 65N38 (73K10, 73V20)

Capaldo, R. (*with* Capozziello, S.; Lambiase, G.) String dilaton fluid cosmology. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 2, 213–227. 83E30 (83F05)

Çapar, U. Fusions of stable measures in Banach spaces. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 772–782. (S. A. Chobanyan) **99h:60010** 60B11

Capasso, Vincenzo (*with* Burger, Martin; Engl, Heinz W.) Inverse problems related to crystallization of polymers. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 155–173. (Summary) **99j:80001** 80–08 (35R30, 80A22)

Căpăţînă, Anca Quasivariational inequalities for potential operators. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 11–21. 47H19 (49J40)

Căpăţînă, Anca (*with* Stavre, Ruxandra) A control problem in biconvective flow. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 585–595. (Introduction) **99d:93036** 93C20 (76Z05, 92C10)

Capatina-Papaghiuc, Daniela (*with* Thomas, Jean-Marie) Nonconforming finite element methods without numerical locking. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 163–186. (Qian Li) **99j:65162** 65M60

— (*with* Raynaud, Nicolas) Numerical approximation of stiff transmission problems by mixed finite element methods. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 611–629. (Guo Liang Chen) **99h:65187** 65N30 (65N15)

Capdeboscq, Yves Homogenization of a diffusion equation with drift. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 807–812. (Summary) **99i:35009** 35B27 (35J25)

Capela, J. M. V. (*with* Bracciali, C. F.; Sri Ranga, Alagacone) Symmetric orthogonal L-polynomials in the complex plane. *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996)*, 57–67, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Peter A. McCoy) **99k:42050** 42C05 (30E20, 33C45, 33C50)

Capelas de Oliveira, E. *see* **de Oliveira, E. Capelas**

Capella, Antonio (*with* Rosenbaum, Marcos; Turbiner, A. V.) Solvability of the G_2 integrable system. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 22, 3885–3903. (Kazuhiro Hikami) **99g:81245** 81V70 (58F07)

Capelle, Christian Block decomposition of inheritance hierarchies. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 118–131, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68T30 (68N15)

Capelli, Alfredo *see* **Umeda, Tôru, (99d:01002)**

Capéraà, P. (*with* Fougères, Anne-Laure; Genest, C.) A nonparametric estimation procedure for bivariate extreme value copulas. (English summary) *Biometrika* **84** (1997), *no.* 3, 567–577. (Summary) **99c:62078** 62G05

Capiński, Marek A nonstandard approach to hydromechanics: Navier-Stokes equations. *Nonstandard analysis (Edinburgh, 1996)*, 341–355, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (W. A. Woyczyński) **99e:76030** 76D05 (03H10, 35Q30, 35R60, 76M35)

— (*with* Cutland, Nigel J.) Measure attractors for stochastic Navier-Stokes equations. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 8, 15 *pp.* (*electronic*). (Wilfried Grecksch) **99f:60115** 60H15 (35B40, 35Q30, 35R60)

Capitaine, Mireille (*with* Hsu, Elton P.; Ledoux, Michel) Martingale representation and a simple proof of logarithmic Sobolev inequalities on path spaces. (English summary) *Electron. Comm. Probab.* **2** (1997), 71–81 (*electronic*). (Shi Zan Fang) **99b:60136** 60J65 (58D20, 58G32, 60B15, 60D05, 60H07)

Capobianco, M. R. (*with* Junghanns, Peter; Luther, Uwe; Mastroianni, Giuseppe) Weighted uniform convergence of the quadrature method for Cauchy singular integral equations. (English summary) *Singular integral operators and related topics (Tel Aviv, 1995)*, 153–181, *Oper. Theory Adv. Appl.*, 90, *Birkhäuser, Basel*, 1996. (From the introduction) **99e:45012** 45L05 (45E05, 65R20)

— (*with* Mastroianni, Giuseppe; Russo, M. G.) Pointwise and uniform approximation of the finite Hilbert transform. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 45–66, *Transilvania, Cluj-Napoca*, 1997. (B. P. Parashar) **99b:65168** 65R10 (41A05)

— (*with* Formica, M. R.) A numerical method for a class of Volterra integral equations with logarithm perturbation kernel. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo (2) Suppl. No.* 52, *Vol. I* (1998), 291–304. (B. P. Parashar) **99h:65213** 65R20 (45L05)

Capodanno, Pierre On the computation of the second variation in the problem of the stability of the steady motion of a rigid body containing fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 330–336; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 319–324. (Summary) **99c:76008** 76B10 (70E15, 70K20)

Caporaso, Lucia Counting curves on surfaces: a guide to new techniques and results. *European Congress of Mathematics, Vol. I (Budapest, 1996)*, 136–149, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Andreas Gathmann) **99j:14050** 14N10 (14–02)

— (*with* Harris, Joseph Daniel) Parameter spaces for curves on surfaces and enumeration of rational curves. (English summary) *Compositio Math.* **113** (1998), *no.* 2, 155–208. (Ravi D. Vakil) **99e:14061a** 14N10 (14H10, 14J26, 14M25)

— (*with* Harris, Joseph Daniel) Enumerating rational curves: the rational fibration method. (English summary) *Compositio Math.* **113** (1998), *no.* 2, 209–236. (Ravi D. Vakil) **99e:14061b** 14N10 (14H10, 14J26, 14M25)

— (*with* Harris, Joseph Daniel) Counting plane curves of any genus. *Invent. Math.* **131** (1998), *no.* 2, 345–392. (Susan J. Colley) **99i:14064** 14N10 (14B07, 14H10, 14J10)

Caporn, P. (*with* Bowles, R. I.; Timoshin, S. N.) Nonlinear shortwave Tollmien-Schlichting instability in a boundary layer on a film-coated wall. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3223–3256. (Summary) **99h:76043** 76E30 (76D10)

Capotorti, Andrea (*with* Coletti, Giulianella; Vantaggi, Barbara) Non-additive ordinal relations representable by lower or upper probabilities. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 79–90. (Maria-Teresa Lamata) **99g:68199** 68T30 (03B48)

Capovilla, Riccardo (*with* Guven, Jemal) Scratching the surface: deformations of relativistic membranes. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 87–100, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83064** 83E30

— (*with* Guven, Jemal) Open strings with topologically inspired boundary conditions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1111–1119. (Marco Cavaglià) **99f:81151** 81T30 (83E30)

— (*with* Guven, Jemal) Deformations of extended objects with edges. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5158–5165. (Summary) **99m:83182** 83E30 (83C99)

Capozzi, A. (*with* Salvatore, A.) Subharmonic solutions of nonlinear wave equations on S^n. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 359–372. (Huicheng Yin) **99e:35146** 35L70 (35C99)

Capozziello, S. (*with* de Ritis, R.; Dymnikova, I.; Rubano, C.; Scudellaro, P.) Reconstruction of the state equation and the scalar field potential in inflationary cosmology. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 291–300, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05

— (*with* de Ritis, R.; Marino, A. A.) Recovering the effective cosmological constant in extended gravity theories. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1247–1272. (Summary) **99c:83075** 83D05

— (*with* Lambiase, G.; Capaldo, R.) String dilaton fluid cosmology. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 2, 213–227. 83E30 (83F05)

Cappelle, Bart (*with* Kerre, Etienne E.; Onisawa, Takehisa; Gazdik, Igor) Reliability. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 391–420, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90B25 (04A72)

Cappelli, Andrea (*with* Zemba, Guillermo R.) Modular invariant partition functions in the quantum Hall effect. (English summary) *Nuclear Phys. B* **490** (1997), *no.* 3, 595–632. (Michael A. I. Flohr) **99b:81288** 81V70 (11Z05, 81R10, 81T40)

— (*with* Colomo, Filippo) Solving the frustrated spherical model with q-polynomials. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3141–3151. (Summary) **99a:82013** 82B20 (33D90, 82B23)

— (*with* Valtancoli, Paolo; Vergnano, Luca) Isomonodromic properties of the Seiberg-Witten solution. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 469–501. (Massimo Di Pierro) **99i:81224** 81T60 (14D05, 81T13, 81T40)

— (*with* Zemba, Guillermo R.) Hamiltonian formulation of the $W_{1+\infty}$ minimal models. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 610–638. (Matthias Dörrzapf) **99k:81278** 81T40 (81R10, 81V70)

Cappiello, Luigi (*with* Marotta, Raffaele; Pettorino, Roberto; Pezzella, Franco) On off-shell bosonic string amplitudes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2433–2443. (Summary) **99g:81152** 81T30

Cappuccio, Nunzio (*with* Ferrante, Marco; Fonseca, Giovanni) A note on the stationarity of a threshold first-order bilinear process. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 379–384. (Patrik Albin) **99k:62154** 62M10

Capra, William B. (*with* Müller, Hans-Georg; Wang, Jane-Ling) From lifetables to hazard rates: the transformation approach. (English summary) *Biometrika* **84** (1997), *no.* 4, 881–892. (Summary) **99a:62152** 62P10 (62G05)

— (*with* Wang, Jane-Ling; Müller, Hans-Georg) Analysis of oldest-old mortality: lifetables revisited. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 126–163. (Jack Cuzick) **99c:62117** 62G05 (62N05, 62P05, 62P10)

Caprani, Ole (*with* Madsen, Kaj; Stauning, Ole) Existence test for asynchronous interval iteration. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 269–275. (Summary) **99a:65061** 65G10 (65D99)

Caprara, Alberto Properties of some ILP formulations of a class of partitioning problems. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 11–23. (Ming Fang Ni) **99k:90106** 90C10 (90C27)

— (*with* Rizzi, Romeo) Improving a family of approximation algorithms to edge color multigraphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 11–15. (Summary) **99f:68151** 68R10 (05C15, 05C85, 68Q25)

Caprari, Robert S. Conjugate asymptotic properties of spectra and correlations. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3205–3217. (Summary) **99a:82083** 82C44

Caprasse, H. BRST charge and Poisson algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 115–127. (Bani Mitra Södermark) **99f:81207** 81T70 (81T13)

Caprino, S. (*with* Zavelani, B.) The Boltzmann-Grad limit for a particle system in a slab with stochastic walls. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 17, 1543–1558. (Carlo Cercignani) **99h:82060** 82C40 (76P05)

— (*with* Pulvirenti, M.; Wagner, Wolfgang[1]) Stationary particle systems approximating stationary solutions to the Boltzmann equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 913–934 (*electronic*). (Sylvie Méléard) **99b:60166** 60K35 (76P05, 82C40)

Caprioli, Paul (*with* Holmes, Mark H.) A parallel quasi-Newton method for Gaussian data fitting. (English summary) *Parallel Comput.* **24** (1998), *no.* 11, 1635–1651. 65D15 (65Y05, 90C30)

Capriz, G. (*with* Mazzini, Gianluca) Invariance and balance in continuum mechanics. *Nonlinear analysis and continuum mechanics* (*Ferrara*, 1992), 27–35, *Springer, New York*, 1998. (Gérard A. Maugin) **99e:73005** 73A05 (73B25, 73S10)

Capuani, Domenico (*with* Willis, John R.) Wave propagation in elastic media with cracks. II. Transient nonlinear response of a cracked matrix. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 159–175. (Paul Andrew Martin) **99m:73025** 73D15 (73M25)

Caputo, M. R. Economic characterization of reciprocal isoperimetric control problems. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 325–350. (Gerhard Sorger) **99e:49023** 49K15 (90A16)

Caputo, Michele 3-dimensional physically consistent diffusion in anisotropic media with memory. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 2, 131–143. (Summary) **99k:76135** 76R50 (76A99, 76S05)

Capuzzo-Dolcetta, Italo (*with* Bardi, Martino) ★ Optimal control and viscosity solutions of Hamilton-Jacobi-Bellman equations. (English summary) With appendices by Maurizio Falcone and Pierpaolo Soravia. Systems & Control: Foundations & Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xviii+570 *pp. ISBN* 0-8176-3640-4 (Vladimir Veliov) **99e:49001** 49–02 (49J15, 49K15, 49L25)

— (*with* Birindelli, Isabeau; Cutrì, Alessandra) Indefinite semi-linear equations on the Heisenberg group: a priori bounds and existence. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1123–1157. (Chu Li Fu) **99h:35045** 35J60 (35B45, 35H05)

Capuzzo-Dolcetta, R. (*with* Miocchi, P.) A comparison between the fast multipole algorithm and the tree-code to evaluate gravitational forces in 3-D. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 29–48. (Summary) **99c:70001** 70–08 (70F10, 85–08)

fernández-Cara, Enrique *see* **Fernández-Cara, Enrique**

Cara, Philippe (*with* Buekenhout, Francis) Some properties of inductively minimal geometries. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 213–219. (J. Cofman) **99f:51020** 51E24

— (*with* Buekenhout, Francis; Dehon, Michel) Geometries of small almost simple groups based on maximal subgroups. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **1998**, *suppl., ii*+128 *pp.* (Antonio Pasini) **99c:51017** 51E24 (20D06)

Caraballo Garrido, Tomás (*with* Langa, José A.; Robinson, James Cooper) Upper semicontinuity of attractors for small random perturbations of dynamical systems. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1557–1581. (M. L. Blank) **99i:58133** 58F39 (34C35, 34G20, 35B40, 35R60, 58F12, 76D05)

Carabetta, Georgia (*with* Degano, Pierpaolo; Gadducci, Fabio) CCS semantics via proved transition systems and rewriting logic. (English summary) *International Workshop on Rewriting Logic and its Applications* (*Pont-à-Mousson*, 1998), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 15, *Elsevier, Amsterdam*, 1998. (*see* **99h:68014**) 68Q10 (68Q42, 68Q60)

Carabineanu, Adrian Subsonic plane flow past a thin profile in a channel. (Romanian. French and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 4, 423–440. 76G25

— Boundary integral equation and its hydrodynamical interpretation. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 9–14. (Summary) **99a:45001** 45A05 (45E05, 76B99)

— A boundary element approach to the study of 2D subsonic lifting flow past airfoils with sharp trailing edge. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 383–400. (Natalya A. Vladimirova) **99i:76091** 76M15 (76G25)

Caraffini, G. L. (*with* Iori, M.; Spiga, Giampiero) On the connections between kinetic theory and a statistical model for the distribution of dominance in populations of social organisms. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 169–181 (1997). (Silvia Totaro) **99b:92038** 92D25 (82C40)

Caragiannis, I. (*with* Auletta, V.; Kaklamanis, Christos; Persiano, Pino) Efficient wavelength routing in trees with low-degree converters. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 1–14, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99j:68100** 68R10 (05C05, 90B12)

Caraman, Petru About cases of equality between the p-module and the p-capacity. (English summary) *Analysis and topology*, 215–240, *World Sci. Publishing, River Edge, NJ*, 1998. (Hiroaki Aikawa) **99m:31007** 31B15

Caramana, E. J. (*with* Shashkov, Mikhail) Elimination of artificial grid distortion and hourglass-type motions by means of Lagrangian subzonal masses and pressures. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 521–561. (Summary) **99a:76108** 76M25

— (*with* Shashkov, Mikhail; Whalen, P. P.) Formulations of artificial viscosity for multi-dimensional shock wave computations. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 70–97. (Summary) **99d:76066** 76M20 (76L05, 76N10)

— (*with* Burton, Donald Eugene; Shashkov, Mikhail; Whalen, P. P.) The construction of compatible hydrodynamics algorithms utilizing conservation of total energy. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 227–262. (Summary) **99g:76103** 76M25 (76M20)

Caramanis, Michael C. (*with* Khmelnitsky, Eugene) One-machine n-part-type optimal setup scheduling: analytical characterization of switching surfaces. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1584–1588. 90B30 (93C95)

— (*with* Veatch, Michael H.) Optimal average cost manufacturing flow controllers: convexity and differentiability. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 779–783. 90B30 (93A30)

Caramellino, Lucia Strassen's law of the iterated logarithm for diffusion processes for small time. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 1–19. (Mireille Chaleyat-Maurel) **99c:60063** 60F15 (60J60)

Carando, Daniel (*with* Zalduendo, Ignacio) A Hahn-Banach theorem for integral polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 241–250. (José Bonet) **99b:46067** 46G20 (46B28)

Caranti, A. Presenting the graded Lie algebra associated to the Nottingham group. (English summary) *J. Algebra* **198** (1997), *no.* 1, 266–289. (Rolf Farnsteiner) **99b:17019** 17B50

— Thin groups of prime-power order and thin Lie algebras: an addendum. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 445–450. (Timo Neuvonen) **99k:17036** 17B50 (20E15)

Carasso, Claude (*with* Paşa, G.) A control problem depending on coefficients, arising from an industrial process. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 343–353 (1998). 49N55 (93C95)

— (*with* Badea, A.; Panasenko, G. P.) A model of a homogenized cavity corresponding to a multinozzle droplet generator for continuous ink-jet printers. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 821–842. (Summary) **99i:76043** 76D30 (73B27)

— (*with* Paşa, G.) An optimal viscosity profile in the secondary oil recovery. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 211–221. (Summary) **99a:76145** 76S05 (76E99)

— *see also* **Proceedings: Congress of Numerical Analysis, 99e:00012**

Carathéodory, Constantin *see* **Bulirsch, Roland, 99k:01051** *and* **Begehr, Heinrich G. W., (99k:01080)**

Carati, Andrea (*with* Galgani, Luigi) Recent progress on the Abraham-Lorentz-Dirac equation. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 24–31, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:78012** 78A25

Cărăuş, Iu. (*with* Zolotarevskiĭ, V. A.) The approximate solution of singular integro-differential equations on smooth contours in the spaces L_p. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 1, 44–54. (Andreas Rathsfeld) **99j:65244** 65R20 (45L05)

— The approximate solution of singular integro-differential equations systems on smooth contours in spaces L_p. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 2, 198–209. (Yury Petrovich Yatsenko) **99j:65234** 65R20 (45L05)

Carayol, Henri Limites dégénérées de séries discrètes, formes automorphes et variétés de Griffiths-Schmid: le cas du groupe U(2, 1). (English summary) [Degenerate limits of discrete series, automorphic forms and Griffiths-Schmid varieties: the case of the group U(2, 1)] *Compositio Math.* **111** (1998), *no.* 1, 51–88. (Martin Andler) **99k:22027** 22E55 (11F75, 14G35)

hermoso Carazo, Aurora *see* **Hermoso Carazo, Aurora**

Carazo, J. M. (*with* Ceron, C.; Dopazo, J.; Zapata, E. L.; Trelles, O.) Parallel implementation of DNAml program on message-passing architectures. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 701–716. 92D20

Carbery, Anthony (*with* Soria, Fernando) Pointwise Fourier inversion and localisation in $\mathbf{R}^n$. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 847–858. (Elijah Liflyand) **99c:42018** 42B10 (42B25)

— (*with* Ricci, Fulvio; Wright, James Robert) Maximal functions and Hilbert transforms associated to polynomials. *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 117–144. (Gary Sampson) **99k:42014** 42A50 (42B25)

Carbó-Dorca, Ramon Tagged sets, convex sets and quantum similarity measures. (English summary) *J. Math. Chem.* **23** (1998), *no.* 3-4, 353–364. (Summary) **99f:81009** 81P05

— On the statistical interpretation of density functions: atomic shell approximation, convex sets, discrete quantum chemical molecular representations, diagonal vector spaces and related problems. (English summary) *J. Math. Chem.* **23** (1998), *no.* 3-4, 365–375. (Summary) **99f:81232** 81V55

Carbonara, Joaquin O. (*with* Green, Alwin C.) Enumerative questions on rooted weighted necklaces. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 405–423. (Joe Roberts) **99h:05004** 05A15 (05E15)

Carbonaro, Bruno (*with* Starita, Giulio) The principle of virtual velocities. *Classical problems in mechanics*, 1–95, *Quad. Mat.*, 1, *Aracne, Rome*, 1997. (Ll. G. Chambers) **99g:70002** 70–03 (01A45, 70C20, 70F10)

— *see also* **Errata: "The principle of virtual velocities", (99m:35005)**

Carbone, Antonio A note on complementarity problem. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 621–623. (Igor' V. Konnov) **99d:47051** 47H10 (47H19, 54H25, 90C33)

— A note on application of best approximation. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 2, 285–287. 41A65 (47H10)

Carbone, Ingrid Shape preserving properties of some positive linear operators on unbounded intervals. (English summary) *J. Approx. Theory* **93** (1998), *no.* 1, 140–156. (V. A. Baskakov) **99a:41032** 41A36 (41A29)

— Approximation properties of some sequences of positive linear operators on weighted function spaces. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 305–336. (Radu Păltănea) **99h:41032** 41A36 (47B38)

Carbonell, Jaume (*with* Desplanques, B.; Karmanov, V. A.; Mathiot, J.-F.) Explicitly covariant light-front dynamics and relativistic few-body systems. (English summary) *Phys. Rep.* **300** (1998), *no.* 5-6, 215–347. (Summary) **99c:81276** 81V25

Carboni, A. (*with* Birkedal, L.; Rosolini, Giuseppe; Scott, Dana S.) Type theory via exact categories (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 188–198, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18E10)

— (*with* Vitale, Enrico M.) Regular and exact completions. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 79–116. (Walter Tholen) **99b:18003** 18A35 (18A32, 18B25, 18C20)

— (*with* Kelly, G. M.; Verity, D.; Wood, R. J.) A 2-categorical approach to change of base and geometric morphisms. II. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 5, 82–136 (*electronic*). (R. H. Street) **99e:18007** 18D05 (18B10)

Carbonne, P. Sur les différentielles de torsion. [On torsion differentials] *J. Algebra* **202** (1998), *no.* 2, 367–403. (Daniel Levcovitz) **99c:13045** 13N05 (13C12, 14B05)

Carbou, Gilles (*with* Fabrie, Pierre) Comportement asymptotique des solutions faibles des équations de Landau-Lifschitz. (English and French summaries) [Asymptotic behavior of weak solutions for Landau-Lifschitz equations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 717–720. (Piotr P. Goldstein) **99f:35200** 35Q60 (35B40, 35Q55, 82D40)

— Modèle quasi-stationnaire en micromagnétisme. (English and French summaries) [Quasistationary model in micromagnetism] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 847–850. (Gérard Michaille) **99g:82081** 82D40 (35Q60)

Carcano, Giovanna Maximal ideal space for classical domains. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 135–150. (Summary) **99h:43006** 43A20 (46J20)

Carcione, J. M. (*with* Quiroga-Goode, G.) Heterogeneous modelling behaviour at an interface in porous media. (English summary) *Comput. Geosci.* **1** (1997), *no.* 2, 109–125. 76S05 (76M25)

Cardaliaguet, P. (*with* Dacorogna, Bernard; Gangbo, Wilfrid; Georgy, N.) Geometric restrictions for the existence of viscosity solutions. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **16** (1999), *no.* 2, 189–220. (Summary) **99k:35023** 35D05 (35F30, 49L25)

Cardell-Oliver, Rachel An equivalence theorem for the operational and temporal semantics of real-time, concurrent programs. (English summary) *J. Logic Comput.* **8** (1998), *no.* 4, 545–567. (Summary) **99e:68099** 68Q55 (68Q10)

raggi-Cárdenas, Alberto *see* **Raggi-Cárdenas, Alberto**

Cárdenas, V. (*with* Lepe, S.; Saavedra, J.) Current algebra in the path integral framework. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2193–2198. (Summary) **99e:81073** 81R10 (81S40, 81T40)

Cárdenas-Morales, Daniel (*with* Muñoz-Delgado, Francisco-Javier; Ramírez González, Victoriano) Korovkin's theorems for certain conservative operators. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 117–126, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (D. E. Wulbert) **99g:41036** 41A36

— (*with* Muñoz-Delgado, Francisco-Javier) Korovkin type results for shape preserving operators. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 303–310, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Alexey L. Lukashov) **99k:41041** 41A36 (41A29)

— (*with* Muñoz-Delgado, Francisco-Javier; Ramírez González, Victoriano) Qualitative Korovkin-type results on conservative approximation. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 144–159. (Alexey L. Lukashov) **99f:41032** 41A36 (41A65)

Cardim, Nancy Embeddings of open manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2353–2373. (Summary) **99i:57042** 57N35 (55R65)

Cardin, Franco Topological asymptotic realization of holonomic constraints. Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 237–243. (Ernesto A. Lacomba) **99h:70021** 70F20 (58F05)

— (*with* Favretti, Marco) Hyper-impulsive motion on manifolds. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 1–21. (Andrew D. Lewis) **99e:58138** 58F17 (34A26, 34H05, 70Q05)

— (*with* Favretti, Marco) When is a vector field injective? (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 397–406. (A. Morimoto) **99h:53048** 53C22 (34A26)

Cardin, P. (*with* Jault, D.; Nataf, H. C.) Geodynamo and M.H.D. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 17–30, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 86A25 (76W05)

Cardinal, Jean-Paul On two iterative methods for approximating the roots of a polynomial. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 165–188, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Summary) **99a:65066** 65H05 (65E05)

Cardinali, Tiziana (*with* Papalini, Francesca) Existence theorems for nonlinear evolution inclusions. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 1–11. (Stanisław Migórski) **99e:34085** 34G20 (34A60)

— (*with* Fiacca, Antonella; Papageorgiou, Nikolaos S.) An existence theorem for evolution inclusions involving opposite monotonicities. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 1–14. (Markus Kunze) **99d:34109** 34G20 (34A60, 49J24)

— (*with* Papageorgiou, Nikolaos S.) Hammerstein integral inclusions in reflexive Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 95–103. (Summary) **99b:47101** 47H30 (45G10, 47H04)

Cardon, David A. A Riemann hypothesis condition for metaplectic Eisenstein series. (English summary) *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 203–238. (Solomon Friedberg) **99g:11060** 11F30 (11F37, 11F70, 11M41)

Cardona, Alberto (*with* Fachinotti, Víctor D.; Huespe, Alfredo E.) A fast convergent and accurate temperature model for phase-change heat conduction. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 12, 1863–1884. (Summary) **99m:80003** 80–08 (65M12, 80A22)

lopez-Cardona, Emma *see* **Lopez-Cardona, Emma**

Cardona, G. (*with* Gonzàlez Rovira, Josep; Lario, Joan-C.; Rio, Anna) On curves of genus 2 with Jacobian of GL_2-type. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 37–54. (Dino J. Lorenzini) **99j:11068** 11G10 (14H40)

Cardone, Fabio (*with* Francaviglia, Mauro; Mignani, Roberto) Energy and relativistic clock rates in five dimensions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1619–1627. (Helmuth K. Urbantke) **99k:83110** 83E15 (83A05)

Cardone, Giuseppe (*with* Donato, Patrizia; Gaudiello, Antonio) A compactness result for elliptic equations with subquadratic growth in perforated domains. *Nonlinear Anal.* **32** (1998), *no.* 3, 335–361. (Dietrich Göhde) **99b:35064** 35J65 (35B27, 73B27)

Cardoso, Domingos M. (*with* Luz, Carlos J.) A generalization of the Hoffman-Lovász upper bound on the independence number of a regular graph. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 307–319. (*see* **99b:90006**) 90C35

Cardoso, Fernando (*with* Vodev, Georgi) Asymptotic behaviour of the scattering phase in linear elasticity for a strictly convex body. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 2025–2049. (Akira Tsutsumi) **99f:35204** 35Q72 (35J25, 73C02, 73D25)

— (*with* Vodev, Georgi) Asymptotic behaviour of the scattering phase in linear elasticity. II. *Osaka J. Math.* **35** (1998), *no.* 2, 397–405. (Akira Tsutsumi) **99j:35217** 35Q72 (35P20, 73D25)

— (*with* Cuevas, Claudio) On the hyperbolic Dirichlet to Neumann functional in H^n and S^n. (English summary) *Proyecciones* **17** (1998), *no.* 1, 63–70. (R. Schimming) **99h:58190** 58G16 (35L10)

Cardoso, Gabriel Lopes (*with* Behrndt, Klaus; de Wit, Bernard; Kallosh, Renata; Lüst, Dieter; Mohaupt, Thomas) Classical and quantum $N = 2$ supersymmetric black holes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 236–260. (Summary) **99f:83060** 83E30 (32J81, 81T30, 83C57)

— (*with* Curio, Gottfried; Lüst, Dieter) Perturbative couplings and modular forms in $N = 2$ string models with a Wilson line. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 147–183. (Summary) **99f:81152** 81T30 (11F46, 11F55, 11Z05, 14J32, 32J81)

— (*with* Bakas, Ioannis; Bourdeau, Michèle) Supersymmetric solutions in three-dimensional heterotic string theory. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 103–138. (Sergey Nikolaevich Roshchupkin) **99d:81105** 81T30 (83E30)

— (*with* Bourdeau, Michèle) Finite energy solutions in three-dimensional heterotic string theory. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 137–157. (Marco Spaans) **99h:81155** 81T30 (83E30)

— Charged heterotic black holes in four and two dimensions. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 65–68. (Summary) **99c:83084** 83E30 (81T30, 83C57)

— (*with* Mohaupt, Thomas) Dual heterotic black holes in four and two dimensions. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 277–283. (Marco Spaans) **99g:83075** 83E30 (83C57)

Cardoso, J. G. Twistorial dynamics of complexified Klein-Gordon fields. (English summary) *Czechoslovak J. Phys.* **47** (1997), *no.* 8, 747–753. (Summary) **99a:81062** 81R25

Cardot, Hervé (*with* Diack, Cheikh A. T.) Convergence en moyenne quadratique de l'estimateur de la régression par splines hybrides. (English and French summaries) [Asymptotic integrated mean square error of the hybrid spline estimator of the regression] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 615–618. (Andreas Futschik) **99i:62083** 62G07 (62G20)

— Convergence du lissage spline de la prévision des processus autorégressifs fonctionnels. (English and French summaries) [Consistency of the spline approximation of the prediction of functional space valued autoregressive processes] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 755–758. (Summary) **99j:62126** 62M10 (62G20)

Cardoulis, Laure (*with* Alziary, Bénédicte; Fleckinger, Jacqueline) Maximum principle and existence of solutions for elliptic systems involving Schrödinger operators. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 47–52. (Summary) **99f:35040** 35J45 (35B50, 35J10)

Cardu, Umberto (*with* Passoni, Giuseppe; Alfonsi, Giancarlo; Tula, Giovanni) A wavenumber parallel computational code for the numerical integration of the Navier-Stokes equations. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 593–611. 65M06 (65Y05)

Cardy, John L. (*with* Täuber, Uwe C.) Field theory of branching and annihilating random walks. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 1–56. (Alexandre S. Gajrat) **99k:82067** 82C41 (60J15, 60K35, 82C28)

— (*with* Jacobsen, Jesper Lykke) Critical behaviour of random-bond Potts models: a transfer matrix study. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 3, 701–742. (Summary) **99b:82052** 82B44 (82B26, 82B27)

— (*with* Delfino, G.) Universal amplitude ratios in the two-dimensional q-state Potts model and percolation from quantum field theory. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 551–578. (Konstantin G. Selivanov) **99h:82011** 82B20 (81T25, 82B23, 82B43)

— (*with* Richardson, M. J. E.) The reaction process $A + A \to O$ in Sinai disorder. (English summary) *J. Phys. A* **32** (1999), *no.* 22, 4035–4045. 82C44

— (*with* Colaiori, Francesca) Directed percolation and generalized friendly random walkers. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 11, 2232–2235. (Summary) **99k:82037** 82B43 (82B41)

Carey, Alan L. (*with* Jupp, Peter E.; Murray, Michael K.) The phylon group and statistics. *Algebraic groups and Lie groups*, 35–49, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (John W. Rice) **99k:62006** 62A05 (58A20)

— (*with* Mickelsson, Jouko; Murray, Michael K.) Index theory, gerbes, and Hamiltonian quantization. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 707–722. (Introduction) **99f:58189** 58G10 (58G26, 81T50)

— (*with* Coulhon, Thierry; Mathai, Varghese; Phillips, John) Von Neumann spectra near the spectral gap. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 3, 203–242. (Patrick T. McDonald) **99g:58128** 58G26 (58G11, 58G25)

— (*with* Hannabuss, K. C.; Mathai, Varghese; McCann, P.) Quantum Hall effect on the hyperbolic plane. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 629–673. (Albert Jeu-Liang Sheu) **99f:58195** 58G12 (19K35, 19K56, 46L60, 81V70)

— (*with* Crowley, Diarmuid; Murray, Michael K.) Principal bundles and the Dixmier Douady class. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 171–196. (J. P. C. Greenlees) **99g:58021** 58D29 (55R10)

— *see also* **Algebraic groups and Lie groups, 99b:00024**

Carey, Graham F. ★ Computational grids. (English summary) Generation, adaptation, and solution strategies. Series in Computational and Physical Processes in Mechanics and Thermal Sciences. *Taylor & Francis, Washington, DC*, 1997. xiv+496 *pp. ISBN* 1-56032-635-2 (Dietrich Braess) **99b:65161** 65N50 (65–02, 65N55, 73V05, 73V25)

— (*with* Pardhanani, Anand L.; Spotz, William F.) A stable multigrid strategy for convection-diffusion using high order compact discretization. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 211–223 (*electronic*). (Summary) **99a:76101** 76M20 (65N55, 76Rxx)

— Projections in finite element analysis and application. (English summary) *Finite element methods (Jyväskylä*, 1997), 53–70, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Jiří Nedoma) **99g:65110** 65N30

— (*with* Spotz, William F.) Iterative and parallel performance of high-order compact systems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 1–14 (*electronic*). (*see* **99a:65007**) 65M06 (65Y05, 76M20)

— (*with* Bose, Anjan) A class of data structures and object-oriented implementation for finite element methods on distributed memory systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 1-2, 109–121. 65Y05 (65N30)

Carfora, Mauro (*with* Martellini, Maurizio; Marzuoli, Annalisa) Four-dimensional combinatorial gravity from the recoupling of angular momenta. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 253–270, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83024** 83C27

— *see also* **Conference: General Relativity and Gravitational Physics, 99e:83002**

Cargile, James On an argument against closure. *Noûs* **33** (1999), *no.* 2, 239–246. 03A05

Caridad Ocerin, J. M. (*with* Espejo Mohedano, R.; Segador, A. Gallego) Automatic aggregation of categories in multivariate contingency tables using information theory. (English summary) *Comput. Statist. Data Anal.* **29** (1999), *no.* 3, 285–294. 62H17

Cariñena, José F. Sections along maps in geometry and physics. Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 245–256. (Raúl Ibáñez) **99h:58060** 58F05 (34A26, 58A50)

— (*with* Figueroa, Héctor) Hamiltonian versus Lagrangian formulations of supermechanics. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2705–2724. (Summary) **99a:58060** 58F05 (58A50, 70G99, 70H05)

— (*with* Perelomov, A. M.) A few remarks on integral representation for zonal spherical functions on the symmetric space $SU(N)/SO(N, \mathbf{R})$. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L495–L501. (Summary) **99a:33008** 33C55 (22E46, 33C80, 43A90)

— (*with* Figueroa, Héctor) Geometric formulation of higher-order Lagrangian systems in supermechanics. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 1, 25–58. (Fausto Ongay-Larios) **99a:58007** 58A50 (58C50, 58F05, 70H33, 70H35)

— *see also* **Geometry and physics, 99g:58001**

Carini, Angelo (*with* Aimi, A.; Diligenti, M.; Monegato, G.) Numerical integration schemes for evaluation of (hyper)singular integrals in 2D BEM. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 1–11. (Summary) **99e:65034** 65D30

— (*with* Genna, Francesco) Some variational formulations for continuum nonlinear dynamics. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 7, 1253–1277. (Petr Procházka) **99h:73091** 73V25 (49J10, 73E50)

— (*with* Pandolfi, Anna) Some extremum properties of finite-step solutions in elastoplasticity. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 2, 185–218. (Summary) **99j:73052** 73E05 (73V20, 73V25)

miciano-Cariño, Agnes *see* **Miciano-Cariño, Agnes**

Cariño, David R. (*with* Ziemba, William T.) Formulation of the Russell-Yasuda Kasai financial planning model. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 433–449. (Summary) **99m:90024** 90A09 (90A46)

— (*with* Myers, David H.; Ziemba, William T.) Concepts, technical issues, and uses of the Russell-Yasuda Kasai financial planning model. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 450–462. (Summary) **99m:90025** 90A09 (90A46)

Caristi, Gabriella (*with* Mitidieri, Enzo; Soranzo, Ramon) Isolated singularities of polyharmonic equations. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 257–294. (Nicolai N. Tarkhanov) **99i:35035** 35J60 (31B30, 35B05)

Carl, S. (*with* Heikkilä, Seppo) On discontinuous first order implicit boundary value problems. *J. Differential Equations* **148** (1998), *no.* 1, 100–121. (Peter Kunkel) **99f:34023** 34B15 (34A09, 47H15)

— (*with* Heikkilä, Seppo) On discontinuous implicit evolution equations. *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 455–471. (Angelo Favini) **99b:34104** 34G20

— (*with* Heikkilä, Seppo) On second order discontinuous implicit boundary value problems with discontinuous implicit boundary conditions. *Nonlinear Anal.* **33** (1998), *no.* 3, 261–279. (Salvatore A. Marano) **99c:34032** 34B15 (34A09)

Carlehed, Magnus Comparison of the pluricomplex and the classical Green functions. *Michigan Math. J.* **45** (1998), *no.* 2, 399–407. (Norman Levenberg) **99e:32019** 32F05 (31B05)

Carlen, Eric Anders (*with* Esposito, Raffaele; Lebowitz, Joel L.; Marra, R.; Rokhlenko, A.) Kinetics of a model weakly ionized plasma in the presence of multiple equilibria. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 193–218. (Carlo Cercignani) **99h:82072** 82D10 (35Q99, 76P05, 76X05, 82C40)

— (*with* Krée, Paul) On martingale inequalities in non-commutative stochastic analysis. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 475–508. (John E. Gough) **99g:81111** 81S25 (46L50, 60G48)

— (*with* Carvalho, Maria Conceiçaõ Vieira; Orlandi, Enza) Free energy inequalities and the rate of relaxation to instantons for interface profiles in Glauber dynamics. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 205–218. (Rossana Marra) **99j:82057** 82C24 (82C21)

— (*with* Gabetta, E.; Toscani, Giuseppe) Propagation of smoothness and the rate of exponential convergence to equilibrium for a spatially homogeneous Maxwellian gas. (English summary) *Comm. Math. Phys.* **199** (1999), *no.* 3, 521–546. (Carlo Cercignani) **99k:82060** 82C40 (76P05)

Carlès, Pierre (*with* Ugurtas, Bartu) The onset of free convection near the liquid-vapour critical point. I. Stationary initial state. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 69–82. (Summary) **99j:76118** 76R10 (76E15)

Carles, Rémi Comportements précisés près d'une caustique en optique géométrique non linéaire. [Behavior near caustics in nonlinear geometric optics] *Comm. Partial Differential Equations* **23** (1998), *no.* 11-12, 1929–1967. (Bruno Scheurer) **99j:35139** 35L70 (34E20, 35B30, 35C20)

Carles, Roger Sur les suites d'algèbres de Lie de dérivations. (English summary) [On sequences of Lie algebras of derivations] *Arch. Math. (Basel)* **70** (1998), *no.* 4, 262–269. (H. de Vries) **99e:17029** 17B40

Carlet, Claude (*with* Guillot, Philippe) A characterization of binary bent functions. (English summary) *J. Combin. Theory Ser. A* **76** (1996), *no.* 2, 328–335. (Summary) **99b:94054** 94B60 (94A60)

— More correlation-immune and resilient functions over Galois fields and Galois rings. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 422–433, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **99d:94022** 94A60

— Sur le critère de propagation de degré l et d'ordre k. (English and French summaries) [On the propagation criterion of degree l and order k] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 891–896. (Summary) **99i:94077** 94C10

— (*with* Guillot, Philippe) An alternate characterization of the bentness of binary functions, with uniqueness. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 133–140. (Summary) **99e:94027** 94A55

— (*with* Charpin, Pascale; Zinov'ev, V. A.) Codes, bent functions and permutations suitable for DES-like cryptosystems. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 125–156. (Zhen Zhang) **99k:94030** 94A60

— On Kerdock codes. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 155–163, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Jonathan I. Hall) **99m:94054** 94B25 (94B05)

de Carli, Laura *see* **De Carli, Laura**

Carlier, J. (*with* Pinson, Eric) Jackson's pseudo preemptive schedule for the $Pm/r_i, q_i/C_{\max}$ scheduling problem. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 41–58. (Jan Węglarz) **99k:90085** 90B35 (68M20)

Carlini, Alberto (*with* Greensite, J.) Parametrized theories and the problem of time. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 369–374, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C45

— (*with* Greensite, J.) Field theory as free fall. A "proper-time" approach to classical and quantum gravity. *New developments in quantum field theory* (*Zakopane*, 1997), 33–45, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Christopher C. Bernido) **99i:83033** 83C45

Carlino, Giuseppe (*with* Konishi, Kenichi; Maggiore, Nicola; Magnoli, Nicodemo) On the beta function in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **455** (1999), *no.* 1-4, 171–178. 81T60 (81–02)

Carlip, Steven Statistical mechanics and black hole entropy. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 11–19, *Univ. Montréal, Montreal, QC*, 1997. (Viqar Husain) **99c:83049** 83C57 (82B10)

— ★ Quantum gravity in 2 + 1 dimensions. (English summary) Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1998. *xiv+276 pp. ISBN* 0-521-56408-5 (Viqar Husain) **99e:83026** 83C45 (83–02)

— Kinetic energy and the equivalence principle. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 5, 409–413. (Summary) **99b:83005** 83B05

— Dominant topologies in Euclidean quantum gravity. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2629–2638. (Viqar Husain) **99i:83034** 83C45

— What we don't know about BTZ black hole entropy. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3609–3625. (Jeremy Michelson) **99m:83104** 83C57 (81–02, 81T40)

Carlip, Walter (*with* Jacobson, Eliot; Somer, Lawrence) Pseudoprimes, perfect numbers, and a problem of Lehmer. *Fibonacci Quart.* **36** (1998), *no.* 4, 361–371. (A. N. Philippou) **99g:11013** 11A41 (11A25)

Carlisle, D. P. (*with* Walker, Grant; Wood, R. M. W.) The intersection of the admissible basis and the Milnor basis of the Steenrod algebra. (English summary) *J. Pure Appl.*

Algebra **128** (1998), *no.* 1, 1–10. (Jin Kun Lin) **99g:55021** 55S10

Carlo, Gabriel (*with* Vergini, Eduardo; Fendrik, Alejandro J.) Numerical verification of Percival's conjecture in a quantum billiard. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5397–5403. (Summary) **99a:81043** 81Q50

Carloni, Luca P. (*with* Oliveira, Arlindo L.; Villa, Tiziano; Sangiovanni-Vincentelli, Alberto L.) Exact minimization of binary decision diagrams using implicit techniques. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1282–1296. (Summary) **99h:68083** 68Q25 (94C10)

Carlsen, Henrik (*with* Sjöqvist, Erik) Berry's phase in pilot-wave theory. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 179–188. (Summary) **99a:81021** 81P99 (81Q99)

Carlson, Dean A. (*with* Angell, Thomas S.) Turnpike property for neutral systems. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 69–94. (Ethelbert N. Chukwu) **99k:49016** 49J25 (49K25, 90A16)

— Open-loop Nash equilibrium for nonlinear control systems. *Systems modelling and optimization* (*Detroit, MI*, 1997), 144–152, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (From the text) **99m:90175** 90D25

Carlson, Erik Cyclical preferences and rational choice. Philosophy in Sweden (Umeå, 1995). *Theoria* **62** (1996), *no.* 1-2, 144–160. (Summary) **99d:90014** 90A08 (90A07)

— Fischer on backtracking and Newcomb's problem. *Analysis* (*Oxford*) **58** (1998), *no.* 3, 229–231. 90A05 (03A05, 03B45)

Carlson, Jon F. (*with* Wheeler, Wayne W.) Homomorphisms in higher complexity quotient categories. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 115–155, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Jeremy Rickard) **99k:20019** 20C20 (18E30, 20J05)

— (*with* Peng, Chuang; Wheeler, Wayne W.) Transfer maps and virtual projectivity. (English summary) *J. Algebra* **204** (1998), *no.* 1, 286–311. (Sverre O. Smalø) **99j:20005** 20C05 (16E30, 18G25, 20J06)

— A characterization of endotrivial modules over p-groups. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 303–307. (Summary) **99h:20006** 20C07

Carlson, Neil N. (*with* Miller, Keith) Design and application of a gradient-weighted moving finite element code. I. In one dimension. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 728–765 (*electronic*). (Zhangxin Chen) **99e:65130** 65M60 (76M10)

— (*with* Miller, Keith) Design and application of a gradient-weighted moving finite element code. II. In two dimensions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 766–798 (*electronic*). (Zhangxin Chen) **99e:65131** 65M60 (76M10)

Carlson, Robert (*with* Coddington, Earl A.) ★ Linear ordinary differential equations. (English summary) *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1997. xii+341 *pp. ISBN* 0-89871-388-9 (Jerry Ridenhour) **99j:34001** 34–01 (34A30)

— Hill's equation for a regular graph. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 227–231, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 34A55 (34B24)

— Adjoint and self-adjoint differential operators on graphs. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 6, 10 *pp.* (*electronic*). (Günter Stolz) **99d:34158** 34L05 (34B05, 47E05)

— Inverse eigenvalue problems on directed graphs. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4069–4088. (Sergey A. Titarenko) **99m:34189** 34L05 (34A55, 34B05, 58G25)

Carlsson, Gunnar (*with* Pedersen, Erik Kjær) Čech homology and the Novikov conjectures for K- and L-theory. *Math. Scand.* **82** (1998), *no.* 1, 5–47. (A. A. Ranicki) **99e:55004** 55N05 (18F25, 19G24, 55N40)

Carlsson, Hans (*with* Dasgupta, Sudipto) Noise-proof equilibria in two-action signaling games. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 432–460. (Summary) **99c:90157** 90D05 (90A14)

— (*with* Ganslandt, Mattias) Noisy equilibrium selection in coordination games. (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 23–34. (Summary) **99f:90193** 90D10

Carlsson, Stefan Geometric structure and view invariant recognition. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1233–1250. (Summary) **99c:68255** 68U10 (68T10)

Carmack, Lori (*with* Majda, George) Concentrations in the one-dimensional Vlasov-Poisson equations: additional regularizations. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 127–162. (Summary) **99d:76105** 76X05 (76M20)

Carmeli, Moshe ★ Cosmological special relativity. (English summary) The large scale structure of space, time and velocity. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+115 *pp. ISBN* 981-02-3079-6 (Jaume J. Carot) **99d:83001** 83A05 (83–02, 83F05)

— Cosmological general relativity. II. Determining Ω and why H_0 depends on the distance scale. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **6** (1997), *no.* 1-2, 45–52. 83D05

— Is galaxy dark matter a property of spacetime? (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **6** (1997), *no.* 1-2, 53–58. (Summary) **99f:83080** 83F05

— (*with* Malin, Shimon) SL(2, **C**) gauge theory of gravitation and the quantization of the gravitational field. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 10, 2615–2620. (Summary) **99h:83043** 83D05

monte Carmelo, E. L. *see* **Monte Carmelo, E. L.**

del Carmen Calvo, Maria *see* **Del Carmen Calvo, Maria**

Carmichael, Richard D. (*with* Pilipović, Stevan S.) The Cauchy and Poisson kernels as ultradifferentiable functions. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 2, 171–186. (Summary) **99c:46039** 46F20 (32A40)

— (*with* Pilipović, Stevan S.) Boundary values in ultradistribution spaces. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 3, 195–207. (Summary) **99c:46040** 46F20 (32A45)

— (*with* Pilipović, Stevan S.) Cauchy and Poisson kernels for tubes. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 9–14. (Summary) **99f:46052** 46F05 (32A07)

Carminati, Lionel (*with* Iochum, Bruno; Kastler, Daniel; Schücker, Thomas) On Connes' new principle of general relativity: can spinors hear the forces of spacetime? *Operator algebras and quantum field theory* (*Rome*, 1996), 359–373, *Internat. Press, Cambridge, MA*, 199?. (Raimar Wulkenhaar) **99h:58181** 58G11 (46L87, 58B30, 81V17, 83C99)

López Carmona, A. *see* **López Carmona, A.**

Carmona, Angeles (*with* Bendito, E.; Encinas, A. M.) Some applications of potential theory. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1045–1050, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 31C99 (78A30)

— (*with* Bendito, E.; Encinas, A. M.) Optimization of parameters associated with an interconnection network. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1051–1056, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90C35

— (*with* Balbuena, C.; Fàbrega, Josep; Fiol, M. A.) Superconnectivity of bipartite digraphs and graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 61–75. (Summary) **99i:05128** 05C40 (05C20)

Carmona, Jacques Terme constant des fonctions tempérées sur un espace symétrique réductif. (English summary) [Constant term of tempered functions on a reductive symmetric space] *J. Reine Angew. Math.* **491** (1997), 17–63. (Jean-Claude Lucquiaud) **99b:22016** 22E30

— Erratum to the paper: "Constant term of tempered functions on a reductive symmetric space" [J. Reine Angew. Math. **491** (1997), 17–63; MR 99b:22016]. (French) *J. Reine Angew. Math.* **507** (1999), 233. (From the text) **99j:22011** 22E30

Carmona, Philippe (*with* Petit, Frédérique; Yor, Marc) On the distribution and asymptotic results for exponential functionals of Lévy processes. (English summary) *Exponential functionals and principal values related to Brownian motion*, 73–130, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (Yasushi Ishikawa) **99h:60144** 60J30

— The mean velocity of a Brownian motion in a random Lévy potential. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1774–1788. (Pierre Mathieu) **99b:60126** 60J60 (60J15, 60J30, 60J65)

— (*with* Coutin, Laure) Simultaneous approximation of a family of (stochastic) differential equations. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 69–74, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Peter E. Kloeden) **99m:60081** 60H05 (26A33, 65U05)

Carmona, René A. (*with* Xu, Lin) Diffusive hydrodynamic limits for systems of interacting diffusions with finite range random interaction. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 565–584. (Summary) **99c:82049** 82C22 (60K35)

— (*with* Grishin, Stanislav; Xu, Lin; Molchanov, Stanislav Alekseevich) Surface stretching for Ornstein Uhlenbeck velocity fields. (English summary) *Electron. Comm. Probab.* **2** (1997), *no.* 1, 1–11 (*electronic*). (Nariyuki Minami) **99c:60132** 60H25 (60H30)

— (*with* Viens, Frederi G.) Almost-sure exponential behavior of a stochastic Anderson model with continuous space parameter. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 251–273. (Summary) **99c:60126** 60H15 (35R60, 60G17)

— *see also* **Stochastic partial differential equations: six perspectives, 99g:60005**

Carmona, S. C. (*with* Landim, C.; Lopes, Artur Oscar; Lopes, Silvia) A level 1 large-deviation principle for the autocovariances of uniquely ergodic transformations with additive noise. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 395–421. (Christian Maes) **99g:60056** 60F10

— On large deviations for a multidimensional random process with slow and fast diffusities. (English summary) I Brazilian School in Probability (Rio de Janeiro, 1997). *Markov Process. Related Fields* **4** (1998), *no.* 4, 431–463. (Christian Maes) **99m:60040** 60F10 (60J45, 60J60)

Carmona Ruber, Jorge (*with* Artal-Bartolo, Enrique) Zariski pairs, fundamental groups and Alexander polynomials. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 521–543. (Eriko Hironaka) **99d:14019** 14H30 (14J17)

Carnap, Rudolf Meaning postulates. *Decline and obsolescence of logical empiricism*, 61–69, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006b**) 00A30 (03A05)

— On the use of Hilbert's ϵ-operator in scientific theories. *Decline and obsolescence of logical empiricism*, 184–192, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006b**) 00A30 (03B30)

— The logicist foundations of mathematics. Translated by Erna Putnam and Gerald J. Massey. *Logical empiricism at its peak*, 111–122, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006a**) 00A30

— ★ Der logische Aufbau der Welt. (German. German summary) [The logical construction of the world] Reprint of the 1928 original and of the author's preface to the 1961 edition. Philosophische Bibliothek [Philosophical Library], 514. *Felix Meiner Verlag, Hamburg*, 1998. *xxvi*+290 *pp. ISBN* 3-7873-1369-9 (Ignacio Angelelli) **99m:01105** 01A75 (01A60, 03A05)

— *see also* **Logical empiricism at its peak, 99a:00006a**; **Decline and obsolescence of logical empiricism, 99a:00006b**; **Richardson, Alan W., 99a:01007**; **Pizzi, Claudio, 99a:03029**; **Sandri, Giorgio, 99a:03033** *and* **D'Agostino, Marcello, 99c:03005**

Carneiro, Saulo (*with* Bunchaft, F.) The static spacetime relative acceleration for general free fall and its possible experimental test. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1557–1566. (Summary) **99i:83010** 83C10 (83B05)

— Probability amplitudes for charge-monopole scattering. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 22, 9 *pp.* (*electronic*). (Summary) **99e:81256** 81V10

— Probability amplitudes for charge-monopole scattering. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 22, 9 *pp.* (*electronic*). (Summary) **99j:81200** 81V10 (81T15)

Carneiro de Araújo, J. H. (*with* Ruas, V.) A stable finite element method for the axisymmetric three-field Stokes system. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 267–286. (Jean-Luc Guermond) **99m:76077** 76M10 (76D07)

— (*with* Frey, Sérgio L.; Martins-Costa, M. L.) An alternative Galerkin formulation for streamline problems. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 3, 219–225. (Summary) **99m:76089** 76M25 (65N30)

Carnicer, J. M. (*with* García-Esnaola, M.; Peña, J. M.) Bases with convexity preserving properties. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 17–31, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41023** 41A29 (41A63)

— (*with* Peña, J. M.) Conditions for interpolation or approximation of convex surfaces. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*,

1997), 241–249, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A29)
— Sign consistency and shape properties. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 41–48, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65037** 65D17 (65Y25)
— (*with* García-Esnaola, M.) Global convexity of curves and polygons. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 893–907. (Michael Kallay) **99h:65025** 65D17 (52B55)
— (*with* Peña, J. M.; Zalik, Richard A.) Strictly totally positive systems. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 411–441. (Manfred Sommer) **99c:41054** 41A50
— (*with* Peña, J. M.) Characterizations of the optimal Descartes' rules of signs. (English summary) *Math. Nachr.* **189** (1998), 33–48. (N. K. Govil) **99d:26019** 26C10 (12D10, 41A30)
— (*with* Gasca, Mariano) Bivariate polynomial interpolation with asymptotic conditions. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 1–18, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 41A63 (41A10)
Carnielli, W. A. (*with* Monte Carmelo, E. L.) On the Ramsey problem for multicolor bipartite graphs. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 1, 48–59. (R. H. Schelp) **99k:05115** 05C55 (05D10)
Carnot, L. *see* **Drago, Antonino**, (**99a:00007**)
Caro, Yair On graphs determined by their k-subgraphs. (English summary) *Ars Combin.* **49** (1998), 57–64. (Summary) **99c:05160** 05C75
— (*with* Alon, Noga; Yuster, Raphael) Packing and covering dense graphs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 451–472. (Chris Rodger) **99i:05156** 05C70 (05B40)
— Colorability, frequency and graffiti—119. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 129–134. (Summary) **99b:05055** 05C15 (68R10)
— (*with* Yuster, Raphael) The characterization of zero-sum (mod 2) bipartite Ramsey numbers. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 151–166. (Martin Klazar) **99h:05089** 05C55
— (*with* Ellingham, M. N.; Ramey, J. E.) Local structure when all maximal independent sets have equal weight. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 644–654 (*electronic*). (Bert L. Hartnell) **99g:05161** 05C85 (05C75, 68R10)
Carocca, Angel On factorized finite groups in which certain subgroups of the factors permute [commute]. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 257–261. (Francesco de Giovanni) **99g:20039** 20D40 (20D10)
— (*with* Maier, Rudolf) Hypercentral embedding and pronormality. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 6, 433–436. (A. Scarselli) **99i:20030** 20D20
huber-Carol, Catherine *see* **Huber-Carol, Catherine**
Caron, M. (*with* Modi, V. J.; Misra, Arun K.) Order-N formulation and dynamics of multi-unit flexible space manipulators. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 4, 347–368. 73K12 (70B15)
Caron, R. M. (*with* Li, Xin[3]; Mikusiński, Piotr; Sherwood, H.; Taylor, M. D.) Nonsquare "doubly stochastic" matrices. (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 65–75, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15025** 15A51 (15A48)
Caron, Richard J. (*with* Bélisle, Claude; Boneh, Arnon) Convergence properties of hit-and-run samplers. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 767–800. (Jean Diebolt) **99h:60133** 60J05 (60J20, 65C05, 90C15)
Carot, J. (*with* Sintes, A. M.; Coley, Alan A.) Lie groups of conformal motions acting on null orbits. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 151–157. (Nora Bretón Báez) **99a:83023** 83C20
Carota, Cinzia (*with* Salinelli, Ernesto) A note on principal components and Morse theorem. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 95–102. (Summary) **99c:62164** 62H25
— (*with* Parmigiani, Giovanni) A Dirichlet process elaboration diagnostic for binomial goodness of fit. (English summary) *Test* **7** (1998), *no.* 1, 133–145. 62G10
Carow-Watamura, Ursula (*with* Watamura, Satoshi) Differential calculus on fuzzy sphere and scalar field. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3235–3243. (Jacek Brodzki) **99m:58018** 58B30 (46L87, 58G03)
Carozza, M. (*with* Mellone, R.) The distance to L^∞ or to VMO for BMO functions. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 439–448 (1996). (Richard Rochberg) **99i:42031** 42B30 (42B25, 46E30)
Carpanese, M. (*with* Dattoli, G.; Torre, Amalia) Operational rules and arbitrary order Hermite generating functions. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 98–111. (N. K. Thakare) **99k:33025** 33C45
Carpanzano, Emanuele (*with* Maffezzoni, Claudio) Symbolic manipulation techniques for model simplification in object-oriented modelling of large scale continuous systems. (English summary) *Math. Comput. Simulation* **48** (1998), *no.* 2, 133–150. 93A30 (65F30, 65L99)
Carpenter, James Assessing parameter uncertainty via bootstrap likelihood ratio confidence regions. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 5, 639–649. (Summary) **99j:62055** 62G09
— Test inversion bootstrap confidence intervals. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 159–172. (Summary) **99i:62097** 62G09
Carpenter, Jenna P. On the preservation of root numbers and the behavior of Weil characters under reciprocity equivalence. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 402–415. (K. Szymiczek) **99a:11044** 11E12 (11E08)
Carpenter, Mark H. (*with* Casper, Jay) Computational considerations for the simulation of shock-induced sound. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 813–828 (*electronic*). (Summary) **99a:76091** 76M20 (65M06, 76L05, 76Q05)
— (*with* Nordström, Jan; Gottlieb, David) A stable and conservative interface treatment of arbitrary spatial accuracy. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 341–365. (Summary) **99i:76093** 76M20
— (*with* Nordström, Jan) Boundary and interface conditions for high-order finite-difference methods applied to the Euler and Navier-Stokes equations. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 621–645. (Summary) **99i:76099** 76M20
Carpentier, Michel Sommes de Kloosterman généralisées: l'équation fonctionnelle. [Generalized Kloosterman sums: the functional equation] *Séminaire de Théorie des Nombres, Paris*, 1989–90, 31–51, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Adolfo Quirós) **99a:11097** 11L05 (11G25, 11S80, 12H25, 14F30, 14G10)
Carpi, Sebastiano Absence of subsystems for the Haag-Kastler net generated by the energy-momentum tensor in two-dimensional conformal field theory. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 259–267. (Michael Keyl) **99i:81136** 81T05 (47N50, 81T40)
Carpinelli, John D. (*with* Wang, Catherine B.) Performance of a new decomposition algorithm for rearrangeable fault-tolerant Clos interconnection networks under sub-maximal and no-fault conditions. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 103–117, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C12 (68M15)
garcía-Carpintero Sánchez-Miguel, Manuel *see* **García-Carpintero Sánchez-Miguel, Manuel**
Carpio, Ana Long-time behaviour for solutions of the Vlasov-Poisson-Fokker-Planck equation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 11, 985–1014. (R. Glassey) **99g:82079** 82D10 (35Q99, 76X05, 82C31)
Carpio, Harry M. (*with* Canoy, Sergio R.) On the primitives of integrals in local systems. (English summary) *Matimyás Mat.* **20** (1997), *no.* 1, 15–22. (Summary) **99m:26012** 26A39
Carpio-Bernido, M. V. (*with* Bernido, Christopher C.) Path integration for ring-shaped topological defects and some applications. (English summary) *Topics in theoretical physics (Sorak Mountain Resort, 1995)*, 200–203, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81S40
Carr, Jack (*with* Penrose, O.) Asymptotic behaviour of solutions to a simplified Lifshitz-Slyozov equation. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 166–176. (J. R. Ockendon) **99m:80011** 80A22 (35Q99, 45K05, 80A20)
Carr, Thomas W. (*with* Schwartz, Ira B.) On measures of disorder in globally coupled oscillators. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 321–340. (Summary) **99a:34108** 34C15 (70K99)
— (*with* Schwartz, Ira B.) Bi-instability as a precursor to global mixed-mode chaos. (English summary) *Phys. Rev. E (3)* **59** (1999), *no.* 6, 6658–6661. 58F13
martínez Carracedo, Celso *see* **Martínez Carracedo, Celso**
Carrà Ferro, Giuseppa A resultant theory for ordinary algebraic differential equations. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 55–65, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Georg M. Reinhart) **99m:12008** 12H05 (34A34)
— A resultant theory for the systems of two ordinary algebraic differential equations. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 539–560. (Daniel Bertrand) **99c:13046** 13N10 (13P05, 16S32, 34A09, 34A34)
— Triangular matrices, differential resultants and systems of linear homogeneous PDEs. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 511–518. (I. S. Krasil'shchik) **99i:35004** 35A25 (12H05, 35–04, 35A30)
Carranza, F. L. (*with* Fang, Biao; Haber, R. B.) An adaptive space-time finite element model for oxidation-driven fracture. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 399–423. (*see* **99b:73001**) 73V05 (73M25)
guijarro Carranza, Piedad *see* **Guijarro Carranza, Piedad**
Carraro, Laurent (*with* Beaucoup, Franck) A question in reliability theory. (English summary) *Approximation theory*, 87–95, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41005** 41A10 (62N05, 90B25)
— (*with* Duchon, Jean) Équation de Burgers avec conditions initiales à accroissements indépendants et homogènes. (English and French summaries) [Burgers equation with initial conditions with homogeneous and independent increments] *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 4, 431–458. (Giambattista Giacomin) **99j:35183** 35Q53 (35R60, 60H15, 76D99, 76M35)
Carrasco, P. (*with* Martínez Moreno, J.) A 2-dimensional cohomology with coefficients in categorical groups. *Extracta Math.* **12** (1997), *no.* 3, 231–241. (P. S. Green) **99h:18014** 18G55 (18D10, 55P20, 55U10)
Carrasco, Rafael C. (*with* Oncina, Jose; Calera-Rubio, Jorge) Stochastic inference of regular tree languages. (English summary) *Grammatical inference (Ames, IA, 1998)*, 187–198, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)
— (*with* Calera-Rubio, Jorge) Computing the relative entropy between regular tree languages. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 283–289. (Summary) **99i:68074** 68Q45 (68T05)
Carrasco-Ochoa, Jesús Ariel (*with* Ruiz-Shulcloper, José) Sensitivity of the set of typical testers of a Boolean matrix. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition (Spanish) (México City, 1998)*, 257–266, *Inst. Cibern. Mat. Fís., Havana*, 1998. (*see* **99k:68016**) 68T10
— (*with* De la Vega-Doria, Lucía A.; Ruiz-Shulcloper, José) A model of supervised classification based on sets of representatives. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition (Spanish) (México City, 1998)*, 267–278, *Inst. Cibern. Mat. Fís., Havana*, 1998. (*see* **99k:68016**) 68T10
Carravetta, F. (*with* Mavelli, G.) Minimax quadratic filtering of uncertain linear stochastic systems with partial fourth-order information. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1287–1292. 93E11
Carreau, Pierre J. (*with* Baléo, Jean-Noël; Grmela, Miroslav) Stability analysis of stratified tube flows of viscoelastic fluids. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 1, 72–89. (Summary) **99a:76008** 76A10 (76E99, 76V05)
Carréga, J. C. Coverings of [Mon] and minimal orthomodular lattices. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 11–16. (Helmut Länger) **99i:06008** 06C15 (81P10)
Carrell, James B. The span of the tangent cone of a Schubert variety. *Algebraic groups and Lie groups*, 51–59, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Venkatramani Lakshmibai) **99i:20054** 20G05 (14M15)
— *see also* **Algebraic groups and Lie groups**, **99b:00024** *and* **Canadian Mathematical Society**, **99m:00020**
Carrer, J. A. M. (*with* Mansur, W. J.; Siqueira, E. F. N.) Time discontinuous linear traction approximation in time-domain BEM scalar wave propagation analysis. (English

summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 4, 667–683. (Summary) **99a:73131** 73V10

pla i Carrera, Josep *see* **Pla i Carrera, Josep**

Carreras, Francesc (*with* Amer, Rafel) Cooperation indices and weighted Shapley values. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 955–968. (D. Marc Kilgour) **99a:90250** 90D12

— (*with* Amer, Rafel; Magaña, Antonio) Extension of values to games with multiple alternatives. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 63–78. (Summary) **99i:90122** 90D12

Carreras, Francisco J. (*with* Naveira, Antonio M.) On the volume of a small extrinsic ball in a hypersurface of the hyperbolic space. (English summary) *Math. Scand.* **83** (1998), *no.* 2, 220–234. (Lieven Vanhecke) **99m:53064** 53C20 (53C40)

pérez Carreras, Pedro *see* **Pérez Carreras, Pedro**

Carretero-González, R. Low-dimensional traveling interfaces in coupled map lattices. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2745–2754. (Summary) **99e:58113** 58F08 (58F13)

Carrião, Paulo C. (*with* Miyagaki, Olimpio H.; Pádua, João Carlos) Radial solutions of elliptic equations with critical exponents in $\mathbf{R}^N$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 61–68. (Yong Qing Li) **99b:35051** 35J60 (35B05)

— (*with* Gonçalves, José Valdo Abreu; Miyagaki, Olimpio H.) Existence and λ-behavior of positive solutions of the equation $-\Delta u + a(x)u = \lambda u^q + u^p$ in $\mathbf{R}^N$. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 19–37. (Summary) **99j:35044** 35J60 (35B05, 58E05)

Carriegos, M. (*with* Hermida-Alonso, J. A.; Sánchez-Giralda, T.) The pointwise feedback relation for linear dynamical systems. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 119–134. (Summary) **99f:93025** 93B25 (13C11, 93B10)

Carrig, James J., Jr. (*with* Meyer, Gerard G. L.) Efficient Householder QR factorization for superscalar processors. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 362–378. 65Y15

— (*with* Meyer, Gerard G. L.) A parameterized ordering for cache-, register- and pipeline-efficient Givens QR decomposition. (English summary) *Adv. Comput. Math.* **10** (1999), *no.* 1, 97–113. 65F05 (65Y10)

Carrillo, José A. (*with* Lyaghfouri, A.) The dam problem for nonlinear Darcy's laws and Dirichlet boundary conditions. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 453–505. (Giovanni Leoni) **99f:35169** 35Q35 (76S05)

— Solutions entropiques de problèmes non linéaires dégénérés. (English and French summaries) [Entropy solutions for nonlinear degenerate problems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 155–160. (Summary) **99f:35137** 35M10

— Global weak solutions for the initial-boundary-value problems to the Vlasov-Poisson-Fokker-Planck system. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 10, 907–938. (R. Glassey) **99h:35023** 35D10 (35Q99, 76X05, 82C31, 82D10)

— (*with* Toscani, Giuseppe) Exponential convergence toward equilibrium for homogeneous Fokker-Planck-type equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1269–1286. (Carlo Cercignani) **99h:82055** 82C31 (76P05, 82C40)

— (*with* Wittbold, Petra) Unicité des solutions renormalisées de problèmes elliptiques-paraboliques. (English and French summaries) [Uniqueness of renormalized solutions of elliptic-parabolic problems] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 23–28. (Summary) **99j:35150** 35M10

díaz Carrillo, M. *see* **Díaz Carrillo, M.**

Carrillo, Ruben B., Jr. (*with* Saric, William S.; Reibert, Mark S.) Nonlinear stability and transition in 3-D boundary layers. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 469–487. (*see* **99h:76005**) 76E30 (76D10, 76F99, 76N20)

reyes Carrión, Ramón *see* **Reyes Carrión, Ramón**

Carrizosa, Emilio (*with* Frenk, J. B. G.) Dominating sets for convex functions with some applications. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 281–295. (Summary) **99a:90152** 90C25

— (*with* Plastria, Frank) Locating an undesirable facility by generalized cutting planes. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 680–694. (Summary) **99k:90095** 90B80 (51M20, 68U05)

— (*with* Muñoz-Márquez, M.; Puerto Albandoz, Justo) Location and shape of a rectangular facility in $\mathbf{R}^n$. Convexity properties. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 277–290. (Zeng Kun Xu) **99i:90058** 90B85 (52A41)

— (*with* Muñoz-Márquez, M.; Puerto Albandoz, Justo) A note on the optimal positioning of service units. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 155–156. 90B05 (90C90)

Carro, María J. (*with* Boza, Santiago) Discrete Hardy spaces. (English summary) *Studia Math.* **129** (1998), *no.* 1, 31–50. (Loukas Grafakos) **99c:42025** 42B20 (42B25)

Carroll, C. R. (*with* Boshernitzan, M. D.) An extension of Lagrange's theorem to interval exchange transformations over quadratic fields. (English summary) *J. Anal. Math.* **72** (1997), 21–44. (P. Mendes) **99a:58101** 58F11 (11R45, 58F03)

Carroll, Daniel (*with* Goldsmith, Brendan) On transitive and fully transitive abelian p-groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 33–41. (Patrick Keef) **99f:20090** 20K10 (20K12, 20K30)

Carroll, J. Douglas (*with* Chaturvedi, Anil) K-midranges clustering. (English summary) *Advances in data science and classification* (*Rome*, 1998), 3–14, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Carroll, John W. The two dams and that damned paresis. (English summary) *British J. Philos. Sci.* **50** (1999), *no.* 1, 65–81. 03B48

Carroll, Lewis ★ Das Spiel der Logik. (German) [The game of logic] Edited and with a supplementary chapter by Paul Good. Translated by Michael Zöllner. *Tropen Verlag, Cologne; Friedrich Frommann Verlag Günther Holzboog GmbH & Co., Stuttgart*, 1998. 120 *pp. ISBN* 3-7728-1998-2 (Editors) **99g:01042** 01A75 (03–03)

Carroll, R. B. (*with* Brask, D. A.) A practical implementation for solutions to the algebraic matrix Riccati equation in a LQCM setting. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 1–7. 65F30 (93B40)

Carroll, Raymond J. (*with* Stefanski, L. A.) Asymptotic theory for the SIMEX estimator in measurement error models. (English summary) *Advances in statistical decision theory and applications*, 151–164, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Summary) **99m:62089** 62J02 (62G09, 62J05)

— (*with* Maca, Jeffrey D.; Wang, Suojin) Nonparametric regression splines for generalized linear measurement error models. (English summary) *Econometrics in theory and practice*, 23–29, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62G05 (62J02)

— (*with* Wang, Ching-Yun; Wang, Suojin; Gutierrez, Roberto G.) Local linear regression for generalized linear models with missing data. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1028–1050. (Thomas A. Severini) **99g:62101** 62J12 (62G07)

— (*with* Ruppert, David; Welsh, Alan H.) Local estimating equations. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 214–227. (Summary) **99c:62171** 62J02 (62G05)

Carroll, Robert Wayne Remarks on Whitham dynamics. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 127–146. (Summary) **99k:58085** 58F07 (14H52)

Carroll, Sean M. (*with* Ortiz, Miguel E.; Taylor, Washington, IV) Boundary fields and renormalization group flow in the two-matrix model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046006, 15 *pp.* 82B28 (81T17, 82B41)

Carron, Gilles Un théorème de l'indice relatif. [A relative index theorem] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 193–202, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Xiaonan Ma) **99b:58222** 58G10

— Inégalités de Hardy sur les variétés riemanniennes non-compactes. (English and French summaries) [Hardy inequalities on noncompact Riemannian manifolds] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 883–891. (Nguyên Hôàng Thái) **99c:53026** 53C21 (53C40)

— Inégalités de Faber-Krahn et inclusion de Sobolev-Orlicz. (English summary) [Faber-Krahn inequalities and Sobolev-Orlicz inclusion] *Potential Anal.* **7** (1997), *no.* 2, 555–575. (Takahide Kurokawa) **99f:46042** 46E35 (58G11)

— Une suite exacte en L^2-cohomologie. [An exact sequence in L^2-cohomology] *Duke Math. J.* **95** (1998), *no.* 2, 343–372. (Thomas Schick) **99g:58115** 58G05 (53C21, 58A14)

Čársky, Petr (*with* Polášek, Martin) Incomplete gamma $F_m(x)$ functions for real negative and complex arguments. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 259–265. (Summary) **99c:33001** 33B15 (65D20)

Carson, Trevor R. A logarithmic Sobolev inequality for the free loop group. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 223–228. (Ana Bela Cruzeiro) **99g:60108** 60H30 (58B20, 58G32)

Cârstea, A. S. (*with* Grecu, D.; Vişinescu, Anca) Exact solutions of a mixed KdV + mKdV and Benjamin-Ono equation. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 82–86. 35Q53 (35C05)

Carstensen, Carsten (*with* Funken, S. A.; Stephan, Ernst P.) On the adaptive coupling of FEM and BEM in 2-d-elasticity. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 187–221. (Rolf Rannacher) **99d:73087** 73V05 (65N30, 73V10)

— (*with* Kuhn, Michael; Langer, Ulrich[1]) Fast parallel solvers for symmetric boundary element domain decomposition equations. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 321–347. (Jiří Nedoma) **99d:65336** 65N38 (65Y05, 73V10)

— (*with* Dolzmann, Georg) A posteriori error estimates for mixed FEM in elasticity. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 187–209. (Petr Procházka) **99m:65208** 65N30 (65N15, 73V05)

Cartan, Elie *see* **Libermann, Paulette**, **99a:01020**

Cartan, Henri Les travaux de Koszul. I. [The works of Koszul. I] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 1, 7–12, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 17B56

— Les travaux de Koszul. II. [The works of Koszul. II] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 8, 45–52, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 17B20 (17B56)

— Les travaux de Koszul. III. [The works of Koszul. III] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 12, 71–74, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 17B56

— Espaces fibrés analytiques complexes. [Complex-analytic fiber spaces] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 34, 281–290, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 32C15

— Travaux de Karoubi sur la K-théorie. [Works of Karoubi on K-theory] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 337, 391–415, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 55N15 (18F25, 55R50)

— Mémoire de Gleason sur le 5e problème de Hilbert. [Memoir of Gleason on Hilbert's fifth problem] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 73, 227–235, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 22E10 (22D05)

— Fonctions et variétés algébroides (d'après Hirzebruch). [Algebroid functions and varieties (after Hirzebruch)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 84, 319–326, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 32C25 (32C18)

— Sur un mémoire inédit de H. Grauert: "Zur Theorie der analytisch vollständigen Räume". [On an unpublished memoir of H. Grauert: "On the theory of analytically complete spaces"] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 115, 149–159, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 32C18

— Théorie spectrale des C-algèbres commutatives (d'après L. Waelbroeck). [Spectral theory of commutative C-algebras (after L. Waelbroeck)] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 125, 273–285, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 46J15 (30H05)

— Espaces fibrés analytiques, d'après H. Grauert. [Analytic fiber spaces, after H. Grauert] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 137, 7–18, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 32L05

— Thèse de Douady. [Douady's thesis] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 296, 271–286, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 32G10

— L'œuvre de Michael F. Atiyah [MR **38** #1692]. (French summary) [The work of Michael F. Atiyah] *Fields Medallists' lectures*, 105–110, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (19–03, 55–03, 57–03)

— (*with* Bass, Hyman; Freyd, Peter; Heller, Alex; Mac Lane, Saunders) Samuel Eilenberg (1913–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1344–1352. (Editors) **99k:01045** 01A70

— *see also* **Hirzebruch, Friedrich**, **99k:01059a** *and* **99k:01059b**

Cartas-Fuentevilla, R. Symplectic current for the field perturbations in dilaton-axion gravity coupled with abelian fields. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3443–3448. (Summary) **99k:81198** 81T20 (83C47)

— (*with* Hernandez-Castillo, A.) Generalized Xanthopoulos theorem in the low-energy limit of string theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104019, 5 *pp.* (Summary) **99m:83048** 83C22 (83E30)

Carter, Brandon Dynamics of cosmic strings and other brane models. (English summary) *Formation and interactions of topological defects* (*Cambridge*, 1994), 303–348, *NATO*

Adv. Sci. Inst. Ser. B Phys., 349, *Plenum, New York*, 1995. (Summary) **99c:83085** 83E30 (53C80)
— Amalgamated Codazzi-Raychaudhuri identity for foliation. *The geometric universe (Oxford, 1996)*, 325–335, *Oxford Univ. Press, Oxford*, 1998. (Norbert Noutchegueme) **99i:53076** 53C80 (83C15)
— (*with* Langlois, David) Relativistic models for superconducting-superfluid mixtures. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 478–504. (Summary) **99j:83041** 83C55 (82D50, 82D55)
— (*with* Battye, Richard A.) Non-divergence of gravitational self-interactions for Nambu-Goto strings. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 49–53. (Summary) **99c:81170** 81T30 (83E30)
— Regularisation of classical self interaction in strings. *Strings, branes and dualities (Cargèse, 1997)*, 441–444, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 83E30 (81T30)
Carter, J. Scott (*with* Kauffman, Louis H.; Saito, Masahico) Diagrammatics, singularities, and their algebraic interpretations. (English summary) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 21–115. (Summary) **99d:57016** 57Q45 (57Q15)
— (*with* Saito, Masahico) Surfaces in 3-space that do not lift to embeddings in 4-space. (English summary) *Knot theory (Warsaw, 1995)*, 29–47, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Seiichi Kamada) **99h:57047** 57Q45
Carter, James Edgar Module structure of integers in metacyclic extensions. *Colloq. Math.* **76** (1998), *no.* 2, 191–199. (Franz Lemmermeyer) **99c:11133** 11R20 (11R29, 11R33)
Carter, R. W. *see* **Algebraic groups and their representations, 99i:20002**
Carter, Sheila (*with* Dursun, Uğur) Partial tubes and Chen submanifolds. *J. Geom.* **63** (1998), *no.* 1-2, 30–38. (Ivko Dimitric) **99m:53099** 53C40 (53A07, 53A10)
Cartier, Pierre Théorie des groupes, fonctions théta et modules des variétés abéliennes. [Group theory, theta functions and moduli of abelian varieties] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 338, 417–432, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 14K10 (14K25, 22E27, 33C80)
— Représentations des groupes de Lie (d'après Harish-Chandra). [Representations of Lie groups (after Harish-Chandra)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 96, 415–424, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 22E46
— Développements de fonctions arbitraires suivant les fonctions propres d'un opérateur différentiel. [Expansions of arbitrary functions in the eigenfunctions of a differential operator] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 102, 13–22, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 47A70 (47B25, 47F05)
— Effacement dans la cohomologie des algèbres de Lie. [Effacement in Lie algebra cohomology] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 116, 161–167, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 17B56
— Dualité des variétés abéliennes [MR **21** #4161]. [Duality of abelian varieties] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 164, 379–391, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14K05
— Vecteurs analytiques (d'après E. Nelson). [Analytic vectors (after E. Nelson)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 181, 181–192, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 22E60 (22D10, 22D12, 47D03)
— Structures simpliciales. [Simplicial structures] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 199, 429–440, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 55U10 (55S10)
— Classes de formes bilinéaires sur les espaces de Banach. [Classes of bilinear forms on Banach spaces] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 211, 85–98, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 46B28 (47A80, 47D99)
— Analyse spectrale et théorème de prédiction statistique de Wiener. [Spectral analysis and Wiener's statistical prediction theorem] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 218, 197–218, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 60G25 (22D10, 43A65, 47A10, 47D03)
— Fluctuations dans les suites de variables aléatoires indépendantes. [Fluctuations in sequences of independent random variables] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 241, 7–24, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 60J15 (60G50)
— Représentations linéaires des groupes algébriques semi-simples en caractéristique non nulle. [Linear representations of semisimple algebraic groups of nonzero characteristic] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 255, 179–188, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 20G05 (22E46)
— Processus aléatoires généralisés [MR **30** #5355]. [Generalized random processes] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 272, 425–434, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 60G20
— Équivalence linéaire des idéaux de polynômes. [Linear equivalence of ideals of polynomials] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 283, 93–103, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 13F20
— Diviseurs amples. [Ample divisors] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 301, 351–366, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 14C20
— Théorie analytique des formes quadratiques. I. Suites quasi-périodiques. [Analytic theory of quadratic forms. I. Quasiperiodic sequences] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 309, 479–490, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 11E45
— *see also* **Chevalley, Claude, 99f:01028**
Carton, Olivier (*with* Perrin, Dominique) Chains and superchains for ω-rational sets, automata and semigroups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 673–695. (Summary) **99h:68100** 68Q45 (20M35, 68Q70)
— A hierarchy of cyclic languages. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 4, 355–369. (A. A. Iskander) **99c:68151** 68Q45 (03D05)
— (*with* Bedon, Nicolas) An Eilenberg theorem for words on countable ordinals. (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 53–64, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:68105** 68Q70 (03D05, 20M35)
Cartwright, Donald I. (*with* Steger, Tim) A family of $\tilde{A}_n$-groups. (English summary) *Israel J. Math.* **103** (1998), 125–140. (Guy Rousseau) **99e:20040** 20E42 (51E24)
— (*with* Steger, Tim) Application of the Bruhat-Tits tree of $SU_3(h)$ to some $\tilde{A}_2$ groups. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 329–344. (Guy Rousseau) **99i:11026** 11E95 (22E40, 51E24)
Cartwright, Mary *see* **McMurran, Shawnee, 99k:01067**
Cartwright, Nancy How theories relate: takeovers or partnerships? Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 23–34. (*see* **99g:00024** 00A79 (81P05)
— *see also* **Penrose, Roger, 99c:81006** *and* **Stöckler, Manfred, (99g:00024)**
Caruso, C. (*with* Quarta, F.) Interpolation methods comparison. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 109–126. (Summary) **99c:65014** 65D05 (41A05)
Carvalhaes, C. G. (*with* Belvedere, L. V.; do Amaral, R. L. P. G.; Lemos, Nivaldo A.) Structural aspects of two-dimensional anomalous gauge theories. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 1–25. (Giovanni Morchio) **99j:81108** 81T10 (81T40)
de Carvalho, Alexandre Luis Trovon (*with* Rodrigues, Waldyr Alves, Jr.) A finest topology for Minkowski spacetime. (Portuguese. English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 23–38 (1997). (Jorge Goncalves Cardoso) **99g:83005** 83A05 (51P05)
Carvalho, Alexandre N. (*with* Arrieta, José M.; Rodríguez-Bernal, Aníbal) Critical nonlinearities at the boundary. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 353–358. (Lisa Santos) **99i:35072** 35K60 (35K05)
— (*with* Cholewa, Jan W.; Dłotko, Tomasz) Examples of global attractors in parabolic problems. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 77–103. (Sergei A. Vakulenko) **99a:35115** 35K55 (34G20, 35B40, 47H20, 58F39)
— (*with* Rodrigues, Hildebrando Munhoz; Dłotko, Tomasz) Upper semicontinuity of attractors and synchronization. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 13–41. (Peter E. Kloeden) **99a:47108** 47H20 (34D45, 34G20, 35K57, 58F12)
— (*with* Dłotko, Tomasz) Parabolic problems in H^1 with fast growing nonlinearities. *Nonlinear Anal.* **33** (1998), *no.* 4, 391–399. (Marco Degiovanni) **99f:35095** 35K60 (34G20, 47H20)
aragão de Carvalho, C. A. *see* **Aragão de Carvalho, C. A.**
de Carvalho, C. A. A. *see* **Aragão de Carvalho, C. A.**
de Carvalho, Francisco de A. T. (*with* de Souza, Renata M. C. R.) Statistical proximity functions of Boolean symbolic objects based on histograms. (English summary) *Advances in data science and classification (Rome, 1998)*, 391–396, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30 (62–07)
de Carvalho, Francisco J. Craveiro (*with* Robertson, S. A.) A remark on cylindrical curves and induced curves in $\mathbf{RP}^2$. *Note Mat.* **16** (1996), *no.* 1, 21–24 (1998). (Chuan Yu Ma) **99m:53005** 53A04 (53A20)
valério de Carvalho, J. M. *see* **Valério de Carvalho, J. M.**
vaz de Carvalho, Júlia *see* **Vaz de Carvalho, Júlia**
de Carvalho, Lindomar B. (*with* Gonzalez, Jorge A.) Analytical solutions to multivalued maps. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 12, 521–530. (A. Reinfelds) **99h:39022** 39B12 (58F08)
Carvalho, Luis Antonio Viera (*with* Benà, Maria A.; Dos Reis, José G.) Dichotomic maps for delayed equations. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 299–314. (Summary) **99a:34209** 34K20
— (*with* Marconato, Suzinei A. S.) On dichotomic maps for differential equations with piecewise continuous argument (EPCA). (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 103–112. (Pedro Martínez-Amores) **99a:34210** 34K20
— On a method to investigate bifurcation of periodic solutions in retarded differential equations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 17–27. (Summary) **99c:34157** 34K15
— (*with* Cooke, Kenneth L.) Collapsible backward continuation and numerical approximations in a functional-differential equation. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 96–109. (S. R. Bernfeld) **99b:34112** 34K05 (34K15, 65L05, 65L10)
Carvalho, Marcelo Ferreira Lima (*with* Werneck de Oliveira, M.) Gauging $N = 2$ supersymmetric nonlinear σ models in the Atiyah-Ward space-time. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7574–7579. (Summary) **99d:81152** 81T60 (53C80)
— (*with* Vilar, L. C. Q.; Helayël-Neto, José A.) Supersymmetric non-linear σ-models and their gauging in the Atiyah-Ward space-time. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 184–199. (Hitoshi Nishino) **99c:81233** 81T60 (53C07, 81T30)
Carvalho, Maria Conceiçaõ Vieira Contributions to a rigidity conjecture. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 3, 265–295. (Boris Hasselblatt) **99j:58120** 58F11 (28D05, 28D20)
— First homoclinic tangencies in the boundary of Anosov diffeomorphisms. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 765–782. (Rafael Oswaldo Ruggiero) **99g:58090** 58F15
— (*with* Carlen, Eric Anders; Orlandi, Enza) Free energy inequalities and the rate of relaxation to instantons for interface profiles in Glauber dynamics. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 205–218. (Rossana Marra) **99j:82057** 82C24 (82C21)
pinto de Carvalho, Sônia *see* **Pinto de Carvalho, Sônia**
Casacuberta, Carles (*with* Rodríguez, José Luis) On towers approximating homological localizations. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 645–656. (Edgar H. Brown, Jr.) **99b:55016** 55P60 (55N20)
— On Postnikov pieces of finite dimension. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 257–263. (Summary) **99m:55015** 55Q05 (55S45)
— (*with* Rodríguez, José Luis; Hernández, Luis Javier) Models for torsion homotopy types. (English summary) *Israel J. Math.* **107** (1998), 301–318. (Donald M. Davis) **99i:55027** 55U35 (55P15)
Casadio, Roberto (*with* Finelli, Fabio; Venturi, Giovanni) Adiabatic invariant treatment of a collapsing sphere of quantized dust. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2451–2464. (Summary) **99e:83031** 83C47 (83C55)
— (*with* Harms, Benjamin) Poincaré coset models $\mathrm{ISO}(d-1,1)/\mathbf{R}^*$ and T duality. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7507–7520. (Summary) **99k:81226** 81T30
— (*with* Harms, Benjamin) Microfield dynamics of black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044014, 10 *pp.* (Summary) **99k:83060** 83C57 (83C47)
— (*with* Harms, Benjamin) Perturbations in the Kerr-Newman dilatonic black hole background: Maxwell waves, the dilaton background, and gravitational lensing. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044015, 7 *pp.* (Summary) **99k:83061** 83C57 (81V25, 83C22)
— Hamiltonian formalism for the Oppenheimer-Snyder model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064013, 8 *pp.* (Summary) **99m:83090** 83C55
— (*with* Alberghi, G. L.; Vacca, Gian Paolo; Venturi, Giovanni) Gravitational collapse of a shell of quantized matter. (English summary) *Classical Quantum Gravity* **16** (1999),

no. 1, 131–147. 83C55 (83C47)

Casadio Tarabusi, Enrico The horocyclic Radon transform on trees. (English summary) *Harmonic functions on trees and buildings* (*New York*, 1995), 117–119, *Contemp. Math.*, 206, *Amer. Math. Soc., Providence, RI*, 1997. (Vladimir A. Sharafutdinov) **99b:44002** 44A12 (43A99)

— Radon transforms on hyperbolic spaces and trees. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 1–13, *Univ. Stud. Bologna, Bologna*, 1998. (Vladimir A. Sharafutdinov) **99e:53107** 53C65 (44A12, 92C55)

— *see also* **Berenstein, Carlos A. et al., 99c:00011**

Casado-Díaz, Juan Homogenization of general quasi-linear Dirichlet problems with quadratic growth in perforated domains. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 5, 431–476. (Gérard Michaille) **99a:35015** 35B27 (35J60)

— (*with* Gayte, Inmaculada) A compactness theorem and its application to two-scale convergence. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 399–404, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49J45 (35B27, 73B27)

Casahorrán, J. Obtaining solvable potentials in the framework of supersymmetric quantum mechanics. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 82–87, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q60

— Solving simultaneously Dirac and Ricatti [Riccati] equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 371–382. (Gabriel Alvarez) **99j:81027** 81Q05 (34A05, 35Q40)

Casalbuoni, R. Algebraic treatment of compactification on noncommutative tori. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 69–72. (Héctor H. García-Compeán) **99g:81153** 81T30 (58B30, 81T13)

Casalegno, Paolo The referential and the logical component in Fodor's semantics. *Dialectica* **52** (1998), *no.* 4, 339–363. 03B65 (03A05)

Casale Núñez, Concepción Alida Relation between the radius and the Steiner diameter in connected graphs. (Spanish) *Miscelánea Mat. No.* 20 (1994), 59–60. 05C12

Casali, Maria Rita (*with* Malagoli, Luca) Handle-decompositions of PL 4-manifolds. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 2, 141–160. (Summary) **99b:57043** 57N13

— Classification of nonorientable 3-manifolds admitting decompositions into ≤ 26 coloured tetrahedra. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 75–97. (Summary) **99h:57034** 57N10 (57M15, 57Q15)

— Average order of coloured triangulations: the general case. *Osaka J. Math.* **35** (1998), *no.* 1, 249–262. (Richard Stong) **99f:57028** 57Q15

Casalis, Grégoire (*with* Avalon, Gérard; Pineau, Jean-Philippe) Spatial instability of planar channel flow with fluid injection through porous walls. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2558–2568. 76E99

Casanova, Gaston Carré d'un n-vecteur dans un E_n. (English summary) [Square of an n-vector in a space E_n] *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 1–4. (Maurice Flamant) **99g:15036** 15A66 (15A27)

González-Casanova, Pedro *see* **González-Casanova, Pedro**

Casanovas, Enrique A test for expandability. (English summary) *Arch. Math. Logic* **37** (1998), *no.* 4, 221–234. (M. A. Taĭtslin) **99h:03019** 03C50 (03C45)

Casanovas, Juan Copernicus and the Gregorian calendar reform. *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 97–107, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A40

Casarin, Mario A. Quasi-optimal Schwarz methods for the conforming spectral element discretization. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2482–2502. (B. Kellogg) **99a:65164** 65N35 (41A10, 65F10)

— (*with* Cai, Xiao-Chuan; Elliott, Frank W., Jr.; Widlund, Olof B.) Overlapping Schwarz algorithms for solving Helmholtz's equation. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 391–399, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65N35)

Casarino, Valentina Spectral properties of weakly asymptotically almost periodic semigroups in the sense of Stepanov. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 167–181. (C. J. K. Batty) **99b:47059** 47D06 (43A60)

jiménez-Casas, Angela *see* **Jiménez-Casas, Angela**

Casas, E. *see* **Casas Rentería, Eduardo**

Casas, Eduardo *see* **Casas Rentería, Eduardo**

Casas, F. Solving partial differential equations by Lie algebraic methods. *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35A30 (35A25)

— (*with* Blanes, Sergio; Ros, J.) Symplectic integrators with processing to order 6. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 201–206, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70–08 (65L05)

Casas, J. M. *see* **Casas Miras, José Manuel**

galavíz Casas, José *see* **Galavíz Casas, José**

Casas, M. (*with* Rigo, A.; Plastino, Angel Luis) Quantal Euclidean mappings. (English summary) *Phys. A* **253** (1998), *no.* 1-4, 247–259. (Emanuel H. Knill) **99e:81065** 81Q99 (81P05)

Casasayas, J. (*with* Martínez Alfaro, J.; Nunes, Ana Maria) Knots and links in integrable Hamiltonian systems. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 123–153. (Robert Ghrist) **99f:58111** 58F09 (57M25, 58F05)

Casas Miras, José Manuel (*with* Ladra González, Manuel) The actor of a crossed module in Lie algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2065–2089. (Graham J. Ellis) **99f:17021** 17B40 (18G55)

Casas Rentería, Eduardo Relaxation methods for optimal control problems of partial differential equations. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 51–60, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Ludmila N. Polyakova) **99b:49009** 49J45 (49K20, 65K10)

— A Pontryagin's principle for boundary control problems of quasilinear elliptic equations. *Partial differential equation methods in control and shape analysis* (*Pisa*), 63–75, *Lecture Notes in Pure and Appl. Math.*, 188, *Dekker, New York*, 1997. (A. Göpfert) **99c:49020** 49K20 (35J60)

— (*with* Raymond, J.-P.; Zidani, H.) Optimal control problem governed by semilinear elliptic equations with integral control constraints and pointwise state constraints. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 89–102, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (J. Frédéric Bonnans) **99f:49028** 49K20 (35J60)

— (*with* Kunisch, Karl; Pola, C.) Some applications of BV functions in optimal control and calculus of variations. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 83–96 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:49046** 49K20 (35J99, 49M30)

— An optimal control problem governed by the evolution Navier-Stokes equations. *Optimal control of viscous flow*, 79–95, *SIAM, Philadelphia, PA*, 1998. (Marie-Françoise Bidaut-Véron) **99j:49045** 49K20 (35Q30, 49J20, 76D05)

— (*with* Mateos, M.) Uniform convergence of the finite element method for semilinear equations and applications to control theory. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1063–1068, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49J45 (49K20)

— (*with* Kavian, O.; Puel, Jean-Pierre) Optimal control of an ill-posed elliptic semilinear equation with an exponential nonlinearity. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 361–380 (*electronic*). (Tomáš Roubíček) **99k:49012** 49J20 (35J65, 49N60)

Casati, Paolo (*with* Falqui, Gregorio; Magri, Franco; Pedroni, Marco) A note on fractional KdV hierarchies. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4606–4628. (Summary) **99d:58076** 58F07

— (*with* Falqui, Gregorio; Magri, Franco; Pedroni, Marco) Bi-Hamiltonian reductions and $\mathscr{W}_n$-algebras. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 291–310. (Carlo Morosi) **99f:58095** 58F07 (17B68)

— (*with* Falqui, Gregorio; Magri, Franco; Pedroni, Marco; Zubelli, Jorge P.) Darboux transformations and Darboux coverings: some applications to the KP hierarchy. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 45–65. (C. Rogers) **99m:58173** 58F37 (35A30, 35Q53, 58F07)

— *see also* **Gavagna, Veronica, 99h:01022**

arregui Casaus, José Luis *see* **Arregui Casaus, José Luis**

Casavola, Alessandro (*with* Grimble, M. J.; Mosca, Edoardo) Extensions to generalized LQG and H_∞ multivariable controllers. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 507–517. 93B36

— (*with* Fragopoulos, D.; Grimble, M. J.) A polynomial solution to the scalar 4-block H_∞ general distance problem. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 33–52. 93B36 (93D21)

— (*with* Mosca, Edoardo; Zecca, Pietro) Robust ripple-free deadbeat control design. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 564–573. (Summary) **99m:93037** 93B51

Casazza, Peter G. (*with* Christensen, Ole) Frames and Schauder bases. (English summary) *Approximation theory*, 133–139, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Anatolij M. Plichko) **99d:46030** 46C05 (42C15, 46B15)

— (*with* Christensen, Ole) Riesz frames and approximation of the frame coefficients. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 2, 1–11. (Summary) **99g:46016** 46C05 (42C15, 46B15)

— (*with* Kalton, Nigel J.) Uniqueness of unconditional bases in Banach spaces. (English summary) *Israel J. Math.* **103** (1998), 141–175. (Paolo Terenzi) **99d:46007** 46B15 (46B45)

— (*with* Christensen, Ole) Frames containing a Riesz basis and preservation of this property under perturbations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 266–278 (*electronic*). (Kristian Seip) **99i:42043** 42C15 (46C99)

— (*with* Kalton, Nigel J.) Generalizing the Paley-Wiener perturbation theory for Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 519–527. (Manuel González) **99c:47008** 47A53 (46B20, 47A55)

Cascales, B. (*with* Manjabacas, G.; Vera, G.) A Krein-Šmulian type result in Banach spaces. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 190, 161–167. (Stephen J. Dilworth) **99c:46009** 46B20 (46A50, 46G10)

— (*with* Godefroy, Gilles) Angelicity and the boundary problem. (English summary) *Mathematika* **45** (1998), *no.* 1, 105–112. (Y. Benyamini) **99f:46019** 46B20 (46E15)

— (*with* Manjabacas, G.; Vera, G.) Fragmentability and compactness in $C(K)$-spaces. (English summary) *Studia Math.* **131** (1998), *no.* 1, 73–87. (H. E. Lacey) **99d:46038** 46E25

Casciaro, Biagio (*with* Francaviglia, Mauro) A new variational characterization of Jacobi fields along geodesics. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 219–228. (Victor Tapia) **99f:53040** 53C22 (49J20)

— (*with* Francaviglia, Mauro) Generalized Jacobi equations and the curvature of variational principles. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 597–604. (Victor Tapia) **99b:58069** 58E30 (58E10)

— (*with* Amici, Oriella; Francaviglia, Mauro) Relations between variational derivatives of functions and scalar densities. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 207–220. (Victor Tapia) **99e:58054** 58E30 (49Q20)

Casciaro, Raffaele (*with* Garcea, Giovanni; Trunfio, Giuseppe A.) Mixed formulation and locking in path-following nonlinear analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 247–272. (Summary) **99i:73069** 73V05 (65N55)

Casciati, F. (*with* Breitung, K.; Faravelli, L.) Optimization methods in structural reliability. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 359–369, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C90 (90B25, 90C15)

Casciola, C. M. (*with* Bassanini, Piero; Lancia, M. R.; Piva, R.) Uniqueness of the bounded flow solution in aerodynamics. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 12–18. (Summary) **99e:76073** 76G25

— (*with* Bassanini, Piero; Lancia, M. R.; Piva, R.) A theoretical model for multiply connected wings. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 6, 607–634. (Summary) **99k:76015** 76B05 (35Q35, 76C05, 76G25)

Casciola, Giulio (*with* Morigi, Serena) Spline curves in polar and Cartesian coordinates. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 61–68, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D07

Casdorph, Van (*with* Napolitano, Marcello R.; Neppach, Charles; Naylor, Steve; Innocenti, Mario; Silvestri, Giovanni) Online learning neural architectures and cross-correlation analysis for actuator failure detection and identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 433–455. 93E12 (93E03)

Case, James Howard Interval arithmetic and analysis. *College Math. J.* **30** (1999), *no.* 2, 106–111. 65G10 (65–02)

Case, John (*with* Rajan, Dayanand S.; Shende, Anil M.) Rotation in lattice computers. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 185–197 (*electronic*). (*see* **99g:68005**) 68Q05

— (*with* Ott, Matthias; Sharma, Arun; Stephan, Frank) Learning to win process-control games watching game-masters. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 31–45, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T20 (68T05)

— (*with* Jain, Sanjay[1]) Synthesizing learners tolerating computable noisy data. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 205–219, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q45)

— (*with* Jain, Sanjay[1]; Kaufmann, Susanne; Sharma, Arun; Stephan, Frank) Predictive learning models for concept drift. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 276–290, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q99)

Caseau, Yves (*with* Kökény, Tibor) An inventory management problem. (English summary) *Constraints* **3** (1998), *no.* 4, 363–373. 90B05 (90B30)

Caselia, George (*with* Lehmann, E. L.) ★ Theory of point estimation. (English summary) Second edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1998. *xxvi+589 pp. ISBN* 0-387-98502-6 (Xuming He) **99g:62025** 62F10 (62–01)

— (*with* Hobert, James P.) Functional compatibility, Markov chains, and Gibbs sampling with improper posteriors. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 1, 42–60. (Summary) **99c:62064** 62F15 (60J05, 65C05)

Caselles, Vicent (*with* Coll, Bartomeu; Morel, Jean-Michel) Partial differential equations and image smoothing. (English summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XXI*, 32*pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Summary) **99d:94004** 94A12 (35Q80, 65D15, 65Y25)

— (*with* Coll, Bartomeu; Morel, Jean-Michel) Junction detection and filtering. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 23–42, *Springer, Berlin*, 1997. (Summary) **99g:68213** 68U10 (65U05)

maravall Casesnoves, Darío *see* **Maravall Casesnoves, Darío**

Casey, S. D. Modulation and sampling techniques for multichannel deconvolution. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 1, 23–65. (A. Bultheel) **99i:94008** 94A12 (94A15)

Cash, J. R. (*with* Wright, R. W.) Continuous extensions of deferred correction schemes for the numerical solution of nonlinear two-point boundary value problems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 227–244. (Summary) **99f:65112** 65L06

— (*with* Psihoyios, Yorgos) A stability result for general linear methods with characteristic function having real poles only. (English summary) *BIT* **38** (1998), *no.* 3, 612–617. (Summary) **99g:65079** 65L05 (65L20)

— (*with* Bashir-Ali, Z.; Silva, H. H. M.) Lobatto deferred correction for stiff two-point boundary value problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 59–69. (Summary) **99i:65070** 65L06

Casini, Emanuele (*with* Baronti, Marco) Simpson points in normed spaces. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 103–107 (1997). (Kok Keong Tan) **99c:46008** 46B20 (46N10)

— (*with* Baronti, Marco; Papini, Pier Luigi) Centroids, centers, medians: what is the difference? (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 157–168. (G. D. Chakerian) **99b:52002** 52A05 (46B20, 52A40, 90B85)

— (*with* Salvatori, Maura) Complex interpolation and (n,δ)-convexity. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 1–4 (1998). (Irina U. Asekritova) **99f:46107** 46M35 (46B70)

— (*with* Baronti, Marco; Papini, Pier Luigi) On the average distance property and the size of the unit sphere. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 427–446. (George Androulakis) **99m:46028** 46B20

Casini, P. (*with* Andreaus, Ugo A.) Rocking-sliding of a rigid block: friction influence on free motion. (English summary) *Engrg. Trans.* **46** (1998), *no.* 2, 143–164. 70F99

Casini, Paolo The Pythagorean myth: Copernicus to Newton. *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 183–199, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A45 (01A40)

Casini, Roberto The effect of configuration mixing on the first-order moments of polarized hydrogen lines. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4284–4298. (Summary) **99e:81264** 81V45

Casnati, G. (*with* Catanese, F.) Even sets of nodes are bundle symmetric. *J. Differential Geom.* **47** (1997), *no.* 2, 237–256. (C. A. M. Peters) **99h:14044** 14J60 (14J17)

— (*with* Catanese, F.) Errors in the paper: "Even sets of nodes are bundle symmetric" [J. Differential Geom. **47** (1997), no. 2, 237–256; MR 99h:14044]. *J. Differential Geom.* **50** (1998), *no.* 2, 415. 14J60 (14J17)

— (*with* Del Centina, A.) Covers of degree four and the rationality of the moduli space of curves of genus five with a vanishing theta-null. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 265–274. (Montserrat Teixidor i Bigas) **99d:14016** 14H10

Casper, Jay (*with* Carpenter, Mark H.) Computational considerations for the simulation of shock-induced sound. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 813–828 (*electronic*). (Summary) **99a:76091** 76M20 (65M06, 76L05, 76Q05)

Cassaigne, Julien On a conjecture of J. Shallit. (English summary) *Automata, languages and programming* (*Bologna*, 1997), 693–704, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **99a:11025** 11B85 (68Q45)

— (*with* Karhumäki, Juhani) Examples of undecidable problems for 2-generator matrix semigroups. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 29–34. (Summary) **99f:03059** 03D35 (20M20, 68Q99)

Cassandra, Anthony R. (*with* Kaelbling, Leslie Pack; Littman, Michael L.) Planning and acting in partially observable stochastic domains. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 99–134. 68T20

Cassandras, Christos G. (*with* Vázquez-Abad, Felisa J.; Julka, Vibhor) Centralized and decentralized asynchronous optimization of stochastic discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 631–655. (Summary) **99a:93093** 93E03 (93A14, 93C83)

— (*with* Dai, Liyi; Panayiotou, Christos G.) Ordinal optimization for a class of deterministic and stochastic discrete resource allocation problems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 881–900. (Summary) **99e:93050** 93C83 (90C90, 93E03)

serra Cassano, Francesco *see* **Serra Cassano, Francesco**

Casse, Louis Reynolds Antoine (*with* Oxenham, Martin) On the resolvability of Hall triple systems. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 639–649. (Barbu C. Kestenband) **99i:05034** 05B07

— (*with* Lunardon, Guglielmo) On Buekenhout-Metz unitals. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 237–240. (Summary) **99d:51015** 51E23 (51E20, 51E21)

— (*with* Martin, Keith M.; Wild, Peter R.) Bounds and characterizations of authentication/secrecy schemes. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 107–129. (Andrea Sgarro) **99c:94027** 94A60 (05B15, 94A15)

— (*with* Quinn, Catherine T.) The Bruck-Bose map and Beukenhout-Metz unitals. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 89–98. (Gary L. Ebert) **99k:51007** 51E20 (51A20)

Cassell, J. S. (*with* Hou, Zhanyuan) Asymptotic solutions of mixed-type equations with a diagonal matrix. (English summary) *Analysis* **17** (1997), *no.* 1, 1–12. (P. K. Palamides) **99c:34178** 34K25

— (*with* Hou, Zhanyuan) Asymptotic solutions for mixed-type equations with a small deviation. (English summary) *Georgian Math. J.* **5** (1998), *no.* 2, 107–120. (Sjoerd M. Verduyn Lunel) **99i:34112** 34K25

— (*with* Hou, Zhanyuan) Global attractivity of a single species population model. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 167–180. (Yang Kuang) **99g:34152** 34K20 (92D25)

Casselman, William Geometric rationality of Satake compactifications. *Algebraic groups and Lie groups*, 81–103, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Azniv Kasparian) **99e:22027** 22E46 (32M15)

— (*with* Shahidi, Freydoon) On irreducibility of standard modules for generic representations. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 561–589. (Goran Muić) **99f:22028** 22E50

Cassels, J. W. S. Second descents for elliptic curves. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 101–127. (Samir Siksek) **99d:11058** 11G05

Cassens, Heiko (*with* Slodowy, Peter) On Kleinian singularities and quivers. *Singularities* (*Oberwolfach*, 1996), 263–288, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (A. Sinan Sertöz) **99k:14003** 14B05 (14E15)

Cassi, Davide (*with* Fabbian, Linda) The spherical model on graphs. (English summary) *J. Phys. A* **32** (1999), *no.* 8, *L93–L98*. (Summary) **99k:82012** 82B20 (82B26, 82B27, 82D60)

Cassidy, M. J. The 1-loop instability of Misner space. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2257–2260. (Summary) **99d:83045** 83C45 (83C75)

— (*with* Hawking, Stephen W.) Models for chronology selection. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2372–2380. (Viqar Husain) **99a:83050** 83C75 (83C45, 83C57)

Cassier, G. (*with* Chalendar, I.; Chevreau, B.) New examples of contractions illustrating membership and non-membership in the classes $\mathbf{A}_{m,n}$. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 707–731. (Hari Bercovici) **99k:47022** 47A45 (47A65, 47D27)

Cassinelli, Gianni (*with* Aniello, Paolo; De Vito, Ernesto; Levrero, Alberto) Wavelet transforms and discrete frames associated to semidirect products. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3965–3973. (Summary) **99c:42055** 42C15 (22D12)

Cassirer, Ernst *see* **Seidengart, Jean, (99g:01038)**

Cassou-Noguès, Pierrette (*with* Artal-Bartolo, Enrique; Dimca, Alexandru) Sur la topologie des polynômes complexes. [On the topology of complex polynomials] *Singularities* (*Oberwolfach*, 1996), 317–343, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Ricardo García López) **99k:32069** 32S50 (32S55)

— (*with* Couveignes, Jean-Marc) Factorisations explicites de $g(y)-h(z)$. [Explicit factorizations of $g(y)-h(z)$] *Acta Arith.* **87** (1999), *no.* 4, 291–317. (Maurice Mignotte) **99m:11023** 11C08 (12Y05)

Castagnino, Mario A. Rigged Hilbert space, duality, and cosmology. *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields* (*Mérida*, 1996), 469–475, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (S. Gudder) **99j:83074** 83F05 (47A70, 47N50, 81P10)

— (*with* Diener, Roberto; Lara, Luis; Puccini, Gabriel) Rigged Hilbert spaces and time asymmetry: the case of the upside-down simple harmonic oscillator. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2349–2369. (J.-P. Antoine) **99f:81043** 81Q10 (47A70, 47N50, 82B05)

— (*with* Gunzig, Edgard) A landscape of time asymmetry. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2545–2581. (Markku Lehto) **99a:83072** 83F05 (81P99)

— The global nature of the arrow of time and the Bohm-Reichenbach diagram. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 282–292, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Philip L. Quinn) **99f:81010** 81P05

— (*with* Bombelli, Luca; Lombardo, Fernando C.) Chaos in Robertson-Walker cosmology. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6040–6050. (Michael L. Fil'chenkov) **99h:83008** 83C15 (58F13, 83F05)

— Mathematical structure of quantum superspace as a consequence of time asymmetry. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 750–767. (Michael Keyl) **99b:83031** 83C45 (81Q20)
— (*with* Lombardo, Fernando C.; Bombelli, Luca) From classical chaos to decoherence in Robertson-Walker cosmology. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 7, 539–547. 83F05 (58F13, 58F40)
Castagnoli, Erio Linear operators and stochastic dominance. (English summary) *New trends in mathematical programming*, 29–39, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Alfred Müller) **99k:90007** 90A05 (60E15, 90A10)
Castagnoli, Giuseppe Merging quantum annealing computation and particle statistics: a prospect in the search of efficient solutions to intractable problems. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 457–462. (*see* **99e:81004**) 81P99
— (*with* Ekert, Artur; Macchiavello, Chiara) Quantum computation: from the sequential approach to simulated annealing. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 463–469. (*see* **99e:81004**) 81P99
— Quantum computation based on retarded and advanced propagation. (English summary) PhysComp96 (Boston, MA). *Phys. D* **120** (1998), *no.* 1-2, 48–61. (Summary) **99m:81029** 81P99 (68Q05)
Castaing, Bernard *see* **Hydrodynamics and nonlinear instabilities, 99i:76001**
Castaing, Charles (*with* Pluciennik, Ryszard) Property (H) in Köthe-Bochner spaces. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 4, 447–459. (Barry Turett) **99i:46025** 46E40 (46B20)
— Weak compactness criteria in set-valued integration. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 411–426. (Erik J. Balder) **99f:28016** 28B20 (46G99)
— (*with* Ezzaki, Fatima) SLLN for convex random sets and random lower semicontinuous integrands. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 527–553. (Christian Hess) **99e:60081** 60F15 (28B20, 60G48)
— (*with* Benabdellah, H.) Weak compactness criteria and convergences in $L^1_E(\mu)$. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 423–448. (Ali Ülger) **99b:46050** 46E40 (46B20, 46E30)
— (*with* Ezzaki, Fatima) Convergences for convex weakly compact random sets in B-convex reflexive Banach spaces. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 123–149. (Erik J. Balder) **99g:60010** 60B12 (46B99)
— (*with* Valadier, Michel) Weak convergence using Young measures. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 7–17. (Erik J. Balder) **99m:60010** 60B10 (28A33, 46E27)
Castañeda, Nelson A note on a fixed point theorem and Newton method. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 199–201. (Summary) **99m:65115** 65J05
ponte Castañeda, P. *see* **Ponte Castañeda, P.**
Castañeda, Román On the relationship between the cross-spectral density and the Wigner distribution function. (English summary) *J. Modern Opt.* **45** (1998), *no.* 3, 587–593. (Summary) **99a:78006** 78A10
Castañeda-Leyva, Netzahualcóyotl (*with* Pérez-Abreu, Víctor) Characterization and approximation of infinitely divisible distributions on Hilbert spaces. (English summary) *Fourth Symposium on Probability Theory and Stochastic Processes (Spanish) (Guanajuato*, 1996), 57–70, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Jean-Claude Massé) **99h:60024** 60E07 (60B11, 60E15)
Castanié, Francis (*with* Ibnkahla, Mohamed; Bershad, Neil J.; Sombrin, Jacques) Neural network modeling and identification of nonlinear channels with memory: algorithms, applications, and analytic models. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1208–1220. (Summary) **99j:94028** 94A40 (92B20)
Castaño, Bonifacio (*with* Llovet, Juan; Martínez, Raquel) Computing the characteristic polynomial of multivariate polynomial matrices given by straight-line programs. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 39–57. (Summary) **99a:68096** 68Q40
gonzález-Castaño, Francisco J. *see* **González-Castaño, Francisco J.**
saorín Castaño, M. *see* **Saorín Castaño, M.**
Castaño Iglesias, Florencio (*with* Gómez Torrecillas, José; Năstăsescu, C.) Separable functors in graded rings. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 219–230. (Summary) **99b:18001** 18A22 (16W50, 18E15)
— (*with* Gómez Torrecillas, José) Wide Morita contexts and equivalences of comodule categories. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 3, 213–225. (W. K. Nicholson) **99d:16042** 16W30 (16D90, 18E30)
Castañon, David (*with* Streltsov, Simon; Vakili, Pirooz) Optimality of index policies for a sequential sampling problem. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 145–148. (Summary) **99k:93093** 93E20 (62L15, 90C15)
Castelain, Jean Marie (*with* Mineur, Yves; Lichah, Tony; Giaume, Henri) A shape controlled fitting method for Bézier curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 879–891. (Summary) **99d:65051** 65D17
pacheco Castelao, José Miguel *see* **Pacheco Castelao, José Miguel**
Castelino, Diane (*with* Stephens, Nelson) A surrogate constraint tabu thresholding implementation for the frequency assignment problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 259–270. (*see* **99k:90002**) 90C27 (90C35)
Castelino, Judith (*with* Lee, Sangmin; Taylor, Washington, IV) Longitudinal 5-branes as 4-spheres in Matrix theory. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 334–350. (Marco Spaans) **99h:81159** 81T30
Castell, Paul A consistent restriction of the principle of indifference. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 3, 387–395. 03B48
zu Castell, Wolfgang (*with* Berens, Hubert) Hypergeometric functions as a tool for summability of the Fourier integral. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 69–84. (G. Gasper) **99m:42016** 42B08 (33C20)
Castella, François L^2 solutions to the Schrödinger-Poisson system: existence, uniqueness, time behaviour, and smoothing effects. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1051–1083. (Holger Teismann) **99f:82044** 82C10 (35Q40)
— Effets dispersifs dans les équations de Schrödinger et de Vlasov. [Scattering effects in Schrödinger and Vlasov equations] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XXIV*, 14 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35Q55 (35Q99)
— The Vlasov-Poisson-Fokker-Planck system with infinite kinetic energy. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 939–964. (Gerhard Rein) **99m:82045** 82D10 (35Q99, 76X05, 82C31)
Castellan, Maurizio (*with* Piazza, Mario) Saturated formulas in full linear logic. (English summary) *J. Logic Comput.* **8** (1998), *no.* 5, 665–668. (Summary) **99i:03077** 03F50
Castellani, Ilaria *see* **Workshop: Expressiveness in Concurrency, 99f:68013**
Castellani, Leonardo Field theories on quantum groups. (English summary) *Quantum groups (Karpacz*, 1994), 13–29, *PWN, Warsaw*, 1995. (Summary) **99f:81089** 81R50 (81T99)
— (*with* Aschieri, Paolo) Universal enveloping algebra and differential calculi on inhomogeneous orthogonal q-groups. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 247–271. (Axel Schüler) **99k:58014** 58B30 (17B37, 81R50)
Castellani, Marco Separation of sets and optimality conditions. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 27–37. (Doug Ward) **99d:49046** 49K27 (49J52, 90C30)
— (*with* Jama, Jama Musse; Mastroeni, Giandomenico) Duality relations for variational inequalities with applications to network flows. Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 39–55. (Giandomenico Mastroeni) **99m:49013** 49J40 (49N15, 90C35)
— (*with* Pappalardo, Massimo) Characterizations of ρ-convex functions. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 219–233, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Bernard Lemaire) **99i:90073** 90C26 (90C48)
— (*with* Pappalardo, Massimo) A unifying approach for higher-order necessary optimality conditions. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 15–28. (Doug Ward) **99j:49025** 49J52 (90C30, 90C31)
Castellanos, Antonio Approximate learning of random subsequential transducers. (English summary) *Grammatical inference (Ames, IA*, 1998), 67–78, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)
Castellanos, Longina (*with* Barrera Sánchez, Pablo; Alvarez, Rosa M.) ★ Un punto de vista sobre el desarrollo de los métodos de gradiente conjugado no lineal. (Spanish. Spanish summary) [A look at the development of nonlinear conjugate gradient methods] *Editorial Academia, Havana*, 1992. *iv*+60 *pp. ISBN* 959-02-0013-3 90C30 (65K05)
Castellanos Vargas, Víctor Limit cycles in dimension 2. (Spanish) *Miscelánea Mat. No.* 21 (1994), 63–68. 34C05 (92D40)
Castelle, Nathalie (*with* Laurent-Bonvalot, Françoise) Strong approximations of bivariate uniform empirical processes. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 425–480. (Endre Csáki) **99h:60071** 60F17 (60F15, 62G30)
Castellet, A. (*with* Thomas, F.) An algorithm for the solution of inverse kinematics problems based on an interval method. (English summary) *Advances in robot kinematics: analysis and control (Salzburg*, 1998), 393–402, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15
Castellet, Manuel The Ferran Sunyer i Balaguer International Prize. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 3, 361–364. 01A70
Castellini, G. Connectedness, disconnectedness and closure operators: further results. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 611–638. (Jürgen Kosłowski) **99i:18001** 18A20 (06A15, 18A32)
— Connectedness and disconnectedness: a different perspective. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 117–133. (Summary) **99h:18003** 18A20 (18A32)
— (*with* Alderton, I. W.) Closure operators and fuzzy connectedness. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 397–405. (*see* **99m:03114**) 54A40
Castelnuovo, G. *see* **Cattani, Carlo, 99k:01033**
van Casteren, J. (*with* Demuth, Michael) Completeness of scattering systems with obstacles of finite capacity. (English summary) *Differential and integral operators (Regensburg*, 1995), 39–50, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Michael A. Perel′muter) **99e:47017** 47A40 (35P25, 47D07, 47F05)
Casti, John L. ★ Reality rules. I. (English summary) Picturing the world in mathematics—the fundamentals. Reprint of the 1992 original. Wiley Professional Paperback Series. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxii+388 *pp. ISBN* 0-471-18437-3; 0-471-18435-7 (Editors) **99a:00010a** 00A71 (00A69, 68Q05, 68Q80, 90–01)
— ★ Reality rules. II. (English summary) Picturing the world in mathematics—the frontier. Reprint of the 1992 original. Wiley Professional Paperback Series. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxii+424 *pp. ISBN* 0-471-18437-3; 0-471-18436-5 (Editors) **99a:00010b** 00A71 (00A69, 68Q05, 68Q80, 90–01)
— *see also* **Unconventional models of computation, 99f:68012**
Castillero, J. B. *see* **Bravo Castillero, Julián**
bravo Castillero, Julián *see* **Bravo Castillero, Julián**
hernandez-Castillo, A. *see* **Hernandez-Castillo, A.**
Castillo, Enrique F. (*with* Solares, Cristina; Gómez, Patricia) Tail sensitivity analysis in Bayesian networks. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 133–140, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30
— (*with* Hadi, Ali S.) Fitting the generalized Pareto distribution to data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1609–1620. (Summary) **99a:62020** 62F10
— (*with* Hadi, Ali S.; Sarabia, José María) A method for estimating Lorenz curves. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2037–2063. 62F35
— (*with* Gutiérrez Llorente, José Manuel; Hadi, Ali S.) Modeling probabilistic networks of discrete and continuous variables. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 48–65. (M. Studený) **99j:68137** 68T30 (62H99)
— (*with* Cobo Ortega, Ángel; Jubete, Francisco; Pruneda, Rosa Eva) ★ Orthogonal sets and polar methods in linear algebra. (English summary) Applications to matrix

calculations, systems of equations, inequalities, and linear programming. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xiv+422 pp. ISBN* 0-471-32889-8 (From the preface) **99k:90001** 90-01 (15-01, 65F30, 90C05)

— (*with* Hadi, Ali S.; Jubete, Francisco; Solares, Cristina) An expert system for coherent assessment of probabilities in multigraph models. (English summary) *Networks* **33** (1999), *no.* 3, 193–206. 68T35

torres del Castillo, G. F. *see* **Torres del Castillo, G. F.**

Castillo, Genaro A. (*with* Henríquez, Hernán R.) Compensators for singular control systems with small delays in outputs. (English summary) *Proyecciones* **17** (1998), *no.* 1, 23–54. (Jerzy Klamka) **99f:93083** 93C30 (93B50)

Castillo, J. *see* **Castillo, José E.**

Castillo, Jesús M. F. (*with* González, Manuel) ★ Three-space problems in Banach space theory. Lecture Notes in Mathematics, 1667. *Springer-Verlag, Berlin*, 1997. xii+267 *pp. ISBN* 3-540-63344-8 (Guy Noël) **99a:46034** 46B99 (46-02, 46M15)

— Snarked sums of Banach spaces. II Congress on Examples and Counterexamples in Banach Spaces (Badajoz, 1996). *Extracta Math.* **12** (1997), *no.* 2, 117–128. (Ehrhard Behrends) **99b:46013** 46B20

— (*with* Díaz Alcaide, Juan Carlos; Motos, Joaquín) On the Fréchet space L_{p^-}. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 219–230. (Thomas E. Gilsdorf) **99g:46031** 46E30 (46A04, 46A11)

— (*with* Rodríguez-Arias Fernández, Mariano) Inverse characterizations of the existence of solutions for some nonlinear Abel-Volterra equations. *Nonlinear Anal.* **34** (1998), *no.* 3, 433–442. (Wojciech Mydlarczyk) **99e:45004** 45G05 (45D05, 45E10)

Castillo, Jose Smarandache continued fractions. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 39–41. 11A55

Castillo, José E. (*with* Torres, Carlos R.; Ochoa, José; Hanazaki, Hideshi) Numerical simulation of flow past a sphere in vertical motion within a stratified fluid. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 67–76. (*see* **99k:65002**) 76M25 (76V05)

— *see also* **Applied and computational topics in partial differential equations, 99k:65002** *and* **Applied and computational mathematics, 99m:65003**

aguirre Castillo, Luís *see* **Aguirre Castillo, Luis**

gómez Castillo, Nicolas *see* **Gómez Castillo, Nicolas**

Castillo, Paul (*with* Hajek, Darrell W.) The Wallman compactification and intermediate spaces. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 101–107. (Summary) **99h:54039** 54D35

Castillo, Paul E. (*with* Saad, Youcef) Preconditioning the matrix exponential operator with applications. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 275–302. (Summary) **99g:65080** 65L06

del río Castillo, Rafael René *see* **del Río Castillo, Rafael René**

Castillo, Samuel (*with* Pinto, Manuel) Asymptotic formulae for solutions of delay-difference systems. (English summary) *Advances in difference equations (Veszprém*, 1995), 107–117, *Gordon and Breach, Amsterdam*, 1997. (Shu Nian Zhang) **99i:39002** 39A10

— (*with* Pinto, Manuel) Asymptotic summation for second-order finite difference systems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 117–129. (E. Thandapani) **99e:39009** 39A10

— (*with* Pinto, Manuel) Asymptotic integration of ordinary different systems. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 1–12. (Rimma A. Prokhorova) **99e:34039** 34C11 (34D10, 34E99)

— (*with* Pinto, Manuel) Asymptotic theory for bi-dimensional linear impulsive differential systems, nonelliptic case. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 425–447. (Yuri V. Rogovchenko) **99i:34018** 34A37 (34D05, 34E10)

Castillo Aranguren, Francisco Mixed problem for a nonlinear wave equation. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro*, 1994), 55–67, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:35131** 35L70 (35D05, 65M06)

— Boundary value problems for a composite equation. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima*, 1995), 45–52, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 35M20

Castillo-Chavez, Carlos (*with* Huang, Wenzhang; Li, Jia[2]) The effects of females' susceptibility on the coexistence of multiple pathogen strains of sexually transmitted diseases. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 503–522. (Summary) **99b:92021** 92C60

— (*with* Feng, Zhilan) To treat or not to treat: the case of tuberculosis. (English summary) *J. Math. Biol.* **35** (1997), *no.* 6, 629–656. (Lutz Edler) **99a:92014** 92C60

— (*with* Xu, Wenxiong) Existence and uniqueness of solutions of a model in differential-integral equations. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 108–112. (Shu Chun Gao) **99k:45025** 45J05 (34K99)

del Castillo-Mussot, M. (*with* Reyes, J. A.) 1D Schrödinger equations with Coulomb-type potentials. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 2017–2025. (Summary) **99k:81056** 81Q05

Castillon, Philippe Sur l'opérateur de stabilité des sous-variétés à courbure moyenne constante dans l'espace hyperbolique. [On the stability operator of submanifolds with constant mean curvature in hyperbolic space] *Manuscripta Math.* **94** (1997), *no.* 3, 385–400. (João Lucas Marques Barbosa) **99c:53062** 53C42 (49Q05, 58E12)

del-Castillo-Negrete, D. Asymmetric transport and non-Gaussian statistics of passive scalars in vortices in shear. (English summary) *Phys. Fluids* **10** (1998), *no.* 3, 576–594. (Summary) **99a:76125** 76M35 (76F10, 86A05)

Castillo P., R. (*with* Kravchenko, V. V.) On the kernel of the Klein-Gordon operator. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 261–265. (Valdir B. Bezerra) **99i:81032** 81Q05 (47F05, 47N50, 81R20)

yáguez Castrillo, Jaime *see* **Yáguez Castrillo, Jaime**

Castrillón López, Marco (*with* Muñoz Masqué, Jaime) Structure symplectique généralisée sur le fibré des connexions. (English and French summaries) [Generalized symplectic structure on the bundle of connections] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 41–44. (Luis Hernández Encinas) **99m:58036** 58D19 (53C05, 58F05)

Castro, Alfonso (*with* Cossio, Jorge; Neuberger, John M.) A sign-changing solution for a superlinear Dirichlet problem. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1041–1053. (Monica Lazzo) **99f:35056** 35J65 (35B05, 58E05)

— (*with* Neuberger, J. W.) An inverse function theorem. (English summary) *Applied analysis (Baton Rouge, LA*, 1996), 127–132, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Markus Poppenberg) **99k:46071** 46G05 (34B15, 47H15, 58C15, 65J15)

— (*with* Kuiper, Hendrik J.) On the number of radially symmetric solutions to Dirichlet problems with jumping nonlinearities of superlinear order. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1919–1945. (C. A. Swanson) **99h:35059** 35J65 (34B15, 34C10, 35B32)

bermúdez de Castro, Alfredo *see* **Bermúdez de Castro, Alfredo**

Castro, Carlos *see* **Castro, Carlos[2]**

Castro, Carlos[1] $D = 11$ supermembrane instantons, W_∞ strings and the super Toda molecule. (English summary) Chaos, information and diffusion in quantum physics. *Chaos Solitons Fractals* **7** (1996), *no.* 5, 711–724. (Summary) **99c:81171** 81T30 (81T70)

— p-branes as composite antisymmetric tensor field theories. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1263–1292. (Jeremy Michelson) **99k:81227** 81T30 (83E30)

Castro, Carlos[2] Building constraint satisfaction problem solvers using rewrite rules and strategies. (English summary) *Fund. Inform.* **34** (1998), *no.* 3, 263–293. (Summary) **99h:68152** 68T20

valdés Castro, Concepción *see* **Valdés Castro, Concepción**

Castro, E. A. (*with* Fernández, Francisco M.) Application of the Bogolyubov transformation to anharmonic oscillators. (English summary) *Bulgar. J. Phys.* **25** (1998), *no.* 1-2, 20–23. 81Q05

Castro, F. J. *see* **Castro-Jiménez, Francisco Jesús**

lópez Castro, G. *see* **López Castro, G.**

de Castro, H. P. (*with* Asperti, A. C.; Noronha, Maria Helena) Compact homogeneous Einstein manifolds in codimension two. (English summary) *Note Mat.* **16** (1996), *no.* 1, 9–19 (1998). (Andrea Spiro) **99j:53060** 53C25 (53C30)

Castro, Ian P. (*with* Epik, Eleanora) Boundary layer development after a separated region. (English summary) *J. Fluid Mech.* **374** (1998), 91–116. 76D10 (76D15)

Castro, Ildefonso Lagrangian spheres in the complex Euclidean space satisfying a geometric equality. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 197–208. (Sorin Dragomir) **99d:53053** 53C40 (53C42)

Castro, J. *see* **Castro, Jordi**

Castro, J. L. (*with* Zurita, J. M.) A heuristic in rules based systems for searching of inconsistencies. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 135–148. (Summary) **99e:68154** 68T35

— (*with* Trillas, E.) The logic of neural networks. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 23–37. (Summary) **99c:03032** 03B50 (68T05, 92B20)

— (*with* Castro-Schez, J. J.; Zurita, J. M.) Learning maximal structure rules in fuzzy logic for knowledge acquisition in expert systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 331–342. 68T35 (03B52, 68T05)

Castro, Jordi An interior-point algorithm for quadratic programming through separable equivalent problems. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 1, 117–142. (Summary) **99a:90141** 90C20

Castro, Jorge (*with* Guijarro, David; Lavín, Víctor) Learning nearly monotone k-term DNF. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 75–79. (Summary) **99c:68209** 68T05 (68Q99)

Castro, L. P. (*with* Speck, F.-O.) Regularity properties and generalized inverses of delta-related operators. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 577–598. (I. Spitkovsky) **99h:47002** 47A05 (45E05, 46F10, 47A53, 47B35)

Castro, M. J. *see* **Castro-Díaz, M. J.**

Castro, Manuel J. *see* **Castro-Díaz, M. J.**

estivill-Castro, Vladimir *see* **Estivill-Castro, Vladimir**

Castro Barbero, Carlos (*with* Zuazua, Enrique) A hybrid system consisting of two flexible beams connected by a point mass: spectral analysis and well-posedness in asymmetric spaces. *Élasticité, viscoélasticité et contrôle optimal (Lyon*, 1995), 17–54 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Hideo Soga) **99a:35248** 35Q72 (35L30, 35P15, 73D30)

— (*with* Zuazua, Enrique) Boundary controllability of a hybrid system consisting in two flexible beams connected by a point mass. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1576–1595 (*electronic*). (Irina F. Sivergina) **99h:93057** 93C20 (35Q72, 73K50, 93B05)

Castro-Díaz, M. J. (*with* Macías, Jorge; Parés, Carlos) A multi-layer shallow-water model. Applications to the Strait of Gibraltar and the Alboran Sea. *The mathematics of models for climatology and environment (Puerto de la Cruz*, 1995), 367–394, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A05 (76B15, 76D99)

— (*with* Valle, Antonio; Parés, Carlos; Macías, Jorge) Numerical resolution of a shallow water system using a duality method. Application to the Alboran Sea. (English summary) *Équations aux dérivées partielles et applications*, 759–786, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Meng Zhao Qin) **99m:65193** 65M60 (65M12, 76M10)

— (*with* Parés, Carlos; Macías, Jorge) Numerical solution of the shallow-water equations using a duality method with automatic choice of parameters. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 69–77, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (65M99, 76B15)

— (*with* Hecht, Frédéric) Anisotropic mesh generation. Minimization of interpolation error. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 647–653, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N50 (76M10)

Castro-Jiménez, Francisco Jesús Exercices sur le complexe de de Rham et l'image directe des $\mathscr{D}$-modules. [Exercises on the de Rham complex and the direct image of $\mathscr{D}$-modules] *Éléments de la théorie des systèmes différentiels. Images directes et constructibilité (Nice*, 1990), 15–45, *Travaux en Cours*, 46, *Hermann, Paris*, 1993. (Orlando Neto) **99g:32018** 32C38

— (*with* Bueso, José L.; Gómez Torrecillas, José; Lobillo, F. J.) An introduction to effective calculus in quantum groups. *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels,*

1996), 55–83, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Şerban Raianu) **99g:16046** 16W30 (16P90)

Castro-Linares, Rafael (*with* Cruz-Hernández, César; Alvarez-Gallegos, Joaquín) On the effect of perturbations on the stability of input-output linearizing controllers for a class of discrete-time nonlinear systems. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 955–964. (Summary) **99h:93076** 93D09 (93B18)

— (*with* Cruz-Hernández, César; Alvarez-Gallegos, Joaquín) Stability of discrete nonlinear systems under nonvanishing perturbations: application to a nonlinear model-matching problem. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 23–41. (Éva Gyurkovics) **99m:93069** 93D05 (93C55)

Castro-Schez, J. J. (*with* Castro, J. L.; Zurita, J. M.) Learning maximal structure rules in fuzzy logic for knowledge acquisition in expert systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 331–342. 68T35 (03B52, 68T05)

Casulli, Vincenzo (*with* Bonaventura, L.) Semi-implicit methods for free surface environmental flows. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 125–144, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76088** 76M20 (65M06, 86–08)

— (*with* Zanolli, Paola) A conservative semi-implicit scheme for open channel flows. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 1, 1–10. (Summary) **99a:76092** 76M20 (76B10)

Catalan, A. *see* **Catalán S., Abdón**

Catalano, M. S. Fiorenzo (*with* Esposito, Alessandra; Malucelli, F.; Tarricone, L.) A new matrix bandwidth reduction algorithm. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 99–107. 65F30 (90C08)

Catalán S., Abdón (*with* Costa, Roberto C. F.) E-ideals in train algebras. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 1, 59–71. (Consuelo Martínez) **99h:17031** 17D92

de Cataldo, Mark Andrea A. Effective nonvanishing, effective global generation. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 5, 1359–1378. (Antonio Lanteri) **99m:14007** 14C20 (14J60, 14Q20)

— Codimension two nonsingular subvarieties of quadrics: scrolls and classification in degree $d \leq 10$. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 879–902. (Enrique Arrondo) **99m:14090** 14M07

Cataldo M., Mauricio (*with* Salgado, Patricio) Three-dimensional extreme black hole with self (anti-self) dual Maxwell field. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 20–25. (Summary) **99k:83062** 83C57

genon-Catalot, Valentine *see* **Genon-Catalot, Valentine**

Çatalyürek, Ümit V. (*with* Aykanat, Cevdet) Decomposing irregularly sparse matrices for parallel matrix-vector multiplication. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 75–86, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 65Y05 (65F50)

Catanese, F. (*with* Hulek, Klaus) Rational surfaces in $\mathbf{P}^4$ containing a plane curve. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 229–256. (James E. Alexander) **99f:14044** 14J26 (14H45)

— (*with* Casnati, G.) Even sets of nodes are bundle symmetric. *J. Differential Geom.* **47** (1997), *no.* 2, 237–256. (C. A. M. Peters) **99h:14044** 14J60 (14J17)

— (*with* Casnati, G.) Errors in the paper: "Even sets of nodes are bundle symmetric" [J. Differential Geom. **47** (1997), no. 2, 237–256; MR 99h:14044]. *J. Differential Geom.* **50** (1998), *no.* 2, 415. 14J60 (14J17)

Catarino, P. M. (*with* Higgins, Peter M.) The monoid of orientation-preserving mappings on a chain. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 190–206. (I. S. Ponizovskiĭ) **99k:20117** 20M20 (20M17)

Catasti, P. (*with* Laflamme, R.; Knill, Emanuel; Zurek, Wojciech Hubert; Mariappan, S. V. S.) NMR Greenberger-Horne-Zeilinger states. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1941–1948. (V. Ya. Kreinovich) **99m:81036** 81P99 (68Q75, 81–05, 81P05)

Catchpole, E. A. (*with* Morgan, B. J. T.; Freeman, S. N.) Estimation in parameter-redundant models. (English summary) *Biometrika* **85** (1998), *no.* 2, 462–468. (C. J. Park) **99i:62036** 62F10

Catepillán, Ximena (*with* Szymański, Wacław) Semigroup properties of factors in the polar decomposition or the operator De-Moivre formula. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3521–3526. (Lawrence Williams) **99e:47024** 47B20 (47D03)

Cater, F. S. On continuous one-to-one functions on sets of real numbers. *Real Anal. Exchange* **23** (1997/98), *no.* 2, 539–543. (Manuel Sanchis) **99h:54019** 54C05 (26A15)

— On derivatives vanishing almost everywhere on certain sets. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 641–651. (James Foran) **99g:26010** 26A24 (28A20)

— On monotonic and analytic functions in C^∞. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 697–707. (Summary) **99d:26015** 26A48 (30B10)

Caterino, Alessandro Compactifications and generalized essential semilattice homomorphisms. *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 231–240. (K. D. Magill, Jr.) **99f:54033** 54D35 (54D40)

Cates, M. E. (*with* Bouchaud, J. P.; Claudin, P.; Wittmer, J. P.) Models of stress propagation in granular media. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 97–121, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:73041** 73E99 (73B99, 76A99)

Cathelineau, Jean-Louis Homology of tangent groups considered as discrete groups and scissors congruence. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 9–25. (Dominique Arlettaz) **99h:57066** 57T10 (20G10, 22E99)

desainte-Catherine, Myriam *see* **Desainte-Catherine, Myriam**

Cătinaş, Emil A note on inexact secant methods. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 33–41. (Boro Döring) **99f:65077** 65H10

— (*with* Păvăloiu, Ion) On the Chebyshev method for approximating the eigenvalues of linear operators. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 43–56. (Alan L. Andrew) **99d:65172** 65J10 (47A75, 65F15)

— (*with* Păvăloiu, Ion) On a Chebyshev-type method for approximating the solutions of polynomial operator equations of degree 2. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 219–226, *Transilvania, Cluj-Napoca*, 1997. (Xiaojun Chen) **99f:65084** 65J15

Catino, F. On a theorem of Gupta and Levin. *Note Mat.* **15** (1995), *no.* 1, 129–135 (1997). (Hartmut Laue) **99b:17026** 17B60 (16N20)

Catoiu, Stefan Ideals of the enveloping algebra $U(\mathrm{sl}_2)$. (English summary) *J. Algebra* **202** (1998), *no.* 1, 142–177. (Vladimir V. Bavula) **99b:16044** 16S30 (17B35)

Catoni, Olivier (*with* Cot, Cécile) Piecewise constant triangular cooling schedules for generalized simulated annealing algorithms. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 375–396. (Laurent Miclo) **99f:65011** 65C05 (60F10, 60J10, 90C42)

— The energy transformation method for the Metropolis algorithm compared with simulated annealing. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 1, 69–89. (Laurent Miclo) **99c:65005** 65C05 (60J10)

— Solving scheduling problems by simulated annealing. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1539–1575 (*electronic*). (Frank Werner) **99d:90058** 90B35 (60J10, 90C27)

Catsigeras, Eleonora Route to chaos by period doubling and multiplicative cascades. (Spanish) *Chaos in Uruguay* (*Spanish*) (*Piriápolis*, 1996), 31–45, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 58F13

— (*with* Enrich, Heber) Homoclinic tangencies near cascades of period doubling bifurcations. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 3, 255–299. (Alexander Loskutov) **99j:58147** 58F14 (58F15)

Cattaneo, Alberto S. (*with* Cotta-Ramusino, Paolo; Rinaldi, Maurizio) BRST symmetries for the tangent gauge group. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1316–1339. (Noriaki Ano) **99k:58054** 58E50 (53C80, 81T70)

Cattaneo, Gianpiero (*with* Formenti, Enrico; Margara, Luciano; Mazoyer, Jacques) A shift-invariant metric on $S^{\mathbf{Z}}$ inducing a non-trivial topology. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 179–188, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68107** 68Q80

— A unified framework for the algebra of unsharp quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3085–3117. (D. J. Foulis) **99c:81009** 81P10 (03G12, 06C15)

— (*with* Formenti, Enrico; Margara, Luciano; Mauri, Giancarlo) Transformations of the one-dimensional cellular automata rule space. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1593–1611. (Henning Fernau) **99d:68166** 68Q80 (58F08)

— Abstract approximation spaces for rough theories. *Rough sets in knowledge discovery*, 1, 59–98, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 04A72 (06A06, 54A40, 54F05)

— (*with* Dalla Chiara, Maria Luisa; Giuntini, Roberto) Some algebraic structures for many-valued logics. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 173–195. (Summary) **99h:03010** 03B50 (03G12)

— (*with* Margara, Luciano) Generalized sub-shifts in elementary cellular automata: the "strange case" of chaotic rule 180. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 171–187. (François Blanchard) **99d:58094** 58F08 (68Q80)

Cattaneo, Giuseppe (*with* Alberts, David; Italiano, Giuseppe F.) An empirical study of dynamic graph algorithms. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 40 *pp.* (*electronic*). (Summary) **99g:68148** 68R10 (05C85)

Cattaneo, M. (*with* Bertero, Mario; Bindi, D.; Boccacci, Patrizia; Eva, C.; Lanza, V.) A novel blind-deconvolution method with an application to seismology. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 815–833. 86A22 (86A15)

Cattani, Carlo (*with* Passarella, Francesca) Nonsimple porous materials with thermal relaxation. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 337–355 (1997). (D. Ieşan) **99d:73003** 73B05 (73B18, 73B30, 73C15)

— Marcolongo and the popularization of the theory of relativity (1906–1924). (Italian. English summary) *Riv. Stor. Sci.* (2) **4** (1996), *no.* 2, 99–144 (1998). (Summary) **99k:01033** 01A60 (83–03)

Cattani, Gian Luca (*with* Stark, Ian; Winskel, Glynn) Presheaf models for the π-calculus. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 106–126, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q10 (68Q55)

— (*with* Fiore, Marcelo; Winskel, Glynn) A theory of recursive domains with applications to concurrency (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 214–225, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (18D05, 68Q55)

degani Cattelani, Franca *see* **Degani Cattelani, Franca**

Cattelani Degani, Franca *see* **Degani Cattelani, Franca**

Cattell, Kevin (*with* Muzio, Jon C.) An explicit similarity transform between cellular automata and LFSR matrices. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 239–251. (Summary) **99d:68167** 68Q80 (15A21, 68Q35)

— (*with* Zhang, Shujian; Serra, Micaela; Muzio, Jon C.) 2-by-n hybrid cellular automata with regular configuration: theory and application. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 3, 285–295. (Summary) **99k:68116** 68Q80 (68Q35)

Cattiaux, P. (*with* Léonard, Christian) Minimization of the Kullback information for some Markov processes. (English summary) *Séminaire de Probabilités, XXX*, 288–311, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Ross Pinsky) **99b:60038** 60F10 (60J25, 60J60)

Cattiaux-Huillard, I. (*with* Fiorot, Jean-Charles) Uniform point distribution on a circle. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 103–110, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65260** 65Y25 (53A04)

Catto, Isabelle (*with* Le Bris, Claude; Lions, Pierre-Louis) Sur la limite thermodynamique pour des modèles de type Hartree et Hartree-Fock. (English and French summaries) [On the thermodynamic limit for Hartree and Hartree-Fock type models] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 259–266. (Summary) **99j:81208** 81V55

Catto, Sultan (*with* Huntley, Jonathan; Jorgenson, Jay; Tepper, David) On an analogue of Selberg's eigenvalue conjecture for $\mathrm{SL}_3(\mathbf{Z})$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3455–3459. (Werner Hoffmann) **99b:11055** 11F72 (22E40)

Catuogno, Pedro Composition and factorization of diffusions on principal fiber bundles. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahia Blanca*, 1997), 59–70, *Univ. Nac. del Sur, Bahia Blanca*, 1997. (Ming Liao) **99c:58169** 58G32

Caubet, Jean-Pierre Matrix nonstationary semigroups: semigroup property and relativity. (English summary) *Proceedings of the Fifth International Colloquium on Differential Equations (Plovdiv, 1994)*, 61–72, *VSP, Utrecht*, 1995. (*see* **98c:00013**) 20M99 (60J27, 60J75, 83A05)

Cauchy, A. L. *see* **Smithies, Frank**, **99b:01013**

Caudill, Lester F., Jr. (*with* Bryan, Kurt) Stability and reconstruction for an inverse problem for the heat equation. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1429–1453. (Peter G. Danilaev) **99m:35258** 35R30 (35K05, 65M12)

— (*with* Perry, Peter A.; Schueller, Albert W.) Isospectral sets for fourth-order ordinary differential operators. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 935–966 (*electronic*). (Vjacheslav A. Yurko) **99c:34022** 34A55 (34B05, 34L40, 47E05)

Caughman, John S., IV Spectra of bipartite P- and Q-polynomial association schemes. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 321–343. (Patrick Solé) **99i:05205** 05E30

mcCauley Bell, Pamela *see* **McCauley Bell, Pamela**

Caulfield, Colm-Cille P. (*with* Woods, Andrew W.) Turbulent gravitational convection from a point source in a non-uniformly stratified environment. (English summary) *J. Fluid Mech.* **360** (1998), 229–248. (Stefan G. Llewellyn Smith) **99e:76124** 76V05 (76F99, 86A10)

Causo, M. S. (*with* Alfinito, E.; Profilo, Gabriella; Soliani, Giulio) A class of nonlinear wave equations containing the continuous Toda case. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2173–2189. (Summary) **99c:35157** 35L70 (35A30, 35Q58, 70G99)

Causon, D. M. (*with* Ingram, D. M.; Yang, Guodong) On applications of high resolution shock capturing methods to unsteady flows. (English summary) *Numerical methods for wave propagation (Manchester, 1995)*, 145–171, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76104** 76M25 (65M99, 76L05)

— (*with* Ivings, M. J.; Toro, E. F.) On Riemann solvers for compressible liquids. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 395–418. (Summary) **99e:76088** 76M25 (76L05)

Caussignac, Ph. Incompletely parabolic systems from Friedrichs theory point of view. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1141–1152. (Yuanming Wang) **99a:35111** 35K40 (35K99, 35M99, 35Q30)

Caussinus, Henri (*with* Lyazrhi, Faouzi) Choosing a linear model with a random number of change-points and outliers. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 761–775. (Summary) **99a:62088** 62J05 (62F15)

Caussinus, Hervé (*with* McKenzie, Pierre; Thérien, Denis; Vollmer, Heribert) Nondeterministic NC^1 computation. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 200–212. (Summary) **99m:68059** 68Q15

Cauty, Robert Quelques problèmes sur les groupes contractiles et la théorie des rétractes. [Some contractible group problems and the theory of retracts] *Mat. Stud.* **3** (1994), 111–116. 54C55

— The strong universality property and its applications. (Russian) *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 95–122. (Taras Banakh) **99i:57040** 57N20 (54B20, 54C35, 54H05, 57N17)

— Solution d'un problème de Radul sur les ensembles absorbants. (Russian summary) [Solution of a problem of Radul on absorbing sets] *Mat. Stud.* **7** (1997), *no.* 2, 201–204, 222. 54C55 (54F65, 57N20)

— (*with* Banakh, T. O.) Hyperspaces of nowhere topologically complete spaces. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 35–51; *translation in Math. Notes* **62** (1997), *no.* 1-2, 30–43 (1998). (Janina Ewert) **99f:54012** 54B20

— Espaces de Maltsev compacts qui ne sont pas des rétractes de groupes compacts. (English summary) [Compact Mal'tsev spaces that are not retracts of compact groups] *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 67–70. (From the text) **99c:55011** 55P45 (22C05, 54C15, 54H11)

— Un exemple de sous-groupe additif de l'espace de Hilbert. [An example of an additive subgroup of Hilbert space] *Colloq. Math.* **77** (1998), *no.* 1, 147–162. (Manuel Sanchis) **99e:22002** 22A05 (54C55)

— Sur les rétractes absolus P_n-valués de dimension finie. (English summary) [On finite-dimensional P_n-valued absolute retracts] *Fund. Math.* **158** (1998), *no.* 3, 241–248. (Summary) **99h:54026** 54C55 (54E20, 54F15)

Caux, J.-S. (*with* Kogan, Ian I.; Lewis, Alexander S.; Tsvelik, Alexei M.) Logarithmic operators and dynamical extension of the symmetry group in the bosonic $SU(2)_0$ and SUSY $SU(2)_2$ WZNW models. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 469–484. (From the introduction) **99e:81221** 81T40 (81R10)

— (*with* Taniguchi, N.; Tsvelik, Alexei M.) Disordered Dirac fermions: multifractality termination and logarithmic conformal field theories. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 671–696. (Summary) **99d:81138** 81T40 (82B44)

Cavaglià, Marco (*with* de Alfaro, Vittorio; Filippov, A. T.) Definition of time in quantum cosmology. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 375–380, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C45

— (*with* Fatibene, Lorenzo; Francaviglia, Mauro) Two-dimensional dilaton gravity coupled to massless spinors. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3627–3643. (Michael O. Katanaev) **99k:81279** 81T40 (83C99)

— (*with* de Alfaro, Vittorio; Filippov, A. T.) Quantization of the string inspired dilaton gravity and the Birkhoff theorem. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 265–270. (Summary) **99b:83032** 83C45 (83E30)

— *see also* **Conference: General Relativity and Gravitational Physics**, **99e:83002**

Cavaillès, Jean *see* **Sinaceur, Hourya**, (**99g:01038**)

Cavalcanti, Ana (*with* Sampaio, Augusto; Woodcock, Jim) An inconsistency in procedures, parameters, and substitution in the refinement calculus. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 1, 87–96. 68N05

Cavalcanti, M. M. (*with* Soriano, J. A.) On solvability and stability of the wave equation with lower order terms and boundary damping. (English summary) *Rev. Mat. Apl.* **18** (1997), *no.* 2, 61–78. (Alan Jeffrey) **99a:35154** 35L05 (35B35, 93C20)

— (*with* Domingos Cavalcanti, V. N.; Soriano, J. A.) Existence and boundary stabilization of a nonlinear hyperbolic equation with time-dependent coefficients. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 8, 21 *pp.* (*electronic*). (Enzo Vitillaro) **99b:35141** 35L70 (35B35, 93C20, 93D15)

— (*with* Domingos Cavalcanti, V. N.; Rocha dos Santos, Angela; Soriano, J. A.) Exact controllability of a second-order integro-differential equation with a pressure term. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 9, 18 *pp.* (*electronic*). (Irina F. Sivergina) **99k:93017** 93B05 (35L99, 45K05, 73K50, 93C20)

— (*with* Lar'kin, N. A.; Soriano, J. A.) On solvability and stability of solutions of nonlinear degenerate hyperbolic equations with boundary damping. (English summary) *Funkcial. Ekvac.* **41** (1998), *no.* 2, 271–289. (Summary) **99h:35147** 35L80 (35B35, 35L70)

— (*with* Domingos Cavalcanti, V. N.; Prates Filho, J. S.; Soriano, J. A.) Existence and exponential decay for a Kirchhoff-Carrier model with viscosity. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 40–60. (Summary) **99g:35084** 35L70 (35B40)

— Boundary stabilization of a hyperbolic equation with viscosity. (English summary) *New York J. Math.* **4** (1998), 167–176 (*electronic*). (A. V. Perzhan) **99k:35108** 35L20 (35B35)

Cavalcanti, R. M. (*with* Aragão de Carvalho, C. A.) Semiclassical statistical mechanics. (English summary) *Trends in theoretical physics (La Plata, 1997)*, 94–104, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99f:82006** 82B10 (58C28, 81Q20)

domingos Cavalcanti, V. N. *see* **Domingos Cavalcanti, V. N.**

Cavalcanti, V. N. Domingos *see* **Domingos Cavalcanti, V. N.**

Cavaleri, L. (*with* Osborne, A. R.; Serio, M.; Bergamasco, L.) Solitons, cnoidal waves and nonlinear interactions in shallow-water ocean surface waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 64–81. (Summary) **99i:76021** 76B25 (35Q53, 86A05)

Cavalier, Laurent Nonparametric estimation of regression level sets. (English summary) *Statistics* **29** (1997), *no.* 2, 131–160. (Wolfgang Polonik) **99b:62048** 62G05 (62G20)

Cavaliere, Paola (*with* Longobardi, Maria; Vitolo, Antonio) Imbedding estimates and elliptic equations with discontinuous coefficients in unbounded domains. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 1, 87–104 (1997). (Jiří Rákosník) **99a:35049** 35J25 (35B45, 35R05, 46E35)

— (*with* Di Gironimo, Patrizia; Longobardi, Maria) Dirichlet problem for elliptic equations in unbounded domains. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 235–253. (Galina P. Lopushanska) **99c:35043** 35J25

Cavaliere, Sergio (*with* Evangelista, Gianpaolo) Discrete frequency warped wavelets: theory and applications. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 874–885. (Summary) **99h:94007** 94A11 (42C15)

Cavallar, Stefania (*with* Lemmermeyer, Franz) The Euclidean algorithm in cubic number fields. (English summary) *Number theory (Eger, 1996)*, 123–146, *de Gruyter, Berlin*, 1998. (Heinrich Rolletschek) **99e:11137** 11R16 (11Y40)

Cavalleri, G. (*with* Covino, S.) Cosmological isotropic coordinates with equal local meter sticks. (English summary) *Hadronic J.* **21** (1998), *no.* 5, 551–565. 83A05

Cavanagh, Christopher (*with* Sherman, Robert P.) Rank estimators for monotonic index models. (English summary) *J. Econometrics* **84** (1998), *no.* 2, 351–381. (Summary) **99b:62160** 62P20 (62G05)

Cavanaugh, Charles D. (*with* King, Ronald S.) Data relatability dependencies and the decomposition of database relations. (English summary) *Texas J. Sci.* **50** (1998), *no.* 1, 57–74. (János Demetrovics) **99a:68043** 68P15

Cavanaugh, Joseph E. (*with* Shumway, Robert H.) An Akaike information criterion for model selection in the presence of incomplete data. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 45–65. (Summary) **99d:62003** 62B10

— (*with* Johnson, Wesley O.) Assessing the predictive influence of cases in a state space process. (English summary) *Biometrika* **86** (1999), *no.* 1, 183–190. (Summary) **99m:62131** 62M10

Cavas, J. A. (*with* Molina Legaz, R.; Vigueras Campuzano, Antonio) Equilibrium solutions and stability in a generalized Lagrange-Poisson problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 70E15 (70K20)

Cavaterra, Cecilia (*with* Grasselli, Maurizio) On an inverse problem for a model of linear viscoelastic Kirchhoff plate. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 179–218. (Kenneth B. Hannsgen) **99a:45017** 45K05 (35Q72, 35R30, 73F15, 73K10)

— An inverse problem for a viscoelastic Timoshenko beam model. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 67–87. (Paul Andrew Martin) **99e:73057** 73F15

romão Cavati, Cicero *see* **Romão Cavati, Cicero**

Cavazos-Cadena, Rolando Undiscounted value iteration in stable Markov decision chains with bounded rewards. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 34 *pp.* (*electronic*). (Linn I. Sennott) **99j:90108** 90C40

— A pause control approach to the value iteration scheme in average Markov decision processes. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 209–219. (Summary) **99a:90223** 90C40

— A note on the convergence rate of the value iteration scheme in controlled Markov chains. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 221–230. (Summary) **99a:90224** 90C40 (93E20)

Cavazos-Gaither, Alma E. *see* **Mathematically speaking**, **99k:00008**

Caveen, James (*with* Côté, Jean; Gravel, Sylvie; Roch, Michel; Méthot, André; Patoine, Alain; Valin, Michel; Thomas, Steve; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)

Caveing, Maurice Platon et les mathématiques. [Plato and mathematics] *Les philosophes et les mathématiques*, 7–25, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

— *see also* **Philosophers and mathematics**, **99g:01038** *and* **Euclid**, **99m:01004**

Cavenagh, Nicholas J. Decompositions of complete tripartite graphs into k-cycles. (English summary) *Australas. J. Combin.* **18** (1998), 193–200. (Summary) **99f:05086** 05C70 (05C38)

Caves, Carlton M. (*with* Nielsen, M. A.; Schumacher, Benjamin; Barnum, Howard) Information-theoretic approach to quantum error correction and reversible measurement. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 277–304. (Frank Antonsen) **99m:81039** 81P99 (82B03, 94A15)

Cavicchioli, Alberto (*with* Repovš, Dušan D.) Peripheral acyclicity and homology manifolds. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 5–24. (Paul F. Duvall) **99g:57026** 57N35 (57P99)

— Corrigendum to: "Imbeddings of polyhedra in 3-manifolds" [Ann. Mat. Pura Appl. (4) **162** (1992), 157–177; MR 94d:57012]. *Ann. Mat. Pura Appl.* (4) **173** (1997), 391. (Editors) **99b:57007** 57M25

— (*with* Lickorish, William B. R.; Repovš, Dušan D.) On the equivalent spines problem. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 775–788. (Summary) **99b:57035** 57N10

— (*with* Hegenbarth, Friedrich; Spaggiari, Fulvia) A splitting theorem for homotopy equivalent smooth 4-manifolds. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 523–539. (Masayuki Yamasaki) **99a:57019** 57N13 (57R42, 57R67)

— (*with* Hegenbarth, Friedrich; Repovš, Dušan D.) On manifold spines and cyclic presentations of groups. (English summary) *Knot theory* (*Warsaw*, 1995), 49–56, *Banach Center Publ.*, **42**, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57003** 57M05 (57N10)

— (*with* Hegenbarth, Friedrich; Spaggiari, Fulvia) Topological properties of high-dimensional handles. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 45–62. (V. P. Snaith) **99e:57036** 57Q37 (57N65, 57R65)

— (*with* Meschiari, M.; Ruini, Beatrice; Spaggiari, Fulvia) A survey on snarks and new results: products, reducibility and a computer search. (English summary) *J. Graph Theory* **28** (1998), *no.* 2, 57–86. (Martin Kochol) **99d:05031** 05C15 (05C38, 05C40)

— (*with* Hegenbarth, Friedrich) On pseudo-isotopy classes of homeomorphisms of $\#_p(S^1 \times S^n)$. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 145–164. (Sergej V. Matveev) **99f:57025** 57N37 (57R65)

— (*with* Repovš, Dušan D.; Skopenkov, A. B.) Open problems on graphs arising from geometric topology. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 207–226. (Andrew Vince) **99d:57002** 57M15 (05C10, 54B35, 54C25, 54F50)

— (*with* Muranov, Yu. V.; Repovš, Dušan D.) Spectral sequences in K-theory for a twisted quadratic extension. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 1–13. (A. A. Ranicki) **99k:19003** 19J25 (57R67)

Caviglia, Giacomo (*with* Morro, Angelo) On modelling reflection-transmission problems. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 875–896. (Summary) **99d:76091** 76Q05 (73D25, 78A45)

Caviness, B. F. *see* **Quantifier elimination and cylindrical algebraic decomposition, 99b:03007**

Cayley, Arthur *see* **Crilly, Tony, 99k:01055**

Cayrol, C. (*with* Lagasquie-Schiex, M.-C.; Schiex, Thomas) Nonmonotonic reasoning: from complexity to algorithms. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 207–236. (Summary) **99h:68160** 68T27 (03B45, 03B60, 03B70, 03D15, 68Q25)

Cazacu, C. *see* **Cazacu, Costică**

andreian Cazacu, Cabiria *see* **Andreian Cazacu, Cabiria**

Cazacu, Costică (*with* Ibănescu, L.) Semigroups of RN-algorithms. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform.* (*N.S.*) **5/6** (1996/97), 35–48 (1998). (Summary) **99c:68106** 68Q20

Cazacu, O. On the choice of stress-dependent elastic moduli for transversely isotropic solids. *Mech. Res. Comm.* **26** (1999), *no.* 1, 45–54. 73C05 (73B40, 73B99)

Cazaran, Jilyana (*with* Kelarev, Andrei V.) Generators and weights of polynomial codes. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 479–486. (Shojiro Sakata) **99b:94055** 94B60 (11T71)

Cazenave, Thierry (*with* Dickstein, Flávio) Implicit finite difference schemes for a linear model of well-reservoir coupling. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 91–120. (Jian-Ping Zhu) **99a:76093** 76M20 (65M06, 76S05)

— (*with* Weissler, Fred B.) Asymptotically self-similar global solutions of the nonlinear Schrödinger and heat equations. *Math. Z.* **228** (1998), *no.* 1, 83–120. (Elaine Machtyngier) **99d:35149** 35Q55 (35B60, 47D06)

— (*with* Weissler, Fred B.) More self-similar solutions of the nonlinear Schrödinger equation. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 355–365. (Yun Mei Chen) **99f:35185** 35Q55 (35D05)

Cazzani, A. (*with* Lovadina, C.) On some mixed finite element methods for plane membrane problems. (English summary) *Comput. Mech.* **20** (1997), *no.* 6, 560–572. (Summary) **99a:73120** 73V05 (73K10)

Cazzavillan, Guido (*with* Lloyd-Braga, Teresa; Pintus, Patrick A.) Multiple steady states and endogenous fluctuations with increasing returns to scale in production. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 60–107. (Summary) **99d:90025** 90A14 (90A50)

Cebers, A. *see* **Tsebers, A. O.**

Cebrián de Barrio, Elena (*with* Mustieles Moreno, Francisco J.) Deterministic algorithms for computing collision operators in particle methods. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 82C80

Ceccarossi, G. Irreducible matrices and primitivity index. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 50–71, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:05105** 05C50 (15A48)

Ceccherini, Pier Vittorio (*with* Buratti, Marco; Burosch, Gustav) A characterization of hypergraphs which are products of a finite number of edges. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 373–385. (Martin Sonntag) **99a:05104** 05C65 (05C75)

— Giuseppe Tallini (1930–1995). (Italian) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 452–474. (Editors) **99m:01048** 01A70

Ceccherini-Silberstein, Tullio G. (*with* Grigorchuk, Rostislav I.) Amenability and growth of one-relator groups. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 337–354. (Michael Anshel) **99b:20057** 20F10 (20E06, 20F12, 20F38)

— (*with* Grigorchuk, Rostislav I.; de la Harpe, Pierre) Décompositions paradoxales des groupes de Burnside. (English and French summaries) [Paradoxical decompositions of free Burnside groups] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 127–132. (Javier Otal) **99i:20043** 20F05 (20E99, 20F50)

Cecchi, M. *see* **Cecchi, Mariella**

morandi Cecchi, Maria *see* **Morandi Cecchi, Maria**

Cecchi, Maria Morandi *see* **Morandi Cecchi, Maria**

Cecchi, Mariella (*with* Došlá, Zuzana; Marini, Mauro) An equivalence theorem on properties A, B for third order differential equations. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 373–389. (C. A. Swanson) **99f:34043** 34C10 (34C11)

— (*with* Došlá, Zuzana; Marini, Mauro) On nonlinear oscillations for equations associated to disconjugate operators. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1583–1594. (Gary D. Jones) **99a:34094** 34C10

Cecchini, Carlo Spatial stochastic transitions on von Neumann algebras. *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 119–126. (B. V. Rajarama Bhat) **99b:46098** 46L50 (81S25)

Cecconi, Jaures Pacifico Ennio De Giorgi [1928–1996]. (Italian) *Atti Accad. Ligure Sci. Lett.* (5) **54** (1997), 63–67 (1998). 01A70

Cechlárová, Katarína Persistency in the assignment and transportation problems. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 243–254. (Mechthild Opperud) **99h:90065** 90C08 (05C70, 90C31, 90C35)

Ceci, Claudia (*with* Bassan, Bruno) An optimal stopping problem arising from a decision model with many agents. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 393–408. (H.-J. Engelbert) **99h:60090** 60G40 (60J65)

— (*with* Gerardi, Anna) Optimal control and filtering of the reproduction law of a branching process. (English summary) *Acta Appl. Math.* **55** (1999), *no.* 1, 27–50. (Ł. Stettner) **99m:93106** 93E20 (60J80, 93E11)

Cedell, Tord (*with* Weston, Richard S.) Finite elements solutions to magnetostriction. I. Harmonic modelling. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 187–196. (Summary) **99g:78009** 78–08 (73R05, 73V05)

— (*with* Weston, Richard S.) Finite elements solutions to magnetostriction. II. Transient and non-linear modelling. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 197–204. (Summary) **99g:78010** 78–08 (73R05, 73V05)

Ceder, J. G. (*with* Agronsky, S. J.; Pearson, T. L.) Some characterizations of Darboux Baire 1 functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 421–430. (Władysław Wilczyński) **99h:26008** 26A21 (26A15)

majster-Cederbaum, Mila *see* **Majster-Cederbaum, Mila**

Cedervall, Mats (*with* Sorelius, Joakim; Söderström, Torsten; Stoica, Petre) Comparative study of rank test methods for ARMA order estimation. *Statistical methods in control and signal processing*, 179–216, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E10 (62M10)

Cederwall, Martin Problems with duality in $N = 2$ super-Yang-Mills theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 386–389, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81181** 81T60 (81T13)

— (*with* Townsend, Paul K.) The manifestly SL(2; **Z**)-covariant superstring. (English summary) *J. High Energy Phys.* **1997**, *no.* 9, *Paper* 3, 9 *pp.* (*electronic*). (Sergey Nikolaevich Roshchupkin) **99a:81130** 81T30

— (*with* Adawi, Tom; Gran, Ulf; Holm, Magnus; Nilsson, Bengt E. W.) Superembeddings, nonlinear supersymmetry and five-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4691–4715. (Sergey Nikolaevich Roshchupkin) **99j:81129** 81T30

— (*with* Westerberg, Anders) World-volume fields, SL(2; **Z**) and duality: the type IIB 3-brane. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 4, 14 *pp.* (*electronic*). (C. Gauthier) **99e:81182** 81T30

— (*with* Nilsson, Bengt E. W.; Sundell, Per) An action for the super-5-brane in $D = 11$ supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 7, 9 *pp.* (*electronic*). (Jihad Mourad) **99d:83091** 83E30 (81T30, 83E50)

— (*with* Adawi, Tom; Gran, Ulf; Nilsson, Bengt E. W.; Razaznejad, Behrooz) Goldstone tensor modes. (English summary) *J. High Energy Phys.* **1999**, *no.* 2, *Paper* 1, 21 *pp.* (*electronic*). (Summary) **99k:81210** 81T30 (83E50)

Cedilnik, A. Subassociative algebras. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 229–241. (Dominique Lambert) **99d:17002** 17A01 (17D25)

Cedio-Fengya, D. J. (*with* Moskow, Shari; Vogelius, Michael) Identification of conductivity imperfections of small diameter by boundary measurements. Continuous dependence and computational reconstruction. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 553–595. (Summary) **99d:78011** 78A25 (35R30, 65N99, 78–08, 78A55)

— (*with* Romerio, Michel V.; Vogelius, Michael) Determination of the interface between the fluids in a Hall-Héroult cell from measurements of electric potentials and currents on the electrodes. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 245–277 (*electronic*). (Alfredo Lorenzi) **99k:35196** 35R35 (65N99, 78A55)

Cedó, Ferran (*with* Rowen, Louis H.) Addendum to: "Examples of semiperfect rings" [Israel J. Math. **65** (1989), no. 3, 273–283; MR 90j:16054] by Rowen. (English summary) *Israel J. Math.* **107** (1998), 343–348. (Summary) **99i:16037** 16L30

Cegrell, Urban Pluricomplex energy. *Acta Math.* **180** (1998), *no.* 2, 187–217. (Sławomir Kołodziej) **99h:32016** 32F07

— (*with* Kołodziej, Sławomir; Levenberg, Norman) Two problems on potential theory for unbounded sets. *Math. Scand.* **83** (1998), *no.* 2, 265–276. (Eric Bedford) **99m:31015** 31C05 (30C85, 31C10, 32F05)

Ceimiņš, Aivars The method of Gauss in 1799. (English summary) *Statist. Sci.* **13** (1998), *no.* 2, 123–135. (Summary) **99f:62080** 62J05 (62–03)

Čekanavičius, Vydas Bergström-type asymptotic expansions in the first uniform Kolmogorov's theorem. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 223–238, *TEV, Vilnius*, 1994. (Summary) **99f:60039** 60F05

— Asymptotic expansions for generalized Poisson measures. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 426–447; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 320–336 (1998). (Małgorzata Majsnerowska) **99g:60045** 60F05

— (*with* Vaitkus, Pranas) Large deviations for signed compound Poisson approximations. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 379–396. (Małgorzata Majsnerowska) **99b:60039** 60F10 (60G50)

— On signed normal-Poisson approximations. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 565–583. (Dominik Szynal) **99k:60054** 60F05

— Poisson approximations for sequences of random variables. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 101–107. (Andrew D. Barbour) **99i:60046** 60F05

Cel, Jarosław Geometric-combinatorial characteristics of cones. (English summary) *Note Mat.* **16** (1996), *no.* 1, 59–76 (1998). (S. Kutateladze) **99k:52001** 52A07

— A generalization of Tietze's theorem on local convexity for open sets. (English summary) *Bull. Soc. Roy. Sci. Liège* **67** (1998), *no.* 1-2, 31–33. (Summary) **99d:46002** 46A03 (52A07)

— Sets which are almost starshaped. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 36–39. (John D. Baildon) **99i:52007** 52A30 (46A99)

— Characterizing starshaped sets by maximal visibility. (English summary) *Geom. Dedicata* **74** (1999), *no.* 2, 135–137. (Summary) **99k:46006** 46A16 (52A07, 52A30)

Çela, Eranda ★ The quadratic assignment problem. (English summary) Theory and algorithms. Combinatorial Optimization, 1. *Kluwer Academic Publishers, Dordrecht*, 1998. xvi+287 *pp. ISBN* 0-7923-4878-8 (Rainer Burkard) **99a:90001** 90–02 (65F30, 90C27, 90C35)

— (*with* Burkard, Rainer E.; Pardalos, Panos M.; Pitsoulis, Leonidas S.) The quadratic assignment problem. *Handbook of combinatorial optimization, Vol.* 3, 241–237, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90–02, 90C10)

— (*with* Burkard, Rainer E.; Rote, Günter; Woeginger, Gerhard J.) The quadratic assignment problem with a monotone anti-Monge and a symmetric Toeplitz matrix: easy and hard cases. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 125–158. (Roman Słowiński) **99i:90078** 90C27 (90C20)

Celada, Pietro Minimum problems on SBV with irregular boundary datum. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 193–211. (Michele Carriero) **99f:49005** 49J20 (49Q20)

— (*with* Perrotta, Stefania; Treu, Giulia) Existence of solutions for a class of nonconvex minimum problems. *Math. Z.* **228** (1998), *no.* 1, 177–199. (Bernhard Kawohl) **99i:49002** 49J10 (49J45, 49Q10)

— (*with* Perrotta, Stefania) Functions with prescribed singular values of the gradient. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 383–396. (Alexander A. Pankov) **99f:49001** 49J10 (49Q10)

Celani, A. (*with* Biferale, L.; Boffetta, G.; Toschi, F.) Multi-time, multi-scale correlation functions in turbulence and in turbulent models. (English summary) *Phys. D* **127** (1999), *no.* 3-4, 187–197. 76F99

— (*with* Biskamp, D.; Schwarz, E.; Zeiler, A.; Drake, J. F.) Electron magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 751–758. (Summary) **99k:76149** 76W05 (76F99)

Celani, M. (*with* Cerulli, R.; Gaudioso, M.; Sergeev, Yaroslav D.) A multiplier adjustment technique for the capacitated concentrator location problem. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 87–102. 90B80 (90C09)

Celani, Sergio A. A note on $\mathscr{R}_3$-algebras. (English summary) *Rev. Colombiana Mat.* **31** (1997), *no.* 2, 125–136. (Summary) **99i:03082** 03G20 (03G25, 06D20, 06D30)

Çelebi, A. Okay (*with* Feza Güvenilir, A.) Existence of solutions of semilinear higher order elliptic equations. (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 203–218. (Gianni Arioli) **99f:35048** 35J60

— (*with* Yüksel, Uğur) Solution of initial value problems for pseudoholomorphic functions in conical domains. *Generalized analytic functions* (*Graz*, 1997), 65–67, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 30G20

— (*with* Sengül, Sare) On Riemann functions for complex differential equations. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 309–320. (Guo Chun Wen) **99j:35004** 35A20 (30E25, 35C05, 35L25)

— (*with* Yüksel, Uğur) Solution of initial value problems for pseudoholomorphic functions in conical domains. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 195–205. (Summary) **99m:30096** 30G20 (35A20)

— (*with* Tiryaki, Aydin) Nonoscillation and asymptotic behaviour for third order nonlinear differential equations. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 677–685. (Ondřej Došlý) **99k:34072** 34C10

— (*with* Kalantarov, Varga K.; Tahamtani, Faramarz) Phragmén-Lindelöf type theorems for some semilinear elliptic and parabolic equations. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 43–54. (H. J. Kuiper) **99c:35054** 35J60 (35B05, 35K55)

Celeghini, Enrico (*with* Ballesteros, Angel; Herranz, Francisco J.; del Olmo, Mariano A.; Santander, Mariano) Non-quasitriangular Hopf algebras and quantum $(1+1)$ affine orthogonal groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 319–324, *PWN, Warsaw*, 1995. (Michèle Irac-Astaud) **99f:81088** 81R50 (16W60, 17B37)

— (*with* Kulish, P. P.) Twist deformation of the rank-one Lie superalgebra. (English summary) *J. Phys. A* **31** (1998), *no.* 4, *L79–L84*. (Władysław Marcinek) **99d:17018** 17B37 (16W30, 81R50)

— (*with* Rasetti, Mario) Generalized bosons and coherent states. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 16, 3424–3427. (Summary) **99a:81066** 81R30

Celigoj, C. C. Finite deformation coupled thermomechanical problems and "generalized standard materials". (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1025–1043. 73C50 (73B30, 73V05)

Çelik, Cesim CESS-modules. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 69–75. (Zhong Kui Liu) **99d:16009** 16D80

Çelik, Salih The Hopf algebra structure of $\mathrm{GL}(1, \mathbf{H}_q)$ and the isomorphism between $\mathrm{Sp}_q(1)$ and $\mathrm{SU}_q(2)$. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 27–34. (Yu. N. Bespalov) **99h:17017** 17B37 (16W30, 81R50)

— (*with* Çelik, Sultan A.; Arik, Metin) Differential calculus on the h-superplane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3426–3436. (Władysław Marcinek) **99f:58014** 58B30 (17B37, 81R50)

— (*with* Çelik, Sultan A.) Two-parameter differential calculus on the h-exterior plane. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 413–418. (Andreas Cap) **99m:58019** 58B30 (16W30, 81R50)

— (*with* Çelik, Sultan A.) Comment on the differential calculus on the quantum exterior plane. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 20, 1645–1651. (Roberto Casalbuoni) **99d:58022** 58B30 (81R50)

Çelik, Sultan A. (*with* Çelik, Salih; Arik, Metin) Differential calculus on the h-superplane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3426–3436. (Władysław Marcinek) **99f:58014** 58B30 (17B37, 81R50)

— (*with* Çelik, Salih) Two-parameter differential calculus on the h-exterior plane. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 413–418. (Andreas Cap) **99m:58019** 58B30 (16W30, 81R50)

— (*with* Çelik, Salih) Comment on the differential calculus on the quantum exterior plane. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 20, 1645–1651. (Roberto Casalbuoni) **99d:58022** 58B30 (81R50)

Çelik, Yunus (*with* Arslan, Kadri; Deszcz, Ryszard) A note on geodesic circles on Riemannian manifolds. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 453–459. (James J. Hebda) **99b:53058** 53C22

— (*with* Arslan, Kadri; Deszcz, Ryszard; Özgür, C.) Submanifolds all of whose normal sections are W-curves. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 537–544. (V. Oproiu) **99e:53018** 53B25 (53C40)

— (*with* Arslan, Kadri; Deszcz, Ryszard; Ezentaş, Rıdvan) On the equivalence of Ricci-semisymmetry and semisymmetry. *Colloq. Math.* **76** (1998), *no.* 2, 279–294. (Eric Boeckx) **99a:53055** 53C25

Čelikovský, Sergej (*with* Liu, Xiao Ping[2]) Feedback control of affine nonlinear singular control systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 753–774. 93B52 (93C70)

ullán de Celis, Antonio *see* **Ullán de Celis, Antonio**

Celledoni, Elena Krylov methods for linear systems of ordinary differential equations. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 177–180. 65L06

— Discrete QMR and BGC in the numerical solution of linear systems of ODEs. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 159–177. (Cs. J. Hegedűs) **99f:65047** 65F10 (65L06)

Celler, F. (*with* Leedham-Green, Charles) A constructive recognition algorithm for the special linear group. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 11–26, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Cheryl E. Praeger) **99g:20001** 20–04 (15A33, 20C40, 20G40)

Celletti, Alessandra (*with* Penna, Gabriella Della; Froeschlé, Claude) Analytical approximation of the solution of the dissipative standard map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 12, 2471–2479. 58F27

— (*with* Bajo Lorenzana, V. M.; Villa, A. E. P.) Correlation dimension for two experimental time series. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 4, 381–396. 58F13 (58F40)

Cellier, Dominique (*with* Robert, Christian P.) Convergence control of MCMC algorithms. *Discretization and MCMC convergence assessment*, 27–46, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J05 (60F05, 60J10)

— (*with* Muri, Florence; Chauveau, Didier) Convergence assessment in latent variable models: DNA applications. *Discretization and MCMC convergence assessment*, 127–146, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J05 (60J10, 62F15, 92D20)

Cellina, Arrigo (*with* Perrotta, Stefania) On the validity of the maximum principle and of the Euler-Lagrange equation for a minimum problem depending on the gradient. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1987–1998 (*electronic*). (Françoise Berquier) **99g:49018** 49K10 (49J45)

Cellini, Paola (*with* Cangelmi, L.) A representation of even permutations. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 419–422. (Summary) **99d:05001** 05A05

— Cyclic Eulerian elements. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 545–552. (Stephen Tanny) **99c:05009** 05A15

— (*with* Papi, Paolo) The structure of total reflection orders in affine root systems. (English summary) *J. Algebra* **205** (1998), *no.* 1, 207–226. (Jorge A. Vargas) **99g:17047** 17B67 (17B20)

Cellucci, Carlo The process of hypothesis and logic. (Italian) *Epistemology of mathematics.* 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 63–83, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03A05

Cellurale, Elena A Stefan problem in weighted Nikol'skij spaces. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 99–118 (1997). (Jing Xue Yin) **99g:35146** 35R35 (35K55)

— Stefan problem in weighted Nikol'skiĭ spaces. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 89–92. 35R35 (35K05, 80A22)

Celmiņš, Aivars *see* **Ceimiņš, Aivars**

Celorrio, Ricardo (*with* Lisbona, Francisco J.; Sayas, Francisco Javier) Integral models and their discretizations for unsaturated fluids around a tunnel. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 655–660, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (76S05)

Cembranos, Pilar (*with* Mendoza, José) ★ Banach spaces of vector-valued functions. Lecture Notes in Mathematics, 1676. *Springer-Verlag, Berlin*, 1997. viii+118 *pp. ISBN* 3-540-63745-1 (Giovanni Emmanuele) **99f:46049** 46E40 (46B20)

Cen, Jian Miao (*with* Lu, Zhongjian) On diagonalization and spectral decomposition of diagonally factor block circulant matrices. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 367–377. (Moody T. Chu) **99e:15018** 15A23 (15A57)

— The spectral decomposition of diagonally factor circulant matrices and its application. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 47–54. (Shuangzhe Liu) **99e:15017** 15A23

— On the sandwich semigroups of group Boolean matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 416–428 (*electronic*). (Walter S. Sizer) **99b:20101** 20M99 (15A30, 15A33)

— Fuzzy matrix partial orderings and generalized inverses. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 453–458. 15A09

Cen, Jiaping *see* **Shum, Kar Ping**

Cencelj, Matija Spectral sequences of unbounded bicomplexes. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 2, 161–165. 18G40

Cendejas, Luis Villaseñor *see* **Particles and fields, 99h:81003**

vázquez Cendón, C. *see* **Vázquez Cendón, C.**

vázquez-Cendón, María Elena *see* **Vázquez-Cendón, María Elena**

Cendra, Hernán (*with* Holm, Darryl D.; Hoyle, Mark J. W.; Marsden, Jerrold E.) The Maxwell-Vlasov equations in Euler-Poincaré form. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3138–3157. (Summary) **99e:76131** 76X05 (58F05, 58F40, 76M30, 82D10)

Cenedese, C. (*with* Linden, Paul F.) Cyclone and anticyclone formation in a rotating stratified fluid over a sloping bottom. (English summary) *J. Fluid Mech.* **381** (1999),

199–223. 76–05 (76C20, 76V05, 86A05)

Cengiz, B. The dual of the Bochner space $L^p(\mu, E)$ for arbitrary μ. (English summary) *Turkish J. Math.* **22** (1998), *no.* 3, 343–348. (Summary) **99k:46061** 46E40 (46B10)

Ceniceros, Hector D. (*with* Hou, Thomas Yizhao) Dynamic generation of capillary waves. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1042–1050. (Summary) **99m:76012** 76B15 (76B45, 76D33, 76D45)

Censor, Yair (*with* Reich, Simeon) The Dykstra algorithm with Bregman projections. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 407–419. (M. Teboulle) **99e:90111** 90C48 (49M30, 65K10)

— (*with* Iusem, Alfredo N.; Zenios, Stavros A.) An interior point method with Bregman functions for the variational inequality problem with paramonotone operators. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 373–400. (M. Teboulle) **99f:90147** 90C33 (49J40, 90C25, 90C48)

del Centina, A. *see* **Del Centina, A.**

Centrella, Joan M. (*with* New, Kimberly C. B.; Watt, Keith; Misner, Charles W.) Stable 3-level leapfrog integration in numerical relativity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064022, 14 *pp.* 83–04 (83–08)

Cenzer, Douglas (*with* Remmel, Jeffrey B.) Index sets for Π^0_1 classes. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 3–61. (Victor Selivanov) **99m:03080** 03D25 (03D55, 03D80)

— (*with* Remmel, Jeffrey B.) Complexity and categoricity. (English summary) *Inform. and Comput.* **140** (1998), *no.* 1, 2–25. (Marat M. Arslanov) **99c:03056** 03C57 (03D15, 03D45, 68Q15)

— *see also* **Computability theory, 99d:03038**

Ceola, Corine (*with* Lecomte, Pierre B. A.) Computability of a map and decidability of its graph in the model of Blum, Shub and Smale. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 219–223. (Summary) **99a:68054** 68Q05 (03C10)

Cépa, Emmanuel Problème de Skorohod multivoque. (English and French summaries) [Multivalued Skorokhod problem] *Ann. Probab.* **26** (1998), *no.* 2, 500–532. (Constantin Tudor) **99c:60114** 60H10 (60J60)

— (*with* Jacquot, S.) Ergodicité d'inégalités variationnelles stochastiques. (English and French summaries) [Ergodicity of stochastic variational inequalities] *Stochastics Stochastics Rep.* **63** (1998), *no.* 1-2, 41–64. (Summary) **99f:60104** 60H07 (60J60)

Cepedello Boiso, Manuel Approximation of Lipschitz functions by Δ-convex functions in Banach spaces. (English summary) *Israel J. Math.* **106** (1998), 269–284. (Marián Fabian) **99j:46016** 46B10 (41A29, 41A65)

— On regularization in superreflexive Banach spaces by infimal convolution formulas. (English summary) *Studia Math.* **129** (1998), *no.* 3, 265–284. (S. Cobzaş) **99b:46117** 46N10 (41A65, 46B20, 46G05)

Čepek, Ondřej (*with* Boros, Endre; Kogan, Alexander[1]) Horn minimization by iterative decomposition. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 321–343. (Summary) **99i:68058** 68Q25 (68N17, 68T15)

Ceperley, David M. Solving quantum many-body problems with random walks. (English summary) *Computational physics* (*Canberra*, 1996), 117–158, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00012**) 65C10 (81V70, 82B41, 82B80)

Ceppitelli, Rita (*with* Brandi, Primo) A hypertopology intended for functional-differential equations. (English summary) *Appl. Anal.* **67** (1997), *no.* 1-2, 73–88. (Summary) **99a:54010** 54C20 (34K05, 35R10, 54B20)

— (*with* Faina, Loris) Extremal solutions for a class of functional-differential equations. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 69–94. (Krzysztof A. Topolski) **99a:34173** 34K05 (34A12)

Čepulić, Vladimir The unique symmetric block design (61, 16, 4) admitting an automorphism of order 15 operating standardly. *Discrete Math.* **175** (1997), *no.* 1-3, 259–263. (Krystyna Katulska) **99b:05016** 05B05 (62K15)

Ceragioli, F. The linearization method of stability theory in Banach spaces. (English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 2, 167–177. (George Karakostas) **99c:34102** 34D10 (34G20)

Cerami, G. (*with* Wei, Juncheng) Multiplicity of multiple interior peak solutions for some singularly perturbed Neumann problems. *Internat. Math. Res. Notices* **1998**, *no.* 12, 601–626. (Andrzej Szulkin) **99j:35063** 35J65 (35B25, 58E05)

Ceran, Şahin (*with* Ozturk, Ilhan) On α-derivation of prime rings. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 15–20. (Miguel Ferrero) **99c:16031** 16W25 (16N60)

Ceranka, B. (*with* Katulska, K.) Optimum chemical balance weighing designs under equal correlations of errors. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 3–9, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62087** 62K05

Cerbah, Saïd Exponential decay of eigenfunctions of Hamiltonians with short range potential. (English summary) *J. Anal. Math.* **76** (1998), 205–218. (Christian Remling) **99m:81042** 81Q05 (35B40, 35Q40)

Cercignani, Carlo (*with* Gerasimenko, V. I.; Petrina, D. Ya.) ★ Many-particle dynamics and kinetic equations. (English summary) Translated from the Russian manuscript by K. Petrina and V. Gredzhuk. Mathematics and its Applications, 420. *Kluwer Academic Publishers Group, Dordrecht*, 1997. viii+244 *pp. ISBN* 0-7923-4696-3 (Reinhard Illner) **99c:82057** 82C40 (35Q99, 45K05, 76P05)

— Existence and trend to equilibrium of weak solutions of the Boltzmann equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3749–3761. (Anne Nouri) **99k:76129** 76P05 (82C40)

— Recent developments in the theory of the Boltzmann equation. (English summary) *Recent advances in partial differential equations, Venice* 1996, 53–85, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Rossana Marra) **99e:82079** 82C40 (35Q99, 76P05)

— Measure solutions for the steady nonlinear Boltzmann equation in a slab. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 199–210. (Reinhard Illner) **99j:82037** 82B40 (35Q99, 45K05, 76P05)

— On a nonquantum derivation of Planck's distribution law. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 189–199. (M. Lawrence Glasser) **99b:82059** 82C03 (82–03)

— (*with* Bobylëv, A. V.) Discrete velocity models for mixtures. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 327–341. (Luisa Arlotti) **99g:82066** 82C40

— (*with* Lampis, Maria; Struckmeier, Jens) New models for the differential cross section of a polyatomic gas in the frame of the scattering kernel theory. *Mech. Res. Comm.* **25** (1998), *no.* 3, 231–236. (Anne Nouri) **99c:82058** 82C40 (76P05)

— (*with* Marra, R.; Esposito, Raffaele) The Milne problem with a force term. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 1, 1–33. (Jürgen Batt) **99d:82051** 82C40 (76P05)

Cerdá, Emilio *see* **Cerda Tena, Emilio**

Cerda, Enrique (*with* Tirapegui, Enrique) On the linear evolution of the surface of a viscous incompressible fluid. (English summary) *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **7** (1996), *no.* 7-12, 301–320 (1997). (Summary) **99b:76028** 76D99 (76E99)

— (*with* Tirapegui, Enrique) Faraday's instability in viscous fluid. (English summary) *J. Fluid Mech.* **368** (1998), 195–228. (Summary) **99e:76048** 76E30 (76D33)

medrano-Cerda, G. A. *see* **Medrano-Cerda, G. A.**

Cerdà, Joan (*with* Hudzik, Henryk; Kamińska, Anna; Mastyło, Mieczysław) Geometric properties of symmetric spaces with applications to Orlicz-Lorentz spaces. (English summary) *Positivity* **2** (1998), *no.* 4, 311–337. (Alexander Mekler) **99m:46070** 46E30

ortega-Cerdà, Joaquim *see* **Ortega-Cerdà, Joaquim**

pérez-Cerda, José Manuel *see* **Pérez-Cerda, José Manuel**

velilla Cerdán, Santiago *see* **Velilla Cerdán, Santiago**

Cerda Tena, Emilio (*with* Antón, Jesús; Huergo, Elena) Sensitivity analysis in a class of dynamic optimization models. (English summary) *Top* **6** (1998), *no.* 1, 97–121. (Summary) **99e:90098** 90C31 (90A16)

Cerejeiras, P. Decomposition of analytic hyperbolically harmonic functions. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 45–51, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99m:30090** 30F45 (30G35, 31B05)

Ceresole, Anna Duality and braids in $N = 2$ Yang-Mills theories. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 80–87, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81225** 81T60 (32J81, 81T13)

— (*with* Rasetti, Mario; Zecchina, R.) Geometry, topology, and physics of non-abelian lattices. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **21** (1998), *no.* 5, 56 *pp.* (Vasily A. Chernecky) **99e:82014** 82B20 (52C07, 82–02)

Cerezo, María Tractarian naming versus Kripkean naming: similarities and differences. (Spanish. English and Spanish summaries) *Theoria* (*San Sebastián*) (2) **13** (1998), *no.* 33, 427–444. 03B65 (03A05, 03B45)

Cerf, Jean Travaux de Smale sur la structure des variétés. [Works of Smale on the structure of manifolds] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 230, 113–128, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 57R80 (57Q25)

— Combinatoire des simplexes sans singularités. I. Le cas différentiable. (English and French summaries) [Combinatorics of simplices without singularities. I. The differentiable case] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 4, 1129–1166. (Edgar H. Brown, Jr.) **99k:57058** 57R30 (55N10, 57N65, 57N75)

Cerf, Nicolas J. (*with* Koonin, S. E.) Monte Carlo simulation of quantum computation. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 143–152. (Summary) **99d:81023** 81P99 (65C05)

— Entropic bounds on coding for noisy quantum channels. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3330–3347. (V. Ya. Kreinovich) **99k:81039** 81P99 (62B10, 68Q75, 94A40)

Cerf, Raphaël Asymptotic convergence of genetic algorithms. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 521–550. (Dominique Lépingle) **99h:60137** 60J10 (60F10, 60K35, 92D15)

— Large deviations for sums of i.i.d. random compact sets. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2431–2436. (Christian Hess) **99j:60016** 60D05 (60F10)

Ceria, Sebastián (*with* Cordier, Cécile; Marchand, Hugues; Wolsey, Laurence A.) Cutting planes for integer programs with general integer variables. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 201–214. (Summary) **99b:90081** 90C10

Čerin, Zvonko On properties of approximate fibrations. II. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 299–323. (Summary) **99i:55026** 55R65 (54C56, 55M10, 55M15, 55P55)

— (*with* Gianella, Gian Mario) Characterisations of hyperbolas by orthology and radial enlargement. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 499–511. (Summary) **99i:51016** 51M04

— Regular hexagons associated to centroid sharing triangles. *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 263–267. 52B15

— Regular hexagons associated to triangles with equal centroids. (German summary) *Elem. Math.* **53** (1998), *no.* 3, 112–118. (E. Hertel) **99k:51023** 51M15 (51M20)

— (*with* Gianella, Gian Mario) Triangles from sums of sides and altitudes. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 195–204. (Summary) **99g:51017** 51N20 (51M04)

— Locus properties of the Neuberg cubic. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 39–56. (Guido M. Pinkernell) **99h:51019** 51N20 (51M04, 51N25)

— Associating regular hexagons to centroid sharing triangles. *Kyungpook Math. J.* **38** (1998), *no.* 1, 223–226. 51M05 (51M20)

— Triangles from products of sides with cevians. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 2, 185–195. 51M04 (51N20)

— On properties of approximate fibrations. I. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 211–234. (Summary) **99i:55025** 55R65 (54C56, 55M15, 55P55)

— Triangles from areas. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 151–163. 51M16 (51M04, 51N20, 52A40)

Cerioli, Andrea Analysis of binary variables observed at an irregular network of spatial locations. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 121–137. 62H11

Cerioli, Márcia R. (*with* Everett, Hazel; de Figueiredo, Celina Miraglia Herrera; Klein, Sulamita) The homogeneous set sandwich problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 31–35. (Summary) **99e:68120** 68R10 (05C85)

Cerioli, Maura (*with* Zucca, Elena) Implementation of derived programs (almost) for free. *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 141–155, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

— (*with* Reggio, Gianna) Very abstract specifications: a formalism independent approach. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 1, 17–66. (V. Căzănescu) **99c:68056** 68N99 (68Q55)

Čermák, Jan The asymptotic bounds of solutions of linear delay systems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 373–388. (Gilbert Stengle) **99h:34115** 34K25

— On the asymptotic behaviour of solutions of some functional-differential equations. (English summary) *Math. Slovaca* **48** (1998), *no.* 2, 187–212. (Binggen Zhang) **99h:34099** 34K15

Cermelli, Paolo (*with* Fried, Eliot) The influence of inertia on the configurational forces in a deformable solid. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1915–1927. (Gérard A. Maugin) **99a:73002** 73A05 (73B30)

— (*with* Sellers, Shaun) On the nonlinear mechanics of Bravais crystals with continuous distributions of defects. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 3, 331–358. (Summary) **99e:73006** 73B05 (73C50, 73S10)

— (*with* Gurtin, Morton E.; Shvartsman, Mikhail M.) A note on the thermomechanics of curvature flows in $\mathbf{R}^3$ and on surfaces in $\mathbf{R}^3$. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 587–599. (Matteo Novaga) **99k:73018** 73B30 (35Q72, 80A22)

Cerminara, Marcelo (*with* Vieitez, José) Expansive dynamical systems. (Spanish) *Chaos in Uruguay (Spanish)* (*Piriápolis*, 1996), 17–30, *Univ. Repúb., Montevideo*, 1997. (*see* **99m:58004**) 58F15

Černák, Štefan On the maximal Dedekind completion of a half partially ordered group. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 379–390. (J. C. Ault) **99c:06019** 06F15

— Cantor extension of a half lattice ordered group. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 221–231. (Summary) **99f:06020** 06F15

Černe, Miran Regularity of discs attached to a submanifold of $\mathbf{C}^n$. (English summary) *J. Anal. Math.* **72** (1997), 261–278. (Alexander V. Isaev) **99c:32025** 32G10 (32D10, 32F25)

— Analytic varieties with boundaries in totally real tori. *Michigan Math. J.* **45** (1998), *no.* 2, 243–256. (Herbert Alexander) **99e:32025** 32F25 (32C25)

korenjak-Černe, Simona *see* **Korenjak-Černe, Simona**

Cernea, Aurelian (*with* Boboc, Cristinel) Regularity properties of the value functions in optimal control. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 3–10. 49K40 (49L25)

— Continuous version of Filippov's theorem for a semilinear differential inclusion. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 319–330. (Daniel C. Biles) **99m:34026** 34A60 (34A12, 34G20)

Černý, Anton Optimal description of automatic paperfolding sequences. (English summary) *J.UCS* **3** (1997), *no.* 10, 1085–1099 (*electronic*). 68M07

Ceron, C. (*with* Dopazo, J.; Zapata, E. L.; Carazo, J. M.; Trelles, O.) Parallel implementation of DNAml program on message-passing architectures. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 701–716. 92D20

Cerone, P. (*with* Sofo, Anthony) Generalisation of Euler's identity. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 359–371. (R. K. Raina) **99j:05016** 05A19 (39A11)

Cerrada, J. A. (*with* Feliu, V.) Analysis and design of minimum-phase zeros of sampled systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1397–1416. 93B51 (93B60)

Cerrai, Sandra Differentiability with respect to initial datum for solutions of SPDE's with no Fréchet differentiable drift term. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 249–270. (Ya. Ī. Bīlopol′s′ka) **99h:35221** 35R15 (35K99, 35R60, 47D06, 60H15)

— Kolmogorov equations in Hilbert spaces with nonsmooth coefficients. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 271–297. (Ya. Ī. Bīlopol′s′ka) **99h:35222** 35R15 (35K99, 35R60, 47D06, 60H15)

— Some results for second order elliptic operators having unbounded coefficients. (English summary) *Differential Integral Equations* **11** (1998), *no.* 4, 561–588. (Sergey V. Lototsky) **99k:35030** 35J15 (35B40, 35K10, 35R60, 47D06, 60H10)

Cerrito, Serenella (*with* Cialdea Mayer, Marta) Bounded model search in linear temporal logic and its application to planning. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 124–140, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)

Cerulli, R. (*with* Celani, M.; Gaudioso, M.; Sergeev, Yaroslav D.) A multiplier adjustment technique for the capacitated concentrator location problem. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 87–102. 90B80 (90C09)

Cerulus, Frans Archimède physicien. [Archimedes the physicist] *Rev. Questions Sci.* **169** (1998), *no.* 2-3, 113–144. 01A20

Cerutti, M. Cristina (*with* Bramanti, Marco) Commutators of singular integrals on homogeneous spaces. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **10** (1996), *no.* 4, 843–883. (Richard Rochberg) **99c:42026** 42B20 (47B38)

Cerutti, Rubén Alejandro (*with* Aguirre Téllez, Manuel Antonio; Trione, Susana Elena) Tables of Fourier, Laplace and Hankel transforms of n-dimensional generalized functions. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 235–284. (Gopi Ahuja) **99b:46062** 46F12 (44A10)

— (*with* Aguirre Téllez, Manuel Antonio) Causal (anticausal) Bessel derivative and the ultrahyperbolic Bessel operator. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 345–356 (1998). (N. Hayek Calil) **99g:33006** 33C10

Červar, B. (*with* Uglešić, N.) Which conditions for an approximate resolution are essential? (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 101–108. (Leonard R. Rubin) **99h:54018** 54B35

Cerveau, D. (*with* Loray, F.) Un théorème de Frobenius singulier via l'arithmétique élémentaire. (French summary) [A singular Frobenius theorem via elementary arithmetic] *J. Number Theory* **68** (1998), *no.* 2, 217–228. (Sergeĭ Yu. Yakovenko) **99e:32057** 32L30 (11R04, 32S40, 58F18)

Červeňanský, J. (*with* Toma, Vladimír) On quasi-Dini systems. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 13–16. (Summary) **99g:26003** 26A15 (54C35)

Cerveró, José M. (*with* Estévez, P. G.) Miura transformation between two non-linear equations in 2 + 1 dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2800–2807. 35Q55 (58F37)

— (*with* Lejarreta, Juan D.) Dynamical symmetries, cyclic and periodic states. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5507–5523. (Summary) **99c:81053** 81Q99 (81R05)

Cervesato, Iliano Proof-theoretic foundation of compilation in logic programming languages. (English summary) *Logic programming* (*Manchester*, 1998), 115–129, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68032** 68N17 (03B70, 68N20)

— (*with* Montanari, Angelo) A general modal framework for the event calculus and its skeptical and credulous variants. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 111–164. (Zoran Ognjanović) **99m:68181** 68T27 (03B45)

Čerych, Jan Function spaces have essential sets. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 337–340. (Francesco Altomare) **99m:46124** 46J10 (46E15)

Cesa-Bianchi, Nicolò (*with* Auer, Peter; Freund, Yoav; Schapire, Robert E.) Gambling in a rigged casino: the adversarial multi-armed bandit problem. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 322–331, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 90D05 (68Q99, 90D20)

— (*with* Alon, Noga; Ben-David, Shai; Haussler, David) Scale-sensitive dimensions, uniform convergence, and learnability. (English summary) *J. ACM* **44** (1997), *no.* 4, 615–631. (Mark R. Jerrum) **99b:68154** 68T05 (05B40, 54E35, 60F15, 62G05)

— (*with* Helmbold, D. P.; Panizza, S.) On Bayes methods for on-line Boolean prediction. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 112–137. (M. Iosifescu) **99g:68170** 68T05 (68Q99)

— (*with* Auer, Peter) On-line learning with malicious noise and the closure algorithm. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 83–99. (Summary) **99k:68152** 68T05 (68Q99)

— (*with* Haussler, David) A graph-theoretic generalization of the Sauer-Shelah lemma. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 27–35. (Ákos Seress) **99f:05087** 05C70 (05D05)

Cesi, F. (*with* Maes, Christian; Martinelli, Fabio) Relaxation of disordered magnets in the Griffiths' regime. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 135–173. (Agoston Pisztora) **99f:82031** 82B44

— (*with* Maes, Christian; Martinelli, Fabio) Relaxation to equilibrium for two-dimensional disordered Ising systems in the Griffiths phase. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 323–335. (Roberto Fernández) **99h:82067** 82C44 (82C26)

— (*with* Maes, Christian; Martinelli, Fabio) Relaxation of random magnets: exact results for the Griffiths' regime. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 465–474. (Massimo Campanino) **99m:60150** 60K35 (82B44, 82C22)

— (*with* Alexander, Kenneth S.; Chayes, L.; Maes, Christian; Martinelli, Fabio) Convergence to equilibrium of random Ising models in the Griffiths phase. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 337–351. (Aernout C. D. van Enter) **99i:82037** 82C44 (60K35, 82B44, 82C22)

moya-Cessa, Héctor *see* **Moya-Cessa, Héctor**

Cessac, B. (*with* Blanchard, Ph.; Krüger, Tyll) A dynamical system approach to SOC models of Zhang's type. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 307–318. (András Krámli) **99b:58138** 58F11 (58F15, 82C41)

Cessenat, Michel Homogénéisation et perturbations singulières en électromagnétisme. (French summary) [Homogenization and singular perturbations in electromagnetism] *Équations aux dérivées partielles et applications*, 309–325, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99f:78003** 78A25 (35B27, 73B27)

Cessenat, Olivier (*with* Despres, Bruno) Application of an ultra weak variational formulation of elliptic PDEs to the two-dimensional Helmholtz problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 255–299 (*electronic*). (Summary) **99b:65139** 65N30 (35J20)

sáenz Cetina, José Leonardo *see* **Sáenz Cetina, José Leonardo**

Çetinkaya, S. (*with* Parlar, M.) Nonlinear programming analysis to estimate implicit inventory backorder costs. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 71–92. (Summary) **99a:90086** 90B05 (90C30)

Ceva, Horacio (*with* Luzuriaga, Javier) Correlations in the sand pile model: from the log-normal distribution to self-organized criticality. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 275–280. 82B27

Cha, Guang-Ho (*with* Lee, Ju-Hong; Chung, Chin-Wan) A model for k-nearest neighbor query processing cost in multidimensional data space. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 69–76. 68P20

Cha, Hyung Koo On the semi-hyponormal operators on a Hilbert space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 597–602. (Ameer Athavale) **99g:47040** 47B20 (47A10)

— (*with* Kim, Jae Hee) On p-hyponormal operators on a Hilbert space. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 109–114. (Masatoshi Fujii) **99k:47051** 47B20

Cha, Kyung-Joon (*with* Schucany, William R.) Nonparametric kernel regression estimation near endpoints. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 289–304. (Summary) **99c:62079** 62G05

Cha, Youngjoon (*with* Iannelli, Mimmo; Milner, Fabio A.) Are multiple endemic equilibria possible? (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 779–788, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:92022** 92D25

— (*with* Iannelli, Mimmo; Milner, Fabio A.) Existence and uniqueness of endemic states for the age-structured S-I-R epidemic model. (English summary) *Math. Biosci.* **150** (1998), *no.* 2, 177–190. (Summary) **99g:92036** 92D30

Chaâbane, Faouzi (*with* Maâouia, Faïza; Touati, Abderrahmen) Généralisation du théorème de la limite centrale presque-sûr pour les martingales vectorielles. (English and French summaries) [Generalization of the almost-sure central limit theorem for vectorial martingales] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 229–232. (Dominique Lépingle) **99i:60061** 60F15 (60F05, 60G42)

Chaâbane, Slim (*with* Ben Abda, Amel; El Dabaghi, Fadi; Jaoua, Mohamed) On a non-linear geometrical inverse problem of Signorini type: identifiability and stability. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1379–1398. (Alain Brillard) **99j:35233** 35R35 (35J25, 35Q72, 73C02)

— (*with* Jaoua, Mohamed) Dérivation par rapport au domaine pour un problème aux limites avec condition de Signorini. (English and French summaries) [Derivative with

respect to the domain for a Signorini boundary value problem] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 395–400. (Summary) **99k:49086** 49Q10 (35R35, 49J10)

Chaatit, F. On simple DBSC functions. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 357–361. (H. E. Lacey) **99d:46029** 46B99 (04A15, 28C15, 54C99)

Chabás, José (*with* Goldstein, Bernard R.) Computational astronomy: five centuries of finding true syzygy. *J. Hist. Astronom.* **28** (1997), *no.* 2, 93–105. (Owen Gingerich) **99b:01008** 01A35 (01A40)

Chabaud, F. (*with* Stern, Jacques) The cryptographic security of the syndrome decoding problem for rank distance codes. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 368–381, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94026** 94A60

Chabauty, Claude Le théorème de Minkowski-Hlawka. [The Minkowski-Hlawka theorem] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 2, 13–15, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 11H31

Chaber, J. (*with* Gruenhage, Gary; Pol, Roman) On Souslin sets and embeddings in integer-valued function spaces on ω_1. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 37–67 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54B10 (54D20, 54F45, 54H05)

— (*with* Pol, Roman) Remarks on closed relations and a theorem of Hurewicz. (English summary) *Topology Proc.* **22** (1997), 81–94. (Summary) **99i:54033** 54E35 (54H05)

— (*with* Gruenhage, Gary; Pol, Roman) On Souslin sets and embeddings in integer-valued function spaces on ω_1. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 71–104. (Klaas Pieter Hart) **99f:54046** 54H05 (28A05, 54B10, 54D20, 54F45)

Chabert, Jean-Luc Sur les générateurs du groupe de Picard des anneaux de polynômes à valeurs entières. (French summary) [On the generators of the Picard group of rings of integer-valued polynomials] *Anneaux et modules* (*Colmar*, 1991), 5–26, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (David E. Rush) **99a:13005** 13B25 (13F20)

— (*with* Chapman, Scott T.; Smith, William W.) A basis for the ring of polynomials integer-valued on prime numbers. *Factorization in integral domains* (*Iowa City, IA*, 1996), 271–284, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Lahoucine Izelgue) **99d:13008** 13B25

— (*with* Chapman, Scott T.; Smith, William W.) The Skolem property in rings of integer-valued polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3151–3159. (David F. Anderson) **99a:13006** 13B25 (13G05)

— (*with* Cahen, Paul-Jean; Houston, Evan; Lucas, Thomas G.) Skolem properties, value-functions, and divisorial ideals. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 3, 207–223. (David F. Anderson) **99m:13039** 13F20 (13F05)

Chabi, Mohamed (*with* Mokhtar-Kharroubi, Mustapha; Stefanov, Plamen) Scattering theory with two L^1 spaces: application to transport equations with obstacles. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 511–523. (Alexei Yu. Konstantinov) **99b:47018** 47A40 (47N20, 47N55, 82C70)

Chablat, D. (*with* Wenger, Ph.) Workspace and assembly modes in fully-parallel manipulators: a descriptive study. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 117–126, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Chaboche, Jean-Louis (*with* Kruch, Serge; Pottier, Thibaud) Micromechanics versus macromechanics: a combined approach for metal matrix composite constitutive modelling. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 885–908. (Summary) **99k:73086** 73K20 (73B30, 73E60, 73M25, 73S10)

Chabour, Ourida (*with* Chabour, Rachid; Zenati, Hanine) Stabilisation des systèmes bilinéaires homogènes. (English and French summaries) [Stabilization of homogeneous bilinear systems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 633–636. (Summary) **99f:93115** 93D15 (93C10)

Chabour, Rachid (*with* Chabour, Ourida; Zenati, Hanine) Stabilisation des systèmes bilinéaires homogènes. (English and French summaries) [Stabilization of homogeneous bilinear systems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 633–636. (Summary) **99f:93115** 93D15 (93C10)

— (*with* Ferfera, A.) Noninteracting control with singularity for a class of bilinear systems. *Nonlinear Anal.* **33** (1998), *no.* 1, 91–96. (Valeriu Prepeliţă) **99f:93070** 93C10 (93B52)

Chabrowski, Jan ★ Variational methods for potential operator equations. With applications to nonlinear elliptic equations. de Gruyter Studies in Mathematics, 24. *Walter de Gruyter & Co., Berlin*, 1997. x+290 *pp. ISBN* 3-11-015269-X (Nassif A. Ghoussoub) **99c:58031** 58E05 (35J60, 47H15, 47N20, 49J40)

— Elliptic variational problems with indefinite nonlinearities. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 221–231. (Anna Maria Candela) **99b:35052** 35J60 (35A15, 58E05)

— (*with* Yang, Jian Fu) Existence theorems for the Schrödinger equation involving a critical Sobolev exponent. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 276–293. (Marco Degiovanni) **99g:35035** 35J60 (35J10, 58E05)

Chacko, Zacharia (*with* Luty, Markus A.; Pontón, Eduardo) Calculable dynamical supersymmetry breaking on deformed moduli spaces. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 16, 8 *pp.* (*electronic*). (Summary) **99k:81294** 81T60 (81R40)

gómez-Chacón, Inés María *see* **Gómez-Chacón, Inés María**

Chacón, Ricardo (*with* Balibrea Gallego, Francisco; López, Miguel Angel) Suppression of chaotic escape in the Helmholtz oscillator. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 175–181, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C15 (58F13, 70K50)

— (*with* Balibrea Gallego, Francisco; López, Miguel Angel) Inhibition of chaotic escape by an additional driven term. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 8, 1719–1723. (Summary) **99i:70029** 70K40 (58F13, 70K50)

Chacón Rebollo, Tómas A technique for the unified numerical analysis of mixed and stabilized finite element methods for incompressible flows. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 661–666, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N30 (76M10)

— (*with* Dominguez Delgado, Antonio) Numerical simulation of three-dimensional vortex dynamics via discretization by finite elements of vorticity. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 667–672, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (76C05)

— (*with* Franco Coronil, Daniel) Modelling of compressible flows with highly oscillating initial data by homogenization. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 911–916, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76N10 (76M25)

— (*with* Franco Coronil, Daniel; Ortegón Gallego, Francisco; Sánchez Muñoz, Isabel) Modelling of compressible flows with highly oscillating initial data by homogenization. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 435–464. (Roland Schiestel) **99a:76066** 76F10 (35B27, 35Q35, 76M25, 76N10)

— A term by term stabilization algorithm for finite element solution of incompressible flow problems. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 283–319. (Juhani Pitkäranta) **99c:76065** 76M10 (65N30, 76D05)

Chacón Vera, Eliseo Results on the boundary of constant vortex patches. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 405–406, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76C05

Chademan, Arsalan Bounded algebraic critical values. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **1** (1996), *no.* 1, 43–50. (Kevin Houston) **99c:30006** 30C15

Chaderjian, Anie New classes of residue supplementary difference systems. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 218–231. (Alexander Pott) **99g:05030** 05B10

Chadha, Gurmeet K. (*with* Passi, I. B. S.) Bass conjecture and the group trace property. *Comm. Algebra* **26** (1998), *no.* 2, 627–639. (Zbigniew Marciniak) **99g:16032** 16S34 (16U60)

Chadhury, Arijit (*with* Adhikary, Arun K.; Maiti, Tapabrata) A note on non-negative mean square error estimation of regression estimators in randomized response surveys. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 409–415. 62D05

Chadli, Mohammed Noyau de Cauchy-Szegő d'un espace symétrique de type Cayley. (English and French summaries) [Cauchy-Szegő kernel of a symmetric space of Cayley type] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 97–132. (Joachim Hilgert) **99b:22022** 22E45 (17C50, 43A90)

Chadli, O. (*with* Chbani, Z.; Riahi, Hassan) Recession methods for equilibrium problems and applications to variational and hemivariational inequalities. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 185–196. (Daniel Goeleven) **99k:49020** 49J40 (47H19)

Chadœuf, Joël (*with* Moran, Chris; Goulard, Michel) A note on extension variances in $\mathbf{R}^2$. (English summary) *Math. Geol.* **30** (1998), *no.* 6, 575–587. (Summary) **99c:86005** 86A32

Chadwick, Edmund The far-field Oseen velocity expansion. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2059–2082. (Summary) **99e:76031** 76D05

hensz-Chądzyńska, Ewa *see* **Hensz-Chądzyńska, Ewa**

Chądzyński, Jacek (*with* Krasiński, Tadeusz) A set on which the local Łojasiewicz exponent is attained. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 297–301. (Arkadiusz Płoski) **99b:32051** 32S05

— (*with* Krasiński, Tadeusz; Tworzewski, Piotr) On the intersection multiplicity of analytic curves in $\mathbf{C}^m$. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 163–169. (Rüdiger Achilles) **99a:32005** 32B10 (14C17)

Chae, Dongho (*with* Dubovskiĭ, Pavel B.) Existence and uniqueness for spatially inhomogeneous coagulation-condensation equation with unbounded kernels. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 219–236. (Giuliana Lauro) **99a:45018** 45K05 (45M20, 82C22, 82C70)

— (*with* Imanuvilov, Oleg Yu.) Existence of axisymmetric weak solutions of the 3-D Euler equations for near-vortex-sheet initial data. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 26, 17 *pp.* (*electronic*). (Summary) **99g:35101** 35Q30 (35D05, 76C05)

— (*with* Imanuvilov, Oleg Yu.) Global unique existence of a positive solution for a system of equations in electrochemistry. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 507–524. (Yuzo Hosono) **99e:35222** 35Q80 (35B05, 35K55)

— (*with* Choe, Hi-Jun) Regularity of solutions to the Navier-Stokes equation. (English summary) *Electron. J. Differential Equations* **1999**, *No.* 05, 7 *pp.* (*electronic*). (Summary) **99m:35184** 35Q30 (35B65, 76D05)

— (*with* Han, Jongmin; Imanuvilov, Oleg Yu.) Existence and nonexistence in Chern-Simons-Higgs theory with a constant electric charge density. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 19–34. (Avinash Khare) **99k:58055** 58E50 (53C80, 81T13)

— *see also* **Proceedings: Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories**, **99d:58005**

Chae, Hyeon-Sook (*with* Cho, Kil-Ho; Jeong, Seong-Hwa; Choi, Dal-Woo) Bootstrap confidence interval for survival function in the Koziol-Green model. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 151–161. (Summary) **99g:62049** 62G09 (62G15, 62N05)

Chae, K. C. (*with* Lee, H. K.) A heuristic interpretation of the incomplete beta function ratio. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 746–749. 33B15

Chae, Kyung-Sun (*with* Dimitropoulos, Costas D.; Edwards, Brian J.; Beris, Antony N.) Efficient pseudospectral flow simulations in moderately complex geometries. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 517–549. (Summary) **99c:76083** 76M25

Chae, Younki (*with* Jeong, Won Kyun) Sandwich semigroups of closed functions. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 135–144. (Helmut Ludescher) **99i:54017** 54C35 (54H99)

— (*with* Jeong, Won Kyun) Sandwich semigroups generated by idempotents. *Kyungpook Math. J.* **37** (1997), *no.* 2, 349–354. (Saraswathi Subbiah) **99a:54026** 54H15 (20M20)

Chaffin, D. J. (*with* Baker, Allen Jerome; Iannelli, J. S.; Roy, Subrata) On some recent adventures into improved finite element CFD methods for convective transport. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 27–42. (From the summary) **99d:76056** 76M10 (65M60, 76Rxx)

Chaganty, Narasinga R. (*with* Karandikar, Rajeeva L.) Some properties of the Kullback-Leibler number. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 69–80.

(Philippe Barbe) **99m:60041** 60F10 (62G20)
— (*with* Sethuraman, Jayaram) The large deviation principle for common statistical tests against a contaminated normal. (English summary) *Advances in statistical decision theory and applications*, 239–252, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Olcay Akman) **99c:62043** 62F05 (60F10, 62G20)
— (*with* Vaish, Akhil K.) On inequalities for outlier detection in statistical data analysis. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 4, 235–243. (Juliet Popper Shaffer) **99f:62085** 62J15 (15A42, 62J10)
— An alternative approach to the analysis of longitudinal data via generalized estimating equations. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 39–54. (István Ratkó) **99c:62198** 62J12 (62F10, 62F12)
— (*with* Sethuraman, Jayaram) Bahadur slope of the t-statistic for a contaminated normal. (English summary) *Statist. Probab. Lett.* **34** (1997), *no.* 3, 245–250. (Philippe Barbe) **99c:62044** 62F05 (60F10)
Chai, Ching-Li (*with* Neeman, Amnon) The naturality in Kirwan's decomposition. (English summary) *Manuscripta Math.* **97** (1998), *no.* 4, 429–434. (Michel Brion) **99k:57077** 57S15 (14L30, 55T25)
Chai, Feng-Shun A note on generalization of distinct representatives. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 173–177. (Summary) **99j:62109** 62K10
Chai, Guo Qing Existence and uniqueness theorems for solutions to mixed monotone operator equations, with applications. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 135–138. (Da Jun Guo) **99k:47157** 47H15 (45G10)
Chai, Joo-Siong (*with* Tan, Shaohua; Chen, Qi; Hang, Chang Chieh) A general fuzzy control scheme for nonlinear processes with stability analysis. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 179–195. 93C42
Chai, Tian You (*with* Liu, Xiang Jie; Zhang, Huan Shui) Structural analysis of three-dimensional fuzzy controllers. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 230–235. 93C42
— (*with* Zhang, Guo Shan; Gu, Xing Yuan) Reliable stabilization using multicontroller configurations. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 552–556. 93D15
— (*with* Zhang, Cheng Jin; Pan, Xue Jun) A new pole-placement adaptive control scheme for time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 473–476. 93B55 (93C40)
— (*with* Li, Shengping) Analysis of continuity property of l^1 optimization design. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 774–779. 93B51 (49M30)
— (*with* Kou, Xin Min; Luo, Gong Liang) A robust back propagation algorithm for identification of dynamical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 929–932. 93B30 (93B36)
— (*with* Zhou, Yong; Dai, Qiong Hai; Yu, He Ji) Robust direct adaptive control based on dynamical neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 4, 272–276. 93C40 (93C83)
— (*with* Tong, Shao Cheng) Stable fuzzy direct adaptive control for a class of nonlinear systems. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 609–619. (Summary) **99d:93043** 93C42 (93C10)
— (*with* Xu, Zhe) Proof of global convergence of a direct adaptive inferential control. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 279–282. 93E20 (93B40)
— (*with* Tong, Shao Cheng; Li, Qingguo) Fuzzy adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 31–39. 93C42 (93C40)
— (*with* Tong, Shao Cheng) Fuzzy direct adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 379–387. 93C42
— (*with* Tong, Shao Cheng; Wang, Leizhen) Stable fuzzy indirect adaptive control for a class of decentralized nonlinear systems. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 1–14. 93C42
Chai, X.-J. (*with* Genevaux, J.-M.; Brancher, J. P.) Gravity effects on the coupled frequencies of a 2D fluid-structure problem with a free surface. (English summary) *J. Sound Vibration* **215** (1998), *no.* 2, 331–342. (Summary) **99c:73059** 73K70 (73K12, 76-05, 76B99)
Chai, Y. D. (*with* Kim, Yong Il) An estimate of the area of constant breadth curves. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 679–683. (Summary) **99h:52002** 52A10 (52A38)
— (*with* Kim, Yong Il) Inequalities for the area of constant relative breadth curves. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 15–23. (Summary) **99k:52016** 52A40
Chaichian, Masud (*with* Demichev, A. P.) Quantum Poincaré subgroup of q-conformal group and q-Minkowski geometry. (English summary) *Generalized symmetries in physics (Clausthal, 1993)*, 136–148, *World Sci. Publishing, River Edge, NJ*, 1994. (Mariano A. del Olmo) **99a:81071** 81R50 (17B37)
— (*with* Grosse, Harald; Prešnajder, P.) Representations and some applications of q-oscillators. (English summary) *Quantum groups (Karpacz, 1994)*, 183–191, *PWN, Warsaw*, 1995. (Roberto Casalbuoni) **99f:81090** 81R50
— (*with* Demichev, A. P.) Path integral with noncommuting variables. (English summary) *Quantum groups (Karpacz, 1994)*, 243–251, *PWN, Warsaw*, 1995. (Anatol Nowicki) **99i:81129** 81S40 (58B30, 58D30, 81R50)
— (*with* Demichev, A. P.) Quantum Minkowski geometry and representations of q-Poincaré group. (English summary) *Quantum groups (Karpacz, 1994)*, 337–342, *PWN, Warsaw*, 1995. (Mathias Pillin) **99g:81081** 81R50 (17B37)
— (*with* Gomes, J. F.; González Felipe, R.) Mass spectrum of q-deformed dual string theory. (English summary) *Quantum groups (Karpacz, 1994)*, 443–450, *PWN, Warsaw*, 1995. (Summary) **99f:81153** 81T30 (81R50)
— (*with* Chen, Wen-Feng; Kobayashi, Tatsuo) Softly broken $N = 1$ supersymmetric QCD. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 120–127. (Summary) **99c:81234** 81T60 (81R40, 81T13, 81V05)
— (*with* Kobayashi, Tatsuo) Vacuum structure of softly broken $N = 1$ supersymmetric QCD. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 192–198. (Summary) **99j:81182** 81T60 (81R40, 81T13, 81V05)
— (*with* Chen, Wen-Feng; Montonen, Claus) On the low-energy effective action of $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 161–183. (Summary) **99i:81226** 81T60 (81T13, 81T16, 81T17)
Chaidze, R. On convergence subsystems of block orthonormal systems. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 1, 16–17. 42C10
Chaĭka, A. S. (*with* Pavlov, A. N.; Chetverushkin, B. N.) Difference schemes with kinetically consistent artificial viscosity for the solution of Navier-Stokes equations on curvilinear orthogonal grids. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 57–75. 76M20 (76D05)
Chaĭkovskiĭ, A. V. Bounded solutions of a difference equation in a Banach space. (Russian) *Mathematics today '97, No. 11 (Russian)*, 96–103, *Nauchn. Izdat. "TViMS", Kiev*, 1997. (V. G. Kurbatov) **99i:39003** 39A10 (47B39)
Chaitin, Gregory J. The Berry paradox. *Matter matters? (Abisko, 1993)*, 29–38, *Springer, Berlin*, 1997. (*see* **99a:92044**) 03A05
Chajda, Ivan Regularity and permutability via transferability of tolerances. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 39–42 (1997). (Jaromír Duda) **99k:08008** 08B05 (08A30)
— (*with* Ploščica, Miroslav) Duality of bounded distributive q-lattices. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No. 5* (1997), 63–72. (Vlad Boicescu) **99i:06010** 06D05 (06E15, 08C15)
— (*with* Bělohlávek, Radim) Polynomially determined congruences in algebras without constants. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 7–14. (Hartmut Höft) **99m:08006** 08A30
— The degrees of regularity in varieties. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 27–31. (Paolo Aglianò) **99m:08017** 08B05 (08A30)
— (*with* Seidl, Z.) An algebraic approach to partial lattices. *Demonstratio Math.* **30** (1997), *no.* 3, 485–494. (Danica Jakubiková-Studenovská) **99h:08007** 08A55
— (*with* Bělohlávek, Radim) Congruence properties in single algebras. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 67–78. (Keith A. Kearnes) **99h:08003** 08A30 (08A40, 08B10)
— Jónsson's lemma for normally presented varieties. *Math. Bohem.* **122** (1997), *no.* 4, 381–382. (Radim Bělohlávek) **99c:08008** 08B05
— (*with* Rosenberg, I. G.) Discriminator algebras with one nullary operation. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 101–107, *Heyn, Klagenfurt*, 1998. (S. Comer) **99m:08009** 08A40 (08A30)
— Congruence identities and their local versions. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 253–256. (Ewa Graczyńska) **99m:08002** 08A05 (08B05)
— (*with* Šešelja, Branimir; Tepavčević, Andreja) Lattices of compatible relations satisfying a set of formulas. (English summary) *Algebra Universalis* **40** (1998), *no.* 1, 51–58. (Ewa Graczyńska) **99k:08002** 08A30 (08A05)
— (*with* Šešelja, Branimir; Tepavčević, Andreja) Weak congruences in algebras having restricted similarity types. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 27–38. (Pavol Zlatoš) **99g:08001** 08A30 (08A05, 08A62, 08A65)
— (*with* Halaš, Radomír) Ideals in permutable and 0-regular varieties. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 75–83. (Ewa Graczyńska) **99e:08001** 08A30 (08B05)
Chakaravarthy, Venkatesan T. (*with* Radhakrishnan, Viswanathan; Krithivasan, Kamala) Pattern matching in matrix grammars. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 59–72. (Summary) **99j:68075** 68Q50 (68Q45, 68Q52)
Chakir El-A., El-H. *see* **El Alaoui, El-Houcine Chakir**
Chakka, Ram Spectral expansion solution for some finite capacity queues. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 27–44. (Summary) **99b:90047** 90B12 (68M20, 90B22)
Chakmazyan, A. V. On hyperstrips in Peterson correspondence in an affine space. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 70–76; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 67–73 (1999). (V. Oproiu) **99g:53014** 53A15
Chakrabarti, A. *see* **Chakrabarti, Amitabha[1]**
Chakrabarti, Aloknath (*with* Sahoo, Trilochan) Reflection of waterwaves by a porous nearly vertical wall. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 31–42. (*see* **99b:00016**) 76B15
— (*with* Manna, D. P.) Sampson flow through a nearly circular hole in a plane wall. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 43–60. (*see* **99b:00016**) 76D99
— (*with* Mandal, S. C.) Motion of obstacles on the two layered Earth surface. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 1–16. (*see* **99b:00017**) 73F99 (73N20, 86A04)
— (*with* Manna, D. P.) The effect of two translating disks in Sampson flow. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 17–34. (*see* **99b:00017**) 76D99
— (*with* Sahoo, Trilochan) On reflection of water waves by a vertical wall in the presence of surface tension. (English summary) Proceedings of the Seminar on Continuum Mechanics (Calcutta, 1996). *Rev. Bull. Calcutta Math. Soc.* **5** (1997), *no.* 2, 95–100. (*see* **99k:00035**) 76B15
— Role of special functions in problems of fluid mechanics. (English summary) *Special functions and differential equations (Madras, 1997)*, 437–448, *Allied Publ., New Delhi*, 1998. (Summary) **99i:76023** 76B99 (45F05)
— (*with* Sahoo, Trilochan) The effect of surface tension in porous wave maker problems. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 4, 539–556. (Summary) **99a:76012** 76B15 (76B45)
— (*with* Kanoria, Mridula; Mandal, Birendra Nath) The Wiener-Hopf solution of a class of mixed boundary value problems arising in surface water wave phenomena. (English summary) *Wave Motion* **29** (1999), *no.* 3, 267–292. (Summary) **99k:76028** 76B15 (45E10)
Chakrabarti, Amitabha[1] $SO(5)_q$ and contraction. (English summary) *Quantum groups (Karpacz, 1994)*, 343–351, *PWN, Warsaw*, 1995. (Fabio Gavarini) **99i:81092** 81R50 (17B37)

— (*with* Katriel, Jacob; Abdesselam, Boucif) On the fundamental invariant of the Hecke algebra $H_n(q)$. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 182–189, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 20C99

— (*with* Abdesselam, Boucif; Arnaudon, Daniel) Non-minimal q-deformations and orthogonal symmetries: $\mathcal{U}_q(\mathrm{SO}(5))$ example. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 361–369, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81R50 (17B37)

— (*with* Abdesselam, Boucif; Chakrabarti, Ranabir) Towards a general construction of nonstandard R_h-matrices as contraction limits of R_q-matrices: the $\mathcal{U}_h(\mathrm{sl}(N))$ algebra case. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 779–790. (Roberto Casalbuoni) **99f:81087** 81R50 (17B37)

Chakrabarti, C. G. (*with* Banerjee, Sandip) Stochastic model of symmetric Lotka-Volterra competition system: non-equilibrium fluctuation and stability. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 3, 235–244. (Virginia W. Noonburg) **99a:92023** 92D25 (34D10)

— (*with* De, Kajal; Das, N. C.) Kullback discrimination information: minimization and characterization. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 421–430. (Summary) **99b:94016** 94A17

Chakrabarti, P. P. (*with* Mandal, C. A.; Ghose, Suranjan) Some new results in the complexity of allocation and binding in data path synthesis. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 93–105. (Summary) **99b:68098** 68Q25 (68M07)

— (*with* Mandal, C. A.; Ghose, Suranjan) Complexity of fragmentable object bin packing and an application. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 91–97. (Summary) **99a:90166** 90C27 (90C60)

Chakrabarti, Ranabir (*with* Abdesselam, Boucif; Chakrabarti, Amitabha[1]) Towards a general construction of nonstandard R_h-matrices as contraction limits of R_q-matrices: the $\mathcal{U}_h(\mathrm{sl}(N))$ algebra case. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 779–790. (Roberto Casalbuoni) **99f:81087** 81R50 (17B37)

Chakrabarti, Sadasiv (*with* Lahiri, B. K.) Approximately continuous functions in a measure space. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 1, 59–64. (Elżbieta Wagner) **99a:28004** 28A20

— (*with* Gangopadhyay, Amit Kumar) Generalized density functions in a topological group. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 97–111. 54H11 (22A10)

Chakrabarti, Soumen (*with* Bender, Michael A.; Muthukrishnan, S.) Flow and stretch metrics for scheduling continuous job streams. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 270–279, *ACM, New York*, 1998. (*see* **99d:68011**) 90B35

— (*with* Adler, Micah; Mitzenmacher, Michael; Rasmussen, Lars Eilstrup) Parallel randomized load balancing. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 2, 159–188. (Mukkai S. Krishnamoorthy) **99m:68021** 68M20

Chakrabarty, Kankana (*with* Biswas, Ranjit; Nanda, Sudarsan) On fuzzy metric spaces. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 111–114. 54A40 (54E35)

— (*with* Biswas, Ranjit; Nanda, Sudarsan) On Yager's theory of bags and fuzzy bags. (English summary) *Comput. Artificial Intelligence* **18** (1999), *no.* 1, 1–17. (From the summary) **99k:03044** 03E72

— (*with* Biswas, Ranjit; Nanda, Sudarsan) Fuzzy shadows. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 413–421. (Summary) **99i:03066** 03E72

— (*with* Biswas, Ranjit; Nanda, Sudarsan) Fuzzy L-structure. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 177–182. (Summary) **99i:06006** 06B99 (03E72)

— (*with* Biswas, Ranjit; Nanda, Sudarsan) A note on fuzzy union and fuzzy intersection. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 499–502. 03E72

Chakrabarty, Krishnendu (*with* Karpovsky, Mark G.; Levitin, Lev B.) On a new class of codes for identifying vertices in graphs. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 599–611. (Theodore C. Enns) **99j:94076** 94B60 (05C70, 05C90, 94C12)

— (*with* Karpovsky, Mark G.; Levitin, Lev B.; Avreski, D. R.) On the covering of vertices for fault diagnosis in hypercubes. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 99–103. (Summary) **99k:68021** 68M15 (94C12)

Chakrabarty, N. R. (*with* Das, Pali; Chaudhuri, P. K.) A polynomial time algorithm for a hemispherical minimax location problem. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 57–63. (Summary) **99m:90094** 90B85

Chakrabarty, S. P. (*with* Singh, Gopal Prasad) A deterministic model in population genetics. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 4, 192–193. 92D25

Chakraborty, B. *see* **Chakraborty, Biswajit**

Chakraborty, B. C. A B^*-algebra and a Banach lattice of a class of entire functions in several complex variables. (English summary) *J. Pure Math.* **13** (1996), 24–29. (Summary) **99g:46073** 46J15 (46K05)

Chakraborty, Biman (*with* Chaudhuri, Probal) On an adaptive transformation-retransformation estimate of multivariate location. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 145–157. (Summary) **99a:62077** 62H12

— (*with* Chaudhuri, Probal; Oja, Hannu) Operating transformation retransformation on spatial median and angle test. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 767–784. (Summary) **99f:62072** 62H11 (62H15)

Chakraborty, Biswajit (*with* Majumdar, A. S.) Hamiltonian analysis of the gauged CP^1 model, the Hopf term, and fractional spin. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125024, 13 *pp.* (Summary) **99m:81138** 81T13 (58Z05)

Chakraborty, Biswanath (*with* Datta, Debjani) Problems of electrodynamics for small rotation about a fixed axis and for other accelerations. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 73–96. (*see* **99b:00017**) 78A25

Chakraborty, H. S. (*with* Mollah, Alarif) Order level inventory system with different demand patterns for items with variable rate of deterioration (probabilistic model). (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 207–215. 90B05

Chakraborty, M. *see* **Chakraborty, Monotosh**

Chakraborty, Mihir K. (*with* Sen, Amita) A note on contractifiability of self-mappings. *J. Pure Math.* **13** (1996), 30–39. 54E40 (54H25)

— (*with* Orłowska, Ewa) Substitutivity principles in some theories of uncertainty. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 107–120. (Radim Bělohlávek) **99g:03029** 03B60 (03B50)

— (*with* Banerjee, Mohua) Rough logics: a survey with further directions. (English summary) *Incomplete information: rough set analysis*, 579–600, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 04A72

— (*with* Das, Mili; Ghoshal, T. K.) Fuzzy tolerance relation, fuzzy tolerance space and basis. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 361–369. (Summary) **99d:04006** 04A72

Chakraborty, Monotosh (*with* Gupta, Sandipan) Stochastic fuzzy mathematical programming and decision. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 637–647. (Róbert Fullér) **99g:90160** 90C70 (90A05, 90C15)

— (*with* Gupta, Sandipan) Linear fractional programming problem: a fuzzy programming approach. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 873–880. 90C70 (90C34)

— (*with* Gupta, Sandipan) Fuzzy programming approach for a class of multiple objective linear fractional programming problem. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 29–34. 90C70 (90C08)

Chakraborty, Mrityunjoy An efficient algorithm for solving general periodic Toeplitz systems. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 784–787. 65F30

Chakraborty, N. D. (*with* Jaker Ali, Sk.) Pettis integration in locally convex spaces. (Russian summary) *Anal. Math.* **23** (1997), *no.* 4, 241–257. (K. Musiał) **99e:28019** 28B05 (46G10)

Chakraborty, N. R. *see* **Chakrabarty, N. R.**

Chakraborty, R. P. (*with* Bhattacharyya, Anjana) On irresolute fuzzy multifunctions. (English summary) *J. Pure Math.* **14** (1997), 26–34. 54A40 (54C99)

— (*with* Mukherjee, M. N.) On fuzzy almost compact spaces. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 207–210. 54A40 (54D30)

Chakraborty, Santanu (*with* Rao, B. V. Raja) Completeness of Bhattacharya metric on the space of probabilities. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 321–326. (Rimas Norvaiša) **99i:60026** 60E05 (28A33)

Chakraborty, Sharmishtha (*with* Joshi, P. C.) Alternating sums of sub-diagonal product moments of order statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1049–1054. (Summary) **99a:62073** 62G30

Chakraborty, Subenoy Microsuperspace in new variable. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 83–92. (*see* **99b:00016**) 83C45

— (*with* Biswas, Lalit) Nonstatic spherically symmetric space-time and global monopole. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 8, 1221–1228. (Nora Bretón Báez) **99c:83009** 83C15 (83C10)

— (*with* Chakravarty, Nabajit) A study of Kantowski-Sachs model in Ashtekar variables. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 28, 4931–4937. (Viqar Husain) **99j:83033** 83C45

— (*with* Ghosh, Tapan Kumar) String cosmology with Brans-Dicke theory in higher-dimensional space-time. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2409–2413. 83D05 (83E30)

Chakravarthy, Srinivas R. Analysis of a priority polling system with group services. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 25–49. (Ivo Adan) **99h:60160** 60K25 (90B22)

Chakravarti, Nilotpal (*with* Wagelmans, Albert P. M.) Calculation of stability radii for combinatorial optimization problems. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 1–7. (Yuri Nazarovich Sotskov) **99j:90090** 90C31 (90C27)

— (*with* Ghosh, Diptesh) A competitive local search heuristic for the subset sum problem. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 271–279. 90C10 (90C27)

Chakravarty, Nabajit (*with* Chakraborty, Subenoy) A study of Kantowski-Sachs model in Ashtekar variables. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 28, 4931–4937. (Viqar Husain) **99j:83033** 83C45

Chakravarty, S. *see* **Chakravarty, Sarbarish**

Chakravarty, Santabrata (*with* Sannigrahi, Ashis Kr.) An analytical estimate of the flow-field in a porous stenotic artery subject to body acceleration. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 10, 1083–1102. (Summary) **99d:92013** 92C35 (76Z05, 92C05)

Chakravarty, Sarbarish (*with* Ablowitz, Mark J.; Halburd, R.) The Darboux-Halphen system and the singularity structure of its solutions. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 408–412, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 34A25 (34A34)

Chakravorty, Amitava (*with* Chakravorty, Sarbani) Transient disturbances in a relaxing thermoelastic half space due to moving internal heat source. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 595–602. (Summary) **99b:73010** 73B30 (73D20)

Chakravorty, Arnab Kumar (*with* Das, Jyoti) An alternative proof of self-adjointness condition for a mixed boundary value problem. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 9–14 (1996). (M. Tvrdý) **99d:34026** 34B05

Chakravorty, Sarbani (*with* Chakravorty, Amitava) Transient disturbances in a relaxing thermoelastic half space due to moving internal heat source. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 595–602. (Summary) **99b:73010** 73B30 (73D20)

Chalabi, Abdallah Convergence of relaxation schemes for hyperbolic conservation laws with stiff source terms. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 955–970. (Long An Ying) **99i:65085** 65M06 (35L65, 65M12)

Chalamaiah, Nimmagadda (*with* Ramamurthy, Badrinath) Finding shortest paths in distributed loop networks. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 157–161. 68M10 (68M15)

Chalasani, Prasad (*with* Blum, Avrim L.; Goldman, Sally A.; Slonim, Donna K.) Learning with unreliable boundary queries. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 209–222. (Sanjay Jain) **99e:68135** 68T05 (68Q99)

— (*with* Mitchell, Joseph S. B.; Blum, Avrim L.; Vempala, Santosh) A constant-factor approximation algorithm for the geometric k-MST problem in the plane. (English

summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 771–781 (*electronic*). (Summary) **99g:68098** 68Q25 (68R10, 68U05)

Chalendar, I. (*with* Cassier, G.; Chevreau, B.) New examples of contractions illustrating membership and non-membership in the classes $\mathbf{A}_{m,n}$. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 707–731. (Hari Bercovici) **99k:47022** 47A45 (47A65, 47D27)

— A note on hyperinvariant subspaces for operators acting on a Banach space. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 5, 399–406. (Hari Bercovici) **99g:47011** 47A15

— (*with* Esterle, Jean) L^1-factorization for C_{00}-contractions with isometric functional calculus. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 174–194. (Gilles Cassier) **99e:47056** 47D27 (47A65)

Chaleyat-Maurel, Mireille (*with* Nualart, David) Points of positive density for smooth functionals. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 1, 8 *pp.* (*electronic*). (Shi Zan Fang) **99b:60072** 60H07

Chalfant, J. S. (*with* Maekawa, Takashi) Computation of inflection lines and geodesics on developable surfaces. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 251–267. (*see* **99i:65004**) 65Y25 (65D17)

Chalhoub, E. S. (*with* Garcia, R. D. M.) A new quadrature scheme for solving azimuthally dependent transport problems. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 607–624. (Summary) **99e:82090** 82C80 (65R20, 82C70)

Chaljub-Simon, Alice (*with* Volkmann, Peter) Perturbations de fonctions additives. (English and French summaries) [Perturbations of additive functions] *Ann. Math. Sil. No.* 11 (1997), 21–27. (Marek Cezary Zdun) **99f:26007** 26A24 (39B22)

— (*with* Grenon-Isselkou, Nathalie; Moutoussamy, Isabelle; Volkmann, Peter) Parabolic differential equations in ordered Banach spaces of bounded functions. (English summary) *Positivity* **1** (1997), *no.* 1, 45–54. (Summary) **99h:35224** 35R20

Chalk, Christopher P. Fibonacci groups with aspherical presentations. *Comm. Algebra* **26** (1998), *no.* 5, 1511–1546. (D. F. Holt) **99c:20038** 20F05 (20F06)

Challinor, Anthony (*with* Lasenby, Anthony N.; Doran, C. J. L.; Gull, Stephen) Massive, non-ghost solutions for the Dirac field coupled self-consistently to gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1527–1544. (Seth A. Major) **99d:83011** 83C15

— (*with* Doran, C. J. L.; Lasenby, Anthony N.; Gull, Stephen) Effects of spin-torsion in gauge theory gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3303–3321. (Yu. N. Obukhov) **99i:83077** 83D05 (83C10, 83C60)

Chalmers, Alan G. (*with* Burgess, Colin J.) Optimisation of irregular multiprocessor computer architectures using genetic algorithms. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 239–257. (*see* **99k:90002**) 90C35 (68M07)

Chalmers, Bruce L. (*with* Lewicki, Grzegorz) Minimal projections onto some subspaces of $l_1^{(n)}$. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 85–92. (Anatolij M. Plichko) **99m:46053** 46B45

— (*with* Prophet, M. P.) The existence of shape-preserving operators with a given action. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 813–834. (D. Leviatan) **99j:41031** 41A29 (41A35, 47B99)

Chalmers, Gordon Quantization of non-polynomial field theories. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 1, 9 *pp.* (*electronic*). (Massimo Di Pierro) **99d:81095** 81T18 (81T10)

— Momentum analyticity and finiteness of compactified string amplitudes. I. Tori. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 295–311. (Summary) **99c:81172** 81T30 (11Z05)

— Implicit metric on a deformation of the Atiyah-Hitchin manifold. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125011, 7 *pp.* (Summary) **99m:58037** 58D27 (32S30, 53C07)

Chalmond, Bernard (*with* Girard, Stéphane; Dinten, Jean-Marc) Designing nonlinear models for flexible curves. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 135–142, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Girard, Stéphane; Dinten, Jean-Marc) Position of principal component analysis among auto-associative composite models. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 763–768. (Yutaka Kano) **99k:62121** 62H25

Chalov, P. A. (*with* Terzioğlu, T.; Zakharyuta, V. P.) First type power Köthe spaces and m-rectangular invariants. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 30–44. (Plamen Dzhakov) **99e:46009** 46A45 (46A04)

Chalton, D. O. (*with* Troskie, C. G.) Detection of outliers in the presence of multicollinearity. (English summary) *Multidimensional statistical analysis and theory of random matrices* (*Bowling Green, OH*, 1996), 273–292, *VSP, Utrecht*, 1996. (Summary) **99g:62098** 62J05 (62J07)

Chalykh, O. A. Darboux transformations for multidimensional Schrödinger operators. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 167–168; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 377–379. 35A30 (35J10, 58G03)

Chambat, Michèle (*with* Bayada, Guy; Ciuperca, Ionel Sorinel) Comportement asymptotique d'un fluide dans un domaine mince variable en temps. (English and French summaries) [Asymptotic behavior of a fluid in a thin time-varying domain] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 265–268. (Introduction) **99e:76035** 76D08

— (*with* Bayada, Guy; Vázquez Cendón, C.) Characteristics method for the formulation and computation of a free boundary cavitation problem. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 191–212. (Summary) **99h:76055** 76M10 (65N30, 76D08, 76M25)

— (*with* Bayada, Guy; Lakhal, A.) A dynamic contact problem with regularized friction law. Application to impact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 67–85. (Summary) **99f:73071** 73T05

gispert-Chambaz, Hélène *see* **Gispert-Chambaz, Hélène**

Chamberlain, P. G. (*with* Miles, J. W.) Topographical scattering of gravity waves. (English summary) *J. Fluid Mech.* **361** (1998), 175–188. (Summary) **99d:76013** 76B15 (86A05)

— (*with* Needham, D. J.) Global similarity solutions to a class of semilinear parabolic equations: existence, bifurcations and asymptotics. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1933–1959. (Qi Xiao Ye) **99j:35108** 35K57 (34C23, 34E05, 35B32)

Chamberland, Marc Global asymptotic stability, additive neural networks, and the Jacobian conjecture. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 331–339. (Jaume Llibre) **99k:34101** 34D05 (34C99, 58F10)

— (*with* Meisters, Gary) A mountain pass to the Jacobian conjecture. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 442–451. (L. Andrew Campbell) **99m:58044** 58E05 (14E07, 26B10)

Chambers, Marcus J. Long memory and aggregation in macroeconomic time series. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1053–1072. (Sung K. Ahn) **99k:62155** 62M10 (62P20)

— The estimation of systems of joint differential-difference equations. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 1–31. (Summary) **99b:62128** 62M09 (62P20)

— Discrete time representation of stationary and non-stationary continuous time systems. (English summary) *J. Econom. Dynam. Control* **23** (1999), *no.* 4, 619–639. (Summary) **99h:93096** 93E03

Chambers, R. G. *see* **Chambers, Robert G.**

Chambers, R. L. Weighting and calibration in sample survey estimation. *Conference on Statistical Science Honouring the Bicentennial of Stefano Franscini's Birth* (*Ascona*, 1996), 125–147, *Monte Verità, Birkhäuser, Basel*, 1997. (*see* **99e:62002**) 62D05

Chambers, Robert G. (*with* Färe, Rolf) Translation homotheticity. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 629–641. (Summary) **99b:90027** 90A10

— (*with* Chung, Yangho; Färe, Rolf) Profit, directional distance functions, and Nerlovian efficiency. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 351–364. (Summary) **99c:90025** 90A11

Chamblin, Andrew (*with* Ashbourn-Chamblin, J. M. A.) Black hole pairs and supergravity domain walls. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3529–3536. (Summary) **99m:83198** 83E50 (83C57)

— (*with* Emparan, Roberto; Gibbons, Gary W.) Superconducting p-branes and extremal black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084009, 11 *pp.* (Summary) **99m:83183** 83E30 (83C57, 83E15)

— (*with* Ashbourn-Chamblin, J. M. A.; Emparan, Roberto; Sornborger, A.) Can extreme black holes have (long) abelian Higgs hair? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124014, 11 *pp.* 83C57

— (*with* Bousso, Raphael) Open inflation from nonsingular instantons: wrapping the universe with a membrane. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063504, 10 *pp.* 83F05 (83C45)

— (*with* Emparan, Roberto; Johnson, Clifford V.; Myers, Robert C.) Large N phases, gravitational instantons, and the nuts and bolts of AdS holography. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064010, 9 *pp.* (Summary) **99m:83067** 83C45 (81T40, 83E30)

ashbourn-Chamblin, J. M. A. *see* **Ashbourn-Chamblin, J. M. A.**

Chambolle, Antonin (*with* Lucier, Bradley J.) Un principe du maximum pour des opérateurs monotones. (English and French summaries) [A maximum principle for order-preserving mappings] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 823–827. (From the text) **99g:47125** 47H07 (35B50, 47N20)

Chambon, R. (*with* Caillerie, D.; El Hassan, N.) One-dimensional localisation studied with a second grade model. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 637–656. (Summary) **99e:73053** 73E99 (73B99, 73G20, 73V05)

Chamizo, Fernando Lattice points in bodies of revolution. *Acta Arith.* **85** (1998), *no.* 3, 265–277. (D. R. Heath-Brown) **99g:11118** 11P21 (11L15)

— (*with* Córdoba, Antonio) Riemann fractals: numbers and figures. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 1, 37–47. 28A80 (11K55)

— The circle problem. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 3, 435–437. 11P21

— (*with* Iwaniec, Henryk) On the Gauss mean-value formula for class number. (English summary) *Nagoya Math. J.* **151** (1998), 199–208. (T. Metsänkylä) **99h:11041** 11E41 (11P21, 11R11, 11R29)

— Correlated sums of $r(n)$. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 237–252. (G. Greaves) **99k:11150** 11N75

Champagnat, Frédéric (*with* Idier, Jérôme; Goussard, Yves) Stationary Markov random fields on a finite rectangular lattice. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2901–2916. (Summary) **99i:60104** 60G60 (60J10)

Champagne, Bernard (*with* Barache, Damien; Gazeau, Jean Pierre) Pisot-cyclotomic quasilattices and their symmetry semigroups. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 15–66, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99g:52028** 52C07 (11R06, 20M20)

Champneys, A. R. (*with* Hunt, Giles W.; Thompson, J. M. T.) Localization and solitary waves in solid mechanics. *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2077–2081. (Muthiah Daniel) **99f:73034** 73D35 (35Q72)

— (*with* di Bernardo, Mario; Budd, C. J.) Grazing, skipping and sliding: analysis of the non-smooth dynamics of the DC/DC buck converter. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 859–890. (Summary) **99c:34072** 34C23 (58F13, 94C05)

— Homoclinic orbits in reversible systems and their applications in mechanics, fluids and optics. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 158–186. (Arnd Scheel) **99b:58169** 58F14 (34C37, 58F40, 76E30, 78A99)

— (*with* Lowenberg, Mark H.) Shil'nikov homoclinic dynamics and the escape from roll autorotation in an F-4 model. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2241–2256. 70K99 (34C23)

— (*with* Lust, Kurt; Roose, Dirk; Spence, A.) An adaptive Newton-Picard algorithm with subspace iteration for computing periodic solutions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1188–1209 (*electronic*). (Summary) **99b:65088** 65L07 (65N12)

— (*with* Lord, G. J.; Hunt, Giles W.) The role of homoclinic bifurcations in understanding the buckling of long thin cylindrical shells. (English summary) *IUTAM Symposium on*

New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997), 159–168, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 73K15 (34C23, 73H05)

— (*with* Hunt, Giles W.; Lord, G. J.) Homoclinic and heteroclinic orbits underlying the post-buckling of axially-compressed cyclindrical shells. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 239–251. (Summary) **99m:73040** 73H05 (34C37, 73K15)

— (*with* van der Heijden, G. H. M.; Thompson, J. M. T.) Spatially complex localisation in twisted elastic rods constrained to lie in the plane. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 1, 59–79. (Summary) **99h:73040** 73K05 (73H05)

— (*with* Yew, A. C.; McKenna, P. J.) Multiple solitary waves due to second-harmonic generation in quadratic media. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 33–52. (Summary) **99i:78025** 78A60 (34C37, 35Q51)

— (*with* van der Heijden, G. H. M.; Thompson, J. M. T.) The spatial complexity of localized buckling in rods with noncircular cross section. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 198–221 (*electronic*). (Summary) **99g:73066** 73H05 (34C37, 58F40, 73K05)

Chamseddine, Ali H. (*with* Connes, Alain) The spectral action principle. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 731–750. (Jacek Brodzki) **99c:58010** 58B30 (46L87, 58G40, 81T13, 81V22)

— Remarks on the spectral action principle. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 84–90. (Jacek Brodzki) **99i:58144** 58G12 (46L87, 58B30, 81T13)

— (*with* Behrndt, Klaus; Sabra, Wafic A.) BPS black holes in $N = 2$ five-dimensional ADS supergravity. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 97–101. (Summary) **99h:83052** 83E30 (83C57)

— (*with* Volkov, Mikhail S.) Non-abelian solitons in $N = 4$ gauged supergravity and leading order string theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6242–6254. (Summary) **99m:83199** 83E50 (83E30)

Chan, A. (*with* Meloche, J.) Image restoration. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 233–254. (Salvatore Ingrassia) **99g:62072** 62H11 (62M40, 68U10)

Chan, Alice M. (*with* Horgan, Cornelius O.) End effects in anti-plane shear for an inhomogeneous isotropic linearly elastic semi-infinite strip. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 227–242. (Summary) **99k:73040** 73C10 (35Q72, 73B27)

Chan, B. S. P. (*with* Eccleston, J. A.) On the construction of complete and partial nearest neighbour balanced designs. (English summary) *Australas. J. Combin.* **18** (1998), 39–50. (Summary) **99g:05021** 05B05

Chan, C. W. *see* **Chan, Che Wai**

Chan, C. Y. *see* **Chan, Chok You**

Chan, Che Wai (*with* Leung, A. Y. T.; Chan, J. K. W.) Inverse iteration for large defective eigensystems. (English summary) *J. Vib. Control* **4** (1998), *no.* 6, 697–716. 65F15

Chan, Chien-Chung (*with* Grzymala-Busse, Jerzy W.) On the lower boundaries in learning rules from examples. (English summary) *Incomplete information: rough set analysis*, 58–74, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T05 (04A72)

— A rough set approach to attribute generalization in data mining. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 169–176. (Summary) **99b:68155** 68T05 (68P15)

Chan, Chiu Yeung (*with* Liu, Honhung Terence) Global existence of solutions for degenerate semilinear parabolic problems. *Nonlinear Anal.* **34** (1998), *no.* 4, 617–628. (Lubomira G. Softova) **99e:35120** 35K65 (35B40, 35K60)

— (*with* Zhu, Jianmin Kevin) Blow-up of solutions of semilinear Euler-Poisson-Darboux equations with nonlocal boundary conditions. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 1, 17–28. (Summary) **99i:35122** 35Q05 (35B05, 35L80)

— (*with* Chan, Wai Yuen) Existence of classical solutions for degenerate semilinear parabolic problems. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 125–149. (Summary) **99k:35103** 35K65 (35K55)

Chan, Chok You Discrete-time adaptive sliding mode control of a linear system in state-space form. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 859–868. 93C40 (93B12)

Chan, Chun-Fai (*with* Lea, Chin-Tau) Constructing nonblocking multicast switching networks with fanout reduction. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 49–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:94070** 94C10 (94C15)

Chan, Clara S. (*with* Babson, Eric K.; Billera, Louis J.) Neighborly cubical spheres and a cubical lower bound conjecture. (English summary) *Israel J. Math.* **102** (1997), 297–315. (P. McMullen) **99a:52011** 52B12

— (*with* Billera, Louis J.; Liu, Niandong) Flag complexes, labelled rooted trees, and star shellings. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 91–102, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Eva-Maria E. Feichtner) **99m:52012** 52B05 (52B12, 52B20)

Chan, D. Y. C. (*with* Broadbridge, Philip; Fulford, G. R.; Fowkes, N. D.; Lassig, C.) Bubbles in wet, gummed wine labels. (English summary) *SIAM Rev.* **41** (1999), *no.* 2, 363–372 (*electronic*). (Summary) **99m:76051** 76D08 (73H05, 76S05)

Chan, E. B. (*with* Hashimoto, Satoshi; Ôtani, Mitsuharu; Sy, Polly Wee) Approximation for the first eigenvalues of some nonlinear elliptic operators in Banach spaces. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 273–283. (Summary) **99a:35060** 35J60 (35P15, 47H12)

Chan, Eng-Soon (*with* Bishop, Steven R.; Xu, Daolin; Liaw, Chih-Yong) Applying chaos control in periodic windows. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1297–1305. (Frederick R. Marotto) **99j:58140** 58F13 (58F40, 93D15)

Chan, F. T. (*with* Fan, Hong Yi[1]; Fan, Yue) Fermionic coherent state representation for generalized fermionic Bogolyubov transformation. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 27, 1113–1116. 81R30

Chan, G. H. (*with* Xia, Zhong Hang; Choo, E. U.) The critical cut-off value approach for dynamic lot sizing problems with time varying cost parameters. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 179–188. 90B80 (90C27)

Chan, H. (*with* Özgüner, Ümit) Closed-loop control of systems over a communications network with queues. (English summary) *Internat. J. Control* **62** (1995), *no.* 3, 493–510. (Summary) **99a:90093** 90B12 (93C83)

Chan, H. C. *see* **Chan, Ho Chung**

Chan, H. S. Y. (*with* Chung, K. W.; Xu, Zhao) Stability and bifurcations of limit cycles by the perturbation-incremental method. (English summary) *J. Sound Vibration* **206** (1997), *no.* 4, 589–604. (Govindan Rangarajan) **99e:34029** 34C05 (34C23, 70K10)

Chan, Heng Huat (*with* Berndt, Bruce C.; Zhang, Liang-Cheng) Ramanujan's class invariants with applications to the values of q-continued fractions and theta functions. (English summary) *Special functions, q-series and related topics (Toronto, ON, 1995)*, 37–53, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Ronald J. Evans) **99c:11017** 11B65 (11A55, 11F27, 33D10)

— (*with* Berndt, Bruce C.; Zhang, Liang-Cheng) Ramanujan's association with radicals in India. *Amer. Math. Monthly* **104** (1997), *no.* 10, 905–911. (Aleksander Grytczuk) **99a:11053** 11F20 (11R20, 11R37)

— (*with* Huang, Sen-Shan) On the Ramanujan-Göllnitz-Gordon continued fraction. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 75–90. (Liang-Cheng Zhang) **99k:11015** 11A55 (11F03)

— (*with* Berndt, Bruce C.; Zhang, Liang-Cheng) Radicals and units in Ramanujan's work. *Acta Arith.* **87** (1998), *no.* 2, 145–158. (Ronald J. Evans) **99m:11125** 11R27 (11A55)

— (*with* Lang, Mong Lung) Ramanujan's modular equations and Atkin-Lehner involutions. (English summary) *Israel J. Math.* **103** (1998), 1–16. (Liang-Cheng Zhang) **99f:11053** 11F11

— Ramanujan-Weber class invariant G_n and Watson's empirical process. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 545–561. (Ronald J. Evans) **99j:11134** 11R47 (11R37, 11Y60)

— On Ramanujan's cubic transformation formula for ${}_2F_1(\frac{1}{3}, \frac{2}{3}; 1; z)$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 193–204. (Aleksander Grytczuk) **99f:11054** 11F11 (33C05)

— (*with* Ong, Yao Lin) On Eisenstein series and $\sum_{m,n=-\infty}^{\infty} q^{m^2+mn+2n^2}$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1735–1744. (Bruce C. Berndt) **99i:11029** 11F27 (33D10)

Chan, Ho Chung (*with* Chu, D. L.; Ho, D. W. C.) A general framework for state feedback pole assignment of singular systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 135–152. 93B55 (93C30)

— (*with* Chu, D. L.; Ho, D. W. C.) Regularization of singular systems by derivative and proportional output feedback. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 21–38 (*electronic*). (Li Yi Dai) **99c:93053** 93C15 (93B52)

Chan, J. K. W. (*with* Leung, A. Y. T.; Chan, Che Wai) Inverse iteration for large defective eigensystems. (English summary) *J. Vib. Control* **4** (1998), *no.* 6, 697–716. 65F15

— (*with* Rajendran, S.; Leung, A. Y. T.; Starr, A. G.) Bifurcation and stability of a three-hinged rod under a conservative load. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 657–696. (Summary) **99i:73043** 73H05 (73K05)

Chan, Jor-Ting Numerical radius preserving operators on C^*-algebras. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 6, 486–488. (John Duncan) **99f:46078** 46L05 (47A12)

Chan, K. S. *see* **Chan, Kung Sik**

Chan, Kai-Yuen (*with* Jing, Zhu-Jun; Xu, Pengcheng) Bifurcation and chaotic behavior in the Duffing's equations with one and two external periodic forces. *Functional analysis and global analysis (Quezon City, 1996)*, 37–57, *Springer, Singapore*, 1997. (Frederick R. Marotto) **99k:34076** 34C15 (34C23, 34C29, 58F13, 58F14)

Chan, Kit C. (*with* Čučković, Željko) C^*-algebras generated by a subnormal operator. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1445–1460. (Il Bong Jung) **99f:46079** 46L05 (47A13, 47B20, 47B37)

Chan, Kung Sik (*with* Lloyd, Christopher J.; Yip, Paul S. F.) A comparison of recapture, removal and resighting designs for population size estimation. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 363–375. 62F10 (62D05)

— (*with* Stramer, O.) Weak consistency of the Euler method for numerically solving stochastic differential equations with discontinuous coefficients. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 33–44. (Eckhard Platen) **99f:60108** 60H10 (60J20, 65U05)

Chan, L. Y. *see* **Chan, Ling-Yau**

Chan, Lap Mui Ann (*with* Simchi-Levi, David; Bramel, Julien) Worst-case analyses, linear programming and the bin-packing problem. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 213–227. (José F. Fontanari) **99h:90080** 90C27

— (*with* Muriel, Ana; Simchi-Levi, David) Parallel machine scheduling, linear programming, and parameter list scheduling heuristics. (English summary) *Oper. Res.* **46** (1998), *no.* 5, 729–741. (Summary) **99f:90045** 90B35 (90C08)

Chan, Ling-Yau (*with* Meng, J. H.; Jiang, Yong Cai; Guan, Ying-Nan) D-optimal axial designs for quadratic and cubic additive mixture models. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 359–371. (Summary) **99e:62127** 62K05

— (*with* Guan, Ying-Nan; Zhang, Chong-Qi) A-optimal designs for an additive quadratic mixture model. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 979–990. (William I. Notz) **99i:62164** 62K05

Chan, Nai N. (*with* Li, Kim-Hung; Wong, Koon-Sun) E-optimality for regression designs under correlations. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 535–542. (Christos P. Kitsos) **99g:62109** 62K05

Chan, Ngai Hang (*with* Bhattacharya, Rabi Nath) Comparisons of chisquare, Edgeworth expansions and bootstrap approximations to the distribution of the frequency chisquare. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 57–68. (Michael Falk) **99k:62035** 62E20

— (*with* Palma, Wilfredo) State space modeling of long-memory processes. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 719–740. (Peter M. Robinson) **99g:62132** 62M10

Chan, Onn (*with* Lam, T. K.) Hook immanantal inequalities for trees explained. (English summary) *Linear Algebra Appl.* **273** (1998), 119–131. (Summary) **99b:15005** 15A15

Chan, Ping Shing Interval estimation of location and scale parameters based on record values. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 49–58. (Summary) **99a:62074** 62G30 (62G15)

— (*with* Balakrishnan, Narayanaswamy) On the normal record values and associated inference. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 73–80. (Summary) **99e:62087** 62G30 (62F10)

Chan, R. *see* **Chan, Roberto**

Chan, Raymond H. (*with* Ng, Michael K.) Scientific applications of iterative Toeplitz solvers. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 249–267 (1998). (Summary) **99c:65061** 65F10
— (*with* Ng, Michael K.) Preconditioning Toeplitz systems with circulant preconditioners. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 243–270, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65F35
— (*with* Ching, Wai Ki; Zhou, Xun Yu) Conjugate gradient methods for Markov modulated Poisson processes. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 406–417, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65U05 (60K25)
— (*with* Sun, Hai-Wei; Ng, Wing-fai) Circulant preconditioners for ill-conditioned boundary integral equations from potential equations. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 8, 1505–1521. (Summary) **99h:65188** 65N30 (65R20)
— (*with* Lin, Fu-rong; Ng, Wing-fai) Fast dense matrix method for the solution of integral equations of the second kind. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 105–120. 65R20 (45L05)
— (*with* DeLillo, Thomas K.; Horn, Mark A.) Superlinear convergence estimates for a conjugate gradient method for the biharmonic equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 139–147 (*electronic*). (Summary) **99e:65145** 65N12 (30C30, 65E05)
— (*with* Chang, Qian-Shun; Sun, Hai-Wei) Multigrid method for ill-conditioned symmetric Toeplitz systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 516–529 (*electronic*). (Summary) **99b:65030** 65F10
— (*with* Xu, Shu-Fang; Zhou, Hao-Min) On the convergence of a quasi-Newton method for inverse eigenvalue problems. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 436–441 (*electronic*). (J. Segethová) **99m:65069** 65F15 (65F10)
— *see also* **Iterative methods in scientific computing, 99g:65001**
Chan, Roberto A shearing non-adiabatic solution of Einstein's equations. (English summary) *Astrophys. Space Sci.* **257** (1997/98), *no.* 2, 299–309. 83C15
Chan, S. C. *see* **Chan, Shing Chow**
Chan, S. T. (*with* Gresho, P. M.) Projection 2 goes turbulent—and fully implicit. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 249–272. (*see* **99f:76004**) 76M10 (76F99)
Chan, Schultz (*with* Ghosh, Malay) Orthogonal projections and the geometry of estimating functions. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 227–245. (Goetz Trenkler) **99i:62037** 62F10
Chan, Shih-Ping Galois module structure of non-Kummer extensions. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 4, 286–292. (Nigel Byott) **99a:11127** 11R33 (11S23)
Chan, Shing Chow (*with* Luo, Y.; Ho, K. L.) *M*-channel compactly supported biorthogonal cosine-modulated wavelet bases. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1142–1151. (Summary) **99h:94005** 94A11 (42C15)
Chan, T. F. *see* **Chan, Tony F. C.**
Chan, Terence (*with* Jansons, Kalvis M.) Semiflexible polymers in straining flows. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 145–176. (Paul McGill) **99a:82066** 82C31 (60J65, 82D60)
Chan, Timothy M. (*with* Agarwal, Pankaj K.; Aronov, Boris; Sharir, Micha) On levels in arrangements of lines, segments, planes, and triangles. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 315–331. (Summary) **99b:52029** 52B55 (68U05)
— Approximate nearest neighbor queries revisited. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 359–373. (Summary) **99f:68198** 68U05 (52B55)
— Backwards analysis of the Karger-Klein-Tarjan algorithm for minimum spanning trees. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 303–304. (Summary) **99e:68121** 68R10 (05C85, 68Q25)
— Deterministic algorithms for 2-d convex programming and 3-d online linear programming. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 147–166. (Summary) **99c:90087** 90C25 (90C05)
Chan, Tony F. C. (*with* Mulet, Pep) Iterative methods for total variation image restoration. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 359–381, *Springer, Singapore*, 1997. (*see* **99g:65001**) 94A12 (65F05, 65F10, 65T20)
— (*with* Barth, Timothy J.; Tang, Wei-Pai) A parallel non-overlapping domain-decomposition algorithm for compressible fluid flow problems on triangulated domains. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 23–41, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Dennis C. Jespersen) **99g:76099** 76M25 (65M55, 65Y05, 76N10, 76R99)
— (*with* Xu, Jinchao; Zikatanov, Ludmil) An agglomeration multigrid method for unstructured grids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 67–81, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65205** 65N55
— (*with* Tai, Xue-Cheng; Frøyen, Johnny; Espedal, Magne S.) Overlapping domain decomposition and multigrid methods for inverse problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 523–529, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65210** 65N55 (35R30)
— (*with* de Pillis, Lisette; Van der Vorst, Henk A.) Transpose-free formulations of Lanczos-type methods for nonsymmetric linear systems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 51–66. (Summary) **99d:65101** 65F10
— (*with* Chow, Edmond Ten-Fu; Saad, Youcef; Yeung, M. C.) Preserving symmetry in preconditioned Krylov subspace methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 568–581 (*electronic*). (Summary) **99d:65102** 65F10 (65F50)
— *see also* **Iterative methods in scientific computing, 99g:65001**
Chan, Tsz-Fung (*with* Li, Duan; Ng, Wan-Lung) Safety-first dynamic portfolio selection. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 585–600. (*see* **99g:49003**) 90A09 (90A16)
Chan, W. Y. *see* **Chan, Wai Yuen**
Chan, Wai (*with* Bentler, Peter M.) Covariance structure analysis of ordinal ipsative data. (English summary) *Psychometrika* **63** (1998), *no.* 4, 369–399. (Summary) **99m:62158** 62P15
Chan, Wai-Kiu (*with* Estes, Dennis R.; Jöchner, M.) Representations of codimension ≥ 3 by definite quadratic forms. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 81–85. (Detlev W. Hoffmann) **99e:11042** 11E12 (11E08, 11E25)
— (*with* Chan, Yip-Cheung; Siu, Man-Keung) Minimal rank of abelian group matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 277–285. (Summary) **99j:15002** 15A03 (15A36)
— Spinor genera under $\mathbf{Z}_p$-extensions. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 237–267. (A. G. Earnest) **99k:11054** 11E12 (11E08, 11R23)
Chan, Wai Yuen (*with* Chan, Chiu Yeung) Existence of classical solutions for degenerate semilinear parabolic problems. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 125–149. (Summary) **99k:35103** 35K65 (35K55)
Chan, Wendy Classification of trivectors in 6-D space. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 63–110, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (I. Strazdiņš) **99j:15038** 15A72 (05A40, 05E10)
Chan, Whei-Ching C. (*with* Chao, Yi-Duo) Synchronization of coupled forced oscillators. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 97–116. (From the introduction) **99m:34079** 34C15 (34C35)
Chan, Wun-Tat (*with* Chin, Francis Y. L.) Algorithms for finding optimal disjoint paths around a rectangle. (English summary) *Algorithms and computation* (*Singapore*, 1997), 314–323, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10 (68Q35, 68R10)
Chan, Yip-Cheung (*with* Chan, Wai-Kiu; Siu, Man-Keung) Minimal rank of abelian group matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 277–285. (Summary) **99j:15002** 15A03 (15A36)
Chanane, B. A series solution for nonlinear differential equations using delta operators. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 75–80. 34A45 (35C10)
— Eigenvalues of fourth order Sturm-Liouville problems using Fliess series. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 91–97. (Summary) **99h:34121** 34L15 (65L10)
— High order approximations of the eigenvalues of regular Sturm-Liouville problems. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 121–129. (Yuan Ji Cheng) **99m:65144** 65L15 (34B24)
— Eigenvalue problems: a control-theoretic approach. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 465–471. (*see* **99m:34001**) 65L06 (34B24, 34L15, 93B60)
Chanas, Stefan (*with* Kuchta, Dorota) Discrete fuzzy optimization. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 249–280, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C27 (04A72, 90C70)
— (*with* Kuchta, Dorota) An algorithm for solving bicriterial linear programming problems with parametrical coefficients in the objective functions. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 63–71. (*see* **99b:90006**) 90C08 (90C31)
— (*with* Kuchta, Dorota) Fuzzy integer transportation problem. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 291–298. 90C70 (90C08)
Chand, D. K. (*with* Singh, Bijendra) Non-Archimedean 2-Banach space valued almost periodic functions. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 67–72. 43A60 (46S10)
Chand, Ramesh (*with* Arora, Virendra; Goel, Vivek) A critical study of fractions in *Ganitatilaka*. (English summary) *Math. Ed.* (*Siwan*) **31** (1997), *no.* 4, 192–202. (A. I. Volodarskiĭ) **99e:01006** 01A32
Chanda, Kamal C. Recent developments in the analysis of time series data with errors in variables: a review. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 52–60, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62M10
Chandel, Jyotsna (*with* Dwivedi, A. P.) Six series equations involving generalized Bateman *K*-functions. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 222–228. (From the text) **99h:33053** 33C60
— (*with* Dwivedi, A. P.) *n* series equations involving generalised Bateman *K*-functions. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 236–240. (From the text) **99h:33054** 33C60
Chandel, Raghvendra Singh (*with* Ganguly, Ashok; Tapi, U. D.) Some results on general topology. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 1–5. 54D10 (54D15)
Chandía, Osvaldo (*with* Zanelli, Jorge) Torsional topological invariants (and their relevance for real life). (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 251–264, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Chopin Soo) **99m:53138** 53C80 (81T50, 83D05)
— (*with* Zanelli, Jorge) Supersymmetric particle in a spacetime with torsion and the index theorem. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045014, 4 *pp.* (Summary) **99k:81295** 81T60 (58G10, 81T20)
Chandler, C. (*with* Gibson, A. G.) *N*-body quantum scattering theory in two Hilbert spaces: *N*-body integral equations. (English summary) *Few-Body Systems* **23** (1998), *no.* 3-4, 223–258. (V. S. Ol'khovskiĭ) **99e:81252** 81U10
Chandler, Graeme (*with* Atkinson, Kendall E.) The collocation method for solving the radiosity equation for unoccluded surfaces. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 3, 253–290. (Summary) **99j:45009** 45L05 (65R20, 68U05, 78A99)
Chandler, Karen A. Higher infinitesimal neighbourhoods. (English summary) *J. Algebra* **205** (1998), *no.* 2, 460–479. (Martin Kreuzer) **99c:13036** 13D40 (14M05)
Chandler-Wilde, Simon N. (*with* Ross, Christopher R.; Zhang, Bo[1]) Scattering by rough surfaces. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 164–168, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35R30 (78A45)
— (*with* Zhang, Bo[1]) Electromagnetic scattering by an inhomogeneous conducting or dielectric layer on a perfectly conducting plate. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 519–542. (Summary) **99d:78028** 78A45
— (*with* Zhang, Bo[1]) A uniqueness result for scattering by infinite rough surfaces. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1774–1790 (*electronic*). (Vadim D. Kryakvin) **99i:35018** 35J05 (35B99, 78A45)
— (*with* Zhang, Bo[1]) Acoustic scattering by an inhomogeneous layer on a rigid plate. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1931–1950 (*electronic*).

(Vadim D. Kryakvin) **99i:35019** 35J05 (35B99, 76Q05)
harish-Chandra *see* **Harish-Chandra**
Chandra, Ashok K. (*with* Raghavan, Prabhakar; Ruzzo, Walter L.; Smolensky, Roman; Tiwari, Prasoon) The electrical resistance of a graph captures its commute and cover times. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 312–340. (Mark R. Jerrum) **99h:60140** 60J15 (05C90, 94C05)
Chandra, Prabhat (*with* Rahman, Syed Hasibur) A special type of set in a linear space called arithmetical set. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 116–117. 15A03
Chandra, Prem (*with* Kanur, Hitesh) On the rate of convergence of Laguerre series. (English summary) *Vikram Math. J.* **14** (1994), 61–67. 41A58 (33C45)
— Degree of approximation of functions in the Hölder metric. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 37–51, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 42A10 (42A20)
— Necessary conditions for the convergence of Lebesgue-Fourier series. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 3, 171–180. (S. M. Mazhar) **99g:42001** 42A20
Chandra, Suresh (*with* Abha) Non-differentiable symmetric duality in minimax integer programming. (English summary) *Opsearch* **34** (1997), *no.* 4, 232–241. (Ming Fang Ni) **99c:90081** 90C10 (49N15)
— (*with* Bector, C. R.; Kumar, Vinod^2) Fenchel duality in generalized fractional programming. *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 373–386, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dorel Duca) **99k:90174** 90C32 (49N15)
— (*with* Goyal, Abha; Husain, I.) On symmetric duality in mathematical programming with F-convexity. (English summary) *Optimization* **43** (1998), *no.* 1, 1–18. (Summary) **99a:90157** 90C26 (49N15)
Chandra, Tapas K. (*with* Ghosal, Subhashis) On extensions of an inequality of Kolmogorov. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 1–9. (S. M. Samuels) **99f:60030** 60E15 (60G42)
— (*with* Ghosal, Subhashis) Some elementary strong laws of large numbers: a review. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 61–81, *Narosa, New Delhi*, 1998. (Przemysław Matuła) **99m:60051** 60F15 (60F25)
— (*with* Ghosal, Subhashis) Complete convergence of martingale arrays. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 621–631. (K. F. Yu) **99f:60043** 60F05 (60E15, 60G42)
Chandra, Tushar Deepak (*with* Jayanti, Prasad; Toueg, Sam) Fault-tolerant wait-free shared objects. (English summary) *J. ACM* **45** (1998), *no.* 3, 451–500. (Behrooz Parhami) **99g:68010** 68M07 (68Q10, 90B25)
Chandra Hari, K. On the origin of "Kaliyugādi" synodic super-conjunction. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 3, 193–201. 01A32
— On the origin of sidereal zodiac and astronomy. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 4, 257–266. 01A32
Chandramouli, A. B. Queues in bi-tandem channels. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 171–179. 60K25
— Queues in bi-tandem channels linked in tandem with a common channel with non-linear service growth rate. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 197–206. 60K25
naveena Chandran, K. P. *see* **Naveena Chandran, K. P.**
Chandrasekaran, M. (*with* Balasubramaniam, P.) Existence of solutions of nonlinear integrodifferential equation with nonlocal boundary conditions in Banach space. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 1–13. (Ludwik Byszewski) **99f:34115** 34K30 (45J05, 47D03, 47N20)
— (*with* Balachandran, Krishnan) Nonlocal Cauchy problem for quasilinear integrodifferential equation in Banach spaces. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 35–43. (Ludwik Byszewski) **99m:45011** 45J05 (34K30, 45N05, 47H15)
Chandrasekaran, P. (*with* Ramasami, E. K.) Painlevé analysis and pseudopotentials of the Schamel's equation. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 293–300. (*see* **99g:00038**) 35Q53
Chandrasekaran, R. (*with* Kabadi, Santosh N.; Sridhar, Raghavendra) Integer solution for linear complementarity problem. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 390–402. (Anton Volgenant) **99d:90129** 90C33 (90D05)
— (*with* Kabadi, Santosh N.) Geometric problems in automated manufacturing. (English summary) *Opsearch* **36** (1999), *no.* 1, 42–50. 90B30 (65Y25)
Chandrasekaran, S. (*with* Sayed, Ali H.; Nascimento, V. H.) Estimation and control with bounded data uncertainties. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 259–306. (B. I. Anan'ev) **99k:93098** 93E24 (93C41)
— (*with* Golub, Gene H.; Gu, Ming; Sayed, Ali H.) Parameter estimation in the presence of bounded data uncertainties. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 235–252 (*electronic*). (George Yin) **99a:93094** 93E10 (65U05, 93E24)
— (*with* Gu, Ming; Sayed, Ali H.) A stable and efficient algorithm for the indefinite linear least-squares problem. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 354–362 (*electronic*). (Jin Yun Yuan) **99f:65064** 65F30 (15A06, 65G05)
Chandrasekhar, Lalitha Our song. *Black holes and relativistic stars* (*Chicago, IL*, 1996), 273–278, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 01A70
Chandrasekhar, Subrahmanyan ★ The mathematical theory of black holes. (English summary) Reprint of the 1992 edition. Oxford Classic Texts in the Physical Sciences. *The Clarendon Press, Oxford University Press, New York*, 1998. *xxii+646 pp. ISBN* 0-19-850370-9 (Editors) **99f:83041** 83C57 (01A75, 83–02)
— *see also* **Classical and quantum aspects of gravitation and cosmology**, **99b:83003**; **Panchapakesan, Natarajan**, **99c:83002**; **Memorial Volume: Chandrasekhar, Subrahmanyan**, **99h:00030**; **Dobson, Geoffrey J.**, **99m:01011**; **Lebovitz, Norman R.**, (**99h:00030**) *and* **Publications by S. Chandrasekhar**, (**99h:00030**)
Chandrasekharaiah, D. S. Variational and reciprocal principles in thermoelasticity without energy dissipation. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 209–215. (J. Ignaczak) **99h:73006** 73B30 (73V25)
Chandrasekharan, K. ★ A course on topological groups. (English summary) Texts and Readings in Mathematics, 9. *Hindustan Book Agency, New Delhi*, 1996. *viii+117 pp. ISBN* 81-85931-10-0 (Joseph Max Rosenblatt) **99k:22010** 22Dxx (43A05, 43A65)
— ★ A course on integration theory. (English summary) Texts and Readings in Mathematics, 8. *Hindustan Book Agency, New Delhi*, 1996. *viii+118 pp. ISBN* 81-85931-09-7 (R. G. Bartle) **99k:28001** 28–01
— The autobiography of Laurent Schwartz: review of *Laurent Schwartz, un mathématicien aux prises avec le siècle* [Editions Odile Jacob, Paris, 1997]. *Notices Amer. Math. Soc.* **45** (1998), *no.* 9, 1141–1147. 01A70
Chandrasekhara Rao, K. Extreme points. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 215–217, *New Age, New Delhi*, 1997. (Summary) **99e:40007** 40G05 (40D09)
— (*with* Gopalakrishnamoorthy, G.) Certain near-rings are commutative rings. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 39–45. 16Y30 (16U80)
— (*with* Maki, H.; Nagoor Gani, A.) On generalizing semi-open sets and preopen sets. (English summary) *Pure Appl. Math. Sci.* **49** (1999), *no.* 1-2, 17–29. 54A05 (54E55)
Chandre, C. (*with* Jauslin, H. R.) A version of Thirring's approach to the Kolmogorov-Arnold-Moser theorem for quadratic Hamiltonians and degenerate twist. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5856–5865. (Guido Gentile) **99j:58184** 58F27 (34C50, 70H05)
— (*with* Govin, M.; Jauslin, H. R.) Kolmogorov-Arnold-Moser renormalization-group approach to the breakup of invariant tori in Hamiltonian systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1536–1543. (Luigi Chierchia) **99e:58150** 58F27 (34C27, 70H05)
— (*with* Govin, M.; Jauslin, H. R.; Koch, Hans) Universality for the breakup of invariant tori in Hamiltonian flows. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6612–6617. (Summary) **99b:58206** 58F27 (70H05)
Chandru, Vijaya (*with* Roy, Suman; Subrahmanyam, Ramesh) Negation as failure as resolution. (English summary) *Constraints* **3** (1998), *no.* 4, 315–329. (Summary) **99k:68027** 68N17
— (*with* Trick, Michael A.) The search for optimal Lagrange multipliers. (English summary) *J. Indian Inst. Sci.* **78** (1998), *no.* 2, 131–151. (Guntram Scheithauer) **99k:90128** 90C27 (90C35)
Chanduka, K. K. P. (*with* Bhandari, M. C.; Lal, A. K.) On lower bounds for covering codes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 237–243. (Summary) **99i:94074** 94B65
Chang, An Bounds on the second largest eigenvalue of a tree with perfect matchings. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 247–255. (Yuan Hong) **99k:05106** 05C50 (05C05)
— Some properties of the spectrum of graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 103–107. (Summary) **99m:05102** 05C50
Chang, Bor Chin (*with* Kwatny, Harry G.) Constructing linear families from parameter-dependent nonlinear dynamics. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1143–1147. 93B18 (93C10)
Chang, C. C. *see* **Chang, Chen Chung**
Chang, C. M. *see* **Chang, Ching-Mo**
Chang, Carolina (*with* Gzyl, Henryk) Parameter estimation in superposition of decaying exponentials. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 101–116. 65U05 (90C90)
Chang, Chen Chung The writing of the MV-algebras. Many-valued logics. *Studia Logica* **61** (1998), *no.* 1, 3–6. (*see* **99d:03005**) 03G20 (01A60, 03–03)
Chang, Chen-Yu (*with* Chang, Shyang; Chang, Yen-Ching) A minimum discrepancy estimator in parameter estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2930–2942. (Summary) **99i:62038** 62F10
Chang, Cheng-Chang (*with* Su, Chao-Ton; Tong, Lee-Ing) The optimization of an organizational restructuring problem. (English summary) *Opsearch* **35** (1998), *no.* 4, 295–322. (Summary) **99i:90057** 90B70 (90B30)
Chang, Cheng-Hung (*with* Mayer, Dieter) The period function of the nonholomorphic Eisenstein series for PSL(2, **Z**). (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 6, 8 *pp.* (*electronic*). (Andrea Mori) **99k:11070** 11F37 (11M36)
Chang, Chi-Ming (*with* Lee, Tsiu-Kwen) Annihilators of power values of derivations in prime rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2091–2113. (Charles Lanski) **99d:16039** 16W25 (16N60, 16R50)
Chang, Chien-Ping (*with* Wang, Jyh-Nan; Hsu, Lih-Hsing) Topological properties of twisted cube. (English summary) *Inform. Sci.* **113** (1999), *no.* 1-2, 147–167. (Summary) **99g:68013** 68M10 (68R10)
Chang, Chin-Chen (*with* Jiang, Ji-Han) Multiple disk allocation based on round-robin Hilbert curve for spatial data. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 1, 11–23. (Summary) **99c:68076** 68P20 (68P05)
Chang, Ching-Hua (*with* Ha, Chung-Wei) Bounds for the singular values of smooth kernels. *Colloq. Math.* **78** (1998), *no.* 2, 319–324. (A. Pietsch) **99k:47116** 47G10 (45P05, 47B06)
— (*with* Ha, Chung-Wei) On eigenvalues of differentiable positive definite kernels. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 1, 1–7. (Summary) **99j:47072** 47G10 (45P05)
Chang, Ching Hui (*with* Lin, Jyh-Jiuan; Pal, Nabendu) Applications of improved variance estimators in a multivariate normal mean vector estimation. (English summary) *Statistics* **30** (1997), *no.* 2, 99–125. (Summary) **99c:62054** 62F10 (62J07)
Chang, Ching L. (*with* Yang, Suh-Yuh) A two-stage least-squares finite element method for the stress-pressure-displacement elasticity equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 297–315. (Summary) **99a:73130** 73V05 (65N30, 73C02)
Chang, Ching-Mo (*with* Manoranjan, V. S.) Travelling wave solutions of a contaminant transport model with nonlinear sorption. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 1–10. (Summary) **99j:76123** 76S05 (34C37, 35Q35, 86A05)
Chang, Chiu-Cheng On a class of Pólya property preserving operators. (English summary) *Soochow J. Math.* **22** (1996), *no.* 4, 495–511. (Richard Rochberg) **99c:47033** 47B38 (46E22)
— On the approximations to analytic functions. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 201–210. (A. A. Borichev) **99k:46033** 46E15 (30E10)

Chang, Chu-Yin (*with* Chang, Tsu-Shuan) Robust controller design for parametrized uncertain plants by synergizing QFT and *Q*-parametrization. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 499–512. 93D21 (93B50)

Chang, Chung-Kuei (*with* Sarkar, Sanat K.) The Simes method for multiple hypothesis testing with positively dependent test statistics. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1601–1608. (Summary) **99a:62027** 62F10

Chang, D.-C. *see* **Chang, Der-Chen E.**

Chang, Da-Wei The multisplitting PSD (MPSD) method for systems of weakly nonlinear equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 247–262. (Summary) **99m:65112** 65H10

— Comments on R. E. White's results: "Multisplitting with different weighting schemes" [SIAM J. Matrix Anal. Appl. **10** (1989), no. 4, 481–493; MR 90k:65116]. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 193–196. (Summary) **99m:65097** 65F99

Chang, Da Yong Maximum fuzzy covers and their application in fuzzy decision-making. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 2, 138–143. 68T05 (04A72, 90A05)

Chang, Der-Chen E. (*with* Berenstein, Carlos A.; Wang, Emei) Determining a surface breaking crack from steady-state electrical boundary measurements—reconstruction method. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 63–92 (1998). (Summary) **99i:78014** 78A30 (35J05, 35R30, 78A55)

— (*with* Dafni, Galia; Stein, Elias M.) Hardy spaces, BMO, and boundary value problems for the Laplacian on a smooth domain in $\mathbf{R}^n$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1605–1661. (Steven George Krantz) **99f:46031** 46E15 (35J25, 42B25, 42B30)

Chang, Feng-Yuan (*with* Chen, Cheng-Liang; Wang, Sheng-Nan; Hsieh, Chung-Tyan) Theoretical analysis of a fuzzy-logic controller with unequally spaced triangular membership functions. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 87–108. 93C42

Chang, Fu-Chuen On asymptotic distribution of optimal design for polynomial-type regression. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 421–425. (Summary) **99c:62202** 62K05

— (*with* Yeh, Yu-Rong) Exact *A*-optimal designs for quadratic regression. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 527–533. (Girdhar G. Agarwal) **99g:62104** 62K05

Chang, Fu Qing (*with* Guo, Xi Juan; Gao, Yi Ming) Criteria for a matrix to be generalized diagonally dominant or an *M*-matrix. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 59–63. 65F35

Chang, Gerard J. (*with* Chen, Jer-Jeong; Huang, Kuo-Ching) Integral distance graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 287–294. (Hansjoachim Walther) **99b:05047** 05C12

— (*with* Hwang, Frank K.; Tong, Li-Da) Characterizing bit permutation networks. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 157–167, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (W.-K. Chen) **99h:94088** 94C10 (90B12, 94C05)

— Algorithmic aspects of domination in graphs. (English summary) *Handbook of combinatorial optimization, Vol. 3*, 339–405, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C35 (05C85, 90–02)

— (*with* Jou, Min-Jen) Survey on counting maximal independent sets. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 265–275, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:05064** 05C35

— (*with* Yeh, Hong-Gwa; Liaw, Sheng-Chyang; Hwang, Frank K.) Enumerating partitions with given part-sizes. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 33–38. (Summary) **99b:11115** 11P81 (05A17)

— (*with* Hao, Fred H.) The ratio of degree sums on graph decompositions. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 247–255. (Jaroslav Ivančo) **99m:05074** 05C35

— (*with* Yeh, Hong-Gwa) Weighted connected domination and Steiner trees in distance-hereditary graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 245–253. (Gary MacGillivray) **99m:05129** 05C70 (05C05, 05C85)

— (*with* Hwang, Frank K.) Enumerating consecutive and nested partitions for graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 63–70. (Gerard Sierksma) **99b:05006** 05A18 (05C99)

— (*with* Huang, Lingling; Zhu, Xuding) Circular chromatic numbers and fractional chromatic numbers of distance graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 423–431. (Hansjoachim Walther) **99j:05066** 05C15

— (*with* Hwang, Shiow-Fen) *k*-neighborhood-covering and -independence problems for chordal graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 633–643 (*electronic*). (Douglas F. Rall) **99g:05144** 05C70 (05C85, 68R10)

— (*with* Liaw, Sheng-Chyang) Rabin numbers of butterfly networks. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 219–227. (Lorenzo Traldi) **99m:05053** 05C12 (05C40)

— (*with* Jou, Min-Jen) The number of maximal independent sets in connected triangle-free graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 169–178. (Summary) **99i:05105** 05C35

— (*with* Chen, Fu-Loong; Huang, Lingling; Hwang, Frank K.; Nuan, Su-Tzu; Rothblum, Uriel G.; Sun, I-Fan; Wang, Jan-Wen; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)

— (*with* Liu, Daphne D.-F.; Zhu, Xuding) Distance graphs and *T*-coloring. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 2, 259–269. (R. C. Entringer) **99m:05058** 05C15 (05C12)

— (*with* Lu, Xiao Yun[1]; Wang, Da-Wei[1]; Lin, In-Jen; Wong, Chak Kuen) On *k*-ary spanning trees of tournaments. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 167–176. (A. G. Thomason) **99j:05084** 05C20 (05C05, 05C35)

— Algorithmic aspects of linear *k*-arboricity. (English summary) *Taiwanese J. Math.* **3** (1999), *no.* 1, 73–81. (S. I. Gendler) **99k:05147** 05C85

— (*with* Liaw, Sheng-Chyang) Wide diameters of butterfly networks. (English summary) *Taiwanese J. Math.* **3** (1999), *no.* 1, 83–88. (Summary) **99k:05073** 05C12 (05C40)

Chang, Gyu Whan (*with* Hwang, Chul Ju) Prüfer *v*-multiplication domains in which each *t*-ideal is divisorial. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 259–268. (Sylvia Wiegand) **99i:13001** 13A15 (13F05)

Chang, H.-C. *see* **Chang, Han-Chieh**

Chang, Hai-chau (*with* Wang, Lih-chung) On group structure associated to Jacobian pairs with mixed leading forms. (English summary) *J. Pure Appl. Algebra* **119** (1997), *no.* 1, 1–11. (Summary) **99d:14012** 14E09

Chang, Han-Chieh (*with* Gottlieb, David; Marion, Martine; Sheldon, B. W.) Mathematical analysis and optimization of infiltration processes. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 303–321. (Elena Comparini) **99k:76137** 76S05 (76R99)

Chang, Hen-Chao (*with* Hu, Tien Chung) Complete convergence and the law of large numbers for arrays of random elements. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4257–4266. (A. Bozorgnia) **99c:60008** 60B12

Chang, Hong (*with* Dey, Dipak K.; Ghosh, Sujit K.) Measuring the effect of observations using the posterior and the intrinsic Bayes factors with vague prior information. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 376–391. (Summary) **99j:62034** 62F15

Chang, Horng-Jinh (*with* Lai, Uei-Tseng) Empirical comparison between two *k*-shortest path methods for the generalized assignment problem. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 153–171. 90C27 (90C35)

Chang, Hsueh-Chia (*with* Veretennikov, Igor; Indeikina, Alexandra) Front dynamics and fingering of a driven contact line. (English summary) *J. Fluid Mech.* **373** (1998), 81–110. 76–05 (76D99)

— (*with* Demëkhin, E. A.; Kalaidin, Evgeny) Generation and suppression of radiation by solitary pulses. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1246–1277 (*electronic*). (Summary) **99b:35180** 35Q51 (34C99, 35Q35, 76D33)

— (*with* Demëkhin, E. A.; Kalaidin, Evgeny) Iterated stretching of viscoelastic jets. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1717–1737. 76A10

Chang, Hung-Chi (*with* Ouyang, Liang-Yuh) The newsboy problem with defective items and random demand. (English summary) *Tamsui Oxf. J. Math. Sci.* **14** (1998), 55–66. 90B05

Chang, I-Shou (*with* Chen, Li-Ru; Hsiung, Chao A.) A class of efficient non-parametric *K*-sample tests for multivariate counting processes with frailties. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 127–141. (David P. Harrington) **99g:62054** 62G10 (62M99)

Chang, In Hong (*with* Choi, Kuey Chung; Kim, Byung Hwee) Bayes estimation in a hierarchical linear model. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 1–10. (Kurt Hoffmann) **99m:62097** 62J05 (62F15)

Chang, J. T. *see* **Chang, Joseph T.**

Chang, Jane Y. (*with* Notz, W. I.) Model robust designs. *Design and analysis of experiments*, 1055–1098, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99 (62K05)

Chang, Jen-Tseh (*with* Cogdell, James W.) n-homology of generic representations for GL(N). (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1251–1256. (Volker J. Heiermann) **99f:22021** 22E46 (20G05, 22E45, 22E47)

Chang, Joseph T. (*with* Pollard, D.) Conditioning as disintegration. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 287–317. (Detlef Plachky) **99b:62001** 62–02 (60A10, 60B05, 62A15, 62B10)

Chang, Jou-Ming (*with* Ho, Chin-Wen) Solving the all-pairs-shortest-length problem on chordal bipartite graphs. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 87–93. (Summary) **99i:68091** 68R10 (05C85)

Chang, K. E. (*with* Chen, Sei-Wang; Fang, C. Y.) Neural simulation of Petri nets. (English summary) *Parallel Comput.* **25** (1999), *no.* 2, 183–207. (Summary) **99k:68153** 68T05 (68Q90)

Chang, Keun-Shik (*with* Min, Byoung-Kwang) A momentum coupling method for the unsteady incompressible Navier-Stokes equations on the staggered grid. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 443–460. (Summary) **99e:76092** 76M25 (76D05)

Chang, Ku-Young (*with* Kwon, Soun-Hi) Class number problem for imaginary cyclic number fields. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 318–338. (Franz Lemmermeyer) **99i:11102** 11R29 (11R18)

Chang, Kuang-Chao (*with* Liu, Jeng-Fu; Han, Chien-Pai) Multiple inverse sampling in post-stratification. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 209–227. (David Bellhouse) **99f:62020** 62D05

— (*with* Han, Chien-Pai; Hawkins, Doyle L.) Truncated multiple inverse sampling in post-stratification. (English summary) *J. Statist. Plann. Inference* **76** (1999), *no.* 1-2, 215–234. 62D05

Chang, Kun Soo (*with* Kim, Young Sik; Yoo, Il) An L_p analytic Fourier-Feynman transform on abstract Wiener space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 579–595. (Roberto Luiz Soraggi) **99m:46105** 46F25 (28C20, 43A32, 46G12)

Chang, Kuo-Hwa (*with* Serfozo, Richard F.; Szczotka, Władysław) Treelike queueing networks: asymptotic stationarity and heavy traffic. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 541–568. (Vladimir V. Kalashnikov) **99e:60201** 60K25 (60F17)

Chang, Kwang-Chow *see* **Errata: "An alternative proof for a known result of noncentral Wishart distribution"**

Chang, M.-C. *see* **Chang, Mei-Chu**

González Chang, María Elena *see* **González Chang, María Elena**

Chang, Maw-Shang (*with* Hsieh, Sun-Yuan; Chen, Gen-Huey) Dynamic programming on distance-hereditary graphs. (English summary) *Algorithms and computation (Singapore, 1997)*, 344–353, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:05107** 05C85 (68Q20)

— Weighted domination of cocomparability graphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 135–148. (Richard C. Brewster) **99b:05082** 05C35 (05C85, 68R10)

— (*with* Nagavamsi, P.; Pandu Rangan, C.) Weighted irredundance of interval graphs. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 65–70. (Summary) **99a:05132** 05C85 (68Q25, 68R10)

— Efficient algorithms for the domination problems on interval and circular-arc graphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1671–1694 (*electronic*). (Richard C. Brewster) **99g:68150** 68R10 (05C85, 68Q25, 90C35)

Chang, Mei-Chu Distributions of Chern numbers of complete intersection three-folds. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 5, 861–872. (From the introduction) **99h:14005** 14C15 (14J30, 14M10)

Chang, Min Hsing (*with* Chen, Cha'o-Kuang) Stability of hydromagnetic dissipative Couette flow with non-axisymmetric disturbance. (English summary) *J. Fluid Mech.* **366** (1998), 135–158. 76E25

Chang, Myron N. (*with* Chung, Daehyun) Isotonic window estimators of the baseline hazard function in Cox's regression model under order restriction. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 151–161. (Summary) **99c:62080** 62G05 (62N05)

Chang, Qian-Shun (*with* Ma, Liming) The multigrid method of Wilson element on arbitrary quadrilateral meshes with two new variational formulations. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 134–139. (Do Young Kwak) **99c:65233** 65N55

— (*with* Xu, Pengcheng; Guo, Bo Ling) The homoclinic orbits in nonlinear Schrödinger equation. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 129–134. 35Q55 (34C37, 58F39)

— (*with* Chan, Raymond H.; Sun, Hai-Wei) Multigrid method for ill-conditioned symmetric Toeplitz systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 516–529 (*electronic*). (Summary) **99b:65030** 65F10

— (*with* Jia, Erhui; Sun, Wei Wei) Difference schemes for solving the generalized nonlinear Schrödinger equation. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 397–415. (Summary) **99i:65086** 65M06

Chang, Richard (*with* Beals, Robert M.; Gasarch, William I.; Torán, Jacobo) On finding the number of graph automorphisms. (English summary) *Chicago J. Theoret. Comput. Sci.* **1999**, *Article* 1, 28 *pp.* (*electronic*). (Dieter Kratsch) **99m:68076** 68Q25 (05C60, 05C85, 68Q15)

Chang, Ruay-Shiung Jump number maximization for proper interval graphs and series-parallel graphs. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 103–122. (W. G. Brown) **99m:05148** 05C85 (05C35, 06A06, 68Q25, 68R10)

Chang, S. K. *see* **Chang, Sung Kag**

Chang, S. S. *see* **Zhang, Shi Sheng**

Chang, S. Y. *see* **Chang, Soo Young**

Chang, Seung Jun (*with* Lee, Sang Deok) The partial differential equation on function space with respect to an integral equation. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 47–60. (Chull Park) **99c:60177** 60J65 (28C20, 35R15, 60H05)

Chang, Shaoping On quadratic forms between spheres. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 111–124. (Kee Yuen Lam) **99h:57055** 57R35 (15A63, 55Q40)

Chang, Shau-Jin (*with* Yurchenko, Alex) Localized zero modes and the breakup of KAM tori. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 2, 780–788. (Dario Bambusi) **99e:58151** 58F27 (34B30, 34C35, 39A10)

Chang, Shih-sen *see* **Zhang, Shi Sheng**

Chang, Shou-Te Betti numbers of modules of exponent two over regular local rings. (English summary) *J. Algebra* **193** (1997), *no.* 2, 640–659. (Summary) **99c:13030** 13D02

Chang, Shu-Chu On classification of special linear group over commutative rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3993–4005. (Saïd N. Sidki) **99m:20110** 20G30

Chang, Shyang (*with* Chang, Yen-Ching; Chang, Chen-Yu) A minimum discrepancy estimator in parameter estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2930–2942. (Summary) **99i:62038** 62F10

Chang, Soo Young (*with* Hwang, Hark-Chin) Parallel machines scheduling with machine shutdowns. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 21–31. (Summary) **99c:90065** 90B35

Chang, Sung Kag (*with* Triggiani, Roberto) Spectral analysis of thermo-elastic plates with rotational forces. (English summary) *Optimal control (Gainesville, FL, 1997)*, 84–115, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (R. Kodnár) **99g:35126** 35Q72 (73B30, 73D30, 73K10, 73K50, 93C20)

— (*with* Lasiecka, Irena; Triggiani, Roberto) Finite element compensators for thermoelastic systems with boundary controls and point observations. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 115–130. (Kirsten Anna Morris) **99h:73007** 73B30 (65N30, 73K50, 73V05, 93C20)

Chang, Tom *see* **Memorial Volume: Chandrasekhar, Subrahmanyan, 99h:00030**

Chang, Tong-Huei (*with* Lin, Lai-Jiu) *S*-KKM theorems, saddle points and minimax inequalities. *Nonlinear Anal.* **34** (1998), *no.* 1, 73–86. (Carlo Bardaro) **99e:47093** 47H19 (47N10, 49K35)

— (*with* Huang, Young-Ye; Jeng, Jyh-Chung; Kuo, Kung-Hwang) On S-KKM property and related topics. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 212–227. (Carlo Bardaro) **99m:47063** 47H10

Chang, Tsu-Shuan (*with* Chang, Chu-Yin) Robust controller design for parametrized uncertain plants by synergizing QFT and *Q*-parametrization. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 499–512. 93D21 (93B50)

— (*with* Wang, Xiaojun) A multivariate global optimization using linear bounding functions. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 383–404. (Summary) **99d:90087** 90C26 (90C30)

Chang, Wei-Sheng (*with* Chen, Bor-Sen; Lee, Tzann-Shin) A robust H^∞ model reference tracking design for non-holonomic mechanical control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 283–306. 93B36 (93C10)

Chang, Wen-Jer Dynamic multi-constrained output feedback controller design for linear discrete systems. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 5, 563–573. 93B51 (93C55)

Chang, Weng-Long (*with* Chu, Chih-Ping) The extension of the *I* test. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 2101–2127. 68N20 (68Q10)

Chang, Xiao-Wen On the sensitivity of the SR decomposition. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 297–310. (M. M. Konstantinov) **99j:15021** 15A23 (65F30, 93C73)

— (*with* Paige, Christopher C.) Perturbation analyses for the Cholesky downdating problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 429–443 (*electronic*). (Guo Rong Wang) **99e:65077** 65F35 (15A23)

Chang, Y. C. *see* **Chang, Yao C.**

Chang, Y.-J. *see* **Chang, Jane Y.**

Chang, Yanxun (*with* Ge, Gennian) Some new large sets of KTS(v). (English summary) *Ars Combin.* **51** (1999), 306–312. (Summary) **99j:05026** 05B07

Chang, Yao C. (*with* Demkowicz, L.) A stability analysis for vibrating viscoelastic spherical shells (the effect of damping on the LBB constants of vibration problems). (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 213–242. (Summary) **99a:73071** 73F15 (73H10, 73K12, 73K15)

— (*with* Demkowicz, L.) Solution of viscoelastic scattering problems in linear acoustics using *hp* boundary/finite element method. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 12, 1885–1907. (Summary) **99m:73057** 73K70 (73V05, 73V10, 76M15, 76Q05)

Chang, Ye-In (*with* Liu, Bor-Miin; Liao, Cheng-Huang) An efficient strategy for beneficial semijoins. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 2, 141–151. 68P15

Chang, Yen-Ching (*with* Chang, Shyang; Chang, Chen-Yu) A minimum discrepancy estimator in parameter estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2930–2942. (Summary) **99i:62038** 62F10

Chang, Yeong-Chan (*with* Chen, Bor-Sen; Lee, Ti-Chung) Tracking control of flexible joint manipulators using only position measurements. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 567–593. 93C85 (70B15, 70Q05)

— (*with* Chen, Bor-Sen) Nonlinear mixed H_2/H_∞ control for robust tracking design of robotic systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 837–857. 93C85 (70Q05, 93B36)

Chang, Yi-Wu (*with* West, Douglas B.) Rectangle number for hypercubes and complete multipartite graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 19–28. (Summary) **99j:05099** 05C35

Chang, Zhe (*with* Guo, Han-Ying; Wu, Ke[1]) The quantum Ashkin-Teller model with quantum group symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 27, *L*495–*L*499. (Summary) **99c:82024** 82B23 (81R50)

— Green's function theory of the *t*-*J* model. (English summary) *Ann. Physics* **271** (1999), *no.* 2, 233–267. (Summary) **99j:82070** 82D55 (82B26)

Changkhi, Khan *see* **Han, Changhee**

Chanillo, Sagun (*with* Cabré, Xavier) Stable solutions of semilinear elliptic problems in convex domains. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 1–10. (Summary) **99a:35083** 35J65

Channell, Paul J. Systematic solution of the Vlasov-Poisson equations for charged particle beams. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 982–993. (Summary) **99k:76159** 76X05

Chantladze, T. (*with* Kandelaki, N.) On a class of covariance operators. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 415–424. (Aleksandr Koldobsky) **99i:60005** 60B11

— (*with* Kandelaki, N.; Lomtadze, A.; Ugulava, D.) Professor Iotam Kartsivadze [1918–1997]. *Mem. Differential Equations Math. Phys.* **13** (1998), 154–158. 01A70

Chao, Chern-Ching A note on applications of the martingale central limit theorem to random permutations. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 3, 323–332. (Bert Fristedt) **99e:60057** 60F05 (05A05, 60G42)

— (*with* Bai, Zhi-Dong; Hwang, Hsien-Kuei; Liang, Wen-Qi) On the variance of the number of maxima in random vectors and its applications. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 886–895. (Ilya S. Molchanov) **99f:60019** 60D05 (65Y25, 68Q25)

— (*with* Hwang, Hsien-Kuei; Liang, Wen-Qi) Expected measure of the union of random rectangles. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 495–500. (Summary) **99e:60037** 60D05

Chao, Chong-Yun (*with* Montgomery, Bruce) Some families of *S*-graphs. (English summary) *Bull. Malaysian Math. Soc.* (2) **21** (1998), *no.* 1, 1–10. (Xiao Feng Guo) **99m:05131** 05C75

— (*with* Chen, Zhibo) On uniquely 3-colorable graphs. II. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 259–265. (Summary) **99f:05036** 05C15

Chao, Dennis (*with* Levin, Simon A.) Herding behavior: the emergence of large-scale phenomena from local interactions. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 81–95, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92D50

Chao, Gong-Liang (*with* Perng, Jau-Woei; Han, Kuang-Wei) Robust stability analysis of time-delay systems using parameter-plane and parameter-space methods. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1249–1262. 93D09

Chao, H. S. (*with* Hsu, F. R.; Lee, R. C. T.) An optimal algorithm for finding the minimum cardinality dominating set on permutation graphs. (English summary) *Computing and combinatorics (Taipei, 1998)*, 309–318, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (Summary) **99m:68148** 68R10 (05C85, 68Q25)

Chao, Hongyang (*with* Fisher, Paul S.; Hua, Zeyi) An approach to integer wavelet transformations for lossless image compression. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 19–38, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Ding-Xuan Zhou) **99k:42056** 42C15 (65D15, 68M10, 94A12)

Chao, John C. (*with* Phillips, P. C. B.) Posterior distributions in limited information analysis of the simultaneous equations model using the Jeffreys prior. (English summary) *J. Econometrics* **87** (1998), *no.* 1, 49–86. (Summary) **99i:62252** 62P20 (62F15)

Chao, Kun-Mao (*with* Wu, Bang Ye; Tang, Chuan Yi) Approximation and exact algorithms for constructing minimum ultrametric trees from distance matrices. (English summary) *Computing and combinatorics (Taipei, 1998)*, 299–308, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (92D15)

— (*with* Wu, Bang Ye; Lancia, Giuseppe; Bafna, Vineet; Ravi, R.; Tang, Chuan Yi) A polynomial time approximation scheme for minimum routing cost spanning trees. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 21–32, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— On computing all suboptimal alignments. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 189–207. (Summary) **99d:68090** 68Q20 (92D20)

— (*with* Wu, Bang Ye; Tang, Chuan Yi) An efficient algorithm for the length-constrained heaviest path problem on a tree. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 63–67. (Summary) **99j:68111** 68R10 (68M10)

Chao, Li Spectral estimation in space and time domain by nonstationary minimum variance spectral estimator. (English summary) *Math. Geol.* **30** (1998), *no.* 6, 675–693. (Summary) **99c:86006** 86A32

Chao, Liu *see* **Zhao, Liu**

Chao, Lu (*with* Zhang, Hong Qing[1]; Tang, Li Min) Taylor polynomial stepwise refinement algorithm for Lie and high symmetries of partial differential equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 3, 213–220; *translated from Appl. Math. Mech.* **19** (1998), *no.* 3, 195–201 (*Chinese. English and Chinese summaries*). (Summary) **99c:35013** 35A30 (35–04, 58G35)

Chao, X. *see* **Chao, Xiuli**

Chao, Xiao Li The spectral characterization of hypersurfaces with constant mean curvature in a unit sphere. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 321–324. (Haruo Kitahara) **99c:58159** 58G25 (53C21, 53C42)

— (*with* Xu, Xu Feng) Two theorems on (ε)-Sasakian manifolds. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 249–254. (Shōichi Funabashi) **99f:53048** 53C25

Chao, Xiuli (*with* Zheng, Shaohui) A result on networks of queues with customer coalescence and state-dependent signaling. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 151–164. (Summary) **99d:60102** 60K25 (60K20)

— (*with* Miyazawa, Masakiyo; Serfozo, Richard F.; Takada, H.) Markov network processes with product form stationary distributions. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 377–401. (Peter Gerrard Taylor) **99m:60142** 60K25 (68M20, 90B12)

— (*with* Asadathorn, Nutthapol) A decomposition approximation for assembly-disassembly queueing networks with finite buffer and blocking. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 247–261. (*see* **99m:90004**) 90B12

Chao, Yi-Duo (*with* Chan, Whei-Ching C.) Synchronization of coupled forced oscillators. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 97–116. (From the introduction) **99m:34079** 34C15 (34C35)

Chaoui, A. (*with* Bettaz, M.; Barkaoui, K.) On finding structural deadlocks in ECATNets using a logic of concurrency. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 470–481 (*electronic*). (*see* **99g:68005**) 68Q10 (68Q90)

Chaoui, F. Z. (*with* Giri, F.; Dugard, Luc; Dion, Jean-Michel; M'saad, M.) Adaptive tracking with saturating input and controller integral action. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1638–1643. (Summary) **99h:93092** 93D21 (93C40)

Chapelle, Dominique (*with* Stenberg, Rolf) An optimal low-order locking-free finite element method for Reissner-Mindlin plates. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 407–430. (Manil Suri) **99d:73088** 73V05 (65N30, 73K10)

— (*with* Stenberg, Rolf) Stabilized finite element formulations for shells in a bending dominated state. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 32–73 (*electronic*). (Igor Yu. Chudinovich) **99j:65199** 65N30 (73K15, 73V05)

Chaperon, Marc (*with* López de Medrano, Santiago) Areas, volumes and periods of orbits. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994)*, 79–95, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:58074** 58F05 (58F22)

Chapko, Roman (*with* Kress, Rainer; Yoon, Jeong-Rock) On the numerical solution of an inverse boundary value problem for the heat equation. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 853–867. (Summary) **99i:65099** 65M30 (35K10, 35R30)

Chaplain, Mark A. J. (*with* Orme, Michelle E.) Travelling waves arising in mathematical models of tumour angiogenesis and tumour invasion. (English summary) *Forma* **10** (1995), *no.* 3, 147–170. (Juan J. Nieto) **99a:92010** 92C50 (35Q80, 92C30)

— (*with* Byrne, H. M.) Free boundary value problems associated with the growth and development of multicellular spheroids. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 639–658. (Summary) **99c:92020** 92C50 (35Q80, 35R35)

rau-Chaplin, Andrew *see* **Rau-Chaplin, Andrew**

Chapman, S. J. (*with* King, John Robert; Adams, K. L.) Exponential asymptotics and Stokes lines in nonlinear ordinary differential equations. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2733–2755. (Summary) **99e:34073** 34E20

— (*with* Richardson, Giles William) Motion and homogenization of vortices in anisotropic type II superconductors. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 587–606 (*electronic*). (J. R. Ockendon) **99c:82073** 82D55 (35B27, 35Q55)

— (*with* Heron, D. R.) The motion of superconducting vortices in thin films of varying thickness. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1808–1825 (*electronic*). (Jacob Rubinstein) **99k:82077** 82D55

Chapman, Scott T. (*with* Thill, William) On a generalisation of a theorem of Zaks and Skula. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 79–83. (Robert O. Stanton) **99g:20098** 20K01 (13C20)

— (*with* Chabert, Jean-Luc; Smith, William W.) A basis for the ring of polynomials integer-valued on prime numbers. *Factorization in integral domains (Iowa City, IA, 1996)*, 271–284, *Lecture Notes in Pure and Appl. Math.*, 189, *Dekker, New York*, 1997. (Lahoucine Izelgue) **99d:13008** 13B25

— (*with* Smith, William W.) Generalized sets of lengths. (English summary) *J. Algebra* **200** (1998), *no.* 2, 449–471. (David F. Anderson) **99i:13030** 13F05 (13A05, 13C20, 20M99)

— (*with* Anderson, D. D.; Halter-Koch, Franz; Zafrullah, Muhammad) Criteria for unique factorization in integral domains. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 205–218. (David E. Rush) **99h:13026** 13F15 (13G05, 20M14)

— (*with* Chabert, Jean-Luc; Smith, William W.) The Skolem property in rings of integer-valued polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3151–3159. (David F. Anderson) **99a:13006** 13B25 (13G05)

— (*with* Anderson, D. D.; Kwak, Dong Je) Integral domains with highly nonunique factorization. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 22–29. (Muhammad Zafrullah) **99b:13002** 13A05 (13G05, 20M14)

— (*with* Smith, William W.) Generators of maximal ideals in the ring of integer-valued polynomials. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 95–105. (Jean-Luc Chabert) **99i:13032** 13F20 (11C08)

fernández Chapou, J. Luis *see* **Fernández Chapou, J. Luis**

Chappell, Glenn (*with* Francis, George K.; Sullivan, John M.; Kusner, Robert B.; Brakke, Ken A.; Hartman, Chris) The minimax sphere eversion. (English summary) *Visualization and mathematics (Berlin-Dahlem, 1995)*, 3–20, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)

Chappell, Michael J. (*with* Gunn, Roger N.) A procedure for generating locally identifiable reparameterisations of unidentifiable non-linear systems by the similarity transformation approach. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 21–41. (Alexander M. Kovalev) **99f:93035** 93B30 (34H05)

Chappell, Rick (*with* Pan, Wei[2]; Kosorok, Michael R.) On consistency of the monotone MLE of survival for left truncated and interval-censored data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 49–57. (Summary) **99b:62086** 62G20 (62G05, 62N05)

Chapuis, Olivier $\forall$-free metabelian groups. *J. Symbolic Logic* **62** (1997), *no.* 1, 159–174. (Alexandre Ivanov) **99d:03035** 03C60 (03B25, 20E26)

Charach, Chaim (*with* Fife, Paul C.) Solidification fronts and solute trapping in a binary alloy. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1826–1851 (*electronic*). (Summary) **99d:80005** 80A22 (73B30)

Charafi, A. (*with* Portela, A.) Trefftz boundary elements—multi-region formulations. (English summary) *Internat. J. Numer. Methods Engrg.* **45** (1999), *no.* 7, 821–840. 65N38 (73V10)

Charak, K. S. (*with* Singh, Anand Prakash) On factorization of meromorphic functions with finitely many poles. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 109–113. (Bao Qin Li) **99f:30043** 30D05 (30D30)

Charalambopoulos, A. (*with* Gintides, D.) On the analyticity of the solution of the equation of elasticity in the exterior region of the cavity with respect to the wave number. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 627–634. (Akira Tsutsumi) **99j:73019** 73C02 (73D25, 76Q05)

Charalambous, Charalambos D. (*with* Dey, Subhrakanti; Elliott, Robert J.) New finite-dimensional risk-sensitive filters: small noise limits. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1424–1429. (Summary) **99e:93079** 93E11

— (*with* Elliott, Robert J.) Classes of nonlinear partially observable stochastic optimal control problems with explicit optimal control laws. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 542–578 (*electronic*). (Jan H. van Schuppen) **99b:93049** 93E20 (93E11)

— (*with* Elliott, Robert J.) New explicit filters and smoothers for diffusions with nonlinear drift and measurements. (English summary) *Systems Control Lett.* **33** (1998), *no.* 2, 89–103. (Martin Daumer) **99a:93096** 93E11 (93E14)

Charalambous, M. G. On transfinite inductive dimension and deficiency modulo a class $\mathcal{P}$. (English summary) *Topology Appl.* **81** (1997), *no.* 2, 123–135. (V. J. Mancuso) **99b:54052** 54F45 (54D40, 54G15, 54G20)

— A normal space Z with $\operatorname{ind} Z = 1$ no compactification of which has transfinite dimension. (English summary) *Topology Proc.* **22** (1997), 95–101. (Summary) **99g:54031** 54F45 (54D35)

— A factorization theorem for the transfinite kernel dimension of metrizable spaces. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 79–84. (J. R. Isbell) **99b:54053** 54F45 (54E35)

coimbra Charao, R. *see* **Coimbra Charao, R.**

Charatonik, Janusz J. The works of Bronisław Knaster (1893–1980) in continuum theory. *Handbook of the history of general topology, Vol. 1*, 63–78, *Kluwer Acad. Publ., Dordrecht*, 1997. (Klaas Pieter Hart) **99e:01023** 01A70 (01A60, 54–03)

— Several problems in continuum theory. (English summary) *XXIX National Congress of the Mexican Mathematical Society (Spanish) (San Luis Potosí, 1996)*, 77–86, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:54031** 54F15 (54H25)

— On a fixed point theorem for multifunctions. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 31–36 (1998). (V. V. Obukhovskiĭ) **99f:54056** 54H25 (54C60)

— (*with* Charatonik, Włodzimierz J.) Monotone-open mappings of rational continua. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 2, 313–317. (Jacek Nikiel) **99m:54021** 54F15 (54E40, 54F50)

— Decompositions and the fixed point property for multifunctions. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 261–270 (1998). (L. E. Ward, Jr.) **99c:54046** 54F15 (54C60, 54H25)

— (*with* Charatonik, Włodzimierz J.) On mappings with the Eilenberg property. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 95–101. (J. M. Aarts) **99b:54021** 54C10 (54E40, 54F15, 54F55)

— Recent results on induced mappings between hyperspaces of continua. (English summary) *Topology Proc.* **22** (1997), 103–122. (Jacek Nikiel) **99k:54005** 54B20 (54C10, 54E40, 54F15)

— (*with* Charatonik, Włodzimierz J.) Universality of weakly arc-preserving mappings. (English summary) *Topology Proc.* **22** (1997), 123–154. (Jacek Nikiel) **99k:54023** 54F15 (54C10, 54E40, 54F50)

— (*with* Charatonik, Włodzimierz J.) Inducible mappings between hyperspaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 5–9. (L. E. Ward, Jr.) **99b:54011** 54B20 (54C05, 54F15)

— (*with* Charatonik, Włodzimierz J.) Hereditarily weakly confluent induced mappings are homeomorphisms. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 195–203. (Michel Smith) **99b:54045** 54F15 (54B20, 54E40)

— (*with* Illanes, Alejandro) Homotopy properties of curves. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 573–580. (Leonard R. Rubin) **99k:54027** 54F50 (54F15, 54H99, 55M99)

— Some questions on the composition factor property for atomic mappings. *Extracta Math.* **13** (1998), *no.* 3, 283–287. 54E40 (54B15, 54F15)

— (*with* Charatonik, Włodzimierz J.) Atomicity of mappings. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 729–734. (Summary) **99f:54038** 54E40 (54B15, 54F15)

— (*with* Charatonik, Włodzimierz J.) Questions on induced universal mappings. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 127–131. (A. H. Stone) **99i:54013** 54B20 (54C10, 54F15, 54H25)

— (*with* Charatonik, Włodzimierz J.; Illanes, Alejandro) Remarks on unicoherence at subcontinua. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 3, 629–636. (James

T. Rogers, Jr.) **99k:54024** 54F15 (54F55)

Charatonik, Witold (*with* Podelski, Andreas) Co-definite set constraints. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 211–225, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68098** 68Q25 (68N17, 68Q60, 68Q68)

— (*with* Podelski, Andreas) Directional type inference for logic programs. (English summary) *Static analysis (Pisa, 1998)*, 278–294, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (Summary) **99m:68029** 68N17 (68Q25)

— (*with* McAllester, David; Niwiński, Damian; Podelski, Andreas; Walukiewicz, Igor) The Horn mu-calculus. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 58–69, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68079** 68Q60 (03B70, 68N17)

— Set constraints in some equational theories. (English summary) International Conference on Constraints in Computational Logics (Munich, 1994). *Inform. and Comput.* **142** (1998), *no.* 1, 40–75. (Sauro Tulipani) **99c:68037** 68N17 (03D35, 68Q25, 68Q45)

— An undecidable fragment of the theory of set constraints. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 147–151. (Summary) **99g:03045** 03D35 (68Q99)

Charatonik, Włodzimierz J. (*with* Charatonik, Janusz J.) Monotone-open mappings of rational continua. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 2, 313–317. (Jacek Nikiel) **99m:54021** 54F15 (54E40, 54F50)

— (*with* Charatonik, Janusz J.) On mappings with the Eilenberg property. (English summary) *Questions Answers Gen. Topology* **15** (1997), *no.* 2, 95–101. (J. M. Aarts) **99b:54021** 54C10 (54E40, 54F15, 54F55)

— (*with* Charatonik, Janusz J.) Universality of weakly arc-preserving mappings. (English summary) *Topology Proc.* **22** (1997), 123–154. (Jacek Nikiel) **99k:54023** 54F15 (54C10, 54E40, 54F50)

— (*with* Charatonik, Janusz J.) Inducible mappings between hyperspaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 5–9. (L. E. Ward, Jr.) **99b:54011** 54B20 (54C05, 54F15)

— (*with* Charatonik, Janusz J.) Hereditarily weakly confluent induced mappings are homeomorphisms. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 195–203. (Michel Smith) **99b:54045** 54F15 (54B20, 54E40)

— (*with* Charatonik, Janusz J.) Atomicity of mappings. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 729–734. (Summary) **99f:54038** 54E40 (54B15, 54F15)

— (*with* Charatonik, Janusz J.) Questions on induced universal mappings. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 127–131. (A. H. Stone) **99i:54013** 54B20 (54C10, 54F15, 54H25)

— (*with* Charatonik, Janusz J.; Illanes, Alejandro) Remarks on unicoherence at subcontinua. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 3, 629–636. (James T. Rogers, Jr.) **99k:54024** 54F15 (54F55)

Charbonneau, Louis (*with* Archibald, Thomas) Mathematics in Canada before 1945: a preliminary survey. Dual English-French text. *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 1–90, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A80

Charbonnel, Jean-Yves Sur la méthode des orbites pour une algèbre de Lie résoluble. (English and French summaries) [The orbit method for a solvable Lie algebra] *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 5, 1309–1344. (Ian M. Musson) **99k:17021** 17B35

Charbonniaud, Anne-Laure (*with* Crouzet, Jean-François; Gay, Roger[1]) Sur l'extrapolation des signaux d'énergie finie à bande limitée. (English and French summaries) [Extrapolating band-limited finite-energy signals] *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 145–182 (1997). (Summary) **99b:94007** 94A12

Chardaire, P. (*with* Lutton, J.-L.; Sutter, A.) Upper and lower bounds for the two-level simple plant location problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 117–140. (Summary) **99m:90093** 90B80 (90C27)

Chardi, Mohamed (*with* Zahalca, Cristina) Modelling the reliability of a complex system under stress environment. (English summary) *Statistical and probabilistic models in reliability (Bucharest, 1997)*, 225–234, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K10

Chargoĭ, Iesus Smooth approximation of solutions of perturbed Weyl and Dirac equations. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 538–555, 639; *translation in Math. Notes* **60** (1996), *no.* 3-4, 402–414 (1997). (Stepan D. Ivasyshen) **99b:35179** 35Q40 (35K99)

Chargy, Didier (*with* Saguez, Christian) Applications récentes en mécanique des fluides. (English and French summaries) [Recent applications in fluid mechanics] *Équations aux dérivées partielles et applications*, 327–344, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 73V20 (73K70, 76M25)

Chari, Vyjayanthi (*with* Pressley, Andrew) Quantum affine algebras and integrable quantum systems. *Quantum fields and quantum space time (Cargèse, 1996)*, 245–263, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Rinat Kedem) **99c:17024** 17B37 (81R50)

— (*with* Pressley, Andrew) Twisted quantum affine algebras. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 461–476. (Wen-li Yang) **99f:16041** 16W30 (17B37, 81R50)

Charikar, Moses (*with* Chekuri, Chandra; Cheung, To-yat; Dai, Zuo; Goel, Ashish; Guha, Sudipto; Li, Ming[1]) Approximation algorithms for directed Steiner problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 192–200, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

— (*with* Halperin, Dan; Motwani, Rajeev) The dynamic servers problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 410–419, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25

Charlemagne *see* **Charlemagne and his heritage. 1200 years of civilization and science in Europe, 99i:00015**

Charles, Bernard (*with* Faouzi, Abdelkhalek) Forme de Jordan des extensions d'opérateurs linéaires (problème de Carlson) et sous-espaces réduisants minimaux contenant un sous-espace donné. (French summary) [Jordan form of extensions of linear operators (Carlson problem) and minimal reducing subspaces containing a given subspace] *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 45–51. (H. K. Farahat) **99k:15021** 15A21 (47A05)

Charles, Josette (*with* Bouali, S.) Generalized derivation and numerical range. (English summary) *Acta Sci. Math. (Szeged)* **63** (1997), *no.* 3-4, 563–570. (Introduction) **99i:47066** 47B47 (47A12)

Charleston, M. A. Jungles: a new solution to the host/parasite phylogeny reconciliation problem. (English summary) *Math. Biosci.* **149** (1998), *no.* 2, 191–223. (Summary) **99e:92018** 92D10 (92B10)

le Charlier, Baudouin *see* **Le Charlier, Baudouin**

Charoenlarpnopparut, C. (*with* Bose, N. K.) Minimax controller design using rate feedback. (English summary) *Circuits Systems Signal Process.* **18** (1999), *no.* 1, 17–25. 93B50

— (*with* Bose, N. K.) Errata: "Minimax controller design using rate feedback" [Circuits Systems Signal Process. **18** (1999), no. 1, 17–25]. *Circuits Systems Signal Process.* **18** (1999), *no.* 2, 189–190. 93B50

Charon-Fournier, Irène (*with* Hudry, Olivier) Lamarckian genetic algorithms applied to the aggregation of preferences. (English summary) *Ann. Oper. Res.* **80** (1998), 281–297. (Summary) **99g:90020** 90A07 (90A08, 90C27)

chen-Charpentier, Benito *see* **Chen-Charpentier, Benito**

Charpentier, Isabelle (*with* Le Dimet, Francois-Xavier) Méthodes du second ordre en assimilation de données. (French summary) [Second-order data assimilation methods] *Équations aux dérivées partielles et applications*, 623–639, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:49006** 49J20

Charpentier, Philippe (*with* Bruna, Joaquim; Dupain, Yves) Zero varieties for the Nevanlinna class in convex domains of finite type in $\mathbf{C}^n$. *Ann. of Math.* (2) **147** (1998), *no.* 2, 391–415. (Der-Chen E. Chang) **99e:32023** 32F20 (32E99)

Charpin, Pascale (*with* Tietäväinen, Aimo A.; Zinov′ev, V. A.) On binary cyclic codes with distance $d = 3$. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 3–14; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 287–296 (1998). (Summary) **99d:94037** 94B15

— (*with* Carlet, Claude; Zinov′ev, V. A.) Codes, bent functions and permutations suitable for DES-like cryptosystems. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 125–156. (Zhen Zhang) **99k:94030** 94A60

Charretton, Christine (*with* Nézondet, Francis) Les va-ou-vient: une généralisation des va-et-vient de Fraïssé. (English and French summaries) [Back-or-forth: a generalization of Fraïssé's back-and-forth] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 137–140. (Summary) **99d:03030** 03C07

Charris, Jairo A. Paul Erdős, 1913–1996, mathematician extraordinaire. (Spanish) *Lect. Mat.* **17** (1996), *no.* 2, 157–162. 01A70

— (*with* Moreno, Carmenza; Mora-Valbuena, Oriol) Some remarks on the local path-connectedness of infinite point compactifications. (English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **22** (1998), *no.* 83, 221–228. 54D35 (54D05)

Chartier, P. (*with* Aubry, A.) Pseudo-symplectic Runge-Kutta methods. (English summary) *BIT* **38** (1998), *no.* 3, 439–461. (Yun Kang Liu) **99k:65055a** 65L06

— (*with* Aubry, A.) A note on: "Pseudo-symplectic Runge-Kutta methods". (English summary) *BIT* **38** (1998), *no.* 4, 802–806. (Yun Kang Liu) **99k:65055b** 65L06

— The potential of parallel multi-value methods for the simulation of large real-life problems. (English summary) Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 7–32. (Summary) **99h:65122** 65L05 (65Y05)

— On diagonally iterated Runge-Kutta methods for dissipative ODEs. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 73–85. (Summary) **99a:65082** 65L05 (65L06)

— (*with* Aubry, A.) On improving the convergence of Radau IIA methods applied to index 2 DAEs. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1347–1367 (*electronic*). (Alexander Ostermann) **99f:65107** 65L06

Chartrand, Gary (*with* Gavlas, Heather; Hevia, Héctor; Johnson, Mark A.) Rotation and jump distances between graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 285–300. (András Gyárfás) **99f:05084** 05C60 (05C12)

— (*with* Gavlas, Heather; Henning, Michael A.; Rashidi, Reza) Stratidistance in stratified graphs. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 337–347. (Ioan Tomescu) **99b:05046** 05C12

— (*with* Zhang, Ping[6]; Salehi, Ebrahim) On the partition dimension of a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 157–168. (Summary) **99j:05150** 05C70

— (*with* Zhang, Ping[6]; Harary, Frank) Extremal problems in geodetic graph theory. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 55–66. (Summary) **99j:05100** 05C35 (05C12)

— (*with* Harary, Frank; Yue, Bill Quan) On the out-domination and in-domination numbers of a digraph. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 179–183. (Summary) **99i:05106** 05C35 (05C20)

Chasco Ugarte, Ma. Jesús (*with* Nguyen Duy Tien; Tarieladze, V. I.) Some remarks on random series in Banach spaces. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 129–141. (Xia Chen) **99f:60010** 60B11 (46B15, 60G50)

— (*with* Martín-Peinador, E.) Pontryagin reflexive groups are not determined by their continuous characters. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 155–160. (Keith Taylor) **99g:43006** 43A40 (22B05, 46A20)

Chashechkin, Yu. D. (*with* Kistovich, Yu. V.) Monochromatic internal waves in an arbitrarily stratified viscous fluid. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 112–115. 76V05 (76C10, 86A05)

— (*with* Kistovich, Yu. V.) Localized and bulk internal waves in a stratified fluid bordering a mixed layer. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 257–262; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 237–241. (Summary) **99m:76040** 76C10 (76V05)

— (*with* Kistovich, A. V.) Diffusion-induced transient boundary flows in a wedge-shaped trough. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 803–809; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 743–748 (1999). (Summary) **99m:76105** 76R50

— (*with* Kistovich, A. V.) The exact stucture of boundary flows in media with diffusion and heat conduction. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998),

no. 4, 54–63; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 528–535 (1999). (Summary) **99j:76031** 76D10 (76Rxx)
— (*with* Kistovich, Yu. V.) Linear theory of the propagation of internal wave packets in an arbitrarily stratified fluid. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 5, 88–98. (Summary) **99m:76041** 76C10 (76V05)
Chashkin, A. V. On domains that completely determine Boolean functions. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 21–23. (Summary) **99d:06018** 06E30
— On the average time for the computation of the values of Boolean functions. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 1, 60–78, 90. (Nicolae Ţăndăreanu) **99f:68087** 68Q25 (06E30, 94C10)
— Lower bounds on complexity of restrictions of Boolean functions. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 2, 75–111, 116. (A. D. Korshunov) **99d:68099** 68Q25 (06E30, 94C10)
— On the computation of Boolean functions by probabilistic programs. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 3, 49–68, 82. (Nicolae Ţăndăreanu) **99f:68088** 68Q25 (06E30, 94C10)
— Local complexity of Boolean functions. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 3, 69–80, 82. (A. D. Korshunov) **99d:68100** 68Q25 (06E30, 94C10)
— On the mean time for computing Boolean operators. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **5** (1998), *no.* 1, 88–103, 105. (Summary) **99j:68050** 68Q25 (94C10)
— On the mean time of the computation of polynomially reducible Boolean functions. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 68–71; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 50–52. (S. Rudeanu) **99d:94047** 94C10 (06E30, 68Q25)
Chaskalovic, Joël (*with* Chauvière, Arnaud) Genesis of a swirling source/sink line into an updraft. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 645–650. (Yuri N. Skiba) **99m:76044** 76D05 (76C15, 86A10)
— Genesis of a source/sink line into a singular updraft. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 431–444. (Yuri N. Skiba) **99e:76018** 76C05 (35Q35, 76D05, 86A10)
Chasnov, J. R. (*with* Tse, K. L.) A Fourier-Hermite pseudospectral method for penetrative convection. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 489–505. (Summary) **99b:76067** 76M25 (76R05, 80A20)
Chasovskikh, A. A. (*with* Andreev, A. E.) Complexity of automata that compute the values of formulas. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 22–24, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 18–20. (Summary) **99f:68134** 68Q68 (68Q25)
Chassaing, Philippe (*with* Benachour, Said; Roynette, B.; Vallois, Pierre) Processus associés à l'équation des milieux poreux. [Processes associated with the porous-medium equation] *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 793–832 (1997). (Kazuaki Taira) **99c:35099** 35K55 (35Q35, 60H10, 60J65, 76M35, 76S05)
— (*with* Alonso, Laurent; Schott, René) The average complexity of a coin-weighing problem. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 1–14. (Mukkai S. Krishnamoorthy) **99d:05007** 05A99
Chassande-Mottin, Eric (*with* Flandrin, Patrick) On the time-frequency detection of chirps. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 252–281. 94A12
Chassignet, Eric P. *see* **Ocean modeling and parameterization, 99f:86001**
Chastand, Marc Retracts of infinite Hamming graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 54–66. (Pavol Hell) **99a:05120** 05C75
Chastkofsky, Leonard Stability of decomposition numbers for finite Chevalley groups. *J. Algebra* **202** (1998), *no.* 1, 185–191. (Demetris I. Deriziotis) **99i:20055** 20G05 (20G40)
Chateau, Frédéric Structured discriminant analysis. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 2, 255–266. 62H30
Chateau, Xavier (*with* de Buhan, Patrick; Dormieux, Luc) The constitutive equations of finite strain poroelasticity in the light of a micro-macro approach. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 909–921. (Summary) **99k:73006** 73B05 (73C50, 73G05, 73S10, 76S05)
Chatelain, Thierry (*with* Choulli, Mourad) Clarke generalized gradient for eigenvalues. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 443–454. (Bernard Rousselet) **99a:47028** 47A75 (49Q12, 49R05)
Châtelet, Gilles (*with* Hindry, Marc; Duby, Jean-Jacques; Laumond, Jean-Paul; Risler, Jean-Jacques; Schapira, Pierre; Bourguignon, Jean Pierre) Le rôle des mathématiques. [The role of mathematics] *Gaz. Math. No.* 74 (1997), 5–25. (Editors) **99g:00021** 00A30 (01A80)
Chatelon, François Joseph (*with* Orenga, Pierre) Some smoothness and uniqueness results for a shallow-water problem. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 155–176. (Alan Shapiro) **99b:35172** 35Q35 (35M10, 76M30, 76N10)
Chattaraj, P. K. (*with* Sengupta, Santanu; Poddar, A.) Quantum signature of the classical chaos in the field-induced barrier crossing in a quartic potential. (English summary) *Current Sci.* **76** (1999), *no.* 10, 1371–1376. 81Q50
Chatterjee, Aditya (*with* Mukherjee, Indranil; Ghosh, Himadri) A numerical Bayesian approach to spatial data analysis. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 181–197. (Summary) **99j:62036** 62F15 (62M30)
Chatterjee, Kalyan (*with* Dutta, Bhaskar) Rubinstein auctions: on competition for bargaining partners. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 2, 119–145. (Akira Okada) **99f:90032** 90A60 (90A12, 90D10, 90D20)
Chatterjee, Kashinath Construction of a new series of search designs for s^m factorial experiment. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 82–90, *Narosa, New Delhi*, 1998. (From the introduction) **99j:62113** 62K15
Chatterjee, S. *see* **Chatterjee, Sujit**
Chatterjee, S. K. *see* **Chatterjee, Sudhir Kumar**
Chatterjee, Shoutir Kishore (*with* Samanta, Sisir Kumar) Variable selection for discrimination among several populations. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 11, 2565–2582. (Yasunori Fujikoshi) **99h:62081** 62H30
Chatterjee, Sudhir Kumar Traditional calendar of Myanmar (Burma). (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 2, 143–159. 01A99 (01A32)
Chatterjee, Sujit (*with* Beesham, Aroonkumar; Bhui, B.; Ghosh, Tanwi) Inhomogeneous cosmological models in $D = 6$, $N = 2$ Kaluza-Klein supergravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6544–6546. (Summary) **99k:83111** 83E15 (83E30)
Chatterji, Srishti D. ★ Cours d'analyse. 2. (French. French summary) [Analysis course. 2] Analyse complexe. [Complex analysis] Mathématiques. [Mathematics] *Presses Polytechniques et Universitaires Romandes, Lausanne*, 1997. xx+536 *pp. ISBN* 2-88074-346-X (Adib A. Fadlalla) **99a:30001** 30–01 (00A05)
— ★ Cours d'analyse. 3. (French. French summary) [Analysis course. 3] Équations différentielles ordinaires et aux dérivées partielles. [Ordinary and partial differential equations] Mathématiques. [Mathematics] *Presses Polytechniques et Universitaires Romandes, Lausanne*, 1998. *xxvi*+755 *pp. ISBN* 2-88074-350-8 (Dietrich Göhde) **99i:00001** 00A05 (34–01, 35–01, 46–01)
— Measure theory and probability theory. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 151–169. (Klaus D. Schmidt) **99i:28002** 28–01 (60A10)
Chatters, A. W. (*with* Hajarnavis, C. R.) ★ An introductory course in commutative algebra. (English summary) Oxford Science Publications. *Oxford University Press, Oxford*, 1998. *viii*+144 *pp. ISBN* 0-19-853423-X (T. Albu) **99g:13001** 13–01
— Rings which are nearly principal ideal domains. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 3, 343–351. (Carl Faith) **99k:16042** 16N60 (13F10)
Chattopadhyay, Gaurangadeb Unconditional optimality of conditional tests in the presence of nuisance parameters. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 43–55. (Andrzej S. Kozek) **99j:62020** 62F03
Chattopadhyay, J. (*with* Beretta, Edoardo; Solimano, Fortunata) Role of time-delay in an ecotoxicological problem. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 19–48. (H. I. Freedman) **99e:92032** 92D40 (34K20)
— (*with* Sarkar, Ashis Kumar) Hopf-bifurcating spatially heterogeneous solution during embryogenesis. (English summary) *Cybernetica* **40** (1997), *no.* 4, 319–328 (1998). (Summary) **99h:92008** 92C15 (35B32, 35K57)
— (*with* Mukhopadhyay, Asish; Tapaswi, P. K.) A delay differential equations model of plankton allelopathy. (English summary) *Math. Biosci.* **149** (1998), *no.* 2, 167–189. (K. Šmitalová) **99m:92050** 92D40 (34K15)
Chattopadhyay, K. C. (*with* Mukherjee, U. K.; Samanta, Syamal Kumar) A note on fuzzy ultrafilters. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 695–704. (Summary) **99d:04005** 04A72
— (*with* Acharyya, S. K.; Ray, G. G.) The maximal congruences on $C_+(X)$ and $C_+^*(X)$. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 5, 449–458. 54C35 (46E10, 46H10)
Chaturvedi, Ajit (*with* Pandey, Sunil Kumar; Misra, Sheela) A class of asymptotically efficient and consistent sequential procedures to construct fixed-size confidence regions. (English and Hindi summaries) *J. Indian Soc. Agricultural Statist.* **48** (1996), *no.* 3, 346–355, v. (Nitis Mukhopadhyay) **99d:62075** 62L10 (62H12)
— (*with* Kumar, Ajay; Chauhan, Pramila) Robustness of a sequential test for the mean of an inverted gamma distribution. (English summary) *J. Indian Statist. Assoc.* **36** (1998), *no.* 1, 13–25. 62L10
Chaturvedi, Anil (*with* Carroll, J. Douglas) K-midranges clustering. (English summary) *Advances in data science and classification* (*Rome*, 1998), 3–14, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30
Chaturvedi, Anoop (*with* Bhatti, M. Ishaq) A note on the Stein rule estimator in a misspecified model. (English and Italian summaries) *Metron* **55** (1997), *no.* 1-2, 125–134 (1998). (Summary) **99c:62286** 62P20 (62J07)
— (*with* Wan, Alan T. K.) Stein-rule estimation in a dynamic linear model. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 1, 17–25. (Summary) **99c:62195** 62J07
Chaturvedi, R. (*with* Pandey, Kanti) Certain aspects of compression pulses in steady non-equilibrium flow over a concave wall. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 139–150. (Corneliu Berbente) **99i:76084** 76L05 (76N15, 80A32)
Chaturvedi, S. (*with* Kapoor, A. K.; Srinivasan, Venkatraman) A new orthogonalization procedure with an extremal property. (English summary) *J. Phys. A* **31** (1998), *no.* 19, *L*367–*L*370. (Summary) **99c:15014** 15A21 (65F25)
— Jack polynomials, generalized binomial coefficients and polynomial solutions of the generalized Laplace's equation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 9, 715–725. (Summary) **99g:33020** 33C45 (35J05, 81V70)
Chatyrko, V. A. Axiomatics of the dimension D in the class of weakly countable-dimensional compact spaces. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 912–918, 960; *translation in Math. Notes* **60** (1996), *no.* 5-6, 688–692 (1997). (Vladimir T. Todorov) **99h:54048** 54F45
Chatzidakis, Zoé Groups definable in ACFA. *Algebraic model theory* (*Toronto, ON*, 1996), 25–52, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:03026**) 03C60
— Model theory of finite fields and pseudo-finite fields. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 95–108. (Luc Bélair) **99c:03057** 03C60 (12E20)
— Model theory of profinite groups having the Iwasawa property. *Illinois J. Math.* **42** (1998), *no.* 1, 70–96. (Carol Wood) **99j:03027** 03C60 (03C45, 20E18)
— Torsion in pro-p completions of torsion-free groups. *J. Group Theory* **2** (1999), *no.* 1, 65–68. (Thomas Weigel) **99m:20060** 20E18 (20E26)
Chatzipantelidis, Panagiotis Explicit multistep methods for nonstiff partial differential equations. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 13–31. (Manfred Dobrowolski) **99d:65278** 65M60 (65J10)
Chau, Foo-Tim (*with* Dai, Dao-Qing; Shih, Tsi Min) Sampling sums based on coiflets. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 89–118. (Summary) **99b:42038** 42C15 (94A12)
Chau, Hoi Fung (*with* Lo, Hoi-Kwong) Why quantum bit commitment and ideal quantum coin tossing are impossible. (English summary) PhysComp96 (Boston, MA). *Phys. D* **120** (1998), *no.* 1-2, 177–187. (Summary) **99m:81037** 81P99
— Quantum convolutional error-correcting codes. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 905–909. (Emanuel H. Knill) **99m:94053** 94B10
Chau, K. T. (*with* Wang, Yin Bang) A new boundary integral formulation for plane elastic bodies containing cracks and holes. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 14, 2041–2074. (Summary) **99j:73106** 73V10 (73M25)

Chau, Ling-Lie Quantum field theories in terms of group-valued local fieds: an overview. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 57–61, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81T13 (81R10, 81R50, 81T60)
— (*with* Zaboronsky, Oleg) On the structure of correlation functions in the normal matrix model. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 203–247. (Henrik Aratyn) **99g:58062** 58F07 (81V70)
Chau, T. C. (*with* Burns, Robert G.; Kam, S.-M.) On the rank of intersection of subgroups of a free product of groups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 31–45. (B. H. Neumann) **99a:20025** 20E06 (20E07)
Chaubey, Yogendra P. (*with* Sen, Pranab Kumar[1]) On smooth estimation of hazard and cumulative hazard functions. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 91–99, *Narosa, New Delhi*, 1998. (From the introduction) **99j:62139** 62N05
— (*with* Tripathi, T. P.) Optimum probabilities of selection in PPS-sampling based on super population model and multivariate information. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 365–369, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05
— (*with* Garrido, José; Trudeau, Sonia) On the computation of aggregate claims distributions: some new approximations. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 3, 215–230. 62P05
Chaudhari, N. S. (*with* Gupta, Smita) Study and implementation of a primal-dual infeasible-interior-point algorithm. (English summary) *Proc. Math. Soc.* **12** (1996), 41–46 (1997). (Summary) **99b:90077** 90C05
— (*with* Gupta, Smita) A primal-dual formulation of general linear programming problem for Karmarkar's approach. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 223–230. (Summary) **99a:90121** 90C05
Chaudhary, M. S. (*with* Jadhav, A. L.) On the modified generalised Hankel transform $S^{\eta,\alpha}$. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 101–104. (Summary) **99h:44006** 44A15
— (*with* Patil, P. M.) A note on bounds for relative defects of homogeneous differential polynomials. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 49–60. (Anand Prakash Singh) **99f:30047** 30D35
Chaudhri, Vinay K. (*with* Hadzilacos, Vassos) Safe locking policies for dynamic databases. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 260–271. (Summary) **99m:68039** 68P15
Chaudhry, Ghulam-Rasool (*with* Ghodosi, Hossein; Seberry, Jennifer) Perfect secret sharing schemes from Room squares. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 55–61. (Summary) **99j:94040** 94A60 (05B15)
Chaudhry, Mohan L. (*with* Zhao, Yiqiang Q.) Transient solutions of some multiserver queueing systems with finite spaces. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 161–182. 60K25 (90B22)
— On the steady-state distribution of number in the queue Geom/G/1. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 121–125. (Gerard Hooghiemstra) **99k:60226** 60K25 (90B22)
Chaudhuri, A. Ray *see* **Ray Chaudhuri, Atasi**
Chaudhuri, Arijit (*with* Maiti, Tapabrata) Interval estimation of correlation in survey sampling. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 231–242. 62D05
ray Chaudhuri, Atasi *see* **Ray Chaudhuri, Atasi**
Chaudhuri, B. B. (*with* Ray Chaudhuri, Atasi; Basu, Arup; Bhandari, S. K.) Consistent set estimation in k-dimensions: an efficient approach. (English summary) *Advances in pattern recognition (Sydney, 1998)*, 667–676, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62G05
ray-Chaudhuri, Dijen K. *see* **Ray-Chaudhuri, Dijen K.**
Chaudhuri, Gopal On the reliability function of a k-out-of-n system of components sharing a common environment. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 223–231. (Summary) **99i:62235** 62N05
— Testing exponentiality against L-distributions. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 249–255. (Summary) **99c:62131** 62G10
— (*with* Sarkar, Jyotirmoy) Availability of a system with gamma life and exponential repair time under a perfect repair policy. (English summary) *Statist. Probab. Lett.* **43** (1999), *no.* 2, 189–196. 62N05
Chaudhuri, Jyotipratim Ray (*with* Banik, Suman Kumar; Ray, Deb Shankar) Theory of adiabatic fluctuations: third-order noise. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7301–7313. (Summary) **99e:82064** 82C31
— (*with* Bag, Bidhan Chandra; Chaudhuri, Shanta; Ray, Deb Shankar) A semiclassical theory of quantum noise in open chaotic systems. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 47–64. (Summary) **99i:81045** 81Q50 (81S30)
Chaudhuri, K. S. (*with* Giri, B. C.) Heuristic models for replenishment of an inventory of a deteriorating item with shortages and time-dependent demand and holding costs. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 167–183. (Summary) **99h:90035** 90B05
— (*with* Jalan, A. K.) An EOQ model for deteriorating items in a declining market with SFI policy. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 2, 437–449. 90B05 (90A60, 90B25)
Chaudhuri, P. K. (*with* Das, Pali; Chakrabarty, N. R.) A polynomial time algorithm for a hemispherical minimax location problem. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 57–63. (Summary) **99m:90094** 90B85
Chaudhuri, Pranay Algorithms for shortest-paths and some related problems on a tree-structured parallel computer. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **25** (1998), *no.* 1, 203–215. (From the introduction) **99g:68081** 68Q22 (68R10)
— Parallel incremental algorithms for analyzing activity networks. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 153–165. 65Y05 (90B12)
Chaudhuri, Probal (*with* Chakraborty, Biman) On an adaptive transformation-retransformation estimate of multivariate location. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 145–157. (Summary) **99a:62077** 62H12
— (*with* Chakraborty, Biman; Oja, Hannu) Operating transformation retransformation on spatial median and angle test. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 767–784. (Summary) **99f:62072** 62H11 (62H15)
Chaudhuri, S. *see* **Chaudhuri, Shyamoli**
Chaudhuri, Shanta (*with* Bag, Bidhan Chandra; Chaudhuri, Jyotipratim Ray; Ray, Deb Shankar) A semiclassical theory of quantum noise in open chaotic systems. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 47–64. (Summary) **99i:81045** 81Q50 (81S30)
Chaudhuri, Shiva (*with* Arikati, Srinivasa R.; Zaroliagis, Christos D.) All-pairs min-cut in sparse networks. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 82–110. (Summary) **99e:68116** 68R10 (05C85, 68M10, 90B10)
— (*with* Zaroliagis, Christos D.) Shortest paths in digraphs of small treewidth. II. Optimal parallel algorithms. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 205–223. (Summary) **99f:68152** 68R10 (05C38, 05C85, 68Q22)
Chaudhuri, Shyamoli Recent developments in fermionization and superstring model building. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 88–96, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81209** 81T40 (81T30)
— (*with* Minic, Djordje) On the Hagedorn transition and collective dynamics of D0-branes. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 301–306. (Summary) **99d:81113** 81T30 (83C57, 83E30)
— (*with* Awata, Hidetoshi; Li, Miao[1]; Minic, Djordje) Many-body dynamics of D0-branes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5303–5306. (Summary) **99m:81169** 81T30 (81V70)
Chaudhury, S. R. (*with* Kumar, Bidyapati) Finite inhomogeneous shearing deformations of a transversely isotropic incompressible material. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 81–87. (Summary) **99h:73022** 73C50 (73B40)
Chaudron, Michel R. V. (*with* van Duin, Arno C. N.) The formal derivation of parallel triangular system solvers using a coordination-based design method. (English summary) *Parallel Comput.* **24** (1998), *no.* 7, 1023–1046. (C. Phillips) **99g:65134** 65Y05 (65F30)
Chauhan, Makhan Singh (*with* Singh, Bijendra) Fixed points of multi-valued mappings in PM-spaces. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 203–204. 54H25 (54C60)
— (*with* Singh, Bijendra) Generalized fuzzy metric space and fixed point theorems. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 6, 457–460. 54A40 (54H25)
— (*with* Singh, Bijendra; Sharma, R. K.) Fixed points of semi-compatible mappings. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 159–160. 54H25
— (*with* Singh, Bijendra) Fixed points of multivalued mappings in D-metric space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 161–162. 54H25 (54C60)
— (*with* Singh, Bijendra) Common fixed points of fuzzy mappings. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 163–166. 54A40 (54H25)
— (*with* Singh, Bijendra) Fixed points of generalised contraction mappings in D-metric space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 189–191. 54H25
Chauhan, Pramila (*with* Chaturvedi, Ajit; Kumar, Ajay) Robustness of a sequential test for the mean of an inverted gamma distribution. (English summary) *J. Indian Statist. Assoc.* **36** (1998), *no.* 1, 13–25. 62L10
Chaumat, Jacques (*with* Chollet, Anne-Marie) Propriétés de l'intersection des classes de Gevrey et de certaines autres classes. (English and French summaries) [Properties of the intersection of Gevrey classes and of some other classes] *Bull. Sci. Math.* **122** (1998), *no.* 6, 455–485. (Luigi Rodino) **99i:46027** 46E99 (26E10, 35S05)
Chaumont, L. Excursion normalisée, méandre et pont pour les processus de Lévy stables. (French summary) [Normalized excursion, meander and bridge for stable Lévy processes] *Bull. Sci. Math.* **121** (1997), *no.* 5, 377–403. (N. H. Bingham) **99a:60077** 60J30
Chaurasia, V. B. L. (*with* Sharma, Rajendra Pal) Two-dimensional exponential Bessel expansion of a general class of polynomials and the multivariable H-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 405–412. (Summary) **99g:33008** 33C10 (33C60)
— (*with* Gupta, Neeti) Finite integrals associated with Fox's H-function, two general class of polynomials and the H-function of several complex variables. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 215–224. 33C60
— (*with* Patni, Rinku) Free oscillations of water in a circular lake and the H-function of several complex variables with a general class of polynomials. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 45–50. 76B15 (33C60)
— (*with* Gupta, Neeti) Some finite integrals involving a product of general polynomials, Fox's H-function with the multivariable H-function. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 173–178. 33C60
— (*with* Patni, Rinku) Integrals and Fourier series for the product of general polynomials, Fox's H-function and the multivariable H-function. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 179–184. 33C60
Chaure, N. K. (*with* Misra, B. L.; Wanjari, N.) On construction of mutually orthogonal F-squares. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 1, 87–92. (Summary) **99e:05024** 05B15
Chauve, M. P. (*with* Schouveiler, L.; Le Gal, P.) Stability of a traveling roll system in a rotating disk flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2695–2697. 76E10 (76U05)
Chauveau, Didier (*with* Diebolt, Jean; Robert, Christian P.) Control by the central limit theorem. *Discretization and MCMC convergence assessment*, 99–126, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J10 (60F05, 60J05, 62G10)
— (*with* Muri, Florence; Cellier, Dominique) Convergence assessment in latent variable models: DNA applications. *Discretization and MCMC convergence assessment*, 127–146, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J05 (60J10, 62F15, 92D20)
Chauvet, Gilbert (*with* Vielle, Bruno) Delay equation analysis of human respiratory stability. (English summary) *Math. Biosci.* **152** (1998), *no.* 2, 105–122. (Summary) **99e:92012** 92C30 (92C05)
Chauvière, Arnaud (*with* Chaskalovic, Joël) Genesis of a swirling source/sink line into an updraft. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 645–650. (Yuri N. Skiba) **99m:76044** 76D05 (76C15, 86A10)
Chauvin, B. (*with* Rouault, A.) Boltzmann-Gibbs weights in the branching random walk. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 41–50, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Rinaldo Schinazi) **99a:60090** 60J80 (60F10, 60K35, 82C41)
Chauviré, Christiane *see* **Hintikka, Jaakko, (99f:03005)**

Chavanis, Pierre-Henri (*with* Sommeria, Joël) Classification of robust isolated vortices in two-dimensional hydrodynamics. (English summary) *J. Fluid Mech.* **356** (1998), 259–296. (Radyadour Kh. Zeytounian) **99b:76041** 76F99 (76C05, 76M35)
— Systematic drift experienced by a point vortex in two-dimensional turbulence. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, R1199–R1202. 76F99 (76C05)
Chavarriga, Javier (*with* Giné, Jaume; García, I. A.) Isochronous centers of a linear center perturbed by homogeneous polynomials. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 65–80, *Univ. Lleida, Lleida*, 199?. (I. D. Iliev) **99a:34075** 34C05 (34C20)
— (*with* García, I. A.; Giné, Jaume) Integrability of quasihomogeneous vector fields in the plane. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:34043** 34C05 (34A34, 58F21)
— (*with* Giné, Jaume) Integrability of cubic systems with degenerate infinity. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:34044** 34C05 (34A05, 34A34, 58F21)
— (*with* Llibre, Jaume) On the algebraic limit cycles of quadratic systems. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 17–24, *Univ. Rovira Virgili, Tarragona*, 1998. (Henryk Żołądek) **99b:34057** 34C05
— (*with* García, I. A.; Giné, Jaume) Quadratic integrable chordal systems. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 225–230, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Henryk Żołądek) **99d:34042** 34C05 (34A05)
— (*with* Giné, Jaume) Integrability of a linear center perturbed by cubic polynomials. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 231–236, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Henryk Żołądek) **99d:34043** 34C05 (34A05)
— (*with* Giné, Jaume) Integrable systems via inverse integrating factor. *Extracta Math.* **13** (1998), *no.* 1, 41–60. (Henryk Żołądek) **99h:34042** 34C05
— (*with* Giné, Jaume; García, I. A.) Isochronous centers of a linear center perturbed by fourth degree homogeneous polynomial. (English summary) *Bull. Sci. Math.* **123** (1999), *no.* 2, 77–96. (I. D. Iliev) **99m:34058** 34C05 (34–04, 34C20, 34C25)
Chavdarov, Nick The generic irreducibility of the numerator of the zeta function in a family of curves with large monodromy. *Duke Math. J.* **87** (1997), *no.* 1, 151–180. (Takeshi Ooe) **99d:11071** 11G40 (14G10)
ruiz Chaveco, Antonio Iván *see* **Ruiz Chaveco, Antonio Iván**
pérez Chavela, Ernesto *see* **Pérez Chavela, Ernesto**
Chavent, Guy (*with* Kunisch, Karl) Regularization of linear least squares problems by total bounded variation. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 359–376 (*electronic*). (V. V. Vasin) **99b:65071** 65J10 (49M99, 49N99)
— Least-squares, sentinels and substractive [subtractive] optimally localized average. (English summary) *Équations aux dérivées partielles et applications*, 345–356, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Sergei A. Avdonin) **99m:93051** 93C20 (93B05, 93B30)
— (*with* Kunisch, Karl) State-space regularization: geometric theory. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 3, 243–267. (Summary) **99m:35260** 35R30 (49J45, 49K20)
— (*with* Younès, Anis; Mose, Robert; Ackerer, Philippe) Une résolution par les éléments finis mixtes à une inconnue par maille. (English and French summaries) [Solution using the mixed finite element method with one unknown per element] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 623–626. (Summary) **99m:65226** 65N30 (76M10, 76S05, 86–08)
— (*with* Jaffré, Jérôme; Jan-Jégou, Sophie) Estimation of relative permeabilities in three-phase flow in porous media. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 33–39. (*see* **99h:00024**) 76S05 (76T05)
— (*with* Younès, Anis; Mose, Robert; Ackerer, Philippe) A new formulation of the mixed finite element method for solving elliptic and parabolic PDE with triangular elements. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 148–167. (Summary) **99i:76133** 76M25 (76S05, 86–08, 86A05)
— (*with* Plessix, René-Edouard; De Roeck, Yann-Hervé) Waveform inversion of reflection seismic data for kinematic parameters by local optimization. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1033–1052 (*electronic*). (Summary) **99i:86016** 86A15 (86A22, 90C90)
Chaves, A. S. A fractional diffusion equation to describe Lévy flights. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 13–16. (Summary) **99a:82067** 82C31
Chaves, Lucas M. (*with* Rigas, Alcibíades) Hopf maps and triality. *Math. J. Okayama Univ.* **38** (1996), 197–208 (1998). (Elmer G. Rees) **99m:55016** 55Q52 (57T20)
Chaves, Manuela (*with* Vázquez, Juan Luis) Boundary layer formation in a free boundary problem with nonlinear heat propagation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 407–412, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35R35 (35K60)
castillo-Chavez, Carlos *see* **Castillo-Chavez, Carlos**
Chávez, E. L. (*with* Brito, M. R.; Quiroz, Adolfo J.; Yukich, J. E.) Connectivity of the mutual k-nearest-neighbor graph in clustering and outlier detection. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 33–42. (Tamas Lengyel) **99c:62165** 62H30
Chavez, J. D. (*with* Bezrukov, Sergei; Harper, L. H.; Röttger, Markus; Schroeder, Ulf-Peter) Embedding of hypercubes into grids. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 693–701, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68M10)
— (*with* Trapp, Rolland) The cyclic cutwidth of trees. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 25–32. (Xue Liang Li) **99g:05053** 05C05 (05C10, 68R10, 90C35)
ruiz de Chávez, Juan *see* **Ruiz de Chávez, Juan**
de Chávez, Juan Ruiz *see* **Ruiz de Chávez, Juan**
Chávez, M. J. (*with* Ayala, R.; Quintero, A.) A Hahn-Mazurkiewicz theorem for generalized Peano continua. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 325–330. (Michael Tkačenko) **99h:54045** 54F15 (54E40)
— (*with* Ayala, R.; Márquez, Alberto; Quintero, A.) On the proper planarity of 3-connected generalized Peano continua. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 171–181. (Summary) **99g:54030** 54F15 (57M15)
— (*with* Ayala, R.; Márquez, Alberto; Quintero, A.) On the connectivity of infinite graphs and 2-complexes. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 13–37. (Thomas Andreae) **99i:05126** 05C40 (57M15, 57M20)
rocha-Chávez, R. *see* **Rocha-Chávez, R.**
Chavosh Khatamy, R. (*with* Toomanian, M.) Representation of 3-braids. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 95–101, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 57M25
Chavro, A. I. (*with* Marchuk, G. I.) On the statement and solution of inverse problems in satellite meteorology. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 6, 501–515. (Summary) **99m:86011** 86A10 (86A22)
Chawanya, Tsuyoshi Coexistence of infinitely many attractors in a simple flow. (English summary) *Phys. D* **109** (1997), *no.* 3-4, 201–241. (Peter Ashwin) **99b:58151** 58F12 (34C37, 34D45, 58F13, 58F40, 92D25)
— (*with* Morita, Satoru) On the bifurcation structure of the mean-field fluctuation in the globally coupled tent map systems. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 44–70. (Volker Matthias Gundlach) **99b:58158** 58F13 (34D10)
Chawla, G. C. (*with* Dey, Aloke) A series of balanced ternary change over designs. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 42–50. 62K10
Chawla, M. M. (*with* Al-Zanaidi, M. A.) Double-stride methods for oscillatory problems. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 535–547. (Summary) **99c:65125** 65L05
— (*with* Al-Zanaidi, M. A.) Non-dissipative extended one-step methods for oscillatory problems. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 85–100. (Summary) **99h:65123** 65L05
— (*with* Al-Zanaidi, M. A.; Al-Ghonaim, S. S.) Singly-implicit stabilized extended one-step methods for second-order initial-value problems with oscillating solutions. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 2, 63–72. (Summary) **99m:65127** 65L05
— *see also* **Van Hecke, T. et al.**
Chawla, V. (*with* Laursen, T. A.) Energy consistent algorithms for frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 5, 799–827. (Summary) **99c:73069** 73T05 (73V05)
Chayes, J. T. (*with* Borgs, C.; Fröhlich, Jürg) Dobrushin states in quantum lattice systems. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 591–619. (Roberto Fernández) **99h:82005** 82B10 (60K35, 82B24, 82B26)
— (*with* Borgs, C.; Fröhlich, Jürg) Dobrushin states for classical spin systems with complex interactions. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 895–928. (Daniel Ueltschi) **99a:82005** 82B05 (82B20, 82B24, 82B26)
— Finite-size scaling in percolation. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 113–122 (*electronic*). (Mathew D. Penrose) **99k:60245** 60K35 (05C80, 82B43)
Chayes, L. (*with* Alexander, Kenneth S.) Non-perturbative criteria for Gibbsian uniqueness. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 447–464. (Roberto Fernández) **99j:82005** 82B05 (60K35, 82B20, 82B43)
— (*with* Pemantle, Robin; Peres, Yuval) No directed fractal percolation in zero area. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1353–1362. (Mathew D. Penrose) **99d:82029** 82B43 (60K35)
— Discontinuity of the spin-wave stiffness in the two-dimensional XY model. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 3, 623–640. (Wei-Shih Yang) **99i:82007** 82B20 (82B43)
— (*with* Campbell, M.) The isotropic O(3) model and the Wolff representation. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L*255–*L*259. (Summary) **99a:82047** 82B43 (82B26)
— (*with* McKellar, D.; Winn, B.) Percolation and Gibbs states multiplicity for ferromagnetic Ashkin-Teller models on $\mathbf{Z}^2$. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9055–9063. (Giambattista Giacomin) **99k:82038** 82B43 (60K35)
— (*with* Alexander, Kenneth S.; Cesi, F.; Maes, Christian; Martinelli, Fabio) Convergence to equilibrium of random Ising models in the Griffiths phase. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 337–351. (Aernout C. D. van Enter) **99i:82037** 82C44 (60K35, 82B44, 82C22)
— (*with* Baker, Tanya) On the unicity of discontinuous transitions in the two-dimensional Potts and Ashkin-Teller models. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 1–15. (Daniel Ueltschi) **99k:82039** 82B26 (82B05, 82B20)
— (*with* Machta, Jonathan; Redner, O.) Graphical representations for Ising systems in external fields. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 17–32. (Daniel Ueltschi) **99h:82010** 82B20 (82B26, 82B43, 82B80)
Chazal, Frédéric Sur les feuilletages algébriques de Rolle. (French summary) [On Rolle's algebraic foliations] *Comment. Math. Helv.* **72** (1997), *no.* 3, 411–425. (David B. Massey) **99c:58125** 58F18 (14P05, 57R30)
— Structure locale et globale des feuilletages de Rolle, un théorème de fibration. [Local and global structure of Rolle foliations. A fibration theorem] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 553–592. (Sergeĭ Yu. Yakovenko) **99k:58151** 58F18 (14P15, 57R30)
— (*with* Lion, Jean-Marie) Une propriété des solutions non spiralantes d'équations différentielles analytiques du plan. (English and French summaries) [A property of nonspiralling solutions of analytic differential equations in the plane] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 451–454. (Zbigniew Szafraniec) **99j:34009** 34A25 (32C05, 34A99, 58A17)
torres-Cházaro, Adolfo *see* **Torres-Cházaro, Adolfo**
Chazelle, Bernard Car-pooling as a data structuring device: the soft heap. (English summary) *Algorithms—ESA '98* (*Venice*), 35–42, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68P05
— (*with* Brönnimann, Hervé) Optimal slope selection via cuttings. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 23–29. (Summary) **99a:68170** 68U05
— A spectral approach to lower bounds with applications to geometric searching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 545–556 (*electronic*). (Evangelos

Kranakis) **99b:68195** 68U05 (52B55, 68P05, 68Q25)
— Discrepancy bounds for geometric set systems with square incidence matrices. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 103–107, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:68207** 68U05 (52B55)
— *see also* **Advances in discrete and computational geometry, 99f:52003**
Chazottes, J.-R. (*with* Floriani, E.; Lima, R.) Relative entropy and identification of Gibbs measures in dynamical systems. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 697–725. (Luis M. Barreira) **99b:58141** 58F11
Chbani, Z. (*with* Chadli, O.; Riahi, Hassan) Recession methods for equilibrium problems and applications to variational and hemivariational inequalities. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 185–196. (Daniel Goeleven) **99k:49020** 49J40 (47H19)
Chbili, Nafaa On the invariants of lens knots. (English summary) *KNOTS '96 (Tokyo)*, 365–375, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57009** 57M25
Che, Hong An (*with* Gu, Guo Qing; Chen, Ge) A matrix representation and entropy formula for additive cellular automata. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 409–414. (Summary) **99d:68169** 68Q80
Che, Ke Jian (*with* Wu, Tan; Zou, Chang An) Global stability of a class of third-order nonlinear systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 438–441. (Summary) **99b:34091** 34D20
Che, Zhao Dong (*with* Song, Shiji; Qiao, Xiao Lin; Zhang, Jiewu) The convergency of (DG) fuzzy integrals on L-fuzzy sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 821–836. (Summary) **99i:28026** 28E10
Cheah, Chien Chern (*with* Wang, Danwei) A model reference learning control scheme for a class of nonlinear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 271–287. 93E35 (93C10)
Cheah, H. M. (*with* Shutler, Paul M. E.) Applying Boltzmann's definition of entropy. (English summary) *European J. Phys.* **19** (1998), *no.* 4, 371–377. (Summary) **99c:82004** 82B03 (82B05)
Cheah, Jan Cellular decompositions for nested Hilbert schemes of points. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 39–90. (Raquel Mallavibarrena) **99d:14002** 14C05 (14C15)
Cheban, D. N. Bounded solutions of linear almost periodic systems of differential equations. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 155–174; *translation in Izv. Math.* **62** (1998), *no.* 3, 581–600. (Introduction) **99g:34109** 34D20 (34C11, 34C27, 34C35, 34G20)
— Asymptotic behavior of solutions of infinite-dimensional homogeneous dynamical systems. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 115–126; *translation in Math. Notes* **63** (1998), *no.* 1-2, 102–111. (Tomáš Gedeon) **99d:34085** 34D05 (34C35, 34G20, 34K30)
Chebanov, D. A. On a class of exact solutions of the equations of motion of a system of n Lagrange gyroscopes. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 8, 82–85. (Summary) **99k:70004** 70E15
Chebbi, Souhail (*with* Ben-El-Mechaiekh, Hichem; Florenzano, Monique; Llinares Ciscar, Juan Vicente) Abstract convexity and fixed points. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 138–150. (Louis A. Talman) **99c:47089** 47H10 (47H04, 52A01, 54H25)
Cheblakova, E. A. (*with* Gadiyak, G. V.) Convective flow in an upright enclosed square cavity: a comparison exercise. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 139–149. (*see* **99e:76001**) 76M25
Chebotar, K. Grammar flow analysis reduction to scheduling problem. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 3, 353–365. 68Q52 (90B10, 90B35)
Chebotar, M. A. A note on certain subrings and ideals of prime rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 107–116. (Miguel Ferrero) **99d:16023** 16N60 (16W25)
— (*with* Brešar, Matej) On a certain functional identity in prime rings. *Comm. Algebra* **26** (1998), *no.* 11, 3765–3781. (Andrei Kelarev) **99h:16037** 16N60
— On generalized functional identities on prime rings. (English summary) *J. Algebra* **202** (1998), *no.* 2, 655–670. (L. Bokut') **99e:16028** 16R50 (16N60)
Chebotarëv, A. M. Logarithmic asymptotics for the solution of the Cauchy problem for the Boltzmann equation. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 12, 97–106. (A. D. Khon'kin) **99a:82075** 82C40 (45K05, 76P05)
— Quantum stochastic differential equation as a strong resolvent limit of the Schrödinger evolution. (English summary) *Fourth Symposium on Probability Theory and Stochastic Processes (Spanish) (Guanajuato, 1996)*, 71–89, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Andreas Boukas) **99i:81121** 81S25 (46N50, 47N50, 60H30)
— Symmetrized form of the stochastic Hudson-Parthasarathy equation. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 5, 726–750, 800; *translation in Math. Notes* **60** (1996), *no.* 5-6, 544–561 (1997). (John E. Gough) **99f:81107** 81S25
— (*with* García Corte, Julio César; Quezada Batalla, Roberto) On the Lindblad equation with unbounded variable coefficients. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 125–140; *translation in Math. Notes* **61** (1997), *no.* 1-2, 105–117. (Lech Jakóbczyk) **99c:82042** 82C10 (47D07, 47N50)
— A quantum stochastic equation is unitarily equivalent to a symmetric boundary value problem for the Schrödinger equation. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 612–622; *translation in Math. Notes* **61** (1997), *no.* 3-4, 510–578. (Serguei E. Tcheremchantsev) **99e:81117** 81S25 (35J10, 35P99, 47N50)
— (*with* Viktorov, D. V.) Quantum stochastic processes arising from the strong resolvent limits of the Schrödinger evolution in Fock space. (English summary) *Quantum probability (Gdańsk, 1997)*, 119–133, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Kalyanapuram R. Parthasarathy) **99m:81111** 81S25 (46L60, 46N50)
— Quantum stochastic differential equation is unitarily equivalent to a symmetric boundary value problem in Fock space. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 175–199. (Timothy M. W. Eyre) **99c:81111** 81S25 (35R15, 46N50)
— (*with* Fagnola, Franco) Sufficient conditions for conservativity of minimal quantum dynamical semigroups. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 382–404. (John E. Gough) **99d:81064** 81S25 (47N50, 47N55, 82C10)
— (*with* García Corte, Julio César; Quezada Batalla, Roberto) A priori estimates and existence theorems for the Lindblad equation with unbounded time-dependent coefficients. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 44–65. (Franco Fagnola) **99m:81112** 81S25 (47N50, 82C10)
Chebotarev, A. N. (*with* Volkov, I. K.; Krishchenko, A. P.) Operation modes for a population with a possible nonequilibrium preservation of size. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 156–167; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 2, 1364–1373 (1998). (D. O. Logofet) **99f:92027** 92D25
Chebotarev, A. Yu. (*with* Konovalova, D. S.) Optimal starting control of the flow of a viscous fluid. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 110–119, 199. (Sergey V. Nikitin) **99i:49042** 49N55 (35Q30, 76D05)
— On the passage to the limit with respect to viscosity in variational inequalities for the Navier-Stokes operator. (Russian. English summary) *Dal'nevost. Mat. Sb. No.* 2 (1996), 193–196, 201. 35Q30 (49J40, 76D05)
Chebotarev, Alexander M. *see* **Chebotarëv, A. M.**
Chebotarev, Anatoliĭ Nikolaevich Synthesis of a procedural representation of an automaton specified in the logic language $\mathfrak{L}^*$. I. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997,** *no.* 4, 60–74, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 505–515 (1998). (Leonid P. Lisovik) **99c:68175** 68Q68
— (*with* Morokhovets, Marina K.) Resolution-based approach to compatibility analysis of interacting automata. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 183–205. (Summary) **99m:68117** 68Q60 (68Q68)
Chebotarev, L. V. Extensions of the Bohr-Sommerfeld formula to double-well potentials. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 12, 1086–1095. (Summary) **99h:81048** 81Q20
Chebotarev, Pavel Yu. (*with* Shamis, E. V.) A matrix forest theorem and the measurement of relations in small social groups. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 9, 125–137; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 2, 1505–1514 (1998). (Slobodan Simić) **99f:05075** 05C50
— (*with* Shamis, E. V.) Characterizations of scoring methods for preference aggregation. (English summary) *Ann. Oper. Res.* **80** (1998), 299–332. (Summary) **99g:90021** 90A07 (90A10, 90A28)
— (*with* Shamis, E. V.) On the duality of metrics and Σ-neighborhoods. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998,** *no.* 4, 184–189; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 608–612. 54E35 (05C50)
— (*with* Shamis, E. V.) Preference fusion when the number of alternatives exceeds two: indirect scoring procedures. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 2, 205–226. (Summary) **99k:90008a** 90A05 (90A07)
— (*with* Shamis, E. V.) Erratum: "Preference fusion when the number of alternatives exceeds two: indirect scoring procedures". *J. Franklin Inst.* **336** (1999), *no.* 4, 747–748. (Editors) **99k:90008b** 90A05 (90A07)
Chebrakov, Y. V. Analytical formulae and algorithms for constructing magic squares from an arbitrary set of 16 numbers. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova, 1997)*, 26–43, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 05B15
— (*with* Shmagin, V. V.) The analytical formulae yielding some Smarandache numbers and applications in magic squares theory. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova, 1997)*, 51–60, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A25 (05B15)
— (*with* Yasinskiy, S. A.; Shmagin, V. V.) The system-graphical analysis of some numerical Smarandache sequences. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova, 1997)*, 193–205, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11Y55
Chebyshev, Pafnutiĭ L'vovich *see* **Anniversary: Birth of Chebyshev, Pafnutiĭ L'vovich, 99b:01025** *and* **Butzer, Paul Leo, 99m:01019**
Chechel', I. I. (*with* Pal'tsev, B. V.) Algorithms for numerical realizations that are based on bilinear finite elements of iterative methods with splitting of boundary conditions for a Stokes-type system in a strip under the periodicity condition. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 7, 799–815; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 7, 775–791. (Andrei I. Tolstykh) **99a:65155** 65N30 (76D07, 76M10)
— (*with* Pal'tsev, B. V.) On some methods for increasing the rate of convergence at higher harmonics of bilinear finite-element realizations of iterative methods with splitting of boundary conditions for a Stokes-type system. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 956–970; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 916–929. (Summary) **99g:76083** 76M10 (65M60, 76D07)
Chechelashvili, G. (*with* Dzhordzhadze, G. P.; Kiknadze, N.) Practical scheme of reduction to gauge-invariant variables. (English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 90–106; *reprinted in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1316–1328 (1997). (Frans Cantrijn) **99a:58061** 58F05 (70G50, 70H35, 81T13)
Chechile, Richard A. A new method for estimating model parameters for multinomial data. (English summary) *J. Math. Psych.* **42** (1998), *no.* 4, 432–471. (Thomas A. Severini) **99m:62027** 62F10 (62F15, 62P15)
Chechin, G. M. (*with* Sakhnenko, V. P.) Interactions between normal modes in nonlinear dynamical systems with discrete symmetry. Exact results. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 43–76. (Vincent Naudot) **99k:70020** 70H05 (34C15, 58F05, 70H33, 70K99)
Chechin, L. (*with* Omarov, T.) On the dynamics of two oscillating cosmic strings. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 443–459. 83C10 (83F05)
Chechkin, A. V. (*with* Bolotin, Yu. L.; Gonchar, V. Yu.; Granovskiĭ, M. Ya.) Dynamics of an anharmonic oscillator with a periodic perturbation. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 1, 196–205; *translated from Zh. Èksper. Teoret. Fiz.* **115** (1999), *no.* 1, 361–377 (*Russian*). 81Q15
Check, P. (*with* Kriloff, C.; Stephenson, D. R.) A classification of invertible subsets of affine root systems. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 133–142. (Duncan J. Melville) **99g:17019** 17B20 (17B67)
Cheded, L. Invariance property of Gaussian signals: a new interpretation, extension and applications. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 5, 523–536. (N. C. Mohanty) **99b:94008** 94A12

— Exact recovery of higher order moments. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 851–858. (Summary) **99c:94007** 94A12
— *see also* **Scarano, Gaetano**
Chee, Gou Ying Double self-dual and anti-self-dual structure of $N = 1$ supergravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1735–1748. (Ilya Shapiro) **99i:83099** 83E50
Chee, Seongtaek (*with* Son, Jung Je; Lim, Jong In; Sung, Soo Hak) Global avalanche characteristics and nonlinearity of balanced Boolean functions. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 139–144. (Summary) **99c:94038** 94A60 (68P25)
— (*with* Sung, Soo Hak; Park, Choonsik) Global avalanche characteristics and propagation criterion of balanced Boolean functions. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 21–24. (Summary) **99k:94043** 94A60
Chee, Yeow Meng (*with* Colbourn, Charles J.; Ling, Alan C. H.) Weakly union-free twofold triple systems. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 215–225. (M. Stefănescu) **99g:05137** 05C65 (05B07, 05D05)
— (*with* Ling, San) Algebraic constructions of Ramanujan graphs and highly symmetric expanders. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 276–282, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99k:68131** 68R10 (05C85)
— (*with* Magliveras, Spyros S.) A few more large sets of t-designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 293–308. (Summary) **99a:05021** 05B30
Cheetham, A. (*with* Al-Dabass, D.; Evans, David John[1]) Simulation of a multi-dimensional pattern classifier. (English summary) *Int. J. Comput. Math.* **71** (1999), *no.* 2, 197–233. 68T10
Chefles, Anthony (*with* Barnett, Stephen M.) Strategies for discriminating between non-orthogonal quantum states. (English summary) *J. Modern Opt.* **45** (1998), *no.* 6, 1295–1302. (Summary) **99b:81009** 81P05
— (*with* Barnett, Stephen M.) Quantum state separation, unambiguous discrimination and exact cloning. (English summary) *J. Phys. A* **31** (1998), *no.* 50, 10097–10103. (Summary) **99k:81040** 81P99
Chegini, A. (*with* Stansby, P. K.; Barnes, T. C. D.) The initial stages of dam-break flow. (English summary) *J. Fluid Mech.* **370** (1998), 203–220. 76-05 (76B99)
— (*with* Stansby, P. K.; Barnes, T. C. D.) The initial stages of dam-break flow. (English summary) *J. Fluid Mech.* **374** (1998), 407–424. 76-05 (76B15)
Chegis, I. A. The electromagnetostatic operator. Spectral properties. An application to the problem of the distribution of vortex currents. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2043–2054; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1962–1973. (B. Belinskiy) **99k:78016** 78A30 (35P05, 35Q60, 47F05, 47G10)
Chegis, R. *see* **Čiegis, Raimondas**
Chegis, Raĭm. *see* **Čiegis, Raimondas**
Chegis, Rem. *see* **Čiegis, Remigijus**
Chehab, Jean-Paul (*with* Brezinski, Claude) Nonlinear hybrid procedures and fixed point iterations. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 465–487. (B. Kellogg) **99e:65091** 65H10 (65B05)
— Incremental unknowns method and compact schemes. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 51–83. (Summary) **99a:65146** 65N30 (65N06)
— (*with* Miranville, Alain) Incremental unknowns on nonuniform meshes. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 539–577. (Tsorng-Whay Pan) **99i:65140** 65N55 (65F35, 65N06)
Cheikh, O. H. (*with* Beddaa, A.) Boundedness of characters in locally A-convex algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 91–98. (M. Abel) **99h:46082** 46H05 (46J05)
ben Cheikh, Youssèf *see* **Ben Cheikh, Youssèf**
Chein, Michel (*with* Preller, Anne; Mugnier, Marie-Laure) Logic for nested graphs. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 335–357. (Marcus Kracht) **99g:68200** 68T30 (03B65, 03F03)
— *see also* **Conceptual structures: theory, tools and applications, 99h:68003**
Chekalina, T. A. (*with* Stepanova, A. A.) The lattice of varieties of unars. (Russian. Russian summary) *Algebras, groups and varieties* (*Russian*), 64–68, 82, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 08B15
Chekanov, N. A. (*with* Derbov, Vladimir L.; Vinitskiĭ, S. I.) Quasienergy spectrum of a periodically kicked rotator. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 88–94, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q05
Chekanov, Yu. V. Lagrangian intersections, symplectic energy, and areas of holomorphic curves. *Duke Math. J.* **95** (1998), *no.* 1, 213–226. (Yong-Geun Oh) **99k:58034** 58E05 (58D10, 58F05)
Chekanu, G. P. Independence and quasiregularity in algebras. I. (Moldavian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996,** *no.* 3, 29–39, 120, 122. (T. Albu) **99b:16038** 16R20 (16U50)
— Independence and quasiregularity in algebras. II. (Moldavian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997,** *no.* 1, 70–77, 132, 134. (T. Albu) **99b:16039** 16R20 (16U50)
Chekhlov, V. I. (*with* Kudryavtsev, L. D.; Kutasov, A. D.; Shabunin, M. I.) ★ Сборник задач по математическому анализу. (Russian. Russian summary) [A collection of problems in mathematical analysis] Функции нескольких переменных. [Functions of several variables] *Fizmatlit "Nauka", Moscow*, 1995. 496 *pp. ISBN* 5-02-013953-X (Publisher's description) **99h:00004** 00A07 (26-01, 46-01)
Chekhov, L. O. (*with* Arutyunov, G. È.; Frolov, Sergeĭ Anatol'evich) R-matrix quantization of the elliptic Ruijsenaars-Schneider model. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 405–432. (Benjamin David Enriquez) **99h:81080** 81R50 (81V70)
Chekotun, K. M. (*with* Kirichenko, N. F.; Kutsenko, A. A.) Identification of the geometrical-topological features of images by the method of autocorrelation transformations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 1, 138–152, 156. (Summary) **99d:68242** 68U10
Chekuri, Chandra (*with* Rajaraman, Anand) Conjunctive query containment revisited (extended abstract). (English summary) *Database theory—ICDT '97* (*Delphi*), 56–70, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
— (*with* Charikar, Moses; Cheung, To-yat; Dai, Zuo; Goel, Ashish; Guha, Sudipto; Li, Ming[1]) Approximation algorithms for directed Steiner problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 192–200, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)
Chelidze, G. A counterexample in a theorem of the intersection of imbedded closed sets. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 207–209. (Summary) **99g:46011** 46B20
Chelidze, N. T. On some properties of Stieltjes transforms for functions of n variables. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 13–15 (1996). 44A15
Chelkak, S. (*with* Koshelev, Aleksandr Ivanovich) About the regularity of solutions for the nonstationary Navier-Stokes systems. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 43–63. (Alexander Yurjevich Chebotarev) **99f:35159** 35Q30 (35B65, 76D05)
— (*with* Koshelev, Aleksandr Ivanovich; Oganesyan, L.) Regular solutions of the Navier-Stokes system. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 33–41. (Summary) **99d:35122** 35Q30 (35B65, 76D05)
Chellaboina, Vijaya-Sekhar (*with* Haddad, Wassim M.; Bernstein, Dennis S.) Generalized mixed-μ bounds for real and complex multiple-block uncertainty with internal matrix structure. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 789–806. 93B36 (93C41)
— (*with* Haddad, Wassim M.; Collins, Emmanuel G., Jr.; Hyland, David C.) Frequency-domain performance bounds for uncertain structures with sensor and actuator dynamics. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 381–392. 93C80 (93C42)
— (*with* Haddad, Wassim M.) Robust nonlinear-nonquadratic feedback control via parameter-dependent Lyapunov functions. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 843–861. 93D21 (93D09)
— (*with* Haddad, Wassim M.; Fausz, Jerry L.) Optimal nonlinear disturbance rejection control for nonlinear cascade systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 997–1018. 93D15 (93A20)
— (*with* Haddad, Wassim M.) Mixed-norm H_2/L_1 controller synthesis via fixed-order dynamic compensation: a Riccati equation approach. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 35–59. (Vasile Drăgan) **99f:93043** 93B36 (93B52)
— (*with* Haddad, Wassim M.; Bernstein, Dennis S.) Structured matrix norms for robust stability and performance with block-structured uncertainty. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 535–557. (Takehiro Mori) **99h:93075** 93D09
— (*with* Haddad, Wassim M.; Fausz, Jerry L.; Abdallah, Chaouki T.) A unification between nonlinear-nonquadratic optimal control and integrator backstepping. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 879–906. (Emmanuel Delaleau) **99f:93039** 93B35 (93C10, 93D22)
— (*with* Haddad, Wassim M.; Fausz, Jerry L.; Abdallah, Chaouki T.) Optimal discrete-time control for non-linear cascade systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 827–839. (Vũ Ngọc Phát) **99c:93071** 93C55 (93D21)
— (*with* Haddad, Wassim M.) Optimal nonlinear-nonquadratic feedback control for systems with L_2 and L_∞ disturbances. *Nonlinear Anal.* **34** (1998), *no.* 2, 229–255. (Ian Petersen) **99j:93032** 93B36 (49J15, 93C10, 93D05)
— (*with* Haddad, Wassim M.; Fausz, Jerry L.) Nonlinear controllers for nonlinear systems with input nonlinearities. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 649–664. (Summary) **99m:49001** 49J15 (49N35, 93C10, 93D99)
Chełmiński, Krzysztof Coercive limits for a subclass of monotone constitutive equations in the theory of inelastic material behaviour of metals. (English summary) *Mat. Stos.* **40** (1997), 41–81. (Mircea Sofonea) **99a:73063** 73E50 (35Q72, 47H15, 73E05)
— On self-controlling models in the theory of nonelastic material behavior of metals. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 121–133. (Mircea Sofonea) **99f:73043** 73F15 (35Q72, 73E60, 73G25)
Chel'tsov, I. A. Del Pezzo surfaces with nonrational singularities. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 451–467; *translation in Math. Notes* **62** (1997), *no.* 3-4, 377–389 (1998). (Vasily A. Chernecky) **99d:14026** 14J17
Chelyapov, Nickolas V. (*with* Roweis, Sam; Winfree, Erik; Burgoyne, Richard; Goodman, Myron F.; Rothemund, Paul W. K.; Adleman, Leonard M.) A sticker based model for DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 1–29, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68059** 68Q05 (92D20)
Chemetov, N. (*with* Rodrigues, José-Francisco) A class of nonlinear elliptic problems with nonconvex constraints and applications. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 333–357. (Samir Adly) **99d:35066** 35J85 (35R35, 49J40)
— Uniqueness results for the full Frémond model of shape memory alloys. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 877–892. (Mircea Sofonea) **99k:73019** 73B30 (35Q72, 73C99, 80A22)
Chemin, Jean-Yves Système primitif de l'océan-atmosphère et limite quasi-géostrophique. [Primitive ocean-atmosphere system and quasigeostrophic limit] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. VII*, 15 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Peter E. Kloeden) **99b:35173** 35Q35 (76C99, 76U05, 86A05, 86A10)
— À propos d'un problème de pénalisation de type antisymétrique. (English and French summaries) [Concerning an antisymmetric penalty problem] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 9, 739–755. (Emmanuel Grenier) **99c:76029** 76C99 (35Q99, 76U05, 86A10)
— (*with* Bahouri, Hajer) Inégalités de Strichartz et équations d'ondes quasilinéaires. (English and French summaries) [Strichartz inequalities and quasilinear wave equations] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XXIII*, 15 *pp., École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35L70 (35B45)
— (*with* Bahouri, Hajer) Équations d'ondes quasi-linéaires et estimations de Strichartz. (English and French summaries) [Quasilinear wave equations and Strichartz estimates] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 803–806. (Summary) **99i:35099** 35L70 (35B45)
Chemla, Karine What is at stake in mathematical proofs from third-century China? (English summary) *Sci. Context* **10** (1997), *no.* 2, 227–251. (Alexeĭ K. Volkov) **99g:01006** 01A25

— History of mathematics in China: a factor in world history and a source for new questions. Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 789–798 (*electronic*). (Victor J. Katz) **99i:01010** 01A25

Chen, Amy Laguna (*with* Jacob, J. D.; Savaş, Ö.) Dynamics of corotating vortex pairs in the wakes of flapped airfoils. (English summary) *J. Fluid Mech.* **382** (1999), 155–193. 76C05

Chen, An Le (*with* Xiang, Xin Min) The large-time behaviour of a fully discrete Fourier pseudospectral method for higher-dimensional generalized Kuramoto-Sivashinsky type equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 1–10. (Summary) **99h:65176** 65M70

Chen, B. *see* **Chen, Bintong**

Chen, B.-Y. *see* **Chen, Bang-Yen**

Chen, Baizhu (*with* Feng, Yi) Economic development and the transition to democracy: a formal model. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 1–16. (Summary) **99k:92052** 92H10 (92K10)

Chen, Bang-Yen (*with* Dillen, Franki; Vrancken, Luc; Verstraelen, Leopold) A variational minimal principle and its applications. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 435–444. (G. Tóth) **99m:58060** 58E20 (53C42)

— (*with* Li, Shi-jie) Spherical hypersurfaces with 2-type Gauss map. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 169–179. (Christos Baikoussis) **99d:53054** 53C40 (53A07)

— (*with* Ishikawa, Susumu) Biharmonic pseudo-Riemannian submanifolds in pseudo-Euclidean spaces. *Kyushu J. Math.* **52** (1998), *no.* 1, 167–185. (Ivko Dimitric) **99b:53078** 53C40 (53C50)

— (*with* Dillen, Franki; Verstraelen, Leopold; Vrancken, Luc) Lagrangian isometric immersions of a real-space-form $M^n(c)$ into a complex-space-form $\tilde{M}^n(4c)$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 107–125. (Ildefonso Castro) **99c:53063** 53C42

— Special slant surfaces and a basic inequality. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 65–78. (Ivko Dimitric) **99g:53056** 53C40

— A vanishing theorem for Lagrangian immersions into Einstein-Kaehler manifolds and its applications. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 155–162. (Ildefonso Castro) **99i:53060** 53C42 (53C25, 53C55)

— (*with* Yang, Jie[1]) Elliptic functions, theta function and hypersurfaces satisfying a basic equality. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 463–509. (Jürgen Berndt) **99k:53110** 53C42 (33E05)

Chen, Bao Lin (*with* He, Jian Yong) A new explanation of the tableau working method for transportation problems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 12, 40–43. 90C08

Chen, Bao Zhi (*with* Zhong, Mao Hua; Chen, Quan) A generalized catastrophe theory of risk assessment. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 116–118. 90A46 (58C28)

Chen, Baohua (*with* Cheng, Ji Lin; Guo, Yuan Yu; Jin, Zhaosen; Tao, Changsheng) Optimal experimental methods of the large-scale mathematical programming and applications. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 465–470. 90C30 (90C06)

Chen, Beifang (*with* Yan, Min) Eulerian stratification of polyhedra. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 1, 22–57. (P. McMullen) **99g:52022** 52B45 (52B70)

— (*with* Yan, Min) The geometric cone relations for simplicial and cubical complexes. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 39–46. (P. McMullen) **99a:52015** 52B45

— (*with* Zhou, Sanming) Upper bounds for f-domination number of graphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 239–243. (Summary) **99a:05070** 05C35

— (*with* Lawrencenko, Serge) Structural characterization of projective flexibility. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 233–238. (John G. Ratcliffe) **99e:57007** 57M15 (05C10, 57Q15)

— Weight functions, double reciprocity laws, and volume formulas for lattice polyhedra. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 16, 9093–9098 (*electronic*). (P. McMullen) **99m:52018** 52B20 (52A38)

— (*with* Zhou, Sanming) Domination number and neighbourhood conditions. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 81–91. (Robert C. Brigham) **99k:05088** 05C35

Chen, Ben M. (*with* Guo, Yi; Lin, Zongli) Non-iterative computation of infimum in discrete-time H_∞-optimization and solvability conditions for the discrete-time disturbance decoupling problem. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 433–454. 93B36 (93B40)

— Solvability conditions for disturbance decoupling problems with static measurement feedback. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 51–60. 93D21

— ★ H_∞ control and its applications. Lecture Notes in Control and Information Sciences, 235. *Springer-Verlag London, Ltd., London*, 1998. *xii*+351 *pp. ISBN* 1-85233-026-0 (Ian Petersen) **99m:93001** 93–02 (49N05, 93B10, 93B36)

Chen, Benito *see* **Chen-Charpentier, Benito**

Chen, Benito M. *see* **Chen-Charpentier, Benito**

Chen, Bin[2] (*with* Hong, Yong[1]) FCV_1: a new fast greedy covering algorithm. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 4, 369–374. 68T05

Chen, Bintong (*with* Pinar, Mustafa Çelebi) On Newton's method for Huber's robust M-estimation problems in linear regression. (English summary) *BIT* **38** (1998), *no.* 4, 674–684. (Girdhar G. Agarwal) **99k:62065** 62F35 (62J05, 65U05)

— (*with* Guignard, Monique) Polyhedral analysis and decompositions for capacitated plant location-type problems. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 79–91. (Summary) **99b:90086** 90C11 (90B80)

— (*with* Lin, Chin-Shien) Minmax-regret robust 1-median location on a tree. (English summary) *Networks* **31** (1998), *no.* 2, 93–103. (H. T. Lau) **99b:90074** 90B80 (90C27)

— (*with* Pinar, Mustafa Çelebi) l_1 solution of linear inequalities. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 19–37. (Horst Hollatz) **99j:90085** 90C30 (15A39, 65K05)

Chen, Bo (*with* Potts, Chris N.; Woeginger, Gerhard J.) A review of machine scheduling: complexity, algorithms and approximability. *Handbook of combinatorial optimization*, *Vol.* 3, 21–169, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90B35 (90–02, 90C27)

— (*with* Potts, Chris N.; Strusevich, V. A.) Approximation algorithms for two-machine flow shop scheduling with batch setup times. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 255–271. (Bao Sheng Hu) **99f:90046** 90B35 (90C35)

Chen, Bor-Liang (*with* Dong, Lei; Liu, Qi-Zhang; Huang, Kuo-Ching) Total colorings of equibipartite graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 59–65. (Summary) **99k:05076** 05C15

Chen, Bor-Sen (*with* Lee, Tzann-Shin; Chang, Wei-Sheng) A robust H^∞ model reference tracking design for non-holonomic mechanical control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 283–306. 93B36 (93C10)

— (*with* Chang, Yeong-Chan; Lee, Ti-Chung) Tracking control of flexible joint manipulators using only position measurements. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 567–593. 93C85 (70B15, 70Q05)

— (*with* Chang, Yeong-Chan) Nonlinear mixed H_2/H_∞ control for robust tracking design of robotic systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 837–857. 93C85 (70Q05, 93B36)

Chen, C. C. *see* **Chen, Chuan Chong**

Chen, C.-J. *see* **Chen, Chur-jen**

Chen, C. L. *see* **Chen, Chieh Li**

Chen, C. S. *see* **Chen, Ching Shyang**

Chen, C. Y. *see* **Chen, Ching-Yu**

Chen, Cathy W. S. A Bayesian analysis of generalized threshold autoregressive models. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 15–22. 62M10 (62F15)

Chen, Chang Ming[2] The generalized LDL^T factorization method. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 3, 332–335. 65F30 (15A23)

Chen, Chang-New The development of irregular elements for differential quadrature element method steady-state heat conduction analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 1–14. (Summary) **99k:80002** 80–08

Chen, Chang-Pao (*with* Chen, Yu-Ying) On the integrals of Riemann-Lebesgue type. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 3, 347–353. (S. M. Mazhar) **99a:42002** 42A20

— (*with* Lin, Chin-Cheng) Integrability, mean convergence, and Parseval's formula for double trigonometric series. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 191–212. (Niranjan Singh) **99d:42007** 42A20 (42B05)

— (*with* Huang, Xin-Rong) Weighted integrability of double trigonometric series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1463–1471. (Naza Tanović-Miller) **99h:42019** 42B05 (42A16, 43A70)

Chen, Chang Song[2] (*with* Chen, Xiao Qun; Chen, Fa Lai) Polynomial approximation of rational curves. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 23–29. (*see* **99k:65006**) 65D17

Chen, Chang Yuan (*with* Liu, You Wen) The exact solution of the anharmonic oscillator potential and the description of the double-wave function. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 4, 536–541. (Summary) **99e:81039** 81Q05

— (*with* Hu, Si Zhu) Exact bound state solutions for relativistic equations with linear potentials in a one-dimensional half-space. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **37** (1998), *no.* 6, 713–719. 35Q53 (34L40, 81Q05)

Chen, Chao A rapidly convergent Popoulis-Gerchberg algorithm in two dimensions. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 34–36, 40. 65D30 (65R20)

— (*with* Ding, Zhan Ao) Necessary and sufficient conditions for linear accepting algorithms. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 31–33, 37. 68T20

Chen, Cha'o-Kuang (*with* Chang, Min Hsing) Stability of hydromagnetic dissipative Couette flow with non-axisymmetric disturbance. (English summary) *J. Fluid Mech.* **366** (1998), 135–158. 76E25

— (*with* Peng, Shou-Tao) Estimation of the practical stability region of a class of robust controllers with input constraint. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1271–1281. 93D09 (93B52)

— (*with* Yu, Lien-Tsai) The solution of the Blasius equation by the differential transformation method. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 101–111.. (Summary) **99d:34017** 34A25 (76D10)

Chen, Cheng-Liang (*with* Wang, Sheng-Nan; Hsieh, Chung-Tyan; Chang, Feng-Yuan) Theoretical analysis of a fuzzy-logic controller with unequally spaced triangular membership functions. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 87–108. 93C42

Chen, Chi-fang (*with* Lee, Ding; Nagem, R. J.; Resasco, D. C.) A coupled 3D fluid-elastic wave propagation model: mathematical formulation and analysis. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 147–178. (Summary) **99a:73105** 73K70 (73D15, 76M20, 76Q05, 86A05)

Chen, Chieh Li (*with* Liu, Yung-Chin) Differential transformation technique for steady nonlinear heat conduction problems. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 155–164. 65M99 (80–08)

— (*with* Liu, Yung-Chin) Solution of two-point boundary-value problems using the differential transformation method. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 23–35. (Zhong-Hua Yang) **99m:65138** 65L10 (34A45, 34B15)

Chen, Chih-Yuan (*with* Perng, Ming-Hwei) Optimal anti-windup control of saturating discrete-time MIMO systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 933–959. 93B50 (93D15)

— (*with* Perng, Ming-Hwei) An optimization-based anti-windup design for MIMO control systems. (English summary) *Internat. J. Control* **69** (1998), *no.* 3, 393–418. 93B50 (93B40)

Chen, Ching Shyang (*with* Golberg, Michael; Bowman, Harold; Power, Henry) Some comments on the use of radial basis functions in the dual reciprocity method. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 61–69. (Summary) **99d:65296** 65M99

— (*with* Brebbia, C. A.; Power, Henry) Dual reciprocity method using compactly supported radial basis functions. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999),

no. 2, 137–150. 65N38 (65D15)

Chen, Ching-Yao (*with* Meiburg, Eckart) Miscible porous media displacements in the quarter five-spot configuration. I. The homogeneous case. (English summary) *J. Fluid Mech.* **371** (1998), 233–268. 76S05 (76M25)

— (*with* Meiburg, Eckart) Miscible porous media displacements in the quarter five-spot configuration. II. Effect of heterogeneities. (English summary) *J. Fluid Mech.* **371** (1998), 269–299. 76S05 (76M25)

— (*with* Petitjeans, Philippe; Meiburg, Eckart; Maxworthy, Tony) Miscible quarter five-spot displacements in a Hele-Shaw cell and the role of flow-induced dispersion. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1705–1716. 76D99 (76–05, 76S05)

Chen, Ching-Yu (*with* Atkinson, Colin) On interface dislocations between dissimilar materials with non-linear stress-strain laws (plane strain). (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 5, 553–573. (Summary) **99m:73022** 73C99 (73M25)

— (*with* Atkinson, Colin) On interface dislocations between dissimilar materials with non-linear stress-strain laws (mode 3 analysis). (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 351–369. 73M25

Chen, Chiun-Chuan (*with* Hwang, Jenn-Fang) $\sum_{j=1}^{\infty} e^{i\sqrt{j}x}$ is a C^∞ function on $\mathbf{R} \setminus \{0\}$. (English summary) *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 51–58, *Internat. Press, Cambridge, MA*, 1997. (Friedbert Prüfer) **99b:58229** 58G25 (53C22, 58E10)

— (*with* Lin, Chang-Shou) On compactness and completeness of conformal metrics in $\mathbf{R}^N$. (English summary) *Asian J. Math.* **1** (1997), *no.* 3, 549–559. (Zhi Ren Jin) **99a:53038** 53C21 (35J60, 53A30)

— (*with* Lin, Chang-Shou) Existence of large energy solutions of the scalar curvature equation. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 1–7, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (John Urbas) **99b:53051** 53C21 (35J60, 58G30)

— (*with* Lin, Chang-Shou) A sharp sup + inf inequality for a nonlinear elliptic equation in $\mathbf{R}^2$. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 1–19. (Wen Xiong Chen) **99e:35048** 35J60 (35B45, 53C21)

Chen, Chuan Chong (*with* Jin, Guoping; Koh, K. M.) Triangle-free graphs with large degree. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 381–396. (Vadim E. Zverovich) **99a:05121** 05C75

Chen, Chuan Dan Stability of multidimensional interfaces of general hyperbolic difference approximations with mesh refinement in both space and time. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 3, 323–328. 65M06 (65M12)

Chen, Chuan Miao Two classes of superconvergent finite L^2 projections. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 16, 1721–1724. 65K10 (65N30)

— (*with* Shih, Tsi Min) ★ Finite element methods for integrodifferential equations. Series on Applied Mathematics, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xviii*+272 *pp. ISBN* 981-02-3263-2 (Wojciech Mydlarczyk) **99f:65200** 65R20 (45L05, 65M60)

— Superconvergence for L^2-projection in finite elements. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 1, 22–24. (Josef Dalik) **99e:65151** 65N30 (65L60)

— Superconvergence for L^2-projection in finite elements. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 86–96. 65N30 (65N06)

— (*with* Jin, Jicheng; Shu, Shi) Superconvergence for triangular cubic elements. (English summary) *Chinese Sci. Bull.* **44** (1999), *no.* 1, 47–49. 65N38 (65N30)

Chen, Chuanyu (*with* Xie, Wenfang) A generalized Talmi-Moshinsky transformation for 1D harmonic oscillator functions and interaction matrix elements. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 3, 419–422. (Summary) **99k:81353** 81V70 (81Q99)

Chen, Chun-Houh (*with* Li, Ker-Chau) Can SIR be as popular as multiple linear regression? (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 289–316. (Summary) **99a:62089** 62J05

Chen, Chun Li (*with* Wang, Bao Qin) Construct Lagrange submanifold from shrinking the isotropic submanifold. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 97–101. (Raúl Ibáñez) **99f:53033** 53C15 (58F05)

— (*with* Wang, Bao Qin; Zhang, Fei Jun) Casimir functions in Poisson manifolds and the generalized Hamilton equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 129–132. 58F05 (70H05)

Chen, Chung-Cheng A simple criterion for global exponential stabilizability of nonlinear multiple time-delay singularly perturbed systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1197–1208. 93D15 (93C10)

Chen, Chung-Chiang (*with* Chen, Miao-Sheng) The determination of timing and technology level of an abatement investment. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 257–271. 90B30 (90B70)

Chen, Chunhang Some statistical properties of the Holt-Winters seasonal forecasting method. (English summary) *J. Japan Statist. Soc.* **26** (1996), *no.* 2, 173–187. (Summary) **99b:62130** 62M10

Chen, Chur-jen (*with* Kalitvin, A. S.) On Uryson operators with partial integrals in Lebesgue spaces with mixed norm. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 3–8. (Isaac V. Shragin) **99b:47102** 47H30 (45P05, 47G10)

Chen, Ciping Matchings and matching extensions in graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 95–103. (Winfried Hochstättler) **99d:05069** 05C70

Chen, Cong Input-output decoupling control based on nonlinear state feedback. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 6, 35–39. 93B17 (93B52)

Chen, Cun Bao (*with* Wang, Jia Song) Fractal interpolation curves. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 196–203. 65D17 (28A80)

Chen, D. J. L. (*with* Butcher, J. C.) ESIRK methods and variable stepsize. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 193–207. (Summary) **99f:65111** 65L06

Chen, D.-P. *see* **Chen, Duan Pin**

Chen, Da-Li (*with* Sugie, Jitsuro; Matsunaga, Hideaki) On global asymptotic stability of systems of Liénard type. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 140–164. (Bo Hua Yu) **99c:34111** 34D20 (34C15)

Chen, Da-Ming (*with* Shen, You-Gen) Entropy in $(1 + 1)$-dimensional black hole. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 3041–3049. 83C57

— (*with* Shen, You-Gen) Entropy of the global monopole black hole in de Sitter backgrounds space-time. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1273–1278. (Summary) **99k:83083** 83C57

— (*with* Shen, You-Gen) The quantum corrections to the entropy of stationary axisymmetric Einstein-Maxwell-dilaton-axion black holes. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 315–322. (Summary) **99k:83082** 83C57 (83C22)

— (*with* Shen, You-Gen) Cosmological wave function and wormhole wave function with a conformal complex scalar field. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 713–724. 83C45

Chen, Daning (*with* Fan, Da Shan) Multiplier transformations on H^p spaces. (English summary) *Studia Math.* **131** (1998), *no.* 2, 189–204. (Da Chun Yang) **99e:42032** 42B30 (46E15, 47B38)

Chen, Danny Z. (*with* Atallah, Mikhail J.; Daescu, Ovidiu) Efficient parallel algorithms for planar *st*-graphs. (English summary) *Algorithms and computation* (*Singapore*, 1997), 223–232, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68078** 68Q22 (68R10)

— (*with* Xu, Jinhui) Two-variable linear programming in parallel. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 169–180, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:90102** 90C08 (65Y05, 65Y25)

— (*with* Daescu, Ovidiu; Hu, Xiaobo; Xu, Jinhui) Finding an optimal path without growing the tree. (English summary) *Algorithms—ESA '98* (*Venice*), 356–367, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85, 68Q25)

— (*with* Daescu, Ovidiu) Space-efficient algorithms for approximating polygonal curves in two-dimensional space. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 45–54, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05

— (*with* Atallah, Mikhail J.) Parallel geometric algorithms in coarse-grain network models. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 55–64, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q22 (68U05)

— Efficient algorithms for geometric shortest path query problems. (English summary) *Handbook of combinatorial optimization, Vol.* 2, 1–33, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (65Y25, 90–02, 90C35)

— Determining weak visibility of a polygon from an edge in parallel. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 277–304. (Evangelos Kranakis) **99c:68245** 68U05 (52B55, 68Q22)

— (*with* Chen, Wei[3]; Wada, Koichi; Kawaguchi, Kimio) Finding the convex hull of discs in parallel. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 305–319. (Summary) **99b:68196** 68U05 (52B55, 68Q22)

— (*with* Lee, Der Tsai; Sridhar, Radhakrishnan; Sekharan, Chandra N.) Solving the all-pair shortest path query problem on interval and circular-arc graphs. (English summary) *Networks* **31** (1998), *no.* 4, 249–257. (Summary) **99c:68057** 68P05 (05C85, 68R10, 90C35)

Chen, David D. Q. (*with* Wang, Fei-Yue; Huang, Ziyu; Lever, Paul J. A.) Refinement and generation of decision rules through training and augmentation of neural networks. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 329–360. 93C42 (93C83)

Chen, Dayue The consensus times of the majority vote process on a torus. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 3-4, 779–802. (Maria E. Vares) **99b:60167** 60K35 (82C22)

— (*with* Feng, Jian Feng; Qian, Min Ping) The metastable behavior of the three-dimensional stochastic Ising model. II. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1129–1135. (Summary) **99c:82036** 82B44 (82B20)

Chen, De Gang (*with* Gu, Wen Xiang) The structure of fuzzy subgroups of cyclic groups. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 20–22. 20N25

— Properties of the T-fuzzy factor groups. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 187–192. 20N25

— (*with* Shum, Kar Ping; Wu, Cong Xin) Fuzzy pseudo-symmetric ideals of semigroups and their radicals. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 1–3. 20M99

Chen, Dechang (*with* Huang, Peng[2]; Voelkel, Joseph G.) Minimum-aberration two-level split-plot designs. (English summary) *Technometrics* **40** (1998), *no.* 4, 314–326. (Summary) **99j:62115** 62K15

Chen, Degang (*with* Paden, Brad) Stable inversion of nonlinear non-minimum phase systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 81–97. 93B17 (93C10)

— (*with* Zhao, Hongchao) A finite energy property of stable inversion to nonminimum phase nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1170–1174. 93B30 (93C10)

Chen, Deng Yuan (*with* Gu, Yuan; Gu, Yi) Similarity reductions of the generalized Fisher-type equation with variable coefficients. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 4, 460–462. 35K57 (35A30)

Chen, Di[1] (*with* Lu, Jye-Chyi) The asymptotics of maximum-likelihood estimates of parameters based on a data type where the failure and the censoring time are dependent. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 379–391. (Summary) **99c:62081** 62G05 (62N05)

Chen, Di-Rong (*with* Yang, Ruyue; Li, Luoqing) Strong approximation by Riesz means on compact symmetric spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 185–189. (A. H. Dooley) **99b:43002** 43A22 (22E30, 43A85, 58G30)

— On the construction of pre-wavelets in $L_2(\mathbf{R}^s)$. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 129–133. (Summary) **99a:42019** 42C15 (46N40)

— On linear independence of integer translates of refinable vectors. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 397–410. (Don Hong) **99f:42063** 42C15 (39B12, 39B42)

Chen, Dong Gui The Kirchhoff equation without coerciveness. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 13–20. (Summary) **99a:35179** 35L70 (35Q99)

— (*with* Fang, Kui) *B*-spline curves with given tangent polygons. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 22–27. 65D17 (65D07)

Chen, Dong Ling (*with* Miao, Lian Ying; Pang, Shi You) A simple proof of a conjecture on path chromatic numbers of graphs. (Chinese. English and Chinese summaries) *Shandong*

Kuangye Xueyuan Xuebao **17** (1998), *no.* 1, 89–91. 05C15

Chen, Dong Qing (*with* Zhou, Hai Yun) Iterative approximation of fixed points for nonlinear mappings of Φ-hemicontractive type in normed linear spaces. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 118–121. (Shi Sheng Zhang) **99m:47061** 47H09 (47H10, 47H17)

Chen, Doron (*with* Brimberg, Jack; Chen, Reuven) Accelerating convergence in the Fermat-Weber location problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 151–157. (I. Norman Katz) **99h:90059** 90B40 (90C30)

Chen, Duan Pin (*with* Barcilon, V.; Eisenberg, R. S.; Jerome, Joseph W.) Qualitative properties of steady-state Poisson-Nernst-Planck systems: perturbation and simulation study. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 631–648. (John G. Milton) **99e:92008** 92C05 (34B15, 35Q80, 92C45)

Chen, Er Cai (*with* Xiong, Jin Cheng) The pointwise dimension of a self-similar measure. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 20, 2162–2167. 28A78

Chen, F. *see* **Chen, Fang**

Chen, Fa Lai (*with* Qu, Yong Ming; Sun, Jian Zhong) Approximate parametric representation of algebraic curves. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 382–388. (Summary) **99c:65039** 65D17

— Best Lipschitz constants for the Bézier nets and Bernstein polynomials over a simplex. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 3, 262–270. (Summary) **99m:65029** 65D17

— (*with* Sun, Jian Zhong; Qu, Yong Ming) Approximate common divisors of polynomials and degree reduction for rational curves. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 437–444. 65D05 (14Q05, 65D15)

— (*with* Cox, David A.; Sederberg, Thomas W.) The moving line ideal basis of planar rational curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 803–827. (Bert Jüttler) **99h:14056** 14Q05 (65D17, 65Y25)

— (*with* Chen, Xiao Qun; Chen, Chang Song[2]) Polynomial approximation of rational curves. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 23–29. (*see* **99k:65006**) 65D17

— A remark on implicitizing rational curves with base points. (English summary) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 121–126. (*see* **99k:65006**) 65Y25 (65D17)

Chen, Fang (*with* Suter, David) Fast evaluation of vector splines in three dimensions. (English summary) *Computing* **61** (1998), *no.* 3, 189–213. (Summary) **99k:65016** 65D07 (65Y25, 68Q25)

Chen, Fang Qi Existence theorems of solutions for nonlinear impulsive Volterra integral equations in Banach spaces. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 3, 377. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 3, 299–306. (Juan J. Nieto) **99d:45007** 45G10 (34A37, 45N05)

— Existence of solutions for Volterra integral equations in Banach spaces and monotone iterative techniques. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 393–399. (Summary) **99m:45008** 45G10 (45N05)

— (*with* Sun, Jing Xian) Fixed points of monotone m-weakly condensing operators. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 2, 128–132. (Yuan Guo Zhu) **99k:47138** 47H10 (47H09)

Chen, Fangruo Stationary policies in multiechelon inventory systems with deterministic demand and backlogging. (English summary) *Oper. Res.* **46** (1998), *no.* 3, *suppl.*, *S26–S34*. 90B05

— (*with* Zheng, Yu-Sheng) Near-optimal echelon-stock (R, nQ) policies in multistage serial systems. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 592–602. 90B05

Chen, Fangyue Expression of the Feigenbaum function. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 320–323, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 39B22 (58F08)

Chen, Feng (*with* Xu, Tiefeng; Li, Wen Zhu) On the bosonization of interacting fermions in high dimensions. (English summary) *Phys. Lett. A* **232** (1997), *no.* 5, 373–376. (From the text) **99c:82068** 82D15 (81V70)

Chen, Fengxin (*with* Bates, Peter W.; Wang, Jun Ping[2]) Global existence and uniqueness of solutions to a nonlocal phase-field system. *Differential equations and applications* (*Hangzhou*, 1996), 14–21, *Internat. Press, Cambridge, MA*, 199?. (Jing Xue Yin) **99c:35245** 35Q99 (35K99, 82B26)

— (*with* Wang, Ping[4]; Qu, Chao Chun) On the differential system governing flows in magnetic field with data in L^p. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 299–305. (Paolo Secchi) **99b:35174** 35Q35 (35K55, 76W05)

Chen, Fu Bing Asymptotic normality of G-M estimates of the AR parameters of an ARMA sequence. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 5, 155–157. 62M10

Chen, Fu-Chuang (*with* Hsieh, Chien-Shu) Optimal solution of the two-stage Kalman estimator. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 194–199. (Summary) **99j:93102** 93E11 (93E10)

Chen, Fu Liang Isometric surfaces in E^5. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 289–292. (Y. L. Xin) **99m:53012** 53A07

Chen, Fu-Loong (*with* Chang, Gerard J.; Huang, Lingling; Hwang, Frank K.; Nuan, Su-Tzu; Rothblum, Uriel G.; Sun, I-Fan; Wang, Jan-Wen; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)

Chen, Fu-Wei (*with* Liao, Teh-Lu) Control of Chua's circuit with a cubic nonlinearity via nonlinear linearization technique. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 719–731. (Summary) **99h:94080** 94C05

Chen, Fujie (*with* Jin, Guohua; Li, Zhiyuan) An efficient solution to the cache thrashing problem caused by true data sharing. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 5, 527–543. (Summary) **99c:68055** 68N25 (68M07, 68N20)

Chen, G. *see* **Chen, Guanrong**

Chen, G. Y. *see* **Chen, Guang Ya**

Chen, Gan (*with* Sugie, Toshiharu) Stability analysis via structured singular value μ—real μ analysis. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 10, 521–528. 93D05 (93–02, 93D09)

— (*with* Sugie, Toshiharu) μ-analysis and synthesis based on parameter dependent multipliers. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 365–379, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93B50)

Chen, Gang *see* **Chen, Gang[4]**

Chen, Gang[1] Subtyping calculus of construction (extended abstract). (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 189–198, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68N15 (03B40)

Chen, Gang[3] (*with* Xi, Li Qun) Substitution sequences, the strongly nil property and chaos. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 179–182. 16Y99 (58F13)

— (*with* Feng, Zhi Gang) Nonorthogonal wavelet packets of multiplicity r. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 277–283. (Ding-Xuan Zhou) **99m:42048** 42C15 (41A25)

Chen, Gang[4] (*with* Chen, Guanrong; de Figueiredo, Rui J. P.) Feedback control of unknown chaotic dynamical systems based on time-series data. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 5, 640–644. 93B52 (93C30)

Chen, Ge (*with* Gu, Guo Qing; Che, Hong An) A matrix representation and entropy formula for additive cellular automata. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **16** (1996), *no.* 4, 409–414. (Summary) **99d:68169** 68Q80

Chen, Gemai The run length distributions of the R, s and s^2 control charts when σ is estimated. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 311–322. 62N10 (62E17)

Chen, Gen-Huey (*with* Chang, Maw-Shang; Hsieh, Sun-Yuan) Dynamic programming on distance-hereditary graphs. (English summary) *Algorithms and computation* (*Singapore*, 1997), 344–353, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:05107** 05C85 (68Q20)

— (*with* Hsieh, Sun-Yuan; Ho, Chin-Wen; Hsu, Tsan-sheng; Ko, Ming-Tat) A new simple parallel tree contraction scheme and its application on distance-hereditary graphs. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 298–309, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (65Y10)

— (*with* Su, Ming-Yang; Duh, Dyi-Rong) Topological properties of incomplete WK-recursive networks. (English summary) *Networks* **32** (1998), *no.* 1, 23–45. (Summary) **99d:68024** 68M10 (05C45, 05C85)

— (*with* Yu, Chang-Wu; Ma, Tze-Heng) On the complexity of the k-chain subgraph cover problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 85–98. (Summary) **99g:68101** 68Q25 (05C85, 68Q22, 68R10)

— (*with* Chen, Wei-Mei; Hwang, Hsien-Kuei) The cost distribution of queue-mergesort, optimal mergesorts, and power-of-2 rules. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 423–448. (Ranjan Chaudhuri) **99k:68035** 68P10 (68Q25)

Chen, Go-Jien (*with* Guo, Jong-Shenq) Critical length for a quenching problem with nonlocal singularity. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 185–194. (Georgy A. Sviridyuk) **99i:35073** 35K60 (34B15)

Chen, Gong-Ning (*with* Hu, Yong-Jian) The truncated Hamburger matrix moment problems in the nondegenerate and degenerate cases, and matrix continued fractions. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 199–236. (Boris Petrovich Osilenker) **99j:44015** 44A60 (47A57, 65D99)

— (*with* Hu, Yong-Jian) Inversion of a generalized block Loewner matrix, the minimal partial realization, and matrix rational interpolation problem. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 223–259. (Xiao Yun Lu) **99k:93034** 93B15 (15A09, 65F05)

— (*with* Li, Xiao-Qing[2]) The Nevanlinna-Pick interpolation problems and power moment problems for matrix-valued functions. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 123–148. (Daniel Alpay) **99m:47016** 47A57 (30E05, 44A60)

Chen, Goong (*with* Hsu, Sze-Bi; Zhou, Jianxin) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. II. Energy injection, period doubling and homoclinic orbits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 423–445. (Summary) **99i:35084** 35L05 (34C37, 35L70, 58F39, 73D35, 93C20)

— (*with* Hsu, Sze-Bi; Zhou, Jianxin) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. III. Natural hysteresis memory effects. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 447–470. (Summary) **99i:35085** 35L05 (34C37, 35L70, 58F39, 73D35, 93C20)

— (*with* Hsu, Sze-Bi; Zhou, Jianxin) Snapback repellers as a cause of chaotic vibration of the wave equation with a van der Pol boundary condition and energy injection at the middle of the span. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6459–6489. (Summary) **99i:58103** 58F13 (34C37, 35L70, 73D35)

— (*with* Coleman, M. P.; Ding, Zhong Hai) Some corner effects on the loss of selfadjointness and the non-excitation of vibration for thin plates and shells. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 213–239. (Serge Nicaise) **99d:73058** 73K12 (35Q72, 47N20, 73D30, 73K10)

— (*with* Hsu, Sze-Bi; Zhou, Jianxin) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. I. Controlled hysteresis. (English summary) Appendix C by Guanrong Chen and Giovanni Crosta. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4265–4311. (Jürgen Scheurle) **99a:35155** 35L05 (34C99, 58F39, 73D25, 93C20)

Chen, Gouzhen (*with* Kang, Tai) Modifications of Bellman-Giertz's theorem. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 349–353. (Claudi Alsina) **99j:03048** 03E72 (39B72)

Chen, Gu Ding (*with* Lin, Liang Yu; Qiu, Chun Hui) A class of higher-order singular integral equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 33–36. (Summary) **99k:45007** 45E05

— (*with* Li, Kai-tai) Fictitious domain methods for Navier-Stokes equations based on penalty factor ϵ. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 221–236. 65N30 (76D05, 76M25)

— (*with* Huang, Ai Xiang) Post-Galerkin methods based on the approximate inertial manifold. (Chinese. Chinese summary) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 8, 104–105. 65M70

Chen, Guang Hua (*with* Sun, Guo Han; Zhao, Pei Biao) Totally umbilical submanifolds. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **12** (1997), *no.* 4, 345–348. (Chuan Yu Ma) **99e:53082** 53C40

— (*with* Sun, Guo Han; Zhao, Pei Biao) Completely quasiumbilical submanifolds and completely umbilical submanifolds coincide. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 185–186. 53B25

Chen, Guang Rong (*with* Zhao, Tian Yu) Jackson's theorem and related problems in some function spaces. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **17** (1997), *no.* 4, 14–18. (Jian Zhong Wang) **99a:41005** 41A10 (41A65)

— (*with* Sheng, Baohuai) Approximation of modified Lagrange interpolation in Orlicz spaces. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 1, 29–35. (Summary) **99h:42016** 42A65 (41A10, 41A65)

— (*with* Li, Hong Tao; Sheng, Baohuai) Approximation of modified Hermite-Fejér interpolation in Orlicz spaces. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 1–5. (Yong Ping Liu) **99k:41036** 41A35 (41A10, 41A25, 46E30)

— (*with* Liu, Ji Shan) A saturation theorem for generalized Kantorovich polynomials in $L_p[0,1]$ $(1 \le p)$. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 14–20, 45. 41A10 (41A35)

Chen, Guang Shu Properties of the dispersive ordering of distribution functions. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **13** (1996), *no.* 6, 21–25. 60E05

Chen, Guang Ya (*with* Lee, Gue Myung; Kim, Do Sang; Lee, Byung Soo) Generalized vector variational inequality and its duality for set-valued maps. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 21–26. (Summary) **99c:47112** 47H19 (49J40)

— (*with* Rong, Wei Dong) Characterizations of the Benson proper efficiency for nonconvex vector optimization. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 365–384. (Phan Quốc Khánh) **99f:90106** 90C29 (90C26)

— (*with* Huang, Xue Xiang) Stability results for Ekeland's ε variational principle for vector valued functions. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 97–103. (Christiane Tammer) **99h:49017** 49J45 (49J52, 90C29, 90C31)

— (*with* Jahn, Johannes) Optimality conditions for set-valued optimization problems. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 187–200. (Zeng Kun Xu) **99k:49033** 49J52 (90C29, 90C48)

— (*with* Huang, Xue Xiang) A unified approach to the existing three types of variational principles for vector valued functions. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 3, 349–357. (Christiane Tammer) **99m:90122** 90C29 (49J27, 49J40, 90C26)

— (*with* Huang, Xue Xiang; Lee, Gue Myung) Equivalents of an approximate variational principle for vector-valued functions and applications. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 125–136. (Christiane Tammer) **99m:49038** 49K27 (47H19, 49J40, 90C29, 90C48)

— *see also* **Set-valued optimization, 99g:90010**

Chen, Guanghui (*with* Tian, Songlin; So, Shing-Seung) Concerning circles in taxicab geometry. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 5, 727–733. (David C. Kay) **99c:51023** 51K99

Chen, Guangxi (*with* Cao, Zhi-Hao; Hou, Xiaodong) A convergent restarted GMRES algorithm. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 645–651. 65F10

Chen, Guanrong (*with* Desages, Alfredo; Julián, Pedro) Trajectory tracking and robust stability for a class of time-delayed flexible-joint robotic manipulators. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 259–276. 93C85 (70B15, 70Q05, 93D09)

— (*with* Dong, Xiaoning) ★ From chaos to order. (English summary) Methodologies, perspectives and applications. With a foreword by Alistair Mees. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 24. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii*+753 *pp. ISBN* 981-02-2569-5 (S. Rajasekar) **99i:93003** 93–02 (58F13, 58F40, 93C10, 93D15)

— (*with* Shieh, Leang-San; Wang, Wei Min[2]) Discretization of cascaded continuous-time controllers and uncertain systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 5, 591–611. (Summary) **99f:93095** 93C57 (93A20)

— (*with* Han, Zhengzhi) Robust right coprime factorization and robust stabilization of nonlinear feedback control systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1505–1510. (Summary) **99e:93072** 93D21 (93B15, 93D15)

— (*with* Berns, Daniel W.; Moiola, Jorge L.) Predicting period-doubling bifurcations and multiple oscillations in nonlinear time-delayed feedback systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 759–763. (Summary) **99c:94065** 94C05

— (*with* Lai, Dejian) Feedback anticontrol of discrete chaos. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1585–1590. 93B52 (58F13, 93B10)

— (*with* Streuding, G. C.) Stability analysis of controlled multiple-link robotic manipulator systems with time delays. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 1, 53–74. (Edward Jezierski) **99a:93075** 93D05 (34K35, 70B15, 93C85)

— (*with* Chen, Gang[4]; de Figueiredo, Rui J. P.) Feedback control of unknown chaotic dynamical systems based on time-series data. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 5, 640–644. 93B52 (93C30)

— (*with* Yu, Xing-Huo) On time-delayed feedback control of chaotic systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 6, 767–772. 93B52 (93D15)

— (*with* Lu, Jialiang; Nicholas, Brent; Ranganathan, Swatiprakash M.) Bifurcation dynamics in discrete-time delayed-feedback control systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **9** (1999), *no.* 1, 287–293. 93C10 (58F14)

— *see also* **Chen, Goong et al., 99a:35155**

Chen, Guantao (*with* Jacobson, Michael S.) Degree sum conditions for Hamiltonicity on k-partite graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 325–343. (Ralph Faudree) **99a:05090** 05C45

— (*with* Faudree, Ralph J.; Shreve, Warren E.) Note on Whitney's theorem for k-connected graphs. (English summary) *Ars Combin.* **49** (1998), 33–40. (Summary) **99c:05117** 05C40

— (*with* Erdős, Paul[1]; Shreve, Warren E.) Ramsey numbers for irregular graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 139–145. (*see* **99i:00025**) 05C55

— (*with* Gyárfás, András; Schelp, Richard H.) Vertex colorings with a distance restriction. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 65–82. (Mirko Horňák) **99j:05067** 05C15

— (*with* Faudree, Ralph J.; Gould, Ronald J.) Intersections of longest cycles in k-connected graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 143–149. (Andreas Huck) **99a:05083** 05C38 (05C40)

— (*with* Lu, Xiao Yun[1]; West, Douglas B.) Star-factors of tournaments. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 141–145. (Sheshayya A. Choudum) **99e:05060** 05C20 (05C70)

— (*with* Gould, Ronald J.; Jacobson, Michael S.) On 2-factors containing 1-factors in bipartite graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 185–194. (Summary) **99i:05161** 05C70

Chen, Gui-Qiang (*with* Dafermos, Constantine M.) Global solutions in L^∞ for a system of conservation laws of viscoelastic materials with memory. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 369–383. (Pavel Dubovskiĭ) **99b:35131** 35L65 (35Q72, 73F15)

— (*with* Wang, Dehua) Formation of singularities in compressible Euler-Poisson fluids with heat diffusion and damping relaxation. (English summary) *J. Differential Equations* **144** (1998), *no.* 1, 44–65. (Denis Serre) **99b:35178** 35Q35 (35L67, 76N10)

— (*with* Wang, Dehua) Shock capturing approximations to the compressible Euler equations with geometric structure and related equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 341–362. (V. D. Sharma) **99e:35141** 35L67 (65M99, 76L05, 76M25, 76N15)

— (*with* Frid, Hermano) Large-time behavior of entropy solutions of conservation laws. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 308–357. (Yu. G. Rykov) **99m:35150** 35L65 (35B35)

— *see also* **Advances in nonlinear partial differential equations and related areas, 99m:35002**

Chen, Guiyun (*with* Chigira, Naoki; Yamaki, Hiroyoshi) Finite groups with metacyclic automorphism groups. *Northeast. Math. J.* **14** (1998), *no.* 1, 5–8. (Richard Davitt) **99e:20030** 20D45

Chen, Guo Liang *see* **Chen, Guo Liang[2]**

Chen, Guo Liang[1] (*with* Wei, Yi Min) Perturbation analysis for the projection of a point onto an affine set in a Hilbert space. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 405–410. 49K40 (47A05)

— (*with* Xue, Yifeng) The expression of the generalized inverse of the perturbed operator under Type I perturbation in Hilbert spaces. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 1–6. (Zbigniew Binderman) **99k:47002** 47A05 (47A55, 65J10)

Chen, Guo Liang[2] (*with* Lin, Hong; Wang, Min) Program transformation from Unity to Gamma based on temporal semantics. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 511–533. (Summary) **99b:68027** 68N15 (68Q55)

— (*with* Yang, Bo[3]; Chen, Hu) A parallel algorithm for converting pixel arrays to S-trees and its implementation. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 611–618. 68U10

— (*with* Gui, Xiao Sheng; Yang, Bo[3]) A truncation method for the Walsh transformation and its parallel implementation. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 270–276. 65T20 (65D15)

— (*with* Lin, Hong) Program construction by verifying specification. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 597–607. (*see* **99i:68004**) 68Q60 (68Q10)

Chen, Guo Ling (*with* Long, Yi Ming) Periodic solutions of second-order nonlinear Hamiltonian systems with superquadratic potentials having mean value zero. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 525–532. (Shi Qing Zhang) **99k:58154** 58F22 (34C25, 58E05)

Chen, Guo Ping A new homotopy interior point algorithm for nonlinear programming. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 65–70. (Roxin Zhang) **99j:90080** 90C30 (65K05)

Chen, Guo Qing (*with* Tang, Huan Wen) The maximum entropy method and exponential penalty functions. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 297–300. 90C30 (65K05)

Chen, Guo Wei[1] The E_1^1 type of cubic systems with two integral straight lines. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 11–21. (A. P. Sadovskiĭ) **99g:34062** 34C05

Chen, Guoliang *see* **Chen, Guo Liang[1]**

Chen, Guolong Saturated models. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 562–564. 03C50

Chen, Guoting Forme normale d'Arnold et réduction formelle des systèmes d'équations linéaires aux différences. (English summary) [Arnol'd normal form and formal reduction of systems of linear difference equations] *Aequationes Math.* **54** (1997), *no.* 3, 264–288. (V. A. Golubeva) **99g:39002** 39A10

— (*with* Fahim, Abdelmajid) Formal reduction of linear difference systems. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 37–54. (P. W. Eloe) **99d:39004** 39A10 (12H10, 39A12)

Chen, Guowang Cauchy problem for multidimensional coupled system of nonlinear Schrödinger equation and generalized IMBq equation. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 15–38. (Summary) **99a:35232** 35Q55 (35K55, 35L35)

Chen, Guowei *see* **Chen, Guo Wei[1]**

Chen, H. *see* **Chen, Hui[4]**

Chen, H.-H. *see* **Chen, Heng-Hui**

Chen, H.-N. *see* **Chen, Hsiu-Niang**

Chen, Hai Rong (*with* Tang, Xiao Wo) Equilibrium solution and dynamic analysis of the general Cournot model. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 6, 649–655. 90A14

Chen, Haibo (*with* Luo, Jiao Wan; He, Zhenting) Oscillation criteria for second order neutral difference equations. (English summary) *Ann. Differential Equations* **14** (1998),

no. 2, 262–266. (Summary) **99i:39010** 39A10

Chen, Han Bing (*with* Sun, Shi Jie) The scheduling problem in manufacturing components at a single facility. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 2, 133–141. 90B35

— (*with* Sun, Shi Jie) Weighted scheduling problems in producing products with several components. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 6, 618–624. 90B35 (90C90)

Chen, Han-Fu (*with* Cao, Xi-Ren) Perturbation realization, potentials, and sensitivity analysis of Markov processes. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 10, 1382–1393. (Summary) **99h:60143** 60J27 (60J45, 90C40, 93E10)

— (*with* Bagchi, Arunabha) Optimal adaptive control for a class of stochastic systems. (English summary) *Sādhanā* **22** (1997), *no.* 4, 485–498. (Jan H. van Schuppen) **99d:93074** 93E35 (93E12)

— (*with* Zhang, Junhua) Convergence of algorithms used for principal component analysis. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 597–604. (P. Neumann) **99e:62143** 62L20 (62H25, 65U05)

— (*with* Wang, Guan Jun) Global stochastic optimization problems under correlated measurement noise. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 50–56. (Jin Yun Yuan) **99f:65096** 65K05 (65C05)

— Stochastic approximation with non-additive measurement noise. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 407–417. (Michel Benaïm) **99m:62124** 62L20

— (*with* Wang, Qian) Continuous-time Kiefer-Wolfowitz algorithm with randomized differences. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 327–341. (Kurt Marti) **99i:62187** 62L20 (65U05, 90C15)

— (*with* Tang, Qian-Yu) Convergence rate of ordinal optimization for stochastic discrete event systems. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 23–43. 93E20 (93C83)

— (*with* Wang, Guan Jun) Behavior of stochastic approximation algorithm in root set of regression function. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 92–96. (Summary) **99m:62126** 62L20 (90C15, 93E20)

Chen, Han Lin (*with* Dai, Zheng De) Exponential attractors of coupled nonlinear wave equations. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 269–277. 35L70 (35B40, 47H20, 58F39)

Chen, Han Wu (*with* Yanagi, Kenjiro) Some results on the cover conjecture. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 111–117. (*see* **99i:00029**) 94A40

— (*with* Yanagi, Kenjiro) Refinements of the half-bit and factor-of-two bounds for capacity in Gaussian channel with feedback. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 319–325. 94A40

Chen, Handa (*with* Maeda, Hajime) Parseval-like identity of wavelet transform and its applications to noise reduction. (English summary) *Trans. Inst. Systems Control Inform. Engrs.* **10** (1997), *no.* 12, 656–667. (Summary) **99e:94007** 94A12 (94A11)

Chen, Hanfeng Asymptotic analysis of a class of process capability indices. (English summary) *Statistics* **30** (1997), *no.* 2, 149–162. (Summary) **99a:62141** 62N10 (62E20)

Chen, Hanlin (*with* Xiao, Shaoliang) Periodic cardinal interpolatory wavelets. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 133–142. (Summary) **99i:42044** 42C15 (41A15)

Chen, Hanxiang A pair of adjoint classes of Riemann-Stieltjes integrable functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 235–240. (Summary) **99a:26008** 26A42

Chen, Hao *see* **Chen, Hao[4]**

Chen, Hao[1] Deformation of isolated hypersurface singularities and their moduli algebras. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 357–362. (Jan Stevens) **99e:32061** 32S30 (32S15)

— (*with* Ishii, Shihoko) On $-K^2$ for normal surface singularities. (English summary) *Internat. J. Math.* **9** (1998), *no.* 6, 653–668. (Takao Fujita) **99f:14039** 14J17 (14B05)

Chen, Hao[3] (*with* Chen, Yuan[2]; He, Bao Peng) An improved soliton solution in a one-dimensional ferromagnetic chain. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 1–4. (Summary) **99a:82014** 82B20

Chen, Hao[4] (*with* Liu, Chun Rong) A formation rule for magic cubes. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 3, 273–277. 05B15

Chen, Hao Xun (*with* Wang, Zhao Hui; Gan, Wen Quan; Hu, Bao Sheng) Short-term scheduling of multipurpose batch processes with a rolling time horizon scheme. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 569–574. 90B35

— Net structure and control logic synthesis of controlled Petri nets. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1446–1450. (Summary) **99g:93054** 93C83 (68Q90)

Chen, Hegang Some projective properties of fractional factorial designs. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 185–188. (Summary) **99f:62094** 62K15

Chen, Heli (*with* Leung, Ki; Shizgal, Bernie D.) The quadrature discretization method (QDM) in comparison with other numerical methods of solution of the Fokker-Planck equation for electron thermalization. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 291–319. 65M06

— (*with* Shizgal, Bernie D.) The quadrature discretization method (QDM) in the solution of the Schrödinger equation. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 321–343. 65M06

Chen, Heng-Hui (*with* Ge, Zheng Ming; Lee, C.-I.; Lee, Sann-Chie) Non-linear dynamics and chaos control of a damped satellite with partially-filled liquid. (English summary) *J. Sound Vibration* **217** (1998), *no.* 5, 807–825. (Summary) **99i:70010** 70E15 (70K20, 70K50, 70M20, 70Q05)

Chen, Hon Chan (*with* Wang, Yue-Li; Lan, Yu-Feng) A memory-efficient and fast Huffman decoding algorithm. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 119–122. (Summary) **99k:68033** 68P05

Chen, Hong *see* **Chen, Hong[4]**

Chen, Hong[1] (*with* Shan, Qi Qian) A simple method for calculating numerical characteristics of some important statistics. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **12** (1999), *no.* 1, 15–17. 65U05 (62E99)

Chen, Hong[3] (*with* Zhang, Hanqin) Diffusion approximations for Kumar-Seidman network under a priority service discipline. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 171–181. (Maretsugu Yamasaki) **99m:90074** 90B22 (60K25)

— (*with* Liu, John J.) Optimal pacing in an assembly-based multi-stage production system. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 87–101. (*see* **99m:90004**) 90B30 (90A30)

— Basic adjoint relation for transient and stationary analysis of some Markov processes. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 273–303. (*see* **99m:90004**) 90B22 (90C40)

Chen, Hong[4] On the asymptotic order of Tikhonov regularization with operators and data error. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 35–44. (Julio Guacaneme Dix) **99d:65189** 65J20 (47A50)

Chen, Hong-Chung *see* **Chen, Hon Chan**

Chen, Hong Ji Novikov-Poisson algebras and their tensor products. (Chinese. Chinese summary) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 269–272. (Summary) **99g:17004** 17A30

Chen, Hong Qing Oscillations of the neutral equation $(d/dt)[x(t) + px(t-\tau) - rx(t-\rho)] + qx(t-s) - hx(t-v) = 0$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 637–646. 34K40 (34K15)

— Oscillation of solutions to a class of neutral differential equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 87–93. (Bao Tong Cui) **99h:34100** 34K15 (34K40)

— Necessary and sufficient conditions for oscillation of first-order neutral differential equations with several retarded arguments. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 176–180. (Yi Zhong Lin) **99h:34101** 34K15 (34K40)

Chen, Hongqiu (*with* Bona, Jerry L.) Existence and asymptotic properties of solitary-wave solutions of Benjamin-type equations. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 51–84. (J. Thomas Beale) **99c:76015** 76B25 (35Q35, 76B45, 76C10)

Chen, Hongsen (*with* Ewing, Richard E.; Lazarov, Raïcho D.) Superconvergence of mixed finite element methods for parabolic problems with nonsmooth initial data. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 495–521. (Mark Ainsworth) **99c:65180** 65M60

Chen, Hongwei The dynamics of a nuclear reactor model. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3409–3416. (Chunqing Lu) **99a:35128** 35K57 (82D75)

Chen, Horng-Yang (*with* Wallner, Johannes; Pottmann, Helmut) Galilei Laguerre geometry and rational circular offset surfaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 291–305. (Hans Sachs) **99g:53016** 53A40 (51N25)

Chen, Hsiao-Feng Steven (*with* Lee, Der Tsai) A faster one-dimensional topological compaction algorithm. (English summary) *Algorithms and computation (Singapore, 1997)*, 303–313, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q35

Chen, Hsin (*with* Nester, James M.; Yo, Hwei-Jang) Acausal PGT modes and the nonlinear constraint effect. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 961–970. (Summary) **99k:83105** 83D05 (83C99)

Chen, Hsin-Chu Generalized reflexive matrices: special properties and applications. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 140–153 (*electronic*). (Gong Ning Chen) **99b:15031** 15A57

Chen, Hsiu-Niang (*with* Chung, Kuo Liang) Parallel finding all initial palindromes and periods of a string on reconfigurable meshes. (English summary) *Computing* **61** (1998), *no.* 1, 11–21. (Summary) **99c:68108** 68Q22 (68Q35)

Chen, Hu (*with* Yang, Bo[3]; Chen, Guo Liang[2]) A parallel algorithm for converting pixel arrays to S-trees and its implementation. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 611–618. 68U10

Chen, Hua[1] (*with* Sleeman, B. D.) On a pair of non-isometric isospectral domains with fractal boundaries and the Weyl-Berry conjecture. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 9–20. (Robert Brooks) **99e:58198** 58G25 (35J99, 35P05, 58G99)

Chen, Hua Fu (*with* He, Guang Zong) A general gradient projection method with arbitrary initial point for optimization problems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 3, 330–334. 90C30 (65K05)

— A perturbed gradient projection method with an arbitrary initial point. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 645–649. (Fuan Zhao) **99f:90117** 90C30

Chen, Huaihui (*with* Lappan, Peter) Products of spherical derivatives and normal functions. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 231–246. (L. R. Sons) **99g:30047** 30D45

Chen, Huaijun Rational function composed with an entire function. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 56–60. (Summary) **99f:30042** 30D05

Chen, Huaitang (*with* Ma, Kejie) On the ascending subgraph decompositions of regular graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 239–240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 165–170. (Hung-Lin Fu) **99e:05094** 05C70

Chen, Huan Yin (*with* Tong, Wen Ting) Power problems over regular rings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 815–822. (Weimin Xue) **99c:16010** 16E50

— On related unit-regular elements. (English summary) *Algebra Colloq.* **4** (1997), *no.* 3, 323–328. 16E50

— (*with* Hao, Zhi Feng) Local characterizations of projective modules. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 522–526. 13C10

— Polynomial rings over non-Noetherian power series rings. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 181–185. (N. Mohan Kumar) **99b:13013** 13C10 (13F20, 13F25)

— Exchange rings, related comparability and power-substitution. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3383–3401. (Pere Ara) **99f:16005** 16D70 (16E20,

16E50)
— Rings with stable range conditions. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3653–3668. (K. R. Goodearl) **99m:16005** 16D70 (16U60, 19B10, 20G35)
— The Morita invariance of cu-conditions. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 553–556. (Weimin Xue) **99m:16051** 16U99
— On one-sided exchange rings. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 145–148, 155. (Sompong Dhompongsa) **99h:16003** 16D70 (16D50)
— LUV rings and modules over their group rings. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 18–22. (Ming-chang Kang) **99m:13015** 13B25 (13D15, 13F15)
Chen, Huan Zhen Mixed finite element method for the convection-dominated diffusion problems with small parameter ϵ. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 199–206. (Summary) **99d:65312** 65N30 (76M10)
— Combining a mixed finite element method with a streamline diffusion method for problems of incompressible miscible displacement in porous media. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 87–95. (Summary) **99h:76056** 76M10 (35Q35, 65M70, 76S05)
— (*with* Jiang, Ziwen) On the application of mixed finite element method for a strongly nonlinear second-order hyperbolic equation. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 23–39. (Ji Chun Li) **99c:65166** 65M12 (65M15)
— (*with* Li, Qian[1]) Postprocessing for finite element solutions to equations of Sobolev type. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 193–200. 65N30 (65F30)
Chen, Hubert J. (*with* Wu, Shu-Fei) Multiple comparisons with the average for normal distributions. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 193–218. (*see* **99f:62009**) 62J15
Chen, Huey-Kuo (*with* Hsu, Wen-Ko; Chiang, Wei-Ling) A comparison of vertex method with JHE method. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 201–214. (Jonathan Lawry) **99j:04002** 04A72 (03E72)
Chen, Huey-Ling (*with* King, Chung-Ta) Dynamic processor allocation in scalable multiprocessors using Boolean algebra. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 333–358. 68M20
Chen, Hui *see* **Chen, Hui[2]**
Chen, Hui[1] (*with* Jing, Feng Jie) The decomposition of a class of partially ordered abundant semigroups. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 11–14. (Summary) **99m:06027** 06F05 (20M17)
Chen, Hui[2] (*with* Huang, Lin[1]) H_∞-norm perturbation margins of robust input-output stability for Lur'e systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 454–462. 93D09 (93B36)
Chen, Hui[3] (*with* Zhang, Cai Ming) A way of using boundary curves to construct C^1 Coons surfaces and determine the twist. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 79–85. (*see* **99k:65006**) 65D17 (65Y25)
Chen, Hui[4] (*with* Frieze, Alan M.) Analysis of parallel algorithms for finding a maximal independent set in a random hypergraph. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 4, 359–377. (Lyuben R. Mutafchiev) **99a:05130** 05C80 (05C65)
Chen, Hui Bo (*with* Yan, Zhi Bin) A mathematical model for parallel communication networks. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 54–56. 90B12
Chen, Hui Xiang Skew pairing, cocycle deformations and double crossproducts. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1065–1068. 16W30 (18D10)
— Hopf Galois extensions of division rings and Hopf modules. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 325–332. (George Szeto) **99h:16055** 16W30
— Cleft extensions for a Hopf algebra $k_q[X, X^{-1}, Y]$. *Glasgow Math. J.* **40** (1998), *no.* 2, 147–160. (Nicolás Andruskiewitsch) **99e:16047** 16W30
— Smashed extensions for Hopf algebra $SL_q(2)$. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 673–681. 16W20 (16S40)
— Braiding structures of double crossproducts. *Tsukuba J. Math.* **22** (1998), *no.* 3, 589–609. (Mitsuhiro Takeuchi) **99m:16057** 16W30 (16S40)
Chen, Huixin (*with* Zinober, Alan S. I.; Ruan, Rongyao) Strong consistency and convergence rate of parameter identification for bilinear systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 907–919. 93B30 (93B40)
Chen, Huo Wang (*with* Su, Kai-Le; Ding, Decheng) A three-valued quantificational logic of context. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 343–352, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (N. C. A. da Costa) **99j:03015** 03B45 (03B50, 03B70)
— (*with* Wang, Kewen) Abduction, argumentation and bi-disjunctive logic programs. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 139–163, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68017** 68N17
— (*with* Liu, Hai Yan; Su, Kai-Le) A second-order quantificational logic of context. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 341–347. (Summary) **99g:68194** 68T27 (03B15, 03B70)
— (*with* Wang, Kewen; Wu, Quanyuan) The least fixpoint transformation for disjunctive logic programs. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 193–201. (Summary) **99b:68038** 68N17
— (*with* Luo, Tiegeng; Wang, Bingshan; Wang, Ji; Gong, Zhenghu; Qi, Zhichang) Verifying automata specification of distributed probabilistic real-time systems. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 588–596. (Summary) **99m:68123** 68Q60
— (*with* Wang, Kewen; Wu, Quanyuan) Credulous argumentation with the disjunctive stable semantics. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 3, 330–336. (Summary) **99d:68047** 68N17 (03B70, 68Q55)
— (*with* Wang, Bingshan; Li, Zhoujun) Universal abstract consistency class and universal refutation. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 165–172. (Summary) **99k:68176** 68T15 (03B35)
Chen, Imin The Jacobians of non-split Cartan modular curves. *Proc. London Math. Soc. (3)* **77** (1998), *no.* 1, 1–38. (Antoine Chambert-Loir) **99m:11068** 11G18 (11F72)
Chen, J. *see* **Chen, Jiun-Shiyan**
Chen, J. C. (*with* Lee, Hoong Chien; Lou, S. L.; Lin, Friday; Lin, Chung-Yi) Some results for the Ising model in d dimensions. *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 120–129, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 82B20
Chen, J. N. *see* **Chen, Jian Ning**
Chen, Jeesen A general lower bound of minimax risk for absolute-error loss. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 545–558. (N. Giri) **99d:62005** 62C20 (62G05, 62H12)
Chen, Jen-Yang An systematic design of SMC-based fuzzy controller for nonlinear systems. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 673–684. 93C42
— An approach to improve the performance of the ASFC-based fuzzy control system. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 685–699. 93C42
— A ASFC-based fuzzy controller design. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 701–711. 93C42
Chen, Jer-Jeong (*with* Chang, Gerard J.; Huang, Kuo-Ching) Integral distance graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 287–294. (Hansjoachim Walther) **99b:05047** 05C12
Chen, Ji Mei (*with* Chen, Qiang; Lo, Zhongwei) Uniform asymptotic stability theorems for functional-differential equations of neutral type. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 88–91. (Zhanyuan Hou) **99k:34167** 34K20 (34K40)
Chen, Ji Xiang A fibration of categories over $\mathscr{H}_B$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 553–562. (Summary) **99b:55036** 55U35 (18G99, 55P99)
— Some pairs of adjoint functors involving track homotopy categories. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 471–474. 55P99 (18A40, 55U35)
Chen, Ji Xiu (*with* Chen, Zhi Guo) A remark on: "An approximation condition and extremal quasiconformal extension" [Proc. Amer. Math. Soc. **125** (1997), no. 5, 1479–1481; MR 97g:30018] by E. Reich. *Chinese Sci. Bull.* **42** (1997), *no.* 21, 1765–1767. (Per Hag) **99h:30021** 30C62
— (*with* Chen, Zhi Guo; He, Cheng Qi) Functions with unbounded $\overline{\partial}$-derivative and their boundary functions. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 100–109. (Summary) **99c:30038** 30C62
— (*with* Chen, Zhi Guo; He, Cheng Qi) Teichmüller extremal mappings on hyperbolic domains. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 333–338. (Shan Shuang Yang) **99i:30033** 30C62
Chen, Jiahua (*with* Cheng, Ping[1]) On testing the number of components in finite mixture models with known relevant component distributions. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 389–400. (Stavros Kourouklis) **99c:62045** 62F05
— (*with* Lin, Dennis K. J.) On the identifiability of a supersaturated design. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 99–107. (Summary) **99i:62177** 62K99
— Intelligent search for 2^{13-6} and 2^{14-7} minimum aberration designs. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1265–1270. (Summary) **99m:62114** 62K15
Chen, Jian Bao (*with* Zhan, Jinlong) The inefficiency of least squares in Gauss-Markov and variance component models. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 113–120. (Summary) **99a:62098** 62J05
— (*with* Deng, Qi Rong) All admissible linear estimators of functions of the mean matrix in multivariate linear models. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 134–139. (Summary) **99g:62075** 62H12 (62C15)
— (*with* Deng, Qi Rong) All k-admissible estimators of regression coefficients in multivariate normal linear models with unknown error variance. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 385–392. (Summary) **99i:62127** 62H12 (62C15)
Chen, Jian Hua *see* **Chen, Jian Hua[2]**
Chen, Jian Hua[1] Totally umbilical hypersurfaces in a locally symmetric manifold. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 406–410. (Andrew Bucki) **99i:53055** 53C40 (53C35)
Chen, Jian Hua[2] (*with* Wei, Jun Chao) Liberal extensions and anti-simple primitive radicals. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 5–8. 16D80
— (*with* Wei, Jun Chao) Some results on Hopf-Jacobson radical for comodule algebras. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 125–128. (V. A. Artamonov) **99i:16074** 16W30
— Fully prime rings. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 2, 4–6. (Summary) **99e:16025** 16N60
— (*with* Wei, Jun Chao; Bei, Shukun) Graded singular properties of graded quotient rings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 131–134. (Andrei Kelarev) **99f:16046** 16W50 (16S90)
Chen, Jian Long (*with* Ding, Nan Qing) Relative covers and envelopes. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 609–616. (Shi Ping Liu) **99g:16003** 16D40 (16D50)
— (*with* Ding, Nan Qing) On a characterization of perfect rings. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 785–791. (Joseph Neggers) **99k:16038** 16L30 (16D40)
Chen, Jian Ning (*with* Lin, Sung P.) The mechanism of surface wave suppression in film flow down a vertical plane. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1787–1792. (Summary) **99d:76031** 76D99 (76E99)
Chen, Jian-Qin (*with* Xi, Yu Geng; Zhang, Zhong Jun) A clustering algorithm for fuzzy model identification. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 319–329. 93C41 (93B30)
Chen, Jian Ren A common point theorem and its application. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 13–15. 54H25
— (*with* Lu, Qing Hua) A coincidence theorem and its application. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 13–16. 54H25

Chen, Jian-Shiang (*with* Lu, Yu-Sheng) Design of a global sliding-mode controller for a motor drive with bounded control. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1001–1019. 93B12 (93C95)
Chen, Jianer (*with* Cai, Liming) On fixed-parameter tractability and approximability of NP optimization problems. (English summary) *J. Comput. System Sci.* **54** (1997), *no.* 3, 465–474. (Rodney G. Downey) **99b:68080** 68Q15 (68Q25)
— (*with* Lee, Chung-Yee) General multiprocessor task scheduling. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 57–74. (Stanislav Palúch) **99k:90086** 90B35 (90C27)
Chen, Jianhua (*with* Kundu, Sukhamay) Fuzzy logic or Łukasiewicz logic: a clarification. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 369–379. (Jonathan Lawry) **99g:03022** 03B52 (03B50, 04A72, 68T27)
Chen, Jianping (*with* Budd, C. J.; Galaktionov, V. A.) Focusing blow-up for quasilinear parabolic equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 965–992. (Ya Zhe Chen) **99h:35084** 35K55 (35B40, 35K65)
Chen, Jie *see* **Chen, Jie[3]**
Chen, Jie[1] (*with* Patton, Ron J.; Zhang, Hong-Yue) Design of unknown input observers and robust fault detection filters. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 85–105. 93E12 (93B50)
— *see also* **Kim, Dohyeon**
Chen, Jie[3] Testing for a change point in linear regression models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2481–2493. 62J05
Chen, Jie[4] Frequency-domain tests for validation of linear fractional uncertain models. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 748–760. (Summary) **99c:93030** 93B30 (93A30, 93C80)
— (*with* Qiu, Li) Time domain characterizations of performance limitations of feedback control. *Learning, control and hybrid systems* (*Bangalore*, 1998), 397–415, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93B52)
— (*with* Gu, Guoxiang; Lee, E. Bruce) Parametric $\mathscr{H}_\infty$ loopshaping and weighted mixed sensitivity minimization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 846–852. (Summary) **99m:93027** 93B36
— (*with* Bielecki, T. R.; Lin, En-Bing; Yau, Stephen Shing Toung) Wavelet representations of general signals. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 125–141. (Lars F. Villemoes) **99m:94005** 94A12 (42C15)
Chen, Jin Di (*with* Wang, Qing Lin; Zhou, Dong Hua) A new method of designing controllers for nonlinear excitations of large-scale electric generators. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol.* (*Chin. Ed.*) **17** (1997), *no.* 3, 292–295. (*see* **99a:93004**) 93B51
Chen, Jin Lin *see* **Chen, Jing Lin**
Chen, Jin-Quan (*with* Fan, Peng-Dong) Algebraic solutions for point groups: the tetrahedral group for the group chain $T \supset C_3$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 467–488. (A. J. Coleman) **99a:81053** 81R05 (20C35, 81V55)
Chen, Jin-ru (*with* Li, Li Kang) Preconditioning projection nonconforming element method for the lowest-order Raviart-Thomas mixed triangular element method. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 31–49. (Hans-Peter Helfrich) **99j:65200** 65N30
— (*with* Hong, Li) The *h-p* version of the infinite element method and its application. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 125–132. 65N30 (73V05, 76M10)
Chen, Jin Yu Two remarks on a class of conjugate generalized Riemann boundary value problems. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 32–35. 30E25
Chen, Jin Zhi (*with* Yang, Cheng) Quasi-nilpotent groups. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 60–63. (Pin Chao Wang) **99f:20060** 20F19
— Conjugate-permutable subgroups. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 9–11. 20E07 (20D35)
Chen, Jindong (*with* Bajaj, Chanderjit L.; Holt, Robert J.; Netravali, Arun N.) Energy formulations of *A*-splines. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 1, 39–59. (Summary) **99f:65024** 65D17 (65D07)
Chen, Jing *see* **Chen, Jing[3]**
Chen, Jing[2] (*with* Shi, Xiao Ding; Gu, Yong Geng) Symmetry and monotonicity of positive solutions of systems of semilinear elliptic equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 1, 1–9. (Henghui Zou) **99e:35074** 35J65 (35B05)
Chen, Jing[3] (*with* Li, Zheng Feng; Deng, Nai Yang) A new conjugate gradient method and its global convergence properties. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 53–60. (Summary) **99a:90191** 90C30 (65K05)
Chen, Jing-Chao Quadripartite Sort. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 258–271. (Summary) **99c:68061** 68P10
Chen, Jing Lin (*with* Yang, Shi Yuan; Hu, Dong Cheng) A reliability approach to repairable k/n(G) systems with consideration of the failure detection rate. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 82–85. 90B25 (60K10)
— (*with* Hu, Dong Cheng) A reliability index system for repairable systems with unrecoverable failures. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 87–90. 90B25
Chen, Jing-Ling (*with* Liu, Yong[2]; Ge, Mo Lin) Application of nonlinear deformation algebra to a physical system with Pöschl-Teller potential. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6473–6481. (Summary) **99e:81066** 81R05 (81R30)
— (*with* Ge, Mo Lin; Xue, Kang) The monopole-hydrogen atom system and its connection with a four-dimensional harmonic oscillator. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 945–953. 81V45 (81Q05)
Chen, Jingyi (*with* Tian, Gang) Minimal surfaces in Riemannian 4-manifolds. *Geom. Funct. Anal.* **7** (1997), *no.* 5, 873–916. (From the introduction) **99m:53112** 53C42 (58E12)
— Structures of certain harmonic maps into Kähler manifolds. *Internat. J. Math.* **8** (1997), *no.* 5, 573–581. (Yuan-Jen Chiang) **99b:58059** 58E20 (53C55)
— (*with* Hsu, Elton P.) Gradient estimates for harmonic functions on manifolds with Lipschitz metrics. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1163–1175. (William P. Minicozzi, II) **99m:53065** 53C20 (58G30)
Chen, Jinwen Large deviations and ergodicity for spin particle systems. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 369–393. (Paolo Dai Pra) **99d:60108** 60K35 (60F10, 82C22)
Chen, Jipeng Existence of the uniformly ultimate bounded solutions and periodic solutions. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 103–109. (Summary) **99d:34068** 34C25 (34D40)
Chen, Jiuhua (*with* Han, Weimin; Huang, Hong-ci) On the Kačanov method for a quasi-Newtonian flow problem. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 961–970. (Marko A. Rojas-Medar) **99m:65118** 65J15 (65M60, 76A05, 76M30)
Chen, Jiun-Shiyan (*with* Li, Li Kang; Babuška, Ivo M.) The boundary layer for *p*-model plate problems. I. Asymptotic analysis. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 181–201. (From the summary) **99c:73043a** 73K10 (73V05)
— (*with* Li, Li Kang; Babuška, Ivo M.) The boundary layer for *p*-model plate problems. II. Boundary layer behavior. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 203–216. (Summary) **99c:73043b** 73K10 (73V05)
Chen, Ju Fang (*with* Tang, San Yi; Xiao, Yan Ni) Permanence and positive solution of nonautonomous Lotka-Volterra with diffusion cooperative system. (English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 2, 50–58. (Kaiqi Xiong) **99a:92025** 92D25 (34C25, 34D99)
— (*with* Tang, San Yi; Xiao, Yan Ni) Permanence of nonautonomous Kolmogorov systems with diffusion. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 3, 37–41. (Joseph So) **99e:92030** 92D25 (34D20, 34D40)
— (*with* Yang, Xia) Permanence and existence of positive periodic solution for diffusive Lotka-Volterra model. (English summary) *J. Biomath.* **12** (1997), *no.* 1, 8–14. (Summary) **99m:92044** 92D25 (34C25)
— Some stability theorems for difference equations with time delay. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 3, 261–266. (Summary) **99a:39007** 39A10 (93D05)
— (*with* Xiao, Yan Ni) Boundedness of solutions and existence and uniqueness of periodic solutions for a class of nonlinear difference systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 11–15. (Summary) **99i:39018** 39A10
— (*with* Tang, San Yi) Existence and uniqueness of periodic solutions for higher-order quasilinear discrete systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 16–19. (Summary) **99i:39030** 39A12
— (*with* Xiao, Yan Ni; Tang, San Yi) Permanence and periodic solution in competitive system with feedback controls. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 33–37. (Summary) **99c:92062** 92D40 (34C25, 34D05, 92D25)
— (*with* Tang, San Yi; Xiao, Yan Ni) Positive periodic solutions of competitive Kolmogorov diffusion systems with interference constants. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 39–47. (Summary) **99f:92026** 92D25 (34C99)
Chen, Jun Fei (*with* Wang, Jia Song) Solving overdetermined linear systems by wavelet transforms. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 257–265. 65F30 (41A15)
Chen, Junliang (*with* Liu, Yunlong) Garbage collection in uncoordinated checkpointing algorithms. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 3, 242–249. 68N25
Chen, Jyh-Jia (*with* Hwang, Chyi) Plotting robust root loci for linear systems with multilinearly parametric uncertainties. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 501–511. 93D09 (93B40)
Chen, K. *see* **Chen, Ke Jun**
Chen, K. J. *see* **Chen, Kuan-ju**
Chen, K.-W. (*with* Fung, R.-F.) Dynamic analysis and vibration control of a flexible slider-crank mechanism using PM synchronous servo motor drive. (English summary) *J. Sound Vibration* **214** (1998), *no.* 4, 605–637. 73K50 (93C95)
Chen, Kai-Hui (*with* Sun, Tien-Yu) On internal gravity waves. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 249–269. (Nikolay G. Kuznetsov) **99i:76034** 76C10 (35Q35)
Chen, Kang Ping (*with* Crighton, D. G.) Large-scale instability of a fine-grained turbulent jet. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 13–34. (Summary) **99k:76062** 76E99 (76D25, 76F99)
Chen, Ke *see* **Chen, Ke[2]**
Chen, Ke[1] Boundary element methods for the solution of general partial differential equations. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 169–176, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65M60 (65N30)
— (*with* Lai, Choi-Hong) Solutions of boundary element equations by a flexible elimination process. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 311–317, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65R20 (65F05, 65Y05)
— On a class of preconditioning methods for dense linear systems from boundary elements. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 684–698 (*electronic*). (S. Galanis) **99g:65058** 65F35
Chen, Ke[2] (*with* Zeng, Yong; Tang, Xiao Wo) A supplement to criterion for determining redundant methods of optimal combining forecasts. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 190–193. 62P20
Chen, Ke Jun (*with* Zhu, Lie[1]) Existence of $(q, 6, 1)$ difference families with q a prime power. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 167–173. (Charles J. Colbourn) **99j:05029** 05B10
— (*with* Zhu, Lie[1]) Existence of $(q, k, 1)$ difference families with q a prime power and $k = 4, 5$. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 21–30. (Marco Buratti) **99m:05018** 05B05 (05B10)
— (*with* Zhu, Lie[1]) Existence of APAV(q, k) with q a prime power $\equiv 3 \pmod 4$ and k odd > 1. (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 57–68. (Marc M. Gysin) **99k:94031** 94A60 (05B15)
— (*with* Zhu, Lie[1]) Improving Wilson's bound on difference families. (English summary) *Util. Math.* **55** (1999), 189–200. (Summary) **99m:05030** 05B10
Chen, Kuan-ju (*with* Lee, C. S.; Wang, Hwai Chiuan) Semilinear elliptic problems in interior and exterior flask domains. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 81–105. (Benedetta Pellacci) **99k:35045** 35J60 (58E05)

— (*with* Chen, Kuo-chang; Wang, Hwai Chiuan) Symmetry of positive solutions of semilinear elliptic equations in infinite strip domains. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 1–8. (Isabella Birindelli) **99i:35036** 35J60 (35B05)

Chen, Kuo-chang (*with* Chen, Kuan-ju; Wang, Hwai Chiuan) Symmetry of positive solutions of semilinear elliptic equations in infinite strip domains. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 1–8. (Isabella Birindelli) **99i:35036** 35J60 (35B05)

Chen, Kwang-Wu (*with* Eie, Minking) A theorem on zeta functions associated with polynomials. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3217–3228. (Bruce C. Berndt) **99m:11099** 11M41

Chen, L. *see* **Chen, Li[3]**

Chen, L. H. *see* **Chen, Li Hua[2]**

Chen, Lan Ping (*with* Jiao, Bao Cong) Global convergence of the restarting conjugate gradient algorithm with a generalized Curry line search. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 601–607. 90C30 (65K05)

— (*with* Jiao, Bao Cong) Global convergence for a new class of conjugate descent methods. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 193–196. 90C30 (65K05)

Chen, Lan Qing PP rings and PF rings. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **12** (1996), *no.* 4, 25–28. 16D40

— Normal almost PP rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 221–224. (Jian Long Chen) **99h:16049** 16U99

Chen, Lan Sun (*with* Wang, Wen Di; Lu, Zheng Yi) Global stability of a population dispersal in a two-patch environment. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 207–215. (Summary) **99k:92039** 92D25 (34D20)

— (*with* Song, Xinyu) Persistence and global stability for nonautonomous predator-prey system with diffusion and time delay. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 33–40. (Summary) **99c:92047** 92D25 (34K20)

— (*with* Cui, Jingan) The effect of diffusion on the time varying logistic population growth. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 1–9. (Summary) **99c:90171** 90D25

— (*with* Cao, Feng[2]) Asymptotic behavior of nonautonomous diffusive Lotka-Volterra model. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 107–111. (Summary) **99b:92036** 92D25 (34D20)

Chen, Lan Xiang Minimax linear estimators for a semiparametric regression model. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 9–13. (Summary) **99j:62042** 62G05 (62C20)

Chen, Li (*with* Rao, Singiresu Sambasiva) Numerical solution of fuzzy linear equations in engineering analysis. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 391–408. 65F30

Chen, Li[3] (*with* Batra, R. C.) The asymptotic structure of a shear band in mode-II deformations. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 7, 895–919. 73E60 (73B30)

Chen, Li[4] (*with* Garimella, Suresh V.; Reizes, John A.; Leonardi, Eddie) The development of a bubble rising in a viscous liquid. (English summary) *J. Fluid Mech.* **387** (1999), 61–96. 76D99 (76T05)

Chen, Li Hua[2] (*with* Deng, Nai Yang; Zhang, Jian Zhong) Modified partial-update Newton-type algorithms for unary optimization. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 385–406. (José Mario Martínez) **99d:65196** 65K05

Chen, Li Hua[3] Multiple boundary layer phenomena of solution of boundary value problem for third order differential equation with two parameters. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 591–604. (Eric Benoît) **99m:34122** 34E15 (34B15)

Chen, Li Ming (*with* Lin, Yi Zhong) Necessary and sufficient conditions for oscillations of a class of functional-differential equations of advanced type. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 19–24. (Jun Jie Wei) **99m:34158** 34K15

— (*with* Lin, Yi Zhong; Cheng, Sui Sun) Exact regions of oscillation for a difference equation with six parameters. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 92–109. (Shao Zhu Chen) **99f:39003** 39A10 (39A12)

Chen, Li Qun (*with* Liu, Yan Zhu) Chaotic attitude motion of a nonspinning spacecraft and its parametric open-plus-closed loop control. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 3, 363–369. (From the summary) **99h:70034** 70M20 (70F15, 70H05, 70K50, 70Q05)

— (*with* Liu, Yan Zhu) Controlling chaos: present and future. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 1, 108–114. 58F13 (93C10)

Chen, Li Rong (*with* Liu, De Gui) Parallel Rosenbrock methods for solving stiff ordinary differential equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 251–260. 65L06

Chen, Li-Ru (*with* Chang, I-Shou; Hsiung, Chao A.) A class of efficient non-parametric K-sample tests for multivariate counting processes with frailties. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 127–141. (David P. Harrington) **99g:62054** 62G10 (62M99)

Chen, Liang *see* **Chen, Liang[8]**

Chen, Liang[5] Polynomial Lie subalgebras of the infinite matrix Lie algebra. (English summary) *Canad. J. Math.* **48** (1996), *no.* 2, 274–287. (Summary) **99c:17036** 17B65 (17B20)

— (*with* Moody, Robert V.; Patera, Jiří) Non-crystallographic root systems. (English summary) *Quasicrystals and discrete geometry (Toronto, ON, 1995)*, 135–178, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99h:52025** 52C22 (17B20)

Chen, Liang[8] (*with* Serfozo, Richard F.) Performance limitations of parallel simulations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 397–409. (Summary) **99d:68031** 68M20 (65C20, 68U20)

Chen, Lihua *see* **Chen, Li Hua[3]**

Chen, Lili (*with* Lou, Sen-yue) Painlevé analysis of a $(2+1)$-dimensional Burgers equation. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 2, 313–316. (Summary) **99c:35205** 35Q53

Chen, Lin *see* **Chen, Lin[6]**

Chen, Lin[2] Optimal circular arc representations: properties, recognition, and construction. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 320–331. (Summary) **99f:68153** 68R10 (68Q22)

Chen, Lin[6] Stability and instability of solitary waves for generalized symmetric regularized-long-wave equations. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 53–68. (Mehmet Can) **99d:35107** 35L70 (35B40, 76B25, 76E99)

Chen, Lin-An (*with* Chiang, Yuang-Chin) Symmetric quantile and symmetric trimmed mean for linear regression model. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 2, 171–185. (Summary) **99b:62049** 62G05

— (*with* Thompson, Peter) Trimmed least squares estimator as best trimmed linear conditional estimator for linear regression model. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1835–1849. (Xuming He) **99k:62124** 62J05

Chen, Ling *see* **Chen, Ling[3]**

Chen, Ling[1] (*with* He, Xuming) Testing normality for censored data. (English summary) *Applied statistical science, III*, 113–125, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62092** 62G10 (62N05)

Chen, Ling[3] Methods for partitioning the computation of a nonuniform linear recurrence. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 2, 1–3. 68Q22 (68N20)

Chen, Ling Jun (*with* Luo, Yan Lin) Three-dimensional reconstruction of a constant-diameter pipe surface. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 86–90. (*see* **99k:65006**) 65D17 (65Y25)

Chen, Long-Qing *see* **Computational and mathematical models of microstructural evolution, 99k:73002**

Chen, Loon-Been (*with* Wu, I-Chen) On the time complexity of minimum and maximum global snapshot problems. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 151–156. 68Q10 (68R10)

Chen, Louis H. Y. Stein's method: some perspectives with applications. (English summary) *Probability towards 2000 (New York, 1995)*, 97–122, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Andrew D. Barbour) **99i:60047** 60F05 (60B15, 62E17)

Chen, Lu Sheng (*with* Li, Guo Cai) Some equivalence propositions for infinite automata. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 78–82. (Summary) **99g:68137** 68Q68 (68Q45)

Chen, Lun Ming Observability and controllability of a class of model form systems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 5, 550–555. 93B05 (93B07)

— (*with* Chen, Xiao Tao) A state space description of the rational functional matrix $G(s)$ via the canonical decomposition. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 524–529. 93C80 (93C05)

Chen, Lung-Kee (*with* Fan, Da Shan) On singular integrals along surfaces related to black [block] spaces. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 261–268. (Tomás F. Godoy) **99c:42027** 42B20

Chen, M. *see* **Chen, Min[6]**

Chen, M. H. *see* **Chen, Ming-Huei**

Chen, M. K. *see* **Chen, Ming-Kuan**

Chen, Masao R. Y. (*with* Tseng, Hsen Che) On the second law of thermodynamics and contact geometry. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 329–344. (Renuka Datta) **99c:80001** 80A05 (53C80, 80A10)

— On the geometric structure of thermodynamics. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 830–837. (Summary) **99j:80002** 80A10

Chen, Mei-Hua (*with* Chien, C. S.) Multiple bifurcations in a reaction-diffusion problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 15–39. (Summary) **99a:65072** 65H17 (65N12)

Chen, Mei-Hui (*with* Wu, Berlin) Use of fuzzy statistical technique in change periods detection of nonlinear time series. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 241–254. (Summary) **99m:62143** 62M10

Chen, Mei-Qin A direction set based algorithm for least squares problems in adaptive signal processing. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 73–94. (Summary) **99i:94009** 94A12 (65F30)

Chen, Meng A note on pluricanonical maps for varieties of dimension 4 and 5. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 513–517. (Massimiliano Mella) **99e:14014** 14E05 (14E30)

— A theorem on pluricanonical maps of nonsingular minimal threefolds of general type. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 415–420. (Sándor J. Kovács) **99m:14071** 14J30 (14E05)

— On pluricanonical maps for threefolds of general type. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 615–621. (Sándor J. Kovács) **99f:14015** 14E05 (14J30)

— Nonsingular minimal complex threefolds of curve bundles that are composed of bicanonical pencils. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 33–37. (Jin-Xing Cai) **99f:14050** 14J30

— (*with* Chen, Zhijie) Irregularity of canonical pencils for a threefold of general type. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 83–87. (Yuri G. Prokhorov) **99g:14047** 14J30 (14E05, 14E30)

Chen, Miao-Sheng (*with* Chen, Chung-Chiang) The determination of timing and technology level of an abatement investment. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 257–271. 90B30 (90B70)

Chen, Min A fundamental domain for the modular group of Riemann surfaces of type $(0, n)$. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 275–281. (Athanase Papadopoulos) **99i:32027** 32G15 (30F60)

Chen, Min (*with* Xia, Bi Can) An explicit criterion for the number of roots of a polynomial in an interval. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 317–322. (Guang Xing Zeng) **99k:12001** 12D10 (68Q40)

— A generalized discriminant system for polynomials and its applications. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 5, 673–676. 12D10

Chen, Min[4] (*with* An, Hong-Zhi; Huang, Fuchun) The geometric ergodicity and existence of moments for a class of non-linear time series model. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 213–224. (Juan Carlos Abril) **99a:62126** 62M10 (62J02)

— (*with* Wu, Guo Fu; Liu, Lan) The higher-order moments of a class of nonlinear autoregressive models with conditional heteroscedasticity. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 371–376. (Summary) **99m:62144** 62M10

— (*with* An, Hong-Zhi) The existence of moments of nonlinear autoregressive model. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 328–332. (Summary) **99g:62133** 62M10 (60J05)

— (*with* An, Hong-Zhi) A note on the stationarity and the existence of moments of the GARCH model. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 505–510. (Summary) **99a:62127** 62M10

Chen, Min[6] (*with* Bona, Jerry L.) Higher-order Boussinesq systems for two-way propagations of water waves. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 5–12, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q53 (76B15, 76D33)

— Primary results on simulation of a new kind traveling wave of permanent form. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 209–213, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76B15 (35Q35, 65N06, 76M25)

— Exact solutions of various Boussinesq systems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 45–49. 35Q53 (35C05, 76B15)

— Exact traveling-wave solutions to bidirectional wave equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1547–1567. (Satyanad Kichenassamy) **99f:76022** 76B15 (35Q53, 76B25)

— (*with* Bona, Jerry L.) A Boussinesq system for two-way propagation of nonlinear dispersive waves. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 191–224. (Shu Ming Sun) **99f:76021** 76B15 (35Q53, 76B25, 76M25)

— (*with* Bronstering, Rolf) Bifurcations of finite difference schemes and their approximate inertial forms. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 715–728. (Summary) **99f:65126** 65M06 (34G20, 35A35)

Chen, Min-Shin (*with* Chen, Yong-Zhi) Static output feedback control for periodically time-varying systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 218–222. (Summary) **99j:93042** 93B52 (93C60)

Chen, Ming Hua[2] (*with* Ren, Zhe; Hu, Shu He) Strong consistency of a class of estimators in a partial linear model. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 429–438. (Summary) **99m:62095** 62J05 (62G05)

— Consistency of estimators for semiparametric regression models under a fixed design. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 301–310. (Shaw-Hwa Lo) **99m:62039** 62G05 (62J05)

Chen, Ming-Huei (*with* Wang, Pe Cheng) Level changes and trend resistance on replacement in asymmetric orthogonal arrays. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 349–358. (K. Afsarinejad) **99i:62176** 62K15

Chen, Ming-Hui (*with* Schmeiser, B. W.) Erratum: "General hit-and-run Monte Carlo sampling for evaluating multidimensional integrals" [Oper. Res. Lett. **19** (1996), no. 4, 161–169; MR 97k:65011]. *Oper. Res. Lett.* **21** (1997), *no.* 4, 209. (From the text) **99b:65001** 65C05 (65D30)

— (*with* Shao, Qi-Man) Estimating ratios of normalizing constants for densities with different dimensions. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 607–630. (Christian P. Robert) **99f:62038** 62F15 (62F03, 62F10)

— (*with* Shao, Qi-Man) Performance study of marginal posterior density estimation via Kullback-Leibler divergence. (English summary) *Test* **6** (1997), *no.* 2, 321–350. (I. Vajda) **99g:62038** 62G05 (62F15)

— (*with* Shao, Qi-Man) Monte Carlo methods for Bayesian analysis of constrained parameter problems. (English summary) *Biometrika* **85** (1998), *no.* 1, 73–87. (Michael J. Evans) **99g:62006** 62A15 (62F15)

— (*with* Ibrahim, Joseph G.; Lipsitz, Stuart R.) Missing covariates in generalized linear models when the missing data mechanism is non-ignorable. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 173–190. 62J12

— (*with* Ibrahim, Joseph G.; Yiannoutsos, Constantin) Prior elicitation, variable selection and Bayesian computation for logistic regression models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 223–242. (Summary) **99j:62101** 62J12 (62F15)

Chen, Ming-Kuan (*with* Lan, C. W.; Liang, M. C.) Bifurcation and stability analyses for a two-phase Rayleigh-Benard problem in a cavity. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1329–1343. (Summary) **99b:76035** 76E15 (76M25, 76T05, 80A22)

Chen, Ming-Po (*with* Lalli, B. S.; Yu, Jian She) Oscillation and global attractivity in a multiplicative delay logistic equation. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 75–83. (Summary) **99i:34096** 34K15 (34K20)

— (*with* Huang, Li Hong) Boundedness of solutions and existence of limit cycles for a nonlinear system of differential equations. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 1, 113–120. (Gabriele Villari) **99j:34035** 34C05 (34C11)

— (*with* Srivastava, Hari M.; Yu, Ching-Shu) Some operators of fractional calculus and their applications involving a novel class of analytic functions. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 285–296. (Shigeyoshi Owa) **99g:26013** 26A33 (30C45)

— (*with* Irmak, H.; Srivastava, Hari M.) A certain subclass of analytic functions involving operators of fractional calculus. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 83–91. (R. K. Raina) **99a:30015** 30C45 (26A33)

— (*with* Yu, Jian She; Zhang, Hua) Oscillation and nonoscillation in neutral equations with integrable coefficients. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 65–71. (Guang Zhang) **99a:34203** 34K15 (34K40)

— (*with* Zhang, Shu Nian) A new Razumikhin theorem for delay difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 405–412. (L. A. V. Carvalho) **99k:39051** 39A10

— (*with* Zhang, Shu Nian) Boundedness and periodicity of solutions of functional-differential equations. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 339–344. (Ch. G. Philos) **99h:34111** 34K15 (34C11, 34C25)

— (*with* Srivastava, Hari M.) Some families of series representations for the Riemann $\zeta(3)$. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 179–197. (Richard B. Paris) **99b:11095** 11M06 (11Y60, 33B15, 33C90)

Chen, Mingwei (*with* Zheng, Zuo-Huan) Globally topological equivalence of nonautonomous systems. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 299–304. (S. Yu. Pilyugin) **99k:34098** 34C99 (34D30, 58F99)

Chen, Mu Fa Optimal couplings and application to Riemannian geometry. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 121–142, *TEV, Vilnius*, 1994. (Feng-Yu Wang) **99i:60148** 60J60 (35P15, 58G32, 60J27, 60K35)

— Coupling, spectral gap and related topics. I. *Chinese Sci. Bull.* **42** (1997), *no.* 16, 1321–1327. (From the text) **99e:60182a** 60J65 (58G32)

— Coupling, spectral gap and related topics. II. *Chinese Sci. Bull.* **42** (1997), *no.* 17, 1409–1416. (From the text) **99e:60182b** 60J65 (58G32)

— Coupling, spectral gaps and related topics. III. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 16, 1696–1703. 58G25

— Trilogy of couplings and general formulas for lower bound of spectral gap. (English summary) *Probability towards* 2000 (*New York*, 1995), 123–136, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Summary) **99h:60130** 60H30 (35P15, 60J27, 60J80)

— Estimation of the exponential convergence rate in the total variation by spectral gap. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 1–6. (Rong Wu) **99c:60154** 60J25 (60J27, 60J60)

— Reaction-diffusion processes. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 17, 1409–1420. (Summary) **99k:60246** 60K35 (82C22)

— (*with* Wang, Feng Yu) Cheeger's inequalities for general symmetric forms and existence criteria for spectral gap. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 18, 1516–1518. 60J25 (58G32)

— (*with* Wang, Feng Yu) A general symmetric form of Cheeger's inequality and a criterion for the existence of spectral gaps. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 14, 1475–1477. 26D20 (47B99)

Chen, Nanxian (*with* Cong, Wenxiang; Gu, Ben Yuan) A recursive method for phase retrieval in Fourier transform domain. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 1, 40–44. (Markus Hegland) **99h:65227** 65T20 (65D15)

— (*with* Wei, Yuchuan) Square wave analysis. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4226–4245. 42C10

Chen, Pei Ci The semiring structure of languages and codes. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 293–296, 311. (Summary) **99h:68101** 68Q45 (68Q70, 94A45)

Chen, Pei-de Hastings-Metropolis algorithms and reference measures. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 323–328. (Summary) **99c:60138** 60J05 (65C05)

Chen, Pei Xin (*with* Li, Peng Tong) Finite rank operators and n-reflexivity. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 23–25. (Summary) **99j:47062** 47D25 (47A99)

Chen, Peng Nian (*with* Shen, Hong; Shao, Jian) Dynamic output feedback stabilization of planar nonlinear systems. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 6, 659–665. 93D15

Chen, Pey-Chun (*with* Hansen, Pierre; Jaumard, Brigitte; Hoàng Tuy) Solution of the multisource Weber and conditional Weber problems by d.-c. programming. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 548–562. (Zeng Kun Xu) **99g:90088** 90C26 (90C08)

Chen, Ping *see* **Chen, Ping**[4]

Chen, Ping[2] Limit properties of PL-type estimator under competing risks case. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 264–272. (Mir Masoom Ali) **99k:62071** 62G05 (62E20)

Chen, Ping[3] Information capacity in optimal communications systems. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 109–115. (Summary) **99b:94015** 94A17

Chen, Ping[4] (*with* Huang, Xin Min[2]; Xu, Xiao Ming; Yang, Yu Pu) Stable controller design based on dynamic recurrent neural networks. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 8, 49–54. 93B51 (93C83)

Chen, Po-Ning (*with* Alajaji, Fady) A rate-distortion theorem for arbitrary discrete sources. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1666–1668. 94A34

— (*with* Alajaji, Fady) Generalized source coding theorems and hypothesis testing. I. Information measures. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 3, 283–292. (Robert M. Gray) **99m:94022a** 94A29

— (*with* Alajaji, Fady) Generalized source coding theorems and hypothesis testing. II. Operational limits. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 3, 293–303. (Robert M. Gray) **99m:94022b** 94A29

Chen, Po-Shu (*with* Farhat, Charbel; Mandel, Jan; Roux, François-Xavier) The two-level FETI method. II. Extension to shell problems, parallel implementation and performance results. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 153–179. (From the summary) **99c:73078b** 73V05 (65N55, 73K15)

Chen, Qi (*with* Yuan, Zhendong; Ding, Sheng; Diao, Lianwang) Credible sets for system parameters and transfer functions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 150–160. (Summary) **99c:93112** 93E12

Chen, Qi (*with* Chai, Joo-Siong; Tan, Shaohua; Hang, Chang Chieh) A general fuzzy control scheme for nonlinear processes with stability analysis. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 179–195. 93C42

Chen, Qi Xu Induced connections on submanifolds in Finsler spaces. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 1, 15–20. (Xiao Huan Mo) **99a:53017** 53B40

— The Bianchi identities for Finsler connections from the viewpoint of the differential geometry of the tangent bundle. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 31–35, 84. (Zhongmin Shen) **99i:53072** 53C60 (53B40)

Chen, Qian (*with* Chen, Shu Zhong) The right null space of a rational function matrix and decoupling. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 663–667. 93B60 (93C05)

Chen, Qiang (*with* Chen, Ji Mei; Lo, Zhongwei) Uniform asymptotic stability theorems for functional-differential equations of neutral type. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 88–91. (Zhanyuan Hou) **99k:34167** 34K20 (34K40)

Chen, Qihao (*with* Kawase, Shin) On fuzzy reasoning by Kóczy's linear rule interpolation. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 501–509. (Summary) **99b:03041**

03B52 (03B70, 68T27)

Chen, Qin A method for constructing Hadamard matrices of type 2^k3. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 3, 43–48. 05B20

Chen, Qing *see* **Chen, Qing[3]**

Chen, Qing[2] Uniqueness of minimal submanifolds in Euclidean space. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 5, 413–418. (Yu Xin Dong) **99h:53082** 53C42 (53A10)

Chen, Qing[3] (*with* Fischer, Thomas Robert) Image coding using robust quantization for noisy digital transmission. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 496–505. 94A12

Chen, Qing Hua[2] (*with* Zheng, Chun Yang) Maschke theorems for graded gamma rings. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 10–13. 16Y99

Chen, Qing Ming A new generalization of the FKKM theorem. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1997), *no.* 5, 498–504. 54H25

— (*with* He, Yi Nong) Convergence and fixed points of the iteration process for sequences of multivalued nonexpansive mappings. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 90–93. (Summary) **99j:47084** 47H10 (47H04, 47H09, 47H17)

Chen, Qing Ping The minimax admissibility of linear estimates of multivariate regression coefficients of growth curve models under a matrix loss function. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 163–168. (Summary) **99k:62014** 62C15 (62H12)

Chen, Qinghui (*with* Liu, Xiang Lin; Zhang, Baocai) The symmetry constraint and Levy evolution equation hierarchy. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 526–533. 35Q58 (58F37)

Chen, Qingming *see* **Chen, Qing Ming**

Chen, Qingyi (*with* Li, Yongsheng) Global attractors for coupled dissipative Klein-Gordon-Schrödinger equations. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 44–49. (Peter E. Zhidkov) **99f:35193** 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* Hu, Jiuxiang) Asymptotic behaviour of blow-up for solutions of semilinear reaction-diffusional systems. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 141–150. (Wenxian Shen) **99e:35104** 35K57 (35B40)

Chen, Qiong Fixed point theorems for mappings in generalized fuzzy metric spaces. (Chinese. Chinese summary) *Sichuan Daxue Xuebao* **35** (1998), *no.* 2, 281–283. 54H25 (54A40)

Chen, Qiu (*with* Liu, Xian Bin; Sun, Xun Fang) Bifurcation systems of codimension 2 excited parametrically by white noise. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **29** (1997), *no.* 5, 563–572. (Bei Ye Feng) **99b:34070** 34C23 (34F05, 58F14)

Chen, Qiu Shuang (*with* Qi, Xiang Tong; Tu, Feng Sheng) Input control and scheduling in job shops. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 49–56. 90B35 (90C90)

Chen, Qizhi (*with* Yip, Paul S. F.) Statistical inference for a multitype epidemic model. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 229–244. (Summary) **99f:62124** 62P10 (62M09)

Chen, Quan (*with* Zhong, Mao Hua; Chen, Bao Zhi) A generalized catastrophe theory of risk assessment. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 116–118. 90A46 (58C28)

Chen, Quande (*with* Zhou, Xinlong) Generalization of interpolation inequalities. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 130–142. (Georgi E. Karadzhov) **99h:46050** 46E35 (26D10, 46M35)

Chen, Qun[1] Harmonic maps with potential from complete manifolds. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 21, 1780–1786. (Anne-Joëlle Vanderwinden) **99m:58061** 58E20

— Liouville theorem for harmonic maps with potential. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 507–517. (Caio J. C. Negreiros) **99k:58043** 58E20 (53C21)

Chen, R. *see* **Chen, Reuven**

Chen, Ren Zhao (*with* Nie, Hong) A penalty shifting method for calculation of optimal initial controls for a class of parabolic systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 102–109. 49M30 (35K99, 49J15)

— (*with* Fu, Jun) Existence of solution for a class of time-varying illness control systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 110–115. 49N55 (35B37)

— (*with* Zhang, Dan Song; Fu, Jun) The uniqueness theorem for solutions to a class of time-varying illness control systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 116–121. 49N55 (35B27)

Chen, Reuven (*with* Brimberg, Jack) A note on convergence in the single facility minisum location problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 25–31. (Summary) **99a:90113** 90B80 (90C27)

— (*with* Brimberg, Jack; Chen, Doron) Accelerating convergence in the Fermat-Weber location problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 151–157. (I. Norman Katz) **99h:90059** 90B40 (90C30)

Chen, Robert W. (*with* Zame, Alan; Odlyzko, Andrew M.; Shepp, Lawrence A.) An optimal acceptance policy for an urn scheme. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 183–195 (*electronic*). (Vladimir Mazalov) **99e:60110** 60G40 (60K99)

Chen, Rong[1] (*with* Linton, Oliver B.; Wang, Naisyin; Härdle, Wolfgang) An analysis of transformations for additive nonparametric regression. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1512–1521. (Ewaryst Rafajłowicz) **99e:62052** 62G05

— (*with* Liu, Jun S.; Wong, Wing Hung) Rejection control and sequential importance sampling. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1022–1031. (Summary) **99e:62030** 62F15

— (*with* Liu, Jun S.) Sequential Monte Carlo methods for dynamic systems. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1032–1044. (Summary) **99e:62069** 62G09 (62M99)

Chen, Rong-Jaye (*with* Chiang, Wei-Kuo) On the arrangement graph. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 215–219. (Summary) **99c:68190** 68R10 (05C10)

Chen, Rong Sheng[2] (*with* Zhang, Zhen Qiu) Mean oscillation spaces on homogeneous groups. II. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **30** (1997), *no.* 6, 762–766. 43A07 (42B30)

— (*with* Li, Ying Jie[2]) A method of constructing product magic squares using nongeometric sequences of numbers. (Chinese) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 4, 98–101. 05B15

Chen, Rongquen (*with* Meng, Weiyi) Distribution of selections over joins in the presence of data inconsistency in a multidatabase environment. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 780–793 (*electronic*). (*see* **99d:68010**) 68P15

Chen, Rui-Chen (*with* Jiang, Sheng) Digits reversed Pythagorean triples. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 689–696. (Aleksander Grytczuk) **99i:11016** 11D09 (11B83)

Chen, S. *see* **Chen, Sheng[2]**

Chen, S. H. *see* **Chen, Shu Hui**

Chen, S. W. *see* **Chen, Sei-Wang**

Chen, Scott Shaobing (*with* Donoho, David L.; Saunders, Michael A.) Atomic decomposition by basis pursuit. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 33–61 (*electronic*). (Summary) **99h:94013** 94A12 (41A45, 65K05)

Chen, Sei-Wang (*with* Fang, C. Y.; Chang, K. E.) Neural simulation of Petri nets. (English summary) *Parallel Comput.* **25** (1999), *no.* 2, 183–207. (Summary) **99k:68153** 68T05 (68Q90)

Chen, Shan Ben (*with* Chen, Yang Zhou; Liu, Jia Qi) The Kalman-Yakubovich lemma and analysis of robust stability for systems with uncertainties. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 715–717. 93D09

— (*with* Chen, Yang Zhou; Liu, Jia Qi) The frequency theorem (Kalman-Yakubovich lemma) in control theory. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 477–488. 93-02 (93Bxx)

Chen, Shao Chun (*with* Shi, Zhong Ci; Huang, Hong-ci) Plate elements with high accuracy. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 155–164, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:73097** 73V05 (73K10)

— (*with* Shi, Dong Yang) Symmetrical forms of double set parameter 12-parameter rectangular plate elements. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 293–297. 65N30 (65D15)

— (*with* Shi, Dong Yang) New schemes for constructing arbitrary nonconforming quadrilateral elements. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 326–332. (Summary) **99f:65175** 65N30

— (*with* Wu, Duan Gong) Error estimates for a 12-parameter plate element with right-hand side $f \in H^{-1}$. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 74–78. 65N15 (73V05)

— (*with* Shi, Dong Yang) A new nonconforming quadrilateral membrane element. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 1, 1–6. 65N30 (73V05)

— (*with* Li, Qing Shan) Results on error estimates for Morley's element. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 1–4. 65N30

— (*with* Wu, Duan Gong) Restricted polynomial interpolation and its application in constructing shape function spaces. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 50–55. 41A29 (65D17)

— (*with* Qi, Tie Shan) An analysis of MITC elements. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 168–172. (Summary) **99g:65111** 65N30 (73K10, 73V05)

Chen, Shao Ting (*with* Liu, Heng) A new method, the PCM (Poincaré cell mapping) method, for analyzing global dynamical characteristics of nonlinear systems, and its application to rotor bearing systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 7–15, *I.* 70K99 (70–08)

— (*with* Guo, Dan) The alter-Poincaré-cell-mapping method for global analysis of nonlinear dynamical systems and the stability of a rotor-bearing system. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 8–15, *I.* 70K99

Chen, Shao Zhong[1] (*with* Li, Jiequan; Zhang, Tong[1]) Explicit construction of measure solutions of Cauchy problem for transportation equations. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1287–1299. (Vladimir V. Shelukhin) **99b:35181** 35Q53 (35C05, 76N10)

Chen, Shaoxiang (*with* Gochet, Willy; Stam, Antonie; Srinivasan, Venkataraman) Multigroup discriminant analysis using linear programming. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 213–225. (Summary) **99d:90142** 90C90 (90C05)

Chen, Shaozhu (*with* Liu, Shu Tang[2]) Exponential growth and oscillation of nonlinear homogeneous difference equations. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 327–337. (E. Thandapani) **99f:39004** 39A10

— (*with* Zhu, Dongmei) Discrete analogues of a theorem of Wintner and Hartman. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 110–116. (Vladimir Sh. Burd) **99k:39060** 39A12 (39A11)

Chen, Shencan A criterion for a matrix to be generalized strictly diagonally dominant. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 324–329. (Summary) **99h:15022** 15A57 (65F30)

Chen, Sheng[2] (*with* Chng, E. S.; Alkadhimi, K.) Regularized orthogonal least squares algorithm for constructing radial basis function networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 829–837. 93B40 (93B30)

Chen, Sheng Tao (*with* Chen, Shui-Li; Wu, Zheng Xing[2]) Uryson closedness in lattice fuzzy topological spaces. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 65–67. 54A40

Chen, Shi Guo Optimality conditions for multiobjective programming involving n-set functions. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 196–200. 90C29

Chen, Shi Hua *see* **Chen, Shi Hua[3]**

Chen, Shi Hua[1] (*with* Tao, Renji; Chen, Xuemei) FAPKC3: a new finite automaton public key cryptosystem. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 4, 289–305. (Winfried Müller) **99a:94040** 94A60 (68P25, 68Q70)

— (*with* Tao, Renji) A necessary condition on invertibility of finite automata. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 637–643. (Summary) **99a:68128** 68Q70

Chen, Shi Hua[3] (*with* Du, Nai Lin) Formal integrating factors as a method of distinguishing between a center and a focus. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 231–239. (Mao An Han) **99m:34060** 34C05

— (*with* Zeng, Xianwu; Du, Nai Lin) On reduced variational equations of coupled systems. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 147–151. (Summary) **99h:34065** 34C25 (34C15)

— (*with* Lu, Jun An; Xia, Jun; Zhan, Gui Bao) Self-memory numerical forecasting for solving dynamical systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 11–14. 65D15 (65L06)

Chen, Shi Ping *see* **Chen, Shi Ping**[4]

Chen, Shi Ping[3] (*with* He, Yong[1]; Yao, En Yu) The computational complexity of a class of scheduling problems with machine release times and a solution algorithm. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 474–476. 90B35 (68Q25)

Chen, Shi Ping[4] Quasilinear elliptic eigenvalue problems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 14–18. (Summary) **99b:35065** 35J65

— (*with* Zhao, Huijiang; Liu, Zaihua) On the Cauchy problem of the Kuramoto-Sivashinsky equation with singular initial data. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 25–34. (Summary) **99b:35100** 35K57 (35Q55)

Chen, Shigang (*with* Liu, Zonghua) Control of coupled standard map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1355–1362. 58F27 (58F13)

Chen, Shihua *see* **Chen, Shi Hua**[3]

Chen, Shiping *see* **Chen, Shi Ping**[4]

Chen, Shiyi (*with* Martínez, Daniel A.; Mei, Renwei) On boundary conditions in lattice Boltzmann methods. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2527–2536. (Summary) **99m:76090** 76M25

— (*with* He, Xiaoyi; Doolen, Gary D.) A novel thermal model for the lattice Boltzmann method in incompressible limit. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 282–300. (Summary) **99g:76108** 76M25 (76M35, 76P05, 82C40)

— (*with* Nelkin, Mark) The scaling of pressure in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2119–2121. 76F05

— (*with* Kraichnan, Robert H.) Simulations of a randomly advected passive scalar field. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2867–2884. (Summary) **99h:76048** 76F99 (76M25)

— (*with* He, Xiaoyi; Zhang, Raoyang; Doolen, Gary D.) On the three-dimensional Rayleigh-Taylor instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1143–1152. (Summary) **99m:76064** 76E99 (76M25, 76T05)

Chen, Shou Yin Peetre K-functionals and Riesz summability operators. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 473–477. (Summary) **99k:41034** 41A35 (42B08)

Chen, Shouyu Relative membership function and new frame of fuzzy sets theory for pattern recognition. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 2, 401–411. (Sankar Kumar Pal) **99b:68163** 68T10 (04A72)

— Multiobjective decision making theory and application of neural network with fuzzy optimum selection. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 957–967. 90C70 (90A05, 90C29)

Chen, Shu (*with* Ji, Wan Hui) The exponent of an odd prime factor p in a power sum. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 2, 58–65. (Zhen Fu Cao) **99j:11010** 11B34 (11D61)

Chen, Shu Hui (*with* Yang, X. M.; Cheung, Y. K.) Periodic solutions of strongly quadratic non-linear oscillators by the elliptic perturbation method. (English summary) *J. Sound Vibration* **212** (1998), *no.* 5, 771–780. (Summary) **99c:34068** 34C15 (70K25)

Chen, Shu Zhong (*with* Chen, Qian) The right null space of a rational function matrix and decoupling. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 663–667. 93B60 (93C05)

Chen, Shui-Li (*with* Meng, Guang Wu; Zhang, Xingfang; Meng, Han) On the category of L-fuzzy topological rings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 381–394. (W. J. Kotzé) **99g:16058** 16W80 (54A40)

— (*with* Chen, Sheng Tao; Wu, Zheng Xing[2]) Uryson closedness in lattice fuzzy topological spaces. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 65–67. 54A40

— L-fuzzy almost nice compactness. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 91–100. 54A40 (54D30)

Chen, Shujin (*with* Xie, Yongxing) On a generalized Dirichlet problem for analytic family. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 261–271. (J. Siciak) **99c:32018** 32F05 (31C10)

Chen, Shuping (*with* Zhang, Pingjian) On infinite-dimensional Riccati integral equations with all coefficients indefinite. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 158–166. (Birgit Jacob) **99i:45011** 45G10 (93B99)

— (*with* Wu, Xiongwei; Xu, Wen Sheng) An optimal investment/consumption problem with higher borrowing rate. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 68–76. (Summary) **99d:90021** 90A09

— (*with* Li, Xunjing; Zhou, Xun Yu) Stochastic linear quadratic regulators with indefinite control weight costs. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1685–1702 (*electronic*). (Jose Luis Menaldi) **99e:49028** 49K45 (49N10, 93E20)

— (*with* Liu, Kangsheng; Liu, Zhuangyi) Spectrum and stability for elastic systems with global or local Kelvin-Voigt damping. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 651–668 (*electronic*). (Andrej T. Il'ichev) **99j:35218** 35Q72 (35B35, 47D06, 73D30, 73F15)

Chen, Shutao (*with* Lin, Bor-Luh) On strongly extreme points in Köthe-Bochner spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1055–1063. (Pilar Cembranos) **99f:46050** 46E40 (46B20)

— (*with* Duan, Yanzheng) A note on Schroeder-Bernstein property and primary property of Orlicz function spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 55–57. (Henryk Hudzik) **99d:46040** 46E30

Chen, Shuxing Linearization of shock reflection by almost perpendicular ramp. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 13–23, *World Sci. Publishing, River Edge, NJ*, 1997. (Denis Serre) **99i:76082** 76L05 (35Q35)

— Global existence of supersonic flow past a curved convex wedge. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 73–82. (Christian F. Klingenberg) **99c:76059** 76J20 (35L60, 76L05)

Chen, So-Chin (*with* Jang, Shih-Biau) An extension of H. Cartan's theorem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2265–2271. (Bernard Joseph Coupet) **99j:32037** 32M05 (32H40)

Chen, Song Lin The extinction behavior of solutions for a reaction-diffusion equation. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 583–586. (Summary) **99j:35103** 35K57

Chen, Song Xi Measurement errors in line transect surveys. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 899–908. 62D05 (62P10)

Chen, Songnian (*with* Lee, Lung-Fei) Efficient semiparametric scoring estimation of sample selection models. (English summary) *Econometric Theory* **14** (1998), *no.* 4, 423–462. (Luis Firinguetti) **99m:62160** 62P20 (62G05)

Chen, Su Ping (*with* Sun, You Xian) Robust performance of a reversed-frame normalized controller. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 113–118. 93B52 (93B35)

Chen, Su Qin (*with* Jiang, Cun Li; Huang, Zi-ping; Gu, Ming) A fast iterative procedure for the Stokes equation using nonconforming finite element approximations. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 94–100. (Summary) **99d:76057** 76M10 (65M60, 76D07)

Chen, T. Timothy (*with* Zhang, Cun-Hui) An invariant selection rule for multi-treatment trial with linear prior preference. (English summary) *Statist. Sinica* **7** (1997), *no.* 3, 595–606. (Mohamed Tahir) **99b:62119** 62L10 (62F07)

Chen, Tianping (*with* Wu, Xiao Wei) Characteristics of activation function in sigma-pi neural networks. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 639–644. (Summary) **99c:92007** 92B20

— (*with* Liang, Yuan) Capability of neural networks in computing the outputs of dynamic systems with inputs defined on the whole space. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 4, 366–371. 93B30 (65L06, 92B20)

Chen, Tien Chi Improving Laguerre's method to cope with symmetry pitfalls in polynomial root-finding. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 105–110, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65H05

Chen, Ting[1] (*with* Tang, Jun[2]) A bargaining model with incomplete information under a rational conjecture. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 16–23. (Summary) **99i:90044** 90A60

— (*with* Zhao, Yong; Yue, Chao Yuan; Xu, Xiao Dong) A study on preference in data envelopment analysis. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 47–54. 90C08 (90C90)

— (*with* Luo, Yun Feng; Zhu, Shi Jing; Yue, Chao Yuan) A study on the order-of-voting effect of binary voting procedures. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 55–64. 90A28

— (*with* Guo, Wen Ge) Combined arbitration with incomplete information. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 56–63. 90D10 (90D15)

— (*with* Zhu, Shi Jing; Luo, Yun Feng; Wang, Shu Ning) A class of robustly efficient solutions for multiobjective decision-making with uncertain parameters. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 395–399. 90C29 (90A05)

— (*with* Zhou, Xiao Yang; Shi, Bao Chang) Constrained variable metric type methods. I. The unified algorithm model and reduced gradient directions type algorithm. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 24–31. 90C30 (65K05)

— (*with* Zhou, Xiao Yang; Shi, Bao Chang) Constrained variable metric type methods. II. The generalized projection gradient type algorithm with superlinear convergence. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 13–19. 90C30 (65K05)

— (*with* Shi, Bao Chang) A class of interactive methods based on exact penalty functions for multiobjective programming. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 106–110. 90C29

Chen, Tongwen (*with* Francis, Bruce Allen) ★ Optimal sampled-data control systems. (English summary) Reprint of the 1995 original. Communications and Control Engineering Series. *Springer-Verlag London, Ltd., London*, 1996. xii+374 *pp. ISBN* 3-540-19949-7 (Tamer Başar) **99a:93001** 93–02 (49K30, 93C57)

Chen, Tuhao Optimal lower bounds for bivariate probabilities. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 476–492. (Przemysław Matuła) **99g:60038** 60E15 (90C90)

Chen, Tungyang Further correspondences between plane piezoelectricity and generalized plane strain in elasticity. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 873–884. (Summary) **99d:73078** 73R05 (73B40, 73C99, 73K20)

Chen, Victoria C. P. (*with* Ruppert, David; Shoemaker, Christine A.) Applying experimental design and regression splines to high-dimensional continuous-state stochastic dynamic programming. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 38–53. 90C15 (90C39)

Chen, W. F. *see* **Chen, Wen-Feng**

Chen, W.-L. (*with* Hoffmann, Norbert; Busse, F. H.) Transitions to complex flows in the Ekman-Couette layer. (English summary) *J. Fluid Mech.* **366** (1998), 311–331. (Summary) **99c:76045** 76E10 (76U05)

Chen, W. W. L. (*with* Beck, József) Irregularities of point distribution relative to convex polygons. III. *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 222–230. (Robert F. Tichy) **99a:11093** 11K38

— (*with* Lev, Vsevolod F.) Discrepancy of weighted matrix nets. *Acta Arith.* **85** (1998), *no.* 2, 141–156. (Robert F. Tichy) **99d:11079** 11K38

Chen, Wai-Kai (*with* Tong, Mao-Da) Analysis of VLSI robust exponential stability with left coprime factorization. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 3, 335–360. (Summary) **99c:68138** 68Q35 (93D09)

Chen, Wanping (*with* Yamamoto, Shigeru[1]; Motomura, Takashi) A design method for discrete-time quadratically stabilizing state feedback controllers with time-varying parameters. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 12, 673–679. 93D15 (93C55)

Chen, Wanyi (*with* Gong, Xiangyang; Tu, Feng Sheng) The stability and design of nonlinear neural networks. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 1–7. (Summary) **99b:92003** 92B20

Chen, Wei *see* **Chen, Wei[6]**

Chen, Wei[3] (*with* Wada, Koichi; Luo, Yu Pin; Kawaguchi, Kimio) Optimal fault-tolerant ATM-routings for biconnected graphs. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 354–367, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68026** 68M10 (68R10, 90C35)

— (*with* Wada, Koichi; Kawaguchi, Kimio; Chen, Danny Z.) Finding the convex hull of discs in parallel. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 305–319. (Summary) **99b:68196** 68U05 (52B55, 68Q22)

Chen, Wei[4] (*with* Armstrong, Ronald D.; Goldfarb, Donald; Jin, Zhiying) Strongly polynomial dual simplex methods for the maximum flow problem. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 17–33. (Dimiter T. Ivanchev) **99b:90143** 90C35

Chen, Wei[6] (*with* Aguilera, Marcos Kawazoe; Toueg, Sam) Using the heartbeat failure detector for quiescent reliable communication and consensus in partitionable networks. (English summary) *Theoret. Comput. Sci.* **220** (1999), *no.* 1, 3–30. 68M15

Chen, Wei Dong (*with* Huang, Wen Qi; Xu, Ru Chu; Zhang, Jing Fen) A physicalification and personification method for solving packing problems and the CNF-SAT problem. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 9, 5–7, 54. 68Q25 (03B05, 03B35)

Chen, Wei Hong (*with* Zhu, Yue Fei) A proof of a linear combination lemma on the ring $\mathbf{Z}_m$. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 447–450. 11T71 (94A60)

— (*with* Zhou, Jin Jun; Gao, Fengxiu) Best linear approximation and correlation immunity of functions over Z_m^*. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 303–308. (Summary) **99m:65255** 65T20 (94A55)

Chen, Wei Huan (*with* Li, Hai Zhong) Spacelike Weingarten surfaces in $\mathbf{R}_1^3$ and the sine-Gordon equation. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 459–474. (Antoni Sym) **99b:53015** 53A40 (35L70, 35Q53, 58F07, 58F37)

— (*with* Li, Hai Zhong) Weingarten surfaces and [the] sine-Gordon equation. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1028–1035. (Ronaldo Alves Garcia) **99j:53005** 53A10 (35Q35)

— (*with* Li, Hai Zhong) Integral formulas for compact spacelike hypersurfaces in de Sitter space and their applications to Goddard's conjecture. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 807–810. (Fei-Tsen Liang) **99k:53114** 53C42 (53C40, 53C50, 53C65)

— (*with* Su, Nong) The self-conjugate maximal surfaces in L^3. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 9–16. (Kichoon Yang) **99g:53011** 53A10 (53A40)

Chen, Wei Li (*with* Deng, An Sheng) Qualitative continuity of logical connectives. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 1–3. 03B52

Chen, Wei-Mei (*with* Hwang, Hsien-Kuei; Chen, Gen-Huey) The cost distribution of queue-mergesort, optimal mergesorts, and power-of-2 rules. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 423–448. (Ranjan Chaudhuri) **99k:68035** 68P10 (68Q25)

Chen, Wei Min More efficient algorithm for ordered tree inclusion. (English summary) *J. Algorithms* **26** (1998), *no.* 2, 370–385. (Summary) **99a:68036** 68P05 (68P15, 68R10)

Chen, Wei Qiu (*with* Ying, Ji; Chen, Zi Chen) A variational principle for a coupled thermoelastic contact problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 41–45, *III.* 73B30 (73T05)

— Problems of radially polarized piezoelastic bodies. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 28, 4317–4332. (Summary) **99m:73060** 73R05

Chen, Wei Tian (*with* Shi, Song Jiao; Zhang, Zhong Jun) Adaptive output feedback control of a class of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 140–148. (P. K. C. Wang) **99k:93060** 93C40 (93B50, 93C41)

— (*with* Zhou, Shao Sheng; Yan, Shi Tian; Chu, Xue Dao) Robust output feedback control of a class of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 668–674. 93D21 (93B36)

— (*with* Shi, Song Jiao; Zhang, Zhong Jun) Robust adaptive control of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 6, 88–93. 93C41 (93B51)

— (*with* Zhou, Shao Sheng; Li, Ji Feng; Chu, Xue Dao) A robust adaptive pole assignment algorithm for multivariable discrete systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 8–13. 93B55 (93C55)

Chen, Wei Xin Radicals of Γ-rings determined by properties of elements. I. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 2, 125–130. 16Y99

— The characteristic values of a pseudo-orthogonal transformation. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **32** (1998), *no.* 4, 375–381. 15A18

Chen, Weimin Casson's invariant and Seiberg-Witten gauge theory. *Turkish J. Math.* **21** (1997), *no.* 1, 61–81. (Yildiray Ozan) **99a:57028** 57R57 (57M50, 57N10, 58G10)

Chen, Weiqiu (*with* Shioya, Tadashi) Fundamental solution for a penny-shaped crack in a piezoelectric medium. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 7, 1459–1475. 73M25 (73R05)

Chen, Wen[2] (*with* Itoh, Shuichi; Shiki, Junji) Irregular sampling theorems for wavelet subspaces. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1131–1142. (Summary) **99e:94008** 94A12

Chen, Wen De (*with* Kløve, Torleiv) Weight hierarchies of linear codes satisfying the chain condition. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 47–66. (Giorgio Faina) **99m:94040** 94B05

— The geometric shape of finitely generated modules over the max-algebra. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 11–17. 93C83

— The modular dimension and the reachable level of a discrete event dynamical system. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 291–296. 93C83 (93C30)

— (*with* Xu, Jing; Liang, Qihong) Period of processing on serial production line, optimal scheduling and application. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 9–21. 90B30 (90B35)

— (*with* Kløve, Torleiv) Weight hierarchies of extremal non-chain binary codes of dimension 4. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 276–281. (Summary) **99k:94045** 94B05

Chen, Wen Deng (*with* Feng, Bin Lu; Yu, Yuan Hong) Stability of a class of predator-prey systems. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 38–44. (Ying Guo Lei) **99b:92039** 92D25 (35B35, 35Q80)

Chen, Wen-Feng (*with* Chaichian, Masud; Kobayashi, Tatsuo) Softly broken $N = 1$ supersymmetric QCD. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 120–127. (Summary) **99c:81234** 81T60 (81R40, 81T13, 81V05)

— (*with* Chaichian, Masud; Montonen, Claus) On the low-energy effective action of $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 161–183. (Summary) **99i:81226** 81T60 (81T13, 81T16, 81T17)

Chen, Wen Gu (*with* Hu, Guo En) Uniform estimates for multilinear oscillatory integral operators. II. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 1, 25–31. (Summary) **99f:42027** 42B15 (47G10)

— (*with* Hu, Guo En; Lu, Shan Zhen) A multilinear oscillatory singular integral operator. II. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 73–82; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 31–42. 42B20

— (*with* Wang, Kun Yang[1]) Some positive Cotes numbers for Jacobi abscissas. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 193–198. (Paolo Emilio Ricci) **99f:33007** 33C45

— (*with* Hu, Guo En; Lu, Shan Zhen) Criterion of (L^p, L^r) boundedness for a class of multilinear oscillatory singular integrals. (English summary) *Nagoya Math. J.* **149** (1998), 33–51. (Dashan Fan) **99g:42012** 42B15 (42B20)

Chen, Wen Hu (*with* Wen, Jin) Some fixed point theorems for nonexpansive mappings and families of such mappings in probabilistic metric spaces. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 108–110, 131. 54H25 (54E70)

Chen, Wen-Hua On relationship between quadratic and robust stability of uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 1, 51–58. (Summary) **99i:93046** 93D09 (93B40, 93C41)

Chen, Wen Jing On a conjecture concerning Pythagorean triples. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 3, 10–14. (Zhen Fu Cao) **99m:11032** 11D61

Chen, Wen Sheng Construction of orthonormal periodic spline wavelet bases on a bounded interval. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 3, 32–36. (Tian-Xiao He) **99m:42044** 42C15 (41A15)

Chen, Wen Yan (*with* Wang, Shu Tang[1]) m-almost metric spaces and continuous open mappings. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 4, 98–101. 54E35 (54C10)

Chen, Wen Yi A characterization of Birkhoff numbers and analytic systems on a torus. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 21, 2264–2268. 58F25 (34C35)

Chen, Wenzhong On two-dimensional Stancu-Mühlbach operator. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 70–77. (Jia-Ding Cao) **99f:41030** 41A36 (41A25)

Chen, William Counterexamples to Knaster's conjecture. *Topology* **37** (1998), *no.* 2, 401–405. (K. Kuperberg) **99c:55002** 55M20 (52A20, 54H25)

Chen, William Y. C. Gian-Carlo Rota: philosopher, psychologist and mathematician. *Gian-Carlo Rota on combinatorics*, xiv–xv, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 01A70

— (*with* Kung, Joseph P. S.) The combinatorics of symmetric functions. *Gian-Carlo Rota on combinatorics*, 458–467, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05E05

— (*with* Biedenharn, L. C.; Lohe, M. A.; Louck, James D.) The role of SU(2) $3n$-j coefficients in SU(3). (English summary) *Symmetry and structural properties of condensed matter (Zajączkowo, 1994)*, 150–182, *World Sci. Publishing, River Edge, NJ*, 1995. (A. M. Gavrilik) **99a:81052** 81R05 (22E70)

— (*with* Liu, Zhi Guo) Parameter augmentation for basic hypergeometric series. II. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 175–195. (Summary) **99m:33011** 33D20 (05A30)

— (*with* Liu, Zhi Guo) Parameter augmentation for basic hypergeometric series. I. (English summary) *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 111–129, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (George E. Andrews) **99f:33020** 33D20 (05A19, 05A40, 33D60)

— The pessimistic search and the straightening involution for trees. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 553–558. (R. E. Pippert) **99g:05103** 05C30 (05C05)

— (*with* Louck, James D.; Galbraith, H. W.) Combinatorics of $3n$-j coefficients. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1868–1873. (Roberto Casalbuoni) **99k:81080** 81R05

Chen, Wu Hua Asymptotic stability of a class of nonlinear delay difference equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 55–60. (From the summary) **99f:39019** 39A11 (39A10)

Chen, X. *see* **Chen, Xiao Jun[1]**

Chen, X. B. *see* **Chen, Xibin**

Chen, X. Q. *see* **Chen, Xiao Qi**

Chen, Xi (*with* Zhou, Xun Yu) Deterministic near-optimal controls with state constraints. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 513–526. (Summary) **99k:49043** 49K15

Chen, Xi[2] Unirationality of Fano varieties. *Duke Math. J.* **90** (1997), *no.* 1, 63–71. (Yuri G. Prokhorov) **99b:14039** 14J45 (14E05, 14J70)

Chen, Xi Geng On Fermat's equation in the set of generalized Fibonacci matrices. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 5–8. (Mao Hua Le) **99g:11032** 11C20 (11D61)
— (*with* Le, Mao Hua) The positive integer solutions of the equation $xy + yz + zx = n$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 577–582. (Xianke Zhang) **99h:11023** 11D09
— (*with* Le, Mao Hua) A note on Terai's conjecture concerning Pythagorean numbers. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 5, 80–81. (Nikos Tzanakis) **99h:11035** 11D61
— (*with* Le, Mao Hua) The module periodicity of Smarandache concatenated odd sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 102–103. 11B83
Chen, Xi Ru (*with* Wu, Yue Hua; Zhao, Lin Cheng) A necessary condition for the consistency of LAD estimate. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 292–297. (Zhi-Dong Bai) **99a:62090** 62J05 (62F10, 62G20)
— (*with* Fang, Kai-Tai; Zhang, Run Chu; Zhu, Li-Xing) Asymptotics in addition of pseudo-random sequences. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 612–621. (Peter J. Hellekalek) **99a:65018** 65C10 (11K45)
— (*with* Jin, Ming Zhong[1]) Some remarks concerning the consistency of LS and LAD estimates of multiple regression. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 121–128. (Summary) **99c:62176** 62J05 (62F12)
— (*with* Zhu, Li-Xing) An iterative estimation method for the parameters of a censored linear model. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 123–132. (Summary) **99d:62030** 62G05 (62G20)
Chen, Xia (*with* de Acosta, Alejandro D.) Moderate deviations for empirical measures of Markov chains: upper bounds. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 1075–1110. (Miguel A. Arcones) **99k:60069** 60F10 (60J10)
— Limit theorems for functionals of ergodic Markov chains with general state space. (English summary) *Mem. Amer. Math. Soc.* **139** (1999), *no.* 664, *xiv*+203 *pp.* (Esa Nummelin) **99k:60170** 60J05 (60F05, 60F15)
Chen, Xiang[2] Dispersion, experimental apparatus, and the acceptance of the wave theory of light. (English summary) *Ann. of Sci.* **55** (1998), *no.* 4, 401–420. 01A55 (78–03)
Chen, Xiang-Jun (*with* Yue, Hong[1]; Huang, Nian-Ning) An inverse scattering transform for the Landau-Lifshitz equation for a spin chain with an easy plane. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2491–2501. (Summary) **99b:82025** 82B20 (81U40)
— (*with* Chen, Zhi-De; Huang, Nian-Ning) A direct perturbation theory for dark solitons based on a complete set of the squared Jost solutions. (English summary) *J. Phys. A* **31** (1998), *no.* 33, 6929–6947. (Summary) **99d:35150** 35Q55
Chen, Xiang Wei (*with* Luo, Shao Kai) Integration method for the dynamics equation of relative motion of variable mass nonlinear nonholonomic system. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 5, 479–488; *translated from Appl. Math. Mech.* **19** (1998), *no.* 5, 447–455 (*Chinese. English and Chinese summaries*). (Q. K. Ghori) **99h:70022** 70F25 (70P05)
Chen, Xiang Yang (*with* Lu, Shi Jie) Commutants of Volterra operators. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 3, 361–365. (Summary) **99g:47106** 47D25 (47A15, 47B38, 47C05)
Chen, Xiao Dong[2] (*with* Shi, Xiao Ping[2]; Ma, Guang Fu; Wang, Zi Cai) The least maximum-error parameter estimation method for linear systems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 3, 42–44. 93E10
Chen, Xiao Jun *see* **Chen, Xiao Jun[2]**
Chen, Xiao Jun[1] A parallel BFGS-SQP method for stochastic linear programs. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 177–184, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C15 (65K05)
— Superlinear convergence of smoothing quasi-Newton methods for nonsmooth equations. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 105–126. (Summary) **99a:90182** 90C30 (49J52)
— Global and superlinear convergence of inexact Uzawa methods for saddle point problems with nondifferentiable mappings. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1130–1148 (*electronic*). (R. P. Tewarson) **99d:65161** 65H10 (90C30)
— (*with* Ye, Yinyu) On homotopy-smoothing methods for box-constrained variational inequalities. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 589–616 (*electronic*). (Florian Jarre) **99j:90096** 90C33 (49J40)
Chen, Xiao Jun[2] (*with* De Giacomo, Giuseppe) Reasoning about nondeterministic and concurrent actions: a process algebra approach. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 63–98. (Summary) **99k:68060** 68Q10 (68Q60)
Chen, Xiao Man (*with* Yan, Shaozong; Xu, Shengzhi) The K-theory and the classification of the irrational rotation groupoid C^*-algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 2, 270. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 2, 257–264. (Judith A. Packer) **99b:46091** 46L05 (19K56, 46L35, 46L80)
— (*with* Yan, Shaozong; Xu, Shengzhi) Groupoid structure of Toeplitz algebra over L-shaped domain. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 2, 163–171. (Raúl E. Curto) **99c:47027** 47B35 (46L35, 47B20, 47B38, 47D25)
— (*with* Yan, Shaozong; Guo, Kun Yu) Hankel operators and Hankel algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 65–76. (Vladimir M. Deundyak) **99c:47028** 47B35 (45E10, 46L05, 47D25)
— (*with* Xu, Qing Xiang) Fredholm operators in Toeplitz algebras associated with discrete abelian groups. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 14, 1175–1179. (Summary) **99j:47040** 47B35 (46L99, 47A53, 47D25)
— (*with* Xu, Qing Xiang) Fredholm operators in Toeplitz operator algebras over discrete abelian groups. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 7, 706–709. 47B35 (46L05, 47A53)
— (*with* Xu, Qing Xiang) A note on Toeplitz operators on discrete groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3625–3631. (Raúl E. Curto) **99g:47059** 47B35 (06A06, 46L99)
— (*with* Yan, Shaozong; Xu, Shengzhi) Submodules of the groupoid C^*-algebra. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 379–385. (Vladimir Manuilov) **99k:46104** 46L05
— (*with* Xu, Qing Xiang) Toeplitz C^*-algebras on ordered groups and their ideals of finite elements. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 553–561. (Hua Xin Lin) **99f:46106** 46L99 (19K14, 47B35, 47D25)
Chen, Xiao Qi (*with* Ge, S. S.; Hang, Chang Chieh; Woon, L. C.) Impedance control of robot manipulators using adaptive neutral network. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 433–452. 93C85
Chen, Xiao Qun (*with* Chen, Fa Lai; Chen, Chang Song[2]) Polynomial approximation of rational curves. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 23–29. (*see* **99k:65006**) 65D17
— (*with* Chen, Zhi Bing; Xi, Mei Cheng; Zhang, Ming[6]; Feng, Yu Yu) The blossoming method for studying the dimension of a bivariate spline space. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 64–78. (Summary) **99m:41052** 41A65 (65D07)
— (*with* Xi, Mei Cheng; Li, Xu Qiang; Feng, Yu Yu) The dimensionality of natural spline spaces. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 4, 377–383. 41A15 (65D07)
Chen, Xiao Tao (*with* Chen, Lun Ming) A state space description of the rational functional matrix $G(s)$ via the canonical decomposition. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 524–529. 93C80 (93C05)
Chen, Xiaohong *see* **Chen, Xiaohong[2]**
Chen, Xiaohong[1] (*with* White, Halbert) Central limit and functional central limit theorems for Hilbert-valued dependent heterogeneous arrays with applications. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 260–284. (Summary) **99c:60007** 60B12 (62G05, 62P20)
Chen, Xiaohong[2] (*with* Takahara, Yasuhiko) A formal representation of DSS generator. *Systems: theory and practice*, 117–134, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 90B30 (93A30)
Chen, Xiaojun *see* **Chen, Xiao Jun[1]**
Chen, Xiaolong (*with* Zhu, Pingtian) π-tower groups and their properties. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 2, 8–11, 28. (W. E. Deskins) **99e:20029** 20D20
Chen, Xiaoxing (*with* Lin, Faxing) Exponential trichotomy and roughness. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 338–349. (Rimma A. Prokhorova) **99e:34062** 34D10 (34A30, 34C11)
Chen, Xibin (*with* Kostreva, M. M.) Global convergence analysis of algorithms for finding feasible points in norm-relaxed MFD. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 287–309. (K. Schittkowski) **99m:90128** 90C30 (65K05)
Chen, Xin (*with* Chen, Yong Lin) A representation and a Cramer rule for approximate solutions of inconsistent restricted matrix equations. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 1–5. 65F10 (15A24, 65F30)
Chen, Xin Min (*with* Xuan, Heng Nong) The uniform boundedness principle for a family of α-convex functionals. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 347–349. 46B10
Chen, Xin Xiang (*with* Zhao, Jin Zhou) The Doob stopping theorem for set-valued martingales. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 25–28. (Summary) **99i:60094** 60G40 (60G42, 60G44)
Chen, Xinfu (*with* Alikakos, Nicholas D.; Fusco, Giorgio) Motion by surface tension along a fixed boundary. *Differential equations and applications (Hangzhou*, 1996), 1–13, *Internat. Press, Cambridge, MA*, 199?. (Barbara Priwitzer) **99b:35171** 35Q35 (49Q10, 76D45)
— Existence, uniqueness, and asymptotic stability of traveling waves in nonlocal evolution equations. (English summary) *Differential equations and applications (Hangzhou*, 1996), 54–62, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 35K55 (34G20, 35K57)
— Rigorous verifications of formal asymptotic expansions. *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai*, 1997), 9–33, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Denise Huet) **99f:35017** 35C20 (35B25, 35K57)
— (*with* Caginalp, Gunduz) Convergence of the phase field model to its sharp interface limits. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 4, 417–445. (Weiqing Xie) **99i:80011** 80A22 (35K55, 35R35)
— (*with* Alikakos, Nicholas D.; Bates, Peter W.) Periodic traveling waves and locating oscillating patterns in multidimensional domains. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2777–2805. (Gunter Bengel) **99j:35101** 35K57 (35B10, 35B25)
Chen, Xing Gou *see* **Wang, Da Hai et al.**
Chen, Xinkai (*with* Fukuda, Toshio) Computer-controlled continuous-time variable structure systems with sliding modes. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 619–639. (Summary) **99m:93015** 93B12 (93C57)
— (*with* Fukuda, Toshio) Variable structure system theory based disturbance identification and its applications. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 373–384. 93B12 (93B30)
— (*with* Fukuda, Toshio) Implicit state estimators and their application to pole assignment controllers for systems with uncertainties. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 101–122. (Summary) **99c:93074** 93C73 (93B55, 93C41)
— (*with* Fukuda, Toshio) VSS theory-based disturbance estimation scheme for MIMO systems and its applications. (English summary) *Internat. J. Control* **69** (1998), *no.* 6, 733–752. 93B12 (93E10)
— (*with* Fukuda, Toshio) Adaptive quasi-sliding mode control for discrete-time multivariable systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 133–140. (Nicholas P. Karampetakis) **99k:93032** 93B12 (93C40)
Chen, Xinyue *see* **Cheng, Xin Yue**
Chen, Xiu Hong Duality for properly efficient solutions in multiobjective programming with G-(F, ρ) convexity. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 4, 494–500. 90C29 (49N15)
Chen, Xiu Su Comment: "Optimality conditions for vector extremum problems" [Gaoxiao Yingyong Shuxue Xuebao, Ser. A **9** (1994), Supplement, 73–81] by X. M. Yang. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 301–304. 90C29

Chen, Xiuxiong Weak limits of Riemannian metrics in surfaces with integral curvature bound. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 3, 189–226. (Zhongmin Shen) **99k:53087** 53C23 (53C20)
— Extremal Hermitian metrics on Riemannian surfaces. *Internat. Math. Res. Notices* **1998**, *no.* 15, 781–797. (Thalia D. Jeffres) **99i:58035** 58E11 (53C55)
Chen, Xu-Yan On the scaling limits at zeros of solutions of parabolic equations. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 355–382. (Siegfried Carl) **99e:35093** 35K25 (34C35, 35B05, 35B40)
— A strong unique continuation theorem for parabolic equations. *Math. Ann.* **311** (1998), *no.* 4, 603–630. (W. Watzlawek) **99h:35078** 35K10 (35B60, 35K40, 35R45)
Chen, Xue-Bo (*with* Stanković, Srdjan S.; Mataušek, Miroslav R.; Šiljak, Dragoslav D.) Stochastic inclusion principle applied to decentralized automatic generation control. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 276–288. (Muhidin Lelic) **99m:93096** 93E03 (93A13)
Chen, Xue Gang A new method for proving that complete multipartite graphs satisfy the total chromatic number conjecture. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 2, 206–209. (Summary) **99h:05038** 05C15
Chen, Xue Hua (*with* Sun, Xiao Qian; You, Jin Hong) The volume ratio statistic of confidence regions for regression coefficients in GMANOVA models. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 9–14. (Summary) **99i:62128** 62H12
Chen, Xue Min (*with* Wang, Zidong; Tang, Guoqing) Robust controller design for uncertain linear systems with circular pole constraints. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 1045–1054. 93B51
Chen, Xuemei (*with* Tao, Renji; Chen, Shi Hua[1]) FAPKC3: a new finite automaton public key cryptosystem. (English summary) *J. Comput. Sci. Tech.* **12** (1997), *no.* 4, 289–305. (Winfried Müller) **99a:94040** 94A60 (68P25, 68Q70)
Chen, Xuemin *see* **Chen, Xue Min**
Chen, Y. *see* **Chen, Yangquan**
Chen, Y.-H. *see* **Chen, Yen-Hung**
Chen, Y. L. *see* **Ch'ên, Yen Liang**
Chen, Y. Q. *see* **Chen, Yu Qing**
Chen, Y. S. *see* **Chen, Yushu S.**
Chen, Y.-T. *see* **Chen, Yun-tai**
Chen, Y. Z. *see* **Chen, Yi Zhou**
Chen, Ya Jun (*with* Xu, Xiao Ming; Yang, Yu Pu) Stability of a class of feedback neural networks with time-delay and estimation of the domain of attraction. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 376–380. (Summary) **99g:68171** 68T05 (92B20)
Chen, Ya Ya (*with* Wu, Zong Min) Lipschitz constant-diminishing interpolation for scattered data. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 9–14. (*see* **99k:65006**) 65D17 (65D15)
Chen, Ya-Zhe (*with* Wu, Lan-Cheng) ★ Second order elliptic equations and elliptic systems. (English summary) Translated from the 1991 Chinese original by Bei Hu. Translations of Mathematical Monographs, 174. *American Mathematical Society, Providence, RI*, 1998. *xiv*+246 *pp. ISBN* 0-8218-0970-9 (Gary M. Lieberman) **99i:35016** 35Jxx (35–01)
Chen, Yan (*with* Wang, Ping[1]) Diameter saturated graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 35–41. (Summary) **99j:05058** 05C12
Chen, Yan Ping (*with* Huang, Yun Qing) Superconvergence of a time-discretization procedure for compressible miscible displacement. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 41–50. 65M06 (76M10, 76S05)
— Application of superconvergence to a model for compressible miscible displacement. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 25–37. (Jian-Ping Zhu) **99g:76081** 76M10 (65N30, 76S05)
Chen, Yan Ping (*with* Zhu, Xiong Wei; Cai, Shi Dong) Progress in gyrokinetics. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1793–1799. 78A35 (76X05)
Chen, Yan Xin (*with* Qi, Fei Hu) Research on synergetic learning algorithms. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 8, 26–30. 65J10 (68T05)
Chen, Yang *see* **Chen, Yang[2]**
Chen, Yang[1] (*with* Ismail, Mourad E. H.) Asymptotics of extreme zeros of the Meixner-Pollaczek polynomials. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 59–78. (Shusen Ding) **99c:33014** 33C45 (30C15, 30E05)
— (*with* Ismail, Mourad E. H.; Van Assche, Walter) Tau-function constructions of the recurrence coefficients of orthogonal polynomials. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 141–168. (Mayumi Ohmiya) **99b:33013** 33C45 (39A10, 82B41)
— (*with* Ismail, Mourad E. H.) Some indeterminate moment problems and Freud-like weights. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 439–458. (Boris Petrovich Osilenker) **99j:44016** 44A60 (33D45)
— (*with* Lawrence, Nigel) On the linear statistics of Hermitian random matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1141–1152. (Alexei Khorunzhy) **99i:82022** 82B44 (15A52)
— (*with* Ismail, Mourad E. H.) Asymptotics of the largest zeros of some orthogonal polynomials. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5525–5544. (Tim H. Baker) **99g:33049** 33D45
— (*with* Ismail, Mourad E. H.) Hermitean matrix ensembles and orthogonal polynomials. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 1, 33–52. (Boris A. Khoruzhenko) **99d:82032** 82B44 (33C45, 42C05)
Chen, Yang[2] (*with* Wu, Shi Quan[1]; Marcotte, Patrice) A cutting plane method for linear bilevel programs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 125–133. (Jane Juan-Juan Ye) **99f:90060** 90C05
Chen, Yang Zhou (*with* Liu, Jia Qi; Chen, Shan Ben) The Kalman-Yakubovich lemma and analysis of robust stability for systems with uncertainties. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 715–717. 93D09
— Linear-quadratic optimal control of time-invariant systems with a bound on the control energy. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 451–454. 49N10 (93B50)
— (*with* Chen, Shan Ben; Liu, Jia Qi) The frequency theorem (Kalman-Yakubovich lemma) in control theory. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 477–488. 93-02 (93Bxx)
Chen, Yangjun Evaluating linear binary programs by traversing automaton hierarchy. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98) (Manchester*, 1998), 37–46, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15
— Graph traversal and top-down evaluation of logic queries. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 4, 300–316. 68N17 (68P15)
— OLDTNF-based evaluation method for handling recursive queries in deductive databases. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 561–578. (Summary) **99j:68025** 68P15
Chen, Yangquan (*with* Wen, Changyun; Sun, Mingxuan) A robust high-order P-type iterative learning controller using current iteration tracking error. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 331–342. 93E35 (93E03)
— (*with* Gong, Zhiming; Wen, Changyun) Analysis of a high-order iterative learning control algorithm for uncertain nonlinear systems with state delays. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 345–353. (Summary) **99a:93034** 93B40 (93C40)
— (*with* Wen, Changyun; Gong, Zhiming; Sun, Mingxuan) An iterative learning controller with initial state learning. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 371–376. 93E35 (93C41)
Chen, Yanping *see* **Chen, Yan Ping**
Chen, Yansong On a nonlinear elliptic equation involving the critical Sobolev exponent. *Nonlinear Anal.* **33** (1998), *no.* 1, 41–49. (Yi Hong Du) **99f:35057** 35J65 (35B99, 58E05)
Chen, Yaobin (*with* Huang, Jian[2]) An improved computation of time-optimal control trajectory for robotic point-to-point motion. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 177–194. 49N55 (70B15, 70Q05, 93C85)
Chen, Ye-Hwa (*with* Marriott, Jack) Robust control design for adaptive fuzzy systems. (English summary) *Int. J. Intell. Control Syst.* **1** (1996), *no.* 4, 427–439. 93C42 (93B36)
— (*with* Wang, Wen-June) Decentralized robust control design with insufficient number of controllers. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 1015–1030. 93A14 (93B51)
— (*with* Lee, T. Sen; Chuang, C.-H.) Control of discrete fuzzy systems: uncertainty and guaranteed performance. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 83–106. (Peter V. Golubtsov) **99e:93043** 93C42 (04A72)
— Pars's acceleration paradox. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 871–875. (A. Sumbatov) **99c:70002** 70A05 (70D05)
— (*with* Lee, T. Sen; Chuang, C.-H.) Control for tractor-semitrailer vehicle systems: a Lyapunov minimax approach. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 21–37. 93C85 (70Q05)
Chen, Yen-Hung (*with* Fang, Shu Cherng) Solving convex programming problems with equality constraints by neural networks. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 41–68. (Summary) **99e:90066** 90C25
Ch'ên, Yen Liang (*with* Tang, Kwei) Minimum time paths in a network with mixed time constraints. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 10, 793–805. (Summary) **99g:90044** 90B10 (90C35)
Chen, Yi-Ju[2] (*with* Hewett, John; Wang, Yazhen; Johnson, Jane) A rank test for equality of two multivariate populations vs a particular ordered alternative. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 129–144. (Summary) **99j:62063** 62G10
Chen, Yi Jun The summability of certain maximal functions on noncompact symmetric spaces of rank 1. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 361–368. (Li Min Sun) **99m:43010** 43A85 (22E30)
Chen, Yi Liang (*with* Zhu, Zuo Jin; Wu, Tong Qiang; Yuan, Xiao Ping) Solution of the KdV-Burgers equation by the quasicharacteristic line method. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **27** (1997), *no.* 4, 481–486. (Summary) **99b:65110** 65M25 (76B15, 76M25)
Chen, Yi Xiang Cartesian closedness of the category of locally algebraic lattices and stable mappings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 597–602. (Summary) **99i:06004** 06B35 (18D15)
— Semilattices and representations of domains. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 737–742. (Summary) **99i:06005** 06B35 (54B99)
— Paracompactness on topological molecular lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 1019–1025. 54A40 (06F30)
— Semitopological systems. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 479–486. 54A10
Chen, Yi Zhou Novel numerical solution technique for evaluating eigenvalues in a plane notch problem. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 11, 1039–1046. 73V20 (73B50)
Chen, Yihua (*with* Li, Wan Tong) Oscillation and comparison of neutral difference equations. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **1** (1997), *no.* 1, 117–120. (Summary) **99c:39004** 39A10
Chen, Ying *see* **Chen, Ying[5]**
Chen, Ying[1] (*with* Shao, Jun[1]; Chen, Yinzhong) Balanced repeated replication for stratified multistage survey data under imputation. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 819–831. (Victor K. T. Tang) **99c:62027** 62D05
Chen, Ying[5] (*with* Song, Yong Zhong) Solutions of systems of differential-algebraic equations with inconsistent initial conditions. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 2, 6–11. (Summary) **99a:34002** 34A09
Chen, Yinzhong (*with* Shao, Jun[1]; Chen, Ying[1]) Balanced repeated replication for stratified multistage survey data under imputation. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 819–831. (Victor K. T. Tang) **99c:62027** 62D05
— (*with* Shao, Jun[1]) Bootstrapping sample quantiles based on complex survey data under hot deck imputation. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1071–1085. (Jagdish Saran) **99k:62024** 62D05 (62G09)

Chen, Yiping (*with* Al-Mutairi, Dhaifalla K.; Singpurwalla, Nozer D.) An adaptive concatenated failure rate model for software reliability. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1150–1163. 62N05

Chen, Yiqiang Soliton states of Maxwell's equations and nonlinear Schrödinger equation. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1073–1081. (Summary) **99a:78032** 78A60 (35Q55, 35Q60)

Chen, Yong-Gao (*with* Ji, Chun Gang) The degrees of extensions of algebraic number fields. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 3, 1–4. (Zhi Yong Zheng) **99k:11170** 11R21

— The largest prime factors of integers n and $n+1$. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 4, 1–3. (Tian Ze Wang) **99e:11122** 11N25

— Sequences with bounded l.c.m. of each pair of terms. *Acta Arith.* **84** (1998), *no.* 1, 71–95. (Ognian Trifonov) **99b:11015** 11B75 (11B83)

— (*with* Ji, Chun Gang) The number of multinomial coefficients not divided by a prime. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 37–48. (Gerhard Larcher) **99j:11020** 11B65 (11K16)

— (*with* Cusick, Thomas W.) The view-obstruction problem for n-dimensional cubes. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 126–133. (Martin Henk) **99m:11079** 11J25 (52C07)

— On sums and products of integers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1927–1933. (Vsevolod F. Lev) **99j:11022** 11B75 (11B13)

Chen, Yong Hong[2] (*with* Xu, Jian Xue; Fang, Tong) A chaotic attractor in the normal form network. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 6, 676–681. 58F13 (58F36)

Chen, Yong Lin Iterative solution methods for general restricted systems of linear equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **19** (1996), *no.* 4, 489–497. (Summary) **99b:65031** 65F10

— Finite algorithms for several constrained generalized inverses of matrices. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 232–240. (So-Hsiang Chou) **99h:65052** 65F10 (15A09)

— (*with* Chen, Xin) A representation and a Cramer rule for approximate solutions of inconsistent restricted matrix equations. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 1–5. 65F10 (15A24, 65F30)

Chen, Yong-Zhi (*with* Chen, Min-Shin) Static output feedback control for periodically time-varying systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 218–222. (Summary) **99j:93042** 93B52 (93C60)

Chen, Yongze (*with* Guza, R. T.) Resonant scattering of edge waves by longshore periodic topography. (English summary) *J. Fluid Mech.* **369** (1998), 91–123. (Summary) **99e:86001** 86A05

Chen, Yow-Mow (*with* Doi, Makoto; Ōsawa, Hideo) A queueing model in which arrival times are scheduled. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 249–252. (Summary) **99b:90054** 90B22

Chen, Yu *see* **Chen, Yu[8]**

Chen, Yu[4] (*with* Shi, Jian-Yi) Left cells in the Weyl group of type E_7. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3837–3852. (R. W. Carter) **99h:20065** 20F55

Chen, Yu[5] Recursive linearization for inverse scattering. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 114–117, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35R30 (65M30)

Chen, Yu[8] (*with* Kossowski, Marek) Global differential geometry of 1-resolvable C^∞ curves in the plane. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 173–188. (Paul E. Ehrlich) **99k:53001** 53A04

Chen, Yu Fu (*with* Zhang, Hong Qing[1]) A characterization of recursion operators. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 5, 497–501. (Wen Xiu Ma) **99m:35240** 35Q58 (58F07)

Chen, Yu Qing (*with* Zhang, Shi Sheng; Thompson, H. B.; Yuan, Xian-Zhi) Nonlinear accretive operators and semigroups in locally convex spaces. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 215–234. (Vladimir E. Fedorov) **99j:47076** 47H06 (34A60, 34G20, 47H20)

— (*with* Zhang, Shi Sheng; Cho, Yeol Je; Lee, Byung Soo) Fixed point theorems for nonexpansive operators with dissipative perturbations in cones. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 49–54. (S. N. Askhabov) **99f:47083** 47H10 (45G10, 47H09)

— On Hamiltonicity of vertex-transitive graphs and digraphs of order p^4. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 110–121. (Dragan Marušič) **99h:05079** 05C45 (05C20, 05C25)

— (*with* Aizicovici, Sergiu) Note on the topological degree of the subdifferential of a lower semi-continuous convex function. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2905–2908. (Vesa Mustonen) **99a:47090** 47H11 (47H15, 47H17, 55M25, 58C30)

— On the semi-monotone operator theory and applications. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 177–192. (Vesa Mustonen) **99k:47131** 47H05 (47H11, 47H15)

— (*with* Aizicovici, Sergiu; Reich, Simeon) Accretive operators in locally convex spaces. (English summary) *Panamer. Math. J.* **9** (1999), *no.* 1, 1–10. (Vladimir E. Fedorov) **99k:47133** 47H06 (34A60, 34G20)

— A note on holomorphic maps with unipotent Jacobian matrices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2041–2044. (L. Andrew Campbell) **99j:32026** 32H02 (14E09)

— Note on two questions of Arhangelskii. *Questions Answers Gen. Topology* **17** (1999), *no.* 1, 91–94. 54H11

Chen, Yu-Qun (*with* Zhang, Mou-Cheng) On Z-semigroups. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 117–122, *World Sci. Publishing, River Edge, NJ*, 1998. (From the introduction) **99i:20083** 20M17 (20M19)

Chen, Yu Sen (*with* Mo, Jia Qi) A class of singular perturbation problems for reaction-diffusion equations with nonlocal boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 25–30. (Summary) **99e:35108** 35K57 (35B25)

Chen, Yu-Ying (*with* Chen, Chang-Pao) On the integrals of Riemann-Lebesgue type. (English summary) *Tohoku Math. J. (2)* **49** (1997), *no.* 3, 347–353. (S. M. Mazhar) **99a:42002** 42A20

Chen, Yuan[2] (*with* Chen, Hao[3]; He, Bao Peng) An improved soliton solution in a one-dimensional ferromagnetic chain. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 1–4. (Summary) **99a:82014** 82B20

Chen, Yuanqian (*with* Conrad, Paul) Special-valued subgroups of lattice-ordered groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1893–1902. (R. H. Redfield) **99j:06009** 06F15 (06F20, 20F60)

Chen, Yubo (*with* Li, Xuemin) Necessary and sufficient conditions of a plane n-degree system with Dulac's center. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 366–376. (Henryk Żołądek) **99a:34085** 34C05

Chen, Yue-Lan (*with* Hiraki, Akira; Koolen, J. H.) On distance-regular graphs with $c_4 = 1$ and $a_1 \neq a_2$. *Kyushu J. Math.* **52** (1998), *no.* 2, 265–277. (Robert Beezer) **99g:05186** 05E30 (05C12)

— (*with* Hiraki, Akira) On the non-existence of certain distance-regular graphs. *Kyushu J. Math.* **53** (1999), *no.* 1, 1–15. (Jack H. Koolen) **99m:05169** 05E30

Chen, Yuh-Ing Simple-tree weighted logrank tests for right-censored data. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 311–324. 62G10

Chen, Yun A combined fast RSA algorithm. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 2, 116–119. 94A60

— An improved fast RSA algorithm based on symmetry of modulo multiplication. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 5, 477–482. (Summary) **99b:94026** 94A60

Chen, Yun Mei (*with* Shen, Chun-Li) Evolution problem of Yang-Mills flow over 4-dimensional manifold. *Variational methods in nonlinear analysis (Erice, 1992)*, 63–66, *Gordon and Breach, Basel*, 1995. (Introduction) **99g:58030** 58E15 (53C07)

— A remark on the regularity for the Landau-Lifshitz equation. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 207–221. (Summary) **99a:82027** 82B21 (35D10, 35Q99, 82D40)

— Uniqueness for weak flow of H-systems with Dirichlet boundary conditions. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 2105–2127. (Anna Maria Candela) **99i:35074** 35K60 (35B65)

— (*with* Ding, Shi Jin; Guo, Bo Ling) Partial regularity for two-dimensional Landau-Lifshitz equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1043–1046. 35Q55 (35D10)

Chen, Yun-tai *see* **Morozov, Igor B., 99b:86002**

Chen, Yunkai (*with* He, Xiaogui) Nonexistence of small periodic traveling wave solutions to the power Kadomtsev-Petviashvili equation. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 43–50. (Summary) **99h:35183** 35Q53 (34B15, 35B10)

Chen, Yupin (*with* Glimm, James; Saltz, David; Sharp, David H.; Zhang, Qiang[1]) A two-phase flow formulation for the Rayleigh-Taylor mixing zone and its renormalization group solution. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 23–32, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76144** 76T05 (76E99, 76M35)

Chen, Yushu S. (*with* Xu, Jian[2]) On bifurcations of nonlinear systems with parametric excitation. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 3, 313–316. (W. S. Loud) **99f:34055** 34C23 (58F14, 70K40)

— (*with* Zhang, Wei Yi; Huseyin, Koncay) A new approach for obtaining normal forms of non-linear systems. (English summary) *J. Sound Vibration* **210** (1998), *no.* 5, 609–625. (James A. Murdock) **99g:34082** 34C20 (34C29, 58F36)

— (*with* Zhang, Wei Yi; Huseyin, Koncay) On the analysis of certain high-dimensional systems with inner resonances. (English summary) *J. Sound Vibration* **213** (1998), *no.* 4, 739–756. (Peter Ashwin) **99g:34083** 34C20 (70K30)

Chen, Z. *see* **Chen, Zhi[1]**

Chen, Z. Q. *see* **Chen, Zhao Qin**

Chen, Zen-Qing *see* **Chen, Zhen-Qing**

Chen, Zeng Qiang (*with* Zhao, Tian Hang; Yuan, Zhu Zhi) A constrained multivariable generalized predictive controller based on a Tank-Hopfield neural network. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 847–852. 93C83 (93B50)

Chen, Zengjing A property of backward stochastic differential equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 483–488. (Xue Rong Mao) **99i:60116** 60H10

— (*with* Peng, Shige) A decomposition theorem of g-martingales. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 197–208. (Ely Merzbach) **99m:60086** 60H10 (60G44, 60H20)

Chen, Zhan Feng (*with* Xu, Duan; Wu, Jian Zhong[2]) Major-in-weight efficiency and major-in-weight optimality of multiple criteria decision making. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 185–189. 90C29 (90A05)

— (*with* Xu, Duan; Wu, Jian Zhong[2]) Further study on H_β- efficient solutions of decision problems with multiple criteria. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 78–82. 90A05 (90C29)

— (*with* Xu, Duan) A new method for finding major efficient solutions and major optimal solutions of discrete multiobjective programming. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 321–326. (Summary) **99g:90107** 90C29 (90C10)

Chen, Zhangxin The analysis of intergrid transfer operators and multigrid methods for nonconforming finite elements. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 78–96 (*electronic*). (Zheng Hui Xie) **99c:65230** 65N55 (65N30)

— (*with* Kwak, Do Y.) $\mathscr{V}$-cycle Galerkin-multigrid methods for nonconforming methods for nonsymmetric and indefinite problems. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 17–35. (Stephen W. Brady) **99j:65226** 65N55 (65N30)

— Analysis of large-scale averaged models for two-phase flow in fractured reservoirs. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 158–181. (Robert Lipton) **99e:76118** 76S05 (35Q72, 73B27)

— Expanded mixed finite element methods for linear second-order elliptic problems. I. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4, 479–499. (Thomas Apel) **99j:65201** 65N30

— Expanded mixed finite element methods for quasilinear second order elliptic problems. II. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4,

501–520. (Thomas Apel) **99j:65202** 65N30
— (*with* Kwak, Do Y.; Yon, Yoon J.) Multigrid algorithms for nonconforming and mixed methods for nonsymmetric and indefinite problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 502–515 (*electronic*). (Summary) **99b:65140** 65N30 (65F10, 65N22)
— (*with* Ewing, Richard E.) Mathematical analysis for reservoir models. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 431–453 (*electronic*). (Małgorzata Peszyńska) **99m:76107** 76S05 (35K55, 76T05)
Chen, Zhao-Guo (*with* Anderson, Oliver D.) Increment-vector methodology: transforming non-stationary series to stationary series. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 64–77. (V. V. Anh) **99c:62244** 62M10
Chen, Zhao Mu (*with* Lin, Da Hua) Fixed points of BCI-algebras. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **12** (1996), *no.* 4, 29–34. 06F35 (03G25)
— (*with* Huang, Yi Sheng[2]) Multiply implicative BCK-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 325–328. (Elias Deeba) **99a:06024** 06F35 (03G25, 08A05)
Chen, Zhao Qin (*with* Pan, Victor Y.; Tabanjeh, M. Abu; Providence, S.; Sadikou, A.) Transformations of Cauchy matrices, Trummer's problem and a Cauchy-like linear solver. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 274–284, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F30 (65Y25)
— (*with* Pan, Victor Y.; Tabanjeh, M. Abu; Landowne, E. I.; Sadikou, A.) New transformations of Cauchy matrices and Trummer's problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 1–5. (Summary) **99c:65078** 65F30
Chen, Zhen Long Properties of the polar sets of Brownian sheets. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 373–378. (Zhen-Qing Chen) **99k:60102** 60G10 (60G60, 60J45)
Chen, Zhen-Qing (*with* Durrett, Richard; Ma, Gang) Holomorphic diffusions and boundary behavior of harmonic functions. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1103–1134. (Summary) **99k:60195** 60J45 (31B25, 60J60)
— (*with* Burdzy, Krzysztof) Weak convergence of reflecting Brownian motions. *Electron. Comm. Probab.* **3** (1998), 29–33 (*electronic*). (Youngmee Kwon) **99d:60091** 60J65
— (*with* Qian, Zhongmin; Hu, Yao Zhong; Zheng, Weian) Stability and approximations of symmetric diffusion semigroups and kernels. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 255–280. (Zhi Ming Ma) **99f:60139** 60J60 (35A08, 35J45, 47D07)
Chen, Zhenhua (*with* Yan, Jiaren; Tang, Yi; Zhou, Guanghui) Direct approach to the study of soliton perturbations of the nonlinear Schrödinger equation and the sine-Gordon equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 1064–1073. (Summary) **99c:35233** 35Q55 (35Q53)
Chen, Zhenmin (*with* Mi, Jie) Statistical estimation for the scale parameter of the gamma distribution based on grouped data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3035–3045. (Summary) **99j:62025** 62F10
— Joint estimation for the parameters of Weibull distribution. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 113–120. (Summary) **99a:62021** 62F10 (62N05)
— Joint estimation for the parameters of the extreme value distributions. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 135–146. (Summary) **99b:62027** 62F10
Chen, Zhi (*with* Luo, Zhang Hua) A parametric iterative method for solving the matrix equation $AX - XB = E$. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 5, 10–14. 65F30 (65F10)
Chen, Zhi[1] (*with* Deng, Nai Yang) Some algorithms for the convex quadratic programming problem via the ABS approach. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 157–170. (Summary) **99a:90153** 90C25 (90C20)
— (*with* Gao, Lu-duan; Deng, Nai Yang) A class of discretized Newton methods for solving systems of nonlinear equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 57–68. (Summary) **99c:65102** 65H10
— (*with* Deng, Nai Yang) A new nonlinear ABS-type algorithm and its efficiency analysis. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 71–85. (Summary) **99k:65046** 65H10
Chen, Zhi Bing (*with* Xi, Mei Cheng; Chen, Xiao Qun; Zhang, Ming[6]; Feng, Yu Yu) The blossoming method for studying the dimension of a bivariate spline space. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 64–78. (Summary) **99m:41052** 41A65 (65D07)
— (*with* Deng, Jian Song; Xi, Mei Cheng) The dimension of the spline space $S_6^3(\Delta_{ms})$ for the Morgen-Scott partition. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 5, 505–512. 65D17
Chen, Zhi-De (*with* Chen, Xiang-Jun; Huang, Nian-Ning) A direct perturbation theory for dark solitons based on a complete set of the squared Jost solutions. (English summary) *J. Phys. A* **31** (1998), *no.* 33, 6929–6947. (Summary) **99d:35150** 35Q55
Chen, Zhi Guo (*with* Chen, Ji Xiu) A remark on: "An approximation condition and extremal quasiconformal extension" [Proc. Amer. Math. Soc. **125** (1997), no. 5, 1479–1481; MR 97g:30018] by E. Reich. *Chinese Sci. Bull.* **42** (1997), *no.* 21, 1765–1767. (Per Hag) **99h:30021** 30C62
— (*with* Chen, Ji Xiu; He, Cheng Qi) Functions with unbounded $\overline{\partial}$-derivative and their boundary functions. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 100–109. (Summary) **99c:30038** 30C62
— (*with* Chen, Ji Xiu; He, Cheng Qi) Teichmüller extremal mappings on hyperbolic domains. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 333–338. (Shan Shuang Yang) **99i:30033** 30C62
Chen, Zhi-Hong (*with* Lai, Hong-Jian) Super-Eulerian graphs and the Petersen graph. II. (English summary) *Ars Combin.* **48** (1998), 271–282. (Summary) **99c:05123** 05C45
— Fan-type conditions for collapsible graphs. (English summary) *Ars Combin.* **50** (1998), 81–95. (Summary) **99i:05133** 05C45
— (*with* Lai, Hong-Jian; Zhang, Xiankun; Xu, Lei[2]) Group coloring and group connectivity of graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 123–130. (Summary) **99j:05068** 05C15 (05C25, 05C40)
Chen, Zhi Hua (*with* Zhou, Zhao Hui) L^2 harmonic forms on noncompact complete Riemannian manifolds. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 14, 1478–1481. 58A14 (58G03)
— (*with* Yau, Qin) The arithmetic genus and extrinsic geometry of smooth projective variety. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 729–735. (Sandra Di Rocco) **99g:14069** 14N05 (14C20)
Chen, Zhi-Long (*with* Powell, Warren B.) Solving parallel machine scheduling problems by column generation. (English summary) *INFORMS J. Comput.* **11**-(1999), *no.* 1, 78–94. 90B22 (90C35)
Chen, Zhi Ming[1] (*with* Jiang, Lishang) Approximation of a two-phase continuous casting Stefan problem. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 59–72. (J. D. P. Donnelly) **99f:80004** 80A22 (65M60, 80–08)
— (*with* Zou, Jun) Finite element methods and their convergence for elliptic and parabolic interface problems. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 175–202. (Ji Chun Li) **99d:65313** 65N30 (65F10, 65M60)
— (*with* Elliott, Charles M.; Tang, Qi) Justification of a two-dimensional evolutionary Ginzburg-Landau superconductivity model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 25–50. (Darko Kapor) **99b:35197** 35Q60 (35K55, 82D55)
Chen, Zhi Ping (*with* Gao, Yong) Process properties and stability of optimal solution sets of stochastic programming problems with random processes. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 466–472. (Summary) **99a:90140** 90C15 (90C31)
— (*with* Xu, Cheng Xian) Convergence analysis of inexact Gauss-Newton methods. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 1–7. (Summary) **99d:65152** 65H05 (65K05)
— (*with* Gao, Yong) Stochastic programming problems with random processes—the martingale properties of their optimal value processes and optimal solution set processes. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 3, 335–338. 90C15
— (*with* Xu, Cheng Xian; Zhang, Zhong Xiu) A smoothing generalized active set method for solving constrained linear l_1 problems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 9–16. 90C20
— (*with* Lin, Wei Dong; Xu, Cheng Xian) Indirect one-staging of the general multistage problem with recourse and its application. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 69–75. 90C15 (65U05)
Chen, Zhi Yun The indeterminate system $x^2 - 2y^2 = 1$, $y^2 - Dz^2 = 4$. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 2, 137–140. (Zhen Fu Cao) **99j:11026** 11D09
Chen, Zhi-Zhong Approximating unweighted connectivity problems in parallel. (English summary) *Algorithms and computation* (*Singapore*, 1997), 202–211, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q22 (68Q25, 68R10)
— (*with* Grigni, Michelangelo; Papadimitriou, Christos H.) Planar topological inference. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 1–8. (*see* **99i:65003**) 68R10 (05C10, 05C85)
Chen, Zhibo (*with* Zhang, Fuji) Interpolation theorem for a continuous function on orientations of a simple graph. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 433–438. (Yixun Lin) **99f:05049** 05C20
— (*with* Chao, Chong-Yun) On uniquely 3-colorable graphs. II. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 259–265. (Summary) **99f:05036** 05C15
Chen, Zhijie Best bounds of automorphism groups of hyperelliptic fibrations. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 469–489. (Alexandr V. Pukhlikov) **99j:14042** 14J50 (14J29)
— (*with* Chen, Meng) Irregularity of canonical pencils for a threefold of general type. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 83–87. (Yuri G. Prokhorov) **99g:14047** 14J30 (14E05, 14E30)
Chen, Zhiming *see* **Chen, Zhi Ming[1]**
Chen, Zhiqiang[1] A note on bias robustness of the median. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 363–368. (Xuming He) **99h:62029** 62F35
Chen, Zhong Hu On the basic cases for split G_2. *Chinese Sci. Bull.* **42** (1997), *no.* 18, 1512–1514. (Sergio Console) **99g:22009** 22E20
— (*with* Hu, Chaoming) On some projections of the Iwasawa-like decomposition for split G_2. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 9–12. (Zoltán Magyar) **99k:17018** 17B20 (22E46)
Chen, Zhong Rong *see* **Chen, Zong Rong**
Chen, Zhong-wen (*with* Han, Ji Ye) A trust region method for nonlinear programming with simple constraints. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 257–266. (Summary) **99a:90183** 90C30 (65K05)
Chen, Zhongmu π-Frattini subgroup and π-local formation. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 173–177. (Marian Deaconescu) **99h:20027** 20D10
— Generalization of the Schur-Zassenhaus theorem. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 290–294. (Summary) **99h:20039** 20D20 (20F16)
Chen, Zhongying (*with* Micchelli, Charles A.; Xu, Yuesheng) The Petrov-Galerkin method for second kind integral equations. II. Multiwavelet schemes. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 3, 199–233. (Iulian Coroian) **99h:65215** 65R20 (45B05, 45L05)
— (*with* Xu, Yuesheng) The Petrov-Galerkin and iterated Petrov-Galerkin methods for second-kind integral equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 406–434 (*electronic*). (Iulian Coroian) **99h:65214** 65R20 (45B05, 45L05)
— (*with* Li, Rong Hua; Wu, Wei[1]) A survey on generalized difference methods and their analysis. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 321–337, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 65N06 (65–02)
— (*with* Micchelli, Charles A.; Xu, Yuesheng) A construction of interpolating wavelets on invariant sets. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1569–1587. (Andreas Rathsfeld) **99m:65017** 65D05 (42C15, 65T99)
— *see also* **Advances in computational mathematics, 99g:65002**

Chen, Zhuorong (*with* Li, Wen[1]) A note on nonnegative normal matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 281–283. (Summary) **99c:15037** 15A48

Chen, Zi Chen (*with* Chen, Wei Qiu; Ying, Ji) A variational principle for a coupled thermoelastic contact problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 41–45, *III.* 73B30 (73T05)

Chen, Zi Jun (*with* Liu, Guo Hua; Hao, Zhong Xiao) A quick replacement algorithm for finding all candidate keys of a relation scheme. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 890–895. 68P15

Chen, Zong Ji (*with* Yang, Zhen Yu) Design of hybrid controllers based on the HIOA$^+$ model. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 3, 172–178. 93B51 (93C30)

Chen, Zong Rong (*with* Hu, Qing Long) The asymptotic theory of solutions of initial value problems for nonlinear perturbed telegraph equations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 415–418. (Summary) **99k:35121** 35L70 (35B40, 35C20)

Chen, Zong-Xuan (*with* Gao, Shi An) Entire solutions of differential equations with finite order transcendental entire coefficients. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 453–464. (Gary G. Gundersen) **99c:34004** 34A20

— Some results of complex oscillation of differential equation with transcendental coefficients. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 225–234. (Summary) **99b:34005** 34A20 (30D35)

— (*with* Yu, Jiarong) The zeros and order of meromorphic solutions of $f^{(k)} + Bf = H(z)$. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 657. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 433–444. (Gary G. Gundersen) **99m:34007** 34A20 (30D35)

Chen, Zong Xun *see* **Lin, Huo Nan, 99j:60060**

Chen, Zuchi (*with* Yan, Xiaodong) A class of pseudo-monotone operators and its applications in PDE. *Differential equations and applications (Hangzhou, 1996)*, 63–73, *Internat. Press, Cambridge, MA*, 199?. (Yi Hong Du) **99c:47082** 47H05 (35J65, 47H15, 47N20)

— (*with* Yan, Xiaodong) A class of pseudo-monotone operators and its applications in PDE. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 517–526. (Norman Dancer) **99g:35036** 35J60 (47H05, 47N20)

— (*with* Qian, Chunlin) Estimates for discrete spectrum of a certain system. *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 222–224. (Iuliu Dan Coroian) **99c:35177** 35P15 (35J40, 35P05)

Chenais, D. (*with* Mascarenhas, M. L.; Trabucho, L.) On the optimization of nonperiodic homogenized microstructures. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 5, 559–597. (Dan Polišević) **99j:73007** 73B27 (35B27, 49J45, 73K40)

Chen-Charpentier, Benito (*with* Solis, Francisco) Discretizations of nonlinear differential equations using explicit finite order methods. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 171–183. (V. R. Ibragimov) **99f:65113** 65L06 (34A45)

— (*with* Kojouharov, Hristo V.) Nonstandard methods for the convective transport equation with nonlinear reactions. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 467–485. (Summary) **99c:76075** 76M20 (65M06, 76R05, 86A05)

— Numerical simulation of biofilm growth in porous media. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 55–66. (*see* **99k:65002**) 76M25 (76S05, 92C05)

Chenciner, Alain À l'infini en temps fini. (French summary) [To infinity in finite time] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 832, 5, 323–353. (Joseph L. Gerver) **99d:70018** 70F10

Cheney, E. W. ★ Introduction to approximation theory. Reprint of the second (1982) edition. *AMS Chelsea Publishing, Providence, RI*, 1998. *xii*+259 *pp. ISBN* 0-8218-1374-9 (Editors) **99f:41001** 41-01 (41-02)

— (*with* Sun, Xingping) Interpolation on spheres by positive definite functions. (English summary) *Approximation theory*, 141–156, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Sarjoo Prasad Yadav) **99d:41002** 41-02 (41A05, 65D05)

Cheney, Margaret (*with* Lassas, Matti; Uhlmann, Gunther) Uniqueness for a wave propagation inverse problem in a half-space. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 679–684. (Gustavo Perla Menzala) **99f:35224** 35R30 (35J10)

— (*with* Isaacson, David; Newell, Jonathan C.) Electrical impedance tomography. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 85–101 (*electronic*). (From the introduction) **99k:78017** 78A30 (35J25, 35R30, 44A12, 92C55)

Cheng, A. H.-D. (*with* Detournay, E.) On singular integral equations and fundamental solutions of poroelasticity. (English summary) Poroelasticity. *Internat. J. Solids Structures* **35** (1998), *no.* 34-35, 4521–4555. (Summary) **99i:73076** 73V10 (76S05)

— *see also* **Poroelasticity, 99f:73001**

Cheng, Ai Jie Optimal error estimate in $L^\infty(J; L^2(\Omega))$ norm of FEM for a model for compressible miscible displacement in porous media. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 222–236. (Jaroslaw Jelen) **99d:76058** 76M10 (65M60, 76S05)

— Galerkin method for completely compressible displacement with molecular diffusion and dispersion. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 59–67. (Jian-Ping Zhu) **99b:76062** 76M25 (65M60, 76S05)

— An improvement of stability and convergence for the Douglas scheme in two space variables. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 265–272. 65N12 (65N06)

— Galerkin methods for miscible displacement with adsorption in porous media. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 45–58. (Summary) **99m:76091** 76M25 (76S05)

Cheng, Bin Kang (*with* da Luz, M. G. E.; Heller, Eric J.) Exact form of Green functions for segmented potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2975–2990. (Christian Grosche) **99b:81036** 81Q05 (81Q20)

Cheng, Bing (*with* Tong, Howell) A theory of wavelet representation and decomposition for a general stochastic process. *Athens Conference on Applied Probability and Time Series Analysis, Vol. II* (1995), 115–129, *Lecture Notes in Statist.*, 115, *Springer, New York*, 1996. (P. A. Morettin) **99e:60100** 60G10 (62M15)

— (*with* Tong, Howell) k-stationarity and wavelets. *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 129–144. (P. A. Morettin) **99e:62154** 62M10 (42C15)

Cheng, C. T. *see* **Cheng, Christine Callyn Tan**

Cheng, C.-Y. *see* **Cheng, Chih-Yung**

Cheng, Cao-Zong (*with* Lin, Bor-Luh) Nonlinear two functions minimax theorems. *Minimax theory and applications (Erice, 1996)*, 1–20, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tamaki Tanaka) **99e:49008** 49J35 (47H10, 49K35)

— (*with* Lin, Bor-Luh; Yu, Feng-Shuo) Weakly upward-downward minimax theorem. *Minimax theory and applications (Erice, 1996)*, 21–28, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Seeger) **99i:49009** 49J35 (47N10, 90D05)

— An abstract Kuhn-Tucker theorem. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 301–306. (S.-C. Fang) **99e:49026** 49K35 (90C48)

Cheng, Chang Jun (*with* Ding, Rui; Zhu, Zheng You) Boundary element method for solving dynamical response of viscoelastic thin plate. I. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 3, 229–235; *translated from Appl. Math. Mech.* **18** (1997), *no.* 3, 211–216 (*Chinese. English and Chinese summaries*). (Summary) **99d:73095** 73V10 (73F15, 73K10)

— (*with* Zhang, Neng Hui) Chaotic and hyperchaotic behavior of viscoelastic rectangular plates under a transverse periodic load. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 6, 690–699. 73K12 (58F13, 58F40, 73F15, 73K10)

— (*with* Ding, Rui; Zhu, Zheng You) Boundary element method for solving dynamical response of viscoelastic thin plate. II. Theoretical analysis. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 101–110; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 95–103 (*Chinese. English and Chinese summaries*). (Summary) **99e:73059** 73F15 (73K10, 73V10)

— (*with* Zhang, Neng Hui) Variational principles on static-dynamic analysis of viscoelastic thin plates with applications. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 33, 4491–4505. (Summary) **99f:73044** 73F15 (73K10, 73V25)

— (*with* Fan, Xiao Jun) Nonlinear axisymmetric bending and composite problems of viscoelastic circular plates. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 6, 635–644. 73K10 (73F15)

— (*with* Xu, Kai-Yu) The subharmonic bifurcation of a viscoelastic circular cylindrical shell. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 2, 159–171. (Summary) **99h:73048** 73K12 (73F15, 73H10, 73K15)

Cheng, Cheng A Berry-Esseen-type theorem of quantile density estimators. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 255–262. (Summary) **99f:62051** 62G05

Cheng, Cheng-Fa Disturbances attenuation for interconnected systems by decentralized control. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 213–224. 93A13 (93D15)

— Decentralized disturbance attenuation for interconnected systems. (English summary) *J. Chinese Inst. Engrs.* **22** (1999), *no.* 1, 101–107. (Summary) **99k:93009** 93A14 (93D15)

Cheng, Chi-Lun (*with* Van Ness, John W.) Errors in variables in econometrics. (English summary) *Econometrics in theory and practice*, 3–13, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62P20 (62J05)

Cheng, Chia-Chin (*with* Liaw, Sy-Sang) Similarity between the dynamic and parameter spaces in cubic mappings. (English summary) *Fractals* **6** (1998), *no.* 3, 293–299. (Jean-Yves Briend) **99h:58156** 58F23 (30D05)

Cheng, Chih-Yung (*with* Hammad, A.; Jonckheere, Edmond A.; Bhajekar, S.; Chien, C.-C.) Stabilization of chaotic dynamics: a modern control approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 663–677. 93D15 (58F10)

— (*with* Jonckheere, Edmond A.; Chu, Chung-Kuang) Simplicial algorithms for computing stationary probabilities of stochastic matrices. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 207–217. (Summary) **99c:65254** 65U05 (65F30)

Cheng, Ching-Cheng (*with* Liao, Yin-Kuei; Wang, Te-Shing) Quantitative feedback design of uncertain multivariable control systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 537–553. 93B51 (93C41)

Cheng, Ching-Shui Optimal design: exact theory. *Design and analysis of experiments*, 977–1006, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05

— $E(s^2)$-optimal supersaturated designs. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 929–939. (Rainer Schwabe) **99c:62203** 62K05 (62K10)

— (*with* Martin, Richard John; Tang, Boxin) Two-level factorial designs with extreme numbers of level changes. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1522–1539. (Damaraju Raghavarao) **99k:62142** 62K15

— N-way balanced incomplete block designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 109–119. (Summary) **99j:62110** 62K10

— (*with* Steinberg, David M.; Sun, Don X.) Minimum aberration and model robustness for two-level fractional factorial designs. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 85–93. 62K15

Cheng, Chongqing (*with* Wang, Shaoli) Birkhoff lower-dimensional tori in Hamiltonian systems. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1866–1870. (Dario Bambusi) **99k:58162** 58F27 (58F05, 70H05)

Cheng, Chou Hu *see* **Chen, Zhong Hu**

Cheng, Christine Callyn Tan Local distinguishing numbers of trees. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 21–30. (Summary) **99j:05101** 05C35 (05C05)

— (*with* Cowen, Lenore J.) On the local distinguishing numbers of cycles. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 97–108. (Summary) **99m:05084** 05C38

Cheng, Chu Wang (*with* Sun, You Xian) State feedback controller design for uncertain systems with time-varying delays. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 81–84. 93D21 (93C41)

— (*with* Zhang, Ming Jun; Sun, You Xian) Observer-based robust stabilization for uncertain delayed systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 508–511. 93D15

— (*with* Zhang, Ming Jun; Sun, You Xian) Observer-based memoryless stabilization of uncertain systems with state delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 589–592. 93D21

— (*with* Song, Zhihuan; Sun, You Xian) Robust stabilization of uncertain nonlinear systems with time delays in both state and control input. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 605–609. 93D21

— (*with* Cao, Yong-Yan; Sun, You Xian) Delay-dependent robust stabilization of uncertain systems with multiple state delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1608–1612. (K. B. Datta) **99m:93089** 93D21

— (*with* Sun, You Xian) Robust control of linear uncertain delay systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 4, 282–288. 93B36 (93C30, 93D09)

Cheng, Delin (*with* Xu, Ming Tian; Li, Jian Feng) Non-linear vibration by a new method. (English summary) *J. Sound Vibration* **215** (1998), *no.* 3, 475–487. (Summary) **99d:70035** 70K40 (34C15)

Cheng, Dinah W. (*with* Buzacott, John A.) Improved bounds for queues with delayed arrivals. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 295–316. (Summary) **99d:60101** 60K25

Cheng, Eddie Separating subdivision of bicycle wheel inequalities over cut polytopes. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 13–19. (Summary) **99h:90081** 90C27 (90C35)

Cheng, Edward Y. C. (*with* Kaminski, Michael) Context-free languages over infinite alphabets. (English summary) *Acta Inform.* **35** (1998), *no.* 3, 245–267. (J.-M. Autebert) **99a:68106** 68Q45

Cheng, Fu De Limit circles bifurcated from a soft spring Duffing equation under perturbation. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 129–133; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 121–125 (*Chinese. English and Chinese summaries*). (Summary) **99c:34047** 34C05 (34C23, 70K10)

Cheng, Fu Xia The hyperbolic properties of a class of strongly degenerate parabolic equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 22–32. (Summary) **99b:35106** 35K65 (35K55)

Cheng, Fuhua (*with* Zhang, Cai Ming; Miura, Kenjiro T.) A method for determining knots in parametric curve interpolation. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 4, 399–416. (Yu Yu Feng) **99g:65023** 65D17 (65Y25, 68U05)

— (*with* Zhang, Cai Ming) Constructing parametric quadratic curves. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 21–36. (Summary) **99j:65017** 65D10 (65Y25)

— (*with* Duan, Qi; Xu, Gongxue; Liu, Aikui; Wang, Xuefu) Constrained interpolation using rational cubic spline with linear denominators. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 203–215. (Summary) **99j:65014** 65D07 (41A29)

Cheng, Geng (*with* Kuo, T. K.) Condition on the symmetry-breaking solution of the Schwinger-Dyson equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6119–6125. (George K. Savvidy) **99c:81270** 81V10 (81Q40, 81R40)

Cheng, Guangrong *see* **Chen, Guang Rong**

Cheng, Guo Sheng Two-parameter set-valued Markov processes. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 68–72. 60J99 (60G60)

— (*with* Li, Ji Cheng; Yang, Xiao Bin) Two-parameter set-valued martingales. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 129–131. 60G44

Cheng, Hilary (*with* Harel, Arie) Order statistics applications to queueing and scheduling problems. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 325–350 (1998). (Summary) **99c:60202** 60K25 (90B22, 90B35)

Cheng, Hsin-Chia (*with* Shadmi, Yael) Duality in the presence of supersymmetry breaking. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 125–150. (Summary) **99g:81210** 81T60 (81R40, 81V05)

Cheng, Hsuanjen (*with* Tu, Chih-Chien) Spectral methods for graph bisection problems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 7-8, 519–530. 90C30 (90C35)

— On the optimality of some FAC and AFAC methods for elliptic finite element problems. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 405–426. (Juhani Pitkäranta) **99m:65234** 65N55 (65N30)

Cheng, Hu (*with* Ding, Yu Xin) A high-order Hopfield network for SAT. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 914–920. 68T05 (68Q25)

Cheng, J. *see* **Cheng, Jia Xin**

Cheng, Ji Lin (*with* Yan, Bi Peng; He, Xiao Guang) Optimal orthogonal experimental methods of multidimensional dynamic and large scale linear problems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 1–7. 90C06 (90C39)

— (*with* Guo, Yuan Yu; Jin, Zhaosen; Tao, Changsheng; Chen, Baohua) Optimal experimental methods of the large-scale mathematical programming and applications. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 465–470. 90C30 (90C06)

Cheng, Ji Shu Some properties of δ-continuous order homomorphisms. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 38–41. 54A40

Cheng, Jia Xin (*with* Davydova, E. E.; Howlett, P. G.; Pudney, Peter) Optimal driving strategies for a train journey with non-zero track gradient and speed limits. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 89–115. 49N55 (93C95)

Cheng, Jih-Hsin The geometry of Cauchy-Riemann manifolds in dimension three. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 201–208, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 32C16

Cheng, Jin[2] (*with* Bukhgeĭm, A. L.; Yamamoto, Masahiro) Uniqueness and stability for an inverse problem of determining a part of boundary. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 327–336, *Elsevier, Oxford*, 1998. (Summary) **99m:35259** 35R30 (35J05, 78A99)

— (*with* Xu, Ding Hua; Li, Ming Zhong) On the stability estimation of analytic continuation for potential field. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 6, 563–572; *translated from Appl. Math. Mech.* **19** (1998), *no.* 6, 529–537 (*Chinese. English and Chinese summaries*). (Alexander I. Kheyfits) **99j:35027** 35J05 (30B40, 35B60, 86A20)

— (*with* Yamamoto, Masahiro) Unique continuation on a line for harmonic functions. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 869–882. (Summary) **99d:35029** 35J05 (31A05, 35B60)

— (*with* Prössdorf, Siegfried; Yamamoto, Masahiro) Local estimation for an integral equation of first kind with analytic kernel. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 2, 115–126. (V. M. Isakov) **99g:45001** 45A05 (35R30)

Cheng, Jin Fa (*with* Fang, Ai Nong) Systems of generalized Beltrami equations in spaces of even dimension and systems of Beltrami equations in higher-dimensional spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 789–798. (Sheng Gong) **99d:30024** 30C62

— The existence of infinitely many Teichmüller type extremal mappings with special boundary correspondence. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 47–56. (Steffen Timmann) **99f:30031** 30C62

— An improved estimate for the Beurling-Ahlfors integral inequality and its application. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 5, 640–645. 30C62

Cheng, Jin-Liang (*with* Kise, Hiroshi) Optimal scheduling for a flexible manufacturing cell. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 55–64. 90B35

Cheng, Jing (*with* Zhang, Fan; Xie, Sha Li) A study on queuing strategy for a CIMS network and its transfer probability. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 93–97. 60K25

Cheng, Jing Yuan (*with* Wang, Zhi Wei[3]; Shen, Lin) An efficient algorithm for fault tolerant routing. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 353–357. 68M15

Cheng, Jingde The fundamental role of entailment in knowledge representation and reasoning. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 828–848 (*electronic*). (Summary) **99h:68161** 68T27 (03B46, 03B70)

Cheng, Juan (*with* Dai, Jia Zun) A new class of uniformly second order accurate difference schemes for 2D scalar conservation laws. (English summary) *J. Comput. Math.* **15** (1997), *no.* 4, 311–318. (Mohammad Asadzadeh) **99a:65098** 65M06 (65M12, 65M15)

Cheng, K. *see* **Cheng, Kell Hiu Fai**

Cheng, K. F. (*with* Wu, Jong-Wuu) An optimal test for the mean function hypothesis. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 477–487. (Summary) **99a:62091** 62J05 (62J02)

Cheng, Kell Hiu Fai (*with* Mollin, R. A.) Palindromy and ambiguous ideals revisited. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 98–110. (Vincent Fleckinger) **99m:11123** 11R11 (11A55)

Cheng, Kuo-Shung (*with* Lin, Chang-Shou) Compactness of conformal metrics with positive Gaussian curvature in $\mathbf{R}^2$. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 31–45. (Zhi Ren Jin) **99g:53043** 53C21 (35J60, 53A30)

Cheng, Li Xin (*with* Shi, Shu Zhong) Lipschitz functions on Banach spaces which are actually on Asplund spaces. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2051–2054. (Warren B. Moors) **99g:46056** 46G05 (46B20)

— (*with* Shi, Shu Zhong) Lipschitz functions on Banach spaces which are actually on Asplund spaces. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 20, 2145–2147. 46G05

— (*with* Shi, Shu Zhong; Wang, Bing Wu; Lee, E. Stanley) Generic Fréchet differentiability of convex functions dominated by a lower semicontinuous convex function. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 389–400. (Nikolay V. Zhivkov) **99m:49021** 49J50 (46G05, 58C20)

Cheng, Li Zhi Fast solutions of r-circulant linear equation systems. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 45–55. (From the summary) **99d:65103** 65F10 (65T20)

— (*with* Wu, Meng Da; Zhang, Han Jiang) An efficient learning algorithm for max-min neural networks. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 34–39. 68T05

— *see also* **Zhang, Zhen Xiang**

Cheng, Long Sheng (*with* Wu, Ke Fa; Huang, Zhi Tong) A new solution method for removing the effects of multicollinearities. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 113–119. (Summary) **99m:62096** 62J05 (62H12)

Cheng, Min De (*with* Li, Hongbo) Ordering in automated theorem proving of differential geometry. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 358–362. (Vladislav Goldberg) **99m:53002** 53–04 (03B35, 68T15)

— (*with* Feng, Ju Fu; Shi, Qing Yun) A unified method for stereo vision based on conics. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 2-3, 268–274. (Summary) **99h:68176** 68U10

Cheng, Ming-Yen (*with* Hall, Peter Gavin; Titterington, D. Michael) Optimal design for curve estimation by local linear smoothing. (English summary) *Bernoulli* **4** (1998), *no.* 1, 3–14. (Christos P. Kitsos) **99c:62204** 62K05 (62G05, 62J05, 62L05)

— (*with* Hall, Peter Gavin) Calibrating the excess mass and dip tests of modality. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 579–589. (Summary) **99b:62076** 62G10

— (*with* Hall, Peter Gavin) On mode testing and empirical approximations to distributions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 245–254. (Summary) **99e:62040** 62G05 (62G10)

Cheng, Minteh *see* **Cheng, Min De**

Cheng, Philip E. (*with* Bai, Zhi-Dong; Zhang, Cun-Hui) An extension of the Hardy-Littlewood strong law. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 923–928. (H. Teicher) **99h:60059** 60F15

Cheng, Ping[1] (*with* Zhu, Li-Xing) The optimal lower bound for the tail probability of the Kolmogorov distance in the worst direction. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 265–293. (Miguel A. Arcones) **99i:60044** 60E15 (60B12)

— (*with* Chen, Jiahua) On testing the number of components in finite mixture models with known relevant component distributions. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 389–400. (Stavros Kourouklis) **99c:62045** 62F05

— (*with* Lu, Zu Di) Distribution-free strong consistency for nonparametric kernel regression involving nonlinear time series. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 67–86. (Somnath Datta) **99f:62054** 62G05 (62M10)

— Projection pursuit type Cramér–von Mises–Smirnov statistics. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 1, 21–32. 62H40 (62G10, 62G20)

— (*with* Liu, Yi Xing) An approximate computation of the *P*-values for PP Cramér-von Mises statistics. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 335–340. 62G10

Cheng, Qing-Ming (*with* Ishikawa, Susumu) Complete maximal spacelike submanifolds. (English summary) *Kodai Math. J.* **20** (1997), *no.* 3, 208–217. (Miguel Sánchez) **99c:53064** 53C42 (53C50)

— (*with* Shiohama, Katsuhiro) Nonexistence of stable integral currents. Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 116–124. (Harold Parks) **99j:53098** 53C65 (49Q20)

— (*with* Machigashira, Yoshiroh; Sugioka, Yoshihiro) The relation between degree and dilatation of continuous maps. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 183–190. (Francisco R. Ruiz del Portal) **99g:55004** 55M25

— (*with* Ishikawa, Susumu) Spacelike hypersurfaces with constant scalar curvature. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 499–505. (Miguel Sánchez) **99e:53087** 53C42 (53C50)

— (*with* Yang, Hongcang) Chern's conjecture on minimal hypersurfaces. *Math. Z.* **227** (1998), *no.* 3, 377–390. (Man Chun Leung) **99c:53070** 53C42

— (*with* Ishikawa, Susumu) A characterization of the Clifford torus. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 819–828. (Ivko Dimitric) **99g:53064** 53C42 (53C20)

Cheng, Raymond Some Banach spaces of vector valued functions and an extremal problem. (Russian summary) *Anal. Math.* **23** (1997), *no.* 3, 205–222. (Lutz Peter Klotz) **99e:46047** 46E40 (42A05, 60G25)

— (*with* Klotz, L.) Hardy spaces on products of halfplanes and prediction of homogeneous random fields. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 519–542. (Mohsen Pourahmadi) **99c:42036** 42B30 (32A35, 60G25, 60G60)

— (*with* Dasgupta, Abhijit; Ebanks, Bruce R.; Kinch, L. F.; Larson, L. M.; McFadden, Robert B.) When does $f^{-1} = 1/f$? *Amer. Math. Monthly* **105** (1998), *no.* 8, 704–717. (James Foran) **99h:39026** 39B22 (30C35, 39B32)

Cheng, Riyan (*with* Gan, Shixin) Almost sure convergence of weighted sums of NA sequences. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 11–16. (Przemysław Matuła) **99d:60040** 60F15

Cheng, S. C. *see* **Cheng, Su Chun**

Cheng, S. J. *see* **Cheng, Shi Jie**

nienhuys-Cheng, Shan-Hwei *see* **Nienhuys-Cheng, Shan-Hwei**

Cheng, Shaozhong *see* **Chen, Shao Zhong[1]**

Cheng, Sheung Hun (*with* Higham, Nicholas J.) Modifying the inertia of matrices arising in optimization. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 261–279. (Hubertus Th. Jongen) **99d:90072** 90C08 (15A42, 65F15)

— (*with* Higham, Nicholas J.) A modified Cholesky algorithm based on a symmetric indefinite factorization. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1097–1110 (*electronic*). (Summary) **99e:65046** 65F05 (15A23)

Cheng, Shi Jie (*with* Cao, Y. J.; Wu, Qing-He) An improved Lyapunov function for power system stability analysis. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 791–802. 93D05 (34D25)

Cheng, Shi Xue Some new characterizations of Poisson processes regarded as renewal processes. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 289–294. (Summary) **99g:60025** 60E05 (60K05, 62E10)

Cheng, Shihong (*with* Peng, Liang) The asymptotic distributions for sums of order statistics. II. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 3, 255–276. (Summary) **99i:60048** 60F05

— (*with* Peng, Liang; Qi, Yongcheng) Almost sure convergence in extreme value theory. (English summary) *Math. Nachr.* **190** (1998), 43–50. (Erich Haeusler) **99g:60063** 60F15 (60G70)

Cheng, Shiu-Yuen (*with* Oden, Kevin) Isoperimetric inequalities and the gap between the first and second eigenvalues of an Euclidean domain. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 217–239. (Norbert Weck) **99j:35155** 35P15 (35J05, 58G25)

Cheng, Shun-Jen (*with* Kac, Victor G.) A new $N = 6$ superconformal algebra. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 219–231. (Summary) **99f:17029** 17B68 (81R10)

— (*with* Kac, Victor G.; Wakimoto, Minoru) Extensions of conformal modules. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 79–129, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Matthias Dörrzapf) **99i:17028** 17B68 (81R10)

— (*with* Kac, Victor G.) Erratum: "Conformal modules" [Asian J. Math. **1** (1997), no. 1, 181–193; MR 98j:17026]. *Asian J. Math.* **2** (1998), *no.* 1, 153–156. (Christoph Schweigert) **99k:17046** 17B68 (17B66, 81R10)

Cheng, Song-Show (*with* Cheng, Yu-Chun) An ordered relation between the ANOVA estimator of the intraclass correlation and a kappa-type statistic in binary data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 275–280. (Summary) **99e:62122** 62J10

Cheng, Su Chun (*with* Fine, Jason P.; Wei, Lee Jen) Prediction of cumulative incidence function under the proportional hazards model. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 219–228. (Summary) **99a:62148** 62P10 (62N05)

Cheng, Sui Sun (*with* Domshlak, Yu. I.) Sturmian theorems for a partial difference equation. (English summary) *Funct. Differ. Equ.* **3** (1995), *no.* 1-2, 83–97. (Summary) **99a:39010** 39A10

— An underdeveloped research area: qualitative theory of functional partial difference equations. *International Mathematics Conference '94* (*Kaohsiung*, 1994), 65–75, *World Sci. Publishing, River Edge, NJ*, 1996. (Introduction) **99e:39001** 39–02

— (*with* Xie, Sheng Li) Stability criteria for parabolic type partial difference equations. (English summary) *J. Comput. Appl. Math.* **75** (1996), *no.* 1, 57–66. (From the summary) **99f:39025** 39A11 (65M12)

— Sturmian theorems for hyperbolic type partial difference equations. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 375–387. (Alain J. Phares) **99h:39003** 39A10

— (*with* Zhang, Bing Gen) Nonexistence of positive solutions of discrete elliptic equations: a synopsis. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 119–124, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99i:39028** 39A12 (35B05, 35J60)

— (*with* Xie, Sheng Li; Zhang, Guang) Positive solutions of second order difference inequalities. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 1–11. (From the introduction) **99k:39044** 39A10

— (*with* Lin, Yi Zhong) Bounds for solutions of a four-point partial difference scheme. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 273–290. (Akira Tsutsumi) **99g:39003** 39A10

— (*with* Liu, Shu Tang[2]) Existence of positive solutions of a partial difference equation. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 387–392. (I. P. Stavroulakis) **99g:39009** 39A10

— (*with* Liu, Shu Tang[2]) Oscillation criteria for a nonlinear difference equation. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 657–672. (T. J. Mahar) **99d:39010** 39A10 (34C10)

— (*with* Xie, Sheng Li) Oscillation criteria for a class of neutral difference equations. (English summary) *Fasc. Math. No.* 27 (1997), 101–121. (E. Thandapani) **99e:39047** 39A10 (39A11)

— (*with* Li, Wan Tong) Classifications and existence of positive solutions of second order nonlinear neutral difference equations. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 371–393. (Michail G. Blizorukov) **99e:39028** 39A10

— (*with* Lin, Yi Zhong) Subexponential solutions of two partial difference equations with delays. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 2, 181–194. (André Hautot) **99a:39044** 39A11

— (*with* Liu, Shu Tang[2]) Comparison theorems for a nonlinear three-term equation. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 313–319. (L. A. V. Carvalho) **99d:39011** 39A10

— (*with* Lin, Yi Zhong) Bounds for solutions of a three-point partial difference equation. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 107–112. (Summary) **99a:39019** 39A10

— (*with* Liu, Bin[2]) Note on a nonlinear difference equation with periodic coefficients and constant delays. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 39–43. (Summary) **99h:39007** 39A10

— (*with* Li, Wan Tong) Asymptotic trichotomy for positive solutions of a class of odd order nonlinear neutral difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 101–108. (Summary) **99a:39043** 39A11

— (*with* Li, Wan Tong) Oscillation criteria for a nonlinear difference equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 87–94. (Shao Zhu Chen) **99k:39024a** 39A10

— (*with* Tian, Chuan-Jun; Xie, Sheng Li) Measures for oscillatory sequences. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 149–161. (André Hautot) **99k:39039** 39A10

— (*with* Si, Jian-Guo) Note on an iterative functional-differential equation. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 609–614. (Summary) **99h:34093** 34K05

— (*with* Wang, Gen-Qiang) An existence and uniqueness theorem for a neutral differential equation with delay. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 51–56. (Oleg M. Odarich) **99e:34090** 34K05 (34K40)

— (*with* Li, Wan Tong) Asymptotically linear solutions of a discrete Emden-Fowler equation. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 521–542. (Abdurrahman Karamancioglu) **99k:39025** 39A10

— (*with* Zhang, Bing Gen) Nonexistence criteria for positive solutions of a discrete elliptic equation. (English summary) *Fasc. Math. No.* 28 (1998), 19–30. (Summary) **99g:39004** 39A10

— (*with* Zhang, Guang) Monotone solutions of a higher-order neutral difference equation. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 49–54. (Summary) **99b:39004** 39A10

— (*with* Lin, Yi Zhong) Complete characterizations of an oscillatory neutral difference equation. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 73–91. (T. J. Mahar) **99g:39005** 39A10 (34K15)

— (*with* Chen, Li Ming; Lin, Yi Zhong) Exact regions of oscillation for a difference equation with six parameters. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 92–109. (Shao Zhu Chen) **99f:39003** 39A10 (39A12)

— (*with* Zhang, Guang) Elementary oscillation criteria for a three term recurrence relation with oscillatory coefficient sequence. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 227–232. (Vladimir Sh. Burd) **99i:39022** 39A10

— (*with* Si, Jian-Guo; Wang, Xin-Ping) Analytic solutions of a functional-differential equation with a state derivative dependent delay. (English summary) *Aequationes Math.* **57** (1999), *no.* 1, 75–86. (Summary) **99k:34145** 34K05

— Errata to: "Oscillation criteria for a nonlinear difference equation" [Comput. Math. Appl. **36** (1998), no. 8, 87–94; MR 99k:39024a] by W. T. Li and Cheng. *Comput. Math. Appl.* **37** (1999), *no.* 3, 127. (Shao Zhu Chen) **99k:39024b** 39A10

— (*with* Zhang, Guang; Gao, Ying) Classification schemes for positive solutions of a second-order nonlinear difference equation. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 39–51. (E. Thandapani) **99k:39050** 39A10

Cheng, Sujun (*with* Yan, Rong Yi; Jiang, Ya Ling) Three kinds of horizon-like hypersurface of a uniformly accelerating, non-stationary charged black hole. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 183–190. (Summary) **99a:83049** 83C57

Cheng, T. C. Edwin (*with* Ding, Qing[2]) The complexity of single machine scheduling with two distinct deadlines and identical decreasing rates of processing times. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 95–100. (Summary) **99c:90063** 90B35 (68Q25)

— (*with* Cai, Xiao-Qiang) Multi-machine scheduling with variance minimization. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 55–70. (Yuri Nazarovich Sotskov) **99e:90048** 90B35

— (*with* Janiak, Adam; Kovalëv, M. Ya.) Bicriterion single machine scheduling with resource dependent processing times. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 617–630. (Summary) **99a:90108** 90B35 (90C30)

— (*with* Biskup, Dirk) Multiple-machine scheduling with earliness, tardiness and completion time penalties. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 1, 45–57. (Summary) **99f:90043** 90B35 (90C60)

— (*with* Ding, Qing[2]) The time dependent machine makespan problem is strongly NP-complete. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 8, 749–754. (Summary) **99m:90085** 90B35 (90C60)

— (*with* Lin, Fu Yong) The principles and laws of general systems and their applications. (English summary) *Kybernetes* **28** (1999), *no.* 1, 75–85. 93A05

Cheng, Wei[1] (*with* Wu, Jun De; Li, Rong Lu) Characterizations of a class of matrix transformations. (English summary) *Proyecciones* **17** (1998), *no.* 1, 1–11. (Jan H. Fourie) **99i:47051** 47B37 (40J05, 46A45)

Cheng, Wen-Teng (*with* Yan, Hong Sen) Curvature analysis of roller-follower cam mechanisms. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 1, 69–87. 70B15

Cheng, Xi Yu Estimating the variation coefficient of extremes of type I. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 115–117. 60G70

Cheng, Xiangguo (*with* Zha, Jian Guo) Classification of crystallographic groups associated with the infinite dihedral group. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 23–29. (Karel Dekimpe) **99a:20053** 20H15

Cheng, Xiao-liang (*with* Huang, Hong-ci; Zou, Jun) Quadrilateral finite elements for planar linear elasticity problem with large Lamé constant. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 357–366. (Summary) **99g:73102** 73V05 (65N30, 73C02)

Cheng, Ximing (*with* Liu, Huowang; Pan, Yimin) Rate of wavelet approximation of stochastic processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 325–338. (Albert Benassi) **99h:60078** 60G12 (42C15)

Cheng, Xin Yue (*with* Yang, Wenmao) On the infinitesimal isometric deformations of submanifolds. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 392–404. (Summary) **99i:53056** 53C40

— (*with* Yang, Wenmao) On a property of quasi-Kähler submanifolds. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 369–372. (Yi Bing Shen) **99k:53051** 53C15 (53C55)

Cheng, Xu Yamabe invariant for complete manifold with nonpositive scalar curvature. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 21, 1790–1793. (Thalia D. Jeffres) **99m:53075** 53C21 (53C20)

— The Yamabe invariant on complete Riemannian manifolds. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 13, 1374–1377. 53C21 (58E11)

Cheng, Yi[1] (*with* Li, Zhifeng) Poisson structures for dispersionless integrable systems and associated w-algebras. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 73–83. (Josep Herrero) **99e:58093** 58F07 (17B68, 35A30, 35Q53, 35S99)

— (*with* Tian, Yong Bo) Solutions of CDG equation and modified CDG equation. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 3, 381–384. 35Q53

Cheng, Yong Lin *see* **Chen, Yong Lin**

Cheng, Yonghong (*with* Fu, Wantao) On the strict efficiency in a locally convex space. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 40–44. (Summary) **99k:90143** 90C29 (41A65, 90C48)

Cheng, Yu-Chun (*with* Cheng, Song-Show) An ordered relation between the ANOVA estimator of the intraclass correlation and a kappa-type statistic in binary data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 275–280. (Summary) **99e:62122** 62J10

Cheng, Yu Min (*with* Miaojuan, Peng; Zhang, Wu) On the asymptotic behavior of the solutions of a class of second order nonlinear differential equations. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 63–79. (Mauro Marini) **99j:34051** 34C11 (34B15, 34D05)

Cheng, Yuanji On positive solutions of quasilinear elliptic systems. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 681–687. (C. A. Swanson) **99a:35084** 35J65 (35B05)

— Hölder continuity of the inverse of p-Laplacian. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 734–748. (Karl-Josef Witsch) **99c:47072** 47F05 (35J05, 35J60)

— An eigenvalue problem for a quasilinear elliptic equation. (English summary) *Math. Nachr.* **196** (1998), 43–59. (Summary) **99i:35046** 35J65 (35B32, 58E05)

Cheng, Zhao Lin (*with* Yan, Jiu Xi) The optimal tracking problem for singular dynamic economic systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 3, 428–431. 90A16 (93C95)

Cheng, Zheng Qiong An L^p estimate for solutions of the wave equation with a potential having compact support. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 5, 44–49. (Summary) **99a:35156** 35L05 (35B45)

— The Hölder continuity of periodic solutions to a semilinear wave equation. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 44–46. (Tie Hu Qin) **99f:35132** 35L70 (35B10)

Cheng, Zheng Xing (*with* Yang, Shou Zhi) A construction of compactly supported orthonormal wavelets. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 23–28, 125. (Dao Qing Dai) **99m:42060** 42C15

Cheng, Zhongshi (*with* Huang, Debin; Liu, Zeng Rong) Global dynamics near the resonance in the sine-Gordon equation. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 4, 259–261. 35L70 (34C37, 35B40, 35Q53, 58F39)

Cheng, Zhifeng (*with* Zhang, Jian Hua[3]) Limits to the acceleration of black holes. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 3031–3039. 83C57

Chenot, J. L. (*with* Coupez, T.; Fourment, L.) Adaptive solutions in industrial forming process simulation. (English summary) *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 365–381, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)

Chentsov, A. G. On the correct extension of a problem on the choice of a probability density with constraints on the system of expected values. (Russian) *Uspekhi Mat. Nauk* **50** (1995), *no.* 5(305), 223–242; *translation in Russian Math. Surveys* **50** (1995), *no.* 5, 1065–1084. (L. Ya. Savel'ev) **99a:60118** 60K99 (28A99, 49J55)

— (*with* Serov, V. P.) Representation for some set-theoretic limits in the class of two-valued finitely additive measures. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 265–278 (1997). (Summary) **99c:28006** 28A12 (49Q20)

— (*with* Kryazhimskii, Arkadii V.; Maksimov, V. I.; Solov'ev, Aleksandr Anatol'evich) On a probabilistic approach to the quantitative description of the dynamics of natural processes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 192–210, 300. 93A30 (93C95)

— (*with* Morina, S. I.) Extension of control problems in the class of finitely additive vector measures. (Russian. Russian summary) Current problems in control theory and their applications (singular solutions and perturbations in control systems) (Russian). *Avtomat. i Telemekh.* **1997**, *no.* 7, 207–216; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1235–1242. (Uldis È. Raitums) **99c:93004** 93B03 (49J15, 49Q20)

— (*with* Korotaeva, L. N.; Trukhin, M. P.) On the routing of connections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 175–192. (Ignacy Kaliszewski) **99k:90192** 90C39 (90B12, 90C35)

— The program iteration method in the class of finitely additive control measures. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1528–1536, 1582; *translation in Differential Equations* **33** (1997), *no.* 11, 1533–1541 (1998). (Corneliu Ursescu) **99m:93047** 93C05

— Iterative realization of nonanticipating multivalued mappings. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 5, 595–598. (A. M. Tarasyev) **99a:90259** 90D25

— (*with* Zobnin, B. B.; Korotaeva, L. N.) On a route optimization problem and its applications. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 70–87; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 346–361 (1998). (Summary) **99c:90152** 90C35 (90B10)

— On the universal asymptotics of admissible sets under relaxation of integral constraints and its representation in the class of finitely additive measures. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 165–168. (From the text) **99c:49006** 49J27 (49Q20, 93B03)

— Relaxation of integral constraints in the class of vector finitely additive measures. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 609–613. (Alexander A. Kovalevsky) **99k:49027** 49J45 (49Q20)

Cheon, Gi-Sang (*with* Johnson, Charles Royal; Lee, Sang-Gu; Pribble, E. J.) The possible numbers of zeros in an orthogonal matrix. (English summary) *Electron. J. Linear Algebra* **5** (1999), 19–23 (*electronic*). (Summary) **99h:15023** 15A57

— (*with* Shader, Bryan L.) How sparse can a matrix with orthogonal rows be? (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 29–40. (Summary) **99i:05044** 05B20

Cheon, J. (*with* Hahn, Sang-Geun) The orders of the reductions of a point in the Mordell-Weil group of an elliptic curve. (English summary) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 34–43. (Joseph H. Silverman) **99c:11066** 11G05

— (*with* Hahn, Sang-Geun) Explicit valuations of division polynomials of an elliptic curve. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 319–328. (John W. Jones) **99i:11039** 11G05

Cheong, Kyeong Hee Distributive closed inverse subsemigroup lattices. (English summary) *Semigroup Forum* **55** (1997), *no.* 3, 332–354. (Boris M. Schein) **99c:20087** 20M18

— Boolean closed inverse submonoid lattices. (English summary) *Semigroup Forum* **55** (1997), *no.* 3, 355–363. (Boris M. Schein) **99a:20066** 20M18

Cheong, O. (*with* de Berg, Mark; Devillers, Olivier; van Kreveld, Marc; Teillaud, M.) Computing the maximum overlap of two convex polygons under translations. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 613–628. (Summary) **99h:52015** 52B55 (68U05)

Cheong, Young-Ho (*with* Provost, Serge B.) The probability content of cones in isotropic random fields. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 237–254. (Summary) **99e:62017** 62E15 (62H10, 62M40)

Chepelev, I. (*with* Tseytlin, Arkady A.) Long-distance interactions of branes: correspondence between supergravity and super Yang-Mills descriptions. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 73–113. (Sergey Nikolaevich Roshchupkin) **99c:81173** 81T30 (83E30)

— (*with* Tseytlin, Arkady A.) On membrane interaction in matrix theory. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 69–85. (Summary) **99c:81174** 81T30 (83E30)

Cheplyukova, I. A. Limit distributions for the number of vertices in layers of a random forest. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 150–157. (Summary) **99b:60013** 60C05 (05C80, 60F05)

— Limit distributions of the largest trees in a random forest. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 130–138. (Summary) **99e:60122** 60G70 (05C05, 05C80, 60F05)

— The emergence of a giant tree in a random forest. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 1, 111–126; *translation in Discrete Math. Appl.* **8** (1998), *no.* 1, 17–33. (Lyuben R. Mutafchiev) **99m:05145** 05C80 (05C05, 60C05, 60J80)

Chepoĭ, V. D. (*with* Brandstädt, Andreas; Dragan, Feodor F.) The algorithmic use of hypertree structure and maximum neighbourhood orderings. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 43–77. (Gary MacGillivray) **99e:68119** 68R10 (05C85)

— (*with* Bandelt, Hans-Jürgen; Laurent, Monique) Embedding into rectilinear spaces. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 595–604. (Dušan Repovš) **99d:51017** 51K05 (54C25, 54E35)

— A note on r-dominating cliques. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 47–60. (Christine M. Mynhardt) **99h:05065** 05C35

— (*with* Klavžar, Sandi) Distances in benzenoid systems: further developments. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 27–39. (Summary) **99h:92044** 92E10

— (*with* Bandelt, Hans-Jürgen) Embedding into the rectilinear grid. (English summary) *Networks* **32** (1998), *no.* 2, 127–132. (Summary) **99f:54019** 54C25 (05C10)

— On distance-preserving and domination elimination orderings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 414–436 (*electronic*). (Koduvayur R. Parthasarathy) **99h:05032** 05C12 (68R10, 90B40)

— (*with* Brandstädt, Andreas; Dragan, Feodor F.; Voloshin, V. I.) Dually chordal graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 437–455 (*electronic*). (Valentin E. Brimkov) **99i:05175** 05C75 (05C65, 68R10)

— (*with* Brandstädt, Andreas; Dragan, Feodor F.) Distance approximating trees for chordal and dually chordal graphs. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 166–184. (Summary) **99k:05058** 05C05 (05C12)

Chepyzhov, Vladimir V. (*with* Vishik, Mark I.) Trajectory attractors for the 2D Navier-Stokes system and some generalizations. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 217–243 (1997). (Peter E. Kloeden) **99b:35167** 35Q30 (34G20, 35B40, 47H20, 58F39, 76D05)

— (*with* Vishik, Mark I.) Trajectory attractors of evolution equations without unique solvability of the Cauchy problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 6, 27–30, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 6, 16–18 (1997). (Woodford W. Zachary) **99a:35207** 35Q30 (34G20, 35B40, 47H20, 58F39)

— (*with* Vishik, Mark I.) Evolution equations and their trajectory attractors. *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 913–964. (Arnaud Debussche) **99a:34165** 34G20 (35B40, 35K55, 35Q30, 47H20, 58F39)

— (*with* Vishik, Mark I.) Kolmogorov ε-entropy of attractors of reaction-diffusion systems. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 2, 81–110; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 235–263. (Piotr Biler) **99c:35115** 35K57 (35B40, 47H20, 58F39)

khe kan Cher *see* **Khe Kan Cher**

Cheraghi, S. H. (*with* Kaiser, Mark J.) Green eggs and ham. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 91–99. (Anna Rycerz) **99f:52009** 52A40 (90C27)

Cherbonnier, Frédéric (*with* Colmez, Pierre) Théorie d'Iwasawa des représentations p-adiques d'un corps local. [Iwasawa theory of p-adic representations of a local field] *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 241–268. (Thống Nguyễn-Quang-Đỗ) **99g:11141** 11S23 (11R23, 11S25)

Cherdieu, J. P. (*with* Delcroix, A.; Mado, J. C.; Mercier, Dany-Jack) Weight distribution of the Hermitian forms codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 307–314. (Marc Perret) **99d:11131** 11T71 (94B27)

— (*with* Moreno, Oscar; Duursma, Iwan M.; Edouard, A.) Cyclic subcodes of generalized Reed-Muller codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 307–311. (Summary) **99a:94051** 94B15

Cherednik, Ivan Difference Macdonald-Mehta conjecture. *Internat. Math. Res. Notices* **1997**, *no.* 10, 449–467. (Laurent Habsieger) **99g:33046** 33C80 (22E30, 39A12)

— Inverse Harish-Chandra transform and difference operators. *Internat. Math. Res. Notices* **1997**, *no.* 15, 733–750. (Laurent Habsieger) **99d:22018** 22E30 (33C80, 39A12, 43A90)

— Intertwining operators of double affine Hecke algebras. *Selecta Math. (N.S.)* **3** (1997), *no.* 4, 459–495. (V. A. Golubeva) **99g:33036** 33C55 (05E05, 20C99)

Cheremenskiĭ, Aleksandr G. Generalized forces and robustness of mechanical systems. (English and Russian summaries) *J. Theoret. Appl. Mech.* **26** (1996), *no.* 4, 3, 9–18. (Inge Troch) **99k:93075** 93D15 (70K20, 70Q05)

— Meaning of feedbacks with the highest derivatives. (English and Bulgarian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 2, 3, 11–20. (Zoran Gajic) **99d:93024** 93B40

Cheremisin, F. G. A conservative method for computing the Boltzmann collision integral. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 53–56; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 607–610. (A. D. Khon'kin) **99d:82052** 82C40 (65D30, 76P05, 82C80)

— (*with* Frolova, A. A.) The flow of a rarefied gas around cylindrical bodies. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2096–2102; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 2012–2018. (Summary) **99i:76096** 76M20 (76J20, 76P05)

Cheremshantsev, S. E. Transport properties of Markovian Anderson model. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 105–131. (Christian Remling) **99g:82075** 82C44

Cherepanov, Genady P. Two-dimensional convective heat/mass transfer for low Prandtl and any Peclet numbers. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 942–960 (*electronic*). (Summary) **99a:76140** 76R99 (76S05, 80A20, 80A32)

— *see also* **Fracture, 99j:73001**

Chéret, Roger The life and work of Pierre Henri Hugoniot [in *Shock compression of condensed matter—1989 (Albuquerque, NM, 1989)*, 12–19, Elsevier, Amsterdam, 1990]. (English summary) *Classic papers in shock compression science*, 149–159, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 01A70

— *see also* **Classic papers in shock compression science, 99m:76076**

Cherevko, Ĭ. M. (*with* Nastas'ĕva, N. P.) An approximate method for solving a boundary value problem for integrodifferential equations of neutral type. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 2, 147–152. 65R20 (65L06)

Cherfils, L. A parallel and adaptive continuation method for semilinear bifurcation problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 247–259. 65H17

Chergui, Jamal-Dine Test of independence for discrete distributions based on the empirical generating function. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat. (Esp.)* **90** (1996), *no.* 3, 179–182. (Yves Lepage) **99k:62093** 62G10

Cherid, Ali (*with* Sadek, Ibrahim S.) Optimal active pointwise control of distributed parameter systems with time delays. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 173–193. (Tzanko D. Donchev) **99d:49042** 49K20 (93C20)

— (*with* Fiagbedzi, Yawvi A.) An observer for systems described by neutral functional-differential equations. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 379–395. (Krishnan Balachandran) **99j:93014** 93B07 (34K35, 93C30)

— (*with* Fiagbedzi, Yawvi A.) A perturbation approach to finite-dimensional stabilization of time-lag systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 789–802. (Summary) **99d:93053** 93D15

Cherix, Pierre-Alain (*with* Schaeffer, Gilles) An asymptotic Freiheitssatz for finitely generated groups. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 9–22. (Thomas Delzant) **99m:20066** 20F05

— (*with* Bekka, Mohammed El Bachir; Jolissaint, P.) Kazhdan constants associated with Laplacian on connected Lie groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 95–110. (Gerald B. Folland) **99d:22021** 22E45 (22E30)

Cheriyan, Joseph (*with* Jordán, Tibor; Nutov, Zeev) Approximating k-outconnected subgraph problems. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 77–88, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99k:68132** 68R10 (05C85, 90C35)

Cherkaev, Andrej V. (*with* Krog, Lars A.; Kucuk, Ismail) Stable optimal design of two-dimensional elastic structures. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 265–282. (Summary) **99k:73089** 73K40 (49Q10)

— (*with* Grabovsky, Yury; Movchan, A. B.; Serkov, S. K.) The cavity of the optimal shape under the shear stresses. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 33, 4391–4410. (Summary) **99e:73040** 73C99 (73B27, 73K20, 73K40, 73V35)

Cherkaeva, Elena (*with* Golden, Kenneth M.) Inverse bounds for microstructural parameters of composite media derived from complex permittivity measurements. (English summary) *Waves Random Media* **8** (1998), *no.* 4, 437–450. (Summary) **99j:78024** 78A99 (73B27, 73S10, 86A05)

Cherkas, L. A. The Dulac function for polynomial autonomous systems on a plane. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 689–699, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 692–701 (1998). (I. D. Iliev) **99a:34076** 34C05

— (*with* Grin′, A. A.) A second-degree polynomial Dulac function for a cubic system on the plane. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1435–1436, 1440; *translation in Differential Equations* **33** (1997), *no.* 10, 1443–1445 (1998). (I. D. Iliev) **99k:34055** 34C05

— (*with* Romanovskii, V. G.; Żołądek, Henryk) The centre conditions for a certain cubic system. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 299–302. (From the text) **99i:34041** 34C05

Cherkasov, Timofei M. (*with* Uteshev, A. Yu.) The search for the maximum of a polynomial. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 587–618. (De Ren Wang) **99d:65158** 65H05 (68Q40)

Cherki, S. Remarque sur l'approximation positive contractante. (English summary) [Remark about positive contractive approximation] *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 243–247. (F.-H. Vasilescu) **99m:47025** 47B15 (47A58)

Cherkis, Sergey A. (*with* Kapustin, Anton) Singular monopoles and supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 215–234. (David S. Berman) **99f:81193** 81T60 (81T13)

Cherlin, Gregory Large finite structures with few types. (English summary) *Algebraic model theory (Toronto, ON, 1996)*, 53–105, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (O. V. Belegradek) **99d:03031** 03C45 (03C13, 03C50, 03C60, 20B99)

— (*with* Shi, Nian Dong; Tallgren, L.) Graphs omitting a bushy tree. (English summary) *J. Graph Theory* **26** (1997), *no.* 4, 203–210. (Summary) **99a:05122** 05C75

— (*with* Altinel, Tuna; Corredor, Luis-Jaime; Nesin, Ali) A Hall theorem for ω-stable groups. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 385–397. (O. V. Belegradek) **99f:20057** 20F16 (03C60, 20A15, 20F17, 20F50)

Cherly, Jørgen (*with* Gallardo, Luis; Vaserstein, Leonid; Wheland, Ethel) Solving quadratic equations over polynomial rings of characteristic two. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 131–142. (Gábor Hetyei) **99e:13030** 13P05 (12Y05, 68Q40)

Chermak, Andrew A convergence theorem for A-trees. *J. Algebra* **200** (1998), *no.* 1, 32–55. (Roger C. Alperin) **99c:20025** 20E08

— Locally non-spherical Artin groups. *J. Algebra* **200** (1998), *no.* 1, 56–98. (Daan Krammer) **99e:20046** 20F36 (20E08, 20F10)

— Quadratic action and the $\mathcal{P}(G, V)$-theorem in arbitrary characteristic. *J. Group Theory* **2** (1999), *no.* 1, 1–13. (Alberto Delgado) **99m:20062** 20E25 (20D08)

Chermant, J. L. (*with* Quenec'h, J. L.; Jeulin, D.; Coster, M.) Approach of liquid phase sintering process by probabilistic models. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets (Fontainebleau, 1996)*, 231–249, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:60005**) 73B99 (60D05, 73V30, 76A99, 76M35)

Chern, De-Ching (*with* Ho, J. K.; Nester, James M.) Some spherically symmetric exact solutions of the metric-affine gravity theory. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 1, 640–650. (Summary) **99a:83055** 83D05

Chern, I-Liang (*with* Mei, Ming) Asymptotic stability of critical viscous shock waves for a degenerate hyperbolic viscous conservation laws. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 869–886. (Denis Serre) **99d:35105** 35L67 (35B35, 76L05, 76N10)

Chern, Maw-Sheng (*with* Teng, Jinn-Tsair; Yang, Hui-Ling; Wang, Yuchung J.) Deterministic lot-size inventory models with shortages and deterioration for fluctuating demand. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 65–72. (Summary) **99m:90060** 90B05 (90C90)

Chern, Shiing-Shen Les hypersurfaces dans l'espace euclidien. [Hypersurfaces in Euclidean space] *Séminaire Bourbaki, Vol. 5, Exp. No.* 193, 349–357, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 53C40

— (*with* Bao, David; Shen, Zhong Min) Rigidity issues on Finsler surfaces. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 707–735. (Gabriel P. Paternain) **99h:53099** 53C60 (53B40)

— (*with* Kailath, Thomas; Kostant, Bertram; Moore, Calvin C.; Tsao, Anna) Louis Auslander (1928–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 3, 390–395. (Editors) **99k:01053** 01A70

— *see also* **Jackson, Allyn, 99e:01025**

Chern, T. Y. Peter On Borel direction concerning small functions. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 13–16. (Summary) **99d:30030** 30D30 (30D35)

Chernaya, E. V. (*with* Ligun, A. A.) On extremal problems in classes of functions defined by integral moduli of continuity. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1499–1503; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1682–1687 (1998). (Shun Sheng Guo) **99m:41032** 41A30 (41A55)

Chernetskii, V. I. (*with* Rogov, A. A.; Shchegoleva, I. V.) Statistical analysis of renewal processes. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 137–144, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60K05 (62G05)

Chernets'kiĭ, V. Z. Unimprovable estimates for solutions of a mixed problem for second-order linear elliptic equations in a neighborhood of a corner point. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1529–1542; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1718–1734 (1998). (Summary) **99j:65227** 65N55 (65N12)

Cherney, Leonid T. *see* **Chernyĭ, L. T.**

Cherniga, R. M. New ansätze and exact solutions for nonlinear reaction-diffusion equations arising in mathematical biology. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 138–146, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Wantong Li) **99c:35107** 35K57 (35Q80, 92B05)

— (*with* Serov, N. I.) Lie and non-Lie symmetries of nonlinear diffusion equations with convection term. (English summary) *Symmetry in nonlinear mathematical physics,*

Vol. 1, 2 (*Kyiv*, 1997), 444–449, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35K55 (35A30)
— New non-Lie ansätze and exact solutions of nonlinear reaction-diffusion-convection equations. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8179–8198. 35K57 (35A30, 58G37)
— New exact solutions of nonlinear reaction-diffusion equations. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 333–349. (Summary) **99i:35068** 35K57 (35C05)
Chernikov, N. A. ★ Фигура, описываемая вектором скорости планеты, в задаче Кеплера. (Russian. English and Russian summaries) [A figure described by the velocity vector of a planet in the Kepler problem] Сообщения Объединенного Института Ядерных Исследований. Дубна [Communications of the Joint Institute for Nuclear Research. Dubna], R2-98-247. *Ob"ed. Inst. Yadernykh Issled., Dubna*, 1998. 9 *pp.* 70F05 (70F15)
Chernikov, N. S. Generalized solvable and generalized π-solvable factorizable groups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 91–122, *Gomel. Gos. Univ., Gomel'*, 1996. (Sergey P. Strunkov) **99h:20059** 20F19 (20D40)
— Locally finite and locally hyperabelian groups factorizable by subgroups of finite special rank. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 48–74, *Gomel. Gos. Univ., Gomel'*, 1996. (Sergey P. Strunkov) **99h:20064** 20F50 (20E25)
— Periodic locally solvable groups that are factorizable by two locally nilpotent subgroups. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 90–115, *Gomel. Gos. Univ., Gomel'*, 1997. (O. Yu. Dashkova) **99i:20048** 20F19
Chernikov, V. M. (*with* Vodop'yanov, S. K.) Sobolev spaces and hypoelliptic equations. I. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 3, 27–67. (Luigi Rodino) **99c:46026a** 46E35 (35H05)
— (*with* Vodop'yanov, S. K.) Sobolev spaces and hypoelliptic equations. II. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **6** (1996), *no.* 4, 64–96. (Luigi Rodino) **99c:46026b** 46E35 (35H05)
Chernin, A. D. (*with* Valtonen, Mauri J.) Intermittent chaos in three-body dynamics. (English summary) *New Astron. Rev.* **42** (1998), *no.* 1, 41–66. (Summary) **99f:70019** 70F07 (58F13, 70K50)
Chernitskiĭ, A. A. Nonlinear electrodynamics with singularities (modernized Born-Infeld electrodynamics). (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 274–287. (Jorge Goncalves Cardoso) **99e:78015** 78A25 (83C50)
Chernous'ko, Feliks Leonidovich Ellipsoidal approximation of the attainability sets of a linear system with an uncertain matrix. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 940–950; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 921–931. (È. G. Al'brekht) **99e:93003** 93B03 (93B30, 93B40)
— (*with* Shmatkov, A. M.) Time-optimal control in a third-order system. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 723–731; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 699–707 (1998). (Bozhidar Cheshankov) **99d:49008** 49J15 (70Q05)
— Motion of a heavy chain over a rough plane. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 3, 345–347; *translation in Dokl. Phys.* **43** (1998), *no.* 7, 457–459. 73T05
— (*with* Reshmin, S. A.) Control synthesis in a nonlinear dynamical system, based on decomposition. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 121–128; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 115–122. (Bozhidar Cheshankov) **99g:49033** 49N35 (70Q05, 93C85)
— *see also* **Birthday: Chernous'ko, Feliks Leonidovich**
Chernousov, Vladimir I. (*with* Ryzhkov, A. A.) On the classification of maximal arithmetic subgroups of simply connected groups. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 9, 127–156; *translation in Sb. Math.* **188** (1997), *no.* 9, 1385–1413. (B. Sury) **99f:22018** 22E40 (11E57, 20H05)
— (*with* Merkur'ev, A. S.) R-equivalence and special unitary groups. (English summary) *J. Algebra* **209** (1998), *no.* 1, 175–198. (Jean-Claude Douai) **99m:20101** 20G15 (14E05, 14G05, 14M20)
— (*with* Platonov, Vladimir Petrovich) The rationality problem for semisimple group varieties. *J. Reine Angew. Math.* **504** (1998), 1–28. (Andy R. Magid) **99i:14056** 14L35 (14M20, 20G15)
Chernov, A. A. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**
Chernov, Nikolai I. (*with* Markarian, Roberto) Anosov maps with rectangular holes. Nonergodic cases. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 315–342. (Bernard Schmitt) **99b:58142** 58F11 (28D05, 58F15)
— Markov approximations and decay of correlations for Anosov flows. *Ann. of Math.* (2) **147** (1998), *no.* 2, 269–324. (Luis M. Barreira) **99d:58101** 58F11 (58F15)
— (*with* Bonetto, Federico; Lebowitz, Joel L.) (Global and local) fluctuations of phase space contraction in deterministic stationary nonequilibrium. (English summary) *Chaos* **8** (1998), *no.* 4, 823–833. (Summary) **99k:82047** 82C05 (58F40)
— (*with* Markarian, Roberto; Troubetzkoy, S.) Conditionally invariant measures for Anosov maps with small holes. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1049–1073. (Heber Enrich) **99k:58111** 58F11 (28D05)
— (*with* Bäcker, A.) Generating partitions for two-dimensional hyperbolic maps. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 79–87. (Roberto Markarian) **99a:58118** 58F15 (58F20)
— (*with* Troubetzkoy, S.) Ergodicity of billiards in polygons with pockets. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1095–1102. (András Krámli) **99h:58104** 58F11
— Statistical properties of piecewise smooth hyperbolic systems in high dimensions. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 425–448. (Heber Enrich) **99k:58134** 58F15 (28D05, 58F11)
Chernov, V. L. On separatrix splitting of some quadratic area-preserving maps of the plane. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 49–65. (Vassili G. Gelfreich) **99j:58188** 58F30 (34C37)
Chernova, N. I. (*with* Foss, S. G.) On polling systems with an infinite number of stations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 940–956, *iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 832–846. (Volker Schmidt) **99f:60155** 60K25
— (*with* Foss, S. G.) On the stability of a partially accessible multi-station queue with state-dependent routing. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 55–73. (Walter M. Böhm) **99j:60136** 60K20 (60K25, 90B22)
Chernyak, A. A. Interchange theorems for hypergraphs and factorization of their degree sequences. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 17–27. (T. T. Raghunathan) **99k:05123** 05C65
Chernyak, Victor Properties of $\mathcal{N} = 1$ SUSY Yang-Mills vacuum and domain walls. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 65–71. (Summary) **99k:81296** 81T60 (81T13)
Chernyak, Yuri B. (*with* Feldman, A. B.; Cohen, Richard J.) Wave-front propagation in a discrete model of excitable media. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7025–7040. (Summary) **99d:92008** 92C05 (35B99, 35K55, 92B05)
— (*with* Starobin, Joseph M.; Cohen, Richard J.) Where do dispersion curves end? A basic question in theory of excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R*4108–*R*4111. 35K55 (35Q58)
Chernyavskaya, N. (*with* Shuster, L. A.) Solvability in L_p of the Dirichlet problem for a singular nonhomogeneous Sturm-Liouville equation. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 3, 259–272. (Tetsutaro Shibata) **99m:34054** 34B24 (34L05)
— On a problem of Hartman and Wintner. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1007–1022. (A. D. Wood) **99h:34077** 34E05
— (*with* Shuster, L. A.) Weight summability of solutions of the Sturm-Liouville equation. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 456–473. (L. V. Kritskov) **99m:34055** 34B24 (34C11)
— (*with* Shuster, L. A.) Estimates for the Green function of a general Sturm-Liouville operator and their applications. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1413–1426. (Christiane Tretter) **99h:34040** 34B27 (34B24)
Chernyavskiĭ, A. F. (*with* Kolyada, A. A.; Revinskiĭ, V. V.; Selyaninov, M. Yu.) Minimally redundant polynomial-scalar modular number systems. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 103–106, 143. 68M07
Chernyĭ, L. T. Structure of Taylor cone-jets: limit of low flow rates. (English summary) *J. Fluid Mech.* **378** (1999), 167–196. (Summary) **99j:76035** 76D25 (76W05)
Chernykh, G. G. (*with* Klimentenok, U. A.; Korobitsyna, Zh. L.) On the numerical realization of the Loĭtsyanskiĭ-Millionshchikov asymptotic solution. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 69–80. 65M99
— (*with* Korobitsyna, Zh. L.; Kostomakha, V. A.) Numerical simulation of isotropic turbulence dynamics. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 173–182. (*see* **99c:76001**) 76M20 (76F05)
— (*with* Demenkov, A. G.; Kostomakha, V. A.) Numerical model of a swirling momentumless turbulent wake. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 279–288. 76F99 (76D25)
Chernykh, I. D. (*with* Sevast'yanov, S. V.) Computer-aided way to prove theorems in scheduling. (English summary) *Algorithms—ESA '98 (Venice)*, 502–513, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:90090** 90B35
Chernykh, K. F. Some laws of the nonlinear theory of elasticity. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 337–339; *translation in Dokl. Phys.* **43** (1998), *no.* 3, 189–191. (Gennady S. Mishuris) **99m:73017** 73C50 (73M25, 73V35)
Chernykh, N. I. (*with* Subbotin, Yu. N.) Wavelet bases in spaces of analytic functions. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 340–355. (H. Triebel) **99k:42072** 42C15 (46E15)
Chernyshev, S. A. (*with* Kop'ev, V. F.) Influence of mixing layer thickness on the stability characteristics of a supersonic jet. *Fluid Dynam.* **33** (1998), *no.* 2, 169–175; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 20–28 (*Russian. Russian summary*). (Summary) **99i:76080** 76J20 (76E99)
Chernyshov, A. D. Exact solutions of the problem of the oscillations of complex fields in an angular domain. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 425–427, 432; *translation in Differential Equations* **34** (1998), *no.* 3, 427–430. (Valery V. Karachik) **99m:35026** 35C05 (35J55)
— Nonsteady flow of viscous fluid in a tube of triangular cross-section. *Fluid Dynam.* **33** (1998), *no.* 5, 803–806 (1999); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 5, 199–203 (*Russian. Russian summary*). (Summary) **99m:76053** 76D99
Chernyshov, K. I. Splitting of a linear equation with a Fredholm operator in front of the derivative. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 6, 726–729. (Georgy A. Sviridyuk) **99b:34099** 34G10 (34E15)
Cherowitzo, William E. Monomial flocks of monomial cones in even characteristic. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 241–253. (Norman L. Johnson) **99g:51005** 51E20
— (*with* Storme, Leo) α-flocks with oval herds and monomial hyperovals. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 2, 185–199. (Barbu C. Kestenband) **99c:51015** 51E21 (05B25)
— α-flocks and hyperovals. (English summary) *Geom. Dedicata* **72** (1998), *no.* 3, 221–246. (Laura Bader) **99m:51011** 51E21 (05B25, 51E20)
Cherpion, M. (*with* De Coster, Colette; Habets, P.) Monotone iterative methods for boundary value problems. *Differential Integral Equations* **12** (1999), *no.* 3, 309–338. (Seppo Heikkilä) **99m:34018** 34A45 (34B15, 65L10)
Cherruault, Yves ★ Modèles et méthodes mathématiques pour les sciences du vivant. (French. French summary) [Mathematical models and methods for the life sciences] With prefaces by René Alt, Brian H. Rudall, Henri Berliocchi, Gaspar Mora and Pedro Grimalt. Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1998. x+299 *pp. ISBN* 2-13-048978-8 (P. Bertrand) **99e:92001** 92–02 (92B05, 92C50)
— (*with* Ziadi, A.) Generation of α-dense curves in a cube of $\mathbf{R}^n$. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 336, 416–425. 65Y25 (65K05)
— (*with* Mora Martínez, Gaspar) The theoretic calculation time associated to α-dense curves. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 860, 919–939. 65Y25 (65K05)
— Optimization and optimal control for life sciences. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 989, 1012–1019. 90C90 (49N55)
— (*with* Mavoungou, T.) Solving frontier problems of physics by decomposition method: a new approach. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 990, 1053–1061. 65J15
— (*with* Abbaoui, K.) The decomposition method applied to the Cauchy problem. (English summary) *Kybernetes* **28** (1999), *no.* 1, 68–74. 65L05 (34A45)
Cherry, John (*with* Ackermann, Silke) Richard II, John Holland and three medieval quadrants. (English summary) *Ann. of Sci.* **56** (1999), *no.* 1, 3–23. 01A35
Cherry, Kathleen G. (*with* Brigham, Robert C.) Preliminary results on greatest common subgraphs. (English summary) Proceedings of the Twenty-ninth Southeastern

International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 67–78. (Summary) **99j:05102** 05C35 (05C85)

Cherry, William A. A survey of Nevanlinna theory over non-Archimedean fields. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 235–249. (Summary) **99a:32047** 32P05 (11S80, 30D35, 30G06, 32H30)

— (*with* Yang, Chung-Chun) Uniqueness of non-Archimedean entire functions sharing sets of values counting multiplicity. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 967–971. (Min Ru) **99f:11154** 11S80 (30D35, 30G06)

Cherskiĭ, Yu. I. An integral equation of convolution type with an exponential in the kernel. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1566–1567, 1584; *translation in Differential Equations* **33** (1997), *no.* 11, 1574–1576 (1998). (Summary) **99i:45006** 45E10 (30E25)

Chertkov, M. On how a joint interaction of two innocent partners (smooth advection and linear damping) produces a strong intermittency. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 3017–3019. (Summary) **99i:76070** 76F99 (76M35)

Cherubini, Alessandra (*with* Bonzini, Celestina) Permutable completely regular semigroups. (English summary) *Semigroups* (*Luino*, 1992), 36–41, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M17

— *see also* **Semigroups, 99f:20003**

Chervon, S. V. (*with* Shabalkin, D. Yu.) On an exact solution of the chiral model of a plane-symmetric gravitational field. (Russian) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 6, 119–120. 83C15

Chervov, A. V. Traces of creation-annihilation operators, and Fredholm formulas. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 90–95; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 71–74. (From the text) **99b:81132** 81S99 (47N50)

Chervyakov, A. (*with* Kleinert, Hagen) Simple explicit formulas for Gaussian path integrals with time-dependent frequencies. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 345–357. (Summary) **99e:81124** 81S40

Chesalin, V. I. A problem with nonlocal boundary conditions for abstract hyperbolic equations. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 57–60, 81. (Summary) **99m:34127** 34G10

Cheshankov, B. I. *see* **Applications of mathematics in engineering, 99d:00013** *and* **99m:00024**

Cheshel', A. A. (*with* Passare, Mikael; Tsikh, A. K.) Multiple Mellin-Barnes integrals as periods on Calabi-Yau manifolds with several moduli. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 381–394; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1544–1555 (1997). (V. V. Chueshev) **99d:32026** 32G20 (14J15, 14J32, 32A27, 32G05, 33E20)

Cheshkova, A. F. (*with* Mikhaĭlov, G. A.) Solution of the Dirichlet difference problem for the multidimensional Helmholtz equation by the Monte Carlo method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 99–106. (Sergei A. Nemnyugin) **99c:65007** 65C05 (65N06)

Cheshkova, M. A. On a property of orthogonal surfaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 63–64; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 3, 60–61. (Andrew Bucki) **99b:53022** 53B20 (53A07)

— On the geometry of the central projection of an n-surface in the Euclidean space E^{n+m}. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 96–98; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 6, 88–90. (Vladislav Goldberg) **99m:53013** 53A07

Chesley, S. (*with* Zare, K.) Order and chaos in the planar isosceles three-body problem. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 475–494. (Summary) **99e:70033** 70F07 (58F13, 70K50)

Chesneaux, Jean-Marie (*with* Albertsen, Niels Christian; Christiansen, Søren; Wirgin, Armand) Comparison of four software packages applied to a scattering problem. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 307–317. 65-04 (65G10)

Chesnokov, A. A. Vortex motions of a fluid in a narrow channel. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 38–49; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 513–523 (1999). (Summary) **99g:76021** 76C05 (35Q35, 45K05)

Chestnov, V. N. (*with* Aleksandrov, Albert Georgievich) Synthesis of multidimensional systems of given accuracy. I. Application of LQ-optimization procedures. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 83–95; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 973–983. (Summary) **99j:93090** 93D21 (93B51)

Chetouani, Lyazid (*with* Dekar, Liès; Hammann, Théophile F.) An exactly soluble Schrödinger equation with smooth position-dependent mass. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2551–2563. (Peter N. Zhevandrov) **99f:81038** 81Q05 (33E30, 34L25)

karuppan Chetty, C. S. *see* **Karuppan Chetty, C. S.**

Chetverushkin, B. N. (*with* Pavlov, A. N.; Chaĭka, A. S.) Difference schemes with kinetically consistent artificial viscosity for the solution of Navier-Stokes equations on curvilinear orthogonal grids. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 57–75. 76M20 (76D05)

— (*with* Abalakin, I. V.) Kinetically consistent difference schemes as a model for describing flows of moderately rarefied gases. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 5, 61–70. 76M20 (76N15, 76P05)

— (*with* Churbanova, N. G.) Modeling of gas flows for small Mach numbers. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 7, 988–992, 1007. 76M25 (76N15)

— (*with* Samarskiĭ, Aleksandr Andreevich; Tishkin, V. F.; Gol'din, V. Ya.; Kalitkin, N. N.; Sobol', I. M.) Boris Leonidovich Rozhdestvenskiĭ (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **10** (1998), *no.* 9, 123–124. 01A70

Chetwynd, Amanda G. (*with* Rhodes, Susan J.) Avoiding multiple entry arrays. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 257–266. (Anthony B. Evans) **99b:05023** 05B15

Cheung, Ki Ling (*with* Yuan, Xue-Ming) Modeling returns of merchandise in an inventory system. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 3, 147–154. (L. C. Thomas) **99k:90071** 90B05

— (*with* Zhang, Alex X.) The impact of inventory information distortion due to customer order cancellations. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 213–231. 90B05 (90B22)

Cheung, Leung-Fu (*with* Leung, Pui-Fai) The mean curvature and volume growth of complete noncompact submanifolds. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 251–256. (Andrea Sambusetti) **99k:53111** 53C42 (53C40)

— (*with* Leung, Pui-Fai) The total mean curvature of a complete noncompact surface of nonnegative curvature in $\mathbf{R}^3$. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 15–17. (M. do Carmo) **99g:53005** 53A05 (53C40)

— (*with* Law, Chun-Kong; Leung, Man Chun; McLeod, J. Bryce) Entire solutions of quasilinear differential equations corresponding to p-harmonic maps. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 701–715. (Caio J. C. Negreiros) **99g:58033** 58E20 (34B15)

Cheung, Ping (*with* Johnson, N. F.; Jarvis, S.; Jonson, R.; Kwong, Y. R.; Hui, Pak-ming) Volatility and agent adaptability in a self-organizing market. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 230–236. 90A60

Cheung, Siu Hung (*with* Wu, Yao Hua[1]) The power function of the maximum Studentized range test in a two-way design. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 369–376. (Summary) **99f:62027** 62F03 (62K15)

Cheung, To-yat (*with* Charikar, Moses; Chekuri, Chandra; Dai, Zuo; Goel, Ashish; Guha, Sudipto; Li, Ming[1]) Approximation algorithms for directed Steiner problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 192–200, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

Cheung, Wing-Sum (*with* Pečarić, Josip) Multi-dimensional integral inequalities of the Wirtinger-type. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 481–489. (Franck Barthe) **99k:26019** 26D10 (26D15, 39B72)

— Discrete Poincaré-type inequalities. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 145–153. (Fozi M. Dannan) **99j:39003** 39A10 (26D10, 39A12, 39B72)

Cheung, Y. K. (*with* Chen, Shu Hui; Yang, X. M.) Periodic solutions of strongly quadratic non-linear oscillators by the elliptic perturbation method. (English summary) *J. Sound Vibration* **212** (1998), *no.* 5, 771–780. (Summary) **99c:34068** 34C15 (70K25)

— (*with* Jin, Wugen) Trefftz method applied to a moderately thick plate. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 1011–1024. 73V10 (65N38, 73K10)

Cheung, Yeuk-Kwan E. (*with* Yin, Zheng) Anomalies, branes, and currents. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 69–91. (Angel Maria Uranga) **99d:81148** 81T50 (81T30, 83E30)

— (*with* Ganor, Ori J.; Krogh, Morten) Correlators of the global symmetry currents of 4D and 6D superconformal theories. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 171–192. (Summary) **99h:81160** 81T30 (81T40)

Cheung Ip, Wai (*with* Phillips, Garry D. A.) The non-monotonicity of the bias and mean squared error of the two stage least squares estimators of exogenous variable coefficients. (English summary) *Econom. Lett.* **60** (1998), *no.* 3, 303–310. (Summary) **99i:62039** 62F10 (62P20)

Cheushev, Vasily (*with* Shmerko, V. P.; Simovici, Dan A.; Yanushkevich, Svetlana) Functional entropy and decision trees. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 257–262, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50 (06E30)

Chevalier, Georges Orthosymmetries and Jordan triples. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 577–583. (Summary) **99e:06006** 06C15 (06C20, 17C27, 46L70)

Chevalier, Jean Why the energy of the gravitational field can be localized. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 293–301. (Roh Suan Tung) **99i:83029** 83C40

Chevalier, Lucien Une "formule de Tanaka" en analyse harmonique et quelques applications. (French summary) [A "Tanaka formula" in harmonic analysis and some applications] *Adv. Math.* **138** (1998), *no.* 1, 182–210. (Charles N. Moore) **99j:42024** 42B25 (31B05, 60G46)

Chevalier, Philippe (*with* Nataf, Frédéric) Symmetrized method with optimized second-order conditions for the Helmholtz equation. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 400–407, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55

— (*with* Nataf, Frédéric) An optimized order 2 (OO2) method for the Helmholtz equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 769–774. (Summary) **99e:65169** 65N55

Chevalier, Y. (*with* Soula, M.) La dérivée fractionnaire en rhéologie des polymères. Application aux comportements élastiques et viscoélastiques linéaires et non linéaires des élastomères. (English and French summaries) [Fractional derivatives in polymer rheology. Application to the linear and nonlinear elastic and viscoelastic behavior of elastomers] *Systèmes différentiels fractionnaires* (*Paris*, 1998), 193–204, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99k:73070** 73F05 (73F15, 73G25, 76A99)

Chevalley, Catherine Mythe et philosophie. La construction de "Niels Bohr" dans la doxographie. (English and French summaries) [Myth and philosophy: the development of the Niels Bohr doxography] *Physis Riv. Internaz. Storia Sci.* (*N.S.*) **34** (1997), *no.* 3, 569–603 (1998). 81–03 (01A60)

— *see also* **Chevalley, Claude, 99f:01028**

Chevalley, Claude L'hypothèse de Riemann pour les corps de fonctions algébriques de caractéristique p. I. [The Riemann hypothesis for algebraic function fields of characteristic p. I] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 3, 17–19, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 11R58 (11M41, 11R54, 14H05)

— L'hypothèse de Riemann pour les corps de fonctions algébriques de caractéristique p. II. [The Riemann hypothesis for algebraic functional fields of characteristic p. II] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 9, 53–56, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 11R58 (11M41, 11R54, 14H05)

— Le groupe de Janko. [The Janko group] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 331, 293–307, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 20D08

— Le théorème fondamental de la multiplication complexe (démonstration de Eichler). [The fundamental theorem of complex multiplication (Eichler's proof)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 138, 19–31, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 11G15

— La notion de correspondance propre en géométrie algébrique [MR **21** #7211]. [The notion of proper correspondence in algebraic geometry] *Séminaire Bourbaki, Vol.* 4, *Exp.*

No. 152, 219–229, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14E05

— La théorie des fonctions holomorphes de Zariski. Application au théorème de connexité [MR **21** #7212]. [Zariski's theory of holomorphic functions. Applications to the connectivity theorem] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 158, 291–307, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14E99

— Certains schémas de groupes semi-simples. [Certain semisimple group schemes] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 219, 219–234, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 14L15

— ★ The algebraic theory of spinors and Clifford algebras. (English summary) Collected works. Vol. 2. Edited and with a foreword by Pierre Cartier and Catherine Chevalley. With a postface by J.-P. Bourguignon. *Springer-Verlag, Berlin*, 1997. xiv+214 *pp. ISBN* 3-540-57063-2 (From the foreword) **99f:01028** 01A75 (15A66, 81R25)

Chevallier, D. P. (*with* Burov, A. A.) On motion of a rigid body about a fixed point with respect to a rotating frame. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 66–75. (Summary) **99i:70009** 70E15

— (*with* Burov, A. A.) On Routh reduction and its application in rigid body dynamics. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 695–702. (Jair Koiller) **99k:70022** 70H35 (70E15, 70F25, 70K20)

Cheverda, V. A. (*with* Clément, Francois; Khaidukov, V. G.; Kostin, V. I.) Linearized inversion of data of multi-offset data for vertically inhomogeneous background. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 453–484. (Jiří Nedoma) **99m:86015** 86A15 (35R30, 65D15, 73D50)

Chevreau, B. (*with* Cassier, G.; Chalendar, I.) New examples of contractions illustrating membership and non-membership in the classes $\mathbf{A}_{m,n}$. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 707–731. (Hari Bercovici) **99k:47022** 47A45 (47A65, 47D27)

Chew, James More remarks on generalized forms of continuity. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 3–8 (1994). 54C08 (54C05)

Chew, L. Paul (*with* Kedem, Klara) Getting around a lower bound for the minimum Hausdorff distance. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 197–202. (Summary) **99b:68197** 68U05 (52B55, 68T10)

— (*with* Dor, D.; Efrat, Alon; Kedem, Klara) Geometric pattern matching in d-dimensional space. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 257–274. (Ilya S. Molchanov) **99m:65262** 65Y25 (52B55, 68U05)

Chew, Tuan-Seng Another proof that every absolutely Henstock integrable function is McShane integrable. *Functional analysis and global analysis* (*Quezon City*, 1996), 58–61, *Springer, Singapore*, 1997. (*see* **99g:00040**) 26A39

— (*with* Wong, Woon-Kwong; Tan, Geok-Choo) On absolutely Henstock integrable functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 799–803. (Summary) **99d:26011** 26A39

— (*with* Tan, Geok-Choo) On the convergence of (L) $\int_{X_n} f$ for nonabsolute integrals. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 353–361. (O. Lipovan) **99m:26016** 26A42

Chew, Weng Cho Imaging and inverse problems in electromagnetics. *Advances in computational electrodynamics*, 653–702, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78018** 78A45 (44A12, 78–08, 92C55)

— (*with* Jandhyala, Vikram; Shanker, Balasubramaniam; Michielssen, Eric) Fast algorithm for the analysis of scattering by dielectric rough surfaces. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 7, 1877–1885. (Summary) **99c:78004** 78–08 (78A45)

Chew, Y. T. (*with* Lim, T. T.; Xiao, Qing[2]) A new flow regime in a Taylor-Couette flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3233–3235. (Summary) **99i:76146** 76U05 (76D99, 76E10)

Chhajed, Dilip (*with* Lowe, Timothy J.) Solving a selected class of location problems by exploiting problem structure: a decomposition approach. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 8, 791–815. (Horst W. Hamacher) **99k:90130** 90C27 (90B80)

Chhajer, G. C. (*with* Joshi, Mukesh M.; Nagar, Vishakha; Rathie, Arjun K.) On Ramanujan's summations. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 65–66. 33C20 (11Y60)

Chhetry, D. (*with* Block, H. W.; Fang, Zhao Ben; Sampson, Allan R.) Metrics on permutations useful for positive dependence. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 219–234. (Ram Shanmugam) **99k:62106** 62H05

Chi, Chia-Wei (*with* Hsu, Sze-Bi; Wu, Lih-Ing) On the asymmetric May-Leonard model of three competing species. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 211–226 (*electronic*). (H. A. DeKleine) **99i:92018** 92D25 (34C25)

Chi, Dong Pyo (*with* Kim, Gwang Il) The measure of the uniformly hyperbolic invariant set of exact separatrix map. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 779–788. (Jürgen Scheurle) **99j:58153** 58F15 (34C35, 34C37, 70H05)

— (*with* Yun, Gabjin) ★ Gromov-Hausdorff topology and its applications to Riemannian manifolds. Lecture Notes Series, 41. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *vi*+78 *pp.* (Zhongmin Shen) **99h:53051** 53C23 (53C20)

— (*with* Kim, Jin Hong) A Harnack inequality for the heat equation on a compact Riemannian manifold with non-convex boundary. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 387–395. (Alberto G. Setti) **99f:58191** 58G11 (35B45, 35K99)

— (*with* Kim, Hyun Jung; Kim, Won Kuk) On the existence of solutions of the heat equation for harmonic map. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 533–545. (Caio J. C. Negreiros) **99k:58044** 58E20

Chi, E. M. (*with* Weerahandi, S.) Comparing treatments under growth curve models: exact tests using generalized p-values. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 179–189. (Summary) **99f:62074** 62H15 (62J10)

Chi, Quo-Shin (*with* Mo, Xiaokang) The moduli space of branched superminimal surfaces of a fixed degree, genus and conformal structure in the four-sphere. *Osaka J. Math.* **33** (1996), *no.* 3, 669–696. (From the introduction) **99a:58021** 58D27 (14D20, 53C42, 58E20)

Chi, Wen-Chen (*with* Li, Anly) Groups of continuous characters and Brauer groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4171–4177. (Ido Efrat) **99j:11140** 11S20 (13A20)

Chi, Xiang (*with* Su, Chun) Some results on the central limit theorem for nonstationary NA sequences. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 9–21. (Summary) **99a:60022** 60F05

— (*with* Su, Chun) Base 2 logarithmic estimates for the moments of maxima of partial sums of series of random variables and their application. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 19, 2049–2053. 60E99

Chi, Xiaoheng (*with* Wan, Wei Ming) The generalized center-weak saddle of general homogeneous system of degree n. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 487–494. (Henryk Żołądek) **99a:34091** 34C05

Chi, Xue Bin Algorithms, complexity and parallel implementation for eigenvalue problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 28–34. 65F15 (65Y05)

— (*with* Wu, Jian Ping) Matrix multiplication on distributed system. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 99–108. 65–04 (65Y05)

Chi, Y.-W. (*with* Wu, Chih-Ping) Asymptotic solutions of laminated composite shallow shells with various boundary conditions. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 1–18. 73K15 (73K20)

Chi, Zhiyi (*with* Geman, Stuart) On the consistency of minimum complexity nonparametric estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1968–1973. (Summary) **99k:62072** 62G05 (62G20)

Chia, G. L. On the chromatic equivalence class of graphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 15–23. (Summary) **99g:05074** 05C15

Chia, T. T. (*with* Tan, B. L.) Self-similarity and fine structures in the linear-logistic map. (English summary) *Complex Systems* **10** (1996), *no.* 5, 321–343. (Summary) **99e:58064** 58F03

Chiacchio, Ary O. (*with* Prolla, João B.; Roversi, Maria Sueli M.) Extensions of a theorem of Ky Fan. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 735–747. (George Isac) **99j:47095** 47H10 (49J40, 90C48)

Chiacchio, Pasquale (*with* Caccavale, Fabrizio; Chiaverini, Stefano) Stability analysis of a joint space control law for a two-manipulator system. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 85–88. 93C85 (93D05)

Chianchi, R. *see* **Cianci, Roberto**

Chiang, Ding-An (*with* Lin, Nancy P.) Correlation of fuzzy sets. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 221–226. (Summary) **99j:62038** 62F99

Chiang, Li (*with* Hung, Yu Ching) On Hilbert-Kunz function and representation ring. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 1–32. (Anna Guerrieri) **99k:13004** 13A35 (13D40)

— (*with* Hung, Yu Ching) On Hilbert-Kunz functions of some hypersurfaces. *J. Algebra* **199** (1998), *no.* 2, 499–527. (J. K. Verma) **99c:13037** 13D40 (13A35, 13H15)

Chiang, Ti-Ming (*with* Greene, Brian R.) Phases of mirror symmetry. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 97–119, *World Sci. Publishing, River Edge, NJ*, 1996. (Charles F. Doran) **99m:32022** 32G81 (14J32, 32J81, 81T30)

— (*with* Bershadsky, Michael; Greene, Brian R.; Johansen, Andrei; Lazaroiu, C. I.) F-theory and linear sigma models. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 531–570. (Harald Skarke) **99g:81150** 81T30 (14J32, 32J81)

Chiang, Tzuu-Shuh (*with* Chow, Yunshyong) On the problem of exit from cycles for simulated annealing processes—a backward equation approach. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 896–916. (Laurent Miclo) **99g:60129** 60J27 (90C42)

— (*with* Chow, Yunshyong) Asymptotic behavior of some linear differential systems. *J. Differential Equations* **144** (1998), *no.* 2, 321–352. (C. C. Y. Dorea) **99k:34099** 34C99 (34D05, 34E99, 70F10)

Chiang, Wei-Kuo (*with* Chen, Rong-Jaye) On the arrangement graph. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 215–219. (Summary) **99c:68190** 68R10 (05C10)

Chiang, Wei-Ling (*with* Chen, Huey-Kuo; Hsu, Wen-Ko) A comparison of vertex method with JHE method. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 201–214. (Jonathan Lawry) **99j:04002** 04A72 (03E72)

Chiang, Yi-Jen (*with* Arkin, Esther M.; Held, Martin; Mitchell, Joseph S. B.; Sacristan, V.; Skiena, Steven S.; Yang, Tae-Cheon) On minimum-area hulls. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 119–136. (Evangelos Kranakis) **99c:68243** 68U05 (52B55)

Chiang, Yik-Man (*with* Laine, Ilpo) Some oscillation results for linear differential equations in the complex plane. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 2, 367–402. (Enid M. Steinbart) **99k:34004** 34A20

Chiang, Yuang-Chin (*with* Chen, Lin-An) Symmetric quantile and symmetric trimmed mean for linear regression model. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 2, 171–185. (Summary) **99b:62049** 62G05

Chiantini, Luca (*with* Ballico, Edoardo) Nodal curves and postulation of generic fat points on $\mathbf{P}^2$. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 6, 501–504. (Rafael Hernandez) **99m:14022** 14C99

— (*with* Ciliberto, Ciro) Towards a Halphen theory of linear series on curves. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2197–2212. (Juan C. Migliore) **99i:14006** 14C20 (14H50)

Chiao, Kuo-Ping Generalized fuzzy eigenvalue problems. (English summary) *Tamsui Oxf. J. Math. Sci.* **14** (1998), 31–37. 15A99 (65F15)

Chiappinelli, Raffaele Bounds on eigenvalues of nonlinearly perturbed compact selfadjoint operators. *Panamer. Math. J.* **8** (1998), *no.* 2, 1–29. (Tetsutaro Shibata) **99c:47098** 47H12 (35P15)

Chiappori, Pierre-André (*with* Ekeland, Ivar) A convex Darboux theorem. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 287–297 (1998). (Dave Furth) **99k:58007a** 58A15 (53C15, 90A40)

dalla Chiara, Maria Luisa *see* **Dalla Chiara, Maria Luisa**

Chiarelli, Alessandra (*with* Rudnaya, Svetlana; Santosa, Fadil) Optimal design of a diffractive optical element. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 44–53, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A55 (49Q10)

Chiarellotto, Bruno Weights in rigid cohomology applications to unipotent F-isocrystals. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 5, 683–715. (Guy Laffaille) **99k:14032** 14F20 (11G25, 14F30)

— (*with* Le Stum, Bernard) Sur la pureté de la cohomologie cristalline. (English and French summaries) [On the purity of crystalline cohomology] *C. R. Acad. Sci. Paris Sér.*

I Math. **326** (1998), *no.* 8, 961–963. (Summary) **99f:14024** 14F30

Chiarolla, Maria B. (*with* Haussmann, Ulrich G.) Optimal control of inflation: a central bank problem. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1099–1132 (*electronic*). (Jakša Cvitanić) **99d:90039** 90A70 (49J40, 93E20)

Chiasson, John A new approach to dynamic feedback linearization control of an induction motor. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 391–397. (Summary) **99a:93017** 93B18

— (*with* Bodson, Marc) Differential-geometric methods for control of electric motors. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 923–954. (*see* **99f:93004**) 93C95 (93B36)

Chiaverini, Stefano (*with* Siciliano, Bruno; Villani, Luigi) An adaptive force/position control scheme for robot manipulators. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 293–303. (*see* **99b:70004**) 70B15 (70Q05, 93C85)

— (*with* Caccavale, Fabrizio; Chiacchio, Pasquale) Stability analysis of a joint space control law for a two-manipulator system. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 85–88. 93C85 (93D05)

Chib, Siddhartha Estimation and comparison of multiple change-point models. (English summary) *J. Econometrics* **86** (1998), *no.* 2, 221–241. (Yanhong Wu) **99k:62156** 62M10 (62P20)

Chiba, Fumihiro (*with* Kako, Takashi) The stability of Newmark's β method. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 39–44. (*see* **99i:00028**) 65L20

Chiba, Takeshi Resolving the singularity of the Hawking-Turok type instanton. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 59–62. (Summary) **99k:83039** 83C45

— (*with* Maeda, Kei-ichi; Nakao, Ken-ichi; Tsukamoto, Taro) Two boosted black holes in asymptotically de Sitter space-time: relation between mass and apparent horizon formation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6119–6126. (Summary) **99m:83105** 83C57

Chibisov, B. (*with* Shifman, Mikhail) Erratum: "BPS-saturated walls in supersymmetric theories" [Phys. Rev D (3) **56** (1997), no. 12, 7990–8013; MR 98j:81324]. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 109901, 1 *p.* 81T60

Chibisov, D. M. *see* **Milyutin, Aleksei A., 99g:49002**

Chiboka, V. O. Structure of extra algebras. (English and Serbian summaries) *Zb. Rad. (Kragujevac) No.* 20 (1998), 17–26. (Edgar G. Goodaire) **99j:17003** 17A20 (17C05, 17D05, 20N05)

Chiccoli, C. (*with* Lorenzutta, S.; Maino, G.) On the evaluation of generalized Laguerre functions. (English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **131** (1997), 77–90. (Summary) **99k:33023** 33C45 (33C15)

— (*with* Lorenzutta, S.; Maino, G.; Dattoli, G.; Torre, Amalia) Infinite-variable Bessel functions of the Anger type and the Fourier expansions. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 163–176. (R. K. Saxena) **99f:33002** 33C10 (33C70, 42C99, 46F25)

Chichilnisky, Graciela Limited arbitrage is necessary and sufficient for the existence of an equilibrium. (English summary) *J. Math. Econom.* **28** (1997), *no.* 4, 470–479. (Erwin Klein) **99c:90028** 90A14 (90A80)

— Market arbitrage, social choice and the core. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 161–198. (Dave Furth) **99i:90010** 90A08 (90A14, 90A60, 90D80)

— Topology and invertible maps. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 1, 113–123. (Joe Thrash) **99c:58016** 58C15 (90A56)

— (*with* Zhou, Yuqing) Smooth infinite economies. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 27–42. (Summary) **99j:90024** 90A53 (90A14)

Chichurin, A. V. (*with* Lukashevich, N. A.) On the existence of surfaces generated by second-order nonlinear differential equations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997,** *no.* 3, 44–47, 139. (Summary) **99d:34020** 34A34 (53A05)

Chick, Helen L. (*with* Gardner, B. J.) Commutative quasiregular rings with isomorphic additive and circle composition groups. II. Rational algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 657–670. (David F. Anderson) **99a:13003** 13A99

Chickering, David Maxwell A transformational characterization of equivalent Bayesian network structures. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ,* 1995), 87–98, *Morgan Kaufmann, San Francisco, CA,* 1995. (Summary) **99b:68183** 68T30

Chiclana, F. (*with* Herrera, Francisco; Herrera-Viedma, E.) Integrating three representation models in fuzzy multipurpose decision making based on fuzzy preference relations. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 33–48. (Summary) **99d:90009** 90A05 (90C70)

Chicourrat, Monique Ultrafilters, extensions of proximities and closure spaces. Resolution of a problem of F. Riesz. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 68–76 (*electronic*), *Topol. Atlas, North Bay, ON,* 1997. (*see* **99a:54002**) 54A05 (06A15, 54D35, 54E05)

— Ultrafilters and regular extensions of RE-proximities. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 83–97. (Summary) **99k:54019** 54E05 (54A05)

Chidume, C. E. Convergence theorems for strongly pseudo-contractive and strongly accretive maps. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 254–264. (Summary) **99h:47065** 47H10 (47H06, 47H09, 47H17)

— Iterative solutions of nonlinear equations of the strongly accretive type. (English summary) *Math. Nachr.* **189** (1998), 49–60. (Ricardo Torrejón) **99g:47141** 47H15 (47H04, 47H06, 47H17)

— (*with* Osilike, M. O.) Nonlinear accretive and pseudo-contractive operator equations in Banach spaces. *Nonlinear Anal.* **31** (1998), *no.* 7, 779–789. (Ramendra Krishna Bose) **99b:47082** 47H10

— (*with* Moore, Chika) Fixed point iteration for pseudocontractive maps. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1163–1170. (Summary) **99f:47068** 47H09 (47H10)

Chien, C.-C. (*with* Hammad, A.; Jonckheere, Edmond A.; Cheng, Chih-Yung; Bhajekar, S.) Stabilization of chaotic dynamics: a modern control approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 663–677. 93D15 (58F10)

Chien, C. S. (*with* Chen, Mei-Hua) Multiple bifurcations in a reaction-diffusion problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 15–39. (Summary) **99a:65072** 65H17 (65N12)

— (*with* Mei, Zhen; Shen, Chi-Long) Numerical continuation at double bifurcation points of a reaction-diffusion problem. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 117–139. (Summary) **99c:35108** 35K57 (35B32, 35B60, 58F39, 65M99)

Chien, Chiang-Ju (*with* Liu, Jing-Sin) A P-type iterative learning controller for robust output tracking of nonlinear time-varying systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 319–334. 93E35 (93B50)

— A discrete iterative learning control for a class of nonlinear time-varying systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 748–752. (Summary) **99a:93057** 93C40 (93E35)

Chien, Mao-Ting (*with* Neumann, Michael) Positive definiteness of tridiagonal matrices via the numerical range. (English summary) *Electron. J. Linear Algebra* **3** (1998), 93–102 (*electronic*). (Jor-Ting Chan) **99f:15038** 15A60 (15A57)

— (*with* Yeh, Lina; Yeh, Yean-Tzuoh; Lin, Fun-Zin) On geometric properties of the numerical range. (English summary) *Linear Algebra Appl.* **274** (1998), 389–410. (Hiroshi Nakazato) **99b:15034** 15A60

Chieng, Ching-Chang (*with* Lin, Herng) Computations using the preconditioning Bi-CGSTAB algorithm in chemical non-equilibrium problems. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 2, 267–291. (Summary) **99d:80013** 80A32 (76K05, 80–08)

Chiera, C. (*with* Baker, Donna; Connell, H. J.; Shepherd, J. J.) Helical flow of a Carreau fluid between coaxial cylinders. *Computational techniques and applications: CTAC*95 (*Melbourne,* 1995), 121–128, *World Sci. Publishing, River Edge, NJ,* 1996. (*see* **99g:00035**) 76A05

Chigbu, P. E. The block structures and isomorphism of semi-Latin squares and related designs. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 53–65. (Summary) **99i:05038** 05B15

Chigira, Naoki (*with* Iiyori, Nobuo; Yamaki, Hiroyoshi) Nonabelian Sylow subgroups of finite groups of even order. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 88–90 (*electronic*). 20D20

— Number of Sylow subgroups and p-nilpotence of finite groups. *J. Algebra* **201** (1998), *no.* 1, 71–85. (Gernot Stroth) **99c:20019** 20D15 (20D20)

— (*with* Iiyori, Nobuo) Prime graphs and Brauer characters. *J. Group Theory* **1** (1998), *no.* 4, 363–368. (Harold N. Ward) **99j:20009** 20C15 (05C25, 20C20)

— (*with* Chen, Guiyun; Yamaki, Hiroyoshi) Finite groups with metacyclic automorphism groups. *Northeast. Math. J.* **14** (1998), *no.* 1, 5–8. (Richard Davitt) **99e:20030** 20D45

— Finite groups whose abelian subgroups have consecutive orders. *Osaka J. Math.* **35** (1998), *no.* 2, 439–445. (Cheryl E. Praeger) **99g:20043** 20D99 (20D05)

Chigogidze, A. Ch. Cohomological dimension of Tychonov spaces. (English summary) *Topology Appl.* **79** (1997), *no.* 3, 197–228. (Summary) **99f:55003** 55M10 (54B35, 54F45)

— (*with* Zarichnyĭ, M. M.) On absolute extensors modulo a complex. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 169–178. (Leonard R. Rubin) **99f:54018** 54C20 (54C55, 55M10)

Chihara, T. S. (*with* Ismail, Mourad E. H.) In memoriam: Waleed Al-Salam (July 15, 1926–April 13, 1996). *J. Approx. Theory* **95** (1998), *no.* 2, 153–160. (Editors) **99m:01049** 01A70

Chiheb, Raddouane (*with* Cioranescu, Doina; El Janati, Abdessalam; Panasenko, G. P.) Structures réticulées renforcées en élasticité. (English and French summaries) [Reinforced lattice structures in elasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 897–902. (Ma. Eugenia Pérez Martínez) **99k:73011** 73B27 (35B27, 73K20)

— (*with* Panasenko, G. P.) Optimization of finite rod structures and L-convergence. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 2, 273–304. (Alexander G. Kolpakov) **99f:49059** 49N55 (49Q10, 73K40)

Chikán, Attila (*with* Barancsi, Éva; Bánki, Géza; Borlói, Rudolf; Kelle, Péter; Kulcsár, Tamás; Meszéna, György) ★ Inventory models. (English summary) Translated from the 1983 Hungarian original by B. Szőnyi and Kelle and revised by the authors. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 16. *Kluwer Academic Publishers, Dordrecht,* 1990. xii+419 *pp. ISBN* 0-7923-0494-2 (Heinz-Uwe Küenle) **99a:90085** 90B05 (90–02)

Chikobava, N. (*with* Topuriya, S. B.) Summability of the Fourier series over generalized spherical functions by the Abel and (C, α) methods. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 48–51. 42B08

Chikrīĭ, A. A. *see* **Chikrii, Arkadii A.**

Chikrīĭ, Al. A. (*with* Chikrii, Arkadii A.; Baranovskaya, L. V.) A game-theoretic approach problem when the control devices fail. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 5, 5–13, 153. (Summary) **99f:90205** 90D25 (49K15, 93B35)

Chikrii, Arkadii A. (*with* Klimenko, Ye. V.) Search methods for moving evaders. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **1** (1994), *no.* 4, 451–459. (O. A. Malafeyev) **99c:90176** 90D26 (49K15, 93C15)

— The problem of evasion for controlled dynamical objects. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 1-2, 120–132, 298. 49J15 (90D15)

— (*with* Patlanzhoglu, O. M.) On a class of quasilinear differential pursuit games. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 786–794, 862; *translation in Differential Equations* **33** (1997), *no.* 6, 789–797 (1998). (Anatoliĭ F. Kleimenov) **99f:90206** 90D25

— (*with* Rappoport, I. S.) A guaranteed result in a differential game of group pursuit with a terminal payoff function. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 584–594; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 567–576. (O. A. Malafeyev) **99k:90229** 90D26 (49J15)

— (*with* Dzyubenko, Karen Georgievich) Bilinear Markov processes for searching for moving objects. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 1, 92–106, 155. (Summary) **99d:90063** 90B40 (90D40, 93E05)

— (*with* Baranovskaya, L. V.; Chikrīĭ, Al. A.) A game-theoretic approach problem when the control devices fail. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 5, 5–13, 153. (Summary) **99f:90205** 90D25 (49K15, 93B35)

— The problem of avoidance for controlled dynamic objects. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 81–94. (Kjell Holmåker) **99f:90210** 90D26 (49J15)

Chikunova, E. V. (*with* Dombrovskiĭ, V. V.) Synthesis of dynamic controllers of reduced order for systems with random parameters. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 97–101. (Summary) **99k:93095** 93E20 (49K45, 93B50, 93E10)

Chikuse, Yasuko Density estimation on the Stiefel manifold. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 188–206. (Yutaka Kano) **99i:62123** 62H11 (62G05)

Chikvinidze, L. Local approximation of analytic functions and their derivatives in weight integral metrics in domains with a quasiconformal boundary. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 197–199. 30E10 (30C62)

Chikwendu, Sunday C. (*with* Easwaran, Chirakkal V.) A Laplace-transform multiple-scale procedure for the asymptotic solution of weakly non-linear partial differential equations. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 117–122. 35C20

Chilachava, T. On the asymptotic method of solution of one class of nonlinear mixed problems of mathematical physics. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 373–377. (Summary) **99e:35182** 35Q35 (35C20, 76L05, 76N15)

Child, M. S. Quantum states in a champagne bottle. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 657–670. (Summary) **99b:81052** 81Q20

Childs, Aaron (*with* Balakrishnan, Narayanaswamy) Some extensions in the robust estimation of parameters of exponential and double exponential distributions in the presence of multiple outliers. *Robust inference*, 201–235, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

Childs, Bart (*with* Osborne, Michael R.) Fitting solutions of ordinary differential equations to observed data. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 193–198, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65L06

Chilin, V. I. (*with* Masharipova, S. Sh.) Functional description of commutative symmetric operator algebras in a Pontryagin space of type Π_1. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 44–53. (È. V. Kissin) **99h:47044** 47B50 (46L99, 47D25)

— (*with* Abdullaev, R. Z.) Arens algebras, associated with commutative von Neumann algebras. *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 1–12. (Camillo Trapani) **99g:46074** 46L05 (46J05)

Chillag, David (*with* Mann, Avinoam) Nearly odd-order and nearly real finite groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2041–2064. (Roderick Gow) **99d:20010** 20C15

— On zeroes of characters of finite groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 977–983. (W. E. Deskins) **99f:20012** 20C15

Chillan, J. (*with* Fouque, Jean-Pierre) Pressure fields generated by acoustical pulses propagating in randomly layered media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1532–1546 (*electronic*). (Summary) **99d:73038** 73D25 (60H30, 73D70, 73V30, 76Q05)

Chi-Long, N. (*with* Krabs, Werner) On the controllability of a robot arm. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 1, 25–42. (Guenter Leugering) **99c:93008** 93B05 (70B15, 70Q05, 93C85)

Chimento, Luis P. (*with* Zuccalá, Norberto A.) Semi-classical cosmological models with scalar, Dirac and electromagnetic fields. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 1, 37–49. (Dmitri V. Vassilevich) **99b:83042** 83C47 (83C15)

— General solution to two-scalar field cosmologies with exponential potentials. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 965–974. (Sunil D. Maharaj) **99c:83010** 83C15

Chin, C. H. Quantum field theory under hypertranscendental action. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 370–377, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81P99 (11Z05, 81T99)

Chin, Char-Ming (*with* Nayfeh, Ali Hasan; Lacarbonara, Walter) Nonlinear normal modes of buckled beams: three-to-one and one-to-one internal resonances. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 3, 253–273. 73K12 (73H05, 73K05)

Chin, Francis Y. L. (*with* Chan, Wun-Tat) Algorithms for finding optimal disjoint paths around a rectangle. (English summary) *Algorithms and computation (Singapore, 1997)*, 314–323, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10 (68Q35, 68R10)

— (*with* Wang, Cao An; Yang, Bo Ting) Maximum weight triangulation and its application on graph drawing. (English summary) *Computing and combinatorics (Taipei, 1998)*, 25–34, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05 (68R10)

— (*with* Wang, Cao An) Finding the constrained Delaunay triangulation and constrained Voronoi diagram of a simple polygon in linear time. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 472–487 (*electronic*). (Evangelos Kranakis) **99g:68043** 68P05 (68U05)

Chin, Paulina (*with* Vannelli, Anthony; Kennings, Andrew) Interior point approaches for the VLSI placement problem. (English summary) *Interior point methods of mathematical programming*, 501–528, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C35 (90C90)

Chin, R. C. Y. (*with* Shao, Sai Lai) An asymptotic-domain decomposition method for a time-dependent singularly perturbed system. *Differential equations and applications (Hangzhou, 1996)*, 269–276, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 65M55 (35K10)

Chin, William (*with* Montgomery, Susan) Basic coalgebras. (English summary) *Modular interfaces (Riverside, CA, 1995)*, 41–47, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Richard K. Molnar) **99c:16037** 16W30

Chinburg, Ted (*with* Kolster, Manfred; Pappas, Georgios; Snaith, Victor P.) Quaternionic exercises in K-theory Galois module structure. (English summary) *Algebraic K-theory (Toronto, ON, 1996)*, 1–29, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Kenneth Kramer) **99b:11130** 11R70 (11R33, 19F27)

— (*with* Kolster, Manfred; Pappas, Georgios; Snaith, Victor P.) Galois structure of K-groups of rings of integers. (English summary) *K-Theory* **14** (1998), *no.* 4, 319–369. (Cornelius Greither) **99g:11140** 11R70 (11R34, 11S23, 19A31, 19F27)

— (*with* Erez, Boas; Pappas, Georgios; Taylor, Martin J.) On the ϵ-constants of arithmetic schemes. *Math. Ann.* **311** (1998), *no.* 2, 377–395. (Nigel Byott) **99d:11121** 11R33 (14G40)

— (*with* Erez, Boas; Pappas, Georgios; Taylor, Martin J.) Localizations of Grothendieck groups and Galois structure. (English summary) *Recent progress in algebra (Taejon/Seoul, 1997)*, 47–63, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Cornelius Greither) **99i:20012** 20C10 (11R33, 14H25, 19E20, 20C15)

— (*with* Savage, Carla D.; Wilf, Herbert S.) Combinatorial families that are exponentially far from being listable in Gray code sequence. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 379–402. (Jean-Paul Allouche) **99c:11024** 11C08 (11L03, 68R15)

Chinea, Domingo (*with* Marrero, Juan Carlos; Rocha, Juan) Almost contact submersions with total space a locally conformal cosymplectic manifold. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 473–517. (Manuel de León) **99d:53028** 53C15

— (*with* Marrero, Juan Carlos; de León, Manuel) A canonical differential complex for Jacobi manifolds. *Michigan Math. J.* **45** (1998), *no.* 3, 547–579. (Raúl Ibáñez) **99i:53025** 53C15 (58A14, 58F05)

Chinea, F. J. New first integral for twisting type-N vacuum gravitational fields with two non-commuting Killing vectors. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 367–371. (Brian Edgar) **99b:83017** 83C20

Chinen, Naotsugu Manifolds with nonzero Euler characteristic and codimension 2-fibrators. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 151–167. (R. J. Daverman) **99c:57052** 57N15 (54B15, 54C56, 55R65)

Ching, Chang-Yun (*with* Manasseh, Richard; Fernando, Harindra J. S.) The transition from density-driven to wave-dominated isolated flows. (English summary) *J. Fluid Mech.* **361** (1998), 253–274. (Summary) **99b:76095** 76V05 (86A05, 86A10)

Ching, Emily S. C. (*with* Kraichnan, Robert H.) Exact results for conditional means of a passive scalar in certain statistically homogeneous flows. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 787–795. (Summary) **99j:76058** 76F99 (76M35, 82C31)

Ching, Kenny Graphs with projective linear stabilizers. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 29–44. (S. C. Althoen) **99m:05066** 05C25 (20E06)

Ching, Stephen (*with* Serizawa, Shigehiro) A maximal domain for the existence of strategy-proof rules. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 157–166. (Summary) **99f:90012** 90A08

Ching, Wai Ki Circulant preconditioners for failure prone manufacturing systems. (English summary) *Linear Algebra Appl.* **266** (1997), 161–180. (Florica Luban) **99a:90102** 90B30 (65F30, 90B05)

— (*with* Chan, Raymond H.; Zhou, Xun Yu) Conjugate gradient methods for Markov modulated Poisson processes. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 406–417, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65U05 (60K25)

pham duc Chinh *see* **Pham Duc Chinh**

Chinn, D. D. (*with* Ben-Aroya, I.; Schuster, Assaf) A lower bound for nearly minimal adaptive and hot potato algorithms. (English summary) *Algorithmica* **21** (1998), *no.* 4, 347–376. (Summary) **99d:68018** 68M10

Chinneck, John W. (*with* Guieu, Olivier) Analyzing infeasible mixed-integer and integer linear programs. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 63–77. 90C11 (90C10)

Chinni, Antonia On a complement to Ekeland's variational principle. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 57–62. (Marcin Studniarski) **99g:49010** 49J45 (47H10, 47N10, 49J50)

— A two-function minimax theorem. *Minimax theory and applications (Erice, 1996)*, 29–33, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (N. Pacchiarotti) **99g:49006** 49J35 (47H99, 47N10)

— (*with* Cammaroto, Filippo[2]; Sturiale, G.) On an extension of Ekeland's principle for vector-valued functions. (English summary) *Optimization* **43** (1998), *no.* 1, 19–28. (Summary) **99a:49023** 49J52 (90C29, 90C48)

Chinosi, Claudia (*with* Della Croce, Lucia) Mixed-interpolated elements for thin shells. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 12, 1155–1170. (Summary) **99h:73075** 73V05 (65N30, 73K15)

Chinyaev, Yu. P. (*with* Prokof'ev, V. P.; Nevol'ko, A. I.) Synthesis of an adaptive noise-compensation system with parallel-sequential input signal processing. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 66–69, 150. 93E35 (93C40)

Chiola, G. (*with* Haddad, S.; Moreaux, P.) Distributions de Cox et phase-type dans les réseaux de Petri stochastiques: une méthode efficace de résolution. (English and French summaries) [Cox and phase-type distributions in stochastic Petri nets: an efficient solution method] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 289–323. (Summary) **99f:68145** 68Q90 (60K99)

Chiorescu, Gh. Linear thermoelasticity in the theory of the Cosserat surface. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 121–127. (From the introduction) **99a:73017** 73B30 (73C99)

— A Korn's type inequality applied in the theory of shells. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **19** (1996), 217–221 (1998). 73C99 (73K15)

Chiou, Che Wun (*with* Yang, Ted. C.) Parallel modular multiplication with table look-up. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 49–55. (Summary) **99e:94032** 94A60

Chiou, Jeng-Min (*with* Müller, Hans-Georg) Quasi-likelihood regression with unknown link and variance functions. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1376–1387. (Summary) **99j:62091** 62J02

Chiou, Paul Interval estimation of a variance component following a preliminary test. (English summary) *J. Statist. Res.* **31** (1997), *no.* 2, 27–38. (Summary) **99b:62099** 62J05 (62F25)

Chip, M. M. Padé approximation and generalized moments. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2416–2420. (H. Wallin) **99i:41017** 41A21

Chipchakov, I. D. Henselian valued stable fields. *J. Algebra* **206** (1998), *no.* 1, 344–369. (Niels Schwartz) **99i:13003** 13A20 (12G05, 12J10)

Chipot, Michel (*with* Antontsev, Stanislav N.) Analytic regimes with peaking in the thermistor problem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997),

no. 5, 963–977, i; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 827–841. (I. Łojczyk-Królikiewicz) **99b:35101** 35K60 (35B60)
— (*with* Lyaghfouri, A.) The dam problem for linear Darcy's law and nonlinear leaky boundary conditions. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 1–50. (Lisa Santos) **99a:35276** 35R35 (35Q35, 76S05)
— Sur la formation de microstructures et leur analyse numérique dans les problèmes à puits. (English and French summaries) [On microstructure formation and its numerical analysis in problems with wells] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 505–509. (Summary) **99g:49011** 49J45 (73S10, 73V25)
— (*with* Ellatifi, A.) Regularity results for nonlocal variational inequalities. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 1–9. (Bernhard Kawohl) **99h:49010** 49J40 (35B65, 35J85, 49N60)
— (*with* Brighi, Bernard) Approximation of infima in the calculus of variations. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 273–287. (Viorel Arnautu) **99k:49069** 49M25 (65N30)
— (*with* Chlebík, M.; Fila, M.; Shafrir, Itai) Existence of positive solutions of a semilinear elliptic equation in $\mathbf{R}^n_+$ with a nonlinear boundary condition. *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 429–471. (Jianfu Yang) **99h:35060** 35J65 (35B05)
— (*with* Elfanni, Abdellah) On the numerical analysis of some variational problems with nonhomogeneous boundary conditions. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 345–361. (Shuzi Zhou) **99j:49066** 49M25 (49J10)
— (*with* Brighi, Bernard; Gut, Erich) Finite differences on triangular grids. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 567–579. (Jiuhua Chen) **99f:65150** 65N06 (65N12)
— (*with* Filo, J.) An example of blowup for a degenerate parabolic equation with a nonlinear boundary condition. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 89–102. (Summary) **99a:35140** 35K60 (35B40)
— (*with* Müller, Stefan C.) Sharp energy estimates for finite element approximations of non-convex problems. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 317–325, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Pekka Neittaanmäki) **99m:65209** 65N30 (49Q10, 73S10, 73V05, 73V25)
— *see also* **Progress in partial differential equations, 99d:35003** *and* **99d:35004**
Chippada, S. (*with* Dawson, Clint N.; Martínez, Mónica Lucía; Wheeler, Mary F.) A Godunov-type finite volume method for the system of shallow water equations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 105–129. (*see* **99b:76003**) 76M25 (76B15)
— (*with* Dawson, Clint N.; Martínez, Mónica Lucía; Wheeler, Mary F.) Finite element approximations to the system of shallow water equations. I. Continuous-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 692–711 (*electronic*). (A. Jami) **99d:65279** 65M60 (76B15, 76M10)
— (*with* Dawson, Clint N.; Martínez, Mónica Lucía; Wheeler, Mary F.) Finite element approximations to the system of shallow water equations. II. Discrete-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 226–250 (*electronic*). (A. Jami) **99k:65094** 65M60 (65N30, 76B15, 76M10)
Chipurko, A. I. (*with* Bartish, M. Ya.) On a modification of the Gauss-Newton method. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 1, 85–92. 65H10 (90C25)
Chirikjian, Gregory S. (*with* Burdick, Joel W.) The kinematics of hyper-redundant robots. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 61–89, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:70005** 70B15 (70Q05, 93C85)
— (*with* Kyatkin, Alexander B.) Fourier methods on groups: applications in robot kinematics and motion planning. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 363–373, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 93C85 (65T20, 70B15)
— (*with* Kyatkin, Alexander B.) Regularized solutions of a nonlinear convolution equation on the Euclidean group. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 1, 89–123. (Summary) **99i:43008** 43A30 (45L05, 65R20)
Chirikov, Boris *see* **Classical and quantum chaos, 99b:58004** *and* **Belissard, J., (99b:58004)**
Chirino, Francisco (*with* Abascal, Ramón) Dynamic and static analysis of cracks using the hypersingular formulation of the boundary element method. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 2, 365–388. (Summary) **99d:73094** 73V10 (73M25)
Chiriţă, Stan (*with* Ciarletta, Michele; Fabrizio, Mauro) Saint-Venant's principle in linear viscoelasticity. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1221–1236. (Samia Lyaghfouri-Challal) **99b:73022** 73F15 (73F99)
— (*with* Nappa, Ludovico) Effects of Saint-Venant type and uniqueness and continuous dependence results for incremental elastodynamics. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 159–167. (Cornelius O. Horgan) **99j:73026** 73C10 (73D99)
— (*with* Ciarletta, Michele) Thermodynamic restrictions, free energies and Saint-Venant's principle in the linear theory of viscoelastic materials with voids. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 13, 1949–1964. (Aleksey D. Drozdov) **99m:73038** 73F15 (35Q72, 73B30, 73C10, 73F05)
Chirka, E. M. On the uniform approximation on totally real sets in $\mathbf{C}^n$. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 23–31, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Harold P. Boas) **99k:32021** 32E30 (32C16, 32D15)
— (*with* Rea, C.) Differentiable CR mappings and CR orbits. *Duke Math. J.* **94** (1998), *no.* 2, 325–340. (J. Merker) **99f:32015** 32C16 (32F40, 32H02)
— *see also* **Complex aaalysis and applications, 99h:32001**
Chirkov, M. K. (*with* Kabave, M.) Abstract analysis of generalized finite automata. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 3–36, 220. (Janusz J. Szuster) **99f:68137** 68Q68 (68N99)
— (*with* Nasr, Ya.) On stochastic and nonstochastic minimal forms of stochastic automata. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 37–67, 220. (V. Topencharov) **99f:68140** 68Q75 (68Q45)
— (*with* Nasr, Ya.) On methods and algorithms for optimizing stochastic automata. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 38–70, 222. (K. G. Peeva) **99m:68135** 68Q75
Chirskiĭ, V. G. On the algebraic independence of values of functions satisfying systems of functional equations. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 433–438. (Eugene M. Matveev) **99h:11083** 11J91 (11J85)
— On the arithmetic properties of some series. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 2, 53–55; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 2, 35–37. (Eugene M. Matveev) **99c:11086** 11J61 (11J91)
Chiru, Claudiu (*with* Constantinescu, Eliodor) Multi-index transportation problems. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 9–17, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 90B06 (90C08)
Chiş, Mihai (*with* Deaconescu, Marian; Silberberg, Gheorghe) Finite groups with few central automorphism orbits. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 203–213. (F. Pérez Monasor) **99k:20047** 20D45
Chisala, Busiso P. A quick Cayley-Hamilton. *Amer. Math. Monthly* **105** (1998), *no.* 9, 842–844. 15A18
Chisci, L. (*with* Lombardi, A.; Mosca, Edoardo; Rossiter, J. A.) State-space approach to stabilizing stochastic predictive control. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 619–637. 93E15 (93D15)
— (*with* Rossiter, J. A.) Efficient mixed weights least squares algorithms for constrained predictive control. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 5–17 (1998). (Summary) **99f:93056** 93B40 (93D15)
— (*with* Rossiter, J. A.; Rice, Michael J.) Stable GPC by dynamic programming. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 291–300. (Summary) **99a:93035** 93B40 (93D15)
Chisholm, J. S. R. (*with* Farwell, R. S.) Spin gauge theories: a summary. *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 53–56, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00022**) 81V25 (81R25)
Chisholm, Monty William Kingdon Clifford (1845–1879) and his wife Lucy (1846–1929). (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 27–41. (Willard Parker) **99d:01029** 01A70 (01A55)
Chisnell, R. F. An analytic description of converging shock waves. (English summary) *J. Fluid Mech.* **354** (1998), 357–375. (Gholam-Ali Zakeri) **99a:76076** 76L05
Chisolm, Eric (*with* Boya, Luis J.; Mahajan, S. M.; Sudarshan, E. C. G.) Exotic representations of the isotropic harmonic oscillator. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3347–3360. (Summary) **99c:81057** 81R05 (81Q05)
Chistyakov, Aleksandr Vladimirovich (*with* Simonov, P. M.) Symbolic analysis of linear periodic operators in translation-invariant Lebesgue C^l-moduli. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 27–38 (1998). (Sjoerd M. Verduyn Lunel) **99c:47034** 47B38 (34K20, 47N20)
Chistyakov, D. V. Fractal geometry of images of continuous embeddings of p-adic numbers and solenoids into Euclidean spaces. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 3, 323–337; *translation in Theoret. and Math. Phys.* **109** (1996), *no.* 3, 1495–1507 (1997). (Summary) **99c:28023** 28A80 (11K41)
Chistyakov, G. P. (*with* Pergamentsev, S. Yu.) Some extensions of the Darmois-Skitovich and Kagan theorems to classes of the generalized random variables. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 463–488. (J. A. Melamed) **99a:62014** 62E10 (62H05)
— (*with* Il'inskiĭ, A. I.) On the characterization of probability distributions by the absolute moments of partial sums. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 473–481; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 426–432 (1998). (Dominik Szynal) **99e:60041** 60E05 (60G50)
Chistyakov, V. P. (*with* Selivanov, B. I.) A sequential χ^2-test constructed from s-chains of states of a Markov chain. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 127–136. (Summary) **99c:62223** 62L10 (62M02)
Chistyakov, V. V. On the theory of multivalued mappings of bounded variation of one real variable. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 153–176; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 797–819. (A. Nowak) **99h:26017** 26A45 (54C65)
Chiswell, I. M. Introduction to Λ-trees. *Semigroups, formal languages and groups* (*York*, 1993), 255–293, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 466, *Kluwer Acad. Publ., Dordrecht*, 1995. (Olympia Talelli) **99g:20045** 20E08
— Minimal group actions on Λ-trees. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 23–36. (Curtis D. Bennett) **99b:20046** 20E08 (57M07)
Chitashvili, R. (*with* Mania, M.) On functions transforming Brownian motion into a Dirichlet process. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 20–27, *World Sci. Publishing, River Edge, NJ*, 1996. (Lucian Beznea) **99e:60183** 60J65 (31C25, 60G44)
— (*with* Mania, M.) On functions transforming a Wiener process into a semimartingale. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 57–76. (Leszek Słomiński) **99i:60154** 60J65 (60G48, 60H05)
— On the nonexistence of a strong solution in the boundary problem for a sticky Brownian motion. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **115** (1997), 17–31. (Constantin Tudor) **99g:60096** 60H10
— *see also* **Lazrieva, N. et al., 99m:01076**
Chiţescu, I. (*with* Preda, Vasile) On constraint qualification in multiobjective optimization problems: semidifferentiable case. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 417–433. (Laura Martein) **99m:90125** 90C29
Chitil, Olaf The ς-semantics: a comprehensive semantics for functional programs. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 253–294. (Dorothy Bollman) **99g:68126** 68Q55 (03B70, 68N15)
Chitour, Yacine (*with* Sussmann, Héctor J.) Line-integral estimates and motion planning using the continuation method. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 91–125, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99h:93068** 93C85 (70B15, 70Q05)
Chitov, V. V. (*with* Akulov, Vladimir P.; Duplíĭ, S. A.) q-differential calculus and deformed light-cone. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 317–323, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 58B30 (81R50)
Chittaro, Luca *see* **Temporal representation and reasoning, 99a:68016**

Chiu, Chichia (*with* Walkington, Noel) Analysis of hysteretic reaction-diffusion systems. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 89–106. (Ying Guo Lei) **99c:92035** 92D25 (35K57, 47D06, 47N20)

Chiu, Chih-Hui (*with* Wang, Wen-June) The entropy change in extension principle. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 153–162. (Summary) **99i:03071** 03E72 (94A17)

— (*with* Wang, Wen-June) Entropy variation on the fuzzy numbers with arithmetic operations. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 443–455. (Summary) **99k:04002** 04A72

— (*with* Wang, Wen-June; Yan, Shao-Feng) Flexible stability criteria for a linguistic fuzzy dynamic system. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 63–80. 93D05 (93C42)

Chiu, Chuang-Hsiung (*with* Hsu, Sze-Bi) Extinction of top-predator in a three-level food-chain model. (English summary) *J. Math. Biol.* **37** (1998), *no.* 4, 372–380. (Summary) **99k:92044** 92D40 (34D20, 92D25)

— Lyapunov functions for the global stability of competing predators. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 232–241. (Summary) **99m:92026** 92D25 (34D20)

Chiu, Nan-Chieh (*with* Banoczi, J. M.; Cho, Grace E.; Ipsen, Ilse C. F.) The lack of influence of the right-hand side on the accuracy of linear system solution. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 203–227 (*electronic*). (Xinguo Liu) **99g:65033** 65F05 (15A06)

Chiu, Wan-Yi (*with* John, Peter W. M.) *D*-optimal fractional factorial designs. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 367–373. (Summary) **99a:62103** 62K05

Chiu, Y. Stephen (*with* Dasgupta, Ani) On implementation via demand commitment games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 161–189. (Tadeusz Radzik) **99m:90163** 90D06 (90D10, 90D12)

— (*with* Yang, B. Rachel) The outside option, threat point, and Nash bargaining solution. (English summary) *Econom. Lett.* **62** (1999), *no.* 2, 181–188. (From the text) **99m:90165** 90D10 (90A60)

Chiu, Ying Nan (*with* Palting, Pancracio; Lai, Shan Tao; Letelier, Jorge Ricardo) Harmonic oscillator tensors. III. Efficient algorithms for evaluating matrix elements of vibrational operators. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 31–49. (Summary) **99i:81064** 81R05

— (*with* Lai, Shan Tao; Palting, Pancracio; Silverstone, Harris J.) On the summations involving Wigner rotation matrix elements. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 123–132. (Summary) **99g:81062** 81R05 (81V35)

Chiu, Yukuang The multiplicity of stochastic processes. *Séminaire de Probabilités, XXXI*, 207–215, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Randall James Swift) **99b:60052** 60G12

Chiusano, Laura (*with* Colli, Pierluigi) Positive kernel and zero time relaxation in a phase field model with memory. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 531–550. (Matthias Wilhelm Winter) **99f:45013** 45K05 (35G25, 80A22)

Chiyokura, Hiroaki (*with* Sone, Junji; Konno, Kouichi) Surface interpolation using NURBS boundary Gregory patch for non-four-sided area. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 710–718. (Summary) **99m:68217** 68U05 (65D17)

Chizhonkov, E. V. On the convergence of the Arrow-Hurwicz algorithm for a Stokes-type algebraic system. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 5, 600–602. 65F30 (65M70)

Chizhov, G. A. (*with* Barinova, E. G.; Kornienko, A. G.; Frenkin, A. R.) Singular solutions of nonlinear equations of Schrödinger type of a special form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 1, 12–14. (Summary) **99b:35190** 35Q55

Chkadua, O. Investigation of mixed problems of statics of the couple-stress theory of elasticity for homogeneous anisotropic media. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 2, 212–220 (1996). 73C35 (35Q72, 73B40)

— Some boundary-contact problems of the elasticity theory with mixed boundary conditions outside the contact surface. (English summary) *Math. Nachr.* **188** (1997), 23–48. (Senjo Shimizu) **99a:35249** 35Q72 (31C12, 47G30, 73C02, 73T05)

Chkhartishvili, M. D. (*with* Berikelashvili, G. K.) On the convergence in W_2^1 of the difference solution for an elliptic equation with mixed boundary conditions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 180–184 (1994). 65N12 (65N06)

— (*with* Berikelashvili, G. K.) On the convergence of the difference schemes on W_2^1 for one mixed boundary value problem of theory of elasticity. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 195–198. 65N12 (73V15)

— Notes on the convergence of the scheme of increased accuracy for one mixed boundary value problem. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 333–335 (1997). 65N12 (65N06)

Chkhatarashvili, D. K. von Staudt's theorem over Ore domains. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 18–20. 16U20

— About the projective-affine relations in the modules. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 379–380 (1999). 51N10 (16D99)

Chkoniya, T. G. A remark on the logarithmic derivative of a measure. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 405–407 (1996). 28A12 (46G99)

Chlebik, M. (*with* Chipot, Michel; Fila, M.; Shafrir, Itai) Existence of positive solutions of a semilinear elliptic equation in $\mathbf{R}^n_+$ with a nonlinear boundary condition. *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 429–471. (Jianfu Yang) **99h:35060** 35J65 (35B05)

Chleboun, Jan (*with* Xanthis, Leonidas S.) The method of arbitrary lines in optimal shape design: problems with an elliptic state equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 1-2, 1–22. (Gabriel Dimitriu) **99f:49065** 49Q10 (65N40, 73K40)

Chlebus, Bogdan S. (*with* Diks, Krzysztof; Pelc, Andrzej) Transition-optimal token distribution. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 313–328. (Summary) **99g:68014** 68M10 (68M20)

Chloup-Arnould, V. Linearization of some Poisson-Lie tensor. (English summary) *J. Geom. Phys.* **24** (1997), *no.* 1, 46–52. (Alberto Medina) **99a:58062** 58F05 (22E15)

Chmaj, Tadeusz (*with* Bizoń, P.) First order phase transitions in gravitational collapse. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1071–1078. (Summary) **99k:83055** 83C57 (83-08)

— (*with* Malec, Edward; Ó Murchadha, Niall) Spherical scalar waves and gravity—redshift and backscattering. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1653–1668. (Summary) **99c:83073** 83C99 (83F05)

Chmieliński, Jacek On the stability of isometric operators for Hilbert spaces. *Inner product spaces and applications*, 15–21, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (Zygfryd Kominek) **99b:47105** 47H99 (46C99)

— On a conditional Wigner equation. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 143–148. (Shigeru Haruki) **99e:39086** 39B52

— (*with* Rätz, Jürg) Orthogonality equation almost everywhere. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 317–335. (W. Smajdor) **99e:39087** 39B52 (46C05)

Chmutov, S. (*with* Goryunov, V. V.) Polynomial invariants of Legendrian links and their fronts. (English summary) *KNOTS '96 (Tokyo)*, 239–256, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57010** 57M25

— Combinatorial analog of the Melvin-Morton conjecture. *KNOTS '96 (Tokyo)*, 257–266, *World Sci. Publishing, River Edge, NJ*, 1997. (From the text) **99k:57011** 57M25

— A proof of the Melvin-Morton conjecture and Feynman diagrams. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 23–40. (Răzvan Gelca) **99c:57012** 57M25 (81T18)

Chng, E. S. (*with* Chen, Sheng[2]; Alkadhimi, K.) Regularized orthogonal least squares algorithm for constructing radial basis function networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 829–837. 93B40 (93B30)

Cho, Chong-Man (*with* Kim, Beom Sool) A note on M-ideals of compact operators. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 683–687. (Summary) **99k:46026** 46B28 (46B20, 47D15)

Cho, Choon Kyung (*with* Kang, Sungkwon) A practical estimation method for groundwater level elevations. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 927–947. (From the introduction) **99a:86005** 86A32 (65U05)

Cho, Chung-Ki Nonnegative weak solutions of a porous medium equation with strong absorption. (English summary) *Differential Integral Equations* **11** (1998), *no.* 6, 847–874. (Li Shang Jiang) **99m:35132** 35K65 (35Dxx, 35R35, 76S05)

— (*with* Choe, Hi-Jun) The initial trace of a solution of a porous medium equation with bounded measurable coefficients. *Nonlinear Anal.* **33** (1998), *no.* 6, 657–673. (Li Shang Jiang) **99f:35106** 35K65 (35Q35, 76S05)

— (*with* Guo, Ben Yu; Kwon, Yong Hoon) A new approach for numerical identification of conductivity. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 265–283. (Summary) **99k:34025** 34A55 (34B05, 65L99, 76M25, 76S05)

Cho, E. *see* **Cho, Eung Chun**

Cho, Eui Whan (*with* Kim, Young Key; Shin, Chae Seob) Fuzzy semi-inner-product space. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 2, 163–172. 46S40 (46C50)

Cho, Eun Hee (*with* Oh, Sei-Qwon) Primitive spectrum of quantum (2×2)-matrices and associated Poisson structure. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 251–259. (Rita Fioresi) **99i:16066** 16W30

Cho, Eung Chun De Moivre's formula for quaternions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 33–35. 30G35

— Euler's formula and De Moivre's formula for quaternions. (English summary) *Missouri J. Math. Sci.* **11** (1999), *no.* 2, 80–83. 30G35

Cho, Geon (*with* Shaw, Dong X.) The critical-item, upper bounds, and a branch-and-bound algorithm for the tree knapsack problem. (English summary) *Networks* **31** (1998), *no.* 4, 205–216. (Summary) **99c:90097** 90C27 (90B22)

Cho, Grace E. (*with* Banoczi, J. M.; Chiu, Nan-Chieh; Ipsen, Ilse C. F.) The lack of influence of the right-hand side on the accuracy of linear system solution. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 203–227 (*electronic*). (Xinguo Liu) **99g:65033** 65F05 (15A06)

Cho, Gyeong-Mi Stability of equivalent programming problems of the multiple objective linear stochastic programming problems. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 259–268. (R. N. Kaul) **99g:90108** 90C29 (90C31)

Cho, H. T. *see* **Cho, Hing Tong**

Cho, Han Hyuk (*with* Kim, Suh-Ryung; Nam, Yunsun) A sufficient condition for a tree belonging to $\mathcal{T}(2, 2, n)$. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 43–53. (Summary) **99a:05029** 05C05

— Permanents of prime Boolean matrices. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 605–613. (Peter M. Gibson) **99k:15009** 15A15 (05B20)

Cho, Hing Tong Post-Newtonian approximation for spinning particles. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2465–2478. (Summary) **99f:83021** 83C25

Cho, Hong Rae (*with* Adachi, Kenzō) Lipschitz and BMO extensions of holomorphic functions from subvarieties to a convex domain. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 465–473. (Summary) **99a:32003** 32A25 (32A10)

— (*with* Adachi, Kenzō) H^p and L^p extensions of holomorphic functions from subvarieties to certain convex domains. (English summary) *Math. J. Toyama Univ.* **20** (1997), 1–13. (Marek Jarnicki) **99b:32010** 32D15

— A counterexample to the L^p extension of holomorphic functions from subvarieties to pseudoconvex domains. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 1, 89–91. (Piotr Jakóbczak) **99c:32010** 32D15

— (*with* Adachi, Kenzō) Some Hölder estimates for $\overline{\partial}$ on convex domains in $\mathbf{C}^3$ with real analytic boundary. (English summary) *Sci. Bull. Fac. Ed. Nagasaki Univ. No.* **58** (1998), 1–7. (Der-Chen E. Chang) **99b:32017** 32F20 (35H05, 35N15)

— L^p and H^p extensions of holomorphic functions from subvarieties. *Complex geometric analysis in Pohang* (1997), 191–200, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Kenzō Adachi) **99j:32011** 32D15 (32A10)

Cho, Hyonyong (*with* Bai, Er-Wei) Convergence results for an adaptive dead zone inverse. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 451–466. 93E35 (93C42)

Cho, Jong Taek (*with* Ki, U-Hang) CR structures on real hypersurfaces of a complex projective space. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 7–18. (Makoto Kimura) **99b:53079** 53C40 (53C15)

— (*with* Ki, U-Hang) Real hypersurfaces of a complex projective space in terms of the Jacobi operators. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 155–167. (Jürgen Berndt) **99f:53055** 53C40

— (*with* Ki, U-Hang) Jacobi operators on real hypersurfaces of a complex projective space. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 145–156. (Makoto Kimura) **99f:53056** 53C40

— (*with* Sekigawa, Kouei) Six-dimensional quasi-Kähler manifolds of constant sectional curvature. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 3, 611–627. (Luis M. Hervella) **99m:53052** 53C15

Cho, Jonggyu (*with* Kim, Dohan; Chung, Soon-Yeong) Bochner-Schwartz theorems for ultradistributions. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 166–180. (Stevan Pilipović) **99k:46064** 46Fxx

— Translation invariant positive definite Hermitian bilinear ultradistributions. (English summary) *Positivity* **2** (1998), *no.* 4, 379–390. (Summary) **99h:46067** 46F10 (46F05)

Cho, Jun-Dong (*with* Raje, Salil; Sarrafzadeh, Majid) Fast approximation algorithms on maxcut, k-coloring, and k-color ordering for VLSI applications. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1253–1266. 68Q35 (65Y10)

Cho, Jung R. (*with* Ito, Noboru; Kim, Pan Soo) On Hadamard property of a certain class of finite groups. (English summary) *J. Algebra* **204** (1998), *no.* 2, 666–674. (Stephen D. Smith) **99d:20033** 20D60

Cho, K. R. (*with* Cho, Moo Ho; Choi, Kyung Soo; Szidarovszky, Ferenc; You, Younggap) Estimation of channel holding time distribution in cellular telephone systems. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 13–17 (*electronic*). (Summary) **99d:90049** 90B12 (94A40)

Cho, Kil-Ho (*with* Jeong, Seong-Hwa; Choi, Dal-Woo; Chae, Hyeon-Sook) Bootstrap confidence interval for survival function in the Koziol-Green model. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 151–161. (Summary) **99g:62049** 62G09 (62G15, 62N05)

Cho, Koji A generalization of Kita and Noumi's vanishing theorems of cohomology groups of local system. (English summary) *Nagoya Math. J.* **147** (1997), 63–69. (Masaaki Yoshida) **99a:14025** 14F17 (32L20)

Cho, Kwan-Ho (*with* Kwon, Jung-Hwan; Sohn, Won-Ho) Cosymplectic conformal curvature tensor and spectrum of the Laplacian in cosymplectic manifolds. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 333–346. (Novica Blažić) **99i:58150** 58G25 (53C15)

Cho, M. *see* **Chō, Muneo**

Cho, M. H. *see* **Cho, Moo Ho**

Cho, Meehyung (*with* Weiss, Robert E.) Bayesian marginal influence assessment. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 163–177. (Summary) **99f:62044** 62F15 (62J05)

Cho, Min-Hyung (*with* Li, Rong Lu; Cui, Cheng Ri) An invariant with respect to all admissible polar topologies. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 289–294. (Jing Hui Qiu) **99i:46002** 46A03 (46A35)

Cho, Minshik On the optimal covering of equal metric balls in a sphere. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 137–144. (Ren Ding) **99b:52043** 52C17 (05B40)

Cho, Moo Ho (*with* Cho, K. R.; Choi, Kyung Soo; Szidarovszky, Ferenc; You, Younggap) Estimation of channel holding time distribution in cellular telephone systems. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 13–17 (*electronic*). (Summary) **99d:90049** 90B12 (94A40)

Chō, Muneo (*with* Huruya, Tadasi; Itoh, Masuo) Riemann-Hilbert problem for characteristic functions of p-hyponormal operators. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 271–279. (Mihai Putinar) **99e:47025** 47B20

— (*with* Duggal, B. P.; Huruya, Tadasi) Corrigendum to: "On the spectrum of p-hyponormal operators" [Acta Sci. Math. (Szeged) **63** (1997), no. 3-4, 623–637; MR 98m:47024] by Duggal. *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 741–742. (From the text) **99k:47054** 47B20 (47A10)

— (*with* Nagano, Yoshihiko) Spectral mapping theorems and Weyl spectra for hyponormal operators. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 105–110. (Wacław Szymański) **99e:47026** 47B20 (47A10, 47A60)

— (*with* Huruya, Tadasi; Itoh, Masuo) Singular integral models for p-hyponormal operators and the Riemann-Hilbert problem. (English summary) *Studia Math.* **130** (1998), *no.* 3, 213–221. (Mihai Putinar) **99c:47024** 47B20 (45E05, 47G10)

— (*with* Nagano, Yoshihiko) Simple proof of the p-hyponormality of the Aluthge transformation. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 248–251. (Ameer Athavale) **99k:47052** 47B20

Cho, Myung Hyun Michael's selection theories and their applications. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 135–145. (Stoyan Nedev) **99g:54013** 54C65

Cho, Nak Eun (*with* Kwon, Oh Sang; Kim, J. A.; Owa, Shigeyoshi) Certain subclasses of meromorphically multivalent functions. (English summary) *J. Bihar Math. Soc.* **17** (1996), 1–8. (Summary) **99j:30010** 30C45

— (*with* Kwon, Oh Sang; Lee, Sang Keun; Kim, In Hwa) Certain subclasses of meromorphic starlike functions. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 545–555. (G. Lakshma Reddy) **99g:30012** 30C45

— (*with* Hossen, H. M.; Aouf, M. K.; Lee, Sang Hun) Certain generalizations of P-valent functions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 251–258. (Summary) **99i:30019** 30C45

— (*with* Owa, Shigeyoshi; Kim, J. A.) Some properties for convolutions of generalized hypergeometric functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 92–109. (T. N. Shanmugam) **99h:30014** 30C45 (33C20)

— (*with* Kwon, Oh Sang) Hadamard products of certain meromorphic univalent functions. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 297–307. (Alan D. Gluchoff) **99b:30017** 30C45

— (*with* Kim, In Hwa; Nunokawa, Mamoru; Owa, Shigeyoshi) Angular estimations of certain analytic functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 321–331. (Khalida Inayat Noor) **99k:30015** 30C45 (30C50)

— (*with* Kim, In Hwa; Kim, J. A.) Angular estimations of certain integral operators. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 369–374. (Shigeyoshi Owa) **99c:30014** 30C45

— (*with* Know, Oh Sang) On subclasses of strongly starlike functions defined by Reuscheweyh [Ruscheweyh] derivative. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 73–78. (Gerald Schmieder) **99k:30022** 30C45

— (*with* Kwon, Oh Sang) Generalizations of Hadamard products of certain analytic functions. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 3, 1–8. (K. S. Padmanabhan) **99d:30017** 30C45

— (*with* Kim, J. A.) On a sufficient condition and an angular estimation for Φ-like functions. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 397–403. (R. Parvatham) **99j:30009** 30C45

— (*with* Kim, In Hwa) Angular estimations of certain analytic functions. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 47–53. (R. Michael Porter) **99d:30014** 30C45

— (*with* Kim, In Hwa) Angular estimates of certain integral operators. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 271–277. (Shigeyoshi Owa) **99k:30016** 30C45

— (*with* Aouf, M. K.) On a certain subclass of analytic functions with negative coefficients. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 15–32. (Herb Silverman) **99g:30008** 30C45

— (*with* Kim, Yong Chan; Srivastava, Hari M.) Argument estimates for a certain class of analytic functions. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 3, 277–287. 30C45

Cho, Nhansook On the square of Brownian density process. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 3, 707–717. (Fuqing Gao) **99e:60170** 60J55 (60F17, 60H15)

Cho, Peter Moduli in exceptional supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5214–5223. (Summary) **99m:81243** 81T60 (81T13)

Cho, S. *see* **Cho, Sunggoo**

Cho, Seong Hoon (*with* Yang, Seung Kab; Min, Kyung Jin) A note on minimal sets of the circle maps. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 13–16. (Karen Brucks) **99d:54025** 54H20 (58F03)

Cho, Seonghun (*with* Sahni, Sartaj) Weight-biased leftist trees and modified skip lists. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), *approx.* 27 *pp.* (*electronic*). 68P05

Cho, Sinsup (*with* Park, Sangwoo; Hwang, Sun Young) The asymptotic variance of the Studentized residual autocorrelations for a generalized random coefficient autoregressive processes. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 531–541. (Summary) **99c:62259** 62M10

— (*with* Kim, Byungsoo) Durbin-Watson type unit root test statistics. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 57–66. (Summary) **99e:62159** 62M10

Cho, Soojin Minimal null designs and a density theorem of posets. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 433–440. (J. E. Graver) **99h:05009** 05B05

— Minimal null designs of subspace lattice over finite fields. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 199–220. (Dieter Jungnickel) **99k:05046** 05B30 (15A03)

Cho, Sung-Jin (*with* Kang, Byung Gai) An application of ordering principle to fixed points of fuzzy mappings. (English summary) *Nonlinear Anal. Forum* **1** (1995), 43–52. 54H25 (54A40, 54C60)

— (*with* Lee, Byung Soo; Lee, Gue Myung; Kim, Do Sang) A common fixed point theorem for a pair of fuzzy mappings. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 133–136. 54H25 (54A40)

— (*with* Lee, Byung Soo; Lee, Gue Myung; Kim, Do Sang; Song, Yeoul-Ouk) Fubini theorem for generalized fuzzy number-valued integrals. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 177–179. 28E10 (28A35)

Cho, Sung Ki On fuzzy T_2-axioms. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 2, 393–403. 54A40

Cho, Sunggoo (*with* Madore, J.; Park, Kwang Sung) Non-commutative geometry of the h-deformed quantum plane. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2639–2654. (Jihad Mourad) **99c:58011** 58B30 (81R50)

Cho, Y. J. *see* **Cho, Yeol Je**

Cho, Y. M. *see* **Cho, Yongmin**

Cho, Yeol Je (*with* Pathak, H. K.; Jung, Jong Soo) Applications of coincidence theorems to best approximation theory. (English summary) *Nonlinear Anal. Forum* **1** (1995), 73–83. (Mihai Turinici) **99i:47100** 47H10 (41A50, 54H25)

— (*with* Kang, C. O.; Kang, Shin Min) Fixed points in fuzzy metric spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 57–77. 54H25 (54A40)

— (*with* Huang, Nan Jing; Long, Xiang) Random completely generalized nonlinear variational inclusions with non-compact valued random mappings. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 603–615. (E. Tarafdar) **99f:47087** 47H19 (47H40, 49J40, 58E35)

— (*with* Elumalai, S.; Kim, Seong Sik) Best approximation sets in linear 2-normed spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 619–629. (Ioan Şerb) **99j:46003** 46A19 (41A65, 46B99)

— (*with* Zhang, Shi Sheng; Chen, Yu Qing; Lee, Byung Soo) Fixed point theorems for nonexpansive operators with dissipative perturbations in cones. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 49–54. (S. N. Askhabov) **99f:47083** 47H10 (45G10, 47H09)

— (*with* Pathak, H. K.; Kang, Shin Min) Coincidence and fixed point theorems for nonlinear hybrid generalized contractions. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 341–357. (Summary) **99b:54076** 54H25 (47H10, 54C60)

— (*with* White, Albert George, Jr.; Kim, Seong Sik) Heron's formula in inner product spaces. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 97–102. (From the text) **99e:46023** 46B20 (46C05, 46C50)

— (*with* Pathak, H. K.; Kang, Shin Min; Madharia, B.) Compatible mappings of type (C) and common fixed point theorems of Greguš type. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 499–518. 54H25 (54E45)

— (*with* Huang, Nan Jing) Random completely generalized nonlinear quasivariational inclusions. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 93–106. (Summary) **99a:47104** 47H19 (47H17, 47H40, 49J40)

— (*with* Pathak, H. K.; Kang, Shin Min) An application of fixed point theorems in best approximation theory. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 467–470. (Hideaki Kaneko) **99d:47055** 47H10 (41A65)

— (*with* Pathak, H. K.; Kang, Shin Min) Common fixed points of biased maps of type (A) and applications. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 681–693. (Summary) **99f:54058** 54H25 (45G10)

— (*with* Liu, Zeqing; Xu, Yuguang[1]) On characterizations of fixed and common fixed points. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 494–504. (Summary) **99b:54075** 54H25

— (*with* Zhang, Shi Sheng; Lee, Byung Soo; Jung, Jong Soo; Kang, Shin Min) Iterative approximations of fixed points and solutions for strongly accretive and strongly pseudo-contractive mappings in Banach spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 149–165. (Charles Ejike Chidume) **99g:47146** 47H15 (47H06, 47H09, 47H17)

— (*with* Huang, Nan Jing) Common fixed point theorems of Gregus type in convex metric spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 83–89. 54H25 (47H10)

— (*with* Fisher, Brian; Kang, Shin Min) Common fixed point theorems for Mann type iterations. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 385–390. (Charles Ejike Chidume) **99i:47101** 47H10 (47H17)

— (*with* Hwang, Ho Jin) Iterative process with errors for m-accretive operators in Banach spaces. (English summary) *Nonlinear Anal. Forum* **3** (1998), 75–88. (Charles Ejike Chidume) **99j:47099** 47H17 (47H15)

— (*with* Ume, Jeong-Sheok; Kim, Jong Kyu) Some fixed point theorems in complete semi-metric spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 63–67 (*electronic*). 54H25

— (*with* Dragomir, Sever Silvestru; Kim, Seong Sik) Superadditivity and monotonicity of 2-norms generated by inner products and related results. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 13–32. (Ioan Şerb) **99e:46029** 46C50 (46C05, 46C20)

— (*with* Thakur, Balwant Singh; Jung, Jong Soo) Random fixed points of asymptotically regular mappings. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 61–71. 47H40 (47H10)

— (*with* Jung, Jong Soo; Zhang, Shi Sheng; Lee, Byung Soo; Kang, Shin Min) Common fixed point theorems and variational principle in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 315–325. 54A40 (54C60, 54H25)

Cho, Yong Hwan Radicals of submodules and closed submodules. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 15–19. 13C13

Cho, Yong-Kum L^p smoothness on Triebel-Lizorkin spaces in terms of sharp maximal functions. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 591–603. (Agnieszka Kałamajska) **99m:46076** 46E35 (42B25)

— Multiparameter maximal averages. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 367–385. (Weixing Zheng) **99h:42032** 42B25 (42B15)

— Norm estimates on Hardy spaces and multiple singular integrals. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 295–314. (Donald Krug) **99c:42037** 42B30 (42B15, 42B20)

Cho, Yong Seung (*with* Yoon, Jin Yue) Exotic symplectic structures on $S^3 \times \mathbf{R}$. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 1–12. (Wojciech Wieczorek) **99e:57038** 57R15 (57N13)

Cho, Yong Uk (*with* Birkenmeier, Gary F.) Additive endomorphisms generated by ring endomorphisms. *East-West J. Math.* **1** (1998), *no.* 1, 73–84. (J. Hausen) **99k:16060** 16S50

— Near-rings with generalized chain conditions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 505–514. (Kirby C. Smith) **99i:16079** 16Y30

Cho, Yonggun (*with* Kim, Jin Hyung; Shin, Vladimir Ignat'evich) Data fusion of multisensor's estimates. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 1, 75–83. (Summary) **99e:94009** 94A12

Cho, Yongmin (*with* Kimm, Kyoungtae) Monopoles in electroweak theory. (English summary) *Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories (Seoul, 1998)*, 95–117, *Lecture Notes Ser.*, 42, *Seoul Nat. Univ., Seoul*, 1998. (Summary) **99d:81178** 81V15 (58E50)

— *see also* **Topics in theoretical physics, 99f:81005**

Cho, Yookun (*with* Kim, Dong Kyue; Lee, Jee-Soo; Park, Kunsoo) Efficient algorithms for approximate string matching with swaps. (English summary) *J. Complexity* **15** (1999), *no.* 1, 128–147. (Summary) **99k:68081** 68Q25

Cho, Young-Suk (*with* Kang, Suk-Bok) Bootstrap confidence intervals after bias correcting. (English summary) *Far East J. Theor. Stat.* **1** (1997), 31–38. (Summary) **99j:62057** 62G09

— (*with* Kang, Suk-Bok) Jackknife and bootstrap estimation of reliability function in an exponential distribution. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 241–246. 62N05 (62G09, 90B25)

Choban, Mitrofan M. Well-posedness of optimization problems and measurable functions. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 2-3, 211–236. (T. Zolezzi) **99c:49027** 49K40 (54C30, 90C48)

— (*with* Arkhangel'skiĭ, A. V.) On continuous mappings of C_p-spaces and extenders. *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 33–36. (Manuel Sanchis) **99f:54017** 54C20

— (*with* Nedev, Stoyan I.) Continuous selections for mappings with generalized ordered domain. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 1-2, 87–95. (Longin Rybiński) **99b:54029** 54C65 (46B20, 46G99, 47H04, 54D35)

— Functionally countable spaces and Baire functions. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 233–242. (Oleksandr V. Sobchuk) **99k:54029** 54H05 (54C20)

— General theorems on functional equivalence of topological spaces. (English summary) *Topology Appl.* **89** (1998), *no.* 3, 223–239. (V. J. Mancuso) **99k:54007** 54C35 (46E10, 46E40, 54D99, 54E99, 57N17)

Chobanyan, Sergei (*with* Mandrekar, V.) Almost everywhere convergence and SLLN under rearrangements. *Stochastic processes and related topics*, 25–34, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Allan Gut) **99i:60062** 60F15 (60B12, 60E15)

Choczewski, Bogdan A special solution of the inhomogeneous Schröder equation. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 205–210. (Summary) **99i:39037** 39B22 (39B72)

Choda, Marie The entropy of Cuntz's canonical endomorphism. Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 59–65. (*see* **99a:46002**) 46L05

— Entropies of dynamical systems in operator algebras. Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 85–91. (From the introduction) **99f:46095** 46L55 (46L50)

— (*with* Natsume, Toshikazu) Reduced C^*-crossed products by free shifts. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1075–1096. (From the introduction) **99j:46080** 46L55

— (*with* Takehana, Hiroaki) A finite partition in a dynamical system with entropy depending on the size. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 309–315. (Summary) **99d:46089** 46L55

Chodos, Alan (*with* Minakata, Hisakazu) The TBA, the Gross-Neveu model, and polyacetylene. (English summary) *Field theoretical tools for polymer and particle physics (Wuppertal, 1997)*, 231–239, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82B26 (92D20)

— (*with* Groff, Sarah) Modeling sonoluminescence. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 3001–3007. (Summary) **99m:78003** 78A25 (76Q05)

Choe, Boo Rim (*with* Lee, Young Joo) On $\mathcal{M}$-harmonic Bloch functions and their Carleson measures. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 273–289. (Daniel H. Luecking) **99i:32006** 32A30 (30D45, 32A37)

— (*with* Lee, Young Joo) Pluriharmonic symbols of essentially commuting Toeplitz operators. *Illinois J. Math.* **42** (1998), *no.* 2, 280–293. (Daniel H. Luecking) **99g:47051** 47B35 (32A37)

— (*with* Yi, Heungsu) Representations and interpolations of harmonic Bergman functions on half-spaces. (English summary) *Nagoya Math. J.* **151** (1998), 51–89. (Richard Rochberg) **99k:31002** 31B05 (46E15, 47B38)

Choe, Geon Ho (*with* Shin, Sujin) Strong shift equivalence of 2 by 2 non-negative integral matrices. (English summary) *Mathematika* **44** (1997), *no.* 2, 302–312. (Oliver Knill) **99f:54052** 54H20 (28D05)

— (*with* Kim, Chihurn; Kim, Dong Han) Applications of ergodic theory to pseudorandom numbers. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 173–187. (Robert F. Tichy) **99d:11084** 11K45 (28D99, 65C10)

— (*with* Ahn, Youngho) On normal numbers mod 2. *Colloq. Math.* **76** (1998), *no.* 2, 161–170. (V. Drobot) **99b:11082** 11K16 (28D05)

Choe, Hi-Jun (*with* Bae, Hyeong-Ohk) L^∞-bound of weak solutions to Navier-Stokes equations. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 13 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Marek Capiński) **99a:35197** 35Q30 (35D10, 76D05)

— (*with* Bae, Hyeong-Ohk) An oscillation estimate to a variational inequality. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 447–454. (Rodolfo Salvi) **99f:35066** 35J85 (35B05, 35J70)

— (*with* Lee, Jin Ho) Cauchy problem for nonlinear parabolic equations. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 51–75. (I. Łojczyk-Królikiewicz) **99b:35085** 35K55

— Boundary regularity of weak solutions of the Navier-Stokes equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 2, 211–247. (Benoît P. Desjardins) **99j:35161** 35Q30 (35D10, 76D05)

— (*with* Cho, Chung-Ki) The initial trace of a solution of a porous medium equation with bounded measurable coefficients. *Nonlinear Anal.* **33** (1998), *no.* 6, 657–673. (Li Shang Jiang) **99f:35106** 35K65 (35Q35, 76S05)

— (*with* Chae, Dongho) Regularity of solutions to the Navier-Stokes equation. (English summary) *Electron. J. Differential Equations* **1999**, *No.* 05, 7 *pp.* (*electronic*). (Summary) **99m:35184** 35Q30 (35B65, 76D05)

Choffrut, Christian (*with* Pighizzini, Giovanni) Distances between languages and reflexivity of relations. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 199–208, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68087** 68Q45 (03D05, 03D35)

— (*with* Prieur, Christophe; Latteux, Michel) Constructing sequential bijections. (English summary) *Structures in logic and computer science*, 308–321, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Siniša Crvenković) **99i:68083** 68Q70 (20M35)

— (*with* Horváth, Sándor) Equations in transfinite strings. (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 656–664, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R15 (03C05, 03D05)

— (*with* D'Alessandro, Flavio) Commutativity in free inverse monoids. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 35–54. (P. R. Jones) **99h:20095** 20M18 (20M05)

— (*with* Goldwurm, Massimiliano) Determinants and Möbius functions in trace monoids. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 239–247. (Summary) **99h:68102** 68Q45 (15A15, 68Q10)

Chogoshvili, G. S. *see* **Obituary: Chogoshvili, G. S.**

Choi, Bong Dae (*with* Kim, Yeong Cheol[2]; Lee, Yong Wan) The $M/M/c$ retrial queue with geometric loss and feedback. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 41–52. (Summary) **99e:90040** 90B22

— (*with* Zhu, Dong Bi) The $M_1, M_2/G/1/K$ retrial queueing systems with priority. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 691–712. (Srinivas Chakravarthy) **99k:60227** 60K25 (90B22)

Choi, Byoung Chul (*with* Choi, Seung Hyun) 3^{n-p} fractional factorial design excluding a debarred combination. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 2, 303–315. (Summary) **99h:62100** 62K15

Choi, ByoungSeon On the symmetric bilateral AR processes. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 179–183. (Summary) **99f:62105** 62M10

Choi, Chang Hwan (*with* Hong, Dug Hun) A note on infinite fuzzy logic L^1 controllers. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 513–514. 93C42

Choi, Changsun A norm inequality for Itô processes. *J. Math. Kyoto Univ.* **37** (1997), *no.* 2, 229–240. (Dominique Lépingle) **99b:60061** 60G48 (60E15)

— A weak-type submartingale inequality. (English summary) *Kobe J. Math.* **14** (1997), *no.* 2, 109–121. (Tamotsu Tsuchikura) **99f:60088** 60G42 (60G46)

— A weak-type inequality for differentially subordinate harmonic functions. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2687–2696. (Alexander R. Pruss) **99e:31006** 31B05 (31B15, 42A50, 60G42)

Choi, D. *see* **Choï, Daniel**

Choi, Dal-Woo (*with* Cho, Kil-Ho; Jeong, Seong-Hwa; Chae, Hyeon-Sook) Bootstrap confidence interval for survival function in the Koziol-Green model. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 151–161. (Summary) **99g:62049** 62G09 (62G15, 62N05)

Choï, Daniel (*with* Palma Molina, Francisco José; Sanchez-Palencia, Évariste; Vilariño, M. A.) Membrane locking in the finite element computation of very thin elastic shells. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 131–152. (Summary) **99c:73048** 73K15 (73V05)

Choi, Edwin (*with* Hall, Peter Gavin) On bias reduction in local linear smoothing. (English summary) *Biometrika* **85** (1998), *no.* 2, 333–345. (José Rafael León) **99j:62043** 62G05

Choi, Eun-Seok (*with* Ailon, Amit; Gil', M. I.) A simple linear stabilizing controller for a RLED robot with uncertain parameters and some related applications. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 546–559. 93D15 (70Q05, 93C20)

Choi, Eunmi (*with* Lee, Heisook) Projective Schur algebras over a field of positive characteristic. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 103–106. (Summary) **99d:16019** 16K20 (13A20)

— (*with* Lee, Heisook; Shin, KyungHee) Schur groups of commutative rings. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 527–532. (Giuseppe Paxia) **99i:13004** 13A20 (16H05)

— (*with* Lee, Heisook) Projective Schur division algebras. *Comm. Algebra* **26** (1998), *no.* 5, 1399–1407. (Jack Sonn) **99j:16011** 16K40

Choi, Gyunghyun (*with* Sherali, Hanif D.; Sen, Suvrajeet) An exterior-point polytope sliding and deformation algorithm for linear programming problems. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 4, 559–582. (Summary) **99a:90127** 90C05

— *see also* **Errata: "An exterior-point polytope sliding and deformation algorithm for linear programming problems"**

Choi, Hee Chan The completion of some metric space of fuzzy numbers. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 1, 9–16. 54A40

Choi, Hwajeong (*with* Liu, Jian-Guo) The reconstruction of upwind fluxes for conservation laws: its behavior in dynamic and steady state calculations. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 237–256. (Summary) **99c:76082** 76M25

Choi, Hyeong-Ah (*with* Harder, Eric J.) Gossiping in WDM all-optical square mesh networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 75–84, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:68010** 68M10 (68R10, 90B12)

Choi, Hyeong In (*with* Choi, Sung Woo; Moon, Hwan Pyo) Mathematical theory of medial axis transform. (English summary) *Pacific J. Math.* **181** (1997), *no.* 1, 57–88. (Summary) **99m:53008** 53A05 (52B55)

— (*with* Kim, Seok Woo; Lee, Yong Hah) Rough isometry and the asymptotic Dirichlet problem. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 333–348. (Thierry Coulhon) **99j:58211** 58G20 (31C05, 31C20, 53C21)

— (*with* Lee, Doo Seok; Yoon, Joung-Hahn) Cut locus of a separating fractal set in a Riemannian manifold. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 455–467. (Bert Jüttler) **99k:53065** 53C20 (28A80, 53C21, 68U05)

Choi, In (*with* Park, Joon Y.; Yu, Byungchul) Canonical cointegrating regression and testing for cointegration in the presence of $I(1)$ and $I(2)$ variables. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 850–876. (Luis Firinguetti) **99c:62245** 62M10 (62P20)

Choi, Jae Ho (*with* Kim, Yong Chan; Srivastava, Hari M.) Starlikeness and convexity of fractional calculus operators. (English summary) *J. Fract. Calc.* **10** (1996), 75–89. (R. K. Raina) **99b:30013** 30C45 (26A33)

— (*with* Kim, Tong Chan; Owa, Shigeyoshi) Starlikeness and convexity of certain linear operators. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 4, 447–452. (Georgi Dimkov) **99m:30019** 30C45

— Starlike and convex function of complex order involving a certain fractional integral operator. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 1–13. (Summary) **99d:30015** 30C45

— Univalent functions with positive coefficients involving a certain fractional integral operator and its partial sums. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 311–318. (H. M. Srivastava) **99i:30014** 30C45 (26A33)

— (*with* Saigo, Megumi) Starlike and convex functions of complex order involving a certain fractional integral operator. (English summary) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 2, 29–40. (Summary) **99k:30017** 30C45

— A note on differential subordination associated with H-function. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1217–1225. (Stephen M. Zemyan) **99k:30039** 30C80 (33C60)

— (*with* Raina, Ravinder Krishna; Saigo, Megumi) A note on a certain linear operator and its applications to certain subclasses of analytic functions. (English summary) *J. Fract. Calc.* **14** (1998), 45–51. (Summary) **99j:30014** 30C45 (26A33)

Choi, Jeong-Yeol (*with* Baek, Jong-Il; Ru, Dae-Hee) A weak ordering of positive dependence structure of stochastic processes. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 95–105. (Marco Scarsini) **99h:60028** 60E15 (60G07, 62H20)

Choi, Jeongwhan (*with* Hong, Bum Il; Ha, Sung Nam) Analytic expression of hydraulic fall in the free surface flow of a two-layer fluid over a bump. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 479–490. (Summary) **99f:76023** 76B15

Choi, Jin Young (*with* Park, Hyun Joo) Neural iterative learning control for unknown nonlinear systems. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 4, 501–512. 93E35

Choi, Jong Sok *see* **Lee, Nak-Young**

Choi, Junesang Identities involving the Hurwitz and Riemann zeta functions. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 203–210. (A. Perelli) **99f:11112** 11M35

— A formula related to fractional calculus. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 457–466. (S. L. Kalla) **99g:26014** 26A33 (34A30)

— (*with* Rathie, Arjun K.) A short proof of Bailey's formula. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1065–1067. (From the text) **99g:33014** 33C20

— (*with* Rathie, Arjun K.) An evaluation of $\zeta(2)$. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 393–398. (G. Velammal) **99d:11097** 11M06 (11Y60, 33B15, 33C05)

— (*with* Srivastava, Hari M.; Zhang, Nan-Yue) Integrals involving a function associated with the Euler-Maclaurin summation formula. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 101–116. (Dumitru Acu) **99h:33004** 33B15 (11M06, 40A25, 65B15)

— (*with* Rathie, Arjun K.) A note on generalizations of Preece's identity and other contiguous results. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 339–344. (Summary) **99d:33006** 33C20 (33C10)

— (*with* Rathie, Arjun K.) A note on an identity due to Preece. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 205–209. (Summary) **99h:33025** 33C20 (33C10)

— (*with* Rathie, Arjun K.) Some more results contiguous to a Bailey's formula. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 743–750. (Summary) **99h:33026** 33C20 (33C10, 33C15)

Choi, K. *see* **Choi, Kyungmee**

Choi, K. S. *see* **Choi, Kyung Soo**

Choi, Ki Seong (*with* Yang, Gye Tak) Operators on generalized Bloch space. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 17–21. (Maria T. Nowak) **99g:47061** 47B38 (30D45, 46E10)

— Injective hyperbolicity of product domain. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 73–78. (Azniv Kasparian) **99e:32040** 32H20

— (*with* Hahn, Kyong Taik) Weighted Bloch spaces in $\mathbf{C}^n$. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 177–189. (Richard M. Timoney) **99b:46027** 46E15 (32A37)

Choi, Kiwoon (*with* Kim, Hang Bae; Muñoz, Carlos) Four-dimensional effective supergravity and soft terms in M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7521–7528. (Summary) **99k:83115** 83E30 (81T30, 83E50)

— (*with* Kim, Hang Bae; Kim, Hyung Do) Moduli stabilization in heterotic M-theory. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 2, 125–133. (Summary) **99k:81228** 81T30 (83E30)

Choi, Kuey Chung (*with* Gupta, Sudhir) Optimal row-column designs for complete diallel crosses. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2827–2835. 62K05

— (*with* Chang, In Hong; Kim, Byung Hwee) Bayes estimation in a hierarchical linear model. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 1–10. (Kurt Hoffmann) **99m:62097** 62J05 (62F15)

Choi, Kun Wook (*with* Jung, Il Bong; Kim, Bok Ja) Direct integrals of dual operator algebras with properties $(A_{m,n})$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 259–270. (Wing Suet Li) **99f:47058** 47D27 (46L45, 47A65)

— (*with* Jung, Il Bong; Lee, Sang Hun) Singly generated dual operator algebras with properties $(A_{m,n})$. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 727–739. (Gregory Adams) **99k:47109** 47D27 (47A45)

Choi, Kyung Soo (*with* Cho, K. R.; Cho, Moo Ho; Szidarovszky, Ferenc; You, Younggap) Estimation of channel holding time distribution in cellular telephone systems. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 1, 13–17 (*electronic*). (Summary) **99d:90049** 90B12 (94A40)

Choi, Kyunghee (*with* Jung, Gihyun; Kim, Taegeun; Jung, Seunhun) Real-time scheduling algorithm for minimizing maximum weighted error with $O(N \log N + cN)$ complexity. *Inform. Process. Lett.* **67** (1998), *no.* 6, 311–315. 68M20

Choi, Kyungmee (*with* Marden, John I.) A multivariate version of Kendall's τ. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 3, 261–293. (Summary) **99e:62109** 62H20

Choi, N. S. (*with* Keum, J. H.) The rings of invariants of finite abelian subgroups of $GL(2, \mathbf{C})$ of order ≤ 18. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 951–973. (Summary) **99f:13005** 13A50

Choi, Q-Heung (*with* Chun, Sungki; Jung, Tacksun) Jumping problem in a wave equation. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 27 *pp., Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Sergiu Aizicovici) **99c:35129** 35L05 (35B20, 47H12, 47N20)

— (*with* Jung, Tacksun) Fourth order differential equations with jumping nonlinearity. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 557–568. (Š. Schwabik) **99c:34033** 34B15 (34L30)

— (*with* Jung, Tacksun) A nonlinear wave equation with jumping nonlinearity. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 111–117, *VSP, Utrecht*, 1998. (Summary) **99f:35133** 35L70

— (*with* Jung, Tacksun) A nonlinear beam equation with nonlinearity crossing an eigenvalue. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 331–350. (Takashi Narazaki) **99f:35205** 35Q72 (35B10, 47H15, 73D30, 73K05)

— (*with* Chun, Sungki; Jung, Tacksun) Jumping problem in a wave equation with nonlinearity crossing two eigenvalues. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 483–494. (Sergiu Aizicovici) **99j:35140** 35L70 (35B10)

Choi, S. H. *see* **Choi, Seul Hee**

Choi, S. K. *see* **Choi, Sung Kyu**

Choi, Sang-Il The limiting spectral distribution function of large-dimensional random matrices of sample covariance type. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 423–432. (Summary) **99d:60023** 60F05 (15A52)

Choi, Sangjin (*with* Moon, Ilkyeong) A note on lead time and distributional assumptions in continuous review inventory models. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 1007–1012. 90B05

Choi, Sangki A note on Betti numbers and resolutions. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 829–839. (José A. Hermida-Alonso) **99m:13025** 13D02 (13D25)

— On the nonvanishing of Tor. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 785–790. (Summary) **99h:13016** 13D05

Choi, Seul Hee (*with* Kim, Yangkon; So, K. H.; Seo, G. S.; Park, D. Y.) Some remarks on four kinds of points associated to Lie algebras. (English summary) *Honam Math. J.* **20**

(1998), *no.* 1, 31–43. (Jörg Feldvoss) **99m:17025** 17B50 (17B20, 17B55)

Choi, Seung-Bok (*with* Lee, Hyuc-Bum; Thompson, Brian S.) Compliant control of a two-link flexible manipulator by constraint Hamiltonian system. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 293–306. (Summary) **99g:70006** 70B15 (70Q05, 73K99)

Choi, Seung Hyun (*with* Choi, Byoung Chul) 3^{n-p} fractional factorial design excluding a debarred combination. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 2, 303–315. (Summary) **99h:62100** 62K15

Choi, Soon Meen (*with* Kwon, Jung-Hwan; Suh, Young Jin) A Liouville-type theorem for complete Riemannian manifolds. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 301–309. (Qing Ming Cheng) **99d:53033** 53C20 (53C40, 53C42)

— (*with* Ki, U-Hang; Suh, Young Jin) Space-like surfaces with 1-type generalized Gauss map. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 315–330. (Qing Ming Cheng) **99d:53071** 53C50 (53C40)

— (*with* Ki, U-Hang; Suh, Young Jin) On the Gauss map of null scrolls. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 273–279. (Christos Baikoussis) **99h:53090** 53C50 (53A40)

Choi, Su Jeong (*with* Han, Chang Woo[2]) Direct projective modules with the summand sum property. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 865–868. 16D40

Choi, Suhyoung The universal cover of an affine three-manifold with holonomy of discompactedness two. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 107–118, *de Gruyter, Berlin*, 1997. (Ricardo F. Vila Freyer) **99f:57016** 57M50 (57N10)

Choi, Sul-young (*with* Manickam, Nachimuthu) Uniform central graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 89–94. (Summary) **99j:05059** 05C12

Choi, Sung Kyu (*with* Lee, Keon-Hee; Park, Jong Suh) The C^r closing lemma for chain recurrence in compact surfaces. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 559–562. (Romeo F. Thomas) **99j:58114** 58F10

— (*with* Zhang, Bing Gen; Yan, Jun) Oscillation for difference equations with continuous variable. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 11–18. (Summary) **99i:39019** 39A10

Choi, Sung Woo (*with* Choi, Hyeong In; Moon, Hwan Pyo) Mathematical theory of medial axis transform. (English summary) *Pacific J. Math.* **181** (1997), *no.* 1, 57–88. (Summary) **99m:53008** 53A05 (52B55)

Choi, Tae-Young (*with* Jung, Ho-Youl; Prost, Rémy) Rounding transform and its application for lossless pyramid structured coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 2, 234–237. (Summary) **99j:94008** 94A12 (94A29)

Choi, Taeg Young (*with* Kim, Si-Ju) A note on convertible {0, 1} matrices. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 841–849. (Norbert Seifter) **99i:15009** 15A15

— Automorphisms of 7-diagonal algebra $\mathrm{Alg}\mathscr{L}_\infty^{(7)}$. *Kyungpook Math. J.* **38** (1998), *no.* 1, 73–80. (Randall Crist) **99h:47051** 47D25

— (*with* Jo, Young Soo) Extreme points of tridiagonal algebras. *Math. Japon.* **47** (1998), *no.* 1, 57–66. (Cecelia Laurie) **99c:47066** 47D25

— Isomorphisms of $(4k-1)$-diagonal algebra $\mathrm{Alg}\mathscr{L}_\infty^{(4k-1)}$. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 135–146. (Summary) **99k:47105** 47D25

Choi, U Jin (*with* Rim, Kyung Soo) Weighted norm inequalities for $\mathscr{M}$-harmonic conjugate functions. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 437–444. (Summary) **99a:32002** 32A22

— (*with* Kim, Chang Ho) Spectral collocation methods for a partial integro-differential equation with a weakly singular kernel. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 408–430. (Summary) **99i:45020** 45L05 (45K05, 65R20)

— (*with* Choi, Yong Kab; Lee, Byung Soo) On partial sums of a Gaussian sequence with stationary increments. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 825–842. (Endre Csáki) **99i:60063** 60F15 (60G15)

Choi, Won The model of security market when the security price is a continuous semimartingale. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 715–720. (Summary) **99m:90026** 90A09 (60G48, 60H10)

Choi, Y. S. *see* **Choi, Yung Sze**

Choi, Yong Kab (*with* Choi, U Jin; Lee, Byung Soo) On partial sums of a Gaussian sequence with stationary increments. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 825–842. (Endre Csáki) **99i:60063** 60F15 (60G15)

Choi, Younggi The mod 2 homology of $\mathrm{Sp}(n)$ instantons and the classifying space of the gauge group. (English summary) *Bull. Austral. Math. Soc.* **55** (1997), *no.* 3, 503–512. (Summary) **99b:57052** 57R19 (55R40)

— Morava K-theory of the double loop spaces of quaternionic Stiefel manifolds. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 359–370. (N. J. Kuhn) **99b:55005** 55N20 (55P35, 55R40)

— (*with* Yoon, Seonhee) Homology of the triple loop space of the exceptional Lie group F_4. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 149–164. (M. Mimura) **99b:55029** 55R20 (55P35, 55S12, 55T20)

Choi, Yun Sung (*with* Kim, Sung Guen) Extreme polynomials on c_0. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 983–989. (Ignacio Zalduendo) **99k:46077a** 46G20 (46B28)

— (*with* Kim, Sung Guen; Ki, Haseo) Extreme polynomials and multilinear forms on l_1. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 467–482. (Ignacio Zalduendo) **99k:46077b** 46G20 (46B28)

Choi, Yung Sze (*with* Lui, Roger) An integro-differential equation arising from an electrochemistry model. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 677–686. (Melvin Heard) **99h:45017** 45K05 (35J65, 35Q99, 47N20)

— (*with* Lazer, Alan C.; McKenna, P. J.) Some remarks on a singular elliptic boundary value problem. *Nonlinear Anal.* **32** (1998), *no.* 3, 305–314. (Andrea Colesanti) **99a:35085** 35J65 (34B15)

Choie, YoungJu Pseudodifferential operators and Hecke operators. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 29–34. (Rainer Schulze-Pillot) **99k:11062** 11F25 (11F55, 58G15)

— Jacobi forms and the heat operator. II. *Illinois J. Math.* **42** (1998), *no.* 2, 179–186. (Yasushi Tokuno) **99d:11049** 11F55 (11F60)

— (*with* Eholzer, Wolfgang) Rankin-Cohen operators for Jacobi and Siegel forms. (English summary) *J. Number Theory* **68** (1998), *no.* 2, 160–177. (B. Ramakrishnan) **99b:11050** 11F60 (11F46, 11F55)

Chojnacki, Wojciech (*with* Kisyński, Jan) On the Favard classes of semigroups associated with pseudo-resolvents. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 681–696. (A. G. Baskakov) **99m:47046** 47D06 (46J10, 47A10)

— A new proof of a theorem concerning decomposable groups. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 13–17. (Summary) **99i:22009** 22C05

— (*with* Brooks, Michael J.; Gibbins, Daniel) On the feasibility of determining light-source direction from an image. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 289–307. (Menachem Dishon) **99g:68178** 68T10 (35R30, 68U10, 78A10)

Chojnowska-Michalik, A. Stationary solutions for heat equation perturbed by general additive noise. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 129–136. (Summary) **99b:60088** 60H15 (35K05, 35R60, 60G10)

Choksi, J. R. (*with* Nadkarni, M. G.) Genericity of certain classes of unitary and self-adjoint operators. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 137–139. (Summary) **99c:47023** 47B15 (47A99, 47B25)

Choksi, Rustum The singular limit of a hyperbolic system and the incompressible limit of solutions with shocks and singularities in nonlinear elasticity. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 3, 485–504. (Reza Malek-Madani) **99m:73018** 73C50 (35L67, 73D40)

Cholak, Peter The dense simple sets are orbit complete with respect to the simple sets. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 37–44. (A. Kučera) **99m:03081** 03D25

Cholet, Catherine Collisions d'un point et d'un plan. (English and French summaries) [Collisions of a point and a plane] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 455–458. (Manuel D. P. Monteiro Marques) **99m:70009** 70F35 (34A60)

Cholewa, Jan W. (*with* Dłotko, Tomasz) Local attractor for n-D Navier-Stokes system. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 309–319. (Summary) **99d:35123** 35Q30 (34G20, 35B40, 47H20, 76D05)

— (*with* Carvalho, Alexandre N.; Dłotko, Tomasz) Examples of global attractors in parabolic problems. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 77–103. (Sergei A. Vakulenko) **99a:35115** 35K55 (34G20, 35B40, 47H20, 58F39)

Cholewinski, Pawel (*with* Truszczyński, Mirosław) Extremal problems in logic programming and stable model computation. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 219–242. (Summary) **99i:68017** 68N17

Chollet, Anne-Marie (*with* Chaumat, Jacques) Propriétés de l'intersection des classes de Gevrey et de certaines autres classes. (English and French summaries) [Properties of the intersection of Gevrey classes and of some other classes] *Bull. Sci. Math.* **122** (1998), *no.* 6, 455–485. (Luigi Rodino) **99i:46027** 46E99 (26E10, 35S05)

— *see also* **Complex analysis and applications, 99h:32001**

Cholvi, Vicent Specification of the behavior of memory operations in distributed systems. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 589–598. (Summary) **99k:68107** 68Q60 (68Q68)

Chomaz, Jean-Marc (*with* Billant, Paul; Huerre, Patrick) Experimental study of vortex breakdown in swirling jets. (English summary) *J. Fluid Mech.* **376** (1998), 183–219. 76–05 (76C05)

— (*with* Loiseleux, T.; Huerre, Patrick) The effect of swirl on jets and wakes: linear instability of the Rankine vortex with axial flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1120–1134. (From the introduction) **99a:76026** 76C05 (76D25, 76E99)

— (*with* Pier, Benoît; Huerre, Patrick; Couairon, Arnaud) Steep nonlinear global modes in spatially developing media. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2433–2435. (Summary) **99g:76062** 76E30

— (*with* Delbende, Ivan) Nonlinear convective/absolute instabilities in parallel two-dimensional wakes. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2724–2736. (Summary) **99i:76060** 76E30 (76D25)

Chomicki, Jan (*with* Baudinet, Marianne; Wolper, Pierre) Constraint-generating dependencies. (English summary) *Database theory—ICDT '95* (*Prague*), 322–337, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68066** 68P15

— (*with* Toman, David) Datalog with integer periodicity constraints. (English summary) *J. Logic Programming* **35** (1998), *no.* 3, 263–290. (Summary) **99b:68037** 68N17 (68P15)

Chon, Inheung Infinitesimally generated stochastic totally positive matrices. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 269–273. 22E99 (15A51)

— Some strictly infinitesimally generated semigroups. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1151–1158. (Jimmie D. Lawson) **99k:22005** 22A15 (22E15)

— On an extension of Fekete's lemma. (English summary) *Czechoslovak Math. J.* **49(124)** (1999), *no.* 1, 63–66. (Peter Butkovič) **99m:15003** 15A15

Chong, C. T. (*with* Yang, Yue) Σ_2 induction and infinite injury priority arguments. II. Tame Σ_2 coding and the jump operator. Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 103–116. (Sh. T. Ishmukhametov) **99m:03082** 03D25 (03D30, 03D60)

Chong, Edwin K. P. (*with* Wang, I-Jeng; Kulkarni, Sanjeev R.) Weighted averaging and stochastic approximation. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 41–60. (Summary) **99c:62233** 62L20

— (*with* Wang, I-Jeng) A deterministic analysis of stochastic approximation with randomized directions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1745–1749. 93E10 (93E12)

— (*with* Wang, I-Jeng; Kulkarni, Sanjeev R.) Noise conditions for prespecified convergence rates of stochastic approximation algorithms. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 810–814. (Pham Dinh Tuan) **99m:62125** 62L20

Chong, Eugene Inseok (*with* Maddila, Sanjeev; Morley, Steve) On finding single-source single-destination k shortest paths. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 40–47 (*electronic*). (*see* **99d:68010**) 68R10 (05C38)

Chong, K. S. (*with* Lam, Kin) Applying POS(i) rules to communication problems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 3, 762–769. (Robert P. Dobrow) **99k:68036** 68P10 (60G35, 60J10)

Chong, Ka Wong (*with* Ramos, Edgar A.) Improved deterministic parallel padded sorting. (English summary) *Algorithms—ESA '98 (Venice)*, 405–416, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68P10 (68Q22)

— (*with* Lam, Tak Wah) Approximating biconnectivity in parallel. (English summary) *Algorithmica* **21** (1998), *no.* 4, 395–410. (Summary) **99b:68144** 68R10 (05C40, 05C85, 68Q22)

Chong, M. S. (*with* Martín Yague, Jesús; Ooi, Andrew; Soria, Julio) Dynamics of the velocity gradient tensor invariants in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2336–2346. 76F99

Chong, W. K. (*with* Zhang, Yinglong; Yeo, K. S.; Khoo, B. C.) Three-dimensional computation of bubbles near a free surface. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 105–123. (Summary) **99e:76078** 76M15

Chongdar, A. K. (*with* Majumdar, N. K.) On the extension of mixed trilateral generating relation of extended Jacobi polynomial. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 21–26 (1996). (Summary) **99d:33010** 33C45

— (*with* Pittaluga, Giovanna; Sacripante, Laura) On generating functions of modified Laguerre polynomials by Lie algebraic method. (English summary) *Rev. Acad. Canaria Cienc.* **8** (1996), *no.* 1, 41–52. (David K. Maslen) **99c:33015** 33C45 (33C80)

— (*with* Pittaluga, Giovanna; Sacripante, Laura) Weisner's methodic survey of modified Laguerre polynomials. (English summary) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 23–32. (Summary) **99h:33033** 33C45

Chongsrid, K. (*with* Anderson, Brian D. O.; Limebeer, D. J. N.; Hara, Shinji) Direct reduced order discretization of continuous-time controller. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 143–155. (*see* **99k:93005**) 93B11 (93C57)

Choo, E. U. (*with* Chan, G. H.; Xia, Zhong Hang) The critical cut-off value approach for dynamic lot sizing problems with time varying cost parameters. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 179–188. 90B80 (90C27)

Choo, S. M. (*with* Chung, Sang Kwon) L^2-error estimate for the strongly damped extensible beam equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 101–107. (Summary) **99g:73069** 73K05 (73D35, 73V05, 93D15)

— (*with* Chung, Sang Kwon) Conservative nonlinear difference scheme for the Cahn-Hilliard equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 31–39. (Summary) **99e:65114** 65M06

Chopra, D. V. Further investigations on balanced arrays of strength five. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 101–106. (Summary) **99j:05021** 05B05

— Contributions to balanced arrays of strength five. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 123–128. (Summary) **99a:05022** 05B30

Chopra, Sunil (*with* Gilboa, Itzhak; Sastry, S. Trilochan) Source sink flows with capacity installation in batches. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 165–192. (Summary) **99d:90134** 90C35 (90B10)

— (*with* Bienstock, Daniel; Günlük, Oktay; Tsai, Chih-Yang) Minimum cost capacity installation for multicommodity network flows. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 177–199. (Summary) **99c:90044** 90B10 (90C35)

— (*with* Owen, Jonathan H.) A note on formulations for the A-partition problem on hypergraphs. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 115–133. (Summary) **99m:68149** 68R10 (05C65, 68Q35)

Choquard, Philippe Variational principles for thermostatted systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 350–356. (Guido Gentile) **99g:58039** 58E30 (70H05, 82C05)

Choquet, Gustave Existence et unicité des représentations intégrales au moyen des points extrémaux dans les cônes convexes. [Existence and uniqueness of integral representations by means of extremal points in convex cones] *Séminaire Bourbaki, Vol. 4, Exp. No.* 139, 33–47, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 46A55

— Les travaux de Nash et Kuiper sur le plongement isométrique des C^1-variétés riemanniennes dans l'espace euclidien. [The works of Nash and Kuiper on the isometric embedding of Riemannian C^1-manifolds in Euclidean space] *Séminaire Bourbaki, Vol. 4, Exp. No.* 147, 139–149, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 58A07

Choquet-Bruhat, Yvonne A global existence theorem for ultra relativistic fluids on Minkowski space time. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 14–22, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:35165** 35Q75 (76Y05, 83C55)

— Applications d'ondes sur un univers en expansion. (English and French summaries) [Wave maps on expanding universes] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1175–1180. (Thierry Cazenave) **99h:58191** 58G16 (83C05)

Chor, Benny (*with* Beimel, Amos) Secret sharing with public reconstruction. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1887–1896. (Summary) **99j:94037** 94A60

Chorin, Alexandre J. (*with* Barenblatt, G. I.) Scaling laws and vanishing viscosity limits in turbulence theory. *Recent advances in partial differential equations, Venice* 1996, 1–25, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (P. L. Sulem) **99a:76065** 76Fxx (76D05, 76M35)

— (*with* Barenblatt, G. I.) Turbulence: an old challenge and new perspectives. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 445–468. (Barak Galanti) **99m:76066** 76Fxx

— (*with* Barenblatt, G. I.) Scaling of the intermediate region in wall-bounded turbulence: the power law. Comment on: "Log laws or power laws: the scaling in the overlap region" [Phys. Fluids **9** (1997), no. 7, 2094–2100; MR 98d:76075] by M. V. Zagarola, A. E. Perry and A. J. Smits. *Phys. Fluids* **10** (1998), *no.* 4, 1043–1044. 76F05 (76–05)

— (*with* Kast, Anton P.; Kupferman, Raz) Optimal prediction of underresolved dynamics. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 8, 4094–4098 (*electronic*). (Summary) **99a:65195** 65U05

— (*with* Barenblatt, G. I.) New perspectives in turbulence: scaling laws, asymptotics, and intermittency. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 265–291 (*electronic*). (Leonid I. Piterbarg) **99d:76048** 76F99

— *see also* **Smits, Alexander J.**

Chorlton, Frank Studies in Bessel functions via Laplace transforms. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 3, 437–443. (U. C. Jain) **99h:33010** 33C10 (44A10)

Chossat, P. (*with* Ashwin, Peter) Attractors for robust heteroclinic cycles with continua of connections. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 2, 103–129. (Philip J. Aston) **99f:58134** 58F12 (34C37, 34D45)

Chothi, V. (*with* Everest, G. R.; Ward, Thomas B.) S-integer dynamical systems: periodic points. (English summary) *J. Reine Angew. Math.* **489** (1997), 99–132. (Liang-Chung Hsia) **99b:11089** 11K55 (28D15, 58F20)

Chou, C. C. *see* **Chou, Chin Ch'êng**

Chou, Chao-Chih (*with* Fu, Chin-Mei; Huang, Wen-Chung) Decomposition of $K_{m,n}$ into short cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 195–203. (Summary) **99k:05127** 05C70 (05C38)

Chou, Chin Ch'êng (*with* Bernoussi, B.; Bolintinéanu, S.) Sur les suites Pareto optimisantes et scalairement stationnantes. (English summary) [On optimizing and scalarly stationary Pareto sequences] *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida*, 1996), 39–47, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:90169** 90C29

— (*with* Bernoussi, B.; Bolintinéanu, S.) Pareto optimizing and scalarly stationary sequences. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 553–561. (I. M. Stancu-Minasian) **99f:90105** 90C29 (90C48)

— (*with* Azé, Dominique; Penot, Jean-Paul) Subtraction theorems and approximate openness for multifunctions: topological and infinitesimal viewpoints. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 33–58. (H. H. Bauschke) **99m:49022** 49J52 (46A30, 47H04, 54C60)

— (*with* Ng, Kung Fu; Pang, Jong-Shi) Minimizing and stationary sequences of constrained optimization problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1908–1936 (*electronic*). (Bernard Lemaire) **99f:90118** 90C30 (65K05)

Chou, Ching (*with* Xu, Guangwu) The weak closure of the set of left translation operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 465–471. (Ali Ülger) **99c:43003** 43A30 (43A07, 43A15, 43A46, 46L05)

Chou, Chung-Chiang (*with* Deng, Yuefan) Numerical solutions of a nonlinear evolution system with small dissipation on parallel processors. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 405–417. (Summary) **99j:65135** 65M06 (65Y05)

— (*with* Mu, Mo; Deng, Yuefan) Numerical methods for simulating Ginzburg-Landau vortices. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1333–1339 (*electronic*). (Summary) **99a:65154** 65N30 (65N06)

Chou, Chung-I (*with* Ho, Choon-Lin; Hu, Bambi; Lee, Hsuan) Morse-type Frenkel-Kontorova model. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2747–2756. (Summary) **99a:82040** 82B26 (58F40)

Chou, J. B. (*with* Pearn, W. L.) Improved solutions for the Chinese postman problem on mixed networks. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 8, 819–827. (Summary) **99m:90117** 90C27 (90C35)

Chou, Jin-Jye (*with* Lee, Tsern-Huei) Some topological properties of bitonic sorters. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 9, 983–997. 68M15

Chou, Kaiseng *see* **Tso, Kaising**

Chou, So-Hsiang (*with* Li, Qian[1]) A mixed finite element approximation for compressible flow of contamination from nuclear waste in porous media. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 146–157. (Summary) **99d:76059** 76M10 (76S05)

— (*with* Porsching, T. A.) A note on the restarted CG method and reduced space additive correction. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 129–136. (Ming Kui Chen) **99e:65051** 65F10 (65J10)

— (*with* Kwak, Do Y.) A covolume method based on rotated bilinears for the generalized Stokes problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 494–507 (*electronic*). (Bruce A. Finlayson) **99d:65302** 65N15 (76D07, 76M25)

— (*with* Kwak, Do Y.; Vassilevski, Panayot S.) Mixed covolume methods for elliptic problems on triangular grids. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1850–1861 (*electronic*). (Robert Beauwens) **99k:65105** 65N30 (65F10, 65N22)

— (*with* Vassilevski, Panayot S.) A general mixed covolume framework for constructing conservative schemes for elliptic problems. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 991–1011. (Stephen W. Brady) **99j:65203** 65N30 (65F10, 65N12)

— (*with* Vassilevski, Panayot S.) An upwinding cell-centered method with piecewise constant velocity over covolumes. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 49–62. (Martin Stynes) **99j:65204** 65N30 (76M25)

Chou, Tom Band structure of surface flexural-gravity waves along periodic interfaces. (English summary) *J. Fluid Mech.* **369** (1998), 333–350. (Summary) **99d:76010** 76B15

Chou, Y.-T. (*with* Lin, Sinn-Cheng; Feng, C. K.) Nonlinear asymptotic theory of hypersonic flow past a circular cone. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 1–15. 76K05

Chou, Yi-Shyong (*with* Wu, Wei[7]) A new systematic design of high-gain feedback for nonlinear systems with unmatched uncertainties. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1471–1489. 93C10 (93B52)

Chou, Yu-Li (*with* Romeijn, H. Edwin; Smith, Robert L.) Approximating shortest paths in large-scale networks with an application to intelligent transportation systems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 163–179. 90B10 (90B20)

Chouaki, Amar (*with* Ladevèze, Pierre) Application of a posteriori error estimation for structural model updating. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 49–58. (Summary) **99j:73070** 73K12 (73K99, 73V05)

Choudhary, M. S. *see* **Chaudhary, M. S.**

Choudhry, Ajai On equal sums of fifth powers. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1443–1450. (Nikos Tzanakis) **99c:11032** 11D41

— A Diophantine equation involving fifth powers. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 53–55. (Nikos Tzanakis) **99h:11030** 11D41

— On triads of squares with equal sums and equal products. (English summary) *Ganita* **49** (1998), *no.* 2, 101–106. (Edward L. Cohen) **99m:11028** 11D25 (11D09)

— The Diophantine equation $A^4 + 4B^4 = C^4 + 4D^4$. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1127–1128. 11D25

Choudhury, A. L. Symmetry breaking around a wormhole. (English summary) *Hadronic J. Suppl.* **13** (1998), *no.* 4, 395–405. 83C45 (81R40)

Choudhury, Dipa (*with* Horn, Roger A.) An analog of the Gram-Schmidt algorithm for complex bilinear forms. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998),

no. 1, 43–60. (Wasin So) **99b:15015** 15A21

Choudhury, Gagan L. (*with* Lucantoni, David M.) Numerical computation of the moments of a probability distribution from its transform. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 368–381. (Summary) **99k:60037** 60E10

— (*with* Lucantoni, David M.; Whitt, Ward) Numerical solution of piecewise-stationary $M_t/G_t/1$ queues. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 451–463. (Summary) **99e:90041** 90B22

— (*with* Kogan, Yakov A.; Susskind, Silvio) Exact and asymptotic solutions for models of new telecommunication services. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 393–407. (*see* **99a:90010**) 90B12 (90B22, 94A05)

Choudhury, Gautam On a batch arrival Poisson queue with a random setup time and vacation period. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 12, 1013–1026. 60K25

Choudhury, P. P. *see* **Pal Choudhury, Pabitra**

pal Choudhury, Pabitra *see* **Pal Choudhury, Pabitra**

Choudhury, S. Roy (*with* Tanriver, U.) Non-classical symmetries and the singular manifold method revisited. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1487–1494. (Summary) **99a:35012** 35A30 (35Q53)

Choudhury, Sudipto (*with* Banerji, P. K.) Group-theoretic approach to bilateral generating functions. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 23–28. (Summary) **99c:33013** 33C45

Choueiry, Berthe Y. (*with* Noubir, Guevara) On the computation of local interchangeability in discrete constraint satisfaction problems. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 326–333, *MIT Press, Cambridge, MA*, 1998. (Summary) **99h:68153** 68T20

Chouhan, M. S. (*with* Singh, Bijendra; Sharma, R. K.) A fixed point theorem in 2-metric space. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 11–12. 54H25

— (*with* Singh, Bijendra; Sharma, R. K.) Fixed point theorems for a sequence of mappings satisfying rational inequalities. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 33–35. 54H25

Choukri, K. (*with* Jeannet, B.; Huillet, Thierry) Marches pseudo-aléatoires issues de substitutions: aspects statistiques. (English and French summaries) [Pseudorandom walks arising from substitutions: statistical aspects] *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 77–89. (Jean-Paul Allouche) **99f:11030** 11B85 (28A80, 68R15)

Choukroun, Franck (*with* Leca, Pierre; Roux, François-Xavier; Ha-Duong, Tuong) Parallel solver for 3D Maxwell integral equations on axisymmetrical geometry. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 171–185, *Inst. Math. Appl. Conf. Ser. New Ser., 65, Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65R20)

Choulli, Mourad (*with* Chatelain, Thierry) Clarke generalized gradient for eigenvalues. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 443–454. (Bernard Rousselet) **99a:47028** 47A75 (49Q12, 49R05)

— *see also* **Mokhtar-Kharroubi, Mustapha, 99c:82078**

Chountasis, S. (*with* Vourdas, A.) Weyl functions and their use in the study of quantum interference. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 848–855. (Summary) **99d:81067** 81S30

Chovanec, Ferdinand (*with* Rybáriková, Eva) Ideals in D-posets of fuzzy sets. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 191–199. (R. Gylys) **99h:03039** 03G12 (03G20, 06D30, 81P10)

— (*with* Rybáriková, Eva) Ideals and filters in D-posets. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 17–22. (Miklós Bóna) **99i:06001** 06A06 (81P10)

— *see also* **Riečan, Beloslav, 99e:28001**

Chow, Bennett (*with* Tsai, Dong-Ho) Expansion of convex hypersurfaces by nonhomogeneous functions of curvature. *Asian J. Math.* **1** (1997), *no.* 4, 769–784. (John Urbas) **99e:53047** 53C21 (35K55, 58G11)

— Interpolating between Li-Yau's and Hamilton's Harnack inequalities on a surface. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 137–140. (Gilles Carron) **99h:58182** 58G11 (35K55, 53C21)

— (*with* Cao, Huai-Dong) Recent developments on the Ricci flow. (English summary) *Bull. Amer. Math. Soc. (N.S.)* **36** (1999), *no.* 1, 59–74. (Man Chun Leung) **99j:53044** 53C21 (58G11)

Chow, Chi-Keung (*with* Rey, Soo-Jong) Chiral perturbation theory for tensor mesons. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 10, 10 *pp.* (*electronic*). (Summary) **99c:81265** 81V05

Chow, Edmond Ten-Fu (*with* Saad, Youcef) Approximate inverse techniques for block-partitioned matrices. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 6, 1657–1675. (A. Barraud) **99c:65086** 65F50 (65F10)

— (*with* Heroux, Michael A.) An object-oriented framework for block preconditioning. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 159–183. 65F35 (65–04)

— (*with* Saad, Youcef) Approximate inverse preconditioners via sparse-sparse iterations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 995–1023 (*electronic*). (Derek S. Henderson) **99d:65104** 65F10 (65F50)

— (*with* Chan, Tony F. C.; Saad, Youcef; Yeung, M. C.) Preserving symmetry in preconditioned Krylov subspace methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 568–581 (*electronic*). (Summary) **99d:65102** 65F10 (65F50)

Chow, Joe H. (*with* Shiau, Jaw-Kuen; Taranto, Glauco N.) A decentralized control design method for model-matching robustness problems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 401–416. 93A14 (93B51)

Chow, K. W. (*with* Lai, Wing Chiu Derek; Shek, C. K.; Tso, K.) Positon-like solutions of nonlinear evolution equations in (2 + 1) dimensions. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1901–1912. (Summary) **99i:35135** 35Q53

— (*with* Ko, N. W. M.; Leung, R. C. K.; Tang, S. K.) Inviscid two-dimensional vortex dynamics and a soliton expansion of the sinh-Poisson equation. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1111–1119. (Summary) **99a:76020** 76C05 (35Q35, 35Q51)

Chow, King Leung E-optimality for regression designs of supplementary experiments. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 207–218. (Bhagwandas) **99i:62165** 62K05

Chow, P. M. Y. (*with* Bailey, Chris; Taylor, G. A.; Cross, Mark) Discretisation procedures for multi-physics phenomena. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 3–17. (*see* **99k:65002**) 73V20 (76M25)

Chow, Pao-Liu Topics in stochastic partial differential equations. *Fourth Symposium on Probability Theory and Stochastic Processes (Spanish) (Guanajuato*, 1996), 1–35, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Bohdan Maslowski) **99i:60121** 60H15 (35Qxx, 35R60)

Chow, S.-N. *see* **Differential equations and applications, 99b:00013**

Chow, Timothy Y. The combinatorics behind number-theoretic sieves. (English summary) *Adv. Math.* **138** (1998), *no.* 2, 293–305. (G. Greaves) **99i:11084** 11N35 (05A20)

— The surprise examination or unexpected hanging paradox. *Amer. Math. Monthly* **105** (1998), *no.* 1, 41–51. (Reinhard Suck) **99g:00013** 00A08 (00A30, 00A71, 03A05, 03B45, 03B48)

Chow, Tommy W. S. (*with* Tan, Hongzhou; Mao, Zong Yuan) Blind identifiability of truncated quadratic nonlinear models using spectra analyses. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 965–968. 93B30 (93E12)

— (*with* Fang, Yong) An iterative learning control method for continuous-time systems based on 2-D system theory. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 6, 683–689. (Summary) **99c:93062** 93C30 (93E35)

Chow, Yunshyong (*with* Chiang, Tzuu-Shuh) On the problem of exit from cycles for simulated annealing processes—a backward equation approach. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 896–916. (Laurent Miclo) **99g:60129** 60J27 (90C42)

— (*with* Chiang, Tzuu-Shuh) Asymptotic behavior of some linear differential systems. *J. Differential Equations* **144** (1998), *no.* 2, 321–352. (C. C. Y. Dorea) **99k:34099** 34C99 (34D05, 34E99, 70F10)

Chowdhury, A. Roy *see* **Roy Chowdhury, Asesh**

Chowdhury, Ambar (*with* Hart, Bradd) An unclassifiable unidimensional theory without OTOP. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 1, 93–103. (Mike Prest) **99c:03052** 03C45

roy Chowdhury, Asesh *see* **Roy Chowdhury, Asesh**

Chowdhury, M. A. Mansur (*with* Ha Huy Bang) Generalized deformed para-Bose algebra with complex structure function. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 5, 703–709. (Summary) **99g:81105** 81S05 (81R50)

Chowdhury, Mohammad S. R. (*with* Tan, Kok-Keong) New minimax inequalities and applications. (English summary) *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 1–36. (Carlo Bardaro) **99d:49018** 49J35 (47H10, 54H25)

— A G-KKM type theorem and its applications to minimax inequalities on G-convex spaces. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 493–505. (Xie Ping Ding) **99j:47085** 47H10 (49J40, 54C60, 54H25)

— (*with* Tan, Kok-Keong) Applications of pseudo-monotone operators with some kind of upper semicontinuity in generalized quasi-variational inequalities on non-compact sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2957–2968. (Summary) **99a:47103** 47H19 (49J10)

— (*with* Tan, Kok-Keong) Study of generalized quasi-variational inequalities for lower and upper hemi-continuous operators on non-compact sets. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 121–134. (Igor′ V. Konnov) **99k:47167** 47H19 (47H04, 49J40)

Chowdhury, Sadeq (*with* Singh, Sarjinder; Horn, Stephen) Estimation of stigmatized characteristics of a hidden gang in a finite population. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 291–297. (Summary) **99i:62016** 62D05

Chowla, Sarvadaman D. *see* **Ayoub, Raymond G. et al., 99k:01044** *and* **Topics in number theory, 99m:11004**

Choy, T. C. (*with* Alexopoulos, Aris; Thorpe, M. F.) Dielectric function for a material containing hyperspherical inclusions to $O(c^2)$. I. Multipole expansions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1973–1992. (Summary) **99g:78013** 78A30 (73B27, 78–08)

— (*with* Alexopoulos, Aris; Thorpe, M. F.) Dielectric function for a material containing hyperspherical inclusions to $O(c^2)$. II. Method of images. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1993–2013. (Summary) **99g:78014** 78A30 (73B27, 78–08)

Chrapek, Magdalena On the extremal behaviour of some stationary Markov sequence. *Demonstratio Math.* **31** (1998), *no.* 2, 289–298. (J. Hüsler) **99k:60172** 60J10 (60G70)

Chrastina, Jan ★ The formal theory of differential equations. Folia Facultatis Scientiarium Naturalium Universitatis Masarykianae Brunensis. Mathematica, 6. *Masaryk University, Brno*, 1998. $x+296$ *pp. ISBN* 80-210-1819-4 (Jaime Muñoz Masqué) **99j:58011** 58A15 (35A30, 58A17, 58A30, 58E30, 58H05)

Chrisman, Lonnie Independence with lower and upper probabilities. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 169–177, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30 (03B48)

— Propagation of 2-monotone lower probabilities on an undirected graph. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 178–185, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30 (03B48)

Chriss, Neil A. (*with* Khuri-Makdisi, Kamal) On the Iwahori-Hecke algebra of a p-adic group. *Internat. Math. Res. Notices* **1998**, *no.* 2, 85–100. (Thomas M. Halverson) **99c:22023** 22E50 (20G05)

— The classification of representations of unramified Hecke algebras. *Math. Nachr.* **191** (1998), 19–58. (Jian Yi Shi) **99d:20072** 20G05 (20C99)

Chrissoulidis, Dimitrios P. (*with* Skaropoulos, Nikolaos C.) Rigorous application of the stochastic functional method to plane-wave scattering from a random cylindrical surface. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 156–168. (Summary) **99h:35233** 35R30 (35J25, 35R60)

Christ, Michael (*with* Kiselev, Alexander; Remling, Christian) The absolutely continuous spectrum of one-dimensional Schrödinger operators with decaying potentials. *Math. Res. Lett.* **4** (1997), *no.* 5, 719–723. (Günter Stolz) **99b:34139** 34L40 (47E05, 81Q10)

— Examples pertaining to Gevrey hypoellipticity. *Math. Res. Lett.* **4** (1997), *no.* 5, 725–733. (Todor V. Gramchev) **99f:35021** 35H05

— (*with* Li, Song-Ying) On analytic solvability and hypoellipticity for $\overline{\partial}$ and $\overline{\partial}_b$. *Math. Z.* **226** (1997), *no.* 4, 599–606. (Harold P. Boas) **99c:32021** 32F20 (35A20, 35H05)

— (*with* Kiselev, Alexander) Absolutely continuous spectrum for one-dimensional Schrödinger operators with slowly decaying potentials: some optimal results. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 771–797. (Günter Stolz) **99g:34166** 34L40 (42B20, 81Q10, 81Q15)

— (*with* Kenig, Carlos E.; Sadosky, Cora; Weiss, Guido) Alberto Pedro Calderón (1920–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 9, 1148–1153. (Editors) **99k:01054** 01A70

Christakos, George (*with* Hristopulos, Dionissios T.; Serre, Marc) Numerical implementation of a space-transformation approach for solving the three-dimensional flow equation. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 619–647 (*electronic*). (Summary) **99d:65025** 65C20 (76M20, 76S05)

Christara, Christina C. (*with* Smith, Barry F.) Multigrid and multilevel methods for quadratic spline collocation. (English summary) *BIT* **37** (1997), *no.* 4, 781–803. (Bernard Bialecki) **99b:65163** 65N55

Christen, J. Andrés (*with* Torres, José-Leonel; Barrera, Julio) A statistical feature of genetic sequences. (English summary) *Biom. J.* **40** (1998), *no.* 7, 855–863. 62P10

Christensen, Antje A Gordon-Luecke-type argument for knots in lens spaces. (English summary) *Topology* **37** (1998), *no.* 5, 935–944. (Yongwu Rong) **99i:57009** 57M25

Christensen, Bent Jesper (*with* Björk, Tomas; Gombani, Andrea) Some system theoretic aspects of interest rate theory. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 17–23. (Summary) **99b:90019** 90A09

Christensen, J. Daniel Ideals in triangulated categories: phantoms, ghosts and skeleta. (English summary) *Adv. Math.* **136** (1998), *no.* 2, 284–339. (Timothy Porter) **99g:18007** 18G25 (18D10, 55P99)

— (*with* Strickland, Neil P.) Phantom maps and homology theories. (English summary) *Topology* **37** (1998), *no.* 2, 339–364. (Summary) **99k:55008** 55P42

Christensen, Ole (*with* Casazza, Peter G.) Frames and Schauder bases. (English summary) *Approximation theory*, 133–139, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Anatolij M. Plichko) **99d:46030** 46C05 (42C15, 46B15)

— (*with* Casazza, Peter G.) Riesz frames and approximation of the frame coefficients. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 1–11. (Summary) **99g:46016** 46C05 (42C15, 46B15)

— (*with* Casazza, Peter G.) Frames containing a Riesz basis and preservation of this property under perturbations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 266–278 (*electronic*). (Kristian Seip) **99i:42043** 42C15 (46C99)

thoft-Christensen, P. *see* **Thoft-Christensen, P.**

Christensen, P. W. (*with* Klarbring, Anders; Pang, Jong-Shi; Strömberg, N.) Formulation and comparison of algorithms for frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 1, 145–173. (David E. Stewart) **99c:73070** 73T05 (73V20)

Christensen, Ronald ★ Log-linear models and logistic regression. (English summary) Second edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1997. *xvi*+483 *pp. ISBN* 0-387-98247-7 (From the preface) **99c:62161** 62H17 (62J12)

Christensen, Søren T. (*with* Olhoff, Niels) Shape optimization of a loudspeaker diaphragm with respect to sound directivity properties. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 177–198. (*see* **99k:73003**) 73K40 (49Q10, 73K99, 76Q05)

Christensen, Steven M. Large scale tensor analysis by computer. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 245–263. (Summary) **99i:53007** 53A45 (53–04, 65–04)

Christian, C. C. Ein Äquivalent zum 1. Unvollständigkeitssatz. [An equivalent to the first incompleteness theorem] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **205** (1996), 35–55 (1997). (Roman Murawski) **99b:03075** 03F30 (03F40)

Christianidis, Jean Une interprétation byzantine de Diophante. (English, French and Greek summaries) [A Byzantine interpretation of Diophantus] *Historia Math.* **25** (1998), *no.* 1, 22–28. (Summary) **99a:01004** 01A20 (01A35, 11–03)

Christiansen, Edmund (*with* Andersen, Knud D.) Minimizing a sum of norms subject to linear equality constraints. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 65–79. (M. Teboulle) **99h:90076** 90C25 (65K05)

— (*with* Andersen, Knud D.; Overton, Michael L.) Computing limit loads by minimizing a sum of norms. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 1046–1062 (*electronic*). (Summary) **99a:73059** 73E20 (65K10, 65N30, 73V05)

Christiansen, Freddy (*with* Politi, Antonio) Guidelines for the construction of a generating partition in the standard map. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 32–41. (Summary) **99e:58059** 58F03 (58F13)

Christiansen, H. R. (*with* Cunha, M. S.; Helayël-Neto, José A.; Manssur, L. R. U.; Nogueira, A. L. M. A.) $N = 2$ Maxwell-Chern-Simons model with anomalous magnetic moment coupling via dimensional reduction. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 147–159. 81T60 (81T50)

— (*with* Cunha, M. S.; Helayël-Neto, José A.; Manssur, L. R. U.; Nogueira, A. L. M. A.) Self-dual vortices in a Maxwell-Chern-Simons model with nonminimal coupling. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 11, 1721–1735. 81T13

Christiansen, Henning Automated reasoning with a constraint-based metainterpreter. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 213–254. 68N17 (68T15, 68T20)

Christiansen, Marielle (*with* Nygreen, Bjørn) A method for solving ship routing problems with inventory constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 357–378. (*see* **99b:90006**) 90C27 (90B05)

— (*with* Nygreen, Bjørn) Modelling path flows for a combined ship routing and inventory management problem. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 391–412. (*see* **99e:90003**) 90B05

Christiansen, Peter Leth (*with* Zolotaryuk, A. V.; Savin, A. V.) Solitons in an isolated helix chain. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 1, *part B*, 877–889. (George Rowlands) **99a:92020** 92D20 (82C20)

— (*with* Bang, Ole; Clausen, Carl Balslev) Stationary solutions and self-trapping in discrete quadratic nonlinear systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 7257–7266. (Summary) **99b:82092** 82D99 (35Q40, 82D25)

— (*with* Johansson, Magnus; Aubry, Serge; Gaĭdideĭ, Yu. B.; Rasmussen, K. Ø.) Dynamics of breathers in discrete nonlinear Schrödinger models. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 115–124. (Summary) **99e:70060** 70K99 (58F40, 78A60)

Christiansen, Søren (*with* Kleinman, Ralph E.) Authors' reply to: "Comments on: 'On a misconception involving point collocation and the Rayleigh hypothesis'" [IEEE Trans. Antennas and Propagation **46** (1998), no. 11, 1765; 1665780] by A. B. Manenkov. *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 11, 1765–1766. 78–08 (78A45)

— Derivation and analytical investigation of three direct boundary integral equations for the fundamental biharmonic problem. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 231–247. (Summary) **99d:45006** 45F99 (65N38, 65R20)

— (*with* Albertsen, Niels Christian; Chesneaux, Jean-Marie; Wirgin, Armand) Comparison of four software packages applied to a scattering problem. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 307–317. 65–04 (65G10)

— *see also* **Manenkov, A. B.**

Christiansen, T. Spectral asymptotics for compactly supported perturbations of the Laplacian on $\mathbf{R}^n$. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 933–948. (Ivor E. McGillivray) **99j:35157** 35P20 (35J05, 47A40, 47F05, 58G18)

Christianson, Bruce Reverse accumulation and implicit functions. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 4, 307–322. (Summary) **99d:65162** 65H10 (65F30, 65G05)

Christianson, J. R. Tycho Brahe in Scandinavian scholarship. *Hist. Sci.* **36** (1998), *no.* 114, *part* 4, 467–484. 01A40 (01A70)

Christie, David A. A 3/2-approximation algorithm for sorting by reversals. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 244–252, *ACM, New York*, 1998. (*see* **99d:68011**) 68P10 (68Q25)

Christie, Douglas R. (*with* Brown, David J.) Fully nonlinear solitary waves in continuously stratified incompressible Boussinesq fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2569–2586. (Summary) **99i:76032** 76C10 (76V05, 86A10)

Christie, I. (*with* Ganser, G. H.; Wilder, J. W.) Numerical solution of a two-dimensional fluidized bed model. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 381–394. (Summary) **99e:76081** 76M20 (76S05)

Christie, John Robert (*with* Li, Ji Bin; Gopalsamy, K.) Perturbed generalised Hamiltonian systems and some advection models. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 1–24. (Darryl D. Holm) **99m:76038** 76C05 (34C99, 58F30, 76D99, 76E99)

Christodoulou, Demetrios *see* **Bôcher prize, 99m:01100**

Christoffersen, Peter F. Evaluating interval forecasts. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 841–862. (Summary) **99i:62253** 62P20

— (*with* Diebold, Francis X.) Cointegration and long-horizon forecasting. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 450–458. 62P20 (62M10, 62M20)

Christofides, Panagiotis D. (*with* Daoutidis, Prodromos) Feedback control of two-time-scale nonlinear systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 965–994. 93C80 (93B52)

— (*with* Teel, Andrew R.; Daoutidis, Prodromos) Robust semi-global output tracking for nonlinear singularly perturbed systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 639–666. 93D21 (93C70)

— (*with* Daoutidis, Prodromos) Distributed output feedback control of two-time-scale hyperbolic PDE systems. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 713–732. (*see* **99h:93003**) 93C20 (93B52)

Christofides, Tasos C. (*with* Serfling, Robert) U-statistics on a lattice of i.i.d. random variables. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 293–303. (N. C. Weber) **99i:60049** 60F05 (60F15, 60F17)

Christol, G. (*with* Mebkhout, Zoghman) Sur le théorème de l'indice des équations différentielles p-adiques. II. [On the index theorem for p-adic differential equations. II] *Ann. of Math.* (2) **146** (1997), *no.* 2, 345–410. (Bruno Chiarellotto) **99a:12009** 12H25 (14F30, 14G20)

Christoph, Gerd (*with* Schreiber, Karina) The generalized discrete Linnik distributions. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 3–18, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99g:60030** 60E07 (62E10, 62N05)

— (*with* Schreiber, Karina) Discrete stable random variables. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 243–247. (F. W. Steutel) **99e:60047** 60E07 (60E10, 60F05)

Christopher, C. J. (*with* Lloyd, N. G.; Devlin, J.; Pearson, Jane Margaret; Yasmin, N.) Quadratic-like cubic systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 329–345. (Henryk Żołądek) **99k:34061** 34C05 (58F21)

— (*with* Aron, M.; Wang, Yi[6]) On the straightening of compressible, nonlinearly elastic, annular cylindrical sectors. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 131–145. (Summary) **99c:73017** 73C50

— An algebraic approach to the classification of centers in polynomial Liénard systems. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 319–329. (Pavao Mardešić) **99k:34056** 34C05

Christov, O. On the chaotic behaviour of a system from rigid body dynamics. (English and Bulgarian summaries) *J. Theoret. Appl. Mech.* **26** (1996), *no.* 3, 3, 9–16. (Summary) **99g:70015** 70E15 (58F13, 70H05, 70K50)

Christozov, Dimitar Evaluation of the quality of an option compared to its alternatives. *Systems modelling and optimization* (*Detroit, MI*, 1997), 318–326, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B25

Chrobak, Marek (*with* Dürr, Christoph) Reconstructing polyatomic structures from discrete X-rays: NP-completeness proof for three atoms (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 185–193, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (78A45)

— (*with* Larmore, Lawrence L.) Metrical task systems, the server problem and the work function algorithm. *Online algorithms* (*Schloss Dagstuhl*, 1996), 74–96, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25

— (*with* Noga, John) Bibliography on competitive algorithms. *Online algorithms* (*Schloss Dagstuhl*, 1996), 395–436, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998.

(*see* **99m:68003**) 68–00 (00A15, 68Q20)
— (*with* Noga, John) LRU is better than FIFO. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 78–81, *ACM, New York*, 1998. (*see* **99d:68011**) 68N25
— (*with* Noga, John) Competitive algorithms for multilevel caching and relaxed list update (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 87–96, *ACM, New York*, 1998. (*see* **99d:68011**) 68N25
— (*with* Nakano, Shin-ichi) Minimum-width grid drawings of plane graphs. (English summary) *Comput. Geom.* **11** (1998), *no.* 1, 29–54. (Summary) **99e:68156** 68U05 (05C10, 05C85, 68R10)
— (*with* Noga, John) LRU is better than FIFO. (English summary) *Algorithmica* **23** (1999), *no.* 2, 180–185. (Summary) **99i:68022** 68N25
Chroboczek, Juliusz (*with* Asperti, Andrea) Safe operators: brackets closed forever. Optimizing optimal λ-calculus implementations. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 437–468. (Summary) **99b:68025** 68N15 (03B40, 03B70)
Chruściel, Piotr T. (*with* Galloway, Gregory J.) Horizons non-differentiable on a dense set. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 449–470. (Alan D. Rendall) **99c:83066** 83C75 (53C50, 83C57)
— (*with* Jezierski, Jacek; MacCallum, Malcolm A. H.) Uniqueness of the Trautman-Bondi mass. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084001, 16 *pp.* (Summary) **99k:83006** 83C05
Chruściński, Dariusz (*with* Kijowski, Jerzy) A gauge-invariant Hamiltonian description of the motion of charged test particles. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 1-2, 49–64. (Andrew Zardecki) **99h:78008** 78A02 (58F05, 70G50, 78A25, 78A35)
— (*with* Kijowski, Jerzy) Generation of multipole moments by external field in Born-Infeld nonlinear electrodynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 269–276. (Summary) **99a:78011** 78A25
— Canonical formalism for the Born-Infeld particle. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5775–5786. (Summary) **99d:81068** 81S99
— Point charge in the Born-Infeld electrodynamics. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 8–14. (Summary) **99a:78012** 78A25
— Hamiltonian structure for classical electrodynamics of a point particle. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 13–48. (Andrew Zardecki) **99h:78009** 78A02 (58F05, 70G50, 78A25, 78A35)
Chryssomalakos, Chryssomalis Drinfeld twist for quantum su(2) in the adjoint representation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2213–2226. (Fabio Gavarini) **99h:81083** 81R50 (17B37)
Chryssoverghi, I. (*with* Bacopoulos, Alexis; Coletsos, J.; Kokkinis, B.) Discrete approximation of nonconvex hyperbolic optimal control problems with state constraints. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 29–50. (Walter Alt) **99e:49040** 49M25 (49K20)
Chrząstowski-Wachtel, Piotr *see* **Graham, Ronald L. et al., 99c:68001** *and* **99m:68002**
Chrząszcz, Jacek Polymorphic subtyping without distributivity. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 346–355, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68N15 (03B40)
Chrzęszczyk, Andrzej Non-smooth hyperbolic mixed problems of the second order. *Japan. J. Math.* (*N.S.*) **23** (1997), *no.* 2, 187–234. (Senjo Shimizu) **99b:35142** 35L70 (35A07, 35D10, 35L20)
Chthterbakov, E. *see* **Shcherbakov, E. A.**
Chtioui, Hichem (*with* Ben Ayed, Mohamed; Hammami, Mokhles) The scalar-curvature problem on higher-dimensional spheres. *Duke Math. J.* **93** (1998), *no.* 2, 379–424. (David L. Finn) **99e:53045** 53C21 (58G30)
Chu, C.-H. *see* **Chu, Cho-Ho**
Chu, C. K. *see* **Chu, Chih Kang**
Chu, C. S. *see* **Chu, Chong-Sun**
Chu, Chih Kang (*with* Glad, Ingrid K.; Godtliebsen, F.; Marron, J. Stephen) Edge-preserving smoothers for image processing. (English summary) With comments and a rejoinder by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 526–556. (Summary) **99b:94009** 94A12 (62G99, 62M40, 68U10)
Chu, Chih-Ping (*with* Chang, Weng-Long) The extension of the *I* test. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 2101–2127. 68N20 (68Q10)
Chu, Cho-Ho (*with* Mellon, Pauline) Jordan structures in Banach spaces and symmetric manifolds. (English summary) *Exposition. Math.* **16** (1998), *no.* 2, 157–180. (Yaakov Friedman) **99h:58009** 58B10 (17C65, 46G20, 46H70)
— (*with* Bunce, L. J.) Unique extension of pure states of C^*-algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 319–338. (Summary) **99a:46107** 46L30 (46L05)
— (*with* Bunce, L. J.; Stachó, László; Zalar, B.) On prime JB^*-triples. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 279–290. (Sh. A. Ayupov) **99j:46085** 46L70 (17C65)
Chu, Chong-Sun (*with* Ho, Pei-Ming; Zumino, Bruno) Some complex quantum manifolds and their geometry. *Quantum fields and quantum space time* (*Cargèse*, 1996), 281–322, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Tomasz Brzeziński) **99c:58012** 58B30 (17B37, 81R50)
— (*with* Sezgin, Ergin) M-fivebrane from the open supermembrane. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 1, 12 *pp.* (*electronic*). (Summary) **99a:81131** 81T30 (83E30)
— (*with* Bonora, Loriano; Rinaldi, Maurizio) Perturbative anomalies of the M-5-brane. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 7, 12 *pp.* (*electronic*). (Daniel N. Kabat) **99i:81216** 81T50 (81T30)
— (*with* Howe, Paul S.; Sezgin, Ergin) Strings and D-branes with boundaries. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 59–67. (Summary) **99b:81180** 81T30
— (*with* Howe, Paul S.; Sezgin, Ergin; West, P. C.) Open superbranes. (English summary) *Phys. Lett. B* **429** (1998), *no.* 3-4, 273–280. (Summary) **99b:81181** 81T30
Chu, Chung-Kuang (*with* Jonckheere, Edmond A.; Cheng, Chih-Yung) Simplicial algorithms for computing stationary probabilities of stochastic matrices. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 207–217. (Summary) **99c:65254** 65U05 (65F30)
Chu, D. L. (*with* Chan, Ho Chung; Ho, D. W. C.) A general framework for state feedback pole assignment of singular systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 135–152. 93B55 (93C30)
— (*with* Hung, Y. S.) (J, J')-lossless factorization for discrete-time systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 517–533. (Summary) **99h:93033** 93B29 (93C55)
— (*with* Hung, Y. S.) On extended (J, J')-lossless factorization. (English summary) *Linear Algebra Appl.* **271** (1998), 117–138. (Daniel Alpay) **99f:93028** 93B25 (15A23)
— (*with* Chan, Ho Chung; Ho, D. W. C.) Regularization of singular systems by derivative and proportional output feedback. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 21–38 (*electronic*). (Li Yi Dai) **99c:93053** 93C15 (93B52)
— (*with* Ho, D. W. C.) Necessary and sufficient conditions for the output feedback regularization of descriptor systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 405–412. (Maria Letizia Corradini) **99m:93081** 93D15 (93C10, 93C30)
Chu, E. K. *see* **Chu, King-wah Eric**
Chu, E. K.-w. *see* **Chu, King-wah Eric**
Chu, Eleanor (*with* Banks, Larry) Parallel Gauss-Seidel relaxation on distributed-memory multiprocessors. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 434–450 (*electronic*). (Summary) **99d:65098** 65F10 (65Y05)
— (*with* George, Alan) FFT algorithms and their adaptation to parallel processing. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 95–124. (Summary) **99g:65129** 65T20
Chu, Francis Reducing Ω to $\Diamond\mathscr{W}$. *Inform. Process. Lett.* **67** (1998), *no.* 6, 289–293. 68Q10 (68M15)
Chu, Hsin (*with* Ding, Sunhong) On the existence of a periodic solution of a nonlinear ordinary differential equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 767–774. (Anna Capietto) **99j:34058** 34C25 (34B15)
Chu, Jian (*with* Su, Hong Ye) Stabilizing controller design for a class of nonlinear time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 30–36. 93D15 (93C30)
— (*with* Yu, Li[1]; Wang, Wan Liang) Design of output feedback stabilizing controllers for uncertain time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 225–229. 93D21 (93C41)
— (*with* Yu, Li[1]; Wang, Jing Cheng) Guaranteed cost control for uncertain discrete-time linear dynamical systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 3, 414–417. 93B35 (93C41)
— (*with* Su, Hong Ye; Wang, Jing Cheng) Memoryless robust stabilization of a class of uncertain linear time-delay systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 497–501. 93D09 (93C30)
— (*with* Wang, Jing Cheng; Su, Hong Ye) Robust H^∞ controller design for a class of uncertain delay systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 566–569. 93B36 (93C30)
— (*with* Su, Hong Ye; Yu, Li[1]; Wang, Jing Cheng) Memoryless robust stabilization control for uncertain linear systems with delayed state and control. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 769–773. 93D21 (93C30)
— (*with* Su, Hong Ye; Wang, Jing Cheng) Output feedback stabilizing controller for linear time-varying uncertain systems with delayed state. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 939–944. 93D21 (93C30)
Chu, King-wah Eric Robust pole assignment for second-order systems. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 199–206, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 93B55 (93D09)
— (*with* Xiao, Yi) Numerical assessment of a modified nonmonotone stabilisation trust region algorithm. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 803–810, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C30 (65K05)
— (*with* Datta, Biswa Nath) Numerically robust pole assignment for second-order systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1113–1127. 93B55 (93D09)
Chu, Moody T. (*with* Guo, Quanlin) On the least squares approximation of symmetric-definite pencils subject to generalized spectral constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 1–20 (*electronic*). (Alan L. Andrew) **99d:65116** 65F15 (15A04, 15A22, 65F30)
— (*with* Guo, Quanlin) A numerical method for the inverse stochastic spectrum problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1027–1039 (*electronic*). (Summary) **99d:65126** 65F30 (65H99)
— Inverse eigenvalue problems. (English summary) *SIAM Rev.* **40** (1998), *no.* 1, 1–39 (*electronic*). (Alan L. Andrew) **99e:15008** 15A18 (34–02, 34A55, 34B24, 65F15, 70J05, 93B55)
— (*with* Funderlic, R. E.; Golub, Gene H.) Rank modifications of semidefinite matrices associated with a secant update formula. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 428–436 (*electronic*). (Henry Wolkowicz) **99g:90117** 90C30 (65F30)
Chu, Peter (*with* Wan, Wun-Jung) Newton-Raphson method for the expected present value of total inventory costs. (English summary) *J. Inform. Optim. Sci.* **20** (1999), *no.* 1, 129–136. (Summary) **99k:90070** 90B05 (65F10)
Chu, Peter C. (*with* Fan, Chenwu) A three-point combined compact difference scheme. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 370–399. (Snezhana Gocheva-Ilieva) **99h:65136** 65L12 (65N06)
— (*with* Fan, Chenwu) A three-point sixth-order nonuniform combined compact difference scheme. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 663–674. 65M06 (65N06)
Chu, Tian Guang (*with* Huang, Lin[1]) Mixed monotone decomposition of dynamical systems with application. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 14, 1171–1175. (Zoran Gajic) **99k:93083** 93D20 (54H20)
— (*with* Huang, Lin[1]) Mixed monotone decompositions of dynamical systems and their applications. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 4, 388–391. 34C35
Chu, Wei Pan (*with* Dang, Si Shan) Some identities involving Euler numbers, Bernoulli numbers, and generalized Stirling numbers of the first kind. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 109–113, 117. (Zhi Wei Sun) **99d:11018** 11B68 (05A19)

Chu, Wen Song Embeddings of simple directed triple systems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 679–682. (Qing De Kang) **99m:05029** 05B07

Chu, Wenchang Many identities from one. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 37–42 (1996). (David M. Bressoud) **99d:11016** 11B65 (05A15, 05A19)

— Generating functions and combinatorial identities. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 1–12. (Stephen Tanny) **99i:05007** 05A15 (05A19)

— Basic almost-poised hypergeometric series. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 642, x+99 *pp.* (G. Gasper) **99b:33035** 33D20 (33C20, 33D15)

Chu, Xue Dao (*with* Chen, Wei Tian; Zhou, Shao Sheng; Yan, Shi Tian) Robust output feedback control of a class of uncertain nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 668–674. 93D21 (93B36)

— (*with* Zhou, Shao Sheng; Li, Ji Feng; Chen, Wei Tian) A robust adaptive pole assignment algorithm for multivariable discrete systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 8–13. 93B55 (93C55)

— (*with* Xie, Xue Jun; Su, Bai Li; Liu, Zhi Feng) Stable adaptive fuzzy control of nonlinear systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 14–20. 93C42 (93C40)

Chu, Y.-C. (*with* Glover, Keith; Goddard, Philip John) Model reduction for classes of uncertain, multi-dimensional, parameter varying and non-linear systems. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 269–280, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B17 (93C10)

Chu, Yu Ming (*with* Song, Ying Qing; Fang, Ai Nong) Bounded convex domains and quasiballs in three-space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 417–422. (Summary) **99i:30035** 30C65

— The distortion properties of quasiconformal mappings in n-space. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 29–32. 30C65

— (*with* Song, Ying Qing) Distortion estimates and a modulus inequality for homeomorphisms with integrable dilatations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 51–54. 30C65

Chua, Leon O. (*with* Brown, Ray) Chaos: generating complexity from simplicity. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2427–2436. (Remo Badii) **99d:58119** 58F13 (58F03)

— (*with* Curran, Paul F.; Suykens, J. A. K.) Absolute stability theory and master-slave synchronization. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2891–2896. (Summary) **99e:93063** 93D15 (34H05, 58F40, 93C10)

— (*with* Wu, Chai Wah) Quantized sampling as sampling with uncertainty in time and amplitude. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 4, 458–463. (Summary) **99c:94009** 94A12

— (*with* Takahashi, Norikazu) On the complete stability of nonsymmetric cellular neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 754–758. (Summary) **99h:94085** 94C05 (68Q80, 68T05, 92B20)

— (*with* Kolumbán, Géza; Kennedy, Michael Peter) The role of synchronization in digital communications using chaos. II. Chaotic modulation and chaotic synchronization. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 11, 1129–1140. 93D15 (94A05, 94A12)

— (*with* Brown, Ray) Clarifying chaos. II. Bernoulli chaos, zero Lyapunov exponents and strange attractors. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 1–32. (Frederick R. Marotto) **99i:58101** 58F13

— (*with* Dogaru, Radu) Edge of chaos and local activity domain of FitzHugh-Nagumo equation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 211–257. (François Aribaud) **99i:58104** 58F13 (58F40)

Chua, Seng Kiat (*with* Ling, San) A Rabin-type scheme based on $y^2 \equiv x^3 + bx^2 \bmod n$. (English summary) *Computing and combinatorics* (*Shanghai*, 1997), 186–191, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99a:94027** 94A60

Chuah, Meng-Kiat Holomorphic sections of prequantum line bundles on G/N. *Michigan Math. J.* **45** (1998), *no.* 2, 375–385. (Roger Zierau) **99j:32031** 32L10 (22E46, 58F06)

Chuan, Wai-fong α-words and factors of characteristic sequences. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 33–50. (Patrice Séébold) **99d:68203** 68R15 (05A99)

— A representation theorem of the suffixes of characteristic sequences. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 47–57. (Robert J. Simpson) **99d:05008** 05A99

— Unbordered factors of the characteristic sequences of irrational numbers. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 337–344. (Frédérique Bassino) **99h:68139** 68R15 (11B85)

Chuang, Bor-Ren (*with* Ouyang, Liang-Yuh) (Q, R, L) inventory model involving defective items with a sub-lot inspection policy. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 3, 45–58. 90B05

Chuang, C.-H. (*with* Lee, T. Sen; Chen, Ye-Hwa) Control of discrete fuzzy systems: uncertainty and guaranteed performance. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 83–106. (Peter V. Golubtsov) **99e:93043** 93C42 (04A72)

— (*with* Lee, T. Sen; Chen, Ye-Hwa) Control for tractor-semitrailer vehicle systems: a Lyapunov minimax approach. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 21–37. 93C85 (70Q05)

Chuang, Chen-Lian Invariant additive subgroups of simple rings. (English summary) *Algebra Colloq.* **6** (1999), *no.* 1, 89–96. (Charles Lanski) **99m:16036** 16N60 (16D60, 16W20)

Chuang, Chitai *see* **Zhuang, Qi Tai**

Chuang, Isaac (*with* Knill, Emanuel; Laflamme, R.) Effective pure states for bulk quantum computation. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3348–3363. (V. Ya. Kreinovich) **99k:81045** 81P99 (68Q75)

— (*with* Brassard, Gilles; Lloyd, Seth; Monroe, Christopher) Quantum computing. *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 19, 11032–11033 (*electronic*). (Emanuel H. Knill) **99g:81029** 81P99 (68Q05)

Chuang, Luhan (*with* Katz, I. Norman) Numerical methods for finding clustersolutions of optimal control problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 126–147 (*electronic*). (Naoki Yamada) **99g:49030** 49M25 (65K10, 65M06, 93B40)

Chuang, Richie Chih-Nan (*with* Garg, Ashim; He, Xin[1]; Kao, Ming-Yang; Lu, Hsueh-I) Compact encodings of planar graphs via canonical orderings and multiple parentheses. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 118–129, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68P99 (68R10)

Chuang, Y. (*with* Haghani, A. E.) An algorithm for real-time user equilibrium traffic assignment. (English summary) Transportation. *Sci. Iran.* **2** (1995), *no.* 3, 207–230. (*see* **99g:90011**) 90B06 (90C35)

Chuang, Yen-Chu (*with* Sung, Ting-Yi; Lin, Chun-Yuan; Hsu, Lih-Hsing) Fault tolerant token ring embedding in double loop networks. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 201–207. (Summary) **99c:68025** 68M15 (68M10, 68R10)

Chuanren, Cai *see* **Cai, Chuan Ren**

Chuanxi, Q. *see* **Qian, Chuanxi**

Chuaqui, M. (*with* Osgood, Brad; Pommerenke, Ch.) On the coefficients of small univalent functions. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 79–86. (Summary) **99c:30035** 30C50

Chubarev, Alexander (*with* Pinelis, Iosif) Fundamental theorem of geometry without the 1-to-1 assumption. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2735–2744. (W. Benz) **99m:51002** 51A15 (51A05, 51A25, 51A45)

Chubarikov, V. N. (*with* Arkhipov, G. I.) On the greatest prime factor of a sequence of the form $[n^c]$. (Russian. English summary) *Math. Montisnigri* **8** (1997), 17–31. (Grigori Kolesnik) **99d:11107** 11N56 (11L07)

— (*with* Arkhipov, G. I.; Buriev, K.) On the power of a singular set in binary additive problems with prime numbers. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 28–57. (Leszek Kaniecki) **99k:11157** 11P32

Chubarov, L. B. (*with* Shkuropatskii, D. A.) Nonlinear-dispersive shallow-water models of high order approximation. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 91–100. (Summary) **99h:76009** 76B15

— (*with* Fedotova, Z. I.; Shkuropatskii, D. A.) Investigation of computational models of long surface waves in the problem of interaction of a solitary wave with a conic island. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 289–306. 76M25 (76B15, 76B25, 86–08, 86A05)

Chuburin, Yu. P. On the approximation of a "film-type" Schrödinger operator by a "crystalline" one. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 773–781; *translation in Math. Notes* **62** (1997), *no.* 5-6, 648–654 (1998). (Viorel Iftimie) **99e:35030** 35J10 (35B20, 35P05, 47N50, 81Q10)

Chubykalo, A. E. (*with* Smirnov-Rueda, R.) Action at a distance and self-consistency of classical electrodynamics. *The enigmatic photon, Vol.* 4, 261–304, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A25

— (*with* Múnera, H. A.; Smirnov-Rueda, R.) Is the free electromagnetic field a consequence of Maxwell's equations or a postulate? (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 573–584. (T. Erber) **99k:78008** 78A25

Chudaev, I. V. (*with* Geĭler, V. A.) The spectrum of a quasi-two-dimensional system in a parallel magnetic field. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 214–222; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 2, 210–218. (Summary) **99e:81040** 81Q05 (34L40)

— (*with* Geĭler, V. A.) Schrödinger operators with moving point perturbations and related solvable models of quantum mechanical systems. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 37–55. (Tuncay Aktosun) **99c:81039** 81Q15 (34L40, 35J10, 47E05, 81Q10)

Chudak, Fabián A. (*with* Goemans, Michel X.; Hochbaum, Dorit S.; Williamson, David P.) A primal-dual interpretation of two 2-approximation algorithms for the feedback vertex set problem in undirected graphs. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 111–118. (Xue Liang Li) **99i:90107** 90C35 (90C27)

— (*with* Shmoys, David B.) Approximation algorithms for precedence-constrained scheduling problems on parallel machines that run at different speeds. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 323–343. (Jan Węglarz) **99k:90087** 90B35 (68M20, 68Q25)

Chudinovich, I. Yu. (*with* Lytova, A. Yu.) Boundary equations in problems of nonstationary diffraction of electromagnetic waves. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1191–1198, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1194–1202 (1998). (Youri G. Smirnov) **99f:35201** 35Q60 (78A45)

— (*with* Constanda, Christian) Weak solutions of interior boundary-value problems for plates with transverse shear deformation. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 85–94. (Alexander Michailovich Khludnev) **99a:73082** 73K10

Chudnovsky, D. V. (*with* Chudnovsky, G. V.) Classification of hypergeometric identities for π and other logarithms of algebraic numbers. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 6, 2744–2749 (*electronic*). (F. Beukers) **99g:11152** 11Y60 (33C20)

Chudnovsky, G. V. (*with* Chudnovsky, D. V.) Classification of hypergeometric identities for π and other logarithms of algebraic numbers. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 6, 2744–2749 (*electronic*). (F. Beukers) **99g:11152** 11Y60 (33C20)

Chueshov, Igor D. ★ Введение в теорию инерциальных многообразий. (Russian. Russian summary) [Introduction to the theory of inertial manifolds] *Khar'kov. Gos. Univ., Khar'kov*, 1992. 88 *pp. ISBN* 5-7763-1069-5 35B40 (34G20, 47H20, 58F39)

— (*with* Rezunenko, A. V.) Global attractors for a class of retarded quasilinear partial differential equations. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 363–383. (Tadeusz Nadzieja) **99a:35250** 35Q72 (34G20, 35B40, 47H20, 58F39)

— (*with* Girya, T. V.) Inertial manifolds and stationary measures for stochastically perturbed dissipative dynamical systems. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 29–46; *translation in Sb. Math.* **186** (1995), *no.* 1, 29–45. (Varga Kalantarov) **99k:34134** 34G20 (34C45, 34F05, 35B99, 35R20, 60H99)

— (*with* Boutet de Monvel, Louis; Khruslov, Evgenii Ya.) Homogenization of attractors for semilinear parabolic equations on manifolds with complicated microstructure. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 297–322. (Ioannis G. Stratis) **99e:35095** 35K55 (34G20, 35B27, 35B40, 47H20, 58G30)

— (*with* Vuillermot, Pierre A.) Long-time behavior of solutions to a class of quasilinear parabolic equations with random coefficients. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 191–232. (Stanisław Wędrychowicz) **99b:35225** 35R60 (35B40, 35K99, 60H15)

— (*with* Vuillermot, Pierre A.) On the large-time dynamics of a class of parabolic equations subjected to homogeneous white noise: Itô's case. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1299–1304. (Jan Ubøe) **99i:60122** 60H15
— (*with* Arnold, Ludwig) Order-preserving random dynamical systems: equilibria, attractors, applications. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 3, 265–280. (Pierre A. Vuillermot) **99i:58096** 58F12 (28D99, 34C35, 34F05, 35R60, 60H25)
— (*with* Boutet de Monvel-Berthier, Anne-Marie) Uniqueness theorem for weak solutions of von Karman evolution equations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 419–429. (R. Kodnár) **99g:35088** 35L75 (35D05, 35Q72, 73D35, 73K10)
— (*with* Boutet de Monvel, Louis; Rezunenko, A. V.) Inertial manifolds for retarded semilinear parabolic equations. *Nonlinear Anal.* **34** (1998), *no.* 6, 907–925. (J. Milota) **99h:35218** 35R10 (34K30, 35K55, 47H20)
— (*with* Vuillermot, Pierre A.) Long-time behavior of solutions to a class of stochastic parabolic equations with homogeneous white noise: Stratonovitch's case. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 2, 149–202. (Jan Ubøe) **99i:60132** 60H30 (35K99, 35R60, 60H15)
Chugh, Renu (*with* Jain, Dinesh Rani) Some results on fixed points in bimetric spaces. (English summary) *Vikram Math. J.* **14** (1994), 51–59. 54H25 (54E55)
— (*with* Jain, Dinesh Rani) Some results on common fixed points under asymptotic regularity at a point. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 191–196. 54H25
— (*with* Rani, Dinesh; Kumar, Ramesh[2]) Some fixed point theorems in Hausdorff spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 429–438. 54H25
Chugunov, V. N. (*with* Ikramov, Khakim D.; Savel'eva, N. V.) Rational criteria for the existence of common eigenvectors or invariant subspaces. (Russian. Russian summary) *Programmirovanie* **1997,** *no.* 3, 43–57; *translation in Program. Comput. Software* **23** (1997), *no.* 3, 153–163. (Vladimir Rakočević) **99e:15011** 15A18 (15A21)
— (*with* Ikramov, Khakim D.; Savel'eva, N. V.) On computer-algebra procedures that check for common eigenvectors or invariant subspaces. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 269–282. (Jin Yun Yuan) **99j:15015** 15A18 (65F15)
— (*with* Ikramov, Khakim D.) On the conditionality of the eigenvalues near the boundary of the numerical range of a matrix. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 2, 159–160. 15A18 (15A12, 15A60, 65F15)
— (*with* Ikramov, Khakim D.) On the skew-symmetric part of the product of Toeplitz matrices. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 138–141; *translation in Math. Notes* **63** (1998), *no.* 1-2, 124–127. (Anna Lee) **99e:15028** 15A57 (15A21)
— (*with* Ikramov, Khakim D.) On algebras generated by pairs of conjugate matrices. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1999,** *no.* 1, 49–50. 15A30
Chuguryan, G. R. Generalized B-splines. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **31** (1996), *no.* 2, 84–92 (1998); *translation in J. Contemp. Math. Anal.* **31** (1996), *no.* 2, 72–79. (Summary) **99m:41012** 41A15
Chui, Charles K. ★ Wavelets: a mathematical tool for signal processing. (English summary) With a foreword by Gilbert Strang. SIAM Monographs on Mathematical Modeling and Computation. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA,* 1997. xviii+210 *pp. ISBN* 0-89871-384-6 (Ahmed I. Zayed) **99b:42012** 42A38 (41A15, 42C15, 94A11)
— (*with* Shi, Xianliang) A study of biorthogonal sinusoidal wavelets. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc,* 1996), 51–66, *Vanderbilt Univ. Press, Nashville, TN,* 1997. (Louise A. Raphael) **99m:42045** 42C15 (41A30)
— (*with* Li, Chun[3]) Characterization of smoothness via functional wavelet transforms. (English summary) *Signal and image representation in combined spaces,* 395–414, *Wavelet Anal. Appl.,* 7, *Academic Press, San Diego, CA,* 1998. (Li Zhong Peng) **99g:42039** 42C15 (94A05)
— (*with* Shi, Xianliang; Stöckler, Joachim) Affine frames, quasi-affine frames, and their duals. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 1–17. (Amos Ron) **99b:42037** 42C15 (42B15, 47N40)
— (*with* De Villiers, Johan M.) Spline-wavelets with arbitrary knots on a bounded interval: orthogonal decomposition and computational algorithms. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 457–486. (Ewald Quak) **99j:65013** 65D07 (41A15)
— *see also* **Tu, Tianliang, 99m:41006**
Chuĭko, S. M. Almost periodic solutions of weakly nonlinear systems in critical cases. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 316–318. (Bolis Basit) **99k:34093** 34C27 (34E10)
ni Chuiv, Nora *see* **Ní Chuiv, Nora**
Chuív, Nóra Ní *see* **Ní Chuiv, Nora**
Chukwu, Ethelbert Nwakuche On the controllability of nonlinear economic systems with delay: the Italian example. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 245–274. (Summary) **99f:90023** 90A16 (34K35, 93B05)
— Volterra integrodifferential neutral dynamics for the growth of wealth of nations: a controllability theory, with Canada example. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 561–577. (*see* **99m:34001**) 90A16 (45J05, 93B05)
Chukwu, Uzoma *see* **Elbaz, Edgard, 99j:81001**
Chumachenko, K. V. (*with* Sakhanenko, A. I.) On conditions for the convergence of densities of smoothed distributions in the central limit theorem. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 932–939, *iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 824–831. (Dalibor Volný) **99h:60044** 60F05
Chumakov, Gennadii A. (*with* Chumakov, Sergei G.) Harmonic parameterization of geodesic quadrangles on surfaces of constant curvature and 2-D quasi-isometric grids. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS,* 1997), 55–79 (*electronic*), *Electron. J. Differ. Equ. Conf.,* 1, *Southwest Texas State Univ., San Marcos, TX,* 1998. (Summary) **99j:65022** 65D17 (30C30, 65N50)
— (*with* Chumakov, Sergei G.) A method for the 2-D quasi-isometric regular grid generation. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 1–28. (Summary) **99b:76063** 76M25
Chumakov, Sergei G. (*with* Chumakov, Gennadii A.) Harmonic parameterization of geodesic quadrangles on surfaces of constant curvature and 2-D quasi-isometric grids. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS,* 1997), 55–79 (*electronic*), *Electron. J. Differ. Equ. Conf.,* 1, *Southwest Texas State Univ., San Marcos, TX,* 1998. (Summary) **99j:65022** 65D17 (30C30, 65N50)
— (*with* Chumakov, Gennadii A.) A method for the 2-D quasi-isometric regular grid generation. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 1–28. (Summary) **99b:76063** 76M25
Chumakov, Sergey M. (*with* Hellwig, Karl-Eberhard; Klimov, A. B.) The entropy of open finite-level systems. Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 471–479. (Matthew J. Donald) **99g:82052** 82C10 (47N55, 82C03)
— (*with* Nieto, Luis Miguel; Atakishiev, N. M.; Wolf, Kurt Bernardo) Wigner distribution function for Euclidean systems. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3875–3895. (Summary) **99c:81118** 81S30
Chun, Hye-Yeong (*with* Baik, Jong-Jin; Hwang, Hong-Sub) Transient, linear dynamics of a stably stratified shear flow with thermal forcing and a critical level. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 483–499. (Summary) **99j:86009** 86A10 (76V05)
Chun, Sung Ae (*with* Kim, Jong Kyu) Asymptotic behavior of orbits of an asymptotically nonexpansive semigroup for a reversible semigroup in Banach spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 87–109. (Behzad Djafari-Rouhani) **99e:47097** 47H20 (47H09, 47H10)
Chun, Sungki (*with* Choi, Q-Heung; Jung, Tacksun) Jumping problem in a wave equation. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon,* 1996), 27 *pp., Lecture Notes Ser.,* 39, *Seoul Nat. Univ., Seoul,* 1997. (Sergiu Aizicovici) **99c:35129** 35L05 (35B20, 47H12, 47N20)
— (*with* Choi, Q-Heung; Jung, Tacksun) Jumping problem in a wave equation with nonlinearity crossing two eigenvalues. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 483–494. (Sergiu Aizicovici) **99j:35140** 35L70 (35B10)
Chung, Chin-Wan (*with* Lee, Ju-Hong; Cha, Guang-Ho) A model for k-nearest neighbor query processing cost in multidimensional data space. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 69–76. 68P20
Chung, Daehyun (*with* Chang, Myron N.) Isotonic window estimators of the baseline hazard function in Cox's regression model under order restriction. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 151–161. (Summary) **99c:62080** 62G05 (62N05)
Chung, Dong Myung (*with* Ji, Un Cig) Transforms on white noise functionals with their applications to Cauchy problems. (English summary) *Nagoya Math. J.* **147** (1997), 1–23. (Isamu Dôku) **99b:60098** 60H99 (35R15, 46G12, 60G20)
— (*with* Ji, Un Cig) Transformation groups on white noise functionals and their applications. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 205–223. (T. Hida) **99b:60132** 60H99 (46F25, 46G12)
— (*with* Ji, Un Cig; Obata, Nobuaki) Higher powers of quantum white noises in terms of integral kernel operators. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 533–559. (John E. Gough) **99m:81113** 81S25 (46N50)
— (*with* Ji, Un Cig; Obata, Nobuaki) Transformations on white noise functions associated with second order differential operators of diagonal type. (English summary) *Nagoya Math. J.* **149** (1998), 173–192. (Isamu Dôku) **99c:60134** 60H99 (46F25, 47B38, 60G20)
Chung, F. R. K. (*with* Graham, Ronald L.; Yau, Shing-Tung) On sampling with Markov chains. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 55–77. (Uriel G. Rothblum) **99c:15010** 15A18 (60J15, 60J20, 62D05)
— (*with* Yau, Shing-Tung) Eigenvalue inequalities for graphs and convex subgraphs. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 4, 575–623. (Robert Brooks) **99c:58179** 58G99 (05C50)
— (*with* Graham, Ronald L.) Stratified random walks on the n-cube. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 199–222. (David J. Aldous) **99d:60077** 60J10 (60J15)
— (*with* Graham, Ronald L.) ★ Erdős on graphs. (English summary) His legacy of unsolved problems. *A K Peters, Ltd., Wellesley, MA,* 1998. xiv+142 *pp. ISBN* 1-56881-079-2; 1-56881-111-X (R. H. Schelp) **99b:05031** 05Cxx
— (*with* Graham, Ronald L.) Forced convex n-gons in the plane. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue,* 367–371. (Summary) **99e:52020** 52C10
Chung, Habong (*with* No, Jong-Seon; Yun, Min-Seon) Binary pseudorandom sequences of period $2^m - 1$ with ideal autocorrelation generated by the polynomial $z^d + (z + 1)^d$. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1278–1282. (Summary) **99c:94021** 94A55
Chung, Han-Yeong (*with* Koo, Ja-Yong) Log-density estimation in linear inverse problems. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 335–362. (Sidney J. Yakowitz) **99d:62039** 62G05
Chung, Hei-Sun (*with* Kim, Jeong-Sik) On Einstein warped products with compact Riemannian base. *Honam Math. J.* **20** (1998), *no.* 1, 153–159. (Peter Bueken) **99e:53062** 53C25 (53C20)
Chung, Hwan Mook (*with* Pi, Su Young; Rey, Siegfried) The MacLaurin's and Taylor's series expansions of the symbolic multiple valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka,* 1998), 65–70, *IEEE Computer Soc., Los Alamitos, CA,* 1998. (*see* **99i:03025**) 94C10 (03B50, 03B70)
Chung, Jaeyoung (*with* Chung, Soon-Yeong; Kim, Dohan) Fourier analysis, distributions and hyperfunctions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 151–160. (Summary) **99d:46052** 46F05 (46F12, 46F15)
— (*with* Kim, Dohan; Kim, Sung Ki) Fourier transform of exponential functions and Legendre transform. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 5, 629–635. (Summary) **99k:42010** 42A38
Chung, Ju Kang *see* **Zhong, Ju Kang**
Chung, Jukang K. *see* **Zhong, Ju Kang**
Chung, K. C. *see* **Chung, Kwok-Chiu**
Chung, K.-L. *see* **Chung, Kuo Liang**

Chung, K. W. (*with* Chan, H. S. Y.; Xu, Zhao) Stability and bifurcations of limit cycles by the perturbation-incremental method. (English summary) *J. Sound Vibration* **206** (1997), *no.* 4, 589–604. (Govindan Rangarajan) **99e:34029** 34C05 (34C23, 70K10)

Chung, Kai Lai Probability and Doob. *Amer. Math. Monthly* **105** (1998), *no.* 1, 28–35. (U. Krengel) **99g:01026** 01A60 (01A70, 60–03)

— Multinomial ratio [Paul Erdős solves a problem]. *Methods Appl. Anal.* **5** (1998), *no.* 2, 143–156. (Anant P. Godbole) **99j:60031** 60F05 (60C05)

Chung, Kun-Jen Bounds on the optimum order quantity in a DCF analysis of the EOQ model under trade credit. (English summary) *J. Inform. Optim. Sci.* **20** (1999), *no.* 1, 137–148. 90B05

Chung, Kuo Liang (*with* Wu, Jung-Gen; Yan, Wen-Ming) A parallel solver for circulant Toeplitz tridiagonal systems on hypercubes. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 4, 409–431. (Summary) **99b:65040** 65F10 (65Y05)

— (*with* Chen, Hsiu-Niang) Parallel finding all initial palindromes and periods of a string on reconfigurable meshes. (English summary) *Computing* **61** (1998), *no.* 1, 11–21. (Summary) **99c:68108** 68Q22 (68Q35)

— (*with* Yan, Wen-Ming; Myrvold, Wendy) A formula for the number of spanning trees of a multi-star related graph. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 295–298. (Summary) **99k:05085** 05C30 (05C05, 68R10)

Chung, Kwok-Chiu (*with* Evans, G. A.) The evaluation of infinite range oscillatory integrals using optimal contours in the complex plane. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 39–52. (Summary) **99c:65043** 65D30 (30E20, 65E05)

Chung, S. K. *see* **Chung, Sang Kwon**

Chung, Sai-Ho Modified maximum likelihood estimation. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2925–2942. (Summary) **99i:62040** 62F10

Chung, Sang Cho (*with* Park, Jun-Seok) E-depths and T-codepths of modules. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 363–374. (Anna Guerrieri) **99e:13018** 13D05

— (*with* Song, Yeong Moo) Inverse polynomials, ramification indices and injective envelopes of simple modules over polynomial rings. *Honam Math. J.* **20** (1998), *no.* 1, 45–55. (P. Schenzel) **99g:13010** 13C11 (13B15)

Chung, Sang Kwon (*with* Joe, S. M.) On the regularization with nonlinear splines. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 165–176. (Summary) **99f:65020** 65D10

— (*with* Choo, S. M.) L^2-error estimate for the strongly damped extensible beam equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 101–107. (Summary) **99g:73069** 73K05 (73D35, 73V05, 93D15)

— (*with* Choo, S. M.) Conservative nonlinear difference scheme for the Cahn-Hilliard equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 31–39. (Summary) **99e:65114** 65M06

— (*with* Manickam, S. Arul Veda; Pani, Amiya K.) A second-order splitting combined with orthogonal cubic spline collocation method for the Rosenau equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 695–716. (Bruce A. Finlayson) **99k:65097** 65M70 (65N35)

Chung, Se Hwa Separation axioms for fuzzy syntopogenous spaces. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 463–468. 54A40 (54D10, 54D15)

Chung, Seiyoung (*with* Blaga, Petru P.; Micula, Gheorghe) A polynomial spline approximation method for solving delay differential equations. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996), 181–192, Transilvania, Cluj-Napoca, 1997.* (Philip W. Sharp) **99c:65123** 65L05 (34K05, 41A15, 65D07)

Chung, Shin-Ho (*with* Hoyles, Matthew; Kuyucak, Serdar) Solutions of Poisson's equation in channel-like geometries. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 45–68. 65N55 (65–04)

— (*with* Poskitt, Don S.; Doğançay, K.) Double-blind deconvolution: the analysis of post-synaptic currents in nerve cells. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 191–212. (Summary) **99i:62075** 62G05 (62M99)

Chung, Si-Kit On positive total sets. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 2, 209–210. (Summary) **99m:46050** 46B40 (06B30)

Chung, Soon-Yeong Temperature functions and decomposition theorems. *Proceedings of Miniconference of Partial Differential Equations and Applications (Seoul, 1995), 123–133, Lecture Notes Ser., 38, Seoul Nat. Univ., Seoul, 1997.* (Neil A. Watson) **99b:35080** 35K05 (31B35, 35C99)

— (*with* Kim, Dohan) A quasianalytic singular spectrum with respect to the Denjoy-Carleman class. (English summary) *Nagoya Math. J.* **148** (1997), 137–149. (Yoshifumi Ito) **99e:58171** 58G07 (35A20, 46F15)

— Positive definite temperature functions and a correspondence to positive temperature functions. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 947–961. (Bui Huy Qui) **99e:46055** 46F12 (35K05, 42B10, 46F05)

— Functional means and harmonic functional means. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 207–220. (J. Sándor) **99e:26022** 26D20 (39B22)

— An interpolation by successive derivatives at a finite set. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 513–524. (L. Leindler) **99j:41010** 41A10 (41A50)

— (*with* Chung, Jaeyoung; Kim, Dohan) Fourier analysis, distributions and hyperfunctions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 151–160. (Summary) **99d:46052** 46F05 (46F12, 46F15)

— Positive definiteness of temperature functions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 161–170. (Summary) **99f:35068** 35K05 (42B10, 46F12)

— (*with* Cho, Jonggyu; Kim, Dohan) Bochner-Schwartz theorems for ultradistributions. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 166–180. (Stevan Pilipović) **99k:46064** 46Fxx

Chung, Steven Ching-Yei (*with* Lin, Chun-Liang) A general class of sliding surface for sliding mode control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 115–119. (Ülle Kotta) **99c:93017** 93B12 (93D09)

— (*with* Lin, Chun-Liang) A transformed Luré problem for sliding mode control and chattering reduction. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 563–568. 93B12

Chung, T. J. (*with* Yoon, K. T.; Moon, S. Y.; Garcia, S. A.; Heard, G. W.) Flowfield-dependent mixed explicit-implicit (FDMEI) methods for high and low speed and compressible and incompressible flows. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 75–104. (*see* **99b:76003**) 76M25

Chung, Walter H. (*with* Speyer, Jason L.) A game-theoretic fault detection filter. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 143–161. (Summary) **99a:93097** 93E11 (93C15)

Chung, Won Sang (*with* Lee, Sang Keun) $\mathrm{gl}_{q,q^*}(n)$-covariant multimode oscillators and q-symmetric states. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3015–3020. (Marcelo R. Ubriaco) **99b:81099** 81R50

— (*with* Kalnins, E. G.; Miller, Willard, Jr.) Tensor products of q-superalgebra representations and q-series identities. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7147–7166. (R. N. Kalia) **99h:33060** 33D80

— (*with* Shafiekhani, A.) $N = 2$ superconformal field theory on the basis of osp(2|2). (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 47–57. (Vadim A. Brazhnikov) **99f:81077** 81R10 (81T40)

— Construction of q-symmetric states in terms of $\mathrm{su}_q(n)$-covariant oscillators. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 371–377. 81R50 (81S05)

— On Casimir operator of Pusz-Woronowicz's $\mathrm{gl}_{\sqrt{q}}(n)$-covariant oscillator algebra. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 15, 1171–1177. (Hanna E. Makaruk) **99c:81085** 81R50 (17B37)

— Coherent states of $\mathrm{su}_q(n)$-covariant oscillators. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 3, 657–663. (Roberto Casalbuoni) **99i:81078** 81R30 (81R50)

Chung, Yangho (*with* Chambers, Robert G.; Färe, Rolf) Profit, directional distance functions, and Nerlovian efficiency. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 351–364. (Summary) **99c:90025** 90A11

Chung, Yong Moo (*with* Tomioka, Kazuyuki; Aoki, Nobuo) Topological properties of differentiable maps derived from 2-toral endomorphisms. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 105–123. (Michael Hurley) **99b:58179** 58F15 (58F14)

Chung, Younshik (*with* Dey, Dipak K.) Bayesian approach to estimation of intraclass correlation using reference prior. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2241–2255. (Summary) **99h:62022** 62F15 (62J10)

— Simulation of truncated gamma variables. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 601–610. (Summary) **99e:65007** 65C20 (62A15)

Chunikhin, Sergeĭ Antonovich *see* **Problems in algebra, 99g:20005** *and* **Shemetkov, Leonid Aleksandrovich, (99g:20005)**

nguyễn minh Chu'o'ng *see* **Nguyễn Minh Chu'o'ng**

Chupakhin, A. P. (*with* Ovsyannikov, L. V.) Regular partially invariant submodels of equations of gas dynamics. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 990–999; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 969–978. (From the text) **99b:76073** 76N15 (35Q35)

Chuprun, B. E. Problems with bounded or minimized variation of the vector function of the system coordinates. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 54–66; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 1, 950–959. (Summary) **99j:49034** 49K15

Chuprunov, A. N. Functional limit theorems for observations of stochastic processes at a random time point. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996), 145–155, VSP, Utrecht, 1997.* (Summary) **99g:60069** 60F17 (62E20, 62M99)

— Functional limit theorems for sums of independent random variables with replacements. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996), 157–173, VSP, Utrecht, 1997.* (Summary) **99f:60017** 60C05 (60F17)

Churbanova, N. G. (*with* Chetverushkin, B. N.) Modeling of gas flows for small Mach numbers. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 7, 988–992, 1007. 76M25 (76N15)

Church, Alonzo *see* **Manzano, María, 99b:01021**; **Enderton, H. B., 99e:01024** *and* **Anderson, C. Anthony, 99i:01030**

Churchill, Genevieve Almeida's generalized variety problem. (English summary) *J. Algebra* **196** (1997), *no.* 2, 499–519. (Graham T. Clarke) **99e:20071** 20M07

Churilov, A. N. (*with* Gelig, Arkadii Kh.) On stability in the large of systems with impulse action. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 748–753, 861; *translation in Differential Equations* **33** (1997), *no.* 6, 752–756 (1998). (O. S. Chernikova) **99f:34012** 34A37 (34D99)

— (*with* Gelig, Arkadii Kh.) ★ Stability and oscillations of nonlinear pulse-modulated systems. *Birkhäuser Boston, Inc., Boston, MA, 1998. xvi+362 pp. ISBN* 0-8176-3987-X (A. A. Martynyuk) **99k:34180** 34K35 (34C15, 34C25, 34D99, 34K20, 93D05)

Churilov, Leonid (*with* Ralph, Daniel; Sniedovich, Moshe) A note on composite concave quadratic programming. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 163–169. 90C20 (90C31)

Churin, Yu. V. On the change in the number of discontinuity points of singular periodic solutions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 385–389, 431; *translation in Differential Equations* **33** (1997), *no.* 3, 384–387. (Summary) **99k:34087** 34C25 (34C35, 58F22)

Chusseau, L. (*with* Arnaud, J. A.; Boé, J. M.; Philippe, F.) Illustration of the Fermi-Dirac statistics. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 215–221. 82B05

Chuu, Der-San (*with* Lin, De-Hone) Path integral quantization of the relativistic dyonium system. (English summary) *J. Phys. A* **32** (1999), *no.* 23, 4199–4208. 81S40

Chuyan, Olga *see* **Sukharev, Aleksei G., 99i:65002**

Chvál, Viliam (*with* Jurga, Rastislav) Tangents of conics in Hjelmslev planes over a local ring of even characteristic. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 69–78. (Giorgio Faina) **99f:51006** 51C05 (51E30)

Chvátal, Vašek (*with* Applegate, David; Bixby, Robert; Cook, William J.) On the solution of traveling salesman problems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 645–656 (*electronic*). (Frank Werner) **99g:90093** 90C27 (90–04, 90C10)

Chwa, Kyung-Yong (*with* Kim, Dae Seoung; Yoo, Kwan-Hee; Shin, Sung Yong) Efficient algorithms for computing a complete visibility region in three-dimensional space. (English summary) *Algorithmica* **20** (1998), *no.* 2, 201–225. (Summary) **99a:68171** 68U05 (52B55)

— (*with* Shin, Chan-Su; Shin, Sung Yong) The widest k-dense corridor problems. *Inform. Process. Lett.* **68** (1998), *no.* 1, 25–31. (From the introduction) **99k:68199** 68U05 (90C27)

— (*with* Kim, Sook-Yeon; Kwon, Oh-Heum) Embeddings of butterflies into hypermeshes. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 337–350. (Summary) **99h:68133** 68R10 (05C10, 05C85, 68M10)

— (*with* Lee, Jae-Ha) Tight analysis of a self-approaching strategy for the online kernel-search problem. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 39–45. (Summary) **99k:68195** 68U05 (68Q25)

Chyakanavichyus, V. *see* **Čekanavičius, Vydas**

Chyan, Chuan Jen (*with* Davis, John M.; Henderson, Johnny; Yin, William K. C.) Eigenvalue comparisons for differential equations on a measure chain. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 35, 7 *pp.* (*electronic*). (Allan C. Peterson) **99m:34029** 34B10 (34B15, 39A10)

Chyan, Ding-Kuo (*with* Tu, Shih-Tong; Leu, Shing-Hwa) Commutativity of Leibniz rule in fractional calculus. (English summary) *J. Fract. Calc.* **14** (1998), 77–82. (Summary) **99g:26017** 26A33

Chyba, M. (*with* Bonnard, B.) Sub-Riemannian geometry: the Martinet case. (English summary) *Geometric control and non-holonomic mechanics* (*Mexico City*, 1996), 79–100, *CMS Conf. Proc.*, 25, *Amer. Math. Soc., Providence, RI*, 1998. (Fernand Pelletier) **99k:53085** 53C22 (93B29, 93C10)

— (*with* Bonnard, B.; Trelat, E.) Sub-Riemannian geometry, one-parameter deformation of the Martinet flat case. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 1, 59–76. (Anders Linnér) **99f:58056** 58E25 (93B29)

Chyzak, Frédéric (*with* Salvy, Bruno) Non-commutative elimination in Ore algebras proves multivariate identities. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 187–227. (A. N. Philippou) **99g:68103** 68Q40 (05A19)

Chzhan, Bo *see* **Zhang, Bo^5**

Chzhou, Shchan'yuĭ *see* **Zhou, Xiang Yu**

Ciabattoni, Agata (*with* Asperti, Andrea) A sufficient condition for completability of partial combinatory algebras. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1209–1214. (Martin W. Bunder) **99j:03055** 03G25 (03B40)

Cialdea, A. The brothers Riesz theorem for conjugate differential forms in $\mathbf{R}^n$. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 69–94. (Summary) **99j:31009** 31B25 (42B20, 46N20)

— The brothers Riesz theorem in $\mathbf{R}^n$ and Laplace series. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 42–49. (Boris Petrovich Osilenker) **99f:42022** 42B05 (33C55)

— The brothers Riesz theorem: complex and real versions. *Generalized analytic functions* (*Graz*, 1997), 139–149, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Yu. A. Brudnyĭ) **99h:42002** 42–02 (31B25, 42A38, 42B10)

— On the theory of self-conjugate differential forms. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 595–620. (Akira Asada) **99h:58004** 58A10 (31B35, 35J99)

Cialdea Mayer, Marta (*with* Cerrito, Serenella) Bounded model search in linear temporal logic and its application to planning. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 124–140, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)

Ciampella, Adriana (*with* Baccella, Giuseppe) K_0 of semi-Artinian unit-regular rings. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 69–78, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Kevin P. Knudson) **99g:16011** 16E20 (16D60, 16E50)

dezani-Ciancaglini, Mariangiola *see* **Dezani-Ciancaglini, Mariangiola**

Cianchi, Andrea (*with* Edmunds, David E.) On fractional integration in weighted Lorentz spaces. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 439–451. (Vladimir D. Stepanov) **99b:26008** 26A33 (42B20, 42B25)

— Interpolation of operators and the Sobolev embedding theorem in Orlicz spaces. *International Conference on Differential Equations* (*Lisboa*, 1995), 306–310, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 46M35 (46E30)

— (*with* Pick, Luboš) Sobolev embeddings into BMO, VMO, and L_{∞}. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 317–340. (Ritva M. Hurri-Syrjänen) **99k:46052** 46E35 (46E30)

— An optimal interpolation theorem of Marcinkiewicz type in Orlicz spaces. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 357–381. (L. Ĭ. Nikolova) **99d:46039** 46E30 (46M35, 46N20)

— (*with* Stroffolini, Bianca) An extension of Hedberg's convolution inequality and applications. *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 166–186. (Juha Heinonen) **99j:41056** 41A65 (42B30)

— (*with* Fusco, Nicola) Gradient regularity for minimizers under general growth conditions. *J. Reine Angew. Math.* **507** (1999), 15–36. (Elvira Mascolo) **99m:49062** 49N60 (49J99)

— Hardy inequalities in Orlicz spaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2459–2478. (Henryk Hudzik) **99i:46016** 46E30 (26D10)

Cianci, Roberto Poisson brackets and adelic commutators. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 305–311, *World Sci. Publishing, River Edge, NJ*, 1996. (Eugen Belokolos) **99j:81077** 81S05 (11Z05)

— (*with* Albeverio, Sergio; Khrennikov, Andrei) A representation of the quantum field Hamiltonian in a p-adic Hilbert space. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 355–374; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1081–1096 (1998). (Eugen Belokolos) **99e:81125** 81S99 (46N50, 47N50)

Ciarlet, Patrick, Jr. (*with* Assous, Franck; Raviart, Pierre-Arnaud; Segré, J.; Sonnendrücker, Eric) The solution of Maxwell's equations in a non-convex polyhedron. I. Saddle-point approach and singularities. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 364–368, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (65N30, 78–08, 78A25)

— (*with* Hazard, Christophe; Lohrengel, Stephanie) Les équations de Maxwell dans un polyèdre: un résultat de densité. (English and French summaries) [Maxwell's equations in a polyhedron: a density result] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1305–1310. (Summary) **99h:35208** 35Q60 (65M60, 78A25)

— (*with* Assous, Franck) Quelques résultats sur la régularité en temps des équations de Maxwell instationnaires. (English and French summaries) [Regularity in time of the time-dependent Maxwell equations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 719–724. (Summary) **99g:35124** 35Q60 (35B65, 78A25)

Ciarlet, Philippe G. ★ Mathematical elasticity. Vol. II. Theory of plates. Studies in Mathematics and its Applications, 27. *North-Holland Publishing Co., Amsterdam*, 1997. lxiv+497 *pp. ISBN* 0-444-82570-3 (Michael S. Vogelius) **99e:73001** 73–02 (35Q72, 73Cxx, 73K10)

— Asymptotic analysis of elastic shells. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 23–32, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00025**) 73K15 (35Q72)

— ★ Introduction to linear shell theory. (English summary) Series in Applied Mathematics, 1. *Gauthier-Villars, Éditions Scientifiques et Médicales Elsevier, Paris; North-Holland, Amsterdam*, 1998. *iv*+184 *pp. ISBN* 2-84299-059-5 (Petr E. Tovstik) **99j:73071** 73K15 (35B25, 35Q72, 73C02, 73V25)

— Un lemme de J.-L. Lions et les inégalités de Korn sur les surfaces. (French summary) [A lemma of J.-L. Lions and Korn inequalities on surfaces] *Équations aux dérivées partielles et applications*, 357–382, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Alain Brillard) **99i:73015** 73C02 (35Q72, 73C15, 73K15, 73V25)

— (*with* Coutand, Daniel) Un théorème d'existence pour une coque non linéairement élastique "en flexion". (English and French summaries) [An existence theorem for a nonlinearly elastic "flexural" shell] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 903–907. (Summary) **99g:73079** 73K15 (73C50, 73V25)

— (*with* Coutand, Daniel) An existence theorem for nonlinearly elastic "flexural" shells. (English and French summaries) *J. Elasticity* **50** (1998), *no.* 3, 261–277. (Daniel Choï) **99i:73047** 73K15 (73C50, 73V25)

— *see also* **Handbook: Numerical analysis**, **99h:65001**

Ciarletta, Michele Some properties of solutions in the linear thermodynamics of electromagnetic materials. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 2, 329–342 (1998). (Gérard A. Maugin) **99g:73093** 73R05 (35Q72, 73B30, 78A25)

— (*with* Chiriţă, Stan; Fabrizio, Mauro) Saint-Venant's principle in linear viscoelasticity. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1221–1236. (Samia Lyaghfouri-Challal) **99b:73022** 73F15 (73F99)

— On mixtures of nonsimple elastic solids. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 655–668. (Summary) **99d:73017** 73B99 (73D99)

— (*with* Ieşan, D.) Some results in the dynamical theory of porous elastic bodies. (English summary) *J. Elasticity* **50** (1998), *no.* 1, 3–14. (Peregrina Quintela Estévez) **99g:73006** 73B27 (73C02, 73K12)

— (*with* Chiriţă, Stan) Thermodynamic restrictions, free energies and Saint-Venant's principle in the linear theory of viscoelastic materials with voids. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 13, 1949–1964. (Aleksey D. Drozdov) **99m:73038** 73F15 (35Q72, 73B30, 73C10, 73F05)

Ciavaldini, J.-F. (*with* Foucher, F.) Optimal control and regularization to model the atmospheric electron content from satellite measurements. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 117–130. (Summary) **99b:49035** 49N55 (86A10)

Ciavarella, Michele The generalized Cattaneo partial slip plane contact problem. I. Theory. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 18, 2349–2362. (Alain Curnier) **99e:73090a** 73T05

— The generalized Cattaneo partial slip plane contact problem. II. Examples. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 18, 2363–2378. (Alain Curnier) **99e:73090b** 73T05

Cibils, Claude Hochschild cohomology algebra of radical square zero algebras. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 93–101, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Teimuraz Pirashvili) **99h:16014** 16E40 (19D55)

— (*with* Rosso, Marc) Hopf bimodules are modules. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 225–231. (Walter R. Ferrer Santos) **99i:16067** 16W30

Cibils, M. (*with* Govin, M.; Jauslin, H. R.) Julia sets in iterative KAM methods for eigenvalue problems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1835–1846. 58F27

Cicci, David A. Filter performance in target tracking using space-based observers. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 275–293. 93E11 (65Y20)

de Cicco, V. *see* **De Cicco, V.**

Ciccoli, Nicola From Poisson to quantum homogeneous spaces. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 15–49, *Univ. Stud. Bologna, Bologna*, 1998. (Tomasz Brzeziński) **99h:58012** 58B30 (17B37, 58F05)

Cicenia, Salvatore The contribution of G. Battaglini to non-Euclidean geometry with an appendix of three of his unpublished letters to A. Genocchi. (Italian. English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 89–108. (Summary) **99a:01013** 01A55 (51–03)

Cicerone, Serafino (*with* Di Stefano, Gabriele) On the equivalence in complexity among basic problems on bipartite and parity graphs. (English summary) *Algorithms and computation* (*Singapore*, 1997), 354–363, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05108** 05C85 (68Q25)

— (*with* Di Stefano, Gabriele) Graph classes between parity and distance-hereditary graphs. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 168–181, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05114** 05C85

— (*with* Di Stefano, Gabriele; Flammini, Michele) Static and dynamic low-congested interval routing schemes. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 592–603, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68M10

— (*with* Frigioni, Daniele; Nanni, Umberto; Pugliese, Francesco) A uniform approach to semi-dynamic problems on digraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 69–90. (Summary) **99g:68151** 68R10 (05C20, 05C85, 68P05)

Cichocka, Anna (*with* Kierat, Władysław) An application of the Wiener functions to the Dirichlet problem of the Laplace equation. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 13–20. (Summary) **99f:42064** 42C15 (35J05)

Cichon, E. A. (*with* Tahhan Bittar, E.) Ordinal recursive bounds for Higman's theorem. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 63–84. (Cristian Calude) **99m:03077** 03D05

Cichoń, Mieczysław (*with* Kubiaczyk, Ireneusz) Existence theorem for the Hammerstein integral equation. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 171–177. (Nguyễn Hồng Thái) **99k:45015** 45G10 (47H10, 47H15, 47N20)

Cicogna, Giampaolo (*with* Bambusi, Dario; Gaeta, Giuseppe; Marmo, Giuseppe) Normal forms, symmetry and linearization of dynamical systems. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5065–5082. (Victor G. LeBlanc) **99k:34079** 34C20 (58F36)

Cicortaş, Alexandru Queueing Petri nets: a mixture between queueing networks and Petri nets. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 48–53. 68Q90

— Conservative simulation for discrete event systems. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 3, 297–314. 93C85 (93A30)

Cicuta, G. M. (*with* Akemann, G.; Molinari, Luca; Vernizzi, G.) Compact support probability distributions in random matrix theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1489–1497. (Summary) **99j:82038** 82B41

Cidon, Israel (*with* Awerbuch, Baruch; Kutten, Shay; Mansour, Yishay; Peleg, David) Optimal broadcast with partial knowledge. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 512–525 (*electronic*). (Summary) **99d:90048** 90B12 (68Q22, 94A05)

Ciebiera, Krzysztof (*with* Malinowski, Adam) Efficient broadcasting with linearly bounded faults. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 99–105. (Summary) **99m:68019** 68M15 (68M10)

czarnocka-Cieciura, Dorota *see* **Czarnocka-Cieciura, Dorota**

Cieciura, Grzegorz *see* **Jänich, Klaus, 99a:54001**

Čiegis, Raimondas (*with* Čiegis, Remigijus; Štikonienė, Olga) On an extension of a procedure for investigating nonlinear difference schemes. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 155–167; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 119–128 (1998). (Sui Yang Chen) **99d:65247** 65M06

— (*with* Kiškis, Kęstutis) On the stability of additive difference schemes with respect to boundary data. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 483–494; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 364–373 (1998). (Meng Zhao Qin) **99g:65094** 65M12 (65M06)

Čiegis, Remigijus (*with* Čiegis, Raimondas; Štikonienė, Olga) On an extension of a procedure for investigating nonlinear difference schemes. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 155–167; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 119–128 (1998). (Sui Yang Chen) **99d:65247** 65M06

Cieliebak, Kai (*with* Séré, Eric) Pseudo-holomorphic curves and multibump homoclinic orbits. (English summary) Variational problems and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 973 (1996), 12–23. (Patricio L. Felmer) **99c:58056** 58F05 (34C37, 58D10, 58E05, 58F13)

— A geometric obstruction to the contact type property. *Math. Z.* **228** (1998), *no.* 3, 451–487. (Hansjörg Geiges) **99e:58068** 58F05 (53C15, 57R15)

Ciepliński, Krzysztof (*with* Grząślewicz, Andrzej) On a problem related to the generalized Schilling equation. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 1–10. (B. Crstici) **99i:39036** 39B12

Ciesielski, K. *see* **Ciesielski, Krzysztof[2]**

Ciesielski, Krzysztof *see* **Ciesielski, Krzysztof[2]**

Ciesielski, Krzysztof[1] Stability in impulsive dynamical systems. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 193–195. (P. Seibert) **99m:34099** 34C35 (34A37, 34D20, 54H20)

Ciesielski, Krzysztof[2] ★ Set theory for the working mathematician. (English summary) London Mathematical Society Student Texts, 39. *Cambridge University Press, Cambridge*, 1997. xii+236 *pp. ISBN* 0-521-59441-3; 0-521-59465-0 (Perry Smith) **99c:04001** 04-02 (03Exx)

— (*with* Burke, Maxim R.) Sets on which measurable functions are determined by their range. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1089–1116. (Klaas Pieter Hart) **99i:28004** 28A05 (03E35, 03E50, 28A20, 54C05)

— Set-theoretic real analysis. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 143–190. (Jakub Jasiński) **99k:03038** 03E15 (03E35, 26A03, 28A99, 54-02)

— (*with* Banaszewski, Dariusz) Compositions of two additive almost continuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 193–202. (T. Šalát) **99f:26003** 26A15

— Characterizing derivatives by preimages of sets. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 553–565. (James Foran) **99m:26004** 26A24

— (*with* Gibson, Richard G.; Natkaniec, Tomasz) κ-to-1 Darboux-like functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 671–687. (Ryszard J. Pawlak) **99f:26004** 26A15

— (*with* Natkaniec, Tomasz) Algebraic properties of the class of Sierpiński-Zygmund functions. (English summary) *Topology Appl.* **79** (1997), *no.* 1, 75–99. (Marion Scheepers) **99c:04003** 04A20 (03E50, 03E65, 26A15)

— (*with* Natkaniec, Tomasz) On Sierpiński-Zygmund bijections and their inverses. (English summary) *Topology Proc.* **22** (1997), 155–164. (Volodymyr K. Maslyuchenko) **99k:26001** 26A15 (03E35, 03E75)

— (*with* Dikranjan, Dikran N.; Watson, W. Stephen) Functions characterized by images of sets. *Colloq. Math.* **77** (1998), *no.* 2, 211–232. (Manuel Sanchis) **99f:54013** 54C05 (26A15)

— Some additive Darboux-like functions. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 43–51. (Zbigniew Grande) **99i:26002** 26A15 (03E50, 26A30)

Ciesielski, Zbigniew Local box dimension of fractal functions. (English summary) *Multivariate approximation (Witten-Bommerholz, 1996)*, 27–33, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (*see* **99a:41001**) 28A80 (28A78)

— (*with* Kamont, Anna) Projections onto piecewise linear functions. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 129–143. (Sarjoo Prasad Yadav) **99b:41024** 41A65 (41A35)

— Nonparametric density estimation by polynomials and by splines. (English summary) *Approximation theory*, 157–166, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:62082** 62G05 (41A15)

Cieslik, Dietmar ★ Steiner minimal trees. (English summary) Nonconvex Optimization and its Applications, 23. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+319 *pp. ISBN* 0-7923-4983-0 (Ding Zhu Du) **99i:05062** 05C05 (68R10)

— The Steiner ratio of finite-dimensional L_p-spaces. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen*, 1995), 353–360, *Brepols, Turnhout*, 1998. (Summary) **99m:90149** 90C35 (05C05, 46B99, 46N10)

Cieśliński, Jan The cross ratio and Clifford algebras. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 133–139. (Udo Hertrich-Jeromin) **99b:52036** 52C07 (15A66, 51M05)

— (*with* Doliwa, Adam; Santini, Paolo Maria) The integrable discrete analogues of orthogonal coordinate systems are multi-dimensional circular lattices. (English summary) *Phys. Lett. A* **235** (1997), *no.* 5, 480–488. (Summary) **99d:58149** 58F35 (39A12)

— The spectral interpretation of n-spaces of constant negative curvature immersed in $\mathbf{R}^{2n-1}$. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 425–430. (Udo Hertrich-Jeromin) **99b:53026** 53B25

białas-Cież, Leokadia *see* **Białas-Cież, Leokadia**

Cifarelli, Donato Michele Francesco Brambilla [1913–1996]. (Italian) *Atti Accad. Ligure Sci. Lett.* (5) **54** (1997), 51–53 (1998). 01A70

hernández Cifre, M. A. *see* **Hernández Cifre, M. A.**

Cifuentes Vásquez, José Carlos Compactification of zero-dimensional topological spaces and abstract logics. (Portuguese. English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 39–58 (1997). (Summary) **99g:54019** 54D35 (03B22, 54E15)

Cigić, Vlado Some new partially symmetric designs and their resolution. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 99–103. (Summary) **99e:05018** 05B05

Cigler, Grega On matrix groups with finite spectrum. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 287–295. (E. W. Ellers) **99i:20060** 20G15 (15A18, 20H20)

Cigler, J. Operatormethoden für q-Identitäten. VI. Geordnete Wurzelbäume und q-Catalan-Zahlen. [Operator methods for q-identities. VI. Ordered rooted trees and q-Catalan numbers] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 253–266 (1998). (Christian Krattenthaler) **99g:05005** 05A15 (05A10, 05A19, 05A30)

Cilia, Raffaella About the properties (V) and (R.D.P.) in injective tensor products. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 493–502. (Dirk Werner) **99k:46013** 46B03 (46M05)

Ciliberto, Ciro (*with* Pedrini, Claudio) Real abelian varieties and real algebraic curves. *Lectures in real geometry (Madrid*, 1994), 167–256, *de Gruyter Exp. Math.*, 23, *de Gruyter, Berlin*, 1996. (From the introduction) **99a:14080** 14P05 (14K05)

— (*with* Lopez, Angelo Felice; Miranda, Rick) Classification of varieties with canonical curve section via Gaussian maps on canonical curves. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 1–21. (Alexandr V. Pukhlikov) **99d:14037** 14J45 (14J28)

— (*with* Miranda, Rick) Interpolation on curvilinear schemes. *J. Algebra* **203** (1998), *no.* 2, 677–678. (From the text) **99b:14047** 14J99 (14J70)

— (*with* Hulek, Klaus) A remark on the geometry of elliptic scrolls and bielliptic surfaces. *Manuscripta Math.* **95** (1998), *no.* 2, 213–224. (Angelo Lopez) **99i:14041** 14J27 (14J10)

— (*with* Chiantini, Luca) Towards a Halphen theory of linear series on curves. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2197–2212. (Juan C. Migliore) **99i:14006** 14C20 (14H50)

Cilleruelo, Javier (*with* Jiménez-Urroz, Jorge) Divisors in a Dedekind domain. *Acta Arith.* **85** (1998), *no.* 3, 229–233. (W. Narkiewicz) **99f:11128** 11P21 (11C08, 11R99, 13F05)

Cima, Anna (*with* Gasull, Armengol; Mañosas, Francesc) The genesis of Markus-Yamabe counterexamples. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida*, 1996), 49–55, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:34147** 34D20 (34C35, 34H05, 58F12, 93D20)

— (*with* Gasull, Armengol; Torregrosa, Joan) Index and multiplicity. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99j:58025** 58C27 (55M25)

— (*with* Gasull, Armengol; Torregrosa, Joan) On the relation between index and multiplicity. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 757–768. (Christian Fenske) **99j:58024** 58C27 (55M25, 57R45)

— (*with* Mañosas, Francesc; Villadelprat, Jordi) A Poincaré-Hopf theorem for noncompact manifolds. (English summary) *Topology* **37** (1998), *no.* 2, 261–277. (J. M. Boardman) **99b:57055** 57R25 (54H20, 55M25, 58F12, 58F21)

Cima, Joseph (*with* Barnard, Roger W.; Pearce, Kent) Cesàro sum approximation of outer functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 1–7. (D. R. Wilken) **99m:30018** 30C45 (30C15)

— (*with* Bourdon, P. S.; Matheson, A. L.) Compact composition operators on BMOA. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2183–2196. (Wayne Stewart Smith) **99i:47052** 47B38 (30D50)

del Cima, Oswaldo M. *see* **Del Cima, Oswaldo M.**

Cimatti, G. (*with* Berselli, Luigi C.) A theorem of existence for the equations of the Winslow's effect. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 61–71 (1998). (Introduction) **99d:76005** 76A99 (76W05)

Cimen, Nuri One-dimensional rings of finite Cohen-Macaulay type. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 3, 275–308. (Irena Swanson) **99g:13007** 13B22 (13C13, 13H10)

Cimikowski, Robert Crossing number bounds for the mesh of trees. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 107–116. (*see* **99i:00024**) 05C10

Cimmelli, V. A. Thermodynamics of anisotropic solids near absolute zero. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 79–89. (Summary) **99f:73011** 73B30 (80A20)

Cimoroni, M. G. Numerical evaluation of a 2-D Cauchy principal value integral based on quasi-interpolating splines. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997),

no. 4, 1–12. (John P. Coleman) **99e:65036** 65D30 (65D07)
— (*with* Gori Nicolò-Amati, Laura; Santi, Elisabetta) Projector-splines in the numerical solution of integro-differential equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 107–116. (Wojciech Mydlarczyk) **99f:65202** 65R20 (45E05, 45L05, 65D07, 65D30)
dal Cin, Mario *see* **Dal Cin, Mario**
Çınar, İnan On non-isotropic Riesz potentials. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1197–1205. (Takahide Kurokawa) **99c:31015** 31B99 (46E35)
— The Hardy-Littlewood-Sobolev inequality for non-isotropic Riesz potentials. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 2, 153–157. (Summary) **99f:42031** 42B20 (31C45)
Činčura, Juraj Coreflections versus regular epimorphisms in categories of topological spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 4, 527–530. (I. W. Alderton) **99k:18013** 18D15 (18B30, 54B30)
Cingolani, Silvia On a perturbed semilinear elliptic equation in $\mathbf{R}^N$. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 49–57. (Summary) **99j:35045** 35J60 (35B05)
Cini, Marcello Quantum nonlocality: appearance or reality? *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 32–42, *World Sci. Publishing, River Edge, NJ*, 1997. (S. Gudder) **99k:81030** 81P10
— *see also* **Russo, Lucio**, **99g:01005**
Çinlar, Erhan (*with* Zirbel, Craig L.) Mass transport by Brownian flows. (English summary) *Stochastic models in geosystems* (*Minneapolis, MN*, 1994), 459–492, *IMA Vol. Math. Appl.*, 85, *Springer, New York*, 1997. (Luis G. Gorostiza) **99c:60104** 60G57 (60H10, 76F05, 76M35)
— (*with* Kao, John) Spectral expansion of the occupation measure for birth and death on a flow. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 203–215. (Summary) **99h:60100** 60G57 (60H10, 60J80)
Cinquini, Carlo (*with* Mariani, Claudia; Venini, Paolo) Mixed finite element formulation and optimal design of thin composite laminates. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 165–176. (Summary) **99k:73113** 73V05 (49Q10, 73K20, 73K40)
Cinquini, Silvio On hyperbolic systems of several independent variables. (Italian) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 621–624. (*see* **99d:00031**) 35L40
manoliu-Ciobanu, Carmen *see* **Manoliu-Ciobanu, Carmen**
Ciobanu, Gabriel (*with* Rotaru, Mihai) Faithful π-nets. A graphical representation of the asynchronous π-calculus. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (Summary) **99j:68036** 68Q10 (68Q55, 68Q60)
Ciobanu, Gh. Gr. Some results in the theory of instantaneously elastic materials. II. (Romanian) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 383–402. 73B99
— Thermoelastic materials with heat flux evolution equation. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **48** (1996), *no.* 6, 985–1010. (Ranjit S. Dhaliwal) **99a:73018** 73B30
Ciocan-Fontanine, Ionuţ (*with* Batyrev, V. V.; Kim, Bumsig; van Straten, Duco) Conifold transitions and mirror symmetry for Calabi-Yau complete intersections in Grassmannians. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 640–666. (Ralph Martin Kaufmann) **99m:14074** 14J32 (14D05, 14M25, 14N10, 32G20)
— *see also* **Fulton, William**, **99m:14092**
Ciocanu, Gh. *see* **Chekanu, G. P.**
Ciocci, Maria Cristina (*with* Vanderbauwhede, André) Bifurcation of periodic orbits for symplectic mappings. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 485–500. (Summary) **99b:58170** 58F14 (34C23, 58F05, 70H05)
Cioczek-Georges, Renata (*with* Taqqu, Murad S.) Sufficient conditions for the existence of conditional moments of stable random variables. (English summary) *Stochastic processes and related topics*, 35–67, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Katsuya Kojo) **99j:60024** 60E07 (62J02)
Cioni, G. (*with* Yi, Bo; Tao, Xianping; Colagrossi, A.) Intuitive minimal abduction in sequent calculi. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 209–219. (Summary) **99b:68179** 68T27 (03B70)
Cioranescu, Doina (*with* Vanninathan, Muthusamy) Exact controllability in thin perforated domains. (English summary) *Équations aux dérivées partielles et applications*, 383–412, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Fu Ru Jiang) **99i:35010** 35B27 (73D30, 73K50, 93B05, 93C20)
— (*with* Chiheb, Raddouane; El Janati, Abdessalam; Panasenko, G. P.) Structures réticulées renforcées en élasticité. (English and French summaries) [Reinforced lattice structures in elasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 897–902. (Ma. Eugenia Pérez Martinez) **99k:73011** 73B27 (35B27, 73K20)
Cioranescu, Ioana (*with* Keyantuo, Valentin) C-semigroups: generation and analyticity. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 15–25. (Summary) **99g:47090** 47D06
— Riesz-Fisher type results for Besicovitch almost periodic functions. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 337–344. (H. Günzler) **99h:42018** 42A75
Cioränescu, Nicolae *see* **Georgescu, Adelina**
Ciotti, L. (*with* Giampieri, G.) Motion of a rigid body in a tidal field: an application to elliptical galaxies in clusters. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 313–334. (Summary) **99b:70010** 70F15 (70E15, 85A05)
Cipolla, Michele Works. (Italian) With an introduction by Pasquale Vetro. Edited by Guido Zappa and Giovanni Zacher. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 47 (1997), *xxxii*+547 *pp.* (Thomas Archibald) **99d:01038** 01A75
— *see also* **Michele Cipolla**, **99d:01043**; **Bartolozzi, Federico**, (**99d:01043**); **Spagnolo, Filippo**, (**99d:01043**) *and* **Scimone, Aldo**, (**99d:01043**)
Cipolla, Roberto The visual motion of curves and surfaces. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1103–1121. (Günter Aumann) **99d:53003** 53A04 (53A05, 68U07)
— *see also* **New geometric techniques in computer vision**, **99a:00034**
perelli Cippo, Claudio *see* **Perelli Cippo, Claudio**
Cipra, B. (*with* Dini, P.; Kennedy, S.; Kolan, A.) Stability of one-dimensional inelastic collision sequences of four balls. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 183–200. (Summary) **99i:70018** 70F35
Cipra, T. (*with* Romera, R.) Kalman filter with outliers and missing observations. (English summary) *Test* **6** (1997), *no.* 2, 379–395. (Keigo Watanabe) **99d:93067** 93E11
— Robust recursive estimation in nonlinear time series. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1071–1082. (Summary) **99c:62246** 62M10
Cipriani, Fabio The variational approach to the Dirichlet problem in C^*-algebras. (English summary) *Quantum probability* (*Gdańsk*, 1997), 135–146, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (C. J. K. Batty) **99i:46050** 46L50 (46L57, 47D07)
— (*with* Grillo, Gabriele) L^p-exponential decay for solutions to functional equations in local Dirichlet spaces. (English summary) *J. Reine Angew. Math.* **496** (1998), 163–179. (Alexander I. Kheyfits) **99a:35057** 35J40 (31C25, 35B40)
— (*with* Grillo, Gabriele) Pointwise properties of eigenfunctions and heat kernels of Dirichlet-Schrödinger operators. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 101–126. (Summary) **99e:35031** 35J10 (35P05, 47D06, 60H30)
Cipriani, P. (*with* Boccaletti, D.; Di Bari, M.; Pucacco, G.) Finsler geometry in classical mechanics and in Bianchi cosmological models. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 213–224. (Miguel C. Muñoz-Lecanda) **99c:53015** 53B40 (53B50, 70F07, 70H35, 83F05)
Cirac, J. I. (*with* van Enk, S.; Zoller, Peter; Kimble, H. J.; Mabuchi, H.) Transmission of quantum information in a quantum network: a quantum optical implementation. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 689–695. (Summary) **99k:81042** 81P99 (81V80)
Cirelli, Renzo (*with* Gatti, Mauro; Manià, Alessandro) On the nonlinear extension of quantum superposition and uncertainty principles. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 1-2, 64–86. (Paul Busch) **99k:81131** 81S10 (58B20, 81P05)
Ćirić, Ljubomir Common fixed points of nonlinear contractions. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 31–38. (Summary) **99b:54072** 54H25
— (*with* Jotić, Nikola) A further extension of maps with non-unique fixed points. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 1–4. 54H25
— Convergence theorems for a sequence of Ishikawa iterations for nonlinear quasi-contractive mappings. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 425–433. 54H25 (47H09, 47H10)
Ćirić, Miroslav (*with* Bogdanović, Stojan) A note on congruences on algebras. (English summary) *Proceedings of the II Mathematical Conference in Priština* (1996), 67–72, *Univ. Priština, Priština*, 1997. (David Hobby) **99d:08001** 08A30
— (*with* Bogdanović, Stojan) More on normal band compositions of semigroups. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 15–21. (Summary) **99i:20087** 20M99
Cirillo, E. N. M. (*with* Gonnella, G.; Troccoli, M.; Maritan, A.) Correlation functions by cluster variation method for Ising model with NN, NNN, and plaquette interactions. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 1-2, 67–89. (Summary) **99m:82008** 82B20 (82B80)
Cirino Groccia, Maria Cristina (*with* Musella, Carmela) A note on finite complemented groups. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 279–283 (1998). (Summary) **99d:20034** 20D99 (20E07)
— Complementation problems. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 23–26. 20E15
Cirmi, G. R. (*with* Bonafede, S.; Tedeev, A. F.) Finite speed of propagation for the porous media equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1381–1398 (*electronic*). (Vladimir Grebenev) **99g:35068** 35K60 (35B05, 76S05)
Cîrstea, Corina Coalgebra semantics for hidden algebra: parameterised objects and inheritance. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 174–189, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65
Şt. Cîrstea, Florica Corina *see* **Şt. Cîrstea, Florica Corina**
Cîrstea, Florica-Corina Şt. *see* **Şt. Cîrstea, Florica Corina**
Ilinares Ciscar, Juan Vicente *see* **Llinares Ciscar, Juan Vicente**
Cislo, J. (*with* Łopuszanski, J.; Stichel, Peter C.) The most general set of Lagrange functions yielding Galilei covariant equations of motion having the same set of solutions. (English summary) *Fortschr. Phys.* **46** (1998), *no.* 1, 45–72. (Peter J. Topalov) **99e:70054** 70H35
Cismaşiu, Cristina S. On a linear positive operator associated with the multidimensional Pearson's-χ^2 distribution. (English summary) *Note Mat.* **15** (1995), *no.* 2, 169–173 (1997). (Paşc Găvruţa) **99d:41041** 41A36 (41A63, 60E05)
Citanna, Alessandro (*with* Kajii, Atsushi; Villanacci, Antonio) Constrained suboptimality in incomplete markets: a general approach and two applications. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 495–521. (Milan Mareš) **99d:90026** 90A14 (90A60)
Citterio, Maurizio G. The Reidemeister number as a homotopy equalizer. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 87–101. (Donald M. Davis) **99f:55004** 55M20
Citti, G. C^∞ regularity of solutions of the Levi equation. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 4, 517–534. (Giuseppe Tomassini) **99e:35080** 35J70 (35B65, 35J60)
Ciubotariu, Corneliu (*with* Argyris, John; Andreadis, Ioannis) Complexity in spacetime and gravitation. I. From chaos to superchaos. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1651–1701. (Simonetta Frittelli) **99k:83097** 83C99 (58F13, 58F40, 83C57)
— (*with* Argyris, John; Andreadis, Ioannis) On the influence of noise on the Bianchi IX and VIII cosmological models. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1813–1825. 83C15 (58F13)
— (*with* Argyris, John; Andreadis, Ioannis) A metric for an Evans-Vigier field. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 141–163. (Summary) **99a:83039** 83C50
Ciucu, Mihai No-feedback card guessing for dovetail shuffles. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1251–1269. (David J. Aldous) **99j:60010** 60C05 (60G40)

— An improved upper bound for the 3-dimensional dimer problem. *Duke Math. J.* **94** (1998), *no.* 1, 1–11. (H. N. V. Temperley) **99f:05026** 05B40 (82B20)

— A complementation theorem for perfect matchings of graphs having a cellular completion. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 1, 34–68. (Timothy Y. Chow) **99b:05108** 05C70

— Enumeration of lozenge tilings of punctured hexagons. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 268–272. (Sándor Szabó) **99e:52027** 52C20

Ciupa, Alexandra On the approximation by integral Favard-Szasz type operators. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 25–34. (L. G. Labsker) **99m:41035** 41A35 (41A25, 41A60)

— (*with* Gavrea, Ioan) On the approximation of the Laplace transform by positive linear operators. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 9–12. (Summary) **99g:41035** 41A36 (44A10)

Ciuperca, Ionel Sorinel (*with* Bayada, Guy; Chambat, Michèle) Comportement asymptotique d'un fluide dans un domaine mince variable en temps. (English and French summaries) [Asymptotic behavior of a fluid in a thin time-varying domain] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 265–268. (Introduction) **99e:76035** 76D08

— Spectral properties of Schrödinger operators on domains with varying orders of thinness. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 73–108. (Chun Chung Hsieh) **99a:35191** 35P05 (35J10, 47F05)

Ciurea, E. Two problems concerning dynamic flows in node and arc capacitated networks. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 3, 298–308. 90B10 (90C35)

Ciurea-Borcia, Rodica (*with* Ignat, Margareta) The properties of nonlinear Alfvén waves with finite amplitude. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 147–157. (Summary) **99j:76132** 76W05 (85A30)

Civelek, Şevket The extended vector bundles. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 40–47. (I. Kolář) **99d:58013** 58A20

levi-Civita, Tullio *see* **Levi-Civita, Tullio**

Civitarese, O. (*with* Bollini, C. G.; De Paoli, A. L.; Rocca, M. C.) Gamow states in a rigged Hilbert space. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 34–37, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Summary) **99d:81180** 81V35 (47N50)

Čížek, Jiří Karel (*with* Bracken, Paul) Reconstruction of secular polynomials for Hubbard model from energy perturbation series for weak and strong coupling cases. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5493–5504. (Bálint Tóth) **99d:82013** 82B20

— (*with* Skála, L.; Zamastil, J.) Large-order behaviour of the strong coupling perturbation expansion for anharmonic oscillators. (English summary) *J. Phys. A* **32** (1999), *no.* 9, *L*123–*L*127. 81Q15

Čižmešija, Aleksandra (*with* Pečarić, Josip; Žubrinić, Darko) On Levin's generalization of Carleman's inequalities. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 473–481. (Feng Qi) **99k:26023** 26D15

— (*with* Pečarić, Josip) Mixed means and Hardy's inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 491–506. (Petr Gurka) **99k:26020** 26D10 (26D15)

Claasen, H. L. (*with* Goldbach, R. W.) Checkered Hadamard matrices of order 16. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 935–941. (W. D. Wallis) **99i:05046** 05B20

— (*with* Goldbach, R. W.) 3-class association schemes and Hadamard matrices of a certain block form. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 943–951. (A. A. Makhnev) **99j:05196** 05E30 (05B20)

Clackdoyle, Rolf (*with* Defrise, Michel; Noo, Frédéric) Early results on general vertex sets and truncated projections in cone-beam tomography. (English summary) *Computational radiology and imaging* (*Minneapolis, MN*, 1997), 113–135, *IMA Vol. Math. Appl.*, 110, *Springer, New York*, 1999. (*see* **99m:92012**) 92C55

Claeskens, Gerda (*with* Aerts, Marc) Local polynomial estimation in multiparameter likelihood models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1536–1545. (Thomas A. Severini) **99d:62026** 62G05 (62J12)

Claeyssen, Julio R. (*with* Bravo, Elba; Platte, Rodrigo B.) A direct one-step pressure actualization for incompressible flow with pressure Neumann condition. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 43–53. (Summary) **99m:76086** 76M20 (76D05)

Clain, Stéphane (*with* Touzani, Rachid) Solution of a two-dimensional stationary induction heating problem without boundedness of the coefficients. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 7, 845–870. (J. M. H. Peters) **99f:35043** 35J60 (35K05, 80A20)

Clancy, Damian (*with* O'Neill, Philip) Approximation of epidemics by inhomogeneous birth-and-death processes. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 2, 233–245. (Summary) **99b:92055** 92D30 (60K99)

Clancy, Daniel J. (*with* Kuipers, Benjamin J.) Qualitative simulation as a temporally-extended constraint satisfaction problem. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 240–247, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20 (65H10)

— (*with* Brajnik, Giorgio) Focusing qualitative simulation using temporal logic: theoretical foundations. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 59–86. (Summary) **99a:68154** 68T27 (03B45, 03B70, 93C83)

Clancy, Dominic (*with* Lidsey, James E.; Tavakol, R. K.) Initial conditions in string cosmology. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063511, *5 pp.* 83F05 (83E30)

Clancy, Robert S. (*with* McCullough, Scott) Projective modules and Hilbert spaces with a Nevanlinna-Pick kernel. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3299–3305. (Sarah H. Ferguson) **99a:47014** 47A20 (46E20, 46H25, 46J15, 47A57, 47B37)

Clanet, Christophe On large-amplitude pulsating fountains. (English summary) *J. Fluid Mech.* **366** (1998), 333–350. (Summary) **99c:76016** 76B45 (76B10)

— (*with* Lasheras, Juan C.) Transition from dripping to jetting. (English summary) *J. Fluid Mech.* **383** (1999), 307–326. (Summary) **99m:76030** 76B45 (76D45)

santa-Clara, Catarina *see* **Santa-Clara, Catarina**

Clark, D. A. An upper bound of $\sum 1/(a_i \log a_i)$ for quasi-primitive sequences. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 105–109. (Norbert Hegyvári) **99a:11021** 11B75

Clark, Dean (*with* Lewis, James T.) Symmetric solutions to a Collatz-like system of difference equations. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 101–114. (*see* **99i:00021**) 39A10 (65Q05)

Clark, Gordon W. (*with* Ames, Karen A.; Epperson, James F.; Oppenheimer, Seth F.) A comparison of regularizations for an ill-posed problem. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1451–1471. (Summary) **99b:65111** 65M30

Clark, Haroldo R. (*with* San Gil Jutuca, L. P.; Milla Miranda, Manuel) On a mixed problem for a linear coupled system with variable coefficients. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 4, 20 *pp.* (*electronic*). (Ya. A. Roĭtberg) **99a:35163** 35L55

— Global classical solutions to the Cauchy problem for a nonlinear wave equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 533–548. (Summary) **99b:35143** 35L70 (34G20, 35D05)

Clark, J. D. (*with* Fraser, W. B.; Sharma, Rajiv; Rahn, Christopher D.) The dynamic response of a ballooning yarn: theory and experiment. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2767–2789. (Summary) **99f:73053** 73K12 (73H10)

Clark, James W. (*with* Mesak, Hani I.) Monopolist optimum pricing and advertising policies for diffusion models of new product innovations. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 2, 111–136. (Summary) **99b:90028** 90A12 (90B60)

Clark, Lane H. (*with* Amin, Ashok T.; Slater, Peter J.) Parity dimension for graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 1–17. (Anthony E. Barkauskas) **99f:05057** 05C35

— (*with* Ellingham, M. N.; Menser, D. K.) On the circumference of class 2 graphs. (English summary) *Util. Math.* **53** (1998), 243–253. (Summary) **99a:05046** 05C15

Clark, R. L. (*with* Bernstein, Dennis S.) Hybrid control: separation in design. *J. Sound Vibration* **214** (1998), *no.* 4, 784–791. 93C95 (93C30)

Clark, Stephen A. Dynamically consistent choice and the revelation of Strotz-Pollak equilibrium. (English summary) *Ann. Oper. Res.* **80** (1998), 67–84. (Summary) **99g:90013** 90A05

Clark, Steve (*with* Hinton, Don) A Liapunov inequality for linear Hamiltonian systems. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 201–209. (Ondřej Došlý) **99c:34056** 34C10

Clark, T. D. (*with* Ralph, J. F.; Prance, H.; Prance, R. J.; Widom, A.; Srivastava, Y. N.) Solutions of the time-dependent Schrödinger equation for a two-state system. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1271–1282. 81Q05

Clark, Timothy T. (*with* Zemach, Charles) Symmetries and the approach to statistical equilibrium in isotropic turbulence. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2846–2858. (Summary) **99h:76044** 76F05 (76M35)

Clark, W. Edwin (*with* Shekhtman, Boris; Suen, W.-C. Stephen; Fisher, David C.) Upper bounds for the domination number of a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 99–123. (Summary) **99j:05103** 05C35

— (*with* Holland, W. C.; Székely, Gábor) Decompositions in discrete semigroups. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 15–23. (J. L. Chrislock) **99i:20080** 20M14

Clarke, Bertrand S. (*with* Sun, Dongchu) Reference priors under the chi-squared distance. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 2, 215–231. (Summary) **99k:62007** 62A15 (62F15)

— (*with* Gustafson, Paul) On the overall sensitivity of the posterior distribution to its inputs. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 137–150. (Summary) **99f:62039** 62F15

— (*with* Yuan, A.) An information criterion for likelihood selection. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 562–571. (Summary) **99j:94027** 94A34 (94A29)

Clarke, C. J. S. Generalized hyperbolicity in singular spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 975–984. (Alan D. Rendall) **99c:83067** 83C75 (35L99, 35Q75, 58G16)

— (*with* Fama, C. J.) A rigidity result on the ideal boundary structure of smooth spacetimes. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2829–2840. (Ulf S. Nilsson) **99j:53089** 53C50 (53C80, 83C99)

— (*with* Swatton, D. J. R.) The existence of Newtonian dust caustics. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2891–2899. (Marco Spaans) **99h:85003** 85A40 (70D05)

Clarke, Edmund M. (*with* Berezin, S. A.) Model checking: historical perspective and example (extended abstract). (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 18–24, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (68Q60)

— (*with* Bauer, Andrej; Zhao, Xudong) Analytica—an experiment in combining theorem proving and symbolic computation. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 295–325. 68T15 (68Q40)

Clarke, F. H. (*with* Ledyaev, Yu. S.; Stern, Ronald Jay) Complements, approximations, smoothings and invariance properties. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 189–219. (Alberto Seeger) **99m:49024** 49J52 (34A60, 49J24)

— (*with* Radulescu, M. L.) Geometric approximation of proximal normals. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 373–379. (Philip D. Loewen) **99h:49027** 49J52 (58C20)

— (*with* Ledyaev, Yu. S.; Stern, Ronald Jay; Wolenski, Peter R.) ★ Nonsmooth analysis and control theory. (English summary) Graduate Texts in Mathematics, 178. *Springer-Verlag, New York*, 1998. xiv+276 *pp. ISBN* 0-387-98336-8 (Richard B. Vinter) **99a:49001** 49–02 (49J52, 58C20, 93–02)

— (*with* Ledyaev, Yu. S.; Stern, Ronald Jay) Asymptotic stability and smooth Lyapunov functions. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 69–114. (Zvi Artstein) **99k:34109** 34D20 (34A60, 93D05)

— (*with* Hiriart-Urruty, Jean-Baptiste; Ledyaev, Yu. S.) On global optimality conditions for nonlinear optimal control problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 109–122. (Dariusz Zagrodny) **99j:49035** 49K15 (49L10)

Clarke, J. F. *see* **Numerical methods for wave propagation, 99f:65006**

Clarke, J. H. (*with* Shannon, Anthony G.) A note on sums of squares of integers. *Notes Number Theory Discrete Math.* **3** (1997), *no.* 4, 185–187. 11E25

Clarke, Robert John[1] (*with* Han, Guo-Niu; Zeng, Jiang) A combinatorial interpretation of the Seidel generation of q-derangement numbers. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 313–327. (D. P. Roselle) **99d:05006** 05A30

Clarke, Simon R. (*with* Johnson, E. R.) Finite-amplitude topographic Rossby waves in a channel. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 107–120. (Summary) **99h:76019** 76C20 (76M25, 86A05)

Clarke, Stephen R. (*with* Norman, John M.) Dynamic programming in cricket: protecting the weaker batsman. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 93–108. (Jacek B. Krawczyk) **99g:90164** 90C90 (90D80)

Clarkson, I. D. (*with* Goodall, David P.) Memoryless feedback controllers for imperfectly known nonlinear systems with time-varying delay. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 59–73 (1998). (Summary) **99f:93116** 93D15 (93B52)

Clarkson, Kenneth L. *see* **SODA '95, 99g:68007**

Clarkson, Peter A. (*with* Gordoa, Pilar R.; Pickering, Andrew) Multicomponent equations associated to non-isospectral scattering problems. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1463–1476. (R. G. Airapetyan) **99d:35136** 35Q53 (34A55, 34L25, 35Q58, 58F07)

— (*with* Bassom, Andrew P.; Law, Chun-Kong; McLeod, J. Bryce) Application of uniform asymptotics to the second Painlevé transcendent. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 3, 241–271. (Andrei A. Kapaev) **99g:34122** 34E20 (34A30, 34A34)

— (*with* Mansfield, Elizabeth L.; Reid, Gregory J.) Nonclassical reductions of a (3 + 1)-cubic nonlinear Schrödinger system. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 460–488. (Summary) **99j:35206** 35Q55 (35–04, 35A30, 65–04, 65M06)

— (*with* Ludlow, David K.; Bassom, Andrew P.) Nonclassical symmetry reductions of the three-dimensional incompressible Navier-Stokes equations. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7965–7980. (Summary) **99g:76037** 76D05 (35Q30, 76M99)

— (*with* Joshi, Nalini; Pickering, Andrew) Bäcklund transformations for the second Painlevé hierarchy: a modified truncation approach. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 175–187. (Andrei A. Kapaev) **99m:34009** 34A34 (34A25)

— (*with* Priestley, Thomas J.) Symmetries of a class of nonlinear fourth order partial differential equations. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 1, 66–98. (Summary) **99j:35184** 35Q53

Claro, Francisco (*with* Bellissard, Jean; Camacho, Carlos J.; Barelli, Armelle) Exact random walk distributions using noncommutative geometry. (English summary) *J. Phys. A* **30** (1997), *no.* 21, L707–L709. (Francois Vanderseypen) **99d:82027** 82B41 (58B30, 60J15)

Class, Andreas G. On curved cellular flames. (English summary) *A perspective look at nonlinear media*, 61–74, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:80009** 80A25 (76E99)

— (*with* Bayliss, Alvin; Matkowsky, Bernard J.) Localized flickering cellular flames. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 942–964 (*electronic*). (Summary) **99j:80008** 80A25

Claudel, Clarissa M. (*with* Newman, Kerri P.) The Cauchy problem for quasi-linear hyperbolic evolution problems with a singularity in the time. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1073–1107. (Alan D. Rendall) **99g:34126** 34G20 (35L60, 47D06, 83C05)

Claudin, P. (*with* Bouchaud, J. P.; Cates, M. E.; Wittmer, J. P.) Models of stress propagation in granular media. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 97–121, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:73041** 73E99 (73B99, 76A99)

Claudio, D. (*with* Alefeld, G. E.) The basic properties of interval arithmetic, its software realizations and some applications. (English summary) *Comput. & Structures* **67** (1998), *no.* 1-3, 3–8. (Summary) **99c:65091** 65G10 (65–04)

Claus, Piet (*with* Van Proeyen, Antoine; Kallosh, Renata; Kumar, Jason; Townsend, Paul K.) Conformal theory of M2, D3, M5 and "D1 + D5" branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 4, 27 *pp.* (*electronic*). (Sergey A. Cherkis) **99g:81154** 81T30 (83E30)

— (*with* de Wit, Bernard; Faux, M.; Kleijn, B.; Siebelink, R.; Termonia, P.) $N = 2$ supergravity Lagrangians with vector-tensor multiplets. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 148–178. (Sergiu I. Vacaru) **99f:83072** 83E50

— (*with* Kallosh, Renata; Van Proeyen, Antoine) M 5-brane and superconformal (0, 2) tensor multiplet in six dimensions. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 117–150. (Marco Spaans) **99g:81155** 81T30 (83E30)

— (*with* Derix, Martijn; Kallosh, Renata; Kumar, Jason; Townsend, Paul K.; Van Proeyen, Antoine) Black holes and superconformal mechanics. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 21, 4553–4556. (Gil De Oliveira-Neto) **99k:83063** 83C57 (83E30)

Clausen, Carl Balslev (*with* Bang, Ole; Christiansen, Peter Leth) Stationary solutions and self-trapping in discrete quadratic nonlinear systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 6, 7257–7266. (Summary) **99b:82092** 82D99 (35Q40, 82D25)

Clausen, Jens (*with* Perregaard, Michael) Parallel branch-and-bound methods for the job-shop scheduling problem. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 137–160. (Summary) **99h:90053** 90B35 (90C27)

Clausen, Michael (*with* Bürgisser, Peter; Shokrollahi, M. Amin) ★ Algebraic complexity theory. With the collaboration of Thomas Lickteig. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 315. *Springer-Verlag, Berlin*, 1997. xxiv+618 *pp. ISBN* 3-540-60582-7 (Alexander I. Barvinok) **99c:68002** 68–02 (12Y05, 65Y20, 68Q05, 68Q15, 68Q25, 68Q40)

Clausius, Rudolf *see* **Wolff, Stefan L., 99k:01031**

Clavero Gracia, Carmelo (*with* Jorge, J. C.; Lisbona, Francisco J.) Fractional-step method and Shishkin meshes for convection-dominated convection-diffusion problems. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M06 (76M25)

— (*with* Gracia, J. L.) Uniform convergence of a classical scheme on Shishkin meshes for a convection-diffusion problem. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 237–242, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N50 (76M25)

— (*with* Jorge, J. C.; Lisbona, Francisco J.; Shishkin, G. I.) A fractional step method on a special mesh for the resolution of multidimensional evolutionary convection-diffusion problems. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 211–231. (Claus-Dieter Munz) **99g:65089** 65M06 (65M12, 76M20)

Clayton, M. A. (*with* Demopoulos, L.; Légaré, J.) The dynamical instability of static, spherically symmetric solutions in nonsymmetric gravitational theories. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1501–1520. (Christopher Kohler) **99g:83066** 83D05

— Homothetic Wyman spacetimes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 261–278. (Mark D. Roberts) **99e:83044** 83D05 (83C75)

— Canonical general relativity: the diffeomorphism constraints and spatial frame transformations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3805–3816. (Jörg Frauendiener) **99m:83012** 83C05

Clayton, Murray K. (*with* Ginebra, Josep) On a theorem of Kelley. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 191–201. (John C. Gittins) **99c:62215** 62L05 (62C10)

— (*with* Yue, Jack C.) Bayesian sequential tests for comparing the number of species in two populations: a simulation study. (English summary) *Sequential Anal.* **18** (1999), *no.* 1, 57–79. 62L10

Clearwater, Scott H. (*with* Williams, Colin P.) ★ Explorations in quantum computing. (English summary) With 1 CD-ROM for Windows, Macintosh and UNIX. *TELOS. The Electronic Library of Science, Santa Clara, CA; Springer-Verlag, New York*, 1998. xx+307 *pp. ISBN* 0-387-94768-X (From the preface) **99g:81033** 81P99 (68Q05, 81–01)

Cleary, Andrew J. (*with* Falgout, Robert D.; Henson, Van Emden; Jones, Jim E.) Coarse-grid selection for parallel algebraic multigrid. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 104–115, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55)

Cleary, Paul W. (*with* Stokes, Nick) Transient natural convection at high Rayleigh number. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 207–214, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76R10

— The filling of dragline buckets. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 1–24. 73E99

— (*with* Monaghan, Joseph J.) Conduction modelling using smoothed particle hydrodynamics. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 227–264. (Summary) **99i:80002** 80–08 (76M25, 80A20)

Cleaveland, Rance (*with* Philippou, Anna; Lee, Insup; Smolka, Scott A.; Sokolsky, Oleg) Probabilistic resource failure in real-time process algebra. (English summary) *CONCUR'*98: *concurrency theory* (*Nice*), 389–404, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

— *see also* **Workshop: Formal Foundations of Software Systems, 99h:68012**

Cleaver, Gerald B. Advances in old-fashioned heterotic string model building. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 161–170. (Summary) **99c:81274** 81V22 (81T30)

Clelland, Jeanne Nielsen Geometry of conservation laws for a class of parabolic PDE's. II. Normal forms for equations with conservation laws. (English summary) *Selecta Math.* (*N.S.*) **3** (1997), *no.* 4, 497–515. (Kazushige Ueno) **99d:35074** 35K55 (35L65, 58A15)

Clemence, Dominic P. On the singular behaviour of the Titchmarsh-Weyl m-function for the perturbed Hill's equation on the line. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 416–421. (Vjacheslav A. Yurko) **99a:34219** 34L05 (34B20, 34B24, 34L40, 47E05)

— Subordinacy analysis and absolutely continuous spectra for Sturm-Liouville equations with two singular endpoints. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 23–27. (Horst Behncke) **99a:34220** 34L05 (34L40, 47E05)

Clement, Emmanuelle Estimation of diffusion processes by simulated moment methods. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 353–369. (M. Arató) **99g:62129** 62M09

— Bias correction for the estimation of discretized diffusion processes from an approximated likelihood function. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 364–370. (M. Arató) **99g:62128** 62M09

Clément, Francois (*with* Cheverda, V. A.; Khaidukov, V. G.; Kostin, V. I.) Linearized inversion of data of multi-offset data for vertically inhomogeneous background. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 453–484. (Jiří Nedoma) **99m:86015** 86A15 (35R30, 65D15, 73D50)

Clément, Gérard Flat wormholes from cosmic strings. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5807–5819. (Asghar Qadir) **99b:83067** 83E05 (83C57, 83C75)

— (*with* Bronnikov, K. A.; Constantinidis, C. P.; Fabris, Júlio C.) Structure and stability of cold scalar-tensor black holes. (English summary) *Phys. Lett. A* **243** (1998), *no.* 3, 121–127. (Summary) **99b:83048** 83C57 (83D05)

— From Schwarzschild to Kerr: generating spinning Einstein-Maxwell fields from static fields. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4885–4889. (Summary) **99m:83049** 83C22

Clément, Julien (*with* Flajolet, Philippe; Vallée, Brigitte) The analysis of hybrid trie structures. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 531–539, *ACM, New York*, 1998. (*see* **99d:68011**) 68P05

Clément, Philippe (*with* Felmer, Patricio L.; Mitidieri, Enzo) Homoclinic orbits for a class of infinite-dimensional Hamiltonian systems. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 367–393. (Vittorio Coti Zelati) **99d:58036** 58E05 (35B10, 35K55, 58F05, 58F22)

— (*with* Da Prato, Giuseppe; Prüss, Jan) White noise perturbation of the equations of linear parabolic viscoelasticity. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 207–220 (1998). (Isamu Dôku) **99m:34183** 34K30 (34K50, 45J05, 60H20, 73F15)

— (*with* Mitidieri, Enzo) On a class of nonlinear elliptic systems. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996).

Sūrikaisekikenkyūsho Kōkyūroku No. 1009 (1997), 132–140. (Introduction) **99c:35055** 35J60

— (*with* Manásevich, Raúl; Mitidieri, Enzo) Some existence and non-existence results for a homogeneous quasilinear problem. *Asymptot. Anal.* **17** (1998), *no.* 1, 13–29. (Guido Sweers) **99i:34014** 34A34 (35B05, 35J60)

— (*with* Bu, Shangquan; Guerre-Delabrière, Sylvie) Regularity of pairs of positive operators. *Illinois J. Math.* **42** (1998), *no.* 3, 357–370. (Alberto Venni) **99i:47019** 47A50 (34G10, 46B99, 46M35, 47A05, 47N20)

— (*with* García-Huidobro, Marta; Manásevich, Raúl) Positive solutions of small norm to a quasilinear elliptic inclusion problem. *Adv. Differential Equations* **4** (1999), *no.* 1, 71–114. (Salvatore A. Marano) **99m:34027** 34A60 (34A12, 35B05, 35J60, 35R70)

Clementi, Andrea E. F. (*with* Andreev, A. E.; Rolim, José D. P.) Optimal bounds for the approximation of Boolean functions and some applications. (English summary) *Theoret. Comput. Sci.* **180** (1997), *no.* 1-2, 243–268. (Summary) **99j:94083** 94C10 (68Q25)

— (*with* Rolim, José D. P.; Trevisan, Luca) Recent advances towards proving P=BPP. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 96–103. (Summary) **99b:68081** 68Q15 (03D15)

— (*with* Andreev, A. E.; Crescenzi, P.; Dahlhaus, Elias; De Agostino, Sergio; Rolim, José D. P.) The parallel complexity of approximating the high degree subgraph problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 261–282. (Mukkai S. Krishnamoorthy) **99g:68087** 68Q25 (05C85, 68Q15, 68Q22)

Clementino, Maria Manuel (*with* Tholen, Walter) Separated and connected maps. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 3, 373–401. (Summary) **99h:18005** 18B30 (18A32, 54B30, 54C10, 54D05)

Clements, B. E. Comparison of the nonhomogenized dynamic method of cells and a hydrodynamic calculation for wave propagation. (English summary) *Wave Motion* **29** (1999), *no.* 1, 47–61. (Summary) **99h:73086** 73V20 (73K12)

Clements, Clyde J. (*with* Clements, John C.; Horáček, B. Milan) On the formation of scroll waves in an anisotropic ventricular myocardium. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 97–107, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92C50 (92C05, 92C30)

Clements, David L. Fundamental solutions for second order linear elliptic partial differential equations. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 26–31. 35J15 (35A08)

Clements, G. F. Characterizing profiles of k-families in additive Macaulay posets. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 309–319. (Hideaki Morita) **99d:06005** 06A07

Clements, Jan (*with* Sheffer, Alla; Blacker, Ted; Bercovier, Michel) Virtual topology construction and applications. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 247–259, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99f:65214** 65Y25 (65D17)

Clements, John C. (*with* Horáček, B. Milan) The inverse problem of electrocardiography: a solution in terms of single- and double-layer sources on the epicardial surface. (English summary) *Math. Biosci.* **144** (1997), *no.* 2, 119–154. (Summary) **99b:92020** 92C50 (65N30)

— (*with* Clements, Clyde J.; Horáček, B. Milan) On the formation of scroll waves in an anisotropic ventricular myocardium. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 97–107, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92C50 (92C05, 92C30)

— An optimal control theory approach to the inverse problem of electrocardiography. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 109–117, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92C55 (49N55)

Clements, Michael P. (*with* Hendry, David Forbes) ★ Forecasting economic time series. (English summary) *Cambridge University Press, Cambridge*, 1998. *xxii*+368 *pp. ISBN* 0-521-63242-0; 0-521-63480-6 (Alastair R. Hall) **99m:62132** 62M10 (62–02, 90A20)

Clerbout, Mireille (*with* Ryl, Isabelle; Roos, Yves) Partial characterization of synchronization languages. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 209–218, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q10 (68Q55)

Clerc, Jean-Louis Compressions and contractions of Hermitian symmetric spaces. *Math. Z.* **229** (1998), *no.* 1, 1–8. (Harald Upmeier) **99m:32042** 32M15

Clerc, Sébastien Non-overlapping Schwarz method for systems of first order equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 408–416, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (35L65)

de Clerck, Frank *see* **De Clerck, Frank**

villemonte de la Clergerie, Eric *see* **Villemonte de la Clergerie, Eric**

Cléro, Jean-Pierre Pascal et les mathématiques. [Pascal and mathematics] *Les philosophes et les mathématiques*, 66–88, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

Cleve, Richard (*with* Brassard, Gilles; Braunstein, Samuel L.) Teleportation as a quantum computation. (English summary) PhysComp96 (Boston, MA). *Phys. D* **120** (1998), *no.* 1-2, 43–47. (V. Ya. Kreinovich) **99m:81028** 81P99 (68Q05, 68Q75, 94A05)

— (*with* Ekert, Artur; Macchiavello, Chiara; Mosca, Michele) Quantum algorithms revisited. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 339–354. (Frank Antonsen) **99m:81030** 81P99

— (*with* Bshouty, Nader H.) Interpolating arithmetic read-once formulas in parallel. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 401–413 (*electronic*). (Summary) **99b:68086** 68Q20 (68T05)

Cleven, Johannes Norms and determinants of quaternionic line bundles. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 17–21. (Jean-Pierre Tignol) **99m:11042** 11E20 (17A75, 19G12)

Clever, R. M. (*with* Busse, F. H.) Nonlinear waves and thermal convection. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 165–180, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:76059** 76E15 (76R10)

Cliff, Eugene M. (*with* Heinkenschloss, Matthias; Shenoy, Ajit R.) Adjoint-based methods in aerodynamic design-optimization. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 91–112, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:90114** 90C90 (49N55, 76G25)

— (*with* Shenoy, Ajit R.; Heinkenschloss, Matthias) Airfoil design by an all-at-once method. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 3–25. (*see* **99k:76005**) 76M25 (76B05)

— *see also* **Computational methods for optimal design and control, 99d:49001**

Cliff, Gerald Crystal bases and Young tableaux. *J. Algebra* **202** (1998), *no.* 1, 10–35. (Kailash C. Misra) **99k:17025** 17B37 (17B10)

Cliffe, K. A. (*with* Tavener, S. J.) Marangoni-Bénard convection with a deformable free surface. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 193–227. (Summary) **99f:76122** 76R10 (76E15, 76M10)

Clifford, Lucy *see* **Chisholm, Monty, 99d:01029**

Clifford, M. J. (*with* Bishop, Steven R.) Inverted oscillations of a driven pendulum. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1979, 2811–2817. (Summary) **99g:70029** 70K40 (34C15, 70K20, 70K28)

Clifford, William Kingdon *see* **Chisholm, Monty, 99d:01029**

Clifton, Rodney James *see* **Proceedings: Symposium on the Dynamic Deformation and Failure Mechanics of Materials, 99g:73003** *and* **Bibliography: Clifton, Rodney James, (99g:73003)**

Climaco, João *see* **Multicriteria analysis, 99d:90006**

Climent, Joan-Josep (*with* Neumann, Michael; Sidi, Avram) A semi-iterative method for real spectrum singular linear systems with an arbitrary index. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 21–38. (Cs. J. Hegedűs) **99c:65052** 65F10 (65F20)

— (*with* Perea, Carmen) Some comparison theorems for weak nonnegative splittings of bounded operators. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 77–106. (Rafael Bru) **99j:65043** 65F10 (47A50)

Cline, Daren B. H. (*with* Pu, Huo Hui Min) Verifying irreducibility and continuity of a nonlinear time series. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 139–148. (Yuzo Hosoya) **99k:62157** 62M10

Cline, Edward (*with* Parshall, Brian; Scott, Leonard L.) Graded and non-graded Kazhdan-Lusztig theories. (English summary) *Algebraic groups and Lie groups*, 105–125, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Dieter Happel) **99h:16015** 16E40 (20G05)

Clint, M. (*with* Szularz, M.; Weston, Jim) Restarting techniques for the Lanczos algorithm and their implementation in parallel computing environments: architectural influences. (English summary) *Parallel Algorithms Appl.* **14** (1999), *no.* 1, 57–77. 65F10 (65Y05)

— (*with* Szularz, M.; Weston, Jim) Explicitly restarted Lanczos algorithms in an MPP environment. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 613–631. 65F30 (65Y05)

Clippinger, J. C. (*with* Cormen, Thomas H.) Performing BMMC permutations efficiently on distributed-memory multiprocessors with MPI. (English summary) *Algorithmica* **24** (1999), *no.* 3-4, 349–370. 68Q22

Clò, M. Claudia MVA for product-form cyclic queueing networks with blocking. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 83–96. (Summary) **99f:90035** 90B22

— (*with* Balsamo, S.) A convolution algorithm for product-form queueing networks with blocking. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 97–117. (Summary) **99b:90053** 90B22 (60K25)

Cload, Bruce A. Composition operators: hyperinvariant subspaces, quasi-normals and isometries. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1697–1703. (John N. McDonald) **99i:47053** 47B38 (47A15)

Clopeau, Thierry (*with* Mikelić, Andro; Robert, Raoul) On the vanishing viscosity limit for the 2D incompressible Navier-Stokes equations with the friction type boundary conditions. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1625–1636. (Summary) **99g:35102** 35Q30 (73D30, 76D05)

saludes i Closa, Jordi *see* **Saludes i Closa, Jordi**

Clote, Peter G. A safe recursion scheme for exponential time. (English summary) *Logical foundations of computer science (Yaroslavl, 1997)*, 44–52, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Summary) **99a:68071** 68Q15 (03D15)

— (*with* Setzer, Anton) On PHP, *st*-connectivity, and odd charged graphs. *Proof complexity and feasible arithmetics (Rutgers, NJ, 1996)*, 93–117, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Piotr Wojtylak) **99c:03010** 03B05 (03F03, 68Q15)

— (*with* Hirst, Jeffry L.) Reverse mathematics of some topics from algorithmic graph theory. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 1–13. (Roman Murawski) **99j:03051** 03F35 (03B30)

Cloude, S. R. (*with* Tyrrell, A. M.; Tinniswood, A. D.) Parallel computation of RCS prediction using time domain integral equations. *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 187–197, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Clouet, J.-F. Diffusion approximation of a transport process in random media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1604–1621 (*electronic*). (Summary) **99d:35191** 35R60 (35K55, 82C70)

du Cloux, Fokko A transducer approach to Coxeter groups. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 3, 311–324. (Stephen P. Humphries) **99k:20084** 20F55 (05E15, 20–04)

Clozel, L. (*with* Venkataramana, T. N.) Restriction of the holomorphic cohomology of a Shimura variety to a smaller Shimura variety. *Duke Math. J.* **95** (1998), *no.* 1, 51–106. (Rutger Noot) **99g:11077** 11G18 (11F46, 11F55, 14G35, 22E55)

Clubok, K. (*with* Halpern, M. B.) The generic world-sheet action of irrational conformal field theory. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 120–130, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81210** 81T40

Cluet, Sophie (*with* Moerkotte, Guido) On the complexity of generating optimal left-deep processing trees with cross products. (English summary) *Database theory—ICDT '95 (Prague)*, 54–67, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68068** 68P15 (68Q25)

— (*with* Abiteboul, Serge; Milo, Tova) Correspondence and translation for heterogeneous data. *Database theory—ICDT '97 (Delphi)*, 351–363, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68T30)

— *see also* **Database programming languages, 99h:68004**

Cluett, W. R. (*with* Kalafatis, A. D.; Wang, Liuping) Identification of Wiener-type nonlinear systems in a noisy environment. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 923–941. 93E12

Clunie, Jim The composition of entire functions and their fixpoints. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 123–138. (I. N. Baker) **99i:30047** 30D35 (30D05)

Clyde, Merlise (*with* Parmigiani, Giovanni; Vidakovic, Brani) Multiple shrinkage and subset selection in wavelets. (English summary) *Biometrika* **85** (1998), *no.* 2, 391–401. 62G05

Cnops, J. Connections on embedded manifolds. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 23–34. (V. Oproiu) **99k:53034** 53C05 (53C50)

— Manifolds with and without embeddings. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 57–65, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Hans-Bert Rademacher) **99e:58168** 58G03 (53C05)

— Stokes' formula and the Dirac operator on embedded manifolds. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 25–38 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Hans-Bert Rademacher) **99i:58137** 58G03 (53C40, 58C35)

— Reproducing kernels and conformal mappings in $\mathbf{R}^n$. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 571–584. (Masahiro Uehara) **99c:30010** 30C40 (46E22)

nguyen van Co *see* **Nguyen Van Co**

Coad, D. S. (*with* Woodroofe, Michael) Approximate bias calculations for sequentially designed experiments. (English summary) *Sequential Anal.* **17** (1998), *no.* 1, 1–31. (Nitis Mukhopadhyay) **99i:62181** 62L10 (62L05)

Coandă, Iustin Restriction theorems for vector bundles via the methods of Roth and Strano. *J. Reine Angew. Math.* **487** (1997), 1–25. (Bernd Siebert) **99c:14055** 14J60

Coaplen, Joshua (*with* Bonney, Matthew; Doeff, Erik) What makes a good friend? The mathematics of rock climbing. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 674–679 (*electronic*). 34A30

Coates, John [Andrew J.] Wiles receives NAS award in mathematics. *Notices Amer. Math. Soc.* **43** (1996), *no.* 7, 760–763. 01A70

— (*with* Howson, Susan) Euler characteristics and elliptic curves. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11115–11117. (Franck Leprévost) **99b:11058** 11G05 (11G40)

— *see also* **Elliptic curves, modular forms & Fermat's last theorem, 99d:11002**

Cobbers, Henrik (*with* Kamps, Udo) A note on characterizations of the geometric distribution. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 187–190. (Summary) **99b:62011** 62E10 (62G30)

Cobeli, Cristian (*with* Zaharescu, Alexandru) On the distribution of primitive roots mod *p*. *Acta Arith.* **83** (1998), *no.* 2, 143–153. (D. R. Heath-Brown) **99a:11110** 11N69

Cobián, Agustín (*with* Rodríguez, Patricio; Nussbaum, Miguel; Baeza, Rodrigo; León, Gerardo; Sepúlveda, Marcos) Using global search heuristics for the capacity vehicle routing problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 407–417. 90C35 (90B06)

Cobo, Angel *see* **Cobo Ortega, Ángel**

muñoz-Cobo González, José Luis *see* **Muñoz-Cobo González, José Luis**

Cobo Ortega, Ángel (*with* Castillo, Enrique F.; Jubete, Francisco; Pruneda, Rosa Eva) ★ Orthogonal sets and polar methods in linear algebra. (English summary) Applications to matrix calculations, systems of equations, inequalities, and linear programming. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xiv*+422 *pp. ISBN* 0-471-32889-8 (From the preface) **99k:90001** 90-01 (15-01, 65F30, 90C05)

Cobos, Fernando (*with* Peetre, Jaak; Persson, Lars-Erik) On the connection between real and complex interpolation of quasi-Banach spaces. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 1, 17–37. (Mieczysław Mastyło) **99g:46108** 46M35 (46A03)

— (*with* Persson, Lars-Erik) Real interpolation of compact operators between quasi-Banach spaces. (English summary) *Math. Scand.* **82** (1998), *no.* 1, 138–160. (Evgeniy I. Pustylnik) **99g:46109** 46M35 (47B07)

Cobos, Jordi (*with* Simó, Carles) Reduction of the central manifold around a collinear equilibrium point of the restricted three-body problem. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 673–676, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70F07

Cobos Arribas, Pablo (*with* Sánchez Ávila, Carmen) Scattered deconvolution using the Wiener solution. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65U05 (94A12)

Cobzaş, Ştefan (*with* Mustăţa, Costică) Extension of bilinear operators and best approximation in 2-normed spaces. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 63–75. (A. S. Cavaretta) **99d:41063** 41A65 (46B99)

— ★ Analiză matematică (calculul diferenţial). (Romanian) [Mathematical analysis (differential calculus)] *Presa Universitară Clujeană, Cluj-Napoca*, 1997. 478 *pp. ISBN* 973-9261-49-3 (From the preface) **99h:00003** 00A05 (26-01, 46-01)

Cocan, Moise (*with* Pop, Bogdana) An algorithm for solving the problem of convex programming with several objective functions. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 79–88. (Laura Martein) **99k:90142** 90C29 (90C25)

gori Cocchieri, Candida *see* **Gori Cocchieri, Candida**

Cocco, N. (*with* Etalle, Sandro; Bossi, A.) Termination of well-moded programs. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 243–257. (Summary) **99i:68018** 68N17

Cochand, Maurice (*with* Károlyi, Gyula) On a graph colouring problem. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 249–252. (Summary) **99i:05077** 05C15

Cochelin, B. (*with* Najah, A.; Damil, N.; Potier-Ferry, Michel) A critical review of asymptotic numerical methods. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 1, 31–50. (Summary) **99a:73136** 73V99 (65-02)

Cochell, Gary G. The early history of the Cornell mathematics department: a case study in the emergence of the American mathematical research community. (English, German and Spanish summaries) *Historia Math.* **25** (1998), *no.* 2, 133–153. (Albert C. Lewis) **99e:01032** 01A73 (01A55)

Cochran, Lyle Proving convergence results for periodic continued fractions using linear algebra. *Comm. Anal. Theory Contin. Fractions* **5** (1996), 4–16. (Kh. I. Kuchmīns'ka) **99a:40001** 40A15 (15A18)

— (*with* Cooper, S. Clement) Symmetric orthogonal Laurent polynomials. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 111–141, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (H. S. P. Shrivastava) **99m:33013** 33E20 (30B10, 33C45, 40A99, 42C10)

Cochran, W. George (*with* Kuo, Hui-Hsiung; Sengupta, Ambar N.) A new class of white noise generalized functions. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 43–67. (Habib Ouerdiane) **99d:46062** 46F25 (46G12)

Cochrane, Todd (*with* Mitchell, Patrick) Small solutions of the Legendre equation. (English summary) *J. Number Theory* **70** (1998), *no.* 1, 62–66. (P. G. Walsh) **99a:11029** 11D09

— (*with* Dressler, Robert E.) Gaps between integers with the same prime factors. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 395–401. (Abderrahmane Nitaj) **99c:11118** 11N25 (11N05)

de Cock, Mieke *see* **De Cock, Mieke**

Cockayne, E. J. (*with* Favaron, Odile; Puech, Joël; Mynhardt, Christina M.) Packing, perfect neighbourhood, irredundant and *R*-annihilated sets in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 253–262. (Summary) **99f:05088** 05C70 (05C35)

— (*with* Hedetniemi, Sandra M.; Hedetniemi, Stephen T.; Mynhardt, Christina M.) Irredundant and perfect neighbourhood sets in trees. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 253–260. (Summary) **99a:05030** 05C05 (05C35)

— (*with* Favaron, Odile; Puech, Joël; Mynhardt, Christina M.) An inequality chain of domination parameters for trees. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 127–142. (Gary MacGillivray) **99m:05118** 05C70 (05C50)

Cockburn, Bernardo (*with* Shu, Chi-Wang) The Runge-Kutta discontinuous Galerkin method for conservation laws. V. Multidimensional systems. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 199–224. (Summary) **99c:65181** 65M60 (65L06, 76M25)

— (*with* Gremaud, Pierre-Alain; Yang, Jimmy Xiangrong) A priori error estimates for numerical methods for scalar conservation laws. III. Multidimensional flux-splitting monotone schemes on non-Cartesian grids. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1775–1803 (*electronic*). (Anne Nouri) **99g:65097** 65M60 (35L65, 65M15, 65N30)

— (*with* Shu, Chi-Wang) The local discontinuous Galerkin method for time-dependent convection-diffusion systems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2440–2463 (*electronic*). (Leonid K. Antanovskiĭ) **99j:65163** 65M60 (76M25)

Cockburn, Juan C. (*with* Tannenbaum, Allen R.) Multivariable stability margin optimization: a spectral tangential interpolation approach. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 577–590. 93D09

Cocke, W. J. (*with* Spector, M. D.) Incompressible turbulence and minimum Fisher information: correlations between velocity and pressure. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2055–2060. (Summary) **99d:76044** 76F05 (76M35)

Cockett, J. R. B. (*with* Spooner, David A.) Constructing process categories. (English summary) Mathematical foundations of programming semantics (Manhattan, KS, 1994). *Theoret. Comput. Sci.* **177** (1997), *no.* 1, 73–109. (Summary) **99d:68157** 68Q55 (18B99, 68Q10)

Coclite, Mario Michele Summable positive solutions of a Hammerstein integral equation with singular nonlinear term. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 625–639. (Anatolij Semenovich Kalitvin) **99h:45006** 45G05 (45M20, 47H30)

Cocozza-Thivent, Christiane ★ Processus stochastiques et fiabilité des systèmes. (French. French summary) [Stochastic processes and system reliability] Mathématiques & Applications [Mathematics & Applications], 28. *Springer-Verlag, Berlin*, 1997. *xiv*+435 *pp. ISBN* 3-540-63390-1 (Kyle Siegrist) **99h:60001** 60-01 (60G07, 60K10, 62N05)

Cocu, M. (*with* Thoulouze-Pratt, Elaine; Raous, M.) Constructive aspects of functional analysis for the treatment of frictional contact. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 109–120. (Ján Lovíšek) **99h:73070** 73T05 (73E60, 73F99, 73V25)

— (*with* Cangemi, L.; Raous, M.) Approximation results for a class of quasistatic contact problems including adhesion and friction. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 211–218, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99k:73109** 73T05 (73B30)

Coddington, Earl A. (*with* Carlson, Robert) ★ Linear ordinary differential equations. (English summary) *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1997. xii+341 *pp. ISBN* 0-89871-388-9 (Jerry Ridenhour) **99j:34001** 34-01 (34A30)

Codecà, P. (*with* Nair, Mohan) Extremal values of $\Delta(x,N)=\sum_{n<xN,(n,N)=1}1-x\varphi(N)$. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 335–347. (A. Perelli) **99g:11110** 11N25

Codenotti, Bruno (*with* Gerace, Ivan; Vigna, Sebastiano) Hardness results and spectral techniques for combinatorial problems on circulant graphs. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 123–142. (Mirosław Truszczyński) **99k:05107** 05C50 (05C15, 05C85, 15A18)

Codina, Ramon (*with* Blasco, Jordi; Huerta, Antonio) Convergence of a fractional-step method for the incompressible Navier-Stokes equation. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76M10 (65M06, 76D05)

— (*with* Blasco, Jordi) Finite element approximation of the Stokes problem using equal velocity-pressure interpolation. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 677–682, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M10 (76D07)

— Comparison of some finite element methods for solving the diffusion-convection-reaction equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 185–210. (Gert Lube) **99d:65280** 65M60 (76M10)

— (*with* Blasco, Jordi; Huerta, Antonio) A fractional-step method for the incompressible Navier-Stokes equations related to a predictor-multicorrector algorithm. (English

summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 10, 1391–1419. (Summary) **99i:76092** 76M20 (76D05, 76M10)

— Numerical solution of the incompressible Navier-Stokes equations with Coriolis forces based on the discretization of the total time derivative. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 467–496. (Summary) **99i:76088** 76M10 (76M20, 76U05)

Codish, Michael (*with* Taboch, Cohavit) A semantic basis for termination analysis of logic programs and its realization using symbolic norm constraints. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 31–45, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N17

— Efficient goal directed bottom-up evaluation of logic programs. (English summary) *J. Logic Programming* **38** (1999), *no.* 3, 355–370. 68N17

Coecke, Bob A representation for compound quantum systems as individual entities: hard acts of creation and hidden correlations. (English summary) *Found. Phys.* **28** (1998), *no.* 7, 1109–1135. (S. Gudder) **99h:81021** 81P15 (81P10)

— A representation for a spin-S entity as a compound system in $\mathbf{R}^3$ consisting of $2S$ individual spin-1/2 entities. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1347–1365. (S. Gudder) **99k:81102** 81R30 (81P15)

— (*with* Amira, Haroun; Stubbe, Isar) How quantales emerge by introducing induction within the operational approach. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 5, 554–572. (R. Gylys) **99k:81028** 81P10 (03G12, 06A23, 18B30)

— (*with* Valckenborgh, Frank) Hidden measurements, automorphisms, and decompositions in context-dependent components. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 311–321. (Summary) **99j:81019** 81P15 (81P05)

— A representation of projection lattices and their states in Euclidean space. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 603–612. (Sylvia Pulmannová) **99c:81010** 81P10 (03G12)

Coelho, Flávio Ulhoa (*with* Angeleri-Hügel, Lidia) A note on a certain class of tilted algebras. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 1–6, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99h:16021** 16G10 (16E10)

— On the number of indecomposable modules of infinite projective dimension. *Comm. Algebra* **26** (1998), *no.* 6, 1885–1893. (Sverre O. Smalø) **99b:16014** 16G10 (16E10, 16G60, 16G70)

Coelho, M. Purificação (*with* Duffner, M. Antónia) On the conversion of an immanant into another. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 111–130. (Summary) **99j:15009** 15A15

Coelho, Zaqueu (*with* Parry, William; Williams, Robert F.) A note on Livšic's periodic point theorem. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 223–230, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:58180** 58F15 (58F11, 58F20)

— (*with* Parry, William) Shift endomorphisms and compact Lie extensions. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 163–179. (G. R. Goodson) **99d:28027** 28D05 (58F11)

— (*with* Quas, Anthony N.) Criteria for $\overline{d}$-continuity. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3257–3268. (Mariusz Lemańczyk) **99d:28028** 28D05

Coelli, Tim A multi-stage methodology for the solution of orientated DEA models. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 143–149. 90C08 (90C29)

Coen, Salvatore An abacus of yesterday. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *no.* 1, 79–96. 01A99

— *see also* **Seminar: Geometry, 99b:00019**

Coetzee, Frans M. (*with* Stonick, Virginia L.) On producing multiple solutions using repeated trials. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 241–254. (Summary) **99e:65092** 65H10 (65H20)

Coetzee, M. A. (*with* Baart, M. L.) Transfinite interpolation of conic triangles using quadric patches. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 75–85. (Summary) **99a:65022** 65D17

Coffignal, G. (*with* Boisse, P.) Error through the constitutive relation for beam or C^0 plate finite elements: static and vibration analyses. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 493–512, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73K05, 73K10)

Coffman, E. G., Jr. (*with* Johnson, David Stifler; Shor, Peter W.; Weber, R. R.) Bin packing with discrete item sizes. II. Tight bounds on first fit. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 69–101. (Ding Zhu Du) **99m:68080** 68Q25

— (*with* Flajolet, Philippe; Flatto, Leopold; Hofri, Micha) The maximum of a random walk and its application to rectangle packing. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 373–386. (Ren Ding) **99f:60127** 60J15 (52C15)

— (*with* Kahale, Nabil; Leighton, Frank Thomson) Processor-ring communication: a tight asymptotic bound on packet waiting times. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1221–1236 (*electronic*). (Jian-Min Li) **99d:68032** 68M20 (90B12, 90B35)

— (*with* Gilbert, E. N.; Kogan, Yakov A.) Rediaing policies: optimality and success probabilities. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 37–53. (Volker Schmidt) **99m:60143** 60K25

Cogdell, James W. (*with* Piatetski-Shapiro, I. I.) Stability of gamma factors for SO($2n$ + 1). *Manuscripta Math.* **95** (1998), *no.* 4, 437–461. (David Ginzburg) **99d:11053** 11F70 (22E50)

— (*with* Chang, Jen-Tseh) n-homology of generic representations for GL(N). (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1251–1256. (Volker J. Heiermann) **99f:22021** 22E46 (20G05, 22E45, 22E47)

Cognola, Guido (*with* Zerbini, Sergio) Zeta-function on a generalised cone. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 95–101. (Summary) **99f:58217** 58G26 (81T16)

— (*with* Shapiro, I. L.) Back-reaction of the vacuum and the renormalization group flow from the conformal fixed point. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3411–3425. (Summary) **99g:81139** 81T17 (83C47)

Cohen, A. *see* **Cohen, Albert**

Cohen, A. M. *see* **Cohen, Arjeh Marcel**

Cohen, Agnès (*with* Shaked, Uri) Robust discrete-time H_2 control. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 213–231. 93B36 (93C55)

— (*with* Halevi, Yoram) Reduced-order observer for systems with piecewise constant inputs. (English summary) *Optimal Control Appl. Methods* **20** (1999), *no.* 1, 51–58. 93B07 (93B11, 93E10)

Cohen, Albert (*with* Dyn, Nira; Levin, David) Stability and inter-dependence of matrix subdivision schemes. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 33–45, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41041** 41A63 (42C15, 65D15)

— (*with* Meyer, Yves; Oru, F.) Improved Sobolev embedding theorem. *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XVI*, 16 *pp.*, *École Polytech., Palaiseau*, 1998. (J. Musielak) **99k:46053** 46E35 (26D20, 42C15)

novick-Cohen, Amy *see* **Novick-Cohen, Amy**

Cohen, Ariel Default reasoning and generics. (English summary) *Comput. Intelligence* **13** (1997), *no.* 4, 506–533. (Summary) **99b:03044** 03B70 (68T27)

Cohen, Arjeh Marcel (*with* de Graaf, W. A.; Rónyai, Lajos) Computations in finite-dimensional Lie algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 129–138. (Hartmut Schlosser) **99g:17002** 17–08 (17B01, 68Q40)

— (*with* Nebe, Gabriele; Plesken, Wilhelm) Maximal integral forms of the algebraic group G_2 defined by finite subgroups. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 282–308. (Andy R. Magid) **99i:20063** 20G25 (11E57, 20C33)

— *see also* **Some tapas of computer algebra, 99k:00038**

Cohen, Arthur (*with* Kushary, Debashis) Universal admissibility of maximum likelihood estimators in constrained spaces. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 131–146. (Sam Gutmann) **99i:62041** 62F10 (62C15)

Cohen, Daniel C. (*with* Suciu, Alexander I.) Homology of iterated semidirect products of free groups. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 87–120. (Paul Igodt) **99e:20064** 20J05 (20F36, 57M05)

— (*with* Suciu, Alexander I.) Alexander invariants of complex hyperplane arrangements. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4043–4067. (Richard Randell) **99m:52019** 52B30 (20F34, 57M05)

Cohen, David A. (*with* Jeavons, Peter; Gyssens, Marc) Closure properties of constraints. (English summary) *J. ACM* **44** (1997), *no.* 4, 527–548. (Armin Cremers) **99a:68089** 68Q25 (68Q15, 68R05, 68T20)

— (*with* Jeavons, Peter; Cooper, Martin C.) Constraints, consistency and closure. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 251–265. (Summary) **99d:68219** 68T20

Cohen, David M. (*with* Fredman, Michael L.) New techniques for designing qualitatively independent systems. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 411–416. (Summary) **99e:05030** 05B30

Cohen, David W. (*with* Matsueda, Hideaki) Reduction of theoretical uncertainty in quantum computing. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 701–711. 81P99

Cohen, Donald S. (*with* Erneux, Thomas) Controlled drug release asymptotics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1193–1204 (*electronic*). (Summary) **99c:92021** 92C50 (35Q80)

Cohen, E. G. D. Bogolubov and kinetic theory: the Bogolubov equations. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 7, 909–933. (Carlo Cercignani) **99a:82076** 82C40 (76P05, 82–02, 82–03)

Cohen, Edith (*with* Krishnamurthy, Balachander; Rexford, Jennifer) Evaluating server-assisted cache replacement in the web. (English summary) *Algorithms—ESA '98* (*Venice*), 307–319, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68U99

— (*with* Lewis, David D.) Approximating matrix multiplication for pattern recognition tasks. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 211–252. (Summary) **99k:68168** 68T10

— Structure prediction and computation of sparse matrix products. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 307–332. (Summary) **99m:65093** 65F50 (90C27)

— Fast algorithms for constructing t-spanners and paths with stretch t. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 210–236 (*electronic*). (Italo José Dejter) **99f:68089** 68Q25 (05C85, 68Q20, 68R10, 90C35)

Cohen, Ernie (*with* Lamport, Leslie) Reduction in TLA. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 317–331, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

Cohen, Frederick R. (*with* Levi, Ran) On the homotopy theory of p-completed classifying spaces. *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 157–182, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (A. H. Copeland, Jr.) **99e:55026** 55R35 (55Q52, 55R40)

— (*with* Tillmann, Ulrike) Toward homology operations for mapping class groups. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 35–46, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (J. M. Boardman) **99k:55019** 55S12 (57M20)

— On the Lusternik-Schnirelmann category of an iterated loop space. *Stable and unstable homotopy* (*Toronto, ON*, 1996), 39–41, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Octavian Cornea) **99g:55005** 55M30 (55P35)

— (*with* Vershinin, Vladimir V.) Thom spectra which are wedges of Eilenberg-MacLane spectra. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 43–65, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Saïd Zarati) **99e:55007** 55N22 (20F36, 55P42, 55Q45)

Cohen, G. *see* **Cohen, Guy**

Cohen, G. L. (*with* Petocz, P.) Proof by sporting analogy. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 5, 242–245. 05A19

— (*with* Deng, Mou Jie) On the conjecture of Jesmanowicz concerning Pythagorean triples. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 515–524. (Mao Hua Le) **99c:11034** 11D61

— (*with* Sorli, R. M.) Harmonic seeds. *Fibonacci Quart.* **36** (1998), *no.* 5, 386–390. (Marc Deléglise) **99j:11002** 11A05 (11Y70)

Cohen, Gary (*with* Monk, P. B.) Mur-Nédélec finite element schemes for Maxwell's equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 197–217. (Summary) **99k:78002** 78–08 (65M70, 78A45)

Cohen, Gérard Denis (*with* Honkala, Iiro; Litsyn, Simon; Lobstein, Antoine) ★Covering codes. North-Holland Mathematical Library, 54. *North-Holland Publishing Co., Amsterdam*, 1997. xxii+542 *pp. ISBN* 0-444-82511-8 (H. F. Mattson, Jr.) **99b:94059** 94B75 (05-02, 11T71)

Cohen, Guy (*with* Gaubert, Stéphane; Quadrat, Jean-Pierre) Algebraic system analysis of timed Petri nets. (English summary) *Idempotency (Bristol, 1994)*, 145–170, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Zbigniew Banaszak) **99b:93005** 93A30 (68Q90, 93B25)

— (*with* Gaubert, Stéphane; Quadrat, Jean-Pierre) Timed-event graphs with multipliers and homogeneous min-plus systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1296–1302. (Summary) **99f:93099** 93C83 (68Q90)

— (*with* El Farouq, N.) Progressive regularization of variational inequalities and decomposition algorithms. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 407–433. (Summary) **99c:49010** 49J40 (65K10, 90C30)

Cohen, Henri Computing in algebraic number fields. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 505–520, *Brepols, Turnhout*, 1998. (Joe P. Buhler) **99k:11193** 11Y40 (11R27, 11R29)

— (*with* Diaz y Diaz, F.; Olivier, Michel) Tables of octic fields with a quartic subfield. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1701–1716. (Ken Yamamura) **99m:11132** 11R37 (11R21, 11Y40)

Cohen, J. W. Analysis of the asymmetrical shortest two-server queueing model. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 115–162. (Ivo Adan) **99h:60161** 60K25

— On Ryszard Syski. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 223–224. 01A70

— On the asymmetric clocked buffered switch. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 3-4, 385–404. (Srinivas Chakravarthy) **99k:60228** 60K25 (90B12, 90B22)

Cohen, Jacob (*with* Malkiel, Edwin; Levinskiĭ, V. B.) The evolution of a localized vortex disturbance in external shear flows. II. Comparison with experiments in rotating shear flows. (English summary) *J. Fluid Mech.* **379** (1999), 351–380. (From the summary) **99k:76054** 76E05 (76-05, 76C05)

Cohen, Jason (*with* Resnick, Sidney I.; Samorodnitsky, Gennady) Sample correlations of infinite variance time series models: an empirical and theoretical study. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 255–282. 62M10 (60E07, 60G70)

Cohen, Jo-Ann (*with* Mathews, David; Shell, Niel) F-transcendental Ostrowski nets. (English summary) *Papers on general topology and applications (Flushing, NY, 1992)*, 316–323, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Niels Schwartz) **99b:12007** 12J10

Cohen, Joel E. (*with* Kemperman, J. H. B.; Zbăganu, Gh.) ★Comparisons of stochastic matrices. (English summary) With applications in information theory, statistics, economics, and population sciences. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *viii*+158 *pp. ISBN* 0-8176-4082-7 (E. Seneta) **99m:15023** 15A51 (60J10, 90A16, 94A24)

— Cooperation and self-interest: Pareto-inefficiency of Nash equilibria in finite random games. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 17, 9724–9731 (*electronic*). (Summary) **99k:90214** 90D12 (90D15)

Cohen, Joel M. (*with* Colonna, Flavia) Spectral analysis on homogeneous trees. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 253–274. (Summary) **99a:05097** 05C50 (05C05, 31C20, 43A99)

Cohen, Leon Generalization of the Gram-Charlier/Edgeworth series and application to time-frequency analysis. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 4, 363–372. (Summary) **99g:94002** 94A12 (94A11)

Cohen, Marion Review of *The man who loved only numbers* [Hyperion, New York, 1998; 1666054] by P. Hoffman. *Math. Intelligencer* **21** (1999), *no.* 2, 65–70. 01A70

Cohen, Miriam (*with* Westreich, Sara) Determinants and symmetries in "Yetter-Drinfeld" categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 267–289. (Mitsuhiro Takeuchi) **99e:16048** 16W30 (18D10)

Cohen, Nir (*with* Naimark, Leonid) H^∞ controller design for pure delay and other distributed systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 355–369. 93B36

— (*with* Urieli, Sharon; Porat, Moshe) Optimal reconstruction of images from localized phase. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 838–853. 94A12

— (*with* Kutscher, Tuvia) On spherical convergence, convexity, and block iterative projection algorithms in Hilbert space. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 271–291. (Dan Butnariu) **99i:47113** 47H17 (47H06, 47H09, 65J15)

Cohen, O. Erratum: "Pre- and postselected quantum systems, counterfactual measurements, and consistent histories" [Phy. Rev. A (3) **51** (1995), no. 6, 4373–4380; MR 96b:81005]. *Phys. Rev. A* (3) **56** (1997), *no.* 6, 5191. 81P05 (81P15)

Cohen, Paula Beazley (*with* Bombieri, Enrico) Siegel's lemma, Padé approximations and Jacobians. With an appendix by Umberto Zannier. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 155–178 (1998). (Michel Waldschmidt) **99k:11092** 11G30 (11J99, 14H40)

— (*with* Hudson, Robin L.; Parthasarathy, Kalyanapuram Rangachari; Pulmannová, Sylvia) Hall's transformation via quantum stochastic calculus. (English summary) *Quantum probability (Gdańsk, 1997)*, 147–155, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Timothy M. W. Eyre) **99h:81105** 81S25 (17B35)

— (*with* Hudson, Robin L.) Generators of quantum stochastic flows and cyclic cohomology. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 345–363. (B. V. Rajarama Bhat) **99e:46091** 46L85 (19D55, 46L60, 81S25)

Cohen, R. F. (*with* Tamassia, Roberto) Combine and conquer. (English summary) First European Symposium on Algorithms (Bad Honnef, 1993). *Algorithmica* **18** (1997), *no.* 3, 324–362. (Summary) **99g:68044** 68P05 (68Q20, 68Q25)

Cohen, Richard J. (*with* Feldman, A. B.; Chernyak, Yuri B.) Wave-front propagation in a discrete model of excitable media. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7025–7040. (Summary) **99d:92008** 92C05 (35B99, 35K55, 92B05)

— (*with* Chernyak, Yuri B.; Starobin, Joseph M.) Where do dispersion curves end? A basic question in theory of excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R*4108–*R*4111. 35K55 (35Q58)

Cohen, S. D. *see* **Cohen, Stephen D.**

Cohen, Serge (*with* Estrade, Anne) Régularisation d'équations de Stratonovitch à sauts entre variétés. (English and French summaries) [Regularization of Stratonovich equations with jumps between manifolds] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 233–265. (Jean Picard) **99j:60082** 60H10 (60H20, 60J75)

— (*with* Benassi, Albert; Istas, Jacques) Identifying the multifractional function of a Gaussian process. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 337–345. (Norbert Patzschke) **99h:60080** 60G15 (60G05, 60G17)

— (*with* Benassi, Albert; Istas, Jacques; Jaffard, Stéphane) Identification of filtered white noises. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 31–49. (José Rafael León) **99e:60104** 60G15 (60G18, 62G05)

Cohen, Stephen D. (*with* Movahhedi, A.; Salinier, A.) Double transitivity of Galois groups of trinomials. *Acta Arith.* **82** (1997), *no.* 1, 1–15. (Núria Vila) **99c:11139** 11R32 (11S15, 12E10, 12F10)

— Polynomial factorisation and an application to regular directed graphs. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 316–346. (Igor E. Shparlinski) **99h:11139** 11T06 (05C20, 11T71)

Cohen, Yosef (*with* Vincent, Thomas L.) The dynamics of evolutionary stable strategies. (English summary) With comments by W. J. Grantham. *Control and chaos (Honolulu, HI, 1995)*, 278–303, *Math. Model.*, 8, *Birkhäuser Boston, Boston, MA*, 1997. (B. Choczewski) **99g:92019** 92D15 (39A10, 58F13, 58F40, 90D80)

Cohen de Lara, Michel Finite-dimensional filters. I. The Wei-Norman technique. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 980–1001. (Daniel Ocone) **99c:93100** 93E11 (22E15, 60G35, 60H15, 93B29)

— Finite-dimensional filters. II. Invariance group techniques. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 1002–1029. (Daniel Ocone) **99c:93101** 93E11 (58G32, 60G35, 93B29)

— Reduction of the Zakai equation by invariance group techniques. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 119–130. (Mireille Chaleyat-Maurel) **99e:60108** 60G35 (58G32, 60H10)

Cohen-Or, Daniel (*with* Levin, David) Guided multi-dimensional reconstruction from cross-sections. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 47–55, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D15)

Cohn, Anthony G. (*with* Isli, Amar) An algebra for cyclic ordering of 2D orientations. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 643–649, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68187** 68T27

Cohn, Harry On the support and continuity of the limit distribution of a branching process in varying environments. (English summary) *Advances in mathematical population dynamics—molecules, cells and man (Houston, TX, 1995)*, 789–799, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:60093** 60J80

Cohn, Henry (*with* Larsen, Michael; Propp, James Gary) The shape of a typical boxed plane partition. (English summary) *New York J. Math.* **4** (1998), 137–165 (*electronic*). (David M. Bressoud) **99j:60011** 60C05 (05A16, 60K35)

Cohn, J. D. Fluctuations in the Hawking-Turok model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 063507 (9), 6 *pp.* 83C45

Cohn, J. H. E. The Diophantine system $x^2 - 6y^2 = -5, x = 2z^2 - 1$. *Math. Scand.* **82** (1998), *no.* 2, 161–164. (P. G. Walsh) **99h:11024** 11D09

Cohn, William S. The Bergman projection and vector-valued Hardy spaces. *Michigan Math. J.* **44** (1997), *no.* 3, 509–528. (Daniel H. Luecking) **99b:32005** 32A35 (42B25, 42B30, 46E40, 46J15)

— Hankel operators and Bergman projections on Hardy spaces. *Illinois J. Math.* **42** (1998), *no.* 3, 493–508. (Miroslav Engliš) **99d:47023** 47B35

— A factorization theorem for the derivative of a function in H^p. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 509–517. (Jacqueline Detraz) **99c:30064** 30D55

Cohoon, David K. Smoke and nonlinear differential equations. (English summary) *Internat. J. Appl. Sci. Comput.* **4** (1998), *no.* 3, 249–268. (J. R. Ockendon) **99a:82090** 82C99 (34A34, 76T05)

Coifman, Ronald R. (*with* Meyer, François G.) Brushlets: a tool for directional image analysis and image compression. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 2, 147–187. (Summary) **99c:42069** 42C15 (65T20)

— (*with* Averbuch, Amir; Beylkin, Gregory; Israeli, Moshe) Multiscale inversion of elliptic operators. (English summary) *Signal and image representation in combined spaces*, 341–359, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99a:65162** 65N35

Coimbra, C. F. M. (*with* Rangel, R. H.) General solution of the particle momentum equation in unsteady Stokes flows. (English summary) *J. Fluid Mech.* **370** (1998), 53–72. (Summary) **99e:76034** 76D07

Coimbra Charao, R. (*with* Astaburuaga, M. A.; Fernández, Claudio A.; Perla Menzala, Gustavo) Scattering frequencies for a perturbed system of elastic wave equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 52–75. (Akira Tsutsumi) **99a:35162** 35L50 (35B20, 47N20, 73D25)

Cojocaru, Ion A generalization of the weakly quasi-concave functions. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 105–109. 90C26 (26A51)

— (*with* Cojocaru, Sorin) On a function in the numbers theory. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova, 1997)*, 157–162, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A25

Cojocaru, S. *see* **Cojocaru, Svetlana**

Cojocaru, Sorin (*with* Cojocaru, Ion) On a function in the numbers theory. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory (Craiova, 1997)*, 157–162, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A25

Cojocaru, Svetlana (*with* Ufnarovskiĭ, V. A.) BERGMAN under MS-DOS and Anick's resolution. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 139–147. (Summary) **99e:16017** 16E99 (16S30, 68Q40)

Cojuhari, E. *see* **Kozhukhar', E. P.**

Cojuhari, P. *see* **Kozhukhar', P. A.**

Çöken, A. Ceylan Dupin indicatrix for pseudo-Euclidean hypersurfaces in pseudo-Euclidean spaces E_ν^{n+1}. (English summary) *Bull. Calcutta Math. Soc.* **89**

(1997), *no.* 4, 343–348. (Gabriel-Teodor Pripoae) **99d:53019** 53B30

Çoker, Doğan A note on intuitionistic sets and intuitionistic points. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 343–351. (Douglas S. Bridges) **99c:03100** 03F60 (03E70, 03F55)

— Fuzzy rough sets are intuitionistic L-fuzzy sets. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 381–383. (Summary) **99a:03053** 03E72

— (*with* Coşkun, Erdal) On neighborhood structures in intuitionistic topological spaces. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 3-4, 283–293. 54A99 (03F55)

Colagrossi, A. (*with* Yi, Bo; Tao, Xianping; Cioni, G.) Intuitive minimal abduction in sequent calculi. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 209–219. (Summary) **99b:68179** 68T27 (03B70)

Colaiori, Francesca (*with* Cardy, John L.) Directed percolation and generalized friendly random walkers. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 11, 2232–2235. (Summary) **99k:82037** 82B43 (82B41)

Çolak, Rifat (*with* Et, Mikail) On some generalized difference sequence spaces and related matrix transformations. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 483–492. (Summary) **99h:40012** 40J05 (46A45)

Colaneri, Patrizio (*with* Bolzern, P.; De Nicolao, G.) Optimal robust filtering with time-varying parameter uncertainty. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 557–576. 93E11 (93C41)

— (*with* Bittanti, Sergio; Mongiovì, Marco Fabio) From singular to nonsingular filtering of periodic systems: filling the gap with the spectral interactor matrix. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 222–227. 93E11 (93C80)

Colantonio, María C. (*with* Moiola, Jorge L.; Doñate, Pedro D.) Analysis of static and dynamic bifurcations from a feedback systems perspective. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 293–317. (Summary) **99a:34114** 34C23 (34H05, 93C15)

Colares, A. Gervasio (*with* Alencar, Hilario) Integral formulas for the r-mean curvature linearized operator of a hypersurface. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 203–220. (M. Elisa G. G. de Oliveira) **99k:53075** 53C21 (53C40, 53C42, 53C65)

Colavecchia, F. D. (*with* Gasaneo, G.; Garibotti, C. R.) Hypergeometric integrals arising in atomic collisions physics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6603–6612. (M. Lawrence Glasser) **99c:33008** 33C15 (33C70, 81V45)

Colbourn, Charles J. (*with* Chee, Yeow Meng; Ling, Alan C. H.) Weakly union-free twofold triple systems. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 215–225. (M. Stefănescu) **99g:05137** 05C65 (05B07, 05D05)

— (*with* Ling, Alan C. H.) Deleting lines in projective planes. (English summary) *Ars Combin.* **50** (1998), 129–138. (Summary) **99i:05051** 05B25 (05B05)

— (*with* Yin, Jian Xing) On directed incomplete transversal designs with block size five. (English summary) *Ars Combin.* **50** (1998), 215–224. (Summary) **99i:05028** 05B05

— (*with* Gallant, Robert P.) Asymptotic existence of tight orthogonal main effect plans. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 33–40. (Shinji Kuriki) **99i:62178** 62K99 (05B15)

— (*with* Ling, Alan C. H.) Point code minimum Steiner triple systems. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 141–146. (Vladimir D. Tonchev) **99b:05020** 05B07 (51E10, 94B05)

— (*with* Jiang, Zhike) Completing the spectrum of rotational Mendelsohn triple systems. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 153–160. (Chung Je Cho) **99a:05014** 05B07 (05B05)

— (*with* Bennett, Frank E.; Mullin, Ronald C.) Quintessential pairwise balanced designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 15–66. (Jeffrey H. Dinitz) **99i:05026** 05B05

— (*with* Gibbons, Peter B.) Uniform orthogonal group divisible designs with block size three. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 15–33. (Krystyna Katulska) **99g:05027** 05B07 (51E05)

— (*with* Xue, Guo Liang) A linear time algorithm for computing the most reliable source on a series-parallel graph with unreliable edges. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 331–345. (Summary) **99h:68018** 68M10 (05C85, 68M15, 90B25)

— (*with* Gallant, Robert P.) On uncollapsing three factor orthogonal main effect plans. (English summary) *Util. Math.* **54** (1998), 75–83. (Summary) **99g:05024** 05B05

Colby, Christopher (*with* Jategaonkar, Lalita; Jagadeesan, Radha; Läufer, Konstantin; Puchol, Carlos) The semantics of Triveni: a process-algebraic API for threads + events. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 27 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q10 (68Q55, 68Q90)

Colby, Latha S. (*with* Libkin, Leonid) Tractable iteration mechanisms for bag languages (preliminary report). (English summary) *Database theory—ICDT '97 (Delphi)*, 461–475, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68052** 68P15

Colding, Tobias H. Spaces with Ricci curvature bounds. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 299–308 (*electronic*). (William P. Minicozzi, II) **99j:53055** 53C23 (53C21)

— (*with* Minicozzi, William P., II) Weyl type bounds for harmonic functions. *Invent. Math.* **131** (1998), *no.* 2, 257–298. (Man Chun Leung) **99b:53052** 53C21 (58G30)

Cole, G. H. A. (*with* Dunning-Davies, J.) Time travel: fact or fiction? (English summary) *Hadronic J.* **20** (1997), *no.* 4, 317–328. 83A05

Cole, K. C. ★ The universe and the teacup. (English summary) The mathematics of truth and beauty. *Harcourt Brace & Company, New York*, 1998. $x+214$ *pp. ISBN* 0-15-100323-8 (E. J. Barbeau) **99g:00004** 00A05 (00A06)

Cole, Richard (*with* Hariharan, Ramesh) Approximate string matching: a simpler faster algorithm. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 463–472, *ACM, New York*, 1998. (Summary) **99d:68091** 68Q20

Colebrook, M. (*with* Ramos Domínguez, Rosa María; Ramos Domínguez, María Teresa; Sicilia Rodríguez, J.) Locating a facility on a network with multiple median-type objectives. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 221–235. (Summary) **99m:90153** 90C35 (05C12, 90B80)

lowen-Colebunders, Eva *see* **Lowen-Colebunders, Eva**

Colegrove, Thomas W. (*with* Werner, Douglas H.) On a new cylindrical harmonic representation for spherical waves. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 97–100. (Summary) **99m:78006** 78A25 (33C90)

Colella, Phillip (*with* Almgren, Ann S.; Bell, John B.; Howell, Louis H.; Welcome, Michael L.) A conservative adaptive projection method for the variable density incompressible Navier-Stokes equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 1–46. (Jian Guo Liu) **99k:76096** 76M20

— (*with* Johansen, Hans) A Cartesian grid embedded boundary method for Poisson's equation on irregular domains. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 60–85. (Larisa V. Maslovskaya) **99m:65231** 65N50

— (*with* Sussman, Mark; Almgren, Ann S.; Bell, John B.; Howell, Louis H.; Welcome, Michael L.) An adaptive level set approach for incompressible two-phase flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 81–124. (Małgorzata Peszyńska) **99m:76098** 76M25 (76T05)

— (*with* Dorr, Milo R.; Wake, Daniel D.) A conservative finite difference method for the numerical solution of plasma fluid equations. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 168–193. (Summary) **99i:76094** 76M20 (65M06, 76X05)

— (*with* Pao, Karen) A projection method for low speed flows. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 245–269. (Summary) **99k:76098** 76M20

Coleman, Donald B. (*with* Sandling, Robert) Mod 2 group algebras with metabelian unit groups. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 1, 25–36. (Alexander Zimmermann) **99j:16021** 16U60 (16S34, 20C05)

Coleman, Eoin *see* **Kolman, Oren**

Coleman, J. P. *see* **Coleman, John Patrick²**

Coleman, John P. *see* **Coleman, John Patrick²**

Coleman, John Patrick¹ Mixed interpolation methods with arbitrary nodes. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 69–83. (Antonio López-Carmona) **99c:41008** 41A10 (65D05)

Coleman, John Patrick² Topological equivalents to n-permutability. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 200–209. (Summary) **99c:08012** 08B99 (54H10)

— On weaker notions of scattered. *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 11–15. (Introduction) **99a:54020** 54D60 (54B20)

Coleman, M. D. The normal density of prime ideals in small regions. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 111–126. (D. R. Heath-Brown) **99a:11132** 11R44

— The Hooley-Huxley contour method for problems in number fields. I. Arithmetic functions. *J. Number Theory* **74** (1999), *no.* 2, 250–277. (D. R. Heath-Brown) **99m:11135** 11R47

Coleman, M. P. (*with* Chen, Goong; Ding, Zhong Hai) Some corner effects on the loss of selfadjointness and the non-excitation of vibration for thin plates and shells. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 213–239. (Serge Nicaise) **99d:73058** 73K12 (35Q72, 47N20, 73D30, 73K10)

Coleman, R. *see* **Coleman, Rodney Graham**

Coleman, Robert F. Classical and overconvergent modular forms of higher level. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 395–403. (Conjeeveram S. Rajan) **99g:11071** 11F85 (11F11)

— (*with* Tamagawa, Akio; Tzermias, Pavlos) The cuspidal torsion packet on the Fermat curve. (English summary) *J. Reine Angew. Math.* **496** (1998), 73–81. (Nguyen Khac-Viet) **99b:11066** 11G30 (11G10)

— (*with* Edixhoven, Bas) On the semi-simplicity of the U_p-operator on modular forms. *Math. Ann.* **310** (1998), *no.* 1, 119–127. (Alexey A. Panchishkin) **99b:11043** 11F25 (11F11, 11F33, 11F85)

Coleman, Rodney Crossings of random secants. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 103–108. (Hui Ling Le) **99e:60038** 60D05

Coleman, Rodney Graham On the construction of real canonical forms of Hamiltonian matrices whose spectrum is an imaginary pair. (English summary) *Math. Comput. Simulation* **46** (1998), *no.* 2, 117–155. (Frans Cantrijn) **99f:15015** 15A21 (34–04, 34C20, 58F05, 65F10)

— *see also* **Differential algebraic equations, 99h:34001**

Coleman, Thomas F. (*with* Verma, Arun²) Structure and efficient Hessian calculation. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 57–72, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:90110** 90C30 (65K05)

— (*with* Li, Yuying) Combining trust region and affine scaling for linearly constrained nonconvex minimization. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 219–250, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C26 (65K05)

— (*with* Santosa, Fadil; Verma, Arun²) Semi-automatic differentiation. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 113–126, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:65031** 65D25

— (*with* Verma, Arun²) The efficient computation of sparse Jacobian matrices using automatic differentiation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1210–1233 (*electronic*). (Florica Luban) **99d:65163** 65H10 (65D25, 90C30)

Coles, M. G. (*with* Burdett, Kenneth) Separation cycles. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 7, 1069–1090. 90A50 (92H10)

Coles, Richard J. (*with* Downey, Rodney G.; Khusainov, B. M.) On initial segments of computable linear orders. (English summary) *Order* **14** (1997/98), *no.* 2, 107–124. (Victor Selivanov) **99m:03088** 03D45 (03C57, 06A05)

Coles, Stuart G. (*with* Anderson, Clive W.; Hüsler, Jürg) Maxima of Poisson-like variables and related triangular arrays. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 953–971. (Toshio Mori) **99c:60108** 60G70

Colesanti, Andrea (*with* Salani, Paolo) Generalized solutions of Hessian equations. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 459–466. (John Urbas) **99f:35044** 35J60 (53C65)

— Convexity in finite dimension. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 93–96. 52A05 (26B25, 52A41)

— (*with* Campi, Stefano; Gronchi, Paolo) Blaschke-decomposable convex bodies. (English summary) *Israel J. Math.* **105** (1998), 185–195. (P. R. Goodey) **99g:52001** 52A20 (52A38, 52B12)

Coletsos, J. (*with* Chryssoverghi, I.; Bacopoulos, Alexis; Kokkinis, B.) Discrete approximation of nonconvex hyperbolic optimal control problems with state constraints. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 29–50. (Walter Alt) **99e:49040** 49M25 (49K20)

Coletti, Giulianella (*with* Scozzafava, Romano) Null events and stochastical independence. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 69–78. (Angelo Gilio) **99g:60006** 60A05

— (*with* Capotorti, Andrea; Vantaggi, Barbara) Non-additive ordinal relations representable by lower or upper probabilities. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 79–90. (Maria-Teresa Lamata) **99g:68199** 68T30 (03B48)

Coley, Alan A. (*with* Wainwright, J.; Ellis, George F. R.; Hancock, Matthew J.) On the isotropy of the Universe: do Bianchi VII_h cosmologies isotropize? (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 331–350. (Nora Bretón Báez) **99c:83017** 83C15 (83C20)

— (*with* Benoit, Patricia M.) Spherically symmetric spacetimes and kinematic self-similarity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2397–2414. (Alicia M. Sintes) **99g:83016** 83C20 (34C99)

— (*with* Sintes, A. M.; Carot, J.) Lie groups of conformal motions acting on null orbits. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 151–157. (Nora Bretón Báez) **99a:83023** 83C20

— (*with* Abolghasem, Hossein; Mc Manus, Des) Spherically symmetric solutions of Einstein's vacuum equations in five dimensions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1569–1608. (Alicia M. Sintes) **99i:83082** 83E15 (53C80, 83C20)

— (*with* Billyard, Andrew; Ibáñez, Jesus) Asymptotic behavior of cosmological models in scalar-tensor theories of gravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 023507, 9 *pp.* 83D05 (83F05)

— *see also* **Vera, Raül, 99e:83017**

Colin, Jérôme (*with* Grilhé, J.; Junqua, N.) Localized surface instabilities of stressed solids. (English summary) *Computational and mathematical models of microstructural evolution (San Francisco, CA, 1998)*, 27–32, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73B30

garcía-Colín, Leopoldo S. *see* **García-Colín, Leopoldo S.**

Colin, Thierry (*with* Fabrie, Pierre) Semidiscretization in time for nonlinear Schrödinger-waves equations. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 671–690. (B. M. Herbst) **99j:65180** 65M99

Colin, Violaine Formal microlocalization. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 289–293. (Andrea D'Agnolo) **99i:58140** 58G07 (32C38)

Colin de Verdière, Yves Les équations de Maxwell. [The Maxwell equations] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 115–125, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 58A14 (35Q60, 78A25)

— ★ Spectres de graphes. (French. English and French summaries) [Spectra of graphs] Cours Spécialisés [Specialized Courses], 4. *Société Mathématique de France, Paris*, 1998. *viii+*114 *pp. ISBN* 2-85629-068-X (Slobodan Simić) **99k:05108** 05C50

— Équations de Schrödinger couplées. [Coupled Schrödinger equations] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XX*, 12 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35S05 (35J10, 81Q05)

— Une introduction à la mécanique semi-classique. (French summary) [An introduction to semiclassical mechanics] *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 23–51. (J. S. Joel) **99m:58192** 58G25 (81Q20)

— Multiplicities of eigenvalues and tree-width of graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 121–146. (Yuan Hong) **99m:05103** 05C50

Coll, Bartomeu (*with* Caselles, Vicent; Morel, Jean-Michel) Partial differential equations and image smoothing. (English summary) *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XXI*, 32*pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Summary) **99d:94004** 94A12 (35Q80, 65D15, 65Y25)

— (*with* Caselles, Vicent; Morel, Jean-Michel) Junction detection and filtering. (English summary) *Foundations of computational mathematics (Rio de Janeiro*, 1997), 23–42, *Springer, Berlin*, 1997. (Summary) **99g:68213** 68U10 (65U05)

Coll, Carmen (*with* Estruch, Vicente D.; Hernández, Vicente G.; Sánchez, Elena) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 21 *pp.* (*electronic*). (Summary) **99e:93016** 93B15 (65F30)

— (*with* Estruch, Vicente D.; Hernández, Vicente G.; Sánchez, Elena) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 155–175. (John Maroulas) **99f:93021** 93B15 (49N20)

Collaço, M. Paula S. Oliveira (*with* Sarychev, Andrei V.) An example of a contractive mapping without fixed point. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 47–54. (Summary) **99k:54036** 54H25 (47H10)

Collamore, Jeffrey F. First passage times of general sequences of random vectors: a large deviations approach. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 97–130. (Ofer Zeitouni) **99j:60035** 60F10 (60G40)

von Collani, Elart A simple algorithm for calculating approximately the reliability of almost arbitrary large networks. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke*, 1997), 213–233, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 90B25 (62N05, 68M15)

— *see also* **Advances in stochastic models for reliability, quality and safety, 99f:62004**

fraguela-Collar, Andrés *see* **Fraguela-Collar, Andrés**

Collart, Stéphane (*with* Mall, Daniel) Toric degenerations of polynomial ideals and geometric localization of fans. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 443–464. (Alicia Dickenstein) **99k:13036** 13P10 (14M25, 68Q40)

Collas, Peter (*with* Klein, David Michael; Schwebler, Hans-Peter) Convergence of Hamiltonian systems to billiards. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 466–474. (Rafael Oswaldo Ruggiero) **99h:58061** 58F05

Coller, B. (*with* Aubry, Nadine; Berkooz, Gal; Elezgaray, J.; Holmes, Philip J.; Lumley, John L.; Poje, A. C.) Low-dimensional models, wavelet transforms and control. *Eddy structure identification (Udine*, 1994), 271–331, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (From the text) **99f:76068** 76Fxx (76M25)

Collet, J. F. (*with* Poupaud, Frédéric) Asymptotic behaviour of solutions to the diffusive fragmentation-coagulation system. (English summary) *Phys. D* **114** (1998), *no.* 1-2, 123–146. (Vitor R. Vieira) **99j:82051** 82C05 (35Q99, 82D15)

— (*with* Hariz, S.) A modified version of the Lifshitz-Slyozov model. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 81–85. (Summary) **99h:80010** 80A22

Collet, Pierre Some ergodic properties of maps of the interval. *Dynamical systems (Temuco*, 1991/1992), 55–91, *Travaux en Cours*, 52, *Hermann, Paris*, 1996. (Bernard Schmitt) **99c:58092** 58F11 (82C05)

— (*with* Eckmann, Jean-Pierre) Oscillations of observables in 1-dimensional lattice systems. (English summary) *Math. Phys. Electron. J.* **3** (1997), *Paper* 3, 19 *pp.* (*electronic*). (Karl Petersen) **99a:28014** 28D05 (82B05, 82C05)

— Stochasticity and chaos. (English summary) *Probability towards* 2000 (*New York*, 1995), 137–150, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Bernard Schmitt) **99i:58091** 58F11 (58F13, 58F15)

— Extended dynamical systems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 123–132 (*electronic*). (Mikhail P. Vishnevskii) **99j:35198** 35Q55 (35B40, 35K55, 58F39, 76E30)

— Amplitude equation for lattice maps, a renormalization group approach. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1075–1105. (Guido Schneider) **99d:58156** 58F39 (35Q55, 58F12, 76E30, 82C28)

— (*with* Martínez, Servet A.; Schmitt, Bernard) On the enhancement of diffusion by chaos, escape rates and stochastic instability. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2875–2897. (Viviane Baladi) **99j:58121** 58F11 (58F13, 60J10, 60J60)

— *see also* **Lesne, Annick, 99h:58125**

Colli, Eduardo Infinitely many coexisting strange attractors. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 5, 539–579. (Eleonora Catsigeras) **99g:58081** 58F13 (58F30)

Colli, Pierluigi (*with* Gilardi, Gianni; Grasselli, Maurizio) Convergence of phase field to phase relaxation models with memory. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 1–14 (1997). (Nobuyuki Kenmochi) **99a:35258** 35Q99 (35R35, 80A22)

— (*with* Chiusano, Laura) Positive kernel and zero time relaxation in a phase field model with memory. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 531–550. (Matthias Wilhelm Winter) **99f:45013** 45K05 (35G25, 80A22)

— (*with* Sprekels, Jürgen) Weak solution to some Penrose-Fife phase-field systems with temperature-dependent memory. (English summary) *J. Differential Equations* **142** (1998), *no.* 1, 54–77. (Si Ning Zheng) **99a:35251** 35Q72 (35D05, 73B30, 80A22)

— (*with* Laurençot, Philippe) Existence and stabilization of solutions to the phase-field model with memory. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 2, 169–194. (Galina I. Bizhanova) **99i:45016** 45K05 (35K55, 35R70, 73B30, 80A22)

— (*with* Laurençot, Philippe) Uniqueness of weak solutions to the phase-field model with memory. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 3, 459–476. (Toyohiko Aiki) **99j:35221** 35Q99 (35D05, 45K05, 73B30, 80A22)

— (*with* Bonfanti, Giovanna; Grasselli, Maurizio; Luterotti, Fabio) Nonsmooth kernels in a phase relaxation problem with memory. *Nonlinear Anal.* **32** (1998), *no.* 4, 455–465. (Igor Bock) **99c:35128** 35K85 (35Q72, 45K05, 73B30, 80A22)

— (*with* Grasselli, Maurizio; Sprekels, Jürgen) Automatic control via thermostats of a hyperbolic Stefan problem with memory. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 2, 229–255. (Mircea Lupu) **99k:93055** 93C20 (35R35, 73B30, 80A20)

— (*with* Gilardi, Gianni; Laurençot, Philippe; Novick-Cohen, Amy) Uniqueness and long-time behavior for the conserved phase-field system with memory. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 375–390. (Nobuyuki Kenmochi) **99k:73020** 73B30 (35Q72, 45K05, 80A22)

Colliander, J. E. (*with* Jerrard, Robert Leon) Vortex dynamics for the Ginzburg-Landau-Schrödinger equation. *Internat. Math. Res. Notices* **1998**, *no.* 7, 333–358. (From the introduction) **99c:35218; EA 99m** 35Q55 (58E50, 82D55)

— Wellposedness for Zakharov systems with generalized nonlinearity. *J. Differential Equations* **148** (1998), *no.* 2, 351–363. (Nakao Hayashi) **99h:35196** 35Q55

Collier, William (*with* Baginski, Frank; Williams, Tami) A parallel shooting method for determining the natural shape of a large scientific balloon. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 961–974 (*electronic*). (Summary) **99a:73080** 73K10 (34B15, 65L10, 73V20)

Colli Franzone, Piero (*with* Bellettini, Giovanni; Paolini, Maurizio) Convergence of front propagation for anisotropic bistable reaction-diffusion equations. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 325–358. (Yuzo Hosono) **99b:35090** 35K57 (35B25, 35Q80, 92C30, 92C50)

Collin, Olivier Floer homology for orbifolds and gauge theory knot invariants. (English summary) *KNOTS '96 (Tokyo)*, 201–212, *World Sci. Publishing, River Edge, NJ*, 1997. (Nikolai N. Saveliev) **99m:57003** 57M25 (57N10, 57R57)

Collings, Iain B. (*with* James, Matthew R.; Moore, John Barratt) An information-state approach to risk-sensitive tracking problems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 24 *pp.* (*electronic*). (Summary) **99h:93111** 93E20 (93E35)

Collini Lanzi, Tiziana An existence theorem for a nonlinear equation of the vibrating spring. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 221–236 (1997). (Varga Kalantarov) **99d:35162** 35Q72 (73D35)

Collino, Francis (*with* Joly, Patrick; Millot, Florence) Fictitious domain method for unsteady problems: application to electromagnetic scattering. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 907–938. (J. R. Kuttler) **99i:78003** 78–08 (65N55, 78A45)

— (*with* Monk, P. B.) Optimizing the perfectly matched layer. *IUTAM Symposium on Computational Methods for Unbounded Domains (Boulder, CO*, 1997), 245–254, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 78–08 (78A45)

— (*with* Monk, P. B.) Optimizing the perfectly matched layer. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 157–171. (Summary) **99h:78002** 78–08 (78A45)

— (*with* Monk, P. B.) The perfectly matched layer in curvilinear coordinates. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2061–2090 (*electronic*). (Summary) **99e:78029** 78A45 (65M99, 78–08)

— (*with* Fouquet, Thierry; Joly, Patrick) Une méthode de raffinement de maillage espace-temps pour le système de Maxwell en dimension un. (English and French summaries) [A space-time mesh refinement method for the 1D Maxwell system] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 263–268. (Summary) **99k:78001** 78–05 (65M55, 78A25)

Collins, Arthur W. On the question "do numbers exist?". *Philos. Quart.* **48** (1998), *no.* 190, 23–36. (Stewart Shapiro) **99d:00004** 00A30 (03A05)

Collins, C. L. (*with* McCarthy, J. M.) The quartic singularity surfaces of planar platforms in the Clifford algebra of the projective plane. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 7, 931–944. (Summary) **99f:70005** 70B15

Collins, Charles R. Convergence of a reduced integration method for computing microstructures. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1271–1298 (*electronic*). (Rustum Choksi) **99c:73076** 73V05 (65N30, 73S10)

Collins, David[2] (*with* Kim, Ki Wook; Holton, W. C.) Deutsch-Jozsa algorithm as a test of quantum computation. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, *R*1633–*R*1636. (Summary) **99d:81024** 81P99

Collins, E. J. (*with* McNamara, J. M.) Finite-horizon dynamic optimisation when the terminal reward is a concave functional of the distribution of the final state. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 122–136. (Jean B. Lasserre) **99a:90225** 90C40 (92D40, 93E20)

Collins, Emmanuel G., Jr. (*with* Haddad, Wassim M.; Moser, Raymond) Structured singular value controller synthesis using constant D-scales without D-K iteration. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 813–830. 93B51 (93D15)

— (*with* Haddad, Wassim M.; Hyland, David C.; Chellaboina, Vijaya-Sekhar) Frequency-domain performance bounds for uncertain structures with sensor and actuator dynamics. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 381–392. 93C80 (93C42)

— (*with* Hyland, David C.; Haddad, Wassim M.; Hunter, Douglas L.) Neural network system identification for improved noise rejection. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 233–258. 93B30 (93C95)

— (*with* Ge, Yuzhen; Watson, Layne T.) Genetic algorithms for optimization on a quantum computer. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 218–227, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68T05 (68Q05, 90C27)

— (*with* Sadhukhan, Debashis) A comparison of descent and continuation algorithms for H_2 optimal, reduced-order control designs. (English summary) *Internat. J. Control* **69** (1998), *no.* 5, 647–662. 93B36 (93B40)

— (*with* Song, Tinglun) A delta operator approach to discrete-time H_∞ control. (English summary) *Internat. J. Control* **72** (1999), *no.* 4, 315–320. (Summary) **99j:93030** 93B36 (93C62)

Collins, G. J. (*with* Budd, C. J.) Symmetry based numerical methods for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 16–36, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65113** 65L99 (65M99)

Collins, George E. Quantifier elimination by cylindrical algebraic decomposition—twenty years of progress. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 8–23, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 03C10 (03C60, 03C62, 12L05, 68Q40)

— Quantifier elimination for real closed fields by cylindrical algebraic decomposition. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 85–121, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 03C10 (03B25, 03C60, 03C62, 12D15, 12L05, 68Q25, 68Q40)

— (*with* Arnon, Dennis S.; McCallum, Scott) Cylindrical algebraic decomposition. I. The basic algorithm. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 136–151, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40

— (*with* Arnon, Dennis S.; McCallum, Scott) Cylindrical algebraic decomposition. II. An adjacency algorithm for the plane. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 152–165, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40

— (*with* Hong, Hoon) Partial cylindrical algebraic decomposition for quantifier elimination. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 174–200, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (03C10)

Collins, James J. (*with* Golubitsky, Martin; Stewart, Ian N.; Buono, Pietro-Luciano) A modular network for legged locomotion. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 56–72. (Summary) **99d:92051** 92D50 (34C99)

— (*with* Osipov, G. V.; Shulgin, Boris V.) Controlled movement and suppression of spiral waves in excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 6955–6958. 35Q80

Collins, Karen L. (*with* Albertson, Michael O.) An introduction to symmetry breaking in graphs. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 6–7. (*see* **99g:05001**) 05C25 (05C15)

— Circulants and sequences. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 330–339 (*electronic*). (Michael O. Albertson) **99c:05061** 05C15 (05C25)

Collins, Michael D. (*with* Siegmann, William L.) Parabolic equation techniques for wave propagation. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 3–11, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35K99 (35J05, 73D15, 76Q05, 78A40)

Collins, Michael J. *see* **Collins, Michael Joseph**

Collins, Michael John Blocks, normal subgroups, and Brauer's third main theorem. *J. Algebra* **213** (1999), *no.* 1, 69–76. (Jian Bei An) **99m:20010** 20C20

Collins, Michael Joseph (*with* Moret, Bernard M. E.) Improved lower bounds for the link length of rectilinear spanning paths in grids. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 317–319. (Summary) **99i:68089** 68R10

Collins, Oliver M. (*with* MacMullan, Samuel J.) The capacity of binary channels that use linear codes and decoders. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 197–214. (Summary) **99b:94023** 94A40 (94B05)

— (*with* MacMullan, Samuel J.) A comparison of known codes, random codes, and the best codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3009–3022. (Summary) **99j:94082** 94B65

Collins, P. J. (*with* Morita, Kiiti) Coverings versus entourages. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 125–130. (J. R. Isbell) **99a:54021** 54E15 (54E25, 54E35)

Colliot-Thélène, J.-L. (*with* Skorobogatov, A. N.; Swinnerton-Dyer, H. P. F.) Hasse principle for pencils of curves of genus one whose Jacobians have rational 2-division points. *Invent. Math.* **134** (1998), *no.* 3, 579–650. (David Harari) **99k:11095** 11G35 (14G25)

— (*with* Skorobogatov, A. N.; Swinnerton-Dyer, H. P. F.) Rational points and zero-cycles on fibred varieties: Schinzel's hypothesis and Salberger's device. *J. Reine Angew. Math.* **495** (1998), 1–28. (R. T. Hoobler) **99i:14027** 14G25 (11G35, 14C25, 14D10)

Collombier, Dominique ★ Plans d'expérience factoriels. (French. French summary) [Factorial experimental designs] Construction et propriétés des fractions de plans. [Construction and properties of fractions of designs] Mathématiques & Applications [Mathematics & Applications], 21. *Springer-Verlag, Berlin*, 1996. *viii*+194 *pp. ISBN* 3-540-60487-1 (I. M. Chakravarti) **99m:62115** 62K15 (62K05)

Collot, M. (*with* Destuynder, Philippe; Salaün, Michel) A mathematical framework for the P. Ladevèze a posteriori error bounds in finite element methods. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 65–78, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N30 (73V05)

Colman, W. J. A. Diophantus revisited. (English summary) *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 2, 43–47. (Andrew Bremner) **99c:11030** 11D09 (11–03)

Colmez, Pierre Sur la hauteur de Faltings des variétés abéliennes à multiplication complexe. (English summary) [On the Faltings height of abelian varieties with complex multiplication] *Compositio Math.* **111** (1998), *no.* 3, 359–368. (Antoine Chambert-Loir) **99e:11074** 11G15 (14K22)

— A generalization of Coleman's isomorphism. Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 110–112. (*see* **99d:11001**) 11R23

— (*with* Cherbonnier, Frédéric) Théorie d'Iwasawa des représentations p-adiques d'un corps local. [Iwasawa theory of p-adic representations of a local field] *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 241–268. (Thống Nguyễn-Quang-Đỗ) **99g:11141** 11S23 (11R23, 11S25)

Colombini, Ferruccio (*with* Del Santo, Daniele) Formation of singularities for nonlinear hyperbolic 2×2 systems with periodic data. *Osaka J. Math.* **34** (1997), *no.* 4, 843–857. (Jean-Marc Delort) **99c:35151** 35L67 (35A30, 35L60)

Colombo, Elisabetta (*with* Pirola, Gian Pietro) An intersection result for families of abelian varieties. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 2, 111–122. (Ben Moonen) **99c:14058** 14K05 (14C17, 14C20)

Colombo, Fabrizio (*with* Lorenzi, A.) An inverse problem in the theory of combustion of materials with memory. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 133–154. (Gottfried Anger) **99k:35189** 35R30 (35K60, 45K05, 80A25)

— Inverse problems, quasilinear equations and analytic semigroups. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 97–100. 45J05 (34K30, 47D06, 47N20)

— (*with* Loustaunau, Philippe; Sabadini, Irene; Struppa, Daniele C.) Regular functions of biquaternionic variables and Maxwell's equations. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 183–201. (Igor M. Mitelman) **99g:32021** 32D20 (30G35, 78A25)

— (*with* Monte, Roberto; Vespri, Vincenzo) On some equations about European option pricing. *Systems modelling and optimization* (*Detroit, MI*, 1997), 33–41, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90A09

— (*with* Giuli, Massimiliano; Vespri, Vincenzo) Generation of smoothing semigroups by degenerate elliptic operators arising in financial mathematics. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 283–302. (Michael A. Perel'muter) **99k:47085** 47D06 (35J70, 90A09)

Colombo, Rinaldo M. (*with* Bressan, Alberto) Decay of positive waves in nonlinear systems of conservation laws. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 133–160. (Christophe Cheverry) **99e:35136** 35L65 (35B05)

— (*with* Risebro, Nils Henrik) Continuous dependence in the large for some equations of gas dynamics. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1693–1718. (Stefan Diehl) **99h:35124** 35L65 (47H20, 76N15)

— (*with* Amadori, Debora) Viscosity solutions and standard Riemann semigroup for conservation laws with boundary. (English summary) *Rend. Sem. Mat. Univ. Padova* **99** (1998), 219–245. (Christophe Cheverry) **99h:35122** 35L65 (35D05, 47H20)

Colomo, Filippo (*with* Cappelli, Andrea) Solving the frustrated spherical model with q-polynomials. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3141–3151. (Summary) **99a:82013** 82B20 (33D90, 82B23)

Colonius, Fritz (*with* Kliemann, Wolfgang) Control theory and dynamical systems. (English summary) *Six lectures on dynamical systems* (*Augsburg*, 1994), 121–161, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexandr V. Pukhlikov) **99e:93001** 93–02 (34C35, 34H05, 58F40, 93C10)

— (*with* Kliemann, Wolfgang; San Martin, Luiz A. B.) Asymptotic problems—from control systems to semigroups. *Positivity in Lie theory: open problems*, 21–43, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Kevin A. Grasse) **99k:58027** 58D07 (34C35, 34D05, 93D05)

— (*with* Kliemann, Wolfgang) Topological, smooth, and control techniques for perturbed systems. (English summary) *Stochastic dynamics* (*Bremen*, 1997), 181–208, *Springer, New York*, 1999. (Klaus R. Schenk-Hoppé) **99m:58166** 58F30 (34C35, 58F14, 60H10, 93C10)

Colonius, Hans (*with* Ellermeier, Wolfgang) Distribution inequalities for parallel models of reaction time with an application to auditory profile analysis. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 19–27. (Joachim Krauth) **99b:92069** 92J30

Colonna, Flavia (*with* Cohen, Joel M.) Spectral analysis on homogeneous trees. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 253–274. (Summary) **99a:05097** 05C50

(05C05, 31C20, 43A99)

Colovas, Peter W. (*with* Andereck, C. David; Degen, Michael M.; Renardy, Yuriko Yamamuro) Instabilities in two layer Rayleigh-Bénard convection: overview and outlook. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1451–1470. (Summary) **99i:76052** 76E15 (86A10)

Colpaert, J. (*with* Omey, E.) A note on two inventory models. *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 403–410. (R. Subramanian) **99b:90041** 90B05 (60K30)

Colpi, Riccardo (*with* D'Este, Gabriella) Equivalences represented by faithful non-tilting $*$-modules. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 103–110, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Andrei Marcus) **99h:16006** 16D90 (16E30)

— (*with* D'Este, Gabriella; Tonolo, Alberto) Corrigendum: "Quasi-tilting modules and counter equivalences" [J. Algebra **191** (1997), no. 2, 461–494; MR 98g:16003]. *J. Algebra* **206** (1998), *no.* 1, 370. (Lidia Angeleri Hügel) **99g:16008** 16D90 (16E30, 16G20)

Colson, Loïc Functions versus algorithms. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 65 (1998), 98–117. 68Q05 (03F30, 68N15)

Colţoiu, Mihnea (*with* Diederich, Klas) Open sets with Stein hypersurface sections in Stein spaces. *Ann. of Math.* (2) **145** (1997), *no.* 1, 175–182. (Introduction) **99a:32012** 32E10

— On the Oka-Grauert principle for 1-convex manifolds. *Math. Ann.* **310** (1998), *no.* 3, 561–569. (Sławomir Kołodziej) **99c:32040** 32L05 (32D15, 32F10)

— On 1-convex manifolds with 1-dimensional exceptional set. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 97–104. (Giuseppe Tomassini) **99k:32023** 32F10

Colton, David L. A survey of selected topics in inverse electromagnetic scattering theory. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 105–127, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Zhen-qiu Lu) **99a:78023** 78A45 (35Q60, 35R30)

— (*with* Piana, Michele; Potthast, Roland) A simple method using Morozov's discrepancy principle for solving inverse scattering problems. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1477–1493. (Elsayed Mohamed E. Zayed) **99b:35209** 35R30 (35J05, 65N99, 76Q05, 78A45)

— (*with* Kress, Rainer) ★ Inverse acoustic and electromagnetic scattering theory. (English summary) Second edition. Applied Mathematical Sciences, 93. *Springer-Verlag, Berlin*, 1998. *xii*+334 *pp. ISBN* 3-540-62838-X (From the preface) **99c:35181** 35P25 (35J05, 35Q60, 76Q05, 78A45)

— Recent progress on the inverse electromagnetic scattering problem for anisotropic media. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 22–33, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A45 (35P25, 35R30)

— (*with* Piana, Michele) The simple method for solving the electromagnetic inverse scattering problem: the case of TE polarized waves. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 597–614. (B. Belinskiy) **99e:78030** 78A45 (35Q60, 35R30, 78–08)

— (*with* Monk, P. B.) A linear sampling method for the detection of leukemia using microwaves. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 926–941 (*electronic*). (Summary) **99b:92019** 92C50 (35R30, 78A55)

farach-Colton, Martin *see* **Farach-Colton, Martin**

Colubri, Andrés (*with* Fernández, Ariel) Microscopic dynamics from a coarsely defined solution to the protein folding problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3167–3187. (James L. Cornette) **99i:92014** 92D20 (92E10)

Coluzzi, Barbara (*with* Parisi, Giorgio) On the approach to the equilibrium and the equilibrium properties of a glass-forming model. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4349–4368. (Summary) **99b:82087** 82D30

pasquali-Coluzzi, Dario *see* **Pasquali-Coluzzi, Dario**

gylys-Colwell, Frederick D. *see* **Gylys-Colwell, Frederick D.**

Colzani, Leonardo (*with* Brandolini, Luca; Travaglini, Giancarlo) Average decay of Fourier transforms and integer points in polyhedra. *Ark. Mat.* **35** (1997), *no.* 2, 253–275. (Driss Essouabri) **99e:42021** 42B08 (11P21, 42B10)

Coman, Dan Integration by parts for currents and applications to the relative capacity and Lelong numbers. *Mathematica* **39(62)** (1997), *no.* 1, 45–57. (Norman Levenberg) **99c:32006** 32C30 (32F07)

— Boundary behavior of the pluricomplex Green function. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 341–353. (Sławomir Kołodziej) **99i:32018** 32F05

Coman, Gheorghe (*with* Gânscă, Ioan; Ţâmbulea, Leon) Contributions to rational Bézier curves and surfaces. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 107–116, *Transilvania, Cluj-Napoca*, 1997. (From the introduction) **99a:65023** 65D17 (41A15)

— *see also* **Stancu, Dimitrie D., 99k:01075**

Comar, Timothy D. (*with* Taylor, Edward C.[2]) Geometrically convergent Kleinian groups and the lowest eigenvalue of the Laplacian. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 601–623. (Ken-ichi Ohshika) **99f:58210** 58G25 (57M50)

Comay, E. Differences between Proca fields and massive particles. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 6, 733–743. (Summary) **99d:81049** 81R20

Comba, João (*with* Naylor, Bruce) Conversion of binary space partitioning trees to boundary representation. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 286–301, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99f:65212** 65Y25 (52–04)

Combari, C. (*with* Elhilali Alaoui, A.; Levy, Adam B.; Poliquin, R. A.; Thibault, L.) Convex composite functions in Banach spaces and the primal lower-nice property. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3701–3708. (Doug Ward) **99b:49016** 49J52 (46G05, 46N10, 58C20)

häussler-Combe, U. *see* **Häussler-Combe, U.**

Combes, J. M. (*with* Hislop, P. D.; Mourre, E.) Correlated Wegner inequalities for random Schrödinger operators. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 191–203, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Peter Stollmann) **99b:82047** 82B44 (35J10, 35R60)

Combescure, Alain (*with* Zeng, Qiang[2]) A new one-point quadrature, general non-linear quadrilateral shell element with physical stabilization. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1307–1338. (Summary) **99c:73082** 73V05

Comeau, A. Raymond (*with* Hori, Noriyuki) State-space forms for higher-order discrete-time models. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 23–31. (A. T. Barabanov) **99m:93061** 93C55 (49M25, 93A30)

Comech, Andrew Integral operators with singular canonical relations. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 200–248, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Andreas Seeger) **99f:58198** 58G15 (35L99, 35S30, 47G30)

— Sobolev estimates for the Radon transform of Melrose and Taylor. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 5, 537–550. (Vladimir A. Sharafutdinov) **99h:44004** 44A12 (46F12)

Comellas, F. (*with* Mitjana, M.) Broadcasting in cycle prefix digraphs. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 31–39. (Summary) **99c:68191** 68R10 (05C20, 68M10)

Comer, Douglas E. (*with* Atallah, Mikhail J.) Algorithms for variable length subnet address assignment. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 6, 693–699. (Summary) **99d:68017** 68M10

Comets, Francis (*with* Giacomin, Giambattista; Lebowitz, Joel L.) The Sherrington-Kirkpatrick model with short range ferromagnetic interactions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 57–62. (Barbara Gentz) **99k:82040** 82B44

Cometti, Jean-Pierre *see* **Hintikka, Jaakko, (99f:03005)**

Çömez, Doğan Convergence of moving averages of multiparameter superadditive processes. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 135–148 (*electronic*). (Joseph Max Rosenblatt) **99f:28032** 28D99

— (*with* Ferrando, Sebastian) On the sequences that are good in the mean for positive L_p-contractions, $1 \le p < \infty$. *Illinois J. Math.* **42** (1998), *no.* 4, 617–629. (Radu Zaharopol) **99i:47014** 47A35 (28D05, 47B38, 47B65)

— Moving averages of superadditive processes with respect to L_p-contractions, $1 < p < \infty$. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 875–883. (Joseph Max Rosenblatt) **99j:47012** 47A35 (28D05)

Comfort, W. W. (*with* Gladdines, Helma; van Mill, Jan) Proper pseudocompact subgroups of pseudocompact abelian groups. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 237–247, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Dieter Remus) **99g:22005** 22C05 (54H11)

— (*with* Soundararajan, T.; Trigos-Arrieta, F. Javier) Determining a weakly locally compact group topology by its system of closed subgroups. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 248–261, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Dieter Remus) **99d:22002** 22A05 (22D05, 54H11)

— (*with* Remus, Dieter) Long chains of topological group topologies—a continuation. (English summary) *Topology Appl.* **75** (1997), *no.* 1, 51–79. (Michael Tkačenko) **99a:22002** 22A05 (54H11)

— (*with* van Mill, Jan) How many ω-bounded subgroups? (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 105–113. (Dieter Remus) **99d:22003** 22A05 (54H11)

— (*with* Morris, Sidney A.; Robbie, Desmond; Svetlichny, Sergey; Tkachenko, M. G.) Suitable sets for topological groups. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 25–46. (Klaas Pieter Hart) **99g:54033** 54H11 (22A05, 54A25)

Comi, Claudia A gradient damage model for dynamic localization problems. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 119–141 (1997). (Summary) **99a:73067** 73E99 (73B99, 73V05)

Čomić, Irena Recurrent Hamilton spaces with generalized Miron's d-connection. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 90–104. 53B40

— (*with* Anastasiei, Mihai) Geometry of k-Lagrange spaces of second order. 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Mat. Vesnik* **49** (1997), *no.* 1, 15–22. (Ramhit Ojha) **99d:53020** 53B40

— Different adapted bases and metrical generalized connections. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 117–132. (L. Tamássy) **99k:53026** 53B40

Cominetti, Roberto (*with* Pérez-Cerda, José Manuel) Quadratic rate of convergence for a primal-dual exponential penalty algorithm. (English summary) *Optimization* **39** (1997), *no.* 1, 13–32. (Vladimir I. Venets) **99a:90184** 90C30

— (*with* Bonnans, J. Frédéric; Shapiro, Alexander) Sensitivity analysis of optimization problems under second order regular constraints. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 806–831. (Adam B. Levy) **99g:90139** 90C31

Comini, Gianni *see* **Advances in fluid mechanics, 99k:76003**

Comini, Marco (*with* Meo, Maria Chiara) Compositionality properties of SLD-derivations. (English summary) *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 275–309. (Summary) **99m:68030** 68N17 (68Q15, 68Q55)

Commault, Christian Feedback stabilization of some event graph models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1419–1423. (Summary) **99e:93062** 93D15 (93C99)

— (*with* Dion, Jean-Michel; Benahcene, M.) Decoupling of structured systems by parameter-independent precompensation and state feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 348–352. 93B15 (93C05)

Commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques" *see* **Histories of problems. History of mathematics, 99m:00001a** *and* **History of mathematics. Histories of problems, 99m:00001b**

Commuri, S. (*with* Jagannathan, Sarargapani; Lewis, Frank L.) Feedback linearization using CMAC neural networks. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 547–557. (Summary) **99c:93068** 93C40 (93C83)

Comon, Hubert (*with* Narendran, Paliath; Nieuwenhuis, Robert; Rusinowitch, Michael) Decision problems in ordered rewriting. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 276–286, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68070** 68Q42

— Completion of rewrite systems with membership constraints. I. Deduction rules. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 4, 397–419. (Ralph W. Wilkerson) **99f:68114** 68Q42

— Completion of rewrite systems with membership constraints. II. Constraint solving. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 4, 421–453. (Ralph W. Wilkerson) **99f:68115** 68Q42

Compagnone, Daniele (*with* Denker, Manfred) Nonparametric tests for scale and location. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 2, 123–154. (Summary) **99b:62077** 62G10

Companys, Ramon (*with* Bautista, Joaquín; Corominas, Albert) Modelling and solving the production rate variation problem (PRVP). (English summary) *Top* **5** (1997), *no.* 2, 221–239. (Summary) **99c:90059** 90B30 (90C27)

Comparato, Susanna Lower semicontinuity for quasi-convex functionals depending on nonlinear operators. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 641–652. (Giovanni Alberti) **99g:49012** 49J45 (26B25, 46E35, 47N10)

garcía-Compeán, Hugo *see* **García-Compeán, Hugo**

Compoint, E. *E*-fonctions hypergéométriques et groupes de Galois orthogonaux. (French summary) [Hypergeometric *E*-functions and orthogonal Galois groups] *J. Algebra* **199** (1998), *no.* 2, 404–429. (Ş. A. Basarab) **99d:12003** 12H05 (11J85, 33C15)

Compte, Olivier Communication in repeated games with imperfect private monitoring. (English summary) *Econometrica* **66** (1998), *no.* 3, 597–626. (Tatsuro Ichiishi) **99h:90127** 90D20

Comte, Auguste *see* **Petit, Annie**, (**99g:01038**)

Comte, F. Discrete and continuous time cointegration. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 207–226. (Summary) **99i:62200** 62M10 (62P20)

Comte, Georges Multiplicity of complex analytic sets and bi-Lipschitz maps. (English summary) *Real analytic and algebraic singularities (Nagoya/Sapporo/Hachioji,* 1996), 182–188, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Massimo Ferrarotti) **99a:32048** 32S05 (32S50)

Comte, Myriam (*with* Mironescu, Petru) A bifurcation analysis for the Ginzburg-Landau equation. *Arch. Rational Mech. Anal.* **144** (1998), *no.* 4, 301–311. (Achilles Tertikas) **99m:35220** 35Q55 (34B15, 35B32, 35J10)

Comtet, Alain (*with* Monthus, Cécile; Yor, Marc) Exponential functionals of Brownian motion and disordered systems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 255–271. (Paul McGill) **99g:60148** 60J65 (60K35, 90A09)

— (*with* Nechaev, Sergei) Random operator approach for word enumeration in braid groups. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5609–5630. (Avinash Khare) **99k:82041** 82B44 (20F10, 20F36)

— (*with* Dean, David S.) Exact results on Sinai's diffusion. (English summary) *J. Phys. A* **31** (1998), *no.* 43, 8595–8605. (Summary) **99m:82025** 82B41 (82B31, 82B44)

Conca, Aldo (*with* Herzog, Jürgen) Ladder determinantal rings have rational singularities. *Adv. Math.* **132** (1997), *no.* 1, 120–147. (Irena Swanson) **99c:13028** 13C40 (13A35, 13C14, 13F50)

— (*with* Herzog, Jürgen; Ngô Viêt Trung; Valla, Giuseppe) Diagonal subalgebras of bigraded algebras and embeddings of blow-ups of projective spaces. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 859–901. (Aron Simis) **99d:13001** 13A30 (13C40, 13D45, 13H10)

— Straightening law and powers of determinantal ideals of Hankel matrices. *Adv. Math.* **138** (1998), *no.* 2, 263–292. (Rafael Sánchez) **99i:13020** 13C40 (13A30, 13F50, 13H10)

— (*with* Bruns, Winfried) KRS and powers of determinantal ideals. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 111–122. (Ngô Viêt Trung) **99e:13017** 13C40 (05E10, 13A30, 13P10)

— (*with* Bruns, Winfried) *F*-rationality of determinantal rings and their Rees rings. *Michigan Math. J.* **45** (1998), *no.* 2, 291–299. (Ngô Viêt Trung) **99g:13016** 13C40 (13A35, 13F50)

Conca, Carlos (*with* Planchard, Jacques; Vanninathan, Muthusamy) ★ Fluids and periodic structures. (English summary) RAM: Research in Applied Mathematics, 38. *John Wiley & Sons, Ltd., Chichester; Masson, Paris*, 1995. *xii*+333 *pp. ISBN* 0-471-96059-4 (Ma. Eugenia Pérez Martinez) **99k:73094** 73K70 (35B27, 47A55, 47N20, 65M06, 73B27, 73D30)

— (*with* Bonnetier, Eric) Optimality conditions for a relaxed layout optimization problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 1005–1010. (Summary) **99i:49041** 49N55 (90C90)

— (*with* Allaire, Grégoire; Planchard, Jacques) Homogenization and Bloch wave method for fluid tube bundle interaction. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 333–361. (Taras A. Mel'nyk) **99j:73077** 73K70 (35B27, 73B27, 73D30)

— (*with* Allaire, Grégoire) Bloch wave homogenization and spectral asymptotic analysis. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 2, 153–208. (Ma. Eugenia Pérez Martinez) **99d:35017** 35B27 (35J15, 35P05, 47F05, 73B27)

— (*with* Allaire, Grégoire) Boundary layers in the homogenization of a spectral problem in fluid-solid structures. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 343–379 (*electronic*). (Ma. Eugenia Pérez Martinez) **99e:73009** 73B27 (35B27, 35Q72, 47F05, 73K70)

— (*with* Osses, Axel; Planchard, Jacques) Asymptotic analysis relating spectral models in fluid-solid vibrations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1020–1048 (*electronic*). (Summary) **99a:73101** 73K70 (35P10, 35P20, 35Q72, 47A75, 47F05)

gonzález-Concepción, Concepción *see* **González-Concepción, Concepción**

Concha, F. (*with* Bürger, Raimund) Wave propagation phenomena in the theory of sedimentation: mathematical theory of gravitational solid-liquid separation processes. *Numerical methods for wave propagation* (*Manchester*, 1995), 173–196, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sergey L. Gavrilyuk) **99m:76111** 76T05 (35Q35, 76M25)

di Concilio, A. *see* **Di Concilio, A.**

de Concini, C. *see* **De Concini, C.**

Concus, Paul (*with* Finn, Robert S.) Comments on a paper of J. B. Keller, A. C. King and G. Merchant: "Surface tension" [in *Of fluid mechanics and related matters (La Jolla, CA, 1990)*, 161–168, Scripps Inst. Oceanogr., San Diego, CA, 1991; MR 99d:76029]. *Nonlinear Anal.* **27** (1996), *no.* 7, 857–861. (John F. Harper) **99d:76030** 76D45 (76B45)

Conde, Carlos (*with* Balaguer, Ángel; López, José A.; Martínez, V. J.) A conservative numerical method for the convection-diffusion equation in a two-dimensional domain. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M60 (76M25)

— (*with* Francos, A.; Montes Cañete, Guillermo; Kindelán, U.) Modelling two-dimensional thermohydraulic processes using second-order finite-volume methods. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 683–688, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25

Conde, Esther (*with* Estévez, P. G.; Gordoa, Pilar R.) Unified approach to Miura, Bäcklund and Darboux transformations for nonlinear partial differential equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 82–114. (Elena Medina Reus) **99c:58143** 58F37 (35Q58)

escobedo Conde, Raúl *see* **Escobedo Conde, Raúl**

Conder, Marston D. E. (*with* Walker, Cameron G.) Sierpinski's gasket, 2-groups and graph symmetries. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 182–186, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 05C25

— (*with* Li, Cai Heng) On isomorphisms of finite Cayley graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 911–919. (Brian Alspach) **99i:05096** 05C25

— (*with* Walker, Cameron G.) The infinitude of 7-arc-transitive graphs. (English summary) *J. Algebra* **208** (1998), *no.* 2, 619–629. (John van Bon) **99j:05089** 05C25

— (*with* Walker, Cameron G.) Vertex-transitive non-Cayley graphs with arbitrarily large vertex-stabilizer. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 29–38. (Qaiser Mushtaq) **99i:05097** 05C25 (12F10, 20B25)

Condon, Anne E. (*with* Bach, Eric; Glaser, Elton; Tanguay, Celena) DNA models and algorithms for NP-complete problems. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 172–186. (Robert M. Baer) **99m:68048** 68Q05 (68Q25, 92D20)

— (*with* Liu, Qinghua; Guo, Zhen[2]; Fei, Zhengdong; Corn, Robert M.; Lagally, Max G.; Smith, Lloyd M.) A surface-based approach to DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 123–132, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)

Condoravdi, Cleo (*with* Gawron, Jean Mark) The context-dependency of implicit arguments. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 1–32, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

Confessore, Giuseppe (*with* Dell'Olmo, Paolo; Giordani, Stefano) An approximation result for a bandwidth allocation problem. *Operations Research Proceedings* 1997 (*Jena*), 126–131, *Springer, Berlin*, 1998. (From the introduction) **99f:90034** 90B12

Conforti, Michele (*with* Cornuéjols, Gérard; Vušković, Kristina) Balanced cycles and holes in bipartite graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 27–33. (Summary) **99j:05119** 05C38

— (*with* Cornuéjols, Gérard; Kapoor, Ajai; Vušković, Kristina) Even and odd holes in cap-free graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 289–308. (Olivia M. Carducci) **99m:05155** 05C99 (05C75)

nguyen huu Cong *see* **Nguyen Huu Cong**

Cong, B. (*with* Li, Yueming; Zheng, Si-Qing) Hamiltonian paths and cycles of Fibonacci cubes with applications. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 451–464 (*electronic*). (*see* **99d:68010**) 68R10 (05C45, 68M10)

Cong, Fu Zhong (*with* Li, Yong[6]; Zhou, Qin De) The KAM theorem for symplectic mappings with degeneracy. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 781–788. (De Ming Zhu) **99d:58143** 58F27

— (*with* Cong, Shu Kun) Periodic solutions of a third-order nonlinear differential equation. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 1, 7–9. (Xin-Zhi Liu) **99d:34069** 34C25

— (*with* Li, Yong[6]) Existence of higher-dimensional invariant tori for Hamiltonian systems. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 255–267. (Rafael de la Llave) **99e:58152** 58F27 (34C35, 70H05, 70K99)

— Periodic solutions for $2k$th order ordinary differential equations with nonresonance. *Nonlinear Anal.* **32** (1998), *no.* 6, 787–793. (From the introduction) **99m:34087** 34C25

Cong, Ke (*with* Ke, Qi Fa; Ma, Song De) Corner enhancement using a curvature scale space. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 348–356. 68U10 (53A04, 58E10)

Cong, N. D. *see* **Nguyễn Đình Công**

Cong, N. H. *see* **Nguyen Huu Cong**

Cong, Nguyen Huu *see* **Nguyen Huu Cong**

Cong, Shu Kun (*with* Cong, Fu Zhong) Periodic solutions of a third-order nonlinear differential equation. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 1, 7–9. (Xin-Zhi Liu) **99d:34069** 34C25

Cong, Wenxiang (*with* Chen, Nanxian; Gu, Ben Yuan) A recursive method for phase retrieval in Fourier transform domain. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 1, 40–44. (Markus Hegland) **99h:65227** 65T20 (65D15)

do Cong Khanh *see* **Do Cong Khanh**

nguyen Cong Tam *see* **Nguyen Cong Tam**

Congxin, Wu *see* **Wu, Cong Xin**

Conley, Charles H. Geometric realizations of representations of finite length. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 7, 821–851. (Ē. S. Kryachko) **99e:22023** 22E45

— Geometric realizations of representations of finite length. II. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 201–211. (Ē. S. Kryachko) **99e:22024** 22E45

Conley, John P. (*with* McLean, Richard P.; Wilkie, Simon) Reference functions and possibility theorems for cardinal social choice problems. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 65–78. (Wulf Gaertner) **99a:90026** 90A08 (90D12)

Conlisk, A. T. (*with* Lee, J. A.; Burggraf, O. R.) On the impulsive blocking of a vortex-jet. (English summary) *J. Fluid Mech.* **369** (1998), 301–331. (Summary) **99f:76036** 76C05 (76D25)

Conlon, Joseph G. (*with* Olsen, Peder A.) Estimates on the solution of an elliptic equation related to Brownian motion with drift. II. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 3, 567–711. (Jörg-Uwe Löbus) **99e:35009** 35B25 (35B45, 60J35, 60J65)

— (*with* von Dohlen, Brian) Numerical simulations of random walk in random environment. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 571–586. (E. J. Janse van

Rensburg) **99j:82039** 82B41 (82B43, 82B80)
Conlon, Lawrence (*with* Cantwell, John C.) Generic leaves. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 306–336. (Athanase Papadopoulos) **99d:57019** 57R30
Conn, Andrew R. (*with* Scheinberg, Katya; Toint, Philippe L.) On the convergence of derivative-free methods for unconstrained optimization. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 83–108, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99c:90115** 90C30 (65K05)
— (*with* Gould, Nicholas I. M.; Toint, Philippe L.) Methods for nonlinear constraints in optimization calculations. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 363–390, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:90116** 90C30 (65K05)
Connell, H. J. (*with* Baker, Donna; Chiera, C.; Shepherd, J. J.) Helical flow of a Carreau fluid between coaxial cylinders. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 121–128, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76A05
— (*with* White, Andrew M.; May, Robert L.; Shepherd, J. J.) Annular time-dependent flow of a Bingham fluid. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 779–786, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76A05 (76M25)
— (*with* Gunatilake, L.; Shepherd, J. J.) Transitions in a non-linear second-order system. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 231–245. (James A. Murdock) **99k:34084** 34C23 (34C15, 34E20)
Connelly, Robert (*with* Bezdek, Károly) The minimum mean width translation cover for sets of diameter one. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 473–479. (Summary) **99i:52021** 52C17
— (*with* Bezdek, András; Bezdek, Károly) Finite and uniform stability of sphere packings. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 111–130. (S. Stein) **99c:52027** 52C17 (52C25)
Conner, Gregory R. Properties of translation numbers in nilpotent groups. *Comm. Algebra* **26** (1998), *no.* 4, 1069–1080. (Alexander N. Dranishnikov) **99d:20051** 20F18 (20F32)
Connes, Alain Noncommutative differential geometry and the structure of space time. *Operator algebras and quantum field theory* (*Rome*, 1996), 330–358, *Internat. Press, Cambridge, MA*, 199?. (Raimar Wulkenhaar) **99h:58013d** 58B30 (19K56, 46L87, 58G10, 58G12)
— Noncommutative differential geometry and the structure of space time. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 1–33, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Raimar Wulkenhaar) **99h:58013a** 58B30 (19K56, 46L87, 58G10, 58G12, 81R40)
— Brisure de symétrie spontanée et géométrie du point de vue spectral [MR 98h:58011a; MR 98h:58011b]. [Spontaneous symmetry breaking and geometry from the spectral point of view] *Fields Medallists' lectures*, 340–371, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 58B30
— Noncommutative differential geometry and the structure of space time. *Quantum fields and quantum space time* (*Cargèse*, 1996), 45–72, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Raimar Wulkenhaar) **99h:58013b** 58B30 (19K56, 46L87, 58G10, 58G12)
— (*with* Chamseddine, Ali H.) The spectral action principle. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 3, 731–750. (Jacek Brodzki) **99c:58010** 58B30 (46L87, 58G40, 81T13, 81V22)
— A new proof of Morley's theorem. *Les relations entre les mathématiques et la physique théorique*, 43–46, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (R. J. Bumcrot) **99m:51027** 51M04
— Noncommutative differential geometry and the structure of space-time. *The geometric universe* (*Oxford*, 1996), 49–80, *Oxford Univ. Press, Oxford*, 1998. (Raimar Wulkenhaar) **99h:58013c** 58B30 (19K56, 46L87, 58G10, 58G12)
— (*with* Moscovici, Henri) Hopf algebras, cyclic cohomology and the transverse index theorem. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 1, 199–246. (Éric Leichtnam) **99m:58186** 58G12 (16W30, 19D55, 58B30)
— (*with* Kreimer, Dirk) Hopf algebras, renormalization and noncommutative geometry. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 1, 203–242. (Raimar Wulkenhaar) **99h:81137** 81T15 (16W30, 46L87, 81T18)
— (*with* Douglas, Michael R.; Schwarz, Albert) Noncommutative geometry and matrix theory: compactification on tori. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 3, 35 *pp.* (*electronic*). (Éric Leichtnam) **99b:58023** 58B30 (81T30)
— *see also* **Jones, Vaughan F. R., 99a:46127**; **Quantum symmetries, 99k:81008** *and* **Araki, Huzihiro, (99b:00010)**
Connett, William C. (*with* Schwartz, Alan L.) Hypergroups and differential equations. (English summary) *Lie groups and Lie algebras*, 109–115, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00013**) 43A62 (33C45, 33C55, 34B24, 42C10)
Connor, Paul (*with* Roxburgh, D. G.) Plane deformation and stability of an elastic layer with intrinsic boundary elasticity. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 2, 213–234. (Summary) **99j:73033** 73C50 (73H05)
Connors, R. D. (*with* Keating, Jonathan P.) Degeneracy moments for the square billiard. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 555–562. (Jens Marklof) **99m:11043** 11E25 (11E45, 81Q50)
Conolly, Brian (*with* Vajda, Steven) ★ A mathematical kaleidoscope. (English summary) Applications in industry, business and science. Albion Mathematics & Applications Series. *Albion Publishing Limited, Chichester*, 1995. 268 *pp. ISBN* 1-898563-21-7 90–01 (90A99, 90C90, 90D80)
Conrad, Brian The flat deformation functor. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 373–420, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80 (11R34)
— (*with* Diamond, Fred; Taylor, Richard L.) Modularity of certain potentially Barsotti-Tate Galois representations. *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 521–567. (Ian Kiming) **99i:11037** 11F80 (11G05, 11G18, 11R39)
Conrad, Christopher (*with* Latecki, Longin Jan; Gross, Ari) Preserving topology by a digitization process. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 2, 131–159. (Gilbert Crombez) **99a:68178** 68U10
Conrad, Francis (*with* Mifdal, Abdelkrim) Strong stability of a model of an overhead crane. (English summary) *Control Cybernet.* **27** (1998), *no.* 3, 363–374. (Summary) **99i:93050** 93D15 (35Q99, 73K50)
— (*with* Morgül, Ömer) On the stabilization of a flexible beam with a tip mass. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1962–1986 (*electronic*). (Sergey V. Nikitin) **99g:93072** 93D15 (73K50, 93C20)
— *see also* **Progress in partial differential equations, 99d:35003** *and* **99d:35004**
Conrad, Jan O. Brane tensions and coupling constants from within M-theory. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 119–124. (Summary) **99a:81132** 81T30 (81T50)
Conrad, Paul (*with* Chen, Yuanqian) Special-valued subgroups of lattice-ordered groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1893–1902. (R. H. Redfield) **99j:06009** 06F15 (06F20, 20F60)
Conrey, J. B. (*with* Ghosh, Amit[1]) A conjecture for the sixth power moment of the Riemann zeta-function. *Internat. Math. Res. Notices* **1998**, *no.* 15, 775–780. (Matti Jutila) **99h:11096** 11M06
— (*with* Ghosh, Amit[1]; Gonek, S. M.) Simple zeros of the Riemann zeta-function. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 497–522. (Daniel A. Goldston) **99i:11074** 11M26
Consani, Caterina Double complexes and Euler *L*-factors. (English summary) *Compositio Math.* **111** (1998), *no.* 3, 323–358. (Jan Nekovář) **99b:11065** 11G25 (11G40, 14C25, 14G20)
Consens, Mariano P. (*with* Milo, Tova) Algebras for querying text regions: expressive power and optimization. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 272–288. (Ricardo Baeza-Yates) **99m:68040** 68P15 (68P20)
Consigli, G. (*with* Dempster, M. A. H.) Dynamic stochastic programming for asset-liability management. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 131–161. (*see* **99b:90006**) 90C15
Console, Luca (*with* Brusoni, Vittorio; Terenziani, Paolo; Theseider Dupré, Daniele) A spectrum of definitions for temporal model-based diagnosis. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 39–79. 68T27
Console, Sergio (*with* Olmos, Carlos) Clifford systems, algebraically constant second fundamental form and isoparametric hypersurfaces. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 335–342. (Mehmet Erdoğan) **99j:53072** 53C40 (53C42)
the wutam Consortium *see* **The Wutam Consortium**
Constable, Robert L. A note on complexity measures for inductive classes in constructive type theory. (English summary) *Inform. and Comput.* **143** (1998), *no.* 2, 137–153. (Summary) **99b:68082** 68Q15 (03B70, 03D15, 68Q60)
Constales, D. A closed formula for the Moore-Penrose generalized inverse of a complex matrix of given rank. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 83–88. (Ronald L. Smith) **99e:15001** 15A09
— Sharp bounds for the discrete analogue of a Gronwall-type inequality. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 4, 325–334. (E. Thandapani) **99f:26027** 26D15
Constanda, Christian (*with* Chudinovich, I. Yu.) Weak solutions of interior boundary-value problems for plates with transverse shear deformation. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 85–94. (Alexander Michailovich Khludnev) **99a:73082** 73K10
— (*with* Thomson, G. R.) Representation theorems for the solutions of high-frequency harmonic oscillations in elastic plates. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 55–59. (Summary) **99c:73024** 73D30 (35Q72, 73K10)
Constantin, Adrian On a boundary value problem. (English and Italian summaries) *Ann. Univ. Ferrara Sez. VII (N.S.)* **42** (1996), 51–56 (1998). (From the text) **99c:34150** 34K10 (34B15)
— On the unicity of solutions for high-order differential equations. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 171–181 (1997). (Oleg M. Odarich) **99d:34006** 34A12
— A general-weighted Sturm-Liouville problem. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 767–782 (1998). (Vjacheslav A. Yurko) **99c:34044** 34B24 (34L15, 47E05)
— On the Cauchy problem for the periodic Camassa-Holm equation. *J. Differential Equations* **141** (1997), *no.* 2, 218–235. (Márcia Scialom) **99c:35206** 35Q53 (34G20, 76B15)
— (*with* Escher, Joachim) Global existence and blow-up for a shallow water equation. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 303–328. (Darryl D. Holm) **99m:35202** 35Q53 (35B40, 76B15)
— Quasi-periodicity with respect to time of spatially periodic finite-gap solutions of the Camassa-Holm equation. *Bull. Sci. Math.* **122** (1998), *no.* 7, 487–494. (From the text) **99i:35136** 35Q53 (34A55, 34L40, 35B15)
— (*with* Escher, Joachim) On the Cauchy problem for a family of quasilinear hyperbolic equations. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1449–1458. (Alan Shapiro) **99i:35137** 35Q53 (35L99, 76B15)
— On the inverse spectral problem for the Camassa-Holm equation. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 352–363. (Mayumi Ohmiya) **99c:34198** 34L40 (34A55, 35Q53, 35R30)
— On the existence and uniqueness of solutions of McShane type stochastic differential equations. *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 217–229. (V. Mackevičius) **99e:60130** 60H10
— On the pathwise uniqueness of solutions of stochastic differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 231–232. (Toshio Yamada) **99h:60115** 60H10
Constantin, Ioana On a mathematical model in nerve conduction and excitation. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 40–43. 92C20 (35Q80)
Constantin, Peter Some mathematical aspects of incompressible fluid mechanics. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 51–69, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Barak Galanti) **99e:76032** 76D05 (35Q30, 76F20, 76F99)
— Scaling exponents for active scalars. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 571–595. (Richard K. Jordan) **99c:76052** 76F99
— Absence of proper nondegenerate generalized self-similar singularities. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 777–786. (Richard K. Jordan) **99k:76079**

76F99 (35K55)

— (*with* Nie, Qing; Schörghofer, Norbert) Nonsingular surface quasi-geostrophic flow. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 168–172. (Summary) **99a:76031** 76C15 (86A10)

— (*with* Hallstrom, Chris; Putkaradze, Vakhtang) Heat transport in rotating convection. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 275–284. (Marie Christine Néel) **99m:76104** 76R10 (35Q35, 76E15, 76U05)

Constantine, Gregory (*with* Banks, David Lane) Metric models for random graphs. (English summary) *J. Classification* **15** (1998), *no.* 2, 199–223. (Summary) **99k:62122** 62H99 (05C80)

— (*with* Xue, Lian Yong) Aliasing in 2^{n-k} fractions in the absence of within group interactions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 345–361. (Damaraju Raghavarao) **99c:62213** 62K15 (05B30)

— (*with* Xue, Lian Yong) Aliasing in 2^{n-k} fractions in the case of a separation of factors. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 121–132. (Summary) **99g:62117** 62K15

Constantinescu, Andrei (*with* Ballard, Patrick) On the inversion of subsurface residual stresses from surface stress measurements. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 285–292, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73023** 73C99

Constantinescu, Corneliu (*with* Filter, Wolfgang; Weber, Karl) ★ Advanced integration theory. (English summary) With the collaboration of Alexia Sontag. Mathematics and its Applications, 454. *Kluwer Academic Publishers, Dordrecht*, 1998. x+861 *pp. ISBN* 0-7923-5234-3 (Richard Becker) **99m:28001** 28–01 (26–01, 28–02, 46–01)

— On real C^*-algebras. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 105–111. (Summary) **99h:46104** 46L05

Constantinescu, Dana On the temporal-generic properties of continuous dynamical systems. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 33–42 (1997). 54H20 (58F13)

Constantinescu, Eliodor (*with* Chiru, Claudiu) Multi-index transportation problems. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 9–17, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 90B06 (90C08)

Constantinescu, Ioana (*with* Heise, Werner R.) A metric for codes over residue class rings of integers. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 22–28; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 208–213 (1998). (Boris D. Kudryashov) **99a:94058** 94B40

Constantinescu, Radu D. (*with* Babalean, Aurel; Ionescu, Carmen) Non-minimal BRST terms for Yang-Mills theory. (English summary) *J. Phys. A* **31** (1998), *no.* 43, 8653–8659. (Summary) **99m:81267** 81T70 (81T13)

— (*with* Tătaru, Liviu) Hamiltonian sp(3) BRST symmetry: existence theorems. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 269–274. (Bani Mitra Södermark) **99h:81216** 81T70 (58F40)

Constantinescu, Tiberiu (*with* Gheondea, Aurelian) Representations of Hermitian kernels by means of Kreĭn spaces. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 6, 917–951. (J. Rovnyak) **99c:47013** 47A57 (46C20, 46E22, 47B50)

— (*with* Gheondea, Aurelian) On the Carathéodory type problem of M. G. Kreĭn and H. Langer. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 243–247. (Daniel Alpay) **99i:47025** 47A57 (30E05, 47A20, 47B50)

Constantinidis, C. P. (*with* Devecchi, Fernando P.) Symmetries and degrees of freedom in two-dimensional dual models. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 8, 631–636. (Summary) **99e:81138** 81T10

— (*with* Toppan, Francesco; Devecchi, Fernando P.) Two-dimensional $N = 1, 2$ supersymmetric chiral and dual models. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2095–2109. (Summary) **99e:81233** 81T60

— (*with* Bronnikov, K. A.; Clément, Gérard; Fabris, Júlio C.) Structure and stability of cold scalar-tensor black holes. (English summary) *Phys. Lett. A* **243** (1998), *no.* 3, 121–127. (Summary) **99b:83048** 83C57 (83D05)

Constantinou, Constantinos C. (*with* Demeterscu, Christian; Budaev, Bair V.; Mehler, Michel J.) TM electromagnetic scattering by a transparent wedge with resistive faces. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 47–54. (Summary) **99m:78011** 78A45

Cónsul, Neus On equilibrium solutions of diffusion equations with nonlinear boundary conditions. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 311–315, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K15 (35K20)

Conte, Alberto (*with* Xambó-Descamps, Sebastian) Fernando Serrano (1957–1997). Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 135–148. (Editors) **99m:01050** 01A70

Conte, Giuseppe (*with* Perdon, A. M.) The block decoupling problem for systems over a ring. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1600–1604. (Jean Francois Lafay) **99j:93026** 93B29 (93C30)

— (*with* Perdon, A. M.; Lombardo, A.) Dynamic feedback decoupling problem for delay-differential systems via systems over rings. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 235–244. (Summary) **99c:93047** 93B52 (34H05)

Conte, Robert (*with* Musette, Micheline) Bäcklund transformation of partial differential equations from the Painlevé-Gambier classification. I. Kaup-Kupershmidt equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5617–5630. (Summary) **99e:35201** 35Q53 (35A30, 58F37)

— (*with* Springael, Johan; Musette, Micheline) On exact solutions of the Bianchi IX cosmological model in the proper time. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 3–8. (Nora Bretón Báez) **99m:83037** 83C15

le Conte de Poly-Barbut, Claude *see* **Le Conte de Poly-Barbut, Claude**

Contensou, Edouard (*with* Bellissard, Jean; Legrand, André) K-théorie des quasi-cristaux, image par la trace: le cas du réseau octogonal. (English and French summaries) [K-theory of quasicrystals, gap labelling: the octagonal lattice] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 197–200. (Summary) **99h:46131** 46L80 (19K35)

Conti, Costanza Quasi-interpolating spline functions in the Hilbert space $D^{-m}L^2(\mathbf{R})$. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 67–74, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:41004** 41A15 (46E22)

— (*with* Morandi, R.; Rabut, Christophe) Shape-preserving quasi-interpolating univariate cubic splines. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 55–62, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65038** 65D17 (65D07)

— (*with* Rabut, Christophe) A technique for the construction of generalized B-splines. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 63–70, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 41A15

Conti, Giuseppe (*with* Anichini, Giuseppe) About the existence of solutions of a boundary value problem for a Carathèodory differential system. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 177–179. (*see* **99f:58002**) 34B05

Conti, Monica (*with* Gazzola, Filippo) Positive entire solutions of quasilinear elliptic problems via nonsmooth critical point theory. (English summary) *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 275–294 (1997). (C. A. Swanson) **99b:35053** 35J60 (35B05, 35D05, 49J52, 58E05)

— (*with* Crotti, Stefano; Pardo, David) On the existence of positive solutions for a class of singular elliptic equations. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 111–132. (Summary) **99a:35061** 35J60 (35B05)

Conti, P. L. (*with* Orsingher, Enzo) Limiting distributions of randomly accelerated motions. (English and Lithuanian summaries) *Liet. Mat. Rink.* **37** (1997), *no.* 3, 295–308; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 3, 219–229 (1998). (Shengrong Xie) **99c:60040** 60F05 (60G17, 60K35)

Conti, Pasqualina (*with* Caboara, Massimo; Traverso, Carlo) Yet another ideal decomposition algorithm. *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 39–54, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (From the introduction) **99c:13051** 13P10 (68Q40)

Conti, Roberto[2] (*with* Bertozzini, Paolo; Longo, Roberto) Covariant sectors with infinite dimension and positivity of the energy. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 471–492. (Stephen J. Summers) **99d:81069** 81T05 (46L60, 81T40)

— (*with* Contucci, Pierluigi; Falcolini, Corrado) Polynomial invariants for trees: a statistical mechanics approach. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 225–237. (E. J. Janse van Rensburg) **99b:82035** 82B41 (05C05, 57M20)

Contiero, Simone (*with* Brogi, Antonio; Turini, Franco) Composing general logic programs. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 273–288, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

— (*with* Brogi, Antonio; Turini, Franco) Programming by combining general logic programs. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 7–24. (Summary) **99k:68026** 68N17 (03B70)

drapeau Contim, Filipe *see* **Drapeau Contim, Filipe**

Contopoulos, George (*with* Efthymiopoulos, C.; Voglis, N.; Dvorak, R.) Stickiness and cantori. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8167–8186. (A. Giorgilli) **99e:58153** 58F27 (58F13, 70K50)

— (*with* Grousouzakou, Evangelia) Distribution of periodic orbits in 2-D dynamical systems. (English summary) *Analysis and modelling of discrete dynamical systems* (*Aussois*, 1996), 107–131, *Adv. Discrete Math. Appl.*, 1, *Gordon and Breach, Amsterdam*, 1998. (Summary) **99m:58151** 58F22

Contreras, G. *see* **Contreras-Barandiarán, Gonzalo**

Contreras, Gerardo (*with* Bertolotti, R.; Núñez, L. A.; Percoco, U.) Algebraic computing and Ricci collineations. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 337–342, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83–04 (83C20)

Contreras, Martha Resonance for quasilinear elliptic higher order partial differential equations at the first eigenvalue. *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 417–444. (Jan Bochenek) **99k:35046** 35J60 (35B05)

Contreras, Mauricio (*with* Bañados, Máximo) Darboux coordinates for (first-order) tetrad gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1527–1534. (Alexander N. Petrov) **99e:83003** 83C05 (83C99)

Contreras-Barandiarán, Gonzalo (*with* Iturriaga, R.; Paternain, Gabriel P.; Paternain, Miguel) Lagrangian graphs, minimizing measures and Mañé's critical values. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 5, 788–809. (Héctor Sánchez-Morgado) **99f:58075** 58F05 (58F17, 58F27)

— (*with* Iturriaga, R.; Sánchez Morgado, Héctor) On the creation of conjugate points for Hamiltonian systems. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 355–361. (Gabriel P. Paternain) **99a:58063** 58F05 (58F15, 58F17)

Contucci, Pierluigi (*with* Conti, Roberto[2]; Falcolini, Corrado) Polynomial invariants for trees: a statistical mechanics approach. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 225–237. (E. J. Janse van Rensburg) **99b:82035** 82B41 (05C05, 57M20)

Conway, Andrew R. (*with* Guttmann, Anthony J.; Delest, Marie-Pierre) The number of three-choice polygons. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 51–58. (Hsien-Kuei Hwang) **99c:82032** 82B41 (05A16)

Conway, John B. (*with* Yang, Li Ming) Some open problems in the theory of subnormal operators. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 201–209, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99e:47027** 47B20 (47–02)

Conway, John H. (*with* Simons, Christopher S.) Relations in $\mathbf{M}_{666}$. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 27–38, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Hiroyoshi Yamaki) **99i:20020** 20D08 (20F05)

— (*with* Curtis, Robert T.; Wilson, Robert A.) A brief history of the ATLAS. *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 288–293, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99e:20002**) 20–03 (01A60)

— (*with* Radin, Charles) Quaquaversal tilings and rotations. (English summary) *Invent. Math.* **132** (1998), *no.* 1, 179–188. (Richard Kenyon) **99c:52031** 52C22 (20G20)

— On happy factorizations. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.1 (1 *HTML document*). (Summary) **99k:11014** 11A51

— (*with* Sloane, Neil J. A.) A note on optimal unimodular lattices. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 357–362. (Renaud Coulangeon) **99k:11104** 11H31 (11H06)

— (*with* Hulpke, Alexander; McKay, John) On transitive permutation groups. (English summary) *LMS J. Comput. Math.* **1** (1998), 1–8 (*electronic*). (D. F. Holt) **99g:20011** 20B05 (20B40)

Conze, J.-P. (*with* Hervé, L.; Raugi, Albert) Pavages auto-affines, opérateurs de transfert et critères de réseau dans $\mathbf{R}^d$. (English and French summaries) [Self-affine tilings, transfer operators and criteria for lattices in $\mathbf{R}^d$] *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 1, 1–42. (Steen Pedersen) **99a:52034** 52C22 (28A80, 42C15)

anderson-Cook, C. M. *see* **Anderson-Cook, C. M.**

Cook, Christopher A. (*with* Koretz, Jane F.) The geometric theory of accommodation and presbyopia: new results and new insights. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 1, 37–53. 92C10 (92C30, 92C50)

Cook, David A survey of Muslim material on comets and meteors. *J. Hist. Astronom.* **30** (1999), *no.* 2, 131–160. 01A30

Cook, Diane J. (*with* Varnell, R. Craig) Adaptive parallel iterative deepening search. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 139–166 (*electronic*). 68T20

Cook, Doug (*with* Faber, Vance; Marathe, Madhav V.; Srinivasan, Aravind; Sussmann, Yoram J.) Low-bandwidth routing and electrical power networks. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 604–615, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 90B10 (68Q25, 68R10, 93C90)

Cook, Gregory B. (*with* Baumgarte, Thomas W.; Scheel, Mark A.; Shapiro, Stuart L.; Teukolsky, Saul A.) General relativistic models of binary neutron stars in quasiequilibrium. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7299–7311. 83F05

— (*with* Scheel, Mark A.; Baumgarte, Thomas W.; Shapiro, Stuart L.; Teukolsky, Saul A.) Treating instabilities in a hyperbolic formulation of Einstein's equations. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044020, 12 *pp.* (Summary) **99k:83002** 83–08 (83C57)

Cook, H. (*with* Reed, G. M.) On the non-productivity of normality in Moore spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 875–880. (J. E. Vaughan) **99f:54036** 54E30 (03E50, 54A10, 54B10, 54D15)

Cook, K. E. (*with* Hocking, L. M.; Debler, W. R.) The growth of leading-edge distortions on a viscous sheet. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 307–313. 76D99

Cook, L. Pamela (*with* Newman, Elsa) A generalized Monge-Ampère equation arising in compressible flow. *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 149–156, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:76123** 76N10 (35Q35, 76H05, 76J20)

Cook, Michele The connectedness of space curve invariants. (English summary) *Compositio Math.* **111** (1998), *no.* 2, 221–244. (Juan C. Migliore) **99a:14040** 14H50

Cook, P. R. Compactified Jacobians and curves with simple singularities. (English summary) *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 37–47, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Atanas Iliev) **99j:14031** 14H40 (14B05, 14H20)

Cook, R. Dennis (*with* Bura, Efstathia) Testing the adequacy of regression functions. (English summary) *Biometrika* **84** (1997), *no.* 4, 949–956. (Summary) **99c:62177** 62J05

— ★ Regression graphics. (English summary) Ideas for studying regressions through graphics. Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xviii*+349 *pp. ISBN* 0-471-19365-8 (Jon Stene) **99i:62001** 62–01 (62J05)

— Principal Hessian directions revisited. (English summary) With comments by Ker-Chau Li and a rejoinder by the author. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 84–100. (Summary) **99a:62092** 62J05

— (*with* Croos-Dabrera, Rodney) Partial residual plots in generalized linear models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 730–739. (Summary) **99c:62199** 62J12 (62J20)

Cook, R. J. *see* **Cook, Roger J.**

Cook, Richard J. (*with* Farewell, V. T.) Authors' addendum: "Conditional inference for subject-specific and marginal agreement: two families of agreement measures" [Canad. J. Statist. **23** (1995), no. 4, 333–344]. *Canad. J. Statist.* **26** (1998), *no.* 2, 381. 62F99 (62P10, 62P15)

Cook, Roger J. Number theory. (English summary) *Graph connections*, 34–51, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 11Z05 (05C99)

— (*with* Brüdern, Jörg; Perelli, A.) The values of binary linear forms at prime arguments. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 87–100, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Alessandro Zaccagnini) **99f:11130** 11P32 (11P55)

Cook, Roy (*with* Shapiro, Stewart) J. Hintikka's revolution. Review of *The principles of mathematics revisited* [Cambridge Univ. Press, Cambridge, 1996; MR 97j:03005]. *British J. Philos. Sci.* **49** (1998), *no.* 2, 309–316. 03A05 (03F55, 03F65)

Cook, Stephen Relating the provable collapse of P to NC^1 and the power of logical theories. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 73–91, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Jan Krajíček) **99d:03054** 03F30 (03F20, 68Q15)

Cook, William J. (*with* Cunningham, William H.; Pulleyblank, William R.; Schrijver, Alexander) ★ Combinatorial optimization. (English summary) Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. x+355 *pp. ISBN* 0-471-55894-X (Ulrich Faigle) **99b:90098** 90C27 (90–02, 90C35)

— (*with* Applegate, David; Bixby, Robert; Chvátal, Vašek) On the solution of traveling salesman problems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 645–656 (*electronic*). (Frank Werner) **99g:90093** 90C27 (90–04, 90C10)

Cooke, C. H. (*with* Heng, I.) Error correcting codes associated with complex Hadamard matrices. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 77–80. (Summary) **99b:94045** 94B05

— (*with* Heng, I.) Polynomial construction of complex Hadamard matrices with cyclic core. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 87–93. (Summary) **99g:05037** 05B20 (15A33, 94B15)

Cooke, Kenneth L. (*with* van den Driessche, P.) Analysis of an SEIRS epidemic model with two delays. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 240–260. (Hal Leslie Smith) **99f:92031** 92D30 (34K15)

— (*with* Carvalho, Luis Antonio Viera) Collapsible backward continuation and numerical approximations in a functional-differential equation. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 96–109. (S. R. Bernfeld) **99b:34112** 34K05 (34K15, 65L05, 65L10)

Cooke, Roger L. *see* **Mathematics of the 19th century, 99d:01022** *and* **Egorov, Yurii Vladimirovich, 99f:35003**

Cooker, M. J. Potential flow for a steady jet in a wedge. (English summary) *Quart. J. Mech. Appl. Math.* **52** (1999), *no.* 1, 127–140. (Summary) **99m:76007** 76B10 (86A05)

Coolen, F. P. A. Low structure imprecise predictive inference for Bayes' problem. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 349–357. (Summary) **99c:62003** 62A15 (62F15)

Coolen-Schrijner, Pauline (*with* van Doorn, Erik A.) Analysis of random walks using orthogonal polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 387–399. (Li Zhong Peng) **99m:42037** 42C05 (33C45, 60J15)

Cooley, Brian L. (*with* Lee, Jay H.) Optimal feedback control strategies for state-space systems with stochastic parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1469–1475. (Summary) **99e:93086** 93E20 (93B52, 93C55)

Cooley, Craig A. (*with* MacEachern, Steven N.) Classification via kernel product estimators. (English summary) *Biometrika* **85** (1998), *no.* 4, 823–833. (Summary) **99j:62086** 62H30 (62G05)

Cools, Ronald Constructing cubature formulae: the science behind the art. (English summary) *Acta numerica*, 1997, 1–54, *Acta Numer.*, 6, *Cambridge Univ. Press, Cambridge*, 1997. (Hans Strauss) **99f:65038** 65D32 (41A55)

— (*with* Kravanja, Peter; Haegemans, A.) Computing zeros of analytic mappings: a logarithmic residue approach. (English summary) *BIT* **38** (1998), *no.* 3, 583–596. (Ch'êng Shêng Chien) **99j:65088** 65H05

— (*with* Maerten, Bart) A hybrid subdivision strategy for adaptive integration routines. (English summary) *J.UCS* **4** (1998), *no.* 5, 486–500 (*electronic*). (Summary) **99h:65040** 65D32 (41A55)

Coolsaet, K. A construction of the simple group of Rudvalis from the group $U_3(5)$:2. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 143–163. (Ulrich Dempwolff) **99c:20013** 20D08 (05C25)

Coombes, Kevin R. (*with* Lipsman, Ronald L.; Rosenberg, Jonathan M.) ★ Multivariable calculus and Mathematica. (English summary) With applications to geometry and physics. With 1 IBM-PC floppy disk (3.5 inch; HD). *Springer-Verlag–TELOS, New York*, 1998. *xiv*+283 *pp. ISBN* 0-387-98360-0 (From the preface) **99b:26001** 26–01

Coombes, S. (*with* Bressloff, P. C.) Travelling waves in a circular array of integrate-and-fire neurons. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 287–292, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 92C30 (92C05)

— (*with* Bressloff, P. C.) Symmetry and phase-locking in a ring of pulse-coupled oscillators with distributed delays. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 99–122. (Summary) **99k:34151** 34K15 (34C15, 34C23)

Coomes, Brian A. (*with* Koçak, Hüseyin; Palmer, Kenneth J.) Long periodic shadowing. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 55–78. (Introduction) **99f:34061** 34C25 (34A45, 34C35, 58F22, 65L07)

Coope, Ian D. (*with* Price, Christopher J.) Exact penalty function methods for nonlinear semi-infinite programming. (English summary) *Semi-infinite programming*, 137–157, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90139** 90C34 (65K05, 90–02, 90C30)

Cooper, A. J. (*with* Crighton, D. G.) Transmission of energy down periodically ribbed elastic structures under fluid loading: algebraic decay in the stop bands. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1337–1355. (Summary) **99c:73058** 73K70 (73K12)

Cooper, Curtis (*with* Kennedy, Robert E.; Renberg, Milo) On certain sums of functions of base b expansions. *Fibonacci Quart.* **36** (1998), *no.* 5, 407–415. (Peter J. Grabner) **99k:11117** 11K16 (11A63)

— (*with* Kennedy, Robert E.) An explicit expression for large digit sums in base b expansions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 25–32. (Michael E. Mays) **99h:11009** 11A63

Cooper, Daryl (*with* Long, D. D.) On the Burau representation modulo a small prime. (English summary) *The Epstein birthday schrift*, 127–138 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (Stephen P. Humphries) **99k:20077** 20F36 (57M07, 57M25)

— (*with* Long, D. D.) Representation theory and the A-polynomial of a knot. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 749–763. (Summary) **99c:57013** 57M25

— (*with* Long, D. D.; Reid, Alan W.) Infinite Coxeter groups are virtually indicable. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 303–313. (Tadeusz Januszkiewicz) **99f:20067** 20F55

— (*with* Lickorish, William B. R.) Mutations of links in genus 2 handlebodies. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 309–314. (Hugh Reynolds Morton) **99b:57008** 57M25

— The volume of a closed hyperbolic 3-manifold is bounded by π times the length of any presentation of its fundamental group. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 941–942. (Bruno Zimmermann) **99i:57025** 57M50

— *see also* **Farb, Benson, 99b:57003**

Cooper, David L. (*with* Friis-Jensen, Britt; Rettrup, Sten) Normalization of projected spin eigenfunctions. (English summary) *J. Math. Chem.* **22** (1997), *no.* 2-4, 249–254 (1998). (A. J. Coleman) **99j:81209** 81V55 (20C15, 81R05, 81V45)

Cooper, Jeffery ★ Introduction to partial differential equations with MATLAB. (English summary) Applied and Numerical Harmonic Analysis. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xvi+540 *pp. ISBN* 0-8176-3967-5 (J. M. H. Peters) **99a:35001** 35-01 (35-04)

Cooper, Martin C. (*with* Jeavons, Peter; Cohen, David A.) Constraints, consistency and closure. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 251–265. (Summary) **99d:68219** 68T20

— Linear-time algorithms for testing the realisability of line drawings of curved objects. (English summary) *Artificial Intelligence* **108** (1999), *no.* 1-2, 31–67. (Summary) **99m:68175** 68T10 (68U10)

Cooper, Michael J. P. Dimension, measure and infinite Bernoulli convolutions. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 135–149. (A. H. Dooley) **99h:28013** 28A78 (42A85)

Cooper, Robert B. (*with* Niu, Shun-Chen; Srinivasan, Mandyam M.) Some reflections on the renewal-theory paradox in queueing theory. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 355–368. 60K25 (60K30, 90B22)

Cooper, Robin Austinian propositions, Davidsonian events and perception complements. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers* (*Gudauri*, 1995), 19–34, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 03B65

Cooper, S. Barry (*with* Ambos-Spies, Klaus; Lempp, Steffen) Initial segments of recursive linear orders. (English summary) *Order* **14** (1997/98), *no.* 2, 101–105. (Victor Selivanov) **99m:03087** 03D45 (03C57, 06A05)

— Beyond Gödel's theorem: Turing nonrigidity revisited. *Logic Colloquium '95* (*Haifa*), 44–50, *Lecture Notes Logic*, 11, *Springer, Berlin*, 1998. (*see* **99m:03003**) 03A05 (81P10)

Cooper, S. Clement (*with* Cochran, Lyle) Symmetric orthogonal Laurent polynomials. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 111–141, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (H. S. P. Shrivastava) **99m:33013** 33E20 (30B10, 33C45, 40A99, 42C10)

— (*with* Gustafson, Philip E.) Interpolating Laurent polynomials. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 143–150, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (*see* **99f:00020**) 44A60 (42C05)

— (*with* Gustafson, Philip E.) The strong Chebyshev distribution and orthogonal Laurent polynomials. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 361–378. (Olav Njåstad) **99c:42043** 42C05 (40A15, 41A15)

Cooper, Shaun The Macdonald identities for G_2 and some extensions. (English summary) *New Zealand J. Math.* **26** (1997), *no.* 2, 161–182. (G. Zhang (Zbl 895.33005)) **99k:33056** 33D80 (05A19, 11B83, 33D70)

— Multiplying Macdonald identities. (English summary) *Special functions and differential equations* (*Madras*, 1997), 73–82, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33027** 33D80

— A functional equation and Jacobian elliptic functions. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 69–80. (S. L. Segal) **99g:39030** 39B32 (33E05, 39B22)

Cooper, Thomas (*with* Mond, David) Complex monodromy and changing real pictures. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 599–608. (Kevin Houston) **99k:32067** 32S40 (14B07, 14P25)

Cooperman, Gene (*with* Hiss, Gerhard; Lux, Klaus; Müller, Jürgen[4]) The Brauer tree of the principal 19-block of the sporadic simple Thompson group. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 293–300. (Andrew Woldar) **99b:20026** 20C34 (20C20, 20C40)

— Practical task-oriented parallelism for Gaussian elimination in distributed memory. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 107–120. (*see* **99a:00039**) 65-04 (65F99, 68Q22)

— (*with* Havas, George) Elementary algebra revisited: randomized algorithms. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 37–44, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68091** 68Q25 (11Y16, 15A06, 20P05)

Cooperstein, B. N. External flats to varieties in $\mathbf{PG}(\wedge^2(V))$ over finite fields. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 223–235. (Vladimir D. Tonchev) **99c:51010** 51E15 (94B05)

Cooperstock, F. I. (*with* Perry, G. P.) Electrostatic equilibrium of two spherical charged masses in general relativity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 5, 1329–1345. (Summary) **99a:83042** 83C50

Coorevits, P. (*with* Dumeau, J.-P.; Pelle, J.-P.) Error estimator and adaptivity for three-dimensional finite element analyses. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 443–457, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Coorg, Satyan (*with* Teller, Seth) Temporally coherent conservative visibility. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 105–124. (Summary) **99m:68208** 68U05

Coornaert, Michel (*with* Papadopoulos, Athanase) Spherical functions and conformal densities on spherically symmetric CAT(−1)-spaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2745–2762. (Paul M. Albuquerque) **99j:53056** 53C23 (43A90, 58F11)

Copas, J. B. Semi-parametric density estimation by likelihood. (English summary) *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 253–262, *Gordon and Breach, Amsterdam*, 1996. (Summary) **99i:62084** 62G07

— (*with* Eguchi, Shinto) A class of local likelihood methods and near-parametric asymptotics. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 709–724. (Ulrich Stadtmüller) **99j:62052** 62G07 (62F10)

Cope, Davis K. Recursive generation of the Galerkin-Chebyshev matrix for convolution kernels. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 21–35. (Ivan K. Lifanov) **99m:65246** 65R20 (45L05)

Copeland, B. Jack Even Turing machines can compute uncomputable functions. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 150–164, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99g:68056** 68Q05 (03D10)

— Super Turing-machines. (English summary) *Complexity* **4** (1998), *no.* 1, 30–32. (Ronald E. Prather) **99j:68027** 68Q05 (03D10)

Copeland, Edmund J. (*with* Liddle, Andrew R.; Lidsey, James E.; Wands, David) Black holes and gravitational waves in concert—a probe of superstring cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1711–1715. (Mark D. Roberts) **99m:83184** 83E30 (83C35, 83C57, 83F05)

— (*with* Saffin, P. M.; Mazumdar, Anupam) Instantons from low energy string actions. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 19–24. (Summary) **99d:83100** 83E30 (81T30)

Copetti, M. I. M. Finite element approximation to a contact problem in linear thermoelasticity. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1013–1024. (Jiří Nedoma) **99i:73067** 73V05 (65N30, 73B30, 73T05)

Coppel, W. A. ★ Foundations of convex geometry. (English summary) Australian Mathematical Society Lecture Series, 12. *Cambridge University Press, Cambridge*, 1998. *xiv*+222 *pp. ISBN* 0-521-63970-0 (Z. Nádeník) **99f:52001** 52-01

Coppens, Marc Brill-Noether theory for non-special linear systems. II. Connectedness and irreducibility. (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 169–185. (Letterio Gatto) **99b:14003** 14C20 (14H40)

Coppersmith, Don (*with* Bellare, Mihir; Håstad, Johan; Kiwi, Marcos A.; Sudan, Madhu) Linearity testing in characteristic two. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 432–441, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— (*with* Stern, Jacques; Vaudenay, Serge) The security of the birational permutation signature schemes. (English summary) *J. Cryptology* **10** (1997), *no.* 3, 207–221. (Kaisa Nyberg) **99e:94033** 94A60 (13P99)

— Small solutions to polynomial equations, and low exponent RSA vulnerabilities. (English summary) *J. Cryptology* **10** (1997), *no.* 4, 233–260. (Eric Bach) **99b:94027** 94A60 (11Y05)

— (*with* Hoffman, Alan J.; Rothblum, Uriel G.) Inequalities of Rayleigh quotients and bounds on the spectral radius of nonnegative symmetric matrices. (English summary) *Linear Algebra Appl.* **263** (1997), 201–220. (Summary) **99c:65067** 65F15 (15A42)

Coppo, M. A. (*with* Candelpergher, B.; Delabaere, Eric) La sommation de Ramanujan. (French summary) [The Ramanujan summation] *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 93–132. (Andreas Guthmann) **99a:11149** 11Y60 (11M99)

Coppo, Mario Recursive types: the syntactic and semantic approaches. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 16–41. (Summary) **99g:68025** 68N15 (68Q55)

Coppola, G. (*with* Vitolo, Antonio) Corrigendum to: "On the distribution of primes in intervals of length $\log^\theta N$" [Acta Math. Hungar. **70** (1996), no. 1-2, 151–166; MR 96i:11103]. *Acta Math. Hungar.* **78** (1998), *no.* 4, 359–361. (A. Perelli) **99c:11115** 11N05

Copps, K. (*with* Babuška, Ivo M.; Strouboulis, T.; Gangaraj, S. K.; Datta, Dibyendu Kumar) Practical aspects of a posteriori estimation for reliable finite element analysis. (English summary) *Comput. & Structures* **66** (1998), *no.* 5, 627–664. (Summary) **99a:73117** 73V05

— (*with* Babuška, Ivo M.; Hugger, Jens; Strouboulis, T.; Gangaraj, S. K.) The asymptotically optimal meshsize function for bi-p degree interpolation over rectangular elements. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 185–221. (Qian Li) **99d:65309** 65N30

le Coq, Gérard *see* **Le Coq, Gérard**

Coquand, Thierry Computational content of classical logic. *Semantics and logics of computation* (*Cambridge*, 1995), 33–78, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 03B70

— Two applications of Boolean models. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 3, 143–147. (Feodor Alexandrovich Murzin) **99j:03029** 03C90

— (*with* Berardi, Stefano; Bezem, Marc) On the computational content of the axiom of choice. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 600–622. (Stewart Shapiro) **99f:03081** 03F55 (03B15, 03E25)

Coquel, Frédéric (*with* Blouza, Adel; Hamel, François) Réduction algorithmique de systèmes cinétiques raides. (English and French summaries) [Algorithmic reduction process for stiff kinetic systems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 979–984. (Summary) **99i:80001** 80-08 (80A30)

Coquereaux, Robert Differentials of higher order in noncommutative differential geometry. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 3, 241–259. (Jacek Brodzki) **99b:58025** 58B30 (46L87)

— On the finite-dimensional quantum group $M_3 \oplus (M_{2|1}(\Lambda^2))_0$. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 309–328. (Tomasz Brzeziński) **99b:81100** 81R50 (17B37, 58B30)

— Finite quantum groups in particle physics? (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 309–324, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Władysław Marcinek) **99j:81070** 81R50 (16W30, 17B37, 81V22)

— (*with* García, A. O.; Trinchero, R.) Finite-dimensional quantum group covariant differential calculus on a complex matrix algebra. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 221–232. (Adriana M. Criscuolo) **99j:58018** 58B30 (17B37, 81R50)

Coquet, François Résolution explicite d'une EDSR conduite par un processus de Poisson avec réflexion à la frontière. [Explicit solution of a BSDE driven by a Poisson process with reflection at the boundary] *Fascicule de probabilités*, 3 *pp., Publ. Inst. Rech. Math. Rennes*, 1996/1997, *Univ. Rennes I, Rennes*, 199?. (*see* **99d:60004**) 60H99

— (*with* Mackevičius, Vigirdas; Mémin, Jean) Stability in **D** of martingales and backward equations under discretization of filtration. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 235–248. (Fabio Antonelli) **99f:60109** 60H10 (60G44)

Corach, Gustavo (*with* Andruchow, Esteban; Milman, Mario; Stojanoff, Demetrio) Geodesics and interpolation. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 83–91. (Summary) **99c:46063** 46L05 (46M35, 58B20)

— (*with* Galé, José E.) Averaging with virtual diagonals and geometry of representations. (English summary) *Banach algebras '97* (*Blaubeuren*), 87–100, *de Gruyter, Berlin*, 1998. (John Duncan) **99m:46167** 46M20 (46H25)

— (*with* Andruchow, Esteban; Stojanoff, Demetrio) Löwner's theorem and the differential geometry of the space of positive operators. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 70–77. (Summary) **99i:46057** 46L87 (47A63, 58B20)

Coray, Daniel (*with* Manoil, Constantin; Vainsencher, Israel) Nonminimal rational curves on $K3$ surfaces. *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 299–317. (Dag E. Sommervoll)

99a:14052 14J28 (14H45)
— *see also* **Danilov, Vladimir Ivanovich[1], 99g:14001**
Corbas, B. (*with* Williams, G. D.) Matrix representatives for three-dimensional bilinear forms over finite fields. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 51–61. (Morris Newman) **99h:11038** 11E04 (15A33)
Corben, Herbert C. Linear relativistic wave equations, superluminal velocities, and the correspondence principle. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 5, 461–469. (Summary) **99h:81010** 81P05
Corblin, Francis Multiple negation processing in natural language. *Theoria* **62** (1996), *no.* 3, 214–259. 03B65
Corbo Esposito, Antonio (*with* Donato, Patrizia; Gaudiello, Antonio; Picard, Colette) Homogenization of the p-Laplacian in a domain with oscillating boundary. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 1–23. (P. Lindqvist) **99a:35016** 35B27 (35J65, 49J45)
Corchero, E. S. Equilibrium of spheres with local anisotropy in post-Newtonian gravity. Application to supermassive stars. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3645–3654. 83C25 (83F05)
Corcoran, J. N. (*with* Foss, S. G.; Tweedie, R. L.) Simulating the invariant measures of Markov chains using backward coupling at regeneration times. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 303–320. (Olle Häggström) **99d:60079** 60J10 (60K25)
Corcuera, Ma. Isabel (*with* Corrales Sendino, José M.; Cuadrado, Ma. Luisa; Navarro-Bermúdez, Francisco J.) On multilevel projection methods. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65J10
Cordaro, Paulo D. Global hypoellipticity for $\overline{\partial}_b$ on certain compact three-dimensional CR manifolds. (English summary) *Resenhas* **2** (1996), *no.* 4, 353–361. (A. Alexandrou Himonas) **99a:32014** 32F40 (35H05)
— (*with* Trépreau, Jean-Marie) On the solvability of linear partial differential equations in spaces of hyperfunctions. *Ark. Mat.* **36** (1998), *no.* 1, 41–71. (Min You Qi) **99d:35006** 35A07 (35D05, 46F15, 58G07)
— (*with* Himonas, Alexandros Alexandrou) Global analytic regularity for sums of squares of vector fields. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4993–5001. (Luigi Rodino) **99b:35023** 35H05 (35B65, 35N10)
— *see also* **Workshop: Partial Differential Equations: Theory, Computation, and Applications, 99g:35006**
Cordeiro, Gauss M. (*with* Botter, Denise A.) Improved estimators for generalized linear models with dispersion covariates. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 91–104. (Summary) **99k:62135** 62J12
— (*with* Ferrari, Silvia L. de Paula) A note on Bartlett-type correction for the first few moments of test statistics. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 261–269. (Summary) **99f:62028** 62F03 (62F05)
— (*with* Ferrari, Silvia L. de Paula; Botter, Denise A.; Cribari-Neto, Francisco) Modified maximum likelihood estimation in one-parameter exponential family models. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 1, 157–178. 62F10
Cordero, Alberto Arguing for hidden realities. *Realism and quantum physics*, 148–165, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P05
Cordero, Luis A. (*with* Fernández, Marisa; Gray, Alfred; Ugarte, Luis) Nilpotent complex structures on compact nilmanifolds. (English summary) Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 83–100. (Francisco M. Cabrera) **99b:53091** 53C56
Cordero, Nicolás A. (*with* Santander, Mariano; Nieto, Luis Miguel) A curvature-based derivation of the Schwarzschild metric. (English summary) *Amer. J. Phys.* **65** (1997), *no.* 12, 1200–1209. (Patrick Dolan) **99d:83016** 83C15
Cordes, Christian (*with* Putti, Mario) Finite element approximation of the diffusion operator on tetrahedra. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1154–1168 (*electronic*). (Jaroslaw Jelen) **99d:65325** 65N30 (65N35, 76M10)
Cordes, Stefan (*with* Moore, Gregory W.; Ramgoolam, Sanjaye) Large N 2D Yang-Mills theory and topological string theory. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 543–619. (Martin Schlichenmaier) **99d:58032** 58D29 (55N91, 58D27, 81T40, 81T70)
Cordier, Cécile (*with* Ceria, Sebastián; Marchand, Hugues; Wolsey, Laurence A.) Cutting planes for integer programs with general integer variables. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 201–214. (Summary) **99b:90081** 90C10
Cordier, Stéphane (*with* Buet, Christophe; Degond, Pierre) Regularized Boltzmann operators. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 55–74. (Nicola Bellomo) **99b:82081** 82C40 (47N55, 76P05)
— (*with* Buet, Christophe) Conservative and entropy decaying numerical scheme for the isotropic Fokker-Planck-Landau equation. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 228–245. (Victor I. Stepanov) **99h:82054** 82C31 (65M99, 82D10)
— (*with* Peng, Yue-Jun) Système Euler-Poisson non linéaire. Existence globale de solutions faibles entropiques. (English and French summaries) [Nonlinear Euler-Poisson system. Global existence of entropy weak solutions] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 1–23. (Alain Miranville) **99c:35195** 35Q35 (35D05, 76X05)
Córdoba, Antonio Lattice points. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 859–870. (Werner Georg Nowak) **99k:11155** 11P21 (11Z05, 82D25)
— (*with* Chamizo, Fernando) Riemann fractals: numbers and figures. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 1, 37–47. 28A80 (11K55)
— (*with* Fernández, Pablo) Convergence and divergence of decreasing rearranged Fourier series. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1129–1139 (*electronic*). (Sergeĭ V. Konyagin) **99e:42006** 42A20 (11L20)
Cordoba, Diego (*with* Marliani, Christiane) On the behavior of hyperbolic netural points in two-dimensional ideal magnetohydrodynamics. (English summary) *Proc. Natl. Acad. Sci. USA* **96** (1999), *no.* 6, 2612–2614 (*electronic*). (Summary) **99m:76119** 76W05
fernández de Córdoba, Pedro *see* **Fernández de Córdoba, Pedro**
Cordovil, Raul The fundamental group of the complement of the complexification of a real arrangement of hyperplanes. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 481–498. (P. Orlik) **99g:52015** 52B30
Corduneanu, Adrian A linear delay-differential equation of the second order. (English summary) *Libertas Math.* **18** (1998), 59–70. (Summary) **99g:34154** 34K25 (34K20)
Corduneanu, Constantin Almost periodic solutions to differential equations in abstract spaces. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 753–758. (Summary) **99i:34083** 34G20 (34C27)
— In memoriam: Aristide Halanay (1924–1997). *J. Differential Equations* **146** (1998), *no.* 1, 1–4. (Editors) **99m:01051** 01A70
Cores, D. (*with* Tapia, Richard A.) Perturbation lemma for the Newton method with application to the SQP Newton method. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 271–280. (Summary) **99b:65068** 65H10 (90C30)
Corfield, David Assaying Lakatos's philosophy of mathematics. *Stud. Hist. Philos. Sci.* **28** (1997), *no.* 1, 99–121. (Eduard Glas) **99b:00003** 00A30 (01A60)
— Beyond the methodology of mathematics research programmes. (English summary) *Philos. Math.* (3) **6** (1998), *no.* 3, 272–301. (Victor V. Pambuccian) **99g:00020** 00A30 (00A35, 03A05)
Cori, Robert (*with* Marcus, Michel) Counting non-isomorphic chord diagrams. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 55–73. (T. R. S. Walsh) **99i:05099** 05C30 (05A15, 05C10, 57M15, 68R10)
Coriand, Andrea ★ Verfahren für dünnbesetzte lineare Systeme. (German. English and German summaries) [Methods for sparse linear systems] DLR-Forschungsbericht [DLR-Research Report], 97-31. *Deutsche Forschungsanstalt für Luft- und Raumfahrt, Cologne*, 1997. 162 *pp.* (G. Maess) **99e:65081** 65F50 (65F10)
Corichi, Alejandro (*with* Krasnov, Kirill V.) Ambiguities in loop quantization: area vs. electric charge. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 17, 1339–1346. (José A. Zapata) **99f:83030** 83C45 (81T13, 81V17)
Corigliano, Alberto (*with* Mariani, Stefano) A simplified method for the simulation of crack propagation. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 143–162 (1997). (Summary) **99b:73036** 73M25
Corke, Thomas C. (*with* Haddad, Osamah M.) Boundary layer receptivity to free-stream sound on parabolic bodies. (English summary) *J. Fluid Mech.* **368** (1998), 1–26. 76D10 (76E05, 76Q05)
Corless, Martin (*with* Rotea, Mario A.; Tsiotras, Panagiotis) Suboptimal control of rigid body motion with a quadratic cost. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 55–81. (Summary) **99j:93067** 93C85 (70E15, 70Q05)
— (*with* Brockman, Mark L.) Quadratic boundedness of nominally linear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1105–1117. (Pablo A. Iglesias) **99j:93070** 93D05 (93C10, 93C85)
— (*with* Georgiou, Ioannis T.; Bajaj, A. K.) Invariant manifolds and chaotic vibrations in singularly perturbed nonlinear oscillators. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 431–458. (Summary) **99a:70036** 70K50 (58F13)
— (*with* Tsiotras, Panagiotis; Rotea, Mario A.) Optimal control of rigid body angular velocity with quadratic cost. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 3, 507–532. (Alexander M. Kovalev) **99a:70046** 70Q05 (49K15, 70E15, 93C15, 93D15)
— (*with* Glielmo, Luigi) New converse Lyapunov theorems and related results on exponential stability. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 79–100. (P. Seibert) **99j:34070** 34D20 (93D05)
Corless, Robert M. (*with* Borwein, Jonathan M.; Borwein, Peter B.; Jörgenson, Loki; Sinclair, Nathalie) What is organic mathematics? *Organic mathematics (Burnaby, BC, 1995)*, 1–18, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **99h:00014** 00A99 (00A30, 01A99)
— (*with* Jeffrey, D. J.; Hare, D. E. G.) Exact rational solutions of a transcendental equation. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 71–76. (Summary) **99d:65157** 65H05 (33E99)
Corlette, Kevin (*with* Iozzi, Alessandra) Limit sets of discrete groups of isometries of exotic hyperbolic spaces. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1507–1530. (Vadim A. Kaĭmanovich) **99f:58122** 58F11 (58F17)
Corley, Steven (*with* Jacobson, Theodore A.) Lattice black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6269–6279. (Summary) **99m:83106** 83C57
Corli, Andrea Asymptotic analysis of contact discontinuities. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 163–202. (Pavel Dubovskiĭ) **99f:35128** 35L65 (35B40, 35C20)
Cormen, Thomas H. (*with* Clippinger, J. C.) Performing BMMC permutations efficiently on distributed-memory multiprocessors with MPI. (English summary) *Algorithmica* **24** (1999), *no.* 3-4, 349–370. 68Q22
— (*with* Sundquist, Thomas; Wisniewski, Leonard F.) Asymptotically tight bounds for performing BMMC permutations on parallel disk systems. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 105–136 (*electronic*). (Israel Koltracht) **99i:15001** 15-04 (68Q22, 68Q25)
Corn, Robert M. (*with* Liu, Qinghua; Guo, Zhen[2]; Fei, Zhengdong; Condon, Anne E.; Lagally, Max G.; Smith, Lloyd M.) A surface-based approach to DNA computation. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 123–132, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)
Cornacchia, Pietro Fitting ideals of class groups in a $\mathbf{Z}_p$-extension. *Acta Arith.* **87** (1998), *no.* 1, 79–88. (Gabriel D. Villa-Salvador) **99j:11128** 11R23 (11R18, 11R29)
— (*with* Greither, Cornelius) Fitting ideals of class groups of real fields with prime power conductor. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 459–471. (Werner Bley) **99j:11137** 11R65 (11R23)
Cornalba, Maurizio (*with* Arbarello, Enrico) Combinatorial and algebro-geometric cohomology classes on the moduli spaces of curves. *J. Algebraic Geom.* **5** (1996), *no.* 4, 705–749. (Montserrat Teixidor i Bigas) **99c:14033** 14H10 (14C17)
— Cohomology of moduli spaces of stable curves. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 249–257 (*electronic*). (Tyler J. Jarvis) **99i:14031** 14H10 (14F25)
Cornea, Aurel Applications of controlled convergence in analysis. (English summary) *Analysis and topology*, 257–275, *World Sci. Publishing, River Edge, NJ*, 1998. (Marius Mitrea) **99m:31011** 31B25 (35J25)
Cornea, Octavian Spanier-Whitehead duality and critical points. (English summary) *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*,

47–63, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Edgar H. Brown, Jr.) **99g:55011** 55P25 (57R70)

— Some properties of the relative Lusternik-Schnirelmann category. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 67–72, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (John F. Oprea) **99e:55003** 55M30 (55P50, 57R70)

— Cone-decompositions and degenerate critical points. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 437–461. (Kathryn P. Hess) **99j:57036** 57R70 (55M30, 55P62, 58E05)

— (*with* Félix, Yves; Lemaire, Jean-Michel) Rational category and cone length of Poincaré complexes. (English summary) *Topology* **37** (1998), *no.* 4, 743–748. (Edgar H. Brown, Jr.) **99a:55002** 55M30 (55P62, 57P10)

Cornean, H. D. (*with* Nenciu, G.) On eigenfunction decay for two-dimensional magnetic Schrödinger operators. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 671–685. (Hiroshi Isozaki) **99e:81045** 81Q10 (35J10, 47F05, 47N50)

Corneil, Derek G. (*with* Olariu, Stephan; Stewart, Lorna) The ultimate interval graph recognition algorithm? (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 175–180, *ACM, New York*, 1998. (*see* **99d:68011**) 05C85 (68R10)

— (*with* Moorhouse, Timothy B.) Completeness for intersection classes. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 277–286. (Summary) **99c:05166** 05C75

— (*with* Kearney, Paul E.) Tree powers. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 111–131. (Summary) **99e:68128** 68R10 (05C85, 68Q25)

Cornelissen, Gunther A survey of Drinfeld modular forms. *Drinfeld modules, modular schemes and applications (Alden-Biesen, 1996)*, 167–187, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99h:11057** 11G09 (11F11)

— Drinfeld modular forms of level T. *Drinfeld modules, modular schemes and applications (Alden-Biesen, 1996)*, 272–281, *World Sci. Publishing, River Edge, NJ*, 1997. (Ernst-Ulrich Gekeler) **99h:11058** 11G09 (11F99)

— Stockage diophantien et hypothèse *abc* généralisée. (English and French summaries) [Diophantine storing and the generalized *abc*-hypothesis] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 3–8. (Summary) **99i:03036** 03C60 (03C40, 11U09)

Cornell, Gary *see* **Modular forms and Fermat's last theorem, 99k:11004**

Corner, A. L. S. (*with* Göbel, Rüdiger) Essentially rigid floppy subgroups of the Baer-Specker group. (English summary) *Manuscripta Math.* **94** (1997), *no.* 3, 319–326. (Ulrich Albrecht) **99a:20058** 20K20

— (*with* Göbel, Rüdiger) Subgroups of the Baer-Specker group with prescribed endomorphism ring and large dual. (English summary) *Abelian groups, module theory, and topology (Padua, 1997)*, 113–123, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (John D. O'Neill) **99i:20075** 20K25 (16S60, 20K30)

— (*with* Goldsmith, Brendan) Isomorphic automorphism groups of torsion-free p-adic modules. *Abelian groups, module theory, and topology (Padua, 1997)*, 125–130, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Paolo Zanardo) **99g:13012** 13C13 (13C05, 13F30)

— (*with* Göbel, Rüdiger) Radicals commuting with Cartesian products. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 5, 341–348. (B. Goldsmith) **99j:20062** 20K25 (03E50, 20K20)

Cornet, Bernard (*with* Czarnecki, Marc-Olivier) Méthodes d'approximation en théorie du point fixe et de l'équilibre. (English and French summaries) [Approximation methods in fixed-point and equilibrium theory] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 917–922. (Abderrahim Jourani) **99k:49021** 49J40 (47H10, 49J52, 90C48)

Cornick, Jonathan (*with* Kropholler, Peter H.) Homological finiteness conditions for modules over group algebras. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 49–62. (J. R. J. Groves) **99k:20105** 20J05

Cornille, H. Exact solutions for nonconservative two-velocity discrete Boltzmann models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2004–2018. (Giuliana Lauro) **99a:82077** 82C40 (35Q99, 76P05)

— Exact solutions for nonconservative Broadwell-Boltzmann models. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 671–686. (Lorenzo Pareschi) **99g:82068** 82C40 (76P05)

Cornish, F. H. J. (*with* Micklewright, B.) The news function for Robinson-Trautman radiating metrics. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 611–617. (Richard Hansen) **99k:83027** 83C30 (83C20)

Cornish, Neil J. (*with* Gibbons, Gary W.) A tale of two centres. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1865–1881. (Summary) **99g:83020** 83C22 (83C10)

— (*with* Spergel, David N.; Starkman, Glenn D.) Circles in the sky: finding topology with the microwave background radiation. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2657–2670. (Summary) **99f:83081** 83F05 (85A40)

— (*with* Turok, Neil G.) Ringing the eigenmodes from compact manifolds. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2699–2710. (Jens Marklof) **99k:58186** 58G25 (83F05)

— (*with* Weeks, Jeffrey R.) Measuring the shape of the universe. *Notices Amer. Math. Soc.* **45** (1998), *no.* 11, 1463–1471. (Wathek Talebaoui) **99j:83006** 83B05 (83F05)

Cornuéjols, Gérard (*with* Urbaniak, R.; Weismantel, Robert; Wolsey, Laurence A.) Decomposition of integer programs and of generating sets. (English summary) *Algorithms—ESA '97 (Graz)*, 92–103, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90C10

— (*with* Conforti, Michele; Vušković, Kristina) Balanced cycles and holes in bipartite graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 27–33. (Summary) **99j:05119** 05C38

— (*with* Conforti, Michele; Kapoor, Ajai; Vušković, Kristina) Even and odd holes in cap-free graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 289–308. (Olivia M. Carducci) **99m:05155** 05C99 (05C75)

Corominas, Albert (*with* Bautista, Joaquín; Companys, Ramon) Modelling and solving the production rate variation problem (PRVP). (English summary) *Top* **5** (1997), *no.* 2, 221–239. (Summary) **99c:90059** 90B30 (90C27)

Coron, Jean-Michel Some open problems in control theory. (English summary) *Differential geometry and control (Boulder, CO, 1997)*, 149–162, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Hartmut Logemann) **99k:93018** 93B05 (76C99, 76D05, 93D15)

Corona Corona, Gulmaro Couple coefficients for the two-block AKNS system. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2808–2812. (Summary) **99a:34227** 34L25 (34L40, 35Q35, 58F07)

pozo Coronado, L. M. *see* **Pozo Coronado, L. M.**

franco Coronil, Daniel *see* **Franco Coronil, Daniel**

Corovei, I. On semi-homomorphisms and Jensen's equation. *Mathematica* **37(60)** (1995), *no.* 1-2, 59–64. (Patrizia Longobardi) **99d:20066** 20F99

Corrádi, Keresztély (*with* Horváth, Erzsébet) Normal π-complement theorems. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 262–269. (George Glauberman) **99h:20040** 20D20

— (*with* Héthelyi, László) On a theorem of Broline. *J. Algebra* **210** (1998), *no.* 1, 361–363. (David Gluck) **99j:20010** 20C15

Corradi, Leone Rigid-plastic analysis by finite elements. (Italian. Italian summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 293–321 (1998). 73V05 (73E99)

Corradini, Andrea (*with* Gadducci, Fabio) A 2-categorical presentation of term graph rewriting. (English summary) *Category theory and computer science (Santa Margherita Ligure, 1997)*, 87–105, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q42

— (*with* Montanari, Ugo; Rossi, Francesca; Ehrig, Hartmut; Heckel, Reiko; Löwe, Michael) Algebraic approaches to graph transformation. Basic concepts and double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 163–245, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Ehrig, Hartmut; Heckel, Reiko; Korff, Martin; Löwe, Michael; Korff, Leila Ribeiro; Wagner, Annika) Algebraic approaches to graph transformation. II. Single pushout approach and comparison with double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 247–312, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Heckel, Reiko; Ehrig, Hartmut; Wolter, Uwe) Integrating the specification techniques of graph transformation and temporal logic. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 219–228, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (03B45, 03B70, 68Q50, 68R10)

— (*with* Baldan, Paolo; Montanari, Ugo) Concatenable graph processes: relating processes and derivation traces. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 283–295, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q42 (68Q55, 68R10)

— (*with* Große-Rhode, Martin; Heckel, Reiko) Structured transition systems as lax coalgebras. (English summary) *First Workshop on Coalgebraic Methods in Computer Science (CMCS '98) (Lisbon)*, 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (*see* **99e:68002**) 68Q10 (68Q55)

— (*with* Baldan, Paolo; Montanari, Ugo) An event structure semantics for P/T contextual nets: asymmetric event structures. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 63–80, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q90 (68Q10)

— (*with* Gadducci, Fabio) Rational term rewriting. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 156–171, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q42

— A completeness result for equational deduction in coalgebraic specification. (English summary) *Recent trends in algebraic development techniques (Tarquinia, 1997)*, 190–205, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

Corradini, Flavio On performance congruences for process algebras. (English summary) *Inform. and Comput.* **145** (1998), *no.* 2, 191–230. (Andrea Maggiolo-Schettini) **99g:68063** 68Q10 (68Q55)

— (*with* Gorrieri, Roberto; Marchignoli, D.) Towards parallelization of concurrent systems. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 4-6, 99–125. (Summary) **99m:68054** 68Q10

Corradini, M. Letizia (*with* Orlando, Giuseppe) Variable structure control of discretized continuous-time systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1329–1334. 93B12 (93C60)

poggi-Corradini, Pietro *see* **Poggi-Corradini, Pietro**

Corrado, Richard (*with* Berenstein, David; Distler, Jacques) On the moduli spaces of M(atrix)-theory compactifications. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 239–255. (Dileep P. Jatkar) **99c:81162** 81T30 (81T60)

— (*with* Berenstein, David; Distler, Jacques) Aspects of ALE matrix models and twisted matrix strings. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026005, 12 *pp.* (Summary) **99k:81219** 81T30 (14B05)

gómez-Corral, A. *see* **Gómez-Corral, A.**

Corral, Cristina (*with* Giménez, Isabel; Marín, José; Mas, José) Parallel m-step preconditioners for the conjugate gradient method. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 265–281. (Summary) **99m:65090** 65F35 (65F50)

Corrales Sendino, José M. (*with* Cuadrado, Ma. Luisa; Corcuera, Ma. Isabel; Navarro-Bermúdez, Francisco J.) On multilevel projection methods. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65J10

Corran, Ruth Solving the word problem in the singular braid monoid. *Austral. Math. Soc. Gaz.* **26** (1999), *no.* 1, 27–33. 57M25

Corrêa, F. J. S. A. Positive solutions of an asymptotically planar system of elliptic boundary value problems. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 549–554. (Zuchi Chen) **99c:35068** 35J65 (35B05)

Corrêa, G. O. (*with* Sales, D. M.; Soares, T. M.) Approximate solutions to H_2/H_∞ problems via sequences of H_2-cost/H_2-constraint optimization problems. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 333–353. 93B36 (90C90, 93B40)

Correa, Iván (*with* Baeza-Vega, R.; Costa, Roberto C. F.; Peresi, Luiz Antonio) Shape identities in Bernstein algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2659–2679. (Summary) **99c:17044** 17D92

— (*with* Suazo, Avelino; Labra, Alicia) A characterization of a class of power associative train algebras. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 1, 47–58. (Ernest Stitzinger) **99i:17002** 17A30 (17A05)

Corrêa, Ricardo C. (*with* Ferreira, Afonso Galvao; Porto, Stella C. S.) Selected algorithmic techniques for parallel optimization. *Handbook of combinatorial optimization, Vol. 3,*

407–456, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (65Y05, 90–02)
Corredor, Luis-Jaime (*with* Altinel, Tuna; Cherlin, Gregory; Nesin, Ali) A Hall theorem for ω-stable groups. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 385–397. (O. V. Belegradek) **99f:20057** 20F16 (03C60, 20A15, 20F17, 20F50)
Correia, João D. (*with* Wheater, John F.) The spectral dimension of non-generic branched polymer ensembles. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 76–81. (E. J. Janse van Rensburg) **99e:82046** 82B41 (82D60)
Corrias, L. (*with* Brenier, Yann) A kinetic formulation for multi-branch entropy solutions of scalar conservation laws. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 169–190. (Lorenzo Pareschi) **99f:35126** 35L65 (82C40)
Corrigan, E. On duality and reflection factors for the sinh-Gordon model with a boundary. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2709–2722. (Summary) **99c:81130** 81T10
— (*with* Bordner, Andrew J.; Sasaki, Ryu) Calogero-Moser models. I. A new formulation. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 6, 1107–1129. (Henrik Aratyn) **99m:58107** 58F07 (17B20, 17B81)
Corriou, Jean-Pierre (*with* Prokop, Roman) Design and analysis of simple robust controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 905–921. 93D21
Corry, Leo The origins of eternal truth in modern mathematics: Hilbert to Bourbaki and beyond. (English summary) *Sci. Context* **10** (1997), *no.* 2, 253–296. (Hourya Sinaceur) **99e:00005** 00A30 (01A55, 01A60)
— Hilbert on kinetic theory and radiation theory (1912–1914). *Math. Intelligencer* **20** (1998), *no.* 3, 52–58. (From the introduction) **99e:01019** 01A60
— David Hilbert between mechanical and electromagnetic reductionism (1910–1915). *Arch. Hist. Exact Sci.* **53** (1999), *no.* 6, 489–527. (Ll. G. Chambers) **99m:01023** 01A60 (78–03, 83–03)
Corsani, Cristiano (*with* Merlini, Donatella; Sprugnoli, Renzo) Left-inversion of combinatorial sums. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 107–122. (Alessandro Di Bucchianico) **99c:05017** 05A19 (05A15, 05A40)
Corsini, Piergiulio (*with* Leoreanu, Violeta) About the heart of a hypergroup. (English summary) *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 1, 17–29. (Michael Voit) **99d:20109** 20N20
Corso, Alberto (*with* Polini, Claudia; Vaz Pinto, Maria) Sally modules and associated graded rings. *Comm. Algebra* **26** (1998), *no.* 8, 2689–2708. (C. P. L. Rhodes) **99d:13027** 13H10 (13A30, 13D40)
— (*with* Huneke, Craig; Vasconcelos, Wolmer V.) On the integral closure of ideals. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 331–347. (Stephen McAdam) **99b:13010** 13B22
— (*with* Heinzer, William J.; Huneke, Craig) A generalized Dedekind-Mertens lemma and its converse. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5095–5109. (Rafael H. Villarreal) **99b:13012** 13B25 (13A15)
Corso, G. (*with* Pakter, R.; Caldas, I. L.; Rizzato, F. B.) Bifurcation-reconnection sequences in nonpendular resonance. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 377–392. (Summary) **99a:70030** 70K20 (70H05, 78A35)
del Corso, Gianna M. *see* **Del Corso, Gianna M.**
Corson, Jon M. (*with* Brick, Stephen G.) Annular Dehn functions of groups. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 453–464. (D. E. Cohen) **99m:20068** 20F10 (20E06, 20F32)
— (*with* Brick, Stephen G.) Dehn functions and complexes of groups. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 33–46. (Philip L. Bowers) **99e:20042** 20F06 (20F05, 57M07)
— (*with* Spieler, Barry S.) The qsf property and group actions via complexes of spaces. *Math. Z.* **228** (1998), *no.* 3, 589–603. (Ludwig Balke) **99f:57044** 57S30 (20E42, 57M07)
Cortadella, Jordi (*with* Kishinevsky, Michael; Lavagno, Luciano; Yakovlev, Alexandre V.) Deriving Petri nets from finite transition systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 859–882. (Summary) **99e:68111** 68Q90 (68Q10)
Cortázar, Carmen (*with* Elgueta, Manuel; Primicerio, Mario) Localization of the solution of a one-dimension one-phase Stefan problem. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 71–82 (1997). (Galina I. Bizhanova) **99f:35228** 35R35 (35K05, 80A22)
— (*with* Del Pino, Manuel; Elgueta, Manuel) On the blow-up set for $u_t = \Delta u^m + u^m$, $m > 1$. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 541–561. (Summary) **99h:35085** 35K55 (35B05)
garcía Corte, Julio César *see* **García Corte, Julio César**
Corteel, Sylvie (*with* Canfield, E. Rodney; Savage, Carla D.) Durfee polynomials. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 32, 21 *pp.* (*electronic*). (Summary) **99h:05007** 05A17 (05A16, 05A20, 11P81)
— (*with* Savage, Carla D.; Wilf, Herbert S.; Zeilberger, Doron) A pentagonal number sieve. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 186–192. (David M. Bressoud) **99d:11111** 11P81 (05A15)
— (*with* Savage, Carla D.; Venkatraman, Radhika) A bijection for partitions with all ranks at least t. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 202–220. (David M. Bressoud) **99f:11135** 11P81 (05A17)
Cortelezzi, L. (*with* Speyer, Jason L.) Robust reduced-order controller of transitional boundary layers. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 127–136, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 93C20 (76D10, 93B52)
Cortella, Anne The Hasse principle for the similarities of bilinear forms. *Algebra i Analiz* **9** (1997), *no.* 4, 98–118; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 4, 743–762. (Tamás Szamuely) **99a:11048** 11E39 (11E72, 20G10)
Cortes, J. (*with* Debussche, A.; Toumi, I.) A density perturbation method to study the eigenstructure of two-phase flow equation systems. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 463–484. (Jian-Ping Zhu) **99k:76099** 76M20 (76T05)
Cortés, J. C. *see* **Cortés López, J. C.**
Cortés, José Luis Correlation between UV and IR cutoffs in quantum field theory and large extra dimensions. (English summary) *Phys. Lett. B* **451** (1999), *no.* 1-2, 27–30. (Summary) **99m:81273** 81T99
de souza Cortes, M. B. *see* **de Souza Cortes, M. B.**
lazo Cortés, Manuel *see* **Lazo Cortés, Manuel**
Cortés, Teresa (*with* Anquela, José A.) Local-to-global inheritance of primitivity in Jordan algebras. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 219–227. (Alain D'Amour) **99b:17040** 17C10
— (*with* Anquela, José A.) Primitivity in Jordan systems is ubiquitous. (English summary) *J. Algebra* **202** (1998), *no.* 1, 295–314. (Alain D'Amour) **99a:17030** 17C10
Cortés, Ulises (*with* Sangüesa, Ramón; Cabós, Joan) Possibilistic conditional independence: a similarity-based measure and its application to causal network learning. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 145–167. 68T30
— (*with* Sangüesa, Ramón; Gisolfi, Antonio) A parallel algorithm for building possibilistic causal networks. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 251–270. (Summary) **99h:68165** 68T30
Cortés, V. *see* **Cortés Suárez, Vicente**
Cortesani, Guido (*with* Toader, Rodica) Finite element approximation of non-isotropic free-discontinuity problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 921–940. (I. N. Molchanov) **99a:65120** 65M60 (73V05, 73V25)
— Sequences of non-local functionals which approximate free-discontinuity problems. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 4, 357–402. (Giandomenico Orlandi) **99j:49021** 49J45 (35R35, 49M30)
Cortesi, Agostino (*with* Le Charlier, Baudouin; Leclère, Christophe; Rossi, Sabina) Automated verification of behavioural properties of Prolog programs. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 225–238, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N17 (68Q60)
— (*with* Dovier, Agostino; Quintarelli, Elisa; Tanca, Letizia) Operational and abstract semantics of a query language for semi-structured information. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming* (*DDLP'98*) (*Manchester*, 1998), 127–139, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68Q55)
— (*with* Filé, Gilberto; Winsborough, William) The quotient of an abstract interpretation. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 163–192. (Summary) **99b:68026** 68N15 (68Q55, 68Q60)
— (*with* Filé, Gilberto) Sharing is optimal. (English summary) *J. Logic Programming* **38** (1999), *no.* 3, 371–386. (Summary) **99h:68030** 68N17 (68N20, 68Q60)
— (*with* Le Charlier, Baudouin; Leclère, Christophe; Rossi, Sabina) Automated verification of Prolog programs. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 3–42. 68Q60 (68N17)
Cortés López, J. C. (*with* Jódar, Lucas) Some properties of gamma and beta matrix functions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 89–93. (Summary) **99b:33002** 33B15 (15A21)
— (*with* Jódar, Lucas) On the hypergeometric matrix function. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 205–217. (H. M. Srivastava) **99j:33005** 33C05 (15A60)
Cortés Suárez, Vicente (*with* Alekseevskiĭ, D. V.) Classification of N-(super)-extended Poincaré algebras and bilinear invariants of the spinor representation of $\mathrm{Spin}(p,q)$. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 477–510. (Waldyr Alves Rodrigues, Jr.) **99b:17004** 17B05 (15A66)
— (*with* Alekseevskiĭ, D. V.; Devchand, Chandrashekar; Semmelmann, U.) Killing spinors are Killing vector fields in Riemannian supergeometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 37–50. (Frans Cantrijn) **99k:58025** 58C50 (53C50, 58A50)
Cortez, Ricardo On the accuracy of impulse methods for fluid flow. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1290–1302 (*electronic*). (Summary) **99a:76109** 76M25 (65C20, 76C99)
Corti, David S. (*with* Sastry, Srikanth; Debenedetti, Pablo G.; Stillinger, Frank H.) Statistical geometry of particle packings. I. Algorithm for exact determination of connectivity, volume, and surface areas of void space in monodisperse and polydisperse sphere packings. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5524–5532. (Summary) **99a:82055** 82B99 (52C17)
garcía-Corti, J. L. *see* **García-Cortí, J. L.**
Cortina, Elsa (*with* Gomes, Sônia M.) Fourier analysis of Petrov-Galerkin methods based on biorthogonal multiresolution analyses. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 119–140, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Ruud van Damme) **99d:65284** 65M60 (42C15)
Cortiñas, Guillermo Infinitesimal K-theory. *J. Reine Angew. Math.* **503** (1998), 129–160. (Charles Weibel) **99j:19004** 19E20 (14F20, 19D55)
— (*with* Geller, Susan C.; Weibel, Charles A.) The Artinian Berger conjecture. *Math. Z.* **228** (1998), *no.* 3, 569–588. (Reinhold Hübl) **99g:13035** 13N05 (13D03, 14F10)
Cortini, Renza On special p-groups. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 677–689. (Piroska Lakatos) **99k:20043** 20D15
hing Cortón, Rosina *see* **Hing Cortón, Rosina**
Corts, Kenneth S. Conduct parameters and the measurement of market power. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 227–250. (Summary) **99h:62135** 62P20
Coruzzi, Roberto (*with* Taliercio, Alberto) Mechanical behaviour of brittle matrix composites: a homogenization approach. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 24, 3591–3615. (Summary) **99m:73050** 73K20 (73B27, 73V05)
Corvaja, P. (*with* Zannier, Umberto) Values of rational functions on non-Hilbertian fields and a question of Weissauer. (English summary) *Israel J. Math.* **105** (1998), 323–335. (Zhi Jie Chen) **99g:12003** 12E25 (13F15)
Corvellec, C. (*with* Bruel, P.; Sabel'nikov, V. A.) A time-accurate scheme for the calculations of unsteady reactive flows at low Mach number. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 207–227. (Summary) **99i:80013** 80A25 (76F99, 76M25, 80–08)
Corvellec, Jean-Noël Remarks on critical point theory. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 25–34, *Univ. Rovira Virgili, Tarragona*, 1998. (Miguel Ramos) **99b:58050** 58E05 (49J27, 58C20)
— Quantitative deformation theorems and critical point theory. (English summary) *Pacific J. Math.* **187** (1999), *no.* 2, 263–279. (Miguel Ramos) **99m:58045** 58E05

Cory, David G. (*with* Somaroo, Shyamal S.; Havel, Timothy F.) Expressing the operations of quantum computing in multiparticle geometric algebra. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 1–7. (Jayme Vaz, Jr.) **99e:81036** 81P99 (15A66)

Cosares, Steven (*with* Rispoli, Fred J.) A bound of 4 for the diameter of the symmetric traveling salesman polytope. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 373–380 (*electronic*). (P. F. Körner) **99f:90099** 90C27 (52A38)

Coscia, A. (*with* Bellettini, Giovanni; Dal Maso, Gianni) Compactness and lower semicontinuity properties in SBD(Ω). *Math. Z.* **228** (1998), *no.* 2, 337–351. (Giovanni Alberti) **99e:49011** 49J45 (26B30, 28A75, 46E99, 49Q20)

Coscoy, Yann A natural language explanation for formal proofs. *Logical aspects of computational linguistics* (*Nancy*, 1996), 149–167, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68T15 (03B35)

Cosenza, M. G. (*with* González Estévez, Javier) Synchronization and collective behavior in globally coupled logarithmic maps. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 21–38. (Volker Matthias Gundlach) **99i:58049** 58F03 (34C35, 58F13)

Coşkun, Erdal Differentiable functions on abelian Hilbert-Lie groups. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 281–290. (Uwe Franz) **99m:60014** 60B15 (22E65, 43A70)

— Convolution semigroup of probability measures on abelian Hilbert-Lie groups. *Mathematica* **39(62)** (1997), *no.* 2, 201–213. (Wilfried Hazod) **99i:60012** 60B15 (22E65, 43A05)

— Differentiable functions and the generators on a Hilbert-Lie group. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 13–24. (Wilfried Hazod) **99j:60007** 60B15 (43A05, 43A80, 47D03)

— (*with* Çoker, Doğan) On neighborhood structures in intuitionistic topological spaces. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 3-4, 283–293. 54A99 (03F55)

Coskun, Erhan (*with* Rasulov, Mahir) An efficient numerical method for solving the Korteveg [Korteweg]-de Vries equation in a class of discontinuous functions. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 139–154. 65M06 (65M50)

di Cosmo, Roberto *see* **Di Cosmo, Roberto**

Cosner, Chris (*with* Cantrell, Robert Stephen) Bounds on trajectories in diffusive predator-prey models. (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 733–746, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:92025** 92D25

— (*with* Cantrell, Robert Stephen) On the effects of spatial heterogeneity on the persistence of interacting species. (English summary) *J. Math. Biol.* **37** (1998), *no.* 2, 103–145. (Thomas J. Hillen) **99m:92025** 92D25 (35K57)

— (*with* Cantrell, Robert Stephen; Fagan, William F.) Competitive reversals inside ecological reserves: the role of external habitat degradation. (English summary) *J. Math. Biol.* **37** (1998), *no.* 6, 491–533. (Summary) **99j:92026** 92D40 (35Q80, 92D25)

Cossart, Vincent (*with* Piltant, Olivier; Reguera, Ana José) On isomorphisms of blowing-ups of complete ideals of a rational surface singularity. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 65–73. (M. Kh. Gizatullin) **99k:14004** 14B05 (14J17)

Cossey, John Quotients of permutation groups. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 493–495. (Summary) **99c:20001** 20B05

— (*with* Stonehewer, Stewart E.) On the derived length of finite dinilpotent groups. *Bull. London Math. Soc.* **30** (1998), *no.* 3, 247–250. (B. Amberg) **99a:20023** 20D40

— (*with* Bryce, R. A.) A note on groups with Hamiltonian quotients. (English summary) *Rend. Sem. Mat. Univ. Padova* **100** (1998), 1–11. (Andreas Caranti) **99k:20042** 20D15 (20D25, 20F14)

— (*with* Stonehewer, Stewart E.) Products of finite nilpotent groups. *Comm. Algebra* **27** (1999), *no.* 1, 289–300. (B. Amberg) **99m:20040** 20D40 (20D10, 20D15)

Cossidente, A. (*with* King, O. H.) On caps and cap partitions of Galois projective spaces. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 787–799. (Grazia Raguso) **99m:51015** 51E22

Cossio, Jorge (*with* Castro, Alfonso; Neuberger, John M.) A sign-changing solution for a superlinear Dirichlet problem. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1041–1053. (Monica Lazzo) **99f:35056** 35J65 (35B05, 58E05)

Cosslett, Stephen R. Nonparametric maximum likelihood methods. *Robust inference*, 385–404, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G05

Cossu, C. (*with* Loiseleux, T.) On the convective and absolute nature of instabilities in finite difference numerical simulations of open flows. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 98–108. (Summary) **99d:76043** 76E99 (76M20)

Costa, Antonio F. (*with* Bujalance, Emilio; Izquierdo Barrios, Milagros) A note on isolated points in the branch locus of the moduli space of compact Riemann surfaces. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 25–32. (Steffen Timmann) **99a:30038** 30F10 (14H15, 30F35, 30F50, 30F60)

— (*with* Broughton, S. A.; Bujalance, Emilio; Gamboa, J. M.; Gromadzki, G.) Symmetries of Accola-Maclachlan and Kulkarni surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 637–646. (Víctor González-Aguilera) **99f:14036** 14H55 (30F10, 30F35)

Costa, Bruno (*with* Cabral, Marco; Temam, Roger; Wang, Shou Hong) The primitive equations of the atmosphere with chemistry. (English summary) *Équations aux dérivées partielles et applications*, 271–308, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Bruno Scheurer) **99i:86012** 86A10 (35Q99, 76C99, 80A32)

— (*with* Dettori, Lucia) Fourier collocation splittings for partial differential equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 562–580. (Summary) **99b:65121** 65M70

Costa, D. *see* **Costa, Douglas L.**

Costa, David G. (*with* Cuesta Leon, Mabel) Existence results for resonant perturbations of the Fučik spectrum. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 295–314 (1997). (Long-Yi Tsai) **99c:35056** 35J60 (34B15, 35B10)

— Multiple solutions for a class of strongly indefinite problems. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 87–103. (Summary) **99j:35019** 35F20 (35A15, 49J20)

Costa, Douglas L. (*with* Améziane, S.; Kabbaj, Salah-Eddine; Zarzuela Armengou, Santiago) On the spectrum of the group ring. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 387–403. (L. J. Ratliff, Jr.) **99k:13013** 13C15 (13A15, 13F20)

da Costa, Fernando Pestana Asymptotic behaviour of low density solutions to the generalized Becker-Döring equations. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 23–37. (Paul F. Zweifel) **99c:34097** 34D05 (34A34, 82C99)

da Costa, G. A. T. F. Some properties of algebra $\mathscr{R}_n(l,m)$. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 259–269. (Richard M. Green) **99j:82023** 82B23 (16S99, 57M25, 81R50)

Costa, J. Félix (*with* Menezes, P. Blauth; Sernadas, Amílcar) Nonsequential automata semantics for a concurrent, object-based language. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 29 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q55 (68Q10)

nunes da Costa, J. M. *see* **Nunes da Costa, J. M.**

Costa, Laura *K*3 surfaces: moduli spaces and Hilbert schemes. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 273–282. (Kieran G. O'Grady) **99m:14025** 14D20 (14C05, 14J28)

Costa, M. I. S. (*with* Boldrini, José Luiz) The influence of fixed and free final time of treatment on optimal chemotherapeutic protocols. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 59–72. (Summary) **99c:92019** 92C50 (49J15, 49N55)

martins-Costa, M. L. *see* **Martins-Costa, M. L.**

Costa, Miguel S. Black hole dynamics from instanton strings. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 7, 33 *pp.* (*electronic*). (Marco Cavaglià) **99m:83185** 83E30 (81T30, 83C57)

— (*with* Perry, Malcolm J.) Torons and black hole entropy. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 333–357. (Marco Spaans) **99f:83042** 83C57 (83E30)

— D-brane bound states. *Strings, branes and dualities* (*Cargèse*, 1997), 445–448, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81T30

da Costa, Newton C. A. (*with* Béziau, Jean-Yves; Bueno, Otávio) Paraconsistent logic in a historical perspective. *Logique et Anal.* (*N.S.*) **38** (1995), *no.* 150-152, 111–125. (Henri Volken) **99f:03025** 03B53 (01A60, 03–03)

— (*with* Béziau, Jean-Yves) Théories paraconsistantes des ensembles. (English summary) [Paraconsistent set theories] Contemporary Brazilian research in logic. Part I. *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 153-154, 51–67. (Marcel Guillaume) **99i:03027** 03B53 (03A05, 03E70)

— (*with* Kouneiher, J.; Balan, A. P. M.) Continu et infinis: introduction à l'analyse pré- et antéréelle. (English summary) [The continuum and the infinite: introduction to pre- and ante-real analysis] *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 51–64 (1998). (W. A. J. Luxemburg) **99i:26031** 26E30 (03H05)

— (*with* Sant'Anna, Adonai S.; Doria, Francisco Antonio) The Atiyah-Singer index theorem and the gauge field copy problem. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5511–5516. (Mattias Dahl) **99b:58223** 58G10 (58Z05, 81T13)

— (*with* Krause, Décio) An intensional Schrödinger logic. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 179–194. (Katalin Bimbó) **99i:03028** 03B60 (03B15, 03B30, 03B45)

— (*with* Bueno, Otávio; French, Steven) Is there a Zande logic? (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 1, 41–54. (Summary) **99a:03031** 03B60

Costa, O. L. V. (*with* Kubrusly, Carlos S.) State feedback H_∞-control for discrete-time infinite-dimensional stochastic bilinear systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 32 *pp.* (*electronic*). (Summary) **99h:93097** 93E03 (93B36)

— (*with* Kubrusly, Carlos S.) Quadratic optimal control for discrete-time infinite-dimensional stochastic bilinear systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 4, 385–399. (Patrizio Colaneri) **99a:93109** 93E20 (49N10)

— (*with* do Val, J. B. R.; Geromel, José C.) A convex programming approach to H_2 control of discrete-time Markovian jump linear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 557–579. 93E20 (90C25, 93B36)

— (*with* do Val, J. B. R.; Geromel, José C.) Uncoupled Riccati iterations for the linear quadratic control problem of discrete-time Markov jump linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1727–1733. (Summary) **99g:93031** 93B40 (49N10, 90C40, 93E20)

— (*with* do Val, J. B. R.) Jump LQ-optimal control for discrete-time Markovian systems with stochastic inputs. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 843–858. (L. C. Godara) **99g:93086** 93E20 (90B25, 90C40)

sotolongo Costa, Oscar *see* **Sotolongo Costa, Oscar**

Costa, Roberto C. F. (*with* Baeza-Vega, R.; Correa, Iván; Peresi, Luiz Antonio) Shape identities in Bernstein algebras. (English summary) *Comm. Algebra* **25** (1997), *no.* 8, 2659–2679. (Summary) **99c:17044** 17D92

— (*with* Catalán S., Abdón) *E*-ideals in train algebras. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 1, 59–71. (Consuelo Martínez) **99h:17031** 17D92

— (*with* Benavides Gallardo, Raúl) Some remarks on genetic algebras. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 93–105. (Consuelo Martínez) **99h:17030** 17D92

— (*with* Guzzo, H., Jr.; Vicente, P.) Shape identities in train algebras of rank 3. (English summary) *Results Math.* **35** (1999), *no.* 1-2, 32–43. (Consuelo Martínez) **99m:17044** 17D92

rodrigues Costa, Sueli I. *see* **Rodrigues Costa, Sueli I.**

Costa, Sueli I. R. *see* **Rodrigues Costa, Sueli I.**

Costa, Sueli Rodrigues *see* **Rodrigues Costa, Sueli I.**

Costabel, Martin (*with* Dauge, Monique) Un résultat de densité pour les équations de Maxwell régularisées dans un domaine lipschitzien. (English and French summaries) [A denseness result for the regularized Maxwell equations in a Lipschitz domain] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 849–854. (Summary) **99k:46054** 46E35 (35B65, 35Q60, 78A25)

— (*with* Dauge, Monique; Suri, Manil) Numerical approximation of a singularly perturbed contact problem. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 349–363. (Anders Klarbring) **99h:73071** 73T05 (65N99, 73C35, 73V20)

— (*with* Dauge, Monique) Maxwell and Lamé eigenvalues on polyhedra. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 3, 243–258. (Summary) **99k:78009** 78A25 (35Q60, 73C02, 78–08)

Costabile, F. (*with* Gualtieri, M. I.; Serra, Stefano) An extrapolation technique for general exponential type operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 345–355. (Mariano Gasca) **99h:41025** 41A25 (41A60, 65B05)

Costantini, C. *see* **Costantini, Cristina**

Costantini, Camillo (*with* Barbati, Alberto) On a generalization of totally bounded and compact metric spaces. (English summary) *Topology Proc.* **22** (1997), 1–22. (Summary) **99g:54025** 54E35 (54E45, 54E50)

— On the hyperspace of a non-separable metric space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3393–3396. (M. Hušek) **99e:54006** 54B20 (54C35, 54D35, 54E35)

— (*with* Watson, W. Stephen) On the dissonance of some metrizable spaces. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 259–268. (A. H. Stone) **99b:54012** 54B20 (54A10, 54D55, 54E35, 54G12)

— (*with* Bertacchi, Daniela) Existence of selections and disconnectedness properties for the hyperspace of an ultrametric space. (English summary) *Topology Appl.* **88** (1998), *no.* 3, 179–197. (Stoyan Nedev) **99g:54003** 54B20 (54C65, 54D05, 54F50)

Costantini, Cristina (*with* Pasqualucci, D.) Monotonicity of Bayes sequential tests for multidimensional and censored observations. (English summary) *J. Statist. Plann. Inference* **75** (1998), *no.* 1, 117–131. (Summary) **99k:62143** 62L10 (62F15)

— (*with* Pacchiarotti, B.; Sartoretto, Flavio) Numerical approximation for functionals of reflecting diffusion processes. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 73–102 (*electronic*). (Summary) **99a:60034** 60F17 (60H30, 60J60, 65C05)

Costantini, D. *see* **Costantini, Domenico**

Costantini, Demetrio A definition of probability? (Italian) *Epistemology of mathematics.* 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 3–9, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 00A30

Costantini, Domenico (*with* Garibaldi, Ubaldo; Penco, M. A.) Ludwig Boltzmann at the birth of statistical mechanics. (Italian. English and Italian summaries) *Statistica* (*Bologna*) **56** (1996), *no.* 3, 279–300 (1997). (Summary) **99a:82002** 82–03 (01A55)

— (*with* Garibaldi, Ubaldo) A probabilistic foundation of elementary particle statistics. I. (English summary) *Stud. Hist. Philos. Sci.* **28** (1997), *no.* 4, 483–506. (M. Lawrence Glasser) **99b:82005** 82B03 (82–03)

— (*with* Garibaldi, Ubaldo; Monari, P.) From single events to statistical events. (Italian. English and Italian summaries) *Statistica* (*Bologna*) **58** (1998), *no.* 2, 191–211. 62F15

— (*with* Garibaldi, Ubaldo) A probabilistic foundation of elementary particle statistics. II. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 1, 37–59. (M. Lawrence Glasser) **99g:82001** 82B03 (82B05, 82B10)

Costantini, M. Simple modules over the multiparameter quantum function algebra at roots of 1. (English summary) *Transform. Groups* **3** (1998), *no.* 2, 115–134. (Shlomo Gelaki) **99k:16077** 16W30

Costantini, Paolo Variable degree polynomial splines. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 85–94, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:41005** 41A15 (65D17)

— Boundary-valued shape-preserving interpolating splines. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 229–251. 65Y15

— Algorithm 770: BVSPIS—a package for computing boundary-valued shape-preserving interpolating splines. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 252–254. 65Y15

— (*with* Asaturyan, Souren; Manni, Carla) G^2 shape-preserving parametric planar curve interpolation. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 89–98, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A29)

— (*with* Asaturyan, Souren; Manni, Carla) Shape-preserving interpolating curves in $\mathbf{R}^3$: a local approach. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 99–108, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A63)

— (*with* Sampoli, Maria Lucia) Abstract schemes and constrained curve interpolation. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 121–130, *Teubner, Stuttgart*, 1998. (Summary) **99h:65026** 65D17 (41A29)

Costanza, M. C. (*with* Son, M. S.; Haugh, L. D.; Hamdy, H. I.) Controlling type II error while constructing triple sampling fixed precision confidence intervals for the normal mean. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 681–692. (Summary) **99c:62230** 62L12

Costanzo, Francesco (*with* Walton, Jay R.) A numerical solution technique for a class of integro-differential equations in elastodynamic crack propagation problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 19–48. (Summary) **99f:73065** 73M25 (73V20)

— A continuum theory of cohesive zone models: deformation and constitutive equations. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 15, 1763–1792. (Alain Brillard) **99j:73002** 73B05 (73M25)

Costash, A. I. (*with* Ursul, M. I.) Bounded subsets in some topological rings. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1995**, *no.* 2-3, 36–42, 113, 116. (Dikran Dikranjan) **99c:16048** 16W80

— (*with* Ursul, M. I.) Examples of minimal topological groups. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 86–92, 106, 110. (M. Hušek) **99h:54055** 54H11 (22A05)

Coste, Christophe Nonlinear Schrödinger equation and superfluid hydrodynamics. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 2, 245–253. (Summary) **99e:82097** 82D50 (35Q55)

Coste, François (*with* Nicolas, Jacques[2]) How considering incompatible state mergings may reduce the DFA induction search tree. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 199–210, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)

saloff-Coste, Laurent *see* **Saloff-Coste, Laurent**

Coste, Michel (*with* Kurdyka, Krzysztof) Le discriminant d'un morphisme de variétés algébriques réelles. [The discriminant of a morphism of real algebraic varieties] *Topology* **37** (1998), *no.* 2, 393–399. (A. Tognoli) **99a:14083** 14P25

Costello, Daniel J., Jr. (*with* Hagenauer, Joachim; Imai, Hideki; Wicker, Stephen B.) Applications of error-control coding. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2531–2560. (Summary) **99i:94027** 94A24 (94A40)

Costen, R. C. (*with* Miller, L. J.) Pulsing inertial oscillation, supercell storms, and surface mesonetwork data. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 277–299. (Summary) **99e:86003** 86A10 (76C05)

de Coster, Colette *see* **De Coster, Colette**

Coster, M. (*with* Quenec'h, J. L.; Jeulin, D.; Chermant, J. L.) Approach of liquid phase sintering process by probabilistic models. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 231–249, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:60005**) 73B99 (60D05, 73V30, 76A99, 76M35)

Costin, Ovidiu On Borel summation and Stokes phenomena for rank-1 nonlinear systems of ordinary differential equations. *Duke Math. J.* **93** (1998), *no.* 2, 289–344. (B. L. J. Braaksma) **99h:34003** 34A20 (34E05)

— (*with* Costin, Rodica D.) Singular normal form for the Painlevé equation PI. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1195–1208. (Alexander Vladimirovich Kitaev) **99k:34005** 34A20 (34C20)

— Correlation between pole location and asymptotic behavior for Painlevé I solutions. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 4, 461–478. (Alexander Vladimirovich Kitaev) **99m:34121** 34E10 (34A20, 34A34)

Costin, Rodica D. Integrability properties of a generalized Lamé equation: applications to the Hénon-Heiles system. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 113–123. (Richard C. Churchill) **99a:34008** 34A20 (34A34, 58F05)

— (*with* Costin, Ovidiu) Singular normal form for the Painlevé equation PI. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1195–1208. (Alexander Vladimirovich Kitaev) **99k:34005** 34A20 (34C20)

Cosulschi, Mirel (*with* Gorunescu, Florin) A Bernoulli counting process for the Monte Carlo solution of the Dirichlet problem. The case of free boundary domains. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 81–91 (1998). (Joseph Kreimer) **99j:65007** 65C05 (68N99)

Cot, Cécile (*with* Catoni, Olivier) Piecewise constant triangular cooling schedules for generalized simulated annealing algorithms. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 375–396. (Laurent Miclo) **99f:65011** 65C05 (60F10, 60J10, 90C42)

Cotăescu, Ion I. (*with* Drăgănescu, Gheorghe) The operator algebra of the quantum relativistic oscillator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5505–5514. (Enric Verdaguer) **99f:81075** 81R10 (81T20, 83C47)

— A relativistic supersymmetry and some algebraic consequences. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3043–3049. (Avinash Khare) **99c:81050** 81Q60

— The Dirac particle on central backgrounds and the anti-de Sitter oscillator. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 36, 2923–2935. (Summary) **99i:83045** 83C47 (83C10)

— The Dirac particle on de Sitter background. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2991–2997. (Kotik K. Lee) **99j:81127** 81T20 (83C47)

Côté, Jean (*with* Gravel, Sylvie; Roch, Michel; Méthot, André; Patoine, Alain; Caveen, James; Valin, Michel; Thomas, Steve; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)

Cotfas, Nicolae On the affine self-similarities of the three-dimensional Penrose pattern. (English summary) *J. Phys. A* **31** (1998), *no.* 35, 7273–7277. (Summary) **99h:52026** 52C22

— On the self-similarities of a model set. (English summary) *J. Phys. A* **32** (1999), *no.* 15, *L*165–*L*168. 52C07

Coti Zelati, Vittorio (*with* Dobarro, Fernando; Musina, Roberta) Prescribing scalar curvature in warped products. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 61–76. (John Urbas) **99e:53048** 53C21 (35J60)

Cotlar, Mischa (*with* Alegría Ezquerra, Pedro) Generalized Toeplitz forms and interpolation colligations. (English summary) *Math. Nachr.* **190** (1998), 5–29. (Dmitriy S. Kalyuzhniy) **99g:47019** 47A48 (15A63, 47A57, 47B35)

Cotronei, Mariantonia (*with* Puccio, Luigia) An application of multiwavelet analysis to signal compression. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 75–82, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 94A29 (94A11, 94A12)

Cotsakis, S. (*with* Miritzis, J.) Proof of the cosmic no-hair conjecture for some quadratic homogeneous cosmologies. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2795–2801. (Marco Cavaglià) **99j:83008** 83C05 (83D05, 83F05)

— (*with* Lemmer, R. L.; Leach, P. G. L.) Adiabatic invariants and mixmaster catastrophes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4691–4698. (Summary) **99m:83159** 83C99 (58C27)

Cotta, Renato M. *see* **Integral transform method in thermal and fluids sciences and engineering**

Cotta-Ramusino, Paolo (*with* Cattaneo, Alberto S.; Rinaldi, Maurizio) BRST symmetries for the tangent gauge group. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1316–1339. (Noriaki Ano) **99k:58054** 58E50 (53C80, 81T70)

Cottenceau, Bertrand (*with* Hardouin, Laurent; Boimond, Jean-Louis; Ferrier, Jean-Louis) Synthesis of greatest linear feedback for timed-event graphs in dioid. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1258–1262. 93B51 (93C83)

Couairon, Arnaud (*with* Pier, Benoît; Huerre, Patrick; Chomaz, Jean-Marc) Steep nonlinear global modes in spatially developing media. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2433–2435. (Summary) **99g:76062** 76E30

Couchman, L. S. (*with* Ghosh Roy, D. N.; Warner, Jeremy A.; Shirron, Joseph J.) Inverse obstacle transmission problem in acoustics. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 903–929. (Summary) **99f:76119** 76Q05 (35R30, 65N99, 76M25)

Coughlin, Katie The transition to turbulence via turbulent bursts. (English summary) *Boundaries, interfaces, and transitions* (*Banff, AB*, 1995), 1–17, *CRM Proc. Lecture Notes*,

13, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:76071** 76F99 (76E99)
— *see also* **Semi-analytic methods for the Navier-Stokes equations, 99k:00037**
Cougo-Pinto, M. V. (*with* Farina de Souza, Carlos; Negrão, M. R.; Tort, A. C.) Bosonic Casimir effect in external magnetic field. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4457–4462. 81T20
— (*with* Farina de Souza, Carlos; Santos, F. C.; Tort, A. C.) QED vacuum between a conducting and a permeable plate. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4463–4474. 81V10
Coulaud, Olivier Asymptotic analysis of magnetic induction with high frequency for solid conductors. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 651–669. (Summary) **99f:78004** 78A25 (35Q60, 78–08)
Coulbois, Thierry (*with* Khelif, Anatole) Equations in free groups are not finitely approximable. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 963–965. (Summary) **99f:20037** 20E05 (03B25)
Coule, D. H. No warp drive. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2523–2527. (Robert J. Low) **99k:83099** 83C99 (83C75)
— Pre-big bang model has Planck problem. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2803–2812. (Summary) **99f:83082** 83F05
— Brans-Dicke and related Euclidean wormholes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 961–971. 83D05 (83E05)
Coulhon, Thierry Heat kernels on non-compact Riemannian manifolds: a partial survey. *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 167–187, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Alberto G. Setti) **99e:58175** 58G11 (35K05, 46E35)
— Large time behaviour of heat kernels on Riemannian manifolds: fast and slow decays. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. II*, 12 *pp.*, *Univ. Nantes, Nantes*, 1998. (Gilles Carron) **99i:58143** 58G11 (35B40, 35K10)
— (*with* Grigor'yan, Alexander) Random walks on graphs with regular volume growth. *Geom. Funct. Anal.* **8** (1998), *no.* 4, 656–701. (Gilles Carron) **99e:60153** 60J15 (58G32, 60J10)
— (*with* Duong, Xuan Thinh) Riesz transforms for $1 \le p \le 2$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1151–1169. (Zhongmin Qian) **99e:58174** 58G11 (31C12, 53C21, 60J35)
Coulibaly, Ibrahim (*with* Lécot, Christian) Monte Carlo and quasi-Monte Carlo algorithms for a linear integro-differential equation. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 176–188, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65365** 65R20 (65C05)
— (*with* Lécot, Christian) A particle method for some parabolic equations. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 25–44. (Summary) **99b:65107** 65M15 (65C05)
— (*with* Lécot, Christian) Simulation of diffusion using quasi-random walk methods. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 153–163. (Summary) **99d:65013** 65C05 (65M99, 76M35)
— (*with* Lécot, Christian) A quasi-Monte Carlo scheme using nets for a linear Boltzmann equation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 51–70 (*electronic*). (Summary) **99b:65005** 65C05 (65M15, 82C80)
— (*with* Lécot, Christian) A quasi-randomized Runge-Kutta method. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 651–659. (Summary) **99i:65072** 65L06 (65C05)
Coullet, P. (*with* Daboussy, D.; Tredicce, J. R.) Optical excitable waves. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5347–5350. (Summary) **99g:78027** 78A60
Coulouvrat, F. (*with* Aubin, Thierry) Ondes acoustiques non linéaires dans un fluide avec relaxation. (English and French summaries) [Nonlinear acoustic waves in a relaxing fluid] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 4, 387–413. (Philippe G. LeFloch) **99e:76098** 76N10 (35Q35, 76Q05)
Coulston, Chris (*with* Berman, Piotr) Speed is more powerful than clairvoyance. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 255–263, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68022** 68M20 (68N25)
Coult, Nicholas (*with* Beylkin, Gregory) A multiresolution strategy for reduction of elliptic PDEs and eigenvalue problems. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 129–155. (V. L. Makarov) **99d:65306** 65N25
— (*with* Beylkin, Gregory; Mohlenkamp, Martin J.) Fast spectral projection algorithms for density-matrix computations. (English summary) *J. Comput. Phys.* **152** (1999), *no.* 1, 32–54. 81–08 (81V55)
Coulter, Robert S. (*with* Matthews, Rex W.) Bent polynomials over finite fields. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 429–437. (S. D. Cohen) **99a:11135** 11T06
— Explicit evaluations of some Weil sums. *Acta Arith.* **83** (1998), *no.* 3, 241–251. (Charles Helou) **99c:11149** 11T23 (11T24)
— Further evaluations of Weil sums. *Acta Arith.* **86** (1998), *no.* 3, 217–226. (Charles Helou) **99i:11113** 11T23 (11L03, 11T24)
Coupet-Grimal, Solange (*with* Amadio, Roberto M.) Analysis of a guard condition in type theory (extended abstract). (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 48–62, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68N15 (03B40, 03B70)
Coupey, P. (*with* Faron, C.) Towards correspondences between conceptual graphs and description logics. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 165–178, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T30
Coupez, T. (*with* Fourment, L.; Chenot, J. L.) Adaptive solutions in industrial forming process simulation. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 365–381, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)
— (*with* Pichelin, E.) Finite element solution of the 3D mold filling problem for viscous incompressible fluid. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 359–371. 76M10 (76D99)
la Cour, Lisbeth A parametric characterization of integrated vector autoregressive (VAR) processes. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 187–199. (Summary) **99c:62247** 62M10
Courbage, M. (*with* Hamdan, D.) An ergodic Markov chain is not determined by its two-dimensional marginal laws. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 35–40. (Summary) **99a:60067** 60J10
Courbet, B. (*with* Croisille, Jean-Pierre) Finite volume box schemes on triangular meshes. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 631–649. (Stanly L. Steinberg) **99i:65124** 65N30 (65N12)
Courcelle, Bruno The expression of graph properties and graph transformations in monadic second-order logic. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 313–400, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68R10 (03B15, 03B70, 05C90, 68Q50)
— (*with* Downey, Rodney G.; Fellows, Michael R.) A note on the computability of graph minor obstruction sets for monadic second order ideals. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1194–1198 (*electronic*). (Summary) **99h:68129** 68R10 (03C85, 05C99)
— (*with* Lapoire, Denis) Facial circuits of planar graphs and context-free languages. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 616–624, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q45)
— (*with* Walukiewicz, Igor) Monadic second-order logic, graph coverings and unfoldings of transition systems. (English summary) *Ann. Pure Appl. Logic* **92** (1998), *no.* 1, 35–62. (Damian Niwiński) **99g:68130** 68Q60 (03C80, 03C85, 03D05, 05C10)
hărăguş-Courcelle, Mariana *see* **Hărăguş-Courcelle, Mariana**
Courcoubetis, Costas (*with* Yannakakis, Mihalis) Markov decision processes and regular events. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1399–1418. (O. L. V. Costa) **99h:90112** 90C40 (93C83)
Courilleau, Patrick (*with* Fabre, Sylvie; Mossino, Jacqueline) Homogénéisation de problèmes non linéaires dans des milieux quasi-stratifiés. (English and French summaries) [Homogenization of some nonlinear problems in quasistratified media] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 401–406. (Summary) **99k:35017** 35B27 (73B27)
Cournot, A. A. *see* **Martin, Thierry, (99g:01038)**
Courrège, Philippe Problèmes aux limites elliptiques et principe du maximum. [Elliptic boundary value problems and maximum principle] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 302, 367–384, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 58G32 (35Jxx, 60J60)
Courtès, François Sur le transfert des intégrales orbitales pour les groupes linéaires (cas p-adique). (English and French summaries) [Transfer of orbital integrals for linear groups (p-adic case)] *Mém. Soc. Math. Fr. (N.S.) No.* 69 (1997), *vi*+140 *pp.* (Volker J. Heiermann) **99g:22018** 22E50 (11F70, 11S37)
Courtois, G. (*with* Besson, Gérard; Gallot, Sylvestre) A real Schwarz lemma and some applications. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 381–410. (Andrea Sambusetti) **99k:53064** 53C20 (53C23)
— *see also* **Gallot, Sylvestre, 99h:58143**
Cousin, A. T. (*with* Lar'kin, N. A.) A nonlinear unilateral problem for the Timoshenko coupled system. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 555–568. (Summary) **99i:73037** 73D35 (35Q72, 73K05, 73K12, 73K50, 93C20)
— (*with* Frota, C. L.; Lar'kin, N. A.; Medeiros, Luis Adauto) On the abstract model of the Kirchhoff-Carrier equation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 389–404. (From the introduction) **99b:34105** 34G20 (35Q99, 47N20)
— (*with* Frota, C. L.; Lar'kin, N. A.) Regular solutions and stability for the nonlinear thermoviscoelastic system with nonlinear damping on the boundary. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 119–125, *VSP, Utrecht*, 1998. (Summary) **99f:35206** 35Q72 (35B35, 73B30, 73F15)
— (*with* Frota, C. L.; Lar'kin, N. A.) Regular solutions and energy decay for the equation of viscoelasticity with nonlinear damping on the boundary. *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 273–296. (Ming Mei) **99e:73058** 73F15 (35B40, 35Q72)
Cousot, P. *see* **SAS'94, 99a:68013**
Coussaert, Olivier (*with* Bañados, Máximo; Bautier, Karin; Henneaux, Marc; Ortiz, Miguel E.) Anti-de Sitter-CFT correspondence in three-dimensional supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085020, 6 *pp.* (Summary) **99k:83131** 83E50 (81T40)
Coussot, Philippe Saffman-Taylor instability in yield-stress fluids. (English summary) *J. Fluid Mech.* **380** (1999), 363–376. (Summary) **99k:76009** 76A10 (76E99, 76S05)
Cousteix, J. (*with* Roget, C.; Brazier, J. Ph.; Mauss, J.) A contribution to the physical analysis of separated flows past three-dimensional humps. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 307–329. (Summary) **99e:76036** 76D15 (76D10)
Coutand, Daniel (*with* Ciarlet, Philippe G.) Un théorème d'existence pour une coque non linéairement élastique "en flexion". (English and French summaries) [An existence theorem for a nonlinearly elastic "flexural" shell] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 903–907. (Summary) **99g:73079** 73K15 (73C50, 73V25)
— (*with* Ciarlet, Philippe G.) An existence theorem for nonlinearly elastic "flexural" shells. (English and French summaries) *J. Elasticity* **50** (1998), *no.* 3, 261–277. (Daniel Choï) **99i:73047** 73K15 (73C50, 73V25)
Coutin, Laure (*with* Carmona, Philippe) Simultaneous approximation of a family of (stochastic) differential equations. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 69–74, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Peter E. Kloeden) **99m:60081** 60H05 (26A33, 65U05)
Coutinho, A. L. G. A. (*with* Dias, C. M.) Reduced integration for steady advective-diffusive problems discretized by the SUPG formulation with discontinuity-capturing. (Portuguese. English and Portuguese summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 2, 145–166. (Summary) **99f:76086** 76M10 (65N99)
— (*with* Parsons, I. D.) Finite element multigrid methods for two-phase immiscible flow in heterogeneous media. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 1, 1–7. 76M10 (65M55, 76S05)

— (*with* de Sampaio, P. A. B.) Simulation of free and forced convection incompressible flows using an adaptive parallel/vector finite element procedure. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 289–309. 76M10

Coutinho, F. A. B. (*with* Lopez, Luis Fernandez) Erratum: "Motion of articulated bodies: an application of gauge invariance in classical Lagrangian mechanics" [Amer. J. Phys. **65** (1997), no. 6, 528–536; MR 98i:70015]. *Amer. J. Phys.* **66** (1998), *no.* 3, 252. 70H35 (70E99, 70F99, 70G99)

Coutinho, Ricardo (*with* Fernandez, Bastien) Fronts and interfaces in bistable extended mappings. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1407–1433. (Volker Matthias Gundlach) **99i:58087** 58F10 (82C05)

Coutinho, S. C. d-simple rings and simple $\mathscr{D}$-modules. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 405–415. (François Dumas) **99j:16013** 16S32 (16P90, 16W50)

Coutis, Peter Modelling the projectile motion of a cricket ball. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 789–798. (Summary) **99i:00009** 00A71

Coutsias, E. A. (*with* Kazarinoff, N. D.) The approximate functional formula for the theta function and Diophantine Gauss sums. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 615–641. (John H. Loxton) **99b:11091** 11L05 (11J25, 11L07)

Couture, Jocelyne Analyse logique et analyticité; de Carnap à Gödel. (French summary) [Logical analysis and analyticity: from Carnap to Gödel] *Dialectica* **51** (1997), *no.* 2, 95–117. 03A05 (03B65)

Couture, Michel Josaphat C-statistical transforms of the Heisenberg spin chain and braided symmetry. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 62–67, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (17B37, 81R50)

Couveignes, Jean-Marc (*with* Cassou-Noguès, Pierrette) Factorisations explicites de $g(y) - h(z)$. [Explicit factorizations of $g(y) - h(z)$] *Acta Arith.* **87** (1999), *no.* 4, 291–317. (Maurice Mignotte) **99m:11023** 11C08 (12Y05)

Cova, R. J. Splitting solitons on a torus. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 6, 675–684. (Summary) **99j:81109** 81T10 (58E50)

Covalgiu, O. (*with* Ratsa, M. F.) On the existence of a criterion of model completeness for the closed classes of 3-valued functions. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 101–104, 107, 110. (Gongli Zhang) **99b:03037** 03B50 (06E30)

Coven, Ethan M. (*with* Meyerowitz, Aaron) Tiling the integers with translates of one finite set. (English summary) *J. Algebra* **212** (1999), *no.* 1, 161–174. (Mihail N. Kolountzakis) **99k:11032** 11B75

Cover, Alan (*with* Bose, Anil; Reneke, James) Point dissipative 2D systems with conservative homogeneous nonlinear term. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 10–19, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Summary) **99h:34073** 34D20 (34C99)

— (*with* Bose, Anil; Reneke, James) Linear feedback control of nonlinear systems with a dominating conservative quadratic term. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 507–518. (Summary) **99c:93046** 93B52 (93C10)

Cover, Thomas M. (*with* Erkip, Elza) The efficiency of investment information. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1026–1040. (Summary) **99a:90037** 90A09 (94A29)

— Comments on broadcast channels. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2524–2530. (Summary) **99i:94033** 94A40

Covi, L. (*with* Mangano, Gianpiero; Masiero, A.; Miele, G.) Hybrid inflation from supersymmetric SU(5). (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 253–258. (Summary) **99b:81271** 81V22 (81T60)

Covington, Jacinta (*with* Alperin, J. L.; Macpherson, Dugald) Automorphisms of quotients of symmetric groups. (English summary) *Ordered groups and infinite permutation groups*, 231–247, *Math. Appl.*, 354, *Kluwer Acad. Publ., Dordrecht*, 1996. (Fred Richman) **99a:20002** 20B27 (20B30)

— (*with* Thomas, Doreen A.) A homogenizable fishy poorset. (English summary) *J. Algebra* **211** (1999), *no.* 2, 625–639. (Gerhard Behrendt) **99m:20003** 20B27 (06A06, 08A35)

Covino, S. (*with* Cavalleri, G.) Cosmological isotropic coordinates with equal local meter sticks. (English summary) *Hadronic J.* **21** (1998), *no.* 5, 551–565. 83A05

Cowen, Carl C. (*with* MacCluer, Barbara D.) Some problems on composition operators. *Studies on composition operators* (*Laramie, WY*, 1996), 17–25, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (John N. McDonald) **99d:47029** 47B38 (46E15)

Cowen, Lenore J. (*with* Feigenbaum, Joan; Kannan, Sampath K.) A formal framework for evaluating heuristic programs. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 193–206. (Summary) **99h:68154** 68T20 (68Q25)

— Defective chromatic polynomials. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 57–61. (Summary) **99m:05059** 05C15

— (*with* Cheng, Christine Callyn Tan) On the local distinguishing numbers of cycles. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 97–108. (Summary) **99m:05084** 05C38

— (*with* Awerbuch, Baruch; Berger, Bonnie; Peleg, David) Near-linear time construction of sparse neighborhood covers. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 263–277 (*electronic*). (Peter Eades) **99d:68182** 68R10 (05C85, 68Q25)

Cowen, Robert *see* **Cowen, Robert Julian**

Cowen, Robert H. (*with* Emerson, William R.) On finding k_4 ($k_3 \leq x$). (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 26–30. (*see* **99h:05003**) 05C35

Cowen, Robert Julian (*with* Fisher, Paul) Security Council reform. A game-theoretic analysis. I. (English summary) *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 4, 100–104. 90D40 (90D80)

— A note on generalised shifts. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 157–159. (Summary) **99g:94012** 94A55

Cowgill, M. C. (*with* Harvey, R. J.; Watson, Layne T.) A genetic algorithm approach to cluster analysis. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 7, 99–108. 62H30

Cowin, Stephen (*with* Jaric, Jovo P.) On the mean rotation in finite deformation. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 55–83. (P. Villaggio) **99g:73004** 73A05 (73B99, 73C50, 73G05)

Cowles, John R. (*with* Arnold, Mark G.; Bailey, Thomas A.; Winkel, Mark D.) Arithmetic co-transformations in the real and complex logarithmic number systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 777–786. (Summary) **99d:65382** 65Y10 (68M07)

Cowley, S. C. (*with* Hurricane, O. A.; Fong, B. H.) Nonlinear magnetohydrodynamic detonation. I. (English summary) *Phys. Plasmas* **4** (1997), *no.* 10, 3565–3580. (Summary) **99d:76098** 76W05 (76E25, 76X05, 85A30)

— (*with* Widdowson, S.; Hurricane, O. A.) The continuum of unstable magnetohydrodynamic modes in a simple magnetized atmosphere. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1259–1264. (Summary) **99a:76166** 76W05 (76E25, 85A30)

Cowling, Michael The predual of the space of convolutors on a locally compact group. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 409–414. (A. Derighetti) **99g:43001** 43A15 (22D12, 43A07, 46J99)

Cox, A. J. (*with* Higham, Nicholas J.) Stability of Householder QR factorization for weighted least squares problems. (English summary) *Numerical analysis* 1997 (*Dundee*), 57–73, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99j:65066** 65F20

Cox, Anton The blocks of the q-Schur algebra. *J. Algebra* **207** (1998), *no.* 1, 306–325. (Richard M. Green) **99k:16078** 16W30 (16S80, 20C20, 20G05)

— Ext^1 for Weyl modules for q-$\mathrm{GL}(2, k)$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 231–251. (Karin Erdmann) **99h:17018** 17B37 (16G10, 16W30, 20G05)

Cox, Christopher Lee Flow-dependent networks: existence and behavior at Steiner points. (English summary) *Networks* **31** (1998), *no.* 3, 149–156. (András Faragó) **99c:90145** 90C35 (90B10, 90C27)

Cox, D. R. (*with* Wong, M. Y.) A note on the robust interpretation of regression coefficients. (English summary) *Test* **7** (1998), *no.* 2, 287–294. 62J05

Cox, David A. Recent developments in toric geometry. (English summary) *Algebraic geometry—Santa Cruz* 1995, 389–436, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Alicia Dickenstein) **99d:14054** 14M25

— (*with* Little, John B.; O'Shea, Donal) ★ Using algebraic geometry. (English summary) Graduate Texts in Mathematics, 185. *Springer-Verlag, New York*, 1998. *xii*+499 *pp. ISBN* 0-387-98487-9 (P. Schenzel) **99h:13033** 13Pxx (13–01, 14–01, 14Qxx)

— (*with* Sederberg, Thomas W.; Chen, Fa Lai) The moving line ideal basis of planar rational curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 803–827. (Bert Jüttler) **99h:14056** 14Q05 (65D17, 65Y25)

Cox, Dennis D. (*with* Raghavan, Nandini) Adaptive mixture importance sampling. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 3, 237–259. (Summary) **99i:62094** 62G07

Cox, E. A. (*with* Kluwick, Alfred) Nonlinear waves in materials with mixed nonlinearity. (English summary) *Wave Motion* **27** (1998), *no.* 1, 23–41. (Akira Tsutsumi) **99a:35165** 35L60 (76N10, 76Q05)

Cox, J. Theodore (*with* Bramson, Maury; Durrett, Richard) A spatial model for the abundance of species. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 658–709. (T. M. Liggett) **99f:60166** 60K35 (92D25, 92D40)

— (*with* Greven, Andreas; Shiga, Tokuzo) Finite and infinite systems of interacting diffusions: cluster formation and universality properties. (English summary) *Math. Nachr.* **192** (1998), 105–124. (Wan Ding Ding) **99e:60213** 60K35 (60J60)

Cox, S. J. *see* **Cox, Steven J.**

Cox, Stephen M. Rotating convection in a shear flow. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1699–1717. (Summary) **99d:76035** 76E15 (76E20, 76R05, 76U05, 85A30, 86A10)

— Long-wavelength rotating convection between poorly conducting boundaries. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1338–1364 (*electronic*). (Summary) **99c:76046** 76E15 (35Q35, 76U05)

Cox, Steven J. A new method for extracting cable parameters from input impedance data. (English summary) *Math. Biosci.* **153** (1998), *no.* 1, 1–12. (Summary) **99f:92001** 92C05 (92C20)

— (*with* McCarthy, C. Maeve) The shape of the tallest column. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 547–554 (*electronic*). (Bernard Rousselet) **99k:73090** 73K40 (34L40, 49J10, 73H05)

— (*with* Kawohl, Bernd; Uhlig, P. X.) On the optimal insulation of conductors. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 253–263. (Summary) **99k:49005** 49J10 (49Q10, 80A20)

Coxeter, H. S. M. ★ Non-Euclidean geometry. (English summary) Sixth edition. MAA Spectrum. *Mathematical Association of America, Washington, DC*, 1998. *xviii*+336 *pp. ISBN* 0-88385-522-4 (Editors) **99c:51002** 51–01 (01A75)

— (*with* Grünbaum, Branko) Face-transitive polyhedra with rectangular faces. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 1, 16–21. (P. McMullen) **99f:51033** 51M20

— Whence does an ellipse look like a circle? (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 124–127. (Summary) **99g:51015** 51M04

— Seven cubes and ten 24-cells. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 151–157. (P. McMullen) **99a:52012** 52B15 (51M20)

— Numerical distances among the circles in a loxodromic sequence. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 1–9. (J. M. Wills) **99i:51019** 51M15 (51A30)

Coyle, Lester N. Infinite moments of the partition function for random walks in a random potential. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2019–2034. (Aernout C. D. van Enter) **99h:82036** 82B41 (60J15, 60K35, 82B44)

Cozac, Ion (*with* Laslo, Grațiela) On noncommutative generalizations of lattices. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 63–70, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 06A99

Cozzens, Margaret B. (*with* Wu, Shu-Shih Y.) Vertex-neighbor-integrity of powers of cycles. (English summary) *Ars Combin.* **48** (1998), 257–270. (Summary) **99b:05087** 05C38

Crabb, M. C. (*with* James, Ioan Mackenzie) ★ Fibrewise homotopy theory. (English summary) Springer Monographs in Mathematics. *Springer-Verlag London, Ltd., London*,

1998. viii+341 pp. ISBN 1-85233-014-7 (J. P. C. Greenlees) **99k:55001** 55-02 (55M20, 55P42, 55R99, 55T10, 55T20)
— (*with* Spreafico, Mauro; Sutherland, W. A.) Enumerating projectively equivalent bundles. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 223–242. (R. A. Piccinini) **99i:55022** 55R10 (55R25, 55R50)
Crabb, M. J. (*with* Munn, W. D.) On the l^1-algebra of certain monoids. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1023–1031. (J. W. Baker) **99i:43003** 43A20 (20M05)
Crabb, Michael *see* **Crabb, M. C.**
Crăciun, Ana (*with* Crăciun, Ion A.) Variational forms for the vibration of a macropolar piezoelectric thermoelastic body. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 37–46. (Summary) **99a:73019** 73B30 (73B25, 73D99, 73R05, 73V25)
Crăciun, Dumitru (*with* Opriş, Dumitru) The Helmholtz conditions for the difference equations systems. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 21–30. (L. A. V. Carvalho) **99e:39069** 39A12 (34A45, 39A10, 70-08, 70H05)
Crăciun, Ion A. (*with* Crăciun, Ana) Variational forms for the vibration of a macropolar piezoelectric thermoelastic body. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 37–46. (Summary) **99a:73019** 73B30 (73B25, 73D99, 73R05, 73V25)
Cragg, John G. (*with* Donald, Stephen G.) Inferring the rank of a matrix. (English summary) *J. Econometrics* **76** (1997), *no.* 1-2, 223–250. (Summary) **99g:62151** 62P20 (62H12)
Cragnolini, Paolo (*with* Oliverio, P. A.) Lines on del Pezzo surfaces with $K_S^2 = 1$ in characteristic $\neq 2$. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1197–1206. (M. Kh. Gizatullin) **99m:14066** 14J26
Craig, I. J. D. (*with* Watson, P. G.; Priest, E. R.) The roles of advection and diffusion in planar magnetic merging solutions. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 3-4, 165–185. 76W05 (85A30)
Craig, Walter Les moments microlocaux et la régularité des solutions de l'équation de Schrödinger. [Microlocal moments and regularity of the solutions of the Schrödinger equation] *Séminaire sur les Équations aux Dérivées Partielles, 1995–1996, Exp. No. XX*, 24 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (P. Szeptycki) **99f:35028b** 35J10 (35A27, 35B65, 81Q05)
— (*with* Schanz, Ulrich; Sulem, Catherine) The modulational regime of three-dimensional water waves and the Davey-Stewartson system. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 5, 615–667. (C. Eugene Wayne) **99i:35144** 35Q55 (35Q53, 76B15)
— Microlocal moments and regularity of solutions of Schrödinger's equation. (English summary) *Math. Phys. Electron. J.* **3** (1997), *Paper* 2, 22 *pp.* (*electronic*). (P. Szeptycki) **99f:35028a** 35J10 (35A27, 35B65, 81Q05)
Craigen, R. (*with* Holzmann, W. H.; Kharaghani, H.) On the asymptotic existence of complex Hadamard matrices. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 319–327. (Summary) **99e:05026** 05B20
Craik, Alex D. D. Geometry, analysis, and the baptism of slaves: John West in Scotland and Jamaica. (English, French and German summaries) *Historia Math.* **25** (1998), *no.* 1, 29–74. (Thomas Archibald) **99e:01013** 01A50 (01A70)
— Hysteresis, limit cycles and mode interactions of standing waves with Faraday excitation. (English summary) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 1–10. (*see* **99f:76003**) 76B15 (34C05)
Crainic, Marius (*with* Østvær, Paul Arne) On two-primary algebraic K-theory of quadratic number rings with focus on K_2. *Acta Arith.* **87** (1999), *no.* 3, 223–243. (J. Browkin) **99j:11138** 11R70 (11R65, 19C99, 19D50)
Crainic, Teodor Gabriel (*with* Gendron, Bernard) A parallel branch-and-bound algorithm for multicommodity location with balancing requirements. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 9, 829–847. (Horst W. Hamacher) **99d:90066** 90B80 (90B10, 90C09)
Craioveanu, Mircea (*with* Buchner, Klaus; Puta, Mircea) Recent progress in the integration of Poisson systems via the mid-point rule and Runge-Kutta algorithm. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 9–19. (Ram Krishan Sharma) **99d:70003** 70-08 (65L06, 70H05)
Craiu, Radu V. Bayesian inference in doubly truncated Laplace distribution. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 473–480. (J. A. Melamed) **99h:62023** 62F15
Cram, G.-Martin *see* **Slodowy, Peter, 99e:20020**
Crama, Yves (*with* Oosten, Maarten) The polytope of block diagonal matrices and complete bipartite partitionings. (English summary) *Networks* **30** (1997), *no.* 4, 263–282. (Stanislav Jendrol') **99b:05137** 05C90 (52B12)
Cramer, Claes R. (*with* Kay, Bernard S.) Thermal and two-particle stress-energy must be ill defined on the two-dimensional Misner space chronology horizon. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1052–1056. (Michael Keyl) **99c:83068** 83C75 (83C47)
Cramer, Erhard (*with* Kamps, Udo) Maximum likelihood estimation with different sequential k-out-of-n systems. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 101–111, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:62118** 62N05 (62F10)
— Conditional iterative proportional fitting for Gaussian distributions. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 261–276. (Barry C. Arnold) **99h:62005** 62B10 (62E10)
Cramer, H. (*with* Wunderlich, W.; Steinl, G.) An adaptive finite element approach in associated and non-associated plasticity considering localization phenomena. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 293–308, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)
Cramer, Michael Stochastic analysis of "simultaneous merge-sort". (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 669–694. (Summary) **99c:68118** 68Q25 (60F05, 65Y20, 68P10)
— Convergence of a branching type recursion with non-stationary immigration. (English summary) *Metrika* **46** (1997), *no.* 3, 187–211. (F. M. Dekking) **99k:60055** 60F05 (60J80)
— Stochastic analysis of the Merge-Sort algorithm. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 1, 81–96. (Summary) **99a:68084** 68Q25 (60F05, 68P10)
Cramer, Ronald (*with* Damgård, Ivan B.) Fast and secure immunization against adaptive man-in-the-middle impersonation. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 75–87, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **99b:94028** 94A60
— (*with* Damgård, Ivan B.; Pedersen, Torben) Efficient and provable security amplifications. (English summary) *Security protocols* (*Cambridge*, 1996), 101–109, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Joan Boyar) **99a:94028** 94A60 (68P25)
— (*with* Shoup, Victor) A practical public key cryptosystem provably secure against adaptive chosen ciphertext attack. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 13–25, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94041** 94A60
— (*with* Damgård, Ivan B.) Zero-knowledge proofs for finite field arithmetic, or: Can zero-knowledge be for free? (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 424–441, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99m:68060** 68Q15 (94A60)
priess-Crampe, Sibylla *see* **Priess-Crampe, Sibylla**
Crampin, M. (*with* Sarlet, W.; Martínez, Eduardo) The integrability conditions in the inverse problem of the calculus of variations for second-order ordinary differential equations. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 3, 233–273. (Frans Cantrijn) **99m:58072** 58E30 (34A26, 49N45, 58F05, 70H35)
Crane, Carl D. (*with* Duffy, Joseph; Knight, B.; Rooney, J.) An investigation of a special motion of an octahedron manipulator using screw theory. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 307–316, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15
Crane, Louis (*with* Kauffman, Louis H.; Yetter, David N.) State-sum invariants of 4-manifolds. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 177–234. (Summary) **99c:57049** 57N13
— (*with* Yetter, David N.) Examples of categorification. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 3–25. (R. Gylys) **99h:18009** 18D05 (16W30, 18D10, 57N13)
— (*with* Yetter, David N.) Deformations of (bi)tensor categories. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 3, 163–180. (Sorin Dăscălescu) **99g:18004** 18D10 (17B37)
— (*with* Barrett, John W.) Relativistic spin networks and quantum gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3296–3302. (José A. Zapata) **99c:83020** 83C27 (83C45)
Crann, Diane (*with* Davies, Alan J.; Lai, Choi-Hong; Leong, Swee H.) Time domain decomposition for European options in financial modelling. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 486–491, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 90A09 (65M55)
— (*with* Davies, Alan J.) The boundary element method on a spreadsheet. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 851–865. 65-04 (65N38)
Crans, Sjoerd E. Generalized centers of braided and sylleptic monoidal 2-categories. (English summary) *Adv. Math.* **136** (1998), *no.* 2, 183–223. (Pilar C. Carrasco) **99j:18006** 18D05 (18D20)
— A tensor product for **Gray**-categories. (English summary) *Theory Appl. Categ.* **5** (1999), *No.* 2, 12–69 (*electronic*). (R. H. Street) **99m:18006** 18D05 (18A05, 18D10, 18D20)
Cranston, Michael (*with* Li, Yi[2]) Eigenfunction and harmonic function estimates in domains with horns and cusps. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1805–1836. (Ya. A. Roĭtberg) **99f:35024** 35J05 (35B45, 35P15)
— (*with* Le Jan, Yves) Geometric evolution under isotropic stochastic flow. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 4, 36 *pp.* (*electronic*). (Rémi Léandre) **99c:60115** 60H10 (60J60)
Crapo, Henry H. Rota's "combinatorial theory". *Gian-Carlo Rota on combinatorics*, xix–xliii, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 01A60 (05-03)
— Projective configurations: their invariants and homology. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 35–58. (Michael Joswig) **99h:52029** 52C25 (55N99)
— (*with* Senechal, Marjorie) Tilings by related zonotopes. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 59–73. (P. McMullen) **99b:52053** 52C22
Craps, Ben (*with* Roose, Frederik; Troost, Walter; Van Proeyen, Antoine) The definitions of special geometry. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 390–395, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81183** 81T60 (53C25, 53C80)
— (*with* Roose, Frederik; Troost, Walter; Van Proeyen, Antoine) What is special Kähler geometry? (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 565–613. (Krzysztof Galicki) **99e:53061** 53C25 (32G81, 53C55, 53C80, 83E50)
— (*with* Roose, Frederik) Anomalous D-brane and orientifold couplings from the boundary state. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 150–159. (Summary) **99m:81176** 81T30
— (*with* Roose, Frederik; Troost, Walter; Van Proeyen, Antoine) Special Kähler geometry: does there exist a prepotential? *Strings, branes and dualities* (*Cargèse*, 1997), 449–454, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 53C25 (53C80, 83E30)
Crasovan, Lucian-Cornel (*with* Malomed, Boris A.; Mihalache, Dumitru; Lederer, Falk) Exact solitary-wave solutions of $\mathscr{X}^{(2)}$ Ginzburg-Landau equations. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 6, 7173–7177. 78A60
Craster, R. V. (*with* Hoàng, Viêt Hà) Applications of Fuchsian differential equations to free boundary problems. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1241–1252. (Summary) **99c:34005** 34A20 (30C20, 35R35)
Crater, Horace W. (*with* Long, Peter Stanton) Two-body Dirac equations for general covariant interactions and their coupled Schrödinger-like forms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 124–160. (A. Ventura) **99c:81028** 81Q05 (81V25)
Crauel, Hans (*with* Flandoli, Franco) Additive noise destroys a pitchfork bifurcation. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 2, 259–274. (Bohdan Maslowski) **99d:58115** 58F12 (34C23, 34F05, 60H10)

— (*with* Flandoli, Franco) Hausdorff dimension of invariant sets for random dynamical systems. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 449–474. (Arnaud Debussche) **99h:58117** 58F12 (28A78, 34C35, 34G20, 35Q30)
— *see also* **Stochastic dynamics**, **99k:60003**
Crauser, A. (*with* Mehlhorn, Kurt; Meyer, Ulrich; Sanders, Peter) A parallelization of Dijkstra's shortest path algorithm. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 722–731, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q22)
Crauwels, H. A. J. (*with* Potts, Chris N.; Van Wassenhove, Luk N.) Local search heuristics for the single machine total weighted tardiness scheduling problem. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 341–350. 90B35
Craveiro de Carvalho, F. J. *see* **de Carvalho, Francisco J. Craveiro**
Craven, B. D. (*with* Đỗ Văn Lu'u) A method for establishing optimality conditions for a nonsmooth vector-valued minimax problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 295–304. (Summary) **99e:90080** 90C29 (49J52)
— Optimal control and invexity. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 17–25. (Valentin D. Batukhtin) **99h:49030** 49K15 (90C29)
— (*with* de Haas, K.; Wettenhall, J. M.) Computing optimal control. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 601–615. (Summary) **99j:49071** 49M30 (65K10)
— (*with* Đỗ Văn Lu'u) Lagrangian conditions for a nonsmooth vector-valued minimax. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 163–175. (Fred Behringer) **99i:90082** 90C29 (49K35)
Craven, Mark (*with* Slattery, Seán) Combining statistical and relational methods for learning in hypertext domains. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 38–52, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68T05
Craven, Thomas (*with* Csordas, George) A sufficient condition for strict total positivity of a matrix. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 19–34. (Summary) **99h:15018** 15A48
Crawford, David L. (*with* Pollak, Robert A.; Vella, Francis) Simple inference in multinomial and ordered logit. (English summary) *Econometric Rev.* **17** (1998), *no.* 3, 289–299. (Summary) **99e:62177** 62P20
Crawford, J. W. (*with* Davidson, F. A.; Sleeman, B. D.) Travelling waves in a reaction-diffusion system modelling fungal mycelia. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 237–257. (Wolf-Jürgen Beyn) **99c:92011** 92C15 (34C37, 35K57, 35Q80)
— (*with* Davidson, F. A.; Sleeman, B. D.; Rayner, A. D. M.; Ritz, K.) Travelling waves and pattern formation in a model for fungal development. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 589–608. (Joseph So) **99d:92024** 92D25 (35K57, 35Q80, 92C15)
Crawford, James M. (*with* Etherington, David W.) A non-deterministic semantics for tractable inference. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 286–291, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T15 (03B70, 68N17)
Crawford, James P. Spinor matter in a gravitational field: covariant equations à la Heisenberg. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 457–470. (Jorge Goncalves Cardoso) **99m:83025** 83C10 (81R20, 81T20, 83C60)
Crawford, John David (*with* Jayaraman, Anandhan) Amplitude equations for electrostatic waves: multiple species. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4546–4577. (Summary) **99f:76133** 76X05 (82D10)
— (*with* Jayaraman, Anandhan) First principles justification of a "single wave model" for electrostatic instabilities. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 666–673. (Summary) **99k:76160** 76X05
Crawley-Boevey, William Infinite-dimensional modules in the representation theory of finite-dimensional algebras. *Algebras and modules, I* (*Trondheim*, 1996), 29–54, *CMS Conf. Proc.*, 23, *Amer. Math. Soc., Providence, RI*, 1998. (Frank Okoh) **99m:16016** 16G10
— (*with* Holland, Martin P.) Noncommutative deformations of Kleinian singularities. *Duke Math. J.* **92** (1998), *no.* 3, 605–635. (Michel Van den Bergh) **99f:14003** 14B07 (16G10)
— (*with* Vila-Freyer, Roberto) The structure of biserial algebras. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 41–54. (Zygmunt Pogorzały) **99e:16021** 16G20
Creagh, Stephen C. (*with* Whelan, Niall D.) A matrix element for chaotic tunnelling rates and scarring intensities. (English summary) *Ann. Physics* **272** (1999), *no.* 2, 196–242. (Summary) **99k:81070** 81Q50 (81Q20)
Creasy, Peter N. (*with* Cao, Tru H.) Fuzzy order-sorted logic programming in conceptual graphs with a sound and complete proof procedure. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 270–284, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68N17
Creedon, T. Products of derivations. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 407–410. (W. Żelazko) **99e:16043** 16W25 (16N60, 46H99, 47B47)
Creighton, Jolien D. E. (*with* Mann, Robert B.) Entropy of constant curvature black holes in general relativity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024013, 4 *pp.* (Summary) **99k:83064** 83C57
Creignou, Nadia Complexity versus stability for classes of propositional formulas. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 161–165. (Summary) **99h:68052** 68Q15
Crelle, Augustus Leopold *see* **Frei, Günther** *and* **Friedelmeyer, Jean-Pierre**, (**99k:01080**)
Crema, Janete (*with* Boldrini, José Luiz) On forced periodic solutions of superlinear quasi-parabolic problems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 14, 18 *pp.* (*electronic*). (Eduard Feireisl) **99e:35007** 35B10 (35K99)
Cremmer, E. (*with* Lu, Hong[1]; Pope, C. N.; Stelle, K. S.) Spectrum-generating symmetries for BPS solitons. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 132–156. (Marco Spaans) **99h:83053** 83E30 (81T30)
Cremona, J. E. ★ Algorithms for modular elliptic curves. (English summary) Second edition. *Cambridge University Press, Cambridge*, 1997. *vi*+376 *pp. ISBN* 0-521-59820-6 (Joseph H. Silverman) **99e:11068** 11G05 (11F11, 11F25, 11G40, 14G25)
— (*with* Serf, P.) Computing the rank of elliptic curves over real quadratic number fields of class number 1. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1187–1200. (Kenneth Kramer) **99j:11060** 11G05 (11Y50)
Crescenzi, P. (*with* Silvestri, Riccardo) Sperner's lemma and robust machines. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 163–173. (Gerhard Lischke) **99m:68049** 68Q05 (03D15, 68Q25, 68R05)
— (*with* Penna, P.) Strictly-upward drawings of ordered search trees. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 51–67. (Summary) **99d:68050** 68P05 (68U05)
— (*with* Andreev, A. E.; Clementi, Andrea E. F.; Dahlhaus, Elias; De Agostino, Sergio; Rolim, José D. P.) The parallel complexity of approximating the high degree subgraph problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 261–282. (Mukkai S. Krishnamoorthy) **99g:68087** 68Q25 (05C85, 68Q15, 68Q22)
di Crescenzo, Antonio *see* **Di Crescenzo, Antonio**
di Crescenzo, Giovanni *see* **Di Crescenzo, Giovanni**
aguilar Crespo, J. A. *see* **Aguilar Crespo, J. A.**
Crespo, Juan A. (*with* Broto, Carlos) H-spaces with Noetherian mod two cohomology algebra. (English summary) *Topology* **38** (1999), *no.* 2, 353–386. (Samuel B. Smith) **99i:55013** 55P45 (55P15, 55P60)
Crespo, Teresa Construction of $2^m S_n$-fields containing a C_{2^n}-field. *J. Algebra* **201** (1998), *no.* 1, 233–242. (Jannis A. Antoniadis) **99f:12003** 12F12
Cressie, Noel (*with* Morgan, Peter B.) A comparison of the cost-efficiencies of the sequential, group-sequential, and variable-sample-size-sequential probability ratio tests. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 181–200. (Yanhong Wu) **99a:62119** 62L10 (62L05)
— (*with* Kaiser, Mark S.) Modeling Poisson variables with positive spatial dependence. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 423–432. (J. K. Ord) **99c:62273** 62M30 (62H11)
— (*with* Wikle, Christopher K.) The variance-based cross-variogram: you can add apples and oranges. (English summary) *Math. Geol.* **30** (1998), *no.* 7, 789–799. (Summary) **99e:86011** 86A32
Cressman, Ross Dynamic stability in symmetric extensive form games. (English summary) *Internat. J. Game Theory* **26** (1997), *no.* 4, 525–547. (Klaus R. Schenk-Hoppé) **99f:90188** 90D05
— Natural selection as an extensive form game. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 119–130, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92023** 92D25 (90D40, 92D10)
Cresson, Jacky A λ-lemma for partially hyperbolic tori and the obstruction property. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 363–377. (Jean-Pierre Marco) **99b:58212** 58F30 (34C30, 58F05, 70H05)
— (*with* Schuman, Bertrand) Formes normales et problème du centre symétrique. (English and French summaries) [Normal forms and the symmetric center problem] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 581–584. (Patrick Bonckaert) **99i:34057** 34C20 (34C05, 58F36)
Cresswell, M. J. (*with* Hughes, G. E.) ★ A new introduction to modal logic. *Routledge, London*, 1996. *x*+421 *pp. ISBN* 0-415-12599-5 (Editors) **99j:03011** 03B45 (03–01, 03–02)
Cresti, Antonella (*with* Blundo, Carlo; De Santis, Alfredo; Vaccaro, Ugo) Fully dynamic secret sharing schemes. (English summary) *Theoret. Comput. Sci.* **165** (1996), *no.* 2, 407–440. (Summary) **99a:94024** 94A60 (68P25)
— (*with* Béguin, Philippe) General information dispersal algorithms. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 87–105. (Ira S. Moskowitz) **99m:94030** 94A60 (68P20, 68P25, 94A15)
Creswick, Richard J. (*with* Kim, Seung-Yeon) Yang-Lee zeros of the Q-state Potts model in the complex magnetic field plane. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 10, 2000–2003. (Summary) **99e:82035** 82B26 (82B20)
Creutz, Michael Evaluating Grassmann integrals. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 17, 3555–3558. (Summary) **99f:58025** 58C50
Criado, Francisco (*with* Meladze, Gamlet; Odisehlidze, Nana) An optimal control problem for Helmholtz equation with non-local boundary conditions and quadratic functional. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 65–69. (Sabine Pickenhain) **99j:49047** 49K20
— (*with* Gachechiladze, T. G.; Meladze, H.) Inverse spline-interpolation for numerically solving a piston problem with isothermic gas compression and constant velocity. (English summary) *Int. J. Comput. Math.* **71** (1999), *no.* 1, 83–95. 65H10 (65D07)
Criado, R. (*with* Bujosa, A.; Vega, C.) Jordan normal form via elementary transformations. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 947–956 (*electronic*). (Summary) **99h:15012** 15A21
Cribari-Neto, Francisco (*with* Cordeiro, Gauss M.; Ferrari, Silvia L. de Paula; Botter, Denise A.) Modified maximum likelihood estimation in one-parameter exponential family models. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 1, 157–178. 62F10
Crighton, D. G. (*with* Delale, C. F.) Prandtl-Meyer flows with homogeneous condensation. I. Subcritical flows. (English summary) *J. Fluid Mech.* **359** (1998), 23–47. (Summary) **99a:76126** 76N10
— (*with* Cooper, A. J.) Transmission of energy down periodically ribbed elastic structures under fluid loading: algebraic decay in the stop bands. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1337–1355. (Summary) **99c:73058** 73K70 (73K12)
— (*with* Chen, Kang Ping) Large-scale instability of a fine-grained turbulent jet. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 13–34. (Summary) **99k:76062** 76E99 (76D25, 76F99)
— G. K. Batchelor: founding editor of the Journal of Fluid Mechanics. *J. Fluid Mech.* **387** (1999), 1–2. 01A70
Crilly, Tony Arthur Cayley: the road not taken. *Math. Intelligencer* **20** (1998), *no.* 4, 49–53. 01A70 (01A55)
— The young Arthur Cayley. *Notes and Records Roy. Soc. London* **52** (1998), *no.* 2, 267–282. (Summary) **99k:01055** 01A70 (01A55)
Crippa, Davide (*with* Simon, Klaus) q-distributions and Markov processes. (English summary) *Discrete Math.* **170** (1997), *no.* 1-3, 81–98. (Jiang Zeng) **99c:33030** 33D90 (05A30)
Cripps, Martin W. Markov bargaining games. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 3, 341–355. (Summary) **99a:90256** 90D15

Crisalle, Oscar D. (*with* Braatz, Richard D.) Robustness analysis for systems with ellipsoidal uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1113–1117. (Summary) **99g:93062** 93D09 (93B35)

Crisan, Dan (*with* Gaines, Jessica; Lyons, Terry) Convergence of a branching particle method to the solution of the Zakai equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1568–1590 (*electronic*). (A. Ya. Olenko) **99e:60117** 60G57 (65U05, 93E11)

Crisci, Maria Rosaria (*with* Russo, Elvira; Vecchio, Antonia) Discrete-time waveform relaxation Volterra-Runge-Kutta methods: convergence analysis. (English summary) *J. Comput. Appl. Math.* **86** (1997), *no.* 2, 359–374. (Gustaf Gripenberg) **99c:65244** 65R20 (45D05, 45L10)

— (*with* Kolmanovskii, Vladimir B.; Russo, Elvira; Vecchio, Antonia) Boundedness of discrete Volterra equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 106–130. (Sheldon P. Gordon) **99e:39010** 39A10 (34D10, 93D10)

— (*with* Russo, Elvira; Vecchio, Antonia) Time point relaxation methods for Volterra integro-differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 59–70. (Gustaf Gripenberg) **99j:65235** 65R20 (45L05)

— (*with* Kolmanovskii, Vladimir B.; Russo, Elvira; Vecchio, Antonia) Stability of difference Volterra equations: direct Liapunov method and numerical procedure. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 77–97. (Fozi M. Dannan) **99k:39053** 39A11 (65R20)

Criscuolo, A. (*with* Quevedo, Hernando; Waelbroeck, Henri) Quantization of 2 + 1 gravity on the torus. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 20–28, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83033** 83C45 (81S30, 81V17)

— (*with* Đurđević, Mićo; Rosenbaum, Marcos; Vergara, J. David) Quantum spinors and spin groups from quantum Clifford algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6451–6474. (Dominique Lambert) **99a:81063** 81R25 (15A66, 17B37, 81R50)

— (*with* Rosenbaum, Marcos; Vergara, J. David) Involutive braided Spin$(4-h,h)$ groups. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 46–68. (Tomasz Brzeziński) **99c:81086** 81R50 (58B30)

Criscuolo, Giuliana (*with* Scuderi, L.) Convergence of product quadrature rules with preassigned nodes. (English summary) *Indian J. Math.* **39** (1997), *no.* 1, 75–90. (Francesco Romani) **99c:65046** 65D32 (41A55)

— (*with* Scuderi, L.) The numerical evaluation of Cauchy principal value integrals with non-standard weight functions. (English summary) *BIT* **38** (1998), *no.* 2, 256–274. (G. A. Evans) **99f:65039** 65D32 (41A55)

— On the numerical evaluation of certain Hadamard finite-part integrals. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 357–371. (Kai Diethelm) **99h:65041** 65D32 (41A55)

Crisfield, M. A. (*with* Jelenić, G.) Interpolation of rotational variables in nonlinear dynamics of 3D beams. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1193–1222. (Summary) **99h:73078** 73V05 (73K05)

Crisp, David (*with* Dziadosz, Susan; Garity, Dennis J.; Insel, Thomas; Schmidt, Thomas A.; Wiles, Peter) Closed curves and geodesics with two self-intersections on the punctured torus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 189–209. (Mark Sheingorn) **99b:11078** 11J06 (30F35, 57M50)

Crisp, J. S. (*with* Hillman, Jonathan A.) Embedding Seifert fibred 3-manifolds and Sol^3-manifolds in 4-space. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 685–710. (Charles Livingston) **99g:57027** 57N35 (57N10, 57N13)

Crispino, Luís C. B. (*with* Higuchi, Atsushi; Matsas, George E. A.) Interaction of Hawking radiation and a static electric charge. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084027, 4 *pp.* 83C47

Cristea, Mihai Open discrete mappings in space. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 591–605. (From the text) **99k:58020** 58C07 (47H11, 54C10, 55M25, 57N99)

— On the openness of a multivalued function. Open discrete multivalued functions. *Demonstratio Math.* **31** (1998), *no.* 2, 429–436. (Zbigniew Piotrowski) **99m:54007** 54C10 (54C60, 54E45)

Cristea, Victoria On a class of motions with constant vorticity. (Romanian. French and Romanian summaries) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 233–239. (Summary) **99m:76036** 76C05

Cristescu, Gabriela Behaviour and allure. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 19–28, *Univ.* "*Aurel Vlaicu*" *Arad, Arad*, 1997. (*see* **99i:00014**) 26A51

— A new route to the convexity related to the concavity coarseness. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 29–37, *Univ.* "*Aurel Vlaicu*" *Arad, Arad*, 1997. (*see* **99i:00014**) 52A01

— On the approximation of the classical convexity. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 39–45, *Univ.* "*Aurel Vlaicu*" *Arad, Arad*, 1997. (*see* **99i:00014**) 52A01

— Behaviours. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of* "*Aurel Vlaicu*" *University, Vol.* 14*A* (*Arad*, 1996), 25–33, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 04A05 (26A51)

— Convexities with respect to a set and two behaviours. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of* "*Aurel Vlaicu*" *University, Vol.* 14*A* (*Arad*, 1996), 35–43, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 52A01

— Convexity close by undetectable concavity. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of* "*Aurel Vlaicu*" *University, Vol.* 14*A* (*Arad*, 1996), 45–50, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 52A01

— Topologies compatible with the connectivity in networks. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 213–226. 54E35 (54D05)

— *see also* **25 years of high level technical education in Arad**, **99i:00014** *and* **Proceedings: Scientific Communications Meeting of "Aurel Vlaicu" University**, **99i:00027**

Cristion, John A. (*with* Spall, James C.) Model-free control of nonlinear stochastic systems with discrete-time measurements. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1198–1210. (Summary) **99d:93076** 93E35

Cristóbal Cristóbal, José Antonio (*with* Alcalá, J. T.) Error process indexed by bandwidth matrices in multivariate local linear smoothing. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 207–236. (Noël Veraverbeke) **99i:62085** 62G07

— (*with* Alcalá, J. T.; González-Manteiga, Wenceslao) Goodness-of-fit test for linear models based on local polynomials. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 39–46. (Summary) **99i:62101** 62G10

de Cristofaro, Rodolfo The likelihood principle and relevance of the sampling rule in statistical inference. (Italian. English and Italian summaries) With discussion and a reply by the author. *Statistica* (*Bologna*) **58** (1998), *no.* 2, 247–289. 62A01 (62F15)

Cristofol, Michel Spectre essentiel et ondes élastiques guidées dans l'espace stratifié et perturbé. (English and French summaries) [Essential spectrum and the existence of guided elastic waves in a stratified and disturbed space] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 515–518. (Gustavo Perla Menzala) **99m:73028** 73D25 (35P05, 73C02)

Cristofori, Paola Heegaard and regular genus agree for compact 3-manifolds. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 3, 221–235. (Summary) **99e:57027** 57N10

lanza de Cristoforis, Massimo *see* **Lanza de Cristoforis, Massimo**

Crnjac, Miljenko A multidimensional generalization of the Steinhaus theorem. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 129–133. (Elžbieta Wagner) **99f:28001** 28A05

Crnogorac, Lobel (*with* Bailey, James Alexander; Ramamohanarao, Kotagiri; Søndergaard, Harald) Abstract interpretation of active rules and its use in termination analysis. *Database theory—ICDT '97* (*Delphi*), 188–202, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Croc, Elisabeth (*with* Dermenjian, Yves) A perturbative method for the spectral analysis of an acoustic multistratified strip. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 18, 1681–1704. (Yongzhi Xu) **99k:76130** 76Q05 (35J05, 35P05)

Croca, J. R. (*with* Rica da Silva, A.; Sousa Ramos, J.; Moreira, R. N.) Non-linear Schrödinger equation, Burger's equation and superposition of solutions. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 421–430, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81Q05 (35Q53, 35Q55)

della Croce, Lucia *see* **Della Croce, Lucia**

Croce, Lucia Della *see* **Della Croce, Lucia**

Crochat, O. (*with* Le Boudec, J.-Y.; Gerstel, Ornan) Protection interoperability for WDM optical networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 129–142, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M15 (78A55, 90B12)

Crochemore, Maxime (*with* Hancart, Christophe) Automata for matching patterns. *Handbook of formal languages, Vol.* 2, 399–462, *Springer, Berlin*, 1997. (Véronique Bruyère) **99a:68080** 68Q20 (03D05, 68Q45, 68Q68)

— (*with* Vérin, Renaud) On compact directed acyclic word graphs. (English summary) *Structures in logic and computer science*, 192–211, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99c:68058** 68P05

— (*with* Iliopoulos, C. S.; Korda, M.) Two-dimensional prefix string matching and covering on square matrices. (English summary) *Algorithmica* **20** (1998), *no.* 4, 353–373. (Ding Zhu Du) **99f:68078** 68Q20 (68R15)

— (*with* Mignosi, Filippo; Restivo, Antonio) Automata and forbidden words. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 111–117. (Summary) **99d:68204** 68R15 (68Q45)

— (*with* Gąsieniec, Leszek; Hariharan, Ramesh; Muthukrishnan, S.; Rytter, Wojciech) A constant time optimal parallel algorithm for two-dimensional pattern matching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 668–681 (*electronic*). (Katsushi Inoue) **99g:68092** 68Q25 (68Q22)

Croisille, Jean-Pierre (*with* Lebeau, Gilles) Computation of the acoustic wave diffracted by an immersed elastic wedge. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 309–313, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76Q05 (73D25, 73V20, 76M25)

— (*with* Courbet, B.) Finite volume box schemes on triangular meshes. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 5, 631–649. (Stanly L. Steinberg) **99i:65124** 65N30 (65N12)

Croke, Christopher B. (*with* Kleiner, Bruce) A rigidity theorem for simply connected manifolds without conjugate points. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 807–812. (Raul Quiroga) **99j:53035** 53C20

— (*with* Kleiner, Bruce) A rigidity theorem for manifolds without conjugate points. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 813–829. (Raul Quiroga) **99k:53077** 53C21 (53C22)

— (*with* Sharafutdinov, Vladimir A.) Spectral rigidity of a compact negatively curved manifold. *Topology* **37** (1998), *no.* 6, 1265–1273. (Carolyn Gordon) **99e:58191** 58G25 (53C20)

Crolet, J. M. *see* **Recent advances in problems of flow and transport in porous media**, **99a:76001**

Croll, J. G. A. (*with* Popov, Atanas Alexandrov; Thompson, J. M. T.) Bifurcation analyses in the parametrically excited vibrations of cylindrical panels. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 3, 205–225. (Summary) **99g:73075** 73K12 (73K15)

Crombez, G. Finding projections onto the intersection of convex sets in Hilbert spaces. II. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 4, 75–87. (Summary) **99d:65168** 65J05 (41A65, 46N40, 47H99, 65Y05, 68U10)

— An adaptive parallel projection method for solving convex feasibility problems. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 269–284. (A. M. Galperin) **99d:65182** 65J15 (47H17, 47N10, 90C20)

Cromwell, Peter R. Arc presentations of knots and links. *Knot theory* (*Warsaw*, 1995), 57–64, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (From the text) **99c:57014** 57M25

— (*with* Beltrami, Elisabetta) A limitation on algorithms for constructing minimal arc-presentations from link diagrams. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 4, 415–423. (Swatee Naik) **99e:57008** 57M25 (57M15)

— (*with* Beltrami, Elisabetta; Rampichini, Marta) The Borromean rings. *Math. Intelligencer* **20** (1998), *no.* 1, 53–62. (G. Burde) **99c:57015** 57M25 (01A35, 01A99)

Cronauer, K. (*with* Hertrampf, Ulrich; Vollmer, Heribert; Wagner, Klaus Werner) The chain method to separate counting classes. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 93–108. (Gerhard Lischke) **99b:68083** 68Q15 (03D15)

Crooks, Gavin E. Nonequilibrium measurements of free energy differences for microscopically reversible Markovian systems. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1481–1487. (Vittorio Romano) **99e:82056** 82C05

Croos-Dabrera, Rodney (*with* Cook, R. Dennis) Partial residual plots in generalized linear models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 730–739. (Summary) **99c:62199** 62J12 (62J20)

Cropper, M. M. Hall's condition yields less for multicolorings. (English summary) *Australas. J. Combin.* **18** (1998), 263–266. (Summary) **99h:05039** 05C15

Cros, Jean-Michel Parallel modal synthesis methods in structural dynamics. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 492–499, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Pierre Alart) **99j:73111** 73V20 (73D30, 73K12)

Crosa, Pere Brunet *see* **Brunet, Pere**

Crosby, Alfred W. ★ The measure of reality. (English summary) Quantification and Western society, 1250–1600. *Cambridge University Press, Cambridge*, 1997. *xiii+245 pp. ISBN* 0-521-55427-6 01A99 (00A99)

Cross, Mark (*with* Pericleous, Koulis A.; Hughes, M.) Convection-diffusion in MHD: comparison of primitive variable and vector potential solutions of the magnetic induction equation. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 227–250, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 76M25 (76W05)

— (*with* Bailey, Chris; Taylor, G. A.; Chow, P. M. Y.) Discretisation procedures for multi-physics phenomena. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 3–17. (*see* **99k:65002**) 73V20 (76M25)

Cross, Ronald ★ Multivalued linear operators. (English summary) Monographs and Textbooks in Pure and Applied Mathematics, 213. *Marcel Dekker, Inc., New York*, 1998. *x+335 pp. ISBN* 0-8247-0219-0 (Mikhail Ostrovskiĭ) **99j:47003** 47A05 (47A10, 47A30, 47A53)

— An index theorem for the product of linear relations. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 127–134. (Manuel González) **99e:47004** 47A05 (47A53)

Cross, William P. (*with* Romeijn, H. Edwin; Smith, Robert L.) Approximating extreme points of infinite-dimensional convex sets. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 433–442. (Edward J. Anderson) **99c:90088** 90C25 (90C10)

Crossley, John N. (*with* Albrecht, David; Jeavons, John S.) New Curry-Howard terms for full linear logic. (English summary) *Theoret. Comput. Sci.* **185** (1997), *no.* 2, 217–235. (R. Gylys) **99a:03058** 03F50 (03B70)

Crossley, M. D. Monomial bases for $H^*(\mathbb{CP}^\infty \times \mathbb{CP}^\infty)$ over $\mathscr{A}(p)$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 171–192. (Grant Walker) **99c:55015** 55S10

Crosta, Giovanni F. Scalar and vector backpropagation applied to shape identification from experimental data: recent results and open problems. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 9–31, *Plenum, New York*, 1998. (Summary) **99d:78029** 78A45 (35R30, 78–08)

— *see also* **Chen, Goong et al., 99a:35155**

Crotti, Stefano (*with* Conti, Monica; Pardo, David) On the existence of positive solutions for a class of singular elliptic equations. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 111–132. (Summary) **99a:35061** 35J60 (35B05)

Crouch, Peter E. (*with* Silva Leite, F.) The triple cross product in $\mathbf{R}^7$. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 407–424. (H. de Vries) **99a:17033** 17D10 (17B25)

— (*with* Bloch, Anthony M.) Representations of Dirac structures on vector spaces and nonlinear L-C circuits. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 103–117, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Werner M. Seiler) **99i:34013** 34A34 (34A26, 58F05, 70H05, 94C05)

— (*with* Bloch, Anthony M.) Optimal control, optimization, and analytical mechanics. (English summary) *Mathematical control theory*, 268–321, *Springer, New York*, 1999. (L. E. Faybusovich) **99k:49042** 49K15 (58E25, 58F05, 70H05, 70Q05, 93C15)

Crouch, S. L. (*with* Birgisson, B.) Elastodynamic boundary element method for piecewise homogeneous media. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1045–1069. 73V10

Crouse, Matthew S. (*with* Nowak, Robert D.; Baraniuk, Richard G.) Wavelet-based statistical signal processing using hidden Markov models. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 886–902. 94A12 (42C15)

— (*with* Riedi, Rudolf H.; Ribeiro, Vinay J.; Baraniuk, Richard G.) A multifractal wavelet model with application to network traffic. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 992–1018. (Summary) **99m:94014** 94A12 (90B12)

Crouse, Robert H. (*with* Jin, Chun) A note on the common location parameter of several exponential populations. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2777–2789. (Summary) **99k:62043** 62F10 (62C15)

Croux, Christophe Limit behavior of the empirical influence function of the median. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 331–340. (Summary) **99a:62036** 62F35

Crouzeix, Jean-Pierre Characterizations of generalized convexity and generalized monotonicity, a survey. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 237–256, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Siegfried Schaible) **99i:90074** 90C26 (47N10, 90C48)

— Some properties of Dini-derivatives of quasiconvex functions. (English summary) *New trends in mathematical programming*, 41–57, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Sándor Komlósi) **99k:49034** 49J52 (90C26)

— *see also* **Generalized convexity, generalized monotonicity: recent results, 99f:90006**

Crouzeix, Michel (*with* Sayas, Francisco Javier) Asymptotic expansions of the error of spline Galerkin boundary element methods. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 523–547. (Wojciech Mydlarczyk) **99c:65245** 65R20 (65N15)

Crouzet, Jean-François (*with* Charbonniaud, Anne-Laure; Gay, Roger[1]) Sur l'extrapolation des signaux d'énergie finie à bande limitée. (English and French summaries) [Extrapolating band-limited finite-energy signals] *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 145–182 (1997). (Summary) **99b:94007** 94A12

Crowder, Martin (*with* Kimber, Alan) A score test for the multivariate Burr and other Weibull mixture distributions. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 419–432. (Truc Nguyen) **99a:62137** 62N05 (62G10)

Crowley, Diarmuid (*with* Carey, Alan L.; Murray, Michael K.) Principal bundles and the Dixmier Douady class. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 171–196. (J. P. C. Greenlees) **99g:58021** 58D29 (55R10)

Crowley, John (*with* Tsai, Wei Yann) A note on nonparametric estimators of the bivariate survival function under univariate censoring. (English summary) *Biometrika* **85** (1998), *no.* 3, 573–580. (Summary) **99k:62195** 62N05 (62G05)

Crozon, Michel Experimental evidence of quark structure inside hadrons. *Realism and quantum physics*, 234–250, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81V05

Crucianu, V. Radu Miron celebrating 70. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **43** (1997), *no.* 2, 211–214 (1998). 01A70

Cruells, P. (*with* Alsina, Claudi; Tomás, Maria Santos) Isosceles trapezoids, norms and inner products. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 3, 233–240. (Wolfgang Lusky) **99m:46060** 46C50 (46B20, 46C15, 51F20)

Crumeyrolle, Albert *see* **Micali, Artibano, 99a:01022a** *and* **Bibliography: Crumeyrolle, Albert, 99a:01022b**

Crupi, Marilena (*with* Restuccia, Gaetana) Integrable derivations and formal groups in unequal characteristic. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 169–190. (Paul Thomas Young) **99m:14082** 14L05 (13B10)

Cruse, T. A. (*with* Richardson, J. D.) Nonsingular BEM for fracture modeling. (English summary) *Comput. & Structures* **66** (1998), *no.* 5, 695–703. (Summary) **99a:73132** 73V10 (73M25)

— (*with* Martin, Paul Andrew; Rizzo, F. J.) Smoothness-relaxation strategies for singular and hypersingular integral equations. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 5, 885–906. (Summary) **99c:65248** 65R20 (45E05, 45L05)

Crutchfield, James P. (*with* Shalizi, Cosma Rohilla) Thermodynamic depth of causal states: objective complexity via minimal representations. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*, 275–283. (Summary) **99j:82004** 82B03

Crutchfield, W. Y. (*with* Barenblatt, G. I.; Bell, John B.) The thermal explosion revisited. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 23, 13384–13386 (*electronic*). (Summary) **99k:76121** 76N10 (76L05, 80A25)

Cruywagen, Gerhard C. (*with* Maini, Philip K.; Murray, James D.) Biological pattern formation on two-dimensional spatial domains: a nonlinear bifurcation analysis. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1485–1509. (Summary) **99m:92006** 92C15 (35B32, 35Q80)

Cruz, A. (*with* Campos, Isabel; Tarancón, A.) First order signatures in 4D pure compact U(1) gauge theory with toroidal and spherical topologies. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 328–334. (Summary) **99b:81255** 81T80 (81T13, 81T25)

aceves de la Cruz, F. *see* **Aceves de la Cruz, F.**

Cruz, Isabel F. (*with* Baker, James E.; Liotta, Giuseppe; Tamassia, Roberto) Visualizing geometric algorithms over the Web. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 125–152. (*see* **99k:68001**) 68U05

Cruz, J. *see* **Cruz, Javier**

Cruz, J. R. *see* **Cruz, Juan Alberto Rojas**

Cruz, Javier (*with* Miković, A.; Navarro-Salas, J.) Free field realization of cylindrically symmetric Einstein gravity. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 273–278. (Summary) **99f:83031** 83C45 (83C99)

— (*with* Izquierdo, José M.[1]; Navarro, D. J.; Navarro-Salas, J.) Free fields via canonical transformations of matter-coupled two-dimensional dilaton gravity models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044010, 7 *pp.* (Summary) **99m:81215** 81T40 (83C99, 83E30)

— (*with* Navarro-Salas, J.; Navarro, Miguel) Free fields for chiral 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087501, 2 *pp.* 81T40

— (*with* Fabbri, Alessandro; Navarro-Salas, J.) Can conformal transformations change the fate of 2D black holes? (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 30–38. (Summary) **99m:83107** 83C57

Cruz, Juan Alberto Rojas (*with* Dorea, Chang Chung Yu) Simple conditions for the convergence of simulated annealing type algorithms. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 4, 885–892. (Dominique Lépingle) **99k:90109** 90C15 (60J10)

de la Cruz, Omar *see* **De la Cruz, Omar**

navarro Cruz, R. *see* **Navarro Cruz, R.**

Cruz, Ricardo N. (*with* de Rezende, K. A.) Cycle rank of Lyapunov graphs and the genera of manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3715–3720. (Christopher K. McCord) **99f:58112** 58F09 (57R70, 58F25)

— Reflections on closed manifolds. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 199–211. (R. E. Stong) **99b:57053** 57R19 (57R91)

da Cruz, W. (*with* Bytsenko, Andrei A.; Gonçalves, Antonio E.) Torsion on hyperbolic manifolds and the semiclassical limit for Chern-Simons theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2453–2461. (David H. Adams) **99j:58219** 58G26 (11M36, 58D30, 81T13)

Cruz-Báez, D. I. (*with* Rodríguez Expósito, José) The $\mathscr{L}_\nu^{(\rho)}$-transformation on McBride's spaces of generalized functions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 445–452. (H. M. Srivastava) **99k:44006** 44A15 (46F12)

Cruzeiro, A.-B. (*with* Malliavin, Paul) Nonperturbative construction of invariant measure through confinement by curvature. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 527–537. (Vladimir I. Bogachev) **99f:58220** 58G32 (60H07)

Cruz-Hernández, César (*with* Alvarez-Gallegos, Joaquín; Castro-Linares, Rafael) On the effect of perturbations on the stability of input-output linearizing controllers for a class of discrete-time nonlinear systems. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 955–964. (Summary) **99h:93076** 93D09 (93B18)

— (*with* Alvarez-Gallegos, Joaquín; Castro-Linares, Rafael) Stability of discrete nonlinear systems under nonvanishing perturbations: application to a nonlinear model-matching problem. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 23–41. (Éva Gyurkovics) **99m:93069** 93D05 (93C55)

da Cruz Neto, João Xavier *see* **Da Cruz Neto, João Xavier**

Cruz-Pacheco, G. (*with* Flores-Reyna, G.; Jorge, M. C.; Minzoni, Antonmaria; Smyth, Noel F.) Approximate evolution of lump initial conditions for the Benjamin-Ono

equation. (English summary) *Wave Motion* **28** (1998), *no.* 3, 195–202. 35Q53 (76B15)

Cruz Rambaud, Salvador (*with* Ventre, Aldo G. S.) Decomposable financial laws and profitability. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 329–344. (Summary) **99j:90009** 90A09

Cruz-Sampedro, J. (*with* Martínez Avendaño, R. A.; Navarro Cruz, R.) Perturbations of the Wigner-von Neumann potential. (English summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish)* (*Queretaro*, 1994), 69–77, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99i:47081** 47E05 (34A55, 34L40, 81Q05)

— (*with* Tetlalmatzi Montiel, M.) Does there exist a countable infinite sigma-algebra? (Spanish) *Miscelánea Mat. No.* 26 (1997), 29–31. (Richard Becker) **99m:28004** 28A05

— Unique continuation at infinity of solutions to Schrödinger equations with complex-valued potentials. (English summary) *Proc. Edinburgh Math. Soc.* (2) **42** (1999), *no.* 1, 143–153. (Summary) **99m:35038** 35J10 (35B60, 81Q05)

Cruz Soto, J. L. (*with* Marín Beltrán, M.; Calzada Canalejo, M. C.) Parallelization of the fractional-step θ-scheme for Navier-Stokes equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 823–828, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99 (65Y05, 76D05, 76M25)

Cruz-Uribe, David The class $A_\infty^+(g)$ and the one-sided reverse Hölder inequality. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 2, 169–173. (Luboš Pick) **99c:42031** 42B25

— (*with* Neugebauer, C. J.; Olesen, V.) Weighted norm inequalities for a family of one-sided minimal operators. *Illinois J. Math.* **41** (1997), *no.* 1, 77–92. (B. Muckenhoupt) **99b:42021** 42B25 (42A85)

— (*with* Neugebauer, C. J.; Olesen, V.) Norm inequalities for the minimal and maximal operator, and differentiation of the integral. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 577–604. (Vladimir D. Stepanov) **99b:42022** 42B25

— (*with* Neugebauer, C. J.) Weighted norm inequalities for the geometric maximal operator. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 239–263. (Maria J. Carro) **99e:42029** 42B25

Csákány, Rita (*with* Komlós, János) The smallest Ramsey numbers. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 193–199. (Summary) **99k:05116** 05C55

Csáki, Csaba (*with* Murayama, Hitoshi) Discrete anomaly matching. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 114–162. (Summary) **99c:81222** 81T50 (81T60)

— (*with* Murayama, Hitoshi) Instantons in partially broken gauge groups. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 498–526. (Summary) **99i:81227** 81T60 (81R40, 81T13)

— (*with* Schmaltz, Martin; Skiba, Witold; Terning, John) Gauge theories with tensors from branes and orientifolds. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7546–7560. (Summary) **99k:81297** 81T60 (81T13)

— (*with* Skiba, Witold) Classification of the $N = 1$ Seiberg-Witten theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045008, 9 *pp.* (Summary) **99k:81298** 81T60 (81T13)

— (*with* Ooguri, Hirosi; Oz, Yaron; Terning, John) Glueball mass spectrum from supergravity. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 17, 21 *pp.* (*electronic*). (Summary) **99m:83200** 83E50 (81T13, 81T30, 83E30)

— (*with* Murayama, Hitoshi) New confining $N = 1$ supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065001, 16 *pp.* (Summary) **99k:81299** 81T60 (81T13)

— (*with* Oz, Yaron; Russo, Jorge G.; Terning, John) Large N QCD from rotating branes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 065012, 12 *pp.* (Summary) **99k:81229** 81T30 (83E50)

Csáki, Endre (*with* Földes, A.) On asymptotic independence of partial sums. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 373–381, *North-Holland, Amsterdam*, 1998. (Allan Gut) **99k:60056** 60F05

— (*with* Révész, Pál; Rosen, Jay) Functional laws of the iterated logarithm for local times of recurrent random walks on $\mathbf{Z}^2$. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 545–563. (M. Csörgő) **99k:60109** 60G20 (60F17)

— (*with* Berkes, István; Horváth, Lajos) Almost sure central limit theorems under minimal conditions. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 67–76. (Peter Schatte) **99b:60042** 60F15 (60F05)

— (*with* Shi, Zhan) Some lim inf results for two-parameter processes. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 27–46. (Karl Grill) **99i:60064** 60F15 (60J65)

— (*with* Földes, A.; Révész, Pál) A strong invariance principle for the local time difference of a simple symmetric planar random walk. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 25–39. (Lajos Horváth) **99i:60065** 60F15 (60F17, 60J15, 60J55)

Csallner, A. E. Improving storage handling of interval methods for global optimization. (English summary) *Acta Cybernet.* **13** (1998), *no.* 4, 413–421. 90C30 (65G05)

Császár, Á. Cauchy structures and (m-)contiguities. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 269–285. (Ljubiša Kočinac) **99b:54036** 54E05 (54E99)

— Quasi-uniform extensions for prescribed traces of sections of entourages. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 237–252. (Summary) **99a:54022** 54E15

— On the γ-interior and γ-closure of a set. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 89–93. (Summary) **99c:54003** 54A05

— (*with* Makai, Endre, Jr.) Characterization of the function classes $C(Y)|X$. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 95–107. (Klaas Pieter Hart) **99i:54018** 54C35

— On a problem of simultaneous quasi-uniform extension. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 3, 173–186. (Worthen Hunsaker) **99m:54014** 54E15

Csébfalvi, A. A nonlinear path-following method for computing the equilibrium curve of structures. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 15–23. (*see* **99b:90006**) 90C05 (90C90)

Csicsery, George Paul N is a number. (English summary) A portrait of Paul Erdős. *George Paul Csicsery, Oakland, CA; distributed by A K Peters, Ltd., Natick, MA*, 1993. 1 *videocassette* (*NTSC*; 1/2 *inch*; *VHS*) (57 *min.*); *sd., col. ISBN* 1-56881-088-1 (Publisher's description) **99g:01032** 01A70

Csikós, B. On the Hadwiger-Kneser-Poulsen conjecture. *Intuitive geometry* (*Budapest*, 1995), 291–299, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Béla Uhrin) **99b:52003** 52A10 (52A40)

— On the volume of the union of balls. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 449–461. (Summary) **99g:52008** 52A38 (51M25)

Csirik, János (*with* Woeginger, Gerhard J.) On-line packing and covering problems. *Online algorithms* (*Schloss Dagstuhl*, 1996), 147–177, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25 (90C35)

— (*with* Alon, Noga; Azar, Yossi; Epstein, Leah; Sevast'yanov, S. V.; Vestjens, Arjen P. A.; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 104–118. (Editors) **99c:68116** 68Q25 (90C27)

Csirmaz, László Program correctness on finite fields. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 23–33. (Annabelle McIver) **99c:68170** 68Q60 (12E10)

Csiszár, Imre (*with* Ahlswede, Rudolf) Common randomness in information theory and cryptography. II. CR capacity. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 225–240. (Summary) **99b:94021** 94A40

— The method of types. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2505–2523. (Summary) **99j:94016** 94A15 (94A24, 94A40)

— (*with* Finesso, L.) On a problem about I-projections. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 41–50. (P. N. Rathie) **99k:94021** 94A17 (62B10)

— *see also* **Stochastic differential and difference equations, 99c:60002**

Csizmadia, György On the independence number of minimum distance graphs. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 179–187. (Summary) **99e:05044** 05C12

— The multiplicity of the two smallest distances among points. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 67–86. (H. W. Guggenheimer) **99j:52020** 52C10

Csontóová, Mária (*with* Jakubík, Ján) Affine completeness of projectable lattice ordered groups. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 359–363. (N. Sankaran) **99m:06032** 06F15

Csordas, George Convexity and the Riemann ξ-function. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 37–50. (Matti Jutila) **99h:11099** 11M26 (26A51)

— (*with* Craven, Thomas) A sufficient condition for strict total positivity of a matrix. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 19–34. (Summary) **99h:15018** 15A48

Csörgő, I. On a type of mixed norm spaces. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 79–91. (J. Musielak) **99c:46023** 46E30 (42C05, 60A99)

Csörgő, Miklós (*with* Norvaiša, R.) Empirical and partial sum processes with sample paths in Banach function spaces. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 143–158, *TEV, Vilnius*, 1994. (Summary) **99e:60090** 60F17 (60F15, 60G17)

— (*with* Szyszkowicz, Barbara) Applications of multi-time parameter processes to change-point analysis. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 159–222, *TEV, Vilnius*, 1994. (Summary) **99f:60040** 60F05 (60F15, 62G20)

— (*with* Horváth, Lajos; Szyszkowicz, Barbara) Integral tests for suprema of Kiefer processes with application. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 365–377. (Qi Man Shao) **99c:60080** 60G15 (62G10)

— (*with* Zitikis, Ričardas) On the rate of strong consistency of the total time on test statistic. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 99–117. (Lajos Horváth) **99i:60066** 60F15 (60K10)

— (*with* Gastwirth, Joseph L.; Zitikis, Ričardas) Asymptotic confidence bands for the Lorenz and Bonferroni curves based on the empirical Lorenz curve. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 65–91. (Yves Lepage) **99k:62098** 62G15 (62P20)

— (*with* Norvaiša, R.) Standardized sequential empirical processes. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 51–69. (Erich Haeusler) **99h:60104** 60G70 (60F05, 62G30)

— *see also* **Asymptotic methods in probability and statistics, 99f:60002**

Csörgő, Sándor Rényi-mixing in the generalized arc-sine law. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 15–25. (N. H. Bingham) **99a:60026** 60F15

— (*with* Viharos, László) Asymptotic normality of least-squares estimators of tail indices. (English summary) *Bernoulli* **3** (1997), *no.* 3, 351–370. (Erich Haeusler) **99b:62084** 62G20

— (*with* Faraway, Julian J.) The paradoxical nature of the proportional hazards model of random censorship. (English summary) *Statistics* **31** (1998), *no.* 1, 67–78. (Summary) **99a:62040** 62G05 (62N05)

— Rényi confidence bands. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 71–87. (Carlo E. Sempi) **99j:62071** 62G20

Csörnyei, Marianna On the non-existence of certain bounded linear projections. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 217–221. (Summary) **99b:28004** 28A20 (47B38)

— Density theorems revisited. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 59–65. (Elżbieta Wagner) **99e:26005** 26A24

— Remark on the space of restricted derivatives. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **41** (1998), 11–12 (1999). 26A24

Csuhaj-Varjú, Erzsébet Eco-grammar systems: recent results and perspectives. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 79–103, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)

— (*with* Păun, Gheorghe; Salomaa, Arto) Conditional tabled eco-grammar systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 227–239, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)

— (*with* Salomaa, Arto) Networks of language processors: parallel communicating systems. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 122–138. 68Q45 (68Q10)

— (*with* Kelemenová, Alica) Team behaviour in eco-grammar systems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 213–224. (Solomon Marcus) **99j:68066**

68Q45 (68Q50, 92D40)

Cuadrado, Ma. Luisa (*with* Corrales Sendino, José M.; Corcuera, Ma. Isabel; Navarro-Bermúdez, Francisco J.) On multilevel projection methods. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 8 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65J10

Cuadras, C. M. Increasing the correlations with the response variable may not increase the coefficient of determination: a PCA interpretation. (English summary) *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994), 75–83, VSP, Utrecht, 1995.* (*see* **99g:62004**) 62H25 (62H20)

Cuba, G. (*with* Belich, H.; Paunov, R.) Vertex operator representation of the soliton tau functions in the $A_n^{(1)}$ Toda models by dressing transformations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5337–5363. (Henrik Aratyn) **99f:58090** 58F07 (17B67)

Cubero, J. C. (*with* Medina, J. M.; Pons, Olga; Vila, M. A.) Fuzzy loss less [lossless] decompositions in databases. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 145–167. (Summary) **99e:68029** 68P15 (03B52, 03B70)

Cubier, Annie (*with* Bernadou, Michel) Numerical analysis of junctions between thin shells. I. Continuous problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 349–363. (Veronique Lods) **99k:73111a** 73V05 (73K15)

— (*with* Bernadou, Michel) Numerical analysis of junctions between thin shells. II. Approximation by finite element methods. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 365–387. (Veronique Lods) **99k:73111b** 73V05 (73K15)

Cubillo, Susana On some inexact relations in probabilized Boolean algebras. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 39–47. (Summary) **99c:03029** 03B48 (06E99)

Cubiotti, Paolo Existence of quasi-equilibria and applications to abstract economies with lower semicontinuous feasible strategy multifunctions. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 63–82. (Mitsunori Noguchi) **99i:49010** 49J40 (47N10, 90A14)

— (*with* Di Bella, Beatrice) On the existence of zeros for multivalued operators. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 83–90. (Pando Georgiev) **99c:47081** 47H04 (47N10)

Cubitt, Robin P. (*with* Sugden, Robert) The selection of preferences through imitation. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 4, 761–771. (Summary) **99g:90019** 90A06

Čubrić, Djordje On the semantics of the universal quantifier. (English summary) *Ann. Pure Appl. Logic* **87** (1997), *no.* 3, 209–239. (R. Gylys) **99a:03009** 03B20 (03B40, 03F07, 03F10, 03G30, 18C10)

— Embedding of a free Cartesian-closed category into the category of sets. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 121–147. (Maria E. Maietti) **99d:18004** 18B15 (03B40, 18A15, 18D15)

— (*with* Dybjer, Peter; Scott, Philip) Normalization and the Yoneda embedding. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 2, 153–192. (Maria E. Maietti) **99d:03012** 03B40 (03F05, 03G30, 18A15, 18D15)

Cuccagna, Scipio L^2 estimates for averaging operators along curves with two-sided k-fold singularities. *Duke Math. J.* **89** (1997), *no.* 2, 203–216. (From the introduction) **99f:58199** 58G15 (35S05, 47G30)

Cuccoli, A. (*with* Tognetti, V.; Vaia, R.; Verrucchi, P.) Effective potential and effective Hamiltonian in quantum statistical mechanics for condensed matter physics. (English summary) *Path integrals: Dubna '96, 32–41, Joint Inst. Nuclear Res., Dubna, 1996.* (Summary) **99k:82009** 82B10

— (*with* Tognetti, V.; Vaia, R.; Verrucchi, P.) Quantum effects in two-dimensional magnetic systems. (English summary) *Path integrals: Dubna '96, 273–277, Joint Inst. Nuclear Res., Dubna, 1996.* (*see* **99h:81005**) 82B20

— (*with* Giachetti, Riccardo; Tognetti, V.; Vaia, R.) Effective potential, Mori product and quantum dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 22, *L*419–*L*424. (M. Lawrence Glasser) **99f:82045** 82C10

Cuccoli, Mauro (*with* Ricci, Paolo Emilio) A characterization of the Chebyshev and Fibonacci polynomials. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 129–140. (Valery V. Karachik) **99f:33008** 33C45 (11B39)

Cuchillo-Ibáñez, E. (*with* Morón, M. A.; Ruiz del Portal, F. R.) A note on isomorphic groups and nonhomeomorphic spaces. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 4, 297–300. (Summary) **99m:54028** 54H15 (54B20, 57N20)

Cucitore, R. (*with* Quadrio, M.; Baron, A.) On the effectiveness and limitations of local criteria for the identification of a vortex. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 261–282. (Summary) **99m:76037** 76C05

Cucker, Felipe (*with* Lickteig, Thomas) Nash trees and Nash complexity. (English summary) *The mathematics of numerical analysis (Park City, UT, 1995), 211–223, Lectures in Appl. Math., 32, Amer. Math. Soc., Providence, RI, 1996.* (Summary) **99a:68055** 68Q05 (14P20, 65Y20)

— (*with* Blum, Lenore; Shub, Michael; Smale, Stephen) ★ Complexity and real computation. (English summary) With a foreword by Richard M. Karp. *Springer-Verlag, New York, 1998. xvi+453 pp. ISBN* 0-387-98281-7 (Klaus Meer) **99a:68070** 68Q15 (03D15, 13P99, 14P99, 65Y20, 68–02)

— (*with* Koiran, Pascal; Smale, Stephen) A polynomial time algorithm for Diophantine equations in one variable. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 21–29. (Maurice Mignotte) **99i:11121** 11Y50 (11Y16, 68Q40)

— *see also* **Foundations of computational mathematics, 99g:00039**

Čučković, Željko (*with* Rao, N. V.) Mellin transform, monomial symbols, and commuting Toeplitz operators. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 195–214. (Jonathan Arazy) **99f:47033** 47B35 (43A32, 46E99, 47B38)

— (*with* Chan, Kit C.) C^*-algebras generated by a subnormal operator. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1445–1460. (Il Bong Jung) **99f:46079** 46L05 (47A13, 47B20, 47B37)

Cucu-Dumitrescu, Cătălin (*with* Şelaru, Dan) A multi-angle averaging theorem applied to the J_2 problem. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 255–270. (Summary) **99e:70066** 70M20

Cuculescu, Ion (*with* Theodorescu, Radu) Multivariate unimodality revisited. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 525–553. (F. W. Steutel) **99i:60027** 60E05 (52A20, 52A30)

— (*with* Theodorescu, Radu) Multiplicative strong unimodality. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 205–214. (D. N. Shanbhag) **99g:60026** 60E05 (62E10)

Cucurezeanu, Ion On the Diophantine equation $x^2 = 4y^{m+n} + 4y^n + 1$. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 33–34. (Edward L. Cohen) **99m:11033** 11D61

— The greatest common divisor of $a^m \pm 1$ and $a^n \pm 1$. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 35–37. 11A05

notte Cuello, E. A. *see* **Notte Cuello, E. A.**

Cuenca, Javier (*with* Cámara, María T.; Giménez, Domingo) Acceleration of convergence in Jacobi methods for the symmetric eigenvalue problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 31 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65F30 (15A18)

— (*with* Giménez, Domingo; Zapata, Javier) Using computational nuclei in the Jacobi method to calculate eigenvalues in multiprocessors. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 33 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65Y05 (15A18, 68Q22)

Cuenca Mira, J. A. (*with* De Los Santos Villodres, R.; Kaïdi, El Amin Mokhtar; Rochdi, A.) Real quadratic flexible division algebras. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 1–22. (Theo Grundhöfer) **99m:17003** 17A35 (17A20)

Cuenya, Héctor (*with* Marano, Miguel) A minimizing property that characterizes L_p-spaces. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 273–283. (Summary) **99a:46045** 46E30 (41A65)

Cuer, Michel (*with* Petit, Jean Louis) On the inverse seismic problem for horizontally layered media: subsidiary study. (English summary) *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996), 275–293, Lecture Notes in Phys., 486, Springer, Berlin, 1997.* (Summary) **99c:86003** 86A15 (73D20, 73D50)

ferrera Cuesta, Juan *see* **Ferrera Cuesta, Juan**

Cuesta, Mabel *see* **Cuesta Leon, Mabel**

Cuesta-Albertos, J. A. (*with* Gordaliza, A.; Matrán, C.) Trimmed k-means and the Cauchy mean-value property. (English summary) *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994), 247–265, VSP, Utrecht, 1995.* (Summary) **99h:62033** 62G05 (62F35)

— (*with* Matrán, C.) The asymptotic distribution of the bootstrap sample mean of an infinitesimal array. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 23–48. (K. B. Athreya) **99k:62085** 62G09 (60F05, 62E20)

— (*with* Gordaliza, A.; Matrán, C.) On the geometric behaviour of multidimensional location measures. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 191–208. (Summary) **99f:62069** 62H05

— (*with* Gordaliza, A.; Matrán, C.) Trimmed best k-nets: a robustified version of an L_∞-based clustering method. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 401–413. (P. Laurie Davies) **99m:62087** 62H30 (60F15)

Cuesta Leon, Mabel (*with* Costa, David G.) Existence results for resonant perturbations of the Fučik spectrum. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 295–314 (1997). (Long-Yi Tsai) **99c:35056** 35J60 (34B15, 35B10)

Cueva, M. C. *see* **Caldas Cueva, Miguel**

caldas Cueva, Miguel *see* **Caldas Cueva, Miguel**

Cuevas, Antonio (*with* Fraiman, Ricardo) A plug-in approach to support estimation. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2300–2312. (Summary) **99m:62040** 62G05

Cuevas, Claudio (*with* Cardoso, Fernando) On the hyperbolic Dirichlet to Neumann functional in H^n and S^n. (English summary) *Proyecciones* **17** (1998), *no.* 1, 63–70. (R. Schimming) **99h:58190** 58G16 (35L10)

Cuevas, S. (*with* Ramos, Eduardo[2]) Transport of momentum and heat in oscillatory MHD flow. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows (Aussois, 1997), 107–122, Fluid Mech. Appl., 51, Kluwer Acad. Publ., Dordrecht, 1999.* (*see* **99k:76007**) 76W05

mayol Cuevas, Walterio *see* **Mayol Cuevas, Walterio**

Cufaro Petroni, Nicola (*with* De Martino, Salvatore; De Siena, Silvio) Non-equilibrium densities of Nelson processes. (English summary) *New perspectives in the physics of mesoscopic systems (Caserta, 1996), 59–69, World Sci. Publishing, River Edge, NJ, 1997.* (Summary) **99g:81025** 81P20

— (*with* De Martino, Salvatore; De Siena, Silvio) Exact solutions of Fokker-Planck equations associated to quantum wave functions. (English summary) *Phys. Lett. A* **245** (1998), *no.* 1-2, 1–10. (Summary) **99d:82048** 82C31

Cui, Bao Tong Oscillation for parabolic equations of neutral type. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 1, 53–61. (Krzysztof A. Topolski) **99e:35236** 35R10 (35B05, 35K20)

— (*with* Li, Wei Nian) Oscillations of systems of neutral delay parabolic equations. (English summary) *Demonstratio Math.* **31** (1998), *no.* 4, 813–824. (Summary) **99k:35181** 35R10 (35B05, 35K99)

— (*with* Li, Wei Nian) A necessary and sufficient condition for oscillation of parabolic equations with several delays. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 153–156. 35R10 (35B05, 35K10)

— (*with* Li, Wei Nian) Oscillation of solutions of partial differential equations with functional arguments. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 205–212. (Summary) **99h:35220** 35R10 (35B05)

Cui, Cheng Ri A modified uniform convergence theorem for function series. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 4, 353–356. (Summary) **99m:46010** 46A45

— (*with* Li, Rong Lu; Cho, Min-Hyung) An invariant with respect to all admissible polar topologies. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 289–294. (Jing Hui Qiu) **99i:46002** 46A03 (46A35)

— (*with* Wu, Jun De; Li, Rong Lu) A Hellinger-Toeplitz theorem for sequence spaces with the weak gliding hump property. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 717–722. 46A45 (47B37)

Cui, Guizhen Circle expanding maps and symmetric structures. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 831–842. (Peter Petek) **99m:58079** 58F03 (58F19)

Cui, Guo Zhong (*with* Wang, Yuan Ming[1]) Global existence of smooth solution to Boltzmann-Poisson system in semiconductor physics. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 121–129, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (J. W. Jerome) **99f:35211** 35Q99 (45K05, 82D99)

— (*with* Wang, Yuan Ming[1]) The Vlasov-Poisson model of a three-dimensional semiconductor. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 1, 43–48. 35Q99

Cui, Gurong (*with* Easton, Alan K.; Singh, Manmohan[2]) Solutions of two species reaction-diffusion systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 359–373. (Summary) **99i:92019** 92D25 (35K57, 92D40)

— (*with* Singh, Manmohan[2]; Easton, Alan K.; Kozlova, Irina) Numerical study of the two-dimensional spruce budworm reaction-diffusion equation with density dependent diffusion. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Natur. Resource Modeling* **11** (1998), *no.* 2, 143–154. (Summary) **99d:92029** 92D25

Cui, Hengjian (*with* Qin, Huaizhen; Li, Yong[7]) The N.S. conditions for the ratio of two quadratic forms to have an F-distribution and its applications. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 453–471. (A. K. Gupta) **99d:62060** 62H10

— (*with* Li, Rongcai) On parameter estimation for semi-linear errors-in-variables models. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 1–24. (Li-Xing Zhu) **99b:62050** 62G05 (62G20)

— (*with* Yuan, Xiu Jiu) The estimate and test in the symmetric auxiliary information. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 117–124. (Summary) **99c:62083** 62G05 (62G10)

Cui, Hongbin (*with* Fan, Lei; Zheng, Chong-You) On induced mappings. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 22–27. 06A23

Cui, Jing Hao (*with* Yuan, Si; Shi, Shao Chun) An infinite FEMOL element–infinite line mapping technique. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 81–89. 65N40 (65N30)

Cui, Jingan (*with* Chen, Lan Sun) The effect of diffusion on the time varying logistic population growth. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 1–9. (Summary) **99c:90171** 90D25

— (*with* Duan, Kuichen) Time-dependent cooperative system of population growth. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 204–209. (Summary) **99f:92018** 92D25 (34C15, 34D45)

Cui, Jiong Cheng (*with* Hu, Bi Jin; Huang, Jian Zhong[2]; Tian, Jin Wen; Fu, Cai Fang; Zhu, Hong Zhang) LMS estimation and inversion in lithology. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 246–250. 86A32 (62M09)

Cui, Jun Zhi (*with* Cao, Li Qun) Finite element methods based on two-scale asymptotic analysis. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 89–102. (Zhangxin Chen) **99c:73077** 73V05 (65N30, 73K20)

— (*with* Cao, Li Qun) Finite element computation for elastic structures of composite materials formed by entirely basic configurations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 279–290. (Summary) **99m:73067** 73V05 (65N30, 73K20)

— (*with* Cao, Li Qun) Two-scale asymptotic analysis methods for a class of elliptic boundary value problems with small periodic coefficients. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 19–28. (Summary) **99m:65242** 65N99 (35B25, 35J25)

Cui, Kai (*with* Sheng, Zhong Ping; Lu, Xian Duan) The general form of Kunio Kakie's theorem. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 12–15. 13F15

Cui, Ming A mixed finite element method for the pollution of groundwater in a fissured porous medium. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 252–264. 65M70 (76M10, 76S05)

— Characteristic-mixed finite element methods for the problem of the pollution of groundwater in a fissured porous medium. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 3, 254–260. (Summary) **99k:76092** 76M10 (65M60, 65N30, 76S05, 86–08, 86A05)

Cui, Ming Gen (*with* Kuang, Zheng; Li, Yun Hui) Wavelet fractional filter. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 353–358. 42C15 (65T20)

Cui, Ming Rong Fully discrete finite element schemes for nonlinear parabolic equations in a class of three-dimensional variable domains. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 312–323. (Summary) **99h:65168** 65M60

— Upwind difference schemes for a parabolic equation in a three-dimensional domain with moving boundary. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 3, 241–247. 65M55 (65M06)

Cui, Naxin (*with* Zhang, Chenghui; Tan, Zhengyu) A new solution method for state equations of nonlinear system. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 175–183. (From the summary) **99j:34014** 34A45 (65L06)

Cui, Shang Wei Extension of asymptotic stability of Barbashin equations to the hyperreal domain. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 126–128. 34D05 (03H05)

Cui, Xia A fully discrete finite element scheme for moving boundary problems for nonlinear hyperbolic equations and its numerical analysis. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 57–62. (Long An Ying) **99j:65164** 65M60

Cui, Xiao Yu (*with* Liu, Fu Sheng) Theoretical proof of the distribution assumption for the unknown parameters in Bayes DLM recurrence equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 80–82. 62F15

Cui, Xuewei (*with* John, Peter W. M.) Time-trend free run orders with the minimum level changes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 55–68. (Summary) **99a:62114** 62K15

Cui, Y. *see* **Cui, Yun An**

Cui, Yu Quan A way of adjusting the central input flow matrix in an input-output table. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 232–238. 90A14 (65F30)

Cui, Yun An (*with* Zhang, Yun Feng) On the KR and WKR points of Orlicz spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 459–466. (Marian Nowak) **99f:46037** 46E30 (46B20)

— (*with* Płuciennik, Ryszard) Local uniform nonsquareness in Cesàro sequence spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 47–58. (Pedro J. Paúl) **99b:46025** 46B45 (46A45, 46B20)

— (*with* Zhang, Yun Feng) The KR and WKR points of Orlicz sequence spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 5–12. 46B45 (46E30)

— (*with* Ren, Li Wei[2]) Smooth points of the vector-valued sequence spaces $ss(E)$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 16–19. (Bor-Luh Lin) **99k:46030** 46B45 (46A45)

— (*with* Tian, Shen; Zhu, Hong Wei) L_N° uniformly rotund points of Orlicz spaces L_M. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 50–54. (Bor-Luh Lin) **99a:46056** 46E30 (46B20)

— (*with* Hudzik, Henryk; Meng, C.) On some local geometry of Orlicz sequence spaces equipped with the Luxemburg norm. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 143–154. (Anna H. Kamińska) **99e:46028** 46B45 (46B20)

— (*with* Wang, Ting Fu) A remark on property (H) of Orlicz spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 217–220. (Lanzhe Liu) **99h:46048** 46E30

— (*with* Hudzik, Henryk) On the uniform Opial property in some modular sequence spaces. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 93–102. (Summary) **99j:46010** 46A45 (46A80)

— (*with* Hudzik, Henryk; Płuciennik, Ryszard) On some uniform convexities and smoothness in certain sequence spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 893–905. (Christian Samuel) **99m:46054** 46B45 (46E30)

— (*with* Hudzik, Henryk) Maluta's coefficient and Opial's properties in Musielak-Orlicz sequence spaces equipped with the Luxemburg norm. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 475–485. (Y. Benyamini) **99k:46029** 46B45 (46E30)

Cuijpers, Joannes W. M. (*with* vanZanten, Margreet C.; Duynkerke, Peter G.) Entrainment parameterization in convective boundary layers. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 6, 813–828. (Summary) **99j:46010** 86A10 (86–08)

Cukierman, Diana (*with* Delgrande, James P.) Expressing time intervals and repetition within a formalization of calendars. (English summary) *Comput. Intelligence* **14** (1998), *no.* 4, 563–597. (Olga M. Kosheleva) **99m:68182** 68T27 (03B45, 03B70)

Culatti, A. (*with* del Águila, F.; Muñoz Tapia, R.; Pérez-Victoria, M.) Techniques for one-loop calculations in constrained differential renormalization. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 561–585. (Summary) **99h:81136** 81T15

Culberson, Joseph C. (*with* Schaeffer, Jonathan) Pattern databases. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 318–334. 68T20

Culetu, Hristu (*with* Beciu, Mircea) Embedding as a substitute for the Kruskal maximal extension. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 1, 1–5. (Elizabeth Winstanley) **99m:83096** 83C57 (83C47)

Culik, Karel, II (*with* Valenta, Vladimir; Kari, Jarkko) Compression of silhouette-like images based on WFA. (English summary) *J.UCS* **3** (1997), *no.* 10, 1100–1113 (*electronic*). (Summary) **99f:68204** 68U10 (68Q45, 68Q68)

Čuljak, Vera (*with* Agarwal, Ravi P.; Pečarić, Josip) On discrete and continuous Wirtinger inequalities. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 195–204. 26D10

— (*with* Agarwal, Ravi P.; Pečarić, Josip) Some integral inequalities involving bounded higher order derivatives. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 51–57. (Summary) **99f:26021** 26D10

Cullen, Michael J. P. (*with* McWilliams, James C.; Yavneh, Irad; Gent, Peter R.) The breakdown of large-scale flows in rotating, stratified fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3178–3184. (Summary) **99h:86012** 86A10 (73V05, 76U05)

— (*with* Douglas, Robert John) Applications of the Monge-Ampère equation and Monge transport problem to meteorology and oceanography. (English summary) *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 33–53, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:86008** 86A05 (35Q99, 86A10)

Cullis, Brian (*with* Gogel, Bev; Verbyla, Arūnas; Thompson, Robin) Spatial analysis of multi-environment early generation variety trials. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 1–18. (Summary) **99a:62149** 62P10

Cumenge, Anne Estimées Lipschitz optimales dans les convexes de type fini. (English and French summaries) [Optimal Lipschitz estimates on convex domains of finite type] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1077–1080. (Josep Ma. Burgués i Badia) **99i:32002** 32A25 (32F15)

Cuminato, José A. (*with* Filho, Antonio Castelo; Boaventura, Maurilio; Tomé, Murilo F.) Simulation of free surface flows in a distributed memory environment. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 77–92. (*see* **99k:65002**) 76M20 (76M25)

Cummings, James (*with* Foreman, Matthew) The tree property. (English summary) *Adv. Math.* **133** (1998), *no.* 1, 1–32. (From the introduction) **99j:03034** 03E05 (03E35)

Cummings, Linda Jane (*with* Kornev, K.) Evolution of flat crystallisation front in forced hydrodynamic flow—some explicit solutions. (English summary) *Phys. D* **127** (1999), *no.* 1-2, 33–47. (Summary) **99k:80006** 80A22 (76M25, 76S05)

Cummings, Peter T. (*with* Sarman, Sten S.; Evans, Denis J.) Recent developments in non-Newtonian molecular dynamics. (English summary) *Phys. Rep.* **305** (1998), *no.* 1-2, 92 *pp.* (Summary) **99h:82073** 82D15 (76A05, 76A15, 76M35, 82D30)

Cummins, Sharen (*with* Rudman, Murray) Solving the Navier-Stokes equations using an exact projection method on a 2-D staggered grid. (English summary) *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 200–205. 65M60 (76M25)

Cunha, Cristina (*with* Álvarez Díaz, Lilliam) Numerical solution of the Rapoport-Leas equation using the method-of-lines and the DASSL code. (English summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1928–1935; *reprinted in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1851–1858. (Summary) **99h:65160** 65M20

Cunha, M. S. (*with* Christiansen, H. R.; Helayël-Neto, José A.; Manssur, L. R. U.; Nogueira, A. L. M. A.) $N = 2$ Maxwell-Chern-Simons model with anomalous magnetic moment coupling via dimensional reduction. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 147–159. 81T60 (81T50)

— (*with* Christiansen, H. R.; Helayël-Neto, José A.; Manssur, L. R. U.; Nogueira, A. L. M. A.) Self-dual vortices in a Maxwell-Chern-Simons model with nonminimal coupling. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 11, 1721–1735. 81T13

Cuninghame-Green, Raymond (*with* Gaubert, Stéphane; Butkovič, Peter) Minimal (max, +) realization of convex sequences. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 137–147 (*electronic*). (Valeriu Prepeliță) **99f:93100** 93C83 (15A15, 15A33, 93B51)

Cunningham, G. S. (*with* Hanson, K. M.; Saquib, S. S.) Inversion based on computational simulations. (English summary) *Maximum entropy and Bayesian methods (Boise, ID, 1997)*, 121–135, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 65C20 (65–02)

Cunningham, William H. (*with* Cook, William J.; Pulleyblank, William R.; Schrijver, Alexander) ★ Combinatorial optimization. (English summary) Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. x+355 *pp. ISBN* 0-471-55894-X (Ulrich Faigle) **99b:90098** 90C27 (90–02, 90C35)

— (*with* Geelen, James F.) Integral solutions of linear complementarity problems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 61–68. (Rainer Burkard) **99b:90134** 90C33 (90C10)

Cuntz, Joachim Excision in periodic cyclic theory for topological algebras. (English summary) *Cyclic cohomology and noncommutative geometry (Waterloo, ON, 1995)*, 43–53, *Fields Inst. Commun.*, 17, *Amer. Math. Soc., Providence, RI*, 1997. (Erlend Dahl) **99b:19003** 19D55 (19K56, 46H05, 46M20)

— Morita invariance in cyclic homology for nonunital algebras. (English summary) *K-Theory* **15** (1998), *no.* 4, 301–305. (Kevin P. Knudson) **99k:16016** 16E40 (19D55, 46L80)

Cuoco, Domenico (*with* Cvitanić, Jakša) Optimal consumption choices for a "large" investor. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 3, 401–436. (Summary) **99a:90027** 90A08

Čupona, Ǵ. (*with* Markovski, S.) Primitive varieties of algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 226–234. (H. Peter Gumm) **99g:08004** 08B05 (08B20, 20C30)

ricci-Curbastro, Gregorio *see* **Ricci-Curbastro, Gregorio**

Curbera, Francisco Optimal integration of Lipschitz functions with a Gaussian weight. (English summary) *J. Complexity* **14** (1998), *no.* 1, 122–149. (De Hui Chen) **99d:65067** 65D30

Curci, M. G. (*with* Stöcker, S.) Modelling and simulating the effect of cytokines on the immune response to tumor cells. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 1–13. (Summary) **99d:92016** 92C50

Curet, Norman D. Implementation of a steepest-edge primal-dual simplex method for network linear programs. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 251–270. (*see* **99b:90006**) 90C35 (90C08)

Cureton, L. M. (*with* Kuttler, J. R.) Eigenvalues of the Laplacian on regular polygons and polygons resulting from their dissection. (English summary) *J. Sound Vibration* **220** (1999), *no.* 1, 83–98. (Summary) **99j:35025** 35J05 (35J25, 65N25, 73D30, 76Q05, 78A40)

Ćurgus, B. (*with* Najman, B.) Examples of positive operators in Krein space with 0 a regular critical point of infinite rank. (English summary) *Differential and integral operators (Regensburg*, 1995), 51–56, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Aurelian Gheondea) **99f:47044** 47B50 (35P10, 47F05)

Curien, Pierre-Louis (*with* Di Cosmo, Roberto) A confluent reduction for the λ-calculus with surjective pairing and terminal object. (English summary) *J. Funct. Programming* **6** (1996), *no.* 2, 299–327. (Feodor Alexandrovich Murzin) **99b:03025** 03B40 (68Q42, 68Q55)

— *see also* **Proceedings: Summer School and Workshop on Formal Models of Programming and their Applications, 99i:68004**

Curio, Gottfried (*with* Lüst, Dieter) A class of $N = 1$ dual string pairs and its modular superpotential. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5847–5865. (Summary) **99b:81182** 81T30 (11Z05, 32J81)

— (*with* Cardoso, Gabriel Lopes; Lüst, Dieter) Perturbative couplings and modular forms in $N = 2$ string models with a Wilson line. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 147–183. (Summary) **99f:81152** 81T30 (11F46, 11F55, 11Z05, 14J32, 32J81)

— (*with* Andreas, Björn; Lüst, Dieter) $N = 1$ dual string pairs and their massless spectra. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 175–196. (Summary) **99j:81131** 81T30 (14J32, 32G81, 32J81)

— $N = 2$ string-string duality and holomorphic couplings. (English summary) *Fortschr. Phys.* **46** (1998), *no.* 2, 75–146. (Marco Spaans) **99k:81230** 81T30 (32J81, 83E30)

— (*with* Andreas, Björn) Three-branes and five-branes in $N = 1$ dual string pairs. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 41–44. (Gerardo Marcelo Aldazabal) **99b:81170** 81T30 (14J32, 32J81)

— (*with* Lüst, Dieter) New $N = 1$ supersymmetric 3-dimensional superstring vacua from U-manifolds. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 95–104. (Gonzalo Violero) **99i:81176** 81T30 (14J32, 32J81, 83E30)

— Chiral matter and transitions in heterotic string models. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 39–48. (Summary) **99f:81154** 81T30 (14J32, 32J81)

Curnier, Alain (*with* He, Qi-Chang; Telega, Józef Joachim) Unilateral contact of two solids subject to large deformations: formulation and existence results. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1955, 2691–2717. (P. D. Panagiotopoulos) **99c:73074** 73T05 (49N55, 58E35)

Curran, Paul F. (*with* Suykens, J. A. K.; Chua, Leon O.) Absolute stability theory and master-slave synchronization. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2891–2896. (Summary) **99e:93063** 93D15 (34H05, 58F40, 93C10)

Currás Bosch, Carlos Parallel transport: from Levi-Civita to today. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 27–37. 53-03 (53B05)

— (*with* Molino, Pierre) Holonomie, suspensions et classifications pour les feuilletages lagrangiens. (English and French summaries) [Holonomy, suspension, and classification of Lagrangian foliations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1317–1320. (Tedi C. Draghici) **99i:57047** 57R30

— Affine structures and symplectic linearization. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 1–8. (Frans Cantrijn) **99k:53043** 53C12 (58F05)

Currie, James (*with* Allouche, Jean-Paul; Shallit, Jeffrey) Extremal infinite overlap-free binary words. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 27, 11 *pp.* (*electronic*). (Jennifer R. Galovich) **99d:68201** 68R15 (05A99)

Currò, Carmela (*with* Valenti, Giovanna) Asymptotic wave propagation in a non-Newtonian compressible fluid with small dissipation. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 4, 403–419. (Summary) **99e:76003** 76A05 (76N10)

Curry, James H. (*with* Billings, Lora; Phipps, Eric) Symmetric functions and exact Lyapunov exponents. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 44–64. (Hans-Peter Herzel) **99h:58132** 58F14 (05E05, 34C35, 34D45, 58F03, 65J15)

souza de Cursi, J. E. *see* **Souza de Cursi, J. E.**

Curt, Paula A univalence criterion for holomorphic mappings in $\mathbf{C}^n$. *Mathematica* **37(60)** (1995), *no.* 1-2, 65–69. (T. J. Suffridge) **99b:32031** 32H02 (30C55, 32A30)

— Some classes of differential subordinations in several complex variables implying functions with positive real part. I. *Mathematica* **37(60)** (1995), *no.* 1-2, 71–80. (T. J. Suffridge) **99b:32032** 32H02 (30C45, 32A30)

— Some classes of differential subordinations in several complex variables implying functions with positive real parts. II. *Mathematica* **38(61)** (1996), *no.* 1-2, 35–42. (T. J. Suffridge) **99b:32033** 32H02 (30C45, 32A30)

— A Marx-Strohhäcker theorem in several complex variables. *Mathematica* **39(62)** (1997), *no.* 1, 59–70. (T. J. Suffridge) **99c:32031** 32H02

— (*with* Varga, Csaba) Jack, Miller and Mocanu lemma for holomorphic mappings in $\mathbf{C}^n$. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 39–45. (T. J. Suffridge) **99m:32023** 32H02 (30C45)

Curtain, Ruth F. (*with* Logemann, Hartmut; Townley, Stuart; Zwart, H. J.) Well-posedness, stabilizability, and admissibility for Pritchard-Salamon systems. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 38 *pp.* (*electronic*). (Joseph A. Ball) **99e:93040** 93C25 (93D15)

— The Salamon-Weiss class of well-posed infinite-dimensional linear systems: a survey. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part 2. *IMA J. Math. Control Inform.* **14** (1997), *no.* 2, 207–223. (Summary) **99a:93054** 93C25 (47N70, 93–02)

Curtin, Brian 2-homogeneous bipartite distance-regular graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 39–70. (Robert Beezer) **99g:05187** 05E30 (05C12)

— Distance-regular graphs which support a spin model are thin. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 205–216. (Summary) **99i:05206** 05E30

Curtis, Edward B. (*with* Ingerman, David; Morrow, James A.) Circular planar graphs and resistor networks. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 115–150. (W.-K. Chen) **99k:05096** 05C38 (05C40, 05C50, 94C05)

Curtis, Robert T. (*with* Morris, Tony R.) Codes. (English summary) *Graph connections*, 116–127, *Oxford Lecture Ser. Math. Appl.*, 5, *Oxford Univ. Press, New York*, 1997. (*see* **99a:05001**) 94B60 (05C50)

— A survey of symmetric generation of sporadic simple groups. (English summary) *The atlas of finite groups: ten years on (Birmingham*, 1995), 39–57, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Jürgen Müller) **99m:20023** 20D08 (20F05)

— (*with* Conway, John H.; Wilson, Robert A.) A brief history of the ATLAS. *The atlas of finite groups: ten years on (Birmingham*, 1995), 288–293, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99e:20002**) 20–03 (01A60)

— *see also* **Atlas of finite groups: ten years on, 99e:20002**

Curto, Raúl E. An operator-theoretic approach to truncated moment problems. (English summary) *Linear operators (Warsaw*, 1994), 75–104, *Banach Center Publ.*, 38, *Polish Acad. Sci., Warsaw*, 1997. (Summary) **99c:47014** 47A57 (44A60, 47B20, 65D32)

— (*with* Fialkow, Lawrence A.) Flat extensions of positive moment matrices: relations in analytic or conjugate terms. *Nonselfadjoint operator algebras, operator theory, and related topics*, 59–82, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Vladimir Derkach) **99i:47026** 47A57 (44A60)

— (*with* Fialkow, Lawrence A.) Flat extensions of positive moment matrices: recursively generated relations. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 648, x+56 *pp.* (Mihai Putinar) **99d:47015** 47A57 (15A57, 30E05, 44A60)

Curtright, Thomas (*with* Fairlie, David B.; Zachos, Cosmas) Features of time-independent Wigner functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025002, 14 *pp.* (Summary) **99k:81146** 81S30

Cury, José E. R. (*with* Krogh, Bruce H.; Niinomi, Toshihiko) Synthesis of supervisory controllers for hybrid systems based on approximating automata. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 564–568. (*see* **99a:93006**) 93B50 (93C30)

— (*with* Krogh, Bruce H.) Robustness of supervisors for discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 376–379. (Summary) **99i:93040** 93C83 (68Q45)

nicholas of Cusa *see* **Nicholas of Cusa**

Cusanus, Nicolaus *see* **Nicholas of Cusa**

Cushing, Jim M. (*with* Henson, Shandelle M.) The effect of periodic habitat fluctuations on a nonlinear insect population model. (English summary) *J. Math. Biol.* **36** (1997), *no.* 2, 201–226. (Hassan El-Owaidy) **99c:92058** 92D40 (34C25, 34D99, 92D25)

— ★ An introduction to structured population dynamics. (English summary) CBMS-NSF Regional Conference Series in Applied Mathematics, 71. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xiv*+193 *pp. ISBN* 0-89871-417-6 (Lai Fu Liu) **99k:92024** 92D25 (92–02)

— Periodically forced nonlinear systems of difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 547–561. (Summary) **99b:39005** 39A10 (92D25)

— (*with* Zhou, Yi Cang) Stability conditions for equilibria of nonlinear matrix population models. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 95–126. (Summary) **99i:92026** 92D25 (39A11)

— *see also* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**

Cushman, Richard (*with* Beukers, Frits) Zeeman's monotonicity conjecture. (English summary) *J. Differential Equations* **143** (1998), *no.* 1, 191–200. (Jair Koiller) **99c:58054** 58F05 (28D10, 34C35)

— (*with* Kemppainen, D.; Śniatycki, Jędrzej) A classical particle with spin realized by reduction of a nonlinear nonholonomic constraint. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 133–142. (David Martín de Diego) **99e:70037** 70F25 (34A26, 58F05, 70E15)

— *see also* **Workshop: Nonholonomic Constraints in Dynamics, 99i:58004**

Cusick, Thomas W. (*with* Ding, Cunsheng; Renvall, Ari) ★ Stream ciphers and number theory. North-Holland Mathematical Library, 55. *North-Holland Publishing Co., Amsterdam*, 1998. *xiv*+431 *pp. ISBN* 0-444-82873-7 (Author's review (T.W.C.)) **99h:94045** 94A60 (11T71)

— Finite vector spaces and certain lattices. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 17, 7 *pp.* (*electronic*). (Christine Bachoc) **99b:11073** 11H06 (05A15, 11T99)

— Value sets of some polynomials over finite fields $GF(2^{2m})$. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 120–131 (*electronic*). (S. D. Cohen) **99a:11136** 11T06 (68Q40)

— (*with* Chen, Yong-Gao) The view-obstruction problem for n-dimensional cubes. (English summary) *J. Number Theory* **74** (1999), *no.* 1, 126–133. (Martin Henk) **99m:11079** 11J25 (52C07)

Custódio, Luis M. M. (*with* Pinto-Ferreira, Carlos) Logic of agreement: foundations, semantic system and proof theory. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 1, 47–78. (Summary) **99m:68183** 68T27 (03B45, 03B70)

guerrero-Cusumano, José-Luis *see* **Guerrero-Cusumano, José-Luis**

Cutello, Vincenzo (*with* Montero de Juan, Francisco Javier) Aggregation operators for fuzzy rationality measures. (English summary) *Aggregation and fusion of imperfect information*, 98–105, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72 (90C70)

Cutkosky, Steven Dale Local factorization of birational maps. *Adv. Math.* **132** (1997), *no.* 2, 167–315. (Vincent Cossart) **99c:14018** 14E05 (13H05, 14B99)

— (*with* Herzog, Jürgen) Cohen-Macaulay coordinate rings of blowup schemes. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 605–617. (Aron Simis) **99d:13028** 13H10 (13A30)

Cutland, Nigel J. Nonstandard real analysis. *Nonstandard analysis* (*Edinburgh*, 1996), 51–76, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (Detlef Laugwitz) **99b:26043** 26E35 (03H05)

— (*with* Zimmer, G. Beate) A new proof of the Banach-Stone theorem. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 55–58. (Summary) **99a:46042** 46E25 (03H05, 46S20)

— (*with* Capiński, Marek) Measure attractors for stochastic Navier-Stokes equations. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 8, 15 *pp.* (*electronic*). (Wilfried Grecksch) **99f:60115** 60H15 (35B40, 35Q30, 35R60)

Cutolo, Giovanni (*with* Lennox, John C.; Rinauro, Silvana; Smith, Howard; Wiegold, James) On infinite core-finite groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 169–175. (O. Yu. Dashkova) **99g:20062** 20F14

Cutrì, Alessandra Semilinear and integrodifferential problems for sub-Laplacians. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 101–104. 35H05

— (*with* Birindelli, Isabeau; Capuzzo-Dolcetta, Italo) Indefinite semi-linear equations on the Heisenberg group: a priori bounds and existence. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1123–1157. (Chu Li Fu) **99h:35045** 35J60 (35B45, 35H05)

van Cutsem, Bernard *see* **Van Cutsem, Bernard**

Cutzach, Pierre-Marie (*with* Luneville, Eric) Diffraction d'ondes acoustiques par un guide semi-infini. (English and French summaries) [Acoustic wave scattering by a semi-infinite waveguide] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1151–1154. 35J05 (76Q05)

— (*with* Hazard, Christophe) Existence, uniqueness and analyticity properties for electromagnetic scattering in a two-layered medium. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 5, 433–461. (B. Belinskiy) **99a:78024** 78A45

Cuypers, Hans (*with* Steinbach, Anja Ingrid) Weak embeddings of generalized hexagons and groups of type G_2. (English summary) *J. Group Theory* **1** (1998), *no.* 3, 225–236. (Hendrik Van Maldeghem) **99j:51003** 51E12 (20G05)

— *see also* **Some tapas of computer algebra, 99k:00038**

Cuyt, Annie Floating-point versus symbolic computations in the qd-algorithm. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 6, 695–703. (V. M. Krasnopol'sky) **99f:30009** 30B70 (41A30, 68Q40)

Cvetič, Mirjam (*with* Youm, Donam) BPS saturated and non-extreme states in abelian Kaluza-Klein theory and effective $N = 4$ supersymmetric string vacua. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 131–147, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:83088** 83E30 (81T30, 83E15)

— (*with* Gaida, Ingo) Duality-invariant non-extreme black holes in toroidally compactified string theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 291–306. (Summary) **99b:83068** 83E30 (81T30, 83C57)

— (*with* Hull, Christopher M.) Wrapped branes and supersymmetry. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 141–158. (Claudio A. Scrucca) **99d:81114** 81T30 (83E30)

— (*with* Larsen, Finn) Near horizon geometry of rotating black holes in five dimensions. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 239–255. (Jeremy Michelson) **99m:83108** 83C57 (83E30)

— (*with* Larsen, Finn) Black hole horizons and the thermodynamics of strings. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 443–453. (Summary) **99c:83050** 83C57 (81T30, 83E30)

— (*with* Larsen, Finn) Black hole horizons and the thermodynamics of strings. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 55–65. (Summary) **99e:83052** 83E30 (83C57)

— (*with* Larsen, Finn) Greybody factors for black holes in four dimensions: particles with spin. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6297–6310. (Summary) **99m:83109** 83C57

— (*with* Behrndt, Klaus; Sabra, Wafic A.) Entropy of near-extreme $N = 2$ black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084018, 7 *pp.* (Summary) **99m:83097** 83C57 (83E30)

— (*with* Tseytlin, Arkady A.) Sigma model of near-extreme rotating black holes and their microstates. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 381–394. (Summary) **99h:83035** 83C57 (81T40)

— (*with* Everett, Lisa; Wang, Jing^8) Effects of heavy states on the effective $N = 1$ supersymmetric action. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 52–66. (Summary) **99i:81228** 81T60

— *see also* **SUSY '97, 99b:81006**

Cvetićanin, Dragan (*with* Obradović, Ratko) A CAGD method for elliptic cross sections of circular parabolic quadrics. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 55–63. 68U05

Cveticanin, L. Analytical methods for solving strongly non-linear differential equations. (English summary) *J. Sound Vibration* **214** (1998), *no.* 2, 325–338. (Summary) **99c:34091** 34C40 (70K99)

Cvetković, Dragoš M. (*with* Lutovac, Tatjana) A review of publication of the Faculty of Electrical Engineering, Series: Mathematics and Physics (1956–1982). (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 3–6. 01A73

— (*with* Simić, Slobodan K.; Stevanović, Dragan) 4-regular integral graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 89–102. (N. Trinajstić) **99m:05104** 05C50

— (*with* Lepović, Mirko; Rowlinson, Peter; Simić, Slobodan K.) A database of star complements of graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 103–112. (N. Trinajstić) **99m:05132** 05C75

Cvetković, Ljiljana Linear part relaxation applied to nonlinear systems. (English summary) *Math. Montisnigri* **8** (1997), 37–43. (Timothy Sauer) **99e:65093** 65H10 (65F10)

— (*with* Nedić, Jelena) Prefactorization methods for some subclasses of H-matrices. (English summary) *Demonstratio Math.* **31** (1998), *no.* 4, 789–800. (Summary) **99k:65028** 65F05 (65F30)

Cvetković, Zoran (*with* Vetterli, Martin) Overcomplete expansions and robustness. (English summary) *Signal and image representation in combined spaces*, 301–338, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Dale H. Mugler) **99h:94006** 94A11 (42C15)

— (*with* Vetterli, Martin) Tight Weyl-Heisenberg frames in $l^2(\mathbf{Z})$. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1256–1259. (Summary) **99k:94002** 94A11 (94A12)

Cvijović, Djurdje (*with* Klinowski, Jacek) An application for the Chebyshev polynomials. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 105–110. (Summary) **99k:33024** 33C45 (11M06, 33C90)

— (*with* Klinowski, Jacek) Algebraic trigonometric numbers. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 11–14. (Richard T. Bumby) **99g:11023** 11B68 (12E10)

Cvitanić, Jakša (*with* Biais, Bruno; Björk, Tomas; El Karoui, N.; Jouini, Elyès; Rochet, Jean Charles) ★ Financial mathematics. Lectures given at the 3rd C.I.M.E. Session held in Bressanone, July 8–13, 1996. Edited by W. J. Runggaldier. Lecture Notes in Mathematics, 1656. *Springer-Verlag, Berlin*, 1997. viii+316 *pp. ISBN* 3-540-62642-5 (Marek Rutkowski) **99a:90033** 90A09 (60H10, 60H30, 90-06)

— Optimal trading under constraints. (English summary) *Financial mathematics* (*Bressanone*, 1996), 123–190, *Lecture Notes in Math.*, 1656, *Springer, Berlin*, 1997. (*see* **99a:90033**) 90A09 (90A60)

— (*with* Cuoco, Domenico) Optimal consumption choices for a "large" investor. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 3, 401–436. (Summary) **99a:90027** 90A08

Cvitanović, Predrag (*with* Vattay, Gábor; Wirzba, Andreas) Quantum fluids and classical determinants. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 29–62, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20

— (*with* Dettmann, Carl P.; Mainieri, Ronnie; Vattay, Gábor) Trace formulas for stochastic evolution operators: weak noise perturbation theory. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 981–999. (Summary) **99i:81049** 81Q50 (58F19)

— (*with* Hansen, Kim; Rolf, Juri; Vattay, Gábor) Beyond the periodic orbit theory. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1209–1232. (Roberto Artuso) **99g:58102** 58F20 (58F19)

— (*with* Hansen, Kai T.) Bifurcation structures in maps of Hénon type. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1233–1261. (Michael Hurley) **99f:58146** 58F14

Cwikel, Michael (*with* Pustylnik, Evgenii) Sobolev type embeddings in the limiting case. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 433–446. (N. Ya. Kruglyak) **99k:46055** 46E35 (46M35)

Cyganowski, S. A MAPLE package for stochastic differential equations. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 223–230, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65–04 (65U05)

Cynk, Sławomir Singular set of w-holomorphic functions on quasi-projective algebraic sets. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 337–344. (Arkadiusz Płoski) **99a:32006** 32B15 (14B05, 32S05)

Cypher, Robert *see* **ACM Symposium: Parallel Algorithms and Architectures, 99a:68002**

Cyphers, C. (*with* Paprzycki, Marcin) Level 3 BLAS based library for block tridiagonal matrices. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 491–498, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 65F30

st-Cyr, Gaetan J. *see* **St-Cyr, Gaetan J.**

normand-Cyrot, D. *see* **Normand-Cyrot, D.**

Cyvin, Sven J. (*with* Gutman, Ivan M.) Elementary edge-cuts in the theory of benzenoid hydrocarbons. (English summary) *Match No.* 36 (1997), 177–184. (Summary) **99a:92039** 92E10 (05C90)

Czabarka, Éva (*with* Székely, László A.) An alternative shifting proof to Hsieh's theorem. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 117–122. (Summary) **99m:05156** 05D05

Czách, L. (*with* Kolumbán, Iosif; Sebestyén, Zoltán) On transported inclusions. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 69–74 (1998). (E. Tarafdar) **99m:47071** 47H15 (47N10)

Czachor, Marek (*with* Marciniak, Marcin) Density matrix interpretation of solutions of Lie-Nambu equations. (English summary) *Phys. Lett. A* **239** (1998), *no.* 6, 353–358. (Summary) **99a:81088** 81S99

— Nonlocal-looking equations can make nonlinear quantum dynamics local. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 6, 4122–4129. (Summary) **99f:82046** 82C10
— (*with* Kuna, Maciej; Leble, Sergei B.) Nonlinear von Neumann-type equations: Darboux invariance and spectra. (English summary) *Phys. Lett. A* **255** (1999), *no.* 1-2, 42–48. 35Q40
Czado, Claudia (*with* Munk, Axel) Nonparametric validation of similar distributions and assessment of goodness of fit. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 223–241. (Summary) **99d:62052** 62G10
Czaja, Konrad On n-intersection product on compact complex n-dimensional manifold. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 5–8. (Gary P. Kennedy) **99e:14002** 14C17 (32J18)
Czaja, Ludwik Minimal-maximal time cause-effect structures. (English summary) *Fund. Inform.* **33** (1998), *no.* 1, 1–16. (Summary) **99f:68144** 68Q90 (68Q10)
— Cause-effect structures—structural and semantic properties revisited. *Fund. Inform.* **33** (1998), *no.* 1, 17–42. (From the introduction) **99j:68037** 68Q10 (68Q90)
Czapor, S. R. *see* **Vera, Raül, 99e:83017**
Czarnecki, Marc-Olivier (*with* Cornet, Bernard) Méthodes d'approximation en théorie du point fixe et de l'équilibre. (English and French summaries) [Approximation methods in fixed-point and equilibrium theory] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 917–922. (Abderrahim Jourani) **99k:49021** 49J40 (47H10, 49J52, 90C48)
Czarnecki, Stefan *see* **Bronshteĭn, I. N., 99g:00016**
Czarnocka-Cieciura, Dorota *see* **Jänich, Klaus, 99a:54001**
Czarnowski, Krzysztof On the structure of fixed point sets of "k-set-contractions" in B_0 spaces. (English summary) *Demonstratio Math.* **30** (1997), *no.* 2, 233–246. (E. Tarafdar) **99d:47059** 47H11 (47N20)
Czech, Ludmiła Simple construction of ruled surface of the third degree. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 205–208. (Chuan Yu Ma) **99b:53008** 53A05 (53A25)
Czelakowski, Janusz Logics and operators. The First German-Polish Workshop on Logic & Logical Philosophy (Bachotek, 1995). *Logic Log. Philos. No.* 3 (1995), 87–100. (Décio Krause) **99b:03018** 03B22 (03G25, 08A30)
— Relative principal congruences in congruence-modular quasivarieties. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 81–101. (A. A. Iskander) **99h:08011** 08B05 (08C15)
Czerwik, Stefan (*with* Dlutek, Krzysztof; Singh, Shyam Lal) Round-off stability of iteration procedures for operators in b-metric spaces. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 87–94. 54H25
— On the stability of the quadratic functional equation and related topics. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 449–455, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:39064** 39B72 (39B52, 47H99)
— Nonlinear set-valued contraction mappings in b-metric spaces. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 263–276. (Summary) **99j:54043** 54H25 (47H10, 54C60)
Czichowski, Günter (*with* Schmucker, Annett) Symmetry algebras and normal forms of third order ordinary differential equations. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 129–137. (P. G. L. Leach) **99g:34081** 34C20 (34A25, 34A26, 58F36)
Człapiński, Tomasz On existence and uniqueness of solutions of nonlocal problems for hyperbolic differential-functional equations in two independent variables. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 205–214. (Ludwik Byszewski) **99c:35250** 35R10 (35L20)
— On the local Cauchy problem for nonlinear hyperbolic functional-differential equations. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 215–232. (Ludwik Byszewski) **99c:35251** 35R10 (35L20)
— On existence of solutions of a certain nonlinear Volterra integral-functional equation in several variables. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 59–79. (Yury Petrovich Yatsenko) **99a:45010** 45G10 (47H30, 47N20)
Czogała, Alfred Generators of the Witt groups of algebraic integers. Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 105–121. (Detlev W. Hoffmann) **99m:11039** 11E12 (11E81)
— (*with* Sładek, Andrzej) Higher degree Hilbert symbol equivalence of algebraic number fields. II. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 363–376. (K. Szymiczek) **99i:11100** 11R21 (11R20)
Czogała, Ernest *see* **Pedrycz, Witold** *and* **Drelichowska, Maria**
Czornik, Adam Optimal control for a nonstationary linear system with a quadratic cost functional. (Polish) *Mat. Stos.* **40** (1997), 3–11. (Jacek B. Krawczyk) **99a:93110** 93E20 (49K45, 49N10)
— On bound for the solution of the unified algebraic Riccati equation. (English summary) *Mat. Stos.* **40** (1997), 13–20. (Vladimir B. Larin) **99d:93013** 93B25 (15A24, 65H05)
— (*with* Nawrat, Aleksander) On upper bounds for the unified algebraic Riccati equation. (English summary) *Systems Control Lett.* **32** (1997), *no.* 4, 235–239. (Petko Petkov) **99a:93048** 93B60 (65F15)
gusiew-Czudżak, Magdalena *see* **Gusiew-Czudżak, Magdalena**
Czumaj, Artur (*with* Strothmann, Willy-B.) Bounded degree spanning trees (extended abstract). (English summary) *Algorithms—ESA '97* (*Graz*), 104–117, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68R10
— (*with* Lingas, Andrzej) A polynomial time approximation scheme for Euclidean minimum cost k-connectivity. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 682–694, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68081** 68Q25 (68R10)
— (*with* Kanarek, Przemysława; Kutyłowski, Mirosław; Loryś, Krzysztof) Fast generation of random permutations via networks simulation. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 2–20. (Summary) **99b:68091** 68Q22 (68R05)
— (*with* Gąsieniec, Leszek; Pelc, Andrzej) Time and cost trade-offs in gossiping. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 400–413 (*electronic*). (Ralf Klasing) **99j:68003** 68M10 (05C85, 68Q22, 68R10, 90B12)
— *see also* **Graham, Ronald L. et al., 99c:68001** *and* **99m:68002**
Czyżyk, Joseph (*with* Wenzel, Marc; Wright, Stephen Joseph) Computational experience with a dense column feature for interior-point methods. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 29–34, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C05 (65K05)
— (*with* Wisniewski, Timothy; Wright, Stephen Joseph) Optimization case studies in the NEOS guide. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 148–163 (*electronic*). (Summary) **99i:90068** 90C20 (65K05, 90C90)

–D–

Da, Fei Peng (*with* Song, Wen Zhong) Direct adaptive control for a class of nonlinear systems. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 2, 124–129. 93C40 (93C10)

Da, Qing Li (*with* Liu, Xin Wang) A fuzzy critical path approximation method. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 5, 119–122. 90C70 (90C35)

— (*with* Hu, Jin Song) A method using slack in activities to determine critical path in a fuzzy network. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 24–31. 90B10 (90C70)

— (*with* Hu, Jin Song) Analysis of K degree activities in fuzzy networks. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 78–84. 90B35 (68M20)

— (*with* Liu, Xin Wang) The solution of fuzzy linear programming problems with a function of constraint satisfaction. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 35–40. 90C05 (90C70)

Daafouz, Jamal (*with* Garcia, Germain; Bernussou, Jacques) H_2 guaranteed cost control for singularly perturbed uncertain systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1323–1329. (Summary) **99j:93065** 93C70 (93D21)

van Daalen, E. F. G. Solitary wave splitting due to a mildly sloping bottom. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 408–414, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B25 (76B15)

olde Daalhuis, A. B. *see* **Olde Daalhuis, A. B.**

el Dabaghi, Fadi *see* **El Dabaghi, Fadi**

benjelloun-Dabaghi, Zakia *see* **Benjelloun-Dabaghi, Zakia**

al-Dabass, D. *see* **Al-Dabass, D.**

Dabbene, F. (*with* Blanchini, Franco; Tempo, Roberto) Computation of the minimum destabilizing volume for interval and affine families of polynomials. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1159–1163. 93D15 (93B40)

Daberkow, M. (*with* Fieker, C.; Klüners, Jürgen; Pohst, Michael E.; Roegner, K.; Schörnig, M.; Wildanger, K.) KANT V4. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 267–283. (Wieb Bosma) **99g:11150** 11Y40 (12Y05, 68Q40)

— (*with* Pohst, Michael E.) On the computation of Hilbert class fields. (English summary) *J. Number Theory* **69** (1998), *no.* 2, 213–230. (Charles J. Parry) **99h:11130** 11R37 (11R29)

Dabholkar, Atish (*with* Mandal, Gautam; Ramadevi, P.) Non-renormalization of mass of some non-supersymmetric string states. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 117–131. (Summary) **99b:81183** 81T30 (81T15)

Daboni, Luciano (*with* Peccati, Lorenzo) Actuarial mathematics and the mathematics of finance. (Italian) *Italian mathematics after Unity (Italian)*, 649–669, *Mat. Ital. Unità*, 1, *Marcos y Marcos, Milan*, 1998. (*see* **99i:01001**) 01A60

Daboul, Claudia (*with* Daboul, Jamil) From hydrogen atom to generalized Dynkin diagrams. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 135–144. (Nicolás Andruskiewitsch) **99e:81074** 81R10 (17B67, 81V45)

Daboul, Jamil (*with* Rathie, P. N.) Generalized parity and r-polynomials. (English summary) *Int. J. Math. Stat. Sci.* **5** (1996), *no.* 2, 179–196. (Summary) **99b:33014** 33C45 (30C15)

— (*with* Daboul, Claudia) From hydrogen atom to generalized Dynkin diagrams. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 135–144. (Nicolás Andruskiewitsch) **99e:81074** 81R10 (17B67, 81V45)

Daboussy, D. (*with* Coullet, P.; Tredicce, J. R.) Optical excitable waves. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5347–5350. (Summary) **99g:78027** 78A60

croos-Dabrera, Rodney *see* **Croos-Dabrera, Rodney**

Dabrowska, Dorota M. (*with* Lee, Waidong) Nonparametric estimation of transition probabilities in a two-stage duration model. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 75–103. (Summary) **99a:62041** 62G05

— Smoothed Cox regression. (English summary) *Ann. Statist.* **25** (1997), *no.* 4, 1510–1540. (Uttara V. Naik-Nimbalkar) **99a:62042** 62G05 (62M09)

Dabrowski, André Robert (*with* Dehling, Herold G.) Jump diffusion approximation for a Markovian transport model. (English summary) *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 115–125, *North-Holland, Amsterdam*, 1998. (Götz Kersting) **99m:60057** 60F17 (60J70)

Dąbrowski, Andrzej Bogdan On some combinatorial result in the theory of automorphic pseudo-differential operators. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 385–387. (David M. Bressoud) **99b:11044** 11F25 (33C20)

— On certain L-series of Rankin-Selberg type associated to Siegel modular forms of degree 2. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 4, 297–306. (Xiaotie She) **99a:11057** 11F46 (11F66)

Dąbrowski, Ludwik (*with* Nesti, Fabrizio; Siniscalco, Pasquale) A finite quantum symmetry of $M(3, \mathbf{C})$. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4147–4161. (Tomasz Brzeziński) **99i:81093** 81R50 (16W30, 17B37, 58B30)

— (*with* Albeverio, Sergio; Kurasov, P.) Symmetries of Schrödinger operators with point interactions. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 33–47. (Alexander A. Kiselev) **99f:34121** 34L40 (47A55, 47E05, 81Q10)

Dąbrowski, Mariusz P. (*with* Larsen, Arne Lykke) Strings in homogeneous background spacetimes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5108–5117. (Summary) **99m:83186** 83E30

— (*with* Barrow, John D.) Is there chaos in low-energy string cosmology? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7204–7222. 83F05 (83E30)

— (*with* Barrow, John D.) Gödel universes in string theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 103502, 5 *pp.* 83E30 (83C15)

Dąbrowski, Romuald (*with* Fisher, Benji) A stationary phase formula for exponential sums over $\mathbf{Z}/p^m\mathbf{Z}$ and applications to GL(3)-Kloosterman sums. *Acta Arith.* **80** (1997), *no.* 1, 1–48. (S. Friedberg (Zbl 893.11032)) **99d:11093** 11L05 (11F30, 11L07)

Dacal Alonso, Angel *see* **Symposium: Nuclear Physics, 99g:81002**

Dachraoui, A. (*with* Ben Salem, N.) Pseudo-differential operators associated with the Jacobi differential operator. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 365–381. (Josefina Alvarez) **99c:47077** 47G30 (33C45, 34A99, 35S05)

Dacome, Maria Carolina Mathematical models and numerical simulation of the biodegradation of hydrocarbons in polluted soil. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 181–184. 86A05

Dacorogna, Bernard (*with* Marcellini, Paolo) Implicit second order partial differential equations. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 299–328 (1998). (Jolanta Przybycin) **99m:35031** 35G30 (35J99)

— (*with* Došlý, Ondřej) Convexity of certain integrals of the calculus of variations. III. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 837–850. (M. A. Yagubov) **99a:49027** 49K05 (49J05)

— A new approach to the existence of almost everywhere solutions of nonlinear PDEs. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 23–29. (*see* **99a:00025**) 35D05 (35F20)

— (*with* Marcellini, Paolo) Cauchy-Dirichlet problem for first order nonlinear systems. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 2, 404–446. (Paola Loreti) **99a:35025** 35F20 (49Q20)

— (*with* Tanteri, C.) On the different convex hulls of sets involving singular values. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1261–1280. (Hongyuan Zha) **99k:15013** 15A18 (52A05)

— (*with* Haeberly, Jean-Pierre) Some numerical methods for the study of the convexity notions arising in the calculus of variations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 153–175. (Michel Chipot) **99e:49003** 49J10 (49M30, 65D15, 65K10)

— (*with* Cardaliaguet, P.; Gangbo, Wilfrid; Georgy, N.) Geometric restrictions for the existence of viscosity solutions. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **16** (1999), *no.* 2, 189–220. (Summary) **99k:35023** 35D05 (35F30, 49L25)

Dacorogna, Michel M. (*with* Pictet, Olivier V.; Müller, Ulrich A.) Hill, bootstrap and jackknife estimators for heavy tails. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 283–310, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62G05 (62G09)

Da Costa, Fernando Pestana *see* **da Costa, Fernando Pestana**

Da Costa, G. A. T. F. *see* **da Costa, G. A. T. F.**

Da Costa, Newton C. A. *see* **da Costa, Newton C. A.**

Da Cruz, W. *see* **da Cruz, W.**

Da Cruz Neto, João Xavier (*with* Iusem, Alfredo N.; Svaiter, B. F.) Central paths, generalized proximal point methods, and Cauchy trajectories in Riemannian manifolds. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 566–588 (*electronic*). (M. Teboulle) **99k:90175** 90C33 (49J40, 90C30)

bui Dac Tac *see* **Bui Dac Tac**

D'Acunto, Berardino (*with* De Angelis, Monica; Renno, Pasquale) Fundamental solution of a dissipative operator. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 295–314 (1998). (Summary) **99e:35003** 35A08 (35G20, 35Q99)

— (*with* D'Anna, A.) Stability for a third order sine-Gordon equation. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 347–365. (Mehmet Can) **99k:35133** 35L75 (35Q53)

Dădărlat, Marius Quasidiagonal morphisms and homotopy. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 213–233. (Hiroshi Takai) **99a:46102** 46L05 (46L85)

— Residually finite-dimensional C^*-algebras. *Operator algebras and operator theory (Shanghai, 1997)*, 45–50, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (Hua Xin Lin) **99m:46133** 46L05

— (*with* Eilers, Søren) Compressing coefficients while preserving ideals in K-theory for C^*-algebras. (English summary) *K-Theory* **14** (1998), *no.* 3, 281–304. (Beatriz Abadie) **99h:46132** 46L80 (19K14, 46L35)

Dade, Everett C. Counting characters in blocks. II.9. *Representation theory of finite groups (Columbus, OH, 1995)*, 45–59, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (J. L. Alperin) **99b:20016** 20C20

— Blocks of fully graded rings. (English summary) Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 85–122. (Burkhard Külshammer) **99b:16066** 16W50 (16S35, 20C05)

Dadebo, S. A. (*with* McAuley, K. B.; McLellan, P. J.) On the computation of optimal singular and bang-bang controls. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 287–297. (Summary) **99e:49035** 49M05 (65K10)

Dadhich, Naresh (*with* Patel, L. K.; Tikekar, Ramesh) A duality relation for fluid spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, *L27–L29*. (Summary) **99a:83040** 83C50

— (*with* Narayan, K.) Generating spacetimes of zero gravitational mass. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 1133–1139. (Summary) **99c:83011** 83C15

— On electrogravity duality. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 5, 337–342. (Summary) **99m:83160** 83C99

— *see also* **Barnes, Alan, 99d:83021**

Dadok, Jiri (*with* Sha, Ji-Ping) On embedded flat surfaces in S^3. *J. Geom. Anal.* **7** (1997), *no.* 1, 47–55. (Joel L. Weiner) **99e:53088** 53C42 (53C40, 57M35)

Dadone, Andrea Symmetry techniques for the numerical solution of the 2D Euler equations at impermeable boundaries. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 7, 1093–1108. (Summary) **99f:76097** 76M25

ait Dads, E. *see* **Ait Dads, E.**

Daduna, Hans The joint distribution of sojourn times for a customer traversing an overtake-free series of queues: the discrete time case. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 297–323 (1998). (Summary) **99a:60101** 60K25 (90B22)

Dæhlen, Morten *see* **Mathematical methods for curves and surfaces, 99d:65004**

van Daele, Alfons *see* **Van Daele, Alfons**

van Daele, M. *see* **Van Daele, M.**

randjbar-Daemi, S. *see* **Randjbar-Daemi, S.**

Daems, D. (*with* Nicolis, Grégoire) Probabilistic and thermodynamic aspects of dynamical systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 311–320. (Dieter H. Mayer) **99i:82026** 82C05 (58F11, 58F19)

Dăescu, Dacian (*with* Mirea, Mihaela) Une forme plus général du théorème du col. [A more general form of the mountain pass theorem] *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 59–64 (1995). 58E05

Daescu, Ovidiu (*with* Atallah, Mikhail J.; Chen, Danny Z.) Efficient parallel algorithms for planar *st*-graphs. (English summary) *Algorithms and computation (Singapore, 1997)*, 223–232, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68078** 68Q22 (68R10)

— (*with* Chen, Danny Z.; Hu, Xiaobo; Xu, Jinhui) Finding an optimal path without growing the tree. (English summary) *Algorithms—ESA '98 (Venice)*, 356–367, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85, 68Q25)

— (*with* Chen, Danny Z.) Space-efficient algorithms for approximating polygonal curves in two-dimensional space. (English summary) *Computing and combinatorics (Taipei, 1998)*, 45–54, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05

Dafermos, Constantine M. Entropy and the stability of classical solutions of hyperbolic systems of conservation laws. *Recent mathematical methods in nonlinear wave propagation (Montecatini Terme, 1994)*, 48–69, *Lecture Notes in Math.*, 1640, *Springer, Berlin*, 1996. (Hermano Frid) **99a:35169** 35L65 (35B35)

— (*with* Chen, Gui-Qiang) Global solutions in L^∞ for a system of conservation laws of viscoelastic materials with memory. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 369–383. (Pavel Dubovskiĭ) **99b:35131** 35L65 (35Q72, 73F15)

Dafermos, Michael Exhaustions of complete manifolds of bounded curvature. (English summary) *Tsing Hua lectures on geometry & analysis (Hsinchu, 1990–1991)*, 319–322, *Internat. Press, Cambridge, MA*, 1997. (William P. Minicozzi, II) **99b:53053** 53C21 (53C23)

Daffer, Peter Z. (*with* Kaneko, Hideaki) On a variational principle of Ekeland. *Functional analysis*, 152–157, *Narosa, New Delhi*, 1998. (*see* **99h:00036**) 49K27 (47H10, 58E30)

— (*with* Kaneko, Hideaki) A new proof of a fixed point theorem of Edelstein. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 97–101 (*electronic*). 54H25

— (*with* Kaneko, Hideaki) Remarks on contractive-type mappings. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 125–131 (*electronic*). 54H25

Dafni, Galia Distributions supported in a hypersurface and local h^p. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2933–2943. (Steven George Krantz) **99f:46032** 46E15 (42B25, 42B30, 46F10)

— (*with* Chang, Der-Chen E.; Stein, Elias M.) Hardy spaces, BMO, and boundary value problems for the Laplacian on a smooth domain in $\mathbf{R}^n$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1605–1661. (Steven George Krantz) **99f:46031** 46E15 (35J25, 42B25, 42B30)

Da Fonseca, C. M. *see* **da Fonseca, C. M.**

Daftardar, Varsha A generalisation of Brinkmann's theorem. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 5, 695–700. (Leonardo Fernández-Jambrina) **99d:83012** 83C15 (83C20)

Dagan, Nir (*with* Serrano, Roberto; Volij, Oscar) Comment on A. McLennan and H. Sonnenschein "Sequential bargaining as a noncooperative foundation for Walrasian equilibrium" [Econometrica **59** (1991), no. 5, 1395–1424; MR 93a:90012]. *Econometrica* **66** (1998), *no.* 5, 1231–1233. (Akira Okada) **99k:90045** 90A12 (90A14, 90D10)

D'Agata, Antonio Existence of first-order locally consistent equilibria. (English and French summaries) *Ann. Économ. Statist.* **1996,** *no.* 43, 171–179. (Anton S. Mureşan) **99a:90242** 90D10 (90A14, 90D40)

Dager, S. R. (*with* Presa Sagué, Arturo) On an analogue of the Runge theorem for harmonic differential forms. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **232** (1996), *Issled. po Lineĭn. Oper. i Teor. Funktsiĭ.* 24, 109–117, 215; *translation in J. Math. Sci. (New York)* **92** (1998), *no.* 1, 3613–3618. (Summary) **99d:58009** 58A10 (31B05)

Dagne, Getachew Asfaw Bayesian analysis of hierarchical Poisson models with latent variables. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 1, 119–136. 62F25

Dagnino, Catterina (*with* Santi, Elisabetta) Quadratures based on quasi-interpolating spline-projectors for product singular integration. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 35–47. (Summary) **99a:65033** 65D32

— (*with* Perotto, Simona; Santi, Elisabetta) Product formulas based on spline approximation for the numerical evaluation of certain 2-D CPV integrals. *Approximation and optimization, Vol. I (Cluj-Napoca, 1996)*, 241–250, *Transilvania, Cluj-Napoca*, 1997. (M. I. Israilov) **99b:65027** 65D32 (65D07)

— (*with* Lamberti, Paola) Numerical integration of 2-D integrals based on local bivariate C^1 quasi-interpolating splines. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 19–31. (S. Dubuc) **99e:65042** 65D32

— (*with* Perotto, Simona; Santi, Elisabetta) Convergence of rules based on nodal splines for the numerical evaluation of certain 2D Cauchy principal value integrals. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 225–235. (S. Dubuc) **99f:65040** 65D32 (65D07)

D'Agostino, Giovanna (*with* van Benthem, Johan; Montanari, Angelo; Policriti, Alberto) Modal deduction in second-order logic and set theory. II. (English summary) *Studia Logica* **60** (1998), *no.* 3, 387–420. (Summary) **99i:03016** 03B45

D'Agostino, Marcello (*with* Mondadori, Marco) Carnap and logical truth. (Italian) *The legacy of Rudolf Carnap (Italian) (Cesena, 1992)*, 347–355, *Heuresis V Ling. Log. Sci.*, 13, *CLUEB, Bologna*, 1995. (Ignacio Angelelli) **99c:03005** 03A05

— (*with* Gabbay, Dov M.; Russo, Alessandra) Grafting modalities onto substructural implication systems. (English summary) *Studia Logica* **59** (1997), *no.* 1, 65–102. (Jerzy Kotas) **99a:03024** 03B45 (03B50)

D'Agostino, Salvo Remarks on recent Einsteinian studies: general relativity in the debates of the 1920s between neo-Kantian and empiricist logicians. (Italian. English and Italian summaries) *Physis Riv. Internaz. Storia Sci. (N.S.)* **34** (1997), *no.* 3, 643–658 (1998). (N. D. Sengupta) **99f:01020** 01A60 (00A30, 03A05, 83-03)

Dagpunar, J. S. Some properties and computational results for a general repair process. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 4, 391–405. (Elart von Collani) **99e:90045** 90B25 (60K10)

Dahan Dalmedico, Amy Mathematics in the twentieth century. *Science in the twentieth century*, 651–667, *Harwood Academic Publ., Amsterdam*, 1997. (*see* **99i:00012**) 01A60

Dahhou, B. (*with* Nejjari, F.; Roux, Gilles; Benhammou, A.) Estimation and optimal control design of a biological wastewater treatment process. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 269–280. 49N55 (93E10)

Dahiya, R. S. (*with* Tantawy, Abdalla S.) Oscillation and asymptotic properties of solutions of third order functional-differential equations. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 117–126. (Hiroshi Onose) **99j:34109** 34K15 (34K25)

Dahl, Geir (*with* Stoer, Mechthild) A cutting plane algorithm for multicommodity survivable network design problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 1, 1–11. (Summary) **99b:90045** 90B10 (90B12, 90C35)

— (*with* Margot, François) Weak k-majorization and polyhedra. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 37–53. (Summary) **99e:90075** 90C27 (52B11)

— Polytopes related to the l_∞-distance between vectors. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 49–54. (Anna Rycerz) **99e:90058** 90C10 (52B05, 52B12)

— The 2-hop spanning tree problem. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 21–26. (Summary) **99j:90102** 90C35 (05C05, 90C27)

— Matrix majorization. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 53–73. (Yiu Tung Poon) **99m:15024** 15A51

Dahl, Mattias The positive mass theorem for ALE manifolds. (English summary) *Mathematics of gravitation, Part I (Warsaw, 1996)*, 133–142, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Shun Hui Zhu) **99a:53087; EA 99m** 53C80 (58G30, 83C30)

— (*with* Andersson, Lars Åke) Scalar curvature rigidity for asymptotically locally hyperbolic manifolds. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 1–27. (Santiago R. Simanca) **99d:53035** 53C21 (58G30)

Dahl, Veronica (*with* Li, Renwei; Pereira, Luis Moniz) Refining action theories through abductive logic programming. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 123–138, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68015** 68N17 (68T27)

Dahle, H. K. (*with* Karlsen, Kenneth Hvistendahl; Brusdal, K.; Evje, S.; Lie, Knut-Andreas) The corrected operator splitting approach applied to a nonlinear advection-diffusion problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 3-4, 239–260. (Summary) **99j:76090** 76M25 (76R50)

Dahleh, Mohammed A. (*with* Kamal, F.) Robust stability of multivariable interval control systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 807–828. 93D09 (93C41)

— (*with* Salapaka, Murti V.; Voulgaris, Petros G.) MIMO optimal control design: the interplay between the $\mathscr{H}_2$ and the l_1 norms. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1374–1388. (Jacob Hammer) **99i:93020** 93B36

— (*with* Bamieh, Bassam) On robust performance in $\mathscr{H}^\infty$. (English summary) *Systems Control Lett.* **33** (1998), *no.* 5, 301–305. (Summary) **99a:93028** 93B36

Dahleh, Munther A. (*with* Venkatesh, Saligrama R.) Identification in the presence of classes of unmodeled dynamics and noise. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1620–1635. (Summary) **99k:93044** 93B30 (93E12)

— (*with* Elia, Nicola) ★ Computational methods for controller design. Lecture Notes in Control and Information Sciences, 238. *Springer-Verlag London, Ltd., London*, 1998. *xii+153 pp. ISBN* 1-85233-075-9 (Petko Petkov) **99j:93001** 93-02 (65K10, 93B40)

— (*with* Gonçalves, Jorge M.) Necessary conditions for robust stability of a class of nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 705–714. (B. T. Polyak) **99g:93063** 93D09 (93C10)

— (*with* Elia, Nicola) A quadratic programming approach for solving the l_1 multiblock problem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1242–1252. (R. N. Mukherjee) **99j:93031** 93B36 (93B40)

— (*with* McConley, Marc W.; Appleby, Brent D.; Feron, Eric) Computational complexity of Lyapunov stability analysis problems for a class of nonlinear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2176–2193 (*electronic*). (Guy Jumarie) **99f:93060** 93B40 (65Y20, 93D09)

— (*with* McConley, Marc W.; Feron, Eric) Polytopic control Lyapunov functions for robust stabilization of a class of nonlinear systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 77–83. (Ji Tao Sun) **99d:93062** 93D21 (93C10)

— Identification of complex systems. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 226–244, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B30 (93A15)

Dahlén, Anders (*with* Lindquist, Anders; Mari, Jorge) Experimental evidence showing that stochastic subspace identification methods may fail. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 303–312. 93E12

Dahlhaus, Elias (*with* Broersma, H. J.; Kloks, Ton) Algorithms for the treewidth and minimum fill-in of HHD-free graphs. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 109–117, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (05C85, 68Q25)

— Minimal elimination ordering inside a given chordal graph. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 132–143, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:05080** 05C85 (65F30)

— (*with* Kratochvíl, Jan; Manuel, Paul D.; Miller, Mirka) Transveral partitioning in balanced hypergraphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 75–89. (Summary) **99a:05105** 05C65

— Minimal elimination of planar graphs. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 210–221, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68133** 68R10 (05C85, 68Q25)

— A linear time algorithm to recognize clustered planar graphs and its parallelization. (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 239–248, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68R10 (05C85, 68Q35)

— (*with* Karpinski, Marek) Matching and multidimensional matching in chordal and strongly chordal graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 79–91. (Summary) **99a:05109** 05C70 (05C85, 68Q25)

— (*with* Manuel, Paul D.; Miller, Mirka) A characterization of strongly chordal graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 269–271. (Summary) **99a:05123** 05C75

— (*with* Manuel, Paul D.; Miller, Mirka) Maximum h-colourable subgraph problem in balanced graphs. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 301–303.

(Summary) **99c:05098** 05C35 (05C15, 68R10)
— (*with* Andreev, A. E.; Clementi, Andrea E. F.; Crescenzi, P.; De Agostino, Sergio; Rolim, José D. P.) The parallel complexity of approximating the high degree subgraph problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 261–282. (Mukkai S. Krishnamoorthy) **99g:68087** 68Q25 (05C85, 68Q15, 68Q22)
Dahlke, Stephan (*with* Dahmen, Wolfgang; DeVore, Ronald A.) Nonlinear approximation and adaptive techniques for solving elliptic operator equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 237–283, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Timothy Nigel Phillips) **99a:65001** 65–02 (65N35, 65T99)
— (*with* Gröchenig, Karlheinz; Latour, Vera) Biorthogonal box spline wavelet bases. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 83–92, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:42056** 42C15 (41A15)
Dahlquist, Germund On summation formulas due to Plana, Lindelöf and Abel, and related Gauss-Christoffel rules. I. (English summary) *BIT* **37** (1997), *no.* 2, 256–295. (Summary) **99a:65010** 65B10 (40A15, 65D30)
— On summation formulas due to Plana, Lindelöf and Abel, and related Gauss-Christoffel rules. II. (English summary) *BIT* **37** (1997), *no.* 4, 804–832. (Summary) **99k:65007** 65B10 (40A25)
— (*with* Barnard, Roger W.; Pearce, Kent; Reichel, L.; Richards, K. C.) Gram polynomials and the Kummer function. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 128–143. (Olav Njåstad) **99g:42030** 42C05 (33C15, 41A10)
Dahlqvist, Per (*with* Vattay, Gábor) Periodic orbit quantization of the Sinai billiard in the small scatterer limit. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6333–6345. (Summary) **99e:81061** 81Q50 (81Q20)
— (*with* Dettmann, Carl P.) Computing the diffusion coefficient for intermittent maps: resummation of stability ordered cycle expansions. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5303–5310. (Summary) **99b:58186** 58F20
Dahm, R. Relativistic SU(4) and quaternions. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 111–119, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81V05
Dahmardah, Habibollah More results about numerical integration. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 418–420, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 65D32
Dahmen, Wolfgang (*with* Kleemann, B.; Prössdorf, Siegfried; Schneider, Reinhold) Multiscale methods for the solution of the Helmholtz and Laplace equations. *Boundary element topics* (*Stuttgart*, 1995), 189–219, *Springer, Berlin*, 1997. (*see* **99e:00017**) 65N35 (65F50, 65T20)
— (*with* Dahlke, Stephan; DeVore, Ronald A.) Nonlinear approximation and adaptive techniques for solving elliptic operator equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 237–283, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Timothy Nigel Phillips) **99a:65001** 65–02 (65N35, 65T99)
— (*with* Kunoth, Angela; Urban, Karsten) Wavelets in numerical analysis and their quantitative properties. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 93–130, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Andreas Rieder) **99j:65246** 65T99 (42C15, 65N99)
— (*with* Micchelli, Charles A.) Biorthogonal wavelet expansions. (English summary) *Constr. Approx.* **13** (1997), *no.* 3, 293–328. (Gerlind Plonka) **99c:39039** 39B62 (41A63, 42A38)
— (*with* Schneider, Reinhold) Wavelets with complementary boundary conditions—function spaces on the cube. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 255–293. (Albert Cohen) **99h:42057** 42C15 (46E99)
— (*with* Kunoth, Angela; Urban, Karsten) Biorthogonal spline wavelets on the interval—stability and moment conditions. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 132–196. (Gilbert Walter) **99m:42046** 42C15 (41A15)
— (*with* Schneider, Reinhold) Composite wavelet bases for operator equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1533–1567. (Andreas Rieder) **99m:65122** 65J20 (42C15, 45L05, 65T99)
— *see also* **Charlemagne and his heritage. 1200 years of civilization and science in Europe, 99i:00015**
Dai, B. X. *see* **Dai, Bin Xiang**
Dai, Bin Lin (*with* Peng, Jia Hong) Nonelementary purely hyperbolic groups. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 30–32. (Summary) **99h:20081** 20H10
— (*with* Zhang, Yan[5]) A hyperbolic inequality. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 13–15. (Hong Bo Li) **99m:15031** 15A66 (15A45)
— On common fixed point and inequalities for Möbius group $M(\overline{\mathbf{R}}^n)$. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 120–124. (Hong Bo Li) **99k:15046** 15A66
Dai, Bin Xiang Oscillation and asymptotic behavior of a second-order neutral difference equation. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **16** (1996), *no.* 3, 101–103. (Wan Biao Ma) **99a:39008** 39A10
— Nonoscillation and asymptotic behavior of first-order neutral equations. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **13** (1996), *no.* 5, 11–15. (Ju Rang Yan) **99i:34097** 34K15 (34K25, 34K40)
— (*with* Tu, Xiao Jie) Bounded oscillation of solutions to a class of difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 77–79. (Binggen Zhang) **99a:39036** 39A10
— (*with* Tu, Xiao Jie) Oscillation for a class of nonlinear neutral difference equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 1, 1–6. (Shu Nian Zhang) **99e:39011** 39A10
— (*with* Qian, Xiang Zheng) Oscillation of first order nonlinear neutral differential equations with "integrally small" coefficients. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 13–17. (Summary) **99h:34102** 34K15 (34K40)
— (*with* Huang, Li Hong) Asymptotic behavior and existence of positive solutions for a neutral difference equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 22–28. (Summary) **99i:39004** 39A10
— (*with* Huang, Li Hong; Zhou, Zhan) Convergence of solutions for a class of difference equations with variable delay. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 117–119. (Summary) **99h:39004** 39A10
— (*with* Zhou, Zhan; Huang, Li Hong) Oscillation for nonlinear neutral difference equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 468–473. (Summary) **99i:39024** 39A10
— (*with* Huang, Li Hong) Convergence of solutions for a class of neutral difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 83–91. (I. P. Stavroulakis) **99h:39005** 39A10
— (*with* Huang, Li Hong) Asymptotic behavior of solutions for a class of neutral retarded differential equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 139–144. (Wantong Li) **99d:34129** 34K15 (34K25, 34K40)
— New sufficient conditions for oscillations of solutions of neutral differential equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 5, 4–9. (Guo Zhu Gao) **99k:34152** 34K15 (34K40)
Dai, Dao-Qing (*with* Shih, Tsi Min; Chau, Foo-Tim) Sampling sums based on coiflets. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 89–118. (Summary) **99b:42038** 42C15 (94A12)
— (*with* Lin, Wei[1]) On the periodic orthonormal wavelet system. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 74–78. (Summary) **99b:42039** 42C15
Dai, Guan Zhong (*with* Gao, Jiang) Optimal likelihood-ratio detection of Bernoulli-Gaussian processes. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 179–185. 93E14
— (*with* Zhang, Qing Ling; Lam, James; Zhang, Li Qian[2]; de la Sen, Manuel) Asymptotic stability and stabilization of descriptor systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 208–211. 93D20 (93D15)
— (*with* Zhang, Qing Ling; Xu, Xin He; Xie, Xu Kai) Analysis and control of stability for discrete descriptor systems via Lyapunov methods. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 622–629. 93D05 (93C55)
— (*with* Mu, De Jun; Dai, Hang; Tong, Ming An) Parallel methods for LQ optimization. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 755–758. 49M30 (65Y05)
— (*with* Yan, Xing Gang; Lin, Hui) Linearization and simultaneous decoupling for nonlinear systems based on diffeomorphisms. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 93–98. 93B15 (93C10)
— (*with* Gao, Jiang; Hu, Bao Sheng) Frequency-domain properties applied to optimal estimation and smoothing of systems involving model mismatches. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 79–82, 87. 93E10 (93E14)
Dai, Guo Ren (*with* Li, Xian Bin; Li, Hou Qiang) Qualitative analysis of a predator-prey system with group defense. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 127–138. (Summary) **99h:92030** 92D25 (34C05, 92D40)
— (*with* Tang, Mo Xun) Coexistence region and global dynamics of a harvested predator-prey system. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 193–210 (*electronic*). (H. A. DeKleine) **99j:92017** 92D25 (34C05, 34C37)
Dai, H. K. (*with* Flannery, K. E.; O'Neil, Thomas E.) Lower bounds for t-reflecting sequences: a computational approach. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 178–193 (*electronic*). (*see* **99f:68006**) 68R10
— Probabilistic construction of rearrangeable concentrators. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 201–217 (*electronic*). (*see* **99d:68010**) 68R10 (68M10)
Dai, Hang (*with* Mu, De Jun; Tong, Ming An; Dai, Guan Zhong) Parallel methods for LQ optimization. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 755–758. 49M30 (65Y05)
Dai, Hua The unsolvability of generalized inverse eigenvalue problems almost everywhere. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 217–227. (Heike Faßbender) **99e:65059** 65F15 (15A18)
Dai, Hui-Hui On the asymptotic solution of a wave damping problem arising in inhomogeneous media. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 327–340. 35C20 (35Q72)
— Uniform asymptotic analysis for waves in an incompressible elastic rod. I. Disturbances superimposed on an initially stress-free state. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 245–260. (Summary) **99a:73048** 73D15 (35Q72, 73K05, 73K12)
— The inverse scattering transform for a variable-coefficient KdV equation (with applications to shallow-water waves). (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 87–100, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99c:35207** 35Q53 (76B15, 76B25)
— (*with* Pavlov, M. V.) Transformations for the Camassa-Holm equation, its high-frequency limit and the Sinh-Gordon equation. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 11, 3655–3657. 35Q53
— Exact travelling-wave solutions of an integrable equation arising in hyperelastic rods. (English summary) *Wave Motion* **28** (1998), *no.* 4, 367–381. (Summary) **99g:73046** 73D35 (35Q72, 73C50, 73K05)
— (*with* Cai, Zongxi) Uniform asymptotic analysis for waves in an incompressible elastic rod. II. Disturbances superimposed on a pre-stressed state. (English summary) *IMA J. Appl. Math.* **62** (1999), *no.* 1, 1–29. (Summary) **99k:73053** 73D15 (35Q72, 73K05, 73K12)
— *see also* **Recent advances in differential equations, 99a:00045**
Dai, Jack J. (*with* Hildebrand, Martin V.) Random random walks on the integers mod n. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 371–379. (Donald I. Cartwright) **99f:60128** 60J15 (60B15)
Dai, Jia Zun (*with* Cheng, Juan) A new class of uniformly second order accurate difference schemes for 2D scalar conservation laws. (English summary) *J. Comput. Math.* **15** (1997), *no.* 4, 311–318. (Mohammad Asadzadeh) **99a:65098** 65M06 (65M12, 65M15)
— (*with* Zheng, Hua Sheng; Zhao, Ning) A class of high resolution second-order MmB difference schemes. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 137–146. (Summary) **99e:65122** 65M06 (35L65)

Dai, Jian She (*with* Huang, Yong; Wang, Shu Ning; Shi, Xue Dong) A fast algorithm for l^1 robust identification. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *suppl. I*, 72–74. 93B30 (93B40)

— (*with* Wang, Shu Ning; Tanaka, Masahiro[1]) A parametric approach for l_1 robust identification. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1282–1286. 93B30 (93B36)

Dai, L. *see* **Dai, Liming**

Dai, Lian Gui (*with* Zhang, Ji Hui[2]; Xu, Xin He) Applications of lattice theory in supervisory control of discrete event systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 255–258. 93C83 (06A23)

Dai, Lian Kui (*with* Ma, Long Hua; Li, Xiao Dong) A novel random learning algorithm for multilayer feedforward networks and its industrial application. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 1, 133–135. 93E35

— (*with* Li, Xiao Dong) A new method for feasibility analysis of steady constrained optimization systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 925–928. 90C30 (90C26)

Dai, Lian-rong (*with* Pan, Feng) General deformed oscillators. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 1, 5–8. (Summary) **99e:81101** 81R50

Dai, Liming (*with* Singh, M. C.) Periodic, quasiperiodic and chaotic behavior of a driven Froude pendulum. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 947–965. (Summary) **99a:70031** 70K40 (70K50)

Dai, Lin Xun Oscillation of solutions of some classes of systems of linear differential equations with time-varying advanced arguments. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **15** (1997), *no.* 5, 124–126. (Guang Zhang) **99a:34183** 34K15 (34C10)

— (*with* Gu, Dao Xiu) Qualitative analysis of a class of bioecological systems. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 115–117. 34C05 (92D40)

— A criterion for the stability of the zero solution for a class of nonlinear systems of ordinary differential equations. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 362–365. 34D20

Dai, Ling Jiang (*with* Cai, Shao Hong) A possible unified form of extremum principles. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 3, 64–70. 70H30 (70H25)

Dai, Lixin (*with* Zhang, Shanjun) The stability of the solution of partial functional-differential equation with delay. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 48 (1998), 61–66. (Summary) **99h:35219** 35R10 (35B35, 35Q80)

Dai, Liyi (*with* Cassandras, Christos G.; Panayiotou, Christos G.) Ordinal optimization for a class of deterministic and stochastic discrete resource allocation problems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 881–900. (Summary) **99e:93050** 93C83 (90C90, 93E03)

Dai, Min (*with* Sun, Fuchun; Lu, Wenjuan) Adaptive stabilization of neural control for robot trajectory tracking. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 3, 1149–1154. 93C85 (70B15, 70Q05, 93C40)

Dai, Mu Min (*with* Liu, Chuan) CW-complexes and aleph-spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 533–536. 54E18 (54A35, 54D50)

— (*with* Liu, Chuan) Pseudcompact, locally compact, first countable, ccc, 0-dimensional spaces may be or may not be *Lindelöf. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 81–83. (Summary) **99e:54018** 54D20

Dai, Qiong Hai (*with* Zhou, Yong; Chai, Tian You; Yu, He Ji) Robust direct adaptive control based on dynamical neural networks. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 4, 272–276. 93C40 (93C83)

Dai, Qiu Yi Quenching phenomena for systems of semilinear parabolic equations. II. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 1, 11–23. (Qing Fang) **99c:35117** 35K60 (35B35, 35K57)

— (*with* Gu, Yong Geng) Asymptotic analysis of the global solution to a semilinear parabolic equation with a singular term. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 57–65. (Zhuo Qun Wu) **99f:35096** 35K60 (35A35, 35C99)

— The quenching phenomenon for quasilinear parabolic equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 87–96. (Qing Fang) **99f:35097** 35K60 (35B40, 35K57)

Dai, Shi Qiang (*with* Zhang, Bao Shan; Lu, Dong Qiang) Infinite-dimensional Lie algebras with a new type of Poisson bracket. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 3, 307–313. (Summary) **99h:58093** 58F07

Dai, Wenlong (*with* Woodward, Paul R.) Numerical simulations for radiation hydrodynamics. I. Diffusion limit. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 182–207. (Summary) **99a:76094** 76M20 (76L05, 85–08, 85A30)

— (*with* Woodward, Paul R.) A high-order iterative implicit-explicit hybrid scheme for magnetohydrodynamics. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1827–1846 (*electronic*). (Summary) **99f:76088** 76M20 (65M99, 76W05)

Dai, Xianxi (*with* Ma, Guicun) A new approximation in the functional integral approach: beyond the first harmonic approximation. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 277–284. 82B44 (81S40)

Dai, Xianzhe (*with* Zhang, Wei Ping[1]) Higher spectral flow. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 432–469. (Éric Leichtnam) **99f:58196** 58G12 (19K56, 58G10)

Dai, Xiao Yan (*with* Zhao, Hong Yong) The existence of periodic solutions and global stability for three-dimensional nonautonomous Lotka-Volterra cooperative systems with time delay. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 16–20. (Jiong Yu Wu) **99k:34163** 34K15 (34K20, 92D25)

Dai, Xingde (*with* Larson, David R.; Speegle, Darrin M.) Wavelet sets in $\mathbf{R}^n$. II. (English summary) *Wavelets, multiwavelets, and their applications (San Diego, CA, 1997)*, 15–40, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Eugenio Hernández) **99d:42054** 42C15 (46N20, 47D25)

Dai, Yang (*with* Katoh, Naoki) On computing new classes of optimal triangulations with angular constraints. *Computing and combinatorics (Taipei, 1998)*, 15–24, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05

Dai, Ying (*with* Zheng, Nan Ning; Li, Chunlai) Model-independent robust adaptive tracking control of robot manipulators. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 949–954. 93C85 (93D15)

— (*with* Zheng, Nan Ning; Zhang, Yuan Liang) Polynomial-based robust adaptive tracking control of robot manipulators. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 5, 18–21. 70B15 (70Q05, 93C85)

Dai, Yonglong (*with* Renshaw, Eric) Regularity and reversibility results for birth-death-migration processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 685–697. (Madathingal G. Nair) **99e:60163** 60J27 (60J80, 92H25)

— (*with* Wang, Hanxing) Population-size-dependent branching processes in Markovian random environments. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 635–638. (Fima Klebaner) **99j:60132** 60J80 (60K35)

Dai, Yuhong (*with* Yuan, Ya Xiang) Some properties of a new conjugate gradient method. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 251–262, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30

— (*with* Yuan, Ya Xiang) Convergence properties of Beale-Powell restart algorithm. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 11, 1142–1150. (Nobuo Yamashita) **99m:90129** 90C30 (65K05)

Dai, Zheng De (*with* He, Shuhong) Approximate inertial manifolds of strongly damped nonlinear wave equations. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 323–330. (Summary) **99j:35141** 35L70 (35B40)

— (*with* Yang, Hanchun) Inertial fractal set and fractal structure of attractors for the Ginzburg-Landan [Landau] equation. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 396–403. (Marcel Oliver) **99m:35221** 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* Guo, Bo Ling; Lin, Guo Guang) The fractal structure of attractor for the generalized Kuramoto-Sivashinsky equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 3, 263–277; *translated from Appl. Math. Mech.* **19** (1998), *no.* 3, 243–256 (*Chinese. English and Chinese summaries*). (Ming Mei) **99e:35195** 35Q53 (34G20, 35B40, 47H20, 58F39)

— (*with* Ma, Da Cai) Exponential attractors of the nonlinear wave equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1331–1335. (Woodford W. Zachary) **99m:35161** 35L70 (35B40, 58F12, 58F39)

— (*with* He, Shuhong) Blow-up of solutions of some nonlinear elastic wave equations. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 58–60. 35L70 (35B05, 35Q72)

— (*with* Guo, Bo Ling) Attractor for the dissipative Hamiltonian amplitude equation governing modulated wave instabilities. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 783–793. (Wen Xiu Ma) **99m:35225** 35Q55 (35B40, 58F39)

— (*with* Chen, Han Lin) Exponential attractors of coupled nonlinear wave equations. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 269–277. 35L70 (35B40, 47H20, 58F39)

— (*with* Du, Xian Yun) Exponential attractors for the generalized Ginzburg-Landau equation in two spatial dimensions. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 278–284. 35Q55 (47H20, 58F39)

— (*with* Ma, Da Cai) Exponential attractors of nonlinear wave equations. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 12, 1269–1273. 34G20 (35B40, 35L70, 47H20, 58F39)

Dai, Zongduo (*with* Gong, Guang) Construction of SAC permutations. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 120–128. (Winfried Müller) **99a:11137** 11T06 (94A60)

— (*with* Imamura, Kyoki) Linear complexity for one-symbol substitution of a periodic sequence over GF(q). (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1328–1331. (Summary) **99e:94028** 94A55

Dai, Zuo (*with* Charikar, Moses; Chekuri, Chandra; Cheung, To-yat; Goel, Ashish; Guha, Sudipto; Li, Ming[1]) Approximation algorithms for directed Steiner problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 192–200, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

Daianu, Dan Selections of ring correspondence sums. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 16–25. 16B99

— Sufficient conditions for the constructiveness of an a-category. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 35–41. 18B99

Daido, Hiroaki Correlation resonance in noise-driven coupled nonlinear oscillators. (English summary) *Phys. D* **116** (1998), *no.* 3-4, 325–341. (Summary) **99b:70022** 70K30 (34C15)

Daigle, Daniel (*with* Freudenburg, Gene) Locally nilpotent derivations over a UFD and an application to rank two locally nilpotent derivations of $k[X_1, \cdots, X_n]$. (English summary) *J. Algebra* **204** (1998), *no.* 2, 353–371. (Andrzej Tyc) **99c:13011** 13B10

— Homogeneous locally nilpotent derivations of $k[X, Y, Z]$. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 2, 109–132. (Gene Freudenburg) **99f:13007** 13B10 (13F20)

Daigo, Motomasa (*with* Shiraishi, Shunsuke; Obata, Tsuneshi) Properties of a positive reciprocal matrix and their application to AHP. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 404–414. (Summary) **99f:15032** 15A48 (15A18, 65F99, 90B30)

— (*with* Shiraishi, Shunsuke; Obata, Tsuneshi; Nakajima, Nobuyuki) Properties of a positive reciprocal matrix and their application to estimating priority weights for incomplete comparison matrices. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 135–142. (*see* **99h:90006**) 93A13 (65F30)

Dain, Sergio (*with* Moreschi, Osvaldo M.) Rest frame system for asymptotically flat space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6631–6650. (Alan D. Rendall) **99i:83028** 83C30

Dai Pra, Paolo (*with* Meneghini, L.; Runggaldier, Wolfgang J.) Explicit solutions for multivariate, discrete-time control problems under uncertainty. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 169–176. (Summary) **99e:49029** 49K45 (49K35, 93C55, 93E03)

— (*with* Albertini, Francesca) Small parameter limit for discrete-time partially observed risk-sensitive control problems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 1–32 (*electronic*). (Daniel Hernández-Hernández) **99h:93095** 93E03 (60F10)

Dairbekov, N. S. On the stability of a class of holomorphic functions in a closed domain. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1047–1050, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 907–909. (L. A. Aksent'ev) **99a:32001** 32A10

Daishev, R. A. Equilibrium distribution of an ideal fluid in space-times that admit groups of concircular motions. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **40** (1997), *no.* 6, 7–13; *translation in Russian Phys. J.* **40** (1997), *no.* 6, 507–513. (Jan Novotný) **99a:83043** 83C55 (83C15)

Dajani, Karma (*with* Kraaikamp, Cor; Solomyak, Boris) The natural extension of the β-transformation. *Acta Math. Hungar.* **73** (1996), *no.* 1-2, 97–109. (Meir Smorodinsky) **99d:28029** 28D05 (11K55)

— (*with* Kraaikamp, Cor) A note on the approximation by continued fractions under an extra condition. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 69–80 (*electronic*). (Sanju L. Velani) **99f:11099** 11K50 (28D05)

— (*with* Burton, Robert M., Jr.; Meester, Ronald) Entropy for random group actions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 109–124. (Thomas Bogenschütz) **99b:28021** 28D20

— (*with* Kraaikamp, Cor) A Gauss-Kusmin theorem for optimal continued fractions. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 2055–2079. (Wieb Bosma) **99h:11089** 11K50 (28D05)

Dajczer, Marcos (*with* Gromoll, Detlef) Complete minimal Kähler surfaces in $\mathbf{R}^6$. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 539–541. (Sorin Dragomir) **99d:53066** 53C42

— (*with* Florit, Luis A.) On Chen's basic equality. *Illinois J. Math.* **42** (1998), *no.* 1, 97–106. (Ivko Dimitric) **99b:53080** 53C40

— (*with* Florit, Luis A.) Euclidean conformally flat submanifolds in codimension two obtained as intersections. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 265–269. (Maria Helena Noronha) **99b:53081** 53C40

Dakhama, A. Exact solution of a decorated ferrimagnetic Ising model. (English summary) *Phys. A* **252** (1998), *no.* 1-2, 225–237. (Oktay K. Pashaev) **99j:82017** 82B20 (82B23, 82B26)

van Dal, René (*with* Burkard, Rainer E.; Deĭneko, Vladimir G.; van der Veen, Jack A. A.; Woeginger, Gerhard J.) Well-solvable special cases of the traveling salesman problem: a survey. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 496–546 (*electronic*). (Anton Volgenant) **99i:90077** 90C27 (90–02)

Dalal, Mahavir (*with* Denisova, Irene P.) Development of the method of potentials for the problems of gravitation-electromagnetic conversion. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5820–5832. (Yu. N. Obukhov) **99h:83029** 83C50 (83C25, 83C35)

Dalal, Mukesh Anytime clausal reasoning. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 297–318. (Summary) **99h:68151** 68T15 (03B35, 03B70)

Dalalyan, S. G. Normalizations of a monomorphism in general categories. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 259–263 (1994). (From the text) **99f:18001** 18A20

— Categories of binars and related representations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 18–31; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 13–25. (Summary) **99f:18002** 18A20

Dalang, Robert C. (*with* Mountford, T.) Points of increase of functions in the plane. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 833–841. (Summary) **99g:26032** 26B35 (28C20, 60G60)

— (*with* Hou, Qiang) On Markov properties of Lévy waves in two dimensions. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 265–287. (Marco Ferrante) **99e:60136** 60H15 (60J25)

— (*with* Frangos, N. E.) The stochastic wave equation in two spatial dimensions. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 187–212. (Rémi Léandre) **99c:60127** 60H15

Dal'bo, Françoise Géométrie d'une famille de groupes agissant sur le produit de deux variétés d'Hadamard. [Geometry of a family of groups acting on the product of two Hadamard manifolds] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 85–98, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Paul M. Albuquerque) **99c:57067** 57S25 (20F38, 53C20, 57S30)

— (*with* Peigné, Marc) Some negatively curved manifolds with cusps, mixing and counting. (English summary) *J. Reine Angew. Math.* **497** (1998), 141–169. (Sanju L. Velani) **99c:58124** 58F17 (53C22, 58F11)

Dal Cin, Mario Modeling fault-tolerant system behavior. *Systems: theory and practice*, 213–234, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 68Q60 (68M15, 90B30)

Dale, Paul D. (*with* Sneyd, James; Duffy, Alastair) Traveling waves in buffered systems: applications to calcium waves. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1178–1192 (*electronic*). (Summary) **99b:92015** 92C40 (35K57, 35Q80, 92C05, 92C30)

— (*with* Vein, Robert) ★ Determinants and their applications in mathematical physics. (English summary) Applied Mathematical Sciences, 134. *Springer-Verlag, New York*, 1999. *xiv*+376 *pp. ISBN* 0-387-98558-1 (Jorma Kaarlo Merikoski) **99m:15005** 15A15 (00A05, 00A69, 47A99, 58F07)

van Dalen, Benno *see* **Yabuuti, Kiyosi, 99c:01005**

van Dalen, Dirk How connected is the intuitionistic continuum? *J. Symbolic Logic* **62** (1997), *no.* 4, 1147–1150. (Rudolf J. Taschner) **99j:03052** 03F55

— From a Brouwerian point of view. (English summary) Perspectives on intuitionism. *Philos. Math.* (3) **6** (1998), *no.* 2, 209–226. (Yehuda Rav) **99i:03004** 03A05 (00A30, 03F55)

Dalena, Angela (*with* Antoni, Carla) The Fermat-Weber problem and the Lagrangian duality theory. (English summary) *New trends in mathematical programming*, 5–12, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Gert Wanka) **99h:90092** 90C30 (49N15, 90B85, 90C25)

Dales, H. Garth A history of conferences on Banach algebras. (English summary) *Banach algebras '97* (*Blaubeuren*), 3–23, *de Gruyter, Berlin*, 1998. (Summary) **99g:46001** 46–03 (01A65, 46H99)

— (*with* Duncan, John) Second-order cohomology groups of some semigroup algebras. (English summary) *Banach algebras '97* (*Blaubeuren*), 101–117, *de Gruyter, Berlin*, 1998. (Niels Grønbæk) **99m:46168** 46M20 (43A10, 46H05)

— Questions on automatic continuity. (English summary) *Banach algebras '97* (*Blaubeuren*), 509–525, *de Gruyter, Berlin*, 1998. (Summary) **99f:46069** 46H40 (00A07)

— (*with* Ghahramani, Fereidoun; Grønbæk, Niels) Derivations into iterated duals of Banach algebras. (English summary) *Studia Math.* **128** (1998), *no.* 1, 19–54. (T. W. Palmer) **99g:46064** 46H20 (43A20, 46J40, 47D30)

— (*with* Bade, W. G.; Lykova, Zinaida A.) Algebraic and strong splittings of extensions of Banach algebras. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 656, *viii*+113 *pp.* (Niels Grønbæk) **99g:46059** 46Hxx (16E40, 46J45, 46L35)

D'Alessandro, Domenico A parametrization of the nonnegative definite solutions of the algebraic Riccati equation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 385–388. (Summary) **99b:15018** 15A24 (93B25)

— A superposition theorem for solutions of the Riccati difference equation. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 10 *pp.* (*electronic*). (Vasile Drăgan) **99h:93062** 93C55 (93C05)

— Invariant manifolds and projective combinations of solutions of the Riccati differential equation. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 181–193. (Gerhard Freiling) **99f:34010** 34A34 (34C30, 93C15)

D'Alessandro, Flavio (*with* Choffrut, Christian) Commutativity in free inverse monoids. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 35–54. (P. R. Jones) **99h:20095** 20M18 (20M05)

D'Alessandro, Paolo *see* **d'Alessandro, Paolo**

Daletskiĭ, Yuriĭ L'vovich (*with* Kadobyansky, R. M.) The Poisson structures hierarchy and interacting systems dynamics. (Russian and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 21–26. (Raúl Ibáñez) **99a:58064** 58F05 (17B99, 70H05)

— (*with* Kushnirevich, V. A.) Formal differential geometry and Nambu-Takhtajan algebra. *Quantum groups and quantum spaces* (*Warsaw*, 1995), 293–302, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Miguel A. Rodríguez) **99b:17036** 17B70

— (*with* Steblovskaya, V. R.) On transformations of smooth measure related to parabolic and hyperbolic differential equations in infinite dimensions. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 945–963. (A. V. Uglanov) **99h:35223** 35R15 (35K99, 35L99, 60G30)

Daley, D. J. (*with* Servi, L. D.) Moment estimation of customer loss rates from transactional data. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 301–310. (Summary) **99e:60202** 60K25 (62M05)

Daley, S. (*with* Yu, Dingli; Shields, D. N.) A bilinear fault detection observer and its application to a hydraulic drive system. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1023–1047. 93C90 (93B07)

Dalitz, R. H. *see* **Peierls, Rudolf, 99e:01035**

Dalla, Leoni (*with* Bárány, Imre) Few points to generate a random polytope. (English summary) *Mathematika* **44** (1997), *no.* 2, 325–331. (Herbert Ziezold) **99b:52008** 52A22 (60D05)

Dalla Chiara, Maria Luisa (*with* Cattaneo, Gianpiero; Giuntini, Roberto) Some algebraic structures for many-valued logics. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 173–195. (Summary) **99h:03010** 03B50 (03G12)

Dall'Agata, Gianguido (*with* Lechner, Kurt; Sorokin, D. P.) Covariant actions for the bosonic sector $D = 10$ IIB supergravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, L195–L198. (Summary) **99i:83100** 83E50

— (*with* Lechner, Kurt; Tonin, Mario) $D = 10$, $N =$ IIB supergravity: Lorentz-invariant actions and duality. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 17, 30 *pp.* (*electronic*). (J. A. H. Samtleben) **99i:83101** 83E50

— (*with* Lechner, Kurt) $N = 1$, $D = 6$ supergravity: duality and non-minimal couplings. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 326–352. (J. A. H. Samtleben) **99a:83069** 83E50

— (*with* Lechner, Kurt; Tonin, Mario) Large covariant actions for $N = 1$, $D = 6$ supergravity theories with chiral bosons. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 179–198. (Gagik T. Ter-Kazarian) **99f:83073** 83E50 (81T30, 81T60, 83E30)

Dall'Aglio, Andrea (*with* Murat, François) A corrector result for H-converging parabolic problems with time-dependent coefficients. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 329–373 (1998). (Sergei A. Vakulenko) **99m:35023** 35B27 (35K20)

— (*with* Boccardo, Lucio; Orsina, Luigi) Existence and regularity results for some elliptic equations with degenerate coercivity. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 51–81. (Gary M. Lieberman) **99j:35077** 35J70 (35B65, 35J65)

— (*with* Mascolo, E.; Papi, G.) Local boundedness for minima of functionals with nonstandard growth conditions. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 305–326. (Giuseppe Mingione) **99i:49045** 49N60 (49J20, 49J45)

Dall'Aglio, Giorgio The distribution of a copula when the sum and the difference of the univariate random variables are independent. (English summary) *Advances in the theory and practice of statistics*, 517–533, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Marco Scarsini) **99d:60011** 60E05

Dall'Aglio, Paolo Asymptotic behaviour of solutions of fourth order Dirichlet problems. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 19–38 (1998). (I. N. Tavkhelidze) **99m:35049** 35J40 (35B40)

Dal Lago, Walter (*with* García, Alicia; Sánchez, Cristián U.) Projective subspaces in the variety of normal sections and tangent spaces to a symmetric space. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 415–428. (Anna M. Fino) **99h:53066** 53C30 (53C35)

Dallakian, S. K. (*with* Ananikyan, N. S.; Hu, Bambi) Chaotic properties of the Q-state Potts model on the Bethe lattice: $Q < 2$. (English summary) *Complex Systems* **11** (1997), *no.* 3, 213–222. 82B20

Dallas, Allan G. (*with* Hsiao, George C.; Kleinman, Ralph E.) Observations on the numerical stability of the Galerkin method. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 37–67. (Wojciech Mydlarczyk) **99m:65210** 65N30 (65N12, 65R20)

Dalla Volta, Francesca (*with* Lucchini, Andrea; Tamburini Bellani, Maria Chiara) On the conjugacy problem for Carter subgroups. *Comm. Algebra* **26** (1998), *no.* 2, 395–399. (Thomas A. Fournelle) **99a:20022** 20D25

— (*with* Lucchini, Andrea) Finite groups that need more generators than any proper quotient. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 82–91. (Alberto Delgado) **99a:20030** 20F05 (20D99)

Dallery, Yves (*with* Lee, Hyo-Seong; Bouhchouch, A.; Frein, Y.) Performance evaluation of open queueing networks with arbitrary configuration and finite buffers. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 181–206. (From the summary) **99b:90056** 90B22 (60K25, 90B12)
— *see also* **Queueing networks with blocking**, **99a:90010** *and* **Performance evaluation**, **99e:90004**
Dal Maso, Gianni (*with* Toader, Rodica) A capacity method for the study of Dirichlet problems for elliptic systems in varying domains. (English summary) *Rend. Sem. Mat. Univ. Padova* **96** (1996), 257–277. (Zinovi Sheftel) **99b:35038** 35J25 (35B40)
— (*with* Malusa, Annalisa) Some properties of reachable solutions of nonlinear elliptic equations with measure data. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 375–396 (1998). (Maurizio Chicco) **99k:35047** 35J60 (35R05)
— (*with* Garroni, Adriana) The capacity method for asymptotic Dirichlet problems. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 299–324. (Patrizia Donato) **99c:35044** 35J25 (31C15, 35B27)
— (*with* Skrypnik, Igor V.) Capacity theory for monotone operators. (English summary) *Potential Anal.* **7** (1997), *no.* 4, 765–803. (Tero Kilpeläinen) **99c:31016** 31C15 (31C45, 35J60)
— (*with* De Cicco, V.; Notarantonio, Lino; Tchou, N. A.) Limits of variational problems for Dirichlet forms in varying domains. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 89–116. (Paolo Acquistapace) **99e:35039** 35J25 (31C15, 49J45)
— (*with* Bellettini, Giovanni; Coscia, A.) Compactness and lower semicontinuity properties in SBD(Ω). *Math. Z.* **228** (1998), *no.* 2, 337–351. (Giovanni Alberti) **99e:49011** 49J45 (26B30, 28A75, 46E99, 49Q20)
— (*with* Murat, François) Almost everywhere convergence of gradients of solutions to nonlinear elliptic systems. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 405–412. (Rolando Magnanini) **99d:35046** 35J60 (35B40)
Dalmasso, Robert A priori estimates for some semilinear elliptic equations of order $2m$. *Nonlinear Anal.* **29** (1997), *no.* 12, 1433–1452. (H. J. Kuiper) **99a:35086** 35J65 (35B30, 35B45, 35P30)
— On overdetermined eigenvalue problems for the polyharmonic operator. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 384–404. (Nicolai N. Tarkhanov) **99b:35044** 35J40 (35N10)
Dalmau, M. (*with* Quintanilla, Ramón; Saludes i Closa, Jordi) Bolzano's theorem implies the supremum axiom. (Catalan) *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 39–40. 26A03
dahan Dalmedico, Amy *see* **Dahan Dalmedico, Amy**
D'Almeida, Jean Courbes tracées sur une surface projective lisse. (French summary) [Curves on a smooth projective surface] *Arch. Math. (Basel)* **71** (1998), *no.* 2, 107–111. (Francesco Zucconi) **99g:14037** 14H45 (14N05)
Dal Passo, Roberta (*with* Garcke, Harald; Grün, Günther) On a fourth-order degenerate parabolic equation: global entropy estimates, existence, and qualitative behavior of solutions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 321–342 (*electronic*). (Qing Fang) **99c:35118** 35K60 (35B05, 35B40)
Dalrymple, Mary (*with* Lamping, John; Pereira, Fernando; Saraswat, Vijay) A deductive account of quantification in LFG. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 33–57, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65
Dalrymple, Robert A. (*with* Li, Li) Instabilities of the undertow. (English summary) *J. Fluid Mech.* **369** (1998), 175–190. (Summary) **99g:76057** 76E20 (76–05, 76C05, 86A05)
Dalsmo, Morten (*with* van der Schaft, Arjan) On representations and integrability of mathematical structures in energy-conserving physical systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 54–91 (*electronic*). (Mircea Lupu) **99f:93071** 93C10 (58F05, 70F25, 70Q05)
Daltabuit, E. (*with* Tapia-Recillas, H.; Vega, G.) Some results on regular mappings. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 321–328, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94039** 94A60
Da Luz, M. G. E. *see* **da Luz, M. G. E.**
Daly, James E. (*with* Phillips, Keith L.) Walsh multipliers and square functions for the Hardy space H^1. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 4, 311–327. (P. Simon) **99f:42055** 42C10 (46E15)
— (*with* Phillips, Keith L.) A note on H^1 multipliers for locally compact Vilenkin groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 392–397. (Da Chun Yang) **99j:43005** 43A70 (42B15, 43A22, 44A35)
bui khoi Dam *see* **Bui Khoi Dam**
van Dam, Andries *see* **Machover, Carl, 99m:01079**
van Dam, Edwin R. (*with* Spence, Edward) Small regular graphs with four eigenvalues. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 233–257. (D. Cvetković) **99g:05130** 05C50
— Bounds on special subsets in graphs, eigenvalues and association schemes. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 3, 321–332. (Paul-Hermann Zieschang) **99a:05071** 05C35 (05C50, 05E30)
— Nonregular graphs with three eigenvalues. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 101–118. (Bojan Mohar) **99g:05131** 05C50
— A Cauchy-Khinchin matrix inequality. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 163–172. (J. Parida) **99g:15018** 15A45 (05C50)
Dam, Mads On the decidability of process equivalences for the π-calculus. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 215–228. (Gheorghe Ştefănescu) **99d:68073** 68Q10 (03B25, 03B60, 03B70, 68Q60)
— (*with* Vivas, José-Luis) From higher-order π-calculus to π-calculus in the presence of static operators. (English summary) *CONCUR'98: concurrency theory* (*Nice*$_{,,}$, 115–130, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)
— Proving properties of dynamic process networks. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 95–114. (Rüdiger Valk) **99c:68086** 68Q10 (03B70, 68Q60)
Damaggio, M. L. (*with* Pugliese, A.; Rosà, Roberto) Analysis of a model for macroparasitic infection with variable aggregation and clumped infections. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 419–447. (Summary) **99g:92018** 92C60 (92D30)
Damak, Mondher On the spectral theory of dispersive N-body Hamiltonians. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 35–48. (Hiroshi Isozaki) **99m:81051** 81Q10 (47N50)
el-Damanawi, K. E. S. K. *see* **El-Damanawi, K. E. S. K.**
Damanik, David α-continuity properties of one-dimensional quasicrystals. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 169–182. (Hiroshi Isozaki) **99a:81031** 81Q10 (39A70, 47B39)
— Singular continuous spectrum for the period doubling Hamiltonian on a set of full measure. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 477–483. (Oliver Knill) **99i:81035** 81Q10 (47B39, 47N50, 82B44)
— On p-sparse Schrödinger operators with quasiperiodic potentials. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 6, 667–674. (Jean-Michel Ghez) **99m:81052** 81Q10 (47B39, 47N50)
— Singular continuous spectrum for a class of substitution Hamiltonians. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 303–311. (Jean-Michel Ghez) **99m:81053** 81Q10 (47B39, 47N50)
Damascelli, Lucio Comparison theorems for some quasilinear degenerate elliptic operators and applications to symmetry and monotonicity results. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 4, 493–516. (Srinivasan Kesavan) **99e:35081** 35J70 (35B05, 35J65)
— (*with* Pacella, Filomena) Monotonicity and symmetry of solutions of p-Laplace equations, $1 < p < 2$, via the moving plane method. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 689–707. (P. Lindqvist) **99h:35061** 35J65 (35B50, 35J70)
— (*with* Pacella, Filomena) Monotonicity and symmetry of solutions of p-Laplace equations, $1 < p < 2$, via the moving plane method. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 2, 95–100. (Summary) **99k:35057** 35J65 (35B99)
Damaschke, Peter Computational aspects of parallel attribute-efficient learning. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 103–111, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68160** 68T05 (68Q99)
— A chip search problem on binary numbers. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 11–22, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99g:68093** 68Q25 (68R05)
— Randomized group testing for mutually obscuring defectives. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 131–135. (Summary) **99c:68119** 68Q25 (68R05, 68T05, 90B25)
Damásio, Carlos Viegas (*with* Pereira, Luís Moniz) A paraconsistent semantics with contradiction support detection. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 224–243, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17
Damaskinskiĭ, E. V. (*with* Borzov, V. V.; Egorov, S. B.) Representations of the deformed oscillator algebra under different choices of generators. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 80–106, 284. (Pavel Šťovíček) **99i:81089** 81R50 (17B37)
— (*with* Sokolov, M. A.) q-bosonization of orthogonal and symplectic quantum groups. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 166–172, 285. (Robert Rałowski) **99h:81084** 81R50 (17B37)
Damázio, Pedro D. (*with* Rojas Medar, Marko A.) On some questions of the weak solutions of evolution equations for magnetohydrodynamic type. (English summary) *Proyecciones* **16** (1997), *no.* 2, 83–97. (Summary) **99e:35183** 35Q35 (35D10, 76W05)
— (*with* Rojas Medar, Marko A.) On the convergence rate of semi-Galerkin approximations for the equations of viscous fluids in the presence of diffusion. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 105–125. (Vitoriano Ruas) **99m:76092** 76M25 (65M12, 76D05)
D'Ambra, Luigi (*with* Lombardo, Rosaria) Internal and external decompositions for three-way contingency tables. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 171–184 (1998). 62H17
Dambrine, M. (*with* Richard, Jean-Pierre; Goubet-Bartholoméüs, A.; Tchangani, A. P.) Nonlinear delay systems: tools for a quantitative approach to stabilization. (English summary) *Stability and control of time-delay systems*, 218–240, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)
— (*with* Goubet-Bartholoméüs, A.; Richard, Jean-Pierre) Delay-dependent stability domains of nonlinear delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 245–256. (Summary) **99c:93078** 93D05 (34K20)
— (*with* Tchangani, A. P.; Richard, Jean-Pierre) Stability, attraction domains, and ultimate boundedness for nonlinear neutral systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 291–298. (Michael I. Gil') **99d:34154** 34K20
— (*with* Tchangani, A. P.; Richard, Jean-Pierre; Kolmanovskii, Vladimir B.) Stability of nonlinear differential equations with distributed delay. *Nonlinear Anal.* **34** (1998), *no.* 7, 1081–1095. (T. A. Burton) **99d:34153** 34K20
D'Ambros, Paola (*with* Lanteri, Antonio) Two comparison theorems for special varieties. *Kyushu J. Math.* **52** (1998), *no.* 2, 403–412. (Gian Mario Besana) **99g:14056** 14J99 (14C20)
D'Ambrosio, Ubiratán *see* **Barrantes Campos, Hugo**
Damek, Ewa Pointwise estimates for the Poisson kernel on NA groups by the Ancona method. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 3, 421–441. (Vadim A. Kaĭmanovich) **99d:31007** 31C35 (22E30)
— (*with* Anker, Jean-Philippe; Yacoub, Chokri) Spherical analysis on harmonic AN groups. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 643–679 (1997). (Michael Cowling) **99a:22014** 22E30 (22E25, 43A90)
— (*with* Hulanicki, A.; Penney, Richard C.) Hua operators on bounded homogeneous domains in $\mathbf{C}^n$ and alternative reproducing kernels for holomorphic functions. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 77–120. (A. Korányi) **99d:32044** 32M10 (22E30, 46E22)

Damelin, S. B. The weighted Lebesgue constant of Lagrange interpolation for exponential weights on $[-1, 1]$. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 223–240. (P. Vértesi) **99j:41002** 41A05 (41A10)
— Converse and smoothness theorems for Erdős weights in L_p $(0 < p \leq \infty)$. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 349–398. (D. Leviatan) **99f:41007** 41A10 (41A25)
— The Lebesgue function and Lebesgue constant of Lagrange interpolation for Erdős weights. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 235–262. (P. Vértesi) **99e:41001** 41A05 (41A10)
— (*with* Lubinsky, D. S.) Jackson theorems for Erdős weights in $L_p(0 < p \leq \infty)$. (English summary) *J. Approx. Theory* **94** (1998), *no.* 3, 333–382. (D. Leviatan) **99h:41006** 41A10 (41A25)

Damgaard, Anders (*with* Andersen, Erling D.) Utility based option pricing with proportional transaction costs and diversification problems: an interior-point optimization approach. (English summary) Proceedings of the Stieltjes Workshop on High Performance Optimization Techniques (HPOPT '96) (Delft). *Appl. Numer. Math.* **29** (1999), *no.* 3, 395–422. (Fabio Antonelli) **99m:90022** 90A09 (90C08)

Damgaard, Poul Henrik (*with* Bering, K.) Higher antibrackets. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 368–371, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81254** 81T70 (58Z05)
— (*with* Batalin, I. A.; Bering, K.) Superfield quantization. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 455–487. (Ilya Shapiro) **99c:81251** 81T70
— (*with* Nishigaki, Shinsuke M.) Universal spectral correlators and massive Dirac operators. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 495–512. (Summary) **99a:81193** 81V05 (81T13)
— (*with* Akemann, G.; Magnea, U.; Nishigaki, Shinsuke M.) Multicritical microscopic spectral correlators of Hermitian and complex matrices. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 682–714. (Summary) **99b:82044** 82B44
— Dirac operator spectra from finite-volume partition functions. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 322–327. (Guido Cognola) **99f:81215** 81V05 (58G25, 58G26, 81R40)
— Massive spectral sum rules for the Dirac operator. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 151–157. (Summary) **99c:81266** 81V05 (81T13)
— (*with* Batalin, I. A.; Bering, K.) Superfield formulation of the phase space path integral. (English summary) *Phys. Lett. B* **446** (1999), *no.* 2, 175–178. (Summary) **99j:81178** 81T60
— *see also* **New developments in quantum field theory, 99e:81002**

Damgård, Ivan B. (*with* Cramer, Ronald) Fast and secure immunization against adaptive man-in-the-middle impersonation. (English summary) *Advances in cryptology—EUROCRYPT '97* (*Konstanz*), 75–87, *Lecture Notes in Comput. Sci.*, 1233, *Springer, Berlin*, 1997. (Summary) **99b:94028** 94A60
— (*with* Cramer, Ronald; Pedersen, Torben) Efficient and provable security amplifications. (English summary) *Security protocols* (*Cambridge*, 1996), 101–109, *Lecture Notes in Comput. Sci.*, 1189, *Springer, Berlin*, 1997. (Joan Boyar) **99a:94028** 94A60 (68P25)
— (*with* Cramer, Ronald) Zero-knowledge proofs for finite field arithmetic, or: Can zero-knowledge be for free? (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 424–441, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99m:68060** 68Q15 (94A60)
— (*with* Pfitzmann, Birgit) Sequential iteration of interactive arguments and an efficient zero-knowledge argument for NP. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 772–783, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q15 (68Q05, 68Q25, 94A60)
— (*with* Brandt, Jørgen[1]; Landrock, Peter; Pedersen, Torben) Zero-knowledge authentication scheme with secret key exchange. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 147–159. (Summary) **99c:94026** 94A60
— (*with* Knudsen, Lars R.) Two-key triple encryption. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 209–218. (Summary) **99c:94028** 94A60

Dami, Laurent Operational subsumption, an ideal model of subtyping. *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68Q55 (68N15)

Damiani, E. (*with* D'Antona, Ottavio M.; Loeb, Daniel E.) The complementary symmetric functions: connection constants using negative sets. (English summary) *Adv. Math.* **135** (1998), *no.* 2, 207–219. (Ernesto Vallejo) **99g:05010** 05A19 (05E05, 41A20)

Damiani, Ilaria La R-matrice pour les algèbres quantiques de type affine non tordu. (English and French summaries) [The R-matrix of nontwisted quantum affine algebras] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 493–523. (Stefano Capparelli) **99g:17027** 17B37

Damianou, Pantelis A. Transverse structures to orbits in algebraic groups. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 31–43. (Raúl Ibáñez) **99c:58057** 58F05 (17B99, 20G20)
— (*with* Sophocleous, Christodoulos) Symmetries of Hamiltonian systems with two degrees of freedom. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 210–235. (Yurij H. Yaremko) **99j:70023** 70H33 (58F05, 70H05)

D'amico, Michele (*with* Manzini, Giovanni; Margara, Luciano) On computing the entropy of cellular automata. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 470–481, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68136** 68Q80

Damien, Paul (*with* Laud, Purushottam W.; Smith, Adrian F. M.) Bayesian nonparametric and covariate analysis of failure time data. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 213–225, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99e:62028** 62F15 (65G99)
— (*with* Walker, Stephen Graham) Sampling methods for Bayesian nonparametric inference involving stochastic processes. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 243–254, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99c:62116** 62G05 (62F15)
— (*with* Wakefield, Jon; Walker, Stephen Graham) Gibbs sampling for Bayesian non-conjugate and hierarchical models by using auxiliary variables. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 331–344. 62F15

Damil, N. (*with* Najah, A.; Cochelin, B.; Potier-Ferry, Michel) A critical review of asymptotic numerical methods. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 1, 31–50. (Summary) **99a:73136** 73V99 (65–02)

Damlakhi, Moustafa Minimal harmonic representation in a parabolic Riemann surface (English summary) *J. Anal.* **5** (1997), 25–28. (Summary) **99m:30084** 30F15
— (*with* Anandam, Victor) Harmonic singularity at infinity in $\mathbf{R}^n$. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 471–476. (Alexander I. Kheyfits) **99f:31008** 31B05
— (*with* Anandam, Victor) Biharmonic Green domains in $\mathbf{R}^n$. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 669–680. (Alain Brillard) **99j:31012** 31B30 (31B05)

Damlamian, Alain (*with* Kenmochi, Nobuyuki) Evolution equations associated with non-isothermal phase transitions. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 62–77, *Springer, Singapore*, 1997. (Andrzej Chrzęszczyk) **99k:35171** 35Q72 (47H15, 47N20, 73B30, 80A22)
— (*with* Kenmochi, Nobuyuki) Evolution equations generated by subdifferentials in the dual space of $(H^1(\Omega))'$. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 269–278. (Summary) **99j:35093** 35K55 (34G20, 35R70)

Damm, Carsten A note on spectral lower bound arguments for decision trees. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 65 (1998), 136–138. 68Q25 (06E30)
— (*with* Jukna, Stasys; Sgall, Jiří) Some bounds on multiparty communication complexity of pointer jumping. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 109–127. (Summary) **99h:68053** 68Q15 (68Q25)

Damm, W. (*with* Pnueli, Amir; Ruah, S.) Herbrand automata for hardware verification. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 67–83, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68118** 68Q60 (68M07, 68Q68)

Dammak, Jamel (*with* Boudabbous, Youssef) Sur la $(-k)$-demi-reconstructibilité des tournois finis. (English and French summaries) [On the $(-k)$-half-reconstructibility of finite tournaments] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1037–1040. (T. T. Raghunathan) **99j:05147** 05C60 (05C20)
— La dualité dans la demi-reconstruction des relations binaires finies. (English and French summaries) [Duality in the half-reconstruction of finite binary relations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 861–864. (Summary) **99h:04001** 04A05 (05C60)

van Damme, Ruud (*with* Kuijt, Frans) Smooth interpolation by a convexity preserving nonlinear subdivision algorithm. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 219–224, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 41A29
— Bivariate Hermite subdivision. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 9, 847–875. (Dietrich Braess) **99a:65020** 65D10 (41A15)
— (*with* Kuijt, Frans) Convexity preserving interpolatory subdivision schemes. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 609–630. (D. Leviatan) **99f:65028** 65D17 (41A29)
— (*with* Kuijt, Frans) Monotonicity preserving interpolatory subdivision schemes. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 203–229. (D. Leviatan) **99m:65034** 65D17 (41A25, 41A29, 65D05)

Damnjanović, M. (*with* Milošević, I.; Nikolić, B.; Krčmar, M.) Irreducible representations of diperiodic groups. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3625–3648. (Jochen Gruber) **99d:20012** 20C15 (20C35, 82D25)

Damon, James Generic properties of solutions to partial differential equations. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 4, 353–403. (D. R. J. Chillingworth) **99e:58020** 58C27 (35B30, 57R45, 58F14, 68U10)
— Singularities with scale threshold and discrete functions exhibiting generic properties. Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 45–65. (Enrique Outerelo Domínguez) **99k:58022** 58C27
— On the legacy of free divisors: discriminants and Morse-type singularities. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 453–492. (Jan Stevens) **99e:32062** 32S30 (32S10)
— Generic structure of two-dimensional images under Gaussian blurring. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 97–138 (*electronic*). (Françoise Dibos) **99m:68220** 68U10 (35R99)

D'Amore, Bruno *see* **Conference: Speranza, Francesco, 99g:00052**
D'Amore, Fabrizio *see* **d'Amore, Fabrizio**
Da Motta Ferreira, João Carlos *see* **da Motta Ferreira, João Carlos**

Damour, Thibault Theoretical aspects of gravitational radiation. (English summary) *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 135–146, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:83026** 83C30
— (*with* Buonanno, Alessandra) Effective action and tension renormalization for cosmic and fundamental strings. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 51–57. (Summary) **99c:83103** 83F05 (83E30)
— General relativity and experiment. (English summary) *On Einstein's path* (*New York*, 1996), 171–187, *Springer, New York*, 1999. (Summary) **99i:83007** 83B05

Damyanov, Blagovest P. Results on distribution products in Colombeau algebra. *Mathematica* **38(61)** (1996), *no.* 1-2, 43–51. (Introduction) **99a:46072a** 46F10
— Results on Colombeau product of distributions. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 627–634. (Introduction) **99a:46072c** 46F10
— Some Colombeau products of distributions. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 133–138. (Introduction) **99a:46072b** 46F10

Dan, Andrei Characterization of the invariant measure for a minimal process. (Romanian. English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 23–26. 60G07

Dan, Wakako (*with* Shibata, Yoshihiro) On the L_q–L_r estimates of the Stokes semigroup in a two-dimensional exterior domain. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 79–99. (Alain Miranville) **99i:35125** 35Q30 (47D06, 76D05)
— (*with* Kobayashi, Takayuki[2]; Shibata, Yoshihiro) On the local energy decay approach to some fluid flow in an exterior domain. *Recent topics on mathematical theory of viscous incompressible fluid* (*Tsukuba*, 1996), 1–51, *Lecture Notes Numer. Appl. Anal.*, 16, *Kinokuniya, Tokyo*, 1998. (José Luiz Boldrini) **99h:35157** 35Q30 (47D06, 76D05)

— (*with* Shibata, Yoshihiro) On the L_q–L_r estimates of the Stokes semigroup in a two-dimensional exterior domain. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 181–207. (Viktor G. Zvyagin) **99m:35185** 35Q30 (47D06, 47F05, 76D07)

Dana, Itzhack (*with* Horesh, Tamir) Strong variation of global-transport properties in chaotic ensembles. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 51–58, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99d:58120** 58F13 (58F40, 78A35)

— (*with* Rutman, Yaakov; Feingold, Mario) Band Husimi distributions and the classical-quantum correspondence on the torus. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5655–5667. (Summary) **99g:81053** 81Q50

Danaila, L. (*with* Le Gal, P.; Anselmet, F.; Plaza, F.; Pinton, J. F.) Some new features of the passive scalar mixing in a turbulent flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 636–646. 76F99 (76–05)

Dana-Picard, Thierry (*with* Schaps, Mary) Non-reduced components of Alg_n. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 111–120, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Claude Cibils) **99j:16019** 16S80 (16E40)

— (*with* Haenel, Arie) Triangles, polygons and beams of light. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 922–929. 52A10

Dancer, Edward Norman Competing species systems with diffusion and large interactions. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 23–33 (1997). (Summary) **99d:92023** 92D25 (35K60, 35Q80)

— Remarks on the pure critical exponent problem. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 333–344. (Henghui Zou) **99k:35058** 35J65 (35B99)

— (*with* Buffoni, Boris; Toland, John Francis) Sur les ondes de Stokes et une conjecture de Levi-Civita. (English and French summaries) [On Stokes waves and a conjecture of Levi-Civita] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1265–1268. (Summary) **99g:76014** 76B15 (35Q30)

— (*with* Bates, Peter W.; Shi, Junping) Multi-spike stationary solutions of the Cahn-Hilliard equation in higher-dimension and instability. (English summary) *Adv. Differential Equations* **4** (1999), *no.* 1, 1–69. (Siegfried Carl) **99k:35097** 35K60 (35B25, 35B40, 58E50)

— (*with* Poláčik, Peter) Realization of vector fields and dynamics of spatially homogeneous parabolic equations. (English summary) *Mem. Amer. Math. Soc.* **140** (1999), *no.* 668, *viii*+82 *pp.* (Björn Sandstede) **99m:35125** 35K60 (35B30, 58F39)

Danchev, Danail (*with* Minkova, Leda) Modelling of financial markets in the currency board conditions. *Applications of mathematics in engineering* (*Sozopol*, 1997), 130–132, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 90A09

Danchev, Peter Isomorphism of commutative semisimple group algebras. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 51–55. (Kwangil Koh) **99f:16027** 16S34

— Isomorphism of commutative modular group algebras. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 211–224. (William Ullery) **99m:20004** 20C07

— Invariants of commutative group algebras. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 13–22. (William Ullery) **99m:20005** 20C07

Danchev, Stefan S. A closed form of the $(2, F)$ generalizations of the Fibonacci sequence. *Fibonacci Quart.* **36** (1998), *no.* 5, 448–451. 11B39

Danchin, Raphaël Poches de tourbillon visqueuses. [Viscous vortex patches] *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. IX*, 20 *pp.*, *Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Alain Miranville) **99d:35124** 35Q30 (76C05, 76D99)

— Évolution d'une singularité de type cusp dans une poche de tourbillon. [Evolution of a cusp singularity in a vortex patch] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1997), *Exp. No. V*, 19 *pp.*, *École Polytech., Palaiseau*, 1997. (José Luiz Boldrini) **99a:76021** 76C05 (35A20, 35Q30)

Dančík, Vlado Common subsequences and supersequences and their expected length. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 4, 365–373. (Nikolai Volodin) **99m:05007** 05A16

Danciu, Ioan The numerical treatment of nonlinear Volterra integral equations of the second kind by the exact collocation method. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 59–73. (H. Brunner) **99g:65123a** 65R20 (45L05)

— The numerical treatment of nonlinear Volterra integral equations of the second kind by the discretized collocation method. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 75–89. (H. Brunner) **99g:65123b** 65R20 (45L05)

— Polynomial spline collocation methods for Volterra integro-differential equations. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 77–91. (H. Brunner) **99g:65123c** 65R20 (45L05)

— Numerical stability of the spline collocation methods for Volterra integral equations. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 69–78, *Transilvania, Cluj-Napoca*, 1997. (Gustaf Gripenberg) **99b:65172** 65R20 (45D05, 45L05, 65L60)

D'Ancona, Piero (*with* Spagnolo, Sergio) On pseudosymmetric hyperbolic systems. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 397–418 (1998). (Roman O. Popovich) **99k:35113** 35L45 (35B65)

Dandapat, B. S. Spin coating: a survey. (English summary) Proceedings of the Seminar on Continuum Mechanics (Calcutta, 1996). *Rev. Bull. Calcutta Math. Soc.* **5** (1997), *no.* 2, 107–126. (*see* **99k:00035**) 76D99

Dando, Owen (*with* Gregory, Ruth) Dilatonic global strings. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 023502, 8 *pp.* (Summary) **99k:83116** 83E30 (81T30)

Dandoloff, Rossen (*with* Villain-Guillot, Simon) On the angular momentum density of a two-dimensional quantum Heisenberg antiferromagnet. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5401–5411. (Summary) **99c:82021** 82B21 (82B20)

Daneev, A. V. (*with* Rusanov, V. A.) On methods of the qualitative theory of the identification of complex dynamical systems. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 2, 174–177. 93B30

Danelia, A. Conjugated functions of multiple variables and deformation of $H(\omega; L(T^m))$ classes. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 199–201. 46E15

Danescu, A. Design isotropic materials using anisotropic components via homogenization. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 545–554. (Summary) **99d:73006** 73B27 (73K20, 73S10)

Dăneț, Rodica-Mihaela ★ Tehnici existențiale și de prelungire pentru operatori liniari. (Romanian) [Techniques for the existence and extension of linear operators] *Editura Academiei Române, Bucharest*, 1993. 212 *pp. ISBN* 973-27-0382-2 (George Popescu) **99g:47084** 47B60 (46A40, 47B65)

— A new proof for the existence of Banach limits. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 241–244. (Summary) **99m:46055** 46B45

Danev, Danyo (*with* Boyvalenkov, Peter G.) On maximal codes in polynomial metric spaces. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 29–38, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94044** 94B65

— (*with* Boyvalenkov, Peter G.) On linear programming bounds for codes in polynomial metric spaces. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 16–31; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 108–120. (Vladimir D. Tonchev) **99k:94067** 94B65 (90C90)

— (*with* Boyvalenkov, Peter G.; Nikova, Svetla Iordanova) Nonexistence of certain spherical designs of odd strengths and cardinalities. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 143–156. (Giuseppe Pellegrino) **99k:05025** 05B05

Dang, Chuangyin (*with* van Maaren, Hans) A simplicial approach to the determination of an integer point of a simplex. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 403–415. (Klaus Hofstedt) **99d:90076** 90C10 (90C27)

Dang, Duc Trong *see* **Dang Duc Trong**

Dang, Giu Do (*with* Bulgac, Aurel; Kusnezov, Dimitri) Quantum diffusion and tunneling with parametric banded random matrix Hamiltonians. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1149–1168. (Jacobus Verbaarschot) **99d:82030** 82B44 (82B35)

Dang, Hao Huy (*with* Malik, Moinuddin) Vibration analysis of continuous systems by differential transformation. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 17–26. 73K05 (73D30)

Dang, Si Shan (*with* Chu, Wei Pan) Some identities involving Euler numbers, Bernoulli numbers, and generalized Stirling numbers of the first kind. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 109–113, 117. (Zhi Wei Sun) **99d:11018** 11B68 (05A19)

— Summation formulas for some series related to the Riemann zeta function. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 60–64, 59. (Xiu Yuan Yu) **99k:11029** 11B68 (11M06)

Dang, Xin Yi (*with* Ying, Yi Rong) A coefficient criterion for the existence and uniqueness of limit cycles of a class of planar cubic systems. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 3, 223–229. (Xue Min Li) **99a:34092** 34C05

— (*with* Zhang, Yu Zhu) Oscillation of solutions of impulsive neutral delay differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 219–224. (Summary) **99a:34206** 34K15 (34A37)

Dang, Yumei (*with* Kauffman, Louis H.) Hypercomplex fractal distance estimation. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 117–130, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:28012** 28A80 (30D05)

ha Dang Cao Tung *see* **Ha Dang Cao Tung**

Dang Dinh Hai (*with* Oppenheimer, Seth F.) Singular boundary value problems for p-Laplacian-like equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 5, 975–981. (Juan J. Nieto) **99a:35087** 35J65 (34B15)

— Positive solutions to a class of elliptic boundary value problems. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 195–199. (Summary) **99h:35062** 35J65 (35B05)

Dang Duc Trong (*with* Đặng Đức Ảng; Nguyễn Đình Trí) Global solution of a two phase free boundary problem. *Acta Math. Vietnam.* **22** (1997), *no.* 2, 467–491. (Lisa Santos) **99e:35246** 35R35 (35K99)

— (*with* Tran Thi Le; Nguyen, Van Nhan; Dinh Ngoc Thanh) A moment approach to some problems in heat conduction. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 148–153. (*see* **99i:00026**) 35R30 (35K05)

— Domain identification for a nonlinear elliptic equation. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 1021–1024. (George Dassios) **99m:35261** 35R30 (35J60)

Dangelmaier, Wilhelm (*with* Brockmann, Klaus; Holthöfer, Norbert) Parallel branch & bound algorithm for makespan optimal scheduling in flow shops with multiple processors. *Operations Research Proceedings* 1997 (*Jena*), 428–433, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B35

Dangelmayr, Gerhard (*with* Fiedler, Bernold; Kirchgässner, Klaus; Mielke, Alexander) ★ Dynamics of nonlinear waves in dissipative systems: reduction, bifurcation and stability. (English summary) With a contribution by G. Raugel. Pitman Research Notes in Mathematics Series, 352. *Longman, Harlow*, 1996. vi+277 *pp. ISBN* 0-582-22929-4 (Arnd Scheel) **99d:58002** 58–02 (35L70, 35Q55, 58Fxx, 76B15, 76E30)

— (*with* Wegelin, Michael; Oppenländer, Jörg; Tomes, Jörg; Güttinger, Werner) Synchronized patterns in hierarchical networks of neuronal oscillators with $\mathbf{D}_3 \times \mathbf{D}_3$ symmetry. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 213–232. (Summary) **99f:92004** 92C15 (34C23)

D'Angelo, John P. Invariant holomorphic mappings. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 2, 163–179. (Summary) **99c:32035** 32H35

Dang Van Hung (*with* Li, Xuandong; Zheng, Tao) Checking hybrid automata for linear duration invariants. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 166–180, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (68Q68)

— (*with* Zakharov, V. A.; Tkhuan, N. N.; Ban, D. V.) On the reconstruction of a process net from the firing sequence of a Petri net. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 31–34, 49; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 49–54. 68Q90

Dăng Vũ Giang (*with* Móricz, Ferenc) The two-dimensional Cesàro operator is bounded on the multi-parameter Hardy space $\mathscr{H}^1(\mathbf{R} \times \mathbf{R})$. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 1-2, 279–288. (William T. Sledd) **99b:47040** 47B38

phan thien Danh *see* **Phan Thien Danh**

Dani, S. G. Scattering of products of random matrices. *Analysis, geometry and probability*, 33–53, *Texts Read. Math.*, 10, *Hindustan Book Agency, Delhi*, 1996. (A. Mukherjea) **99e:60026** 60B15 (60J15)

— Actions on spaces of measures on Lie groups and convergence of types. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 257–264. (G. U. Brauer) **99i:22002** 22A10 (28D99, 46E27)

— (*with* Raja, C. R. E.) A note on Tortrat groups. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 571–576. (Daniel Neuenschwander) **99g:60012** 60B15 (22D05)

Daniel, Cuthbert *see* **Hunter, J. Stuart**

Daniel, E. (*with* Saurel, Richard; Loraud, J. C.) Modeling of axisymmetric two-phase dilute flows. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 4, 301–313. 76M20 (76T05)

Daniel, Marc (*with* Bousquet, Jacques) Flaw removal on surfaces. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 43–52, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Kuzmin, Yevgeniy) Curves on surfaces for computer graphics: theoretical results. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 239–246, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65241** 65Y25 (65D17)

Daniel, Michael M. (*with* Willsky, Alan S.) The modeling and estimation of statistically self-similar processes in a multiresolution framework. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 955–970. (Summary) **99m:94008** 94A12

Daniel, Micu Sorin *see* **Micu, Sorin**

Daniel, Milan Generalized Möbius transformation of knowledge bases. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika* (*Prague*) **34** (1998), *no.* 1, 91–104. (Summary) **99a:68162** 68T30 (68T35)

Daniel, Stephan ★ Teilerprobleme für homogene Polynome. (German) [Divisor problems for homogeneous polynomials] Dissertation, Universität Stuttgart, Stuttgart, 1997. *Mathematisches Institut A der Universität Stuttgart, Stuttgart*, 1997. 123 *pp.* (G. Greaves) **99f:11121** 11N37

— On the divisor-sum problem for binary forms. *J. Reine Angew. Math.* **507** (1999), 107–129. (G. Greaves) **99k:11143** 11N37

Daniel, William John Trevor A study of the stability of subcycling algorithms in structural dynamics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 1–13. (Summary) **99a:73121** 73V05 (73V15)

— Subcycling first- and second-order generalizations of the trapezoidal rule. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1091–1119. 76V05 (65M60, 73K12)

Daniel-Berhe, S. (*with* Unbehauen, Heinz) An approach for estimating abruptly changing parameters of integrable nonlinear continuous-time systems. (English summary) *Systems Sci.* **25** (1999), *no.* 1, 15–26. 93E10

Daniele, Patrizia A remark on a dynamic model of a quasi-variational inequality. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 91–100. (Summary) **99b:49006** 49J40 (49N55)

— (*with* Maugeri, Antonino; Oettli, Werner) Variational inequalities and time-dependent traffic equilibria. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1059–1062. (Summary) **99g:90041** 90B06 (49J40, 90C35)

Daniell, Matthew (*with* Bouwmeester, Dik; Pan, Jian-Wei; Weinfurter, Harald; Zeilinger, Anton) Observation of three-photon Greenberger-Horne-Zeilinger entanglement. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 7, 1345–1349. 81P15

Danielli, Donatella (*with* Garofalo, Nicola; Nhieu, Duy-Minh) Isoperimetric and trace inequalities with respect to Carnot-Carathéodory metrics. *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 51–62, *Univ. Stud. Bologna, Bologna*, 1998. (Luca Capogna) **99f:58223** 58G99 (53C20)

— (*with* Garofalo, Nicola) Geometric properties of solutions to subelliptic equations in nilpotent Lie groups. *Reaction diffusion systems* (*Trieste*, 1995), 89–105, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Luca Capogna) **99a:22015** 22E30 (22E25, 35B99, 35H05)

D'Aniello, Alma On normal Fitting classes. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 1, 1–4. (T. O. Hawkes) **99c:20015** 20D10 (20F17)

— Dualpronormality and Fitting classes. *Comm. Algebra* **26** (1998), *no.* 2, 425–433. (H. Lausch) **99c:20016** 20D10

D'Aniello, E. (*with* Hirshberg, A.; Bhaskara Rao, K. P. S.; Shortt, Rae Michael) Bounded common extensions of vector measures. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 766–774. (L. Ya. Savel'ev) **99e:28018** 28B05

— (*with* Bhaskara Rao, K. P. S.; Shortt, Rae Michael) A Stone space approach to the existence of bounded common extensions. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 442–454. (Z. Lipecki) **99h:28002** 28A10

— (*with* Shortt, Rae Michael) Vector-valued capacities. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 311–324. (Richard Becker) **99h:28026** 28B15 (28C15)

Daniels, Charles B. A caution to the anti-realist. (French summary) *Dialogue* **36** (1997), *no.* 3, 489–492. (Charles F. Kielkopf) **99a:03025** 03B45

Daniels, K. (*with* Milenkovic, Victor J.) Multiple translational containment. I. An approximate algorithm. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 148–182. (Summary) **99e:68157** 68U05 (52B55, 90B80, 90C90)

Daniels, Vincent J. (*with* Vallières, Michel; Yuan, Jian-Min) Chaotic scattering on a billiard. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1519–1531. (Roberto Markarian) **99b:58207** 58F27 (58F13, 81Q50)

Danielsson, Sven The refutation of cyclic evaluations. Philosophy in Sweden (Umeå, 1995). *Theoria* **62** (1996), *no.* 1-2, 161–168. (Summary) **99d:90012** 90A07

Danielsson, Ulf H. (*with* Ferretti, Gabriele) Creation of strings in D-particle quantum mechanics. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 78–83. (Summary) **99f:81155** 81T30

— (*with* Polychronakos, Alexios P.) Quarks, monopoles and dyons at large N. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 294–302. (Summary) **99d:81153** 81T60 (81T13)

Danielyan, Arthur A. (*with* Rubel, Lee A.) Uniform approximation by entire functions that are all bounded on a given set. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 469–473. (Antonio Bonilla-Ramirez) **99i:30056a** 30E10 (41A30)

— (*with* Schmieder, Gerald) Topological properties of level-sets of entire functions. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 266–273. (Adam Janik) **99e:30028** 30E10 (30D99)

— (*with* Rubel, Lee A.) Erratum: "Uniform approximation by entire functions that are all bounded on a given set". *Constr. Approx.* **15** (1999), *no.* 1, 153. (Antonio Bonilla-Ramirez) **99i:30056b** 30E10 (41A30)

Danikas, N. (*with* Hayman, W. K.) Domination on sets and in H^p. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 85–90. (E. G. Kwon) **99f:30054** 30D55 (31A05)

Danilenko, A. I. Gårding domains for unitary representations of countable inductive limits of locally compact groups. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 231–260. (Vladimir Pestov) **99c:22004** 22A25 (22E65, 47D03, 58B25)

— Comparison of cocycles of measured equivalence relations and lifting problems. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 125–151. (Mariusz Lemańczyk) **99e:28026** 28D05

Danilo, Florence (*with* Leib, Harry) Detection techniques for fading multipath channels with unresolved components. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2848–2863. 94A13

Danilov, G. S. Unimodular transformations of supermanifolds and the calculation of multi-loop amplitudes in the superstring theory. *Problems of quantum field theory* (*Alushta*, 1996), 328–335, *Joint Inst. Nuclear Res., Dubna*, 1996. (From the text) **99m:81177** 81T30 (58A50)

Danilov, L. I. Measure-valued almost periodic functions and almost periodic selections of multivalued mappings. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 10, 3–24; *translation in Sb. Math.* **188** (1997), *no.* 10, 1417–1438. (A. Precupanu) **99e:42016** 42A75 (28B20)

— Measure-valued almost periodic functions. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 57–68; *translation in Math. Notes* **61** (1997), *no.* 1-2, 48–57. (Bolis Basit) **99c:42007** 42A75

— On the uniform approximation of a function that is almost periodic in the sense of Stepanov. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 10–18; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 8–16. (Weiyi Su) **99k:41053** 41A65 (41A30, 42A75)

Danilov, N. N. (*with* Permyakov, G. P.) On the β-core in a dynamic quality game with two objective sets. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 13–20, *Yakut·sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 90D25

Danilov, V. G. (*with* Omel'yanov, G. A.; Radkevich, E. V.) Tanh-type asymptotic solution of the conserved phase field system. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 663–689. (Song Mu Zheng) **99j:73014** 73B30 (35Q72, 80A22)

— (*with* Omel'yanov, G. A.; Radkevich, E. V.) Asymptotic solution of the conserved phase field system in the fast relaxation case. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 1–21. (Matthias Wilhelm Winter) **99c:80005** 80A22 (35Q99)

— (*with* Omel'yanov, G. A.; Radkevich, E. V.) Weak solutions to the phase field system. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 27–35. (Summary) **99d:35181** 35R35 (35D99, 35Q99, 80A22)

— (*with* Shelkovich, V. M.) Generalized solutions of nonlinear differential equations and the Maslov algebras of distributions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 171–180. (Summary) **99f:46056** 46F10 (35L60)

Danilov, Vladimir Ivanovich[1] (*with* Sot·skov, Aleksandr I.) Rational choice under convex conditions. (English summary) *Constructing scalar-valued objective functions* (*Hagen*, 1995), 53–63, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (Hiroaki Osana) **99a:90028** 90A08

— (*with* Shokurov, V. V.) ★ Algebraic curves, algebraic manifolds and schemes. Translated from the 1988 Russian original by D. Coray and V. N. Shokurov. Translation edited and with an introduction by I. R. Shafarevich. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Algebraic geometry. I*, Encyclopaedia Math. Sci., 23, Springer, Berlin, 1994; MR 95b:14001]. *Springer-Verlag, Berlin*, 1998. *vi*+307 *pp. ISBN* 3-540-63705-2 (Editors) **99g:14001** 14–00 (14Hxx, 30Fxx)

Danilyuk, I. I. ★ Избранные труды. (Russian. Russian and Ukrainian summaries) [Selected works] "*Naukova Dumka*", *Kiev*, 1995. 288 *pp. ISBN* 5-12-003401-2 (Guo Chun Wen) **99f:01029** 01A75 (30–03, 35–03)

Dankelmann, Peter (*with* Smithdorf, Vivienne; Swart, Henda C.) Radius-forcing sets in graphs. (English summary) *Australas. J. Combin.* **17** (1998), 39–49. (Kevin Lawrence McAvaney) **99e:05045** 05C12

Danković, Bratislav M. (*with* Milovanović, Gradimir V.; Rančić, Snežana Lj.) Malmquist and Müntz orthogonal systems and applications. *Inner product spaces and applications*, 22–41, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (K. Pan) **99f:42047** 42C05

— (*with* Stanković, Miomir S.; Tričković, Slobodan B.) Some inequalities involving harmonic numbers. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 493–498, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99c:26019** 26D15 (05A20, 11B68)

— (*with* Milovanović, Gradimir V.; Rančić, Snežana Lj.) Some Müntz orthogonal systems. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 299–310. (Summary) **99i:33010** 33C45

Dankowicz, Harry ★ Chaotic dynamics in Hamiltonian systems. (English summary) With applications to celestial mechanics. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 25. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xiv*+209 *pp. ISBN* 981-02-3221-7 (Vassili G. Gelfreich) **99e:70046** 70H05 (34C37, 58F05, 58F13, 70F15, 70K15)

Danlybaeva, A. K. (*with* Lakshmanan, M.; Myrzakulov, R.; Vijayalakshmi, S.) Motion of curves and surfaces and nonlinear evolution equations in (2 + 1) dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3765–3771. (Anders Linnér) **99h:53004** 53A05 (58F07)

D'Anna, A. (*with* D'Acunto, Berardino) Stability for a third order sine-Gordon equation. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 347–365. (Mehmet Can) **99k:35133** 35L75 (35Q53)

D'Anna, Marco (*with* Delfino, Donatella) Integrally closed ideals and type sequences in one-dimensional local rings. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1065–1073. (Elsa

Zatini) **99d:13029** 13H10
— Canonical modules of one-dimensional reduced rings and their associated subgroups. t-sequences. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 27–30. 13C15
Dannoura, Eisuke (*with* Sakurai, Kouichi) On-line versus off-line in money-making strategies with brokerage. (English summary) *Algorithms and computation* (*Singapore*, 1997), 173–182, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 90A09
Danos, Vincent (*with* Joinet, Jean-Baptiste; Schellinx, Harold) A new deconstructive logic: linear logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 755–807. (Henry Africk) **99b:03076** 03F50 (03B35, 03F05, 03F55)
Dan'shin, A. Yu. Infinitesimal conformal transformations in tangent bundles of Finsler manifolds. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 11–17; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 9–14 (1999). (V. Oproiu) **99f:53019** 53B40 (53C60)
Dan'shin, I. N. (*with* Zabotin, Ya. I.) Algorithms with combination, parametrization and two-sided approximation in the center method. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 40–48. (Riho Lepp) **99m:90136** 90C30 (65K05)
Dantchev, Stefan *see* **Danchev, Stefan S.**
D'Antona, Ottavio M. The would-be method of targeted rings. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 157–172, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Y. H. Harris Kwong) **99f:05008** 05A19 (05A20, 05A40)
— (*with* Damiani, E.; Loeb, Daniel E.) The complementary symmetric functions: connection constants using negative sets. (English summary) *Adv. Math.* **135** (1998), *no.* 2, 207–219. (Ernesto Vallejo) **99g:05010** 05A19 (05E05, 41A20)
D'Antonio, Lawrence A. (*with* Waterman, Daniel) A summability method for Fourier series of functions of generalized bounded variation. (English summary) *Analysis* **17** (1997), *no.* 2-3, 287–299. (Y. Sitaraman) **99h:42008** 42A24
Dantzig, George B. ★ Linear programming and extensions. (English summary) Reprint of the 1968 corrected edition. Princeton Landmarks in Mathematics. *Princeton University Press, Princeton, NJ*, 1998. *xviii+627 pp. ISBN* 0-691-05913-6 (Editors) **99g:90004** 90–01 (90–02, 90C05)
Dantzig, Jonathan (*with* Provatas, Nicholas; Goldenfeld, Nigel) Adaptive mesh refinement computation of solidification microstructures using dynamic data structures. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 265–290. (Summary) **99h:80012** 80A22 (80–08)
Danvy, Olivier (*with* Rose, Kristoffer Høgsbro) Higher-order rewriting and partial evaluation. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 286–301, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42
— Online type-directed partial evaluation. (English summary) *Third Fuji International Symposium on Functional and Logic Programming* (*Kyoto*, 1998), 271–295, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68N15 (03B40)
Danyluk, M. J. (*with* Geubelle, P. H.; Hilton, H. H.) Two-dimensional dynamic and three-dimensional fracture in viscoelastic materials. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3831–3853. 73M25 (73F99)
Danzer, Ludwig Upper bounds for the lengths of bridges based on Delone sets. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 179–191, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99h:52027** 52C22
Danziger, P. (*with* Grannell, M. J.; Griggs, Terry; Rosa, Alexander) On the 2-parallel chromatic index of Steiner triple systems. (English summary) *Australas. J. Combin.* **17** (1998), 109–131. (K. T. Phelps) **99e:05022** 05B07
Dao Trong Thi (*with* Nguyen Duy Binh) On an expansion of the special Lagrangian form. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 527–540. (Knut Smoczyk) **99f:53062** 53C42 (53C40)
el-Daou, M. K. *see* **El-Daou, M. K.**
Daoud, Daoud S. (*with* Subasi, D.) FMG cycle with the preconditioned explicit group-2 linear system. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 263–272. (Summary) **99h:65206** 65N55 (65F05, 65N22)
Daoud, M. (*with* Hassouni, Y.) On the generalized statistics through the deformation of the exterior algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 7, 457–464. (Peter Prešnajder) **99g:81104** 81S05 (81R50)
— (*with* Hassouni, Y.; Kibler, Maurice) The k-fermions as objects interpolating between fermions and bosons. *Symmetries in science, X* (*Bregenz*, 1997), 63–77, *Plenum, New York*, 1998. (Choo Hiap Oh) **99k:81107** 81R50
— (*with* Hassouni, Y.) q-deformed Fock space and statistical properties of quons. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 6, 599–609. (Roberto Casalbuoni) **99k:81108** 81R50 (82B10)
— (*with* Hassouni, Y.) Generalization of supersymmetric quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 2021–2026. (Avinash Khare) **99k:81075** 81Q60
— (*with* Hassouni, Y.; Kibler, Maurice) Generalized supercoherent states. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1821–1824. (Summary) **99i:81079** 81R30
Daoud, Suzanne On the space of analytic functions represented by the series $\sum a_n \exp -\langle \lambda_n, \Psi(x) \rangle$. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 57–64. (Summary) **99d:46033** 46E10 (30H05)
Daoudi, K. (*with* Lévy Véhel, Jacques; Meyer, Yves) Construction of continuous functions with prescribed local regularity. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 349–385. (S. Dubuc) **99f:26005** 26A16 (28A80)
Daoui, A. (*with* El-Fallah, O.) Localisation spectrale et sous-espaces hyperinvariants. (English summary) [Spectral localization and hyperinvariant subspaces] *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2117–2122. (P. Rosenthal) **99j:47008** 47A15
Daoutidis, Prodromos (*with* Christofides, Panagiotis D.) Feedback control of two-time-scale nonlinear systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 965–994. 93C80 (93B52)
— (*with* Christofides, Panagiotis D.; Teel, Andrew R.) Robust semi-global output tracking for nonlinear singularly perturbed systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 639–666. 93D21 (93C70)
— (*with* Kapoor, Navneet) Stabilization of systems with input constraints. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 653–675. 93D15 (93C85)
— (*with* Christofides, Panagiotis D.) Distributed output feedback control of two-time-scale hyperbolic PDE systems. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 713–732. (*see* **99h:93003**) 93C20 (93B52)
— (*with* Kapoor, Navneet; Teel, Andrew R.) An anti-windup design for linear systems with input saturation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 559–574. (Summary) **99d:93026** 93B51 (93C05)
— (*with* Kapoor, Navneet) An observer-based anti-windup scheme for non-linear systems with input constraints. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 18–29. (Summary) **99k:93049** 93B50 (93B07)
D'Apice, Ciro On some homogenization questions: representation formulas, perforated domains, unbounded functionals. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 105–108. 35B27 (35J99, 73B27)
Dappa, Eleonora A characterization of a generalized integral mean preserving convexity. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 93–99. (Giovanni Alberti) **99e:26010** 26A51 (39B72, 54C30)
Da Prato, Giuseppe Perturbation of Ornstein-Uhlenbeck semigroups. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 101–126 (1997). (Anna Milian) **99c:60116** 60H10 (47D06)
— (*with* Zabczyk, Jerzy) Differentiability of the Feynman-Kac semigroup and a control application. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 183–188. (Piermarco Cannarsa) **99f:49041** 49L20 (35R15, 47D06, 47N70)
— (*with* Clément, Philippe; Prüss, Jan) White noise perturbation of the equations of linear parabolic viscoelasticity. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 207–220 (1998). (Isamu Dôku) **99m:34183** 34K30 (34K50, 45J05, 60H20, 73F15)
— ★ Introduction to differential stochastic equations. Second edition. Appunti dei Corsi Tenuti da Docenti della Scuola. [Notes of Courses Given by Teachers at the School] *Scuola Normale Superiore, Pisa*, 1998. *vi+115 pp.* (Ana Bela Cruzeiro) **99k:60138** 60H05 (35R60, 58G11, 60H10, 60H30)
— (*with* Cannarsa, Piermarco) Potential theory in Hilbert spaces. *Recent advances in partial differential equations, Venice* 1996, 27–51, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99a:35267** 35R15 (46G12, 47D06, 47N20)
— The Ornstein-Uhlenbeck generator perturbed by the gradient of a potential. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 501–519. (Samy Tindel) **99k:60160** 60H15 (47D07)
— Perturbations of Ornstein-Uhlenbeck transition semigroups by a subquadratic potential. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 431–444. (Vladimir I. Bogachev) **99g:47102** 47D07 (49J20, 60H07)
— (*with* Aubin, Jean-Pierre) The viability theorem for stochastic differential inclusions. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 1, 1–15. (Anna Milian) **99e:60135** 60H15
— *see also* **Jacob, Birgit et al.**, **99d:49064**
Da Providência, João *see* **da Providência, João**
D'Apuzzo, L. (*with* Basile, L.; Squillante, M.) Relations between Gehring classes and Muckenhoupt classes via the Hardy operator. (English summary) *Ricerche Mat.* **45** (1996), *no.* 1, 157–177. (Hans P. Heinig) **99f:42039** 42B25 (26D15)
— (*with* Basile, L.; Squillante, M.) The limit class of Gehring type G_∞. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 871–884. (Jeremy T. Tyson) **99h:42031** 42B25 (26D15)
D'Apuzzo, Marco (*with* Maddalena, Lucia) Parallelization strategies for the B-spline curve interpolation problem. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 1–8, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D05 (65D07, 65Y05)
D'Aquino, Paola Toward the limits of the Tennenbaum phenomenon. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 1, 81–92. (Thomas McLaughlin) **99a:03041** 03C62 (03C57, 03D35, 03F30)
Dar, Emanuel (*with* Koren, Gilad; Amir, Amihood) The power of migration in multi-processor scheduling of real-time systems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 226–235, *ACM, New York*, 1998. (*see* **99d:68011**) 68M20
Dar, Karamat Hussain L-invariants of a BCI-algebra. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 125–135. (Summary) **99e:06009** 06F35
Dar, Sean Isotropic constants of Schatten class spaces. (English summary) *Convex geometric analysis* (*Berkeley, CA*, 1996), 77–80, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Summary) **99k:46027** 46B28 (47B10, 47D50, 52A07)
Darabi, F. (*with* Jafarizadeh, M. A.; Rastegar, A.) On the Duru-Kleinert path integral in quantum cosmology. (English summary) *Phys. Lett. A* **248** (1998), *no.* 1, 19–24. (Summary) **99e:83028** 83C45
Darafsheh, M. R. The characters and conjugacy classes in the extension of the general linear group by the transpose-inverse involution. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 103–107, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Roderick Gow) **99c:20059** 20G05 (20G40)
— On the p-Steinberg characters of some finite simple groups. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 123–127, *World Sci. Publishing, River Edge, NJ*, 1998. (A. S. Kondrat'ev) **99j:20018** 20C33 (20C15, 20D06)
— (*with* Pournaki, M. R.) On the dimensions of cyclic symmetry classes of tensors. (English summary) *J. Algebra* **205** (1998), *no.* 1, 317–325. (Bo Ying Wang) **99g:15040** 15A69 (11A25, 11L99, 20C15)
Daras, Tryfon Trajectories of exchangeable sequences: large and moderate deviations results. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 289–304. (Alexander Schied) **99h:60049** 60F10 (60B12, 60G09)
Darbinyan, S. Kh. On some properties of paths in directed graphs. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 1, 8–12 (1997). (Alexandra Kireeva) **99i:05090** 05C20 (05C38)
Darby, Carl (*with* Laver, Richard) Countable length Ramsey games. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 41–46, *Kluwer Acad. Publ., Dordrecht*, 1998.

(Douglas R. Burke) **99b:03062** 03E05 (90D44)

Darby-Dowman, Ken (*with* Rangel, Socorro) The application of preprocessing and cutting plane techniques for a class of production planning problems. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 3, 297–318. 90B30 (90C10)

— (*with* Little, James) Properties of some combinatorial optimization problems and their effect on the performance of integer programming and constraint logic programming. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 276–286. (*see* **99e:90002**) 90C27 (90C10)

Darcy, Isabel K. (*with* Sumners, De Witt) A strand passage metric for topoisomerase action. *KNOTS '96 (Tokyo)*, 267–278, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99k:57012** 57M25 (92E10)

— (*with* Sumners, De Witt) Applications of topology to DNA. *Knot theory (Warsaw, 1995)*, 65–75, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:92029** 92D20

Dardanoni, Valentino (*with* Forcina, Antonio) A unified approach to likelihood inference on stochastic orderings in a nonparametric context. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1112–1123. (Joachim Krauth) **99i:62131** 62H17 (62G10)

Darewych, Jurij W. Interparticle interactions and nonlocality in quantum field theory. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 333–343, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99j:81201** 81V10

— (*with* Barham, Mark) Exact two-body eigenstates in scalar quantum field theory. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3481–3491. (Summary) **99a:81096** 81T10

Dargahi-Noubary, G. R. (*with* Shi, Yixun) Difference equation models for estimating athletic records. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 107–122. (Summary) **99c:39002** 39A10

al-Dargazelli, Shetha S. *see* **Al-Dargazelli, Shetha S.**

Dargis, P. (*with* Maassarani, Ziad) Fermionization and Hubbard models. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 681–708. (Summary) **99i:82008** 82B20 (82B23)

Darian, Bahman Solving the Hamilton-Jacobi equation for gravitationally-interacting electromagnetic and scalar fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 143–152. (Alexander N. Petrov) **99a:83004** 83C05 (83C25, 83C50)

Dariescu, Ciprian (*with* Dariescu, Marina-Aura; Gottlieb, Ioan) Lie algebras methods in unified theories—gauge theory of spin $\frac{3}{2}$ field in $S^3 \times \mathbf{R}$ spacetime. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1994)*, 41–46, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Summary) **99g:53071** 53C80 (83C60)

— (*with* Dariescu, Marina-Aura) Zero energy modes of massless fermions in $S^3 \times \mathbf{R}$ spacetime. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1393–1397. 81T20

Dariescu, Marina-Aura (*with* Dariescu, Ciprian; Gottlieb, Ioan) Lie algebras methods in unified theories—gauge theory of spin $\frac{3}{2}$ field in $S^3 \times \mathbf{R}$ spacetime. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1994)*, 41–46, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Summary) **99g:53071** 53C80 (83C60)

— (*with* Dariescu, Ciprian) Zero energy modes of massless fermions in $S^3 \times \mathbf{R}$ spacetime. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1393–1397. 81T20

Dar'in, N. A. Algebra of symmetry operators for the invariant nonlinear transport equation. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 364–370; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1484–1489 (1996). (Oktay K. Pashaev) **99b:58242** 58G35 (35Q99, 82C70)

Darinskiĭ, A. N. (*with* Alshits, V. I.; Lothe, J.; Lyubimov, V. N.; Shuvalov, A. L.) An existence criterion for the branch of two-component surface waves in anisotropic elastic media. (English summary) *Wave Motion* **28** (1998), *no.* 3, 241–257. (Summary) **99e:73044** 73D20 (73B40)

Darinskiĭ, B. M. (*with* Sapronov, Yu. I.) Bifurcations of extremals near a singularity of a multidimensional fold. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 35–46; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 2, 32–42. (Hubertus Th. Jongen) **99a:90200** 90C31 (58E15)

Daripa, Prabir Some useful filtering techniques for illposed problems. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 2, 161–171. (Summary) **99h:65161** 65M30 (35Q51, 35R25)

— (*with* Mashat, Daoud) Singular integral transforms and fast numerical algorithms. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 133–157. (Summary) **99j:65256** 65Y20 (65D30, 65T20)

— (*with* Mashat, Daoud) An efficient and novel numerical method for quasiconformal mappings of doubly connected domains. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 159–175. (N. Papamichael) **99m:65052** 65E05 (30C62, 65Y99)

— (*with* Hua, Wei) A numerical study of an ill-posed Boussinesq equation arising in water waves and nonlinear lattices: filtering and regularization techniques. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 159–207. (Summary) **99m:76087** 76M20 (35Q35, 65M99, 70K99, 76B15)

Darji, Udayan B. (*with* Buczolich, Zoltán; O'Malley, R. J.) Irrational rotations and differentiability. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 305–313. (Michael Evans) **99b:26005** 26A24

— (*with* Brown, Jack B.; Larsen, Eric P.) Nowhere monotone functions and functions of nonmonotonic type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 173–182. (Yu. V. Trubnikov) **99b:26015** 26A48

Darlington, J. (*with* Tanyi, B. A.; Pantelides, C. C.; Rustem, Berç) Robust optimisation of nonlinear systems under parametric uncertainty. (English summary) *Operations Research Proceedings 1996 (Braunschweig)*, 43–48, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C15 (90C30)

Darlington, Sidney A history of network synthesis and filter theory for circuits composed of resistors, inductors, and capacitors. (English summary) Darlington memorial issue. *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 1, 4–13. (*see* **99m:94001**) 94–03 (94C05)

— *see also* **Memorial Issue: Darlington, Sidney, 99m:94001**

Darmanyan, S. (*with* Kamchatnov, A. M.; Lederer, Falk) Optical shock waves in media with quadratic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R*4120–*R*4123. 78A60

Darmon, Henri (*with* Diamond, Fred; Taylor, Richard L.) Fermat's last theorem. *Current developments in mathematics, 1995 (Cambridge, MA)*, 1–154, *Internat. Press, Cambridge, MA*, 1994. (M. Ram Murty) **99d:11067a** 11G18 (11D41, 11F80, 11G05)

— (*with* Diamond, Fred; Taylor, Richard L.) Fermat's last theorem. *Elliptic curves, modular forms & Fermat's last theorem (Hong Kong, 1993)*, 2–140, *Internat. Press, Cambridge, MA*, 1997. (M. Ram Murty) **99d:11067b** 11G18 (11D41, 11F80, 11G05)

— Wiles' theorem and the arithmetic of elliptic curves. *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 549–569, *Springer, New York*, 1997. (*see* **99k:11004**) 11G40 (11G05)

— (*with* Bertolini, Massimo) A rigid analytic Gross-Zagier formula and arithmetic applications. With an appendix by Bas Edixhoven. *Ann. of Math.* (2) **146** (1997), *no.* 1, 111–147. (Andrea Mori) **99f:11079** 11G40 (11F67)

— Stark-Heegner points over real quadratic fields. (English summary) *Number theory (Tiruchirapalli, 1996)*, 41–69, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Andrea Mori) **99f:11069** 11G05 (11G40)

— (*with* Bertolini, Massimo) Heegner points, p-adic L-functions, and the Cerednik-Drinfeld uniformization. *Invent. Math.* **131** (1998), *no.* 3, 453–491. (Bas Edixhoven) **99f:11080** 11G40 (11G05, 14G10, 14G20)

— (*with* Bertolini, Massimo) Non-triviality of families of Heegner points and ranks of Selmer groups over anticyclotomic towers. *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 15–24. (John W. Jones) **99h:11053** 11G05 (11G40, 11R23)

Darnell, Michael *see* **Cryptography and coding, 99g:94019**

Da Rocha, Armando Freitas *see* **da Rocha, Armando Freitas**

Da Rocha Medrado, João Carlos *see* **da Rocha Medrado, João Carlos**

Darondeau, Philippe (*with* Badouel, Eric; Bernardinello, Luca) The synthesis problem for elementary net systems is NP-complete. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 107–134. (Raymond Devillers) **99b:68137** 68Q90 (68Q25, 68Q55, 68Q68)

— Deriving unbounded Petri nets from formal languages. (English summary) *CONCUR'98: concurrency theory (Nice)*, 533–548, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68105** 68Q45 (68Q90)

Darrigol, Olivier Classical concepts in Bohr's atomic theory (1913–1925). (English summary) *Physis Riv. Internaz. Storia Sci. (N.S.)* **34** (1997), *no.* 3, 545–567 (1998). (Dennis Dieks) **99f:81001** 81–03 (01A60)

Darrot, E. (*with* Bermond, Jean-Claude; Delmas, O.; Pérennes, Stéphane) Hamilton circuits in the directed wrapped butterfly network. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 21–42. (Summary) **99g:05121** 05C45

— (*with* Bermond, Jean-Claude; Delmas, O.; Pérennes, Stéphane) Hamilton cycle decomposition of the butterfly network. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 371–385. (Brian Alspach) **99k:68127** 68R10 (05C45, 68M10)

Darus, M. (*with* Thomas, D. K.) α-logarithmically convex functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1049–1059. (Carl P. McCarty) **99k:30018** 30C45

— (*with* Thomas, D. K.) On the Fekete-Szegő theorem for close-to-convex functions. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 125–132. (Wolfram Koepf) **99c:30015** 30C45

Darvishi, M. T. (*with* Babolian, E.) Determination of optimal values of parameters in ASOR methods. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 129–138, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 65F10

— (*with* Ghoreishi, F.) Error reduction for higher derivatives of Chebyshev collocation method using preconditioning and domain decomposition. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 2, 421–435. 65N55 (65F30)

Darwen, C. (*with* Patula, W. T.) Properties of a certain Lyness equation. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 458–478. (Sui Sun Cheng) **99e:39012** 39A10

Darwiche, Adnan Conditioning algorithms for exact and approximate inference in causal networks. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ, 1995)*, 99–107, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T05 (68T30)

— A logical notion of conditional independence: properties and applications. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 45–82. (Zoran Ognjanović) **99a:68163** 68T30 (03B70, 68T27)

— Model-based diagnosis using structured system descriptions. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 165–222 (*electronic*). (Summary) **99f:68195** 68T99 (94C12)

Darwish, Ashraf A. (*with* Okb El-Bab, A. S.) Exponentially convex functions on foundation topological semigroups. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 315–323 (1998). (Summary) **99d:43007** 43A35

Darwish, H. E. (*with* Aouf, M. K.) On meromorphic univalent functions with positive coefficients and with two fixed points. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 3–14 (1997). (Carl P. McCarty) **99b:30011** 30C45

— (*with* Aouf, M. K.) Fixed coefficients for certain class of analytic functions with negative coefficients. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 37–44 (1997). (Shigeyoshi Owa) **99c:30012** 30C45

— (*with* Nunokawa, Mamoru; Aouf, M. K.) On α-convex functions of order β of Ruscheweyh type. II. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 82–91. (*see* **99a:00033**) 30C45

— (*with* Aouf, M. K.) A property of certain analytic functions involving Ruscheweyh derivatives. II. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 3-4, 277–281. 30C45

— (*with* Aouf, M. K.; Attiya, A. A.) Coefficients estimates for certain class of analytic functions with complex order. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 1–13. (Jay M. Jahangiri) **99k:30014** 30C45 (30C50)

Darwish, M. A. (*with* Abdou, M. A.; Mahmoud, S. A.) A numerical method for solving the Fredholm integral equation of the second kind. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 251–258. (Jose Cuminato) **99h:65211** 65R20 (45L05)

— Fredholm-Volterra integral equation with singular kernel. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 163–174. (Summary) **99j:45002** 45B05 (45D05, 45E05, 45L05)

Das, A. (*with* Santra, K. C.) Inhomogeneous confluent hypergeometric equation and its application in an electromechanical problem. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 131–139. (Summary) **99g:33009** 33C15

Das, A. G. (*with* Nath, Mahadev Chandra; Sahu, Gokul) Generalized Henstock Stieltjes integral. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 61–75. (J. Jarník) **99b:26011** 26A39 (26A42)

Das, Anadijiban (*with* Tariq, N.; Aruliah, D.; Biech, T.) Spherically symmetric collapse of an anisotropic fluid body into an exotic black hole. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4202–4227. (Summary) **99f:83043** 83C57 (83C55)

— (*with* Aruliah, D.) The spherically symmetric collapse of an inhomogeneous stellar dust ball into a black hole. (English summary) *Proc. Indian Nat. Sci. Acad. Part A* **64** (1998), *no.* 1, 1–52. (Asghar Qadir) **99i:83055** 83C57 (83C55)

Das, Ashish D. (*with* Shah, Kirti R.) Discrimination among equivalent block designs. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 341–349, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62K10

— (*with* Dey, Aloke; Dean, Angela M.) Optimal designs for diallel cross experiments. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 427–436. (Sanpei Kageyama) **99g:62105** 62K05 (62K10)

Das, Ashok (*with* Brunelli, J. C.) The supersymmetric two boson hierarchy. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 1–10, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:58108** 58F07 (81Q60, 81R10)

— (*with* Brunelli, J. C.) Integrable models and the higher-dimensional representations of graded Lie algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 133–144. (Youjin Zhang) **99h:58081** 58F07 (17B70)

— (*with* Aratyn, Henrik) The sAKNS hierarchy. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 15, 1185–1199. (Vadim A. Brazhnikov) **99d:58075** 58F07

— (*with* Maharana, Jnanadeva; Roy, Shibaji) An SL(2, **Z**) multiplet of black holes in $D = 4$ type II superstring theory. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 185–195. (Paulo Moniz) **99c:83086** 83E30 (81T30, 83C57)

— (*with* Brunelli, J. C.) A Lax representation for the Born-Infeld equation. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 57–63. (Summary) **99d:78010** 78A25 (58F40)

Das, Biren (*with* Dubey, Balram) Models for the survival of species dependent on resource in industrial environments. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 2, 374–396. (Summary) **99m:92028** 92D25 (92D40)

Das, Debopam (*with* Arakeri, Jaywant H.) Transition of unsteady velocity profiles with reverse flow. (English summary) *J. Fluid Mech.* **374** (1998), 251–283. (Summary) **99i:76063** 76E99 (76F99)

Das, G. *see* **Das, Gautam**

Das, G. C. (*with* Sarma, Jnanjyoti) A new mathematical approach for finding the solitary waves in dusty plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3918–3923. (Summary) **99h:76097** 76X05

Das, Gautam (*with* Kapoor, Sanjiv; Smid, Michiel H. M.) On the complexity of approximating Euclidean traveling salesman tours and minimum spanning trees. (English summary) *Algorithmica* **19** (1997), *no.* 4, 447–460. (P. F. Körner) **99b:90099** 90C27 (90C60)

Das, Ghanshiam (*with* Maggu, P. L.) The concept of division of vectors. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 97–100. 15A03

Das, Gokulananda (*with* Manjari Swain, Manoja) Fixed point as a best approximant. (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 275–286. (S. P. Singh) **99i:47102** 47H10 (47H04)

— Degree of approximation in the sense of convergence in probability of weighted random Fourier-Stieltjes series associated with stable process. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 53–57, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 60G99

— (*with* Ray, Braja Kishore) Degree of approximation in the Hölder metric by a new trigonometric method of summation. (English summary) *J. Anal.* **5** (1997), 127–137. (Alexandru Leonte) **99m:42004** 42A10 (41A25)

— (*with* Ray, Braja Kishore) Abelian and Tauberian theorems for a new trigonometric method of summation. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **107** (1997), *no.* 4, 391–403. (Arun Kumar) **99f:40006** 40E05 (40G05)

— (*with* Ojha, Akshay Kumar; Ray, Braja Kishore) Degree of approximation of functions associated with Hardy-Littlewood series in the Hölder metric by Borel means. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 279–293. (Summary) **99j:42032** 42B30 (41A25)

— (*with* Ojha, Akshay Kumar; Ray, Braja Kishore) Degree of approximation of functions associated with Hardy-Littlewood series in the generalized Hölder metric. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 109–120. (M. W. Müller) **99h:42009** 42A24 (40C05, 41A25)

— (*with* Maggu, P. L.) On the concept of division of matrices. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 15–21. 15A99

Das, Indraneel (*with* Dennis, J. E., Jr.) Normal-boundary intersection: a new method for generating the Pareto surface in nonlinear multicriteria optimization problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 631–657 (*electronic*). (Wiesław Kotarski) **99d:90101** 90C29 (90C30)

Das, J. K. (*with* Singh, Jai Narain; Sinha, S. N.) A variant of primal-dual infeasible-interior-point algorithm for linear programming. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 103–109. 90C05

Das, Jyoti (*with* Chakravorty, Arnab Kumar) An alternative proof of self-adjointness condition for a mixed boundary value problem. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 9–14 (1996). (M. Tvrdý) **99d:34026** 34B05

— Nonlinear analysis as an aid to linear analysis. *J. Pure Math.* **13** (1996), 1–12. (Gerhard Freiling) **99h:34054** 34C10 (34B24, 34C11)

Das, K. C. *see* **Das, Kiran Chandra**

Das, K. K. *see* **Das, Kishore K.**

Das, K. P. (*with* Bhattacharyya, Sudebi) The effect of randomness on the stability of deep water surface gravity waves in the presence of a thin thermocline. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 190–206. (Summary) **99k:76023** 76B15 (76E99)

Das, Kalyan (*with* Sarkar, Ashis Kumar) Effect of time delay in an autotroph-herbivore system with nutrient cycling. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 507–516. (Summary) **99k:92045** 92D40 (34K20, 92D25)

Das, Kaustuv Mukul Some results about the Quillen complex of $\mathrm{Sp}_{2n}(q)$. (English summary) *J. Algebra* **209** (1998), *no.* 2, 427–445. (Thomas Weigel) **99i:20066** 20G40 (20B25)

Das, Kiran Chandra (*with* Das Gupta, Madhumita; Paul, K.) Structure of the antieigenvectors of a strictly accretive operator. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 761–766. (K. Gustafson) **99h:47040** 47B44 (47A63)

Das, Kishore K. (*with* Nandi, S. B.) A family of the multivariate Abel series distributions. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 252–263. (C. D. Lai) **99k:60033** 60E05 (62E15, 62F10)

Das, Lovejoy S. Manifold with the structure satisfying $F^{K+1} - a^2F^{K-1} = 0$. *Mathematica* **37(60)** (1995), *no.* 1-2, 81–91. (Gilbert Monna) **99a:53026** 53C15

— On lifts of structure satisfying $F^{K+1} - a^2F^{K-1} = 0$. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 211–222. (Peter Bueken) **99e:53033** 53C15

Das, M. *see* **Das, Mili**

Das, M. K. *see* **Das, Manoj Kumar**

Das, Manav Binary expansions and multifractals. (English summary) *Fractal frontiers (Denver, CO, 1997)*, 131–139, *World Sci. Publishing, River Edge, NJ*, 1997. (Lars Olsen) **99g:28008** 28A75 (28A80)

— Local properties of self-similar measures. *Illinois J. Math.* **42** (1998), *no.* 2, 313–332. (Steen Pedersen) **99c:28012** 28A75 (28A80)

Das, Manoj Kumar (*with* Srivastava, Hari M.; Mishra, Akshaya Kumar) A nested class of analytic functions defined by fractional calculus. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 321–332. (Shigeyoshi Owa) **99g:30020** 30C45 (26A33)

Das, Mili (*with* Chakraborty, Mihir K.; Ghoshal, T. K.) Fuzzy tolerance relation, fuzzy tolerance space and basis. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 361–369. (Summary) **99d:04006** 04A72

Das, N. C. (*with* De, Kajal; Chakrabarti, C. G.) Kullback discrimination information: minimization and characterization. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 421–430. (Summary) **99b:94016** 94A17

Das, N. R. (*with* Das, Pankaja) Relation between two notions of fuzzy semi-norm. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 713–719. 54A40

Das, Namita The kernel of a Hankel operator on the Bergman space. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 75–80. (Richard Rochberg) **99j:47034** 47B35

Das, Nityananda (*with* Ghosh, Subhradip; Mookerjee, Abhijit) A geometrical approach to Feenberg multiple-scattering series. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2837–2852. (Introduction) **99e:82094** 82D20 (81U99)

Das, P. *see* **Das, Pali**

Das, P. K. (*with* Roy, Amiya Bhusan) The role of four regulatory hormones in controlling testicular function in a delay model. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 101–116. (M. J. Chappell) **99a:92011** 92C50 (34K35, 93C95)

Das, Pali (*with* Chakrabarty, N. R.; Chaudhuri, P. K.) A polynomial time algorithm for a hemispherical minimax location problem. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 57–63. (Summary) **99m:90094** 90B85

Das, Pankaja (*with* Das, N. R.) Relation between two notions of fuzzy semi-norm. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 713–719. 54A40

Das, Pitambar (*with* Parhi, N.) Oscillatory and asymptotic behaviour of a class of nonlinear differential equations of third order. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 95–106. (Ondřej Došlý) **99c:34064** 34C10

— On oscillation of neutral delay differential equations. *Nonlinear Anal.* **32** (1998), *no.* 4, 533–539. (Pavol Marušiak) **99b:34114** 34K15 (34K40)

Das, Pradip Kumar Quantum stochastic flows. Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 99–106. (*see* **99b:00016**) 81S25

Das, Pratulananda (*with* Lahiri, B. K.) Weakly Borel measures in bitopological spaces. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 2, 139–146. 54E55 (54H05)

— Fuzzy topology on fuzzy sets: product fuzzy topology and fuzzy topological groups. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 367–372. (Summary) **99j:54010** 54A40 (22A99, 54B10)

— (*with* Lahiri, B. K.) Measures in bitopological spaces. II. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 473–485. (Summary) **99f:28020** 28C15 (28A12, 54E55)

Das, Pratyayananda (*with* Adhikari, M. R.) An algebraic and fuzzy algebraic approach to vector bundles. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 29–36. (Summary) **99d:55009** 55R99 (16Y30)

— Lattice of fuzzy congruences in inverse semigroups. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 399–408. 20M99 (04A72, 08A30)

— A fuzzy topology associated with a fuzzy finite state machine. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 469–479. 54A40 (68Q45)

Das, R. N. *see* **Das, Rabindra Nath²**

Das, Rabindra Nath¹ (*with* Kumar, Santosh³; Prasad, Lallu) On certain spaces of normalized analytic mappings. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 76–80. 30C45

Das, Rabindra Nath² (*with* Pradhan, G.) Two parameters quadrature rules for approximate evaluation on analytic functions of one complex-variable. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 2, 119–128. 65D32 (65U05)

Das, S. *see* **Das, Subir**

Das, Saurya Eikonal approach to Planck scale physics. (English summary) *Classical and quantum aspects of gravitation and cosmology (Madras, 1996)*, 167–176, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (Summary) **99c:83051** 83C57 (83C45)

— (*with* Dasgupta, Arundhati; Ramadevi, P.) Can extremal black holes have nonzero entropy? (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 39, 3067–3079. (Gil De Oliveira-Neto) **99f:83044** 83C57 (83E30)

— (*with* Dasgupta, Arundhati; Ramadevi, P.; Sarkar, Tapobrata) Planckian scattering of D-branes. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 51–58. (Summary) **99b:81184** 81T30

Das, Shubhabrata (*with* Krishen, Alok) Some bootstrap methods in nonlinear mixed-effect models. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 237–245. (*see* **99k:62004**) 62G09

Das, Subir (*with* Patra, Baidyanath; Debnath, Lokenath) Diffraction of SH-waves by a Griffith crack in an infinite transversely orthotropic medium. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 57–61. 73D25

— (*with* Patra, Baidyanath; Debnath, Lokenath) Stress intensity factors for a moving interfacial Griffith crack in composite media. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 4, 453–475. (Summary) **99i:73057** 73M25 (73B40, 73K20)

Das, Sumit R. (*with* Mathur, Samir D.; Rama, S. Kalyana; Ramadevi, P.) Boosts, Schwarzschild black holes and absorption cross sections in M-theory. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 187–204. (Marco Cavaglià) **99i:83056** 83C57 (81T30, 83E30)

— D-brane decay and Hawking radiation. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 119–127. (Summary) **99e:83053** 83E30 (81T30, 83C57)

— (*with* Trivedi, Sandip P.) Three-brane action and the correspondence between $N = 4$ Yang Mills theory and anti-de Sitter space. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 142–149. (Summary) **99m:81244** 81T60 (81T13, 81T30, 83E30)

Das, Tarun Kumar On fixed point set and projective lift. *J. Indian Math. Soc. (N.S.)* **64** (1997), *no.* 1-4, 125–130. (W. Kulpa) **99k:54037** 54H25

Dasbach, Oliver T. On the combinatorial structure of primitive Vassiliev invariants. II. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 127–139. (Summary) **99c:05051** 05C10

Dăscălescu, Sorin (*with* Năstăsescu, C.; Van Oystaeyen, Freddy; Torrecillas Jover, Blas) Duality theorems for graded algebras and coalgebras. *J. Algebra* **192** (1997), *no.* 1, 261–276. (William Chin) **99c:16042** 16W50 (16S40, 16W30)

— (*with* Bulacu, D.; Grünenfelder, L.) Modules graded by G-sets: duality and finiteness conditions. *J. Algebra* **195** (1997), *no.* 2, 624–633. (Piotr Grzeszczuk) **99d:16049** 16W50 (16S35, 16W20)

— (*with* Beattie, Margaret; Raianu, Ş.) Galois extensions for co-Frobenius Hopf algebras. (English summary) *J. Algebra* **198** (1997), *no.* 1, 164–183. (Stefaan Caenepeel) **99c:16034** 16W30

— (*with* Năstăsescu, C.; Raianu, Ş.) Strongly graded coalgebras and crossed coproducts. *Abelian groups, module theory, and topology (Padua, 1997)*, 131–142, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Blas Torrecillas Jover) **99j:16023** 16W30

— (*with* Raianu, Ş.; Van Oystaeyen, Freddy) Smash (co)products from adjunctions. *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 103–110, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Jeffrey Bergen) **99g:16047** 16W30 (16S40)

— (*with* Beattie, Margaret; Raianu, Ş.; Van Oystaeyen, Freddy) The categories of Yetter-Drinfel'd modules, Doi-Hopf modules and two-sided two-cosided Hopf modules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 223–237. (Stefaan Caenepeel) **99h:16054** 16W30

— (*with* Beattie, Margaret; Grünenfelder, L.; Năstăsescu, C.) Finiteness conditions, co-Frobenius Hopf algebras, and quantum groups. (English summary) *J. Algebra* **200** (1998), *no.* 1, 312–333. (Mitsuhiro Takeuchi) **99c:16035** 16W30

— (*with* Caenepeel, Stefaan) Pointed Hopf algebras of dimension p^3. (English summary) *J. Algebra* **209** (1998), *no.* 2, 622–634. (Nicolás Andruskiewitsch) **99k:16076** 16W30

— (*with* van Wyk, Leon) Complete blocked triangular matrix rings over a Noetherian ring. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 65–68. (Summary) **99i:16054** 16S50

— (*with* Caenepeel, Stefaan) On pointed Hopf algebras of dimension 2^n. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 17–24. (Sara Westreich) **99i:16065** 16W30

Dascălu, Cristian Error estimates for a fully discrete approximation of semilinear evolution equations. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 3-4, 245–254. 65L70 (34G20, 65J15)

— Electroelasticity equations and energy approaches to fracture. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1185–1194. (E. S. Şuhubi) **99a:73111** 73R05 (73M25)

D'Asero, S. Integral estimates for the gradients of solutions of local nonlinear variational inequalities with degeneration. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 95–113. (Wilfrid Gangbo) **99d:49020** 49J40 (35J85, 49J10)

Dasgupta, Abhijit (*with* Cheng, Raymond; Ebanks, Bruce R.; Kinch, L. F.; Larson, L. M.; McFadden, Robert B.) When does $f^{-1} = 1/f$? *Amer. Math. Monthly* **105** (1998), *no.* 8, 704–717. (James Foran) **99h:39026** 39B22 (30C35, 39B32)

DasGupta, Ananda (*with* Mitra, Indrajit; Dutta-Roy, Binayak) Regularization and renormalization in scattering from Dirac delta potentials. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 12, 1101–1109. (Summary) **99h:81221** 81U05 (81T15)

Dasgupta, Ani (*with* Chiu, Y. Stephen) On implementation via demand commitment games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 161–189. (Tadeusz Radzik) **99m:90163** 90D06 (90D10, 90D12)

DasGupta, Anirban Review of optimal Bayes designs. *Design and analysis of experiments*, 1099–1147, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05 (62F15)

— (*with* Sinha, Bimal Kumar) A new general interpretation of the Stein estimate and how it adapts: applications. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 247–268. (Summary) **99k:62113** 62H12 (62C15)

Dasgupta, Arundhati (*with* Das, Saurya; Ramadevi, P.) Can extremal black holes have nonzero entropy? (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 39, 3067–3079. (Gil De Oliveira-Neto) **99f:83044** 83C57 (83E30)

— (*with* Das, Saurya; Ramadevi, P.; Sarkar, Tapobrata) Planckian scattering of D-branes. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 51–58. (Summary) **99b:81184** 81T30

— Emission of fermions from BTZ black holes. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 279–286. (Summary) **99k:83065** 83C57 (81T40)

Dasgupta, B. *see* **Dasgupta, Brahmananda**

Dasgupta, Bhaskar *see* **Dasgupta, Bhaskar[2]**

Dasgupta, Bhaskar[1] (*with* He, Xin[1]; Jiang, Tao[1]; Li, Ming[1]; Tromp, John; Wang, Lusheng; Zhang, Louxin) Computing distances between evolutionary trees. *Handbook of combinatorial optimization, Vol. 2*, 35–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

— (*with* Jiang, Tao[1]; Kannan, Sampath K.; Li, Ming[1]; Sweedyk, Elizabeth) On the complexity and approximation of syntenic distance. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 59–82. (Peter Clote) **99j:92011** 92D20 (68Q25, 68R99, 92D15)

Dasgupta, Bhaskar[2] (*with* Mruthyunjaya, T. S.) Singularity-free path planning for the Stewart platform manipulator. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 711–725. (Summary) **99g:70007** 70B15

— (*with* Mruthyunjaya, T. S.) Force redundancy in parallel manipulators: theoretical and practical issues. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 727–742. (Summary) **99f:70006** 70B15

— (*with* Mruthyunjaya, T. S.) Closed-form dynamic equations of the general Stewart platform through the Newton-Euler approach. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 7, 993–1012. (Summary) **99f:70007** 70B15 (70–08)

— (*with* Mruthyunjaya, T. S.) A Newton-Euler formulation for the inverse dynamics of the Stewart platform manipulator. (English summary) International Conference on Advances in Mechanical Engineering (ICAME) (Bangalore, 1995). *Mech. Mach. Theory* **33** (1998), *no.* 8, 1135–1152. (Summary) **99h:70005** 70B15 (70–08)

Dasgupta, Brahmananda (*with* Roy Chowdhury, Asesh; Rao, N. N.) Painléve analysis and Backlund transformations for coupled generalized Schrödinger-Boussinesq system. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1747–1753. (Summary) **99i:35155** 35Q55 (58F37)

Dasgupta, H. (*with* Lahiri, B. K.; Majumdar, Pradip Kumar) History of topology in India (period 1947–1960). (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 61–75. (Summary) **99c:54001** 54–03 (01A60)

Dasgupta, Indranil The imaginary-time path integral and non-time-reversal-invariant saddle points of the Euclidean action. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 403–419. (Summary) **99c:81119** 81S40 (81T99)

Dasgupta, Keshav (*with* Mukhi, Sunil) Anomaly inflow on orientifold planes. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 4, 11 *pp.* (*electronic*). (Summary) **99a:81133** 81T30 (83E30)

— (*with* Jatkar, Dileep P.; Mukhi, Sunil) Gravitational couplings and Z_2 orientifolds. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 465–484. (C. Gauthier) **99i:81177** 81T30 (83E30)

Das Gupta, Madhumita (*with* Das, Kiran Chandra; Paul, K.) Structure of the antieigenvectors of a strictly accretive operator. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 761–766. (K. Gustafson) **99h:47040** 47B44 (47A63)

Dasgupta, Patrick The cosmological constant: a tutorial. *Geometry, fields and cosmology (Pune*, 1989), 525–548, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 83F05

Dasgupta, Ratan Nonuniform speed of convergence to normality while sampling from finite population. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 227–237. (Zuzana Prášková) **99k:62019** 62D05 (62E20)

Dasgupta, Sudipto (*with* Carlsson, Hans) Noise-proof equilibria in two-action signaling games. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 432–460. (Summary) **99c:90157** 90D05 (90A14)

Dash, N. (*with* Panda, G. K.) Variational like-inequalities in Banach spaces. (English summary) *Opsearch* **35** (1998), *no.* 2, 106–114. 49J40 (47H19)

Dashevich, O. V. Canonical structures of classical type on regular Φ-spaces, and invariant affine connections. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 10, 23–31. (Andrew Bucki) **99h:53067** 53C30 (53C05, 53C15)

Dashkova, O. Yu. Groups of finite nonabelian sectional rank. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1324–1331; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1494–1500 (1998). (Alexander A. Baranov) **99k:20080** 20F50 (20F16)

Dašić, V. (*with* Perić, V.) Near-rings with a minimal defect of distributivity. (English summary) *Math. Montisnigri* **7** (1996), 1–11. (Herbert J. Bernstein) **99c:16049** 16Y30

— (R, S)-groups over near-rings with a defect of distributivity. (English summary) *Math. Montisnigri* **9** (1998), 37–49. 20N99 (16Y30)

Da Silva, A. (*with* Barreto, W.) Self-similar and charged spheres in the diffusion approximation. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 6, 1783–1792. 83C50

Da Silva, Antonio R. *see* **da Silva, Antonio R.**

Da Silva, Edson P. *see* **da Silva, Edson P.**

Da Silva, Fabio Q. B. *see* **da Silva, Fabio Q. B.**

Da Silva, Ilda P. F. (*with* Bordalo, G. Hauser) A characterization of finite modular pseudocomplemented lattices. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 113–122. (Summary) **99b:06010** 06C05 (06D15)

— (*with* Fukuda, Komei) Isolating points by lines in the plane. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 48–65. (Joseph Zaks) **99d:52010** 52B30 (52A10, 68Q25)

Da Silva, Ivan N. *see* **da Silva, Ivan N.**

Da Silva, José L. *see* **da Silva, José L.**

Da Silva Filho, P. B. *see* **da Silva Filho, P. B.**

Daskalopoulos, Georgios D. (*with* Wentworth, Richard A.) Geometric quantization for the moduli space of vector bundles with parabolic structure. (English summary) *Geometry, topology and physics (Campinas*, 1996), 119–155, *de Gruyter, Berlin*, 1997. (Nitin Nitsure) **99k:32033** 32G13 (14D20, 58F06)

— (*with* Dostoglou, S.; Wentworth, Richard A.) Families of SU(2) representations for mapping cylinders of periodic monodromy. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 383–392. (Summary) **99c:57044** 57N10 (14H60, 57N05)

— (*with* Dostoglou, S.; Wentworth, Richard A.) Character varieties and harmonic maps to R-trees. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 523–533. (Raul Quiroga) **99k:58045** 58E20

— (*with* Wentworth, Richard A.) On the Brill-Noether problem for vector bundles. (English summary) *Forum Math.* **11** (1999), *no.* 1, 63–77. (Enrique Arrondo) **99m:14064** 14H60 (58E15)

Daskalopoulos, P. (*with* Hamilton, Richard S.) Regularity of the free boundary for the porous medium equation. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 899–965. (Giovanni Leoni) **99d:35182** 35R35 (34B15, 35K55, 76S05)

Daskaloyannis, C. (*with* Solomon, Allan I.) Jaynes-Cummings variants. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 130–136, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81V80

Dasmahapatra, Srinandan (*with* Foda, Omar) Strings, paths and standard tableaux. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 501–522. (Rinat Kedem) **99a:05142** 05E10 (82B23)

— (*with* Alcaraz, F. C.; Rittenberg, Vladimir) *N*-species stochastic models with boundaries and quadratic algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 845–878. (Summary) **99h:82034** 82B31 (82B20)

D'Aspremont, Claude *see* **d'Aspremont, Claude**

Dasril, Yosza (*with* Mohd, Ismail Bin) A note on the violated constraints–approach for solving the quadratic programming problem. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 2, 141–148. 90C20

Dass, Bani Brata (*with* Shanubhogue, Ashok) Three class price adjusting sampling plan by attributes. (English summary) *IAPQR Trans.* **21** (1996), *no.* 1, 23–28. (Summary) **99i:62241** 62N10

hari Dass, N. D. *see* **Hari Dass, N. D.**

Dass, N. D. Hari *see* **Hari Dass, N. D.**

Dass, Tulsi (*with* Joglekar, Yogesh) Erratum: "Augmented temporal logic formalism for histories-based generalized quantum mechanics" [J. Math. Phys. **39** (1998), no. 2, 704–729; MR 98j:81026]. *J. Math. Phys.* **40** (1999), *no.* 6, 3235. 81P10

Dassiè, Silvia (*with* Vianello, Marco; Zanovello, Renato) Asymptotic summation of power series. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 61–73. (M. S. Rangachari) **99k:65008** 65B10 (65D20)

Dassios, George (*with* Rigou, Zafiria) On the theory of exterior elastic Herglotz functions. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 3–41. (Joseph J. Roseman) **99g:73023** 73C02 (35Q72)

— (*with* Rigou, Zafiria) On the reconstruction of a rigid body in the theory of elasticity. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 12, 911–923. (Paul Andrew Martin) **99a:73052** 73D25 (35Q72, 73D50)

— (*with* Cakoni, Fioralba) The coated thermoelastic body within a low-frequency elastodynamic field. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 15, 1815–1838. (Summary) **99j:73043** 73D25 (73B30)

— (*with* Lucas, R. J.) Electromagnetic imaging of ellipsoids and ellipsoidal bosses. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 413–426. (Summary) **99c:78015** 78A45

— (*with* Arnaudov, Ya. N.; Hadjinicolaou, Maria) The resistive coated sphere in the presence of a point generated wave field. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 1, 73–90. (Ivan Andronov) **99k:73057** 73D25

Dassow, Jürgen (*with* Mitrana, Victor; Păun, Gheorghe) Szilard languages associated to cooperating distributed grammar systems. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 403–413. 68Q50 (68Q45)

— Cooperating grammar systems (definitions, basic results, open problems). (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 40–52, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50

— (*with* Mihalache, Valeria) Eco-grammar systems, matrix grammars and E0L systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 210–226, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (68Q50, 92B05, 92D40)

— An example of an eco-grammar system: a can collecting robot. *Artificial life: grammatical models* (*Mangalia*, 1994), 240–244, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)

— (*with* Păun, Gheorghe; Rozenberg, Grzegorz) Grammar systems. *Handbook of formal languages, Vol.* 2, 155–213, *Springer, Berlin*, 1997. (Jetty Kleijn) **99a:68114** 68Q50 (03D05, 68Q10)

— (*with* Mitrana, Victor) The degree of parallelism in contextual grammars with the minimal competence strategy. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 3–16, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68097** 68S05 (68Q45)

— (*with* Marcus, Solomon; Păun, Gheorghe) Convex and anti-convex languages. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 1–16. (Summary) **99e:68088** 68Q45

rai Dastidar, Krishna *see* **Rai Dastidar, Krishna**

rai Dastidar, T. K. *see* **Rai Dastidar, T. K.**

Daszkiewicz, Marcin (*with* Hasiewicz, Zbigniew; Jaskólski, Zbigniew) Free strings in non-critical dimensions. *New developments in quantum field theory* (*Zakopane*, 1997), 269–277, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Pavlos I. Porfyriadis) **99i:81178** 81T30

— (*with* Hasiewicz, Zbigniew; Jaskólski, Zbigniew) Light-cone formulation and spin spectrum of non-critical fermionic string. (English summary) *Phys. Lett. B* **454** (1999), *no.* 3-4, 249–258. 81T30

nguyen duc Dat *see* **Nguyen Duc Dat**

Dat, J.-F. Types et inductions pour les représentations modulaires des groupes *p*-adiques. (English and French summaries) [Types and inductions for modular representations of *p*-adic groups] With an appendix by Marie-France Vignéras. *Ann. Sci. École Norm. Sup.* (4) **32** (1999), *no.* 1, 1–38. (Bertrand Lemaire) **99m:22018** 22E50 (11F70)

Date, G. Ashtekar approach to quantum gravity. (English summary) *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 189–200, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83C45

— *see also* **Classical and quantum aspects of gravitation and cosmology, 99b:83003**

Datko, Richard A paradigm of ill-posedness with respect to time delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 964–967. (Hien T. Tran) **99e:93064** 93D15 (34K30, 34K35)

— Empirical methods for determining the stability or instability of certain transfer functions. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 409–420. (Summary) **99f:93103** 93D05 (93B36, 93C80)

Datta, Ajoy K. (*with* Gonzalez, Teofilo F.; Thiagarajan, Visalakshi) Self-stabilizing algorithms for tree metrics. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 121–133. (Summary) **99c:68010** 68M10 (68Q10)

Datta, Aniruddha (*with* Ho, Ming-Tzu) Partially decentralized adaptive control of interconnected systems with improved performance. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 529–561. 93C40 (93A14)

Datta, Anjali Differences with respect to boundary points for right focal boundary conditions. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 6, 571–578. (Summary) **99k:39007** 39A10

— (*with* Lawrence, Bonita A.) Smooth dependence on boundary matrices for first order differential equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 59–66. (Summary) **99h:34026** 34B10 (34B15)

Datta, Basudeb (*with* Bagchi, Bhaskar) A structure theorem for pseudomanifolds. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 41–60. (Wolfgang Kühnel) **99f:57027** 57Q15

— Pseudomanifolds with complementarity. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 143–155. (Wolfgang Kühnel) **99h:57045** 57Q15 (52B70)

Datta, Bidyut Kumar Physical theories in space-time algebra. (English summary) *Quantum gravity* (*Erice*, 1995), 54–79, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Bertfried Fauser) **99j:81059** 81R25 (15A66, 83A05)

— (*with* Datta, Renuka; de Sabbata, Venzo) Einstein field equations in spinor formalism: a Clifford-algebra approach. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 1, 83–93. (Stefano De Leo) **99d:83072** 83C60

Datta, Biswa Nath (*with* Chu, King-wah Eric) Numerically robust pole assignment for second-order systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1113–1127. 93B55 (93D09)

— Recent developments on nonmodal and partial modal approaches for control of vibration. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 41–52. (*see* **99m:65003**) 93C20 (73K50, 93B40, 93D15)

— Large-scale matrix computations in control. (English summary) Applied and computational mathematics (Gramado, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 1, 53–63. (*see* **99m:65003**) 93B40 (65F30)

Datta, D. K. *see* **Datta, Dibyendu Kumar**

Datta, Debjani (*with* Chakraborty, Biswanath) Problems of electrodynamics for small rotation about a fixed axis and for other accelerations. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part II (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **4** (1996), *no.* 1-2, 73–96. (*see* **99b:00017**) 78A25

Datta, Dibyendu Kumar (*with* Babuška, Ivo M.; Strouboulis, T.; Gangaraj, S. K.; Copps, K.) Practical aspects of a posteriori estimation for reliable finite element analysis. (English summary) *Comput. & Structures* **66** (1998), *no.* 5, 627–664. (Summary) **99a:73117** 73V05

Datta, Mahuya Immersions in a symplectic manifold. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 137–149. (Keizo Hasegawa) **99j:53080** 53C42 (58D10)

Datta, Renuka (*with* Datta, Bidyut Kumar; de Sabbata, Venzo) Einstein field equations in spinor formalism: a Clifford-algebra approach. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 1, 83–93. (Stefano De Leo) **99d:83072** 83C60

Datta, Somnath Making the bootstrap work. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 119–129, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62G09

— (*with* McCormick, William P.) Inference for the tail parameters of a linear process with heavy tail innovations. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 337–359. (Friedrich Liese) **99k:62148** 62M09 (62M10)

— (*with* Mathew, George; McCormick, William P.) Nonlinear autoregression with positive innovations. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 229–239. (Summary) **99c:62248** 62M10

— (*with* Allen, Michael R.) Estimation of the index parameter for autoregressive data using the estimated innovations. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 315–324. (Summary) **99i:62194** 62M10

— (*with* Satten, Glen A.) Kaplan-Meier representation of competing risk estimates. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 3, 299–304. (Summary) **99m:62050** 62G05 (62N05, 62P05)

Datta, Tarini Kumar (*with* Nath, H. K.) On the gamma-ring of $m \times n$ rectangular matrices. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 207–216. (Geoffrey L. Booth) **99i:16055** 16S50 (15A18, 16Y99)

D'Attanasio, M. (*with* Pietroni, M.) Gauge-invariant renormalization group at finite temperature. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 443–466. (Paulo A. Faria da Veiga) **99b:81156** 81T17

D'Attellis, C. E. (*with* Mancilla Aguilar, J. L.; García, Rafael A.) Exact linearization of nonlinear systems: trajectory tracking with bounded controls and state constraints. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 455–467. 93B17 (93C15)

Dattoli, G. (*with* Lorenzutta, S.; Maino, G.; Torre, Amalia) Theory of multiindex multivariable Bessel functions and Hermite polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 179–197 (1998). (U. C. Jain) **99h:33011** 33C10 (33C45)

— (*with* Lorenzutta, S.; Torre, Amalia) Miscellaneous identities of generalized Hermite polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 337–343 (1998). (Summary) **99c:33019** 33C50

— (*with* Torre, Amalia) *q*-Bessel functions: the point of view of the generating function method. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 329–345. (Summary) **99m:33009** 33D15

— (*with* Lorenzutta, S.; Maino, G.; Torre, Amalia; Tocci, D.) A note on generalized Bessel functions and Fourier series. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 541–548. (Summary) **99c:33006** 33C10 (42B05)

— (*with* Lorenzutta, S.; Maino, G.; Torre, Amalia; Chiccoli, C.) Infinite-variable Bessel functions of the Anger type and the Fourier expansions. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 163–176. (R. K. Saxena) **99f:33002** 33C10 (33C70, 42C99, 46F25)

— (*with* Ottaviani, P. L.; Torre, Amalia; Vázquez, Luis) Evolution operator equations: integration with algebraic and finite-difference methods. Applications to physical problems in classical and quantum mechanics and quantum field theory. *Riv. Nuovo Cimento Soc. Ital. Fis.* (4) **20** (1997), *no.* 2, 133 *pp.* (Oleg Yu. Shvedov) **99a:81006** 81–08 (33C80, 34G20, 47N20, 65M06, 81Q05)

— (*with* Torre, Amalia; Lorenzutta, S.; Maino, G.) Generalized Bessel functions and Kapteyn series. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 117–125. (N. Hayek Calil) **99d:33003** 33C10

— (*with* Torre, Amalia; Carpanese, M.) Operational rules and arbitrary order Hermite generating functions. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 98–111. (N. K. Thakare) **99k:33025** 33C45

— (*with* Torre, Amalia) Generalised generating functions and Lienard-Wiechert integral. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 271–273. (Summary) **99d:78021** 78A35 (05A15)

D'Attorre, Leonard Analytical solutions of the Navier-Stokes equation for the laminar and turbulent boundary layer, over a flat plate. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 127–136, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 76D05 (76D10)

Datuashvili, T. Kan extensions of internal functors. Algebraic approach. (English summary) *Georgian Math. J.* **6** (1999), *no.* 2, 127–148. (Summary) **99j:18009** 18D35 (18B40)

Daube, O. (*with* Bertagnolio, F.) Solution of the div-curl problem in generalized curvilinear coordinates. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 1, 121–152. (Timothy Nigel Phillips) **99d:76073** 76M25 (76D05)

Daubechies, Ingrid C. (*with* Calderbank, A. Robert; Sweldens, Wim; Yeo, Boon-Lock) Wavelet transforms that map integers to integers. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 332–369. (Ahmed I. Zayed) **99h:94012** 94A12 (42C15, 94B60)

— (*with* Donoho, David L.; Vetterli, Martin; DeVore, Ronald A.) Data compression and harmonic analysis. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2435–2476. (Summary) **99i:94028** 94A29 (94A11, 94A12, 94A34)

— (*with* Sweldens, Wim) Factoring wavelet transforms into lifting steps. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 247–269. (R. A. Zalik) **99g:42040** 42C15 (42C05, 65T20)

— (*with* Gilbert, Anna Catherine) Harmonic analysis, wavelets and applications. *Hyperbolic equations and frequency interactions (Park City, UT, 1995)*, 159–226, *IAS/Park City Math. Ser., 5, Amer. Math. Soc., Providence, RI*, 1999. (Charles K. Chui) **99m:42047** 42C15 (65J99)

Dauben, Joseph W. Marx, Mao and mathematics: the politics of infinitesimals. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 799–809 (*electronic*). (Shi Rong Guo) **99h:01029** 01A60 (01A25, 01A80, 03H05)

— Historia Mathematica: 25 years/context and content. (English and French summaries) *Historia Math.* **26** (1999), *no.* 1, 1–28. (Summary) **99m:01103** 01A74

Dauchet, Max (*with* Porrot, Sylvain; Durand, Bruno; Vereshchagin, Nikolai K.) Deterministic rational transducers and random sequences. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 258–272, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q68 (68Q30)

Daud, Sk. Md. (*with* Mohanty, Ganeshwar) Vacuum cosmological models in Wesson's theory. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 115–128. (Summary) **99g:83070** 83D05

Daudé, Hervé (*with* Flajolet, Philippe; Vallée, Brigitte) An average-case analysis of the Gaussian algorithm for lattice reduction. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 397–433. (M. Znojil) **99a:65196** 65U05 (68Q25)

Daudin, Jean J. (*with* Bar-Hen, Avner) Asymptotic distribution of Matusita's distance: application to the location model. (English summary) *Biometrika* **85** (1998), *no.* 2, 477–481. (Summary) **99h:62072** 62H10

Dauer, Jerald P. (*with* Belinskiĭ, B. P.; Xu, Yongzhi) Inverse scattering of acoustic waves in an ocean with ice cover. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 255–283. (Summary) **99b:76079** 76Q05 (34L25)

— (*with* Balachandran, Krishnan; Balasubramaniam, P.) Asymptotic null controllability of nonlinear neutral Volterra integrodifferential systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99f:93008** 93B05 (45J05, 93C22)

— (*with* Balachandran, Krishnan; Anthoni, S. Marshal) Null controllability of nonlinear infinite neutral systems with delays in control. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 39–50. (Jerzy Klamka) **99f:93010** 93B05 (93C30)

— (*with* Balachandran, Krishnan) Local controllability of semilinear evolution systems in Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 311–320. (Angelo Favini) **99m:93003** 93B05 (34G20, 47D06, 93C25)

— (*with* Belinskiĭ, B. P.; Martin, Clyde F.; Shubov, Marianna A.) On controllability of an elastic string with a viscous damping. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 227–255. (Vilmos Komornik) **99f:93009** 93B05 (35L05, 73K50, 93C20)

— (*with* Belinskiĭ, B. P.) Eigenoscillations of mechanical systems with boundary conditions containing the frequency. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 521–541. (Ivan Andronov) **99g:34059** 34B24 (34L10, 34L15, 73D30, 73K05)

Dauge, Monique (*with* Gruais, Isabelle) Asymptotics of arbitrary order for a thin elastic clamped plate. II. Analysis of the boundary layer terms. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 2, 99–124. (Tomasz Lewiński) **99d:73055** 73K10 (35C20, 73C99)

— (*with* Djurdjevic, Ivica; Rössle, Andreas) Higher order bending and membrane responses of thin linearly elastic plates. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 519–524. (Tomasz Lewiński) **99j:73067** 73K10

— (*with* Djurdjevic, Ivica; Rössle, Andreas) Full asymptotic expansions for thin elastic free plates. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1243–1248. (Summary) **99g:73073** 73K10 (35Q72, 73C02)

— (*with* Costabel, Martin) Un résultat de densité pour les équations de Maxwell régularisées dans un domaine lipschitzien. (English and French summaries) [A denseness result for the regularized Maxwell equations in a Lipschitz domain] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 849–854. (Summary) **99k:46054** 46E35 (35B65, 35Q60, 78A25)

— (*with* Gruais, Isabelle) Edge layers in thin elastic plates. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 335–347. (Summary) **99e:73041** 73C99 (73K10)

— (*with* Costabel, Martin; Suri, Manil) Numerical approximation of a singularly perturbed contact problem. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 349–363. (Anders Klarbring) **99h:73071** 73T05 (65N99, 73C35, 73V20)

— (*with* Amrouche, C.; Bernardi, Christine; Girault, Vivette) Vector potentials in three-dimensional non-smooth domains. (English and French summaries) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 823–864. (Juha H. Videman) **99e:35037** 35J25 (35Q30, 65N30, 76D07)

— (*with* Costabel, Martin) Maxwell and Lamé eigenvalues on polyhedra. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 3, 243–258. (Summary) **99k:78009** 78A25 (35Q60, 73C02, 78–08)

Daughton, Alan (*with* Louko, Jorma; Sorkin, Rafael D.) Instantons and unitarity in quantum cosmology with fixed four-volume. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084008, 17 *pp.* (Summary) **99m:83068** 83C45

Daumens, Michel (*with* Minnaert, Pierre) Coulomb problem in superspaces. (English summary) *Quantum groups (Karpacz, 1994)*, 581–586, *PWN, Warsaw*, 1995. (Summary) **99f:81063** 81Q60

— (*with* Minnaert, Pierre) Canonical and quasicanonical realizations of the osp($D|d$) superalgebra and the Coulomb problem in superspaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5716–5725. (Anargyros Fellouris) **99m:81072** 81R05

Daumer, Martin (*with* Falk, Markus) On-line change-point detection (for state space models) using multi-process Kalman filters. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 125–135. (Summary) **99h:93105** 93E11

Dauns, John Intersections of modules. (English summary) *Advances in ring theory (Granville, OH, 1996)*, 87–103, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Jan Trlifaj) **99c:16001** 16D10 (16P40)

Dauphin-Tanguy, G. (*with* Rahmani, A.; Sueur, C.) Approche des bond graphs pour l'analyse structurelle des systèmes linéaires. (French summary) [Bond graph approach for the structural analysis of linear systems] *Linear Algebra Appl.* **259** (1997), 101–131. (D. Stanomir) **99b:94069** 94C15 (68R10, 93A30)

D'Auria, Riccardo (*with* Andrianopoli, Laura; Ferrara, Sergio; Fré, Pietro; Trigiante, Mario) R-R scalars, U-duality and solvable Lie algebras. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 617–629. (Summary) **99f:81140** 81T30 (81R05)

— (*with* Andrianopoli, Laura; Ferrara, Sergio; Fré, Pietro; Trigiante, Mario) $E_{7(7)}$ duality, BPS black-hole evolution and fixed scalars. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 463–518. (Krzysztof Galicki) **99e:83061** 83E50 (81T60, 83C57, 83E30)

— (*with* Andrianopoli, Laura; Ferrara, Sergio) Duality, central charges and entropy of extremal BPS black holes. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 185–196. (Summary) **99e:83049** 83E30 (81T30, 83C57)

— (*with* Ferrara, Sergio; Kounnas, Costas) $N = (4, 2)$ chiral supergravity in six dimensions and solvable Lie algebras. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 289–299. (Mario Trigiante) **99g:83081** 83E50 (17B30, 81T50)

Dautcourt, G. On the ultrarelativistic limit of general relativity. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1047–1055. (Summary) **99m:83161** 83C99

Dautray, Robert *see* **Bouche, Daniel, 99a:78001**

Dauxois, Jacques (*with* Nkiet, G. M.) Canonical analysis of two Euclidean subspaces and its applications. (English summary) *Linear Algebra Appl.* **264** (1997), 355–388. (Yasunori Fujikoshi) **99a:62079** 62H20

Dauylbaev, M. K. On the asymptotic behavior of the solution of singularly perturbed weakly nonlinear integrodifferential equations of arbitrary order. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 39–46. (Summary) **99d:45008** 45J05 (34K25, 45M05)

Dave, O. P. (*with* Saxena, Ram Kishore) Composition of fractional integration operators involving multivariable H-function. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 315–329. (S. L. Kalla) **99c:26006** 26A33 (33C60, 47G10)

Daven, Mike (*with* Rodger, C. A.) (k, g)-cages are 3-connected. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 207–215. (Summary) **99j:05125** 05C40

Davenport, Harold The work of K. F. Roth [MR **22** #5557]. *Fields Medallists' lectures*, 53–56, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (11–03)

— *see also* **Scimemi, Benedetto**

Davey, B. A. (*with* Quackenbush, R. W.) Bookkeeping duality for paraprimal algebras. *Contributions to general algebra*, 9 (*Linz*, 1994), 19–26, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Keith A. Kearnes) **99a:08001** 08A02 (08A30, 08B05, 08C15)

— (*with* Pitkethly, J. G.) Endoprimal algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 266–288. (Margret H. Höft) **99k:08004** 08A35 (08A40)

Davey, Keith (*with* Bounds, S.) A generalized SOR method for dense linear systems of boundary element equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 953–967 (*electronic*). (Summary) **99b:65032** 65F10 (15A12, 65N22, 65N38)

— (*with* Alonso Rasgado, M. T.; Rosindale, I.) The 3-D elastodynamic boundary element method: semi-analytical integration for linear isoparametric triangular elements. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1031–1054. (Summary) **99k:73118** 73V10 (73D99)

Daviau, Claude Solutions of the Dirac equation and of a nonlinear Dirac equation for the hydrogen atom. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 175–194. (Federico Finkel) **99d:81031** 81Q05 (35Q40, 81V45)

— Dirac equation in the Clifford algebra of space. (English summary) *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 67–87, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jayme Vaz, Jr.) **99k:81094** 81R20 (81R25)

David, F. N. ★ Games, gods and gambling. (English summary) A history of probability and statistical ideas. Reprint of the 1962 original. *Dover Publications, Inc., Mineola, NY*, 1998. *xvi*+275 *pp. ISBN* 0-486-40023-9 60–03 (01A05, 62–03)

David, François (*with* Wiese, Kay Jörg) Large order behavior for self-avoiding membranes. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 555–595. (Summary) **99g:82015**

82B21 (82B27)

David, Guy (*with* Semmes, Stephen) Surfaces quasiminimales de codimension 1 et domaines de John. [Quasiminimal surfaces of codimension 1 and John domains] *Séminaire sur les Équations aux Dérivées Partielles, 1995–1996, Exp. No. X, 19 pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (J. E. Brothers) **99h:49054** 49Q05 (58E12)

— (*with* Semmes, Stephen) ★ Fractured fractals and broken dreams. (English summary) Self-similar geometry through metric and measure. Oxford Lecture Series in Mathematics and its Applications, 7. *The Clarendon Press, Oxford University Press, New York*, 1997. x+212 *pp. ISBN* 0-19-850166-8 (Christopher Bishop) **99h:28018** 28A80 (26A16, 28A78, 30C65, 42C15)

— (*with* Semmes, Stephen) Quasiminimal surfaces of codimension 1 and John domains. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 213–277. (Juha Heinonen) **99i:28012** 28A75 (30C65, 46E35, 49Q15)

— Unrectifiable 1-sets have vanishing analytic capacity. (English and French summaries) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 2, 369–479. (Joan Verdera) **99i:42018** 42B20 (30E20)

David, H. A. Stronger opposition may make it easier to win. (English summary) *Amer. Statist.* **52** (1998), *no.* 4, 351–353. (Summary) **99i:62157** 62J10

David, Israel (*with* Alalouf, Amir) On optimal aiming to hit a linear target. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 3, 323–333. 90B06 (90C90)

David, Marie-Claude Couple assorti de systèmes de Kac et inclusions de facteurs de type II_1. (English summary) [Matched pair of Kac systems and inclusions of type-II_1 factors] *J. Funct. Anal.* **159** (1998), *no.* 1, 1–42. (Carl Winsløw) **99k:46109** 46L37 (46L55)

ben-David, Shai *see* **Ben-David, Shai**

David, Sinnou (*with* Amoroso, Francesco) Le théorème de Dobrowolski en dimension supérieure. (English and French summaries) [Dobrowolski's theorem in higher dimension] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1163–1166. (Michel Waldschmidt) **99g:11087** 11J25

— *see also* **Number theory, 99b:11003**

Davidchuk, Matthew (*with* Mann, Stephen) A parametric hybrid triangular Bézier patch. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 335–342, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17

Davideanu, Cătălina A method for approximating the solution to a finite-dimensional variational inequality. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **40(44)** (1994), *no.* 1-4, 83–89. (Petr Procházka) **99c:65120** 65K10 (49J40)

— A bilinear control problem solved by the fractional step scheme. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 593–611. (Maria do Rosário de Pinho) **99j:49051** 49K24 (49L20)

— Hamilton-Jacobi equation related to a control problem. (English summary) *Libertas Math.* **18** (1998), 93–106. 49L20 (49L25)

Davidian, Marie (*with* Hu, Ping[2]; Tsiatis, Anastasios A.) Estimating the parameters in the Cox model when covariate variables are measured with error. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1407–1419. 62N05

Davidov, Ĭ. (*with* Sergeev, A. G.) Twistor quantization of loop spaces. (Russian. Russian summary) *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel' i Gruppy Diffeomorf.*, 5–99. (Alexander D. Popov) **99f:58084** 58F06 (22E67, 58B25, 81S10)

Davidović, D. M. (*with* Lalović, D.) Quantum states which behave classically. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2281–2285. (Summary) **99c:81123** 81S99

Davidovitch, Benny (*with* Hentschel, H. George E.; Olami, Zeev; Procaccia, Itamar; Sander, Leonard M.; Somfai, Ellak) Diffusion limited aggregation and iterated conformal maps. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1368–1378. (Summary) **99m:82048** 82D99 (58F40)

Davidson, Aharon Regge-Teitelboim-type cosmology. (English summary) Proceedings of the International Conference on Modern Modified Theories of Gravitation and Cosmology, Part II (Beer Sheva, 1997). *Hadronic J.* **21** (1998), *no.* 2, 210–216. (*see* **99m:83002**) 83F05

— (*with* Karasik, David) Quantum gravity of a brane-like universe. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2187–2192. (Summary) **99e:83027** 83C45

— $\Lambda = 0$ cosmology of a brane-like universe. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 653–659. 83F05

Davidson, F. A. (*with* Sleeman, B. D.; Crawford, J. W.) Travelling waves in a reaction-diffusion system modelling fungal mycelia. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 237–257. (Wolf-Jürgen Beyn) **99c:92011** 92C15 (34C37, 35K57, 35Q80)

— (*with* Sleeman, B. D.; Rayner, A. D. M.; Crawford, J. W.; Ritz, K.) Travelling waves and pattern formation in a model for fungal development. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 589–608. (Joseph So) **99d:92024** 92D25 (35K57, 35Q80, 92C15)

— Chaotic wakes and other wave-induced behavior in a system of reaction-diffusion equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1303–1313. 35K57 (35B40, 58F13)

Davidson, Kenneth R. (*with* Borwein, Jonathan M.) Mathematics in Canada: the future of mathematics in Canada 50 years later. Dual English-French text. *Canadian Mathematical Society. 1945–1995, Vol. 1*, 231–268, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A80 (01A67)

— (*with* Popescu, Gelu) Noncommutative disc algebras for semigroups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 290–311. (Liang Sen Wu) **99f:46105** 46L89 (47D25)

— (*with* Orr, John Lindsay) Principal bimodules of nest algebras. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 488–533. (Stephen Power) **99k:47106** 47D25

— (*with* Donsig, Allan P.; Hudson, Timothy D.) Norm-closed bimodules of nest algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 59–87. (Stephen Power) **99e:47053** 47D25

Davidson, M. R. (*with* Malashenko, Yu. E.; Novikova, N. M.) Analysis of multi-user network systems taking into account uncertainty, II. Properties of superconcurrent distribution of flows. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 3, 105–118. 90B10 (90C35)

— (*with* Novikova, N. M.) The constraint aggregation method in a game-theoretic problem of stochastic programming. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 26–29, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 39–43. (Summary) **99k:90110** 90C15 (90D80)

— A regularized constraint aggregation method for a problem of semi-infinite optimization. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 770–776; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 739–745. (R. Tichatschke) **99f:90154** 90C34

Davidson, P. A. (*with* Kinnear, D.) Energy constraints in forced recirculating MHD flows. (English summary) *J. Fluid Mech.* **375** (1998), 319–343. (Summary) **99i:76148** 76W05

Davidson, Ronald C. Three-dimensional kinetic stability theorem for high-intensity charged particle beams. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3459–3468. (Summary) **99g:76156** 76X05

Davidson, Susan (*with* Buneman, Peter; Fernandez, Mary; Suciu, Dan) Adding structure to unstructured data. (English summary) *Database theory—ICDT '97 (Delphi)*, 336–350, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68T30 (68P15)

Davidson, T. N. (*with* Mustafa, D.) Generalized PI controllability. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 307–330. 93B05 (93D15)

Davies, A. G. (*with* Frederiksen, Jorgen S.) Performance of integro-differential closure equations for two-dimensional turbulence. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 319–326, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76F99

Davies, A. R. (*with* Li, Xi Kui; Gwynllyw, D. Rh.; Phillips, T. N.) Three-dimensional effects in dynamically loaded journal bearings. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 311–341. (Summary) **99i:76039** 76D08

Davies, Alan J. (*with* Crann, Diane; Lai, Choi-Hong; Leong, Swee H.) Time domain decomposition for European options in financial modelling. *Domain decomposition methods, 10 (Boulder, CO, 1997)*, 486–491, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 90A09 (65M55)

— (*with* Crann, Diane) The boundary element method on a spreadsheet. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 851–865. 65–04 (65N38)

Davies, B. L. (*with* Zeiner, P.; Dirl, R.) Bloch and Wannier functions composed of Gaussian orbitals—analyticity, localization, and expectation values. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2437–2454. (Peter N. Zhevandrov) **99a:81028** 81Q05 (33E05)

Davies, E. B. (*with* Hinz, Andreas M.) Explicit constants for Rellich inequalities in $L_p(\Omega)$. *Math. Z.* **227** (1998), *no.* 3, 511–523. (Alberto G. Setti) **99e:58169** 58G03 (46E35)

— (*with* Parnovskiĭ, L. B.) Trapped modes in acoustic waveguides. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 477–492. (I. Kay) **99g:76132** 76Q05 (35J05, 35P05)

— Semi-classical states for non-self-adjoint Schrödinger operators. (English summary) *Comm. Math. Phys.* **200** (1999), *no.* 1, 35–41. (Vitali A. Liskevich) **99m:34197** 34L40 (34E20, 35J10, 35P05, 47E05, 81Q20)

— Pointwise lower bounds on the heat kernels of higher order elliptic operators. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 105–111. (Jan Koroński) **99h:35040** 35J30 (35K99)

Davies, Huw G. Sinusoidally varying period-doubling bifurcations. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 23–29, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 58F14

Davies, Ian M. Laplace asymptotic expansions for Gaussian functional integrals. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 13, 19 *pp.* (*electronic*). (Kun Soo Chang) **99i:60109** 60H05 (41A60)

dunning-Davies, J. *see* **Dunning-Davies, J.**

Davies, P. A. *see* **Davies, Peter A.**

Davies, P. Laurie (*with* Terbeck, Wolfgang) Interactions and outliers in the two-way analysis of variance. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1279–1305. (Wojciech Zieliński) **99j:62099** 62J10 (62F35)

Davies, Penny J. A stability analysis of a time marching scheme for the general surface electric field integral equation. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 33–57. (Summary) **99d:78002** 78–08 (65M60, 65R20)

Davies, Peter A. (*with* Sokolovskiĭ, M. A.; Zyryanov, V. N.) On the influence of an isolated submerged obstacle on a barotropic tidal flow. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 1-2, 1–30. 76C99 (86A05)

Davies, Raymond (*with* Halikias, George D.) Hierarchical $\mathscr{H}_\infty/\mathscr{H}_2$ optimal control: 2-block problem. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 965–1017. (Qing Zhang) **99f:93042** 93B36 (90C29, 93A13)

Davies, Scott (*with* Baluja, Shumeet) Fast probabilistic modeling for combinatorial optimization. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 469–476, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C27

Davies, Steve (*with* Lunn, A. D.) A note on generating correlated binary variables. (English summary) *Biometrika* **85** (1998), *no.* 2, 487–490. (Friedrich Liese) **99i:62031** 62E25

— (*with* Hall, Peter Gavin) Fractal analysis of surface roughness by using spatial data. (English summary) With discussion and a reply by the authors. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 3–37. (Summary) **99i:62124** 62H11 (62G05)

González-Dávila, J. C. *see* **González-Dávila, J. C.**

González-Dávila, M. C. *see* **González-Dávila, M. C.**

Davila, Mario (*with* Perla Menzala, Gustavo) Unique continuation for solutions of a Timoshenko's equation. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 239–252. (Summary) **99b:73017** 73D35 (35Q72, 73K05)

— (*with* Perla Menzala, Gustavo) Unique continuation for the Benjamin-Bona-Mahony and Boussinesq's equations. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 367–382. (Nikolay G. Kuznetsov) **99i:35138** 35Q53 (35K85, 76B15)

Davis, A. R. (*with* Aronov, Boris; Dey, Tamal K.; Pal, Sudebkumar Prasant; Prasad, D. Chithra) Visibility with one reflection. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 553–574. (Rade Živaljević) **99c:52019** 52B55 (68U05)

— (*with* Aronov, Boris; Dey, Tamal K.; Pal, Sudebkumar Prasant; Prasad, D. Chithra) Visibility with multiple reflections. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 61–78. (Jesús A. de Loera) **99d:68227** 68U05 (52B55, 68Q25)

Davis, Anne-Christine (*with* Davis, Stephen C.; Trodden, Mark) Cosmic strings, zero modes, and supersymmetry breaking in non-abelian $N = 1$ gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5184–5188. (Summary) **99m:81245** 81T60 (81R40, 81T13)

Davis, Anthony B. (*with* Marshak, Alexander L.; Wiscombe, Warren J.; Cahalan, Robert F.) Multifractal characterizations of intermittency in nonstationary geophysical signals and fields: a model-based perspective on ergodicity issues illustrated with cloud data. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 97–158, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:60003**) 86A32

Davis, Anthony M. J. (*with* Hadji, L.) On the interaction of insoluble spherical particles with a solidifying interface in the presence of morphological instabilities. (English summary) *Computational and mathematical models of microstructural evolution* (*San Francisco, CA*, 1998), 33–38, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 76T05 (80A22)

— (*with* Scharstein, Robert W.) Time-domain three-dimensional diffraction by the isorefractive wedge. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 8, 1148–1158. (Summary) **99d:78031** 78A45

— (*with* Stone, Howard A.) Slow translation, rotation or oscillation of a disk in a rotating fluid: effect of a plane wall or another disk. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 495–513. (Summary) **99f:76131** 76U05 (76D07)

Davis, Burgess Perturbed random walks and Brownian motions, and local times. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 81–87 (*electronic*). (Loïc Chaumont) **99f:60142** 60J65 (60F05, 60J15, 60J55)

— Distribution of Brownian local time on curves. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 2, 182–184. (M. G. Shur) **99d:60088** 60J55 (60J65)

Davis, Christopher A. (*with* Weisman, Morris L.) Mechanisms for the generation of mesoscale vortices within quasi-linear convective systems. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 16, 2603–2622. (Summary) **99d:86004** 86A10 (76C05, 76U05)

Davis, Donald M. Embeddings of real projective spaces. *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 115–122. (Edgar H. Brown, Jr.) **99b:57058** 57R40 (55S20, 55S40, 55S45)

— 3-primary v_1-periodic homotopy groups of E_7. (English summary) *New York J. Math.* **4** (1998), 185–221 (*electronic*). (Stanley Kochman) **99j:55021** 55T15

— Elements of large order in $\pi_*(\mathrm{SU}(n))$. *Topology* **37** (1998), *no.* 2, 293–327. (Haynes R. Miller) **99b:55026** 55Q52 (55T15)

Davis, Douglas D. (*with* Holt, Charles A.) Equilibrium cooperation in two-stage games: experimental evidence. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 89–109. (Summary) **99k:90215** 90D12 (90A14, 90D20)

Davis, Ernest Order of magnitude comparisons of distance. (English summary) *J. Artificial Intelligence Res.* **10** (1999), 1–38 (*electronic*). (Summary) **99m:68200** 68T99 (00A69, 03B25, 03B70)

Davis, Geoffrey M. A wavelet-based analysis of fractal image compression. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 2, 141–154. 94A12 (94A29)

Davis, George J. The rank of a graph after edge insertion or deletion. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 31–43. (*see* **99i:00023**) 05C50

Davis, James Andrew (*with* Jedwab, Jonathan; Mowbray, Miranda) New families of semi-regular relative difference sets. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 131–146. (Siu Lun Ma) **99i:05036** 05B10

— New semiregular divisible difference sets. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 99–109. (Kathryn J. Horadam) **99h:05013** 05B10

— (*with* Iiams, Joel E.) Hadamard difference sets in nonabelian 2-groups with high exponent. (English summary) *J. Algebra* **199** (1998), *no.* 1, 62–87. (Kenneth W. Smith) **99a:05017** 05B10 (05B20, 20D60)

Davis, James Frederic (*with* Lück, Wolfgang) Spaces over a category and assembly maps in isomorphism conjectures in K- and L-theory. (English summary) *K-Theory* **15** (1998), *no.* 3, 201–252. (A. A. Ranicki) **99m:55004** 55N20 (19D10)

— The rational symmetric signature of manifolds with finite fundamental group. *Topology* **37** (1998), *no.* 4, 895–911. (Charles Livingston) **99c:57065** 57R91 (57S17)

Davis, Janet (*with* Barden, Benjamin; Libeskind-Hadas, Ran; Williams, William) On edge-disjoint spanning trees in hypercubes. (English summary) *Inform. Process. Lett.* **70** (1999), *no.* 1, 13–16. 68R10

Davis, John M. (*with* Chyan, Chuan Jen; Henderson, Johnny; Yin, William K. C.) Eigenvalue comparisons for differential equations on a measure chain. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 35, 7 *pp.* (*electronic*). (Allan C. Peterson) **99m:34029** 34B10 (34B15, 39A10)

— (*with* Henderson, Johnny) Uniqueness implies existence for fourth-order Lidstone boundary value problems. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 23–35. (P. W. Eloe) **99i:34033** 34B15

Davis, John P. (*with* Hall, James W.; Blockley, David I.) Uncertain inference using interval probability theory. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 247–264. (Summary) **99k:68180** 68T27 (03B48, 68T30)

Davis, Mark H. A. (*with* Zervos, M.) A pair of explicitly solvable singular stochastic control problems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 327–352. (Jose Luis Menaldi) **99i:49028** 49K45 (33C90, 49L25, 93E20)

— (*with* Farid, Mohammad) Corrections to: "A target recognition problem: sequential analysis and optimal control" [SIAM J. Control Optim. **34** (1996), no. 6, 2116–2132; MR 97k:49018]. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1481–1484 (*electronic*). (Summary) **99c:49008** 49J40 (49L25, 62C10)

Davis, Michael Walter The cohomology of a Coxeter group with group ring coefficients. *Duke Math. J.* **91** (1998), *no.* 2, 297–314. (P. Donovan) **99b:20067** 20F55 (20J05, 57M07)

Davis, Richard Alan (*with* Wu, Wei[4]) Bootstrapping M-estimates in regression and autoregression with infinite variance. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 1135–1154. (Somnath Datta) **99c:62249** 62M10 (62G09)

— (*with* Breidt, F. Jay) Extremes of stochastic volatility models. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 664–675. (Wolfgang Schmid) **99g:60091** 60G70 (62M10, 90A09)

— (*with* Mikosch, Thomas) Gaussian likelihood-based inference for non-invertible MA(1) processes with SαS noise. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 99–122. (Yoshihiro Yajima) **99k:62158** 62M10 (62M07, 62M09)

Davis, S. *see* **Davis, Sandra**

Davis, S. H. (*with* Schulze, T. P.) Shear stabilization of a solidifying front: weakly nonlinear analysis in a long-wave limit. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2319–2336. (Summary) **99m:80018** 80A99

— (*with* Golovin, A. A.) Effect of anisotropy on morphological instability in the freezing of a hypercooled melt. (English summary) *Phys. D* **116** (1998), *no.* 3-4, 363–391. (Summary) **99c:73009** 73B30 (35Q72, 80A22)

Davis, Sandra (*with* Duke, William; Sun, Xiao Dong[1]) Probabilistic Galois theory of reciprocal polynomials. *Exposition. Math.* **16** (1998), *no.* 3, 263–270. (Maurice Mignotte) **99i:11063** 11K99 (11R32)

Davis, Simon Symmetric variations of the metric and extrema of the action for pure gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 345–377. (Orfeu Bertolami) **99e:83004** 83C05 (83D05)

Davis, Stephen C. (*with* Davis, Anne-Christine; Trodden, Mark) Cosmic strings, zero modes, and supersymmetry breaking in non-abelian $N = 1$ gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5184–5188. (Summary) **99m:81245** 81T60 (81R40, 81T13)

Davis, Timothy A. (*with* Gartland, Eugene C., Jr.) Finite element analysis of the Landau-de Gennes minimization problem for liquid crystals. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 336–362 (*electronic*). (J. W. Jerome) **99c:65198** 65N30 (76A15, 82D30)

Davis, William A. (*with* Bunting, Charles F.) A functional for dynamic finite-element solutions in electromagnetics. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 149–156. 78–08

Davison, A. C. (*with* Stafford, J. E.) The score function and a comparison of various adjustments of the profile likelihood. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 139–148. (J. A. Melamed) **99g:62020** 62F03

Davison, Daniel E. (*with* Kabamba, Pierre T.; Meerkov, Semyon M.) Limitations of disturbance rejection in feedback systems with finite bandwidth. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1132–1144. 93E03 (93C95, 93E35)

Davison, Edward J. (*with* İftar, Altuğ) A decentralized discrete-time controller for dynamic routing. (English summary) *Internat. J. Control* **69** (1998), *no.* 5, 599–632. 93A13 (90B12)

— Optimal controllers which "work" in presence of plant & controller uncertainty. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 380–396, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93B50)

Davison, Thomas M. K. A Cauchy-like functional equation. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 27–36. (J. Aczél) **99e:39088** 39B52 (11A25, 39A10)

— (*with* Ebanks, Bruce R.) The cocycle equation on periodic semigroups. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 216–221. (K. D. Magill, Jr.) **99h:39029** 39B52

Davvaz, B. Weak polygroups. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 139–145, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Thomas N. Vougiouklis) **99d:20110** 20N20

— Fuzzy H_v-groups. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 191–195. 20N20 (20N25)

— Interval-valued fuzzy subhypergroups. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 197–202. (John Mordeson) **99k:20124** 20N20 (20N25)

Davy, Pamela J. (*with* Beh, Eric J.) Partitioning Pearson's chi-squared statistic for a completely ordered three-way contingency table. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 465–477. (Summary) **99k:62118** 62H17

— (*with* Rayner, J. C. W.) Ordinary and inverse sampling in the trinomial. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 50–53. 60E05 (60C05)

Davydov, A. A. *see* **Davydov, Alekseĭ Aleksandrovich**

Davydov, Aleksandr A. Constructions of nonlinear covering codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1639–1647. (Summary) **99g:94024** 94B75

Davydov, Alekseĭ Aleksandrovich Local controllability of generic dynamic inequalities on surfaces. (Russian) *Trudy Mat. Inst. Steklov.* **209** (1995), *Osob. Gladkikh Otobrazh. s Dop. Strukt.*, 84–123. (Y. Yomdin) **99k:93019** 93B05 (93C10)

— Controllability of generic control systems on surfaces. (English summary) *Geometry of feedback and optimal control*, 111–163, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93B05 (93B29)

— (*with* Rosales Gonsales, Èrnesto) Smooth normal forms of folded resonance saddles and nodes and complete classification of generic linear second order PDE's on the plane. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 59–68, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:35009** 35A30 (35G05, 58F36)

Davydov, Alexander A. *see* **Davydov, Aleksandr A.**

Davydov, È. G. On the Minkowski distance between two nonintersecting convex polyhedral sets. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 69–71; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 56–58. 65Y25 (90C08)

Davydov, G. V. (*with* Davydova, Inna; Kleine Büning, Hans) An efficient algorithm for the minimal unsatisfiability problem for a subclass of CNF. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 229–245. (Summary) **99i:68061** 68Q25 (03B05, 03D15)

Davydov, O. V. Locally linearly independent basis for C^1 bivariate splines of degree $q \geq 5$. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 71–78, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:41007** 41A15

— (*with* Nürnberger, Günther; Zeilfelder, F.) Approximation order of bivariate spline interpolation for arbitrary smoothness. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 117–134. (Summary) **99c:41062** 41A63 (65D07)

— *see also* **Oram, J. A., 99k:41031**

Davydova, E. E. (*with* Cheng, Jia Xin; Howlett, P. G.; Pudney, Peter) Optimal driving strategies for a train journey with non-zero track gradient and speed limits. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 89–115. 49N55 (93C95)

Davydova, Inna (*with* Davydov, G. V.; Kleine Büning, Hans) An efficient algorithm for the minimal unsatisfiability problem for a subclass of CNF. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 229–245. (Summary) **99i:68061** 68Q25 (03B05, 03D15)

Davydova, M. A. (*with* Vasil'eva, A. B.) On a contrast structure of step type for a class of second-order nonlinear singularly perturbed equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 938–947; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 900–908. (Leonid V. Kalachev) **99k:34122** 34E15 (34B15)

Davydova, Y. *see* **Davydova, E. E.**

Davydychev, A. I. (*with* Delbourgo, Robert) A geometrical angle on Feynman integrals. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4299–4334. (Dirk Kreimer) **99k:81197** 81T18 (57M50)

Dawar, Anuj (*with* Hella, Lauri; Seth, Anil) Ordering finite variable types with generalized quantifiers. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 28–43, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03042** 03C80 (03C13, 68P15, 68Q15)

— A restricted second order logic for finite structures. (English summary) *Inform. and Comput.* **143** (1998), *no.* 2, 154–174. (S. R. Kogalovskiĭ) **99f:03038** 03C13 (03C85, 03D15, 68Q15)

Dawar, Ravi (*with* Sharma, Sushil) Some results on common fixed points in D-metric space. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 181–186. 54H25

Dawid, A. Philip (*with* Skouras, Kostas) On efficient point prediction systems. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 765–780. (Bert M. Steece) **99k:62173** 62M10 (62F15)

Dawkins, Paul T. (*with* Dunbar, Steven R.; Douglass, Rod W.) The origin and nature of spurious eigenvalues in the spectral tau method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 441–462. (T. E. Simos) **99j:65132** 65L15

Dawson, C. Bryan Using graphs to analyze sports drafts. *Missouri J. Math. Sci.* **11** (1999), *no.* 2, 73–79. 05C90 (00A69)

Dawson, C. W. (*with* Bai, K. J.; Kim, Jang Whan; Wehausen, J. V.) Stagnation points in flows about solid bodies. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 119–134. (*see* **99k:76006**) 76B15 (76C05, 86A05)

Dawson, Clint N. (*with* Wheeler, Mary F.; Eaton, Joe) Transport of multispecies contaminants with biological and chemical kinetics in porous media. *Modelling and computation for applications in mathematics, science, and engineering (Evanston, IL, 1996)*, 25–37, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1998. (*see* **99k:00033**) 76S05 (86A60)

— (*with* Chippada, S.; Martínez, Mónica Lucía; Wheeler, Mary F.) A Godunov-type finite volume method for the system of shallow water equations. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 105–129. (*see* **99b:76003**) 76M25 (76B15)

— (*with* Wheeler, Mary F.; Woodward, Carol S.) A two-grid finite difference scheme for nonlinear parabolic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 435–452 (*electronic*). (Summary) **99b:65097** 65M06 (35K55, 65M15, 65M55)

— (*with* Chippada, S.; Martínez, Mónica Lucía; Wheeler, Mary F.) Finite element approximations to the system of shallow water equations. I. Continuous-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 692–711 (*electronic*). (A. Jami) **99d:65279** 65M60 (76B15, 76M10)

— (*with* Arbogast, Todd; Keenan, Philip T.; Wheeler, Mary F.; Yotov, Ivan) Enhanced cell-centered finite differences for elliptic equations on general geometry. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 404–425 (*electronic*). (S. Galanis) **99j:65193** 65N30

— (*with* Chippada, S.; Martínez, Mónica Lucía; Wheeler, Mary F.) Finite element approximations to the system of shallow water equations. II. Discrete-time a priori error estimates. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 226–250 (*electronic*). (A. Jami) **99k:65094** 65M60 (65N30, 76B15, 76M10)

Dawson, Darren M. (*with* Zhu, Jerry Ye; Martindale, S. C.) A new design for model reference robust control using state-space techniques. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1061–1084. 93B51 (93B35)

— (*with* Hu, Jun[1]; Leviner, M. D.; Vedagarbha, P.) An adaptive tracking controller for multiple-phase permanent-magnet machines. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 997–1022. 93C40 (93B51)

— (*with* Canbolat, H.; Rahn, Christopher D.; Nagarkatti, S.) Adaptive boundary control of out-of-plane cable vibration. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 963–969. (Summary) **99j:73075** 73K50 (93C20)

— (*with* Baicu, Catalin F.; Rahn, Christopher D.) Exponentially stabilizing boundary control of string-mass systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 3, 491–502. 93D15 (73K50, 93C20)

Dawson, Donald A. (*with* Hochberg, Kenneth J.; Vinogradov, V. V.) The Wiener process revisited. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 43–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Karl Grill) **99a:60027** 60F15 (60G15, 60J65)

— (*with* Wu, Yadong) Multilevel multitype branching models of an information system. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 57–72, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Klaus Fleischmann) **99g:60162** 60K20 (68M10)

— Hierarchical and mean-field stepping stone models. (English summary) *Progress in population genetics and human evolution (Minneapolis, MN, 1994)*, 287–298, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D25 (35R60, 60H15)

— (*with* Kouritzin, Michael A.) Invariance principles for parabolic equations with random coefficients. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 377–414. (Hisao Watanabe) **99c:60128** 60H15 (35B25, 35K25, 35R60, 60F17)

— (*with* Fleischmann, Klaus) Longtime behavior of a branching process controlled by branching catalysts. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 241–257. (Luis G. Gorostiza) **99c:60187** 60J80 (60G57, 60J55)

— (*with* Fleischmann, Klaus; Leduc, Guillaume) Continuous dependence of a class of superprocesses on branching parameters and applications. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 562–601. (Alexander Schied) **99g:60152** 60J80 (60G57, 60J40)

— (*with* Perkins, Edwin A.) Long-time behavior and coexistence in a mutually catalytic branching model. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1088–1138. (Klaus Fleischmann) **99f:60167** 60K35 (60H10, 60H15, 60J80)

— (*with* Feng, Shui) Large deviations for the Fleming-Viot process with neutral mutation and selection. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 207–232. (Anatolii A. Pukhal'skiĭ) **99h:60050** 60F10 (60G57, 60J10, 92D10)

— *see also* **March, Peter, 99m:60112**

Dawson, E. R. *see* **Anosov, D. V. et al., 99h:58053**

Dawson, Edward (*with* He, Jingmin) Shared secret reconstruction. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 221–237. (Summary) **99d:94025** 94A60

— (*with* Wu, Chuan-Kun) Existence of generalized inverse of linear transformations over finite fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 307–315. (Mihail Voicu) **99i:15004** 15A04 (15A09)

— *see also* **Information security and privacy, 99i:94060**

Dawson, J. W., Jr. What hath Gödel wrought? Gödel, I. *Synthese* **114** (1998), *no.* 1, 3–12. (Roman Murawski) **99i:01025** 01A60 (03–03, 03A05)

— *see also* **Menger, Karl, 99j:01028**

Dawson, Robert J. MacG. (*with* Finbow, Wendy A.; Mak, Philip) Monostatic simplexes. II. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 209–219. (H. W. Guggenheimer) **99g:52012** 52B11 (52B12)

— Formal summation of divergent series. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 532–541. (H. P. Dikshit) **99j:40001** 40A05

— (*with* Finbow, Wendy A.) What shape is a loaded die? *Math. Intelligencer* **21** (1999), *no.* 2, 32–37. 00A69

ponce Dawson, Silvina *see* **Ponce Dawson, Silvina**

Dax, Achiya (*with* Eldén, Lars) Approximating minimum norm solutions of rank-deficient least squares problems. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 2, 79–99. (Dimitrios Noutsos) **99e:65052** 65F10 (65F25)

Day, Brian J. (*with* Street, Ross) Monoidal bicategories and Hopf algebroids. *Adv. Math.* **129** (1997), *no.* 1, 99–157. (Graham J. Ellis) **99f:18013** 18D10 (16W30)

Day, D. P. (*with* Oellermann, Ortrud R.; Swart, Henda C.) Bounds on the size of graphs of given order and l-connectivity. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 217–223. (Summary) **99i:05107** 05C35 (05C40)

Day, Jane (*with* So, Wasin; Thompson, Robert C.) The spectrum of a Hermitian matrix sum. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 289–332. (F. Szidarovszky) **99f:15009** 15A18 (47A75)

Day, Khaled (*with* Al-Ayyoub, Abdel-Elah) Block-cyclic matrix triangulation on the Cartesian product of star graphs. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 113–126. (Summary) **99d:68016** 68M10 (05C85, 90B12)

— (*with* Tripathi, Anand) Characterization of parallel paths in arrangement graphs. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **25** (1998), *no.* 1, 35–49. (Summary) **99f:05113** 05C90 (68R10)

— (*with* Al-Ayyoub, Abdel-Elah) Efficient algorithms on the hyperstar network. (English summary) *Parallel Algorithms Appl.* **14** (1999), *no.* 1, 79–88. 90B10 (90C35)

Day, Richard F. (*with* Lister, John R.; Brenner, Michael P.; Hinch, E. John; Stone, Howard A.) Singularities and similarity solutions in capillary breakup. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow (Haifa, 1997)*, 257–269, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D45

Day, Roger S. (*with* Kowalski, Jeanne; Tu, Xin M.; Mendoza-Blanco, José R.) On the rate of convergence of the ECME algorithm for multiple regression models with t-distributed errors. (English summary) *Biometrika* **84** (1997), *no.* 2, 269–281. (Murray A. Jorgensen) **99a:62094** 62J05

Day, William H. E. (*with* Bock, Hans-Hermann; McMorris, F. R.) Consensus rules for committee elections. (English summary) *Math. Social Sci.* **35** (1998), *no.* 3, 219–232. (Summary) **99c:90033** 90A28

Dayal, Mohit (*with* Ahn, Hyungsok; Grannan, Eric; Swindle, Glen) Option replication with transaction costs: general diffusion limits. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 676–707. (Rüdiger Kiesel) **99j:90007** 90A09 (60G44, 60H99)

Dayan, Peter Recognition in hierarchical models. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 43–62, *Springer, Berlin*, 1997. (Summary) **99h:92045** 92J30

Dayantis, Jean Smoluchowski et les tests de fiabilité des générateurs de nombres pseudo-aléatoires. (English and French summaries) [Smoluchowski and reliability tests for pseudorandom-number generators] *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 3, 259–269. (Summary) **99c:11100** 11K45 (01A60, 65C10)

Dayar, Tuğrul State space orderings for Gauss-Seidel in Markov chains revisited. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 148–154 (*electronic*). (Summary) **99b:65185** 65U05 (60J27, 65F10)

Dayawansa, Wijesuriya P. Recent advances in the stabilization problem for low-dimensional systems. (English summary) *Geometry of feedback and optimal control*, 165–203, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93D15 (93B29)

— (*with* Ho-Mock-Qai, Bertina) Non-smooth simultaneous stabilization of nonlinear systems: an interpolation method. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 43–53. (Gianna Stefani) **99j:93079** 93D15 (93C10)

Dayi, Ömer F. (*with* Duru, I. H.) q-deformed Kepler and Morse potentials from q-oscillators. *Symmetry methods in physics, Vol. 1 (Dubna, 1995)*, 137–144, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R50

— Quantum Hall effect wavefunctions as cyclic representations of $U_q(\mathrm{sl}(2))$. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3523–3529. (Summary) **99a:81205** 81V70 (81R50)

— Hamiltonian formulation of Jackiw-Pi three-dimensional gauge theories. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 24, 1969–1977. (Summary) **99d:81084** 81T13

Dayioğlu, Ayşe Nur Some new sequence spaces defined by Orlicz functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 155–162. (Christian Samuel) **99m:46056** 46B45

Daykin, David E. (*with* Tran-Ngoc Danh) Bezrukov-Gronau order is not optimal. *Rostock. Math. Kolloq.* **1997**, *no.* 50, 45–46. (Sergeĭ L. Bezrukov) **99h:05116** 05D05
— (*with* Tran-Ngoc Danh) Sets of 0, 1 vectors with minimal sets of subvectors. (English summary) *Rostock. Math. Kolloq.* **1997**, *no.* 50, 47–52. (Sergeĭ L. Bezrukov) **99h:05117** 05D05
abu-Dayyeh, Walid *see* **Abu-Dayyeh, Walid**
Dazey Darcy, Isabel *see* **Darcy, Isabel K.**
Dazord, Jean Comparison of two norms of matrices. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 173–187. (Sivaram K. Narayan) **99h:15026** 15A60
Dazord, Pierre Sur l'intégration des algèbres de Lie locales et la préquantification. (English summary) [Integration of local Lie algebras and prequantization] *Bull. Sci. Math.* **121** (1997), *no.* 6, 423–462. (Charles-Michel Marle) **99g:58057** 58F06 (22E65, 58H05)
— Contact groupoids and prequantization. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 93–103. (From the introduction) **99i:58160** 58H05 (20N02, 58F06)
D'Azzo, J. J. (*with* Pachter, Meir; Veth, M.) Proportional and integral control of nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 679–692. 93B51 (93C10)
De, B. K. (*with* De, U. C.) On generalized pseudoconformally symmetric manifolds. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 71–80. (Andrew Bucki) **99d:53041** 53C25
De, Kajal (*with* Das, N. C.; Chakrabarti, C. G.) Kullback discrimination information: minimization and characterization. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 421–430. (Summary) **99b:94016** 94A17
De, Moloy (*with* Sarkar, Jyotirmoy) Estimation of the common mean of two normal populations using two stage sampling. (English summary) *Calcutta Statist. Assoc. Bull.* **48** (1998), *no.* 189-190, 73–81. 62L10
De, Prabuddha (*with* Dunne, James E.; Ghosh, Jay B.; Wells, Charles E.) Complexity of the discrete time-cost tradeoff problem for project networks. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 302–306. (Summary) **99f:90183** 90C60 (68Q25, 90C35)
De, Rajat K. (*with* Basak, Jayanta; Pal, Sankar K.) Fuzzy feature evaluation index and connectionist realization. II. Theoretical analysis. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 1–17. (Summary) **99h:68148** 68T10 (68T30)
De, Supriya Kumar (*with* Biswas, Ranjit; Roy, Akhil Ranjan) Multicriteria decision making using intuitionistic fuzzy set theory. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 837–842. 90C70 (03E70, 03E72, 03F55, 90A05)
De, U. C. (*with* Biswas, S. C.; Barua, B.) Semi-symmetric non-metric connection in an SP-Sasakian manifold. (English summary) *J. Pure Math.* **13** (1996), 13–18. (K. L. Duggal) **99j:53021** 53C05 (53C15, 53C25)
— (*with* De, B. K.) On generalized pseudoconformally symmetric manifolds. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 1, 71–80. (Andrew Bucki) **99d:53041** 53C25
— (*with* Biswas, S. C.) Quarter-symmetric metric connection in an SP-Sasakian manifold. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 49–56 (1998). (Albert Jeune) **99d:53022** 53C05 (53C25)
— (*with* Barua, B.) Projective and conformal collineations in a Ricci symmetric Riemannian manifold. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 159–164. (Andrew Bucki) **99d:53040** 53C25
— (*with* Biswas, S. C.) On an Einstein projective recurrent manifold. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 203–206. (Sorin Dragomir) **99f:53046** 53C25
— (*with* Bandyopadhyay, Somnath) A study on generalized Ricci 2-recurrent spaces. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 47–52. (Andrew Bucki) **99f:53016** 53B20 (53C25)
Deaconescu, Marian A note on ring endomorphisms. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 13–15. 13A99
— (*with* Bechtell, H.; Silberberg, Gheorghe) Finite groups with large automizers for their abelian subgroups. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 266–270. (Jay Zimmerman) **99a:20024** 20D99 (20E34)
— (*with* Chiş, Mihai; Silberberg, Gheorghe) Finite groups with few central automorphism orbits. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 203–213. (F. Pérez Monasor) **99k:20047** 20D45
Deaconu, Mădălina (*with* Wantz, Sophie) Processus non linéaire autostabilisant réfléchi. (English and French summaries) [Reflected self-stabilizing nonlinear process] *Bull. Sci. Math.* **122** (1998), *no.* 7, 521–569. (Denis Talay) **99h:60116** 60H10 (60J60)
De Acosta, Alejandro D. *see* **de Acosta, Alejandro D.**
De Agostino, Sergio (*with* Silvestri, Riccardo) Bounded size dictionary compression: SC^k-completeness and NC algorithms. (English summary) *STACS 98* (*Paris*, 1998), 522–532, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25 (68P99, 68Q22, 94A29)
— (*with* Andreev, A. E.; Clementi, Andrea E. F.; Crescenzi, P.; Dahlhaus, Elias; Rolim, José D. P.) The parallel complexity of approximating the high degree subgraph problem. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 261–282. (Mukkai S. Krishnamoorthy) **99g:68087** 68Q25 (05C85, 68Q15, 68Q22)
Deák, István Regression estimators related to multinormal distributions: computer experiences in root finding. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 279–293, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90065** 90C15 (65H05)
Deák, J. Short notes on quasi-uniform spaces. V. Properties preserved by extensions. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 169–177. (Summary) **99c:54042** 54E15 (54D35)
Deakin, Michael A. B. Computer algebra and Euclidean theorems. (English summary) *Math. Ed.* **10** (1993), *no.* 2, 106–111. (Summary) **99e:01037** 01A99 (51M04)
De Albuquerque, Luiz C. *see* **de Albuquerque, Luiz C.**
De Alfaro, Luca *see* **de Alfaro, Luca**
De Alfaro, Vittorio *see* **de Alfaro, Vittorio**
De Almeida, David *see* **de Almeida, David**
De Almeida, Luís Manuel Lopes Neves *see* **de Almeida, Luís Manuel Lopes Neves**
De Almeida, Sebastião Carneiro *see* **de Almeida, Sebastião Carneiro**
De Almeida, Valmor F. *see* **de Almeida, Valmor F.**
De Alwis, S. P. *see* **de Alwis, S. P.**
De Amo, S. (*with* Bidoit, N.) A first step towards implementing dynamic algebraic dependencies. (English summary) *Database theory—ICDT '95* (*Prague*), 308–321, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15
— (*with* Bidoit, N.) A first step towards implementing dynamic algebraic dependences. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 115–149. (János Demetrovics) **99b:68051** 68P15
Dean, A. M. *see* **Dean, Angela M.**
Dean, Andrew P. (*with* Okoh, Frank) Extensionless modules of infinite rank. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 121–124, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Steffen König) **99i:16011** 16D70 (16G20)
Dean, Angela M. (*with* Wolfe, Douglas A.) Nonparametric analysis of experiments. *Design and analysis of experiments*, 705–758, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62G10 (62J05, 62J15, 62K10)
— (*with* Das, Ashish D.; Dey, Aloke) Optimal designs for diallel cross experiments. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 427–436. (Sanpei Kageyama) **99g:62105** 62K05 (62K10)
Dean, David S. (*with* Parisi, Giorgio) Statistical mechanics of a two-dimensional system with long-range interactions. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3949–3960. (Summary) **99a:82015** 82B20 (82B80)
— (*with* Comtet, Alain) Exact results on Sinai's diffusion. (English summary) *J. Phys. A* **31** (1998), *no.* 43, 8595–8605. (Summary) **99m:82025** 82B41 (82B31, 82B44)
Dean, E. J. (*with* Glowinski, Roland; Pan, Tsorng-Whay) A wave equation approach to the numerical simulation of incompressible viscous fluid flow modelled by the Navier-Stokes equations. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 65–74, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76D05 (65M06, 76M25)
Dean, Thomas (*with* Meuleau, Nicolas; Hauskrecht, Milos; Kim, Kee-Eung; Peshkin, Leonid; Kaelbling, Leslie Pack; Boutilier, Craig) Solving very large weakly coupled Markov decision processes. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 165–172, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C40
De Andrade, Antonio Aparecido *see* **de Andrade, Antonio Aparecido**
De Andrade, Eliana X. L. *see* **de Andrade, Eliana X. L.**
Deane, J. H. B. (*with* Jefferies, D. J.) The behaviour of coupled map chains. (English summary) *Complex. Int.* **3** (1996), 11 *HTML documents* (*electronic*). (Volker Matthias Gundlach) **99j:58064** 58F03 (34C35, 58F40)
Deang, Jennifer M. (*with* Gunzburger, Max D.) Issues related to least-squares finite element methods for the Stokes equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 878–906 (*electronic*). (Summary) **99e:65152** 65N30 (76D05, 76M10)
De Angelis, Elena (*with* Bellomo, N.) Strategies of applied mathematics towards an immuno-mathematical theory on tumors and immune system interactions. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1403–1429. 92C50
— Nonlinear hydrodynamic models of traffic flow modelling and mathematical problems. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 7, 83–95. 90B06 (93A30)
De Angelis, G. F. (*with* Jona Lasinio, G.; Sidoravicius, V.) Berezin integrals and Poisson processes. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 289–308. (Michael S. Marinov) **99b:81128** 81S40 (28C20, 60K35, 81S20, 82C31)
De Angelis, Monica (*with* D'Acunto, Berardino; Renno, Pasquale) Fundamental solution of a dissipative operator. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 295–314 (1998). (Summary) **99e:35003** 35A08 (35G20, 35Q99)
De Angelis, U. *see* **de Angelis, U.**
De Aquino, V. M. *see* **de Aquino, V. M.**
De Arcangelis, Lucilla *see* **de Arcangelis, Lucilla**
Dearden, James A. Efficiency and exclusion in collective action allocations. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 153–174. (Crăciun Iancu) **99c:90039** 90A60
Dearden, Richard (*with* Friedman, Nir; Russell, Stuart) Bayesian Q-learning. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 761–768, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T05 (62F15)
De Arruda, Lucia V. R. *see* **de Arruda, Lucia V. R.**
D'Eath, P. D. (*with* Woon, S. C.) Black hole evaporation. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 224–227, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57
— (*with* Sornborger, A.) Persistence amplitudes from numerical quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3435–3447. (Summary) **99g:83032** 83C45 (83–08)
Deaton, Russell (*with* Garzon, Max; Rose, J. A.; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA computing: a review. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 231–245. 68Q05 (68Q10)
— (*with* Murphy, R. C.; Garzon, Max; Franceschetti, D. R.; Stevens, S. E., Jr.) Good encodings for DNA-based solutions to combinatorial problems. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 247–258, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68052** 68Q05
— (*with* Gao, Yuan; Garzon, Max; Murphy, R. C.; Rose, J. A.; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA implementation of nondeterminism. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 137–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05
De Azcárraga, J. A. *see* **de Azcárraga, J. A.**
De Azevedo, C. A. *see* **de Azevedo, C. A.**
De Baere, W. (*with* Revzen, M.; Mann, Ady) Bell's inequality violation and localization. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 391–396, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05
— On some consequences of the breakdown of counterfactual definiteness in the quantum world. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 843–847. (Summary) **99k:81017** 81P05
De Baets, Bernard (*with* Fodor, János C.) Twenty years of fuzzy preference structures (1978–1997). (English summary) Fuzzy sets and applications. *Belg. J. Oper. Res. Statist.*

Comput. Sci. **37** (1997), *no.* 1-2, 61–82. (*see* **99a:90004**) 90A06
— (*with* Fodor, János C.) Twenty years of fuzzy preference structures (1978–1997). (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **20** (1997), *no.* 1, 45–66. (Summary) **99m:90009** 90A05 (90–02, 90C70)
— (*with* Tsiporkova-Hristoskova, Elena; Kerre, Etienne E.) Continuity of fuzzy multivalued mappings. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 335–348. (Osmo Kaleva) **99b:54008** 54A40 (26E50, 54C60)
— (*with* Mesiar, Radko) $\mathcal{T}$-partitions. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 211–223. (Summary) **99d:04007** 04A72
— (*with* Van de Walle, Bartel; Kerre, Etienne E.) A plea for the use of Łukasiewicz triplets in the definition of fuzzy preference structures. I. General argumentation. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 349–359. 90A06 (90C70)
— (*with* Tsiporkova-Hristoskova, Elena; Kerre, Etienne E.) On the structure of the classes of stable and pure fuzzy sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 225–240. (Summary) **99d:03050** 03E72 (54A40)
— (*with* Van de Walle, Bartel; Kerre, Etienne E.) A plea for the use of Łukasiewicz triplets in the definition of fuzzy preference structures. II. The identity case. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 303–310. (Summary) **99m:90013** 90A06 (90C70)
plouvier-Debaigt, Anne *see* **Plouvier-Debaigt, Anne**
De Bakker, J. W. *see* **de Bakker, J. W.**
Debarre, Olivier Variétés de Fano. (French summary) [Fano varieties] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 827, 4, 197–221. (Marco Andreatta) **99d:14038** 14J45 (14J10)
— Trisecant lines and Jacobians. II. (English summary) *Compositio Math.* **107** (1997), *no.* 2, 177–186. (José M. Muñoz Porras) **99a:14038** 14H42 (14H40, 14K10)
— (*with* Manivel, Laurent) Sur la variété des espaces linéaires contenus dans une intersection complète. [The variety of linear spaces contained in a complete intersection] *Math. Ann.* **312** (1998), *no.* 3, 549–574. (Yuri G. Prokhorov) **99j:14048** 14M15 (14J40)
De Barros, J. Acacio *see* **de Barros, J. Acacio**
De Barros, Luiz G. X. *see* **de Barros, Luiz G. X.**
Debbasch, F. (*with* Rivet, J. P.) A diffusion equation from the relativistic Ornstein-Uhlenbeck process. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1179–1199. (M. Lawrence Glasser) **99d:82049** 82C31
del Debbio, L. *see* **Del Debbio, L.**
Dębecki, Jacek Invariant vector fields of Hamiltonians. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 2, 295–300. (Manuel de León) **99i:58058** 58F05
Debeljković, D. Lj. (*with* Bajić, V. B.; Erić, T. N.; Milinković, S. A.) A Lyapunov analysis of stability robustness for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 53–62. (Summary) **99a:93077** 93D09 (93C05, 93C55)
— (*with* Bajić, V. B.; Bogićevic, B. B.; Jovanovic, M. B.) Non-Lyapunov stability robustness consideration for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 105–115. (Summary) **99e:93054** 93D09 (93C30)
Debenedetti, Pablo G. (*with* Sastry, Srikanth; Corti, David S.; Stillinger, Frank H.) Statistical geometry of particle packings. I. Algorithm for exact determination of connectivity, volume, and surface areas of void space in monodisperse and polydisperse sphere packings. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5524–5532. (Summary) **99a:82055** 82B99 (52C17)
— (*with* Sastry, Srikanth; Stillinger, Frank H.) Statistical geometry of particle packings. II. "Weak spots" in liquids. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5533–5543. (Summary) **99a:82056** 82B99 (52C17, 82B80)
— (*with* Truskett, Thomas M.; Torquato, Salvatore) Density fluctuations in many-body systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7369–7380. (Summary) **99g:82005** 82B05
DeBenedictis, Andrew Gravitational effects of quantum fields in the interior of a cylindrical black hole. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 6, 1955–1962. 83C57 (83C47)
De Berg, Mark *see* **de Berg, Mark**
Debergh, Nathalie (*with* Beckers, Jules; Nikitin, Anatolii) Reducibility of supersymmetric quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 9, 1991–2003. (Summary) **99g:81057** 81Q60
— (*with* Beckers, Jules) On radial Schrödinger equations in curved spaces and their spectra through nonlinear constraints. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 401–408. (Edward L. Bueler) **99a:58157** 58G25 (35J10, 58G40, 81Q05, 81Q60)
— On supersymmetric quantum mechanics in curved spaces. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7427–7436. (Avinash Khare) **99c:81051** 81Q60
— (*with* Beckers, Jules; Gotti, C.) On generalized Darboux transformations and symmetries of Schrödinger equations. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 214–232. (Tuncay Aktosun) **99d:81042** 81Q60 (35J10, 81Q05)
— (*with* Bagchi, Bijan Kumar; Beckers, Jules) Generating symmetry operators for the KdV equation and seeking their supersymmetric generalizations. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3203–3213. (Alexey V. Samokhin) **99e:58159** 58F35 (35Q53, 58F07)
— Supersymmetry of a multi-boson Hamiltonian through the Higgs algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4013–4019. (Summary) **99a:81211** 81V80 (81Q60)
— (*with* Beckers, Jules; Szafraniec, Franciszek Hugon) A proposal of new sets of squeezed states. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 256–260. (Summary) **99c:81076** 81R30
Dèbes, Pierre (*with* Deschamps, Bruno) The regular inverse Galois problem over large fields. *Geometric Galois actions*, 2, 119–138, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Teresa Crespo) **99j:12002** 12F12
— (*with* Harbater, David) Fields of definition of p-adic covers. (English summary) *J. Reine Angew. Math.* **498** (1998), 223–236. (Helmut Völklein) **99e:12006** 12F12 (14H30)
— (*with* Zannier, Umberto) Universal Hilbert subsets. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 127–134. (Daniel Berend) **99f:11141** 11R09 (11C08, 12E25)
— (*with* Emsalem, Michel) On fields of moduli of curves. (English summary) *J. Algebra* **211** (1999), *no.* 1, 42–56. (Helmut Völklein) **99k:14044** 14H25 (14H30)
DeBevoise, M. B. *see* **Blay, Michel, 99e:01001**
Dębicki, Krzysztof (*with* Michna, Zbigniew; Rolski, Tomasz) On the supremum from Gaussian processes over infinite horizon. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 83–100 (19*N*). (Simeon M. Berman) **99g:60075** 60G15
De Bièvre, Stephan *see* **de Bièvre, Stephan**
Debit, N. (*with* Agouzal, Abdellatif) Equilibrium method to approximate elliptic problems with non-standard boundary conditions. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 165–171. (M. K. Kadalbajoo) **99j:65190** 65N30
De Blasi, Francesco S. *see* **de Blasi, Francesco S.**
Debler, W. R. (*with* Hocking, L. M.; Cook, K. E.) The growth of leading-edge distortions on a viscous sheet. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 307–313. 76D99
Debnath, Lokenath Nonlinear instability of dispersive wavetrains in fluids. (English summary) Proceedings of International Symposium on Mathematical Physics with Special Sessions on Bose's Works, Part I (Calcutta, 1994). *Rev. Bull. Calcutta Math. Soc.* **3** (1995), *no.* 1-2, 15–30. (Summary) **99c:76050** 76E30 (76B15)
— (*with* Kim, Namkwon) Variational principle for nonlinear Rossby waves and conservation laws. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 103–108. (Summary) **99c:76025** 76C20 (35L65, 35Q35, 76M30)
— Brief historical introduction to wavelet transforms. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 677–688. (Summary) **99e:42046** 42C15 (44A15)
— (*with* Yang, Bi Cheng) Some inequalities involving the constant e, and an application to Carleman's inequality. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 347–353. (Jerzy Popenda) **99h:26026** 26D20 (26D15)
— (*with* Mikusiński, Piotr) ★ Introduction to Hilbert spaces with applications. (English summary) Second edition. *Academic Press, Inc., San Diego, CA*, 1999. *xx*+551 *pp. ISBN* 0-12-208436-5 (Editors) **99k:46001** 46–01 (47–01, 81–01)
— (*with* Das, Subir; Patra, Baidyanath) Diffraction of SH-waves by a Griffith crack in an infinite transversely orthotropic medium. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 57–61. 73D25
— (*with* Kumar, Rajneesh; Miglani, A.) Radial displacements of an infinite liquid saturated porous medium with cylindrical cavity. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 7, 117–123. 73N20 (76S05)
— (*with* Das, Subir; Patra, Baidyanath) Stress intensity factors for a moving interfacial Griffith crack in composite media. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 4, 453–475. (Summary) **99i:73057** 73M25 (73B40, 73K20)
— (*with* Gao, Mingzhe; Li, Tan) Some improvements on Hilbert's integral inequality. *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 682–689. (Franck Barthe) **99k:26024** 26D15 (26D10)
Debnath, S. C. (*with* Tiwary, Kalishankar) Some common fixed point theorems for compatible mappings. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 317–325. 54H25
De Boer, Frank S. *see* **de Boer, Frank S.**
De Boer, Jan *see* **de Boer, Jan**
De Boer, Mario A. *see* **de Boer, Mario A.**
De Boer, Pieter-Tjerk *see* **de Boer, Pieter-Tjerk**
De Boer, Reint *see* **de Boer, Reint**
De Bonis, Annalisa (*with* Gargano, Luisa; Vaccaro, Ugo) Improved algorithms for chemical threshold testing problems. (English summary) *Computing and combinatorics (Taipei, 1998)*, 127–136, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q20 (68Q25)
— (*with* Vaccaro, Ugo) Improved algorithms for group testing with inhibitors. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 57–64. (Summary) **99d:68092** 68Q20 (68Q25, 92B05)
De Boor, Carl *see* **de Boor, Carl**
De Borst, R. *see* **de Borst, R.**
Debosscher, A. Unification of one-dimensional Fokker-Planck equations beyond hypergeometrics: factorizer solution method and eigenvalue schemes. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 252–275. (Victor I. Stepanov) **99d:82050** 82C31 (35Q80, 35R60)
De Bouard, Anne *see* **de Bouard, Anne**
Debray, Atasi (*with* Mukherjee, M. N.) On nearly paracompact spaces via regular even covers. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 23–29. 54D20
— (*with* Mukherjee, M. N.) On nearly paracompact spaces and nearly full normality. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 99–104. (Summary) **99k:54015** 54D20 (54D15)
Debray, Saumya (*with* López-García, Pedro; Hermenegildo, Manuel; Lin, Nai-Wei) Lower bound cost estimation for logic programs. (English summary) *Logic programming (Port Washington, NY*, 1997), 291–305, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17
Debreu, Gerard On the preferences characterization of additively separable utility. (English summary) *Constructing scalar-valued objective functions (Hagen*, 1995), 25–38, *Lecture Notes in Econom. and Math. Systems*, 453, *Springer, Berlin*, 1997. (Ghanshyam Mehta) **99c:90024** 90A10
— *see also* **Menger, Karl, 99j:01028**
De Brey, M. J. D. (*with* Volgenant, A.) Well-solved cases of the 2-peripatetic salesman problem. (English summary) *Optimization* **39** (1997), *no.* 3, 275–293. (Summary) **99b:90100** 90C27 (68Q15)
De Broglie, Louis *see* **de Broglie, Louis**
De Bruijn, N. G. *see* **de Bruijn, N. G.**
De Bruin, M. G. *see* **de Bruin, M. G.**
De Bruin, R. *see* **de Bruin, R.**
De Bruyne, Franky (*with* Linard, Natasha; Anderson, Brian D. O.) Coprimeness properties of nonlinear fractional system realizations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 265–271. (Summary) **99e:93017** 93B15 (93B28)
Debs, G. (*with* Saint Raymond, J.) Some applications of game determinacy. 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 7–23. (Xie Ping Ding) **99c:90180** 90D44 (03E60, 54H05)

— (*with* Saint Raymond, J.) Compact-covering-properties of finite-to-one mappings. (English summary) *Topology Appl.* **81** (1997), *no.* 1, 55–84. (J. M. Aarts) **99e:54009** 54C10 (54E40, 54H05)

De Buhan, Patrick *see* **de Buhan, Patrick**

Debussche, A. On the finite dimensionality of random attractors. (English summary) *Stochastic Anal. Appl.* **15** (1997), *no.* 4, 473–491. (Summary) **99i:60123** 60H15 (34G20, 35B40, 35K57, 35R60, 47H20, 58F39)

— (*with* Cortes, J.; Toumi, I.) A density perturbation method to study the eigenstructure of two-phase flow equation systems. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 463–484. (Jian-Ping Zhu) **99k:76099** 76M20 (76T05)

— (*with* de Bouard, Anne) On the stochastic Korteweg-de Vries equation. (English and French summaries) *J. Funct. Anal.* **154** (1998), *no.* 1, 215–251. (Igor D. Chueshov) **99c:35209** 35Q53 (35R60, 60H15, 76B15)

— Hausdorff dimension of a random invariant set. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 10, 967–988. (Björn Schmalfuss) **99k:60161** 60H15 (28A78, 34C35, 58F11)

De Caen, D. *see* **de Caen, D.**

Decaluwé, Benjamin Contribution to a scheduling software for flexible workshops: implementation of a repair system. (English summary) *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 3, 3–21. 90B35 (90B25)

De Camargo, Murilo S. *see* **de Camargo, Murilo S.**

De Campos, Luis M. *see* **de Campos Ibáñez, Luis Miguel**

De Campos Ibáñez, Luis Miguel *see* **de Campos Ibáñez, Luis Miguel**

De Campos Velho, Haroldo F. *see* **de Campos Velho, Haroldo F.**

De Carli, Laura (*with* Iosevich, Alex) Some sharp restriction theorems for homogeneous manifolds. *J. Fourier Anal. Appl.* **4** (1998), *no.* 1, 105–128. (Adam Sikora) **99i:42017** 42B15

De Carvalho, Alexandre Luis Trovon *see* **de Carvalho, Alexandre Luis Trovon**

De Carvalho, Francisco de A. T. *see* **de Carvalho, Francisco de A. T.**

De Carvalho, Francisco J. Craveiro *see* **de Carvalho, Francisco J. Craveiro**

De Carvalho, Lindomar B. *see* **de Carvalho, Lindomar B.**

De Castro, H. P. *see* **de Castro, H. P.**

De Cataldo, Mark Andrea A. *see* **de Cataldo, Mark Andrea A.**

Decatur, Scott E. (*with* Aslam, Javed A.) General bounds on statistical query learning and PAC learning with noise via hypothesis boosting. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 85–118. (Peter Auer) **99g:68165** 68T05 (68Q99)

— (*with* Aslam, Javed A.) Specification and simulation of statistical query algorithms for efficiency and noise tolerance. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 191–208. (Peter Auer) **99d:68212** 68T05 (68Q99)

Dechevski, Lyubomir T. (*with* Dryanov, Dimiter P.; Rahman, Qazi I.) Approximation by entire functions with only real zeros. (English summary) *Approximation theory*, 181–195, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (N. A. Shirokov) **99g:41024** 41A29 (41A10)

— (*with* Penev, Spiridon) On shape-preserving wavelet estimators of cumulative distribution functions and densities. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 423–462. (Summary) **99d:42056** 42C15 (41A29, 62G05, 65T20)

Dechoum, K. (*with* França, H. M.; Malta, C. P.) Classical aspects of the Pauli-Schrödinger equation. (English summary) *Phys. Lett. A* **248** (1998), *no.* 2-4, 93–102. (Summary) **99g:81060** 81Q99 (81P99)

Dechter, Rina Bucket elimination: a unifying framework for probabilistic inference. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 211–219, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30 (03B48)

— Topological parameters for time-space tradeoff. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 220–227, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

— (*with* Pearl, Judea) Identifying independencies in causal graphs with feedback. (English summary) *Uncertainty in artificial intelligence (Portland, OR, 1996)*, 420–426, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99a:68165** 68T30

De Cicco, V. (*with* Dal Maso, Gianni; Notarantonio, Lino; Tchou, N. A.) Limits of variational problems for Dirichlet forms in varying domains. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 1, 89–116. (Paolo Acquistapace) **99e:35039** 35J25 (31C15, 49J45)

Deck, Th. (*with* Potthoff, J.) On a class of stochastic partial differential equations related to turbulent transport. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 101–122. (Jan Ubøe) **99e:60106** 60G20 (35Q35, 35R60, 60H15, 76F99, 76M35)

Decker, Wolfram (*with* Aure, Alf; Hulek, Klaus; Popescu, Sorin; Ranestad, Kristian) Syzygies of abelian and bielliptic surfaces in $\mathbf{P}^4$. *Internat. J. Math.* **8** (1997), *no.* 7, 849–919. (James E. Alexander) **99a:14049** 14J25 (14J27, 14J60)

— (*with* Heydtmann, Agnes Eileen; Schreyer, Frank-Olaf) Generating a Noetherian normalization of the invariant ring of a finite group. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 6, 727–731. (Dmitri I. Panyushev) **99d:13004** 13A50

— (*with* Greuel, Gert-Martin; Pfister, Gerhard) Primary decomposition: algorithms and comparisons. *Algorithmic algebra and number theory (Heidelberg, 1997)*, 187–220, *Springer, Berlin*, 1999. (Thomas Garrity) **99m:13049** 13P10

De Clerck, Frank New partial geometries constructed from old ones. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 255–263. (Summary) **99m:51007** 51E14

— *see also* **Finite geometry and combinatorics, 99a:51001**

De Cock, Mieke (*with* Andries, Johan) Dynamical entropy of a non-commutative version of the phase doubling. (English summary) *Quantum probability (Gdańsk, 1997)*, 31–40, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99g:46092** 46L55

— (*with* Andries, Johan; Fannes, Mark) The entropy of an irreversible quantum dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5989–6005. (Matthew J. Donald) **99g:82051** 82C10

De Concini, C. (*with* Procesi, Claudio) Quantum Schubert cells and representations at roots of 1. *Algebraic groups and Lie groups*, 127–160, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Venkatramani Lakshmibai) **99i:20067** 20G99 (16W30)

Deconinck, Bernard (*with* Segur, Harvey) The KP equation with quasiperiodic initial data. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 123–152. (Pavel Krejčí) **99m:35203** 35Q53 (14H42, 35B15, 35C05, 58F07)

Decorte, Stefaan (*with* De Schreye, Danny) Termination analysis: some practical properties of the norm and level mapping space. (English summary) *Logic programming (Manchester, 1998)*, 235–249, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q60)

De Coster, Colette (*with* Ben-Naoum, Abdou Kouider) On the existence and multiplicity of positive solutions of the p-Laplacian separated boundary value problem. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1093–1112. (P. Lindqvist) **99b:35062** 35J65 (34B15, 35B32)

— Existence, localization, and instability of solution in presence of non-well-ordered lower and upper solutions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 935–940. (Summary) **99e:35059** 35J65 (35B35)

— (*with* Henrard, Marc) Existence and localization of solution for second order elliptic BVP in presence of lower and upper solutions without any order. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 420–452. (Long-Yi Tsai) **99k:35059** 35J65

— (*with* Cherpion, M.; Habets, P.) Monotone iterative methods for boundary value problems. *Differential Integral Equations* **12** (1999), *no.* 3, 309–338. (Seppo Heikkilä) **99m:34018** 34A45 (34B15, 65L10)

Decreusefond, Laurent (*with* Üstünel, Ali Suleyman) On the conditional characteristic functions of second order Wiener functionals. (English summary) *Stochastic analysis and related topics, VI (Geilo, 1996)*, 235–244, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Marta Sanz Solé) **99j:60069** 60H05 (60G30, 60J65)

— (*with* Üstünel, Ali Suleyman) Fractional Brownian motion: theory and applications. (English and French summaries) *Systèmes différentiels fractionnaires (Paris, 1998)*, 75–86, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (Miguel A. Arcones) **99m:60082** 60H05 (60G18, 60J65)

— Perturbation analysis and Malliavin calculus. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 496–523. (Gheorghe Stoica) **99c:60113** 60H07 (60G55, 60H30)

— *see also* **Stochastic analysis and related topics, 99e:60006**

Decreux, Eric Idéaux fermés d'une algèbre de Beurling régulière. (English and French summaries) [Closed ideals of a regular Beurling algebra] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 839–844. (Summary) **99f:46075** 46J20 (46F15, 46J15)

De Cristofaro, Rodolfo *see* **de Cristofaro, Rodolfo**

DeCroix, Gregory A. (*with* Arreola-Risa, Antonio) Inventory management under random supply disruptions and partial backorders. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 687–703. 90B05

Dedania, Haresh V. Compact elements in weighted discrete semigroup algebras. (English summary) *Banach algebras '97 (Blaubeuren)*, 119–133, *de Gruyter, Berlin*, 1998. (Adolf R. Mirotin) **99m:46130** 46J99 (20M14)

— A seminorm with square property is automatically submultiplicative. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 51–53. (Abdullah H. Al-Moajil) **99c:46052** 46H05 (46J05)

Dedecker, Jérôme A central limit theorem for stationary random fields. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 3, 397–426. (Dalibor Volný) **99e:60058** 60F05 (60G10, 60G60)

Dedekind, R. *see* **Belna, Jean-Pierre, 99g:01019**

Dedieu, Jean-Pierre Condition number analysis for sparse polynomial systems. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 75–101, *Springer, Berlin*, 1997. (R. P. Tewarson) **99j:62085** 62H20 (65F35, 65F50)

— Estimations for the separation number of a polynomial system. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 6, 683–693. (Iliya Makrelov) **99b:65065** 65H05 (68Q40)

De Dinechin, Florent *see* **de Dinechin, Florent**

Dediu, Luminiţa (*with* Bridges, Douglas) Paradise lost, or paradise regained? (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 141–155. (Roman Murawski) **99m:00007** 00A30 (00A35, 01A60, 03–03, 03F60, 03F65)

De Doná, José A. (*with* Milocco, Rubén H.) Optimal parallel model solutions using the polynomial approach. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 681–697. 93C40 (93A30)

De Doncker-Kapenga, Elise *see* **de Doncker-Kapenga, Elise**

Dedonder, J.-P. (*with* Andrianov, A. A.; Cannata, Francesco; Ioffe, M. V.) Deformed supersymmetry, q-oscillator algebra and the scattering problem in quantum mechanics. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 22–48, 282–283. (Pavel Štovíček) **99i:81050** 81Q60 (81R50)

Deeba, Elias Y. (*with* de Korvin, Andre; Koh, E. L.) On a fuzzy logistic difference equation. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 149–156. (Summary) **99g:39006** 39A10

— (*with* Xie, Shishen) The continuous associated Legendre transform. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 4, 327–342. (Summary) **99b:44005** 44A15 (33C45)

— (*with* de Korvin, Andre; Koh, E. L.) A fuzzy difference equation with an application. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 365–374. (Wolfgang Sander) **99b:39006** 39A10 (04A72)

— (*with* Khuri, S. A.) The solution of nonlinear compartmental models. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 87–100. (Wolf-Jürgen Beyn) **99b:65079** 65L05 (92C45)

— (*with* Koh, E. L.; Sahoo, Prasanna K.; Xie, Shishen) On a distributional analog of a sum form functional equation. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 333–344. (Summary) **99a:39054** 39B22 (46F10)

— (*with* Khuri, S. A.) On the solution of some forms of the Korteweg-de Vries equation. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 113–125. 65M99 (35Q53)

— (*with* Sahoo, Prasanna K.; Xie, Shishen) On a class of functional equations in distribution. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 334–346. (Ioana Ciorănescu) **99g:39026** 39B22 (46F10)

Deelstra, Griselda (*with* Delbaen, Freddy) Long-term returns in stochastic interest rate models: different convergence results. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 401–407. (Summary) **99d:90018** 90A09

— (*with* Delbaen, Freddy) Convergence of discretized stochastic (interest rate) processes with stochastic drift term. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 77–84. (Summary) **99g:60097** 60H10 (90A09)

van Deemen, Adrian *see* **Van Deemen, Adrian**

van Deemter, Kees The sorites fallacy and the context-dependence of vague predicates. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 59–86, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03A05 (03B65)

De Fabritiis, Chiara A family of complex manifolds covered by Δ_n. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 233–252. (Summary) **99k:32055** 32M10 (32C10, 32E10, 32M05)

De Falco, Maria (*with* Kurdachenko, Leonid A.; Subbotin, Igor Ya.) Groups with only abnormal and subnormal subgroups. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 435–442. (Gunnar Traustason) **99m:20058** 20E15 (20D35)

Defant, Andreas (*with* Junge, Marius) On some matrix inequalities in Banach spaces. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fis. Nat.* (*Esp.*) **90** (1996), *no.* 3, 133–140. (Summary) **99h:46025** 46B28 (47B10)

De Feis, Italia (*with* Amato, Umberto) Convergence for the regularized inversion of Fourier series. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 261–284. (B. P. Parashar) **99c:65240** 65R10 (62J02, 65T10)

— (*with* Amato, Umberto) Retrieving a function from Hermite-Fourier coefficients affected by noise. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 193–206. (Introduction) **99d:42009** 42A28 (42A10)

De Feo, O. (*with* Rinaldi, Sergio) Singular homoclinic bifurcations in tritrophic food chains. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 7–20. (Summary) **99g:92041** 92D40 (34C23, 34C37, 58F40)

De Fermat, Pierre *see* **de Fermat, Pierre**

De Fernex, Tommaso *see* **de Fernex, Tommaso**

Defever, Filip (*with* Deszcz, Ryszard; Prvanović, Mileva) On warped product manifolds satisfying some curvature condition of pseudosymmetric type. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 43–62. (Florentino García Santos) **99f:53018** 53B30

— Hypersurfaces of $\mathbf{E}^4$ with harmonic mean curvature vector. (English summary) *Math. Nachr.* **196** (1998), 61–69. (Theodoros Vlachos) **99j:53004** 53A07 (53C40)

Defez, Emilio (*with* Ponsoda, E.) Explicit solutions for a class of second-order nonautonomous coupled difference systems with initial conditions. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 39A10 (15A24)

— (*with* Jódar, Lucas) Orthogonal matrix polynomials with respect to a conjugate bilinear matrix moment functional: basic theory. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 1, 66–79. (Boris Petrovich Osilenker) **99c:42063** 42C15 (44A60)

— (*with* Jódar, Lucas; Navarro, E.) On the best approximation matrix problem and matrix Fourier series. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 4, 88–98. (Boris Petrovich Osilenker) **99d:42043** 42C05 (41A10, 42C15)

— (*with* Jódar, Lucas) Hermite rational matrix approximation of Riccati differential equations. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 237–242, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 93B40 (34A45)

— (*with* Jódar, Lucas) A connection between Laguerre's and Hermite's matrix polynomials. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 13–17. (Summary) **99a:33007** 33C50 (15A99)

— (*with* Jódar, Lucas) On Hermite matrix polynomials and Hermite matrix functions. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 1, 36–48. (Valeri Kaliaguine) **99k:33027** 33C45 (41A10)

— Gauss-Seidel and Jacobi iterative methods for the solution of systems of linear equations. Implementation with DERIVE. (Spanish. Spanish summary) *Epsilon* **14** (1998), *no.* 1(40), 27–42. 65F10

— (*with* Jódar, Lucas) Some applications of the Hermite matrix polynomials series expansions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 105–117. (Summary) **99j:33010** 33C45 (34A30, 41A58)

Deffayet, Cédric (*with* Binétruy, Pierre; Dudas, Emilian; Ramond, Pierre) Pseudo-anomalous U(1) symmetry in the strong coupling limit of the heterotic string. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 163–172. (Summary) **99h:81153** 81T30

De Figueiredo, Celina Miraglia Herrera *see* **de Figueiredo, Celina Miraglia Herrera**

De Figueiredo, Djairo G. (*with* Yang, Jian Fu) Decay, symmetry and existence of solutions of semilinear elliptic systems. *Nonlinear Anal.* **33** (1998), *no.* 3, 211–234. (Ya Zhe Chen) **99d:35047** 35J60 (35J45)

De Figueiredo, Rui J. P. *see* **de Figueiredo, Rui J. P.**

De Filippis, V. (*with* Di Vincenzo, O. M.) On the generalized hypercentralizer of a Lie ideal in a prime ring. (English summary) *Rend. Sem. Mat. Univ. Padova* **100** (1998), 283–295. (Surender K. Jain) **99k:16043** 16N60 (16U70)

De Finetti, Bruno *see* **de Finetti, Bruno**

De Floriani, Leila (*with* Puppo, Enrico; Magillo, Paola) A formal approach to multiresolution hypersurface modeling. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 302–323, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65191** 65Y25 (65D17)

De Fluiter, Babette Lucie Elisabeth *see* **de Fluiter, Babette Lucie Elisabeth**

De Francesco, Nicoletta (*with* Santone, Antonella) A transformation system for concurrent processes. (English summary) *Acta Inform.* **35** (1998), *no.* 12, 1037–1073. (Summary) **99k:68061** 68Q10 (03B70, 68N15)

— (*with* Barbuti, Roberto; Mancarella, Paolo; Santone, Antonella) Towards a logical semantics for pure Prolog. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 145–176. (Summary) **99e:68013** 68N17 (03B70)

DeFranza, J. (*with* Fleming, D. J.; Rhoades, Billy E.) On the absolute Hardy-Bohr criteria. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 161–172. (Amnon Jakimovski) **99m:40004** 40C05 (40G99, 40H05, 46A45)

De Fraysseix, H. *see* **de Fraysseix, H.**

De Freitas, J. A. Teixeira *see* **de Freitas, J. A. Teixeira**

Defrise, Michel (*with* Clackdoyle, Rolf; Noo, Frédéric) Early results on general vertex sets and truncated projections in cone-beam tomography. (English summary) *Computational radiology and imaging* (*Minneapolis, MN*, 1997), 113–135, *IMA Vol. Math. Appl.*, 110, *Springer, New York*, 1999. (*see* **99m:92012**) 92C55

De Frutos, Javier *see* **de Frutos, Javier**

De Frutos-Escrig, David *see* **de Frutos-Escrig, David**

Degani, A. T. (*with* Walker, J. D. A.; Smith, Frank T.) Unsteady separation past moving surfaces. (English summary) *J. Fluid Mech.* **375** (1998), 1–38. (Summary) **99h:76028** 76D15 (76M25)

Degani Cattelani, Franca The fiftieth birthday of the Atti del Seminario Matematico e Fisico dell'Università di Modena. (Italian) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 569–593. (*see* **99d:00031**) 01A74

Degano, Pierpaolo (*with* Bodei, Chiara; Nielson, Flemming; Nielson, Hanne Riis) Control flow analysis for the π-calculus. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 84–98, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q55, 68Q60)

— (*with* Carabetta, Georgia; Gadducci, Fabio) CCS semantics via proved transition systems and rewriting logic. (English summary) *International Workshop on Rewriting Logic and its Applications* (*Pont-à-Mousson*, 1998), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 15, *Elsevier, Amsterdam*, 1998. (*see* **99h:68014**) 68Q10 (68Q42, 68Q60)

— (*with* Bodei, Chiara; Priami, Corrado) Constructing specific SOS semantics for concurrency via abstract interpretation (extended abstract). (English summary) *Static analysis* (*Pisa*, 1998), 168–183, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68Q10 (68Q55)

— (*with* Priami, Corrado) Non-interleaving semantics for mobile processes. (English summary) *Theoret. Comput. Sci.* **216** (1999), *no.* 1-2, 237–270. (Summary) **99m:68055** 68Q10 (68Q55)

Degasperis, A. (*with* De Lillo, S.; Tinebra, Fabrizio) Solutions of 1 + 1 relativistic field models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 497–531. (Luigi Martina) **99b:81140** 81T10 (35Q40, 35Q51)

Degen, Michael M. (*with* Andereck, C. David; Colovas, Peter W.; Renardy, Yuriko Yamamuro) Instabilities in two layer Rayleigh-Bénard convection: overview and outlook. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1451–1470. (Summary) **99i:76052** 76E15 (86A10)

De Gennes, Pierre-Gilles *see* **de Gennes, Pierre-Gilles**

Degeratu, Laurenţia Some metrical results for the nearest integer continued fraction. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **57/58** (1995/96), *no.* 1-4, 61–67. (Andrew M. Rockett) **99e:11107** 11K50

Degges, Ronald (*with* Magel, Rhonda C.) Tests for ordered alternatives with right censored data. (English summary) *Biom. J.* **40** (1998), *no.* 4, 495–518. 62G10

De Giacomo, Giuseppe (*with* Calvanese, Diego; Lenzerini, Maurizio) What can knowledge representation do for semi-structured data? (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 205–210, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30

— (*with* Chen, Xiao Jun[2]) Reasoning about nondeterministic and concurrent actions: a process algebra approach. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 63–98. (Summary) **99k:68060** 68Q10 (68Q60)

De Gier, Jan *see* **de Gier, Jan**

De Giorgi, Ennio (*with* Lenzi, Giacomo) Theory '95. An open-ended, nonreductionist theory of the foundations of mathematics. (Italian. English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 7–34. (Summary) **99c:03006** 03A05 (00A30, 00A35)

— Overcoming set-theoretic reductionism in the search for a broader and deeper understanding between mathematicians and scholars of other scientific and humanistic disciplines. (Italian. English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **9** (1998), *no.* 2, 71–80. 03A05

— *see also* **Dedicated to Ennio De Giorgi** *and* **Cecconi, Jaures Pacifico**

De Giosa, M. (*with* Lu, Yun Gang) From quantum Bernoulli process to creation and annihilation operators on interacting q-Fock space. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 149–167. (John E. Gough) **99d:81065** 81S25

De Giovanni, Francesco *see* **de Giovanni, Francesco**

Degiovanni, Marco (*with* Schuricht, Friedemann) Buckling of nonlinearly elastic rods in the presence of obstacles treated by nonsmooth critical point theory. *Math. Ann.* **311** (1998), *no.* 4, 675–728. (Vy Khoi Le) **99m:73019** 73C50 (49J35, 58E05, 73V25)

De Giuli, Maria Elena (*with* Giorgi, Giorgio; Magnani, Umberto) A general linear theorem of the alternative: how to get its special cases quickly. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 215–232. (Sophie Tarbouriech) **99k:15003** 15A06 (15A39, 90A09)

Degli Esposti, Mirko (*with* de Bièvre, Stephan) Egorov theorems and equidistribution of eigenfunctions for the quantized sawtooth and baker maps. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 1, 1–30. (Éric Leichtnam) **99g:58119** 58G15 (58F17)

— (*with* Baladi, V.; Isola, S.; Järvenpää, Esa; Kupiainen, Antti) The spectrum of weakly coupled map lattices. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 539–584. (Volker Matthias Gundlach) **99c:58127** 58F19 (58F11, 82B20)

— (*with* Del Magno, Gianluigi; Lenci, Marco) An infinite step billiard. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 991–1013. (András Krámli) **99i:58092** 58F11

Dé Godefroy, Akmel Blow up of solutions of a generalized Boussinesq equation. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 123–138. (Ming Mei) **99f:35175** 35Q53 (35L75, 76D33)

Degond, Pierre (*with* Lemou, Mohammed) Dispersion relations for the linearized Fokker-Planck equation. (English summary) *Arch. Rational Mech. Anal.* **138** (1997), *no.* 2, 137–167. (Reinhard Illner) **99f:82051** 82C31 (35Q99, 45K05, 47N55)

— (*with* Buet, Christophe; Cordier, Stéphane) Regularized Boltzmann operators. (English summary) Simulation methods in kinetic theory. *Comput. Math. Appl.* **35** (1998), *no.* 1-2, 55–74. (Nicola Bellomo) **99b:82081** 82C40 (47N55, 76P05)

— (*with* López, José L.; Peyrard, Pierre-François) On the macroscopic dynamics induced by a model wave-particle collision operator. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 153–178. (Summary) **99d:82053** 82C40 (35Q30, 76P05, 76X05)

— (*with* Schmeiser, Christian) Macroscopic models for semiconductor heterostructures. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4634–4663. (Carlo Cercignani) **99g:82069** 82C40 (76P05, 82D99)

— (*with* Génieys, Stéphane; Jüngel, Ansgar) A steady-state system in non-equilibrium thermodynamics including thermal and electrical effects. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1399–1413. (G. Albinus) **99i:35163** 35Q99 (76R99, 78A99, 80A10)

— (*with* Ben Abdallah, Naoufel; Markowich, Peter A.) The quantum Child-Langmuir problem. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 629–648. (Vitor R. Vieira) **99b:81286** 81V70 (34B15, 35Q40)

— (*with* Ben Abdallah, Naoufel; Méhats, Florian) Mathematical models of magnetic insulation. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1522–1534. (Summary) **99a:78030** 78A55 (76X05)

— (*with* Peyrard, Pierre-François; Russo, Giovanni; Villedieu, Philippe) Polynomial upwind schemes for hyperbolic systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 6, 479–483. (Summary) **99k:65071** 65M06 (35L65)

De Gooijer, Jan G. (*with* Matzner-Løber, Eric; Gannoun, Ali) Nonparametric forecasting: a comparison of three kernel-based methods. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1593–1617. (Summary) **99f:62117** 62M20 (62G05)

— (*with* Brännäs, Kurt; Teräsvirta, Timo) Testing linearity against nonlinear moving average models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2025–2035. 62M10

— On threshold moving-average models. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 1–18. (Jiří Anděl) **99e:62155** 62M10

De Gosson, Maurice *see* **de Gosson, Maurice**

Dégot, Jérôme (*with* Jenvrin, Odile) Bombieri's norm versus Mahler's measure. *Illinois J. Math.* **42** (1998), *no.* 2, 187–197. (Introduction) **99m:30010** 30C15

De Graaf, Jan *see* **de Graaf, Jan**

De Graaf, Jeannette M. *see* **de Graaf, Jeannette M.**

De Graaf, W. A. *see* **de Graaf, W. A.**

De Grande-De Kimpe, N. (*with* Aguayo, José; Navarro, Samuel) Zero-dimensional pseudocompact and ultraparacompact spaces. *p-adic functional analysis* (*Nijmegen*, 1996), 11–17, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (S. Swaminathan) **99f:54030** 54D20 (46E25, 46S10)

De Groote, Philippe *see* **de Groote, Philippe**

Degtyarenko, N. A. Solution of a convolution-type integral equation with four kernels and conjugation. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 46–51, 140–141. (Summary) **99i:45007** 45E10 (30E25)

Degtyarëv, A. I. (*with* Gurevich, Yuri; Narendran, Paliath; Veanes, Margus; Voronkov, Andrei) The decidability of simultaneous rigid E-unification with one variable. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 181–195, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03009** 03B25 (68Q25, 68Q40, 68T15)

Degtyarev, Lev Markovich *see* **Obituary: Degtyarev, Lev Markovich**

Degtyarev, S. L. (*with* Gulin, A. V.) A criterion for the stability of a two-dimensional difference scheme. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 943–950, 1006; *translation in Differential Equations* **32** (1996), *no.* 7, 950–957 (1997). (V. D. Glushenkov) **99c:65155** 65M06 (65M12)

Deguchi, Koichiro (*with* Okatani, Takayuki) Determination of the sign of the Gaussian curvature of a surface from photometric data. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1965–1972. (Summary) **99d:68243** 68U10 (65Y25)

— (*with* Hontani, Hidekata) A method for detection of inherent shape type and size of figures based on multi-scale image analysis. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 3018–3026. (Summary) **99i:68125** 68U10

Deguchi, Tetsuo (*with* Tsurusaki, Kyoichi) Numerical analysis on topological entanglements of random polygons. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 320–329, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 92D20 (57M25, 82B41)

— A note on generalized spin models. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 175–177, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 82B23

— (*with* Tsurusaki, Kyoichi) Numerical application of knot invariants and universality of random knotting. (English summary) *Knot theory* (*Warsaw*, 1995), 77–85, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Stuart G. Whittington) **99e:57010** 57M25 (82B41)

— (*with* Yue, Ruihong; Kusakabe, Koichi) A gapless charge mode induced by the boundary states in the half-filled Hubbard open chain. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7315–7330. (Summary) **99e:82096** 82D35 (82B20)

Deguire, Paul Generalized fixed-points and systems of minimax inequalities. (English summary) *Minimax theory and applications* (*Erice*, 1996), 35–40, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Carlo Bardaro) **99g:47130** 47H10 (47N10, 49J35, 54H25)

De Guise, Hubert *see* **de Guise, Hubert**

De Guzmán, I. P. *see* **de Guzmán, I. P.**

De Guzmán, Miguel *see* **de Guzmán, Miguel**

De Haan, Laurens *see* **de Haan, Laurens**

De Haas, K. *see* **de Haas, K.**

shafei Deh Abad, A. *see* **Shafei Deh Abad, A.**

Dehaene, Jeroen (*with* Moonen, Marc; Vandewalle, Joos) Analysis of a class of continuous-time algorithms for principal component analysis and subspace tracking. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 3, 364–372. (Summary) **99k:94006** 94A12

De Haro, Sebastian *see* **de Haro, Sebastian**

Deheri, G. M. Nuclearity of G_{∞}-like and G_1-like spaces. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 149–156. (Juan Carlos Díaz Alcaide) **99f:46005** 46A11 (46A45)

— Dvoretzky-Rogers theorem for sequence spaces with $\sigma\mu$-topology. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 265–270. (José Bonet) **99a:46011** 46A45 (46A11)

— On strong basis. *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, 687–691. (Juan Carlos Díaz Alcaide) **99k:46009** 46A35

Dehesa, Jesús S. (*with* Álvarez-Nodarse, Renato; Buendía, Enrique[1]) The distribution of zeros of general q-polynomials. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6743–6768. (Mizan Rahman) **99a:33011** 33D45

— (*with* Van Assche, Walter; Yáñez, Rafael J.) Information entropy of classical orthogonal polynomials and their application to the harmonic oscillator and Coulomb potentials. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 1, 91–110. (K. Pan) **99b:33015** 33C45 (33C55, 81Q05, 94A17)

— (*with* Sánchez-Ruiz, Jorge) Expansions in series of orthogonal hypergeometric polynomials. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 155–170. (Summary) **99i:33012** 33C45

— (*with* Álvarez-Nodarse, Renato; Yáñez, Rafael J.) Modified Clebsch-Gordan-type expansions for products of discrete hypergeometric polynomials. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 171–197. (Summary) **99h:33058** 33D45 (33E30, 39A10, 39A12)

— (*with* Artés, P. L.; Martínez-Finkelshtein, Andrei; Sánchez-Ruiz, Jorge) Linearization and connection coefficients for hypergeometric-type polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 15–26. (Harold Exton) **99k:33006** 33C05

Deheuvels, Paul Strong laws for local quantile processes. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 2007–2054. (Winfried Stute) **99c:60064** 60F15 (62G30)

— (*with* Lifshits, Mikhail) On the Hausdorff dimension of the set generated by exceptional oscillations of a Wiener process. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 75–110. (Paul McGill) **99b:60137** 60J65 (60F17, 60G17)

— On the local oscillations of empirical and quantile processes. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 127–134, *North-Holland, Amsterdam*, 1998. (Miguel A. Arcones) **99i:60076** 60F17 (60G17)

— (*with* Mason, David M.) Random fractal functional laws of the iterated logarithm. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 89–106. (Lajos Horváth) **99g:60061** 60F15 (60G17, 60J65)

Dehghan, Y. N. (*with* Shahbazov, A. I.) Weighted composition operators acting on the space of vector-valued functions. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 147–152, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Oscar Blasco) **99g:47062** 47B38 (46E40, 47B07)

— (*with* Sadeghi, E.) Topological vector spaces that admit support sets. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 473–476, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:46002** 46A22

— (*with* Shahbazov, A. I.) Finite sums of weighted composition operators on the space of vector-valued functions. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference*, *Part* 1 (*Tabriz*, 1997), 505–509, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Oscar Blasco) **99g:47063** 47B38 (46E40, 47B07)

— (*with* Shahbazov, A. I.) Compactness and nuclearity of weighted composition operators on uniform spaces. (English and Persian summaries) *Bull. Iranian Math. Soc.* **23** (1997), *no.* 1, 49–62. (Som Datt Sharma) **99i:47060** 47B38 (47B07)

Dehghanpour, Pouria (*with* Schonmann, Roberto H.) Metropolis dynamics relaxation via nucleation and growth. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 89–119. (Summary) **99b:82060** 82C05 (60K35, 82C20)

kazemi-Dehkordi, M. A. *see* **Kazemi-Dehkordi, M. A.**

Dehling, Herold G. Daniel Bernoulli and the St. Petersburg paradox. *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 223–227. (Sándor Csörgő) **99b:60002** 60–03 (01A50)

— (*with* Dabrowski, André Robert) Jump diffusion approximation for a Markovian transport model. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 115–125, *North-Holland, Amsterdam*, 1998. (Götz Kersting) **99m:60057** 60F17 (60J70)

Dehnen, H. (*with* Camacho, Abel) Higgs field and localization problem. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 11, 1711–1719. 81V25

Dehon, Michel (*with* Buekenhout, Francis; Leemans, Dimitri) On flag-transitive incidence geometries of rank 6 for the Mathieu group M_{12}. (English summary) *Groups and geometries* (*Siena*, 1996), 39–54, *Trends Math., Birkhäuser, Basel*, 1998. (Barbara Baumeister) **99m:51017** 51E24 (20D08)

— (*with* Buekenhout, Francis; Cara, Philippe) Geometries of small almost simple groups based on maximal subgroups. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **1998**, *suppl.*, *ii*+128 *pp.* (Antonio Pasini) **99c:51017** 51E24 (20D06)

De Hoop, Maarten V. *see* **de Hoop, Maarten V.**

Dehornoy, Patrick ★ Complexité et décidabilité. (French. French summary) [Complexity and decidability] Mathématiques & Applications [Mathematics & Applications], 12. *Springer-Verlag, Paris*, 1993. *ii*+200 *pp. ISBN* 2-287-00416-5 (Roman Murawski) **99d:03011** 03B25 (03D10, 03D15, 03F30, 03F35, 68Q05, 68Q10, 68Q15)

— Une autre application de la théorie des ensembles. [Another application of set theory] *Gaz. Math. No.* 69 (1996), 3–20. (U. Felgner) **99c:03073** 03E55 (03E75, 20F36, 57M25)

— Free zeropotent left distributive systems. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1967–1978. (M. K. Sen) **99f:20110** 20N02

— Transfinite braids and left distributive operations. *Math. Z.* **228** (1998), *no.* 3, 405–433. (Darren D. Long) **99g:20070** 20F36 (20N02, 57M25)

Dehy, Raika Combinatorial results on Demazure modules. *J. Algebra* **205** (1998), *no.* 2, 505–524. (Duncan J. Melville) **99g:17014** 17B10 (17B67)

Deichtmann, Jean M. (*with* Sainfort, François) On the difference between the cardinalities of measurable value functions and von Neumann-Morgenstern utility functions. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 307–308. (Summary) **99f:90020** 90A10 (90D10)

Deift, P. (*with* Kriecherbauer, Thomas; McLaughlin, K. T.-R.; Venakides, Stephanos; Zhou, Xin) Asymptotics for polynomials orthogonal with respect to varying exponential weights. *Internat. Math. Res. Notices* **1997**, *no.* 16, 759–782. (Alexander Vladimirovich Kitaev) **99g:34038** 34A55 (15A52, 34L25, 35Q53, 82B44)

— (*with* Kriecherbauer, Thomas; McLaughlin, K. T.-R.) New results for the asymptotics of orthogonal polynomials and related problems via the Lax-Levermore method. (English summary) *Recent advances in partial differential equations, Venice* 1996, 87–104, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Heinrich Begehr) **99c:31006** 31A99 (41A99, 60K99)

— (*with* Kriecherbauer, Thomas; McLaughlin, K. T.-R.; Venakides, Stephanos; Zhou, Xin) Uniform asymptotics for orthogonal polynomials. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 491–501 (*electronic*). (V. Totik) **99m:42038** 42C05 (45E05, 81Q99)

Deimling, Klaus Dissipation and almost-periodicity. *Advances in nonlinear dynamics*, 33–40, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (C. Corduneanu) **99a:34166** 34G20 (34C27)

Deĭneka, V. S. (*with* Skopetskiĭ, V. V.) Numerical modeling of discontinuous fields. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 63–74, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 354–365 (1998). (Introduction) **99d:65360** 65N99 (65Y20)

— (*with* Skopetskiĭ, V. V.) Control of the temperature state of a layered cylindrical body. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 88–99, 155. 93C20 (49K20)

Deĭneko, Vladimir G. (*with* Burkard, Rainer E.) On the traveling salesman problem with a relaxed Monge matrix. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 231–237. (Summary) **99f:90090** 90C27

— (*with* Woeginger, Gerhard J.) A solvable case of the quadratic assignment problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 13–17. (Summary) **99b:90101** 90C27

— (*with* Rudolf, Rüdiger; Woeginger, Gerhard J.) Sometimes travelling is easy: the master tour problem. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 81–93 (*electronic*). (Charles E. Blair) **99f:90159** 90C35 (68Q25, 68R05, 90C27)

— (*with* Burkard, Rainer E.; van Dal, René; van der Veen, Jack A. A.; Woeginger, Gerhard J.) Well-solvable special cases of the traveling salesman problem: a survey. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 496–546 (*electronic*). (Anton Volgenant) **99i:90077** 90C27 (90–02)

— (*with* Burkard, Rainer E.; Woeginger, Gerhard J.) The travelling salesman problem on permuted Monge matrices. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 333–350. (Jesús A. de Loera) **99k:90127** 90C27 (90C35)

Deissler, Robert J. (*with* Brand, Helmut R.) Transition from propagating localized states to spatiotemporal chaos in phase dynamics. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R*4064–*R*4067. 58F39 (58F13)

Deistler, M. (*with* Heij, C.; Scherrer, Wolfgang) System identification by dynamic factor models. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1924–1951. (Bożenna Pasik-Duncan) **99c:93016** 93B11 (93E12)

— (*with* Scherrer, Wolfgang) A structure theory for linear dynamic errors-in-variables models. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2148–2175 (*electronic*). (George Yin) **99f:93131** 93E10 (62H25)

— (*with* Schachermayer, Walter) The set of observationally equivalent errors-in-variables models. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 101–104. (Summary) **99c:93099** 93E03 (93E12)

De Ita Luna, Guillermo (*with* Morales-Luna, Guillermo) Genetic treatment of the SAT problem. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 53–65, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 68T05 (68Q25)

— (*with* Morales-Luna, Guillermo) Approximation algorithms for MaxSAT. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 15 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:90115** 90C60 (68Q15, 68Q25)

Deiters, K. (*with* Erné, Marcel) Negations and contrapositions of complete lattices. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 91–111. (Josef Niederle) **99f:06007** 06A23 (06A15)

Deitmar, Anton On the index of Dirac operators on arithmetic quotients. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 489–497. (Shin-ya Koyama) **99c:58148** 58G10 (11F72, 22E40)

— Erratum to: "Geometric zeta functions on *p*-adic groups" [Math. Japon. **47** (1998), no. 1, 1–17; MR 98m:11130]. *Math. Japon.* **48** (1998), *no.* 1, 91. (From the text) **99f:11153** 11S40 (11F72, 11F75, 11M36, 22E40)

— Equivariant torsion of locally symmetric spaces. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 205–227. (Alexander Fel'shtyn) **99i:58153** 58G26

De Jaegher, J. (*with* de Wit, Bernard; Kleijn, B.; Vandoren, Stefan) Special geometry in hypermultiplets. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 553–582. (Krzysztof Galicki) **99h:53057** 53C25 (53C55, 53C80, 81T60, 83E50)

De Jager, Bram *see* **de Jager, Bram**

Dejaiffe, I. Somme orthogonale d'algèbres à involution et algèbre de Clifford. [Orthogonal sum of involution algebras and Clifford algebra] *Comm. Algebra* **26** (1998), *no.* 5, 1589–1612. (Venapally Suresh) **99e:16023** 16K20 (15A66, 16W10)

Dejean, Yves Transformation de Fourier des distributions homogènes (d'après Lars Gårding). [Fourier transform of homogeneous distributions (after Lars Gårding)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 242, 25–38, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 46F12 (46F05)

De Jong, Aise Johan *see* **de Jong, Aise Johan**

De Jong, Gerdien *see* **de Jong, Gerdien**

De Jong, Kenneth Evolutionary computation: recent developments and open issues. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 563–579. (*see* **99b:90008**) 90–02 (90C27)

De Jong, M. C. M. (*with* Diekmann, Odo; Metz, J. A. J.) A deterministic epidemic model taking account of repeated contacts between the same individuals. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 448–462. (P. R. Parthasarathy) **99k:92041** 92D30

De Jong, Peter *see* **de Jong, Peter**

De Jong, Piet *see* **de Jong, Piet**

De Jong, Robert M. *see* **de Jong, Robert M.**

De Jong, Theo *see* **de Jong, Theo**

De Jonghe, F. (*with* Termonia, P.; Troost, Walter; Vandoren, Stefan) The topological twist and BRST anti-BRST gauge fixing in $N = 2$ Landau-Ginzburg models. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 283–284, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T10 (81T40)

Dejter, I. J. (*with* Pike, David A.; Rodger, C. A.) The directed almost resolvable Hamilton-Waterloo problem. (English summary) *Australas. J. Combin.* **18** (1998), 201–208. (Summary) **99f:05044** 05C20 (05C38)

Dekar, Liès (*with* Chetouani, Lyazid; Hammann, Théophile F.) An exactly soluble Schrödinger equation with smooth position-dependent mass. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2551–2563. (Peter N. Zhevandrov) **99f:81038** 81Q05 (33E30, 34L25)

Dekel, Eddie (*with* Gul, Faruk) Rationality and knowledge in game theory. *Advances in economics and econometrics: theory and applications, Vol. I, II, III* (*Tokyo*, 1995), 87–172, *Econom. Soc. Monogr.*, 26, 27, 28, *Cambridge Univ. Press, Cambridge*, 1997. (A. Rapoport) **99k:90009** 90A05 (90D35)

Dekeyser, I. (*with* Leredde, Y.; Lellouche, J.-M.; Devenon, J.-L.) On initial, boundary conditions and viscosity coefficient control for Burgers' equation. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 113–128. (Summary) **99c:86001** 86A05 (49K20, 76R99, 86–08)

Dekhtyar, Mikhail I. (*with* Dikovskiĭ, A. Ya.; Spyratos, Nicolas) On conservative enforced updates. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 244–257, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:68053** 68P15

— (*with* Dikovskiĭ, A. Ya.; Spyratos, Nicolas) On logically justified updates. (English summary) *Logic programming* (*Manchester*, 1998), 250–264, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68044** 68P15 (68T30)

— (*with* Dikovskiĭ, A. Ya.; Spyratos, Nicolas) Recovery of integrity constraints by the smallest sufficient changes. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 2, 27–37; *translation in Program. Comput. Software* **24** (1998), *no.* 2, 63–70. (Introduction) **99k:68041** 68P15 (68T27)

Dekimpe, Karel (*with* Igodt, Paul) Polycyclic-by-finite groups admit a bounded-degree polynomial structure. (English summary) *Invent. Math.* **129** (1997), *no.* 1, 121–140. (Daniel Segal) **99c:20071** 20H15 (20F16, 57S30)

— Left-symmetric structures on weakly graded Lie algebras. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 163–170. (Duncan J. Melville) **99h:17013** 17B30 (17B70)

— (*with* Ongenae, Veerle) Filiform left-symmetric algebras. (English summary) *Geom. Dedicata* **74** (1999), *no.* 2, 165–199. (Dietrich Burde) **99m:17002** 17A30 (17B30)

de grande-De Kimpe, N. *see* **De Grande-De Kimpe, N.**

Dekker, R. (*with* Frenk, J. B. G.; Kleijn, M. J.) On the marginal cost approach in maintenance. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 771–781. (Stefanka Chukova) **99a:90095** 90B25

Dekkers, W. J. M. (*with* Bunder, Martin; Geuvers, J. H.) Equivalences between illative combinatory logics and pure type systems. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 119–135. (*see* **99d:03003**) 03B40

— (*with* Bunder, Martin; Barendregt, Henk) Completeness of two systems of illative combinatory logic for first-order propositional and predicate calculus. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 327–341. (Alessandro Berarducci) **99m:03025** 03B40

Dekking, F. M. (*with* Speer, Eugene R.) On the shape of the wavefront of branching random walk. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 73–88, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (J. D. Biggins) **99b:60141** 60J80

De Klerk, E. *see* **de Klerk, E.**

De Klerk, J. H. *see* **de Klerk, J. H.**

De Kok, A. G. *see* **de Kok, A. G.**

De Koninck, Jean-Marie (*with* Ivić, Aleksandar) Arithmetic functions defined on sets of primes of positive density. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 2-3, 279–300. (Daniel A. Goldston) **99c:11120** 11N37

— (*with* Ivić, Aleksandar) On a sum of divisors problem. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **64(78)** (1998), 9–20. (G. Greaves) **99m:11103** 11N25 (11N37)

De Koning, W. L. *see* **de Koning, W. L.**

De Korvin, Andre *see* **de Korvin, Andre**

Dekov, Deko V. Free products with amalgamation of monoids. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 129–133. (Summary) **99a:20026** 20E06 (20M99)

— The class of all embeddable semigroup amalgams is not finitely axiomatizable. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 135–139. (Pavol Zlatoš) **99b:08005** 08C10 (08B25, 20M99)

Dekrét, Anton On skew 2-projectable almost complex structures on TM. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 2, 285–293. (Josef Janyška) **99g:53026** 53C05 (53C15)

— Connections induced by (1, 1)-tensor fields on cotangent bundles. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 317–331. (Josef Janyška) **99g:53019** 53B05 (58F05)

Delabaere, Eric (*with* Pham, Frédéric) Unfolding the quartic oscillator. (English summary) *Ann. Physics* **261** (1997), *no.* 2, 180–218. (Alexander Tovbis) **99k:81065** 81Q20 (34E20)

— (*with* Candelpergher, B.; Coppo, M. A.) La sommation de Ramanujan. (French summary) [The Ramanujan summation] *Enseign. Math.* (2) **43** (1997), *no.* 1-2, 93–132. (Andreas Guthmann) **99a:11149** 11Y60 (11M99)

— (*with* Dillinger, Hervé; Pham, Frédéric) Exact semiclassical expansions for one-dimensional quantum oscillators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6126–6184. (Summary) **99c:81041** 81Q20 (34E20, 34L40)

De La Bourdonnaye, Armel *see* **de La Bourdonnaye, Armel**

De la Bretèche, R. *see* **de la Bretèche, R.**

guerre-Delabrière, Sylvie *see* **Guerre-Delabrière, Sylvie**
De la Calle Ysern, B. *see* **de la Calle Ysern, B.**
De la Cruz, Omar (*with* Di Prisco, Carlos Augusto) Weak forms of the axiom of choice and partitions of infinite sets. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 47–70, *Kluwer Acad. Publ., Dordrecht*, 1998. (Paul E. Howard) **99f:03068** 03E25 (03E35, 04A25)
Del Águila, F. *see* **del Águila, F.**
Delahan, Franz A. Induced embeddings in Steinhaus graphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 1, 1–9. (Robert C. Brigham) **99g:05057** 05C10 (05C50)
De la Harpe, Pierre *see* **de la Harpe, Pierre**
Delahaye, J.-P. (*with* Rivals, E.) Optimal representation in average using Kolmogorov complexity. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 261–287. (Cristian Calude) **99c:68135** 68Q30
De la Higuera, Colin *see* **de la Higuera, Colin**
Delale, C. F. (*with* Crighton, D. G.) Prandtl-Meyer flows with homogeneous condensation. I. Subcritical flows. (English summary) *J. Fluid Mech.* **359** (1998), 23–47. (Summary) **99a:76126** 76N10
— (*with* van Dongen, M. E. H.) Thermal choking in two-dimensional expansion flows. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 515–537. (Summary) **99f:76079** 76J20 (35Q35, 76L05, 76N15)
Delaleau, Emmanuel (*with* Rudolph, Joachim) An intrinsic characterization of properness for linear time-varying systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 18 *pp.* (*electronic*). (Summary) **99g:93007** 93A30 (93C05, 93C50)
— (*with* Respondek, Witold) Lowering the orders of derivatives of controls in generalized state space systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 27 *pp.* (*electronic*). (Summary) **99h:93027a** 93B17 (58E25)
— (*with* Respondek, Witold) Errata: "Lowering the orders of derivatives of controls in generalized state space systems". *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 221. (Editors) **99h:93027b** 93B17 (58F25)
— (*with* Pereira da Silva, Paulo Sérgio) Filtrations in feedback synthesis. I. Systems and feedbacks. (English summary) *Forum Math.* **10** (1998), *no.* 2, 147–174. (Henk Nijmeijer) **99a:93018** 93B25 (93B50, 93C10)
— (*with* Pereira da Silva, Paulo Sérgio) Filtrations in feedback synthesis. II. Input-output decoupling and disturbance decoupling. (English summary) *Forum Math.* **10** (1998), *no.* 3, 259–276. (Henk Nijmeijer) **99d:93014** 93B25 (93C10)
— (*with* Rudolph, Joachim) Control of flat systems by quasi-static feedback of generalized states. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 745–765. (Zbigniew Bartosiewicz) **99j:93021** 93B18 (93B25, 93C10)
— (*with* Respondek, Witold) Lowering the orders of derivatives of controls in generalized state space systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 427–453. (Henk Nijmeijer) **99h:93028** 93B17 (93C10)
De la Llave, R. *see* **de la Llave, R.**
De la Macorra, Axel *see* **de la Macorra, Axel**
Delamarre, D. (*with* Virot, Bernard) Simulated annealing algorithm: technical improvements. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 1, 43–73. (Summary) **99a:90164** 90C27
Delande, Dominique (*with* Zakrzewski, Jakub) Ionization of hydrogen atoms by circularly polarized microwaves. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 205–232, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45
Delaney, Cathy (*with* Gray, Brenton D.; Gray, Ken; Maenhaut, Barbara M.; Sharry, Martin J.; Street, Anne Penfold) Pointwise defining sets and trade cores. (English summary) *Australas. J. Combin.* **16** (1997), 51–76. (Dinesh G. Sarvate) **99b:05017** 05B05
Delaney, William Limitation of operational definitions. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 6, 1757–1762. 81P15
Del Angel R., Pedro Luis *see* **del Angel R., Pedro Luis**
De la Peña, José Antonio *see* **de la Peña, José Antonio**
De la Peña, Víctor H. *see* **de la Peña, Víctor H.**
De la Plata, M. J. *see* **de la Plata, M. J.**
De La Pradelle, Arnaud *see* **de La Pradelle, Arnaud**
anantharaman-Delaroche, Claire *see* **Anantharaman-Delaroche, Claire**
De la Rue, Thierry *see* **de la Rue, Thierry**
De la Sen, Manuel *see* **de la Sen, Manuel**
De Las Peñas Cabrera, Inmaculada (*with* Fortes Escalona, Miguel Angel; Sánchez Campos, Esperanza) Elementary proofs of the Wedderburn-Artin theorems for associative pairs. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 107–114. (Antonio Fernández López) **99k:17003** 17A40 (16N20)
De la Torre, A. C. *see* **de la Torre, A. C.**
De la Torre, Alberto *see* **de la Torre, Alberto**
De la Torre Mayado, Marina *see* **de la Torre Mayado, Marina**
Delattre, Sylvain (*with* Jacod, Jean) A central limit theorem for normalized functions of the increments of a diffusion process, in the presence of round-off errors. (English summary) *Bernoulli* **3** (1997), *no.* 1, 1–28. (Fuqing Gao) **99f:60041** 60F05 (60F17, 60J60)
DeLaubenfels, Ralph *see* **deLaubenfels, Ralph**
Delaurens, F. (*with* Barucq, H.; Hanouzet, Bernard) Method of absorbing boundary conditions: phenomena of error stabilization. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1113–1129 (*electronic*). (Summary) **99a:65141** 65N30 (35Q60, 78A45)
De la Vega-Doria, Lucía A. (*with* Carrasco-Ochoa, Jesús Ariel; Ruiz-Shulcloper, José) A model of supervised classification based on sets of representatives. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition* (*Spanish*) (*México City*, 1998), 267–278, *Inst. Cibern. Mat. Fís., Havana*, 1998. (*see* **99k:68016**) 68T10
DeLa Vina, Ermelinda Graffiti's conjecture 781 about jets of independent sets and the Szekeres-Wilf invariant. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 47–50. (Summary) **99c:05099** 05C35
Delay, Erwann Analyse précisée d'équations semi-linéaires elliptiques sur l'espace hyperbolique et application à la courbure scalaire conforme. (English and French summaries) [Detailed analysis of semilinear elliptic equations on hyperbolic space and application to conformal scalar curvature] *Bull. Soc. Math. France* **125** (1997), *no.* 3, 345–381. (Laurent Véron) **99j:53045** 53C21 (35J60, 58G30)
— Prescription de la courbure de Ricci au voisinage de la métrique hyperbolique. (English and French summaries) [Prescribing the Ricci curvature in the neighborhood of the hyperbolic metric] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 335–338. (David L. Finn) **99j:53046** 53C21 (58G30)
Delbaen, Freddy (*with* Deelstra, Griselda) Long-term returns in stochastic interest rate models: different convergence results. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 401–407. (Summary) **99d:90018** 90A09
— A remark on Slutsky's theorem. *Séminaire de Probabilités, XXXII*, 313–315, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Paul McGill) **99k:60007** 60B10 (28A33)
— (*with* Deelstra, Griselda) Convergence of discretized stochastic (interest rate) processes with stochastic drift term. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 77–84. (Summary) **99g:60097** 60H10 (90A09)
— (*with* Schachermayer, Walter) The fundamental theorem of asset pricing for unbounded stochastic processes. *Math. Ann.* **312** (1998), *no.* 2, 215–250. (Martin Schweizer) **99k:60117** 60G44 (60G05, 90A09)
— (*with* Schachermayer, Walter) A simple counterexample to several problems in the theory of asset pricing. (English summary) *Math. Finance* **8** (1998), *no.* 1, 1–11. (Angelos Dassios) **99i:90014** 90A09 (60G35, 60G44, 60J60)
— (*with* Jarchow, Hans; Pełczyński, A.) Subspaces of L_p isometric to subspaces of l_p. (English summary) *Positivity* **2** (1998), *no.* 4, 339–367. (Summary) **99m:46071** 46E30 (46B04)
Delbeke, Lieve (*with* Van Assche, Walter) A wavelet based estimator for the parameter of self-similarity of fractional Brownian motion. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 14 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (P. A. Morettin) **99k:62073** 62G05 (42C15, 60J65, 62M07)
Delbende, Ivan (*with* Chomaz, Jean-Marc) Nonlinear convective/absolute instabilities in parallel two-dimensional wakes. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2724–2736. (Summary) **99i:76060** 76E30 (76D25)
Delbosco, Domenico Fixed points on a ball under a general boundary condition. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 207–212. (Summary) **99e:47072** 47H10
Delbourgo, Daniel Iwasawa theory for elliptic curves at unstable primes. (English summary) *Compositio Math.* **113** (1998), *no.* 2, 123–153. (John W. Jones) **99g:11083** 11G40 (11F67, 11G05, 11R23)
Delbourgo, Robert (*with* Davydychev, A. I.) A geometrical angle on Feynman integrals. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4299–4334. (Dirk Kreimer) **99k:81197** 81T18 (57M50)
Del Campo Cañizares, S. (*with* Sánchez Pérez, Enrique A.) An estimate of the Banach-Mazur distances between Hilbert spaces and Banach spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 465–476. (Anatolij M. Plichko) **99a:46016** 46B03 (46C15)
Del Carmen Calvo, Maria (*with* Keilhauer, Guillermo G. R.) Tensor fields of type $(0,2)$ on the tangent bundle of a Riemannian manifold. (English summary) *Geom. Dedicata* **71** (1998), *no.* 2, 209–219. (Andrew Bucki) **99e:53038** 53C20 (53A55)
Del Castillo-Mussot, M. *see* **del Castillo-Mussot, M.**
Del-Castillo-Negrete, D. *see* **del-Castillo-Negrete, D.**
Del Centina, A. (*with* Casnati, G.) Covers of degree four and the rationality of the moduli space of curves of genus five with a vanishing theta-null. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 265–274. (Montserrat Teixidor i Bigas) **99d:14016** 14H10
Del Cima, Oswaldo M. (*with* Franco, Daniel H. T.; Helayël-Neto, José A.; Piguet, Olivier) On the non-renormalization properties of gauge theories with a Chern-Simons term. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 2, 25 *pp.* (*electronic*). (Massimo Di Pierro) **99d:81088** 81T15 (81T13)
— (*with* Franco, Daniel H. T.; Helayël-Neto, José A.; Piguet, Olivier) Exact scale invariance of the BF-Yang-Mills theory in three dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 10, 15 *pp.* (*electronic*). (Summary) **99c:81141** 81T15 (81T13, 81T50)
— (*with* Landsteiner, Karl; Schweda, M.) Twisted $N = 4$ SUSY algebra in topological models of Schwarz type. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 289–300. (Summary) **99g:81221** 81T70 (81T60)
Delcoigne, F. (*with* Afanassieva, L. G.; Fayolle, G.) On polling systems where servers wait for customers. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 527–545. (John P. Lehoczky) **99g:60164** 60K25 (68M20, 90B22)
Del Corso, Gianna M. (*with* Manzini, Giovanni) On the randomized error of polynomial methods for eigenvector and eigenvalue estimates. (English summary) *J. Complexity* **13** (1997), *no.* 4, 419–456. (Ilse C. F. Ipsen) **99a:65047** 65F15 (15A18, 15A42)
— (*with* Bini, Dario Andrea; Manzini, Giovanni; Margara, Luciano) Inversion of circulant matrices over Z_m. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 719–730, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 65F35 (15-04, 15A09, 68Q80)
— Probabilistic methods for calculating eigenvalues and eigenvectors. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 185–188. 65F15
Delcroix, A. (*with* Cherdieu, J. P.; Mado, J. C.; Mercier, Dany-Jack) Weight distribution of the Hermitian forms codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 307–314. (Marc Perret) **99d:11131** 11T71 (94B27)
— (*with* Scarpalézos, D.) Asymptotic scales–asymptotic algebras. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 181–190. (Summary) **99d:46055** 46F10 (35D99)
Del Debbio, L. (*with* Faber, M.; Greensite, J.; Olejník, Š.) Center dominance, center vortices, and confinement. *New developments in quantum field theory* (*Zakopane*, 1997), 47–64, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 81V05
Delduc, F. (*with* Gallot, L.) Supersymmetric Drinfeld-Sokolov reduction. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4729–4745. (Carlo Morosi) **99f:58096** 58F07
— (*with* Fehér, László; Gallot, L.) Nonstandard Drinfeld-Sokolov reduction. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5545–5563. (Carlo Morosi) **99e:58094** 58F07
Delebecque, F. (*with* von Wissel, D.; Nikoukhah, Ramine; Campbell, Stephen L.) The effects of computational delay in descriptor-based trajectory tracking control (English

summary) *Internat. J. Control* **67** (1997), *no.* 2, 251–273. 93C41 (93D15)
— (*with* Nikoukhah, Ramine; Campbell, Stephen L.) Observer design for general linear time-invariant systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 575–583. (Summary) **99c:93015** 93B07 (93B40)
Deleersnijder, Eric (*with* Beckers, Jean-Marie; Campin, Jean-Michel; El Mohajir, Mohammed; Fichefet, Thierry; Luyten, Patrick) Some mathematical problems associated with the development and use of marine models. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 39–86, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A05
Deléglise, Marc (*with* Rivat, Joël) Computing $\psi(x)$. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1691–1696. (Simon T. Wong) **99a:11147** 11Y35 (11N56)
De Leo, G. A. (*with* Gatto, Marino) Interspecific competition among macroparasites in a density-dependent host population. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 467–490. (Summary) **99h:92025** 92D25
De Leo, Stefano (*with* Rodrigues, Waldyr Alves, Jr.) Quantum mechanics: from complex to complexified quaternions. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2725–2757. (Dominique Lambert) **99f:81118** 81S99 (81P99)
— (*with* Rodrigues, Waldyr Alves, Jr.) Quaternionic electron theory: Dirac's equation. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1511–1529. (Dan Radu Grigore) **99f:81079** 81R20 (81Q99)
— (*with* Rodrigues, Waldyr Alves, Jr.) Quaternionic electron theory: geometry, algebra, and Dirac's spinors. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1707–1720. (Bertfried Fauser) **99j:81060** 81R25 (15A66)
— (*with* Abdel-Khalek, Khaled) Toward an octonionic world. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 1945–1985. (Waldyr Alves Rodrigues, Jr.) **99m:81103** 81R99 (81R05)
De León, M. *see* **de León, Manuel**
De León, Manuel *see* **de León, Manuel**
Delépine, D. (*with* González Felipe, R.; Weyers, J.) Equivalence of the sine-Gordon and massive Thirring models at finite temperature. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 296–302. (Summary) **99a:81097** 81T10
Delest, Marie-Pierre (*with* Conway, Andrew R.; Guttmann, Anthony J.) The number of three-choice polygons. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 51–58. (Hsien-Kuei Hwang) **99c:82032** 82B41 (05A16)
Delfino, Donatella (*with* D'Anna, Marco) Integrally closed ideals and type sequences in one-dimensional local rings. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1065–1073. (Elsa Zatini) **99d:13029** 13H10
Delfino, G. (*with* Mussardo, G.) Non-integrable aspects of the multi-frequency sine-Gordon model. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 675–703. (Summary) **99a:81098** 81T10
— (*with* Cardy, John L.) Universal amplitude ratios in the two-dimensional q-state Potts model and percolation from quantum field theory. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 551–578. (Konstantin G. Selivanov) **99h:82011** 82B20 (81T25, 82B23, 82B43)
— Universal amplitude ratios in the two-dimensional Ising model. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 291–295. (Summary) **99a:82016** 82B20 (82B27)
Delfour, Michel C. (*with* Zolésio, Jean-Paul) Differential equations for linear shells: comparison between intrinsic and classical models. (English summary) *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 41–124, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Veronique Lods) **99a:73091** 73K15 (35Q72, 53B50)
— (*with* Zolésio, Jean-Paul) Hidden boundary smoothness for some classes of differential equations on submanifolds. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 59–73, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Bernard Rousselet) **99e:73071** 73K40 (35J99, 49Q15, 73C99, 73K15)
— (*with* Zolésio, Jean-Paul) Convergence to the asymptotic model for linear thin shells. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 75–93, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **99f:73055** 73K15 (49Q10, 73V25)
— Intrinsic differential geometric methods in the asymptotic analysis of linear thin shells. (English summary) *Boundaries, interfaces, and transitions* (*Banff, AB*, 1995), 19–90, *CRM Proc. Lecture Notes*, 13, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Choï) **99g:73080** 73K15 (49Q10, 53B50)
— (*with* Zolésio, Jean-Paul) Shape analysis via distance functions: local theory. (English summary) *Boundaries, interfaces, and transitions* (*Banff, AB*, 1995), 91–123, *CRM Proc. Lecture Notes*, 13, *Amer. Math. Soc., Providence, RI*, 1998. (Maïtine Bergounioux) **99d:49074** 49Q10 (49J52)
— *see also* **Boundaries, interfaces, and transitions, 99a:00021**
Delgado, Alberto J. Erratum to: "Phase portrait approximation using dynamic neural networks" [Math. Comput. Simulation **47** (1998), no. 1, 1–11]. *Math. Comput. Simulation* **48** (1999), *no.* 3, 319. 93C80 (93B40)
dominguez Delgado, Antonio *see* **Dominguez Delgado, Antonio**
muñoz-Delgado, Francisco-Javier *see* **Muñoz-Delgado, Francisco-Javier**
Delgado, J. *see* **Delgado Fernández, Joaquín**
Delgado, Joaquín *see* **Delgado Fernández, Joaquín**
Delgado, M. *see* **Delgado Pineda, Miguel**
Delgado, Manuel² Abelian pointlikes of a monoid. (English summary) *Semigroup Forum* **56** (1998), *no.* 3, 339–361. (Summary) **99k:20106** 20M05 (20M35)
Delgado, Miguel (*with* Herrera, Francisco; Herrera-Viedma, E.; Martínez Lopez, Luis) Combining numerical and linguistic information in group decision making. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 177–194. (Summary) **99b:68184** 68T30 (90A05)
martín-Delgado, Miguel A. *see* **Martín-Delgado, Miguel A.**
Delgado, Rosario (*with* Jolis, Maria) Quadratic variation and Riemann sums for the generalized multiple Skorokhod integral. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 183–199. (Anatoly V. Swishchuk) **99f:60098** 60H05 (60G17, 60H07)
— Multiple Ogawa, Stratonovich and Skorohod anticipating integrals. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 859–872. (Rainer Buckdahn) **99k:60139** 60H05 (60H07)
Delgado, Vicente Probability distribution of arrival times in quantum mechanics. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 2, 762–770. (Summary) **99c:81005** 81P05
— *see also* **Kijowski, Jerzy, 99m:81023**
Delgado C., Francisco (*with* Mielnik, Bogdan) Are there Floquet quanta? (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 369–375. 81P99
Delgado Fernández, Joaquín (*with* Seibert, P.; Aguirre Castillo, Luis; Arredondo Ruiz, J. H.) A general reduction principle in the stability theory of nonlinear systems. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 245–255, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:54050** 54H15
— (*with* Koiller, Jair) On efficiency calculations for nonholonomic locomotion problems: an application to microswimming. (English summary) Pacific Institute of Mathematical Sciences Workshop on Nonholonomic Constraints in Dynamics (Calgary, AB, 1997). *Rep. Math. Phys.* **42** (1998), *no.* 1-2, 165–183. (Summary) **99m:76050** 76D07 (76Z10, 93C10)
Delgado Pineda, Miguel (*with* Jiménez Guerra, Pedro) Orlicz classes of Hardy-Littlewood maximal functions. *Osaka J. Math.* **35** (1998), *no.* 1, 1–14. (Vladimir D. Stepanov) **99f:42040** 42B25 (46E30)
Delgaty, M. S. R. (*with* Lake, Kayll) Physical acceptability of isolated, static, spherically symmetric, perfect fluid solutions of Einstein's equations. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 395–415. (Alicia M. Sintes) **99m:83029** 83C15 (83C20)
Delgrande, James P. (*with* Cukierman, Diana) Expressing time intervals and repetition within a formalization of calendars. (English summary) *Comput. Intelligence* **14** (1998), *no.* 4, 563–597. (Olga M. Kosheleva) **99m:68182** 68T27 (03B45, 03B70)
D'Elia, J. (*with* Storti, M.; Idelsohn, S.) Algebraic discrete nonlocal (DNL) absorbing boundary condition for the ship wave resistance problem. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 570–602. (Summary) **99f:76109** 76M25 (76B20)
Delić, Dejan (*with* Bonato, Anthony) The model companion of width-two orders. (English summary) *Order* **14** (1997/98), *no.* 2, 87–99. (S. R. Kogalovskiĭ) **99g:06001** 06A06 (03C52)
Delić, Marjan (*with* Marn, Jure; Škerget, Leopold) Non-Newtonian driven cavity flow comparison between boundary element and finite difference methods. (English summary) *Advances in fluid mechanics, II* (*Udine*, 1998), 261–270, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76M15 (76A05, 76M20)
De Lichtenberg, Kristian *see* **de Lichtenberg, Kristian**
Deliduman, C. (*with* Bars, Itzhak) Gauge principles for multi-superparticles. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 240–246. (Summary) **99b:81231** 81T60 (81T30)
— (*with* Bars, Itzhak; Andreev, Oleg) Gauged duality, conformal symmetry, and spacetime with two times. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066004, 10 *pp.* (Summary) **99m:81117** 81S30 (81S10)
Deligne, Pierre Quelques idées maîtresses de l'œuvre de A. Grothendieck. (English and French summaries) [Some fundamental ideas in the works of A. Grothendieck] *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 11–19, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (S. L. Kleiman) **99k:01034** 01A60 (14–03)
De'Liguoro, Ugo *see* **de'Liguoro, Ugo**
De Lillo, Nicholas J. An object-oriented implementation of graph abstract data types: recent results. New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 11–14. (*see* **99h:05003**) 05C85
De Lillo, S. (*with* Degasperis, A.; Tinebra, Fabrizio) Solutions of 1 + 1 relativistic field models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 497–531. (Luigi Martina) **99b:81140** 81T10 (35Q40, 35Q51)
— (*with* Konotop, V. V.) On an integrable stochastic Volterra lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3831–3837. (Tuncay Aktosun) **99f:81213** 81U40 (35Q58)
— (*with* Di Gregorio, G.) Nonlinear heat conduction with time-dependent flux. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 189–192. (Summary) **99j:80004** 80A20 (35K60, 35R30)
DeLillo, Thomas K. (*with* Chan, Raymond H.; Horn, Mark A.) Superlinear convergence estimates for a conjugate gradient method for the biharmonic equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 139–147 (*electronic*). (Summary) **99e:65145** 65N12 (30C30, 65E05)
— (*with* Pfaltzgraff, John A.) Numerical conformal mapping methods for simply and doubly connected regions. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 155–171 (*electronic*). (N. Papamichael) **99g:30007** 30C30 (65E05)
De Lima, J. Ademir Sales *see* **de Lima, J. Ademir Sales**
De Lima, Osmundo A. *see* **de Lima, Osmundo A.**
De Lima, Pedro J. F. *see* **de Lima, Pedro J. F.**
De Lima Rodrigues, R. *see* **de Lima Rodrigues, R.**
Delin, Henrik Pointwise estimates for the weighted Bergman projection kernel in $\mathbf{C}^n$, using a weighted L^2 estimate for the $\overline{\partial}$ equation. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 4, 967–997. (Gregor Herbort) **99j:32027** 32H10 (32F20)
Delitsyn, A. L. (*with* Bogolyubov, Aleksandr Nikolaevich; Sveshnikov, A. G.) On the completeness of a system of eigen- and associated functions of a waveguide. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1891–1899; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1815–1823. (B. Belinskiy) **99i:35116** 35P10 (35Q99, 47A56, 78A25, 78A50)
Delius, Gustav W. The problem of differential calculus on quantum groups. (English summary) Quantum groups and integrable systems, I (Prague, 1996). *Czechoslovak J. Phys.* **46** (1996), *no.* 12, 1217–1225. (Axel Schüler) **99c:58013** 58B30 (17B37, 81R50)
— (*with* Gould, Mark D.) Quantum Lie algebras, their existence, uniqueness and q-antisymmetry. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 709–722. (Patrick Meessen) **99b:17009** 17B37 (81R50)
— Restricting affine Toda theory to the half-line. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 16, 40 *pp.* (*electronic*). (Mathias Pillin) **99i:81142** 81T10 (58F07,

81T40)

— (*with* Gardner, Christopher; Gould, Mark D.) The structure of quantum Lie algebras for the classical series B_l, C_l and D_l. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1995–2019. (Mariano A. del Olmo) **99k:81109** 81R50 (17B37)

— Soliton-preserving boundary condition in affine Toda field theories. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 217–223. (Henrik Aratyn) **99i:58071** 58F07 (81T10, 81T40)

Del Junco, Andrés *see* **del Junco, Andrés**

Dellacherie, C. (*with* Iwanik, A.) Sous-mesures symétriques sur un ensemble fini. [Symmetric submeasures on a finite set] *Séminaire de Probabilités, XXXII*, 1–5, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (J. Lukeš) **99i:28017** 28A99 (28A12)

— (*with* Taïbi, D.; Martínez, Servet A.; San Martín, Jaime) Noyaux potentiels associés à une filtration. (English and French summaries) [Potential kernels associated with a filtration] *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 6, 707–725. (Ivor E. McGillivray) **99k:60114** 60G42 (60G44, 60H05, 60J45)

Dellacherie, Stéphane (*with* Buet, Christophe; Sentis, Rémi) Résolution numérique d'une équation de Fokker-Planck ionique avec température électronique. (English and French summaries) [Numerical solution of an ionic Fokker-Planck equation with electronic temperature] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 93–98. (Summary) **99e:82066** 82C31 (65M99)

Dell'Acqua, G. (*with* Iannacci, R.; Bersani, A. M.; Santucci, P.) Embedding theorems for Sobolev-Besicovitch spaces of almost periodic functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 443–457. (J. Musielak) **99e:46041** 46E35 (42A75)

Della Croce, Lucia (*with* Chinosi, Claudia) Mixed-interpolated elements for thin shells. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 12, 1155–1170. (Summary) **99h:73075** 73V05 (65N30, 73K15)

Dell'Aglio, Luca Des glissements dans l'historiographie des mathématiques: le cas du Bollettino di Bibliografia e Storia delle Scienze Matematiche de Gino Loria. [Some slips in the historiography of mathematics: the case of the Bollettino di Bibliografia e Storia delle Scienze Matematiche of Gino Loria] *Messengers of mathematics: European mathematical journals* (1800–1946), 283–297, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— The role of applications in the works of Levi-Civita. (Italian. English summary) *Riv. Stor. Sci.* (2) **4** (1996), *no.* 1, 23–50 (1997). (Summary) **99a:01016** 01A60 (00A35, 53–03, 70–03)

— The concept of tensor in Ricci-Curbastro. (Italian) *Boll. Storia Sci. Mat.* **17** (1997), *no.* 1, 13–49. (Bernard Rouxel) **99g:01020** 01A55 (53–03)

Dell'Amico, Mauro (*with* Maffioli, Francesco; Sciomachen, A.) A Lagrangian heuristic for the prize collecting travelling salesman problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 289–305. (*see* **99b:90006**) 90C27

— *see also* **Bibliography: Combinatorial optimization, 99j:90001**

Dell'Antonio, Gianfausto (*with* Figari, R.; Teta, A.) Diffusion of a particle in presence of N moving point sources. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 4, 413–424. (Paolo Acquistapace) **99k:81331** 81U10 (47D06, 47N50, 81Q10)

— Non-collision periodic solutions of the N-body system. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 117–136. (Donald G. Saari) **99c:70017** 70F10 (34C25, 58E50, 70F35, 70H05)

ronchi Della Rocca, Simona *see* **Ronchi Della Rocca, Simona**

Della Vecchia, B. (*with* Khan, Mohammad K.; Fassih, A.) On the monotonicity of positive linear operators. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 22–37. (Y. Sitaraman) **99a:41034** 41A36

— (*with* Bos, L. P.; Mastroianni, Giuseppe) On the asymptotics of Christoffel functions for centrally symmetric weight functions on the ball in $\mathbf{R}^d$. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 277–290. (K. Pan) **99h:42043** 42C05

— (*with* Mastroianni, Giuseppe; Vértesi, P.) One-sided convergence conditions for Hermite-Fejér interpolation of higher order of Lagrange type. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 294–309. (Kewal Krishna Mathur) **99k:41007** 41A10 (41A25)

Dell'Erba, Ramiro *see* **dell'Erba, Ramiro**

Delli Priscoli, Francesco Sufficient conditions for robust tracking in nonlinear systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 825–836. 93D21

Dell'Isola, Francesco *see* **dell'Isola, Francesco**

Dellnitz, Michael (*with* Junge, Oliver) Almost invariant sets in Chua's circuit. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2475–2485. (Philip J. Aston) **99k:58117** 58F12 (34C35, 58F13)

Dell'Olmo, Paolo (*with* Giordani, Stefano; Speranza, Maria Grazia) Graph models for a duo-processor task scheduling problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 186–191, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35 (90C35)

— (*with* Bianco, Lucio; Giordani, Stefano) Models and algorithms for real-time control of aircraft landings. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 289–294, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C90 (93C95)

— (*with* Confessore, Giuseppe; Giordani, Stefano) An approximation result for a bandwidth allocation problem. *Operations Research Proceedings* 1997 (*Jena*), 126–131, *Springer, Berlin*, 1998. (From the introduction) **99f:90034** 90B12

— (*with* Bianco, Lucio; Giordani, Stefano) Minimizing total completion time subject to release dates and sequence-dependent processing times. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 393–415. (*see* **99k:90002**) 90B35 (60K30, 90C48)

Del Lungo, A. (*with* Barcucci, E.; Brunetti, S.; Del Ristoro, F.) A combinatorial interpretation of the recurrence $f_{n+1} = 6f_n - f_{n-1}$. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 235–240. (Summary) **99f:05001** 05A10

Del Magno, Gianluigi (*with* Degli Esposti, Mirko; Lenci, Marco) An infinite step billiard. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 991–1013. (András Krámli) **99i:58092** 58F11

Delmas, Céline An asymptotic expansion for the distribution of the maximum of a class of Gaussian fields. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 393–397. (Robert J. Adler) **99m:60063** 60G15 (60G60, 60G70, 62E17)

Delmas, O. (*with* Bermond, Jean-Claude; Darrot, E.; Pérennes, Stéphane) Hamilton circuits in the directed wrapped butterfly network. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 21–42. (Summary) **99g:05121** 05C45

— (*with* Bermond, Jean-Claude; Darrot, E.; Pérennes, Stéphane) Hamilton cycle decomposition of the butterfly network. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 371–385. (Brian Alspach) **99k:68127** 68R10 (05C45, 68M10)

Del Moral, Pierre (*with* Salut, G.) Particle interpretation of nonlinear filtering and optimization. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 355–372 (1998). (George Yin) **99a:93098** 93E11 (90C15)

— Maslov optimization theory: topological aspects. (English summary) *Idempotency* (*Bristol*, 1994), 354–382, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Kurt Marti) **99d:90079** 90C15

— Measure-valued processes and interacting particle systems. Application to nonlinear filtering problems. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 438–495. (Sylvie Méléard) **99c:60213** 60K35 (60G35, 60G57)

— (*with* Guionnet, A.) Large deviations for interacting particle systems: applications to non-linear filtering. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 69–95. (Ingemar Kaj) **99k:60071** 60F10 (60G35, 60K35, 93E11)

De Loera, J. A. *see* **de Loera, J. A.**

Del Olmo, Mariano A. *see* **del Olmo, Mariano A.**

Delon, Françoise (*with* Simonetta, Patrick) Undecidable wreath products and skew power series fields. *J. Symbolic Logic* **63** (1998), *no.* 1, 237–246. (O. V. Belegradek) **99b:03059** 03D35 (16W60, 20E22)

De Lorenci, V. A. (*with* Novello, M.; Elbaz, Edgard) Some aspects of geometrical confinement. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4539–4552. (Summary) **99e:81151** 81T13 (83C57)

De Lorenzo, Javier *see* **de Lorenzo, Javier**

Delorme, Charles (*with* Tillich, Jean-Pierre) The spectrum of de Bruijn and Kautz graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 307–319. (W.-K. Chen) **99g:05132** 05C50 (05C20)

— (*with* Bampis, E.; Konig, Jean-Claude) Optimal schedules for d-D grid graphs with communication delays. (English summary) *Parallel Comput.* **24** (1998), *no.* 11, 1653–1664. (Summary) **99f:68020** 68M20

Delorme, Patrick Inversion des intégrales orbitales sur certains espaces symétriques réductifs (d'après A. Bouaziz et P. Harinck). (French summary) [Inversion of orbital integrals on certain reductive symmetric spaces (following A. Bouaziz and P. Harinck)] Séminaire Bourbaki, Vol. 1995/96. *Astérisque No.* 241 (1997), *Exp. No.* 810, 4, 157–177. (D. Miličić) **99f:22022** 22E46

— Formule de Plancherel pour les espaces symétriques réductifs. [Plancherel formula for reductive symmetric spaces] *Ann. of Math.* (2) **147** (1998), *no.* 2, 417–452. (Michel Pevzner) **99d:22022** 22E45 (22E30)

Delort, Jean-Marc L'équation de Klein-Gordon à données petites faiblement décroissantes. [The Klein-Gordon equation with small weakly decreasing data] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* V, 14 *pp.*, *École Polytech., Palaiseau*, 1997. (Valery Covachev) **99b:35144** 35L70 (35Q53)

— Temps d'existence pour l'équation de Klein-Gordon semi-linéaire à données petites périodiques. (English summary) [Time of existence for the semilinear Klein-Gordon equation with periodic small data] *Amer. J. Math.* **120** (1998), *no.* 3, 663–689. (Valery Covachev) **99d:35108** 35L70 (35B45, 35Q53)

Delos, John B. (*with* Schwieters, Charles D.) Classical orbits and quantum waves in natural atoms and in designer atoms. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 233–247, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81V45

De Los Santos Villodres, R. (*with* Cuenca Mira, J. A.; Kaïdi, El Amin Mokhtar; Rochdi, A.) Real quadratic flexible division algebras. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 1–22. (Theo Grundhöfer) **99m:17003** 17A35 (17A20)

Deloup, Florian Linking forms, reciprocity for Gauss sums and invariants of 3-manifolds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1895–1918. (Justin D. Roberts) **99h:57035** 57N10 (11E81, 11L05, 57M25, 57N13)

Del Piero, Gianpietro Representation theorems for hemitropic and transversely isotropic tensor functions. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 43–71. (Maurizio Vianello) **99k:73009** 73B10 (73B05, 73C50)

Del Pino, Guido E. *see* **del Pino, Guido E.**

Del Pino, Manuel (*with* Felmer, Patricio L.) Local minimizers for the Ginzburg-Landau energy. *Math. Z.* **225** (1997), *no.* 4, 671–684. (Peter E. Zhidkov) **99a:35240** 35Q55 (49J35, 58E50, 82D55)

— (*with* Felmer, Patricio L.) Localizing spike-layer patterns in singularly perturbed elliptic problems. *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 35–42, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35B25 (35J10, 35Q55)

— (*with* Felmer, Patricio L.) Multi-peak bound states for nonlinear Schrödinger equations. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 127–149. (Claire R. Gilson) **99c:35228** 35Q55 (35B05, 35J10)

— (*with* Drábek, Pavel; Manásevich, Raúl) The Fredholm alternative at the first eigenvalue for the one-dimensional p-Laplacian. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 461–465. (Summary) **99h:35053** 35J60 (34B15, 34L30)

— (*with* Cortázar, Carmen; Elgueta, Manuel) On the blow-up set for $u_t = \Delta u^m + u^m$, $m > 1$. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 541–561. (Summary) **99h:35085** 35K55 (35B05)

— (*with* Drábek, Pavel; Manásevich, Raúl) The Fredholm alternative at the first eigenvalue for the one-dimensional p-Laplacian. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 386–419. (Miguel Ramos) **99m:34042** 34B15 (34C10, 34L30, 47H15)

mauceri Del Prete, Vincenza *see* **Mauceri Del Prete, Vincenza**

Del Riego, L. Local geometry of a manifold defined by a spray. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*)

(*Queretaro*, 1994), 279–304, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99g:58097** 58F17

Del Río, Rafael *see* **del Río, Rafael**

Del Río Castillo, Rafael René *see* **del Río Castillo, Rafael René**

Del Ristoro, F. (*with* Barcucci, E.; Brunetti, S.; Del Lungo, A.) A combinatorial interpretation of the recurrence $f_{n+1} = 6f_n - f_{n-1}$. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 235–240. (Summary) **99f:05001** 05A10

Del Rosario, R. C. H. (*with* Smith, Ralph C.) LQR control of shell vibrations via piezoceramic actuators. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 247–265, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Sergei Pavlovich Ohezin) **99g:93042** 93C20 (73K50)

Del Sagrado, José *see* **del Sagrado, José**

Del Santo, Daniele (*with* Colombini, Ferruccio) Formation of singularities for nonlinear hyperbolic 2×2 systems with periodic data. *Osaka J. Math.* **34** (1997), *no.* 4, 843–857. (Jean-Marc Delort) **99c:35151** 35L67 (35A30, 35L60)

— Global existence and blow-up for a hyperbolic system in three space dimensions. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 115–140 (1998). (Vladimir P. Burskiĭ) **99m:35162** 35L70 (35B40, 35L55)

Delsarte, Jean Nombre de solutions des équations polynomiales sur un corps fini. [Number of solutions of polynomial equations over a finite field] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 39, 321–329, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 11G25

Delsarte, Philippe (*with* Levenshtein, Vladimir I.) Association schemes and coding theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2477–2504. (Summary) **99i:94061** 94Bxx (05E30, 90C90)

Delshams, Amadeu (*with* Lázaro, J. Tomás) Convergence of the step to normal form in reversible systems. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 58F36 (34C20)

— (*with* Ramírez-Ros, Rafael) Numerical study of the Poincaré-Mel′nikov-Arnol′d method for mappings. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 58F30 (65L08)

— (*with* Ramírez-Ros, Rafael) Melnikov potential for exact symplectic maps. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 213–245. (Tere M. Seara) **99f:58154** 58F15 (34C37, 58F05, 70H05)

— (*with* Ramírez-Ros, Rafael) Singular splitting of separatrices for the perturbed McMillan map. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 243–248, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Vassili G. Gelfreich) **99e:58156** 58F30 (34C37, 58F15)

— (*with* Ramírez-Ros, Rafael) Exponentially small splitting of separatrices for perturbed integrable standard-like maps. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 3, 317–352. (Ernest Fontich) **99f:58177** 58F30 (34C11, 34C20, 34C37, 58F15)

Del Sol Mesa, A. *see* **del Sol Mesa, A.**

De Luca, A. *see* **De Luca, Alessandro**

De Luca, Aldo *see* **de Luca, Aldo**

De Luca, Alessandro (*with* Mattone, Raffaella; Oriolo, Giuseppe) Control of redundant robots under end-effector commands: a case study in underactuated systems. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 225–251. (Summary) **99d:70005** 70B15 (70Q05, 93C85)

— (*with* Oriolo, Giuseppe; Samson, C.) Feedback control of a nonholonomic car-like robot. *Robot motion planning and control*, 171–253, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (From the introduction) **99a:70044** 70Q05 (70B15, 70F25, 93B52, 93C85)

— Decoupling and feedback linearization of robots with mixed rigid/elastic joints. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 965–977. (*see* **99f:93004**) 93C85 (93B18)

De Luca, Marino Existence of solutions for a time-dependent quasi-variational inequality. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 101–106. (Igor′ V. Konnov) **99d:49021** 49J40 (47H19, 90B06)

— *see also* **Equilibrium problems with side constraints. Lagrangean theory and duality**, **99a:49002**

DeLuca, P. R. (*with* Tombuyses, B.; Smidts, C.) Backward Monte Carlo for probabilistic dynamics. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 493–505. (*see* **99d:65008**) 90B35 (65C05)

De Lucia, Paolo Convergence theorems in orthomodular posets. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 171–179. (Marjan Matvejchuk) **99h:28025** 28B10 (46G10)

— (*with* Morales, Pedro) Decomposition of group-valued measures on orthoalgebras. (English summary) *Fund. Math.* **158** (1998), *no.* 2, 109–124. (L. Ya. Savel′ev) **99m:28028** 28B15 (06F20, 28B10)

— (*with* De Simone, Anna) Measures on a weakly orthocomplete OMP with a filtering sub-OMP. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 233–244. (Marjan Matvejchuk) **99k:03047** 03G10 (03G12, 06C15, 28A60, 81P10)

De Luna, Xavier *see* **de Luna, Xavier**

Del Valle, E. *see* **del Valle, E.**

Delves, R. T. (*with* Joyce, G. S.; Zucker, I. J.) Exact evaluation of the Baxter-Bazhanov Green function. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1781–1790. (M. Lawrence Glasser) **99g:33011** 33C20 (30E05, 82B20)

— (*with* Zucker, I. J.; Joyce, G. S.) On the evaluation of the integral $\int_0^{\pi/4} \ln(\cos^{m/n}\theta \pm \sin^{m/n}\theta)d\theta$. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 317–326. (Summary) **99g:26019** 26A36

Delvos, F.-J. Trigonometric approximation in multivariate periodic Hilbert spaces. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 35–44, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (*see* **99a:41001**) 42A10 (41A63)

Delzanno, Giorgio Specification of term rewriting in linear logic. (English summary) *Workshop on Proof Search in Type-theoretic Languages* (*Lindau*, 1998), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 17, *Elsevier, Amsterdam*, 1998. (*see* **99h:68013**) 68Q42 (03F50)

De Magalhães, A. C. N. *see* **de Magalhães, A. C. N.**

Demailly, Jean-Pierre L^2 vanishing theorems for positive line bundles and adjunction theory. *Transcendental methods in algebraic geometry* (*Cetraro*, 1994), 1–97, *Lecture Notes in Math.*, 1646, *Springer, Berlin*, 1996. (Christophe Mourougane) **99k:32051** 32L20 (14C20, 14F17, 32L10)

— Algebraic criteria for Kobayashi hyperbolic projective varieties and jet differentials. (English summary) *Algebraic geometry—Santa Cruz* 1995, 285–360, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Min Ru) **99b:32037** 32H20 (14J40, 32L10)

— Variétés projectives hyperboliques et équations différentielles algébriques. [Hyperbolic projective varieties and algebraic differential equations] *Journée en l′Honneur de Henri Cartan*, 3–17, *SMF Journ. Annu.*, 1997, *Soc. Math. France, Paris*, 1997. (William A. Cherry) **99a:32033** 32H20 (32J10, 32L05)

— (*with* Campana, Frédéric; Peternell, Thomas) The algebraic dimension of compact complex threefolds with vanishing second Betti number. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 77–91. (Sándor J. Kovács) **99e:32047** 32J17

De Malafosse, Bruno *see* **de Malafosse, Bruno**

Demange, Gabrielle (*with* Laroque, Guy) Long-sighted principal and myopic agents. (English and French summaries) *J. Math. Econom.* **30** (1998), *no.* 2, 119–146. (Summary) **99k:90025** 90A09

Demange, Marc (*with* Grisoni, Pascal; Paschos, Vangelis Th.) Differential approximation algorithms for some combinatorial optimization problems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 107–122. (Summary) **99g:90154** 90C35 (05C85, 68Q25, 90C27)

De Marchi, S. (*with* Bos, L. P.) Limiting values under scaling of the Lebesgue function for polynomial interpolation on spheres. (English summary) *J. Approx. Theory* **96** (1999), *no.* 2, 366–377. (J. Szabados) **99k:41002** 41A05 (41A30)

De Marco, Gianluca (*with* Gargano, Luisa; Vaccaro, Ugo) Concurrent multicast in weighted networks. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 193–204, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68M10 (68Q25, 90B12)

— (*with* Vaccaro, Ugo) Broadcasting in hypercubes and star graphs with dynamic faults. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 6, 321–326. (Summary) **99c:68024** 68M15 (68M10)

De Mari, Filippo (*with* Glüsing-Lüerßen, Heide) The spaces of improper rational matrices and ARMA-systems of fixed McMillan degree. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 19 *pp.* (*electronic*). (Summary) **99f:93032** 93B27 (93C35)

Demarrais, Jonathan (*with* Adleman, Leonard M.; Huang, Ming-Deh A.) Quantum computability. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1524–1540. (Robert M. Baer) **99e:68035** 68Q05 (03D10, 03D15, 68Q15, 81P99)

De Martini, Francesco (*with* Boschi, D.; Branca, S.; Hardy, Lucien; Popescu, Sandu) Experimental realization of teleporting an unknown pure quantum state via dual classical and Einstein-Podolsky-Rosen channels. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 6, 1121–1125. (Summary) **99b:81029** 81P99

— Amplification of quantum entanglement. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2842–2845. (Summary) **99e:81028** 81P99

De Martino, A. (*with* Moriconi, Marco; Mussardo, G.) Reflection scattering matrix of the Ising model in a random boundary magnetic field. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 615–636. (Konstantin G. Selivanov) **99a:82050** 82B44 (81U40)

— (*with* Moriconi, Marco) Tricritical Ising model with a boundary. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 577–594. (Konstantin G. Selivanov) **99k:82013** 82B20 (82B23)

— (*with* Moriconi, Marco) Quantum integrability of certain boundary conditions. (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 292–297. (Summary) **99k:81177** 81T10

De Martino, Salvatore (*with* Cufaro Petroni, Nicola; De Siena, Silvio) Non-equilibrium densities of Nelson processes. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 59–69, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81025** 81P20

— (*with* De Siena, Silvio; Iorio, A.; Vitiello, Giuseppe) Physical relevance of quantum groups. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 79–88, *World Sci. Publishing, River Edge, NJ*, 1997. (Roberto Casalbuoni) **99g:81082** 81R50 (81R30, 81V80)

— (*with* Cufaro Petroni, Nicola; De Siena, Silvio) Exact solutions of Fokker-Planck equations associated to quantum wave functions. (English summary) *Phys. Lett. A* **245** (1998), *no.* 1-2, 1–10. (Summary) **99d:82048** 82C31

— *see also* **New perspectives in the physics of mesoscopic systems**, **99e:81003**

DeMarzo, Peter (*with* Skiadas, Costis) Aggregation, determinacy, and informational efficiency for a class of economies with asymmetric information. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 123–152. (Summary) **99i:90040** 90A53 (90A56)

De Masi, Anna (*with* Olivieri, E.; Presutti, E.) Spectral properties of integral operators in problems of interface dynamics and metastability. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 1, 27–112. (Maria E. Vares) **99j:60153** 60K35 (82C24)

— (*with* Buttà, Paolo) Fine structure of the interface motion. (English summary) *Differential Integral Equations* **12** (1999), *no.* 2, 207–259. (Giovanni Bellettini) **99m:82035** 82C24 (35K99, 45K05, 47N20)

De Matta, Renato *see* **de Matta, Renato**

Demay, Y. (*with* Béliveau, A.; Fortin, A.) A two-dimensional numerical method for the deformation of drops with surface tension. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 3, 225–240. (Summary) **99e:76076** 76M10 (76D45)

Demazure, Michel Structure des groupes réductifs (d'après Borel-Tits). [Reductive group structure (after Borel and Tits)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 313, 5–11, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 20G15

— Classification des algèbres de Lie filtrées. [Classification of filtered Lie algebras] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 326, 203–213, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 17B99

— Structure du groupe orthogonal (d'après T. Tamagawa). [Structure of the orthogonal group (after T. Tamagawa)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 169, 7–17, *Soc. Math.*

France, Paris, 1995. (*see* **99f:00037**) 20G15

— Sous-groupes arithmétiques des groupes algébriques linéaires. (French summary) [Arithmetical subgroups of linear algebraic groups] *Séminaire Bourbaki, Vol. 7, Exp. No. 235*, 209–220, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 20G30 (22E40)

Dembiński, Piotr Semantics of timed concurrent systems. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 27–50. (Gabriel Ciobanu) **99e:68100** 68Q55 (68Q10)

Dembo, Amir (*with* Zeitouni, Ofer) Moderate deviations for iterates of expanding maps. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 1–11, *World Sci. Publishing, River Edge, NJ*, 1997. (Alexander Veretennikov) **99k:60072** 60F10 (28D05, 60G10)

— (*with* Zeitouni, Ofer) ★ Large deviations techniques and applications. (English summary) Second edition. Applications of Mathematics, 38. *Springer-Verlag, New York*, 1998. *xvi*+396 *pp. ISBN* 0-387-98406-2 (Editors) **99d:60030** 60F10

— (*with* Shao, Qi-Man) Self-normalized large deviations in vector spaces. (English summary) *High dimensional probability* (*Oberwolfach*, 1996), 27–32, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (George L. O'Brien) **99j:60036** 60F10 (60B12)

— (*with* Shao, Qi-Man) Self-normalized moderate deviations and lils. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 51–65. (Karl Grill) **99i:60053** 60F10 (60F15)

Demchenko, O. V. New relationships between formal Lubin-Tate groups and formal Honda groups. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 5, 77–84. (J. Browkin) **99k:11184** 11S31

Demchenko, V. V. Analytical and numerical study of sequential contact surface turbulization in Richtmyer-Meshkov instability. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 331–337, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76027** 76C05 (76E99)

Demchik, I. I. On the theory of filtration at a decreasing rate. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 517–519; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 479–481. 76S05

Demchuk, A. V. (*with* Gafiichuk, V. V.) Analysis of dissipative structures in the Gierer-Mainhardt [Meinhardt] model. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1945–1949. (Summary) **99h:58047** 58E30 (58F39)

De Médicis, Anne *see* **de Médicis, Anne**

Demeestère, P. (*with* Bodart, O.) Sentinels for the identification of an unknown boundary. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 6, 871–885. (B. Belinskiy) **99a:65110** 65M30 (35R35, 76D99, 76R50, 93C20)

— A remark on the relation between the Tykhonov regularization and constraint relaxation for an optimal control problem. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 85–89. (T. Zolezzi) **99f:49037** 49K40 (49J52, 65K05)

Demëkhin, E. A. (*with* Chang, Hsueh-Chia; Kalaidin, Evgeny) Generation and suppression of radiation by solitary pulses. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1246–1277 (*electronic*). (Summary) **99b:35180** 35Q51 (34C99, 35Q35, 76D33)

— (*with* Chang, Hsueh-Chia; Kalaidin, Evgeny) Iterated stretching of viscoelastic jets. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1717–1737. 76A10

Demelio, S. (*with* Mignemi, S.) Multi-black holes and instantons in effective string theory. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 73–80. (Summary) **99a:83063** 83E30 (81T30, 83C57)

De Mello, Célia Picinin *see* **de Mello, Célia Picinin**

De Mello Koch, Robert *see* **de Mello Koch, Robert**

De Melo, W. *see* **de Melo, W.**

Demenchuk, A. K. Necessary and sufficient conditions for the existence of periodic solutions of linear nonhomogeneous Pfaffian systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 155–157, 284; *translation in Differential Equations* **33** (1997), *no.* 2, 155–157. (J. Chrastina) **99b:58015** 58A17 (35A30)

— (*with* Grudo, Èduard Iosifovich) Formulas for solving linear algebraic systems in a critical case. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 5–6, 139. 15A06

De Mendez, P. Ossona *see* **de Mendez, P. Ossona**

De Mendonça, J. Ricardo G. *see* **de Mendonça, J. Ricardo G.**

Demenkov, A. G. (*with* Chernykh, G. G.; Kostomakha, V. A.) Numerical model of a swirling momentumless turbulent wake. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 279–288. 76F99 (76D25)

Demeterscu, Christian (*with* Budaev, Bair V.; Constantinou, Constantinos C.; Mehler, Michel J.) TM electromagnetic scattering by a transparent wedge with resistive faces. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 47–54. (Summary) **99m:78011** 78A45

Demetriou, I. C. (*with* Powell, M. J. D.) Least squares fitting to univariate data subject to restrictions on the signs of the second differences. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 109–132, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99c:65023** 65D10

Demetriou, Michael A. (*with* Polycarpou, Marios M.) Incipient fault diagnosis of dynamical systems using online approximators. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1612–1617. (Summary) **99g:90048** 90B25 (93E10)

— (*with* Böhm, Michael; Reich, Simeon; Rosen, I. G.) Model reference adaptive control of distributed parameter systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 33–81 (*electronic*). (Toshihiro Kobayashi) **99b:93032** 93C40 (93C20, 93D21)

Demetrius, Lloyd (*with* Gundlach, Matthias) Evolutionary dynamics in random environments. (English summary) *Stochastic dynamics* (*Bremen*, 1997), 371–394, *Springer, New York*, 1999. (M. L. Blank) **99m:58176** 58F40 (92D25)

Demetrovics, János (*with* Katona, Gyula O. H.; Miklós, D.; Seleznev, O. V.; Thalheim, Bernhard) The average length of keys and functional dependencies in (random) databases. (English summary) *Database theory—ICDT '95* (*Prague*), 266–279, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Katona, Gyula O. H.; Sali, Attila) Design type problems motivated by database theory. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 149–164. (Summary) **99h:68037** 68P15 (05D05, 68R05)

— (*with* Friedl, Katalin; Rónyai, Lajos) Periodical scheduling. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 337–342. (Summary) **99b:90048** 90B12 (90B35)

— (*with* Katona, Gyula O. H.; Miklós, D.; Seleznev, O. V.; Thalheim, Bernhard) Functional dependencies in random databases. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 127–140. (Lawrence V. Saxton) **99m:68041** 68P15 (15A52)

— (*with* Katona, Gyula O. H.; Miklós, D.; Seleznev, O. V.; Thalheim, Bernhard) Asymptotic properties of keys and functional dependencies in random databases. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 151–166. (Summary) **99d:68063** 68P15

DeMets, David L. (*with* Pinheiro, José C.) Estimating and reducing bias in group sequential designs with Gaussian independent increment structure. (English summary) *Biometrika* **84** (1997), *no.* 4, 831–845. (Summary) **99a:62120** 62L10 (62P10)

Demeulemeester, Erik (*with* Herroelen, Willy; De Reyck, Bert) Resource-constrained project scheduling—a survey of recent developments. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 197–202, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35 (90–02)

— (*with* Herroelen, Willy; De Reyck, Bert) Resource-constrained project scheduling: a survey of recent developments. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 279–302. (Summary) **99g:90057** 90B35 (90–02)

— (*with* De Reyck, Bert; Herroelen, Willy) Local search methods for the discrete time/resource trade-off problem in project networks. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 553–578. 90B40 (90B10)

De Meyer, Bernard The maximal variation of a bounded martingale and the central limit theorem. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 1, 49–59. (Raul Gouet) **99c:60094** 60G42 (60F05)

DeMeyer, Frank (*with* Miranda, Rick; Schneider, Kim) Examples of the failure of the local-global principle for similarity of matrices. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4179–4185. (Robert M. Guralnick) **99k:13016** 13C99 (15A21)

De Meyer, H. (*with* Vanden Berghe, Guido; Van Hecke, T.; Van Daele, M.) On the generation of mono-implicit Runge-Kutta-Nyström methods by mono-implicit Runge-Kutta methods. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 147–167. (Kevin Burrage) **99a:65086** 65L06

— (*with* Vanden Berghe, Guido; Van Hecke, T.; Van Daele, M.) Mono-implicit Runge-Kutta-(Nyström) methods for the numerical integration of first- and second-order ODEs. (English summary) *Special functions and differential equations* (*Madras*, 1997), 379–402, *Allied Publ., New Delhi*, 1998. (Iulian Coroian) **99j:65125** 65L06

— (*with* Van Daele, M.; Van Hecke, T.; Vanden Berghe, Guido) On a class of P-stable mono-implicit Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 69–82. (Yun Kang Liu) **99d:65221** 65L06 (65L20)

— (*with* Van Daele, M.; Vanden Berghe, Guido; Ixaru, L. Gr.) Exponential-fitted four-step methods for $y'' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 299–309. (Summary) **99a:65084** 65L05

— (*with* Ixaru, L. Gr.; Vanden Berghe, Guido) CP methods for the Schrödinger equation revisited. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 289–314. (Summary) **99b:65081** 65L05 (65L15, 65L70, 81Q15)

— (*with* Van Hecke, T.; Vanden Berghe, Guido; Van Daele, M.) Comment on: "A two-stage fourth-order 'almost' *P*-stable method for oscillatory problems" [J. Comput. Appl. Math. **89** (1998), no. 1, 115–118] by M. M. Chawla and M. A. Al-Zanaidi. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 297–300. 65L05 (65L06, 65L20)

De Michele, L. (*with* Roux, Delfina) Approximate units and Gibbs phenomenon. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 739–746. (Weiyi Su) **99c:42011** 42A85 (42B99)

— (*with* Roux, Delfina) The Gibbs phenomenon for multiple Fourier integrals and series: restriction theorems. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 351–360. (Walter Trebels) **99i:42015** 42B08 (42–02, 42B10)

De Micheli, Enrico (*with* Magnoli, Nicodemo; Viano, Giovanni Alberto) On the regularization of Fredholm integral equations of the first kind. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 855–877 (*electronic*). (V. S. Sizikov) **99c:45001** 45B05 (45L05, 65R20)

Demichelis, François (*with* Zielonka, Wiesław) Controlled timed automata. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 455–469, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68119** 68Q60 (68Q10, 68Q68)

Demichev, A. P. (*with* Chaichian, Masud) Quantum Poincaré subgroup of q-conformal group and q-Minkowski geometry. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 136–148, *World Sci. Publishing, River Edge, NJ*, 1994. (Mariano A. del Olmo) **99a:81071** 81R50 (17B37)

— (*with* Chaichian, Masud) Path integral with noncommuting variables. (English summary) *Quantum groups* (*Karpacz*, 1994), 243–251, *PWN, Warsaw*, 1995. (Anatol Nowicki) **99i:81129** 81S40 (58B30, 58D30, 81R50)

— (*with* Chaichian, Masud) Quantum Minkowski geometry and representations of q-Poincaré group. (English summary) *Quantum groups* (*Karpacz*, 1994), 337–342, *PWN, Warsaw*, 1995. (Mathias Pillin) **99g:81081** 81R50 (17B37)

Demidenko, G. V. The Cauchy problem for pseudoparabolic systems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1251–1266, *ii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1084–1098. (Georgy A. Sviridyuk) **99b:35110** 35K70

— On a functional approach to the construction of projections onto invariant subspaces of matrices. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 796–813, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 683–699. (L. Rodman) **99j:15014** 15A18 (34A30, 65F15)

— On quasi-elliptic operators in $\mathbf{R}^n$. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1028–1037, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 884–893. (Vladimir Tulovsky) **99i:35028** 35J45

Demidov, A. S. (*with* Valiev, A. D.) On nonnegative trigonometric polynomials with a fixed mean that pass through given points. (Russian) *Mat. Zametki* **62** (1997), *no.* 3, 468–471; *translation in Math. Notes* **62** (1997), *no.* 3-4, 390–392 (1998). (Song Ping Zhou) **99f:42006** 42A15 (42A05)

Demidov, E. E. Noncommutative deformation of the Kadomtsev-Petviashvili hierarchy and the universal Grassmann manifold. (English summary) *Lie groups and Lie algebras*, 383–391, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alexander V. Shapovalov) **99h:58082** 58F07 (16W55)

— Noncommutative deformation of the Kadomtsev-Petviashvili hierarchy. Algebra, 5. *J. Math. Sci. (New York)* **88** (1998), *no.* 4, 520–536. (Alexander V. Shapovalov) **99d:58077** 58F07 (35Q53, 81R50)

Demidov, Sergeĭ S. La revue Matematicheskiĭ Sbornik dans les années 1866–1935. [The journal Matematicheskiĭ Sbornik during the years 1866–1935] *Messengers of mathematics: European mathematical journals* (1800–1946), 235–256, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— (*with* Tikhomirov, Vladimir) This is how we remember him (80th anniversary of the birth of G. E. Shilov [1917–1975]: meditations over old photographs). (Russian) With a letter from the Shilov family archives. *Voprosy Istor. Estestvoznan. i Tekhn.* **1997**, *no.* 4, 115–129. 01A70

— (*with* Petrova, S. S.; Simonov, N. I.) Ordinary differential equations. *Mathematics of the 19th century*, 83–196, *Birkhäuser, Basel*, 1998. (*see* **99d:01022**) 34–03 (01A55)

— *see also* **Yushkevich, A. P., 99f:01031**

Demidova, O. A. (*with* Razzhevaĭkin, V. N.) Modeling of the epidemic process in a population structured with respect to risk factors. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 27–42. (J. Milota) **99d:92036** 92D30 (35Q80, 47N20)

De Miguel, Juan Ramón (*with* Candeal-Haro, Juan Carlos; Induráin Eraso, Esteban; Olóriz Urriza, Esteban) Associativity equation revisited. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 133–144. (K. D. Magill, Jr.) **99a:90019** 90A06 (39B52, 54F05)

— (*with* Candeal-Haro, Juan Carlos; Induráin Eraso, Esteban) Universal semigroups in additive utility. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 288–296. (Frank A. Smith) **99b:06013** 06F05 (06F20, 20M30)

Demin, N. S. (*with* Sushko, T. V.; Yakovleva, A. V.) Generalized inverse extrapolation of stochastic processes from a set of continuous and discrete observations with memory. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 48–59. 93E10

Demin, V. G. (*with* Alekhnovich, O. A.) On the stability of pseudo-regular precession of a gyrostat. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 714–716; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 693–695. (Summary) **99d:70011** 70E15 (70K20)

De Miranda-Neto, J. A. *see* **de Miranda-Neto, J. A.**

Demiray, Hilmi (*with* Antar, Nalan) Effects of initial stresses and wall thickness on wave characteristics in elastic tubes. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 521–530. (Summary) **99a:73102** 73K70 (73K12)

— Nonlinear wave modulation in a fluid filled thick elastic tube. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 10, 1061–1082. (Summary) **99f:76139** 76Z05 (73D99, 73K70, 76B99, 92C05)

— On the propagation of solitary waves in a prestressed thin elastic tube filled with an inviscid fluid. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 538–557. (Summary) **99e:73076** 73K70 (73C50, 73D35, 76B25, 76Z05)

— (*with* Antar, Nalan) Non-linear wave modulation in a prestressed fluid field thin elastic tube. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 123–138. (Summary) **99g:76160** 76Z05 (73D99, 73K70)

— Dressed solitary waves in fluid-filled elastic tubes. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 185–196. (Summary) **99g:76161** 76Z05 (73K70)

Demirci, K. A criterion for A-statistical convergence. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 559–564. (John A. Fridy) **99k:40001** 40A05 (40C05)

Demirci, Mustafa (*with* Ertürk, Riza) On the compactness in fuzzy topological spaces in Šostak's sense. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 75–81. 54A40 (54D30)

— Three topological structures of smooth topological spaces. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 185–190. (Summary) **99k:54001** 54A40

Demirhan, Doğan (*with* Özeren, S. F.; Tırnaklı, U.; Büyükkılıç, Fevzi) Landau diamagnetism within Tsallis thermostatistics and quantum groups. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **2** (1998), *no.* 1, 101–106. (Summary) **99e:82010** 82B05

— (*with* Eğrifes, Harun; Büyükkılıç, Fevzi) Polynomial solutions of the Schrödinger equation for the "deformed" hyperbolic potentials by Nikiforov-Uvarov method. (English summary) *Phys. Scripta* **59** (1999), *no.* 2, 90–94. 81Q05

Demisenov, B. N. (*with* Kukin, G. P.) On subalgebras of a Lie algebra with one defining relation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1051–1057, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 910–914. (Alexander N. Rudyĭ) **99a:17007** 17B01 (17B05)

Demkowicz, L. A posteriori error analysis for steady-state Maxwell's equations. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 513–526, *Stud. Appl. Mech.*, **47**, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 78–08 (65M15)

— (*with* Vardapetyan, L.) Modeling of electromagnetic absorption/scattering problems using hp-adaptive finite elements. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 103–124. (Tom Roberts) **99b:78003** 78–08 (65N12, 65N22, 78A45)

— (*with* Chang, Yao C.) A stability analysis for vibrating viscoelastic spherical shells (the effect of damping on the LBB constants of vibration problems). (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 213–242. (Summary) **99a:73071** 73F15 (73H10, 73K12, 73K15)

— (*with* Vardapetyan, L.) hp-adaptive finite elements in electromagnetics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 331–344. (Summary) **99k:78004** 78–08 (65M60)

— (*with* Chang, Yao C.) Solution of viscoelastic scattering problems in linear acoustics using hp boundary/finite element method. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 12, 1885–1907. (Summary) **99m:73057** 73K70 (73V05, 73V10, 76M15, 76Q05)

— *see also* **Symposium: Advances in Computational Mechanics, 99b:76003**

Demler, Eugene (*with* Zhang, Shou-Cheng) Non-abelian holonomy of BCS and SDW quasiparticles. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 83–119. (Summary) **99i:82039** 82D55

Demmel, James W. (*with* Bai, Zhaojun) Using the matrix sign function to compute invariant subspaces. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 205–225 (*electronic*). (Zhenyue Zhang) **99c:65066** 65F15 (15A18)

— (*with* Eisenstat, Stanley C.; Gilbert, John R.; Li, Xiaoye S.; Liu, Joseph W. H.) A supernodal approach to sparse partial pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 3, 720–755 (*electronic*). (Summary) **99m:65094** 65F50 (65F05)

Demol, G. (*with* Massoni, J.; Saurel, Richard; Baudin, G.) A mechanistic model for shock initiation of solid explosives. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 710–736. (Summary) **99j:76068** 76L05 (80A25)

Demongodin, Isabel (*with* Koussoulas, Nick T.) Differential Petri nets: representing continuous systems in a discrete-event world. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 573–579. (*see* **99a:93006**) 93C83 (93C55)

De Montigny, M. *see* **de Montigny, M.**

De Moor, Bart (*with* De Schutter, Bart) The extended linear complementarity problem and its applications in the max-plus algebra. (English summary) *Complementarity and variational problems (Baltimore, MD, 1995)*, 22–39, *SIAM, Philadelphia, PA*, 1997. (Summary) **99a:90208** 90C33 (93C83)

— (*with* Suykens, J. A. K.; Vandewalle, Joos) An absolute stability criterion for the Lur'e problem with sector and slope restricted nonlinearities. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 1007–1009. (Summary) **99f:93108** 93D05 (93D21)

— (*with* De Schutter, Bart) The linear dynamic complementarity problem is a special case of the extended linear complementarity problem. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 63–75. (Summary) **99c:90132** 90C33

— (*with* De Schutter, Bart; Blondel, Vincent D.; de Vries, Remco) On the Boolean minimal realization problem in the max-plus algebra. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 69–78. (Nikolai K. Krivulin) **99k:93066** 93C83 (93B15, 93B25, 93C55)

Demopoulos, L. (*with* Clayton, M. A.; Légaré, J.) The dynamical instability of static, spherically symmetric solutions in nonsymmetric gravitational theories. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1501–1520. (Christopher Kohler) **99g:83066** 83D05

De Moraes, Carlos Roberto *see* **de Moraes, Carlos Roberto**

De Moraes, Patricia Erthal *see* **de Moraes, Patricia Erthal**

De Morgan, Augustus *see* **Sánchez Valencia, Víctor, 99c:03002** *and* **Musès, Charles, 99k:01070**

Demoulini, Sophia Variational methods for Young measure solutions of nonlinear parabolic evolutions of forward-backward type and of high spatial order. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 363–373. (Summary) **99a:49009** 49J20 (35K55)

— (*with* Stuart, David M.) Gradient flow of the superconducting Ginzburg-Landau functional on the plane. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 1, 121–198. (Summary) **99c:58038** 58E15 (35Q55, 82D55)

De Moura, Marco A. *see* **de Moura, Marco A.**

Dempe, Stephan On generalized differentiability of optimal solutions in nonlinear parametric optimization. (English summary) *Mathematical programming with data perturbations*, 47–63, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (D. Klatte) **99b:90129** 90C31 (49J52)

— An implicit function approach to bilevel programming problems. (English summary) *Multilevel optimization: algorithms and applications*, 273–294, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99b:90118** 90C30 (90D65)

Dempster, A. P. Logicist statistics. I. Models and modeling. (English summary) *Statist. Sci.* **13** (1998), *no.* 3, 248–276. (Summary) **99h:62003** 62A99

medova-Dempster, E. A. *see* **Medova-Dempster, E. A.**

Dempster, M. A. H. (*with* Consigli, G.) Dynamic stochastic programming for asset-liability management. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 131–161. (*see* **99b:90006**) 90C15

— (*with* Thompson, R. T.) Parallelization and aggregation of nested Benders decomposition. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 163–187. (*see* **99b:90006**) 90C15 (65Y05)

Demri, Stéphane (*with* Orłowska, Ewa) Logical analysis of indiscernibility. (English summary) *Incomplete information: rough set analysis*, 347–380, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B60 (03B70)

— (*with* Orłowska, Ewa) Complementarity relations: reduction of decision rules and informational representability. *Rough sets in knowledge discovery*, 1, 99–106, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 68T99

— (*with* Schnoebelen, Philippe) The complexity of propositional linear temporal logics in simple cases (extended abstract). (English summary) *STACS 98 (Paris, 1998)*, 61–72, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q60 (03B45, 03B70, 03D15)

— A class of decidable information logics. (English summary) Mathematical foundations of computer science (Cracow, 1996). *Theoret. Comput. Sci.* **195** (1998), *no.* 1, 33–60. (Mohamed Amer) **99k:03013** 03B45 (03B25, 03B70, 68T27, 68T30)

Demšar, Janez (*with* Zupan, Blaž; Bohanec, Marko; Bratko, Ivan) Learning by discovering concept hierarchies. (English summary) *Artificial Intelligence* **109** (1999), *no.* 1-2, 211–242. 68T05

Demshin, I. N. φ-modulus and φ-capacity. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 53–61, 198. (P. Caraman) **99i:31005** 31B15

De Mulder, Tom The role of bulk viscosity in stabilized finite element formulations for incompressible flow: a review. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 1–10. (Summary) **99f:76085** 76M10

Demuth, Michael (*with* McGillivray, Ivor; Noll, A.) Capacity and spectral theory. *Spectral theory, microlocal analysis, singular manifolds*, 12–77, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Zhong Xin Zhao) **99f:31007** 31A35 (35J99, 47D07, 47F05, 60J45)

— (*with* van Casteren, J.) Completeness of scattering systems with obstacles of finite capacity. (English summary) *Differential and integral operators (Regensburg, 1995)*, 39–50, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Michael A. Perel'muter) **99e:47017** 47A40 (35P25, 47D07, 47F05)

— Integral conditions for the asymptotic completeness of two-space scattering systems. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 117–132. (Peter Stollmann) **99b:47017** 47A40 (35P25, 47N50, 81U05)

De Muynck, Willem M. *see* **de Muynck, Willem M.**

Dem'yanenko, V. A. Elliptic functions and the Fermat curve. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 606–608; *translation in Math. Notes* **60** (1996), *no.* 3-4, 453–456 (1997). (Takeshi Ooe) **99e:11069** 11G05 (14G25, 14H52)

— Torsion of elliptic curves over cyclotomic fields. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 5, 51–64; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 5, 931–943. (Takeshi Ooe) **99f:11075** 11G25

— On Mazur's conjecture. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 294–296; *translation in Math. Notes* **63** (1998), *no.* 1-2, 255–257. (W. Narkiewicz) **99g:11072** 11G05 (11R18)

Dem'yanov, V. F. (*with* Giannessi, Franco; Karelin, V. V.) Optimal control problems via exact penalty functions. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 215–223. (Marlies Borchardt) **99g:49031** 49M30 (65K10, 90C48)

— (*with* Di Pillo, G.; Facchinei, Francisco) Exact penalization via Dini and Hadamard conditional derivatives. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 19–36. (Summary) **99a:90185** 90C30 (49J52)

Denardo, Bruce (*with* Earwood, John; Sazonova, Vera) Parametric instability of two coupled nonlinear oscillators. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 187–195. (Summary) **99j:70027** 70K20 (70K28)

Denardo, Eric V. Dynamic programming. *Mathematical programming for industrial engineers*, 307–384, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C39 (49K20, 90–02)

Den Brinker, Albertus C. *see* **den Brinker, Albertus C.**

Dence, Joseph B. (*with* Dence, Thomas P.) ★ Elements of the theory of numbers. (English summary) *Harcourt/Academic Press, San Diego, CA*, 1999. *xviii*+517 *pp. ISBN* 0-12-209130-2 (Bruce C. Berndt) **99k:11001** 11–01

Dence, Thomas P. (*with* Pomerance, Carl) Euler's function in residue classes. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 7–20. (Jie Wu) **99k:11148** 11N64 (11N69)

— (*with* Dence, Joseph B.) ★ Elements of the theory of numbers. (English summary) *Harcourt/Academic Press, San Diego, CA*, 1999. *xviii*+517 *pp. ISBN* 0-12-209130-2 (Bruce C. Berndt) **99k:11001** 11–01

Dencker, Nils (*with* Morimoto, Yoshinori; Morioka, Tatsushi) Hypoellipticity for operators of infinitely degenerate Egorov type. Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 101–109. (*see* **99f:35004**) 35H05

Denda, M. (*with* Dong, Yu Feng) An error estimation measure in the direct BEM formulation by the external Somigliana's identity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 433–447. (Summary) **99m:73072** 73V10

Dendy, Joel E., Jr. (*with* Moulton, J. David; Hyman, James M.) The black box multigrid numerical homogenization algorithm. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 80–108. (Summary) **99a:76116** 76M25 (73B27, 76S05)

— (*with* Bandy, V. A.; Spangenberg, W. H.) Some multigrid algorithms for elliptic problems on data parallel machines. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 74–86 (*electronic*). (Summary) **99a:65173** 65N55 (65Y05)

Denecke, Klaus (*with* Reichel, Mario) Monoids of hypersubstitutions and M-solid varieties. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 117–126, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Shelly L. Wismath) **99a:08003** 08B05 (20M07)

— (*with* Koppitz, Jörg; Wismath, Shelly L.) Maps between M-solid varieties of semigroups. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 91–104. (Libor Polák) **99j:20065** 20M07 (08B15, 08C10)

— (*with* Koppitz, Jörg; Marszałek, R.) Derived varieties and derived equational theories. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 153–169. (Ewa Graczyńska) **99d:20099** 20M07 (08B15)

— Hyperequational theory. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 333–356. (Jennifer P. Hyndman) **99k:08009** 08B15 (08B25, 20M99)

— (*with* Koppitz, Jörg) Finite monoids of hypersubstitutions of type $\tau = (2)$. *Semigroup Forum* **56** (1998), *no.* 2, 265–275. (Shelly L. Wismath) **99c:08011** 08B15 (08A40, 20M99)

— (*with* Koppitz, Jörg) M-solid monoids of hypersubstitutions of type $\tau = (2)$. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 430–434. (Grigori I. Žitomirskiĭ) **99k:20107** 20M07 (03C05, 08A40, 08B05)

Denecker, Koen (*with* Van Overloop, Jeroen; Sommen, Franciscus) The general quadratic Radon transform. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 615–633. (Sergey Egorovich Sysoev) **99j:44005** 44A12

Denecker, Marc (*with* Verbaeten, Sofie; De Schreye, Danny) Compositionality of normal open logic programs. (English summary) *Logic programming (Port Washington, NY*, 1997), 371–385, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68022** 68N17 (68T30)

— (*with* Marek, V. Wiktor; Truszczyński, Mirosław) Fixpoint 3-valued semantics for autoepistemic logic. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 840–845, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 03B70 (03B45, 03B50)

De Neef, M. J. *see* **de Neef, M. J.**

Denef, Jan (*with* Laeremans, Ann; Sargos, P.) On the largest nontrivial pole of the distribution $|f|^s$. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 1–9. (Willem Veys) **99g:11101** 11M41

— (*with* Jacobs, Philippe) On the vanishing of principal value integrals. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1041–1046. (Margaret M. Robinson) **99h:11137** 11S40 (14F10)

— (*with* Gyoja, Akihiko) Character sums associated to prehomogeneous vector spaces. (English summary) *Compositio Math.* **113** (1998), *no.* 3, 273–346. (Ernst-Wilhelm Zink) **99k:11128** 11L05 (11M41, 11T24, 14G15)

— (*with* Loeser, François) Motivic Igusa zeta functions. *J. Algebraic Geom.* **7** (1998), *no.* 3, 505–537. (Willem Veys) **99j:14021** 14G10 (11S80, 14F20)

— (*with* Loeser, François) Character sums associated to finite Coxeter groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5047–5066. (Ronald J. Evans) **99b:11138** 11T24 (11L05, 20F55, 33C80)

— (*with* Loeser, François) Germs of arcs on singular algebraic varieties and motivic integration. *Invent. Math.* **135** (1999), *no.* 1, 201–232. (José Ignacio Burgos Gil) **99k:14002** 14A20 (14D10, 14G99)

De Negri, Emanuela (*with* Aramova, Annetta; Herzog, Jürgen) Lexsegment ideals with linear resolution. *Illinois J. Math.* **42** (1998), *no.* 3, 509–523. (Lê Tuân Hoa) **99m:13021** 13D02 (13F20)

— (*with* Herzog, Jürgen) Completely lexsegment ideals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3467–3473. (Ngô Viêt Trung) **99b:13022** 13F20 (13D02)

Denet, Bruno (*with* Klein, Rupert; Geratz, Karl Josef; Terhoeven, Peter; Munz, Claus-Dieter; Roller, Sabine; Searby, Geoffrey) Numerical techniques for multi-scale weakly compressible reactive flows. (English summary) *Numerical flow simulation, I (Marseille*, 1997), 242–259, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99j:76091** 76M25 (76N10, 80–08, 80A25)

Deneva, Ana (*with* Vakarelov, Dimitʳr) Modal logics for local and global similarity relations. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 295–304. (Zoran Ognjanović) **99m:03033** 03B45 (03B70, 68T27)

De Neyer, M. (*with* Calcev, G.; Gorez, R.) Passivity approach to fuzzy control systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 339–344. (Summary) **99a:93063** 93C42

De Neymet, Sylvia *see* **de Neymet, Sylvia**

De Neymet U., Sylvia *see* **de Neymet, Sylvia**

Deng, Ai Jiao (*with* Li, Bing Zhang) Limit theorems for a class of transient stable processes. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 889–896. 60F15 (60G17)

Deng, An Sheng Propagation of uncertainties in fuzzy reasoning. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 7–9. 03B52

— The deletion strategy in Boolean operator fuzzy logic. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 1–2. 03B52 (03B35)

— (*with* Chen, Wei Li) Qualitative continuity of logical connectives. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 1–3. 03B52

— (*with* Zhang, Li Ying[2]) Limitations of quantitative operator fuzzy logic. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 608–616. (Summary) **99k:03018** 03B52

Deng, Bangming (*with* Xi, Changchang) On Δ-good module categories of quasi-hereditary algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 666. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 467–480. (Karin Erdmann) **99b:16015** 16G10 (16G20)

— (*with* Xi, Changchang) A necessary condition for the finiteness of Δ-good module categories. *Chinese Sci. Bull.* **42** (1997), *no.* 17, 1416–1420. (D. Zacharia) **99f:16016** 16G60 (16G20)

— (*with* Xiao, Jie[1]) A quiver description of hereditary categories and its application to the first Weyl algebra. *Algebras and modules, II (Geiranger*, 1996), 125–137, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Zygmunt Pogorzały) **99h:16025** 16G20 (16P40)

— A construction of algebras with arbitrary finite global dimensions. *Comm. Algebra* **26** (1998), *no.* 9, 2959–2965. (Ellen E. Kirkman) **99h:16009** 16E10 (16G10)

— An algorithm and self-reproducing systems. *Comm. Algebra* **26** (1998), *no.* 10, 3419–3434. (V. V. Sergeĭchuk) **99h:16026** 16G20 (16G60)

Deng, Cai Xia (*with* Xu, Ya Lan) Optimal formulas for numerical integration in $H_0^1[a,b]$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 5–7. 65D32 (41A55)

— (*with* Du, De Sheng; Xu, Ya Lan) Existence and uniqueness of solutions to operator equations in the space W_2^1. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 11–12. 47A50 (46E22, 47B38)

Deng, Dong Gao (*with* Yang, Qixiang; Yan, Li Xin) On Hörmander condition. *Chinese Sci. Bull.* **42** (1997), *no.* 16, 1341–1345. (J. Horváth) **99b:42019** 42B20 (46F10, 47B38)

— (*with* Yan, Li Xin) L^p boundedness of commutators of Calderón-Zygmund singular integral operators. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 3, 259–269. (Tomás F. Godoy) **99k:42040** 42B25 (42C15, 47G10)

— (*with* Yan, Li Xin) A characterization of Besov spaces over Lipschitz curves. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 309–316. (Da Chun Yang) **99g:46048** 46E35 (46F10)

Deng, Guantie (*with* Zhang, Yuming; Huang, Zheng Hai) Bouligand dimension of fractal curve of almost periodic series. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 57–60. (Summary) **99e:28009** 28A78 (28A80)

Deng, Han Yuan (*with* Hu, Guo Quan; He, Guo Liang) Hopf-algebraic structure of families of binary trees. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 1–3. (Summary) **99i:15041** 15A63 (05C05, 16W30)

Deng, Hao (*with* Shi, Xi Quan[2]; Lin, Hong-fei) Notes on refinable functions. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 319–326. (Summary) **99d:42069** 42C15 (41A30)

Deng, Hua (*with* Krstić, Miroslav) ★ Stabilization of nonlinear uncertain systems. (English summary) Communications and Control Engineering Series. *Springer-Verlag London, Ltd., London*, 1998. *xii*+193 *pp. ISBN* 1-85233-020-1 (John Tsinias) **99h:93001** 93–02 (93C10, 93C41, 93D21)

— (*with* Krstić, Miroslav) Output-feedback stochastic nonlinear stabilization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 328–333. 93E15 (93D21)

Deng, Hui Wen The existence of nilpotent Hall π-subgroups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 709–712. (Summary) **99a:20020** 20D20

Deng, Jian Ping (*with* Xiao, Ti Jun; Liang, Jin) Holomorphic regularized semigroups and regularized cosine functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 545–552. (Summary) **99e:47044** 47D06 (47D09)

Deng, Jian Song (*with* Feng, Yu Yu) A method for constructing smooth planar convexity-preserving interpolating curves. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 1–8. (*see* **99k:65006**) 65D17

— (*with* Xi, Mei Cheng; Feng, Yu Yu) The dimension of the spline space $S_8^4(\Delta ms)$ over a Morgan-Scott partition. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 91–98. (*see* **99k:65006**) 41A15 (65D07)

— (*with* Chen, Zhi Bing; Xi, Mei Cheng) The dimension of the spline space $S_6^3(\Delta_{ms})$ for the Morgen-Scott partition. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 5, 505–512. 65D17

Deng, Jian Xin Parallel algorithms for solving real symmetric matrix eigenvalue problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4,

246–258. (Summary) **99c:65068** 65F15 (65Y05)

Deng, Jian Zhong Second-degree interpolation algorithms for accelerating the convergence of iterations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 117–120. 65H10 (65D05)

— The successive inverse interpolation algorithm for solving nonlinear equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 115–118, 91. 65H10 (90C30)

Deng, Jin Yi (*with* Wang, Xiang Rong; Zhou, Yu Rong) Global attractors and global weak attractors. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 2, 207–214, 219. (Xiao Qiang Zhao) **99b:34092** 34D45 (34C05, 58F12)

Deng, Keng (*with* Xu, Mingxi) Behavior of solutions of a nonlinear ordinary differential equation. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 269–282. (Georg S. Weiss) **99a:34004** 34A12 (34C99, 35B40, 35K55)

— (*with* Xu, Mingxi) Remarks on blow-up behavior for a nonlinear diffusion equation with Neumann boundary conditions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 167–172. (Summary) **99b:35102** 35K60 (35B40)

Deng, Li Hu Asymptotic and oscillatory behavior of solutions to a class of second-order nonlinear functional differential equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 247–250. 34K05 (34C10)

Deng, Lih-Yuan (*with* Lin, Dennis K. J.) A note on Morris' bound for search designs. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 203–204. (Summary) **99i:62171** 62K15

Deng, Ling (*with* Li, Qing Yang) A 2-step nonlinear conjugate gradient (NCG) method. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 1–9. (Jingzhong Zhang) **99j:65093** 65H10

Deng, Mou Jie (*with* Mao, Shi Chun) Solutions in positive integers of a class of exponential Diophantine equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 15–18. 11D61

— (*with* Zhong, Mei) The Diophantine equation $3y(y+1)(y+2)(y+3) = 4x(x+1)(x+2)(x+3)$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 30–34. 11D25

— (*with* Wang, Xiu Lin) Comment: "Diophantine equations related to finite groups" [Comm. Algebra **4** (1976), no. 1, 77–100; MR **54 #12634**] by L. J. Alex. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 27–29. 11D09

— (*with* Cohen, G. L.) On the conjecture of Jesmanowicz concerning Pythagorean triples. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 515–524. (Mao Hua Le) **99c:11034** 11D61

Deng, Nai Yang (*with* Chen, Zhi[1]) Some algorithms for the convex quadratic programming problem via the ABS approach. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 157–170. (Summary) **99a:90153** 90C25 (90C20)

— (*with* Chen, Li Hua[2]; Zhang, Jian Zhong) Modified partial-update Newton-type algorithms for unary optimization. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 385–406. (José Mario Martínez) **99d:65196** 65K05

— (*with* Li, Zheng Feng) Convergence analysis of general trust region algorithms on the basis of the conic model. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 247–252. (Yin Zhang) **99g:90125** 90C30 (65K05)

— (*with* Chen, Zhi[1]; Gao, Lu-duan) A class of discretized Newton methods for solving systems of nonlinear equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 57–68. (Summary) **99c:65102** 65H10

— (*with* Chen, Zhi[1]) A new nonlinear ABS-type algorithm and its efficiency analysis. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 71–85. (Summary) **99k:65046** 65H10

— (*with* Li, Zheng Feng; Chen, Jing[3]) A new conjugate gradient method and its global convergence properties. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 53–60. (Summary) **99a:90191** 90C30 (65K05)

Deng, Qi Rong (*with* Chen, Jian Bao) All admissible linear estimators of functions of the mean matrix in multivariate linear models. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 134–139. (Summary) **99g:62075** 62H12 (62C15)

— (*with* Chen, Jian Bao) All k-admissible estimators of regression coefficients in multivariate normal linear models with unknown error variance. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 385–392. (Summary) **99i:62127** 62H12 (62C15)

Deng, S. *see* **Deng, Sien**

Deng, Shaoqiang (*with* Hou, Zi Xin; Kaneyuki, Soji) Dipolarizations in compact Lie algebras and homogeneous para-Kähler manifolds. *Tokyo J. Math.* **20** (1997), *no.* 2, 381–388. (O. Kowalski) **99a:53027** 53C15 (53C30)

Deng, Sien On approximate solutions in convex vector optimization. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 2128–2136. (D. Klatte) **99c:90102** 90C29 (90C25)

— Characterizations of the nonemptiness and compactness of solution sets in convex vector optimization. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 123–131. (George Isac) **99c:90103** 90C29

— Perturbation analysis of a condition number for convex inequality systems and global error bounds for analytic systems. (English summary) *Math. Programming* **83** (1998), *no.* 2, *Ser. A*, 263–276. (Wu Li) **99j:90094** 90C31

— Global error bounds for convex inequality systems in Banach spaces. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1240–1249 (*electronic*). (Summary) **99f:90142** 90C31 (49J52, 90C48)

Deng, X. *see* **Deng, Xiao Tie**

Deng, Xiao Cheng The dynamics of the parametrized family $\lambda(e^{2z} + e^{z})$. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 22–25. 58F23 (30D05)

Deng, Xiao Tie (*with* Papadimitriou, Christos H.) Decision-making by hierarchies of discordant agents. (English summary) *Algorithms and computation* (*Singapore*, 1997), 183–192, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:90008** 90A05 (90C08)

— (*with* Ibaraki, Toshihide; Nagamochi, Hiroshi) Some duality properties of combinatorial optimization games. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 137–149. (Summary) **99e:90124** 90D46

— Combinatorial optimization and coalition games. *Handbook of combinatorial optimization, Vol.* 2, 77–103, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90D12)

— Complexity issues in bilevel linear programming. (English summary) *Multilevel optimization: algorithms and applications*, 149–164, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (From the summary) **99c:90077** 90C08 (68Q25, 90C60)

— (*with* Kameda, Tsunehiko; Papadimitriou, Christos H.) How to learn an unknown environment. I. The rectilinear case. (English summary) *J. ACM* **45** (1998), *no.* 2, 215–245. (Luiz Henrique de Figueiredo) **99c:68120** 68Q25 (68U05)

— (*with* Koutsoupias, Elias; MacKenzie, Philip D.) Competitive implementation of parallel programs. (English summary) *Algorithmica* **23** (1999), *no.* 1, 14–30. (Summary) **99h:68047** 68Q10 (68N20, 68Q22)

Deng, Xuegong (*with* Qiu, Ruifeng) Incompressible surfaces in handlebodies and closed 3-manifolds. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 69–74. (Summary) **99f:57021** 57N10

Deng, Yin Bin (*with* Peng, Yong Dong) The existence of nontrivial solutions of critical semilinear biharmonic equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 4, 452–465. (Yi Hong Du) **99g:35046** 35J65 (58E05)

— (*with* Ma, Yaming; Peng, Shuangjie) Existence of multiple positive solutions of critical semilinear elliptic problems in $\mathbf{R}^N$. (English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 1–6. (Miguel Ramos) **99h:35051** 35J60 (35B05, 35J20)

— (*with* Wang, Geng Sheng) Necessary conditions for optimal control problems governed by some nonlinear parabolic differential equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 67–80. (Fredi Tröltzsch) **99j:49048** 49K20 (35K55, 47N10, 49K27)

Deng, Yong (*with* Gong, Shi Hua; Zhu, Guo Li; Duan, Zheng Cheng) Implementation of an algorithm for the no-fit-polygon problem in computer automated nesting. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 29–31. 68U07

Deng, Yong Xu (*with* Wang, Song Gui) Improved estimators of variance components. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 115–122. 62J05

Deng, Yuan Bei (*with* Tang, Qing Gan) Oscillation of difference equations with several delays. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 1–3. (Summary) **99i:39016** 39A10

Deng, Yuefan (*with* Chou, Chung-Chiang) Numerical solutions of a nonlinear evolution system with small dissipation on parallel processors. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 405–417. (Summary) **99j:65135** 65M06 (65Y05)

— (*with* Mu, Mo; Chou, Chung-Chiang) Numerical methods for simulating Ginzburg-Landau vortices. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1333–1339 (*electronic*). (Summary) **99a:65154** 65N30 (65N06)

Deng, Zi Li (*with* Liu, Yu Mei) A class of steady-state Kalman filters and their asymptotic stability. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 26–31. 93E11

Den Haan, Wouter J. *see* **den Haan, Wouter J.**

Denham, Graham (*with* Hanlon, Philip J.) On the Smith normal form of the Varchenko bilinear form of a hyperplane arrangement. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 123–146. (Hiroaki Terao) **99g:52016** 52B30

Den Hartog, Jerry *see* **den Hartog, Jerry**

Den Hollander, Frank *see* **den Hollander, Frank**

De Nicola, Rocco (*with* Veglioni, Simone) Possible worlds for process algebras. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 179–193, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

— (*with* Boreale, Michele; Pugliese, Rosario) Asynchronous observations of processes. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 95–109, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q10

— (*with* Labella, Anna) Tree morphisms and bisimulations. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q55)

De Nicola, S. *see* **New perspectives in the physics of mesoscopic systems, 99e:81003**

De Nicolao, G. (*with* Bolzern, P.; Colaneri, Patrizio) Optimal robust filtering with time-varying parameter uncertainty. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 557–576. 93E11 (93C41)

— (*with* Strada, S.) Kalman filtering with mixed discrete-continuous observations. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 71–84. (Summary) **99c:93102** 93E11 (93E15)

Denicolò, Vincenzo Independent decisiveness and the Arrow theorem. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 563–566. (Summary) **99e:90007** 90A08

— A characterization of utilitarianism without the transitivity axiom. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 2, 273–278. 90A08

Denier, James P. (*with* Blennerhassett, P. J.; Bassom, Andrew P.) Large wavenumber vortices in time-periodic flows. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2689–2722. (Summary) **99f:76033** 76C05 (76D07, 76E99)

— (*with* Stott, Jillian A. K.) Wave-mean flow interactions in thermally stratified Poiseuille flow. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 2, 121–136. (Sharon O. Seddougui) **99k:76134** 76R05 (76D10, 76E05, 76E30)

Deninger, Bärbel *see* **Rohrbach, Hans, 99g:01040**

Deninger, Christopher Some analogies between number theory and dynamical systems on foliated spaces. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 163–186 (*electronic*). (Jan Nekovář) **99g:11084** 11G40 (11M36, 14G10, 58F18)

— *see also* **Series of the Mathematical Institute of the University of Münster, Series 3, 99b:00011** *and* **Series of the Mathematical Institute of the University of Münster. Series 3, 99m:00023**

Denis, François PAC learning from positive statistical queries. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 112–126, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68161** 68T05 (68Q99)

— Finding a minimal 1-DNF consistent with a positive sample is LOGSNP-complete. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 1–5. (Summary) **99i:68102** 68T05 (68Q15, 68Q25)

Denis, J.-B. (*with* Huet, S.; Adamczyk, K.) Bootstrap confidence intervals in nonlinear regression models when the number of observations is fixed and the variance tends to 0. Application to biadditive models. (English summary) *Statistics* **32** (1999), *no.* 3, 203–227. (Summary) **99k:62087** 62G09 (62J02)

Denis, Laurent Valeurs transcendantes des fonctions de Bessel-Carlitz. [Transcendental values of Bessel-Carlitz functions] *Ark. Mat.* **36** (1998), *no.* 1, 73–85. (Alain Thiery) **99f:11093** 11J91 (11G09)

— Indépendance algébrique de différents π. (English and French summaries) [Algebraic independence of π's] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 711–714. (Alain Thiery) **99i:11059** 11J85 (11G09)

— Polynômes et puissances pures. [Polynomials and pure powers] *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 445–451. (W. Narkiewicz) **99g:11031** 11C08

Denis, Remy Y. On certain q-series and continued fractions of Ramanujan. (English summary) *Special functions and differential equations* (*Madras*, 1997), 138–145, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33021** 33D15

— (*with* Singh, Shobh Nath) Some partition theorems. (English summary) *Special functions and differential equations* (*Madras*, 1997), 146–150, *Allied Publ., New Delhi*, 1998. (David M. Bressoud) **99m:11118** 11P81 (05A17, 33D80)

st.-Denis, Richard *see* **St.-Denis, Richard**

Denisenko, V. V. The energy method for three-dimensional elliptic equations with nonsymmetric tensor coefficients. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1267–1281, *ii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1099–1111. (Summary) **99f:78005** 78A25 (35J99, 76X05, 82D99)

Denis'evskiĭ, N. A. (*with* Dorogovtsev, A. Ya.) Successive approximations in models with errors. (Russian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 63–77, "*Vishcha Shkola*", *Kiev*, 1993. (*see* **99a:00015**) 60H20 (65J99)

— Existence of a bounded solution of a nonlinear difference equation on **Z**. (Russian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 135–139, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 39A10

Denison, David G. T. (*with* Mallick, Bani K.; Smith, Adrian F. M.) A Bayesian CART algorithm. (English summary) *Biometrika* **85** (1998), *no.* 2, 363–377. 62H30

— (*with* Gangopadhyay, Ashis K.; Mallick, Bani K.) Estimation of spectral density of a stationary time series via an asymptotic representation of the periodogram. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 281–290. (*see* **99k:62004**) 62M15

Denisov, A. M. (*with* Burykin, A. A.) Determination of the unknown sources in the heat-conduction equation. (English summary) Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 4, 309–313. (Summary) **99a:65112** 65M30

— On an integral equation of first kind. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 283–286. (Summary) **99k:45005** 45D05

— Determination of a nonlinear coefficient in a hyperbolic equation for the Goursat problem. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 327–334. 35R30 (35L70)

Denisov, G. G. (*with* Novikov, V. V.) On the deformation of a membrane by a moving load. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 647–653; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 627–632. (Summary) **99c:73042** 73K10 (73K12)

Denisov, O. V. On the limit distribution of the asymmetry of random graphs. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 175–178, *VSP, Utrecht*, 1997. (Summary) **99f:05101** 05C80 (60C05)

Denisov, S. I. Fractal dimension of random processes. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 9, 1491–1496. (Summary) **99h:60150** 60J60

Denisov, V. N. On necessary conditions for the stabilization with weight t^{ν} $(t \to \infty)$ of the solution of the Cauchy problem for heat equation. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 191–196. (Summary) **99d:35068** 35K05 (35B40)

Denisova, I. V. The problem of the motion of two compressible fluids separated by a closed free surface. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ*. 28, 61–86, 338–339. (Jürgen Socolowsky) **99e:76099** 76N10 (35Q30, 35R35)

Denisova, Irene P. (*with* Dalal, Mahavir) Development of the method of potentials for the problems of gravitation-electromagnetic conversion. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5820–5832. (Yu. N. Obukhov) **99h:83029** 83C50 (83C25, 83C35)

— The metric of a plane elliptically polarized electromagnetic wave. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 335–336; *translation in Dokl. Phys.* **43** (1998), *no.* 5, 297–298. 83C50 (78A40)

Denisova, T. E. (*with* Bretón Báez, Nora; García Díaz, Alberto; Manko, Vladimir S.) Arbitrarily deformed Kerr-Newman black hole in an external gravitational field. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3382–3388. (Summary) **99m:83100** 83C57 (83C22)

Denisyuk, A. S. Explicit formulas for the inversion of the ray transform in spaces of constant curvature. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1058–1070, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 915–925. (V. K. Oganyan) **99d:53077** 53C65

Denk, Georg (*with* Schein, O.) Numerical solution of stochastic differential-algebraic equations with applications to transient noise simulation of microelectronic circuits. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 77–92. (Summary) **99i:65076** 65L06 (34A09, 34F05, 94C05)

Denk, Robert (*with* Agranovich, Mikhail; Faierman, Melvin) Weakly smooth nonselfadjoint spectral elliptic boundary problems. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 138–199, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Jan Bochenek) **99a:35193** 35P20 (35J40, 35P05, 47F05)

— On Hilbert-Schmidt operators and determinants corresponding to periodic ODE systems. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 57–71, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Wen Ming Li) **99g:47039** 47B10 (34L05, 47A05, 47E05)

— (*with* Warlimont, Richard) On a queer binomial sum. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 1, 22–30. (Y. H. Harris Kwong) **99h:11015** 11B65

Denker, Manfred (*with* Compagnone, Daniele) Nonparametric tests for scale and location. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 2, 123–154. (Summary) **99b:62077** 62G10

— (*with* Aaronson, Jon) Distributional limits for hyperbolic infinite volume geodesic flows. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 181–192. (Edoh Amiran) **99g:58096** 58F17 (58F11)

— (*with* Woyczyński, Wojbor A.) ★ Introductory statistics and random phenomena. (English summary) Uncertainty, complexity and chaotic behavior in engineering and science. Appendix E by Bernard Ycart. Statistics for Industry and Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xxiv+509 *pp. ISBN* 0-8176-4031-2 (A. N. Philippou) **99k:62001** 62–01 (58F40, 60–01, 68Q30)

— (*with* Aaronson, Jon) Characteristic functions of random variables attracted to 1-stable laws. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 399–415. (Mark M. Meerschaert) **99c:60024** 60E07 (60E10, 60F05)

— (*with* Heinemann, Stefan-M.) Jordan tori and polynomial endomorphisms in $\mathbf{C}^2$. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 139–159. (Dan Coman) **99f:32044** 32H50 (58F23)

— (*with* Mauldin, R. Daniel; Nitecki, Z.; Urbański, Mariusz) Conformal measures for rational functions revisited. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 161–173. (Sanju L. Velani) **99j:58122** 58F11 (28D99, 30D05, 58F23)

— (*with* Gordin, Mikhail) The central limit theorem for random perturbations of rotations. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 1–16. (Idris Assani) **99f:28024** 28D05 (58F11, 60F17)

Denkowski, Zdzisław (*with* Migórski, Stanisław) Optimal shape design problems for a class of systems described by hemivariational inequalities. (English summary) *J. Global Optim.* **12** (1998), *no.* 1, 37–59. (From the introduction) **99m:49063** 49Q10 (49J40)

— (*with* Migórski, Stanisław) Optimal shape design for hemivariational inequalities. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 81–87. (*see* **99f:58002**) 49Q10 (49J40)

Denley, Tristan M. J. (*with* Asratyan, A. S.; Häggkvist, Roland) ★ Bipartite graphs and their applications. (English summary) Cambridge Tracts in Mathematics, 131. *Cambridge University Press, Cambridge*, 1998. *xii*+259 *pp. ISBN* 0-521-59345-X (Charles H. C. Little) **99e:05121** 05C99 (05–01)

Denne, Jonathan S. (*with* Jennison, Christopher) Improving the post-experimental properties of Stein's two-stage procedure. (English summary) *Sequential Anal.* **18** (1999), *no.* 1, 43–56. 62L10

Dennis, David (*with* Kreinovich, Vladik; Rump, Siegfried M.) Intervals and the origins of calculus. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 191–197. (Niccolò Guicciardini) **99d:01016** 01A45 (01A99)

Dennis, J. E., Jr. (*with* Booker, Andrew J.; Frank, Paul D.; Serafini, David B.; Torczon, Virginia) Optimization using surrogate objectives on a helicopter test example. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 49–58, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 90C90 (93C95)

— (*with* Heinkenschloss, Matthias; Vicente, Luís N.) Trust-region interior-point SQP algorithms for a class of nonlinear programming problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1750–1794 (*electronic*). (K. Schittkowski) **99e:90087** 90C30 (65K05)

— (*with* Das, Indraneel) Normal-boundary intersection: a new method for generating the Pareto surface in nonlinear multicriteria optimization problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 631–657 (*electronic*). (Wiesław Kotarski) **99d:90101** 90C29 (90C30)

Dennis, Samuel Y., III Bayes estimators of ratios of proportions between tree-structured experiments. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2495–2514. 62F15

Denny, Andrew G. (*with* Wu, Jie-Zhi; Lu, Xi-Yun; Fan, Meng^2; Wu, Jain-Ming) Post-stall flow control on an airfoil by local unsteady forcing. (English summary) *J. Fluid Mech.* **371** (1998), 21–58. (From the summary) **99i:76041** 76D15 (76B05, 76C05, 76G25)

Denny, J. L. (*with* Abbey, C. K.) Partial sums of orthonormal bases preserving positivity—and martingales. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 151–157. (Summary) **99f:42056** 42C10 (60G46)

Denny, Thomas (*with* Weber, Damian) The solution of McCurley's discrete log challenge. (English summary) *Advances in cryptology—CRYPTO* '98 (*Santa Barbara, CA*, 1998), 458–471, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99i:94057** 94A60

Densmore, Dana ★ Newton's *Principia*: the central argument. (English summary) Translation, notes, and expanded proofs. Revised reprint of the 1995 original. Translations, diagrams and preface by William H. Donahue. With a foreword by Curtis Wilson. *Green Lion Press, Santa Fe, NM*, 1996. *xlviii*+425 *pp. ISBN* 1-888009-00-4 (Niccolò Guicciardini) **99h:01021** 01A45

— *see also* **Nauenberg, Michael**, **99j:01007**

Dentcheva, Darinka (*with* Römisch, Werner) Optimal power generation under uncertainty via stochastic programming. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 22–56, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C15 (90C90)

— Differentiable selections and Castaing representations of multifunctions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 371–396. (Michel Valadier) **99f:49016** 49J52 (26E25, 58C06)

ferrara Dentice, Eva *see* **Ferrara Dentice, Eva**

Denvir, J. (*with* Mackay, Robert S.) Consequences of contractible geodesics on surfaces. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4553–4568. (Athanase Papadopoulos) **99b:58183** 58F17

Deny, Jacques Les deux aspects de la théorie du potentiel. [The two aspects of potential theory] *Séminaire Bourbaki, Vol. 4, Exp. No.* 148, 151–168, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 31C25 (31C99)
— Formes et espaces de Dirichlet. [Dirichlet forms and spaces] *Séminaire Bourbaki, Vol. 5, Exp. No.* 187, 261–271, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 31C25 (46E99, 47D07)
Denzler, Jochen Windows of given area with minimal heat diffusion. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 569–580. (Carlo Bardaro) **99d:49076** 49Q15 (35J25)
Deo, B. B. Supersymmetry in a standard-like model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2971–2975. 81T60 (81V22)
Deo, N. *see* **Deo, Nivedita**
Deo, Narsingh (*with* Kumar, Vineet; Kumar, Nishit) Parallel generation of random trees and connected graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 7–18. (Summary) **99j:05179** 05C85 (05C05, 05C80, 68Q22)
— (*with* Rajan, Kumar) A parallel algorithm for generating disjoint 2-$(v, 4, 1)$ packings. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 5–18. (Summary) **99j:05050** 05B40 (68Q22)
Deo, Nivedita Orthogonal polynomials and exact correlation functions for two cut random matrix models. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 3, 609–620. (Saburo Higuchi) **99b:82048** 82B44 (60K35)
— (*with* Brézin, E.) Correlations and symmetry breaking in gapped matrix models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3901–3910. (Summary) **99m:82024** 82B41
Deo, Rohit (*with* Hurvich, Clifford M.; Brodsky, Julia) The mean squared error of Geweke and Porter-Hudak's estimator of the memory parameter of a long-memory time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 19–46. (Roger Gay) **99h:62114** 62M10
Deo, S. G. (*with* Lakshmikantham, V.) ★ Method of variation of parameters for dynamic systems. Series in Mathematical Analysis and Applications, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *viii+317 pp. ISBN* 90-5699-160-4 (P. W. Eloe) **99g:34001** 34–02 (45–02, 47N20)
— (*with* Drici, Zahia) Method of generalized quasilinearization in abstract cones. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 25–33. 34A45 (34G10, 65L99)
— (*with* McGloin Knoll, C.) kth order convergence of an iterative method for integro-differential equations. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 191–200. (Iulian Coroian) **99h:45012** 45J05 (45L05, 65R20)
Deo, Satya Projective dimension of the spline module of piecewise polynomials over manifolds. *Math. Student* **65** (1996), *no.* 1-4, 166–175. (Teimuraz Pirashvili) **99k:52021** 52B20 (13C15, 41A15)
— (*with* Varadarajan, Kalathoor) Hopfian and co-Hopfian groups. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 1, 17–24. (L. R. Vermani) **99a:20055** 20J05 (57M07)
Deogun, Jitender S. (*with* Riedesel, Charles) Hamiltonian cycles in permutation graphs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 161–200. (Feng Tian) **99g:05122** 05C45 (68R10)
— (*with* Bodlaender, Hans L.; Jansen, Klaus; Kloks, Ton; Kratsch, Dieter; Müller, Haiko; Tuza, Zsolt) Rankings of graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 168–181 (*electronic*). (Peter Damaschke) **99b:68143** 68R10 (05C15, 05C78, 05C85)
— (*with* Gopalakrishnan, K.) Consecutive retrieval property—revisited. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 15–20. (Summary) **99i:68029** 68P20
De Olazábal, Juan Manuel *see* **de Olazábal, Juan Manuel**
De Oliveira, Antonio Marmo *see* **de Oliveira, Antonio Marmo**
De Oliveira, Bruno *see* **de Oliveira, Bruno**
De Oliveira, C. R. E. *see* **de Oliveira, C. R. E.**
De Oliveira, César R. *see* **de Oliveira, César R.**
De Oliveira, E. Capelas *see* **de Oliveira, E. Capelas**
De Oliveira, Jairo R. *see* **de Oliveira, Jairo R.**
De Oliveira, Luiz Augusto F. *see* **de Oliveira, Luiz Augusto F.**
De Oliveira, Mário J. *see* **de Oliveira, Mário J.**
De Oliveira, Maurício C. *see* **de Oliveira, Maurício C.**
De Oliveira, Wilson R. *see* **de Oliveira, Wilson R.**
Deotto, E. (*with* Ghirardi, GianCarlo) Bohmian mechanics revisited. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 1–30. (S. Gudder) **99e:81008** 81P05 (81P15)
De Pablo, Arturo (*with* Barenblatt, G. I.; García Azorero, J. P.; Vázquez, Juan Luis) Mathematical model of the non-equilibrium water-oil displacement in porous strata. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 19–45. (Summary) **99j:76121** 76S05 (35Q35, 86A05)
— (*with* Sánchez, Ariel) Travelling waves in a nonlinear Fisher equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 413–418, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Arnaldo do Nascimento) **99f:35084** 35K55
— (*with* Sánchez, Ariel) Travelling wave behaviour for a porous-Fisher equation. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 285–304. (Summary) **99f:35091** 35K57 (35B40, 35Q80, 92C15, 92D25)
— (*with* García Azorero, J. P.) Finite propagation for a pseudoparabolic equation: two-phase non-equilibrium flows in porous media. *Nonlinear Anal.* **33** (1998), *no.* 6, 551–573. (Elena Comparini) **99h:35115** 35K70 (35Q99, 35R35, 76S05, 76T05)
De Pagter, B. *see* **de Pagter, B.**
De Paiva, V. C. V. *see* **de Paiva, V. C. V.**
De Paoli, A. L. (*with* Bollini, C. G.; Civitarese, O.; Rocca, M. C.) Gamow states in a rigged Hilbert space. (English summary) *Irreversibility and causality (Goslar*, 1996), 34–37, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Summary) **99d:81180** 81V35 (47N50)
De Pascale, E. (*with* Zabreĭko, Petr Petrovich) Convergence of the Newton-Kantorovich method under Vertgeim conditions: a new improvement. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 271–280. (Mihai Turinici) **99d:65183** 65J15 (47H17)
Depassier, M. Cristina (*with* Benguria, Rafael D.) A variational method for nonlinear eigenvalue problems. (English summary) *Advances in differential equations and mathematical physics (Atlanta, GA*, 1997), 1–17, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Gabriella Tarantello) **99d:34030** 34B15 (34L30, 35K57, 49R05)
— (*with* Benguria, Rafael D.) Phase space derivation of a variational principle for one-dimensional Hamiltonian systems. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 144–146. (Gabriella Tarantello) **99d:34031** 34B15 (34L30, 49R05)
— (*with* Benguria, Rafael D.) Speed of fronts of generalized reaction-diffusion equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6493–6496. (Summary) **99b:35091** 35K57 (35B45)
Depauw, Nicolas Poche de tourbillon pour Euler 2D dans un ouvert à bord. (French summary) [Vortex patch for Euler 2D in a bounded open domain] *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts*, 1998), *Exp. No. III*, 12 *pp., Univ. Nantes, Nantes*, 1998. (Summary) **99e:35173** 35Q30 (76C05)
De Pauw, Thierry On SBV dual. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 99–121. (J. E. Brothers) **99m:49064** 49Q15 (46E99)
Depczynski, Uwe (*with* Jetter, Kurt) Multiscale decompositions on the interval based on DCT-I transforms. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme*, 1995), 57–70, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (42C15)
— Sturm-Liouville wavelets. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 216–247. (Summary) **99d:42057** 42C15 (65T20)
De Pierro, Alvaro R. (*with* Wei, Mu Sheng) Reverse order law for reflexive generalized inverses of products of matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 299–311. (Shuangzhe Liu) **99e:15002** 15A09 (15A23)
— (*with* Wei, Mu Sheng) Perturbation analysis of the canonical subspaces. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 135–151. (George D. Poole) **99h:65089** 65F35 (15A21)
De Pietri, Roberto (*with* Borissov, Roumen; Rovelli, Carlo) Matrix elements of Thiemann's Hamiltonian constraint in loop quantum gravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 10, 2793–2823. (Hugo A. Morales-Técotl) **99e:83025** 83C45
De Pillis, Lisette *see* **de Pillis, Lisette**
Depine, Ricardo A. (*with* Skigin, Diana C.) Modal method for scattering by arbitrarily shaped multivalued surfaces. (English summary) *J. Modern Opt.* **45** (1998), *no.* 9, 1821–1843. (Summary) **99e:78011** 78–08 (78A45)
De Polavieja, Gonzalo Garcia *see* **de Polavieja, Gonzalo Garcia**
De Prada Vicente, María Angeles *see* **de Prada Vicente, María Angeles**
De Prisco, Roberto (*with* De Santis, Alfredo) On lower bounds for the redundancy of optimal codes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 29–45. (Summary) **99j:94081** 94B65
— (*with* Monti, Angelo; Pagli, Linda) Testing and reconfiguration of VLSI linear arrays. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 171–188. (Summary) **99b:68104** 68Q35 (94C12)
De Prony, Gaspard Clair François Marie Riche *see* **de Prony, Gaspard Clair François Marie Riche**
De Prophetis, Lucio *see* **de Prophetis, Lucio**
De Prunelé, E. *see* **de Prunelé, E.**
Der, Gim J. An elegant state transition matrix. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 4, 371–390. (Summary) **99c:70019** 70F15
DeRaad, Lester L., Jr. (*with* Holliday, Dennis; St-Cyr, Gaetan J.) New equations for electromagnetic scattering by small perturbations of a perfectly conducting surface. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1427–1432. (Summary) **99e:78031** 78A45
De Raedt, Luc (*with* Blockeel, Hendrik) Top-down induction of first-order logical decision trees. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 285–297. 68N17 (68T05)
Derakhshan, Jamshid (*with* Wagner, Frank O.) Nilpotency in groups with chain conditions. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 453–466. (H. Heineken) **99b:20047** 20E15 (20F19, 20F45)
Derbenëv, V. A. (*with* Tsalyuk, Z. B.) Asymptotics of the resolvent of an unstable Volterra equation with a difference kernel. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 88–94; *translation in Math. Notes* **62** (1997), *no.* 1-2, 74–79 (1998). (Summary) **99a:45005** 45D05 (45J05, 45M05, 45P05)
Derbez, Eric (*with* Slade, Gordon) The scaling limit of lattice trees in high dimensions. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 69–104. (E. J. Janse van Rensburg) **99b:60138** 60J65 (82B41)
Derbov, Vladimir L. (*with* Chekanov, N. A.; Vinitskiĭ, S. I.) Quasienergy spectrum of a periodically kicked rotator. (English summary) *Symmetry methods in physics, Vol. 1 (Dubna*, 1995), 88–94, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q05
— (*with* Karasëv, V. P.; Priyutova, O. M.; Vinitskiĭ, S. I.) Geometric phases of the generalized polarization coherent states in quantum optics. (English summary) *Symmetry methods in physics, Vol. 1 (Dubna*, 1995), 314–319, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R30 (81V80)
— (*with* Vladimirov, A. G.; Toronov, Vladislav Yu.) The complex Lorenz model: geometric structure, homoclinic bifurcation and one-dimensional map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 4, 723–729. (Summary) **99f:34073** 34C37 (34C23, 34D45, 58F14)
Derdiyok, A. (*with* İnanç, N.; Özbulur, V.; Bilgiç, M. O.) Improving performance of switched reluctance motor by fuzzy logic controller. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 5, 307–317. 93C42 (93C95)
Dereli, T. (*with* Bilge, A. H.; Koçak, Ş.) The geometry of self-dual gauge fields. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz*, 1996), 277–288, *PWN, Warsaw*, 1997. (Luis Ugarte) **99i:53075** 53C80 (53C07, 81T13)
— (*with* Tekmen, M.) Wu-Yang monopoles and non-abelian Seiberg-Witten equations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 22, 1803–1807. (S. Timothy Swift) **99m:81140** 81T13 (53C07, 53C80)
Derencourt, Denis (*with* Bruyère, Véronique; Latteux, Michel) The meet operation in the lattice of codes. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 117–129. (Dong Yang Long) **99c:68150** 68Q45 (20M05, 68R15)

De Resmini, Marialuisa J. *see* **de Resmini, Marialuisa J.**

Derevenskiĭ, V. P. Solution of systems of matrix algebraic linear equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 10, 32–36. (Yao Zhang) **99j:15006** 15A06 (15A24)

Derevtsov, E. Yu. Ghost distributions in the cone-beam tomography. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 5, 411–426. (Olga Klimenko) **99c:92023** 92C55

— (*with* Kleshchev, A. G.; Sharafutdinov, Vladimir A.) Numerical solution of the emission 2D-tomography problem for a medium with absorption and refraction. (English summary) *J. Inverse Ill-Posed Probl.* **7** (1999), *no.* 1, 83–103. (Summary) **99m:65030** 65D17 (65Y25, 92C55)

De Reyck, Bert (*with* Herroelen, Willy; Demeulemeester, Erik) Resource-constrained project scheduling—a survey of recent developments. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 197–202, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35 (90–02)

— (*with* Herroelen, Willy; Demeulemeester, Erik) Resource-constrained project scheduling: a survey of recent developments. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 279–302. (Summary) **99g:90057** 90B35 (90–02)

— (*with* Demeulemeester, Erik; Herroelen, Willy) Local search methods for the discrete time/resource trade-off problem in project networks. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 553–578. 90B40 (90B10)

De Rey Neto, E. C. *see* **de Rey Neto, E. C.**

De Rezende, K. A. *see* **de Rezende, K. A.**

Dereziński, Jan (*with* Gérard, Christian) ★ Scattering theory of classical and quantum N-particle systems. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1997. xii+444 *pp. ISBN* 3-540-62066-4 (Hiroshi Isozaki) **99d:81172** 81U10 (35P25, 47A40, 47N50)

— Asymptotic completeness in nonrelativistic quantum field theory. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 465–473. (From the introduction) **99f:81212** 81U05 (47A40, 47N50, 81V80)

— Asymptotic completeness in quantum field theory. A class of Galilei-covariant models. *Rev. Math. Phys.* **10** (1998), *no.* 2, 191–233. (Christian D. Jäkel) **99k:81332** 81U10 (46N50, 47N50, 81T05)

Derfel, Gregory (*with* Thuswaldner, Jörg Maximilian; Tichy, Robert F.; Vogl, Fritz) Asymptotic analysis of a class of functional equations. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 91–105. (P. N. Rathie) **99c:39032** 39B32 (39B22)

fon-Der-Flaass, D. *see* **Fon-Der-Flaass, D.**

Derguzov, V. I. Normalization of eigenfunctions of the continuous spectrum of a three-dimensional periodic lightguide. (English summary) Some questions of mathematical physics and function theory. *J. Math. Sci. (New York)* **92** (1998), *no.* 6, 4273–4285. (From the text) **99k:78010** 78A25 (35P05, 35Q60, 78A10)

Derhab, Mohammed (*with* Addou, Idris; Bouguima, Sidi Mohammed; Raffed, Yazid Said) On the number of solutions of a quasilinear elliptic class of B.V.P. with jumping nonlinearities. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 575–600. (Michal Fečkan) **99m:34030** 34B15 (35J60)

Deriglazov, A. A. (*with* Galazhinskiĭ, A. V.) Covariant supplementation scheme for infinitely reducible first class constraints. *Problems of quantum field theory* (*Alushta*, 1996), 336–339, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T70

— (*with* Galazhinskiĭ, A. V.) Formulations for $D = 10$ superstring and superparticle with manifestly covariant irreducible constraints. *Problems of quantum field theory* (*Alushta*, 1996), 340–343, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T30 (83E30)

— (*with* Gitman, D. M.) Examples of $D = 11$ S-supersymmetric actions for point-like dynamical systems. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 32, 2559–2570. (Ilya Shapiro) **99i:81230** 81T60 (81T30)

— (*with* Galazhinskiĭ, A. V.) Possible generalization of the superstring action to eleven dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046005, 10 *pp.* (Summary) **99k:83117** 83E30 (81T30)

Derigs, Ulrich *see* **Proceedings: Operations Research, 99a:90009** *and* **99d:90008**

De Rijke, Maarten *see* **de Rijke, Maarten**

De Ritis, R. *see* **de Ritis, R.**

Derix, Martijn (*with* Claus, Piet; Kallosh, Renata; Kumar, Jason; Townsend, Paul K.; Van Proeyen, Antoine) Black holes and superconformal mechanics. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 21, 4553–4556. (Gil De Oliveira-Neto) **99k:83063** 83C57 (83E30)

Deriziotis, D. I. (*with* Gotsis, C. P.) The cuspidal modules of the finite general linear groups. (English summary) *LMS J. Comput. Math.* **1** (1998), 75–108 (*electronic*). (R. W. Carter) **99i:20017** 20C33 (20G40)

Derjagin, V. B. (*with* Leznov, A. N.; Yuzbashyan, E. A.) Two-dimensional integrable mappings and explicit form of equations of $(1 + 2)$-dimensional hierarchies of integrable systems. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 247–257, *World Sci. Publishing, River Edge, NJ*, 1996. (Giulio Soliani) **99g:58063** 58F07 (35Q58)

— (*with* Leznov, A. N.; Sorin, A. S.) The solution of the $N = (0|2)$ superconformal f-Toda lattice. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 643–656. (Henrik Aratyn) **99j:58089** 58F07 (35Q58, 81T10)

— (*with* Leznov, A. N.; Sorin, A. S.) $N = 2$ superintegrable f-Toda mapping and super-NLS hierarchy in (1|2) superspace. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1990–1996. (Summary) **99i:58072** 58F07

Derks, Gianne (*with* Bridges, Thomas J.) Hodge duality and the Evans function. (English summary) *Phys. Lett. A* **251** (1999), *no.* 6, 363–372. (Summary) **99m:58009** 58A14 (34A30, 35Q51)

Derks, Jean (*with* Reijnierse, Hans) On the core of a collection of coalitions. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 451–459. (Summary) **99k:90216** 90D12

Derksen, Harm (*with* Kutzschebauch, Frank) Nonlinearizable holomorphic group actions. *Math. Ann.* **311** (1998), *no.* 1, 41–53. (Dennis Snow) **99d:32043** 32M05 (14L30)

Dermenjian, Yves (*with* Durand, Marc; Iftimie, Viorel) Spectral analysis of an acoustic multistratified perturbed cylinder. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 141–169. (Ghias Hachem) **99a:35035** 35J05 (35P25, 47F05, 76Q05)

— (*with* Croc, Elisabeth) A perturbative method for the spectral analysis of an acoustic multistratified strip. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 18, 1681–1704. (Yongzhi Xu) **99k:76130** 76Q05 (35J05, 35P05)

Dern, Tobias Multiplikatorsysteme und Charaktere Hermitescher Modulgruppen. (English summary) [Multiplier systems and characters for Hermitian modular groups] *Monatsh. Math.* **126** (1998), *no.* 2, 109–116. (K.-B. Gundlach) **99f:11063** 11F55

De Roberval, Gilles Personne *see* **de Roberval, Gilles Personne**

De Roeck, Anne (*with* Manara, Lucia H. B.) A belief-centered treatment of pragmatic presupposition. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 274–291, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65

De Roeck, Yann-Hervé (*with* Plessix, René-Edouard; Chavent, Guy) Waveform inversion of reflection seismic data for kinematic parameters by local optimization. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1033–1052 (*electronic*). (Summary) **99i:86016** 86A15 (86A22, 90C90)

De Ronde, John *see* **de Ronde, John**

De Roo, Mees *see* **de Roo, Mees**

De Rosa, Liliana (*with* Segovia, Carlos) One-sided Littlewood-Paley theory. (English summary) Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 933–957. (Javier Duoandikoetxea) **99c:42032** 42B25 (42B20)

— (*with* Segovia, Carlos) Dual spaces for one-sided weighted Hardy spaces. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 49–71. (Charles N. Moore) **99h:42039** 42B30 (42B25)

De Rossi, Alfredo (*with* Bang, Ole; Kivshar, Yu. S.; Buryak, Alexander V.; Trillo, Stefano) Two-dimensional solitary waves in media with quadratic and cubic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5057–5069. (Summary) **99h:78023** 78A60 (35Q51)

De Rougemont, Michel *see* **de Rougemont, Michel**

Derrick, John (*with* Bowman, Howard; Boiten, E. A.; Steen, M. W. A.) Strategies for consistency checking based on unification. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 3, 261–298. 68N99

Derrida, B. (*with* Lebowitz, Joel L.; Speer, Eugene R.) Shock profiles for the asymmetric simple exclusion process in one dimension. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 135–167. (Pablo A. Ferrari) **99f:82049** 82C22 (60K35)

— An exactly soluble non-equilibrium system: the asymmetric simple exclusion process. (English summary) Fundamental problems in statistical mechanics (Altenberg, 1997). *Phys. Rep.* **301** (1998), *no.* 1-3, 65–83. (Gunter Schütz) **99g:82057** 82C22 (60K35, 82C23)

Derrien, Jean-Marc Construction de cocycles en escalier ergodiques et faiblement mélangeants au-dessus de rotations irrationnelles du cercle. (English and French summaries) [Construction of ergodic and weakly mixing step cocycles over irrational rotations of the circle] *Bull. Soc. Math. France* **125** (1997), *no.* 2, 227–248. (G. R. Goodson) **99d:28030** 28D05

Dershowitz, Nachum When are two rewrite systems more than none? (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 37–43, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68081** 68Q42

— (*with* Treinen, Ralf) An on-line problem database. *Rewriting techniques and applications* (*Tsukuba*, 1998), 332–342, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42

Deruelle, Nathalie (*with* Uzan, Jean-Philippe; Turok, Neil G.) Conservation laws and cosmological perturbations in curved universes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7192–7199. (Summary) **99k:83037** 83C40 (83C15)

— (*with* Langlois, David; Uzan, Jean-Philippe) Erratum: "Cosmological perturbations seeded by topological defects: setting the initial conditions" [Phys. Rev. D (3) **56** (1997), no. 12, 7608–7620; MR 98j:83109]. *Phys. Rev. D* (3) **58** (1998), *no.* 8, 089901, 1 *p.* 83F05

Dervieux, Alain (*with* Hänel, D.; Vilsmeier, R.; Gloth, O.; Viozat, Cécile; Fournier, L.) Development of Navier-Stokes solvers on hybrid grids. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 89–111, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76117** 76M25 (76D05)

— (*with* Bermúdez de Castro, Alfredo; Desideri, Jean-Antoine; Vázquez-Cendón, María Elena) Upwind schemes for the two-dimensional shallow water equations with variable depth using unstructured meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 49–72. (Summary) **99b:76060** 76M25 (86A05)

tromeur-Dervout, D. *see* **Tromeur-Dervout, D.**

Deryabin, M. V. Polynomial integrals of dynamical systems and the Lax reduction. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 445–446; *translation in Math. Notes* **61** (1997), *no.* 3-4, 363–365. (J. S. Joel) **99a:58086** 58F07

— On asymptotics of the solution of Chaplygin equation. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 93–97. (Summary) **99h:70010** 70E15

— General principles of the dynamics and theory of unilateral constraints. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 53–59, 81. (Ranislav Bulatović) **99c:70026** 70H30 (70F25, 70H25)

Derzko, Gérard Une approche intrinsèque de l'estimation non paramétrique de la densité. (English and French summaries) [An intrinsic approach to nonparametric density estimation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 985–988. (Summary) **99m:62041** 62G05

Derzko, Nicolas A. (*with* Korolyuk, Vladimir S.; Korolyuk, Vladimir V.) Markovian repairman problems. Classification and approximation. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 143–151, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K10

De Sá, Eduardo Marques *see* **de Sá, Eduardo Marques**

De Sabbata, Venzo *see* **de Sabbata, Venzo**

Desages, Alfredo (*with* Chen, Guanrong; Julián, Pedro) Trajectory tracking and robust stability for a class of time-delayed flexible-joint robotic manipulators. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 259–276. 93C85 (70B15, 70Q05, 93D09)

— (*with* Julián, Pedro; Jordán, Mario) Canonical piecewise-linear approximation of smooth functions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 567–571. (Summary) **99b:93021** 93B30 (41A30)

— (*with* Julián, Pedro; Agamennoni, Osvaldo) High-level canonical piecewise linear representation using a simplicial partition. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 4, 463–480. (Summary) **99m:65051** 65D99 (94C05)

Desai, A. R. (*with* Uralegaddi, B. A.) Convolutions of univalent functions with positive coefficients. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 279–285. (Herb Silverman) **99k:30026** 30C45

Desai, J. P. (*with* Zefran, Milos; Kumar, Vijay[5]) A geometric approach to second and higher order kinematic analysis. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 365–374, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70006** 70B15

Desainte-Catherine, Myriam (*with* Wenzel, Walter) Nonintersecting paths, Pfaffians, and Δ-matroids. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 4, 471–485. (Summary) **99f:05025** 05B35

De Samblanx, Gorik (*with* Meerbergen, Karl; Bultheel, Adhemar) The implicit application of a rational filter in the RKS method. (English summary) *BIT* **37** (1997), *no.* 4, 925–947. (Raffaella Pavani) **99a:65046** 65F15

— (*with* Bultheel, Adhemar) Nested Lanczos: implicitly restarting an unsymmetric Lanczos algorithm. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 31–50. (Marc Van Barel) **99j:65054** 65F15 (65F10)

— (*with* Bultheel, Adhemar) Restrictions on implicit filtering techniques for orthogonal projection methods. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 45–68. (G. Maess) **99m:65070** 65F15

De Sam Lazaro, José (*with* Lemańczyk, Mariusz) Spectral analysis of certain compact factors for Gaussian dynamical systems. (English summary) *Israel J. Math.* **98** (1997), 307–328. (Summary) **99k:28022** 28D10 (47A35)

De Sampaio, P. A. B. *see* **de Sampaio, P. A. B.**

De Sampaio, Raimundo J. B. *see* **de Sampaio, Raimundo J. B.**

Desanti, Jean-Toussaint Husserl et les mathématiques. [Husserl and mathematics] *Les philosophes et les mathématiques*, 212–226, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

De Santis, Alfredo (*with* Blundo, Carlo; Cresti, Antonella; Vaccaro, Ugo) Fully dynamic secret sharing schemes. (English summary) *Theoret. Comput. Sci.* **165** (1996), *no.* 2, 407–440. (Summary) **99a:94024** 94A60 (68P25)

— (*with* Di Crescenzo, Giovanni; Persiano, G.; Yung, Moti) Image density is complete for non-interactive-SZK (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 784–795, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q15 (94A60)

— (*with* De Prisco, Roberto) On lower bounds for the redundancy of optimal codes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 29–45. (Summary) **99j:94081** 94B65

— (*with* Blundo, Carlo; Herzberg, Amir; Kutten, Shay; Vaccaro, Ugo; Yung, Moti) Perfectly secure key distribution for dynamic conferences. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 1–23. (Luis Hernández Encinas) **99j:94039** 94A60

— (*with* Blundo, Carlo; Vaccaro, Ugo) On secret sharing schemes. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 1, 25–32. (Summary) **99e:94031** 94A60

De Santis, Elena (*with* d'Alessandro, Paolo) General closed loop optimal solutions for linear dynamic systems with linear constraints and functional. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 14 *pp.* (*electronic*). (Summary) **99i:49040a** 49N35 (93B50)

— (*with* d'Alessandro, Paolo) Errata: "General closed loop optimal solutions for linear dynamic systems with linear constraints and functional". *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 127. (Editors) **99i:49040b** 49N35 (93B52)

De Santis, Fulvio (*with* Spezzaferri, Fulvio) Alternative Bayes factors for model selection. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 503–515. (Summary) **99b:62037** 62F15

— (*with* Spezzaferri, Fulvio) Bayes factors and hierarchical models. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 2, 323–342. 62F15

DeSanto, John A. Scattering from a periodic interface. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 94–99, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76Q05 (78A45)

— (*with* Erdmann, G.; Hereman, Willy; Misra, Manavendra) Theoretical and computational aspects of scattering from rough surfaces: one-dimensional perfectly reflecting surfaces. (English summary) *Waves Random Media* **8** (1998), *no.* 4, 385–414. (Summary) **99j:76112** 76Q05 (76M25, 78–08, 78A45)

— *see also* **Mathematical and numerical aspects of wave propagation, 99d:00023**

DeSarbo, Wayne S. (*with* Kim, Youngchan; Fong, Duncan) A Bayesian multidimensional scaling procedure for the spatial analysis of revealed choice data. (English summary) *J. Econometrics* **89** (1999), *no.* 1-2, 79–108. (Summary) **99m:62082** 62H11 (62F15)

De Saxcé, G. (*with* Save, M. A.; Massonnet, C. E.) ★ Plastic limit analysis of plates, shells and disks. Translated from the French by Save. Second edition. North-Holland Series in Applied Mathematics and Mechanics, 43. *North-Holland Publishing Co., Amsterdam*, 1997. xxii+580 *pp. ISBN* 0-444-89479-9 (V. K. Arya) **99g:73050** 73E20 (73E05, 73K10, 73K15)

— (*with* Feng, Zhi-Qiang) The bipotential method: a constructive approach to design the complete contact law with friction and improved numerical algorithms. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 225–245. (Summary) **99e:73091** 73T05 (73V25)

Desbat, L. (*with* Ramm, Alexander G.) Finding small objects from tomographic data. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1239–1246. (Alexander S. Denisjuk) **99a:92012** 92C55 (44A12, 65R10)

— (*with* Mennessier, C.) On the invertibility of Doppler imaging: an approach based on generalized tomography. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 193–213. (Summary) **99m:85001** 85–08 (85A15)

Desbois, J. (*with* Nechaev, Sergei) Statistics of reduced words in locally free and braid groups: abstract studies and applications to ballistic growth model. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2767–2789. (Summary) **99e:20047** 20F36 (82D60)

Desbouvries, F. (*with* Loubaton, Ph.) On the identification of certain rational transfer functions from truncated autocovariance sequences. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1078–1081. 93B30 (93C80)

Desbrow, Darrell On evaluating $\int_{-\infty}^{+\infty} e^{ax(x-2b)}dx$ by contour integration round a parallelogram. (English summary) *Amer. Math. Monthly* **105** (1998), *no.* 8, 726–731. (Y. Sitaraman) **99h:26002** 26A06

xambó-Descamps, Sebastian *see* **Xambó-Descamps, Sebastian**

Descartes, René *see* **Nolan, Lawrence, 99e:01012; Pies, Eike, 99f:01022; "For Descartes": Cartesian mathematics and physics, 99h:01003; Blay, Michel, 99k:01011; Hüttemann, Andreas, 99k:01014; Rodis-Lewis, Geneviève, 99k:01017; Pla i Carrera, Josep, 99m:01006; Bos, Henk J. M., 99m:01010; Israel, Giorgio, 99m:01014; Barbin, Évelyne, (99g:01038); Grégoire, Michèle, (99h:01003); Jullien, Vincent, (99h:01003)** *and* **Vilain, Christiane, (99h:01003)**

Desch, W. (*with* Győri, István; Pongor, Gábor) Stability of semilinear delay equations with positive solutions. (English summary) *Positivity* **1** (1997), *no.* 4, 319–330. (Ti Jun Xiao) **99j:34112** 34K20 (34K30)

— *see also* **Control and estimation of distributed parameter systems, 99b:49001**

Deschamps, Bruno (*with* Dèbes, Pierre) The regular inverse Galois problem over large fields. *Geometric Galois actions*, 2, 119–138, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Teresa Crespo) **99j:12002** 12F12

martin-Deschamps, Mireille *see* **Martin-Deschamps, Mireille**

Deschamps, Véronique Maume Equilibrium states for non-Hölderian random dynamical systems. (English summary) *Random Comput. Dynam.* **5** (1997), *no.* 4, 319–335. (Viviane Baladi) **99a:58104** 58F11 (58F03, 58F19, 60G10)

De Schepper, Ann (*with* Goovaerts, Marc J.) IBNR reserves under stochastic interest rates. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 3, 225–244. (Hartmut Milbrodt) **99h:62128** 62P05 (60E10, 90A09)

De Schepper, H. (*with* Van Keer, Roger) A variational approximation method for 2nd order elliptic eigenvalue problems in a composite structure with nonstandard boundary conditions. (English summary) *Computing* **60** (1998), *no.* 1, 55–72. (V. L. Makarov) **99b:65134** 65N25 (65N15, 65N30)

— (*with* Van Keer, Roger) On a variational approximation method for 2nd order eigenvalue problems in a multi-component domain with nonlocal Dirichlet transition conditions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 971–993. (Stefan A. Funken) **99j:65187** 65N25 (35J25)

De Schreye, Danny (*with* Verbaeten, Sofie; Denecker, Marc) Compositionality of normal open logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 371–385, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68022** 68N17 (68T30)

— (*with* Decorte, Stefaan) Termination analysis: some practical properties of the norm and level mapping space. (English summary) *Logic programming* (*Manchester*, 1998), 235–249, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q60)

— (*with* Leuschel, Michael) Creating specialised integrity checks through partial evaluation of meta-interpreters. (English summary) *J. Logic Programming* **36** (1998), *no.* 2, 149–193. (Summary) **99c:68041** 68N17 (68P15)

De Schutter, Bart (*with* De Moor, Bart) The extended linear complementarity problem and its applications in the max-plus algebra. (English summary) *Complementarity and variational problems* (*Baltimore, MD*, 1995), 22–39, *SIAM, Philadelphia, PA*, 1997. (Summary) **99a:90208** 90C33 (93C83)

— (*with* De Moor, Bart) The linear dynamic complementarity problem is a special case of the extended linear complementarity problem. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 63–75. (Summary) **99c:90132** 90C33

— (*with* Blondel, Vincent D.; de Vries, Remco; De Moor, Bart) On the Boolean minimal realization problem in the max-plus algebra. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 69–78. (Nikolai K. Krivulin) **99k:93066** 93C83 (93B15, 93B25, 93C55)

De Schutter, Joris (*with* Bruyninckx, H.) Unified kinetostatics for serial, parallel and mobile robots. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 343–352, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

— (*with* Zhu, Wen-Hong[2]; Bien, Zeungnam) Adaptive motion/force control of multiple manipulators with joint flexibility based on virtual decomposition. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 46–60. (Clementina D. Mladenova) **99b:93037** 93C85 (70B15, 70Q05)

Descloux, Jean (*with* Flueck, Michel; Romerio, Michel V.) A problem of magnetostatics related to thin plates. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 859–876. (Summary) **99i:78015** 78A30 (78–08)

Descombes, Stéphane (*with* Schatzman, Michelle) On Richardson extrapolation of Strang formula for reaction-diffusion equations. (English summary) *Équations aux dérivées partielles et applications*, 429–452, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Zhangxin Chen) **99i:65006** 65B05 (35K57, 65M12)

Descotes, Dominique Genèse des Corollaires 1 et 2 de la "Lettre à Carcavy" de Blaise Pascal. [Origins of Corollaries 1 and 2 in Blaise Pascal's "Letter to Carcavy"] *Rev. Histoire Sci.* **51** (1998), *no.* 1, 127–138. (Craig G. Fraser) **99g:01016** 01A45

Deser, Stanley Black hole electromagnetic duality. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields* (*Mérida*, 1996), 437–445, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99e:83035** 83C57 (83C50, 83E15)

— (*with* Levin, Orit) Accelerated detectors and temperature in (anti-) de Sitter spaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, L163–L168. (Enric Verdaguer) **99d:83050** 83C47 (81T20)

— Chern-Simons terms as an example of the relations between mathematics and physics. (English summary) *Les relations entre les mathématiques et la physique théorique*, 47–51, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (Kurt Haller) **99k:58056** 58E50 (53C80, 81T13, 81T40)

— (*with* Gibbons, Gary W.) Born-Infeld-Einstein actions? (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, *L*35–*L*39. (Summary) **99b:83059** 83C99

— (*with* Levin, Orit) Equivalence of Hawking and Unruh temperatures and entropies through flat space embeddings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, *L*85–*L*87. (Luis J. Garay) **99i:83046** 83C47 (83C57)

— (*with* Griguolo, L.; Seminara, D.) Definition of Chern-Simons terms in thermal QED_3 revisited. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 443–450. (José Luis López) **99j:81110** 81T10 (81T13, 81V10)

— (*with* Gomberoff, A.; Henneaux, Marc; Teitelboim, C.) p-brane dyons and electric-magnetic duality. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 179–204. (Summary) **99i:81147** 81T13

— (*with* Henneaux, Marc; Schwimmer, A.) p-brane dyons, θ-terms and dimensional reduction. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 284–288. (David S. Berman) **99d:83092** 83E30 (81T30, 81T60)

— (*with* Seminara, D.) Counterterms and M-theory corrections to $D = 11$ supergravity. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2435–2438. (Summary) **99k:83132** 83E50 (81T30)

— *see also* **Jacobson, Theodore A., 99d:83051**

De Shalit, Ehud *see* **de Shalit, Ehud**

Desharnais, Josée (*with* Edalat, Abbas; Panangaden, Prakash) A logical characterization of bisimulation for labeled Markov processes. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 478–487, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60 (68Q10)

Deshingkar, S. S. (*with* Jhingan, S.; Joshi, P. S.) On the global visibility of the singularity in quasi-spherical collapse. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1477–1499. (Volker Perlick) **99i:83073** 83C75 (83C57)

Deshmukh, Rajendra (*with* Rathore, M. S.; Rajput, Anil) Asymptotically regular maps and sequences in 2-metric spaces. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 167–170. 54H25 (54E35, 54E55)

Deshmukh, Sharief (*with* Bejancu, Aurel) The transversal vector bundle of a lightlike Finsler submanifold. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 2, 37–51. (László Kozma) **99g:53069** 53C60 (53C40, 53C50)

— (*with* Bejancu, Aurel) On the geometry of curves in Finsler manifolds. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 293–307. (Marco Abate) **99j:53016** 53B40 (53C60)

— Compact hypersurfaces in a Euclidean space. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 35–41. (Oguz C. Durumeric) **99h:53083** 53C42 (53C21, 53C40)

Deshouillers, Jean-Marc On some connections between probability and number theory. (English summary) *Number theory (Tiruchirapalli, 1996)*, 265–273, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:11095** 11Kxx (11B13, 11P82, 60E99)

— (*with* Hennecart, François; Landreau, Bernard) Sums of powers: an arithmetic refinement to the probabilistic model of Erdős and Rényi. (English summary) *Acta Arith.* **85** (1998), *no.* 1, 13–33. (A. J. Hildebrand) **99h:11114** 11P05 (11K65)

Deshpande, Akash (*with* Göllü, Aleks; Semenzato, Luigi) The SHIFT programming language for dynamic networks of hybrid automata. Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 584–587. (*see* **99a:93006**) 93C83 (93-04)

Deshpande, M. N. An interesting property of Pythagorean triplets. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 745–746. 11D09

Desideri, Jean-Antoine (*with* Bermúdez de Castro, Alfredo; Dervieux, Alain; Vázquez-Cendón, María Elena) Upwind schemes for the two-dimensional shallow water equations with variable depth using unstructured meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 49–72. (Summary) **99b:76060** 76M25 (86A05)

De Siena, Silvio (*with* Cufaro Petroni, Nicola; De Martino, Salvatore) Non-equilibrium densities of Nelson processes. (English summary) *New perspectives in the physics of mesoscopic systems (Caserta, 1996)*, 59–69, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81025** 81P20

— (*with* De Martino, Salvatore; Iorio, A.; Vitiello, Giuseppe) Physical relevance of quantum groups. (English summary) *New perspectives in the physics of mesoscopic systems (Caserta, 1996)*, 79–88, *World Sci. Publishing, River Edge, NJ*, 1997. (Roberto Casalbuoni) **99g:81082** 81R50 (81R30, 81V80)

— (*with* Cufaro Petroni, Nicola; De Martino, Salvatore) Exact solutions of Fokker-Planck equations associated to quantum wave functions. (English summary) *Phys. Lett. A* **245** (1998), *no.* 1-2, 1–10. (Summary) **99d:82048** 82C31

— *see also* **New perspectives in the physics of mesoscopic systems, 99e:81003**

Desikan, Kalyani Generalised Brans-Dicke cosmology—revisited. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1729–1734. 83D05

De Silva, Basil M. *see* **de Silva, Basil M.**

De Simone, Anna (*with* Basile, Achille; Graziano, Maria Gabriella) On the Aubin-like characterization of competitive equilibria in infinite-dimensional economies. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 187–203. (Milan Mareš) **99i:90026** 90A14 (90D12)

— Existence of equilibria in finitely additive nonatomic coalition production economies. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 249–267. (Farhad Veli Hüsseinov) **99e:90020** 90A14 (90D12)

— Decomposition theorems in orthomodular posets: the problem of uniqueness. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2919–2926. (Aleksander Rutkowski) **99d:06002** 06A06

— (*with* De Lucia, Paolo) Measures on a weakly orthocomplete OMP with a filtering sub-OMP. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 233–244. (Marjan Matvejchuk) **99k:03047** 03G10 (03G12, 06C15, 28A60, 81P10)

DeSimone, Antonio (*with* Dolzmann, Georg) Existence of minimizers for a variational problem in two-dimensional nonlinear magnetoelasticity. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 2, 107–120. (Rustum Choksi) **99j:73089** 73R05 (49J20, 73C50, 73V25)

Desimone, Hernan (*with* Urquiza, Santiago; Arrieta, Hernan; Pardo, Enrique) Solution of Stokes equations by moving least squares. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 907–920. 65N55 (76M25)

De Simone, Robert *see* **de Simone, Robert**

De Siqueira, A. C. V. V. *see* **de Siqueira, A. C. V. V.**

Desjardins, Benoît Sur la régularité des solutions faibles des équations de Navier-Stokes isentropiques en dimension deux. (French summary) [Regularity of weak solutions of two-dimensional isentropic Navier-Stokes equations] *Séminaire sur les Équations aux Dérivées Partielles, 1997–1998, Exp. No. III*, 12 *pp., École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35Q30 (35D10, 76D05)

— (*with* Grenier, Emmanuel) Derivation of quasi-geostrophic potential vorticity equations. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 5, 715–752. (J. Thomas Beale) **99k:76146** 76U05 (35Q35, 76C99, 76V05, 86A10)

Desjardins, S. Asymptotic expansions for the heat content. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 279–290. (Adolfo P. C. Malbouisson) **99c:58156** 58G18 (58G11)

Deslauriers, Gilles *see* **Spline functions and the theory of wavelets, 99i:65005**

De Smedt, Stany On Sloane's sequence 1484. *Saitama Math. J.* **15** (1997), 9–13. (Bertin Diarra) **99b:11133** 11S85 (11B65, 33C10)

— Local invertibility of non-Archimedean vector-valued functions. (English summary) *Ann. Math. Blaise Pascal* **5** (1998), *no.* 1, 13–23. (J. B. Prolla) **99k:46131** 46S10

Desmedt, Yvo (*with* King, Brian; Kishimoto, Wataru; Kurosawa, Kaoru) A comment on the efficiency of secret sharing scheme over any finite abelian group. (English summary) *Information security and privacy (Brisbane, 1998)*, 391–402, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94042** 94A60

De Smet, P. J. (*with* Dillen, Franki; Verstraelen, Leopold; Vrancken, Luc) The normal curvature of totally real submanifolds of $S^6(1)$. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 199–204. (Jürgen Berndt) **99d:53055** 53C40

De Smit, Bart *see* **de Smit, Bart**

Desmond, Anthony F. (*with* Yang, Zhenlin) A comparison of likelihood and Bayesian inference for the threshold parameter in the inverse Gaussian distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2173–2183. (Summary) **99e:62027** 62F15

De Snoo, Hendrik S. V. *see* **de Snoo, Hendrik S. V.**

el-Desouky, B. S. *see* **El-Desouky, B. S.**

De Sousa, J. Ricardo *see* **de Sousa, J. Ricardo**

De Sousa Dias, M. E. R. *see* **de Sousa Dias, M. E. R.**

De Souza, Aparecido Jesuino *see* **de Souza, Aparecido Jesuino**

De Souza, B. (*with* Bressloff, P. C.) Neural pattern formation in networks with dendritic structure. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 124–144. (Summary) **99b:92011** 92C15

De Souza, C. C. *see* **de Souza, C. C.**

De Souza, Carlos E. *see* **de Souza, Carlos E.**

De Souza, Edelcio G. *see* **de Souza, Edelcio G.**

De Souza, Paulo Ney *see* **de Souza, Paulo Ney**

De Souza, Renata M. C. R. *see* **de Souza, Renata M. C. R.**

De Souza, Robert (*with* Ying, Zhao Zhen) Intelligent control paradigm for dynamic discrete event system simulation. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 65–73. 93C83 (93C95)

De Souza Cortes, M. B. *see* **de Souza Cortes, M. B.**

De Souza Dutra, A. *see* **de Souza Dutra, A.**

De Souza e Silva, Edmundo *see* **de Souza e Silva, Edmundo**

De Souza Neto, E. A. *see* **de Souza Neto, E. A.**

D'Espagnat, Bernard *see* **d'Espagnat, Bernard**

De Spinadel, Vera W. *see* **de Spinadel, Vera W.**

Desplanques, B. (*with* Carbonell, Jaume; Karmanov, V. A.; Mathiot, J.-F.) Explicitly covariant light-front dynamics and relativistic few-body systems. (English summary) *Phys. Rep.* **300** (1998), *no.* 5-6, 215–347. (Summary) **99c:81276** 81V25

Despres, Bruno Quadratic functional and integral equations for harmonic wave equations. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 56–64, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A40 (35J05, 65R20)

— (*with* Cessenat, Olivier) Application of an ultra weak variational formulation of elliptic PDEs to the two-dimensional Helmholtz problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 255–299 (*electronic*). (Summary) **99b:65139** 65N30 (35J20)

Desquith, Etienne On $\mathbf{C}^n$-complemented normed algebras. I. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 3, 313–319. (Krzysztof Jarosz) **99m:46115** 46H05

lucquin-Desreux, Brigitte *see* **Lucquin-Desreux, Brigitte**

Desrosiers, Jacques (*with* Ioachim, Irina; Gélinas, Sylvie; Soumis, François) A dynamic programming algorithm for the shortest path problem with time windows and linear node costs. (English summary) *Networks* **31** (1998), *no.* 3, 193–204. (Summary) **99b:90154** 90C39 (93B35)

— (*with* du Merle, Olivier; Villeneuve, Daniel; Hansen, Pierre) Stabilized column generation. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 229–237. (Summary) **99g:90066** 90C05 (90C06)

Dessai, Anand Some remarks on almost and stable almost complex manifolds. (English summary) *Math. Nachr.* **192** (1998), 159–172. (Gh. Pitiş) **99d:57018** 57R15 (57M50)

Dessmark, Anders (*with* Lingas, Andrzej; Olsson, Hans; Yamamoto, Hiroaki) Optimal broadcasting in almost trees and partial k-trees. (English summary) *STACS 98 (Paris, 1998)*, 432–443, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68M10 (68R10)

Dessouky, Maged (*with* Verma, Sushil) Single-machine scheduling of unit-time jobs with earliness and tardiness penalties. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 4, 930–943. (Knut Richter) **99j:90042** 90B35

Destainville, N. Entropy and boundary conditions in random rhombus tilings. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6123–6139. (Summary) **99c:82071** 82D35 (52C22, 82D30)

D'Este, Gabriella A theorem on extensions of bimodules. *Abelian groups, module theory, and topology (Padua, 1997)*, 143–156, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Pham Ngoc Anh) **99m:16004** 16D20 (16S90)

— (*with* Colpi, Riccardo) Equivalences represented by faithful non-tilting $*$-modules. (English summary) *Algebras and modules, II (Geiranger, 1996)*, 103–110, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Andrei Marcus) **99h:16006** 16D90 (16E30)

— (*with* Colpi, Riccardo; Tonolo, Alberto) Corrigendum: "Quasi-tilting modules and counter equivalences" [J. Algebra **191** (1997), no. 2, 461–494; MR 98g:16003]. *J. Algebra* **206** (1998), *no.* 1, 370. (Lidia Angeleri Hügel) **99g:16008** 16D90 (16E30, 16G20)

DeStefano, Alisa Discrete observability of the wave equation on bounded domains in Euclidean space. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 281–300. 93C20 (35L05)

— (*with* Hall, G. R.) A universally observable flow on the two-dimensional torus. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 10 *pp.* (*electronic*). (Andrei V. Sarychev) **99j:58182** 58F25 (34C28, 34C35, 93B07)

— (*with* Hall, G. R.) An example of a universally observable flow on the torus. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1207–1224 (*electronic*). (Russell A. Johnson) **99i:93011** 93B07 (34C35, 58F25, 93C10)

De Sterck, H. (*with* Low, B. C.; Poedts, S.) Characteristic analysis of a complex two-dimensional magnetohydrodynamic bow shock flow with steady compound shocks. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 954–969. 76W05 (76L05)

De Sterke, C. Martijn *see* **de Sterke, C. Martijn**

Destri, Claudio U(1)-invariant local and integrable lattice formulation of the massive Thirring model. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 68–76, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81T10 (81T25)

— (*with* de Vega, H. J.) Integrable field theories. (English summary) *String theory in curved space times* (*Paris*, 1996), 214–248, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 81T10 (81T27, 82B20)

Destuynder, Philippe (*with* Arregui, Iñigo; Salaün, Michel) Large displacements of thin sheets. Approximation of unstable motions. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 73K10 (73C50)

— (*with* Saidi, Abdelkader) Smart materials and flexible structures. (English summary) *Control Cybernet.* **26** (1997), *no.* 2, 161–205. (Summary) **99i:73054** 73K50 (73K40, 73R05, 93C20)

— (*with* Collot, M.; Salaün, Michel) A mathematical framework for the P. Ladevèze a posteriori error bounds in finite element methods. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 65–78, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N30 (73V05)

— (*with* Métivet, Brigitte) Explicit error bounds for a nonconforming finite element method. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 95–111, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (Qian Li) **99c:65199** 65N30 (65N15)

— Une nouvelle estimation d'erreur en éléments finis. (English and French summaries) [A new error estimate in finite element methods] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 409–414. (Summary) **99g:65112** 65N30 (65N15)

— (*with* Salaün, Michel) Approximation of shell geometry for nonlinear analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 111–148. (Veronique Lods) **99d:73062** 73K15 (73V05)

— (*with* Métivet, Brigitte) Explicit error bounds for a nonconforming finite element method. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 2099–2115 (*electronic*). (Leonid Yasnitsky) **99k:65106** 65N30 (65N15, 73V05, 76M10)

— (*with* Métivet, Brigitte) Explicit error bounds in a conforming finite element method. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1379–1396. (Zheng Hui Xie) **99m:65211** 65N30

Desvillettes, Laurent (*with* Bouchut, François) A proof of the smoothing properties of the positive part of Boltzmann's kernel. (English and French summaries) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 47–61. (Carlo Cercignani) **99g:82067** 82C40 (45K05, 76P05)

De Swart, H. E. *see* **de Swart, H. E.**

De Swart, Harrie *see* **de Swart, Harrie**

De Swart, Henriëtte *see* **de Swart, Henriëtte**

De Swart, Jacques J. B. *see* **de Swart, Jacques J. B.**

Deszcz, Ryszard (*with* Defever, Filip; Prvanović, Mileva) On warped product manifolds satisfying some curvature condition of pseudosymmetric type. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 43–62. (Florentino García Santos) **99f:53018** 53B30

— (*with* Arslan, Kadri; Çelik, Yunus) A note on geodesic circles on Riemannian manifolds. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 453–459. (James J. Hebda) **99b:53058** 53C22

— (*with* Arslan, Kadri; Çelik, Yunus; Özgür, C.) Submanifolds all of whose normal sections are W-curves. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 537–544. (V. Oproiu) **99e:53018** 53B25 (53C40)

— (*with* Arslan, Kadri; Ezentaş, Rıdvan; Hotloś, Marian) On a certain subclass of conformally flat manifolds. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 283–299. (Eric Boeckx) **99i:53045** 53C25 (53C50)

— (*with* Arslan, Kadri; Çelik, Yunus; Ezentaş, Rıdvan) On the equivalence of Ricci-semisymmetry and semisymmetry. *Colloq. Math.* **76** (1998), *no.* 2, 279–294. (Eric Boeckx) **99a:53055** 53C25

— (*with* Hotloś, Marian) On a certain extension of the class of semisymmetric manifolds. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 115–130. (Chuan Yu Ma) **99g:53023** 53B30 (53C50)

— (*with* Hotloś, Marian) On a certain subclass of pseudosymmetric manifolds. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 29–48. (Luis J. Alías) **99m:53088** 53C25 (53C50)

— (*with* Hotloś, Marian; Şentürk, Zerrin) On the equivalence of the Ricci-pseudosymmetry and pseudosymmetry. *Colloq. Math.* **79** (1999), *no.* 2, 211–227. (Eric Boeckx) **99k:53017** 53B20 (53C25)

Detchenya, L. V. (*with* Sadovskiĭ, A. P.) Local phase portraits of two-dimensional analytical systems principal parts of which do not contain parameters. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 145–149, 152, 155. (Summary) **99j:34031** 34C05

Deteix, Jean The dam problem: safety factor and shape optimization. *Systems modelling and optimization* (*Detroit, MI*, 1997), 62–70, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 73K40 (35R35, 76S05)

De Teresa, Luz *see* **de Teresa, Luz**

De Thélin, François *see* **de Thélin, François**

Dethloff, G. (*with* Zaidenberg, Mikhail G.) Plane curves with hyperbolic and C-hyperbolic complements. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 4, 749–778 (1997). (Junjiro Noguchi) **99b:32038** 32H20 (14H30)

Detinko, A. S. Imprimitive solvable subgroups of classical groups. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 83–89, *Gomel. Gos. Univ., Gomel'*, 1996. (Summary) **99h:20073** 20G15 (20F16)

Detlefsen, M. E. Generalized symmetric elements generated by a prime sequence. (English summary) *Algebra Universalis* **40** (1998), *no.* 1, 87–104. (T. S. Blyth) **99f:06019** 06F10 (05E05)

De Toledo, Maria C. *see* **de Toledo, Maria C.**

Detomi, Eloisa On some products of nilpotent groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3239–3247. (Silvana Franciosi) **99g:20063** 20F16 (20D40, 20F18)

De Toro Arias, S. *see* **de Toro Arias, S.**

Detournay, E. (*with* Cheng, A. H.-D.) On singular integral equations and fundamental solutions of poroelasticity. (English summary) Poroelasticity. *Internat. J. Solids Structures* **35** (1998), *no.* 34-35, 4521–4555. (Summary) **99i:73076** 73V10 (76S05)

— *see also* **Poroelasticity, 99f:73001**

Dette, Holger Lower bounds for efficiencies with applications. (English summary) *Research developments in probability and statistics*, 111–124, *VSP, Utrecht*, 1996. (N. Gaffke) **99c:90089** 90C25 (62F99, 62K05)

— E-optimal designs for regression models with quantitative factors—a reasonable choice? (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 531–543. (Girdhar G. Agarwal) **99e:62128** 62K05

— A note on the uniform distribution on the arcsin points. (English summary) *Metrika* **46** (1997), *no.* 1, 71–82. (Girdhar G. Agarwal) **99g:62106** 62K05

— (*with* Sahm, Michael) Standardized optimal designs for binary response experiments. (English summary) *South African Statist. J.* **31** (1997), *no.* 2, 271–298. (Summary) **99a:62104** 62K05

— (*with* Sahm, Michael) E-optimal designs for the double exponential model. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 11–20, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62088** 62K05

— (*with* Munk, Axel) A simple goodness-of-fit test for linear models under a random design assumption. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 2, 253–275. (Winfried Stute) **99m:62070** 62G10

— (*with* Munk, Axel) Validation of linear regression models. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 778–800. (Winfried Stute) **99g:62039** 62G05

— (*with* Haller, Gerd) Optimal designs for the identification of the order of a Fourier regression. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1496–1521. (C. R. Rao) **99k:62137** 62K05 (62J02)

— (*with* Munk, Axel) Testing heteroscedasticity in nonparametric regression. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 693–708. (Nariaki Sugiura) **99k:62094** 62G10 (62J02)

— (*with* Munk, Axel; Wagner, Thorsten) Estimating the variance in nonparametric regression—what is a reasonable choice? (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 751–764. (Summary) **99f:62052** 62G05

— (*with* Sahm, Michael) Minimax optimal designs in nonlinear regression models. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1249–1264. (Summary) **99i:62166** 62K05

Dettmann, Carl P. (*with* Cvitanović, Predrag; Mainieri, Ronnie; Vattay, Gábor) Trace formulas for stochastic evolution operators: weak noise perturbation theory. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 981–999. (Summary) **99i:81049** 81Q50 (58F19)

— (*with* Dahlqvist, Per) Computing the diffusion coefficient for intermittent maps: resummation of stability ordered cycle expansions. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5303–5310. (Summary) **99b:58186** 58F20

Dettori, Lucia (*with* Costa, Bruno) Fourier collocation splittings for partial differential equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 562–580. (Summary) **99b:65121** 65M70

Deuar, P. (*with* Reid, M. D.) Macroscopic local realism: how do we define it and is it compatible with quantum mechanics? (English summary) *Ann. Physics* **265** (1998), *no.* 1, 52–79. (S. Gudder) **99e:81025** 81P15

Deuber, Walter A. (*with* Kostochka, A. V.; Sachs, Horst) A very short proof of Dirac's theorem on the number of edges in chromatically critical graphs. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 4, 28–34, 95. (Marek Kubale) **99d:05032** 05C15

— (*with* Zhu, Xuding) Relaxed coloring of a graph. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 121–130. (Douglas B. West) **99h:05040** 05C15 (05C38)

— *see also* **Discrete metric spaces, 99f:00015**

Deuflhard, Peter (*with* Beck, Rudolf; Hege, Hans-Christian; Seebaß, Martin; Stalling, Detlev) Numerical algorithms and visualization in medical treatment planning. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 303–328, *Springer, Berlin*, 1997. (*see* **99g:68212**) 92C50

— (*with* Lipnikov, K. N.) Domain decomposition with subdomain CCG for material jump elliptic problems. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 2, 81–100. (Weimin Han) **99e:65153** 65N30 (65N55)

— (*with* Engl, Heinz W.; Scherzer, Otmar) A convergence analysis of iterative methods for the solution of nonlinear ill-posed problems under affinely invariant conditions. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1081–1106. (Andreas Rieder) **99j:65105** 65J20 (35R25, 47H17)

Deuring, Paul The 3D Stokes systems in domains with conical boundary points. (English summary) *Theory of the Navier-Stokes equations*, 1–10, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99f:35160** 35Q30 (76D05)

— L^p-theory for the Stokes system in 3D domains with conical boundary points. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 11–47. (Russell M. Brown) **99j:35162** 35Q30 (35J99, 73C02, 76D07)

— A stable mixed finite element method on truncated exterior domains. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 3, 283–305. (Summary) **99d:65314** 65N30 (76D07, 76M10)

De Urries, F. J. *see* **de Urries, F. J.**

Deuschel, Jean-Dominique (*with* Rosen, Jay) Occupation time large deviations for critical branching Brownian motion, super-Brownian motion and related processes. (English

summary) *Ann. Probab.* **26** (1998), *no.* 2, 602–643. (Anton Wakolbinger) **99g:60057** 60F10 (60G57, 60J55, 60J80)

Deutsch, Andreas *see* **Dynamics of cell and tissue motion, 99a:92008**

Deutsch, David (*with* Barenco, Adriano; Berthiaume, André; Ekert, Artur; Jozsa, Richard; Macchiavello, Chiara) Stabilization of quantum computations by symmetrization. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1541–1557. (V. Ya. Kreinovich) **99a:68060** 68Q05 (03D10, 03D15, 81P99)

Deutsch, Frank (*with* Yamada, Isao) Minimizing certain convex functions over the intersection of the fixed point sets of nonexpansive mappings. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 33–56. (Gérard Lebourg) **99b:90088** 90C25 (47H09, 47N10)

Dévai, Frank L. On the complexity of some geometric intersection problems. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 333–352 (*electronic*). (*see* **99f:68006**) 68U05 (68Q25)

Devaney, Anthony J. (*with* Marengo, Edwin A.) Time-dependent plane wave and multipole expansions of the electromagnetic field. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3643–3660. (C. A. Hurst) **99j:78010** 78A25

Devaney, Robert L. The fractal geometry of the Mandelbrot set. 2. How to count and how to add. (English summary) Symposium in Honor of Benoit Mandelbrot (Curaçao, 1995). *Fractals* **3** (1995), *no.* 4, 629–640. (Hartje Kriete) **99d:58095** 58F08 (30D05, 58F23)

Devarajan, Karthik (*with* Ebrahimi, Nader) A nonparametric approach to accelerated life testing under multiple stresses. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 629–644. 90B25

Devasia, Santosh (*with* Paden, Brad; Rossi, Carlo) Exact-output tracking theory for systems with parameter jumps. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 117–131. 93D15 (93C30)

DeVault, R. (*with* Ladas, G.; Schultz, S. W.) On the recursive sequence $x_{n+1} = A/x_n^p + B/x_{n-1}^q$. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 125–136, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39013** 39A10

— (*with* Ladas, G.; Schultz, S. W.) On the recursive sequence $x_{n+1} = A/x_n + 1/x_{n-2}$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3257–3261. (Summary) **99a:39009** 39A10

Devchand, Chandrashekar (*with* Nuyts, Jean) Supersymmetric Lorentz-covariant hyperspaces and self-duality equations in dimensions greater than (4|4). (English summary) *Nuclear Phys. B* **503** (1997), *no.* 3, 627–656. (Krzysztof Galicki) **99f:81195** 81T60 (53C80)

— (*with* Alekseevskiĭ, D. V.; Cortés Suárez, Vicente; Semmelmann, U.) Killing spinors are Killing vector fields in Riemannian supergeometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 37–50. (Frans Cantrijn) **99k:58025** 58C50 (53C50, 58A50)

— (*with* Lechtenfeld, Olaf) Extended self-dual Yang-Mills from the $N = 2$ string. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 255–272. (Dileep P. Jatkar) **99k:81300** 81T60 (81T13, 81T30)

— (*with* Nuyts, Jean) Lorentz covariant spin two superspaces. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 479–498. (Sergey Nikolaevich Roshchupkin) **99h:81205** 81T60 (17B81, 81R05)

— (*with* Schiff, Jeremy) Hidden symmetries of the principal chiral model and a nonstandard loop algebra. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 155–159. (Dmitri Korotkin) **99c:81065** 81R10 (81T40)

— (*with* Lechtenfeld, Olaf) String-induced Yang-Mills coupling to self-dual gravity. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 1-2, 309–328. (Ilya Shapiro) **99k:81301** 81T60 (81T30, 83E30)

Devdariani, G. G. On a system of equations of elliptic type that degenerate on the entire boundary of a rectangle. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 78–86, 143; *translation in Differential Equations* **34** (1998), *no.* 1, 79–87. (Ya. A. Roĭtberg) **99m:35086** 35J70

Devdariani, S. Yu. On a problem of the optimal control of the delay structure. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 176–179 (1994). 49J25 (49K25)

De Veaux, Richard D. (*with* Schumi, Jennifer; Schweinsberg, Jason; Ungar, Lyle H.) Prediction intervals for neural networks via nonlinear regression. (English summary) *Technometrics* **40** (1998), *no.* 4, 273–282. 62G05

Devecchi, Fernando P. (*with* Constantinidis, C. P.) Symmetries and degrees of freedom in two-dimensional dual models. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 8, 631–636. (Summary) **99e:81138** 81T10

— (*with* Constantinidis, C. P.; Toppan, Francesco) Two-dimensional $N = 1, 2$ supersymmetric chiral and dual models. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 26, 2095–2109. (Summary) **99e:81233** 81T60

— 2D gravity and the extended formalism. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045009, 4 *pp.* (From the text) **99k:81280** 81T40

De Vega, H. J. *see* **de Vega, H. J.**

De Vel, Olivier *see* **de Vel, Olivier**

Devenon, J.-L. (*with* Leredde, Y.; Lellouche, J.-M.; Dekeyser, I.) On initial, boundary conditions and viscosity coefficient control for Burgers' equation. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 113–128. (Summary) **99c:86001** 86A05 (49K20, 76R99, 86–08)

De Vicente, Santiago *see* **de Vicente, Santiago**

Devienne, Philippe (*with* Talbot, Jean-Marc; Tison, Sophie) Co-definite set constraints with membership expressions. (English summary) *Logic programming* (*Manchester*, 1998), 25–39, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99h:68031** 68N17 (68Q60, 68Q68)

— (*with* Parrain, Anne; Taillibert, Patrick; Varennes, Serge) Source-to-source Prolog program compression. (English summary) *Logic programming* (*Manchester*, 1998), 205–219, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17

Deville, Jean-Claude (*with* Tillé, Yves) Unequal probability sampling without replacement through a splitting method. (English summary) *Biometrika* **85** (1998), *no.* 1, 89–101. (S. Gabler) **99k:62020** 62D05

Deville, Michel (*with* Machiels, L.) Numerical simulation of randomly forced turbulent flows. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 246–279. (Summary) **99g:76075** 76F99 (76M25, 76M35)

— *see also* **Computation of three-dimensional complex flows, 99c:76064**

Deville, Robert (*with* Fonf, Vladimir; Hájek, Petr[2]) Analytic and polyhedral approximation of convex bodies in separable polyhedral Banach spaces. (English summary) *Israel J. Math.* **105** (1998), 139–154. (G. M. Ustinov) **99h:46006** 46B03 (46B20, 46G20, 52A27)

Deville, Yannick Analysis of the stability of a self-normalized adaptive source separation neural network. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1031–1036. (Summary) **99e:92004** 92B20

Devillers, Alice (*with* Doyen, Jean) Homogeneous and ultrahomogeneous linear spaces. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 2, 236–241. (Summary) **99e:05029** 05B25

Devillers, Olivier (*with* Preparata, F. P.) A probabilistic analysis of the power of arithmetic filters. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 523–547. (Luiz Henrique de Figueiredo) **99i:68120** 68U05

— (*with* Golin, Mordecai J.) Dog bites postman: point location in the moving Voronoi diagram and related problems. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 321–342. (Summary) **99c:68246** 68U05 (52B55)

— (*with* de Berg, Mark; Cheong, O.; van Kreveld, Marc; Teillaud, M.) Computing the maximum overlap of two convex polygons under translations. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 613–628. (Summary) **99h:52015** 52B55 (68U05)

De Villiers, Johan M. (*with* Chui, Charles K.) Spline-wavelets with arbitrary knots on a bounded interval: orthogonal decomposition and computational algorithms. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 457–486. (Ewald Quak) **99j:65013** 65D07 (41A15)

Devinatz, A. (*with* Ben-Artzi, Matania) Regularity and decay of solutions to the Stark evolution equation. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 501–512. (Summary) **99c:35026** 35B65 (35J10, 35K10, 47N50, 81Q10)

Devinatz, Ethan S. The generating hypothesis revisited. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 73–92, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Mark Hovey) **99f:55016** 55P42 (55N22, 55Q10, 55T15)

De Vincenzo, Salvatore (*with* Alonso, Vidal) General boundary conditions for a Dirac particle in a box and their non-relativistic limits. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8573–8585. (Peter N. Zhevandrov) **99d:81029** 81Q05 (34L40, 47E05)

De Vink, E. P. *see* **de Vink, E. P.**

Devinny, Joseph (*with* Böhm, Michael; Jahani, Fereidoun; Rosen, Gary) On a moving-boundary system modeling corrosion in sewer pipes. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 247–269. (Summary) **99b:80007** 80A22 (80A32)

De Vito, Ernesto (*with* Aniello, Paolo; Cassinelli, Gianni; Levrero, Alberto) Wavelet transforms and discrete frames associated to semidirect products. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3965–3973. (Summary) **99c:42055** 42C15 (22D12)

Devlin, J. (*with* Lloyd, N. G.; Christopher, C. J.; Pearson, Jane Margaret; Yasmin, N.) Quadratic-like cubic systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 329–345. (Henryk Żołądek) **99k:34061** 34C05 (58F21)

— (*with* Lloyd, N. G.; Pearson, Jane Margaret) Cubic systems and Abel equations. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 435–454. (Natalia Borisovna Medvedeva) **99f:34037** 34C05 (34C25)

Devlin, Keith ★ The language of mathematics. (English summary) Making the invisible visible. *W. H. Freeman and Company, New York*, 1998. *viii*+344 *pp. ISBN* 0-7167-3379-X (J. S. Joel) **99g:00010** 00A06 (00A69, 01A05)

Devooght, J. (*with* Smidts, O. F.) A non-analog Monte Carlo simulation of transport of radionuclides in a porous medium. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 461–472. (*see* **99d:65008**) 76S05 (65C05, 76M35)

DeVore, Ronald A. (*with* Leviatan, D.; Shevchuk, I. A.) Approximation of monotone functions: a counter example. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 95–102, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Allan Pinkus) **99j:41032** 41A29 (41A10, 41A25)

— (*with* Dahlke, Stephan; Dahmen, Wolfgang) Nonlinear approximation and adaptive techniques for solving elliptic operator equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 237–283, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Timothy Nigel Phillips) **99a:65001** 65–02 (65N35, 65T99)

— (*with* Temlyakov, V. N.) Nonlinear approximation in finite-dimensional spaces. *J. Complexity* **13** (1997), *no.* 4, 489–508. (Luis Verde-Star) **99c:41053** 41A46 (65D15, 94A12)

— (*with* Konyagin, Sergeĭ; Temlyakov, V. N.) Hyperbolic wavelet approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 1–26. (Amos Ron) **99d:42055** 42C15 (41A17, 41A63, 46E99)

— (*with* de Boor, Carl; Ron, Amos) Approximation orders of FSI spaces in $L_2(\mathbf{R}^d)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 411–427. 41A25 (42B99)

— (*with* de Boor, Carl; Ron, Amos) Approximation orders of FSI spaces in $L_2(\mathbf{R}^d)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 631–652. (Rong Qing Jia) **99j:41029** 41A25 (41A63, 42C15, 46E30)

— (*with* Donoho, David L.; Vetterli, Martin; Daubechies, Ingrid C.) Data compression and harmonic analysis. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2435–2476. (Summary) **99i:94028** 94A29 (94A11, 94A12, 94A34)

— (*with* Kyriazis, G. C.; Wang, P.) Multiscale characterizations of Besov spaces on bounded domains. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 273–292. (H. Wallin) **99e:46040** 46E35 (41A17, 41A63)

De Vos, Alexis *see* **Menon, V. J., 99c:83038**

Devoto, Jorge A. An algebraic description of the elliptic cohomology of classifying spaces. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 3, 237–264. (Mark Hovey) **99f:55009** 55N20 (11F11)

Devreese, J. T. (*with* Brosens, F.; Lemmens, L. F.) Many-body diffusion for identical particles. (English summary) *Path integrals: Dubna '96*, 236–239, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40 (81V70)

De Vries, Douwe K. *see* **de Vries, Douwe K.**
De Vries, Gerda *see* **de Vries, Gerda**
De Vries, Remco *see* **de Vries, Remco**
Devroye, Luc (*with* Lugosi, Gábor) Nonasymptotic universal smoothing factors, kernel complexity and Yatracos classes. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2626–2637. (Sh. A. Khashimov) **99a:62043** 62G05
— Universal smoothing factor selection in density estimation: theory and practice. (English summary) With discussion and a rejoinder by the author. *Test* **6** (1997), *no.* 2, 223–320. (Theo Gasser) **99d:62031** 62G05
— Binary search trees based on Weyl and Lehmer sequences. *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 40–65, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Robert F. Tichy) **99k:11122** 11K45 (65C10)
— (*with* Bose, Prosenjit) Intersections with random geometric objects. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 139–154. (Summary) **99b:68194** 68U05 (52B55)
— (*with* Goudjil, Amar) A study of random Weyl trees. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 3, 271–295. (Robert P. Dobrow) **99h:68034** 68P05 (11K06, 60C05)
— A note on the expected time for finding maxima by list algorithms. (English summary) *Algorithmica* **23** (1999), *no.* 2, 97–108. (Summary) **99m:60071** 60G40 (60G70, 68Q25)
— (*with* Avis, David; Beresford-Smith, Bryan; ElGindy, Hossam; Guévremont, Eric; Hurtado, Ferran; Zhu, Binhai) Unoriented Θ-maxima in the plane: complexity and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 278–296 (*electronic*). (Menachem Dishon) **99g:68088** 68Q25 (60D05, 68U10)
Devyatkova, G. N. (*with* Tutubalin, V. N.; Barabasheva, Yu. M.; Grigoryan, Aleksandr Arkad′evich; Uger, E. G.) Differential equations in ecology: historical-methodological reflection. (Russian. English and Russian summaries) *Voprosy Istor. Estestvoznan. i Tekhn.* **1997**, *no.* 3, 141–151, 173. (Summary) **99g:92001** 92–03 (92D40)
Dew, P. M. (*with* Selwood, P. M.; Berzins, M.; Nash, J. M.) Portable parallel adaptation of unstructured 3D meshes. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 56–67, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55, 65Y05)
De Waegenaere, Anja (*with* Suijs, Jeroen; Borm, Peter) Stochastic cooperative games in insurance. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 209–228. (Summary) **99k:62202** 62P05
Dewan, K. K. (*with* Bhat, Aijaz Ahmad) On the maximum modulus of polynomials not vanishing inside the unit circle. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 2-3, 129–140. (N. K. Govil) **99m:30007** 30C10 (30A10, 30E10)
— (*with* Bhat, Aijaz Ahmad; Pukhta, Mohammad Sayeed) Inequalities concerning the L^p-norm of a polynomial. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 14–21. (Wiesław Pleśniak) **99e:41010** 41A17
Dewan, Sarita (*with* Dixit, V. N.) Congruence and Green's equivalence relation on ternary semigroup. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 103–117 (1998). (Wiesław A. Dudek) **99e:20084** 20N10
— (*with* Dixit, V. N.) Minimal quasi-ideals in ternary semigroup. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 625–632. (L. Márki) **99b:20105** 20N10
— Quasi-relation on ternary semigroup. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 6, 753–766. 20M99
Dewdney, A. K. ★ A mathematical mystery tour. (English summary) Discovering the truth and beauty of the cosmos. *John Wiley & Sons, Inc., New York*, 1999. *vi*+218 *pp. ISBN* 0-471-23847-3 (E. J. Barbeau) **99k:00006** 00A08 (00A30, 01–01)
De Weger, Benjamin M. M. *see* **de Weger, Benjamin M. M.**
De Wet, J. A. *see* **de Wet, J. A.**
Dewey, T. Gregory ★ Fractals in molecular biophysics. Topics in Physical Chemistry. *Oxford University Press, New York*, 1997. *xii*+276 *pp. ISBN* 0-19-508447-0 (Hans-Peter Herzel) **99i:92003** 92C05 (92–01, 92B05)
— *see also* **Fractal frontiers, 99b:00014**
Dewilde, Patrick (*with* van der Veen, Alle-Jan) ★ Time-varying systems and computations. (English summary) *Kluwer Academic Publishers, Boston, MA*, 1998. *xiv*+459 *pp. ISBN* 0-7923-8189-0 (Henk Nijmeijer) **99g:93001** 93–02 (47N70, 93B15, 93B25, 93B40)
De Wild Propitius, Mark *see* **de Wild Propitius, Mark**
Dewisme, Alain (*with* Legrand, Michel; Aubry, Nadine; Le Piouffle, Myriam) Transition to turbulence generated by interfacial instabilities during a cylindrical implosion. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 357–362, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99
De Wit, Bernard *see* **de Wit, Bernard**
De Witt, Bryce (*with* Molina-París, Carmen) Gauge theory without ghosts. *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 396–408, *World Sci. Publishing, River Edge, NJ*, 1997. (Mohamed Kachkachi) **99m:81139** 81T13 (53C80, 81S10)
— The quantum mechanics of isolated systems. *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 1881–1916. (S. Gudder) **99b:81007** 81Pxx (81–02)
— (*with* Molina-París, Carmen) Quantum gravity without ghosts. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2475–2479. (Subenoy Chakraborty) **99k:83040** 83C45
DeWolfe, Oliver (*with* Hauer, Tamás; Iqbal, Amer; Zwiebach, Barton) Constraints on the BPS spectrum of $\mathcal{N} = 2$, $D = 4$ theories with ADE flavor symmetry. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 261–274. (Summary) **99i:81229** 81T60 (81T13, 81T30)
Dewynne, J. N. (*with* Hoang, Ha V.; Hill, James M.) Pseudo-steady-state solutions for solidification in a wedge. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 109–121. (Summary) **99d:80007** 80A22
De-Xing, Kong *see* **Kong, De Xing**
Dexter, Scott (*with* Doyle, Patrick Owen; Gurevich, Yuri) Gurevich abstract state machines and Schönhage storage modification machines. (English summary) Ten years of Gurevich's abstract state machines, Part I. *J.UCS* **3** (1997), *no.* 4, 279–303 (*electronic*). (Summary) **99k:68050** 68Q05
Dey, A. *see* **Dey, Aloke**
Dey, A. K. *see* **Dey, Aswini K.**
Dey, Aloke (*with* Shah, Kirti R.) Optimal asymmetric fractional factorial plans for estimating main effects and selected two-factor interactions. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 27–38. (Summary) **99j:62114** 62K15 (62K05)
— (*with* Chawla, G. C.) A series of balanced ternary change over designs. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 42–50. 62K10
— (*with* Das, Ashish D.; Dean, Angela M.) Optimal designs for diallel cross experiments. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 427–436. (Sanpei Kageyama) **99g:62105** 62K05 (62K10)
— (*with* Midha, Chand K.) Addition or deletion? (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 409–414. (Summary) **99b:62116** 62K15 (62K05)
Dey, Aswini K. (*with* Ruymgaart, Frits H.; Mair, B. A.) Cross-validation for parameter selection in inverse estimation problems. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 609–620. (Summary) **99b:62051** 62G05
Dey, Bishwajyoti (*with* Khare, Avinash) Stability of compacton solutions. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, *R*2741–*R*2744. (Summary) **99d:35159** 35Q58 (35B35)
Dey, Dipak K. (*with* Ghosh, Sujit K.; Chang, Hong) Measuring the effect of observations using the posterior and the intrinsic Bayes factors with vague prior information. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 376–391. (Summary) **99j:62034** 62F15
— (*with* Lou, Kou-Ren) Bayesian robustness using local divergence and signal-to-noise ratio. (English summary) *Applied statistical science, III*, 411–420, *Nova Sci. Publ., Commack, NY*, 1998. (*see* **99j:62001**) 62F15 (62H20)
— (*with* Sinha, Debajyoti) Survival analysis using semiparametric Bayesian methods. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 195–211, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62068** 62G05 (62F15, 62N05)
— (*with* Aslanidou, Helen; Sinha, Debajyoti) Bayesian analysis of multivariate survival data using Monte Carlo methods. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 33–48. (Summary) **99b:62036** 62F15 (62E25)
— (*with* Chung, Younshik) Bayesian approach to estimation of intraclass correlation using reference prior. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2241–2255. (Summary) **99h:62022** 62F15 (62J10)
— (*with* Lou, Kou-Ren; Bose, Sudip) A Bayesian approach to loss robustness. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 65–87. (Mark Steel) **99f:62040** 62F15 (62F35)
— *see also* **Practical nonparametric and semiparametric Bayesian statistics, 99a:62004**
Dey, S. *see* **Dey, Subhrakanti**
Dey, Sanku (*with* Sarmah, Pranita) Robustness of posteriors, the Bayes estimators and reliability under a class of priors in an I.F.R. distribution. (English summary) *IAPQR Trans.* **23** (1998), *no.* 2, 107–116. 62N05
Dey, Subhrakanti (*with* Moore, John Barratt; Elliott, Robert J.) Risk-sensitive generalizations of minimum variance estimation and control. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 15 *pp.* (*electronic*). (Daniel Hernández-Hernández) **99h:93113** 93E20 (49L20, 90C40, 93E11)
— (*with* Charalambous, Charalambos D.; Elliott, Robert J.) New finite-dimensional risk-sensitive filters: small noise limits. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1424–1429. (Summary) **99e:93079** 93E11
— (*with* Moore, John Barratt) Finite-dimensional risk-sensitive filters and smoothers for discrete-time nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1234–1239. 93E14 (93E11)
Dey, Tamal K. (*with* Shah, Nimish R.) On the number of simplicial complexes in $\mathbf{R}^d$. (English summary) *Comput. Geom.* **8** (1997), *no.* 5, 267–277. (Béla Uhrin) **99b:52032** 52B70
— (*with* Prasad, D. Chithra; Pal, Sudebkumar Prasant) Visibility with multiple diffuse reflections. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 187–196. (Rade Živaljević) **99c:52023** 52B55 (68U05)
— (*with* Pach, János) Extremal problems for geometric hypergraphs. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 473–484. (Jaroslav Ivančo) **99c:05144** 05C65 (05C35, 52A37, 52B55)
— (*with* Aronov, Boris; Davis, A. R.; Pal, Sudebkumar Prasant; Prasad, D. Chithra) Visibility with one reflection. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 553–574. (Rade Živaljević) **99c:52019** 52B55 (68U05)
— (*with* Aronov, Boris; Davis, A. R.; Pal, Sudebkumar Prasant; Prasad, D. Chithra) Visibility with multiple reflections. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 61–78. (Jesús A. de Loera) **99d:68227** 68U05 (52B55, 68Q25)
— (*with* Guha, Sumanta) Computing homology groups of simplicial complexes in $\mathbf{R}^3$. (English summary) *J. ACM* **45** (1998), *no.* 2, 266–287. (Rade Živaljević) **99c:52021** 52B55 (55–04, 68Q25, 92C40)
De Young, Gregg Al-Jawharī's additions to Book V of Euclid's *Elements*. (Arabic summary) *Z. Gesch. Arab.-Islam. Wiss.* **11** (1997), 153–178, 10 (*Arabic paging*). (J. L. Berggren) **99e:01005** 01A30 (01A20)
Deyuan, Li *see* **Li, De Yuan**
Deza, Antoine (*with* Deza, Michel-Marie; Grishukhin, V. P.) Fullerenes and coordination polyhedra versus half-cube embeddings. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 41–80. (E. Keith Lloyd) **99k:92049** 92E10 (05C90, 51M20)
Deza, Michel-Marie (*with* Grishukhin, V. P.) A zoo of l_1-embeddable polytopal graphs. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 3, 181–231. (Summary) **99b:05036** 05C10 (05C12)
— (*with* Grishukhin, V. P.) Odd systems of vectors and related lattices. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 31–47. (Martin Henk) **99k:11101** 11H06 (52C07)
— (*with* Deza, Antoine; Grishukhin, V. P.) Fullerenes and coordination polyhedra versus half-cube embeddings. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 41–80. (E. Keith Lloyd) **99k:92049** 92E10 (05C90, 51M20)
— (*with* Grishukhin, V. P.) Once more about 80 Steiner triple systems on 15 points. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 165–184. (Luc Teirlinck) **99k:05033** 05B07

— (*with* Grishukhin, V. P.) Erratum to: "Bounds on the covering radius of a lattice" [Mathematika **43** (1996), no. 1, 159–164; MR 98b:11074]. *Mathematika* **45** (1998), *no.* 1, 209. (From the text) **99h:11073** 11H31 (52C07)
— *see also* **Discrete metric spaces, 99f:00015**
Dezani-Ciancaglini, Mariangiola (*with* Ghilezan, Silvia; Venneri, Betti) The "relevance" of intersection and union types. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 246–269. (J. P. Seldin) **99e:03015** 03B40 (03B46, 03B55, 68N15)
— (*with* de'Liguoro, Ugo; Piperno, Adolfo) A filter model for concurrent λ-calculus. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1376–1419 (*electronic*). (Chantal Berline) **99f:68025** 68N15 (03B15, 03B40, 03G10, 68Q10, 68Q55)
Dezhina, I. Yu. (*with* Vasil'kov, G. V.; Rankhel', A. O.) On rheological models of elastoviscoplastic media. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 21–35, 111. (Summary) **99j:73056** 73E60
De Zutter, Daniel (*with* Knockaert, Luc) An exponential truncation bound for analytic Fourier series. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 788–790. (Summary) **99h:42004** 42A16
Dhaene, Geert (*with* Gouriéroux, Christian; Scaillet, Olivier) Instrumental models and indirect encompassing. (English summary) *Econometrica* **66** (1998), *no.* 3, 673–688. (Kajal Lahiri) **99h:62136** 62P20
Dhaene, Jan (*with* Wang, Shaun S.) Comonotonicity, correlation order and premium principles. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 235–242. (Summary) **99j:62145** 62P05
— (*with* Sundt, Bjørn) On approximating distributions by approximating their De Pril transforms. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 1–23. (Summary) **99e:62176** 62P05 (62E17)
— (*with* Ribas, Carmen; Goovaerts, Marc J.) A note on the stop-loss preserving property of Wang's premium principle. *Schweiz. Aktuarver. Mitt.* **1998**, *no.* 2, 237–241. 62P05
Dhagat, Vanita Ben A fixed point result in Hilbert space. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 371–374. (B. E. Rhoades) **99c:47090** 47H10
Dhage, B. C. Mixed monotonicity theorems for a system of abstract measure delay integro-differential equations. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 355–366 (1998). (Józef Banaś) **99g:45006** 45G10 (47H10)
— Multi-valued condensing mappings and differential inclusions in locally convex spaces. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 477–484. (V. V. Obukhovskiĭ) **99f:47069** 47H09 (34A60, 34G20, 47H04, 47H10)
— On Kanan type maps in D-metric spaces. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 21–38. 54H25
— Nonlinear first order differential equations in lattice-normed linear spaces involving discontinuities. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 3, 239–246. (Summary) **99c:34131** 34G20 (34A40)
— (*with* Patil, S. T.) On existence of extremal solutions of nonlinear discontinuous boundary value problems. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 4, 17–29. (Alberto Cabada) **99d:34033** 34B15 (34A45)
— (*with* Jogdand, S. M.; Heikkilä, Seppo) On extension of the method of upper and lower solutions to differential inclusions involving discontinuities. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 33–37. (Alberto Cabada) **99h:34023** 34A60 (34A12, 34A45, 49J24)
— On common fixed points of pairs of coincidentally commuting mappings in D-metric spaces. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 395–406. 54H25
— Nonlinear contractions in D-metric spaces. I. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 1, 31–34. 54H25 (54E40)
Dhakne, M. B. On an abstract functional integrodifferential equation. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 1–12. (Da Jun Guo) **99e:34112** 34K30 (45J05)
Dhanavanthan, P. Compound intervened Poisson distribution. (English summary) *Biom. J.* **40** (1998), *no.* 5, 641–646. 62E15
Dhar, Abishek Ergodicity properties of energy conserving single spin flip dynamics in the XY model. (English summary) *Phys. A* **259** (1998), *no.* 1-2, 119–137. (Summary) **99e:82005** 82B05
Dhar, Avinash (*with* Mandal, Gautam) Probing 4-dimensional non-supersymmetric black holes carrying D0- and D6-brane charges. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 256–274. (Marco Spaans) **99i:83089** 83E30 (81T30, 83C57)
Dhar, Debjyoti (*with* Mukhopadhyay, A. C.) Nonparametric estimation of component survival function in $K-1$ out of K system and its application under random censoring with proportional hazard assumption. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 153–169, *Narosa, New Delhi*, 1998. (Truc Nguyen) **99k:62186** 62N05 (62G05)
Dhar, Sunil K. Data analysis with discrete analog of Freund's model. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 169–183. 62N05
Dharmadhikari, A. D. (*with* Ghosh, Jayanta K.; Kuber, M. M.) On NBUE property of one component system supported by an inactive standby and a repair facility. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 1–8. (Fabio L. Spizzichino) **99f:62119** 62N05
Dhatt, Gouri (*with* Ayad, Rezak; Batoz, Jean Louis) A new hybrid-mixed variational approach for Reissner-Mindlin plates. The MiSP model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 7, 1149–1179. (Summary) **99d:73085** 73V05 (73K10)
Dheena, P. (*with* Rajeswari, C.) Weakly regular near-rings. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1207–1213. (Wen-Fong Ke) **99d:16051** 16Y30
Dhersin, Jean-Stéphane (*with* Le Gall, Jean-François) Kolmogorov's test for super-Brownian motion. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1041–1056. (Steven N. Evans) **99g:60153** 60J80 (60G17, 60G57)
— Lower functions for the support of super-Brownian motion. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 2, 145–154. (John Verzani) **99j:60041** 60F15 (60G17, 60J80)
bonnet-ben Dhia, Anne-Sophie *see* **Bonnet-Ben Dhia, Anne-Sophie**
ben Dhia, H. *see* **Ben Dhia, H.**
Dhillon, Inderjit S. (*with* Parlett, Beresford N.) Fernando's solution to Wilkinson's problem: an application of double factorization. (English summary) *Linear Algebra Appl.* **267** (1997), 247–279. (Summary) **99f:15018** 15A23
— Current inverse iteration software can fail. (English summary) *BIT* **38** (1998), *no.* 4, 685–704. (Summary) **99j:65055** 65F15 (15A18)
— Reliable computation of the condition number of a tridiagonal matrix in $O(n)$ time. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 776–796 (*electronic*) (Guo Rong Wang) **99e:65078** 65F35 (15A12)
D'Hoker, Eric Invariant effective actions and cohomology. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 160–172, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81255** 81T70 (81R40)
— (*with* Phong, Duong H.) Calogero-Moser systems in SU(N) Seiberg-Witten theory. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 405–444. (Henrik Aratyn) **99f:81194** 81T60 (58F07, 81T13, 81T17)
— (*with* Phong, Duong H.) Calogero-Moser Lax pairs with spectral parameter for general Lie algebras. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 537–610. (Henrik Aratyn) **99k:58086** 58F07 (17B81, 81T60)
— (*with* Phong, Duong H.) Calogero-Moser and Toda systems for twisted and untwisted affine Lie algebras. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 611–640. (Henrik Aratyn) **99k:58087** 58F07 (17B67, 81T60)
— (*with* Phong, Duong H.) Spectral curves for super-Yang-Mills with adjoint hypermultiplet for general simple Lie algebras. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 3, 697–719. (Tetsuya Taniguchi) **99m:58108** 58F07 (14H45, 81T13, 81T60)
Dhombres, Jean (*with* Otero, Mario H.) Les Annales de Mathématiques Pures et Appliquées: le journal d'un homme seul au profit d'une communauté enseignante. [The Annales de Mathématiques Pures et Appliquées: the journal of one man for the benefit of a teaching community] *Messengers of mathematics: European mathematical journals* (1800–1946), 3–70, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99
— *see also* **de Roberval, Gilles Personne, 99h:01024**
Dhondt, Guido On the summation of a particular non-uniformly-convergent series. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 107–114. (Summary) **99c:40003** 40A30
D'Hooghe, Bart The structure of the algebra of observables in the intermediate situation of the ε-model. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 323–331. (Summary) **99f:81011** 81P05
Dhooghe, Paul F. (*with* Van Vlierden, Annouk) Projective geometry on the bundle of volume forms. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 66–83. (Andrew Bucki) **99d:53016** 53B10 (53A20, 53C20)
Dhrymes, Phoebus ★ Time series, unit roots, and cointegration. (English summary) *Academic Press, Inc., San Diego, CA*, 1998. xiv+524 *pp. ISBN* 0-12-214695-6 (Baldev Raj) **99g:62152** 62P20 (62M10)
Dhurandhar, S. V. Tetrads, the Newman-Penrose formalism and spinors. *Geometry, fields and cosmology* (*Pune*, 1989), 289–330, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 83C60 (53C80, 81R25)
Dhyani, Indu (*with* Jain, Madhu) An efficient algorithm for the analysis of two unreliable machines separated by a finite buffer. (English summary) *J. Maulana Azad College Tech.* **31** (1998), 75–85. 90B35 (90B25)
Di, Ji Zheng Combinatorial linear operators. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 4, 397–402. 41A35
Diab, Mahmoud (*with* Liu, Wan Quan; Sreeram, V.) A new approach for frequency weighted L_2 model reduction of discrete-time systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 147–167. (Summary) **99e:93012** 93B11 (93C55)
— (*with* Sreeram, V.; Liu, Wan Quan) Frequency-weighted model reduction via quasi-Kalman decomposition. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 139–144. (Summary) **99j:93101** 93E11 (93B11)
Diack, Cheikh A. T. (*with* Cardot, Hervé) Convergence en moyenne quadratique de l'estimateur de la régression par splines hybrides. (English and French summaries) [Asymptotic integrated mean square error of the hybrid spline estimator of the regression] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 615–618. (Andreas Futschik) **99i:62083** 62G07 (62G20)
— (*with* Thomas-Agnan, Christine) A nonparametric test of the non-convexity of regression. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 4, 335–362. (Summary) **99e:62076** 62G10
Diaconescu, Cristan (*with* Marghitu, Dan B.; Sinha, S. C.) Control of a parametrically excited flexible beam undergoing rotation and impacts. (English summary) *Multibody Syst. Dyn.* **3** (1999), *no.* 1, 47–63. 73K50 (73K05, 93C85)
Diaconescu, Duiliu-Emanuel (*with* Gomis, Jaume; Douglas, Michael R.) Fractional branes and wrapped branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 13, 9 *pp.* (*electronic*). (Daniel N. Kabat) **99e:81183** 81T30 (81T60)
— (*with* Gomis, Jaume) Duality in Matrix theory and three-dimensional mirror symmetry. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 53–68. (Richard A. Corrado) **99h:81161** 81T30 (81T60)
— (*with* Gukov, Sergei) Three-dimensional $N=2$ gauge theories and degenerations of Calabi-Yau four-folds. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 171–196. (Bruce Hunt) **99m:81246** 81T60 (14J32, 32J81, 81T13, 81T30)
— (*with* Gomis, Jaume) Neveu-Schwarz five-branes and Matrix string theory on $K3$. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 287–293. (Jihad Mourad) **99j:81135** 81T30
— (*with* Gomis, Jaume) Matrix description of heterotic theory on $K3$. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 35–42. (Sergey A. Cherkis) **99g:81156** 81T30
— (*with* Entin, Rami) Calabi-Yau spaces and five-dimensional field theories and exceptional gauge symmetry. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 451–484. (Harald Skarke) **99m:81178** 81T30 (14J32, 32J81, 32S45)
Diaconescu, Răzvan Extra theory morphisms for institutions: logical semantics for multi-paradigm languages. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 4, 427–453. (Martin Hofmann) **99m:68126** 68Q65 (03G30, 08A70)
Diaconis, Persi W. (*with* Eisenbud, David; Sturmfels, Bernd) Lattice walks and primary decomposition. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 173–193, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Heinrich Niederhausen) **99i:13035** 13P10 (05A15, 05E99)
— (*with* Sturmfels, Bernd) Algebraic algorithms for sampling from conditional distributions. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 363–397. (Arnoldo Frigessi)

99j:62137 62M99 (13P10, 62E25)
— From shuffling cards to walking around the building: an introduction to modern Markov chain theory. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 187–204 (*electronic*). (Summary) **99e:60154** 60J15 (60B15)
— (*with* Holmes, Susan P.) Matchings and phylogenetic trees. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 25, 14600–14602 (*electronic*). 92D15
Diacu, Florin (*with* Şelaru, Dan) Chaos in the Gyldén problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6537–6546. (Carles Simó) **99i:70013** 70F05 (58F13, 58F30, 70K50)
— *see also* **Parker, Matthew W.**
Diakoulaki, D. (*with* Mavrotas, G.; Papayannakis, L.) An energy planning approach based on mixed 0-1 multiple objective linear programming. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 231–244. 90C90 (90C11, 90C29)
Diallo, Mohamadou (*with* Ferreira, Afonso Galvao; Rau-Chaplin, Andrew) Communication-efficient deterministic parallel algorithms for planar point location and 2d Voronoi diagram. (English summary) *STACS* 98 (*Paris*, 1998), 399–409, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68U05 (68Q22)
Diamandescu, Aurel On the boundary value problem for an nth order non-linear differential equation. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 89–92 (1994). 34B15
— Asymptotic behavior of the solutions of a second order differential equation. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 65–70 (1995). 34G20 (34D05)
Diamandis, G. A. (*with* Georgalas, B. C.; Mavromatos, Nick E.; Ellis, Jonathan Richard; Nanopoulos, Dimitri V.; Papantonopoulos, E.) Irreversible time flow in a two-dimensional dilaton black hole with matter. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4265–4279. (Summary) **99d:83046** 83C45
— (*with* Georgalas, B. C.; Mavromatos, Nick E.) $N = 1$ supersymmetric spin-charge separation in effective gauge theories of planar magnetic superconductors. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 387–404. 82D55
Diamantakis, M. T. (*with* Butcher, J. C.) DESIRE: diagonally extended singly implicit Runge-Kutta effective order methods. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 121–145. (Summary) **99c:65131** 65L06
Diamantaras, Dimitrios (*with* Gilles, Robert P.) Linear cost sharing in economies with non-Samuelsonian public goods: core equivalence. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 121–139. (Hiroaki Osana) **99d:90015** 90A08 (90A14, 90A27)
Diamantaras, K. I. Robust Hebbian learning and noisy principal component analysis. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 1-2, 5–24. (Summary) **99k:68154** 68T05 (94A12)
Diamantini, M. Cristina (*with* Trugenberger, Carlo A.) Geometric aspects of confining strings. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 151–167. (Summary) **99i:81179** 81T30 (82B26)
— (*with* Trugenberger, Carlo A.) Surfaces with long-range correlations from non-critical strings. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 196–202. (Summary) **99a:81134** 81T30
Diamond, Fred (*with* Darmon, Henri; Taylor, Richard L.) Fermat's last theorem. *Current developments in mathematics*, 1995 (*Cambridge, MA*), 1–154, *Internat. Press, Cambridge, MA*, 1994. (M. Ram Murty) **99d:11067a** 11G18 (11D41, 11F80, 11G05)
— (*with* Darmon, Henri; Taylor, Richard L.) Fermat's last theorem. *Elliptic curves, modular forms & Fermat's last theorem* (*Hong Kong*, 1993), 2–140, *Internat. Press, Cambridge, MA*, 1997. (M. Ram Murty) **99d:11067b** 11G18 (11D41, 11F80, 11G05)
— (*with* Ribet, Kenneth A.) l-adic modular deformations and Wiles's "main conjecture". *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 357–371, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80 (11G05)
— An extension of Wiles' results. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 475–489, *Springer, New York*, 1997. (*see* **99k:11004**) 11G05 (11F80, 11G18)
— (*with* Kramer, Kenneth) Appendix: classification of $\overline{\rho}_{E,l}$ by the j-invariant of E. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 491–498, *Springer, New York*, 1997. (*see* **99k:11004**) 11G05 (11F80)
— On the Hecke action on the cohomology of Hilbert-Blumenthal surfaces. *Number theory* (*Tiruchirapalli*, 1996), 71–83, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Nigel Boston) **99c:11051** 11F41 (11F33, 11G18, 14G35)
— (*with* Conrad, Brian; Taylor, Richard L.) Modularity of certain potentially Barsotti-Tate Galois representations. *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 521–567. (Ian Kiming) **99i:11037** 11F80 (11G05, 11G18, 11R39)
Diamond, Harold George (*with* Halberstam, H.) Some applications of sieves of dimension exceeding 1. (English summary) *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 101–107, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Hiroshi Mikawa) **99d:11102** 11N35 (11N05, 11N25, 11N36)
— (*with* Bradley, David M.) A difference differential equation of Euler-Cauchy type. (English summary) *J. Differential Equations* **138** (1997), *no.* 2, 267–300. (M. Ram Murty) **99a:34172** 34K05 (11N35, 39A10, 47B39)
— (*with* Halberstam, H.) On the sieve parameters α_κ and β_κ for large κ. (English summary) *J. Number Theory* **67** (1997), *no.* 1, 52–84. (G. Greaves) **99b:11106** 11N35 (34K25)
— (*with* Pollard, Harry) ★ The theory of algebraic numbers. (English summary) Third edition. *Dover Publications, Inc., Mineola, NY*, 1998. $x+162$ *pp. ISBN* 0-486-40454-4 (Editors) **99k:11164** 11Rxx (11–01)
Diamond, P. *see* **Diamond, Phil**
Diamond, P. H. (*with* Fleischer, Jason Wolf) Compressible Alfven turbulence in one dimension. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, *R*2709–*R*2712. 76F99 (76W05)
Diamond, Phil (*with* Ramer, Arthur; Hiller, John; Padet, Colette) Total uncertainty revisited. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 223–237. (Summary) **99m:68198** 68T30 (90A05, 94A17)
— (*with* Kloeden, Peter E.; Krasnosel'skiĭ, A. M.; Pokrovskiĭ, A. V.) Bifurcation at infinity for equations in spaces of vector-valued functions. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 263–280. (Jean Mawhin) **99a:47094** 47H15 (34B15, 34C25, 47H11, 47H30)
— (*with* Kloeden, Peter E.; Kozyakin, V. S.; Pokrovskiĭ, A. V.) A model for roundoff and collapse in computation of chaotic dynamical systems. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 163–185. (T. Erber) **99a:58114** 58F13 (34C35, 58F12, 65C20, 65L20)
— (*with* Tanaka, Hideo) Fuzzy regression analysis. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 349–387, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 62J05 (04A72)
— (*with* Kloeden, Peter E.; Vladimirov, A. A.) Spikes, broken planes and the approximation of convex fuzzy sets. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 225–232. (Summary) **99e:54002** 54A40 (52A27)
— (*with* Bryant, Darryn E.; Vladimirov, Igor) Generalized optimal lattice covering of finite-dimensional Euclidean space. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 311–324. (Stelian S. Dumitrascu) **99j:52022** 52C17 (52C15, 65Y25)
— (*with* Kloeden, Peter E.; Kozyakin, V. S.; Pokrovskiĭ, A. V.) Boundedness and dissipativity of truncated rotations on uniform planar lattices. (English summary) *Math. Nachr.* **191** (1998), 59–81. (Mark J. Friedman) **99f:52020** 52C05 (58F08, 68U20)
Diankov, G. L. (*with* Gerdzhikov, V. S.; Evstatiev, E. G.; Kaup, D. J.; Uzunov, I. M.) Stability and quasi-equidistant propagation of NLS soliton trains. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 323–328. (Summary) **99a:81198** 81V10
Diao, Ke Feng (*with* Zhao, Ping[1]) The star chromatic number of a graph. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 6–9. (Summary) **99b:05056** 05C15
Diao, Lianwang (*with* Yuan, Zhendong; Chen, Qi; Ding, Sheng) Credible sets for system parameters and transfer functions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 150–160. (Summary) **99c:93112** 93E12
Diao, Yuanan (*with* Ernst, Claus Dieter; Janse van Rensburg, E. J.) Knot energies by ropes. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 799–807. (Torsten Asselmeyer) **99c:57016** 57M25
— (*with* Ernst, Claus Dieter; Janse van Rensburg, E. J.) Properties of knot energies. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 37–47, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Kazushi Ahara) **99m:58050** 58E10 (57M25)
— (*with* Janse van Rensburg, E. J.) Percolation of linked circles. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 79–88, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Stuart G. Whittington) **99i:57010** 57M25 (82B43)
— (*with* Ernst, Claus Dieter) The complexity of lattice knots. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 1–9. (Lorenzo Traldi) **99h:57005** 57M25
Diarra, Bertin An operator on some ultrametric Hilbert spaces. (English summary) *J. Anal.* **6** (1998), 55–74. (Ann Verdoodt) **99m:47088** 47S10 (15A63, 47A75)
Dias, Ana Paula S. Hopf bifurcation for wreath products. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 247–264. (Ian Melbourne) **99e:58132** 58F14 (20E22, 34C35)
Dias, C. M. (*with* Coutinho, A. L. G. A.) Reduced integration for steady advective-diffusive problems discretized by the SUPG formulation with discontinuity-capturing. (Portuguese. English and Portuguese summaries) *Rev. Internac. Métod. Numèr. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 2, 145–166. (Summary) **99f:76086** 76M10 (65N99)
Dias, Frédéric (*with* Kharif, Christian) Nonlinear gravity and capillary-gravity waves. (English summary) *Annual review of fluid mechanics, Vol.* 31, 301–346, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99k:76024** 76B15 (35Q35, 76B45, 76D33, 76D45, 76E99)
Dias, João-Paulo (*with* Figueira, Mário; Sanchez, Luis) Formation of singularities for the solutions of some quasilinear wave equations. (English summary) *Équations aux dérivées partielles et applications*, 453–460, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:35138** 35L70
— (*with* Figueira, Mário) On the stability of the weak solutions for a quasilinear equation with a semilinear source term. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 229–240. (Summary) **99b:35145** 35L70 (35B35)
— (*with* Figueira, Mário; Sanchez, Luis) On the existence of shock fronts for a Burgers equation with a singular source term. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1107–1113. (Summary) **99e:35196** 35Q53 (35L67, 76L05)
de sousa Dias, M. E. R. *see* **de Sousa Dias, M. E. R.**
Dias, N. G. J. (*with* Benammar, M.; Bennewitz, C. W.; Beynon, M. J.; Brown, B. Malcolm; Evans, William Desmond; Everitt, W. N.; Kirby, V. G.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)
Dias, Ronaldo Prior selection by an adaptive smoothing splines approach. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 57–60. (Rohana J. Karunamuni) **99c:62017** 62C12 (62F10, 62G05)
Dias da Silva, J. A. (*with* Fernandes, Rosário; Fonseca, Amélia) The covering number of the elements of a matroid and generalized matrix functions. (English summary) *Linear Algebra Appl.* **271** (1998), 191–219. (Marcel Wild) **99a:05024** 05B35
Diatta, Jean Approximating dissimilarities by quasi-ultrametrics. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 81–86. (Summary) **99g:54026** 54E35
— (*with* Fichet, Bernard) Quasi-ultrametrics and their 2-ball hypergraphs. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 87–102. (Summary) **99g:54022** 54E15 (05C65)
garcía Díaz, Alberto *see* **García Díaz, Alberto**
Díaz, Alejandro R. A wavelet-Galerkin scheme for analysis of large-scale problems on simple domains. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 11, 1599–1616. (Summary) **99m:80002** 80–08 (65N30, 80A20)
Díaz, Andrés (*with* Pastor, Guillermo) The game of snakes and ladders. (Spanish) *Miscelánea Mat. No.* 24 (1996), 15–22. 90D15
jerez Diaz, C. *see* **Jerez Díaz, C.**
diaz y Diaz, F. *see* **Díaz y Díaz, F.**
Díaz, G. *see* **Díaz Díaz, Gregorio**

díaz Díaz, Gregorio *see* **Díaz Díaz, Gregorio**
Díaz, J. *see* **Díaz, Josep**
Díaz, J. C. *see* **Díaz Alcaide, Juan Carlos**
Díaz, J. I. *see* **Díaz Díaz, Jesús Ildefonso**
Díaz, J. M. *see* **Díaz Moreno, José Manuel**
díaz Díaz, Jesús Ildefonso *see* **Díaz Díaz, Jesús Ildefonso**

Díaz, Joaquín (*with* Peixoto, Julio L.) On the construction of hierarchical polynomial regression models. (English summary) *Estadística* **48** (1996), *no.* 150-151, 175–210 (1998). (Summary) **99e:62118** 62J05

Díaz, Josep (*with* Serna, Maria José; Spirakis, Paul G.; Torán, Jacobo) ★ Paradigms for fast parallel approximability. (English summary) Cambridge International Series on Parallel Computation, 8. *Cambridge University Press, Cambridge*, 1997. viii+158 *pp. ISBN* 0-521-43170-0 (Juraj Hromkovič) **99b:68092** 68Q22 (68–02, 68Q15, 68Q25)

— (*with* Serna, Maria José; Spirakis, Paul G.) On the random generation and counting of matchings in dense graphs. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 281–290. (Summary) **99b:68145** 68R10 (05C70, 05C85)

casado-Díaz, Juan *see* **Casado-Díaz, Juan**
Díaz, Juan C. *see* **Díaz Alcaide, Juan Carlos**
Díaz, Juan Carlos *see* **Díaz Alcaide, Juan Carlos**
álvarez Díaz, Lilliam *see* **Álvarez Díaz, Lilliam**

Díaz, Lorenzo J. (*with* Rocha, Jorge) Large measure of hyperbolic dynamics when unfolding heteroclinic cycles. (English summary) *Nonlinearity* **10** (1997), *no.* 4, 857–884. (Summary) **99b:58181** 58F15 (58F11)

— (*with* Bonatti, Ch.; Vuillemin, F.) Cubic tangencies and hyperbolic diffeomorphisms. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 99–144. (Michael Hurley) **99c:58121** 58F15

llana-Díaz, Luis *see* **Llana-Díaz, Luis**

Díaz, M. E. (*with* Ayala, G.; Albert, Jesus V.; Ferri, F. J.; Domingo, Juan M.) Accurate detection and characterization of corner points using circular statistics and fuzzy clustering. (English summary) *Advances in pattern recognition (Sydney*, 1998), 687–696, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30

castro-Díaz, M. J. *see* **Castro-Díaz, M. J.**
lópez-Díaz, Miguel *see* **López-Díaz, Miguel**
Díaz, Miguel López *see* **López-Díaz, Miguel**
gonzález-Díaz, Pedro F. *see* **González-Díaz, Pedro F.**

Díaz, R. G. (*with* Bravo Castillero, Julián; Otero Hernández, José A.; Ramos, R. R.) The overall properties of piezocomposite materials with cylindrical fibres. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla*, 1995), 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (David J. Bergman) **99j:73006** 73B27 (73R05, 73V35)

Díaz, Santiago *see* **Díaz Madrigal, Santiago**

Díaz Alcaide, Juan Carlos (*with* Dineen, Seán) Polynomials on stable spaces. *Ark. Mat.* **36** (1998), *no.* 1, 87–96. (Ignacio Zalduendo) **99a:46082** 46G20 (46A03, 46A32)

— (*with* Fernández López, Antonio[2]; Naranjo, Francisco) Fréchet AL-spaces have the Dunford-Pettis property. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 383–386. (Plamen Dzhakov) **99j:46008** 46A40 (46A04)

— (*with* Castillo, Jesús M. F.; Motos, Joaquín) On the Fréchet space L_{p^-}. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 219–230. (Thomas E. Gilsdorf) **99g:46031** 46E30 (46A04, 46A11)

— (*with* Domański, Paweł) Reflexive operators with domain in Köthe spaces. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 189–204. (José Bonet) **99j:46011** 46A45 (46E10, 47A99, 47B07)

— (*with* Domański, Paweł) On the injective tensor product of distinguished Fréchet spaces. (English summary) *Math. Nachr.* **198** (1999), 41–50. (Summary) **99k:46004** 46A04 (46M05)

— (*with* Miñarro, M. Angeles) Universal Köthe sequence spaces. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 111–118. (M. S. Ramanujan) **99m:46011** 46A45

Díaz Bejarano, J. (*with* Garcia-Margallo, J.) The greatest number of limit cycles of the generalized Rayleigh-Liénard oscillator. (English summary) *J. Sound Vibration* **221** (1999), *no.* 1, 133–142. (Summary) **99m:34059** 34C05 (70K10)

Díaz-Cano, A. (*with* Andradas, C.) Stability index of closed semianalytic set germs. *Math. Z.* **229** (1998), *no.* 4, 743–751. (Zbigniew Szafraniec) **99k:32011** 32B20 (14P15)

Díaz Carrillo, M. (*with* Günzler, Hans) Daniell-Loomis integrals. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1075–1087. (Brian Jefferies) **99g:28026** 28C05 (26A39)

Díaz de León S., J. L. (*with* Sossa-Azuela, J. H.) Mathematical morphology based on metric spaces. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam*, 1998), 75–82, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68175** 68U10

Díaz Díaz, Gregorio (*with* Soriano, V. A.) Existence of solutions to some semilinear elliptic equations from dynamic programming. *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35J60 (90C39)

— (*with* Rey, José María) Long-time behavior in some Hamilton-Jacobi equations. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35F20 (35B40, 49L20)

Díaz Díaz, Jesús Ildefonso (*with* Tello, L.) Multiplicity of solutions for a nonlinear elliptic problem in climatology. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 86A10 (35J60)

— (*with* Schiavi, Emanuele) On a degenerate evolution equation modelling large ice sheets dynamics. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 86A40 (35R35)

— (*with* Ramos, Angel Manuel) Approximate controllability and obstruction for higher order parabolic semilinear equations. *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 93B05 (93C20)

— On a nonlocal elliptic problem arising in the magnetic confinement of a plasma in a Stellarator. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 3963–3974. (Piotr P. Goldstein) **99i:35181** 35R35 (35Q60, 65M99, 76W05, 76X05, 82D10)

— (*with* Ramos, Angel Manuel) On the approximate controllability for higher order parabolic nonlinear equations of Cahn-Hilliard type. (English summary) *Control and estimation of distributed parameter systems (Vorau*, 1996), 111–127, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Sergei A. Avdonin) **99g:93043** 93C20 (35K55, 35Q80, 93B05)

— (*with* Hetzer, Georg) A quasilinear functional reaction-diffusion equation arising in climatology. *Équations aux dérivées partielles et applications*, 461–480, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Lidia Skóra) **99i:35069** 35K57 (35Q80, 35R10, 86A10)

— (*with* Tello, J. I.) On a problem lacking a classical solution in lubrication theory. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 429–434, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Alexander Yurjevich Chebotarev) **99g:76041** 76D08 (35Q35)

— (*with* Henry, Jacques; Ramos, Angel Manuel) On the approximate controllability of some semilinear parabolic boundary-value problems. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 71–97. (Takao Nambu) **99c:93005** 93B05 (35B37, 35K60, 93C20)

— (*with* Lions, Jacques-Louis) Sur la contrôlabilité approchée de problèmes paraboliques avec phénomènes d'explosion. (English and French summaries) [Approximate controllability of parabolic problems with blowup phenomena] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 173–177. (Angelo Favini) **99j:93007** 93B05 (35B37, 35K55, 93C25)

— (*with* Nagai, Toshitaka; Rakotoson, Jean Michel) Symmetrization techniques on unbounded domains: application to a chemotaxis system on $\mathbf{R}^N$. *J. Differential Equations* **145** (1998), *no.* 1, 156–183. (Piotr Biler) **99c:35242** 35Q80 (35K15, 92C45)

— (*with* Arcoya, David; Tello, L.) S-shaped bifurcation branch in a quasilinear multivalued model arising in climatology. (English summary) *J. Differential Equations* **150** (1998), *no.* 1, 215–225. (Yoram Schiffmann) **99k:58037** 58E07 (35B32, 35K55, 35Q80, 86A10)

— (*with* Padial, J. F.; Rakotoson, Jean Michel) Mathematical treatment of the magnetic confinement in a current carrying stellarator. *Nonlinear Anal.* **34** (1998), *no.* 6, 857–887. (Jacqueline Mossino) **99i:35182** 35R35 (35Q35, 76X05)

— (*with* Galiano, G.) Existence and uniqueness of solutions of the Boussinesq system with nonlinear thermal diffusion. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 59–82. (Grzegorz Karch) **99j:35174** 35Q35 (35D05, 35K55, 76D99, 76R50)

— (*with* Galiano, G.; Padial, J. F.) On the uniqueness of solutions of a nonlinear elliptic problem arising in the confinement of a plasma in a stellarator device. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 61–73. (Ya Zhe Chen) **99k:35060** 35J65 (76W05)

— *see also* **Mathematics of models for climatology and environment, 99d:86001**

Díaz-García, José A. (*with* Gutiérrez Jáimez, Ramón; Mardia, Kanti V.) Wishart and pseudo-Wishart distributions and some applications to shape theory. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 73–87. (Yasuko Chikuse) **99e:62095** 62H10 (62E15)

Díaz Lozano, M. E. The class of $\{1, 2, 4\}$-inverses as the solution of a linear problem. (Spanish. English and Spanish summaries) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 2, 223–228. (Enric Ventura Capell) **99j:15007** 15A09 (15A04, 15A06)

Díaz Madrigal, Santiago Complemented copies of l_1 in $L^\infty(\mu, X)$. *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 779–784. (Yu. A. Abramovich) **99a:46065** 46E40 (46B20)

— (*with* Mayoral, Fernando) Compactness in measure and the sequential Bourgain property. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 55–62. (Henryk Hudzik) **99f:46038** 46E30 (46B03)

Díaz Moreno, José Manuel On the structure of the symmetry operators of linear PDEs. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 425–428, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35A30

— (*with* Gandarias-Núñez, M. L.; Romero, Juan Luis) Nonclassical symmetry reductions of a porous medium equation with convection. (English summary) *J. Phys. A* **32** (1999), *no.* 8, 1461–1473. (Summary) **99m:76108** 76S05 (35K55, 35Q35)

Díaz-Rivera, Luz M. (*with* Pimentel, Luis O.) Coasting cosmologies with time dependent cosmological constant. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 10, 1523–1529. 83D05 (83F05)

baguer Díaz Romañach, Martha L. *see* **Baguer Díaz Romañach, Martha L.**

Díaz Varela, J. Patricio Free n-value Post algebras over a poset. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 109–119 (1997). (Summary) **99c:06014** 06D25 (03G20, 06D30)

— (*with* Abad, Manuel; Rueda, L. A.; Suardíaz, A. M.) A note on the equational bases for subvarieties of linear symmetric Heyting algebras. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahía Blanca*, 1997), 119–126, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (*see* **99a:00040**) 06D20

Díaz y Díaz, F. (*with* Cohen, Henri; Olivier, Michel) Tables of octic fields with a quartic subfield. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1701–1716. (Ken Yamamura) **99m:11132** 11R37 (11R21, 11Y40)

Dib, K. A. (*with* Hassan, A. A. M.) The fuzzy normal subgroup. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 393–402. (John Mordeson) **99f:20112** 20N25

el-Dib, Yusry O. *see* **El-Dib, Yusry O.**

Dibaei, M. T. (*with* Tousi, M.) The structure of dualizing complex for a ring which is (S_2). *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 503–516. (P. Schenzel) **99k:13020** 13D25

Diban, Issam (*with* Ignatenko, V. F.) On algebraic surfaces with an infinite set of planes of skew symmetry. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2501–2504. (Zbigniew Szafraniec) **99i:14068** 14P05

Di Bari, M. (*with* Boccaletti, D.; Cipriani, P.; Pucacco, G.) Finsler geometry in classical mechanics and in Bianchi cosmological models. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 213–224. (Miguel C. Muñoz-Lecanda) **99c:53015** 53B40 (53B50, 70F07, 70H35, 83F05)

Di Battista, Giuseppe (*with* Bertolazzi, Paola; Mannino, Carlo; Tamassia, Roberto) Optimal upward planarity testing of single-source digraphs. (English summary) *SIAM*

J. Comput. **27** (1998), *no.* 1, 132–169 (*electronic*). (O. D'Antona) **99m:68146** 68R10 (05C10, 68Q20)

— (*with* Liotta, Giuseppe; Vargiu, Francesco) Spirality and optimal orthogonal drawings. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1764–1811 (*electronic*). (Peter B. Gibbons) **99g:05162** 05C85 (05C10, 68U05, 90C27)

— *see also* **Graph drawing, 99d:68004**

DiBattista, Mark T. (*with* Majda, Andrew J.; Turkington, Bruce) Prototype geophysical vortex structures via large-scale statistical theory. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 3-4, 235–283. (Summary) **99j:76020** 76C05 (85A30, 86A10)

— (*with* Polvani, Lorenzo M.) Barotropic vortex pairs on a rotating sphere. (English summary) *J. Fluid Mech.* **358** (1998), 107–133. (Summary) **99a:76022** 76C05 (76C20, 76E20, 76U05, 86A10)

— (*with* Majda, Andrew J.) An equilibrium statistical model for the spreading phase of open-ocean convection. (English summary) *Proc. Natl. Acad. Sci. USA* **96** (1999), *no.* 11, 6009–6013 (*electronic*). 86A05

Di Bella, Beatrice (*with* Cubiotti, Paolo) On the existence of zeros for multivalued operators. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 83–90. (Pando Georgiev) **99c:47081** 47H04 (47N10)

— Comment on a paper by J. M. Soriano: "On the existence of zero points" [Appl. Math. Comput. **79** (1996), no. 1, 99–104; MR 97f:26015]. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 297–298. (Summary) **99b:26021** 26B10 (90C30)

Di Benedetto, Fabio Computing eigenvalues and singular values of Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 237–248 (1998). (Summary) **99c:65069** 65F15

— (*with* Bertero, Mario; Boccacci, Patrizia; Robberto, M.) Restoration of chopped and nodded images in infrared astronomy. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 345–372. 65D99 (65F99)

Di Benedetto, M. D. (*with* Balluchi, A.; Pinello, C.; Sangiovanni-Vincentelli, Alberto L.) Hybrid control in automotive applications. *Dynamical systems, control, coding, computer vision* (*Padova*, 1998), 449–479, *Progr. Systems Control Theory*, 25, *Birkhäuser, Basel*, 1999. (*see* **99k:93006**) 93C95 (93B30)

Di Bernardo, Mario *see* **di Bernardo, Mario**

Di Biase, Fausto ★ Fatou type theorems. (English summary) Maximal functions and approach regions. Progress in Mathematics, 147. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xii+152 *pp. ISBN* 0-8176-3976-4 (Hiroaki Aikawa) **99f:31012** 31C20 (31B25, 32A40, 60J10)

— (*with* Stokolos, A. M.; Svensson, Olof; Weiss, Tomasz) Tangential boundary behaviour of bounded harmonic functions in the unit disc. (English summary) *Geometry Seminars, 1996–1997* (*Italian*) (*Bologna*), 63–68, *Univ. Stud. Bologna, Bologna*, 1998. (Hiroaki Aikawa) **99f:31005** 31A20

— Tangential curves and Fatou's theorem on trees. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 2, 331–341. (Sirkka-Liisa Eriksson-Bique) **99m:31016** 31C20

— (*with* Fischer, Bert) Boundary behaviour of H^p functions on convex domains of finite type in $\mathbf{C}^n$. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 25–38. (Daniel H. Luecking) **99h:32007** 32A40

Di Blasio, Bianca Positive definite spherical functions on harmonic space NA. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 759–767. (A. H. Dooley) **99b:22014** 22E25 (22E30, 43A35)

Di Blasio, Gabriella Limiting case for interpolation spaces generated by holomorphic semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 359–377. (Alberto Venni) **99k:47086** 47D06 (34G10, 46M35)

Diblík, Josef Asymptotic equilibrium for a class of delay differential equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 137–143, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:34096** 34K15 (34K25)

— (*with* Baštinec, Jaromír) On existence of solutions of a singular Cauchy-Nicoletti problem for a system of integro-differential equations. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 747–760. (Eduardo Liz) **99a:45014** 45J05 (34K10)

— Asymptotic equilibrium for homogeneous delay linear differential equations with L-perturbation term. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3927–3933. (Klaus Morgenthal) **99c:34158** 34K15 (34K25)

— Positive and oscillating solutions of differential equations with delay in critical case. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 185–202. (I. P. Stavroulakis) **99f:34104** 34K15 (34K25)

Di Bono, Mario Copernicus, Amico, Fracastoro and the mechanism of al-Ṭūsī: observations on the use and the transmission of a model. (Italian) *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century* (*Italian*) (*Ferrara*, 1993), 69–96, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A30 (01A40)

Dibos, Françoise Projective analysis of 2-D images. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 3, 274–279. (Summary) **99k:94007** 94A12

Di Bucchianico, Alessandro (*with* Loeb, Daniel E.) A selected survey of umbral calculus. *Electron. J. Combin.* **2** (1995), *Dynamic Survey* 3, 28 *pp.* (*electronic*). (Marko Razpet) **99j:05017** 05A40

— (*with* Loeb, Daniel E.) Operator expansion in the derivative and multiplication by x. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 49–68. (Heinrich Niederhausen) **99b:05010** 05A40 (47A05)

— (*with* Loeb, Daniel E.) Natural exponential families and umbral calculus. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 195–211, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Marko Razpet) **99g:05015** 05A40 (41A35, 60E05)

— (*with* Loeb, Daniel E.; Rota, Gian-Carlo) Umbral calculus in Hilbert space. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 213–238, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Heinrich Niederhausen) **99i:05021** 05A40 (33C55, 47A99)

— (*with* Bottreau, Anne; Loeb, Daniel E.) Computer algebra and umbral calculus. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 65–72. (Heinrich Niederhausen) **99b:05009** 05A40

— (*with* Loeb, Daniel E.) Dominance refinements of the Smirnov two-sample test. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 51–60. (Jagdish Saran) **99e:62075** 62G10 (05A15)

Dičiūnas, Valdas Simply invertible matrices and fast prediction. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **9** (1998), *no.* 3, 315–324. (Summary) **99i:65154** 65U05 (62J05, 65F30)

Dick, Erik (*with* Riemslagh, Kris; Vierendeels, Jan) Two-dimensional incompressible Navier-Stokes calculations in complex-shaped moving domains. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 57–73. (Summary) **99d:76077** 76M25 (76D05)

Dickenschied, O. (*with* Amberg, Bernhard; Sysak, Yaroslav P.) Subgroups of the adjoint group of a radical ring. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 3–15. (Silvana Franciosi) **99d:20055** 20F19 (16N20)

Dickenstein, Alicia (*with* Sessa, Carmen) Résidus de formes méromorphes et cohomologie modérée. (English summary) [Residues of meromorphic forms and moderate cohomology] *Géométrie complexe* (*Paris*, 1992), 35–59, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Mohammed El Amrani) **99a:32009** 32C30 (32A27, 32C35)

Dickerson, Matthew (*with* Barequet, Gill; Eppstein, David) On triangulating three-dimensional polygons. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 155–170. (Summary) **99a:68168** 68U05 (52B55, 68Q25)

Dickey, David A. (*with* Rawlings, John O.; Pantula, Sastry G.) ★ Applied regression analysis. (English summary) A research tool. Second edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1998. *xviii*+657 *pp. ISBN* 0-387-98454-2 (Publisher's description) **99d:62070** 62J05 (62–01)

Dickey, J. M. (*with* Bartolucci, A. A.; Singh, Karan P.; Tabatabai, M. A.) On the translated exponential model with censoring. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 9–23 (*electronic*). (Summary) **99g:62031** 62F15 (62N05)

Dickey, L. A. Additional symmetries of the Zakharov-Shabat hierarchy, string equation and isomonodromy. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 53–65. (Henrik Aratyn) **99b:58110** 58F07

— Poisson brackets with divergence terms in field theories: three examples. (English summary) *Higher homotopy structures in topology and mathematical physics* (*Poughkeepsie, NY*, 1996), 67–78, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Henrik Aratyn) **99k:58065** 58F05 (58F07, 81T70)

Dickinson, Henrietta (*with* Bernik, V. I.; Dodson, M. M.) A Khintchine-type version of Schmidt's theorem for planar curves. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 179–185. (R. C. Baker) **99e:11099** 11J83

Dickman, Ronald Measuring forces in lattice polymer simulations. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 59–74, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60

Dickmann, M. A. A combinatorial geometric structure on the space of orders of a field. I. (English summary) *European J. Combin.* **18** (1997), *no.* 6, 613–634. (Dragan M. Acketa) **99c:05043** 05B35 (12J15, 51D20)

— (*with* Miraglia, F.) On quadratic forms whose total signature is zero mod 2^n. *Invent. Math.* **133** (1998), *no.* 2, 243–278. (Murray Marshall) **99f:11052** 11E81 (12D15)

Dicks, Warren (*with* Glover, H. H.) An algorithm for cellular maps of closed surfaces. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 207–252. (Allan Edmonds) **99e:57001** 57M05 (20F05, 57M07, 57M12)

— Erratum: "On the intersection of finitely generated subgroups of free groups" [Rev. Mat. Univ. Complut. Madrid **9** (1996), no. 1, 67–84; MR 98c:20046] by W. S. Jassim. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 263–265. (N. D. Gupta) **99m:20046** 20E05 (20E07)

— (*with* Leary, Ian J.) Presentations for subgroups of Artin groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 343–348. (John Meier) **99c:20050** 20F36 (20F05, 57M07)

Dickson, David C. M. (*with* Hipp, Christian) Ruin probabilities for Erlang(2) risk processes. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 251–262. 62P05

Dickson, Leonard Eugene *see* **Fenster, Della Dumbaugh, 99e:01020**

Dickson, Ronnie (*with* Gesztesy, Fritz; Unterkofler, Karl) A new approach to the Boussinesq hierarchy. (English summary) *Math. Nachr.* **198** (1999), 51–108. (Victor V. Zharinov) **99m:35204** 35Q53 (34L40, 58F07, 76B25)

Dickson, W. Michael ★ Quantum chance and non-locality. (English summary) Probability and non-locality in the interpretations of quantum mechanics. *Cambridge University Press, Cambridge*, 1998. *xx*+244 *pp. ISBN* 0-521-58127-3 (Dennis Dieks) **99g:81003** 81Pxx

Dickstein, Flávio (*with* Cazenave, Thierry) Implicit finite difference schemes for a linear model of well-reservoir coupling. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 91–120. (Jian-Ping Zhu) **99a:76093** 76M20 (65M06, 76S05)

Di Concilio, A. (*with* Alas, O. T.) Uniformly continuous homeomorphisms. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 33–42. (Michael Tkačenko) **99b:54037** 54E15 (54E40, 54E45)

Di Cosmo, Roberto (*with* Curien, Pierre-Louis) A confluent reduction for the λ-calculus with surjective pairing and terminal object. (English summary) *J. Funct. Programming* **6** (1996), *no.* 2, 299–327. (Feodor Alexandrovich Murzin) **99b:03025** 03B40 (68Q42, 68Q55)

Di Crescenzo, Antonio First-passage-time densities and avoiding probabilities for birth-and-death processes with symmetric sample paths. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 383–394. (Summary) **99e:60188** 60J80 (60J85, 60K30)

— (*with* Pellerey, Franco) On lifetimes in random environments. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 4, 365–375. (Summary) **99c:90057** 90B25

Di Crescenzo, Giovanni (*with* Okamoto, Tatsuaki; Yung, Moti) Keeping the SZK-verifier honest unconditionally. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 31–45, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99e:94034** 94A60

— (*with* Aiello, William A.; Bellare, Mihir; Venkatesan, Ramarathnam) Security amplification by composition: the case of doubly-iterated, ideal ciphers. (English

summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 390–407, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94035** 94A60

— (*with* De Santis, Alfredo; Persiano, G.; Yung, Moti) Image density is complete for non-interactive-SZK (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 784–795, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q15 (94A60)

— (*with* Sakurai, Kouichi; Yung, Moti) Result-indistinguishable zero-knowledge proofs: increased power and constant-round protocols. (English summary) *STACS 98* (*Paris*, 1998), 511–521, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q15 (94A60)

— (*with* Impagliazzo, Russell) Proofs of membership vs. proofs of knowledge. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 34–45, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68045** 68Q15

Dicuonzo, Vincenzo (*with* Pasquali-Coluzzi, Dario) Orthogonality in finite inversive spaces and polarity in projective spaces over a GF(q), q odd. (English summary) *Mitt. Math. Sem. Giessen No.* 235 (1998), 25–31. (Summary) **99i:51012** 51E25

Didelot, S. (*with* Frank, Leonid S.; Maigrot, L.) On a degenerate elliptic singular perturbation. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 151–181. (Dietrich Göhde) **99b:34095** 34E15 (34B05, 34E05, 35B25, 46N20)

Didenko, V. D. (*with* Silbermann, Bernd) Extension of C^*-algebras and Moore-Penrose stability of sequences of additive operators. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 121–140. (Andreĭ V. Lebedev) **99e:46095** 46L99 (45E05, 45L05, 47A50, 47G10)

Didier, Gilles Échanges de trois d'intervalles et suites sturmiennes. (English and French summaries) [Exchanges of three intervals and Sturmian sequences] *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 463–478. (Jean-Paul Allouche) **99d:11022** 11B85 (68R15)

— Combinatoire des codages de rotations. [Combinatorics of codings of rotations] *Acta Arith.* **85** (1998), *no.* 2, 157–177. (Jean-Paul Allouche) **99f:11028** 11B85 (68R15)

— Codages de rotations et fractions continues. (English and French summaries) [Codings of rotations and continued fractions] *J. Number Theory* **71** (1998), *no.* 2, 275–306. (Jean-Paul Allouche) **99f:11029** 11B85 (11A55, 58F03, 68R15)

Didier, Laurent-Stéphane (*with* Bajard, Jean-Claude; Kornerup, Peter) An RNS Montgomery modular multiplication algorithm. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 766–776. (Summary) **99c:94023** 94A60

Didwania, A. K. (*with* Cantelaube, F.; Goddard, Joe D.) Elastoplastic arching in two-dimensional granular heaps. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 123–127, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E99

— (*with* Goddard, Joe D.) Computations of dilatancy and yield surfaces for assemblies of rigid frictional spheres. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 15–43. (Summary) **99a:73068** 73E99 (73E05, 76A99)

Diebold, Francis X. (*with* Lopez, Jose A.) Forecast evaluation and combination. *Statistical methods in finance*, 241–268, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62121** 62M20 (62P20, 90A09)

— (*with* Christoffersen, Peter F.) Cointegration and long-horizon forecasting. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 450–458. 62P20 (62M10, 62M20)

— *see also* **Symposium: Forecasting and Empirical Methods in Macroeconomics and Finance, 99h:62001**

Diebolt, Jean (*with* Chauveau, Didier; Robert, Christian P.) Control by the central limit theorem. *Discretization and MCMC convergence assessment*, 99–126, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J10 (60F05, 60J05, 62G10)

— (*with* Zuber, Jacques) Goodness-of-fit tests for nonlinear heteroscedastic regression models. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 53–60. (Summary) **99i:62102** 62G10

Dieci, Luca (*with* Van Vleck, Erik S.) Piecewise smooth orthonormal factors for fundamental solution matrices. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 104–111, *Springer, Berlin*, 1997. (Summary) **99i:65028** 65F05 (65F30)

— Real Hamiltonian logarithm of a symplectic matrix. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 227–246. (M. C. Chaki) **99i:15033** 15A57

— (*with* Morini, Benedetta; Papini, Alessandra; Pasquali, Aldo) On real logarithms of nearby matrices and structured matrix interpolation. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 145–165. (Summary) **99h:65021** 65D15 (65D05, 65F30)

tom Dieck, Tammo On tensor representations of knot algebras. (English summary) *Manuscripta Math.* **93** (1997), *no.* 2, 163–176. (Alexander Balinsky) **99i:57011** 57M25 (17B37, 20F36)

— (*with* Häring-Oldenburg, Reinhard) Quantum groups and cylinder braiding. (English summary) *Forum Math.* **10** (1998), *no.* 5, 619–639. (Mitsuhiro Takeuchi) **99g:20071** 20F36 (16W30, 17B37, 18D10)

— Categories of rooted cylinder ribbons and their representations. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 35–63. (Yu. N. Bespalov) **99h:18010** 18D10 (17B37, 20F36, 57M25)

Dieckmann, Gregor Korovkin theory in liminal JB-algebras. (English summary) *Math. Scand.* **81** (1997), *no.* 2, 269–282. (Ferdinand Beckhoff) **99b:46106** 46L70 (46H70)

Diederich, Klas (*with* Herbort, G.) An alternative proof of a theorem by Boas-Straube-Yu. *Complex analysis and geometry* (*Trento*, 1995), 112–118, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (M. Klimek) **99c:32034** 32H10 (32F15)

— (*with* Mazzilli, Emmanuel) Extension and restriction of holomorphic functions. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1079–1099. (Harold P. Boas) **99d:32012** 32D15 (32A10, 32A37, 46E99)

— (*with* Colţoiu, Mihnea) Open sets with Stein hypersurface sections in Stein spaces. *Ann. of Math.* (2) **145** (1997), *no.* 1, 175–182. (Introduction) **99a:32012** 32E10

— (*with* Herbort, G.; Michel, V.) Weights of holomorphic extension and restriction. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 697–719. (Manfred Stoll) **99k:46036** 46E20 (32F05, 32H10, 47B38)

— (*with* Ohsawa, Takeo) On pseudoconvex domains in $\mathbf{P}^n$. *Tokyo J. Math.* **21** (1998), *no.* 2, 353–358. (Francine A. Meylan) **99k:32024** 32F15 (32E10)

Diédhiou, Alassane On the self-decomposability of the half-Cauchy distribution. *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 42–64. (F. W. Steutel) **99f:60026** 60E07 (45D05, 60F05)

de Diego, D. M. *see* **Martín de Diego, David**

martín de Diego, David *see* **Martín de Diego, David**

de Diego, David Martín *see* **Martín de Diego, David**

Diehl, H. W. (*with* Shpot, M.) Massive field-theory approach to surface critical behavior in three-dimensional systems. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 595–647. (Summary) **99g:81140** 81T17

van Diejen, J. F. (*with* Stokman, J. V.) Multivariable q-Racah polynomials. (English summary) *Duke Math. J.* **91** (1998), *no.* 1, 89–136. (Mizan Rahman) **99b:33039** 33D45

— Properties of some families of hypergeometric orthogonal polynomials in several variables. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 233–270. (Jiang Zeng) **99c:33020** 33C50 (33D45)

Diek, Adel (*with* Kantowski, R.) Some Clifford algebra history. (English summary) *Clifford algebras and spinor structures*, 3–12, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Karl-Heinz Schlote) **99i:01003** 01A05 (15–03, 15A66)

Diekert, Volker (*with* Gastin, Paul) Approximating traces. (English summary) *Acta Inform.* **35** (1998), *no.* 7, 567–593. (Yves Metivier) **99d:68074** 68Q10 (68Q45, 68Q55)

Diekmann, Odo (*with* Filali, Mohammed) Perturbations d'un générateur infinitésimal par un opérateur dépendant du temps. (English and French summaries) [Perturbations of an infinitesimal generator by a time-dependent operator] *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 21–29. (Paolo Acquistapace) **99f:47046** 47D06 (34G10)

— (*with* De Jong, M. C. M.; Metz, J. A. J.) A deterministic epidemic model taking account of repeated contacts between the same individuals. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 448–462. (P. R. Parthasarathy) **99k:92041** 92D30

— (*with* Gyllenberg, Mats; Metz, J. A. J.; Thieme, Horst R.) On the formulation and analysis of general deterministic structured population models. I. Linear theory. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 349–388. (V. N. Razzhevaikin) **99k:92025** 92D25

— *see also* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**

Diekmann, Ralf (*with* Frommer, Andreas; Monien, Burkhard) Nearest neighbor load balancing on graphs. (English summary) *Algorithms—ESA '98* (*Venice*), 429–440, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68022** 68M20

— (*with* Schlimbach, Frank; Walshaw, Chris) Quality balancing for parallel adaptive FEM. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 170–181, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65Y05)

Diele, F. (*with* Lopez, Luciano; Peluso, Roberto I.) The Cayley transform in the numerical solution of unitary differential systems. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 317–334. (Lucas Jódar) **99f:65123** 65L99

— (*with* Lopez, Luciano) The use of the factorization of five-diagonal matrices by tridiagonal Toeplitz matrices. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 61–69. (Summary) **99b:15017** 15A23 (65F30)

Diener, Marc Enseigner l'analyse avec des ordres de grandeur. [Teaching analysis using orders of magnitude] Logique dans l'enseignement des mathématiques (Liège, 1996). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, *suppl.*, 19–37. (Antoine Delcroix) **99k:00012** 00A35 (03H05, 90A99)

Diener, Roberto (*with* Castagnino, Mario A.; Lara, Luis; Puccini, Gabriel) Rigged Hilbert spaces and time asymmetry: the case of the upside-down simple harmonic oscillator. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2349–2369. (J.-P. Antoine) **99f:81043** 81Q10 (47A70, 47N50, 82B05)

Dienes, Keith R. Spacetime properties of (1, 0) string vacua. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 173–177, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Moshe, Moshe; Myers, Robert C.) Supertraces in string theory. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 178–180, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Blum, Julie D.) Strong/weak coupling duality relations for non-supersymmetric string theories. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 83–159. (Angel Maria Uranga) **99e:81177** 81T30 (83E30)

— (*with* Blum, Julie D.) From the type I string to M-theory: a continuous connection. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 93–104. (Christophe Grojean) **99e:81178** 81T30

— (*with* Dudas, Emilian; Gherghetta, Tony) Extra spacetime dimensions and unification. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 55–65. (Summary) **99e:81258** 81V22 (81T30)

— (*with* Dudas, Emilian; Gherghetta, Tony) Grand unification at intermediate mass scales through extra dimensions. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 47–108. (Summary) **99h:81228** 81V22 (81T30)

— (*with* Dudas, Emilian; Gherghetta, Tony; Riotto, A.) Cosmological phase transitions and radius stabilization in higher dimensions. (English summary) *Nuclear Phys. B* **543** (1999), *no.* 1-2, 387–422. (Summary) **99m:81162** 81T25 (81V25)

do ngoc Diep *see* **Do Ngoc Diep**

Dierker, E. *see* **Menger, Karl, 99j:01028**

Dierkes, Ulrich Minimal surfaces in singular spaces. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 150–161, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Karsten Grosse-Brauckmann) **99j:53006** 53A10 (35J60, 49Q05)

Dierolf, Peter (*with* Schmidt, Volker[2]) A proof of the change of variable formula for d-dimensional integrals. *Amer. Math. Monthly* **105** (1998), *no.* 7, 654–656. 26B15

Dierolf, Susanne (*with* Bonet, José) Inductive duals of distinguished Fréchet spaces. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **90** (1996), *no.* 3, 175–177. (Paweł Domański) **99h:46002** 46A20 (46A04, 46A13)

— (*with* Khin Aye Aye) On the spectra of elements in certain algebras of vector valued functions and sequences. *Extracta Math.* **13** (1998), *no.* 1, 35–40. (Krzysztof Jarosz) **99h:46058** 46E40 (46H05, 46J10)

— (*with* Schröder, K.-H.; Wengenroth, Jochen) Characters on certain function algebras. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 53–58. (Summary) **99k:46089** 46J10 (46E40, 46H05)

Diesel, Susan J. Irreducibility and dimension theorems for families of height 3 Gorenstein algebras. (English summary) *Pacific J. Math.* **172** (1996), *no.* 2, 365–397. (V. Brinzanescu (Zbl 882.13021)) **99f:13016** 13D40 (13H10)

Diesperov, V. N. On a problem in the theory of layer mixing. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1008–1020; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 987–998. (Corneliu Berbente) **99k:76046** 76D10 (34C05)

Dieterich, Ernst Power-associative real division algebras. (English summary) *Algebras and modules, II (Geiranger, 1996)*, 139–144, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Henrique Guzzo, Jr.) **99j:17002** 17A05 (15A63, 17A35, 17A45)

— Zur Klassifikation vierdimensionaler reeller Divisionsalgebren. (German summary) [On the classification of four-dimensional real division algebras] *Math. Nachr.* **194** (1998), 13–22. (Summary) **99f:17001** 17A05 (15A63)

Dieterman, H. A. (*with* Bakker, M. C. M.; Verweij, M. D.; Kooij, B. J.) The traveling point load revisited. (English summary) *Wave Motion* **29** (1999), *no.* 2, 119–135. (Summary) **99j:73039** 73D15 (73D25)

— (*with* Wolfert, A. R. M.; Metrikin, A. V.) Passing through the elastic wave barrier by a load moving uniformly along a smoothly inhomogeneous elastic system. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 179–183. 73D15

Diethelm, Kai (*with* Walz, Guido) Numerical solution of fractional order differential equations by extrapolation. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 231–253 (1998). (K. S. Miller) **99e:26006** 26A33 (65L99)

— A fractional version of the Peano-Sard theorem. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 7-8, 745–757. (Sorin Gheorghe Gal) **99b:41025** 41A80 (26A33, 41A15, 41A35)

— Error bounds for spline-based quadrature methods for strongly singular integrals. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 257–261. (Sven Ehrich) **99e:65037** 65D30 (41A55, 65D07, 65R10)

Dietmaier, P. The Stewart-Gough platform of general geometry can have 40 real postures. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 7–16, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Dietrich, Rainer (*with* Opper, Manfred) Statistical mechanics of learning in the presence of outliers. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9131–9147. (Summary) **99g:82063** 82C32 (68T05)

Dietrich, Volker *see* **Clifford algebras and their application in mathematical physics, 99a:00022**

Dietz, A. J. Local boundary-layer receptivity to a convected free-stream disturbance. (English summary) *J. Fluid Mech.* **378** (1999), 291–317. (Summary) **99j:76029** 76D10 (76–05, 76E05)

Dietz, D. C. (*with* Willits, C. J.) Rapid, efficient analysis of the $\lambda(n)/C_k/r/N$ queue, with application to decomposition of closed queuing networks. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 7-8, 543–556. (Summary) **99f:90039** 90B22 (60K25, 90B12)

Dietz, Hans M. (*with* Kutoyants, Yurii) A class of minimum-distance estimators for diffusion processes with ergodic properties. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 211–227. (Věra Lánská) **99b:62126** 62M05 (60J60, 62F12)

Dietz, Paul F. (*with* Raman, Rajeev) Small-rank selection in parallel, with applications to heap construction. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 33–51. (Summary) **99i:68055** 68Q22 (68P05)

Dietz, Ulrich Creation of fair B-spline surface fillets. (English summary) *Creating fair and shape-preserving curves and surfaces (Kleinmachnow, 1997)*, 251–260, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (65D07)

— Fair surface reconstruction from point clouds. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 79–86, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:65018** 65D17 (41A63)

Dieudonné, Jean Géométrie des espaces algébriques homogènes (d'après W. L. Chow). [Geometry of homogeneous algebraic spaces (after W. L. Chow)] *Séminaire Bourbaki, Vol. 1, Exp. No. 18, 111–116, Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 14M15

— Groupes de Lie algébriques (travaux de Chevalley). [Algebraic Lie groups (works of Chevalley)] *Séminaire Bourbaki, Vol. 2, Exp. No. 57, 67–74, Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 20G15

— Extensions de représentations linéaires de groupes de Lie (d'après Hochschild et Mostow). [Extensions of linear representations of Lie groups (after Hochschild and Mostow)] *Séminaire Bourbaki, Vol. 4, Exp. No. 159, 309–318, errata p. 217, Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 22E45

— Les groupes simples déduits des algèbres de Lie simples complexes. [Simple groups derived from complex simple Lie algebras] *Séminaire Bourbaki, Vol. 5, Exp. No. 194, 359–368, Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 20D06 (17B20)

— Mémoire de Bertram Kostant sur les applications de la cohomologie des algèbres de Lie réductives. [Memoir of Bertram Kostant on applications of reductive Lie algebra cohomology] *Séminaire Bourbaki, Vol. 8, Exp. No. 243, 39–51, Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 17B56

Dieulle, Laurence Fiabilité de plusieurs groupes de composants avec maintenance à des instants aléatoires. (English and French summaries) [Reliability of several sets of components with inspection at random times] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 943–946. (Summary) **99i:62236** 62N05 (60K20)

González-Diez, Gabino *see* **González-Diez, Gabino**

villanueva Díez, Ignacio *see* **Villanueva Díez, Ignacio**

Diez, J. A. *see* **Diez, Javier Alberto**

Diez, Javier (*with* de Vicente, Santiago; Garzon, Maria Luisa) Augmented Lagrangian methods for domain decomposition. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 1069–1074, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M55 (65N55)

Diez, Javier Alberto (*with* Betelú, S. I.) A two-dimensional similarity solution for capillary driven flows. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 136–140. (Summary) **99j:76036** 76D45

Díez, José A. Toward a general theory of scientific representation. (Spanish. English and Spanish summaries) Semantics and representation in scientific theories: formal analysis. *Theoria (San Sebastián)* (2) **13** (1998), *no.* 31, 113–139. (*see* **99a:00056**) 00A30

— *see also* **Semantics and representation in scientific theories: formal analysis, 99a:00056**

gutiérrez Díez, José Manuel *see* **Gutiérrez Díez, José Manuel**

Díez, Pedro (*with* Huerta, Antonio; Rodríguez-Ferran, Antonio; Pijaudier-Cabot, Gilles) Error estimation and adaptive finite element analysis of softening solids. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 333–347, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

— (*with* Egozcue, Juan José; Huerta, Antonio) A posteriori error estimation for standard finite element analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 141–157. 65N30 (65N15)

Díez Fernández, Honorato A Hamiltonian numerical finite element method for Boussinesq's "good" system. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 695–700, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M60

— A semidiscrete finite element scheme for the "good" Boussinesq system. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 2, 181–202. (Summary) **99e:65132** 65M60 (35Q53)

Di Federico, Vittorio Permanent waves in slow free-surface flow of a Herschel-Bulkley fluid. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 127–137. (Summary) **99a:76004** 76A05

— Free-surface flow of hyperconcentrations. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 1, 23–36. (Summary) **99f:76127** 76T05 (76A05)

Di Fiore, Carmine (*with* Bevilacqua, R.; Zellini, Paolo) h-space structure in matrix displacement formulas. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 11–35 (1998). (Israel Koltracht) **99g:15026** 15A57 (47B35, 68Q25)

— (*with* Zellini, Paolo) Matrix displacement decompositions and applications to Toeplitz linear systems. (English summary) *Linear Algebra Appl.* **268** (1998), 197–225. (Israel Koltracht) **99b:15016** 15A23

Di Francesco, Philippe (*with* Golinelli, O.; Guitter, E.) Meanders and the Temperley-Lieb algebra. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 1–59. (Francois Vanderseypen) **99f:82028** 82B41 (05A15)

— SU(N) meander determinants. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5905–5943. (Francois Vanderseypen) **99k:05019** 05A99 (82B23, 82B43)

— (*with* Golinelli, O.; Guitter, E.) Meander, folding, and arch statistics. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 97–147. (Sergei K. Lando) **99f:82029** 82B41 (05A15)

— Meander determinants. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 543–583. (Volkmar Welker) **99e:05007** 05A15 (57M99)

— Folding the square-diagonal lattice. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 507–548. (Francois Vanderseypen) **99k:82033** 82B41 (52C05)

— Folding transitions of the square-diagonal lattice. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 453–468. (Saburo Higuchi) **99b:82029** 82B26 (82B20, 82B27)

— New integrable lattice models from Fuss-Catalan algebras. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 3, 609–634. (Dietmar H. Bisch) **99k:82020** 82B23 (46L10, 46L37, 82B20)

— *see also* **Strings, branes and dualities, 99k:81009**

Digas, B. V. (*with* Maksimov, V. I.) On the dynamic reconstruction of controls in parabolic systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 398–412; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 384–398. (Tsvetomir Tsachev) **99d:93018** 93B30 (93C20)

Di Gennaro, Fernando (*with* Eugeni, Franco) Pseudo-Euclidean structures on Galois fields. (Italian. English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 129–142 (1998). (Summary) **99c:51007** 51E14 (51E22, 94A60)

Di Gennaro, S. Adaptive robust tracking for flexible spacecraft in presence of disturbances. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 545–568. (Summary) **99g:93057** 93C95 (73K12, 73K50)

Di Gennaro, Vincenzo A note on smooth surfaces in $\mathbf{P}^4$. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 91–96. (James E. Alexander) **99f:14043** 14J25

Diggle, P. J. (*with* Molenberghs, Geert; Michiels, B.; Kenward, M. G.) Monotone missing data and pattern-mixture models. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 153–161. (Summary) **99h:62030** 62F99

Di Giacomo, Adriano $U_A(1)$ axial symmetry: a review of results from lattice. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 12–23, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05

— (*with* Mathur, Manu) Abelianization of SU(N) gauge theory with gauge invariant dynamical variables and magnetic monopoles. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 302–322. (Summary) **99i:81148** 81T13

Di Gironimo, Patrizia (*with* Cavaliere, Paola; Longobardi, Maria) Dirichlet problem for elliptic equations in unbounded domains. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 235–253. (Galina P. Lopushanska) **99c:35043** 35J25

— (*with* Canale, Anna; Vitolo, Antonio) Functions with derivatives in spaces of Morrey type and elliptic equations in unbounded domains. (English summary) *Studia Math.* **128** (1998), *no.* 3, 199–218. (Jiří Rákosník) **99h:35036** 35J25 (46E35)

Di Gregorio, G. (*with* De Lillo, S.) Nonlinear heat conduction with time-dependent flux. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 189–192. (Summary) **99j:80004** 80A20 (35K60, 35R30)

Di Gregorio, S. (*with* Serra, Roberto; Villani, Marco) Applying cellular automata to complex environmental problems: the simulation of the bioremediation of contaminated soils. (English summary) Cellular automata (Milan, 1996). *Theoret. Comput. Sci.* **217** (1999), *no.* 1, 131–156. (*see* **99k:68007**) 90A30 (68Q80, 92D40)

al Dihan, Nailah A. *see* **Al Dihan, Nailah A.**

Dihidar, K. (*with* Khan, A. Raouf; Pal Choudhury, Pabitra; Verma, R.) Text compression using two-dimensional cellular automata. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 115–127. 68Q80

Di Ianni, Miriam (*with* Bermond, Jean-Claude; Flammini, Michele; Pérennes, Stéphane) Acyclic orientations for deadlock prevention in interconnection networks (extended abstract). (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 52–64, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (68M10, 68Q25)

van Dijk, Gerrit (*with* Mokni, Kamel) Harmonic analysis on a class of generalized Gel'fand pairs associated with hyperbolic spaces. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 167–178 (1998). (Jacques Faraut) **99c:43016** 43A85 (22E30, 43A90)
— (*with* Hille, S. C.) Maximal degenerate representations, Berezin kernels and canonical representations. (English summary) *Lie groups and Lie algebras*, 285–298, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Brian C. Hall) **99f:22015** 22E30 (43A80)
— (*with* Molchanov, Vladimir F.) The Berezin form for rank one para-Hermitian symmetric spaces. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 8, 747–799. (Nobukazu Shimeno) **99j:22012** 22E30 (43A85)
van Dijk, Herman K. (*with* Kleibergen, Frank) Bayesian simultaneous equations analysis using reduced rank structures. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 701–743. (Manfred Kraft) **99m:62163** 62P20 (62F15)
van Dijk, Marten ★ Secret key sharing and secret key generation. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1997. *Eindhoven University of Technology, Eindhoven*, 1997. viii+213 *pp. ISBN* 90-386-0591-9 (From the preface) **99b:94029** 94A60 (68P25)
— A linear construction of secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 2, 161–201. (Summary) **99f:68050** 68P25 (15A99, 94A60)
— (*with* Gehrmann, Christian; Smeets, Bernard J. M.) Unconditionally secure group authentication. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 281–296. (Andrea Sgarro) **99k:94032** 94A60 (94B05)
— (*with* Jackson, Wen-Ai; Martin, Keith M.) A general decomposition construction for incomplete secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 301–321. (Summary) **99i:94041** 94A60
van Dijk, Nico M. (*with* Sladký, Karel) On uniformization for reducible nonnegative dynamic systems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 163–168, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B22
— (*with* Sladký, Karel) On discrete-form expressions for time-inhomogeneous cumulative reward structures. *Operations Research Proceedings* 1997 (*Jena*), 162–167, *Springer, Berlin*, 1998. (*see* **99d:90008**) 60J10 (60K25, 65U05)
— Bounds and error bounds for queueing networks. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 295–319. (*see* **99a:90010**) 90B22 (60K25, 90C35)
— (*with* Taylor, Peter G.) Strong stochastic bounds for the stationary distribution of a class of multicomponent performability models. (English summary) *Oper. Res.* **46** (1998), *no.* 5, 665–674. (Summary) **99f:90042** 90B25 (90B30)
van Dijk, W. (*with* Kermode, M. W.; Moszkowski, S. A.) Solvable separable nonlocal potential models. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9571–9577. (Summary) **99h:81230** 81V35
Dijkgraaf, Robbert (*with* Verlinde, E. P.; Verlinde, Herman) Counting dyons in $N = 4$ string theory. (English summary) *Nuclear Phys. B* **484** (1997), *no.* 3, 543–561. (Summary) **99c:81175** 81T30 (17B67, 17B81, 32J81)
— Chiral deformations of conformal field theories. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 588–612. (Summary) **99g:81197** 81T40 (81R10)
— (*with* Verlinde, E. P.; Verlinde, Herman) 5D black holes and Matrix strings. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 121–142. (Richard A. Corrado) **99c:83087** 83E30 (81T30, 83C57)
— Fields, strings and duality. *Symétries quantiques* (*Les Houches*, 1995), 3–147, *North-Holland, Amsterdam*, 1998. (Marcos Mariño) **99m:81003** 81–02 (57R57, 58–02, 58Z05, 81T30)
— (*with* Verlinde, E. P.; Verlinde, Herman) Notes on Matrix and micro strings. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 225–250. (Richard A. Corrado) **99f:81156a** 81T30 (81T60, 83E30)
— (*with* Verlinde, E. P.; Verlinde, Herman) Notes on Matrix and micro strings. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 28–54. (Richard A. Corrado) **99f:81156b** 81T30 (81T60, 83E30)
— *see also* **Strings '97, 99d:81003**
Dijksma, Aad (*with* Alpay, Daniel; Rovnyak, James; de Snoo, Hendrik S. V.) Reproducing kernel Pontryagin spaces. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 425–444, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Stefania A. M. Marcantognini) **99g:46028** 46E22 (46C20, 47A57, 47B50)
— (*with* Azizov, T. Ya.) Contractive linear relations in Pontryagin spaces. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 19–51, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Stefania A. M. Marcantognini) **99h:47042** 47B50 (46C20, 47A05, 47A20)
— (*with* Alpay, Daniel; Bolotnikov, Vladimir; Rovnyak, James; Sadosky, Cora) Espaces de Hilbert inclus contractivement dans l'espace de Hardy du bi-disque. (English and French summaries) [Hilbert spaces contractively included in the Hardy space of the bidisk] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1365–1370. (Emil Straube) **99g:46029** 46E22 (32A35, 46J15, 47A45)
— (*with* Alpay, Daniel; Bolotnikov, Vladimir) On the Nevanlinna-Pick interpolation problem for generalized Stieltjes functions. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 379–408. (Adolf A. Nudelman) **99k:47032** 47A57 (30E05)
Dijkstra, D. (*with* Heeg, Ruerd S.; Zandbergen, Pieter J.) The stability of Falkner-Skan flows with several inflection points. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 82–93. (Summary) **99k:76053** 76E05 (76D10)
— *see also* **Celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics, 99d:76001** *and* **Floating, flowing, flying**
Dijkstra, Jan J. (*with* van Mill, Jan) Projections of planar Cantor sets in potential theory. *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 173–180. (Vladimir Eiderman) **99d:28005** 28A12 (31A15)
— (*with* van Mill, Jan) Extending monotone mappings. *Colloq. Math.* **77** (1998), *no.* 2, 201–210. (Eliza Wajch) **99e:54012** 54C20 (54C10, 54D35)
— (*with* Kunen, Kenneth; van Mill, Jan) Hausdorff measures and two point set extensions. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 43–60. (Vladimir Eiderman) **99e:28010** 28A78 (54G99)
Diker, Murat (*with* Brown, Lawrence M.) Ditopological texture spaces and intuitionistic sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 217–224. (Summary) **99d:03046** 03E72 (03F55, 54A40)
— (*with* Brown, Lawrence M.) Paracompactness and full normality in ditopological texture spaces. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 144–165. (Summary) **99f:54010** 54A40 (54D15, 54D20)
Dikhtyar', A. I. (*with* Il'chenko, A. V.) Oscillation of membranes in an incompressible fluid. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2470–2473. (Summary) **99g:73089** 73K70 (73D30, 73K10, 76B99)
Dikici, Ramazan A technique concerning sums arising from Fibonacci sequence in groups. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 13–30. (D. F. Holt) **99d:20067** 20F99 (11B39)
— (*with* Özkan, Engin) General recurrences in modular groups. (English and Turkish summaries) *Ege Univ. J. Fac. Sci.* **21** (1998), *no.* 2, 93–101. 20F05
— (*with* Kültür, M. Nuri) Formation of an equation involving squares of θ-theta functions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 221–227. (Michael C. Berg) **99j:11045** 11F27
— (*with* Aydin, Hüseyin) General Fibonacci sequences in finite groups. *Fibonacci Quart.* **36** (1998), *no.* 3, 216–221. (Colin M. Campbell) **99e:20025** 20D15
Dikoussar, N. D. *see* **Dikusar, N. D.**
Dikovskiĭ, A. Ya. (*with* Dekhtyar, Mikhail I.; Spyratos, Nicolas) On conservative enforced updates. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 244–257, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:68053** 68P15
— (*with* Dekhtyar, Mikhail I.; Spyratos, Nicolas) On logically justified updates. (English summary) *Logic programming* (*Manchester*, 1998), 250–264, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68044** 68P15 (68T30)
— (*with* Dekhtyar, Mikhail I.; Spyratos, Nicolas) Recovery of integrity constraints by the smallest sufficient changes. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 2, 27–37; *translation in Program. Comput. Software* **24** (1998), *no.* 2, 63–70. (Introduction) **99k:68041** 68P15 (68T27)
Dikranjan, Dikran N. (*with* Pelant, Jan) Categories of topological spaces with sufficiently many sequentially closed spaces. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 4, 277–300. (S. J. R. Vorster) **99c:18002** 18B30 (54B30, 54D35, 54D55)
— (*with* Ciesielski, Krzysztof[2]; Watson, W. Stephen) Functions characterized by images of sets. *Colloq. Math.* **77** (1998), *no.* 2, 211–232. (Manuel Sanchis) **99f:54013** 54C05 (26A15)
— Chains of pseudocompact group topologies. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 65–100. (Michael Tkačenko) **99a:22003** 22A05 (22C05, 54A10, 54A35, 54H11)
— (*with* Berarducci, Alessandro; Forti, Marco; Watson, W. Stephen) Cardinal invariants and independence results in the poset of precompact group topologies. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 19–49. (A. Revuz) **99b:22001** 22A05
— (*with* Uspenskiĭ, Vladimir V.) Categorically compact topological groups. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 149–168. (Ljubiša Kočinac) **99c:22001** 22A05 (22C05, 54D25, 54D30, 54H11)
— Compactness and connectedness in topological groups. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 227–252. (Michael Tkačenko) **99b:54060** 54H11 (22A05, 54D05, 54D30, 54F45)
— Recent advances in minimal topological groups. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 53–91. (Michael Tkačenko) **99d:54018** 54H11 (22A05, 54D30)
— Quotients of zero-dimensional precompact abelian groups. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 47–62. (Michael Tkačenko) **99e:54028** 54H11 (22A05, 54D05, 54D25, 54F45)
— *see also* **Abelian groups, module theory, and topology, 99f:00028**
Diks, Krzysztof (*with* Chlebus, Bogdan S.; Pelc, Andrzej) Transition-optimal token distribution. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 313–328. (Summary) **99g:68014** 68M10 (68M20)
— (*with* Kranakis, Evangelos; Pelc, Andrzej) Perfect broadcasting in unlabeled networks. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 33–47. (Summary) **99g:68015** 68M10
— (*with* Dobrev, Stefan; Kranakis, Evangelos; Pelc, Andrzej; Ružička, Peter) Broadcasting in unlabeled hypercubes with a linear number of messages. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 181–186. (Summary) **99b:68013** 68M10
— (*with* Kranakis, Evangelos; Pelc, Andrzej) Broadcasting in unlabeled tori. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 177–188. (Summary) **99f:68014** 68M10
— (*with* Hagerup, Torben) More general parallel tree contraction: register allocation and broadcasting in a tree. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 3–29. (Editors) **99g:68082** 68Q22 (68M10)
— (*with* Pelc, Andrzej) System diagnosis with smallest risk of error. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 163–173. (Summary) **99e:68010** 68M15
Dikshit, G. D. Absolute Euler summability of Fourier series. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 268–282. (Prem Chandra) **99d:42010** 42A28 (40G05)
Dikshit, H. P. Some recent trends in constructive approximation. *Math. Student* **66** (1997), *no.* 1-4, 83–134. (Bl. Sendov) **99d:41003** 41–02 (65D15)
Dikta, Gerhard On semiparametric random censorship models. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 253–279. (Winfried Stute) **99b:60043** 60F15 (60F17, 62F10, 62G30)
Dikusar, N. D. (*with* Avdeev, M. V.) Spline approximation and smoothing using the adaptive projective filters. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 82–90, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65D07 (41A15)
Dikusar, V. V. Optimal control problems with mixed constraints. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1466–1472, 1580; *translation in Differential*

Equations **32** (1996), *no.* 11, 1462–1468 (1997). (Vladimir I. Sumin) **99d:49053** 49M05 (49K15)

— (*with* Abramov, A. P.) Irregular points in a two-sector economic model of foreign debt. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1587–1591, 1725; *translation in Differential Equations* **33** (1997), *no.* 12, 1591–1595 (1998). 90A15

Dilão, Rui (*with* Schiappa, Ricardo) The dynamics of knotted strings attached to D-branes. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 26–32. (Summary) **99d:81133** 81T30

Dilger, Werner (*with* Hennebach, Ekkehard) Algebraic operations on a class of Mamdani-controllers. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 253–259. (*see* **99k:93004**) 93C42

Diligenti, M. (*with* Aimi, A.; Carini, Angelo; Monegato, G.) Numerical integration schemes for evaluation of (hyper)singular integrals in 2D BEM. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 1–11. (Summary) **99e:65034** 65D30

Dilkes, F. A. (*with* McKeon, D. G. C.) The superconformal particle. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 5, 761–767. (Gagik T. Ter-Kazarian) **99m:81247** 81T60 (81T30)

Dill, D. L. (*with* Park, Seungjoon) Verification of cache coherence protocols by aggregation of distributed transactions. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 355–376. (Summary) **99b:68073** 68Q10 (68Q60)

Dillen, Franki (*with* Blair, David E.; Verstraelen, Leopold; Vrancken, Luc) Deformations of Legendre curves. *Note Mat.* **15** (1995), *no.* 1, 99–110 (1997). (Christos Baikoussis) **99b:53076** 53C40 (53C25)

— (*with* Chen, Bang-Yen; Vrancken, Luc; Verstraelen, Leopold) A variational minimal principle and its applications. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 435–444. (G. Tóth) **99m:58060** 58E20 (53C42)

— (*with* Van de Woestyne, I.; Verstraelen, Leopold; Walrave, J.) The surface of Scherk in $\mathbf{E}^3$: a special case in the class of minimal surfaces defined as the sum of two curves. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 257–267. (João Lucas Marques Barbosa) **99j:53007** 53A10

— (*with* De Smet, P. J.; Verstraelen, Leopold; Vrancken, Luc) The normal curvature of totally real submanifolds of $S^6(1)$. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 199–204. (Jürgen Berndt) **99d:53055** 53C40

— (*with* Vrancken, Luc) Hypersurfaces with parallel difference tensor. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 1, 43–60. (Włodzimierz Jelonek) **99e:53013** 53A15 (53B25)

— (*with* Vrancken, Luc) When do some geodesics of the induced and the metrical connection coincide? (English summary) *Math. Nachr.* **192** (1998), 173–189. (Juan de D. Pérez) **99c:53035** 53C22 (53A15)

— (*with* Chen, Bang-Yen; Verstraelen, Leopold; Vrancken, Luc) Lagrangian isometric immersions of a real-space-form $M^n(c)$ into a complex-space-form $\widetilde{M}^n(4c)$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 107–125. (Ildefonso Castro) **99c:53063** 53C42

Dillinger, Hervé (*with* Delabaere, Eric; Pham, Frédéric) Exact semiclassical expansions for one-dimensional quantum oscillators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6126–6184. (Summary) **99c:81041** 81Q20 (34E20, 34L40)

Dilts, Gary A. Moving-least-squares-particle hydrodynamics. I. Consistency and stability. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1115–1155. (Summary) **99k:76107** 76M25

Dima, Cătălin Note: correcting a bug in the proof of the reduction theorem for hybrid cooperating distributed grammar systems. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **24** (1997), 147–157 (1998). (Summary) **99j:68070** 68Q50

Dimagiba, R. R. M. (*with* Wearing, J. L.) The development of the boundary element method for three-dimensional elasto-plastic analysis. (English summary) *Boundary element research in Europe (Southampton, 1998)*, 93–102, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73V10

Di Maio, G. (*with* Holá, Ľubica; Holý, D.; McCoy, Robert A.) Topologies on the space of continuous functions. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 77–91 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C35 (54C05, 54E05, 54E15, 54E35)

— (*with* Holá, Ľubica; Holý, D.; McCoy, Robert A.) Topologies on the space of continuous functions. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 105–122. (S. A. Peregudov) **99c:54020** 54C35 (54E05, 54E15)

Dimakis, Aristophanes (*with* Müller-Hoissen, Folkert) Connes' distance function on one-dimensional lattices. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 907–913. (Francois Vanderseypen) **99d:58023** 58B30

Dimant, Verónica (*with* Dineen, Seán) Banach subspaces of spaces of holomorphic functions and related topics. *Math. Scand.* **83** (1998), *no.* 1, 142–160. (Richard M. Aron) **99m:46031** 46B20 (46B28)

Di Marco, Silvia C. (*with* Gonzalez, Roberto L. V.) Supersolutions and subsolutions techniques in a minimax optimal control problem with infinite horizon. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1083–1098. (A. M. Tarasyev) **99i:49033** 49L25 (49K15, 49K35, 90D25)

Di Martino, Bernard *see* **di Martino, Bernard**

Di Martino, Lino *see* **di Martino, Lino**

Di Masi, G. B. (*with* Stettner, Łukasz) Bayesian adaptive control of discrete-time Markov processes with long-run average cost. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 55–62. (Bożenna Pasik-Duncan) **99d:93075** 93E35 (60J05)

Dimassi, Mouez Trace asymptotics formulas and some applications. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 1-2, 1–32. (Vladimir Tulovsky) **99j:35158** 35P20 (35B20, 35S05, 47G30, 58G18)

Dimca, Alexandru (*with* Lehrer, G. I.) Purity and equivariant weight polynomials. *Algebraic groups and Lie groups*, 161–181, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Andrzej Kozlowski) **99h:14023** 14F25 (14M25)

— A sheaf-theoretic view at the topology of polynomials. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 17–22. (Enrique Artal Bartolo) **99a:32055** 32S20 (32S40, 32S60)

— (*with* Paunescu, L.) Real singularities and dihedral representations. (English summary) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 67–82. (Laurenţiu Păunescu) **99g:14070** 14P25 (32S55)

— (*with* Artal-Bartolo, Enrique; Cassou-Noguès, Pierrette) Sur la topologie des polynômes complexes. [On the topology of complex polynomials] *Singularities (Oberwolfach, 1996)*, 317–343, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Ricardo García López) **99k:32069** 32S50 (32S55)

— Monodromy at infinity for polynomials in two variables. *J. Algebraic Geom.* **7** (1998), *no.* 4, 771–779. (Enrique Artal Bartolo) **99h:32040** 32S40 (14H20, 32S20)

Di Menza, Laurent (*with* Maleck-Rassoul, Rysvan) Résolution numérique par différences finies d'un système couplé issu de la dynamique des plasmas. (English and French summaries) [Numerical solution by finite differences of a coupled system derived from plasma dynamics] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 111–116. (Summary) **99g:78004** 78–08 (76X05, 78A60)

le Dimet, Francois-Xavier *see* **Le Dimet, Francois-Xavier**

le Dimet, Jean-Yves *see* **Le Dimet, Jean-Yves**

Dimitrić, Radoslav On the roots of a polynomial. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 203–206. 12D10

Dimitrienko, Irina D. *see* **Dimitrienko, Yu. I., 99i:73052**

Dimitrienko, Yu. I. Mechanics of porous media with phase transformations and periodical structures. I. Method of asymptotic averaging. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 2, 305–319. (Alain Brillard) **99c:76105** 76S05 (35B27, 35Q35, 73B27)

— Mechanics of porous media with phase transformations and periodical structures. II. Solutions of local and global problems. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 2, 321–337. (Alain Brillard) **99c:76106** 76S05 (35B27, 35Q35, 73B27)

— ★ Thermomechanics of composites under high temperatures. (English summary) Translated from the Russian manuscript by Irina D. Dimitrienko. Solid Mechanics and its Applications, 65. *Kluwer Academic Publishers Group, Dordrecht*, 1999. *xviii+347 pp. ISBN* 0-7923-5309-9 (Publisher's description) **99i:73052** 73K20 (73B30)

Dimitriou, Tassos (*with* Impagliazzo, Russell) Go with the winners for graph bisection. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 510–520, *ACM, New York*, 1998. (Summary) **99d:68101** 68Q25 (05C85, 68Q35, 68R10)

Dimitropoulos, Costas D. (*with* Edwards, Brian J.; Chae, Kyung-Sun; Beris, Antony N.) Efficient pseudospectral flow simulations in moderately complex geometries. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 517–549. (Summary) **99c:76083** 76M25

Dimitrov, Boyan Uncertainty in periodic random environment and its applications. (English summary) *Applications of mathematics in engineering (Sozopol, 1997)*, 15–26, *Heron Press, Sofia*, 1998. (Lajos Horváth) **99g:60179** 60K30

Dimitrov, Dimitar K. (*with* de Andrade, Eliana X. L.) Chebyshev-Laurent polynomials and weighted approximation. (English summary) *Orthogonal functions, moment theory, and continued fractions (Campinas, 1996)*, 1–14, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Günther Nürnberger) **99k:41001** 41A05 (41A10, 41A50)

— Counterexamples to a problem of Pólya and to a problem of Karlin. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 479–489. (J. Szabados) **99k:41008** 41A10 (30C10, 30C15)

— (*with* de Andrade, Eliana X. L.; Sri Ranga, Alagacone) Characterization of generalized Bessel polynomials in terms of polynomial inequalities. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 538–543. (H. M. Srivastava) **99b:33011** 33C45

— Higher order Turán inequalities. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 7, 2033–2037. (Gradimir V. Milovanović) **99g:33021** 33C45 (30D10)

Dimitrov, I. *see* **Dimitrov, Ivan Kolev**

Dimitrov, I. P. (*with* Balikov, G. I.) Some non-metrizable spaces of harmonic functions. (English summary) *Transform methods & special functions, Varna '96*, 24–31, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:31001** 31A05

Dimitrov, Ivan Kolev (*with* Penkov, Ivan) Partially and fully integrable modules over Lie superalgebras. (English summary) *Modular interfaces (Riverside, CA, 1995)*, 49–67, *AMS/IP Stud. Adv. Math.*, 4, *Amer. Math. Soc., Providence, RI*, 1997. (Hartmut Schlosser) **99a:17009** 17B10 (17B66)

— (*with* Penkov, Ivan) Partially integrable highest weight modules. (English summary) *Transform. Groups* **3** (1998), *no.* 3, 241–253. (Yuliy Billig) **99j:17035** 17B67

Dimitrov, Vassil S. (*with* Jullien, Graham A.; Miller, William C.) A residue number system implementation of real orthogonal transforms. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 563–570. (Summary) **99h:94014** 94A12

— (*with* Jullien, Graham A.; Miller, William C.) An algorithm for modular exponentiation. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 155–159. (Summary) **99d:94023** 94A60

Dimitrova, J. M. Subrings and submodules of crossed products of groups and rings. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 67–72. (Adalbert Bovdi) **99f:16030** 16S35

Dimitrova, Margarita B. (*with* Bainov, Drumi Dimitrov; Dishliev, Angel B.) Necessary and sufficient conditions for existence of nonoscillatory solutions of impulsive differential equations of second order with retarded argument. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 287–297. (Summary) **99a:34180** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov) Oscillation of nonlinear impulsive differential equations with deviating argument. (English summary) *Bol. Soc. Parana. Mat.* (2) **16** (1996), *no.* 1-2, 9–21 (1997). (Jun Jie Wei) **99m:34156** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov) Oscillatory properties of the solutions of impulsive differential equations with a deviating argument and nonconstant coefficients. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1027–1040. (Jun Jie Wei) **99d:34124** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Petrov, Vasil Angelov) Oscillatory properties of solutions of impulsive differential equations with several retarded arguments. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 201–212. (Eduardo Liz) **99c:34154** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Simeonov, Pavel) Oscillatory properties of the solutions of impulsive differential equations with retarded argument and oscillating coefficients. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 63–74. (Summary) **99f:34101** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Dishliev, Angel B.) Oscillatory solutions of a class of nonlinear impulsive differential equations of first order with retarded argument. (English

summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 215–230. (Jun Jie Wei) **99m:34157** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Dishliev, Angel B.) Oscillation of the solutions of a class of impulsive differential equations with a deviating argument. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 95–102. (Jun Jie Wei) **99d:34125** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Petrov, Vasil Angelov) Sufficient conditions for existence of bounded nonoscillating solutions of neutral operator-differential equations. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 39–47. (Summary) **99d:34127** 34K15 (34K30, 34K40)

— (*with* Bainov, Drumi Dimitrov) Temperate oscillating solutions of operator-differential equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 23–30. (M. K. Grammatikopoulos) **99f:34102** 34K15 (34G20, 34K30)

— (*with* Bainov, Drumi Dimitrov; Dishliev, Angel B.) Oscillation of the solutions of impulsive differential equations and inequalities with a retarded argument. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 25–40. (Eduardo Liz) **99e:34094** 34K15 (34A37)

Dimitrovski, Dragan (*with* Rajović, Miloje; Stojiljković, Rade) Méthode des itérations appliquée aux équations de type I. N. Vécua d'ordre supérieur aux coefficients analytiques. (French summary) [Iteration method applied to higher-order equations of I. N. Vekua type with analytic coefficients] *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 355–363. 35C99 (30G20, 35A35, 35J45)

— (*with* Rajović, Miloje; Stojiljković, Rade) Elementary solution of Vecua equation with analytic coefficients on $z, \bar{z}$. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 123–128. (Kerim Koca) **99m:30095** 30G20 (35J45)

— (*with* Stefanovska, L.; Kujumdzieva-Nikoloska, M.) Every Riccati equation can be solved by quadratures in a wider sense. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 221–228. (Summary) **99g:34003** 34A05

Dimopoulos, Savas (*with* Antoniadis, Ignatios; Dvali, Gia) Millimetre-range forces in superstring theories with weak-scale compactification. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 70–82. (Summary) **99b:81270** 81V22 (81T30)

— (*with* Argyres, Philip C.; March-Russell, John) Black holes and sub-millimeter dimensions. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 96–104. 83C57 (83F05)

Dimou, G. Special Lie algebras in 12-dimensional complex space. *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 86–89. 17B05

— New representation of a non-symmetric homogeneous domain in $\mathbf{C}^n$, $n = 8$. *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 98–103 (1994). 32M15 (17B30, 22E25)

Dimov, Ivan T. (*with* Jaekel, U.; Vereecken, H.; Wendt, D.) A numerical approach for determination of sources in reactive transport equations. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 189–204, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:82061** 82C70 (65C05, 65D30, 65M99, 82–08)

— (*with* Karaivanova, Aneta; Yordanova, P. I.) Monte Carlo algorithms for calculating eigenvalues. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 205–220, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:65060** 65F15 (65C05)

— (*with* Dimov, T. T.; Gurov, T. V.) A new iterative Monte Carlo approach for inverse matrix problem. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 15–35. (Summary) **99c:65006** 65C05 (65F10, 65U05)

— (*with* Aleksandrov, V. N.) A new highly convergent Monte Carlo method for matrix computations. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 165–181. (Sergei A. Nemnyugin) **99j:65006** 65C05 (65F30)

— (*with* Gurov, T. V.) Estimates of the computational complexity of iterative Monte Carlo algorithm based on Green's function approach. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 183–199. (Michael Mascagni) **99h:65009** 65C05 (65N99, 65Y20)

— (*with* Karaivanova, Aneta) Error analysis of an adaptive Monte Carlo method for numerical integration. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 201–213. (Petru P. Blaga) **99h:65011** 65C05 (65D30)

— (*with* Nedjalkov, M.) Convergency of the Monte Carlo algorithms for linear transport modeling. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 383–390. (Summary) **99d:82067** 82C80 (65C05, 82C70)

— (*with* Karaivanova, Aneta) Parallel computations of eigenvalues based on a Monte Carlo approach. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 1, 33–52. (Summary) **99a:65013** 65C05 (65F15)

Dimov, Lazo A. Formation of a linear Volterra integral equation whose solution is the square of the solution of a simpler linear integral equation. (Macedonian. English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 27–38. (From the summary) **99i:45003** 45D05

Dimov, T. T. (*with* Dimov, Ivan T.; Gurov, T. V.) A new iterative Monte Carlo approach for inverse matrix problem. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 15–35. (Summary) **99c:65006** 65C05 (65F10, 65U05)

Dimova, E. A. On the distribution of the zeros of some composed polynomials. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 99–105. (M. K. Jain) **99d:30008** 30C15

Dimova, Stefka (*with* Kaschiev, M. S.; Koleva, Milena; Vasileva, Daniela) Numerical analysis of radially nonsymmetric blow-up solutions of a nonlinear parabolic problem. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 81–97. (Erwin Schechter) **99j:65165** 65M60 (35B40, 35K55, 65M06)

Dimovski, I. H. (*with* Mincheva, Svetlana) Automorphisms of C which commute with the integration operator. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 69–76. (M. M. Malamud) **99c:47035** 47B38 (45D05, 45P05, 47G10)

— (*with* Kiryakova, Virginia S.) Obrechkoff's generalization of the Laplace and Meijer transforms: origins and recent developments. (English summary) *Transform methods & special functions, Varna* '96, 557–576, *Bulgarian Acad. Sci., Sofia*, 1998. (P. P. Teodorescu) **99m:01024** 01A60 (44–03, 44A10)

— *see also* **Transform methods & special functions**, **99i:00031**

shoaib-ud-Din *see* **Shoaib-ud-Din**

ud Din, Shoaib *see* **Shoaib-ud-Din**

abou-Dina, M. S. *see* **Abou-Dina, M. S.**

passarelli Di Napoli, Antonia *see* **Passarelli Di Napoli, Antonia**

Dinariev, O. Yu. On the stability of steady filtration flows of a gas-condensate mixture. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 768–777; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 759–767. (Vadim S. Nustrov) **99f:76123** 76S05 (76E99, 76T05)

— (*with* Nikolaevskiĭ, V. N.) Constitutive relations for a viscoelastic medium with microrotations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1023–1030; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 987–994 (1998). (Summary) **99c:73030** 73F05 (73Q05, 73S10)

— The equivalence of classical statistical mechanics and nonlocal hydrodynamics in a certain class of external forces. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 3, 23–28; *translation in Russian Phys. J.* **41** (1998), *no.* 3, 211–216. (Summary) **99g:82003** 82B05 (76M35)

Di Nasso, Mauro Linearly stratified models for the foundations of nonstandard mathematics. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 138–142. (Pavol Zlatoš) **99b:03083** 03H05 (03E70)

Dinca, George (*with* Panagiotopoulos, Panagiotis D.; Pop, Gabriela) An existence result on noncoercive hemivariational inequalities. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 609–632. (Daniel Goeleven) **99d:47069** 47H19 (49J40)

Dindar, M. (*with* Flaherty, J. E.; Loy, R. M.; Shephard, M. S.; Szymanski, B. K.; Teresco, J. D.; Ziantz, L. H.) An adaptive and parallel framework for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 74–90, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65189** 65Y05 (65M60, 65N30)

Dine, Michael Coming to terms with strongly coupled strings. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 181–184, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Rajaraman, Arvind) Multigraviton scattering in the matrix model. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 77–85. (Summary) **99c:81151** 81T18 (81T30, 83E30)

— (*with* Nir, Yosef; Shadmi, Yael) Enhanced symmetries and the ground state of string theory. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 61–68. (Summary) **99g:81157** 81T30

— (*with* Echols, Robert; Gray, Joshua P.) Renormalization of higher derivative operators in the Matrix model. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 103–110. (Summary) **99h:81162** 81T30 (81T15)

de Dinechin, Florent (*with* Wilde, Doran K.; Rajopadhye, Sanjay; Andonov, Rumen) A regular VLSI array for an irregular algorithm. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 195–200, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 68Q35

Dineen, Seán (*with* Aron, Richard M.) Q-reflexive Banach spaces. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1009–1025. (Ignacio Zalduendo) **99h:46010** 46B20 (46B28, 46G20)

— (*with* Díaz Alcaide, Juan Carlos) Polynomials on stable spaces. *Ark. Mat.* **36** (1998), *no.* 1, 87–96. (Ignacio Zalduendo) **99a:46082** 46G20 (46A03, 46A32)

— (*with* Boyd, Christopher) Compact sets of holomorphic mappings. (English summary) *Math. Nachr.* **193** (1998), 27–36. (Luiza Amália de Moraes) **99m:46111** 46G20 (46E50)

— (*with* Dimant, Verónica) Banach subspaces of spaces of holomorphic functions and related topics. *Math. Scand.* **83** (1998), *no.* 1, 142–160. (Richard M. Aron) **99m:46031** 46B20 (46B28)

Dinesh Kumar, U. Reliability analysis of fault tolerant recovery blocks. (English summary) *Opsearch* **35** (1998), *no.* 4, 281–294. 90B25

— (*with* Berman, Oded) Optimization models for complex recovery block schemes. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 5, 525–544. 90B25 (68N99)

— (*with* Gopalan, M. N.) On the utilization of a merge production system under "make-to-order" policy—semi-regenerative modelling. (English summary) *Opsearch* **36** (1999), *no.* 1, 10–25. 90B30 (90C35)

Ding, Chang Ming (*with* Zhao, Qing Yu) Absence of closed orbits in the Liénard plane. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1035–1038. (Summary) **99m:34088** 34C25

Ding, Chun Mei Direct and converse theorems on approximation by Bernstein-Durrmeyer polynomials in Orlicz spaces. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 211–214, 217. 41A35

Ding, Cunsheng Linear complexity of generalized cyclotomic binary sequences of order 2. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 2, 159–174. (Winfried Müller) **99a:11017** 11B50 (68P25, 94A55, 94A60)

— (*with* Laihonen, Tero; Renvall, Ari) Linear multisecret-sharing schemes and error-correcting codes. (English summary) *J.UCS* **3** (1997), *no.* 9, 1023–1036 (*electronic*). (Kanat S. Abdukhalikov) **99k:94033** 94A60 (94B05)

— (*with* Cusick, Thomas W.; Renvall, Ari) ★ Stream ciphers and number theory. North-Holland Mathematical Library, 55. *North-Holland Publishing Co., Amsterdam*, 1998. *xiv*+431 *pp. ISBN* 0-444-82873-7 (Author's review (T.W.C.)) **99h:94045** 94A60 (11T71)

— (*with* Anderson, Ross; Helleseth, Tor; Kløve, Torleiv) How to build robust shared control systems. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 111–124. (Summary) **99i:94039** 94A60

— (*with* Helleseth, Tor) New generalized cyclotomy and its applications. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 2, 140–166. (Robin J. Chapman) **99b:11135** 11T22 (11T71, 94B15)

— (*with* Helleseth, Tor; Shan, Weijuan) On the linear complexity of Legendre sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1276–1278. (Summary) **99d:94017** 94A55 (94A60)

— Autocorrelation values of generalized cyclotomic sequences of order two. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1699–1702. (Summary) **99h:94042** 94A55

— (*with* Helleseth, Tor) On cyclotomic generator of order r. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 1, 21–25. (Summary) **99c:94029** 94A60 (65C10)

— Linear complexity of some generalized cyclotomic sequences. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 4, 431–442. (Dingyi Pei) **99k:11026** 11B50

Ding, Decheng (*with* Su, Kai-Le; Chen, Huo Wang) A three-valued quantificational logic of context. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 343–352, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (N. C. A. da Costa) **99j:03015** 03B45 (03B50, 03B70)

Ding, Deng A note on probabilistic interpretation for quasilinear mixed boundary problems. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 9, 857–864; *translated from Appl. Math. Mech.* **18** (1997), *no.* 9, 799–805 (*Chinese. English and Chinese summaries*). (Michael A. Kouritzin) **99c:35119** 35K60 (35J60, 35R60, 60J70)

Ding, Dihua (*with* Lei, Jianlin; Wang, Renhui; Wang, Zhouguang) Calculation and illustration of section-projection diagrams of quasicrystals. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 40–44. 82D25

Ding, E. L. (*with* Ding, Steven Xianchun; Jeinsch, T.) Sensitivity analysis and design of observer-based fault diagnosis systems. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 51–71. 93B35 (93E12)

Ding, Feng[2] (*with* Yang, Jia Ben) A convergence analysis of multi-innovation identification under attenuating excitation conditions for deterministic systems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 111–115. 93B30

Ding, Guoli (*with* Oporowski, Bogdan; Sanders, Daniel P.; Vertigan, Dirk) Partitioning graphs of bounded tree-width. (English summary) *Combinatorica* **18** (1998), *no.* 1, 1–12. (Peter Mihók) **99i:05162** 05C70 (90C35)

— Chordal graphs, interval graphs, and wqo. (English summary) *J. Graph Theory* **28** (1998), *no.* 2, 105–114. (Jean-Paul Doignon) **99e:05081** 05C38

Ding, Hao Jiang (*with* Li, Yu) Plane problems of cylindrical anisotropic elasticity. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 11–18, *I–II*. 73B40 (73C02)

— (*with* Peng, Nan Ling; Li, Wen Xian) A method of resolving the paradoxes concerning a cylindrical wedge subject to a concentrated couple at the vertex or to uniform traction on the surface. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 37–45, *III–IV*. 73B50 (73B40)

— (*with* Peng, Nan Ling; Li, Yu) The wedge subjected to tractions proportional to r^n: a paradox resolved. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 20, 2695–2714. (Alexander B. Movchan) **99e:73030** 73C02 (73V35)

Ding, Hongming Ramanujan's master theorem for Hermitian symmetric spaces. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 35–52. (Vladimir V. Kisil (Zbl 906.22009)) **99k:43011** 43A85 (22E30, 22E45)

— Generalized binomial expansion on complex matrix space. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 523–537. (Jacques Faraut) **99g:43011** 43A90 (33C80)

Ding, J. *see* **Ding, Jiu**

Ding, Jintai (*with* Khoroshkin, Sergei) On the FRTS approach to quantized current algebras. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 4, 331–352. (Louis H. Kauffman) **99i:17015** 17B37 (81R50)

Ding, Jiu A maximum entropy method for solving Frobenius-Perron operator equations. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 155–168. (I. K. Marek) **99g:65065** 65J10 (41A36, 65D07, 65N30)

— On the perturbation of least squares problems with equality constraints. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 35–47. (Summary) **99j:65067** 65F20 (15A09)

— Perturbation results for projecting a point onto a linear manifold. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 696–700 (*electronic*). (Ilse C. F. Ipsen) **99e:15003** 15A09 (15A12, 65F20)

— (*with* Zhou, Ai Hui) The projection method for a class of Frobenius-Perron operators. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 71–74. (Makoto Mori) **99i:47054** 47B38 (58F19, 65Q05)

— Perturbation bounds for least squares problems with equality constraints. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 631–638. (Mu Sheng Wei) **99m:90138** 90C31 (15A18, 65F20)

Ding, Ke Yue Convergence rates in r-mean and in the law of large numbers for DRCE random array. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 194–205. (Allan Gut) **99k:60099** 60F25

— (*with* Su, Chun) Some limit properties of DRCE random arrays. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 241–248. (Summary) **99i:60067** 60F15 (60G09)

Ding, Kequan Rook placements and generalized partition varieties. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 63–95. (James B. Haglund) **99c:05205** 05E15 (05A30, 14M17)

Ding, Kuo-Shun (*with* Ho, Ching-Tien; Tsay, Jyh-Jong) Matrix transpose on meshes with wormhole and XY routing. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 41–59. (Summary) **99d:15022** 15A99 (68M10, 68Q22)

Ding, Li Juan Accuracy of Lax-Wendroff scheme for discontinuous solutions of convection equations. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2047–2051. 65M30 (65M06)

— Accuracy of Lax-Wendroff scheme for discontinuous solutions of convection equations. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 19, 2056–2059. 65M06

Ding, Lifeng (*with* Azoff, Edward A.) A good side to non-reflexive transformations. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 1–21, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Sing Cheong Ong) **99h:47050** 47D25 (47A99, 47C05)

Ding, Lixin (*with* Zhou, Shaoqian; Zhang, Jian[1]; Tang, Xinhua) Linearization learning method of BP neural networks. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 35–39. (Summary) **99h:68147** 68T05

Ding, Mingzhou (*with* Grebogi, Celso; Yorke, James A.) Chaotic dynamics. (English summary) *The impact of chaos on science and society (Tokyo, 1991)*, 1–17, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 58F13 (82C05)

Ding, Nan Qing (*with* Chen, Jian Long) Relative covers and envelopes. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 609–616. (Shi Ping Liu) **99g:16003** 16D40 (16D50)

— (*with* Chen, Jian Long) On a characterization of perfect rings. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 785–791. (Joseph Neggers) **99k:16038** 16L30 (16D40)

Ding, Qing[2] (*with* Cheng, T. C. Edwin) The complexity of single machine scheduling with two distinct deadlines and identical decreasing rates of processing times. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 95–100. (Summary) **99c:90063** 90B35 (68Q25)

— (*with* Cheng, T. C. Edwin) The time dependent machine makespan problem is strongly NP-complete. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 8, 749–754. (Summary) **99m:90085** 90B35 (90C60)

Ding, Ren (*with* Xu, Chang Qin; Li, Yingzi) A note on city block distance. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 331–334. (From the text) **99i:68124** 68U10 (68T10)

Ding, Rui (*with* Zhu, Zheng You; Cheng, Chang Jun) Boundary element method for solving dynamical response of viscoelastic thin plate. I. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 3, 229–235; *translated from Appl. Math. Mech.* **18** (1997), *no.* 3, 211–216 (*Chinese. English and Chinese summaries*). (Summary) **99d:73095** 73V10 (73F15, 73K10)

— (*with* Zhu, Zheng You; Cheng, Chang Jun) Boundary element method for solving dynamical response of viscoelastic thin plate. II. Theoretical analysis. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 101–110; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 95–103 (*Chinese. English and Chinese summaries*). (Summary) **99e:73059** 73F15 (73K10, 73V10)

Ding, S. X. *see* **Ding, Steven Xianchun**

Ding, Sheng (*with* Yuan, Zhendong; Chen, Qi; Diao, Lianwang) Credible sets for system parameters and transfer functions. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 150–160. (Summary) **99c:93112** 93E12

Ding, Shi Jin (*with* Tao, You Shan; Yin, Hong-Ming) A chemical diffusion process with reaction taking place at free boundary. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 1, 49–74. (Alberto Valli) **99d:35183** 35R35 (35K57, 80A32)

— (*with* Chen, Yun Mei; Guo, Bo Ling) Partial regularity for two-dimensional Landau-Lifshitz equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1043–1046. 35Q55 (35D10)

— (*with* Liu, Zu Han) Remarks on the asymptotic behavior of a class of Ginzburg-Landau functionals. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 621–628. 35Q55 (58E35)

— (*with* Guo, Bo Ling) Initial-boundary value problem for the Landau-Lifshitz system. II. Uniqueness. (English summary) *Progr. Natur. Sci. (English Ed.)* **8** (1998), *no.* 2, 147–151. (Introduction) **99j:82056** 82C20 (35Q55)

— (*with* Liu, Zu Han; Yu, Wanghui) A variational problem related to the Ginzburg-Landau model of superconductivity with normal impurity inclusion. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 48–68 (*electronic*). (Song Mu Zheng) **99f:35186** 35Q55 (35B40, 49J24, 58E50)

— (*with* Fan, Jishan) Asymptotics for the time dependent Ginzburg-Landau equations. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 241–255. (Summary) **99k:35162** 35Q55 (35B40, 58E50)

Ding, Shu Sen (*with* Xie, Hong Zheng) Norm comparison theorems for conjugate A-harmonic tensors. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 2, 205–212; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 2, 151–159. (Sing Cheong Ong) **99c:26014** 26D15 (31B99)

— (*with* Shi, Peilin) Weighted Poincaré-type inequalities for differential forms in $L^s(\mu)$-averaging domains. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 200–215. (Anna Mercaldo) **99m:46077** 46E35 (26D10, 35B45)

— Some examples of conjugate p-harmonic differential forms. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 251–270. (Akira Asada) **99i:58007** 58A10 (58A14, 73C50)

Ding, Steven Xianchun (*with* Jeinsch, T.; Ding, E. L.) Sensitivity analysis and design of observer-based fault diagnosis systems. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 51–71. 93B35 (93E12)

Ding, Su Zhen (*with* Wang, He Yuan) Numerical analysis of corank N bifurcation problems. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 231–238. (Fu Ming Ma) **99j:65104** 65J15 (47H17, 65H17)

Ding, Sunhong (*with* Chu, Hsin) On the existence of a periodic solution of a nonlinear ordinary differential equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 767–774. (Anna Capietto) **99j:34058** 34C25 (34B15)

Ding, Tianbiao Some results on dual cosine operator function. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 197–200. (Carlos Lizama) **99j:47059** 47D09

Ding, Tongren An ergodic theorem for flows on closed surfaces. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 669–676. (Edoh Amiran) **99j:58123** 58F11 (34C05)

Ding, Wei (*with* Yin, Zhao Yang) An estimate of the Hausdorff dimension of a uniform attractor for a class of nonautonomous reaction-diffusion equations with a quasiperiodic external force. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 14–19. (Summary) **99f:35093** 35K57 (34G20, 35B99, 47H20, 58F39)

Ding, Wei (*with* Qi, Dongxu; Li, Huashan) A new image transformation scheme and digital approximation between different pictures. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 465–469, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 68U10 (94A05)

Ding, Weiyue (*with* Jost, Jürgen; Li, Jia Yu[1]; Wang, Guofang) An analysis of the two-vortex case in the Chern-Simons Higgs model. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 87–97. (Yisong Yang) **99c:58039** 58E15 (35Q40)

— (*with* Wang, You-De) Schrödinger flow of maps into symplectic manifolds. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 746–755. (Caio J. C. Negreiros) **99m:58062** 58E20 (58G30)

Ding, X. *see* **Ding, Xianchun**

Ding, X. M. *see* **Ding, Xiang Mao**

Ding, Xia Xi Generalized solutions defined by Lebesgue-Stieltjes integrals. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 33–43, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00025**) 35D05 (35L65)

— (*with* Wu, Yong-Hui) Finite-dimensional asymptotic behavior of solutions to the Navier-Stokes equations with linear damping on the whole plane. (Chinese. English and

Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 509–520. (Summary) **99c:35184** 35Q30 (34G20, 35B40, 47H20, 76D05)
— *see also* **Advances in nonlinear partial differential equations and related areas, 99m:35002**
Ding, Xianchun (*with* Guo, Limin; Jeinsch, T.) A characterization of parity space and its application to robust fault detection. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 337–343. 93E12 (93D09)
Ding, Xiang Mao (*with* Hou, Bo Yu; Zhao, Liu) $\hbar$ (Yangian) deformation of the Miura map and Virasoro algebra. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 7, 1129–1144. (Stanislav Z. Pakuliak) **99e:81091** 81R50 (17B37, 17B68)
— (*with* Hou, Bo Yu; Zhao, Liu) The algebra $\mathscr{A}_{\hbar,N}(\hat{g})$ and infinite Hopf family of algebras. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 249–266. (Stanislav Z. Pakuliak) **99i:16071** 16W30 (17B37, 17B69)
— (*with* Hou, Bo Yu; Hou, Bo-yuan; Zhao, Liu) Free boson representation of $DY_\hbar(\mathrm{gl}_N)_k$ and $DY_\hbar(\mathrm{sl}_N)_k$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2273–2289. (Jun'ichi Shiraishi) **99g:81083** 81R50 (17B37)
Ding, Xiao Hua (*with* Zhang, Shao Tai) Eventual boundedness of Volterra-Lotka differential equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 15–19. (Qing Kai Kong) **99c:34114** 34D40
— (*with* Liu, Hui Jie; Zhang, Shao Tai) Permanence and global stability for a class of Lotka-Volterra diffusion systems with infinite delay. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 5–6, 11. (Summary) **99h:34113** 34K20
— (*with* Jin, Cheng Ri) A monotonic difference scheme for solving one- and two-dimensional convection-diffusion equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 12–15. 65M06 (65M12)
Ding, Xiao Qing[1] The singular points and Picard points of random Dirichlet series. (English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 455–460. (Summary) **99m:30004** 30B50
Ding, Xiaodong (*with* Wu, Rang Quan) A new proof for comparison theorems for stochastic differential inequalities with respect to semimartingales. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 2, 155–171. (Ralf Manthey) **99j:60083** 60H10
Ding, Xiaoqing *see* **Ding, Xiao Qing[1]**
Ding, Xiaqi *see* **Ding, Xia Xi**
Ding, Xie Ping (*with* Wang, Fan[1]) Solutions for a system of nonlinear random integral and differential equations under weak topology. *Appl. Math. Mech.* (*English Ed.*) **18** (1997), *no.* 8, 721–737; *translated from Appl. Math. Mech.* **18** (1997), *no.* 8, 669–684 (*Chinese. English and Chinese summaries*). (A. Nowak) **99b:47103** 47H40 (34F05, 45G10, 47H10, 47N20, 60H25)
— Existence and uniqueness of solutions for random mixed variational-like inequalities in Banach space. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 1–5. 47H19 (47H40, 49J40)
— Random mixed variational-like inequalities in topological vector space. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 5, 1–13. (Ramendra Krishna Bose) **99e:47091** 47H19 (47H40, 49J40)
— Equilibria of noncompact generalized games with correspondences without open lower sections. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 1, 79–89. (Mitsunori Noguchi) **99g:90178** 90D44 (90A14)
— Generalized vector quasi-variational-like inequalities with discontinuous nonmonotone mappings. (English summary) *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 2, 1–18. (Igor' V. Konnov) **99i:47115** 47H19 (49J40)
— Equilibria of noncompact generalized games with $\mathscr{U}$-majorized preference correspondences. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 115–119. (Summary) **99k:90222** 90D13
— Algorithm of solutions for mixed-nonlinear variational-like inequalities in reflexive Banach space. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 6, 521–529; *translated from Appl. Math. Mech.* **19** (1998), *no.* 6, 489–496 (*Chinese. English and Chinese summaries*). (Muhammad Aslam Noor) **99m:49014** 49J40 (47H19, 90C33)
— Proximal point algorithm with errors for generalized strongly nonlinear quasivariational inclusions. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 7, 637–643; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 597–602 (*Chinese. English and Chinese summaries*). 49J40 (47H17, 47H19, 65K10)
— (*with* He, Yi Ran) Best approximation theorem for set-valued mappings without convex values and continuity. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 9, 831–836; *translated from Appl. Math. Mech.* **19** (1998), *no.* 9, 773–778 (*Chinese. English and Chinese summaries*). 41A65 (47H10)
— General algorithm for nonlinear variational-like inequalities in reflexive Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 109–120. (George Isac) **99e:47092** 47H19 (47H17, 49J40)
— Set-valued implicit Wiener-Hopf equations and generalized strongly nonlinear quasivariational inequalities. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 75–87. (Carlo Bardaro) **99i:49011** 49J40 (47H17, 47H19, 65K99)
— (*with* Yuan, Xian-Zhi) The study of existence of equilibria for generalized games without lower semicontinuity in locally topological vector spaces. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 420–438. (Nicholas C. Yannelis) **99k:90066** 90A99 (90D99)
— Generalized quasivariational inequality, optimization and equilibrium existence problems. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 1–5. (Summary) **99c:49009** 49J40 (47H19, 47N10, 49J20, 90D13)
— On general nonlinear variational inequalities in reflexive Banach spaces. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 125–131. (Muhammad Aslam Noor) **99i:49012** 49J40 (47H19)
— On generalized quasi-variational-like inequalities. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 399–403. 49J40 (90C33)
— Fixed points, minimax inequalities and equilibria of noncompact abstract economies. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 25–55. (Summary) **99e:47073** 47H10 (47N10, 54H25, 90A14)
— (*with* Luo, Chun Lin) Existence and algorithm for solving some generalized mixed variational inequalities. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 23–30. (Summary) **99j:49013** 49J40 (47H19, 90C33)
— The generalized vector quasi-variational-like inequalities. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 57–67. (Summary) **99k:47168** 47H19 (49J40)
— (*with* Luo, Chun Lin) On parametric generalized quasi-variational inequalities. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 195–205. (Igor' V. Konnov) **99m:47080** 47H19 (47H09, 49J40)
Ding, Xuan Hao Joint unitary equivalence of coordinate function tuples for Bergman spaces of functions of several complex variables. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 889–894. (Ke He Zhu) **99b:47033** 47B35 (32A35, 46E20, 47A13)
— On unitary equivalence of analytic Toeplitz operators. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 2, 127–133. (Benjamin A. Lotto) **99a:47037** 47B35
— The isometric isomorphism of Toeplitz operators on $L^p_a(B_n)$. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 299–302. (Takahiko Nakazi) **99b:47034** 47B35
— Unitary equivalence of invariant subspaces of $H^2(S_n)$. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 345–352. (Li Zhong Peng) **99i:46014** 46E20 (47A15, 47B38)
Ding, Yan (*with* Kawahara, Mutsuto) Bifurcation analysis of brown tide in tidal flow using finite element method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 195–213. (*see* **99b:76003**) 76M10 (86–08)
Ding, Yan Hong (*with* Wang, Yan Ying; Wu, Zhen De) Commuting involutions with fixed point set of constant codimension. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 6, 1149–1154. 57S15
Ding, Yanheng Infinitely many entire solutions of an elliptic system with symmetry. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 313–323. (David L. Finn) **99a:35062** 35J60 (35B05, 58E15)
— Infinitely many homoclinic orbits for a class of Hamiltonian systems with symmetry. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 167–178. (Thomas Bartsch) **99j:58039** 58E05 (34C37, 58F05)
— (*with* Li, Shu-Jie; Willem, Michel) Periodic solutions of symmetric wave equations. *J. Differential Equations* **145** (1998), *no.* 2, 217–241. (Shu-Xing Chen) **99c:35158** 35L70 (35B10)
— (*with* Bartsch, Thomas[1]) On a nonlinear Schrödinger equation with periodic potential. *Math. Ann.* **313** (1999), *no.* 1, 15–37. (Elaine Machtyngier) **99m:35218** 35Q55 (58E05)
Ding, Yi (*with* Liu, Huan Ping; Yang, Yi Xian) Fast routing strategies for a special distribution of faults in the n-cube. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 31–36. (Summary) **99h:68021** 68M10
Ding, Yong Weighted boundedness for fractional oscillatory integral operators with rough kernels. (Chinese. English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 2, 159–165. (Summary) **99g:42015** 42B20
— (*with* Lu, Shan Zhen) Weighted norm inequalities for fractional integral operators with rough kernel. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 29–39. (Douglas Kurtz) **99c:42028** 42B20 (42B25)
— Commutators for a class of rough operators. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 367–372. (Wei Wang) **99h:42025** 42B20 (42B25)
— The Marcinkiewicz integral operator with Hardy space function kernel on product domains. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 337–343. (Aleš Založnik) **99f:42032** 42B20
— (*with* Yang, Da Chun; Zhou, Zusheng) Boundedness of sublinear operators and commutators on $L^{p,\omega}(\mathbf{R}^n)$. (English summary) *Yokohama Math. J.* **46** (1998), *no.* 1, 15–27. (Maria A. Ragusa) **99k:42029** 42B20 (47B25, 47B38, 47B47)
— A note on a class of rough maximal operators on product domains. (English summary) *J. Math. Anal. Appl.* **232** (1999), *no.* 1, 222–228. (Summary) **99m:42025** 42B20
Ding, Yu Xin (*with* Cheng, Hu) A high-order Hopfield network for SAT. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 914–920. 68T05 (68Q25)
Ding, Yuan (*with* Houghten, Sheridan; Lam, Clement Wing Hong; Smith, Suzan; Thiel, Larry; Tonchev, Vladimir D.) Quasi-symmetric 2-(28, 12, 11) designs with an automorphism of order 7. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 213–223. (Mohan S. Shrikhande) **99a:05011** 05B05
— (*with* Wu, C. F. J.) Construction of response surface designs for qualitative and quantitative factors. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 331–348. (Summary) **99f:62097** 62K99
Ding, Z. *see* **Ding, Zhong Hai**
Ding, Zhan Ao (*with* Chen, Chao) Necessary and sufficient conditions for linear accepting algorithms. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 31–33, 37. 68T20
Ding, Zheng Ping (*with* Han, Da Wei) An improved algorithm for the bound search method in multiobjective decision-making. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 5, 586–590. 90C29 (90A05)
Ding, Zhengtao Global adaptive output feedback stabilization of nonlinear systems of any relative degree with unknown high-frequency gains. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1442–1446. (Summary) **99f:93127** 93D21 (93C10)
— Adaptive asymptotic tracking of nonlinear output feedback systems under unknown bounded disturbances. (English summary) *Systems Sci.* **24** (1998), *no.* 2, 47–59. 93D21 (93C40)
Ding, Zhong Hai (*with* Lagoudas, Dimitris C.) Numerical computation of metal oxidation problems on bounded domains. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 367–381. (Summary) **99a:80004** 80A22 (80–08)
— (*with* Chen, Goong; Coleman, M. P.) Some corner effects on the loss of selfadjointness and the non-excitation of vibration for thin plates and shells. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 213–239. (Serge Nicaise) **99d:73058** 73K12 (35Q72, 47N20, 73D30, 73K10)
— (*with* You, Puhong; Zhou, Jianxin) Optimal boundary control of the Stokes fluids with point velocity observations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 981–1004 (*electronic*). (Ruxandra Stavre) **99d:49014** 49J20 (35Q30, 76D07, 93C20)
— (*with* Lagoudas, Dimitris C.) Transient heat transfer behavior of one-dimensional symmetric thermoelectric SMA actuators. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 1, 33–55. (Summary) **99i:80005** 80A20 (78A25)

Dingankar, Ajit T. (*with* Sandberg, Irwin W.) A note on error bounds for function approximation using nonlinear networks. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 4, 449–457. (Summary) **99c:41039** 41A30

pham ngoc Dinh, A. *see* **Pham Ngoc Dinh, A.**

Dinh, Khoan T. (*with* Nguyen, Truc T.) Characterizations of normal distributions supporting goodness-of-fit tests based on sample skewness and sample kurtosis. (English summary) *Metrika* **48** (1998), *no.* 1, 21–30. (Ludwig Baringhaus) **99m:62018** 62E10

Dinh, Ngoc Thanh *see* **Dinh Ngoc Thanh**

Dinh, Tien-Cuong Enveloppe polynomiale d'un compact de longueur finie et chaînes holomorphes à bord rectifiable. [Polynomial envelope of a compact subset of finite length and holomorphic chains with rectifiable boundary] *Acta Math.* **180** (1998), *no.* 1, 31–67. (Mongi Blel) **99f:32016** 32C30 (32D10)

— Problème du bord dans l'espace projectif complexe. (English and French summaries) [Boundary problem in complex projective space] *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 5, 1483–1512. (Mongi Blel) **99m:32010** 32C30 (32D15)

— Orthogonal measures on the boundary of a Riemann surface and polynomial hull of compacts of finite length. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 624–649. (Pascal J. Thomas) **99h:32013** 32E20 (32C30, 32E30)

Dinh Dung Moduli of smoothness for hyperbolic approximations of multivariate functions. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 457–472. (Ognyan Kounchev) **99e:41023** 41A63

— On non-linear approximation of multivariate functions with a mixed smoothness. *Vietnam J. Math.* **25** (1997), *no.* 3, 275–277. 41A63 (41A30)

— Best multivariate approximations by hyperbolic trigonometric polynomials. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 5–16, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 41A63 (42A10)

— Optimal non-linear approximation of functions with a mixed smoothness. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 75–86. (Petru P. Blaga) **99f:41033** 41A46 (41A63, 41A65)

dang Dinh Hai *see* **Dang Dinh Hai**

Dinh Huy Hoang Finite proper holomorphic surjections and linear topological invariants $(\widetilde{\Omega})$ and $(\widetilde{\Omega})$. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 75–82. (Richard M. Aron) **99j:46050** 46G20 (32E10, 32K99, 46A99, 46E50)

Dinh Ngoc Thanh (*with* Nguyen, Van Nhan) Determination of mass density inhomogeneity from gravity gradient measurements. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 119–122. (*see* **99i:00026**) 86A20 (45A05)

— (*with* Tran Thi Le; Nguyen, Van Nhan; Dang Duc Trong) A moment approach to some problems in heat conduction. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 148–153. (*see* **99i:00026**) 35R30 (35K05)

pham Dinh Tao *see* **Pham Dinh Tao**

Dini, G. (*with* Primicerio, Angela Selvaggi) Localization principle of automorphisms on generalized pseudoellipsoids. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 4, 575–584. (Akio Kodama) **99m:32032** 32H35 (32H02, 32H40)

Dini, P. (*with* Cipra, B.; Kennedy, S.; Kolan, A.) Stability of one-dimensional inelastic collision sequences of four balls. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 183–200. (Summary) **99i:70018** 70F35

Dinitz, Yefim (*with* Feighelstein, Marcelo; Zaks, Shmuel) On optimal graphs embedded into paths and rings, with analysis using l_1-spheres. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 171–183, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68M10

— (*with* Westbrook, Jeffery R.) Maintaining the classes of 4-edge-connectivity in a graph on-line. (English summary) *Algorithmica* **20** (1998), *no.* 3, 242–276. (Summary) **99a:68037** 68P05 (05C40, 05C85, 68Q25, 68R10)

Dinneen, Michael J. Too many minor order obstructions (for parameterized lower ideals). (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1199–1206 (*electronic*). (Summary) **99j:68102** 68R10 (05C85, 68Q15)

— *see also* **Unconventional models of computation, 99f:68012** *and* **Proceedings: Workshop on Logic in Computer Science, 99g:68006**

Dinsenbacher, Thomas B. (*with* Hardin, Douglas P.) Nonhomogeneous refinement equations. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 117–127, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:39055** 39B22 (42C15)

Dinski, Thomas (*with* Zhu, Xuding) A bound for the game chromatic number of graphs. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 109–115. (O. V. Borodin) **99k:05077** 05C15

Dinten, Jean-Marc (*with* Girard, Stéphane; Chalmond, Bernard) Designing nonlinear models for flexible curves. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 135–142, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Girard, Stéphane; Chalmond, Bernard) Position of principal component analysis among auto-associative composite models. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 763–768. (Yutaka Kano) **99k:62121** 62H25

D'Inverno, Ray A. *see* **d'Inverno, Ray A.**

Dinwoodie, I. H. Expectations for nonreversible Markov chains. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 585–596. (An Yue Chen) **99h:60134** 60J05 (60E15)

Dinzart, Florence (*with* Molinari, Alain) Structure of adiabatic shear bands in thermo-viscoplastic materials. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 923–938. 73B30 (73E60)

Diodato, Lorenzo (*with* Ascoli, Sergio; Malvestuto, Vincenzo) On the problem of thermodynamic equilibrium in the presence of internal adiabatic constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8407–8416. 80A10

Dion, Jean-Michel (*with* Niculescu, Silviu-Iulian; Verriest, Erik I.; Dugard, Luc) Stability and robust stability of time-delay systems: a guided tour. (English summary) *Stability and control of time-delay systems*, 1–71, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93–02 (34K20, 34K35, 93C30, 93D09)

— (*with* Li, Huaizhong; Niculescu, Silviu-Iulian; Dugard, Luc) Robust guaranteed cost control for uncertain linear time-delay systems. (English summary) *Stability and control of time-delay systems*, 283–301, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93C30 (93B35)

— (*with* Niculescu, Silviu-Iulian; de Souza, Carlos E.; Dugard, Luc) Robust exponential stability of uncertain systems with time-varying delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 743–748. (Tetsushi Sasagawa) **99h:93078** 93D09 (34K35)

— (*with* Chaoui, F. Z.; Giri, F.; Dugard, Luc; M'saad, M.) Adaptive tracking with saturating input and controller integral action. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1638–1643. (Summary) **99h:93092** 93D21 (93C40)

— (*with* Li, Huaizhong; Niculescu, Silviu-Iulian; Dugard, Luc) Robust guaranteed cost control of uncertain linear time-delay systems using dynamic output feedback. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 349–358. (*see* **99a:93005**) 93B35 (93C41)

— (*with* Commault, Christian; Benahcene, M.) Decoupling of structured systems by parameter-independent precompensation and state feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 348–352. 93B15 (93C05)

Diong, B. M. (*with* Medanic, J. V.) Simplex-type variable structure controllers for systems with non-matching disturbances and uncertainties. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 625–656. 93B12

Dionísio, F. Miguel (*with* Lipeck, Udo W.) Specifying with defaults: compositional semantics. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 206–222, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

Dionne, Georges (*with* Gagné, Robert; Vanasse, Charles) Inferring technological parameters from incomplete panel data. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 303–327. 62P20

Diop, E. Cheikh Mbacké Feuilletages singuliers presque isométriques. (French summary) [Almost isometric singular foliations] *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 15–29. (Hassan Boualem) **99e:53029** 53C12

Diophantus of Alexandria *see* **Christianidis, Jean, 99a:01004**

alvarez Dios, José A. *see* **Alvarez Dios, José A.**

Diósi, Lajos (*with* Gisin, Nicolas; Halliwell, Jonathan J.; Percival, Ian C.) On the equivalence of quantum state diffusion and decoherent histories for open quantum systems. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 87–97, *Internat. Press, Cambridge, MA*, 1997. (Robert Alicki) **99b:82064** 82C10 (81P05)

— (*with* Gisin, Nicolas; Strunz, Walter T.) Non-Markovian quantum state diffusion. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1699–1712. (Constantin Syros) **99h:81103** 81S20 (60J25, 60J60)

— (*with* Halliwell, Jonathan J.) Coupling classical and quantum variables using continuous quantum measurement theory. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2846–2849. (Summary) **99g:81021** 81P15

— (*with* Strunz, Walter T.; Gisin, Nicolas) Open system dynamics with non-Markovian quantum trajectories. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 9, 1801–1805. (Summary) **99k:82054** 82C10 (82C31)

Di Piazza, L. (*with* Bongiorno, Benedetto; Preiss, David) Infinite variation and derivatives in $\mathbf{R}^m$. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 22–33. (M. Laczkovich) **99j:28003** 28A15 (28A75, 49Q15)

Di Pierro, Alessandra (*with* Wiklicky, Herbert) Probabilistic concurrent constraint programming: towards a fully abstract model. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 446–455, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q10 (68Q55, 68T20)

Di Pillo, G. (*with* Dem'yanov, V. F.; Facchinei, Francisco) Exact penalization via Dini and Hadamard conditional derivatives. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 19–36. (Summary) **99a:90185** 90C30 (49J52)

Dipper, Richard (*with* Du, Jie) Harish-Chandra vertices and Steinberg's tensor product theorems for finite general linear groups. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 3, 559–599. (Peter Fleischmann) **99a:20010** 20C33 (20C20)

— (*with* James, Gordon; Mathas, Andrew) The (Q, q)-Schur algebra. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 327–361. (Jochen Gruber) **99e:20019** 20C99 (16G99, 20G05)

Di Prisco, A. (*with* Herrera, L.; Martínez, Justino) Breakdown of the linear approximation in the perturbative analysis of heat conduction in relativistic systems. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 7–12. (Summary) **99d:83055** 83C55 (76Y05, 80A20)

— (*with* Herrera, L.) The active gravitational mass of a heat conducting sphere out of hydrostatic equilibrium. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 301–313. 83C55

Di Prisco, Carlos Augusto (*with* De la Cruz, Omar) Weak forms of the axiom of choice and partitions of infinite sets. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 47–70, *Kluwer Acad. Publ., Dordrecht*, 1998. (Paul E. Howard) **99f:03068** 03E25 (03E35, 04A25)

— (*with* Todorčević, Stevo B.) Perfect-set properties in $L(\mathbf{R})[U]$. (English summary) *Adv. Math.* **139** (1998), *no.* 2, 240–259. (Miroslav Repický) **99m:03102** 03E45 (03E15, 03E40, 03E55)

Dirac, Paul *see* **Pais, Abraham et al., 99d:01033** *and* **(99d:01033)**

Dirar, M. (*with* El-Tahir, Ali; Shaddad, M. H.) A generalized field cosmology. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 3025–3031. 83F05

D'Iribarne, C. *see* **d'Iribarne, C.**

Dirichlet, P. G. Lejeune *see* **Koch, Helmut V., (99k:01080)**

Dirl, R. (*with* Zeiner, P.; Davies, B. L.) Bloch and Wannier functions composed of Gaussian orbitals—analyticity, localization, and expectation values. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2437–2454. (Peter N. Zhevandrov) **99a:81028** 81Q05 (33E05)

Dirnböck, Hans (*with* Stachel, Hellmuth) The development of the oloid. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 105–118. (Hans Sachs) **99d:51023** 51N05 (53A05, 53A17)

Di Rocco, Sandra (*with* Beltrametti, Mauro C.; Sommese, Andrew J.) On higher order embeddings of Fano threefolds by the anticanonical linear system. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 75–97. (Tomasz Szemberg) **99d:14036** 14J45 (14C20, 14M10)

Dirr, G. (*with* Helmke, U.) Continuity properties of balanced realizations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 217–224. (Paulo Sérgio Pereira da Silva) **99f:93019** 93B15 (93C25)

Di Ruscio, David The partial least squares algorithm: a truncated Cayley-Hamilton series approximation used to solve the regression problem. (English summary) *MIC—Model. Identif. Control* **19** (1998), *no.* 3, 117–140. (Summary) **99j:93112** 93E23 (65F30, 93B40)

Di Sebastiano, Annamaria (*with* Turchetti, Giorgio) Interpolation of discrete Hamiltonian systems. (English summary) *Analysis and modelling of discrete dynamical systems* (*Aussois*, 1996), 181–227, *Adv. Discrete Math. Appl.*, 1, *Gordon and Breach, Amsterdam*, 1998. (Summary) **99m:58087** 58F05 (58F27, 58F36, 70–08, 70H05)

Dishen, Jiabu (*with* Wang, Ke[1]) Stability and boundedness of the solutions to functional-differential equations with infinite delay. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 511–520. (Lie June Shiau) **99g:34138** 34K15 (34K20)

Dishliev, Angel B. (*with* Bainov, Drumi Dimitrov; Dimitrova, Margarita B.) Necessary and sufficient conditions for existence of nonoscillatory solutions of impulsive differential equations of second order with retarded argument. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 287–297. (Summary) **99a:34180** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Dimitrova, Margarita B.) Oscillatory solutions of a class of nonlinear impulsive differential equations of first order with retarded argument. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 215–230. (Jun Jie Wei) **99m:34157** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Dimitrova, Margarita B.) Oscillation of the solutions of a class of impulsive differential equations with a deviating argument. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 1, 95–102. (Jun Jie Wei) **99d:34125** 34K15 (34A37)

— (*with* Bainov, Drumi Dimitrov; Dimitrova, Margarita B.) Oscillation of the solutions of impulsive differential equations and inequalities with a retarded argument. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 25–40. (Eduardo Liz) **99e:34094** 34K15 (34A37)

— *see also* **Proceedings: Colloquium on Differential Equations, 99g:00044**

Di Sieno, Simonetta *see* **Italian mathematics after Unity, 99i:01001**

Diskant, V. I. Refinement of the isodiametrical inequality in Minkowski geometry. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 2, 216–226. 52A40 (51M16)

— Generalizations of the Lindelöf theorem. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 1-2, 59–64. (Summary) **99a:52021** 52B60

Diskin, Boris Multigrid algorithm with conditional coarsening for the non-aligned sonic flow. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 106–119 (*electronic*). (Summary) **99a:76095** 76M20 (65N55, 76H05)

Di Stefano, Gabriele (*with* Cicerone, Serafino) On the equivalence in complexity among basic problems on bipartite and parity graphs. (English summary) *Algorithms and computation* (*Singapore*, 1997), 354–363, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05108** 05C85 (68Q25)

— (*with* Cicerone, Serafino) Graph classes between parity and distance-hereditary graphs. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 168–181, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:05114** 05C85

— (*with* Cicerone, Serafino; Flammini, Michele) Static and dynamic low-congested interval routing schemes. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 592–603, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68M10

Distler, Jacques (*with* Berenstein, David; Corrado, Richard) On the moduli spaces of M(atrix)-theory compactifications. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 239–255. (Dileep P. Jatkar) **99c:81162** 81T30 (81T60)

— (*with* Berenstein, David; Corrado, Richard) Aspects of ALE matrix models and twisted matrix strings. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026005, 12 *pp.* (Summary) **99k:81219** 81T30 (14B05)

Dito, Giuseppe (*with* Flato, Moshé; Sternheimer, Daniel) Nambu mechanics, *n*-ary operations and their quantization. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 43–66, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Markus J. Pflaum) **99b:58103** 58F06 (70H99, 81S10)

Dittmar, Bodo Isoperimetric inequalities for the sums of reciprocal eigenvalues. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 78–87, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Srinivasan Kesavan) **99e:35164** 35P15 (35J25)

Dittrich, J. (*with* Duclos, Pierre[1]; Gonzalez, Nicolas) d'Alembert field driven by a periodically moving wall. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 166–169, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 35L05 (58F39)

Dittrich, Wolfgang (*with* Bäumker, Armin; Meyer auf der Heide, Friedhelm) Truly efficient parallel algorithms: 1-optimal multisearch for an extension of the BSP model. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 175–203. (Summary) **99g:68080** 68Q22

Diubin, Gennady *see* **Dyubin, G. N.**

Di Vecchia, P. (*with* Billó, M.; Frau, M.; Lerda, A.; Russo, Rodolfo; Sciuto, S.) The Lorentz force between D0 and D6 branes in string and M(atrix) theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2977–2990. (Summary) **99h:81152** 81T30

Divecha, Jyoti On a characteristic of triangular designs and its application. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 170–177, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62K10

Divelbiss, Adam (*with* Seereeram, Sanjeev; Wen, John T.) Kinematic path planning for robots with holonomic and nonholonomic constraints. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 127–150, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99g:70008** 70B15 (70F25, 70Q05, 93C85)

DiVincenzo, David P. (*with* Bennett, Charles H.; Fuchs, Christopher A.; Mor, Tal; Rains, Eric M.; Shor, Peter W.; Smolin, John A.; Wootters, William K.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)

— *see also* **Quantum coherence and decoherence, 99h:81007**

Di Vincenzo, O. M. A note on *k*th commutators in an associative ring. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 106–112. (David M. Riley) **99k:16070** 16U80 (16N40)

— (*with* De Filippis, V.) On the generalized hypercentralizer of a Lie ideal in a prime ring. (English summary) *Rend. Sem. Mat. Univ. Padova* **100** (1998), 283–295. (Surender K. Jain) **99k:16043** 16N60 (16U70)

Divjak, Blaženka The general solution of the Frenet system of differential equations for curves in the pseudo-Galilean space G_3^1. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 143–147. (V. Oproiu) **99b:53016** 53A40 (53A04)

Diwekar, Anjali M. (*with* Yedavalli, Rama K.) Robust controller design for matrix second-order systems with structured uncertainty. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 401–405. 93D21 (93B36)

Dix, Julio G. Decay of solutions of a degenerate hyperbolic equation. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 21, 10 *pp.* (*electronic*). (Summary) **99e:35147** 35L70 (35B40)

— Infinite frequency solutions to discontinuous control systems with variable delay. (English summary) *Israel J. Math.* **106** (1998), 165–176. (V. Kolmanovskiĭ) **99i:93029** 93C15 (34K35)

Dix, Jürgen (*with* Brewka, Gerhard) Knowledge representation with logic programs. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 1–51, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68136** 68T30 (68N15)

— (*with* Brass, Stefan) Characterizations of the disjunctive well-founded semantics: confluent calculi and iterated GCWA. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 143–165. (Summary) **99c:68036** 68N17 (03B70)

— (*with* Stolzenburg, Frieder) A framework to incorporate non-monotonic reasoning into constraint logic programming. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 47–76. (Summary) **99e:68016** 68N17 (68T27)

— *see also* **Logic programming and nonmonotonic reasoning, 99a:68011** *and* **Logic programming and knowledge representation, 99i:68003**

Dixit, V. N. (*with* Dewan, Sarita) Congruence and Green's equivalence relation on ternary semigroup. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 103–117 (1998). (Wiesław A. Dudek) **99e:20084** 20N10

— (*with* Dewan, Sarita) Minimal quasi-ideals in ternary semigroup. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 5, 625–632. (L. Márki) **99b:20105** 20N10

Dixmier, Jacques Facteurs: classification, dimension, trace. [Factors: classification, dimension, trace] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 30, 233–243, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 46L35

— Anneaux d'opérateurs et représentations des groupes. [Rings of operators and representations of groups] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 40, 331–336, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 46L05 (22D25)

— Quelques résultats d'Harish-Chandra. I. [Some results of Harish-Chandra. I] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 50, 7–11, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 17B35 (22E46, 22E70)

— Quelques résultats d'Harish-Chandra. II. [Some results of Harish-Chandra. II] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 58, 75–81, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 17B35 (22E60)

— Fonctions sphériques (d'après R. Godement). [Spherical functions (after R. Godement)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 79, 279–286, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 22D12 (22D10, 22E46)

— Travaux de Malgrange sur les équations aux dérivées partielles elliptiques. [Works of Malgrange on elliptic partial differential equations] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 123, 251–259, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 32E20 (46Fxx)

— Travaux de Kadison sur les invariants unitaires. [The work of Kadison on unitary invariants] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 140, 49–56, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 46L05

— Solution négative du problème des invariants, d'après Nagata. [Negative solution of the problem of invariants, after Nagata] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 175, 97–107, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 13A50

— (*with* Duflo, Michel; Hajnal, András; Kadison, Richard V.; Kóránya, Adam; Rosenberg, Jonathan M.; Vergne, Michèle) Lajos Pukánszky (1928–1996). (English summary) *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 492–499. (Editors) **99k:01056** 01A70

Dixon, Brandon (*with* Lusth, John C.) A characterization of important algorithms for quantum-dot cellular automata. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 193–204. (Summary) **99j:68088** 68Q80 (81P99)

Dixon, Clare Temporal resolution using a breadth-first search algorithm. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 87–115. (Petr Jirků) **99j:03008** 03B45 (03B35, 68T15)

— (*with* Fisher, Michael D.; Wooldridge, Michael) Resolution for temporal logics of knowledge. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 345–372. (Zoran Ognjanović) **99g:03015** 03B45 (68T15)

Dixon, Geoffrey Division algebras, Galois fields, quadratic residues. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 111–120. (Summary) **99c:17003** 17A35 (11A07, 11T71)

Dixon, J. D. (*with* Zalesskiĭ, Aleksandr E.) Finite primitive linear groups of prime degree. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 126–134. (Irene Suprunenko) **99f:20005** 20B15 (20G05, 20G40, 20H20)

Dixon, J. M. (*with* Tuszyński, J. A.; Nip, M. L. A.) Calculations of one-electron energies of multi-electron atoms through nonlinear field theory methods. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 29–38, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:81280** 81V45

Dixon, Lance J. (*with* Bern, Z.; Perelstein, M.; Rozowsky, J. S.) One-loop *n*-point helicity amplitudes in (self-dual) gravity. (English summary) *Phys. Lett. B* **444** (1998), *no.* 3-4, 273–283. (Summary) **99m:83066** 83C45 (81T20)

Dixon, Martyn R. (*with* Evans, Martin J.; Smith, Howard) Locally soluble-by-finite groups with all proper non-nilpotent subgroups of finite rank. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 33–43. (Pavel Shumyatsky) **99k:20058** 20E25 (20F18)

Dixon, Tony W. (*with* Briggs, K. M.; Szekeres, George) Analytic solutions of the Cvitanović-Feigenbaum and Feigenbaum-Kadanoff-Shenker equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 347–357. (Helena E. Nusse) **99h:58054** 58F03 (39B12)

— (*with* Kenny, Brian G.) Transition to criticality in circle maps at the golden mean. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5952–5963. (M. L. Blank) **99h:58169** 58F30 (58F13)

le Dizès, Stéphane *see* **Le Dizès, Stéphane**

Djabi, Seddik A monotony method in quasi-static processes for viscoplastic materials with internal state variables. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 401–408. (Summary) **99g:73054** 73E60 (35Q72)

mohammad-Djafari, Ali *see* **Mohammad-Djafari, Ali**

Djafari Rouhani, Behzad On the fixed point property for nonexpansive mappings and semigroups. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 389–396. (Simeon Reich) **99d:47052** 47H10 (47H09, 47H20)

Djaferis, Theodore E. (*with* Kaminsky, Richard D.) Application of the finite inclusions theorem to robust analysis and synthesis. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 511–527. 93D09

saheb-Djahromi, N. *see* **Saheb-Djahromi, N.**

Djakov, P. B. (*with* Önal, S.; Terzioğlu, T.; Yurdakul, M.) Strictly singular operators and isomorphisms of Cartesian products of power series spaces. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 57–65. (M. S. Ramanujan) **99a:46012** 46A45 (47A05)

— *see also* **Dedicated to Professor Vyacheslav Pavlovich Zahariuta, 99a:00052**

Djambazov, Georgi S. (*with* Lai, Choi-Hong; Pericleous, Koulis A.) Efficient computation of aerodynamic noise. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 500–506, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 76M10 (65M60)

Đặng Đình Áng (*with* Nguyễn Đình Trí; Dang Duc Trong) Global solution of a two phase free boundary problem. *Acta Math. Vietnam.* **22** (1997), *no.* 2, 467–491. (Lisa Santos) **99e:35246** 35R35 (35K99)

— (*with* Nguyen Hoi Nghia; Nguyen Cong Tam) Regularized solutions of a Cauchy problem for the Laplace equation in an irregular layer: a three-dimensional model. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 65–74. (Serge Lvin) **99d:35175** 35R25 (35J25)

Đặng Hùng Thắng Series and spectral representations of random stable mappings. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 33–49. (Summary) **99d:60074** 60H25 (60B11, 60E07)

— Random mappings on infinite-dimensional spaces. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 51–73. (Summary) **99c:60133** 60H25 (60B11, 60G60)

Đapić, N. (*with* Pilipović, Stevan S.) Microlocal analysis of Colombeau's generalized functions on a manifold. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 3, 293–309. (Introduction) **99h:46065** 46Fxx (58G07)

— (*with* Pilipović, Stevan S.; Scarpalézos, D.) Microlocal analysis of Colombeau's generalized functions: propagation of singularities. (English summary) *J. Anal. Math.* **75** (1998), 51–66. (Todor Dimitrov Todorov) **99k:35007** 35A27 (46F10, 58G07)

Djehiche, Boualem (*with* Andersson, Håkan) Limit theorems for the total size of a spatial epidemic. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 3, 698–710. (Dominique Lépingle) **99b:92054** 92D30 (60F05, 60J27)

— (*with* Andersson, Håkan) A threshold limit theorem for the stochastic logistic epidemic. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 3, 662–670. (Summary) **99m:92046** 92D30 (60J27)

— (*with* Schied, Alexander) Large deviations for hierarchical systems of interacting jump processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 1–24. (Anatolii A. Pukhal'skiĭ) **99e:60075** 60F10 (60J75, 60K35)

Djellit, Ali (*with* Yechoui, Akila) Existence and non-existence of a principal eigenvalue for some boundary value problems. (English, French and Arabic summaries) *Maghreb Math. Rev.* **6** (1997), *no.* 1, 29–37. (Günter Berger) **99a:35050** 35J25 (35P15)

— (*with* Yechoui, Akila) On maximum principle and existence of positive solutions for cooperative systems. (English, French and Arabic summaries) *Maghreb Math. Rev.* **6** (1997), *no.* 2, 137–143. (Maria J. Esteban) **99i:35033** 35J55 (35B05, 35B50)

Djellouli, Rabia (*with* Bekkey, Chokri) An integral method to compute guided modes optical couplers. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 213–226, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)

Djerassi, Shlomo Linear momentum, angular momentum and analytical mechanics. (English summary) *Multibody Syst. Dyn.* **1** (1997), *no.* 4, 425–431. (Edwin J. Kreuzer) **99e:70038** 70F25

Djidjeli, K. (*with* Cao, Qing Jie; Zhang, Tian De; Li, Jiu Ping; Price, G. W.; Twizell, E. H.) Soliton solutions of a class of generalized N-dimensional nonlinear Schrödinger equations and their properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2166–2173. (Summary) **99c:35217** 35Q55

— (*with* Cao, Qing Jie; Zhang, Tian De; Price, G. W.; Twizell, E. H.) Soliton solutions of a class of generalized nonlinear Schrödinger equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 389–398. (Hong Yuan Fu) **99b:65096** 65M06 (35Q55)

— (*with* Price, W. G.; Temarel, P.; Twizell, E. H.) A linearized implicit pseudo-spectral method for certain non-linear water wave equations. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 977–993. (Summary) **99i:76108** 76M25 (65N35, 76B15, 76B25)

— (*with* Zhang, Tian De; Cao, Qing Jie; Price, G. W.; Twizell, E. H.) Applications of the weighted scheme for GNLS equations in solving soliton solutions. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 525–541. (Summary) **99f:35198** 35Q55 (65M06)

— (*with* Cao, Qing Jie; Price, W. G.; Twizell, E. H.) Periodic and chaotic behaviour in a reduced form of the perturbed generalized Korteweg-de Vries and Kadomtsev-Petviashvili equations. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 201–221. (Summary) **99j:35182** 35Q53 (58F39, 65D99, 65M99)

Djidjev, Hristo N. Weighted graph separators and their applications. (English summary) *Algorithms—ESA '97* (*Graz*), 130–143, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68R10 (05C85)

nguyễn Đình Công *see* **Nguyễn Đình Công**

vũ Đình Hòa *see* **Vũ Đình Hòa**

Đinh Quang Lu'u Further decomposition and convergence theorems for Banach space-valued martingale-like sequences. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 419–428. (Ying Chao Xie) **99a:60049** 60G48 (60B11)

Đinh Thế Lục (*with* Jeyakumar, V.; Schaible, Siegfried) Characterizations of generalized monotone nonsmooth continuous maps using approximate Jacobians. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 119–132. (V. F. Dem'yanov) **99j:49027** 49J52 (47N10, 90C31)

— (*with* Jeyakumar, V.) Approximate Jacobian matrices for nonsmooth continuous maps and C^1-optimization. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1815–1832 (*electronic*). (Adam B. Levy) **99c:49016** 49J52 (90C31)

nguyễn Đình Trí *see* **Nguyễn Đình Trí**

Đoković, Dragomir Ž. Survey of cyclic $(v; r, s; \lambda)$ difference families with $v \leq 50$. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 1–13. (Ka Hin Leung) **99g:05031** 05B10

— Equivalence classes and representatives of Golay sequences. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 79–93. (Zhen Zhang) **99j:94031** 94A55

— Note on rational points in nilpotent orbits of semisimple groups. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 31–34. (Summary) **99b:14050** 14L30

— Aperiodic complementary quadruples of binary sequences. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 3–31. (Jennifer Seberry) **99e:05027** 05B20 (68R05)

— (*with* Zhao, Kaiming) Some infinite-dimensional simple Lie algebras in characteristic 0 related to those of Block. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 153–165. (Gordon E. Brown) **99b:17027** 17B65 (17B40, 17B56)

— Explicit Cayley triples in real forms of G_2, F_4 and E_6. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 231–255. (William M. McGovern) **99e:17005** 17B05 (22E47)

Djomehri, M. J. (*with* Yee, H. C.; Sandham, N. D.) Low-dissipative high-order shock-capturing methods using characteristic-based filters. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 199–238. (Summary) **99k:76104** 76M20

nguyễn Đông Yên *see* **Nguyễn Đông Yên**

Djonova-Popova, Iskra One novel strategy for link-state shortest-path routing algorithms. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 229–238. (Summary) **99i:90108** 90C35

Djordjević, D. S. (*with* Stanimirović, Predrag S.) Universal iterative methods for computing generalized inverses. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 253–268. (Ar. Meenakshi) **99c:15006** 15A09

Djordjević, Gospava B. Some properties of a class of polynomials. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 265–271. (B. P. Parashar) **99e:11016** 11B37 (11B39)

— On a generalization of a class of polynomials. *Fibonacci Quart.* **36** (1998), *no.* 2, 110–117. (Walter Carlip) **99d:11011** 11B37 (11B83)

Đorđević, Radosav Ž. (*with* Rašković, Miodrag) ★ Probability quantifiers and operators. Vesta Company Series in Pure and Applied Mathematics. *Vesta Company, Belgrade*, 1996. iv+122 *pp. ISBN* 86-7212-004-3 (David Ross) **99e:03045** 03H05 (03B48, 03C70, 03C75, 28C99, 60A05)

— (*with* Rašković, Miodrag; Bradić, M.) Weak cylindric probability algebras. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 6–16. (S. Comer) **99e:03043** 03G25 (03C70)

— (*with* Janić, Radovan R.) Publications of D. S. Mitrinović. *Recent progress in inequalities* (*Niš*, 1996), 11–27, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Editors) **99k:01068b** 01A70

Djordjević, Slaviša V. Quasihyponormal operators and the continuity of the approximate point spectrum. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 173–176. (Summary) **99b:47026** 47B20 (47A10)

— Continuity of the essential spectrum in the class of quasihyponormal operators. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 71–74. (Wacław Szymański) **99k:47053** 47B20 (47A10)

Djordjević, Vladan D. A higher-order asymptotic theory for fully developed turbulent flow in smooth pipes. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 237–250. (Summary) **99d:76049** 76F99

Đorđević, Zoran D. (*with* Milić, Svetozar Dj.) On ideals of a class of semigroups. (English summary) *Math. Montisnigri* **8** (1997), 137–149. (D. C. Jackson) **99e:20075** 20M12

Djorić, Mirjana (*with* Okumura, Masafumi) CR submanifolds of maximal CR dimension of complex projective space. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 148–158. (Sorin Dragomir) **99h:53073** 53C40

Đỗ Văn Lu'u (*with* Craven, B. D.) A method for establishing optimality conditions for a nonsmooth vector-valued minimax problem. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 2, 295–304. (Summary) **99e:90080** 90C29 (49J52)

— (*with* Craven, B. D.) Lagrangian conditions for a nonsmooth vector-valued minimax. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 163–175. (Fred Behringer) **99i:90082** 90C29 (49K35)

Djrbashian, Mkhitar M. *see* **Dzhrbashyan, Mkhitar M.**

Djuranović-Miličić, Nada I. A projection method for the optimization of a nonlinear function subject to linear constraints. (English summary) *Math. Montisnigri* **8** (1997), 45–57. (Summary) **99f:90119** 90C30 (65K05)

Đurčić, Dragan $\mathscr{O}$-regularly varying functions and some asymptotic relations. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **61(75)** (1997), 44–52. (Summary) **99g:26001** 26A12

— $\mathscr{O}$-regularly varying functions and strong asymptotic equivalence. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 451–461. (E. Seneta) **99c:26002** 26A12

Djurdjevic, Ivica (*with* Dauge, Monique; Rössle, Andreas) Higher order bending and membrane responses of thin linearly elastic plates. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 519–524. (Tomasz Lewiński) **99j:73067** 73K10

— (*with* Dauge, Monique; Rössle, Andreas) Full asymptotic expansions for thin elastic free plates. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1243–1248. (Summary) **99g:73073** 73K10 (35Q72, 73C02)

Đurđević, Mićo (*with* Criscuolo, A.; Rosenbaum, Marcos; Vergara, J. David) Quantum spinors and spin groups from quantum Clifford algebras. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6451–6474. (Dominique Lambert) **99a:81063** 81R25 (15A66, 17B37, 81R50)

— Differential structures on quantum principal bundles. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 91–115. (Tomasz Brzeziński) **99e:58013** 58B30 (16W30, 17B37, 46L87)

Đurović, Željko M. (*with* Kovačević, Branko D.) Robust estimation with unknown noise statistics. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1292–1296. 93E10 (93E11)

Dlab, Vlastimil (*with* Ágoston, István; Lukács, Erzsébet) Stratified algebras. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 1, 22–28. (Eduardo do Nascimento Marcos) **99h:16031** 16G60 (16E10, 16G70)

— (*with* Ágoston, István; Lukács, Erzsébet) Well-filtered algebras. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 3–21. (Steffen König) **99k:16020** 16E60 (17B10)

Dłotko, Tomasz (*with* Cholewa, Jan W.) Local attractor for n-D Navier-Stokes system. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 309–319. (Summary) **99d:35123** 35Q30 (34G20, 35B40, 47H20, 76D05)

— (*with* Carvalho, Alexandre N.; Cholewa, Jan W.) Examples of global attractors in parabolic problems. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 77–103. (Sergei A. Vakulenko) **99a:35115** 35K55 (34G20, 35B40, 47H20, 58F39)

— (*with* Carvalho, Alexandre N.; Rodrigues, Hildebrando Munhoz) Upper semicontinuity of attractors and synchronization. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 13–41. (Peter E. Kloeden) **99a:47108** 47H20 (34D45, 34G20, 35K57, 58F12)

— (*with* Carvalho, Alexandre N.) Parabolic problems in H^1 with fast growing nonlinearities. *Nonlinear Anal.* **33** (1998), *no.* 4, 391–399. (Marco Degiovanni) **99f:35095** 35K60 (34G20, 47H20)

Dloussky, Georges (*with* Kohler, Franz) Classification of singular germs of mappings and deformations of compact surfaces of class VII_0. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 49–83. (Jesús Muciño-Raymundo) **99m:32036** 32J15 (32G05)

Dlutek, Krzysztof (*with* Czerwik, Stefan; Singh, Shyam Lal) Round-off stability of iteration procedures for operators in b-metric spaces. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 87–94. 54H25

Dmitrienko, A. A. (*with* Govindarajulu, Z.) The "demon" problem of Youden: exponential case. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 4, 517–523. (Summary) **99e:62089** 62G30 (62G10)

Dmitrienko, V. T. (*with* Zvyagin, V. G.) The topological degree method for equations of the Navier-Stokes type. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 1–45. (Ivan Straškraba) **99k:35142** 35Q30 (35K99, 47H11, 47N20, 76D05)

Dmitriev, V. I. *see* **Dmitriev, Vladimir Ivanovich**

Dmitriev, Victor A. Group-theoretical approach to eigenvalue problems of symmetrical multiports with gyrotropic media. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 895–903. (Summary) **99e:78016** 78A25

Dmitriev, Vladimir Ivanovich Integral characteristics in inverse problems of optics. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 4, 10–13, 50. (Summary) **99j:78019** 78A45 (78A10)

— (*with* Barashkov, A. S.) On the uniqueness of solutions of inverse multidimensional spectral problems in dual asymptotic models. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 109–114. 35R30 (35J99, 65N99)

— (*with* Barashkov, A. S.) On conditions for estimating the precision of solutions of inverse problems. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 115–122. 65J15 (65M60)

Dmitrieva, V. V. On the equivalence of two forms of representation of normality equations for dynamical systems in $\mathbf{R}^n$. (Russian. English and Russian summaries) *Integrability in dynamical systems* (*Russian*), 5–16, 93, *Ross. Akad. Nauk, Inst. Mat. Vychisl. Tsentrom, Ufa*, 1994. (Valentin V. Lychagin) **99e:34007** 34A26 (34C35, 70G50)

Dmitrishin, M. Ĭ. (*with* Lopushans'kiĭ, O. V.) The basis property of systems of root vectors of operators with a compact resolvent. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 28–32. 47A70 (35P10, 47B25, 47F05)

— Certain properties of root vectors of operators with discrete spectrum. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1933–1935. (Miroslav Lvovich Gorbachuk) **99j:47006** 47A10

Dmitrishin, R. I. Multidimensional chain sequences and g-fractions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2363–2367. (Summary) **99h:40003** 40A15

Dmytriv, V. (*with* Bokalo, N. M.) Problem without initial conditions for one kind of quasilinear degenerate parabolic equations. (English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 1, 16–20, 110. 35K55 (35D05)

nguyen quang Do, Thong *see* **Nguyen Quang Do, Thong**

Do Amaral, R. L. P. G. *see* **do Amaral, R. L. P. G.**

bui Doan, Khanh *see* **Bui Doan, Khanh**

Doan The Hieu Decomposition of a k-covector with respect to a vector and computing its comass. *Kodai Math. J.* **21** (1998), *no.* 2, 125–137. (Knut Smoczyk) **99h:53100** 53C65

— Computation of the comass of a k-covector. *Vietnam J. Math.* **26** (1998), *no.* 2, 181–184. 65Y25 (90C90)

Dobarro, Fernando (*with* Coti Zelati, Vittorio; Musina, Roberta) Prescribing scalar curvature in warped products. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 61–76. (John Urbas) **99e:53048** 53C21 (35J60)

Dobbertin, Hans One-to-one highly nonlinear power functions on GF(2^n). (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 139–152. (Summary) **99i:94042** 94A60 (94A55, 94B15)

Dobbs, David E. Prime ideals surviving in complete integral closures. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 465–469. (Evan G. Houston) **99e:13010** 13B24 (13A15, 13B21)

— (*with* Anderson, David F.) Root closure in integral domains. III. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 3–9. (Salah-Eddine Kabbaj) **99c:13042** 13G05 (13F25)

— (*with* Améziane Hassani, Souad; Kabbaj, Salah-Eddine) On the prime spectrum of commutative semigroup rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2559–2589. (Marco Fontana) **99g:13002** 13A15 (13C15, 16S36)

wagner-Döbler, Roland *see* **Wagner-Döbler, Roland**

Dobler, Wolfgang Evolving magnetic fields and the conservation of magnetic moment. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 159–171. (Summary) **99j:78009** 78A25 (76W05, 85A30)

— (*with* Rädler, Karl-Heinz) An integral equation approach to kinematic dynamo models. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 1-2, 45–74. (Summary) **99j:76133** 76W05 (85A30)

— The mean-field dynamo equations with discontinuous coefficients and Parker's slab model. *Magnetohydrodynamics* **34** (1998), *no.* 1, 14–24. (Manuel Núñez Jiménez) **99j:76134** 76W05

Dobner, Hans-Jürgen (*with* Ritter, Stefan) Attacking a conjecture in mathematical physics by combining methods of computational analysis and scientific computing. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 287–295. (Summary) **99b:78007** 78A30 (45L05, 45P05, 65R99, 78–08)

— Numerical bounds for the solution of linear systems with symmetric positive definite matrices. (English and Spanish summaries) *Rev. Téc. Fac. Ingr. Univ. Zulia* **20** (1997), *no.* 3, 195–201. (Cs. J. Hegedűs) **99f:65048** 65F10 (65G05)

— (*with* Ritter, Stefan) Numerical computation of Lamé functions. (English summary) *Transform methods & special functions, Varna* '96, 91–99, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 65D20 (33E10)

— (*with* Boyadzhiev, L. I.) Analytical and numerical treatment of a multidimensional fractional FEL equation. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 1–18. (Summary) **99i:45012** 45J05 (45L05, 65R20, 78A55)

— (*with* Boyadzhiev, L. I.) On the solution of a fractional free electron laser equation. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 4, 385–400. (Summary) **99h:45011** 45J05 (47G99, 65D15, 78A60)

— (*with* Ritter, Stefan) Reliable computation of eigenvalues of the magnetostatic integral operator. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 8, 1–10. (Summary) **99a:78003** 78–08 (65R20, 78A30)

— (*with* Boyadzhiev, L. I.; Kalla, Shyam L.) A fractional integro-differential equation of Volterra type. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 103–113. (Summary) **99i:45013** 45J05 (45L05, 78A60)

— (*with* Boyadzhiev, L. I.) On automatic differentiation and fractional derivatives. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 106–112, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65D15 (26A33, 33B15)

Dobordzhginidze, L. G. On a plane problem of nonlinear elasticity. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 285–288 (1991). 73C50

— On a class of boundary value problems of the nonlinear theory of elasticity. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 229–232 (1995). 73C02 (73V35)

Doboš, Jozef Sums of closed graph functions. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 9–11. (Summary) **99g:26004** 26A15 (54C30)

Dobrakov, Ivan *see* **Haluška, Ján, 99m:01063**

Dobrev, Stefan (*with* Diks, Krzysztof; Kranakis, Evangelos; Pelc, Andrzej; Ružička, Peter) Broadcasting in unlabeled hypercubes with a linear number of messages. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 181–186. (Summary) **99b:68013** 68M10

— (*with* Ružička, Peter) On the communication complexity of strong time-optimal distributed algorithms. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 87–104. (Summary) **99f:68090** 68Q25

Dobrev, Vladimir K. (*with* Truini, P.; Biedenharn, L. C.) Polynomial solutions of q-difference equations and Gel'fand-Weyl-Zetlin basis. (English summary) *Nonlinear, deformed and irreversible quantum systems* (*Clausthal*, 1994), 447–461, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99b:81101** 81R50 (17B37, 39A10)

— (*with* Truini, P.) Gel'fand pattern and polynomial representations of quantum groups. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 159–170, *World Sci. Publishing, River Edge, NJ*, 1996. (Roberto Casalbuoni) **99e:17018** 17B37 (81R50)

— (*with* Doebner, Heinz-Dietrich; Mrugalla, C.) q-deformed quantum mechanical evolution equations via a q-deformed Schrödinger algebra. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 187–196, *World Sci. Publishing, River Edge, NJ*, 1996. (Roberto Casalbuoni) **99e:81092** 81R50

— Representations of the Jordanian algebra $U_h(\mathrm{sl}(2))$. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 104–110, *Joint Inst. Nuclear Res., Dubna*, 1996. (Roberto Casalbuoni) **99k:81110** 81R50 (17B37)

— q-difference conformal invariant operators and equations. The Proceedings of the 15th Winter School "Geometry and Physics" (Srní, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 15–56. (Table of Contents) **99b:81102** 81R50 (17B37)

— (*with* Doebner, Heinz-Dietrich; Mrugalla, C.) Lowest weight representations of q-Schrödinger algebra and generalized q-deformed heat/Schrödinger equations. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 149–161, *PWN, Warsaw*, 1997. (Valery P. Karassiov) **99i:81094** 81R50

— Representations of quantum groups and (conditionally) invariant q-difference equations. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 203–222, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Jochen Gruber) **99b:81103** 81R50 (17B37, 39A10)

— q-conformally covariant q-Minkowski space-time and invariant equations. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1107–1114. (Mathias Pillin) **99g:81084** 81R50 (17B37, 58B30)

— (*with* Truini, P.) Polynomial realization of the $U_q(\mathrm{sl}(3))$ Gel'fand-(Weyl)-Zetlin basis and irregular irreps at roots of unity. *Symmetries in science, X (Bregenz, 1997)*, 79–119, *Plenum, New York*, 1998. (Roberto Casalbuoni) **99i:81095** 81R50 (17B37)

— (*with* Tahri, E. H.) Duality for multiparameter quantum deformation of the supergroup $GL(m/n)$. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4339–4366. (Tomasz Brzeziński) **99i:81096** 81R50 (16W30, 17B37)

— New generalized Verma modules and multilinear intertwining differential operators. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 1–28. (William M. McGovern) **99c:17013** 17B10 (22E47, 81R05)

— (*with* Sudbery, Anthony) Representations of the generalized Lie algebra $\mathrm{sl}(2)_q$. (English summary) *J. Phys. A* **31** (1998), *no.* 31, 6635–6645. (Allan I. Solomon) **99j:17018** 17B37 (81R50)

— (*with* Roussev, R. P.; Terziev, P. A.) Induced representations of $U_q(\mathrm{so}(3))$ with subrepresentations of integer spin only. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9269–9277. (Roberto Casalbuoni) **99i:81097** 81R50 (17B37)

— (*with* Kostadinov, B. S.) Noncommutative quantum conformal plane wave deformation. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 337–344. (Summary) **99g:81085** 81R50

— (*with* Parashar, Preeti) Addendum: "Duality for multiparametric quantum $GL(n)$" [J. Phys. A. **26** (1993), no. 23, 6991–7002; MR 95d:81053]. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 443–444. (Summary) **99m:81094** 81R50 (17B37)

— *see also* **Lie theory and its applications in physics, 99d:00022**

Dobrinskiĭ, V. I. (*with* Bushenkov, Yu. N.) 2, 5-D migration algorithm in the spatial-time domain. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 6, 577–581. (Summary) **99k:73052** 73D15 (65M70)

Dobrokhotov, Sergeĭ Yu. (*with* Quezada Batalla, Roberto; Vargas Jarillo, Cristóbal; Zhevandrov, P. N.) In memoriam: Víctor Martínez Olivé. (Spanish) *Miscelánea Mat. No.* 23 (1996), 1–15. 01A70

— (*with* Shafarevich, Andrei I.) Quantum selection of isotropic tori of partially integrable Hamiltonian systems in the quasiclassical approximation. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 267–272 (1998). (Oleg Yu. Shvedov) **99b:81053** 81Q20 (81Q05)

— Integration in quadratures of $2n$-dimensional linear Hamiltonian systems with n known skew-orthogonal solutions. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 143–144; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 380–381. (J. S. Joel) **99f:58076** 58F05 (70H05)

Dobronets, Boris S. Two-sided multigrid method for elliptic boundary value problems. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 297–303. (Summary) **99a:65175** 65N55 (65G10)

Dobrovolska, I. V. (*with* Tutik, R. S.) Semiclassical treatment of logarithmic perturbation theory. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 563–568. 81Q20

Dobrovol'skiĭ, N. M. (*with* Roshchenya, A. L.) On the number of points in a lattice in a hyperbolic cross. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 363–369; *translation in Math. Notes* **63** (1998), *no.* 3-4, 319–324. (Matti Jutila) **99j:11117** 11P21

Dobrovol'skiĭ, S. M. (*with* Romanovskiĭ, R. K.) The method of Lyapunov functions for almost periodic systems. (Russian) *Mat. Zametki* **62** (1997), *no.* 1, 151–153; *translation in Math. Notes* **62** (1997), *no.* 1-2, 126–128 (1998). (From the text) **99a:34148** 34D20 (34C27)

Dobrow, Robert P. (*with* Smythe, Robert T.) Poisson approximations for functionals of random trees. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 79–92. (Bert Fristedt) **99e:05037** 05C05 (05C80, 60F05)

— (*with* Fill, James Allen) The number of m-ary search trees on n keys. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 435–453. (E. M. Reingold) **99f:68034** 68P05 (68R05)

Dobrowiecki, Tadeusz (*with* Schoukens, Johan; Pintelon, Rik) Parametric and nonparametric identification of linear systems in the presence of nonlinear distortions—a frequency domain approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 176–190. (Curtis C. Travis) **99j:93027** 93B30 (93C41)

Dobrowolski, M. (*with* Roos, H.-G.) A priori estimates for the solution of convection-diffusion problems and interpolation on Shishkin meshes. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 1001–1012. (Lutz Tobiska) **99e:65154** 65N30 (35B25, 76D30, 76M25, 76R99)

Dobrowolski, Tadeusz (*with* Jimenez, Rolando; Marciszewski, Witold) Extending open families in nonnmetric spaces and an application to overlays. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 109–114. (Summary) **99h:54033** 54D15 (54C56, 54D20)

— (*with* Azagra, D.) Smooth negligibility of compact sets in infinite-dimensional Banach spaces, with applications. *Math. Ann.* **312** (1998), *no.* 3, 445–463. (Gilles Godefroy) **99m:46027** 46B20 (46B26, 58B99)

Dobrushin, R. L. Perturbation methods of the theory of Gibbsian fields. *Lectures on probability theory and statistics (Saint-Flour, 1994)*, 1–66, *Lecture Notes in Math.*, 1648, *Springer, Berlin*, 1996. (B. S. Nahapetian) **99f:60168** 60K35 (82B05)

— (*with* Pecherskiĭ, E. A.) Large deviations for random processes with independent increments on infinite intervals. *Probability theory and mathematical statistics (St. Petersburg, 1993)*, 41–74, *Gordon and Breach, Amsterdam*, 1996. (Boualem Djehiche) **99m:60042** 60F10 (60J30, 60K25)

— (*with* Griniv, O. O.) Fluctuations of the phase boundary in the 2D Ising ferromagnet. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 395–445. (Marek Biskup) **99a:82037** 82B24 (60F05, 60K35, 82B20, 82B41)

— (*with* Shlosman, S. B.) Gibbsian description on "non-Gibbs" fields. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 45–58; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 285–297. (B. L. Granovskiy) **99c:60106** 60G60 (60K35, 82B20)

— *see also* **Gurevich, B. M., 99c:82003**

Dobrynin, A. A. (*with* Vesnin, Andrei) On a recursive polynomial graph invariant for chains of polygons. (Russian summary) *Vychisl. Sistemy No.* 155, *Teor. Grafov i ee Primen.* (1996), 87–102, 105. (N. Trinajstić) **99k:05156** 05C99

— (*with* Gutman, Ivan M.; Iovashevich, V.) Bicyclic graphs and their edge graphs with coinciding Wiener index. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 3–9, 63 (1998). (B. Zelinka) **99k:05097** 05C38 (05C35)

— (*with* Gutman, Ivan M.) The Szeged index—a success story. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 37–44. (*see* **99h:05003**) 05C12 (05C90)

Dobrynin, V. Yu. On the function "sandwiched" between $\alpha(G)$ and $\overline{\chi}(G)$. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 19, 3 *pp.* (*electronic*). (J. Richard Lundgren) **99a:05072** 05C35 (05C50)

Dobrynskiĭ, V. A. Simple 2-endomorphisms with a complex structure of the set of nonwandering points. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 3, 295–298. (Alexander Loskutov) **99b:58131** 58F08 (58F03)

— On the absence of cycles in unimodal mappings of a square. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 370–378; *translation in Math. Notes* **63** (1998), *no.* 3-4, 325–332. (Witold Jarczyk) **99i:58124** 58F20 (58F08)

— On properties of coupled quadratic mappings. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 247–267. (Makoto Mori) **99i:58093** 58F11 (58F13)

Dobrzycki, Jerzy Saturn, Aristotelian astronomy, and Cracow astronomers: an episode from the early years of telescopic astronomy. *J. Hist. Astronom.* **30** (1999), *no.* 2, 121–129. 01A45

Dobson, David C. Recovery of blocky images in electrical impedance tomography. *Inverse problems in medical imaging and nondestructive testing (Oberwolfach, 1996)*, 43–64, *Springer, Vienna*, 1997. (From the introduction) **99d:94005** 94A12 (44A12, 65R10, 92C55)

— (*with* Vogel, Curtis R.) Convergence of an iterative method for total variation denoising. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1779–1791. (Viorel Arnautu) **99a:65081** 65K10 (49M30)

— (*with* Santosa, Fadil) Nondestructive evaluation of plates using eddy current methods. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 395–409. (Summary) **99a:78017** 78A30 (78–08)

— (*with* Kaup, Peter G.) Monitoring underground flows with electromagnetic methods. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 597–613. (Summary) **99m:86002** 86A05 (78A55, 86A22)

Dobson, Edward Isomorphism problem for metacirculant graphs of order a product of distinct primes. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1176–1188. (Summary) **99k:05119** 05C60

— (*with* Gavlas, Heather; Morris, Joy; Witte, David Riley) Automorphism groups with cyclic commutator subgroup and Hamilton cycles. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 69–78. (Brian Alspach) **99d:05039** 05C25 (05C45)

Dobson, Geoffrey J. Newton's problems with rigid body dynamics in the light of his treatment of the precession of the equinoxes. *Arch. Hist. Exact Sci.* **53** (1998), *no.* 2, 125–145. (Ll. G. Chambers) **99e:01010** 01A45 (70–03)

— Against Chandrasekhar's interpretation of Newton's treatment of the precession of the equinoxes. *Arch. Hist. Exact Sci.* **53** (1999), *no.* 6, 577–597. (Niccolò Guicciardini) **99m:01011** 01A45

Dochkowa, Juliana (*with* Harborth, Heiko; Mengersen, Ingrid) Cut set Catalan numbers. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 133–139. (*see* **99i:00020**) 05A10

Dockery, Jack (*with* Hutson, Vivian; Mischaikow, Konstantin; Pernarowski, Mark) The evolution of slow dispersal rates: a reaction diffusion model. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 61–83. (Si Ning Zheng) **99j:92006** 92D10 (35K57)

— (*with* Morita, Yoshihisa; Pernarowski, Mark) Homoclinic bifurcations in a diffusively coupled excitable system. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 397–407, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:92001** 92C10 (34C23, 34C37)

Do Cong Khanh (*with* Nguyen Minh Hang) Explicit cascade decompositions of unitary systems. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 2, 157–169. (Summary) **99m:93014** 93B11 (47A48, 47N70, 93B28)

Doddaballapur, Vidya (*with* Eloe, Paul W.; Zhang, Yongzhi) Quadratic convergence of approximate solutions of two-point boundary value problems with impulse. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 81–95 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Alberto Cabada) **99m:34019** 34A45 (34A37, 34B15)

— (*with* Eloe, Paul W.) Monotone and quadratic convergence of approximate solutions of ordinary differential equations with impulse. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 373–382. (Alberto Cabada) **99d:34021** 34A37 (34A45)

Dodds, P. G. (*with* de Pagter, B.; Semenov, E. M.; Sukochev, F. A.) Symmetric functionals and singular traces. (English summary) *Positivity* **2** (1998), *no.* 1, 47–75. (Christian Le Merdy) **99m:46072** 46E30 (46L50)

Dodia, B. T. (*with* Bowles, R. G. A.; Smith, Frank T.) On effects of increasing amplitude in a boundary-layer spot. (English summary) *Mathematika* **45** (1998), *no.* 1, 1–24. (Summary) **99f:76046** 76D10 (76E99)

Dodonov, V. V. Resonance photon generation in a vibrating cavity. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9835–9854. (Summary) **99h:81237** 81V80

Dodson, M. M. (*with* Bernik, V. I.; Dickinson, Henrietta) A Khintchine-type version of Schmidt's theorem for planar curves. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 179–185. (R. C. Baker) **99c:11099** 11J83

— (*with* Beaty, M. G.) An application of a general sampling theorem. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 241–254. (David F. Walnut) **99j:94001** 94A05 (42C15, 94A12, 94A29)

Do Duc Thai (*with* Thomas, Pascal J.) $\mathbf{D}^*$-extension property without hyperbolicity. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 1125–1130. (Marek Jarnicki) **99j:32012** 32D15 (32H15)

Dodunekov, Stefan (*with* Dodunekova, R.) Sufficient conditions for good and proper linear error detecting codes via their duals. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 375–381. (Summary) **99j:94064** 94B05

— (*with* Simonis, Juriaan) Codes and projective multisets. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 37, 23 *pp.* (*electronic*). (Italo José Dejter) **99m:94041** 94B05 (51E22, 94B27)

Dodunekova, R. (*with* Dodunekov, Stefan) Sufficient conditions for good and proper linear error detecting codes via their duals. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 375–381. (Summary) **99j:94064** 94B05

Dodunova, L. K. Approximation of analytic functions by de la Vallée-Poussin sums. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 3, 34–37; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 3, 33–36. (From the text) **99g:41040** 41A60 (41A30)

Dodziuk, Jozef (*with* Mathai, Varghese) Approximating L^2 invariants of amenable covering spaces: a combinatorial approach. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 359–378. (Tadeusz Januszkiewicz) **99e:58201** 58G26 (43A07, 57M10)

Doebeli, Michael (*with* de Jong, Gerdien) A simple genetic model with non-equilibrium dynamics. (English summary) *J. Math. Biol.* **36** (1998), *no.* 6, 550–556. (Summary) **99c:92025** 92D10 (92D25)

Doebner, Heinz-Dietrich (*with* Dobrev, Vladimir K.; Mrugalla, C.) q-deformed quantum mechanical evolution equations via a q-deformed Schrödinger algebra. (English summary) *Lie theory and its applications in physics (Clausthal, 1995)*, 187–196, *World Sci. Publishing, River Edge, NJ*, 1996. (Roberto Casalbuoni) **99e:81092** 81R50

— (*with* Dobrev, Vladimir K.; Mrugalla, C.) Lowest weight representations of q-Schrödinger algebra and generalized q-deformed heat/Schrödinger equations. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 149–161, *PWN, Warsaw*, 1997. (Valery P. Karassiov) **99i:81094** 81R50

— (*with* Nattermann, Peter) Partial differential equations and physical equivalence in linear and nonlinear quantum mechanics. (English summary) *Special functions and differential equations (Madras, 1997)*, 297–309, *Allied Publ., New Delhi*, 1998. (Summary) **99j:81048** 81Q99 (33E15, 39B32)

— *see also* **Irreversibility and causality**, **99b:81003** *and* **Lie theory and its applications in physics**, **99d:00022**

Doedel, Eusebius (*with* Friedman, M. J.; Kunin, B. I.) Successive continuation for locating connecting orbits. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 103–124. (Alan R. Champneys) **99c:34089** 34C37 (34A45, 34B15, 58F14, 65J15)

— On the construction of discretizations of elliptic partial differential equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 389–416. (Summary) **99a:65147** 65N30 (65N35)

Doeff, Erik (*with* Bonney, Matthew; Coaplen, Joshua) What makes a good friend? The mathematics of rock climbing. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 674–679 (*electronic*). 34A30

Doelman, Arjen (*with* Rottschäfer, Vivi) Multibump patterns near a co-dimension 2-point. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 43–54, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:35092** 35K57 (35Q55)

— (*with* Hek, Geertje; Holmes, Philip J.) Homoclinic saddle-node bifurcations and subshifts in a three-dimensional flow. (English summary) *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 291–329. (Jörg M. Härterich) **99m:58138** 58F14 (34C23, 34C37, 35B32, 58F15)

— (*with* Rottschäfer, Vivi) On the transition from the Ginzburg-Landau equation to the extended Fisher-Kolmogorov equation. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 261–292. (Guido Schneider) **99f:76062** 76E30 (35Q55, 58F39)

— (*with* Schielen, R.) Modulation equations for spatially periodic systems: derivation and solutions. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1901–1930 (*electronic*). (Andrej T. Il'ichev) **99i:35156** 35Q55 (76E30)

Doeraene, Jean-Paul Homotopy pull backs, homotopy push outs and joins. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 15–37. (Octavian Cornea) **99a:55007** 55P50 (55M30)

Doering, Charles R. Convection, stability, and low-dimensional dynamics. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium (San Diego, CA, 1997)*, 3–10, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 76E15 (76F99)

— (*with* Dontcheva, Lubomira A.; Kłosek-Dygas, M. M.) Constructive role of noise: fast fluctuation asymptotics of transport in stochastic ratchets. (English summary) *Chaos* **8** (1998), *no.* 3, 643–649. (Summary) **99e:70064** 70L05 (70K50)

— (*with* Gibbon, J. D.) Corrigendum: "On the shape and dimension of the Lorenz attractor" [Dynam. Stability Systems **10** (1995), no. 3, 255–268; MR 96f:58091]. *Dynam. Stability Systems* **13** (1998), *no.* 3, 299–301. (From the text) **99h:58118** 58F12 (34C99, 34D45)

— (*with* Wang, Xiao Ming[1]) Attractor dimension estimates for two-dimensional shear flows. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 206–222. (Alp O. Eden) **99m:76067** 76F20 (35Q30, 58F39, 76D05, 76F10)

Doering, Luisa Rodrigues (*with* Gunston, Tor; Vasconcelos, Wolmer V.) Cohomological degrees and Hilbert functions of graded modules. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 493–504. (Claudia Polini) **99h:13019** 13D40 (13H10)

Dofs, Erik Unsolvable cases of $P^3 + Q^3 + cR^3 = dPQR$. *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 927–938. (Jasbir Singh Chahal) **99i:11018** 11D25

Dogac, Asuman (*with* Halici, Ugur; Arpinar, Budak) Serializability of nested transactions in multidatabases. (English summary) *Database theory—ICDT '97 (Delphi)*, 321–335, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68054** 68P15

Doğançay, K. (*with* Poskitt, Don S.; Chung, Shin-Ho) Double-blind deconvolution: the analysis of post-synaptic currents in nerve cells. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 191–212. (Summary) **99i:62075** 62G05 (62M99)

Dogaru, O. *see* **Dogaru, Oltin**

Dogaru, Octavian C. A method of string search. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 121–128. 68Q25

Dogaru, Oltin (*with* Ţevy, I.; Udrişte, Constantin) Extrema constrained by a family of curves and local extrema. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 605–621. (Hubertus Th. Jongen) **99c:49004** 49J10 (49Q20)

Dogaru, Radu (*with* Chua, Leon O.) Edge of chaos and local activity domain of FitzHugh-Nagumo equation. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 211–257. (François Aribaud) **99i:58104** 58F13 (58F40)

Doğru, Ogün On the order of approximation of unbounded functions by the family of generalized linear positive operators. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 173–181 (1998). (Jia-Ding Cao) **99f:41031** 41A36 (41A25)

— On a certain family of linear positive operators. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 387–399. (Shun Sheng Guo) **99c:41047** 41A36

Doğruöz, Semra (*with* Smith, Patrick F.) Modules which are extending relative to module classes. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1699–1721. (John Dauns) **99e:16007** 16D70 (16D50)

Doğrusöz, Uğur (*with* Krishnamoorthy, Mukkai S.) VLSI algorithms for finding a fundamental set of cycles and a fundamental set of cutsets of a graph. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 46–65 (*electronic*). (*see* **99f:68006**) 68Q35

Doguchaeva, S. M. Problems with free boundaries for a degenerate parabolic equation in the problem of the environment. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 21–24. 35R35 (35K65, 86A04)

Doha, E. H. (*with* Helal, M. A.) An accurate double Chebyshev spectral approximation for parabolic partial differential equations. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 83–101. (Summary) **99j:65176** 65M70

— The ultraspherical coefficients of the moments of a general-order derivative of an infinitely differentiable function. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 53–72. (Yuri N. Skiba) **99h:33034** 33C45 (33C55, 42C10)

Dohi, Tadashi (*with* Kaio, Naoto; Osaki, Shunji) Revised optimal checkpointing strategies in database availability modeling and their comparison. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 59–66. (*see* **99h:90006**) 90B22 (90B25)

— (*with* Takeita, Kentaro; Osaki, Shunji) Graphical methods for determining/estimating optimal repair-limit replacement policies. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 37–52. (*see* **99i:90002**) 90B05 (90B25)

— (*with* Okamura, Hiroyuki; Osaki, Shunji) Optimal order-limit policies for an (r, Q) inventory system. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 127–145. (Summary) **99k:90067** 90B05

von Dohlen, Brian (*with* Conlon, Joseph G.) Numerical simulations of random walk in random environment. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 571–586. (E. J. Janse van Rensburg) **99j:82039** 82B41 (82B43, 82B80)

Dohmen, Claus (*with* Hirose, Munemitsu) Structure of positive radial solutions to the Haraux-Weissler equation. *Nonlinear Anal.* **33** (1998), *no.* 1, 51–69. (Michael A. Karls) **99f:35045** 35J60 (34B15, 35B05)

Dohmen, Klaus Inclusion-exclusion and network reliability. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 36, 8 *pp.* (*electronic*). (Summary) **99d:60008** 60C05 (60K10, 68U15, 90B25)

— An improvement of the inclusion-exclusion principle. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 4, 298–303. (Paul Klingsberg) **99m:05005** 05A15 (05A19, 05C15)

Do Hong Tan A classification of contractive mappings in probabilistic metric spaces. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 295–302. (Summary) **99i:54041** 54E70 (47H09, 47H10, 54H25)

Dohrmann, C. R. (*with* Key, S. W.) A transition element for uniform strain hexahedral and tetrahedral finite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 12, 1933–1950. (Summary) **99m:73068** 73V05

Dohtani, Akitaka The system stability of dynamic processes. (English summary) *J. Math. Econom.* **29** (1998), *no.* 2, 161–182. (Dave Furth) **99m:90036** 90A14 (58F10, 58F40)

Doi, Makoto (*with* Chen, Yow-Mow; Ōsawa, Hideo) A queueing model in which arrival times are scheduled. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 249–252. (Summary) **99b:90054** 90B22

Doi, Masayuki (*with* Yamamoto, Eiji) On the joint distribution of runs in a sequence of multi-state trials. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 133–141. (J. Glaz) **99i:60018** 60C05 (60J10)

Doi, Norihisa (*with* Barmawi, Ari Moesriami; Takada, Shingo) Augmented encrypted key exchange using RSA encryption and confounder. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3324–3332. (Summary) **99i:94040** 94A60

Doi, Shin-ichi Regularizing effects for Schrödinger type equations. (Japanese) *Sūgaku* **49** (1997), *no.* 1, 38–47. (Tohru Ozawa) **99a:35041** 35J10 (35B65)

— (*with* Takuya, Mine; Iwatsuka, Akira) The uniqueness of the integrated density of states for the Schrödinger operators with magnetic fields. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 32–36. (*see* **99a:00049**) 47F05 (35J10, 47N50)

Doi, Shinji (*with* Inoue, Junko[2]; Kumagai, Sadatoshi) Spectral analysis of stochastic phase lockings and stochastic bifurcations in the sinusoidally forced van der Pol oscillator with additive noise. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1107–1127. (Summary) **99a:34109** 34C15 (34C23, 34F05, 70K40, 70L05)

Doi, Toshiyuki (*with* Sone, Yoshio; Golse, François; Ohwada, Taku) Analytical study of transonic flows of a gas condensing onto its plane condensed phase on the basis of kinetic theory. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 277–306. (Summary) **99f:76116** 76P05 (76H05, 82C40)

Doi, Yukio Hopf algebras and ring theory: Frobenius extensions. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 1–16. (*see* **99a:00029**) 16W30

— Hopf modules in Yetter-Drinfeld categories. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 3057–3070. (Şerban Raianu) **99h:16056** 16W30

Doĭber, V. A. *see* **Deuber, Walter A.**

Doĭchinov, Doĭchin B. *see* **Obituary: Doĭchinov, Doĭchin B., 99m:01101**

Doicu, A. (*with* Wriedt, T.) Scattering analysis of conducting axisymmetric particles using the extended boundary condition method with discrete sources. (English summary) *J. Modern Opt.* **45** (1998), *no.* 11, 2207–2215. (Summary) **99i:78007** 78-08 (78A45)

Doignon, Jean-Paul (*with* Regenwetter, Michel) The choice probabilities of the latent-scale model satisfy the size-independent model when n is small. (English summary) *J. Math. Psych.* **42** (1998), *no.* 1, 102–106. (Summary) **99b:90038** 90A28

Doikou, Anastasia (*with* Mezincescu, Luca; Nepomechie, Rafael I.) Boundary S-matrix for the XXZ chain. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 53–59. (Konstantin G. Selivanov) **99h:82012** 82B20 (33D05, 82B23)
— (*with* Nepomechie, Rafael I.) Discrete symmetries and S-matrix of the XXZ chain. (English summary) *J. Phys. A* **31** (1998), *no.* 37, *L*621–*L*627. (Katherine A. Seaton) **99i:82009** 82B20
— (*with* Nepomechie, Rafael I.) Bulk and boundary S-matrices for the SU($\mathcal{N}$) chain. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 3, 547–572. (Gunter Schütz) **99e:82025** 82B23 (82B20)
— (*with* Nepomechie, Rafael I.) Duality and quantum-algebra symmetry of the $A^{(1)}_{\mathcal{N}-1}$ open spin chain with diagonal boundary fields. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 641–664. (Andrey V. Tsiganov) **99j:82013** 82B20 (82B23)
Doisy, M. (*with* Barbe, Philippe; Garel, B.) Last passage time for the empirical mean of some mixing processes. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 237–245. (Winfried Stute) **99j:60030** 60F05 (62F12, 62M10)
Doitchinov, Doitchin *see* **Doĭchinov, Doĭchin B.**
Dökmeci, M. Cengiz (*with* Aşkar Altay, G.) A uniqueness theorem in Biot's poroelasticity theory. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 838–846. (Summary) **99h:73018** 73C15 (73B99, 76S05)
Dokov, S. P. (*with* Dontchev, Asen L.) Robinson's strong regularity implies robust local convergence of Newton's method. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 116–129, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Gérard Lebourg) **99e:90099** 90C31 (47H19, 49K40, 65J15)
Doksum, Kjell (*with* Gould, Jeffrey; Hammarstrand, Robert; Mathur, Ashwini; Vittinghoff, Eric) An analysis of nonparametric smoothers. (English summary) *Applied statistical science, III*, 13–40, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62044** 62G05
Doktorovich, A. B. Similarity and difference measures, supporting sets and the ternary "between" relation. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 2, 170–173. (Jan W. Owsiński) **99b:00007** 00A69 (62H30, 68P99, 68T10)
Dokuchaev, M. A. (*with* Singer, Maria Lucia Sobral) Units in group rings of free products of prime cyclic groups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 312–322. (Kenneth A. Brown) **99g:16039** 16U60 (16S34, 20E06)
Dokuchaev, N. G. Control of Cordes-type diffusion with incomplete observation and in a game-theoretic problem. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 8, 1051–1062, 1149; *translation in Differential Equations* **32** (1996), *no.* 8, 1055–1066 (1997). (Summary) **99k:93094** 93E20 (35K99, 49L20, 90D80)
Dokuz, M. Salih (*with* Gürgöze, İhsan T.) An equilibrium solution for the Boussinesq problem for a mixture of an elastic solid and a fluid in an infinite half-space. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 645–653. (From the introduction) **99d:73019** 73B99 (76D99)
— (*with* Gürgöze, İhsan T.) Papkovich-Neuber solution for a mixture of two elastic solids and Kelvin problem. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 4, 497–507. (Summary) **99i:73019** 73C02 (73B40)
Dolado, Juan J. (*with* Banerjee, Anindya[1]; Mestre, Ricardo) Error-correction mechanism tests for cointegration in a single-equation framework. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 267–283. (Luis Firinguetti) **99i:62197** 62M10 (62P20)
Do Lago, Alair Pereira *see* **do Lago, Alair Pereira**
Dolan, Brian P. Renormalisation group flow and geodesics in the O(N) model for large N. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 553–576. (Summary) **99d:81091** 81T17 (81T10)
— Renormalisation flow and geodesics on the moduli space of four-dimensional $N = 2$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 107–110. (Summary) **99a:81112** 81T17 (58D27, 81T60)
Dolan, James (*with* Baez, John C.) Categorification. (English summary) *Higher category theory* (*Evanston, IL*, 1997), 1–36, *Contemp. Math.*, 230, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99k:18016** 18G30 (18D05, 55P15)
— (*with* Baez, John C.) Higher-dimensional algebra. III. n-categories and the algebra of opetopes. (English summary) *Adv. Math.* **135** (1998), *no.* 2, 145–206. (Pilar C. Carrasco) **99j:18005** 18D05 (08C05, 18D20, 81T99)
Dolan, Louise (*with* Langham, M.) Partition functions, duality and the tube metric. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 235–256. (Daniel N. Kabat) **99m:81179** 81T30 (81T40)
— (*with* Nappi, Chiara R.) A modular invariant partition function for the fivebrane. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 3, 683–700. (Claudio A. Scrucca) **99k:81231** 81T30 (81T50)
Dolan, Patrick (*with* Muratori, B.) Gravitational potentials and the existence of gravitational Green's tensors. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 29, 2347–2353. (Summary) **99j:83020** 83C20
Dolbeault, J. Free energy and solutions of the Vlasov-Poisson-Fokker-Planck system: external potential and confinement (large time behavior and steady states). (English summary) *J. Math. Pures Appl.* (9) **78** (1999), *no.* 2, 121–157. (R. Glassey) **99m:35248** 35Q99 (35B40, 82B40, 82C22, 82C31, 82D10)
Dolbeault, Pierre Le théorème de Riemann-Roch sur les surfaces kählériennes compactes (d'après Kodaira). [The Riemann-Roch theorem on compact Kähler surfaces (after Kodaira)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 63, 133–143, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 32L10 (32J27)
— (*with* Kalina, Jerzy; Ławrynowicz, Julian) Introduction to almost hyperbolic pseudodistances via intermediate dimensional-invariant measures. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 9–14. (Masaaki Suzuki) **99m:32025** 32H15 (32H99)
Dolbilin, Nikolai (*with* Schattschneider, Doris) The local theorem for tilings. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 193–199, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99d:52020** 52C22
— (*with* Schattschneider, Doris) One corona is enough for the Euclidean plane. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 207–246, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (George E. Martin) **99k:52034** 52C22 (52C20)
— (*with* Dress, Andreas W. M.; Huson, Daniel H.) Two finiteness theorems for periodic tilings of d-dimensional Euclidean space. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 143–153. (R. Blind) **99f:52027** 52C22
— (*with* Lagarias, Jeffrey C.; Senechal, Marjorie) Multiregular point systems. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 477–498. (Summary) **99i:52027** 52C22 (82D25)
— Rigidity of convex polyhedrons. *Quantum* **9** (1998), *no.* 1, 8–13. (Tiong Seng Tay) **99h:52030** 52C25
Dolbow, J. (*with* Belytschko, Ted) An introduction to programming the meshless element free Galerkin method. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 3, 207–241. (Summary) **99g:73103** 73V05
— (*with* Belytschko, Ted; Krongauz, Y.; Gerlach, C.) On the completeness of meshfree particle methods. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 5, 785–819. (Summary) **99h:73084** 73V20 (76M25)
capuzzo-Dolcetta, Italo *see* **Capuzzo-Dolcetta, Italo**
capuzzo-Dolcetta, R. *see* **Capuzzo-Dolcetta, R.**
Dolcher, Mario *see* **Prodi, Giovanni**
Dold, Albrecht Les foncteurs dérivés d'un foncteur non-additif. [Derived functors of a nonadditive functor] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 170, 19–25, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 18E25
— Structure de l'anneau de cobordisme Ω (d'après V. A. Rokhlin et C. T. C. Wall). [Structure of the cobordism ring Ω (after V. A. Rokhlin and C. T. C. Wall)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 188, 273–286, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 57R75
Dold, J. W. (*with* Galaktionov, V. A.; Lacey, Andrew A.; Vázquez, Juan Luis) Rate of approach to a singular steady state in quasilinear reaction-diffusion equations. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 663–687. (Andreas Unterreiter) **99m:35116** 35K57 (35K65)
— (*with* Henderson, K. L.; Peregrine, D. H.) Unsteady water wave modulations: fully nonlinear solutions and comparison with the nonlinear Schrödinger equation. (English summary) *Wave Motion* **29** (1999), *no.* 4, 341–361. 76B15 (76M25)
Dolecki, Szymon (*with* Pillot, Michel) Relatively maximal convergences. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 3, 699–704. (Summary) **99h:54001** 54A20
— (*with* Pillot, Michel) Topologically maximal convergences, accessibility, and covering maps. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 371–384. (Summary) **99j:54005** 54A20 (54D50, 54D55)
— (*with* Sitou, Saliou) Precise bounds for the sequential order of products of some Fréchet topologies. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 61–75. (Thomas W. Rishel) **99h:54002** 54A20 (54B10, 54D55)
Dolejší, Vít (*with* Angot, Philippe; Feistauer, Miloslav; Felcman, Jiří) Analysis of a combined barycentric finite volume-nonconforming finite element method for nonlinear convection-diffusion problems. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 263–310. (Claus-Dieter Munz) **99f:76095** 76M25 (65M60, 76M10)
Dolev, Danny (*with* Keidar, Idit) Increasing the resilience of distributed and replicated database systems. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 309–324. (Summary) **99m:68042** 68P15
Dolev, Shlomi (*with* Abello, James) On the computational power of self-stabilizing systems. (English summary) *Theoret. Comput. Sci.* **182** (1997), *no.* 1-2, 159–170. (Summary) **99f:68059** 68Q10 (68M10)
Dolezal, Petr (*with* Vinck, Adrianus J.; Kim, Young-Gil) Convolutional encoder state estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1604–1608. 94B10
Dolezal, Vaclav Some results on the invertibility of nonlinear operators. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 683–690. (Tomás Domínguez Benavides) **99j:47096** 47H15 (47H17)
Dolgachev, Igor V. Invariant stable bundles over modular curves $X(p)$. *Recent progress in algebra* (*Taejon/Seoul*, 1997), 65–99, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (H. Lange) **99j:14036** 14H60 (11G18, 14G35)
Dolgopyat, Dmitry On decay of correlations in Anosov flows. *Ann. of Math.* (2) **147** (1998), *no.* 2, 357–390. (Luis M. Barreira) **99g:58073** 58F11 (58F15)
Dolgov, A. D. (*with* Novikov, Igor D.) Superluminal propagation of light in gravitational field and non-causal signals. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 82–89. (Summary) **99h:83041** 83C99
Dolgova, T. P. (*with* Popov, Vladimir M.) Problems of relevant logic in V. A. Smirnov's "Formal deduction and logical calculi". (Russian. Russian summary) *Logical investigations, No.* 4 (*Russian*), 79–93, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B46
Dolin, L. S. The theory of optical coherence tomography. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 10, 1258–1289. (Summary) **99g:92016** 92C55 (44A12, 78A45, 94A12)
D'Olivo, Juan Carlos *see* **Symposium: High Energy Physics, 99d:81004** *and* **Particles and fields, 99h:81003**
Doliwa, Adam (*with* Cieśliński, Jan; Santini, Paolo Maria) The integrable discrete analogues of orthogonal coordinate systems are multi-dimensional circular lattices. (English summary) *Phys. Lett. A* **235** (1997), *no.* 5, 480–488. (Summary) **99d:58149** 58F35 (39A12)
Doliwa, Dariusz (*with* Pawlak, Ryszard Jerzy) On the almost continuity of the diagonal of functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 459–469. (Oleksandr V. Sobchuk) **99h:26006** 26A15 (54C08)
Doljansky, Moshe (*with* Teboulle, Marc) An interior proximal algorithm and the exponential multiplier method for semidefinite programming. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 1–13 (*electronic*). (Alfredo N. Iusem) **99k:90151** 90C30 (90C25)
Dollinger, Michael B. (*with* Kulinskaya, E. V.; Staudte, Robert G.) When is a p-value a good measure of evidence? (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 119–134, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **99c:62004** 62A15 (62F03, 62F15)
Dol'nikov, V. L. (*with* Polyakova, O. P.) The nondensity function and generalized Ramsey numbers. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 3, 84–99; *translation in Discrete Math. Appl.* **8** (1998), *no.* 5, 499–516. (Martin Klazar) **99m:05111** 05C55

Dolotin, V. V. On the discriminants of multilinear forms. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 2, 3–34; *translation in Izv. Math.* **62** (1998), *no.* 2, 215–245. (Ivan V. Arzhantsev) **99d:13034** 13P99 (15A63)

Doltsinis, Ioannis St. Solution of coupled systems by distinct operators. *Engrg. Comput.* **14** (1997), *no.* 8, 829–868. (Xiaoguang Allan Zhong) **99b:73042** 73V20 (65M55, 76M25)

Dolzhenko, E. P. (*with* Sevast'yanov, E. A.) Sign-sensitive approximations. (English summary) Analysis, 10. *J. Math. Sci.* (*New York*) **91** (1998), *no.* 5, 3205–3257. (Bl. Sendov) **99h:41007** 41A10 (41A30)

Dolzmann, Andreas (*with* Sturm, Thomas; Weispfenning, Volker) A new approach for automatic theorem proving in real geometry. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 357–380. (Summary) **99m:03021** 03B35 (03C10, 51M99, 68T15)

— (*with* Sturm, Thomas; Weispfenning, Volker) Real quantifier elimination in practice. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 221–247, *Springer, Berlin*, 1999. (Carlo Toffalori) **99m:13051** 13P99 (03C10, 03D15, 68Q15)

Dolzmann, Georg (*with* Hungerbühler, Norbert; Müller, Stefan C.) Non-linear elliptic systems with measure-valued right hand side. *Math. Z.* **226** (1997), *no.* 4, 545–574. (Rolando Magnanini) **99c:35069** 35J65 (35R05)

— (*with* DeSimone, Antonio) Existence of minimizers for a variational problem in two-dimensional nonlinear magnetoelasticity. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 2, 107–120. (Rustum Choksi) **99j:73089** 73R05 (49J20, 73C50, 73V25)

— (*with* Carstensen, Carsten) A posteriori error estimates for mixed FEM in elasticity. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 187–209. (Petr Procházka) **99m:65208** 65N30 (65N15, 73V05)

Domański, Paweł (*with* Vogt, D.) A splitting theorem for the space of smooth functions. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 203–248. (Klaus-Dieter Bierstedt) **99b:46001** 46A04 (46E10, 46M20)

— (*with* Díaz Alcaide, Juan Carlos) Reflexive operators with domain in Köthe spaces. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 189–204. (José Bonet) **99j:46011** 46A45 (46E10, 47A99, 47B07)

— (*with* Bonet, José) Real analytic curves in Fréchet spaces and their duals. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 13–36. (Richard M. Aron) **99i:46032** 46G20 (46A13, 46E50)

— (*with* Díaz Alcaide, Juan Carlos) On the injective tensor product of distinguished Fréchet spaces. (English summary) *Math. Nachr.* **198** (1999), 41–50. (Summary) **99k:46004** 46A04 (46M05)

Domar, Yngve On the convolution Banach algebra $l^1(0,1)$. *Math. Scand.* **82** (1998), *no.* 1, 48–52. (Elizabeth Strouse) **99f:43003** 43A15 (46J99)

Dombey, N. (*with* Calogeracos, A.) Klein tunnelling and the Klein paradox. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 631–643. 81Q05 (81P05)

Dombi, József (*with* Jelasity, Márk) GAS, a concept on modeling species in genetic algorithms. (English summary) *Artificial Intelligence* **99** (1998), *no.* 1, 1–19. (Summary) **99b:92027** 92D15 (90C27, 92B10)

Dombrovskaia, Lioubov (*with* Rodríguez, Patricio; Nussbaum, Miguel) Knowledge-based language for modeling linear programming problems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 379–388. 90C05 (90C90)

Dombrovskiĭ, R. F. On the geometry of tensor fields on manifolds with almost quaternion structure. Geometry, 3. *J. Math. Sci.* (*New York*) **89** (1998), *no.* 3, 1301–1310. (Sorin Dragomir) **99i:53026** 53C15

Dombrovskiĭ, V. V. Synthesis of reduced-order dynamic controllers under H_∞-constraints. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 10–17; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1537–1543 (1997). (Andrzej Świerniak) **99e:93032** 93B50 (93B36)

— (*with* Chikunova, E. V.) Synthesis of dynamic controllers of reduced order for systems with random parameters. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 97–101. (Summary) **99k:93095** 93E20 (49K45, 93B50, 93E10)

Dombrovsky, R. F. *see* **Dombrovskiĭ, R. F.**

Domenig, Thomas Order bounded and p-summing composition operators. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 27–41, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Wayne Stewart Smith) **99a:47043** 47B38 (30D55, 47B10)

— (*with* Jarchow, Hans; Riedl, Reinhard) The domain space of an analytic composition operator. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 56–65. (Paul Bourdon) **99k:47063** 47B38 (30D55, 46E15)

Domergue, Michel Dehn surgery on a knot and real 3-projective space. *Progress in knot theory and related topics*, 3–6, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (From the text) **99a:57005** 57M25

Domingo, Juan M. (*with* Díaz, M. E.; Ayala, G.; Albert, Jesus V.; Ferri, F. J.) Accurate detection and characterization of corner points using circular statistics and fuzzy clustering. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 687–696, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30

Domingos, Ana Rute (*with* Ramos, Miguel) On the solvability of a resonant elliptic equation with asymmetric nonlinearity. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 45–57. (Anna Maria Candela) **99k:35048** 35J60 (58E05)

Domingos Cavalcanti, V. N. (*with* Cavalcanti, M. M.; Soriano, J. A.) Existence and boundary stabilization of a nonlinear hyperbolic equation with time-dependent coefficients. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 8, 21 *pp.* (*electronic*). (Enzo Vitillaro) **99b:35141** 35L70 (35B35, 93C20, 93D15)

— (*with* Cavalcanti, M. M.; Rocha dos Santos, Angela; Soriano, J. A.) Exact controllability of a second-order integro-differential equation with a pressure term. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 9, 18 *pp.* (*electronic*). (Irina F. Sivergina) **99k:93017** 93B05 (35L99, 45K05, 73K50, 93C20)

— (*with* Cavalcanti, M. M.; Prates Filho, J. S.; Soriano, J. A.) Existence and exponential decay for a Kirchhoff-Carrier model with viscosity. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 40–60. (Summary) **99g:35084** 35L70 (35B40)

— (*with* Prates Filho, J. S.) Exact internal controllability of the elasticity system. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 29–43 (*electronic*). (Mircea Lupu) **99h:93011** 93B05 (35B37, 73K50, 93C20)

Dominguez, Alfredo E. (*with* Kozameh, Carlos N.; Ludvigsen, Malcolm) Superselection sectors in asymptotic quantization of gravity. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 337–346, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (*see* **99e:81005**) 83C30 (83C05)

Domínguez, Demetrio Finiteness and tenseness theorems for Riemannian foliations. (English summary) *Amer. J. Math.* **120** (1998), *no.* 6, 1237–1276. (James J. Hebda) **99k:53045** 53C12 (58A12, 58A14)

— A finiteness theorem for transitive foliations and flat vector bundles. (English summary) *Israel J. Math.* **107** (1998), 253–287. (James J. Hebda) **99k:53044** 53C12 (58A12, 58A14)

outerelo Domínguez, Enrique *see* **Outerelo Domínguez, Enrique**

ferreirós Domínguez, José *see* **Ferreirós Domínguez, José**

ramos Domínguez, María Teresa *see* **Ramos Domínguez, María Teresa**

Domínguez, P. Dynamics of transcendental meromorphic functions. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 225–250. (Walter Bergweiler) **99b:30031** 30D05 (58F23)

— (*with* Baker, I. N.) Analytic self-maps of the punctured plane. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 67–91. (Summary) **99m:30051** 30D05

ramos Domínguez, Rosa María *see* **Ramos Domínguez, Rosa María**

Domínguez Benavides, T. (*with* Ayerbe Toledano, J. M.; López Acedo, G.) ★ Measures of noncompactness in metric fixed point theory. (English summary) Operator Theory: Advances and Applications, 99. *Birkhäuser Verlag, Basel*, 1997. viii+211 *pp. ISBN* 3-7643-5794-0 (Brailey Sims) **99e:47070** 47H09 (46B20, 47H10)

— (*with* Angeles Japon Pineda, M.) Stability of the fixed point property for nonexpansive mappings in some classes of spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 37–46. (Brailey Sims) **99c:47091** 47H10 (46B20)

Domínguez Delgado, Antonio (*with* Chacón Rebollo, Tómas) Numerical simulation of three-dimensional vortex dynamics via discretization by finite elements of vorticity. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 667–672, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (76C05)

Domínguez-Menchero, J. S. (*with* López-Palomo, M. J.) On the estimation of monotone uniform approximations. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 355–362. (Summary) **99b:60017** 60E05 (60F15, 62G05)

Domnik, Irena On some characterization of quasi-continuous functions. *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 12–20 (1995). 54C08

— Quasi-uniformities generated by an order relation. *Shup. Pr. Mat. Przyr. Fiz. A* **11** (1997), 175–188. 54E15 (54F05)

Domocoş, Virgil About the generating function of restricted lattice paths. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 4, 441–444. (Summary) **99k:05007** 05A15

— On the generating function of min-irreducible coverings by edges of complete k-partite hypergraphs. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 25–28. 05C65

Domogat·skaya, V. B. (*with* Khaĭlov, E. N.) On the number of switchings of extremal controls for a class of bilinear systems with a nonsingular matrix. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 27–30, 52. (Alexander J. Zaslavski) **99j:49009** 49J30 (49K30)

Domokos, András Solution sensitivity of variational inequalities. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 382–389. (Walter Alt) **99k:90169** 90C31 (47H19, 47N10)

Domokos, Gábor (*with* Holmes, Philip J.; Royce, B.) Constrained Euler buckling. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 3, 281–314. (Summary) **99b:73025** 73H05 (34B15, 58F40)

— (*with* Holmes, Philip J.; Schmitt, John) Constrained Euler buckling: line contact solutions. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 149–158, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 73H05

— (*with* Holmes, Philip J.; Schmitt, John; Szeberényi, Imre) Constrained Euler buckling: an interplay of computation and analysis. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 175–207. (Summary) **99m:73039** 73H05

Domokos, Mátyás Invariants of quivers and wreath products. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2807–2819. (George F. Seelinger) **99g:16043** 16W20 (14L30, 15A72, 16G20)

— Cayley-Hamilton theorem for 2×2 matrices over the Grassmann algebra. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 69–81. (Hong Bo Li) **99j:16012** 16R10 (15A75, 16W20)

Domoshnitskiĭ, A. I. (*with* Drakhlin, Mikhail E.; Litsyna, E. M.) On boundary value problems for Nth order functional-differential equations with impulses. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 50–56. (Summary) **99d:34119** 34K10 (34A37)

— (*with* Drakhlin, Mikhail E.) Periodic solutions of differential equations with delay depending on solution. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2665–2672. (Klaus Morgenthal) **99c:34159** 34K15 (34C25)

— (*with* Drakhlin, Mikhail E.; Litsyna, E. M.) Nth order functional-differential equations with impulses. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 987–996. (Summary) **99g:34130** 34K05 (34A37, 34K10)

Dömösi, Pál (*with* Ito, Masami[1]; Katsura, Masashi; Nehaniv, Chrystopher L.) A new pumping property of context-free languages. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 187–193, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Editors) **99g:68110** 68Q45

— (*with* Nehaniv, Chrystopher L.) Algebraic theory of finite automata networks. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 481–509. (Alexandra Kireeva) **99m:68130** 68Q70

Domrina, A. V. An example of a strictly pseudoconvex domain, homeomorphic to a ball, to which a complex disk is attached from the outside. (Russian) *Mat. Zametki* **60** (1996), *no.* 6, 919–924; *translation in Math. Notes* **60** (1996), *no.* 5-6, 693–697 (1997). (Harold P. Boas) **99e:32022** 32F15

Domschke, Wolfgang *see* **Proceedings: Operations Research, 99d:90008**

Domshlak, Yu. I. (*with* Cheng, Sui Sun) Sturmian theorems for a partial difference equation. (English summary) *Funct. Differ. Equ.* **3** (1995), *no.* 1-2, 83–97. (Summary)

99a:39010 39A10
— (*with* Stavroulakis, I. P.) Oscillations of first-order delay differential equations in a critical state. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 359–371. (Summary) **99a:34184** 34K15
— (*with* Stavroulakis, I. P.) Oscillations of differential equations with deviating arguments in a critical state. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 405–414. (Hiroshi Onose) **99h:34103** 34K15
— Delay-difference equations with periodic coefficients: sharp results in oscillation theory. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 403–422. (Shu Nian Zhang) **99e:39014** 39A10
Domzy, Bart *see* **Proceedings: Conference on Computing and Information, 99d:68010** *and* **Proceedings: Conference of Computing and Information, 99g:68005**
Don, Wai Sun (*with* Gottlieb, David) Spectral simulation of supersonic reactive flows. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2370–2384 (*electronic*). (Long An Ying) **99i:65110** 65M70
de Doná, José A. *see* **De Doná, José A.**
Donagi, Ron Y. Seiberg-Witten integrable systems. *Algebraic geometry—Santa Cruz* 1995, 3–43, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Alexander E. Polishchuk) **99c:58066** 58F07 (14D20, 14H40, 14H52, 81T13, 81T60)
— Principal bundles on elliptic fibrations. (English summary) *Asian J. Math.* **1** (1997), *no.* 2, 214–223. (Philip A. Foth) **99d:14010** 14D20 (14D05, 14F05, 81T30)
Donahue, William H. *see* **Densmore, Dana, 99h:01021**
Donald, Stephen G. (*with* Cragg, John G.) Inferring the rank of a matrix. (English summary) *J. Econometrics* **76** (1997), *no.* 1-2, 223–250. (Summary) **99g:62151** 62P20 (62H12)
Donaldson, David (*with* Weymark, John A.) A quasiordering is the intersection of orderings. (English summary) *J. Econom. Theory* **78** (1998), *no.* 2, 382–387. (P. A. Biryukov) **99e:06002** 06A06 (90A06)
Donaldson, Simon Remarks on gauge theory, complex geometry and 4-manifold topology. *Fields Medallists' lectures*, 384–403, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Paolo Lisca) **99i:57050** 57R57 (57N13, 58D27, 58G05)
— Lefschetz fibrations in symplectic geometry. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 309–314 (*electronic*). (Miguel T. Abreu) **99i:57044** 57R15 (57R57)
— *see also* **Atiyah, Michael F., (99b:00010)**
Donangelo, Raul (*with* Wedemann, Roseli S.; Barbosa, Valmir C.) Defeasible time-stepping. (English summary) *Parallel Comput.* **25** (1999), *no.* 4, 461–489. 68U20 (65M06)
Do Nascimento, Arnaldo Simal *see* **do Nascimento, Arnaldo Simal**
Doñate, Pedro D. (*with* Moiola, Jorge L.; Colantonio, María C.) Analysis of static and dynamic bifurcations from a feedback systems perspective. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 293–317. (Summary) **99a:34114** 34C23 (34H05, 93C15)
Donati, Francesco (*with* Canuto, Enrico; Vallauri, Maurizio) Manufacturing algebra: a new mathematical tool for discrete-event modelling of manufacturing systems. *Systems: theory and practice*, 269–312, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 90B30 (93A30)
Donati-Martin, Catherine (*with* Alili, Larbi; Yor, Marc) Une identité en loi remarquable pour l'excursion brownienne normalisée. [A remarkable identity in law for a normalized Brownian excursion] *Exponential functionals and principal values related to Brownian motion*, 155–180, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (Zhan Shi) **99i:60153** 60J65 (11B68)
Donato, Patrizia (*with* Corbo Esposito, Antonio; Gaudiello, Antonio; Picard, Colette) Homogenization of the p-Laplacian in a domain with oscillating boundary. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 1–23. (P. Lindqvist) **99a:35016** 35B27 (35J65, 49J45)
— (*with* Gaudiello, Antonio; Sgambati, Luciana) Homogenization of bounded solutions of elliptic equations with quadratic growth in periodically perforated domains. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 223–243. (Summary) **99b:35009** 35B27 (35J65, 49J45, 73B27)
— (*with* Cardone, Giuseppe; Gaudiello, Antonio) A compactness result for elliptic equations with subquadratic growth in perforated domains. *Nonlinear Anal.* **32** (1998), *no.* 3, 335–361. (Dietrich Göhde) **99b:35064** 35J65 (35B27, 73B27)
Donchev, Doncho S. A system of functional-differential equations associated with the optimal detection problem for jump-times of a Poisson process. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 179–192. (Summary) **99c:60110** 60G99 (34K50, 62L99)
— On the two-armed bandit problem with non-observed Poissonian switching of arms. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 401–422. (Summary) **99c:62218** 62L10
Donchev, Tzanko (*with* Angelov, Vasil G.) Regular and singular perturbations of upper semicontinuous differential inclusion. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 699–706. (Péter Tallós) **99b:34033** 34A60 (34E15)
— Functional-differential inclusions involving dissipative and compact multifunctions. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 51–60. (G. Anichini) **99j:34116** 34K30 (34A60, 47H04, 49J24)
— (*with* Farkhi, Elza) Stability and Euler approximation of one-sided Lipschitz differential inclusions. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 780–796 (*electronic*). (Oleg P. Filatov) **99c:34024** 34A60 (34H05, 49J24, 49M25)
de Doncker-Kapenga, Elise (*with* Gupta, Ajay) Multivariate integration on hypercubic and mesh networks. (English summary) *Parallel Comput.* **24** (1998), *no.* 8, 1223–1244. (Summary) **99f:65034** 65D30
Dondajewski, Marian (*with* Szymański, Jerzy) A linear algorithm for the generation of a random plane tree. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 38–41. (*see* **99g:05001**) 05C85
— (*with* Szymański, Jerzy) Vertices of small degrees in random recursive dags. (English summary) *Fasc. Math. No.* 28 (1998), 31–41. (Sheshayya A. Choudum) **99j:05170** 05C80 (05C20)
Donets, E. E. (*with* Tentyukov, M. N.; Tsulaia, Mirian M.) Evolution of nonlinear perturbations inside Einstein-Yang-Mills black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064008, 12 *pp.* 83C57
Donets, Y. M. *see* **Petrosyan, L. A., 99d:90001**
Donev, S. (*with* Hunter, Geoffrey[2]; Ecimovic, P.; Schlifer, I.; Walker, I. M.; Beamish, D.; Kowalski, Marian; Arslan, S.; Heck, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)
Doney, R. A. (*with* Yor, Marc) On a formula of Takács for Brownian motion with drift. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 272–280. (Paul McGill) **99f:60143** 60J65 (60J55)
nguyen van Dong *see* **Nguyen Van Dong**
Dong, An Guo Iterative recognition and solution of M-linear systems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 89–94. 65F30 (15A06)
Dong, Chongying (*with* Li, Hai Sheng; Mason, Geoffrey; Montague, P. S.) The radical of a vertex operator algebra. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 17–25, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Dražen Adamović) **99j:17042** 17B69
— (*with* Li, Hai Sheng; Mason, Geoffrey; Norton, S. P.) Associative subalgebras of the Griess algebra and related topics. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 27–42, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Chang Heon Kim) **99k:17048** 17B69 (20D08)
— (*with* Griess, Robert L., Jr.; Höhn, Gerald) Framed vertex operator algebras, codes and the Moonshine module. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 407–448. (Dražen Adamović) **99g:17050** 17B69 (11F22)
— (*with* Li, Hai Sheng; Mason, Geoffrey) Twisted representations of vertex operator algebras and associative algebras. *Internat. Math. Res. Notices* **1998**, *no.* 8, 389–397. (Dražen Adamović) **99f:17032** 17B69
— (*with* Li, Hai Sheng; Mason, Geoffrey) Vertex operator algebras and associative algebras. (English summary) *J. Algebra* **206** (1998), *no.* 1, 67–96. (Mirko Primc) **99i:17029** 17B69
— (*with* Griess, Robert L., Jr.) Rank one lattice type vertex operator algebras and their automorphism groups. (English summary) *J. Algebra* **208** (1998), *no.* 1, 262–275. (Hai Sheng Li) **99h:17029** 17B69
— (*with* Li, Hai Sheng; Mason, Geoffrey) Twisted representations of vertex operator algebras. *Math. Ann.* **310** (1998), *no.* 3, 571–600. (Mirko Primc) **99d:17030** 17B69
Dong, Feng (*with* Cai, Wenli; Shi, Jiao Ying) Stream surface construction using mass conservative interpolation. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 45–53. (Summary) **99k:76108** 76M25
Dong, Guangchang A new regularity result for nonlinear elliptic equation. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 74–81, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:35058** 35J60 (35B65)
— (*with* Mu, Chunlai) Some results and open problems on nonlinear parabolic equations. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 43–49, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:35052** 35K55 (35D05, 35K65)
— (*with* Mu, Chunlai) The measurable viscosity solutions for fully nonlinear elliptic equations. *Nonlinear Anal.* **33** (1998), *no.* 4, 401–412. (Naoki Yamada) **99c:35057** 35J60 (35D05, 35R05, 49L25)
Dong, Guozhu (*with* Su, Jianwen) Increment boundedness and nonrecursive incremental evaluation of datalog queries (extended abstract). (English summary) *Database theory—ICDT '95* (*Prague*), 397–410, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17)
— (*with* Libkin, Leonid; Wong, Limsoon) Local properties of query languages. (English summary) *Database theory—ICDT '97* (*Delphi*), 140–154, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99c:68069** 68P15 (03B70)
— (*with* Bailey, James Alexander; Ramamohanarao, Kotagiri) Structural issues in active rule systems. (English summary) *Database theory—ICDT '97* (*Delphi*), 203–214, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
— (*with* Benedikt, Michael A.; Libkin, Leonid; Wong, Limsoon) Relational expressive power of constraint query languages. (English summary) *J. ACM* **45** (1998), *no.* 1, 1–34. (Marc Gyssens) **99e:68028** 68P15 (03D15, 03H10, 05D10, 68Q15)
Dong, Jinquan On the diameter of i-center in a graph without long induced paths. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 235–241. (Martin Knor) **99j:05060** 05C12 (05C38)
Dong, Ju-Zhen (*with* Zhong, Ning[2]; Ohsuga, Setsuo) Data mining: a probabilistic rough set approach. (English summary) *Rough sets in knowledge discovery*, 2, 127–144, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T99
Dong, Juan (*with* Oommen, John) Generalized swap-with-parent schemes for self-organizing sequential linear lists. (English summary) *Algorithms and computation* (*Singapore*, 1997), 414–423, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68P05
Dong, Lei (*with* Chen, Bor-Liang; Liu, Qi-Zhang; Huang, Kuo-Ching) Total colorings of equibipartite graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 59–65. (Summary) **99k:05076** 05C15
Dong, Pi Ming A note on Hölder continuity of the gradient of the solutions for $u_t = \operatorname{div}(|\nabla u|^{p-2}\nabla u)$. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 213–216. (Summary) **99e:35089** 35K15 (35B65)
— (*with* Zhao, Jun Ning) Uniqueness of solutions for a class of singular parabolic equations. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 3, 329–331. 35K65 (35K55)
Dong, Shi-Hai (*with* Pan, Feng; Draayer, J. P.) A new Young diagrammatic method for Kronecker products of O(n) and Sp($2m$). (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8279–8287. (Fabio Gavarini) **99c:20060** 20G05
— (*with* Hou, Xi-Wen; Ma, Zhong-Qi) Irreducible bases and correlations of spin states for double point groups. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 841–855. (John J. Sullivan) **99f:81070** 81R05 (20C35)
— (*with* Hou, Xi-Wen; Xie, Mi; Ma, Zhong-Qi) Irreducible bases in icosahedral group space. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2135–2152. (Summary) **99i:81060** 81R05 (20H15, 82D25)

— (*with* Hou, Xi-Wen; Ma, Zhong-Qi) Levinson's theorem for non-local interactions in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7501–7509. (Summary) **99g:81035** 81Q05 (34L25, 35J10, 81U05)

— (*with* Pan, Feng; Draayer, J. P.) The induced representations of Brauer algebras and the Clebsch-Gordan coefficients of SO(*n*). (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8247–8266. (T. Tuong Truong) **99k:81083** 81R05 (20G20, 20G45)

— (*with* Ma, Zhong-Qi) Exact solutions to the Schrödinger equation for the potential $V(r) = ar^2 + br^{-4} + cr^{-6}$ in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9855–9859. (Albert W. Sáenz) **99i:81028** 81Q05

Dong, Shijie (*with* Zhou, Weibiao; Lee, Peter L.) Exponential tracking with disturbance attenuation (EDTA) and its numerical solution. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 561–575. 93D15 (93B40)

Dong, Su Qin (*with* Li, De Yuan) Segment explicit-implicit difference method on nonuniform mesh for parabolic equation with discontinuous coefficients. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 133–152. (Summary) **99m:65162** 65M06

Dong, Wei Uniqueness of solutions for a class of non-linear Volterra integral equations without continuity. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 12, 1191–1196; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1111–1116 (*Chinese. English and Chinese summaries*). (Summary) **99a:45011** 45G10

Dong, Xiao Yan Existence of solutions to boundary value problems for a class of beam equations with two-parameter resonance. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 119–123. (Summary) **99d:34034** 34B15 (47H15, 47N20)

Dong, Xiao Yong (*with* Fang, Jian Cheng; Shen, Gong Xun; Li, Xue En; Wan, De Jun) A study of the Kalman filtering method and the analysis of filtering accuracy in GPS kinematic positioning with speed observation. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 914–919. 93E11

Dong, Xiaoning (*with* Chen, Guanrong) ★ From chaos to order. (English summary) Methodologies, perspectives and applications. With a foreword by Alistair Mees. World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 24. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xxii+753 pp. ISBN* 981-02-2569-5 (S. Rajasekar) **99i:93003** 93-02 (58F13, 58F40, 93C10, 93D15)

Dong, XinHan On a theorem of Bazilevic for areally mean p-valent functions attaining maximal growth on k rays. (English summary) *Israel J. Math.* **100** (1997), 327–337. (D. E. Tepper) **99c:30016** 30C45

Dong, Xue-dong (*with* Soh, Cheong Boon; Gunawan, Erry) Matrix characterization of MDS linear codes over modules. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 57–61. (Summary) **99d:94029** 94B05

— (*with* Soh, Cheong Boon; Gunawan, Erry) Linear block codes for four-dimensional signals. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 57–75. (Harold N. Ward) **99m:94042** 94B05 (94A12)

Dong, Y. F. *see* **Dong, Yu Feng**

Dong, Ying (*with* Li, Chong Xiao) Qualitative behavior of solutions of higher-order linear differential equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 86–89. (Summary) **99k:34065** 34C10

Dong, Yu Feng (*with* Denda, M.) An error estimation measure in the direct BEM formulation by the external Somigliana's identity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 433–447. (Summary) **99m:73072** 73V10

Dong, Yu Xing Equivariant minimal tori in 2-dimensional complex projective space. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 133–140. (Guo Ying Jiang) **99e:53089** 53C42 (58E20)

— (*with* Shen, Yi-Bing) On complete space-like submanifolds with parallel mean curvature vector. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 534. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 369–380. (Mehmet Erdoğan) **99m:53108** 53C40 (53C50)

Dong, Yujun Existence of solutions for nonlinear boundary value problems of impulsive differential equations. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 503–508. (Summary) **99a:34050** 34B15 (34A37)

— On Picard boundary value problem for second order asymptotically homogeneous equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 907–918. (Anna Capietto) **99m:34032** 34B15 (47H15)

Dong, Zhao (*with* Gong, Fu-Zhou) A necessary and sufficient condition for quasiregularity of Dirichlet forms corresponding to resolvent kernels. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 378–385. (Summary) **99b:31007** 31C25

— (*with* Ma, Zhi-Ming; Sun, Wei[3]) A note on Beurling-Deny formulae in infinite-dimensional spaces. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 353–361. (Ivor E. McGillivray) **99d:31004** 31C25 (60J45)

— Construction of Markov process with Markov resolvent on $L^p(E,m)$. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 9, 897–908. (Niels Jacob) **99b:60115** 60J25 (31C25, 47D07)

Dong, Zhi Qing (*with* Yang, Hu) Characteristics of {2}-generalized inverses and some problems on partitioned matrices. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 82–87. 15A09

nguyen Dong Anh *see* **Nguyen Dong Anh**

Dongarra, Jack J. (*with* Walker, David W.) Constructing linear algebra software libraries for high-performance computers. *Iterative methods in scientific computing (Hong Kong, 1995)*, 111–167, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65Fxx (65Y05, 65Y15)

— (*with* Boulet, Pierre; Robert, Yves; Vivien, Frédéric) Static tiling for heterogeneous computing platforms. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 547–568. 68M20

van Dongen, M. E. H. (*with* Delale, C. F.) Thermal choking in two-dimensional expansion flows. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 515–537. (Summary) **99f:76079** 76J20 (35Q35, 76L05, 76N15)

Do Ngoc Diep On the Langlands type discrete groups. III. The continuous cohomology. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 379–394. (Siniša Žampera) **99f:22019** 22E41

Donin, J. (*with* Gurevich, Dmitriĭ I.; Rubtsov, Vladimir) Quantum hyperboloid and braided modules. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants (Reims, 1995)*, 103–118, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Summary) **99i:17016** 17B37 (81R50)

— Double quantization on the coadjoint representation of sl(n). (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1115–1122. (Albert Jeu-Liang Sheu) **99h:17019** 17B37 (22E60, 58F06)

— On the quantization of quadratic Poisson brackets on a polynomial algebra of four variables. (English summary) *Lie groups and Lie algebras*, 17–25, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00013**) 81R50 (17B37)

— (*with* Gurevich, Dmitriĭ I.; Rubtsov, Vladimir) Two types of Poisson pencils and related quantum objects. (English summary) *Lie groups and Lie algebras*, 27–46, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tomasz Brzeziński) **99h:81089** 81R50 (17B37)

— (*with* Shnider, S.) Deformation of certain quadratic algebras and the corresponding quantum semigroups. (English summary) *Israel J. Math.* **104** (1998), 285–300. (Thierry Dana-Picard) **99e:16035** 16S80

— (*with* Gurevich, Dmitriĭ I.; Khoroshkin, Sergei) Double quantization of $\mathbb{CP}^n$ type orbits by generalized Verma modules. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 384–406. (Andrei G. Bytsko) **99m:17016** 17B37 (58F06)

— (*with* Makar-Limanov, L.) Quantization of quadratic Poisson brackets on a polynomial algebra of three variables. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 247–261. (Alexander E. Polishchuk) **99e:16036** 16S80 (16W50)

Donini, Francesco M. (*with* Lenzerini, Maurizio; Nardi, Daniele; Nutt, Werner) The complexity of concept languages. (English summary) *Inform. and Comput.* **134** (1997), *no.* 1, 1–58. (Lei Qian) **99c:68236** 68T30 (68Q25)

— (*with* Buchheit, M.; Nutt, Werner; Schaerf, Andrea) A refined architecture for terminological systems: terminology=schema+views. (English summary) *Artificial Intelligence* **99** (1998), *no.* 2, 209–260. (Summary) **99a:68161** 68T30 (68Q15)

Donkin, Stephen The restriction of the regular module for a quantum group. *Algebraic groups and Lie groups*, 183–188, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (H. H. Andersen) **99g:17028** 17B37 (16W30, 20G05)

— (*with* Erdmann, Karin) Tilting modules, symmetric functions, and the module structure of the free Lie algebra. *J. Algebra* **203** (1998), *no.* 1, 69–90. (Alexander Kleshchev) **99e:20056** 20G05 (05E05, 20C30)

Donley, Robert W., Jr. Intertwining operators into cohomology representations for semisimple Lie groups. II. (English summary) *Represent. Theory* **2** (1998), 278–297 (*electronic*). (Leticia Barchini) **99f:22023** 22E46 (22E41)

Dönmez, Doğan On the validity of the Borel-Hirzebruch formula for topological actions. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 193–197. (H.-T. Ku) **99k:57080** 57S25

Donnat, P. (*with* Joly, J.-L.; Métivier, Guy; Rauch, Jeffrey B.) Diffractive nonlinear geometric optics. *Séminaire sur les Équations aux Dérivées Partielles, 1995–1996, Exp. No. XVII*, 25 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Ya-Guang Wang) **99m:35147** 35L60 (35B25, 35L05, 78A60)

le Donne, Attilio *see* **Le Donne, Attilio**

Donné, Bruno (*with* Plouvier-Debaigt, Anne; Gagneux, Gérard; Urruty, Patrick) Solutions renormalisées pour des modèles des milieux poreux. (English and French summaries) [Renormalized solutions for some porous media models] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1091–1095. (Elias Tuma) **99b:35109** 35K65 (35Q35, 76S05)

Donnelly, Harold Exhaustion functions and the spectrum of Riemannian manifolds. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 505–527. (William P. Minicozzi, II) **99b:58230** 58G25 (35J15, 53C21)

— (*with* Garofalo, Nicola) Schrödinger operators on manifolds, essential self-adjointness, and absence of eigenvalues. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 241–257. (Timo Weidl) **99j:35029** 35J10 (47F05, 58G30)

— Harmonic maps with noncontact boundary values. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1231–1241. (Caio J. C. Negreiros) **99f:58048** 58E20

Donnelly, Peter (*with* Marjoram, Paul) Human demography and the time since mitochondrial Eve. (English summary) *Progress in population genetics and human evolution (Minneapolis, MN, 1994)*, 107–131, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15

— *see also* **Progress in population genetics and human evolution, 99h:92016**

Donoghue, Eileen F. In search of mathematical treasures: David Eugene Smith and George Arthur Plimpton. (English and French summaries) *Historia Math.* **25** (1998), *no.* 4, 359–365. (Summary) **99i:01032** 01A70 (01A05, 01A99)

Donoghue, John F. Quantum general relativity is an effective field theory. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 170–173, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83C45

Donoho, David L. (*with* Johnstone, Iain M.; Kerkyacharian, Gérard; Picard, Dominique) Universal near minimaxity of wavelet shrinkage. (English summary) *Festschrift for Lucien Le Cam*, 183–218, *Springer, New York*, 1997. (Alexander G. Kukush) **99a:62044** 62G05 (62G20)

— (*with* Johnstone, Iain M.) Minimax estimation via wavelet shrinkage. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 879–921. (Ulrich Stadtmüller) **99i:62086** 62G07 (41A30, 62C20)

— (*with* Vetterli, Martin; DeVore, Ronald A.; Daubechies, Ingrid C.) Data compression and harmonic analysis. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2435–2476. (Summary) **99i:94028** 94A29 (94A11, 94A12, 94A34)

— (*with* Chen, Scott Shaobing; Saunders, Michael A.) Atomic decomposition by basis pursuit. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 33–61 (*electronic*). (Summary) **99h:94013** 94A12 (41A45, 65K05)

Donovan, Diane (*with* Howse, Adelle) Critical sets for Latin squares of order 7. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 113–123. (Summary) **99i:05039** 05B15

— Critical sets for families of Latin squares. (English summary) *Util. Math.* **53** (1998), 3–16. (Summary) **99a:05018** 05B15

— Critical sets in Latin squares of order less than 11. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 223–240. (Summary) **99k:05038** 05B15

Donovan, Timothy P. Matrix quadratic residues mod p^n. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and

Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 125–128. (Gautami Bhowmik) **99b:11005** 11A07 (11C20)

Donsig, Allan P. (*with* Power, S. C.) Homology for operator algebras. IV. On the regular classification of limits of 4-cycle algebras. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 240–287. (Kenneth R. Davidson) **99g:47109** 47D25 (19K99, 46L85, 46M20)

— (*with* Davidson, Kenneth R.; Hudson, Timothy D.) Norm-closed bimodules of nest algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 59–87. (Stephen Power) **99e:47053** 47D25

— Dilations of limit algebras and interpolating spectrum. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 75–93. (Baruch Solel) **99f:47053** 47D25 (47A20)

Donskoi, E. (*with* Liu, Fa Wang; McElwain, D. L. S.) The use of a modified Petrov-Galerkin method for gas-solid reaction modelling. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 33–46. (Summary) **99g:80001** 80-08 (80A32)

Donskoi, V. I. Combinatorial optimization in the area of deductive derivability in expert production systems. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2529–2531. (*see* **99e:00033**) 90C27 (90C90)

Dontchev, Asen L. (*with* Rockafellar, R. T.) Characterizations of Lipschitzian stability in nonlinear programming. (English summary) *Mathematical programming with data perturbations*, 65–82, *Lecture Notes in Pure and Appl. Math.*, 195, *Dekker, New York*, 1998. (D. Klatte) **99b:90130** 90C31 (49K40)

— (*with* Dokov, S. P.) Robinson's strong regularity implies robust local convergence of Newton's method. (English summary) *Optimal control (Gainesville, FL*, 1997), 116–129, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Gérard Lebourg) **99e:90099** 90C31 (47H19, 49K40, 65J15)

— A proof of the necessity of linear independence condition and strong second-order sufficient optimality condition for Lipschitzian stability in nonlinear programming. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 467–473. (Alexander Shapiro) **99f:90143** 90C31

— (*with* Hager, William W.) Lipschitzian stability for state constrained nonlinear optimal control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 698–718 (*electronic*). (J. Frédéric Bonnans) **99b:49024** 49K40 (90C31)

— *see also* **Systems modelling and optimization**, **99k:93007**

Dontchev, Julian (*with* Ganster, Maximilian; Rose, David Alon) Ideal resolvability. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 92–103 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A05 (04A15, 28A05, 54A20, 54H05)

— (*with* Ganster, Maximilian; Rose, David Alon) α-scattered spaces. II. (English summary) *Houston J. Math.* **23** (1997), *no.* 2, 231–246. 54G12 (54C08, 54F65, 54G15, 54G20)

— (*with* Popvassilev, S.; Stavrova, D. N.) On the η-expansion topology for the co-semi-regularization and mildly Hausdorff spaces. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 9–19. (From the summary) **99c:54028** 54D15 (54D10, 54G05)

— (*with* Arenas, Francisco García; Ganster, Maximilian) On some weaker forms of Alexandroff spaces. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **23** (1998), *no.* 1, 79–89. (Summary) **99b:54056** 54G05 (54G10, 54H05)

— (*with* Noiri, Takashi) A note on: M. Saleh's paper: "Almost continuity implies closure continuity" [Glasgow Math. J. **40** (1998), no. 2, 263–264; MR 99c:54016]. *Glasgow Math. J.* **40** (1998), *no.* 3, 473. (From the text) **99j:54016** 54C08

— (*with* Rose, David Alon) On spaces whose nowhere dense subsets are scattered. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 735–740. (Summary) **99h:54052** 54G12 (54G05)

— Between $\mathscr{S}$- and $\mathscr{B}$-sets. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 3-4, 295–302. 54G05 (54C05, 54C08, 54H05)

— (*with* Rose, David Alon) Extremal disconnectedness modulo dual filtrations. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 33–46. (Summary) **99b:54057** 54G05 (54A20, 54H05)

— (*with* Ganster, Maximilian) More on sg-compact spaces. (English summary) *Portugal. Math.* **55** (1998), *no.* 4, 457–464. (Summary) **99j:54026** 54D30 (54A05, 54H05)

— (*with* Ganster, Maximilian) A decomposition of almost rc-Lindelöf spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 155–160. (Summary) **99h:54034** 54D20 (54B15)

— (*with* Caldas Cueva, Miguel) On spaces with hereditarily compact α-topologies. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 121–129. (Richard A. Alò) **99j:54035** 54F65 (54D99, 54G05)

— (*with* Ganster, Maximilian; Noiri, Takashi) Unified operation approach of generalized closed sets via topological ideals. (English summary) *Math. Japon.* **49** (1999), *no.* 3, 395–401. 54H05 (54C08, 54D10)

Dontcheva, Lubomira A. (*with* Doering, Charles R.; Kłosek-Dygas, M. M.) Constructive role of noise: fast fluctuation asymptotics of transport in stochastic ratchets. (English summary) *Chaos* **8** (1998), *no.* 3, 643–649. (Summary) **99e:70064** 70L05 (70K50)

Doob, Joseph L. *see* **Snell, J. Laurie**, **99a:01024** *and* **Chung, Kai Lai**, **99g:01026**

Doolen, Gary D. (*with* He, Xiaoyi; Chen, Shiyi) A novel thermal model for the lattice Boltzmann method in incompressible limit. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 282–300. (Summary) **99g:76108** 76M25 (76M35, 76P05, 82C40)

— (*with* He, Xiaoyi; Zhang, Raoyang; Chen, Shiyi) On the three-dimensional Rayleigh-Taylor instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1143–1152. (Summary) **99m:76064** 76E99 (76M25, 76T05)

Dooley, Anthony H. (*with* Fan, Ai Hua) Chains of Markovian projections and (G, Γ)-measures. (English summary) *Trends in probability and related analysis (Taipei*, 1996), 101–116, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99c:28058** 28D99 (42A55, 60G09)

— (*with* Klemeš, Ivo; Quas, Anthony N.) Product and Markov measures of type III. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 84–110. (N. N. Ganikhodzhaev) **99h:28039** 28D15 (28A35, 46L99)

— (*with* Zhang, Genkai) Algebras of invariant functions on the Shilov boundaries of Siegel domains. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3693–3699. (Harald Upmeier) **99f:32055** 32M15 (22E46, 46J15)

— (*with* Wildberger, N. J.) Global character formulae for compact Lie groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 477–495. (Takeshi Kawazoe) **99i:22013** 22E30 (43A75)

van Dooren, Paul *see* **Van Dooren, Paul**

van Dooren, R. *see* **Van Dooren, R.**

van Doorn, Erik A. (*with* Boucherie, Richard J.) Uniformization for λ-positive Markov chains. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 171–186. (E. Seneta) **99d:60084** 60J27

— (*with* Coolen-Schrijner, Pauline) Analysis of random walks using orthogonal polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 387–399. (Li Zhong Peng) **99m:42037** 42C05 (33C45, 60J15)

— (*with* Adan, I. J. B. F.; Resing, J. A. C.; Scheinhardt, W. R. W.) Analysis of a single-server queue interacting with a fluid reservoir. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 313–336. (Walter M. Böhm) **99j:60135** 60K20 (60K25, 90B22)

Doostie, H. Two classes of one-relator product of semigroups involving nilpotent kernels. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz*, 1997), 153–158, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Colin M. Campbell) **99f:20092** 20M05

— (*with* Hashemi, M.) Identification properties in semigroups. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz*, 1997), 213–218, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 20M99

Dopazo, César (*with* Martín Yague, Jesús; Valiño, Luis) Dynamics of velocity gradient invariants in turbulence: restricted Euler and linear diffusion models. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2012–2025. (Summary) **99d:76050** 76F99

— (*with* Lozano, Antonio; García-Olivares, Antonio) The instability growth leading to a liquid sheet breakup. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2188–2197. (Summary) **99e:76051** 76E99 (76C05, 76M25)

Dopazo, J. (*with* Ceron, C.; Zapata, E. L.; Carazo, J. M.; Trelles, O.) Parallel implementation of DNAml program on message-passing architectures. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 701–716. 92D20

Doplicher, Sergio (*with* Buchholz, Detlev; Morchio, Gianni; Roberts, John E.; Strocchi, Franco) A model for charges of electromagnetic type. *Operator algebras and quantum field theory (Rome*, 1996), 647–660, *Internat. Press, Cambridge, MA*, 199?. (Władysław Adam Majewski) **99a:81092** 81T05 (46L60)

— (*with* Pinzari, Claudia; Zuccante, Rita) The C^*-algebra of a Hilbert bimodule. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 263–281. (Michael Frank) **99i:46040** 46L05 (46H25)

Doppel, K. (*with* Herfort, W. N.; Pflüger, Klaus) A nonlinear beam equation arising in the theory of elastic bodies. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 945–960. (Takashi Narazaki) **99a:35252** 35Q72 (34G20, 35G25, 47H20, 73D35)

ben-Dor, Amir *see* **Ben-Dor, Amir**

Dor, Avner The greedy search algorithm on binary vectors. *J. Algorithms* **27** (1998), *no.* 1, 42–60. (Hsien-Kuei Hwang) **99a:68085** 68Q25 (68P10)

— (*with* Greenshtein, Eitan; Korach, Ephraim) Optimal and myopic search in a binary random vector. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 463–472. (Andor Dobó) **99f:90052** 90B40 (60E15)

Dor, D. (*with* Chew, L. Paul; Efrat, Alon; Kedem, Klara) Geometric pattern matching in d-dimensional space. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 257–274. (Ilya S. Molchanov) **99m:65262** 65Y25 (52B55, 68U05)

ben-Dor, G. *see* **Ben-Dor, G.**

Dorado, Crisanto (*with* Hollander, Myles; Sethuraman, Jayaram) Nonparametric estimation for a general repair model. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1140–1160. (J. V. Deshpande) **99b:62151** 62N05 (60K10, 62G05)

Doran, C. J. L. (*with* Challinor, Anthony; Lasenby, Anthony N.; Gull, Stephen) Massive, non-ghost solutions for the Dirac field coupled self-consistently to gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1527–1544. (Seth A. Major) **99d:83011** 83C15

— (*with* Ashdown, M. A. J.; Somaroo, Shyamal S.; Gull, Stephen; Lasenby, Anthony N.) Multilinear representations of rotation groups within geometric algebra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1566–1588. (Stefano De Leo) **99c:81069** 81R20 (15A66, 20G05)

— (*with* Lasenby, Anthony N.; Challinor, Anthony; Gull, Stephen) Effects of spin-torsion in gauge theory gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3303–3321. (Yu. N. Obukhov) **99i:83077** 83D05 (83C10, 83C60)

Doran, William F., IV A new plethysm formula for symmetric functions. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 3, 253–272. (Hiro-Fumi Yamada) **99i:05202** 05E05

— On Foulkes' conjecture. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 1, 85–98. (Joaquin O. Carbonara) **99h:20014** 20C30 (05E10)

— (*with* Wales, David B.; Hanlon, Philip J.) On the semisimplicity of the Brauer centralizer algebras. *J. Algebra* **211** (1999), *no.* 2, 647–685. (Fabio Gavarini) **99k:16034** 16G99 (20G05)

Dorato, Peter (*with* Yang, Wei[2]; Abdallah, Chaouki T.) Robust multi-objective feedback design by quantifier elimination. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 153–159. (Summary) **99h:93049** 93B50 (68Q40, 90C29, 93D09)

Dorca, Miquel Stress-energy tensor in colliding plane wave space-times: an approximation procedure. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 397–426. (Alberto Saa Vazquez) **99g:83044** 83C47 (81T20)

— Stress-energy tensor in Bell-Szekeres space-time. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104010, 11 *pp.* (Summary) **99k:83046** 83C47 (83C15)

carbó-Dorca, Ramon *see* **Carbó-Dorca, Ramon**

Dorea, Chang Chung Yu (*with* Galves, A.; Kira, E.; Alencar, A. P.) Markovian modeling of the stress contours of Brazilian and European Portuguese. (English summary) *Rebrape* **11** (1997), *no.* 2, 161–173. (Summary) **99a:62124** 62M05

— (*with* Cruz, Juan Alberto Rojas) Simple conditions for the convergence of simulated annealing type algorithms. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 4, 885–892. (Dominique Lépingle) **99k:90109** 90C15 (60J10)

Doreille, M. (*with* Dumitrescu, Bogdan; Roch, J.-L.; Trystram, D.) Two-dimensional block partitionings for the parallel sparse Cholesky factorization. (English summary) Sparse

matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 17–38 (1998). (R. P. Tewarson) **99d:65088** 65F05 (65F50)

Dorey, Nicholas (*with* Khoze, Valentin V.; Mattis, Michael P.; Tong, David; Vandoren, Stefan) Instantons, three-dimensional gauge theory, and the Atiyah-Hitchin manifold. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 59–93. (Summary) **99a:81168** 81T60 (53C25, 58D27, 81T13)

— (*with* Khoze, Valentin V.; Mattis, Michael P.) Multi-instantons, three-dimensional gauge theory, and the Gauss-Bonnet-Chern theorem. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 94–106. (Summary) **99a:81169** 81T60 (53C25, 58D27, 81T13)

— (*with* Khoze, Valentin V.; Mattis, Michael P.) Supersymmetry and the multi-instanton measure. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 3, 681–708. (Summary) **99h:81206a** 81T60 (58D20, 58D27)

— (*with* Hollowood, Timothy J.; Khoze, Valentin V.; Mattis, Michael P.) Supersymmetry and the multi-instanton measure. II. From $N = 4$ to $N = 0$. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 470–482. (Summary) **99h:81206b** 81T60 (58D20, 58D27)

— (*with* Khoze, Valentin V.; Mattis, Michael P.; Vandoren, Stefan) Yang-Mills instantons in the large-N limit and the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 145–151. (Summary) **99k:81302** 81T60 (81T13, 81T30)

Dorey, Patrick Exact S-matrices. (English summary) *Conformal field theories and integrable models* (*Budapest*, 1996), 85–125, *Lecture Notes in Phys.*, 498, *Springer, Berlin*, 1997. (Konstantin G. Selivanov) **99k:81333** 81U20 (81T10)

— (*with* Pocklington, A. J.; Tateo, Roberto; Watts, Gerard M. T.) TBA and TCSA with boundaries and excited states. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 641–663. (Summary) **99e:82038** 82B27 (81T40)

Dorfer, Gerhard Lattice-extensions by means of convex sublattices. (English summary) *Contributions to general algebra*, 9 (*Linz*, 1994), 127–132, *Hölder-Pichler-Tempsky, Vienna*, 1995. (S. Rudeanu) **99c:06008** 06B15

Dörfer, Martin (*with* Rosenberger, Gerhard) Zeta function of finitely generated nilpotent groups. *Groups—Korea* '94 (*Pusan*), 35–46, *de Gruyter, Berlin*, 1995. (Marcus du Sautoy) **99b:20060** 20F18 (11M41)

Dorfleitner, Gregor (*with* Bamberg, Günter; Röder, Klaus) Trading strategies of a financially strong investor in futures and stocks: is profitable manipulation possible? (English summary) *Econometrics in theory and practice*, 175–187, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 90A09

— Conditional MSE-based discrimination of the sample mean and the post-stratification estimator in population sampling. (English summary) *Statist. Papers* **39** (1998), *no.* 3, 313–319. 62D05

Dörfler, W. (*with* Rumpf, M.) An adaptive strategy for elliptic problems including a posteriori controlled boundary approximation. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1361–1382. (Pieter W. Hemker) **99b:65141** 65N30

— (*with* Bänsch, E.) Adaptive finite elements for exterior domain problems. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 497–523. (Beny Neta) **99j:65194** 65N30

Dorfling, Michael (*with* Broere, Izak; Dunbar, Jean E.; Frick, Marietjie) A path(ological) partition problem. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 113–125. (Peter Mihók) **99i:05159** 05C70 (05C38)

Dorfman, Alan H. (*with* Reinsdorf, Marshall B.) The Sato-Vartia index and the monotonicity axiom. (English summary) *J. Econometrics* **90** (1999), *no.* 1, 45–61. (Summary) **99m:62165** 62P20

Dorfman, J. R. (*with* Tasaki, S.; Gilbert, Thomas) An analytical construction of the SRB measures for baker-type maps. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 424–443. (Esa A. Järvenpää) **99f:58133** 58F11

— (*with* Latz, Arnulf; van Beijeren, Henk) Bogoliubov-Born-Green-Kirkwood-Yvon hierarchy methods for sums of Lyapunov exponents for dilute gases. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 444–454. (András Krámli) **99k:82003** 82B05 (82B21)

— Deterministic chaos and the foundations of the kinetic theory of gases. (English summary) Fundamental problems in statistical mechanics (Altenberg, 1997). *Phys. Rep.* **301** (1998), *no.* 1-3, 151–185. (Nikolai Chernov) **99g:82047** 82C05 (58F11, 58F13, 58F40, 82C40)

— (*with* van Beijeren, Henk; Latz, Arnulf) Chaotic properties of dilute two- and three-dimensional random Lorentz gases: equilibrium systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4077–4094. (Summary) **99c:82040** 82C05 (58F13, 58F40, 82C40)

Dorfmann, A. A. (*with* Savvin, A. A.) Water waves diffraction by a submerged sphere and dual integral transforms. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 1–30. (Summary) **99f:76024** 76B15

— (*with* Savvin, A. A.) Diffraction of water waves by a horizontal plate. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 805–826. (Summary) **99f:76025** 76B15

Dorfmeister, J. (*with* Gradl, H.; Szmigielski, Jacek) Systems of PDEs obtained from factorization in loop groups. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 1, 1–58. (Henrik Aratyn) **99k:58088** 58F07 (17B67, 22E67)

— (*with* Haak, G.) On constant mean curvature surfaces with periodic metric. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 229–287. (Karsten Grosse-Brauckmann) **99f:53007** 53A10

Dörfner, M. On a theorem of Hernández and Nashed. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 267–270. (Sehie Park) **99g:47142** 47H15 (26B10, 54C10)

Dori, Dov *see* **Advances in pattern recognition, 99k:68002**

Doria, Francisco Antonio Some new incompleteness theorems and their import to the foundations of mathematics. (English summary) Contemporary Brazilian research in logic. Part I. *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 153-154, 165–182. (Cristian Calude) **99i:03005** 03A05 (03D15)

— (*with* Sant'Anna, Adonai S.; da Costa, Newton C. A.) The Atiyah-Singer index theorem and the gauge field copy problem. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5511–5516. (Mattias Dahl) **99b:58223** 58G10 (58Z05, 81T13)

de la vega-Doria, Lucía A. *see* **De la Vega-Doria, Lucía A.**

Dorier, Jean-Luc The role of formalism in the teaching of the theory of vector spaces. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 141–160. (*see* **99a:00039**) 15A03 (00A35)

Dorkenoo, Marius (*with* Eglin-Leclerc, Marie-Christine; Rémila, Eric) Construction of non-intersecting colored flows through a planar cellular figure. (English summary) *STACS* 98 (*Paris*, 1998), 587–595, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:05108** 05C85 (52C99)

Dormand, J. R. (*with* Baker, T. S.; Prince, P. J.) Continuous approximation with embedded Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 171–188. (Summary) **99h:65126** 65L06

Dormayer, Peter (*with* Ivanov, Anatoliĭ Fedorovich) Stability of symmetric periodic solutions with small amplitude of $\dot{x}(t) = \alpha f(x(t), x(t-1))$. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 61–82. (Jialin Hong) **99k:34168** 34K20 (34K15)

Dormer, R. D. (*with* MacNish, Cara Kimberley) The PAC-learnability of planning algorithms: investigating simple planning domains. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 83–95. (Summary) **99m:68162** 68T05 (68T20)

Dormido, R. (*with* Hernández, Roberto; Dormido, S.) On the thirty-two virtual polynomials to stabilize an interval plant. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1460–1465. (Summary) **99e:93055** 93D09

Dormido, S. (*with* Hernández, Roberto; Dormido, R.) On the thirty-two virtual polynomials to stabilize an interval plant. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1460–1465. (Summary) **99e:93055** 93D09

Dormieux, Luc (*with* de Buhan, Patrick; Chateau, Xavier) The constitutive equations of finite strain poroelasticity in the light of a micro-macro approach. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 909–921. (Summary) **99k:73006** 73B05 (73C50, 73G05, 73S10, 76S05)

Dorn, Harald Gravitational dressing of renormalization group β-functions. *Strings* '95 (*Los Angeles, CA*, 1995), 185–186, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T17 (81T40)

— The mass term in non-abelian gauge field dynamics on matrix D-branes and T-duality in the σ-model approach. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 13, 15 *pp.* (*electronic*). (Summary) **99b:81185** 81T30

— (*with* Otto, Hans-Jörg) $Q\overline{Q}$ potential from AdS-CFT relation at $T \geq 0$: dependence on orientation in internal space and higher curvature corrections. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 21, 13 *pp.* (*electronic*). (Summary) **99f:81157** 81T30 (81T15, 83E30)

Dorn, Oliver A transport-backtransport method for optical tomography. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1107–1130. (Summary) **99i:78010** 78A10 (44A12, 78–08, 78A45, 78A55, 92C55)

Dörnbrack, Andreas Turbulent mixing by breaking gravity waves. (English summary) *J. Fluid Mech.* **375** (1998), 113–141. (Summary) **99h:76029** 76D33 (76E20, 76F99, 76M25, 86A10)

Dornic, I. (*with* Godrèche, Claude) Large deviations and nontrivial exponents in coarsening systems. (English summary) *J. Phys. A* **31** (1998), *no.* 24, 5413–5429. (Summary) **99c:82041** 82C05

Dorninger, Dietmar (*with* Länger, Helmut; Mączyński, Maciej) On ring-like structures occurring in axiomatic quantum mechanics. (English summary) *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 279–289 (1998). (Décio Krause) **99m:81017** 81P10 (03G12, 08A55)

— Sublogics of ring-like quantum logics. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 75–83. (M. J. Mączyński) **99i:81017** 81P10 (03G12, 08A30)

— *see also* **Contributions to general algebra, 99f:00014**

Dornseifer, Thomas (*with* Griebel, Michael; Neunhoeffer, Tilman) ★ Numerical simulation in fluid dynamics. A practical introduction. Translated from the German by Oliver Ernst. SIAM Monographs on Mathematical Modeling and Computation. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1998. xvi+217 *pp. ISBN* 0-89871-398-6 (Tomás Chacón Rebollo) **99a:76078** 76Mxx (65–02)

Dorobantu, Mihai (*with* Engquist, Björn) Wavelet-based numerical homogenization. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 540–559 (*electronic*). (Summary) **99a:65183** 65N99

Do Rocío, Osvaldo Germano *see* **do Rocío, Osvaldo Germano**

Dorodnitsyn, L. V. Kinetical-consistent algorithms for simulation of reactive flows. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 826–843 (*electronic*). (Summary) **99g:65090** 65M06 (76M20, 80A32)

Dorodnitsyn, V. A. (*with* Bakirova, M. I.; Kozlov, R. V.) Symmetry-preserving difference schemes for some heat transfer equations. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8139–8155. (Wei Zhong Dai) **99d:39003** 39A10 (65M06)

Dorofeev, E. A. An analog of the central limit theorem for windings of Brownian motion. (English summary) *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 75–80, *Gordon and Breach, Amsterdam*, 1996. (S. Ramasubramanian) **99m:60125** 60J65 (60F05)

— The law of iterated logarithm for one winding functional. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 3, 213–218. (Summary) **99a:60028** 60F15 (60J65)

Dorofeev, S. V. (*with* de Graaf, Jan) Some maximality results for effect-valued measures. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 3, 349–369. (S. Gudder) **99c:81011** 81P10 (46L50)

— (*with* Thomsen, Klaus) Factors from ergodic theory and group-subgroup subfactors. (English summary) *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 239–262. (Paul Jolissaint) **99d:46090** 46L55 (22D25, 28D05, 46L35)

— (*with* Sherstnev, A. N.) Frame-type functions and their applications. *Measures on projections and orthomodular posets*, 2–13, *Kazan Tracts Math.*, 4, *Kazan Math. Soc., Kazan'*, 1998. (Editors) **99k:46113** 46L50 (47N99, 81P10)

Dorofeeva, A. V. The calculus of variations. *Mathematics of the 19th century*, 197–260, *Birkhäuser, Basel*, 1998. (*see* **99d:01022**) 01A55

Doroftei, M. (*with* Prepeliţă, Valeriu; Vasilache, T.) Peano Baker series convergence for matrix valued functions of bounded variation. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 111–118. (Gianluca Vinti) **99k:26010** 26A45 (26A39, 34A12)

Dorogovtsev, A. A. On stochastic integral representations. (Russian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 80–92, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 60H05

Dorogovtsev, A. Ya. (*with* Denis'evskiĭ, N. A.) Successive approximations in models with errors. (Russian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 63–77, "*Vishcha Shkola*",

Kiev, 1993. (*see* **99a:00015**) 60H20 (65J99)
— On asymptotic normality of the least square estimators of an infinite-dimensional parameter. (English summary) *Ukrainian Math. J.* **45** (1993), *no.* 1, 48–58. (Summary) **99c:62058** 62F12 (62E20)
— (*with* Petrova, T. F.) Bounded solutions of a Riccati-type equation in a Banach space. (Russian) *Mathematics today* '95, *No.* 10 (*Russian*), 19–25, *Nauchn. Izdat. "TViMS"*, *Kiev*, 1995. (From the text) **99b:34106** 34G20
— (*with* Lagoda, O. A.) On bounded solutions of a difference equation in a Banach space. (Russian) *Mathematics today* '95, *No.* 10 (*Russian*), 55–59, *Nauchn. Izdat. "TViMS"*, *Kiev*, 1995. (*see* **99a:00017**) 39A10
— Stability of bounded and stationary solutions of equations with an operator coefficient subject to perturbations. (Russian) *Mathematics today* '97, *No.* 11 (*Russian*), 43–52, *Nauchn. Izdat. "TViMS"*, *Kiev*, 1997. (Uljana A. Anufrieva) **99h:47016** 47A50 (34D10, 34G10, 39A10)
— Stability of stationary and periodic solutions equations in Banach space. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 249–255. (D. Bobrowski) **99a:60063** 60H25 (34F05, 34G10, 39A11)
— Stationary solutions of semilinear abstract equation with random input. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 129–138. (Summary) **99h:34083** 34G20 (34F05, 60H25)
— *see also* **Mathematics today '93, 99a:00015; Mathematics today '94, 99a:00016; Mathematics today '95, 99a:00017** *and* **Mathematics today '97, 99d:00010**
Doronin, G. G. (*with* Lar'kin, N. A.; de Souza, Aparecido Jesuino) A hyperbolic problem with nonlinear second-order boundary damping. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 28, 10 *pp.* (*electronic*). (Takashi Narazaki) **99h:35139** 35L70
— A model of elastoplastic deformation as a problem with a free boundary for a hyperbolic system. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 533–538, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 460–464. (Summary) **99d:35184** 35R35 (35L65, 35Q72, 73E50)
Doroslovački, Miloš I. On the least asymmetric wavelets. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1125–1130. 94A11 (42C15)
Dorovskiĭ, V. N. The hydrodynamics of particles suspended in a melt with the self-consistent concentration field of an admixture. I. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 27–37. (Summary) **99c:76110a** 76T05 (76A99, 80A22)
— The hydrodynamics of particles suspended in a melt with the self-consistent concentration field of an admixture. II. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 39–47. (Summary) **99c:76110b** 76T05 (76A99, 76R99, 80A22)
van Dorp, J. René (*with* Mazzuchi, Thomas A.; Soyer, Refik) Sequential inference and decision making for single mission systems development. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 207–218. (Richard A. Johnson) **99b:62123** 62L15 (62N05)
Dörr, J. (*with* Görtler, H.; Hämmerlin, G.; Mettler, Eberhard; Gericke, H.) 50 Jahre GAMM. [50 years of GAMM] Reprint of the 1972 original. 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 1–36. (*see* **99f:01027**) 01A74
Dorr, Milo R. (*with* Colella, Phillip; Wake, Daniel D.) A conservative finite difference method for the numerical solution of plasma fluid equations. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 168–193. (Summary) **99i:76094** 76M20 (65M06, 76X05)
Dorren, H. J. S. On the integrability of nonlinear partial differential equations. (English summary) *J. Math. Phys.* **40** (1999), *no.* 4, 1966–1976. (Summary) **99m:35205** 35Q53 (35Q55)
Dorrepaal, J. M. (*with* Moosavizadeh, S.) Steady incompressible magnetohydrodynamic flow near a point of reattachment. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1512–1518. (Summary) **99a:76160** 76W05
Dorri, M. Kh. On the constructive realizability of structural schemes for control systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 41–53; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1408–1417 (1997). (Valeriu Prepeliță) **99f:93020** 93B15
Dorroh, J. Robert (*with* Robinson, Laurence D.; Lien, Da-Hsiang Donald; Tiku, Moti L.) The effects of covariate adjustment in generalized linear models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1653–1675. 62J12
— (*with* Ferreyra, Guillermo) A free boundary problem in $\mathbf{R}^d$ with both smooth and nonsmooth fit. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 579–589 (*electronic*). (Andrzej Swiech) **99d:49052** 49L25 (35R35)
— *see also* **Applied analysis, 99e:00016**
Dorsch, Rainer G. (*with* Haimerl, Walter A.; Esser, Gregor K.) Accurate computation of mean power and astigmatism by means of Zernike polynomials. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1686–1688. (Summary) **99b:78004** 78A10
Dorschfeldt, Christoph (*with* Grieme, Ulrich; Schulze, Bert-Wolfgang) Pseudo-differential calculus in the Fourier-edge approach on non-compact manifolds. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 249–299, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Yu. V. Egorov) **99b:58226** 58G15 (35S05, 47G30)
— ★ Algebras of pseudodifferential operators near edge and corner singularities. (English summary) Mathematical Research, 102. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. 202 *pp. ISBN* 3-527-40118-0 (Robert Lauter) **99h:58185** 58G15 (35S05, 46E35, 47G30)
— (*with* Tarkhanov, Nikolai N.) Golubev series for solutions of elliptic equations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 581–594. (Xinhua Ji) **99d:35008** 35A20 (35C10, 35J45)
Dorsey, Robert E. (*with* Mayer, Walter J.) Maximum score estimation of disequilibrium models and the role of anticipatory price-setting. (English summary) *J. Econometrics* **87** (1998), *no.* 1, 1–24. (Summary) **99g:62155** 62P20
D'Ortona, Catherine Moore Homomorphisms of projective remoteness planes. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 111–122. (Frieder Knüppel) **99j:51002** 51C05
Dose, V. (*with* von der Linden, W.; Ramaswami, A.) Bayesian group analysis. (English summary) *Maximum entropy and Bayesian methods (Boise, ID, 1997)*, 87–99, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 62F15
Došen, Kosta Functions redefined. *Amer. Math. Monthly* **105** (1998), *no.* 7, 631–635. (Pradip Kumar Majumdar) **99h:04002** 04A05
— Deductive systems and categories. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math. (Beograd) (N.S.)* **64(78)** (1998), 21–35. (Summary) **99j:18001** 18A05 (03G30, 18A10)
Došlá, Zuzana (*with* Bartušek, Miroslav; Graef, John R.) On L^2 and limit-point type solutions of fourth order differential equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 175–187. (Summary) **99a:34048** 34B15 (34B20, 34C10)
— (*with* Bartušek, Miroslav) Erratum: "Oscillatory criteria for nonlinear third order differential equations with quasiderivatives" [Differential Equations Dynam. Systems **3** (1995), no. 3, 251–268; MR 97a:34087]. *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 123. 34C10 (34C15)
— (*with* Cecchi, Mariella; Marini, Mauro) An equivalence theorem on properties A, B for third order differential equations. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 373–389. (C. A. Swanson) **99f:34043** 34C10 (34C11)
— (*with* Bartušek, Miroslav; Graef, John R.) Nonlinear limit-point type solutions of nth order differential equations. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 122–139. (Anton Zettl) **99c:34042** 34B20 (34C99)
— (*with* Cecchi, Mariella; Marini, Mauro) On nonlinear oscillations for equations associated to disconjugate operators. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1583–1594. (Gary D. Jones) **99a:34094** 34C10
— (*with* Bartušek, Miroslav; Graef, John R.) The nonlinear limit-point/limit-circle problem for higher order equations. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 13–22. (Summary) **99c:34055** 34C10 (34B15)
— (*with* Kiguradze, I. T.) On vanishing at infinity solutions of second order linear differential equations with advanced arguments. *Funkcial. Ekvac.* **41** (1998), *no.* 2, 189–205. (Alexander Haščák) **99k:34173** 34K25 (34E10, 34K15)
Došlić, Tomislav On lower bounds of number of perfect matchings in fullerene graphs. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 359–364. (Summary) **99i:92033** 92E10 (05C70, 05C90)
Došlý, Ondřej Reciprocity principle for Sturm-Liouville difference equations and some of its applications. (English summary) *Advances in difference equations (Veszprém, 1995)*, 145–153, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39015** 39A10
— (*with* Dacorogna, Bernard) Convexity of certain integrals of the calculus of variations. III. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 837–850. (M. A. Yagubov) **99a:49027** 49K05 (49J05)
— (*with* Bohner, Martin) Disconjugacy and transformations for symplectic systems. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 707–743. (I. P. Stavroulakis) **99e:39007** 39A10 (34C10)
— (*with* Řehák, Pavel) Conjugacy criteria for second-order linear difference equations. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 2, 301–310. (Summary) **99i:39005** 39A10
— Factorization of disconjugate higher-order Sturm-Liouville difference operators. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 227–234. (Summary) **99j:39004** 39A10 (39A70)
— Oscillation criteria for half-linear second order differential equations. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 507–521. (C. A. Swanson) **99j:34044** 34C10
— Oscillation criteria for higher order Sturm-Liouville difference equations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 5, 425–450. (Shao Zhu Chen) **99m:39005** 39A10 (39A12)
— (*with* Bohner, Martin; Kratz, Werner) Inequalities and asymptotics for Riccati matrix difference operators. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 262–286. (Vladimir Sh. Burd) **99b:39024** 39A70 (34C10)
— Sixty years of professor František Neuman. *Math. Bohem.* **123** (1998), *no.* 1, 101–107. (Editors) **99m:01052** 01A70
— (*with* Bohner, Martin) Positivity of block tridiagonal matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 182–195 (*electronic*). (P. W. Eloe) **99k:39059** 39A12 (15A63)
Dos Reis, José G. (*with* Benà, Maria A.; Carvalho, Luis Antonio Viera) Dichotomic maps for delayed equations. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 299–314. (Summary) **99a:34209** 34K20
Doss, Hani (*with* Narasimhan, B.) Dynamic display of changing posterior in Bayesian survival analysis. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 63–87, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62052** 62G05 (62F15, 62N05)
Doss, L. Jones Tarcius (*with* Pani, Amiya K.; Padhy, S.) Galerkin method for a Stefan-type problem in one space dimension. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 393–416. (Muthusamy Vanninathan) **99a:65121** 65M60 (35R35, 65M15, 65M30)
— (*with* Pani, Amiya K.) A qualocation method for a semilinear second-order two-point boundary value problem. *Functional analysis with current applications in science, technology and industry (Aligarh, 1996)*, 128–144, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Martin Hermann) **99j:65126** 65L10 (65L60)
Dos Santos, A. F. *see* **dos Santos, A. F.**
Dos Santos, Lucio Tunes (*with* Martínez, José Mario; Santos, Sandra Augusta) A minimax method with application to the initial vector coding problem. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 273–284. (Summary) **99f:65095** 65K05
Dos Santos Gromicho, Jaoquim António *see* **dos Santos Gromicho, Jaoquim António**
Dostál, Zdeněk (*with* Friedlander, Ana; Santos, Sandra Augusta) Solution of coercive and semicoercive contact problems by FETI domain decomposition. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 82–93, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65163** 65N30 (90C20)
Dostanić, Milutin R. (*with* Milosavljević, Milan M.) On generalized stable nonuniform sampling expansions involving derivatives. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1714–1716. (Peter A. McCoy) **99a:94002** 94A11 (94A12)
— Some estimates of the remainder in the expressions for the eigenvalue asymptotics of some singular integral operators. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 129–137. (Hermann König) **99a:47074** 47G10 (45E05, 45P05, 47B10)
— (*with* Pavlović, Miroslav) On the inclusion $H^2(U^n) \subset H^{2n}(B_n)$ and the isoperimetric inequality. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 143–149.

(Summary) **99h:46038** 46E15 (32A35)

— Spectral properties of the Cauchy operator and the operator of logarithmic potential type on L^2 space with radial weight. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 135–139. (Summary) **99k:47117** 47G10 (47A10)

— Spectral properties of the Cauchy operator and its product with Bergman's projection on a bounded domain. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 667–684. (Jonathan Arazy) **99e:47065** 47G10 (47B06, 47B38)

Dostoglou, S. (*with* Daskalopoulos, Georgios D.; Wentworth, Richard A.) Families of SU(2) representations for mapping cylinders of periodic monodromy. (English summary) *Proc. Edinburgh Math. Soc.* (2) **40** (1997), *no.* 2, 383–392. (Summary) **99c:57044** 57N10 (14H60, 57N05)

— (*with* Daskalopoulos, Georgios D.; Wentworth, Richard A.) Character varieties and harmonic maps to **R**-trees. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 523–533. (Raul Quiroga) **99k:58045** 58E20

Dotsenko, I. S. (*with* Filippov, G. F.; Lisetskyi, A. F.) Construction of the basis functions of the two rotator nuclear model in the Fock-Bargmann space. *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 160–163, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81V35

Dotsenko, S. Ĭ. (*with* Zakusilo, O. K.) Optimal allocation of servers on an interval. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 73–76; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 75–78 (1998). (Vladimir V. Kalashnikov) **99g:60180** 60K30

Dotsenko, Viktor S. (*with* Dotsenko, Vl. S.; Picco, Marco) Random bond Potts model: the test of the replica symmetry breaking. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 633–674. (Barbara Gentz) **99f:82032** 82B44

Dotsenko, Vl. S. (*with* Dotsenko, Viktor S.; Picco, Marco) Random bond Potts model: the test of the replica symmetry breaking. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 633–674. (Barbara Gentz) **99f:82032** 82B44

Dotson, Allen C. Interpretive principles and the quantum mysteries. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 11, 970–972. (Summary) **99f:81012** 81P05

D'Ottavio, Anna (*with* Leonetti, Francesco; Musciano, Chiara) Maximum principle for vector-valued mappings minimizing variational integrals. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 677–683. (Summary) **99f:49024** 49K10 (49J10)

Dotti, Filippo Quasi-isomorphisms between theories in languages with function symbols. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 53–60 (1998). (Editors) **99i:03039** 03C68 (03B10)

Dotti, Gustavo (*with* Manohar, Aneesh V.) Anomaly matching conditions in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 167–172. (Edwin Langmann) **99b:81222** 81T50 (81T60)

— (*with* Manohar, Aneesh V.; Skiba, Witold) Supersymmetric gauge theories with a free algebra of invariants. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 507–524. (Summary) **99i:81231** 81T60 (81T13, 81T50)

Dotti Miatello, Isabel G. (*with* Lauret, Jorge) Curvature properties of solvable extensions of H-type groups. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 167–179. (Jürgen Berndt) **99e:53067** 53C30 (22E25)

Doty, Stephen R. (*with* Nakano, Daniel K.) Semisimple Schur algebras. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 15–20. (Karin Erdmann) **99d:16020** 16K20 (16S99, 20G05)

— Representation theory of reductive normal algebraic monoids. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2539–2551. (Lex Renner) **99i:20086** 20M30

Doty, Steven D. (*with* Krantz, Richard J.; Douthett, Jack) Maximally even sets and the devil's-staircase phase diagram for the one-dimensional Ising antiferromagnet with arbitrary-range interaction. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4675–4682. (Emilio N. M. Cirillo) **99j:82031** 82B26 (82B20)

Dou, Djamel (*with* Percacci, Roberto) The running gravitational couplings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3449–3468. 83C45

Dou, Jiawei Persistence and periodic solutions of a system of two competing species with functional response. (English summary) *J. Biomath.* **12** (1997), *no.* 1, 15–22. (Summary) **99m:92027** 92D25 (34C25, 34D99)

Dou, Xue-li (*with* Zhang, Guan-quan) Potential inversion problems for coupled system of downgoing and upcoming one-way wave equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 551–560. (George Dassios) **99m:35269** 35R30 (35L99, 73D15, 73D50, 86A22)

Douady, Adrien Espaces analytiques sous-algébriques (d'après B. G. Moĭšezon). [Subalgebraic analytic spaces (after B. G. Moishezon)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 344, 529–542, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 32C25

— Cohomologie des groupes compacts totalement discontinus (d'après Tate). [Cohomology of totally discontinuous compact groups (after Tate)] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 189, 287–298, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 57T10

— Plongements de sphères. [Embeddings of spheres] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 205, 5–10, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 57N35 (55Q40, 57N50)

— Le théorème de Grauert sur la cohérence des faisceaux-images d'un faisceau analytique cohérent par un morphisme propre. [The Grauert theorem on the coherence of the image sheaves of a coherent analytic sheaf under a proper morphism] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 220, 235–248, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 32C35

— Cycles analytiques (d'après M. F. Atiyah et F. Hirzebruch). [Analytic cycles (after M. F. Atiyah and F. Hirzebruch)] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 223, 5–26, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 55R45 (32C35, 32G10)

— Démonstration élémentaire d'un théorème de périodicité de Bott (d'après Atiyah et Bott). [Elementary proof of a periodicity theorem of Bott (after Atiyah and Bott)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 259, 241–249, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 55R45

— Le problème des modules pour les variétés analytiques complexes (d'après Masatake Kuranishi). [The moduli problem for complex-analytic manifolds (after Masatake Kuranishi)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 277, 7–13, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 32G05

— Platitude et privilège. [Flatness and privilege] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 303, 385–390, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 32C35

— Présentation de Jean-Christophe Yoccoz [see MR 97c:00049]. [Presentation of Jean-Christophe Yoccoz] *Fields Medallists' lectures*, 581–587, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70

Douai, Jean-Claude Prolongement d'une suite exacte de Kottwitz. (English and French summaries) [Extension of a Kottwitz exact sequence] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1059–1063. (Abdellah Mokrane) **99b:11037** 11E72 (14F30)

Douak, Khalfa (*with* Maroni, Pascal) On d-orthogonal Tchebychev polynomials. II. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 4, 404–429. (Summary) **99c:42044** 42C05 (33C45)

Doubtsov, Evgueni *see* **Dubtsov, E. S.**

Doud, Darrin A procedure to calculate torsion of elliptic curves over **Q**. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 463–469. (Andrew Bremner) **99c:11067** 11G05

Doudoumis, I. N. (*with* Mitsopoulou, E. N.) A class of sufficiently small friction coefficients for the uniqueness of the solution of the quasistatic contact problem. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 309–321. (Summary) **99f:73074** 73T05 (73V20)

Dougherty, Daniel J. (*with* Otto, Friedrich; Narendran, Paliath) Equational unification, word unification, and 2nd-order equational unification. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 1–47. (Klaus Madlener) **99e:68084** 68Q42 (03B25, 03D05, 03D35)

Dougherty, Edward R. (*with* Barrera, Junior) Representation of gray-scale windowed operators. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 19–26, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:68173** 68U10

— ★ Random processes for image and signal processing. (English summary) SPIE/IEEE Series on Imaging Science & Engineering. *SPIE Optical Engineering Press, Bellingham, WA; IEEE Press, Piscataway, NJ*, 1999. *xxii*+594 *pp. ISBN* 0-8194-2513-3 {L. L. Campbell) **99m:94009** 94A12 (60G35)

Dougherty, Randall Critical points in an algebra of elementary embeddings. II. (English summary) *Logic: from foundations to applications* (*Staffordshire*, 1993), 103–136, *Oxford Sci. Publ., Oxford Univ. Press, New York*, 1996. (Douglas R. Burke) **99b:03069** 03E55 (03E05, 20N02)

— (*with* Jech, Thomas) Finite left-distributive algebras and embedding algebras. (English summary) *Adv. Math.* **130** (1997), *no.* 2, 201–241. (Andreas Blass) **99f:08004** 08C99 (03E55, 03F30, 08A02)

— Narrow coverings of ω-ary product spaces. (English summary) *Ann. Pure Appl. Logic* **88** (1997), *no.* 1, 47–91. (L. Bukovský) **99j:03035** 03E05 (03E15, 03E55, 54B10, 54F45)

— (*with* Mycielski, Jan) Representations of infinite permutations by words. II. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2233–2243. (Johannes Huebschmann) **99j:20002** 20B07 (20E05, 20F05, 57M05)

Dougherty, Steven T. Planes, nets, and codes. *Math. J. Okayama Univ.* **38** (1996), 123–143 (1998). (From the introduction) **99f:51012** 51E15 (51E14, 51E22, 94B25)

Douglas, Bruce *see* **Current topics in nonstationary analysis, 99g:60003**

Douglas, Craig C. (*with* Malhotra, Sachit; Schultz, Martin H.) Parameter choices for ADI-like methods on parallel computers. (English summary) *Comput. Appl. Math.* **17** (1998), *no.* 3, 221–236. 65F10 (65Y05)

— (*with* Malhotra, Sachit; Schultz, Martin H.) "Transpose free" alternating direction smoothers for serial and parallel multigrid methods. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 39–52, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65207** 65N55

Douglas, Jim, Jr. (*with* Cai, Zhi Qiang) Stabilized finite element methods with fast iterative solution algorithms for the Stokes problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 115–129. (Summary) **99i:76087** 76M10 (65N30, 76D07)

— (*with* Huang, Chieh-Sen; Pereira, Felipe) The modified method of characteristics with adjusted advection for an immiscible displacement problem. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 53–73, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Zhangxin Chen) **99j:76071** 76M10 (65M60, 76S05)

Douglas, Michael R. Large N in $D > 2$. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 187–197, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81180** 81T30 (81T13)

— (*with* Greene, Brian R.) Metrics on D-brane orbifolds. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 184–196. (Gonzalo Violero) **99b:81186** 81T30 (53C80, 83E30)

— D-branes in curved space. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 198–209. (David S. Berman) **99c:81176** 81T30 (32C81, 58B30, 81T60, 83E30)

— (*with* Kato, Akishi; Ooguri, Hirosi) D-brane actions on Kähler manifolds. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 237–258. (David S. Berman) **99b:81187** 81T30 (32C81, 32J81, 81T60, 83E30)

— (*with* Bachas, Constantin P.; Green, Michael B.) Anomalous creation of branes. (English summary) *J. High Energy Phys.* **1997**, *no.* 7, *Paper* 2, 7 *pp.* (*electronic*). (Jihad Mourad) **99c:81161** 81T30 (81T50)

— (*with* Polchinski, Joseph; Strominger, Andrew) Probing five-dimensional black holes with D-branes. (English summary) *J. High Energy Phys.* **1997**, *no.* 12, *Paper* 3, 20 *pp.* (*electronic*). (Jeremy Michelson) **99b:83069** 83E30 (81T30, 83C57)

— (*with* Kabat, Daniel; Pouliot, Philippe; Shenker, Stephen H.) D-branes and short distances in string theory. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 1-2, 85–127. (Summary) **99c:81177** 81T30

— Will M theory unify mathematics and physics? *Les relations entre les mathématiques et la physique théorique*, 67–72, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (Douglas J. Smith) **99k:81232** 81T30

— Superstring dualities, Dirichlet branes and the small scale structure of space. *Symétries quantiques* (*Les Houches*, 1995), 519–543, *North-Holland, Amsterdam*, 1998. (Daniel N. Kabat) **99m:81180** 81T30

— Gauge fields and D-branes. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 255–262. (Angel Maria Uranga) **99j:81136** 81T30 (53C07, 58D27)

— (*with* Connes, Alain; Schwarz, Albert) Noncommutative geometry and matrix theory: compactification on tori. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 3,

35 pp. (electronic). (Éric Leichtnam) **99b:58023** 58B30 (81T30)
— (*with* Hull, Christopher M.) D-branes and the noncommutative torus. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 8, 5 *pp.* (*electronic*). (Éric Leichtnam) **99b:58024** 58B30 (81T30)
— (*with* Diaconescu, Duiliu-Emanuel; Gomis, Jaume) Fractional branes and wrapped branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 13, 9 *pp.* (*electronic*). (Daniel N. Kabat) **99e:81183** 81T30 (81T60)
— D-branes and Matrix theory in curved space. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 381–393. (Summary) **99e:81184** 81T30
— (*with* Ooguri, Hirosi) Why matrix theory is hard. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 71–76. (Richard A. Corrado) **99k:81233** 81T30
— *see also* **Strings, branes and dualities, 99k:81009**
ilieva-Douglas, Nina *see* **Ilieva-Douglas, Nina**
Douglas, Robert John (*with* Burton, G. R.) Rearrangements and polar factorisation of countably degenerate functions. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 671–681. (Robert J. McCann) **99h:28031** 28D05 (26A48, 46E30, 52A99)
— Rearrangements of vector valued functions, with application to atmospheric and oceanic flows. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 891–902 (*electronic*). (Maria J. Esteban) **99e:76025** 76C15 (46N20, 76M30, 86A05, 86A10)
— (*with* Cullen, Michael J. P.) Applications of the Monge-Ampère equation and Monge transport problem to meteorology and oceanography. (English summary) *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 33–53, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:86008** 86A05 (35Q99, 86A10)
Douglas, Ronald G. ★ Banach algebra techniques in operator theory. (English summary) Second edition. Graduate Texts in Mathematics, 179. *Springer-Verlag, New York*, 1998. *xvi*+194 *pp. ISBN* 0-387-98377-5 (Preface) **99c:47001** 47–01 (46–01)
— (*with* Misra, Gadadhar) Geometric invariants for resolutions of Hilbert modules. *Nonselfadjoint operator algebras, operator theory, and related topics*, 83–112, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (F.-H. Vasilescu) **99g:46065** 46H25 (46E22, 46J15, 46M20, 47A45, 47D99)
Douglass, J. Matthew Irreducible components of fixed point subvarieties of flag varieties. (English summary) *Math. Nachr.* **189** (1998), 107–120. (Eric N. Sommers) **99k:14084** 14M15
— Toral arrangements and hyperplane arrangements. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 939–956. (Hiroshi Niitsuma) **99j:13006** 13B10 (52B30)
Douglass, Rod W. (*with* Dawkins, Paul T.; Dunbar, Steven R.) The origin and nature of spurious eigenvalues in the spectral tau method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 441–462. (T. E. Simos) **99j:65132** 65L15
Doukhan, Paul An overview on weak dependence of stationary sequences. (English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 78–93. (Summary) **99m:62133** 62M10
— (*with* Surgailis, Donatas) Functional central limit theorem for the empirical process of short memory linear processes. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 87–92. (Miguel A. Arcones) **99i:60077** 60F17
— (*with* Louhichi, Sana) Estimation de la densité d'une suite faiblement dépendante. (English and French summaries) [Functional estimation of the density of a sequence under a weak dependence condition] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 989–992. (José Rafael León) **99m:62056** 62G07
— (*with* Ango Nze, Patrick) Functional estimation for time series: uniform convergence properties. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 5–29. (Jacques Istas) **99g:62130** 62M10 (60G10)
Doumeki, Atsushi The eigenvalue splitting of the Kac operator. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 54–64. (*see* **99a:00049**) 47D06 (35P99, 47N50)
— (*with* Ichinose, Takashi; Tamura, Hideo) Error bounds on exponential product formulas for Schrödinger operators. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 359–377. (J. A. Van Casteren) **99i:47086** 47F05 (35J10, 47D06, 81Q10)
— The semiclassical estimate of the eigenvalue splitting for the Kac operator. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 483–508. (B. Hellwig) **99j:35156** 35P15 (35B32, 35J10, 47N50, 81Q20)
Doupovec, Miroslav (*with* Kurek, Jan) Liftings of 1-forms to some non-product preserving bundles. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 25–32. (Vadim V. Shurygin) **99k:58008** 58A20 (53A55)
le Doussal, Pierre *see* **Le Doussal, Pierre**
Douthett, Jack (*with* Krantz, Richard J.; Doty, Steven D.) Maximally even sets and the devil's-staircase phase diagram for the one-dimensional Ising antiferromagnet with arbitrary-range interaction. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4675–4682. (Emilio N. M. Cirillo) **99j:82031** 82B26 (82B20)
Do Val, J. B. R. *see* **do Val, J. B. R.**
Dover, Jeremy M. Subregular spreads of $\mathcal{PG}(2n+1,q)$. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 362–380. (Vikram Jha) **99i:51010** 51E23
— Unitary designs with a common collection of blocks. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 207–216. (Summary) **99m:05035** 05B25
Dovgal', V. V. (*with* Ermakov, S. M.) A limit theorem for the Tauswort pseudonumber generator. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 102–115, 221. 65C10
Dovgoshei, A. A. Polynomial approximation on compact sets of zero logarithmic capacity, and the analyticity of functions. (Russian. English summary) *Anal. Math.* **23** (1997), *no.* 2, 77–98. (V. A. Tkachenko) **99c:41009** 41A10 (30E10)
Dovier, Agostino (*with* Formisano, Andrea; Policriti, Alberto) On *T* logic programming. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 323–337, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68017** 68N17
— (*with* Piazza, Carla; Rossi, Gianfranco; Pontelli, Enrico) On the representation and management of finite sets in CLP languages. (English summary) *Logic programming* (*Manchester*, 1998), 40–54, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68033** 68N17 (68T20)
— (*with* Cortesi, Agostino; Quintarelli, Elisa; Tanca, Letizia) Operational and abstract semantics of a query language for semi-structured information. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming* (*DDLP'98*) (*Manchester*, 1998), 127–139, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68Q55)
Dovstam, K. Real modes of vibration and hybrid modal analysis. (English summary) *Comput. Mech.* **21** (1998), *no.* 6, 493–511. (From the summary) **99f:73054** 73K12 (73V20)
Dow, Alan On compact separable radial spaces. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 422–432. (R. Grant Woods) **99b:54005** 54A20 (03E35, 54A35, 54D30)
— The regular open algebra of $\beta\mathbf{R}\setminus\mathbf{R}$ is not equal to the completion of $\mathcal{P}(\omega)/\mathrm{fin}$. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 33–41. (Miroslav Repický) **99c:54008** 54A35 (03E35, 54G05)
— (*with* Zhou, Jin Yuan[1]) On subspaces of pseudoradial spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1221–1230. (Hans-Peter A. Künzi) **99f:54037** 54E35
— A not too dense subset of $\mathbf{N}^*$. (English summary) *Topology Appl.* **91** (1999), *no.* 1, 79–85. (Zbigniew Grande) **99k:54017** 54D35 (54C45, 54G05)
Dow, Murray Sparse inverse and characteristic polynomial of generalized arrow matrix. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), (*E*), 667–677 (*electronic*) (1998). (Predrag S. Stanimirović) **99e:15004** 15A09
Dowbor, Piotr On stabilizers of G-atoms of representation-tame categories. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 303–315. (D. Zacharia) **99h:16032** 16G60 (16G20)
Dowd, Martin J. (*with* Azevedo, M. M.; Bagherzadeh, N.; Latifi, Shahram) Average distance and routing algorithms in the star-connected cycles interconnection network. (English summary) *Sci. Iran.* **3** (1997), *no.* 4, 175–187. (Summary) **99g:68011** 68M10 (68R10)
Dowek, Gilles Proof normalization for a first-order formulation of higher-order logic. (English summary) *Theorem proving in higher order logics* (*Murray Hill, NJ*, 1997), 105–119, *Lecture Notes in Comput. Sci.*, 1275, *Springer, Berlin*, 1997. (Summary) **99b:03015** 03B15 (03F05)
Dowell, Earl H. (*with* Hu, Hai Yan; Virgin, L. N.) Stability estimation of high-dimensional vibrating systems under state delay feedback control. (English summary) *J. Sound Vibration* **214** (1998), *no.* 3, 497–511. 93D05 (70Q05, 73K12, 73K50)
— (*with* Epureanu, Bogdan I.) On the optimality of the Ott-Grebogi-Yorke control scheme. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 1–7. (Summary) **99a:58138** 58F40 (34H05, 58F13, 93C15, 93D99)
Dower, P. M. (*with* James, Matthew R.) Dissipativity and nonlinear systems with finite power gain. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 699–724. (Daniel Hernández-Hernández) **99f:93104** 93D05 (93C20)
Dowker, Fay (*with* Kastor, David; Traschen, Jennie) *U* duality, D-branes, and black hole emission rates: agreements and disagreements. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124025, 13 *pp.* (Summary) **99k:83118** 83E30 (83C57)
Dowker, H. F. (*with* Sorkin, Rafael D.) A spin-statistics theorem for certain topological geons. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1153–1167. (Gil De Oliveira-Neto) **99d:83086** 83E05 (83C45)
— (*with* Garcia, R. S.) A handlebody calculus for topology change. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1859–1879. (Stephen F. Sawin) **99i:83035** 83C45 (57R70)
Dowker, J. S. (*with* Apps, J. S.) The C_2 heat-kernel coefficient in the presence of boundary discontinuities. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1121–1139. (Summary) **99j:58195** 58G11
Dowling, Jonathan P. Asim Barut: a personal tribute. Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 357–359. (*see* **99h:81002**) 01A70
— The classical Lamb shift: why Jackson is wrong! (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 855–862. (Paweł H. Węgrzyn) **99m:78002** 78A02 (78A35, 78A40, 81V10)
Dowling, Patrick N. (*with* Lennard, Christopher J.; Turett, Barry) Asymptotically perturbed norms of classical sequence spaces with applications to fixed point theory. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 2, 67–98. (S. Swaminathan) **99m:46032** 46B20 (47H10)
— (*with* Randrianantoanina, Narcisse; Turett, Barry) Remarks on James's distortion theorems. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 49–54. (Summary) **99b:46014** 46B20
— Asymptotically isometric copies of c_0 and renormings of Banach spaces. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 265–271. (Summary) **99h:46012** 46B20
Dowling, Thomas (*with* O'Farrell, Anthony G.) Sobolev space analytic capacities. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 87–99. (Summary) **99g:46042** 46E35 (30C85, 31A15)
darby-Dowman, Ken *see* **Darby-Dowman, Ken**
Down, D. (*with* Kwong, R. H.) Generalized minimum variance adaptive control and parameter convergence for stochastic systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 147–160. 93E35
— (*with* Meyn, S. P.) Piecewise linear test functions for stability and instability of queueing networks. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 205–226 (1998). (Summary) **99a:60102** 60K25 (90B22)
Downarowicz, Tomasz The royal couple conceals their mutual relationship: a noncoalescent Toeplitz flow. (English summary) *Israel J. Math.* **97** (1997), 239–251. (Jan Kwiatkowski) **99d:28031** 28D05 (58F11)
— Weakly almost periodic flows and hidden eigenvalues. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 101–120, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Thomas Ward) **99c:28044** 28D05 (54H20)
— (*with* Lacroix, Y.) Merit factors and Morse sequences. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 377–387. (Mariusz Lemańczyk) **99i:11015** 11B85 (11B75, 28D05, 54H20)

Downey, Rodney G. (*with* Fellows, Michael R.; Taylor, Udayan) The parameterized complexity of relational database queries and an improved characterization of $W[1]$. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 194–213, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99j:68040** 68Q15 (68P15, 68Q25)

— (*with* Lempp, Steffen) Contiguity and distributivity in the enumerable Turing degrees. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1215–1240. (Michael Stob) **99f:03052** 03D25 (03D30)

— (*with* Courcelle, Bruno; Fellows, Michael R.) A note on the computability of graph minor obstruction sets for monadic second order ideals. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1194–1198 (*electronic*). (Summary) **99h:68129** 68R10 (03C85, 05C99)

— (*with* Coles, Richard J.; Khusainov, B. M.) On initial segments of computable linear orders. (English summary) *Order* **14** (1997/98), *no.* 2, 107–124. (Victor Selivanov) **99m:03088** 03D45 (03C57, 06A05)

— (*with* Fellows, Michael R.; Regan, Kenneth W.) Descriptive complexity and the W hierarchy. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 119–134, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:68072** 68Q15 (03D10, 03D15, 03D20, 03D30, 03D80, 68Q25)

— (*with* Fortnow, Lance) Uniformly hard languages. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 228–233, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

— (*with* Füredi, Zoltán; Jockusch, Carl G., Jr.; Rubel, Lee A.) Difference sets and computability theory. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 63–72. (A. A. Mullin) **99h:03022** 03D20 (03D25, 05B10)

— (*with* Fellows, Michael R.) Threshold dominating sets and an improved characterization of $W[2]$. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 123–140. (Summary) **99h:68072** 68Q25 (68Q15)

Dowrick, N. J. (*with* Binney, J. J.; Fisher, A. J.; Newman, M. E. J.) ★ Zjawiska krytyczne. (Polish. Polish summary) [Critical phenomena] Wstęp do teorii grupy renormalizacji. [An introduction to the renormalization group] Translated from the 1992 English original by Grzegorz Musiał and Piotr Pawlicki. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 488 *pp. ISBN* 83-01-12454-7 (Paweł H. Węgrzyn) **99h:82030** 82B27 (81T17, 82-01, 82B26, 82B28)

Doyen, Jean (*with* Devillers, Alice) Homogeneous and ultrahomogeneous linear spaces. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 2, 236–241. (Summary) **99e:05029** 05B25

— *see also* **Finite geometry and combinatorics, 99a:51001**

Doyen, Luc (*with* Seube, Nicolas) Control of uncertain systems under bounded chattering. (English summary) *Dynam. Control* **8** (1998), *no.* 2, 163–176. (Zvi Artstein) **99f:93128** 93D21 (90D25)

Doyle, J. P. (*with* Rief, H.) Photon transport in three-dimensional structures treated by random walk techniques: Monte Carlo benchmark of ocean colour simulations. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 215–241. (*see* **99d:65008**) 86–08 (65C05)

Doyle, John C. (*with* Lu, Wei-Min) Robustness analysis and synthesis for nonlinear uncertain systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1654–1662. (Summary) **99j:93062** 93C41 (93B36, 93B51)

Doyle, M. M. (*with* Sri Namachchivaya, N.; Arnold, Ludwig) Small noise expansion of moment Lyapunov exponents for two-dimensional systems. *Advances in nonlinear stochastic mechanics* (*Trondheim*, 1995), 153–168, *Solid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1996. (Anatoliy A. Levakov) **99e:34077** 34F05 (34D08, 60H10, 70L05)

Doyle, P. W. Characteristic solutions of scalar Newton equations in one space dimension. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 1013–1026. (Olena V. Roman) **99c:35009** 35A30 (35G99, 70D99)

Doyle, Patrick Owen (*with* Dexter, Scott; Gurevich, Yuri) Gurevich abstract state machines and Schönhage storage modification machines. (English summary) Ten years of Gurevich's abstract state machines, Part I. *J.UCS* **3** (1997), *no.* 4, 279–303 (*electronic*). (Summary) **99k:68050** 68Q05

Dozzi, Marco (*with* Soltani, A. Reza) Local time for stable moving average processes: Hölder conditions. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 2, 195–207. (Simeon M. Berman) **99a:60081** 60J55 (60G17)

Draayer, J. P. (*with* Pan, Feng; Dong, Shi-Hai) A new Young diagrammatic method for Kronecker products of $O(n)$ and $Sp(2m)$. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8279–8287. (Fabio Gavarini) **99c:20060** 20G05

— (*with* Ludu, A.; Greiner, Walter) Hamiltonian system and symmetries for scale invariant wavefunctions. (English summary) *Internat. J. Modern Phys. E* **7** (1998), *no.* 6, 765–775. (Summary) **99i:81057** 81Q99

— (*with* Ludu, A.; Greiner, Martin) Wavelets and quantum algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2346–2361. (Fabio Bagarello) **99b:81106** 81R50 (42C15)

— (*with* Escher, Jutta) Fermion realization of the nuclear $Sp(6, \mathbf{R})$ model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5123–5147. (A. Ventura) **99k:81346** 81V35 (81R05)

— (*with* Pan, Feng) Complementary group resolution of the $SU(n)$ outer multiplicity problem. I. The Littlewood rules and a complementary $\mathcal{U}(2n-2)$ group structure. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5631–5641. (Patrick J. Moylan) **99k:81081** 81R05 (22E70)

— (*with* Pan, Feng) Complementary group resolution of the $SU(n)$ outer multiplicity problem. II. Recoupling approach for $SU(3) \supset U(2)$ reduced Wigner coefficients. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5642–5662. (Patrick J. Moylan) **99k:81082** 81R05 (22E70)

— (*with* Pan, Feng) Exact solution for N-coupled symmetric rotors. (English summary) *J. Phys. A* **31** (1998), *no.* 32, 6855–6860. (Summary) **99d:81184** 81V55 (81V35)

— (*with* Pan, Feng; Dong, Shi-Hai) The induced representations of Brauer algebras and the Clebsch-Gordan coefficients of $SO(n)$. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8247–8266. (T. Tuong Truong) **99k:81083** 81R05 (20G20, 20G45)

— (*with* Asherova, R. M.; Kharitonov, Yu. I.; Smirnov, Yu. F.) Extension of the Draayer-Akiyama procedure for the $u_\psi(3)$ algebra. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1816–1820. (Summary) **99i:81088** 81R50

— (*with* Ludu, A.) Patterns on liquid surfaces: cnoidal waves, compactons and scaling. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 82–91. (*see* **99h:00031**) 76B25 (76B99)

— (*with* Filippov, G. F.) Fock-Bargmann space and SU(3) models. (English summary) *Phys. Particles Nuclei* **29** (1998), *no.* 6, 549–559. (Summary) **99h:81063** 81R05 (81V35)

— (*with* Pan, Feng) Exact solutions for some nuclear many-body problems. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 120–140. (Summary) **99i:81270** 81V35 (81V70)

— (*with* Pan, Feng) Exact solution of the orbit-dependent pairing Hamiltonian. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 1065–1072. 81V35

Drabant, Bernhard Bicovariant differential calculus of braided Hopf algebras. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 171–178, *World Sci. Publishing, River Edge, NJ*, 1996. (Yu. N. Bespalov) **99h:16057** 16W30 (18D10, 58B30)

— (*with* Bespalov, Yu. N.) Bicovariant differential calculi and cross products on braided Hopf algebras. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 79–90, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Stefaan Caenepeel) **99d:16041** 16W30 (16S40, 17B37, 18D10)

— Differential Hopf algebra structure of the quantum standard complex. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2652–2659. (Summary) **99b:17010** 17B37 (16W50, 81R50)

— (*with* Bespalov, Yu. N.) Hopf (bi-)modules and crossed modules in braided monoidal categories. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 105–129. (Bodo Pareigis) **99f:18012** 18D10 (16W30)

Drábek, Pavel (*with* Kufner, Alois) ★ Integralgleichungen. (German) [Integral equations] Mathematik für Ingenieure und Naturwissenschaftler. [Mathematics for Engineers and Natural Scientists] *B. G. Teubner Verlagsgesellschaft mbH, Stuttgart*, 1996. 170 *pp. ISBN* 3-8154-2089-X (J. Weidmann) **99j:45001** 45–01 (45Lxx, 65R20)

— (*with* Del Pino, Manuel; Manásevich, Raúl) The Fredholm alternative at the first eigenvalue for the one-dimensional p-Laplacian. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 461–465. (Summary) **99h:35053** 35J60 (34B15, 34L30)

— (*with* Del Pino, Manuel; Manásevich, Raúl) The Fredholm alternative at the first eigenvalue for the one-dimensional p-Laplacian. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 386–419. (Miguel Ramos) **99m:34042** 34B15 (34C10, 34L30, 47H15)

— (*with* Takáč, Peter) A counterexample to the Fredholm alternative for the p-Laplacian. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1079–1087. (Tetsutaro Shibata) **99h:34028** 34B15 (34C10, 34L30, 35J65, 47H15)

Drabla, S. (*with* Sofonea, Mircea; Teniou, Boudjemaa) Analysis of a frictionless contact problem for elastic bodies. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 75–88. (Alain Brillard) **99f:73075** 73T05 (49J45, 73C02, 73V25)

Dragalin, Vladimir Control charts for monitoring the mean of a multivariate normal distribution. *Systems modelling and optimization* (*Detroit, MI*, 1997), 327–335, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B25

Dragan, Feodor F. On greedy matching ordering and greedy matchable graphs (extended abstract). (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 184–198, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 05C85

— (*with* Brandstädt, Andreas; Chepoĭ, V. D.) The algorithmic use of hypertree structure and maximum neighbourhood orderings. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 43–77. (Gary MacGillivray) **99e:68119** 68R10 (05C85)

— (*with* Brandstädt, Andreas) A linear-time algorithm for connected r-domination and Steiner tree on distance-hereditary graphs. (English summary) *Networks* **31** (1998), *no.* 3, 177–182. (Summary) **99b:05129** 05C85

— (*with* Brandstädt, Andreas; Chepoĭ, V. D.; Voloshin, V. I.) Dually chordal graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 437–455 (*electronic*). (Valentin E. Brimkov) **99i:05175** 05C75 (05C65, 68R10)

— (*with* Brandstädt, Andreas; Chepoĭ, V. D.) Distance approximating trees for chordal and dually chordal graphs. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 166–184. (Summary) **99k:05058** 05C05 (05C12)

Drăgan, Vasile (*with* Halanay, Aristide) General controlled evolutions disturbance attenuation and related topics. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 2, 149–280. 93D15 (93C25)

— (*with* Halanay, Aristide; Stoica, Adrian) A property of balanced realizations for time-varying systems. *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 375–378. 93B15 (93C10)

— (*with* Halanay, Aristide; Stoica, Adrian) A small gain theorem for linear stochastic systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 243–251. (Summary) **99c:93098** 93E03 (93B36)

— (*with* Halanay, Aristide) A robust controller for time-dependent discrete systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 1–23. (Geir E. Dullerud) **99h:93093** 93D21 (93C55)

— (*with* Halanay, Aristide; Stoica, Adrian) An alternative computational solution for optimal two-block Nehari and H^∞ problems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 285–301. (Anton A. Stoorvogel) **99g:93025** 93B36 (93B40)

— The asymptotic behavior of the stability radius for a singularly perturbed linear system. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 817–829. (T. R. Gichev) **99g:93059** 93D05 (34D15, 93C70)

Drăgan, Vladimir (*with* Teodoru, Georgeta) Continuous dependence of parameter of the solutions for differential hyperbolic inclusions. (French summary) *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **19** (1996), 99–107 (1998). (Summary) **99m:35280** 35R70 (35B30, 35L70)

Drăgănescu, Gheorghe (*with* Cotăescu, Ion I.) The operator algebra of the quantum relativistic oscillator. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5505–5514. (Enric Verdaguer) **99f:81075** 81R10 (81T20, 83C47)

— (*with* Evans, Myron Wyn; Avram, N. M.) Proposal of a new kind of Aharonov-Bohm effect. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997),

57–66, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99k:81041** 81P99

Draganova, Chrisina Perfect splines with boundary conditions and their application to certain extremal problems. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 44–55. (Juan José Torrens) **99i:41006** 41A15 (41A05)

Dräger, Klaus Acceptance regions and their application in lifetime estimation. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 19–35, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99g:62034** 62F25 (62N05)

Drager, Lance D. (*with* Layton, William J.) Initial value problems for nonlinear nonresonant delay differential equations with possibly infinite delay. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 24, 20 *pp.* (*electronic*). (Sjoerd M. Verduyn Lunel) **99c:34144** 34K05

Drăghia, Dumitru D. Continuity of Jordan homomorphisms and derivations with range in semiprime Banach algebras. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 327–337. 46H40 (46H70)

Drăghici, Eugen Starlikeness preserved by integral operators. *Mathematica* **39(62)** (1997), *no.* 2, 215–220. (Otto Fekete) **99f:30021** 30C45

Dragilev, M. M. On isomorphic representation for the pairs of embedded spaces of analytic functions. Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 50–56. (Introduction) **99e:46030** 46E10 (30H05)

Dragnev, Dragomir On the isoenergetical non-degeneracy of the problem of two centers of gravitation. (English summary) Conference on Geometry and Mathematical Physics (Zlatograd, 1995). *Serdica Math. J.* **23** (1997), *no.* 2, 125–130. (*see* **99d:00016**) 70F07 (70H05)

Dragnev, P. D. (*with* Saff, Edward B.) Constrained energy problems with applications to orthogonal polynomials of a discrete variable. (English summary) *J. Anal. Math.* **72** (1997), 223–259. (V. Totik) **99f:42048** 42C05 (31B15)

— (*with* Kuijlaars, A. B. J.) Equilibrium problems associated with fast decreasing polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1065–1074. (Wiesław Pleśniak) **99f:31003** 31A15 (30C10)

Drago, Antonino The organization of theory in L. Carnot and Lobachevskiĭ. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars (Italian) (Siena/Bologna/Pavia)*, 215–224, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 01A55

Dragomir, S. *see* **Dragomir, Sorin**

Dragomir, Sever Silvestru (*with* Sándor, József) On Bessel's and Gram's inequalities in pre-Hilbertian spaces. *Mathematica* **37(60)** (1995), *no.* 1-2, 93–102. (P. Miličić) **99a:46035** 46C05 (26D15)

— Generalizations of Hua's inequality for convex functions. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 101–109. (Zsolt Páles) **99a:26013** 26D15

— (*with* Pearce, C. E. M.) On Jensen's inequality for a class of functions of Godunova and Levin. *Period. Math. Hungar.* **33** (1996), *no.* 2, 93–100. (Iosif Pinelis) **99b:60027** 60E15 (26D15)

— Variational methods for some operator equations in Hilbert spaces. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 51–68. (Anton Suhadolc) **99d:47010** 47A50 (49J40)

— (*with* Mond, B.; Pearce, C. E. M.; Pečarić, Josip) Interpolations to Jensen's inequality with application to refinements of the triangle inequality for normed linear spaces. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 17–31. (Maria J. Carro) **99f:26028** 26D15 (46B20)

— (*with* Goh, C. J.) A counterpart of Hölder's inequality. (English summary) *Mitt. Math. Ges. Hamburg* **16** (1997), 99–106. (D. C. Russell) **99j:26018** 26D15

— (*with* Wang, Song) A new inequality of Ostrowski's type in L_1 norm and applications to some special means and to some numerical quadrature rules. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 239–244. (Yong Ping Liu) **99a:65034** 65D32 (26D10)

— (*with* Agarwal, Ravi P.) Two inequalities for differentiable mappings and applications to special means of real numbers and to trapezoidal formula. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 91–95. (Summary) **99c:26015** 26D15

— (*with* Mabizela, Sizwe) Functional inequalities and best approximation. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 90–98. (Summary) **99h:41039** 41A65 (41A17, 46C99)

— (*with* Pearce, C. E. M.) Quasi-convex functions and Hadamard's inequality. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 377–385. (Lars Erik Persson) **99k:26011** 26A51 (26D15)

— (*with* Agarwal, Ravi P.) The property of supermultiplicity for some classical inequalities and applications. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 6, 105–118. (J. Sándor) **99b:26032** 26D15

— (*with* Mond, B.) Integral inequalities of Hadamard type for log-convex functions. (English summary) *Demonstratio Math.* **31** (1998), *no.* 2, 355–364. (J. Sándor) **99g:26041** 26D15

— (*with* Fitzpatrick, Simon) Hadamard's inequality for s-convex functions in the first sense and applications. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 633–642. (Ion Raşa) **99i:26023** 26D15 (26A51)

— (*with* Koliha, J. J.) The mapping $\nu_{x,y}$ in normed linear spaces with applications to inequalities in analysis. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 1, 37–55. (Ioan Şerb) **99m:46061** 46C50 (46B99)

— (*with* van der Hoek, John) Some new analytic inequalities and their applications in guessing theory. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 542–556. (Yong Ping Liu) **99g:26042** 26D15

— (*with* Pearce, C. E. M.; Šunde, J.) Abel-type inequalities, complex numbers and Gauss-Pólya type integral inequalities. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 95–101. (J. Sándor) **99h:26024** 26D15

— (*with* Cho, Yeol Je; Kim, Seong Sik) Superadditivity and monotonicity of 2-norms generated by inner products and related results. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 13–32. (Ioan Şerb) **99e:46029** 46C50 (46C05, 46C20)

— (*with* Wang, Song) A generalization of Bullen's inequality for convex mappings and its applications. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 97–103. (P. S. Bullen) **99g:26027** 26A51 (26D15)

— (*with* Wang, Song) Applications of Iyengar's type inequalities to the estimation of error bounds for the trapezoidal quadrature rule. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 55–58. (Summary) **99e:65043** 65D32

— (*with* Fedotov, I. A.) An inequality of Grüss' type for Riemann-Stieltjes integral and applications for special means. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 287–292. (E. R. Love) **99m:26017** 26A42 (26D10)

Dragomir, Sorin (*with* Barletta, Elisabetta) On γ-weak solutions of elliptic equations. (English summary) *Note Mat.* **15** (1995), *no.* 1, 1–29 (1997). (Maria A. Ragusa) **99b:35032** 35J15 (33E05, 34B05, 35B65, 35D10)

— (*with* Grimaldi, Renata) On Rund's connection. (English summary) *Note Mat.* **15** (1995), *no.* 1, 85–98 (1997). (Marco Abate) **99a:53084** 53C60 (53B40)

— (*with* Ornea, Liviu) ★ Locally conformal Kähler geometry. (English summary) Progress in Mathematics, 155. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xiv+327 *pp. ISBN* 0-8176-4020-7 (Juan Carlos Marrero Gonzalez) **99a:53081** 53C55 (53C25, 53C40, 53C42)

— (*with* Barletta, Elisabetta) On transversally holomorphic maps of Kählerian foliations. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 2, 121–134. (G. Tóth) **99j:58053** 58E20 (53C55)

— (*with* Barletta, Elisabetta) Uniform approximation of holomorphic forms. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 359–366. (Introduction) **99f:32051** 32L10

— (*with* Barletta, Elisabetta) On boundary behaviour of symplectomorphisms. *Kodai Math. J.* **21** (1998), *no.* 3, 285–305. (Gregor Herbort) **99k:32039** 32H10 (32C17)

— (*with* Barletta, Elisabetta) On the Djrbashian kernel of a Siegel domain. (English summary) *Studia Math.* **127** (1998), *no.* 1, 47–63. (Manfred Stoll) **99a:32031** 32H10 (46E22)

Dragomirescu, Mihai H-conjugate functions. I. A biconjugate theorem for quasiconvex functions. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 2, 135–147. 49N15 (90C48)

— *see also* **Iosifescu, Marius**

Dragon, A. (*with* Halm, D.) An anisotropic model of damage and frictional sliding for brittle materials. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 3, 439–460. (Summary) **99d:73072** 73M25 (73B40, 73S10)

Dragon, Norbert (*with* Kuzenko, Sergei M.) The Higgs mechanism in $N = 2$ superspace. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 229–244. (Ilya Shapiro) **99b:81233** 81T60 (81T13)

— (*with* Ivanov, Evgeniĭ Alekseevich[2]; Kuzenko, Sergei M.; Sokatchev, E.; Theis, U.) $N = 2$ rigid supersymmetry with gauged central charge. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 411–450. (Ilya Shapiro) **99k:81303** 81T60 (81T13)

scorza-Dragoni, Giuseppe *see* **Scorza-Dragoni, Giuseppe**

Dragoş, L. (*with* Postelnicu, A.) The method of fundamental solutions applied to the flow of incompressible viscous fluids past a thin profile. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 1, 27–34. 76D99

— (*with* Marcov, N.) About some singular integral equations of interest in aerodynamics. *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 205–210. (From the text) **99k:45008** 45E05 (76G25)

Dragoş, Petru Applications of the non-standard analysis. (Romanian summary) *Bul. Inst. Politeh. Iaşi. Secţ. I. Mat. Mec. Teor. Fiz.* **41(45)** (1995), *no.* 3-4, 21–30. (Introduction) **99c:03107** 03H05 (53A04)

— A non-standard approach to the Euclidian study of plane curves. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 231–247. (Todor Dimitrov Todorov) **99k:03050** 03H05 (53A05)

Dragotti, Sara (*with* Magro, Gaetano) A representation of homotopy theory by homotopy spheres. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 13–22. (R. E. Stong) **99a:57023** 57Q60 (55P65)

Dragović, Branko G. On generalized functions in adelic quantum mechanics. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 197–203. (Summary) **99d:11124** 11R56 (11Z05, 46F99, 81Q99)

Dragović, Vladimir Solution of the Yang equation, and algebraic curves of genus greater than 1. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 2, 70–73; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 2, 129–131. (Dmitriĭ I. Gurevich) **99g:81086** 81R50 (14H45, 82B23)

— Note on L-A pair for the Kowalevskaya gyrostat in a magnetic field. 4th Symposium on Mathematical Analysis and Its Applications (Arandelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 279–281. (Igor Gashenenko) **99d:70014** 70E15 (39B42, 58F07, 70H05)

— (*with* Radnović, Milena) On periodical trajectories of the billiard systems within an ellipsoid in $\mathbf{R}^d$ and generalized Cayley's condition. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5866–5869. (Iskander A. Taimanov) **99j:58158** 58F20

— Integrable perturbations of the Birkhoff billiard within an ellipse. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 166–169; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 159–162. (Nikolai Chernov) **99h:58142** 58F17 (58F07, 70F99, 70H05)

— Integration of the perturbated Jacobi problem. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 143–146. (Summary) **99c:70024** 70H05 (58F05)

— A new rational free-fermion solution of the Yang-Baxter equation. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 147–151. (Deng Feng Wang) **99i:82013** 82B23 (82B20)

— Classical integrable mechanical systems and their integrable perturbations. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math. (Beograd) (N.S.)* **64(78)** (1998), 153–164. (Summary) **99k:58089** 58F07 (58F05, 58F30, 70H05)

Dragovich, B. *see* **Dragović, Branko G.**

Dragovich, V. I. *see* **Dragović, Vladimir**

Dragt, Alex J. A Lie connection between Hamiltonian and Lagrangian optics. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 149–157. (Summary) **99d:78007** 78A05 (58F05)

Dragunov, T. N. (*with* Morozov, A. D.) On the investigation of systems of Hénon-Heiles type. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 43–54. (Summary) **99f:34074** 34C99 (58F13)

Drăgușin, Lucia Bifurcations in the mechanics of hypoelastic composite materials. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 15, 1839–1862. (Summary) **99j:73050** 73E05 (73G20, 73H05, 73K20)

Drahovský, Štefan (*with* Šalát, Tibor) On functions that preserve convergence of continued fractions. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 61–65. (L. J. Lange) **99a:40002** 40A15

Drake, David A. (*with* van Rees, G. H. J.; Wallis, W. D.) Maximal sets of mutually orthogonal Latin squares. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 87–94. (Jörn Quistorff) **99k:05039** 05B15

Drake, J. F. (*with* Zeiler, A.; Biskamp, D.; Rogers, B. N.) Transition from resistive ballooning to η_i driven turbulence in tokamaks. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2654–2663. (Summary) **99b:76102** 76X05

— (*with* Biskamp, D.; Schwarz, E.; Zeiler, A.; Celani, A.) Electron magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 751–758. (Summary) **99k:76149** 76W05 (76F99)

Drake, James M. (*with* Stastna, M.; Sivaloganathan, S.; Tenti, G.) Brain biomechanics: an exact solution, and asymptotics of slow variations, for the time dependent equations of consolidation theory. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 415–425. (*see* **99m:34001**) 73P20 (76Z99, 92C10, 92C50)

Drakhlin, Mikhail E. (*with* Stepanov, E. O.) Direct methods of the calculus of variations for functionals with nonlocal transformations of argument. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 157–169, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **99h:49001** 49J10 (34K35)

— (*with* Domoshnitskiĭ, A. I.; Litsyna, E. M.) On boundary value problems for Nth order functional-differential equations with impulses. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 50–56. (Summary) **99d:34119** 34K10 (34A37)

— (*with* Stepanov, E. O.) Convergence of composition operators and optimal control problems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 505–512. (Isaac V. Shragin) **99k:47064** 47B38 (47N10, 49J27, 49K27)

— (*with* Domoshnitskiĭ, A. I.) Periodic solutions of differential equations with delay depending on solution. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2665–2672. (Klaus Morgenthal) **99c:34159** 34K15 (34C25)

— (*with* Domoshnitskiĭ, A. I.; Litsyna, E. M.) Nth order functional-differential equations with impulses. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 987–996. (Summary) **99g:34130** 34K05 (34A37, 34K10)

Drakopoulos, V. (*with* Argiropoulos, N.; Bohm, Arno) Julia and Mandelbrot-like sets for higher order König rational iteration functions. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 169–178, *World Sci. Publishing, River Edge, NJ*, 1997. (Rich L. Stankewitz) **99g:30028** 30D05 (58F23)

Drakunov, S. V. (*with* Bloch, Anthony M.) Discontinuous stabilization of Brockett's canonical driftless system. (English summary) *Essays on mathematical robotics* (*Minneapolis, MN*, 1993), 169–183, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Summary) **99h:93082** 93D15 (70F25, 70Q05)

Dramalidis, Achilles (*with* Spartalis, S.; Vougiouklis, Thomas) On H_V-group rings. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 47–54. 16Y99

Dranga, M. Matrix algorithm for the motion equation of planar mechanism with several degrees of mobility. (Romanian. English summary) *Politehn. Univ. Bucharest Sci. Bull. Ser. D Mech. Engrg.* **60** (1998), *no.* 3-4, 243–250. 70B15

Drangmeister, Kay U. (*with* Krumke, Sven O.; Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, S. S.) Modifying edges of a network to obtain short subgraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 91–121. (Summary) **99d:68189** 68R10 (05C85, 68Q25)

Dranishnikov, A. N. (*with* Dydak, J.) Extension dimension and extension types. *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 61–94. (Leonard R. Rubin) **99h:54049** 54F45 (54C20, 54C55)

— Dimension theory and large Riemannian manifolds. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 423–432 (*electronic*). (John Roe) **99i:57055** 57R67 (19K56, 54D35, 55M10)

— (*with* Keesling, James; Uspenskii, Vladimir V.) On the Higson corona of uniformly contractible spaces. (English summary) *Topology* **37** (1998), *no.* 4, 791–803. (Erik K. Pedersen) **99k:57049** 57N99 (19K35, 46L80, 54E99, 58G12)

Drapaca, Corina-Ştefania The motion of a viscous incompressible fluid with free surface through an elastic pipe. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 21–26. (Hilmi Demiray) **99b:73035** 73K70 (73D30, 73P20, 76D99, 76Z05)

Drápal, Aleš On free Frobenius groups generated by left translations. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 107–119. (A. Schleiermacher) **99b:20102** 20N05 (20B99)

— Finite left distributive algebras with one generator. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 233–251. (Smile Markovski) **99c:20096** 20N02 (08A05)

Drapeau Contim, Filipe (*with* Berlioz, Dominique) Un essai logique de Leibniz, "Le calcul des ingrédients": présentation et traduction. (English and French summaries) [A logical essay of Leibniz, "The calculus of constituents": presentation and translation] *Rev. Histoire Sci.* **51** (1998), *no.* 1, 35–64. (Eberhard Knobloch) **99g:01015** 01A45 (01A75, 03–03)

Draper, Norman R. (*with* Lin, Dennis K. J.) Response surface designs. *Design and analysis of experiments*, 343–375, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99

— (*with* Smith, Harry) ★ Applied regression analysis. (English summary) Third edition. With 1 IBM-PC floppy disk (3.5 inch; DD). Wiley Series in Probability and Statistics: Texts and References Section. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xx*+706 *pp. ISBN* 0-471-17082-8 (Publisher's description) **99c:62001** 62–01 (62J05)

— (*with* John, J. A.) Response surface designs where levels of some factors are difficult to change. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 487–495. 62K99

— Applied regression analysis bibliography update 1994–97. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2581–2623. 62J99 (62–00)

— (*with* Prescott, Philip) Mixture designs for constrained components in orthogonal blocks. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 5, 613–638. 62K10

— (*with* Pukelsheim, Friedrich) Mixture models based on homogeneous polynomials. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 303–311. (Summary) **99f:62095** 62K15 (62J05)

Drasin, David On a method of Holopainen and Rickman. (English summary) *Israel J. Math.* **101** (1997), 73–84. (Kiyoko Nishizawa) **99f:30034** 30C65 (30D20)

— On Nevanlinna's inverse problem. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 123–143. 30D35

— The works of Sunyer i Balaguer and contemporary mathematics. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 3, 364–371. 01A70

— (*with* Anderson, James Milne; Sons, Linda R.) Wolfgang Heinrich Johannes Fuchs (1915–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 11, 1472–1478. (Editors) **99k:01042** 01A70 (30–03)

Drašković, Zoran V. A note on the invariant formulation of Gauss' theorem in curvilinear coordinates in Euclidean space. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **1** (1994), *no.* 4, 511–517. (Ll. G. Chambers) **99c:53011** 53A45 (73A05)

Drasny, Gábor No b-concentrated measures whenever $1 < b \leq 2$. (English summary) *Mathematika* **45** (1998), *no.* 1, 37–41. (Pedro Jiménez Guerra) **99i:28005** 28A10

Draux, André (*with* El Hami, Charaf) Hermite-Sobolev and closely connected orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 165–179. (A. G. Law) **99e:42035** 42C05 (33C45)

Dräxler, Peter (*with* Geiß, Christof) A note on the $\mathbf{D}_n$-pattern. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 145–152, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Simson) **99i:16030** 16G20 (16G60)

— (*with* Golovashchuk, N. S.; Ovsienko, S.; de la Peña, José Antonio) Coordinates of maximal roots of weakly non-negative unit forms. *Colloq. Math.* **78** (1998), *no.* 2, 163–193. (Daniel Simson) **99m:16017** 16G20 (11E12, 15A63, 16G60)

— (*with* Reiten, Idun; Smalø, Sverre O.; Solberg, Øyvind) Exact categories and vector space categories. (English summary) With an appendix by B. Keller. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 647–682. (Hagen Meltzer) **99f:16001** 16B50 (16G20, 16G70, 18E10)

Dray, Tevian Tensor distributions in the presence of degenerate metrics. (English summary) *Internat. J. Modern Phys. D* **6** (1997), *no.* 6, 717–740. (Marek Kossowski) **99f:53073** 53C80 (83C99)

— (*with* Manogue, Corinne A.) Finding octonionic eigenvectors using Mathematica. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 536–547. (Wasin So) **99m:15018** 15A33 (15A18, 17C99, 65–04, 65F15)

— (*with* Manogue, Corinne A.) Dimensional reduction. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 2, 99–103. (Summary) **99k:81097** 81R20 (81T99)

Dražić, M. (*with* Kovačević-Vujčić, V. V.; Čangalović, M. M.; Ašić, M. D.; Ivanović, L.) TABU search methodology in global optimization. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 125–133. (Summary) **99k:90157** 90C30 (65K05)

Drechsler, Rolf (*with* Becker, Bernd) ★ Graphenbasierte Funktionsdarstellung. (German) [Graph-based representation of functions] Boolesche und Pseudo-Boolesche Funktionen. [Boolean and pseudo-Boolean functions] Leitfäden der Informatik. [Basic Textbooks in Computer Science] *B. G. Teubner, Stuttgart*, 1998. 200 *pp. ISBN* 3-519-02149-8 (S. Rudeanu) **99m:94071** 94C10 (06E30, 68Q99, 90C09, 94C15)

Drechsler, W. Quantized matter in a de Sitter gauge theory with classical metric and axial torsion. (English summary) *Quantum gravity* (*Erice*, 1995), 94–118, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Chopin Soo) **99m:83167** 83D05 (83C99)

Drees, Holger Optimal rates of convergence for estimates of the extreme value index. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 434–448. (László Viharos) **99c:62084** 62G05 (62G20)

— (*with* Huang, Xin[1]) Best attainable rates of convergence for estimators of the stable tail dependence function. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 25–47. (M. Csörgő) **99m:62042** 62G05 (62G20)

— A general class of estimators of the extreme value index. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 95–112. (László Viharos) **99c:62085** 62G05 (60F17, 62G30)

— On smooth statistical tail functionals. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 187–210. (Ulrich Stadtmüller) **99c:62059** 62F12 (62G20, 62G30)

— (*with* Kaufmann, Edgar) Selecting the optimal sample fraction in univariate extreme value estimation. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 149–172. (László Viharos) **99h:62034** 62G05

Dreher, M. (*with* Reissig, Michael) About the C^∞-well-posedness of fully nonlinear weakly hyperbolic equations of second order with spatial degeneracy. *Adv. Differential Equations* **2** (1997), *no.* 6, 1029–1058. (Herbert Koch) **99b:35146** 35L70 (35B30, 35B65, 35L80)

— (*with* Reissig, Michael) Weakly hyperbolic equations—a modern field in the theory of hyperbolic equations. (English summary) *Partial differential and integral equations* (*Newark, DE*, 1997), 303–318, *Int. Soc. Anal. Appl. Comput.*, 2, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:35163** 35L70

Dreizler, R. M. (*with* Kroneisen, O. J.; Lüdde, H. J.; Kirchner, T.) The basis generator method: optimized dynamical representation of the solution of time-dependent quantum problems. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2141–2156. (Summary) **99k:81160** 81S99

Drelichowska, Maria (*with* Karwan, Lucjan) Professor Ernest Czogała: 1941–1998. *Int. J. Appl. Math. Comput. Sci.* **9** (1999), *no.* 1, 219–220. 01A70

Dremin, I. M. *see* **Proceedings: A. D. Sakharov Conference on Physics, 99h:81006**

Drensky, Vesselin (*with* Yu, Jie-Tai) Orbits in free algebras of rank two. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1895–1906. (A. A. Iskander) **99d:17003** 17B01 (16S10)

— (*with* Yu, Jie-Tai) Exponential automorphisms of polynomial algebras. *Comm. Algebra* **26** (1998), *no.* 9, 2977–2985. (Amartya K. Dutta) **99m:13014** 13B10 (13B25)

— (*with* Benanti, Francesca) On the consequences of the standard polynomial. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4243–4275. (Amitai Regev) **99k:16048**

16R10
— (*with* Yu, Jie-Tai) Test polynomials for automorphisms of polynomial and free associative algebras. (English summary) *J. Algebra* **207** (1998), *no.* 2, 491–510. (P. M. Cohn) **99i:16062** 16W20 (16S10, 16S36)
— (*with* Tsiganchev, Dimitar) New polynomial identities for 2×2 generic matrices in characteristic 2. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 83–91. (Yu. N. Mal'tsev) **99i:16047** 16R10
— (*with* Stefanov, Dimitar) Automorphisms of free nilpotent associative algebras. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 71–90. (R. M. Bryant) **99f:16039** 16W20 (16R10, 16S10)
Dresden, M. (*with* Muriel, A.; Esguerra, P.; Jirkovsky, L.) Instabilities in classical and quantum fluids. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 381–397. (Summary) **99f:76066** 76E99 (76Y05, 82C70, 82D15)
Dress, Andreas W. M. Towards a theory of holistic clustering. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ, 1996)*, 271–289, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Reinhard Suck) **99g:92046** 92G30 (06A07, 92B10)
— Statistische Geometrie von Konfigurationen und deren Evolution in Sequenz-Räumen—Definitionen und Probleme. Ein Programmvorschlag. [Statistical geometry of configurations, and their evolution in sequence spaces—definitions and problems. A programmatic proposal] *Mathematik aus Berlin*, 179–197, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A60
— (*with* Moulton, Vincent L.; Steel, Michael) Trees, taxonomy, and strongly compatible multi-state characters. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 1–30. (B. Zelinka) **99g:92003** 92B10 (05C05)
— (*with* Hendy, Mike; Huber, Katharina; Moulton, Vincent L.) On the number of vertices and edges of the Buneman graph. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 329–337. (Pranava K. Jha) **99h:05114a** 05C99 (05C05, 92B99)
— (*with* Huber, Katharina; Moulton, Vincent L.) Some variations on a theme by Buneman. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 339–352. (Pranava K. Jha) **99h:05114b** 05C99 (92B99)
— (*with* Brinkmann, Gunnar) A constructive enumeration of fullerenes. (English summary) *J. Algorithms* **23** (1997), *no.* 2, 345–358. (Douglas J. Klein) **99b:92064** 92E10 (05C30)
— (*with* Brinkmann, Gunnar) PentHex puzzles: a reliable and efficient top-down approach to fullerene-structure enumeration. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 473–480. (Summary) **99e:92037** 92E10 (05A15)
— (*with* Böcker, Sebastian) Recovering symbolically dated, rooted trees from symbolic ultrametrics. (English summary) *Adv. Math.* **138** (1998), *no.* 1, 105–125. (Michael A. Steel) **99g:05052** 05C05 (05C75, 54E35)
— (*with* Morgenstern, B.; Stoye, Jens) The number of standard and of effective multiple alignments. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 43–49. (Summary) **99b:92030** 92D20 (05A15)
— (*with* Dolbilin, Nikolai; Huson, Daniel H.) Two finiteness theorems for periodic tilings of d-dimensional Euclidean space. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 143–153. (R. Blind) **99f:52027** 52C22
— (*with* Terhalle, Werner F.) The tree of life and other affine buildings. Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 565–574 (*electronic*). (Charles A. Semple) **99k:05051** 05B35 (05C05, 92B10, 92D15)
— (*with* Kästner, J.; Borobia, Alberto; Zylka, Ch.) Extremal majorizing and anti-majorizing matrices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 133–145. (Werner Kratz) **99f:15025** 15A39 (15A90)
— (*with* Böcker, Sebastian) Erratum: "Recovering symbolically dated, rooted trees from symbolic ultrametrics" [Adv. Math. **138** (1998), no. 1, 105–125; MR 99g:05052]. *Adv. Math.* **144** (1999), *no.* 1, 117–118. 05C05 (05C75, 54E35)
Dressler, John L. High-order azimuthal instabilities on a cylindrical liquid jet driven by temporal and spatial perturbations. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2212–2227. 76E99 (76D25)
Dressler, Robert E. (*with* Cochrane, Todd) Gaps between integers with the same prime factors. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 395–401. (Abderrahmane Nitaj) **99c:11118** 11N25 (11N05)
Drew, Donald A. (*with* Mandyam, H.) Effective media theory using nearest neighbor pair distributions. *Particulate flows (Minneapolis, MN, 1996)*, 23–53, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Introduction) **99i:73004** 73B27 (73B05, 76A99, 80A20)
— (*with* Passman, Stephen L.) ★ Theory of multicomponent fluids. (English summary) Applied Mathematical Sciences, 135. *Springer-Verlag, New York*, 1999. $x+308$ *pp. ISBN* 0-387-98380-5 (Sergey L. Gavrilyuk) **99k:76143** 76T05 (35Q35, 73B99, 76A99)
Drew, John H. (*with* Johnson, Charles Royal) The completely positive and doubly nonnegative completion problems. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 85–92. (Summary) **99c:15038** 15A48
Drewes, Frank (*with* Kreowski, Hans-Jörg; Habel, Annegret) Hyperedge replacement graph grammars. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 95–162, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C65, 05C85, 68R10)
— On the generation of trees by hyperedge replacement. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 229–238, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68096** 68Q50 (68R10)
Drewnowski, Lech (*with* Wnuk, Witold) Some Baire category results for measures with "big" ranges. Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 103–115. (Vadym M. Radchenko) **99j:28009** 28B05 (28A05, 28B10)
Drexl, Andreas (*with* Kimms, Alf) Proportional lot sizing and scheduling: some extensions. (English summary) *Networks* **32** (1998), *no.* 2, 85–101. (Summary) **99e:90049** 90B35
— (*with* Hartmann, Sönke) Project scheduling with multiple modes: a comparison of exact algorithms. (English summary) *Networks* **32** (1998), *no.* 4, 283–297. 90B35
Drexler, Michael (*with* Gander, Martin J.) Circular billiard. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 315–323 (*electronic*). (Norbert Hungerbühler) **99c:51024** 51M04 (78A05)
Dreyer, Derek R. (*with* Overton, Michael L.) Two heuristics for the Euclidean Steiner tree problem. (English summary) *J. Global Optim.* **13** (1998), *no.* 1, 95–106. (Summary) **99b:90102** 90C27 (05C05, 90C35)
Dreyer, Wolfgang (*with* Kunik, Matthias) Maximum entropy principle revisited. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 331–347. (Carlo Cercignani) **99k:82061** 82C40 (76N10, 76P05)
— (*with* Kunik, Matthias) Reflections of Eulerian shock waves at moving adiabatic boundaries. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 231–252. (Summary) **99j:76067** 76L05 (35L67, 35Q35, 76M25, 76N99, 76P05)
— (*with* Kunik, Matthias; Sabelfeld, K. K.; Simonov, Nikolai A.; Wilmański, Krzysztof) Iterative procedure for multidimensional Euler equations. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 253–271. (Sergei A. Nemnyugin) **99m:65206** 65N22 (65C05)
Drézet, Jean-Marc Quotients algébriques par des groupes non réductifs et variétés de modules de complexes. [Algebraic quotients by nonreductive groups and moduli varieties of complexes] *Internat. J. Math.* **9** (1998), *no.* 7, 769–819. (Lucy Moser-Jauslin) **99m:14026** 14D20 (14D25, 14L30)
Drici, Zahia (*with* Vatsala, Aghalaya; Kouhestani, Nader) Generalized quasilinearization for impulsive reaction-diffusion equations with fixed moments of impulses. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 245–257. (Lidia Skóra) **99e:35237** 35R10 (34A45, 35K57)
— (*with* Lakshmikantham, V.) Positivity and boundedness of solutions of impulsive reaction-diffusion equations. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 175–184. (Ludwik Byszewski) **99c:35112** 35K57 (35R10)
— (*with* Lakshmikantham, V.; Walter, Wolfgang L.) Convex dependence of solutions of differential equations in a Banach space relative to initial time. *Nonlinear Anal.* **34** (1998), *no.* 5, 629–635. (Introduction) **99d:34110** 34G20 (34A12)
— (*with* Deo, S. G.) Method of generalized quasilinearization in abstract cones. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 25–33. 34A45 (34G10, 65L99)
Driebe, Dean J. (*with* Subbiah, Suresh) Spectral decomposition of the tent map with varying height. (English summary) *Chaos* **8** (1998), *no.* 4, 741–756. (Makoto Mori) **99j:58144** 58F13 (58F19)
van den Dries, Lou (*with* Macintyre, Angus; Marker, David) Logarithmic-exponential power series. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 417–434. (Danielle Gondard-Cozette) **99d:03063** 03H05 (03C62, 11U09)
— ★ Tame topology and o-minimal structures. (English summary) London Mathematical Society Lecture Note Series, 248. *Cambridge University Press, Cambridge*, 1998. $x+180$ *pp. ISBN* 0-521-59838-9 (O. V. Belegradek) **99j:03001** 03-02 (03C50, 03C60, 14P10, 52-02, 54-02, 55-02, 57-02)
— (*with* Speissegger, Patrick) The real field with convergent generalized power series. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4377–4421. (Christopher L. Miller) **99a:03036** 03C10 (14P99, 26E05, 32B05, 32B10)
— *see also* **Khovanskiĭ, A. G.**, **99f:14070**
Drieschner, Michael Symmetry and composition—a key to the structure of physical logic? (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 427–433. (Dennis Dieks) **99e:81016** 81P10 (81P15)
van den Driessche, P. (*with* Cooke, Kenneth L.) Analysis of an SEIRS epidemic model with two delays. (English summary) *J. Math. Biol.* **35** (1996), *no.* 2, 240–260. (Hal Leslie Smith) **99f:92031** 92D30 (34K15)
— (*with* Genik, Lynne) A model for diseases without immunity in a variable size population. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 1, 5–16. (Summary) **99d:92039** 92D30
— (*with* McDonald, Judith J.; Olesky, D. Dale; Schneider, Hans; Tsatsomeros, Michael J.) Z-pencils. (English summary) *Electron. J. Linear Algebra* **4** (1998), 32–38 (*electronic*). (Ronald L. Smith) **99h:15013** 15A22 (05C50, 15A48)
— (*with* Fallat, Shaun M.; Johnson, Charles Royal; Smith, Ronald L.) Eigenvalue location for nonnegative and Z-matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 187–198. (Thomas L. Markham) **99e:15009** 15A18 (15A48, 15A57)
— (*with* Zeeman, M. L.) Three-dimensional competitive Lotka-Volterra systems with no periodic orbits. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 227–234 (*electronic*). (Miklós Farkas) **99g:92026** 92D25 (34C99)
— (*with* Zou, Xingfu) Global attractivity in delayed Hopfield neural network models. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1878–1890 (*electronic*). (Anthony N. Michel) **99h:34114** 34K20 (34C35, 92B20)
— (*with* Odeh, O. H.; Olesky, D. Dale) Bruhat decomposition and numerical stability. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 89–98 (*electronic*). (Guo Rong Wang) **99d:65093** 65F05 (15A23)
— (*with* Genik, Lynne) An epidemic model with recruitment-death demographics and discrete delays. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 237–249, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:92037** 92D30 (34K20)
— (*with* Thieme, Horst R.) Global stability in cyclic epidemic models with disease fatalities. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 459–472, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Miklós Farkas) **99m:92048** 92D30 (34K20, 45J05, 45M10)
Drîgnei, Dorin Quelques conséquences d'un théorème limite centrale concernant l'approximation des intégrales et des fonctions. [Some consequences of a central limit theorem concerning the approximation of integrals and functions] *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 27–30 (1995). 60F05
— (*with* Vladimirescu, Ion) Aspects concerning the ergodic kernels for double Markov chains with an arbitrary state space. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 28–32 (1997). (D. Kalin) **99k:60179** 60J10
— The projection of the Kolmogorov-Smirnov statistic D_{nn}^{+} on the family of linear rank statistics. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 165–172. (Summary) **99k:62095** 62G10
Drigo Filho, E. Extension of results of unidimensional supersymmetric quantum mechanics to multiple dimensions. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*,

1995), 198–202, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q60
— (*with* Ricotta, R. M.) Supersymmetric quantum mechanics and partially solvable potential. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1722–1725. (Summary) **99i:81052** 81Q60
Drikis, I. (*with* Flament, C.; Pacitto, G.; Bacri, J.-C.; Tsebers, A. O.) Viscous fingering in a magnetic fluid. I. Radial Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2464–2472. (Summary) **99g:76149** 76W05 (76E25, 76S05)
Drin′, R. Ya. (*with* Eidelman, Samuil D.) About the investigations of results of the action of pseudodifferential operators on the special classes of test functions. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997,** *no.* 3, 32–37. (Mihai Neagu) **99c:35268** 35S05 (35K99, 47G30)
Driouich, A. (*with* El-Mennaoui, O.) On the inverse Laplace transform for C_0-semigroups in UMD-spaces. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 1, 56–63. (Ioana Ciorănescu) **99g:47091** 47D06
Driscoll, Patrick J. (*with* Sherali, Hanif D.; Adams, Warren P.) Exploiting special structures in constructing a hierarchy of relaxations for 0 – 1 mixed integer problems. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 396–405. 90C09 (90C11)
Driscoll, Robert B. Sagnac effect: isotropic light-speed in the corotating frame. (English summary) *Phys. Essays* **11** (1998), *no.* 4, 504–511. 83A05
Driscoll, Tobin A. (*with* Trefethen, Lloyd N.) Schwarz-Christoffel mapping in the computer era. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998,** *Extra Vol. III*, 533–542 (*electronic*). (N. Papamichael) **99i:30012** 30C30 (31A05, 65E05)
— (*with* Vavasis, Stephen A.) Numerical conformal mapping using cross-ratios and Delaunay triangulation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1783–1803 (*electronic*). (Summary) **99d:65086** 65E05 (30C30)
— (*with* Toh, Kim-Chuan; Trefethen, Lloyd N.) From potential theory to matrix iterations in six steps. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 547–578 (*electronic*). (Andreas Rathsfeld) **99f:65049** 65F10 (31A99, 65N99)
Drisko, Arthur A. Proof of the Alon-Tarsi conjecture for $n = 2^r p$. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 28, 5 *pp.* (*electronic*). (Summary) **99c:05035** 05B15 (05A15)
Drissi, Driss On a generalization of Lumer-Phillips' theorem for dissipative operators in a Banach space. (English summary) *Studia Math.* **130** (1998), *no.* 1, 1–7. (Ioana Ciorănescu) **99c:47051** 47D06 (34G10, 47A11, 47B44)
Dritschel, David G. The simulation and analysis of vortex dynamics in nearly-inviscid 2D and layerwise-2D flows. (English summary) *Numerical methods in fluid mechanics*, 33–52, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99f:76098** 76M25 (76C05, 76D99, 76F99, 76U05, 76V05, 86A10)
— On the persistence of non-axisymmetric vortices in inviscid two-dimensional flows. (English summary) *J. Fluid Mech.* **371** (1998), 141–155. (Summary) **99h:76014** 76C05
Driver, Bruce K. Integration by parts and quasi-invariance for heat kernel measures on loop groups. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 470–547. (Elton Pei Hsu) **99a:60054a** 60H07 (22E67, 58G37)
— A correction to the paper: "Integration by parts and quasi-invariance for heat kernel measures on loop groups". (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 297–301. (Elton Pei Hsu) **99a:60054b** 60H07 (22E67, 58G37)
Driver, Kathy A. (*with* Temme, Nico M.) On polynomials related with Hermite-Padé approximations to the exponential function. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 101–122. (Knut Petras) **99j:41028** 41A21
— (*with* Temme, Nico M.) Asymptotics and zero distribution of Padé polynomials associated with the exponential function. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 97–114. (Summary) **99b:41008** 41A21 (30C15, 30E15, 33C10)
Drivotin, O. I. (*with* Ovsyannikov, D. A.) On the theory of self-consistent distributions of charged particles in a longitudinal magnetic field. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 47–56, 242–243, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 78A35
Drmač, Zlatko A tangent algorithm for computing the generalized singular value decomposition. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1804–1832 (*electronic*). (Dao Sheng Zheng) **99h:65064** 65F15 (15A18, 65F25)
Drmota, Michael (*with* Vatutin, Vladimir) Limiting distributions in branching processes with two types of particles. (English summary) *Classical and modern branching processes (Minneapolis, MN*, 1994), 89–110, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (George P. Yanev) **99b:60142** 60J80 (60F05)
— On nodes of given degree in random trees. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk*, 1996), 31–44, *VSP, Utrecht*, 1997. (Summary) **99f:60149** 60J80 (60C05)
— q-additive functions and well distribution. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 883–896. (Robert F. Tichy) **99e:11106** 11K36
— Appendix: Kommentar zu der von Prof. Karl Prachar verfaßten Dissertation "Über die quadratische Abweichung ganzzahliger Polynome von der Null" (Univ. Wien 1947). [Appendix: commentary on K. Prachar's dissertation "On the quadratic deviation of integral polynomials from zero" [Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II **206** (1997), 15–42; MR 99h:11021a]] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 43–45 (1998). (Michael Drmota) **99h:11021b** 11C08 (41A10)
— Systems of functional equations. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 103–124. (Volker Strehl) **99e:05011** 05A16 (39B32, 68Q25, 68R05)
— (*with* Gittenberger, Bernhard) On the profile of random trees. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 421–451. (A. Meir) **99c:05176** 05C80 (60J80)
Drobchenko, E. Yu. (*with* Sadovskiĭ, B. N.) Systems with monotone and continuous nonmonotone elements. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998,** *no.* 6, 111–116; *translation in Automat. Remote Control* **59** (1998), *no.* 6, *part* 1, 843–847. (Summary) **99k:34031** 34A60
Drobouchevitch, Inna G. (*with* Strusevich, V. A.) Heuristics for short route job shop scheduling problems. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 3, 359–375. (Summary) **99h:90048** 90B35 (90C35)
— (*with* Strusevich, V. A.) A heuristic algorithm for two-machine re-entrant shop scheduling. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 417–439. (*see* **99k:90002**) 90B35 (90C27)
Droegemeier, K. (*with* Wang, Zhi[2]; White, Luther W.) The adjoint Newton algorithm for large-scale unconstrained optimization in meteorology applications. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 3, 283–320. 90C90 (86A10, 90C30)
Droesbeke, Jean-Jacques Lambert-Adolphe-Jacques Quetelet, a man of many ideas. (English, French and Dutch summaries) Actualité et universalité de la pensée scientifique d'Adolphe Quetelet (Brussels, 1996). *Acad. Roy. Belg. Cl. Sci. Mém. Collect.* 8° (3) **13** (1997), 13–21. (*see* **99a:01002**) 01A70
— (*with* Armatte, Michel) Quetelet et les probabilités: le sens de la formule. (English, French and Dutch summaries) [Quetelet and probability: the meaning of the formula] Actualité et universalité de la pensée scientifique d'Adolphe Quetelet (Brussels, 1996). *Acad. Roy. Belg. Cl. Sci. Mém. Collect.* 8° (3) **13** (1997), 107–135. (Pierre Crépel) **99g:01017** 01A55
— *see also* **Experimental designs, 99a:62101**
Droge, Bernd Minimax regret analysis of orthogonal series regression estimation: selection versus shrinkage. (English summary) *Biometrika* **85** (1998), *no.* 3, 631–643. (Summary) **99i:62087** 62G07 (62C20)
Drokin, A. A. (*with* Shirokov, I. V.) The quantum projection method. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **39** (1996), *no.* 9, 103–108; *translation in Russian Phys. J.* **39** (1996), *no.* 9, 893–897 (1997). (Summary) **99c:81032** 81Q05
— (*with* Shirokov, I. V.) The quantum method of projection. Integration of the quantum open Toda lattice. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 26–34; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 420–427. (Summary) **99k:58097** 58F07 (81Q99, 81R99)
Drolet, Germain A new representation of elements of finite fields GF(2^m) yielding small complexity arithmetic circuits. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 9, 938–946. (Summary) **99h:68015** 68M07
Dronov, S. V. (*with* Kozlov, S. D.) On generators of σ- and π-classes. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 943–945; *translation in Math. Notes* **61** (1997), *no.* 5-6, 787–789. (Alena Vencovská) **99m:03108** 03E70
Dror, Moshe Chains and trees: "strong"-"weak" order in job scheduling. (English summary) *Order* **14** (1997/98), *no.* 3, 211–228. (Summary) **99c:68121** 68Q25 (90B35)
— (*with* Benson, Brian) Linear time procedure for two job flowshop. (English summary) *Found. Comput. Decision Sci.* **23** (1998), *no.* 3, 179–186. 90B35
— (*with* Hartman, Bruce C.) Stopping rules for utility functions and the St. Petersburg gamble. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 279–291. (Summary) **99k:90038** 90A10 (90D60)
— (*with* Finke, Gerd; Gravier, Sylvain; Kubiak, Wieslaw) On the complexity of a restricted list-coloring problem. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 103–109. (Summary) **99h:05109** 05C85 (05C15, 68Q25)
Dror Farjoun, Emmanuel (*with* Dwyer, William G.; Ravenel, Douglas C.) Bousfield localizations of classifying spaces of nilpotent groups. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1855–1861. (Samuel B. Smith) **99i:55016** 55P60 (55R35)
Drossos, Costas A. (*with* Karazeris, Panagis) Coupling an MV-algebra with a Boolean algebra. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 231–238. (Summary) **99h:03041** 03G20
Droste, Manfred (*with* Giraudet, Michele; Macpherson, Dugald) Set-homogeneous graphs and embeddings of total orders. (English summary) *Order* **14** (1997), *no.* 1, 9–20. (Summary) **99f:05029** 05C10 (05C25, 06A06)
— *see also* **Advances in algebra and model theory, 99k:00026**
Droz, Serge (*with* Brady, Patrick R.; Morsink, Sharon M.) Late-time singularity inside nonspherical black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084034, 15 *pp.* (Summary) **99m:83099** 83C57
Drozd, Yu. A. Representations of bisected posets and reflection functors. (English summary) *Algebras and modules, II (Geiranger*, 1996), 153–165, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Stanisław Kasjan) **99k:16028** 16G20 (16E30, 16G60)
— (*with* Greuel, Gert-Martin) On Schappert's characterization of strictly unimodal plane curve singularities. *Singularities (Oberwolfach*, 1996), 3–26, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Tohsuke Urabe) **99m:14052** 14H20 (14B05)
Drozdov, Aleksey D. A model for the nonlinear viscoelastic response in polymers at finite strains. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 18, 2315–2347. (From the summary) **99b:73024** 73F99 (73G25)
— Explicit stability conditions for integro-differential equations with periodic coefficients. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 7, 565–588. (Yoshihiro Hamaya) **99e:45007** 45J05 (34K20, 45M10, 73F15)
— A constitutive model in finite thermoviscoelasticity based on the concept of transient networks. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 13–37. (Summary) **99h:73001** 73B05 (73B30, 73G25)
— Modeling viscoelastic response of particulate polymeric composites with high volume fractions of fillers. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 11–25. 73F99 (73K20)
— A constitutive model in finite viscoelastoplasticity of rubbery polymers. *Mech. Res. Comm.* **26** (1999), *no.* 1, 39–44. 73F05 (73G25)
— Explicit stability conditions for stochastic integro-differential equations with non-selfadjoint operator coefficients. (English summary) *Stochastic Anal. Appl.* **17** (1999), *no.* 1, 23–41. (Summary) **99k:45029** 45M10 (34K20, 34K30, 34K50, 45J05, 60H20, 73F15)
Drozdowicz, Andrzej (*with* Migda, Małgorzata) Asymptotic behavior of solutions of the mth-order nonhomogeneous difference equations. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 75–81. (Summary) **99a:39011** 39A10
Drozdowski, Maciej (*with* Błażewicz, Jacek; Markiewicz, Mariusz) Divisible task scheduling—concept and verification. (English summary) *Parallel Comput.* **25** (1999), *no.* 1, 87–98. 68M20
— (*with* Głazek, Włodzimierz) Scheduling divisible loads in a three-dimensional mesh of processors. (English summary) *Parallel Comput.* **25** (1999), *no.* 4, 381–404. 68M20
Drozhzhinov, Yu. N. (*with* Zav′yalov, B. I.) Local Tauberian theorems in spaces of generalized functions associated with cones, and their applications. (Russian. Russian

summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 59–102; *translation in Izv. Math.* **61** (1997), *no.* 6, 1171–1214. (Alexandr M. Kytmanov) **99a:46075** 46F12 (32A07, 40E05, 46F05)

— (*with* Zav'yalov, B. I.) On a real Tauberian theorem. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 2, 160–161. 40E05 (42B20, 46F12)

Drudge, Keldon (*with* Bruen, Aiden A.) On the non-existence of certain Cameron-Liebler line classes in PG$(3, q)$. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 127–132. (Antonio Pasini) **99b:51007** 51E20 (51E23)

Drudis Baldrich, Raimundo *see* **Wittgenstein and the Vienna Circle, 99b:00022**

Druel, Stéphane Structures de contact sur les variétés algébriques de dimension 5. (English and French summaries) [Contact structures on five-dimensional algebraic varieties] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 365–368. (Takao Fujita) **99j:14041** 14J40 (14J10, 14M17)

— Structures de contact sur les variétés toriques. [Contact structures on toric varieties] *Math. Ann.* **313** (1999), *no.* 3, 429–435. (G. K. Sankaran) **99m:14099** 14M25 (53C15)

Druet, Olivier (*with* Aubin, Thierry; Hebey, Emmanuel) Best constants in Sobolev inequalities for compact manifolds of nonpositive curvature. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1117–1121. (Gilles Carron) **99j:53042** 53C21 (46E35)

— Generalized scalar curvature type equations on compact Riemannian manifolds. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 377–381. (David L. Finn) **99j:53047** 53C21 (35J60, 58G30)

— Optimal Sobolev inequalities of arbitrary order on compact Riemannian manifolds. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 217–242. (Gilles Carron) **99m:53076** 53C21 (46E35)

Drugan, W. J. Thermodynamic equivalence of steady-state shocks and smooth waves in general media; applications to elastic-plastic shocks and dynamic fracture. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 2, 313–336. (Alexander B. Movchan) **99e:73082** 73M25 (73B30, 73D40, 73E70)

— Limitations to leading-order asymptotic solutions for elastic-plastic crack growth. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 12, 2361–2386. (Summary) **99h:73063** 73M25 (73E99)

Druguet, Marie-Claude (*with* Sanders, Richard; Morano, Eric) Multidimensional dissipation for upwind schemes: stability and applications to gas dynamics. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 511–537. (Summary) **99g:76095** 76M20 (65M06, 76K05, 80A32)

Drumm, M. J. (*with* Phemister, T. G.) Comparison of boundary element representations for potential fields. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 253–258, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N30

Drumm, Todd A. (*with* Goldman, William M.) The geometry of crooked planes. (English summary) *Topology* **38** (1999), *no.* 2, 323–351. (Allan Edmonds) **99m:57034** 57S30 (22E40, 57M60)

Drury, S. W. Trace class multipliers and spectral variation of normal matrices. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 217–227. (Fuad Kittaneh) **99h:15016** 15A45 (15A57, 15A60)

Druskin, Vladimir On the uniqueness of inverse problems from incomplete boundary data. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1591–1603 (*electronic*). (Viatcheslav I. Priĭmenko) **99i:35175** 35R30 (35J99, 86A20, 86A22)

— (*with* Knizhnerman, Leonid) Extended Krylov subspaces: approximation of the matrix square root and related functions. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 755–771 (*electronic*). (Larisa V. Maslovskaya) **99f:65063** 65F25 (65N99)

— (*with* Greenbaum, A.; Knizhnerman, Leonid) Using nonorthogonal Lanczos vectors in the computation of matrix functions. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 38–54 (*electronic*). (Zhenyue Zhang) **99e:65053** 65F10 (65F15)

Druţu, Cornelia Remplissage dans des réseaux de Q-rang 1 et dans des groupes résolubles. (English summary) [Filling in lattices of Q-rank 1 and in solvable groups] *Pacific J. Math.* **185** (1998), *no.* 2, 269–305. (B. Sury) **99m:22009** 22E40 (20F05, 22E35)

Dryanov, Dimiter P. (*with* Rahman, Qazi I.) Nikol'skiĭ-type inequalities for polynomials with restricted zeros. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 4, 369–377. (Gradimir V. Milovanović) **99g:41011** 41A17 (30C10, 41A44)

— (*with* Dechevski, Lyubomir T.; Rahman, Qazi I.) Approximation by entire functions with only real zeros. (English summary) *Approximation theory*, 181–195, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (N. A. Shirokov) **99g:41024** 41A29 (41A10)

— (*with* Kounchev, Ognyan I.) Polyharmonically exact formula of Euler-Maclaurin, multivariate Bernoulli functions, and Poisson type formula. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 515–520. (G. A. Evans) **99j:65003** 65B15 (65D32)

Dryja, Maksymilian (*with* Bialecki, Bernard) Multilevel additive and multiplicative methods for orthogonal spline collocation problems. (English summary) *Numer. Math.* **77** (1997), *no.* 1, 35–58. (Summary) **99d:65311** 65N30 (65F10)

— An iterative substructuring method for elliptic mortar finite element problems with discontinuous coefficients. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 94–103, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65208** 65N55 (65N30)

Dshalalow, Jewgeni H. Editorial [on Ryszard Syski]. *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 219–221. 01A70

— On intensities of modulated Cox measures. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 411–423. (Volker Schmidt) **99g:60090** 60G57 (60K25)

nguyễn hữ'u Du' *see* **Nguyễn Hữ'u Du'**

Du, B. *see* **Du, Bei Liang**

Du, Bau-Sen A dense orbit almost implies sensitivity to initial conditions. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 2, 85–94. (Helmut Ludescher) **99e:54031** 54H15

Du, Bei Liang Constructing self-conjugate self-orthogonal diagonal Latin squares. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 324–327. (W. D. Wallis) **99h:05015** 05B15

— K_{1,g^2}-factorization of complete bipartite graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 273–279. (Summary) **99a:05110** 05C70

— Existence of BIBDs with block size 8 and $\lambda = 8$. (English summary) *Util. Math.* **53** (1998), 17–24. (Summary) **99a:05012** 05B05

— P_3-factorization of complete multipartite graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 122–124. (Summary) **99m:05119** 05C70

Du, Bin[2] (*with* Gu, Jun; Tsang, Danny H. K.; Wang, Wei) Multispace search for quorumcast routing. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 295–314, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68013** 68M10 (05C05, 05C85, 90B12)

Du, C. *see* **Du, Chun Ling**

Du, Chongjiang A note on finding nearest neighbours and constructing Delaunay triangulation in the plane. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 871–877. (Uwe Schnell) **99m:52021** 52B99 (65N50)

Du, Chun Ling (*with* Yang, Cheng Wu) Poles at infinity and the state response formula for 2-D singular systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 827–830. (Summary) **99a:93056** 93C30 (93B50)

— (*with* Zou, Yun; Yang, Cheng Wu) Design of regular observers for 2-D singular systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 497–504. 93B07 (93C55)

— (*with* Yang, Cheng Wu) Optimal state estimation for a general model of 2-D linear discrete systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 432–437. 93E10 (93C30)

— (*with* Xie, Lihua) LMI approach to output feedback stabilization of 2-D discrete systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 97–106. (Summary) **99m:93056** 93C30 (93D15)

Du, De Sheng (*with* Deng, Cai Xia; Xu, Ya Lan) Existence and uniqueness of solutions to operator equations in the space W_2^1. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 11–12. 47A50 (46E22, 47B38)

Du, Dian Lou Parametric representation of the solutions of the stationary CG equation. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 1, 12–17. 35Q51

Du, Ding Zhu (*with* Pardalos, Panos M.) Global minimax approaches for solving discrete problems. (English summary) *Recent advances in optimization* (*Trier*, 1996), 34–48, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (Nikolay N. Ivanov) **99a:90142** 90C20 (90B80, 90C20, 90C35)

— (*with* Shi, Hai Zhong) Necessary and sufficient conditions for a graph to be reconstructible. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 16, 1719–1721. 05C60

— (*with* Kim, Dongsoo S.) Multirate broadcast switching networks nonblocking in a wide sense. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 59–74, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94065** 94C10 (05C90, 90B12)

— (*with* Lin, Guo-Hui; Wu, Weili; Yoo, Kyeongah) On 3-rate rearrangeability of Clos networks. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 315–333, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99e:94055** 94C10 (05C90, 90B12)

— (*with* Kim, Dongsoo S.) Multirate multicast switching networks. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 219–228, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 90B12 (90C35)

— (*with* Wan, Peng Jun; Pardalos, Panos M.) An algorithm for the multi-access channel problem. (English summary) *Minimax theory and applications* (*Erice*, 1996), 261–270, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99c:49007**) 90B12 (68M10, 94A40)

— (*with* Kim, Dongsoo S.; Pardalos, Panos M.) On conflict-free channel set assignments for optical cluster-based hypercube networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 109–116, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99h:90043** 90B12 (05C90, 68M10, 94A05)

— (*with* Xue, Guo Liang; Hwang, Frank K.) Faster algorithm for shortest network under given topology. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 137–152, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Author's review (D.-Z.D.)) **99f:90173** 90C35 (52B55, 68Q25, 90C27)

— (*with* Cao, Feng[1]; Hsu, D. Frank; Hwang, Lihui; Wu, Weili) Super line-connectivity of consecutive-d digraphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 27–38. (A. Ádám) **99b:05071** 05C20 (05C40)

— (*with* Borchers, Al; Gao, Biao; Wan, Peng Jun) The k-Steiner ratio in the rectilinear plane. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 1–17. (Summary) **99h:68128** 68R10 (05C85, 68Q25)

— (*with* Cao, Feng[1]; Hsu, D. Frank; Teng, Shang-Hua) Fault tolerance properties of pyramid networks. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 88–93. (Summary) **99j:68002** 68M10 (68M15)

— (*with* Gao, Biao; Hwang, Frank K.; Kim, Jeong Han) On multirate rearrangeable Clos networks. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 464–471 (*electronic*). (Summary) **99h:94093** 94C15 (05C90)

— *see also* **Advances in switching networks, 99a:94001**; **Multichannel optical networks: theory and practice, 99g:68004**; **Handbook: Combinatorial optimization, 99g:90001**; **99g:90002**; **99g:90003** *and* **In memoriam of Ronald V. Book**

Du, Dong Lei (*with* Han, Ji Ye) Flow-shop scheduling problems with generalized precedence constraints. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 587–592. (Summary) **99c:90064** 90B35

— (*with* Wen, Jianjun) Preemptive on-line scheduling for two uniform processors. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 113–116. (Summary) **99k:90081** 90B22

— (*with* Zhang, Yu Zhong) The LPT algorithm for $P|s_{ij}|C_{\max}$ problems. (Chinese) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 154–157. 90B35

Du, Gang Optimal methods for nonsmooth multi-objective problems with multi-follower structure. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 2, 38–44. 90C29 (49J52)

Du, Hong Ke (*with* Zhang, Jian Hua) Derivations on nest subalgebras of von Neumann algebras. II. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 357–362. (Summary) **99k:47108** 47D25 (46L10, 47B47)

Du, Hong Quan Totally real pseudo-umbilical submanifolds in complex projective spaces. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 2, 8–14. (Bang-yen Chen) **99h:53074** 53C40

Du, Hong Shan (*with* Ren, Qing Jun; Zhou, Hou Chun; Zheng, Qing Yu) The quasi-Laplacian permanental polynomial of a graph. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 59–62. 05C50 (15A15)

Du, J. *see* **Du, Jie**

Du, Jianbo (*with* Burgess, W. D.) On the isomorphism problem for finite-dimensional diagram algebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 955–960. (Jeremy Haefner) **99m:16022** 16G30 (16P10)

Du, Jiang (*with* Liu, Hong Ju; Wu, Jie[9]; Zeng, Yong) A path method for analyzing the reliability of reticulated systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 51–54. 90B25

— (*with* Meng, Xiang Hui; Shi, Bao Chang; Yu, Yin) An improved algorithm for the branch and bound method. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 55–58. 90C05

Du, Jie (*with* Dipper, Richard) Harish-Chandra vertices and Steinberg's tensor product theorems for finite general linear groups. *Proc. London Math. Soc.* (3) **75** (1997), *no.* 3, 559–599. (Peter Fleischmann) **99a:20010** 20C33 (20C20)

— (*with* Parshall, Brian; Scott, Leonard L.) Quantum Weyl reciprocity and tilting modules. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 321–352. (Karin Erdmann) **99k:17026** 17B37 (16S80, 20G05)

— (*with* Parshall, Brian; Scott, Leonard L.) Stratifying endomorphism algebras associated to Hecke algebras. (English summary) *J. Algebra* **203** (1998), *no.* 1, 169–210. (Andrew P. Mathas) **99e:20006** 20C05 (16G10, 20F55)

— (*with* Rui, Hebing) Based algebras and standard bases for quasi-hereditary algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3207–3235. (Steffen König) **99b:16027** 16G99 (16S15, 20C99)

— (*with* Parshall, Brian; Scott, Leonard L.) Cells and q-Schur algebras. (English summary) *Transform. Groups* **3** (1998), *no.* 1, 33–49. (Jian Yi Shi) **99a:20041; EA 99m** 20G05 (20B30)

Du, Jinguan (*with* Wu, Yougui; Xu, Wenyuan; Li, Yuan[2]) The stationarity and spectral representation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 185–192. (Summary) **99c:62268** 62M10

— (*with* Wu, Yougui; Xu, Wenyuan; Li, Yuan[2]) The strong law of large number and parameter estimation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 225–233. (Summary) **99h:62120** 62M10 (60F15)

Du, Jinyuan Quadrature formulas of quasi-interpolation type for singular integrals with Hilbert kernel. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 231–257. (Weiyi Su) **99e:41021** 41A55 (42A15)

— Quasi-Gaussian quadrature formulas. (English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 22–24. 41A55 (65D32)

Du, Li Li A finite difference method for a class of unsteady nonlinear Schrödinger equations. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 29–32. 65M06

le Du, M. *see* **Le Du, M.**

Du, Nai Lin (*with* Chen, Shi Hua[3]) Formal integrating factors as a method of distinguishing between a center and a focus. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 231–239. (Mao An Han) **99m:34060** 34C05

— (*with* Zeng, Xianwu; Chen, Shi Hua[3]) On reduced variational equations of coupled systems. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 147–151. (Summary) **99h:34065** 34C25 (34C15)

— (*with* Zeng, Xianwu) A note on the principal theorems in the theory of functional analysis. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 152–154. (K. Floret) **99m:46057** 46B99 (46A22, 46A30)

Du, Nguyen Huu *see* **Nguyễn Hữ'u Du'**

Du, Qiang (*with* Lin, Fang Hua) Ginzburg-Landau vortices: dynamics, pinning, and hysteresis. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1265–1293. (Laurent Véron) **99c:82075** 82D55 (35Q99)

— (*with* Nicolaides, R. A.; Wu, Xiaonan) Analysis and convergence of a covolume approximation of the Ginzburg-Landau model of superconductivity. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1049–1072 (*electronic*). (Hans-Peter Helfrich) **99e:65178** 65N99 (82D55)

— (*with* Gunzburger, Max D.; Lee, Hyesuk Kwon) Analysis and computation of a mean-field model for superconductivity. (English summary) *Numer. Math.* **81** (1999), *no.* 4, 539–560. (Jacob Rubinstein) **99m:82047** 82D55 (65N30)

Du, Shan-Yi (*with* Zhou, Zhen-Gong; Han, Jie-Cai) Investigation of the scattering of harmonic elastic waves by a finite crack using the non-local theory. *Mech. Res. Comm.* **25** (1998), *no.* 5, 519–528. 73D25

Du, Shao-Fei (*with* Feng, Rong-Quan) Vertex-transitive graphs with automorphism group A_5. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 48–50. (*see* **99g:05001**) 05C25

— (*with* Wang, Ru-Ji; Xu, Ming-Yao) On the normality of Cayley digraphs of groups of order twice a prime. (English summary) *Australas. J. Combin.* **18** (1998), 227–234. (Summary) **99g:05095** 05C25 (05C20)

— (*with* Marušič, Dragan; Waller, Adrian O.) On 2-arc-transitive covers of complete graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 276–290. (Brian Alspach) **99h:05051** 05C25 (05C10)

— (*with* Feng, Rong-Quan) A construction of association schemes from vectors in orthogonal spaces of odd characteristic. (English summary) *Util. Math.* **54** (1998), 3–12. (Summary) **99g:05188** 05E30

— (*with* Xu, Ming-Yao) Vertex-primitive $\frac{1}{2}$-arc-transitive graphs of smallest order. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 163–171. (Cheryl E. Praeger) **99m:05067** 05C25 (20B25)

Du, Wen (*with* Zhang, Qiang[2]; Xu, Yang) Lebesgue decomposition theorem for σ-finite signed fuzzy measures. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 445–451. (Summary) **99k:28030** 28E10 (28A12)

Du, Xian Yun (*with* Dai, Zheng De) Exponential attractors for the generalized Ginzburg-Landau equation in two spatial dimensions. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 278–284. 35Q55 (47H20, 58F39)

Du, Xiufeng (*with* Wu, Weili; Kelley, Dean F.) Approximations for subset interconnection designs. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 171–180. (Summary) **99h:68073** 68Q25 (68R10)

Du, Xue Wu (*with* Yu, Hong Xia) Global convergence of a family of conjugate gradient methods. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 69–73. 90C30

— (*with* Zhang, Zhong Xiu; Xu, Cheng Xian) A class of conjugate gradient methods for unconstrained optimization. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 53–57. 90C30 (65K05)

— (*with* Xu, Cheng Xian; Ling, Yong Xiang) Global convergence properties of the descent algorithms controlled by the FR conjugate gradient method. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 100–102. 90C30 (65K05)

Du, Xuetang Existence of almost periodic solutions of neutral functional-differential equations. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 2, 1–8. (George Seifert) **99b:34115** 34K15 (34K40)

Du, Yi[2] (*with* Masson, Gerald M.) Strictly nonblocking conferencing meshes. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 221–233, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 68R10 (05C90, 68M07, 68M10, 90B12)

Du, Yihong (*with* Lou, Yuan) S-shaped global bifurcation curve and Hopf bifurcation of positive solutions to a predator-prey model. *J. Differential Equations* **144** (1998), *no.* 2, 390–440. (Xi Ping Zhu) **99e:35046** 35J55 (35B32, 35J65, 92D40)

Du, Yong Chang (*with* Guan, Di Hua) A study of the multiple input multiple output frequency domain parameter estimation method. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 11, 61–64. 93E12 (93E10)

Du, Yu Yue (*with* Li, Xiao Zhong) Analysis and implementation of liveness of S-composition Petri nets. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 747–752. (Summary) **99m:68138** 68Q90 (68Q10)

Du, Zhi Han (*with* Tu, Xiao Qing) Non-eigenvector algorithms for the weight vector of a generalized judgment matrix in AHP. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 48–53. 65F15 (90C08)

Duan, C. K. (*with* Yang, Shiao-Song) A mathematical theory of synchronization by self-feedback. (English summary) *J. Phys. A* **30** (1997), *no.* 9, 3273–3278. (Introduction) **99a:93088** 93D15 (34C99)

— (*with* Yang, Shiao-Song) Generalized synchronization in chaotic systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1703–1707. (Summary) **99h:58131** 58F13 (34C99)

Duan, Guang-Ren (*with* Patton, Ron J.) Eigenstructure assignment in descriptor systems via proportional plus derivative state feedback. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1147–1162. 93B55

— (*with* Patton, Ron J.) A note on Hurwitz stability of matrices. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 509–511. (Summary) **99a:93071** 93D05 (15A18)

— (*with* Hu, Wen Yuan) Simultaneous stabilization of linear systems with time-varying uncertainties. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 447–450. 93D15 (93C41)

— Eigenstructure assignment and response analysis in descriptor linear systems with state feedback control. (English summary) *Internat. J. Control* **69** (1998), *no.* 5, 663–694. 93B55 (93C30)

Duan, Huo Yuan Analysis of mixed finite elements stabilized by bubble functions. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 98–103. 65M70 (65M12)

— A technique for inverse estimation emanating from stabilized finite element methods. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 403–408. 65N30

Duan, J. *see* **Duan, Jinqiao**

Duan, Ji An (*with* Yu, Lie; Xie, You Bai) Recursive time-domain method of modal identification. (Chinese. Chinese summary) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 103–104, 107. 93E10 (93B30)

Duan, Jin-Chuan Augmented GARCH(p, q) process and its diffusion limit. (English summary) *J. Econometrics* **79** (1997), *no.* 1, 97–127. (Peter M. Robinson) **99b:62131** 62M10

Duan, Jinqiao (*with* Gao, Hong Jun) On the initial-value problem for the generalized two-dimensional Ginzburg-Landau equation. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 536–548. (Spyridon Kamvissis) **99a:35234** 35Q55 (34G20)

— (*with* Ervin, Vincent J.; Gao, Hong Jun) Trajectory and attractor convergence for a nonlocal Kuramoto-Sivashinsky equation. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 33–40. (Summary) **99h:35184** 35Q53 (35B40, 58F39)

— (*with* Fu, X.-C.; Liu, Pei De; Manning, Anthony) A linear chaotic quantum harmonic oscillator. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 15–19. (Summary) **99h:81054** 81Q50

Duan, Kuichen (*with* Zhu, Hongliang) Persistence and periodic orbits for nonautonomous Lotka-Volterra diffusion model. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 104–108. (Summary) **99i:92027** 92D25 (34C25)

— (*with* Cui, Jingan) Time-dependent cooperative system of population growth. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 204–209. (Summary) **99f:92018** 92D25 (34C15, 34D45)

Duan, Lu-Ming (*with* Guo, Guang Can) A probabilistic cloning machine for replicating two non-orthogonal states. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 261–264. (Summary) **99a:81007** 81P05

— (*with* Guo, Guang Can) Scheme for reducing collective decoherence in quantum memory. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 265–269. (Summary) **99a:81008** 81P05

Duan, Naihua (*with* Ye, Jianming) Nonparametric $n^{-1/2}$-consistent estimation for the general transformation models. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2682–2717. (Li-Xing Zhu) **99c:62124** 62G05 (62G07)

Duan, Q. *see* **Duan, Quanzhu**

Duan, Qi (*with* Xu, Gongxue; Liu, Aikui; Wang, Xuefu; Cheng, Fuhua) Constrained interpolation using rational cubic spline with linear denominators. (English summary)

Korean J. Comput. Appl. Math. **6** (1999), *no.* 1, 203–215. (Summary) **99j:65014** 65D07 (41A29)

Duan, Qing Tang (*with* Zhang, Yin He) Relative efficiency of least squares estimators in weighted regression models. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 25–29, 50. 62J05

Duan, Quanzhu (*with* Li, Gang[4]; Milner, Fabio A.) A first-second order splitting method for a third-order partial differential equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 89–96. (Biyue Liu) **99c:65182** 65M60 (65M15)

Duan, Xiao Jun An analysis of the ability of neural networks to approximate a function. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 79–84. 41A30

Duan, Xiao Long (*with* Liu, Pu Yin; Zhang, Han Jiang) Analysis of the stability and the fault-tolerance of min-max fuzzy Hopfield neural networks with threshold. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 47–55. (Summary) **99k:68162** 68T05

Duan, Yanzheng (*with* Chen, Shutao) A note on Schroeder-Bernstein property and primary property of Orlicz function spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 55–57. (Henryk Hudzik) **99d:46040** 46E30

Duan, Yiran (*with* Fujisaki, Yasumasa; Ikeda, Masao) A system representation and a control strategy based on an input-output data array. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 630–637. 93A30 (93B51)

Duan, Yishi (*with* Yang, Guo-Hong; Jiang, Ying[3]) The origin and bifurcation of the space-time defects in the early universe. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 715–725. (Michael L. Fil′chenkov) **99f:83083** 83F05

— (*with* Li, Xiguo) General decomposition of spin connection and topological structure in Gauss-Bonnet-Chern density. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 2, 237–244. (Hans-Bert Rademacher) **99i:53033** 53C20

— (*with* Yang, Guo-Hong; Jiang, Ying[3]) The quantization and production of the space-time defects in the early universe. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 2001–2012. (Alberto Saa Vazquez) **99c:83104** 83F05 (83D05)

— (*with* Yang, Guo-Hong) Topological quantization of magnetic monopoles and their bifurcation theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2371–2382. (Summary) **99j:81121** 81T13 (58E50)

— (*with* Fu, Libin) The general decomposition theory of SU(2) gauge potential, topological structure and bifurcation of SU(2) Chern density. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4343–4355. (S. Timothy Swift) **99g:53030** 53C07 (53C80, 57R20, 57R25, 81T13)

— (*with* Li, Sheng) The topological structure of the space-time disclination. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6696–6705. (János Kánnár) **99m:83084** 83C47 (53C80)

— (*with* Yang, Guo-Hong) Fourth-order topological tensor current and Fock's coordinate condition. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 10, 745–752. (Summary) **99e:83043** 83C99 (81T99)

— (*with* Jiang, Ying[3]) Can torsion play a role in angular momentum conservation law? (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 3–12. (Alexander N. Petrov) **99m:83057** 83C40 (83D05)

— (*with* Jiang, Ying[3]) Strings and the gauge theory of spacetime defects. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 563–573. (Summary) **99k:83136** 83F05 (83E30)

— (*with* Jiang, Ying[3]; Xu, Tao[2]) A new topological aspect in the O(n) symmetric time-dependent Ginzburg-Landau model. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 307–315. (Summary) **99k:81174** 81T10 (81T70)

Duan, Zhen Hua (*with* Tang, Xian Hua) Oscillation criteria for solutions of nonlinear neutral difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 67–70. (Summary) **99k:39008** 39A10

— (*with* Tang, Xian Hua) Oscillation criteria for solutions of odd-order neutral nonlinear delay differential equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 98–102. 34K15 (34K40)

Duan, Zheng Cheng (*with* Gong, Shi Hua; Deng, Yong; Zhu, Guo Li) Implementation of an algorithm for the no-fit-polygon problem in computer automated nesting. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 29–31. 68U07

Duan, Zhiwen (*with* Zhou, Li[1]) Some remarks on the limit eigenvalue and an application. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 218–225, *World Sci. Publishing, River Edge, NJ*, 1997. (Siegfried Carl)• **99k:34051** 34B24 (34L99, 35K57)

Duarte, C. A. M. (*with* Oden, J. Tinsley; Zienkiewicz, O. C.) A new cloud-based *hp* finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 117–126. (Michael Fröhner) **99c:73081** 73V05 (65N30)

Duarte, Manuel A. (*with* Narendra, Kumpati S.) Error models with parameter constraints. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1089–1111. 93C40 (93E35)

— (*with* Ponce, Rodrigo F.) Discrete-time combined model reference adaptive control. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 501–517. (Summary) **99f:93085** 93C40 (93B55)

Duarte, Pedro (*with* Fernandes, Rui Loja; Oliva, Waldyr Muniz) Dynamics of the attractor in the Lotka-Volterra equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 143–189. (Bernhard Lani-Wayda) **99h:34075** 34D45 (34C35, 58F12, 92D25)

Duarte Silva, A. Pedro (*with* Stam, Antonie) A multiplicative method for synthesizing preference ratings. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 94–102, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90A07 (90A10)

— (*with* Stam, Antonie) The stability of AHP rankings in the presence of stochastic paired comparisons. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 96–105, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

Dubatovskaya, M. V. On a special factorization problem. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 73–74, 78. 26A16

Dube, K. K. (*with* Patel, B. N.) Semi-separation concerning with finite sets. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 297–299. 54D10 (54D15)

Dube, P. P. (*with* Kar, Sujit Kumar) On some generating functions of Gegenbauer polynomials from the view point of local transformation of groups. (English summary) *Ganita Sandesh* **11** (1997), *no.* 1, 27–30. (Summary) **99g:33022** 33C45

Dube, Simant Undecidable problems in fractal geometry. (English summary) *Complex. Int.* **2** (1995), 17 *HTML documents (electronic)*. 03D35 (28A80)

Dubeau, François (*with* Bensebah, A.; Gélinas, J.) Projection methods and approximations for ordinary differential equations. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 78–90. (Reinhard Scholz) **99m:65149** 65L70 (34A45)

— On first order ordinary differential equations with infinitely many state dependent impulses. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 85–89. (Summary) **99g:34033** 34A37 (34A12)

— (*with* Savoie, Jean) More on the roots of Euler-Frobenius polynomials. (English and French summaries) *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 31–42. (Andrea Laforgia) **99i:33006** 33C45 (65H05)

— nth root extraction: double iteration process and Newton's method. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 191–198. (T. L. Freeman) **99j:65085** 65H05 (65D15)

— (*with* Savoie, Jean) On best error bounds for deficient splines. *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 33–39, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 41A15 (41A44, 65D07)

— (*with* Savoie, Jean) Optimal error bounds for spline interpolation on a uniform partition. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 41–50, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:41045** 41A44 (41A15, 41A25, 65D07)

Dubejko, Tomasz Circle-packing connections with random walks and a finite volume method. (English summary) *Séminaire de Théorie Spectrale et Géométrie, No. 15, Année 1996–1997*, 153–161, *Sémin. Théor. Spectr. Géom., 15, Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Oded Schramm) **99b:52039** 52C15 (31A15, 31A30, 60J15)

— Random walks on circle packings. (English summary) *Lipa's legacy (New York, 1995)*, 169–182, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Frédéric Mathéus) **99d:52017** 52C15 (05B40, 31C20, 60J15)

— Infinite branched circle packings and discrete complex polynomials. *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 347–368. (Frédéric Mathéus) **99h:05025** 05B40 (30C10, 30C62, 52C15)

Dubey, Balram (*with* Das, Biren) Models for the survival of species dependent on resource in industrial environments. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 2, 374–396. (Summary) **99m:92028** 92D25 (92D40)

Dubey, R. P. (*with* Narayan, A.) Fixed point G-iterations. *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 291–292. 54H25

Dubey, Y. P. (*with* Rana, S. S.) Best error bounds of deficient quintic spline interpolation. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 10, 1337–1344. (Chenglie Hu) **99b:65010** 65D05

— (*with* Rana, S. S.) Best error bounds for deficient quartic spline interpolation. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 385–393. 41A15 (65D07)

Dubhashi, Devdatt (*with* Ranjan, Desh) Balls and bins: a study in negative dependence. *Random Structures Algorithms* **13** (1998), *no.* 2, 99–124. (Colin J. H. McDiarmid) **99k:60048** 60E99 (68Q25)

— (*with* Grable, David A.; Panconesi, Alessandro) Near-optimal, distributed edge colouring via the nibble method. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 225–251. (Summary) **99f:68154** 68R10 (05C15, 05C85, 68Q10)

Dubi, A. Analytic approach & Monte Carlo methods for realistic systems analysis. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 243–269. (*see* **99d:65008**) 93A30 (65C05)

Dubickas, Artūras Algebraic conjugates outside the unit circle. (English summary) *New trends in probability and statistics, Vol. 4 (Palanga, 1996)*, 11–21, *VSP, Utrecht*, 1997. (Yann Bugeaud) **99i:11096** 11R04

— (*with* Konyagin, Sergeĭ) On the number of polynomials of bounded measure. *Acta Arith.* **86** (1998), *no.* 4, 325–342. (Christopher Smyth) **99m:11122** 11R09 (11C08, 12E05)

— On algebraic numbers close to 1. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 423–434. (Maurice Mignotte) **99k:11165** 11R04

— On the distribution of roots of polynomials in sectors. I. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 34–58; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 1, 27–45. (M. K. Jain) **99j:30005** 30C15

— On the distribution of roots of polynomials in sectors. II. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 2, 151–168; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 2, 117–130 (1999). (M. K. Jain) **99j:30006** 30C15

— Multiplicative dependence of quadratic polynomials. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 3, 295–303; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 3, 225–231 (1999). (Maurice Mignotte) **99k:11040** 11C08

Dubin, Daniel A. (*with* Hennings, Mark A.; Smith, Thomas B.) Dequantization techniques for Weyl quantization. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 4, 325–354. (Günter Braunss) **99i:81118** 81S10 (46F25, 46N50, 81S30)

Dubins, Lester E. (*with* Prikry, Karel) On the existence of disintegrations. (English summary) *Séminaire de Probabilités, XXIX*, 248–259, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Summary) **99m:28013** 28A50 (03E50, 03E75, 28E15, 60A10)

— The gambler's ruin problem for periodic walks. *Statistics, probability and game theory*, 7–12, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Amy L. Rocha) **99b:60109** 60J15 (60G40, 60J60)

— Discrete red-and-black with fortune-dependent win probabilities. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 4, 417–424. (E.-A. Weiss, Jr.) **99g:60083** 60G40

Dubinskiĭ, A. V. (*with* Bunimovich, A. I.) Development of the theory of local interaction. (Russian) *Studies in the history of physics and mechanics*, 1991–1992 (*Russian*), 198–219, *"Nauka", Moscow*, 1997. (*see* **99g:01002**) 81–03

Dubinskiĭ, Yu. A. On the best extension of a periodic function and on the corresponding boundary value problem. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1382–1393, 1439; *translation in Differential Equations* **33** (1997), *no.* 10, 1388–1399 (1998). (Elijah Liflyand) **99m:42012** 42A65 (30B40)

— (*with* Osipenko, A. S.) On the "orthogonal" decomposition of Sobolev spaces into a sum of analytic and coanalytic subspaces. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 6,

735–738. (Introduction) **99j:46035** 46E35 (30E25, 35A20)

Dubner, Harvey (*with* Keller, Wilfrid) New Fibonacci and Lucas primes. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 417–427, *S1–S12*. (Samuel S. Wagstaff, Jr.) **99c:11008** 11A51 (11B39, 11Y05, 11Y11)

Dubochet, Jacques (*with* Katritch, Vsevolod; Bednar, Jan; Michoud, Didier; Scharein, Robert G.; Stasiak, Andrzej) Geometry and physics of knots. (English summary) *Nature* **384** (1996), *no.* 6605, 142–145. (Summary) **99b:92032** 92D20 (57M25)

Dubois, Didier (*with* Prade, Henri) Numerical representations of acceptance. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 149–156, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68185** 68T30 (68T27)

— (*with* Benferhat, Salem; Prade, Henri) Coping with the limitations of rational inference in the framework of possibility theory. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 90–97, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68180** 68T30

— (*with* Prade, Henri) Belief revision with uncertain inputs in the possibilistic setting. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 236–243, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30 (03B60, 68T27)

— (*with* Fargier, Hélène; Prade, Henri) Fuzzy modeling of priority and preference in constraint satisfaction problems. (English summary) *Sci. Iran.* **2** (1996), *no.* 4, 313–328. 68T20

— (*with* Prade, Henri) Qualitative possibility theory and its applications to reasoning and decision under uncertainty. (English summary) Fuzzy sets and applications. *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 1-2, 5–28. (*see* **99a:90004**) 90A05 (90C70)

— (*with* Benferhat, Salem; Lang, Jérôme; Prade, Henri; Saffiotti, A.; Smets, P.) Reasoning under inconsistency based on implicitly-specified partial qualitative probability relations: a unified framework. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 121–126, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)

— (*with* Le Berre, Daniel; Prade, Henri; Sabbadin, Régis) Logical representation and computation of optimal decisions in a qualitative setting. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 588–593, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (90A05)

— (*with* Benferhat, Salem; Prade, Henri) From semantic to syntactic approaches to information combination in possibilistic logic. (English summary) *Aggregation and fusion of imperfect information*, 141–161, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 03B60 (03E72)

— (*with* Prade, Henri) Similarity versus preference in fuzzy set-based logics. (English summary) *Incomplete information: rough set analysis*, 441–461, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B52

— (*with* Prade, Henri) Possibility theory is not fully compositional! A comment on a short note by H. J. Greenberg: "Possibilities of logically equivalent expressions" [Fuzzy Sets and Systems **86** (1997), no. 2, 249–250]. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 131–134. 03B52

— (*with* Prade, Henri; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 381–386. 00A15 (03B52, 03E72)

— (*with* Giang, P. H.; Prade, Henri) A probabilistic approach to ordering formulas in a possibilistic knowledge base. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 3, 241–256. (Maria-Teresa Lamata) **99i:68114** 68T30 (68T27)

— (*with* Prade, Henri; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 351–356. 00A15 (03E72)

— (*with* Prade, Henri; Sessa, Salvatore) Recent literature. *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 191–197. 00A15 (03E72)

Dubois, G. Méthodes SOR et AOR "series parallèle". (French summary) ["Parallel series" SOR and AOR methods] *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 17–21. 65F10

Dubois, Michel (*with* Pong, Fong) Formal verification of complex coherence protocols using symbolic state models. (English summary) *J. ACM* **45** (1998), *no.* 4, 557–587. (Summary) **99j:68082** 68Q60 (68M07, 68M20)

Dubois, T. (*with* Jauberteau, F.) A dynamic multilevel model for the simulation of the small structures in homogeneous isotropic turbulence. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 323–367. (Tomás Chacón Rebollo) **99j:76056** 76F05 (76M25)

Dubois-Violette, Michel (*with* Michor, Peter W.) More on the Frölicher-Nijenhuis bracket in noncommutative differential geometry. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 2, 107–135. (J. Vanžura) **99c:58014** 58B30 (17B66)

— (*with* Todorov, Ivan T.) Generalized cohomologies and the physical subspace of the SU(2) WZNW model. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 183–192. (Kazuto Oshima) **99b:81104** 81R50 (17B81, 81T40, 81T70)

— Generalized homologies for $d^N = 0$ and graded q-differential algebras. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 69–79, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Teimuraz Pirashvili) **99g:16012** 16E40 (18G35)

— $d^N = 0$: generalized homology. (English summary) *K-Theory* **14** (1998), *no.* 4, 371–404. (Antonio M. Cegarra) **99i:18016** 18G30 (05A30)

Dubov, I. R. Formation of observations and the approximation of the distribution density function of a continuous random variable. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 84–93; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 526–533. (Summary) **99j:62018** 62E17

Dubova, Anna (*with* Fernández-Cara, Enrique; González-Burgos, Manuel) Controllability of semilinear parabolic PDEs with discontinuities. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1075–1080, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93B05 (35K55)

— (*with* Fernández-Cara, Enrique; González-Burgos, Manuel) Controllability results for discontinuous semilinear parabolic partial differential equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1391–1395. (Summary) **99h:93012** 93B05 (35K55, 93C20)

Dubovikov, M. S. (*with* Canuto, V. M.) Response to: "Some remarks concerning recent work on rotating turbulence" [Phys. Fluids **10** (1998), no. 12, 3242–3244; 1 657 285] by Y. Zhou, C. G. Speziale and R. Rubinstein. *Phys. Fluids* **10** (1998), *no.* 12, 3245–3246. 76F99 (76U05)

— (*with* Canuto, V. M.) A dynamical model for turbulence. VII. Complete system of five orthogonal tensors for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 659–664. (Summary) **99k:76076** 76F99

— (*with* Canuto, V. M.; Yu, Guang) A dynamical model for turbulence. VIII. IR and UV Reynolds stress spectra for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 665–677. (Summary) **99k:76077** 76F99

— (*with* Canuto, V. M.; Yu, Guang) A dynamical model for turbulence. IX. Reynolds stresses for shear-driven flows. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 678–691. (Summary) **99k:76078** 76F99

Dubovoĭ, V. K. (*with* Boĭko, S. S.) Factorization of radii of the Weyl limit disk in the degenerate Schur interpolation problem. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 18–26. (Adolf A. Nudelman) **99a:47023** 47A57 (30E05, 47A48)

Dubovskiĭ, Pavel B. (*with* Chae, Dongho) Existence and uniqueness for spatially inhomogeneous coagulation-condensation equation with unbounded kernels. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 219–236. (Giuliana Lauro) **99a:45018** 45K05 (45M20, 82C22, 82C70)

— A "triangle" of interconnected coagulation models. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 781–793. (Summary) **99k:82072** 82C99

Dubrov, B. M. One-dimensional invariant distributions on homogeneous spaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 3, 27–32, 123–124. (Ji Sheng Na) **99b:22017** 22E30 (43A85)

— (*with* Komrakov, B. P.) Symmetries of completely integrable distributions. (English summary) *Lie groups and Lie algebras*, 393–405, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Valentin V. Lychagin) **99e:58005** 58A30 (34A26, 58F35)

— (*with* Komrakov, B. P.) Symmetries of completely integrable distributions. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 2, 151–153. (J. S. Joel) **99m:58010** 58A15 (17B66, 53C10, 58A30, 58H05)

Dubrova, E. V. (*with* Muzio, Jon C.) The spectrality decision problem. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 73–84. (Summary) **99i:94078** 94C10

Dubrovin, Boris Geometry and analytic theory of Frobenius manifolds. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 315–326 (*electronic*). (Andreas Gathmann) **99j:32025** 32G34 (14N10, 58F07)

Dubrovskiĭ, V. G. The $\overline{\partial}$-dressing method and the solutions with constant asymptotic values at infinity of DS-II equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6382–6400. (Woodford W. Zachary) **99a:58087** 58F07 (35Q55)

Dubrovskiĭ, V. V. An existence theorem in an inverse problem of spectral analysis. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1702–1703, 1728; *translation in Differential Equations* **33** (1997), *no.* 12, 1707–1709 (1998). (Vadim D. Kryakvin) **99k:35190** 35R30 (35J05, 47F05)

— (*with* Sadovnichiĭ, V. A.; Kadchenko, S. I.; Kravchenko, V. F.) Computation of the first eigenvalues of a boundary value problem of the hydrodynamic stability of a flow between two parallel planes for small Reynolds numbers. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 600–604. (Adelina Georgescu) **99i:76050** 76E05 (34B99, 34L15)

— (*with* Sadovnichiĭ, V. A.; Kadchenko, S. I.; Kravchenko, V. F.) Computation of the first eigenvalues of a boundary value problem on the hydrodynamic stability of a Poiseuille flow in a circular tube. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 50–53, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 49–53. (Summary) **99i:76051** 76E05 (34B99, 34L40)

Dubrovsky, V. G. *see* **Dubrovskiĭ, V. G.**

Dubrulle, Augustin A. A QR algorithm with variable iteration multiplicity. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 125–139. (Zhenyue Zhang) **99c:65070** 65F15

— An optimum iteration for the matrix polar decomposition. (English summary) *Electron. Trans. Numer. Anal.* **8** (1999), 21–25 (*electronic*). (Summary) **99j:65071** 65F30 (65F35)

Dubtsov, E. S. Henkin measures, Riesz products and singular sets. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 3, 699–728. (Takahide Kurokawa) **99k:32020** 32E25 (31C10, 42B15)

— Minimal solutions of the Gleason problem. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 27–35. (From the introduction) **99i:32007** 32A37

Dubuc, Eduardo J. A note on Cantor sets. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 767–771. (Zbigniew Grande) **99i:26001** 26A03 (54F50)

— (*with* Zilber, Jorge C.) Banach spaces in an analytic model of synthetic differential geometry. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 2, 117–136. (Maria H. Papatriantafillou) **99h:58003** 58A03 (18B25, 58A05, 58B10)

Dubuc, L. Sur les automates circulaires et la conjecture de Černý. (English and French summaries) [Circular automata and Černý's conjecture] *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 21–34. (Summary) **99i:68082** 68Q68 (68Q45)

Dubuc, Serge (*with* Zaoui, M.) Sur la quasi-convexité des arcs trinomiaux. (English summary) [The quasiconvexity of trinomial arcs] *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 493–514. (Raphaële Supper) **99e:26011** 26A51 (30C15)

— (*with* Merrien, Jean-Louis; Sablonnière, Paul) The length of the de Rham curve. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 182–195. (G. Maess) **99f:65013** 65D05

— *see also* **Spline functions and the theory of wavelets, 99i:65005**

Dubucs, Jacques Hintikka et la question de l'omniscience logique. [Hintikka and the question of logical omniscience] *Jaakko Hintikka* (*Paris*, 1994), 139–148, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03B45 (03A05)

Dubus, A. *see* **Seminar: Monte Carlo Methods, 99d:65008**

Duby, Jean-Jacques (*with* Hindry, Marc; Laumond, Jean-Paul; Châtelet, Gilles; Risler, Jean-Jacques; Schapira, Pierre; Bourguignon, Jean Pierre) Le rôle des mathématiques. [The role of mathematics] *Gaz. Math. No.* 74 (1997), 5–25. (Editors) **99g:00021** 00A30 (01A80)

Duca, I. (*with* Duca, Mioara) Sur le théorème de point fixe Picard-Banach. (French and Romanian summaries) [On the Picard-Banach fixed-point theorem] *Politeh. Univ. Buchar. Sci. Bull. Ser. B Chem. Mater. Sci.* **60** (1998), *no.* 1-2, 13–16. 54H25 (47H10)

Duca, Mioara (*with* Duca, I.) Sur le théorème de point fixe Picard-Banach. (French and Romanian summaries) [On the Picard-Banach fixed-point theorem] *Politeh. Univ. Buchar. Sci. Bull. Ser. B Chem. Mater. Sci.* **60** (1998), *no.* 1-2, 13–16. 54H25 (47H10)

pham Duc Chinh *see* **Pham Duc Chinh**
nguyen Duc Dat *see* **Nguyen Duc Dat**
truong xuan Duc Ha *see* **Truong Xuan Duc Ha**
Duchamp, Gérard (*with* Klyachko, Aleksandr Anatol'evich; Krob, Daniel; Thibon, Jean-Yves) Noncommutative symmetric functions. III. Deformations of Cauchy and convolution algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 159–216. (Arun Ram) **99m:05161** 05E05 (15A15, 20F36)
— (*with* Reutenauer, Christophe) Un critère de rationalité provenant de la géométrie non commutative. (English summary) [A rationality criterion from noncommutative geometry] *Invent. Math.* **128** (1997), *no.* 3, 613–622. (Summary) **99d:22009** 22D15 (58B30)
Duchamp, Thomas (*with* Bland, John) Deformation theory for the hyperplane line bundle on $\mathbf{P}^1$. (English summary) *CR-geometry and overdetermined systems* (*Osaka*, 1994), 41–59, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (John M. Lee) **99a:32016** 32G07
virotte Ducharme, M.-M. *see* **Virotte Ducharme, M.-M.**
DuChateau, Paul (*with* Cannon, John R.) Structural identification of an unknown source term in a heat equation. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 535–551. (Maurizio Grasselli) **99g:35142** 35R30 (35K05, 35K60, 80A23)
Duchon, Jean (*with* Carraro, Laurent) Équation de Burgers avec conditions initiales à accroissements indépendants et homogènes. (English and French summaries) [Burgers equation with initial conditions with homogeneous and independent increments] *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 4, 431–458. (Giambattista Giacomin) **99j:35183** 35Q53 (35R60, 60H15, 76D99, 76M35)
— (*with* Badea, A.) Capillary driven evolution of an interface between viscous fluids. *Nonlinear Anal.* **31** (1998), *no.* 3-4, 385–403. (R. Finn) **99a:76035** 76D05 (34G20, 35Q30, 76D45)
Duchoň, Miloslav (*with* Riečan, Beloslav) On the product of semigroup valued measures. (English summary) Quantum structures (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **10** (1997), 17–27. (Dan Vuza) **99e:28020** 28B10 (81P05)
— (*with* Riečan, Beloslav) Fuzzy moment problem. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 193–197. (Summary) **99g:44013** 44A60
— (*with* Kolesárová, Anna) Fourier transforms of vector measures on some semigroups. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 283–292. (Liliana Pavel) **99j:28021** 28E10 (28B05, 43A30)
Duchon, Philippe Right-cancellability of a family of operations on binary trees. (English summary) *Discrete Math. Theor. Comput. Sci.* **2** (1998), 27–33. (Summary) **99i:68090** 68R10 (68P05)
Düchs, D. (*with* Meyer-Spasche, Rita) A general method for obtaining unconventional and nonstandard difference schemes. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **3** (1997), *no.* 4, 453–467. (Snezhana Gocheva-Ilieva) **99d:65207** 65L05 (34A45, 65L12)
Düchting, Norbert (*with* Shabanov, Sergei V.; Strobl, Thomas) BRST inner product spaces and the Gribov obstruction. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 485–514. (Mohamed Kachkachi) **99k:81322** 81T70 (81T13, 81T50)
Dučinskas, Kęstutis An asymptotic analysis of the regret risk in discriminant analysis under various training schemes. (Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 448–466; *reprinted in Lithuanian Math. J.* **37** (1997), *no.* 4, 337–351 (1998). (Yu. I. Petunin) **99m:62088** 62H30 (68T10)
— Analysis of the risk regret for classification of gamma populations. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **9** (1998), *no.* 4, 401–414. (Summary) **99j:62087** 62H30 (62F15)
Duck, Ian (*with* Sudarshan, E. C. G.) ★ Pauli and the spin-statistics theorem. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. $x+512$ *pp. ISBN* 981-02-3114-8 (S. Gudder) **99f:81103** 81S05 (01A60, 81–02, 81–03)
— (*with* Sudarshan, E. C. G.) Toward an understanding of the spin-statistics theorem. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 4, 284–303. (S. Gudder) **99c:81101** 81S05 (81T05)
Duck, P. W. (*with* Butler, Matthew J.; Stansby, P. K.) An asymptotic description of the attached, turbulent, oscillatory boundary layer. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 335–357. (Summary) **99g:76042** 76D10 (76D15, 76F99)
Duclos, Pierre[1] (*with* Dittrich, J.; Gonzalez, Nicolas) d'Alembert field driven by a periodically moving wall. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 166–169, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 35L05 (58F39)
— (*with* Exner, Pavel; Meller, B.) Exponential bounds on curvature-induced resonances in a two-dimensional Dirichlet tube. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 133–162. (Hitoshi Kitada) **99a:35051** 35J25 (35J10, 35P05, 47F05, 81Q10)
— (*with* Asch, Joachim; Exner, Pavel) Stability of driven systems with growing gaps, quantum rings, and Wannier ladders. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1053–1070. (M. Combescure) **99m:81056** 81Q20
Du Cloux, Fokko *see* **du Cloux, Fokko**
nguyen Duc Nghia *see* **Nguyen Duc Nghia**
Ducourtioux, Jean-Louis Comportement asymptotique de certaines martingales à valeurs dans une variété riemannienne. [Asymptotic behavior of certain martingales with values in a Riemannian manifold] *Bull. Sci. Math.* **122** (1998), *no.* 4, 271–315. (Elton Pei Hsu) **99g:58130** 58G32 (60G44)
Ducros, Antoine Fibrations en variétés de Severi-Brauer au-dessus de la droite projective sur le corps des fonctions d'une courbe réelle. (English and French summaries) [Fibrations in Severi-Brauer varieties over the projective line over the function field of a real curve] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 71–75. (Summary) **99h:14028** 14G27
— Dimension cohomologique et points rationnels sur les courbes. [Cohomological dimension and rational points on curves] *J. Algebra* **203** (1998), *no.* 2, 349–354. (From the text) **99e:14024** 14G05 (12G10)
— L'obstruction de réciprocité à l'existence de points rationnels pour certaines variétés sur le corps des fonctions d'une courbe réelle. (English summary) [The reciprocity obstruction to the existence of rational points for certain varieties defined over the function field of a real curve] *J. Reine Angew. Math.* **504** (1998), 73–114. (David Harari) **99j:14024** 14G27 (14P99)
Ducros, F. (*with* Besnard, D.; Loreaux, Ph.; Mimouni, S.; Vasseur, Alexis) Turbulent mixing modeling and simulation. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 294–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99 (76M25)
— (*with* Gamet, L.; Nicoud, F.; Poinsot, T.) Compact finite difference schemes on non-uniform meshes. Application to direct numerical simulations of compressible flows. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 159–191. (Summary) **99i:76097** 76M20 (76N10)
do Duc Thai *see* **Do Duc Thai**
dang Duc Trong *see* **Dang Duc Trong**
Duda, E. V. (*with* Korzun, A. I.; Minchenko, O. Yu.) On the local controllability of discrete systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 462–469, 573; *translation in Differential Equations* **33** (1997), *no.* 4, 461–468. (È. G. Al'brekht) **99d:93003** 93B05 (49K24, 93C55)
— (*with* Minchenko, Leonid I.) On optimality conditions for differential inclusions with delay. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 13–17, 122. 49K24 (34A60, 34K35)
Duda, F. P. (*with* Martins, L. C.; Podio-Guidugli, Paolo) On the representation of the stored energy for elastic materials with full transverse response-symmetry. (English summary) *J. Elasticity* **51** (1998), *no.* 2, 167–176. (D. Ieşan) **99k:73029** 73B40
Duda, Roman The centenary of Wiadomości Matematyczne. (Polish) *Wiadom. Mat.* **33** (1997), 111–135. (Editors) **99i:01037** 01A74
Dudas, Emilian (*with* Grojean, Christophe) Four-dimensional M-theory and supersymmetry breaking. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 553–570. (André J. Van Tonder) **99a:81135** 81T30 (81R40)
— (*with* Grojean, Christophe) Compactification of M-theory and consequences on supersymmetry breaking. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 321–330. (Gianguido Dall'Agata) **99m:81181** 81T30 (81R40, 83E30)
— (*with* Mourad, J.) Solitons in the Hořava-Witten supergravity. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 281–292. (Paul Nelson Watts) **99c:81178** 81T30 (83E30, 83E50)
— (*with* Dienes, Keith R.; Gherghetta, Tony) Extra spacetime dimensions and unification. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 55–65. (Summary) **99e:81258** 81V22 (81T30)
— (*with* Binétruy, Pierre; Deffayet, Cédric; Ramond, Pierre) Pseudo-anomalous U(1) symmetry in the strong coupling limit of the heterotic string. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 163–172. (Summary) **99h:81153** 81T30
— (*with* Dienes, Keith R.; Gherghetta, Tony) Grand unification at intermediate mass scales through extra dimensions. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 47–108. (Summary) **99h:81228** 81V22 (81T30)
— (*with* Dienes, Keith R.; Gherghetta, Tony; Riotto, A.) Cosmological phase transitions and radius stabilization in higher dimensions. (English summary) *Nuclear Phys. B* **543** (1999), *no.* 1-2, 387–422. (Summary) **99m:81162** 81T25 (81V25)
Dudás, T. (*with* Klinz, Bettina; Woeginger, Gerhard J.) The computational complexity of the k-minimum spanning tree problem in graded matrices. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 61–67. (Summary) **99e:68066** 68Q25 (05C05, 05C85, 68R10)
— (*with* Rudolf, Rüdiger) Spanning trees and shortest paths in Monge graphs. (English summary) *Computing* **60** (1998), *no.* 2, 109–119. (Xue Liang Li) **99a:90217** 90C35 (05C05, 05C12, 05C38, 90C27)
Dudek, Dorota (*with* Zięba, Wiesław) A note on the strong tightness in $C[0,1]$. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 27–34. (Jun Kawabe) **99f:60066** 60F15 (60F17)
Dudek, Gregory (*with* Romanik, Kathleen; Whitesides, S. H.) Localizing a robot with minimum travel. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 583–604 (*electronic*). (Summary) **99b:68093** 68Q25 (68T99, 68U05, 68U30)
Dudek, Józef Medial idempotent groupoids. II. *Contributions to general algebra*, 9 (*Linz*, 1994), 133–150, *Hölder-Pichler-Tempsky, Vienna*, 1995. (Phullendu Das) **99h:20102** 20N02
— The minimal extension of sequences. II. On problem 17 of Gratzer and Kisielewicz. *Period. Math. Hungar.* **34** (1997), *no.* 3, 177–183. (Ágnes Szendrei) **99c:08003** 08A40 (08B05)
— Small idempotent clones. I. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 105–118. (Sheila Oates-Williams) **99a:20071** 20N02 (08A40, 08B05)
Dudek, Wiesław A. (*with* Zhang, Xiao Hong[1]) On ideals and congruences in BCC-algebras. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 21–29. (C. S. Hoo) **99d:06024** 06F35 (03G25, 08A30)
— (*with* Stojaković, Zoran) Single identities for varieties equivalent to quadruple systems. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 277–284. (K. T. Phelps) **99c:05041** 05B30 (08B05)
Dudewicz, Edward J. (*with* Ahmed, Shafiq U.) New exact and asymptotically optimal solution to the Behrens-Fisher problem, with tables. (English summary) *Amer. J. Math. Management Sci.* **18** (1998), *no.* 3-4, 359–426. (Summary) **99k:62038** 62F03
Dudkiewicz, J. Compound Poisson approximation for extremes of moving minima in arrays of independent random variables. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 1, 19–28. (Ai Hua Xia) **99f:60042** 60F05 (60G70, 62E17)
Dudko, L. L. (*with* Sviridyuk, G. A.; Sukachëva, T. G.) Relative σ-boundedness of linear operators. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 68–73; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 7, 65–70. (Yuri Sil'chenko) **99a:47029** 47A99 (47A10, 47B99)
Dudley, Richard M. (*with* Haughton, Dominique M. A.) Information criteria for multiple data sets and restricted parameters. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 265–284. (I. Vajda) **99c:62074** 62F99 (62C99)
— (*with* González-Barrios, José María) Conditions for integral and other operators to be of trace class. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 105–114. (Hermann König) **99c:47074** 47G10 (45P05, 47B10)
Dudley Ward, Nicholas F. (*with* Partington, Jonathan R.) Robust identification in the disc algebra using rational wavelets and orthonormal basis functions. (English summary)

Internat. J. Control **64** (1996), *no.* 3, 409–423. 93B30 (93B35)

— (*with* Bridges, Douglas) Constructing ultraweakly continuous functionals on $\mathscr{B}(H)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3347–3353. (A. Kučera) **99a:47067** 47D15 (03F65, 46L99, 46S30, 47S30)

— (*with* Partington, Jonathan R.) A construction of rational wavelets and frames in Hardy-Sobolev spaces with applications to system modeling. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 654–679 (*electronic*). (Richard Rochberg) **99i:42061** 42C30 (93A30)

Dudnikova, Tat'yana V. A connection between the scattering matrix and the scattering amplitude for symmetric hyperbolic systems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 3–6, 111; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 1–3. (R. G. Airapetyan) **99i:35091** 35L60 (35P25)

— (*with* Komech, A. I.) Ergodic properties of hyperbolic equations with mixing. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 505–519; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 436–448 (1997). (Summary) **99d:60041** 60F15 (35L10, 35R60)

— Stabilization of space-time statistical solutions of the Klein-Gordon equation. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 179–188 (1998). (Valery Covachev) **99b:35120** 35L15 (35B40, 60F05)

Dudoladov, S. L. Stability criteria for the equilibrium resonance position in systems admitting a first integral. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 77–86. (A. Ya. Savchenko) **99e:34066** 34D20

Dudov, S. I. Subdifferentiability and superdifferentiability of the distance function. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 530–542; *translation in Math. Notes* **61** (1997), *no.* 3-4, 440–450. (Sándor Komlósi) **99d:49032** 49J52 (41A50, 90C31)

Duduchava, R. (*with* Natroshvili, D. G.) Mixed crack type problem in anisotropic elasticity. (English summary) *Math. Nachr.* **191** (1998), 83–107. (Igor Yu. Chudinovich) **99d:73025** 73C35 (35Q72, 73B40, 73C15)

Dueck, Gerhard W. (*with* Fraser, Blair) Multiple-valued logic minimization using universal literals and cost tables. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 239–244, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Duel-Hallen, Alexandra (*with* Calderbank, A. Robert; Fishburn, Peter C.; Rabinovich, Asya) Interpolation by convolutional codes, overload distortion, and the erasure channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 94–105. 94B10 (94B35)

Duembgen, Lutz *see* **Dümbgen, Lutz**

Duenyas, Izak (*with* Gupta, Diwakar; Olsen, Tava Lennon) Control of a single-server tandem queueing system with setups. (English summary) *Oper. Res.* **46** (1998), *no.* 2, 218–230. (Carl M. Harris) **99j:90033** 90B22 (60K30, 90C40)

Dufeu, Emilio (*with* Beckers, Pierre) 3-D error estimation and mesh adaptation using improved R.E.P. method. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 413–426, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05

Duff, G. F. D. The second generation: a history of the Canadian Mathematical Society 1966–1995. Dual English-French text. *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 129–189, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A74

Duff, Iain S. Sparse numerical linear algebra: direct methods and preconditioning. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 27–62, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (*see* **99a:65008**) 65F50 (15A12)

— (*with* Marrone, Michele; Radicati, Giuseppe; Vittoli, Carlo) Level 3 basic linear algebra subprograms for sparse matrices: a user-level interface. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 379–401. 65Y15

— *see also* **State of the art in numerical analysis, 99a:65008**

Duff, M. J. Ten to eleven: it is not too late. (English summary) With discussion. *Effective theories and fundamental interactions* (*Erice*, 1996), 324–359, *Subnucl. Ser.*, 34, *World Sci. Publishing, River Edge, NJ*, 1997. (Hitoshi Nishino) **99j:81137** 81T30 (83E30)

— (*with* Liu, James T.; Rahmfeld, Joachim) Dipole moments of black holes and string states. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 161–199. (Summary) **99g:83076** 83E30 (81T30, 83C57)

— (*with* Evans, Jonathan M.; Khuri, Ramzi R.; Lu, Jian Xin; Minasian, Ruben) The octonionic membrane. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 281–287. (Sergey Nikolaevich Roshchupkin) **99a:83064** 83E30 (81T30, 83E50)

— Ten to eleven: it is not too late. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 59–63, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99m:81182** 81T30 (81–02, 83E30, 83E50)

— (*with* Liu, James T.; Rahmfeld, Joachim) $g = 1$ for Dirichlet 0-branes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 129–140. (David S. Berman) **99e:83054** 83E30 (81T30, 83C57)

— (*with* Evans, Jonathan M.; Khuri, Ramzi R.; Lu, Jian Xin; Minasian, Ruben) The octonionic membrane. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 295–302. (Summary) **99f:83065** 83E30 (81T30, 83E50)

— (*with* Hoxha, P.; Lu, Hong[1]; Martinez-Acosta, R. R.; Pope, C. N.) A lattice universe from M-theory. (English summary) *Phys. Lett. B* **451** (1999), *no.* 1-2, 38–45. (Summary) **99m:83187** 83E30 (81T30, 83F05)

Duffield, N. G. (*with* Whitt, Ward) Large deviations of inverse processes with nonlinear scalings. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 995–1026. (Anatolii A. Pukhal'skiĭ) **99m:60043** 60F10 (60F17, 60K25)

— Queueing at large resources driven by long-tailed $M/G/\infty$-modulated processes. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 245–266. (Anthony G. Pakes) **99g:60168** 60K25 (60F10, 68M20)

Duffin, Richard J. (*with* Weinberger, Hans F.) On dualizing a multivariable Poisson summation formula. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 487–497. (Norbert Ortner) **99f:42023** 42B05 (42A16)

Duffner, M. Antónia (*with* Coelho, M. Purificação) On the conversion of an immanant into another. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 111–130. (Summary) **99j:15009** 15A15

Duffus, Dwight (*with* Łuczak, Tomasz; Rödl, Vojtěch; Ruciński, Andrzej) Endomorphisms of partially ordered sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 33–46. (Gerhard Behrendt) **99d:06003** 06A06

— (*with* Łuczak, Tomasz; Rödl, Vojtěch) Biased positional games on hypergraphs. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 141–149. (Rong Si Chen) **99m:90183** 90D43 (05C65)

Duffy, Alastair (*with* Sneyd, James; Dale, Paul D.) Traveling waves in buffered systems: applications to calcium waves. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1178–1192 (*electronic*). (Summary) **99b:92015** 92C40 (35K57, 35Q80, 92C05, 92C30)

Duffy, J. *see* **Duffy, Joseph**

Duffy, John (*with* Feltovich, Nick) Does observation of others affect learning in strategic environments? An experimental study. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 131–152. 90D20

Duffy, Joseph (*with* Crane, Carl D.; Knight, B.; Rooney, J.) An investigation of a special motion of an octahedron manipulator using screw theory. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 307–316, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

— (*with* Rico, José M.) Robot isotropy: a reassessment. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 435–444, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70013** 70B15

Duflo, Marie ★ Algorithmes stochastiques. (French. French summary) [Stochastic algorithms] Mathématiques & Applications [Mathematics & Applications], 23. *Springer-Verlag, Berlin*, 1996. *xiv+319 pp. ISBN* 3-540-60699-8 (Michel Benaïm) **99e:62141** 62L20 (60F05, 60F10, 60H10, 60J10, 65U05)

Duflo, Michel (*with* Dixmier, Jacques; Hajnal, András; Kadison, Richard V.; Korányi, Adam; Rosenberg, Jonathan M.; Vergne, Michèle) Lajos Pukánszky (1928–1996). (English summary) *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 492–499. (Editors) **99k:01056** 01A70

Duflot, Jeanne Lots of Hopf algebras. (English summary) *J. Algebra* **204** (1998), *no.* 1, 69–94. (J. Stasheff) **99e:16049** 16W30 (16S80, 55S10, 57T05)

Dufour, François (*with* Elliott, Robert J.) Adaptive control of linear systems with Markov perturbations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 351–372. (E. N. Barron) **99a:93104** 93E12 (93C40, 93E20, 93E35)

— (*with* Kannan, D.) Discrete time nonlinear filtering with marked point process observations. (English summary) *Stochastic Anal. Appl.* **17** (1999), *no.* 1, 99–115. (Sergey V. Lototsky) **99k:93089** 93E11 (60G35, 60G55, 60G57)

Dufour, J.-P. (*with* Wade, Aïssa) Formes normales de structures de Poisson ayant un 1-jet nul en un point. (English and French summaries) [Normal forms of Poisson structures with zero 1-jet at a point] *J. Geom. Phys.* **26** (1998), *no.* 1-2, 79–96. (Raúl Ibáñez) **99d:58152** 58F36 (17B99, 58F05)

Dufour, Jean-Marie Some impossibility theorems in econometrics with applications to structural and dynamic models. (English summary) *Econometrica* **65** (1997), *no.* 6, 1365–1387. (Summary) **99c:62287** 62P20

— (*with* Renault, Eric) Short run and long run causality in time series: theory. (English summary) *Econometrica* **66** (1998), *no.* 5, 1099–1125. (B. L. S. Prakasa Rao) **99m:62134** 62M10

— (*with* Hallin, Marc; Mizera, Ivan) Generalized runs tests for heteroscedastic time series. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 1, 39–86. (Summary) **99a:62128** 62M10 (62G10)

Dufourd, Jean-François (*with* Puitg, François) Formal specification and theorem proving breakthroughs in geometric modeling. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 401–422, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (03B35, 68U05)

Dufresne, Daniel Algebraic properties of beta and gamma distributions, and applications. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 3, 285–299. (Gérard Letac) **99i:60036** 60E10 (60J05)

Dufresnoy, Alain Sur le problème de Bennequin: un contre-exemple (d'après Alexander). [On the Bennequin problem: a counterexample (following Alexander)] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 13–15, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 32F99

Dugard, Luc (*with* Niculescu, Silviu-Iulian; Verriest, Erik I.; Dion, Jean-Michel) Stability and robust stability of time-delay systems: a guided tour. (English summary) *Stability and control of time-delay systems*, 1–71, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93–02 (34K20, 34K35, 93C30, 93D09)

— (*with* Li, Huaizhong; Niculescu, Silviu-Iulian; Dion, Jean-Michel) Robust guaranteed cost control for uncertain linear time-delay systems. (English summary) *Stability and control of time-delay systems*, 283–301, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93C30 (93B35)

— (*with* Niculescu, Silviu-Iulian; de Souza, Carlos E.; Dion, Jean-Michel) Robust exponential stability of uncertain systems with time-varying delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 743–748. (Tetsushi Sasagawa) **99h:93078** 93D09 (34K35)

— (*with* Chaoui, F. Z.; Giri, F.; Dion, Jean-Michel; M'saad, M.) Adaptive tracking with saturating input and controller integral action. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1638–1643. (Summary) **99h:93092** 93D21 (93C40)

— (*with* Li, Huaizhong; Niculescu, Silviu-Iulian; Dion, Jean-Michel) Robust guaranteed cost control of uncertain linear time-delay systems using dynamic output feedback. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 349–358. (*see* **99a:93005**) 93B35 (93C41)

— *see also* **Stability and control of time-delay systems, 99h:93004**

Dugas, Manfred (*with* Arnold, David M.) Representation type of finite rank almost completely decomposable groups. (English summary) *Forum Math.* **10** (1998), *no.* 6, 729–749. (A. Mader) **99j:20060** 20K15 (16G60, 20K26)

Duggal, B. P. p-hyponormal operators and invariant subspaces. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 249–257. (Il Bong Jung) **99g:47041** 47B20 (47A15)

— (*with* Chō, Muneo; Huruya, Tadasi) Corrigendum to: "On the spectrum of p-hyponormal operators" [Acta Sci. Math. (Szeged) **63** (1997), no. 3-4, 623–637; MR

98m:47024] by Duggal. *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 741–742. (From the text) **99k:47054** 47B20 (47A10)
— On the spectrum of n-tuples of p-hyponormal operators. *Glasgow Math. J.* **40** (1998), *no.* 1, 123–131. (Ameer Athavale) **99a:47010** 47A13 (47B20)
Duggan, Dominic Finite subtype inference with explicit polymorphism. (English summary) *Static analysis (Pisa, 1998)*, 295–310, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68N15
Duggan, William T. (*with* Mukhopadhyay, Nitis) Can a two-stage procedure enjoy second-order properties? (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 435–448. (Summary) **99m:62122** 62L12
Dugowson, Stéphane L'élaboration par Riemann d'une définition de la dérivation d'ordre non entier. (English and French summaries) [Riemann's work on defining the concept of fractional calculus] *Rev. Histoire Math.* **3** (1997), *no.* 1, 49–97. (M. E. Muldoon) **99b:01011** 01A55 (26–03, 26A33)
Duh, Dyi-Rong (*with* Su, Ming-Yang; Chen, Gen-Huey) Topological properties of incomplete WK-recursive networks. (English summary) *Networks* **32** (1998), *no.* 1, 23–45. (Summary) **99d:68024** 68M10 (05C45, 05C85)
Duh, Meng-Feng (*with* Huang, Young-Ye) Common fixed points for mappings on complete Menger spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 169–193. (Summary) **99g:54042** 54H25 (54C60, 54E70)
Duhamel, D. (*with* Sergent, Philippe) Optimal placement of sources and sensors with the minimax criterion for active control of a one-dimensional sound field. (English summary) *J. Sound Vibration* **207** (1997), *no.* 4, 537–566. (Summary) **99a:76139** 76Q05 (49N55, 73K12, 73K50)
Duhem, Pierre ★ Ziel und Struktur der physikalischen Theorien. (German. German summary) [Goal and structure of physical theories] With a preface by Ernst Mach and with an introduction and bibliography by Lothar Schäfer. Translation by Friedrich Adler. Philosophische Bibliothek [Philosophical Library], 477. *Felix Meiner Verlag, Hamburg*, 1998. *liv+374 pp. ISBN* 3-7873-1201-3 (Editors) **99g:01043** 01A75 (00A30, 00A79)
Duhoux, M. Maximum and anti-maximum principles for singular Sturm-Liouville problems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 525–547. (Iuliu Dan Coroian) **99e:34028** 34B24
Dui, Guan-Suo Determination of the rotation tensor in the polar decomposition. (English summary) *J. Elasticity* **50** (1998), *no.* 3, 197–208. (Maurizio Vianello) **99i:73025** 73C50 (73B99)
— Some new representations of spin tensors. *Mech. Res. Comm.* **26** (1999), *no.* 1, 1–6. (Maurizio Vianello) **99m:73008** 73B99
van Duijn, C. J. (*with* Schotting, R. J.) Brine transport in porous media: on the use of von Mises and similarity transformations. (English summary) *Comput. Geosci.* **2** (1998), *no.* 2, 125–149. 76S05
van Duin, Arno C. N. (*with* Chaudron, Michel R. V.) The formal derivation of parallel triangular system solvers using a coordination-based design method. (English summary) *Parallel Comput.* **24** (1998), *no.* 7, 1023–1046. (C. Phillips) **99g:65134** 65Y05 (65F30)
Duin, Cees Reducing the graphical Steiner problem with a sensitivity test. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 79–107, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Konrad Engel) **99h:90109** 90C35 (05C85, 90C27)
Duistermaat, J. J. The monodromy in the Hamiltonian Hopf bifurcation. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 156–161. (Jair Koiller) **99e:58133** 58F14 (58F05, 70H05, 70H33)
Dujella, Andrej The problem of Diophantus and Davenport. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 153–160. (Péter Kiss) **99c:11040** 11D99
— The problem of the extension of a parametric family of Diophantine triples. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 311–322. (Calvin T. Long) **99a:11030** 11D09 (11B37)
— A problem of Diophantus and Dickson's conjecture. (English summary) *Number theory (Eger, 1996)*, 147–156, *de Gruyter, Berlin*, 1998. (Summary) **99g:11034** 11D09 (11A41)
— Some estimates of the number of Diophantine quadruples. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 177–189. (Calvin T. Long) **99k:11052** 11D99
— (*with* Pethő, Attila) A generalization of a theorem of Baker and Davenport. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 291–306. (Yann Bugeaud) **99g:11035** 11D09 (11D61)
— A bijective proof of Riordan's theorem on powers of Fibonacci numbers. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 217–220. (Summary) **99k:05016** 05A19
— A proof of the Hoggatt-Bergum conjecture. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1999–2005. (Neville Robbins) **99j:11015** 11B39 (11D09, 11D25)
Duka, N. G. (*with* Gorbachev, V. I.) Finite groups with trivial intersections of some subgroups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 47–54, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10
Duke, William (*with* Friedlander, John B.; Iwaniec, Henryk) Representations by the determinant and mean values of L-functions. *Sieve methods, exponential sums, and their applications in number theory (Cardiff, 1995)*, 109–115, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Matti Jutila) **99f:11105** 11M06 (11L40)
— Elliptic curves with no exceptional primes. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 813–818. (Massimo Bertolini) **99b:11059** 11G05 (11N36)
— Bounds for arithmetic multiplicities. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 163–172 (*electronic*). (John B. Friedlander) **99j:11042** 11F11 (11G05, 11R16, 11R29)
— (*with* Davis, Sandra; Sun, Xiao Dong[1]) Probabilistic Galois theory of reciprocal polynomials. *Exposition. Math.* **16** (1998), *no.* 3, 263–270. (Maurice Mignotte) **99i:11063** 11K99 (11R32)
— (*with* Greenfield, Stephen J.; Speer, Eugene R.) Properties of a quadratic Fibonacci recurrence. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.8 (1 *HTML document*). (Neville Robbins) **99k:11024** 11B39
Dukelsky, J. (*with* Román, J. M.; Sierra, Germán; Martín-Delgado, Miguel A.) The matrix product approach to quantum spin ladders. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9729–9759. (Summary) **99j:82019** 82B20
Dukes, Peter (*with* Illner, R.; Victory, H. D.; Bobylëv, A. V.) On Vlasov-Manev equations. II. Local existence and uniqueness. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 625–654. (Carlo Cercignani) **99i:85001** 85A05 (45K05, 70F10, 76X05, 82D10)
Dukhovny, Alexander Vacations in $GI^X/M^Y/1$ systems and Riemann boundary value problems. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 351–366 (1998). (Summary) **99a:60103** 60K25 (90B22)
Dul, Franciszek A. MINRES and MINERR are better than SYMMLQ in eigenpair computations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1767–1782 (*electronic*). (Summary) **99d:65117** 65F15
Dulá, J. H. (*with* Helgason, R. V.; Venugopal, Nandogopal) An algorithm for identifying the frame of a pointed finite conical hull. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 323–330. (Summary) **99f:65213** 65Y25 (90C15)
Dulęba, Ignacy On a computationally simple form of the generalized Campbell-Baker-Hausdorff-Dynkin formula. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 191–202. (Summary) **99d:93015** 93B25 (93C10, 93C83)
Dulev, V. A. On infinite-dimensional n-manifolds. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 12–17, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 10–13. (C. J. Atkin) **99k:54026** 54F45 (57N20)
Dulikravich, G. S. *see* **Inverse problems in engineering mechanics, 99k:80001**
Dulio, Paolo On weak subfamilies and the classification of families of varieties. (English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 91–100 (1997). (Jan Rataj) **99b:53092** 53C65
— Iterations of a family of varieties. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 133–142. (Allen D. Rogers) **99b:52009** 52A22
— Some results on the integral geometry of unions of independent families. (English summary) *Rev. Colombiana Mat.* **31** (1997), *no.* 2, 99–108. 52A22
Dullin, Holger R. (*with* Waalkens, Holger; Wiersig, Jan) Elliptic quantum billiard. (English summary) *Ann. Physics* **260** (1997), *no.* 1, 50–90. (Christian Grosche) **99b:81063** 81Q50 (33C90, 81Q20)
— (*with* Bolsinov, A. V.) The Euler case in the dynamics of a rigid body and the Jacobi problem. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 13–25. (Summary) **99d:70013** 70E15 (58F07, 70H05)
— Symbolic dynamics and the discrete variational principle. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9065–9072. (Anne Broise) **99i:58050** 58F03 (58F05, 70H05)
— (*with* Howard, James E.) Linear stability of natural symplectic maps. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 273–283. (Dmitry V. Treshchëv) **99i:58088** 58F10 (58F05, 70H05)
— (*with* Meiss, James D.) Stability of minimal periodic orbits. (English summary) *Phys. Lett. A* **247** (1998), *no.* 3, 227–234. (Summary) **99f:58168** 58F22 (58F10, 70H05)
Dulov, E. V. (*with* Semushin, I. V.) Adaptive filter for systems with unknown noise covariances using an instrumental performance functional. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 110–119. (*see* **99b:93002**) 93E11
Dulucq, S. (*with* Guibert, O.) Baxter permutations. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 143–156. (Wayne M. Dymacek) **99c:05004** 05A05 (05A10)
— (*with* Gire, S.; Guibert, O.) A combinatorial proof of J. West's conjecture. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 71–96. (W. G. Brown) **99f:05053** 05C30 (05A05, 68R05)
Duma, Adrian On the isometric theory of indefinite inner product spaces. *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 18–26. 46C20
— (*with* Leonte, Alexandru) Applications in the Browder-Petryshyn degree theory. Surjectivity theorems. (Romanian) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 21–25 (1994). 47H11 (47H15)
— Banach spaces with topological degree. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 31–43 (1995). (Christian Fenske) **99f:47084** 47H11
— Degree theory from an axiomatic viewpoint. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 339–346. 47H11
— (*with* Duma, Mioara) On the embedding of degree theories. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 28–35 (1998). (Vesa Mustonen) **99k:47153** 47H11 (58C30)
Duma, Andrei (*with* Stoka, Marius) Problems of geometric probability for non-regular lattices. II, III. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 143–151, 153–157. (Jan Rataj) **99c:60018** 60D05 (52A22)
Duma, Mioara (*with* Duma, Adrian) On the embedding of degree theories. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 28–35 (1998). (Vesa Mustonen) **99k:47153** 47H11 (58C30)
Dumaldar, Mahesh N. (*with* Bhatwadekar, S. M.; Sharma, Pramod K.) Some non-chromatic rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 477–505. (Daniel D. Anderson) **99a:13002** 13A99
— (*with* Sharma, Pramod K.) Comments over "some non-chromatic rings". (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3871–3883. (Daniel D. Anderson) **99k:13009** 13A99 (05C15, 13M99)
Dumas, F. Sous corps complets des corps gauches de séries de Laurent à hautes dérivations. (French summary) [Complete subfields of division rings of higher-derivation Laurent series] *Anneaux et modules (Colmar, 1991)*, 55–71, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (André Leroy) **99c:16046** 16W60 (16S32)
— (*with* Alev, J.) Invariants du corps de Weyl sous l'action de groupes finis. (English summary) [Invariants of the Weyl field under the action of finite groups] *Comm. Algebra* **25** (1997), *no.* 5, 1655–1672. (Michel Van den Bergh) **99c:16030** 16W20
— (*with* Alev, J.) Sur les invariants des algèbres de Weyl et de leurs corps de fractions. [Invariants of Weyl algebras and of their fields of fractions] *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 1–10, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Philippe Revoy) **99g:16042** 16W20 (16S32)
Dumas, Vincent Diverging paths in FIFO fluid networks. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 191–194. (Summary) **99h:90040** 90B10 (93C30)

Dümbgen, Lutz New goodness-of-fit tests and their application to nonparametric confidence sets. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 288–314. (P. Laurie Davies) **99c:62086** 62G05 (62G10, 62G15)
— Perturbation inequalities and confidence sets for functions of a scatter matrix. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 1, 19–35. (C. R. Rao) **99d:62061** 62H12 (62F25)
— Symmetrization and decoupling of combinatorial random elements. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 355–361. (Miguel A. Arcones) **99f:60031** 60E15 (60C05)
Dumeau, J.-P. (*with* Coorevits, P.; Pelle, J.-P.) Error estimator and adaptivity for three-dimensional finite element analyses. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 443–457, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05
Du Merle, Olivier *see* **du Merle, Olivier**
Dumin, Yu. V. The use of generalized spherical functions for solving the spherically symmetric problem of the dynamo effect. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1900–1906; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1824–1829. (Summary) **99j:76135** 76W05 (85A30)
— Correction to: "The use of generalized spherical functions for solving the spherically symmetric problem of the dynamo effect" [Zh. Vychisl. Mat. Mat. Fiz. **38** (1998), no. 11, 1900–1906; MR 99j:76135]. (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 178. 76W05 (85A30)
Dumir, P. C. (*with* Kapuria, S.; Sengupta, S.) Three-dimensional axisymmetric piezothermoelastic solution of clamped circular elastic plate bonded to piezoceramic plate. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 2, 117–129. 73K10 (73R05)
Dumir, V. C. (*with* Bambah, R. P.; Hans-Gill, R. J.) Diophantine inequalities. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 2, 101–114. (Thomas W. Cusick) **99e:11095** 11J25 (11D75)
Dumitraşcu, Stelian On the random two-dimensional convex bodies. (English summary) *An. Univ. Timişoara Ser. Mat.-Inform.* **34** (1996), *no.* 2, 225–234. (Hui Ling Le) **99k:52007** 52A22 (60D05, 65Y25)
Dumitrescu, Bogdan (*with* Doreille, M.; Roch, J.-L.; Trystram, D.) Two-dimensional block partitionings for the parallel sparse Cholesky factorization. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 17–38 (1998). (R. P. Tewarson) **99d:65088** 65F05 (65F50)
— Improving and estimating the accuracy of Strassen's algorithm. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 485–499. (Jin Yun Yuan) **99d:65127** 65F30 (65F05)
Dumitrescu, C. *see* **Dumitrescu, Constantin A.**
cucu-Dumitrescu, Cătălin *see* **Cucu-Dumitrescu, Cătălin**
Dumitrescu, Constantin A. (*with* Seleacu, Vasile) The equations $m \cdot S(m) = n \cdot S(n)$ and $m \cdot S(n) = n \cdot S(m)$ have infinitely many solutions. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 115–121, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11D99
— (*with* Udrişte, Constantin; Şandru, Ovidiu-Ilie; Zlătescu, A.) Ţiţeica indicatrix and figuratrix. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 117–124, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Makoto Matsumoto) **99i:53020** 53B40
— (*with* Muller, R.) To enjoy is a permanent component of mathematics. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 11–26. 11B65
— (*with* Rocsoreanu, Carmen) Some connections between the Smarandache function and the Fibonacci sequence. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 50–60. 11B39 (11A25)
— *see also* **Proceedings: Conference on Smarandache Type Notions in Number Theory, 99a:11002**
Dumitrescu, Dumitru T. (*with* Pop, H. F.) Degenerate and non-degenerate convex decomposition of finite fuzzy partitions. II. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 1, 111–118. (From the summary) **99i:04002** 04A72
vicolov-Dumitrescu, Sorina *see* **Vicolov-Dumitrescu, Sorina**
Dummigan, N. P. Algebraic cycles and even unimodular lattices. *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 209–221. (John W. Jones) **99c:11084** 11H56 (11G25)
— (*with* Bennett, Michael A.; Wooley, Trevor D.) The representation of integers by binary additive forms. (English summary) *Compositio Math.* **111** (1998), *no.* 1, 15–33. (G. Greaves) **99a:11041** 11D85 (11D41, 11P05)
— (*with* Tiep, Pham Huu) Congruences for certain theta series. *J. Number Theory* **71** (1998), *no.* 1, 86–105. (Rainer Schulze-Pillot) **99k:11065** 11F27 (11H56)
Dumont, Dominique (*with* Zeng, Jiang) Polynômes d'Euler et fractions continues de Stieltjes-Rogers. (English summary) [Euler polynomials and Stieltjes-Rogers continued fractions] *Ramanujan J.* **2** (1998), *no.* 3, 387–410. (Volker Strehl) **99i:05008** 05A15 (11B68, 30B70)
Dümont, Jürgen (*with* Mau, Frank) Are there true contradictions? A critical discussion of: *Beyond the limits of thought* [Cambridge Univ. Press, Cambridge, 1995; MR 97a:00014] by G. Priest. (English summary) *J. Gen. Philos. Sci.* **29** (1998), *no.* 2, 289–299. (Summary) **99k:00010** 00A30 (01A05, 03A05, 03B53, 03E70)
Dumont, N. A. (*with* Noronha, M. A. M.) A simple, accurate scheme for the numerical evaluation of integrals with complex singularity poles. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 42–49. 65D30
Dumortier, Freddy (*with* Ibáñez, S.) Singularities of vector fields on $\mathbf{R}^3$. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1037–1047. (Robert Roussarie) **99h:58133** 58F14 (34C05, 34C23, 58F21)
— (*with* Herssens, Chris) Polynomial Liénard equations near infinity. (English summary) *J. Differential Equations* **153** (1999), *no.* 1, 1–29. (I. D. Iliev) **99m:34061** 34C05 (58F21)
Dumortier, Laurence (*with* Callier, Frank M.) Partially stabilizing LQ-optimal control for stabilizable semigroup systems. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 119–151. (Olof J. Staffans) **99i:93049** 93D15 (47N70, 49K27, 49N10)
Dumse, R. M. (*with* Faraoni, Valerio) The gravitational interaction of light: from weak to strong fields. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 91–105. (W. B. Bonnor) **99k:83100** 83C99 (81V10)
Dun, C. R. The challenge of computing eigenvalues of a two-dimensional differential operator. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 259–266, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65L15
— (*with* Hegland, Markus; Osborne, Michael R.) Parallel stable solution methods for tridiagonal linear systems of equations. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 267–274, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65F10 (65Y05)
Dunaev, Vl-r I. The strength condition for thermoelastic anisotropic materials. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 2, 16–19, 101. 73B30 (73M25)
Dunaev, Vl-v I. Two-dimensional problems of brittle fracture for infinite bodies with an isolated defect. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 3, 36–40, 111. 73M25
Dunajski, M. (*with* Mason, Lionel J.; Woodhouse, N. M. J.) From 2D integrable systems to self-dual gravity. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6019–6028. (Maciej Przanowski) **99i:83013** 83C15 (58F07, 83C60)
Dunbar, Jean E. (*with* Hattingh, Johannes H.; McRae, Alice A.; Slater, Peter J.) Efficient coverage of edge sets in graphs. (English summary) *Util. Math.* **51** (1997), 183–192. (László Pyber) **99b:05109** 05C70
— (*with* Broere, Izak; Hattingh, Johannes H.) Minus k-subdomination in graphs. (English summary) *Ars Combin.* **50** (1998), 177–186. (Summary) **99j:05098** 05C35
— (*with* Broere, Izak; Dorfling, Michael; Frick, Marietjie) A path(ological) partition problem. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 113–125. (Peter Mihók) **99i:05159** 05C70 (05C38)
— (*with* Hedetniemi, Stephen T.; Henning, Michael A.; McRae, Alice A.) Minus domination in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 35–47. (Summary) **99j:05104** 05C35
Dunbar, Steven R. (*with* Dawkins, Paul T.; Douglass, Rod W.) The origin and nature of spurious eigenvalues in the spectral tau method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 441–462. (T. E. Simos) **99j:65132** 65L15
pasik-Duncan, Bożenna *see* **Pasik-Duncan, Bożenna**
Duncan, Dugald B. Difference approximations of acoustic and elastic wave equations. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 197–210, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:65006**) 65M06 (73D99, 73V15, 76M20, 76Q05)
Duncan, John (*with* Dales, H. Garth) Second-order cohomology groups of some semigroup algebras. (English summary) *Banach algebras '97* (*Blaubeuren*), 101–117, *de Gruyter, Berlin*, 1998. (Niels Grønbæk) **99m:46168** 46M20 (43A10, 46H05)
Duncan, Richard Weak convergence of spectral measures. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 35–39. (W. Ricker) **99a:47004** 47A10 (47B15)
Duncan, T. E. (*with* Maslowski, Bohdan; Pasik-Duncan, Bożenna) Ergodic distributed control for parameter dependent stochastic semilinear systems. (English summary) *Stochastic differential and difference equations* (*Győr*, 1996), 43–58, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Ł. Stettner) **99f:93142** 93E20 (60H15)
— (*with* Pasik-Duncan, Bożenna; Stettner, Łukasz) Adaptive control of a partially observed discrete time Markov process. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 3, 269–293. (Andrew James Heunis) **99b:93054** 93E35 (60J05, 90C40)
— (*with* Pasik-Duncan, Bożenna; Stettner, Łukasz) Discretized maximum likelihood and almost optimal adaptive control of ergodic Markov models. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 422–446 (*electronic*). (Michael A. Kouritzin) **99g:93087** 93E20 (60J05, 62M05)
— (*with* Maslowski, Bohdan; Pasik-Duncan, Bożenna) Ergodic boundary/point control of stochastic semilinear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1020–1047 (*electronic*). (Ł. Stettner) **99e:49020** 49J55 (60H15, 93C20, 93E20)
— Some solvable infinite time horizon stochastic control problems in hyperbolic three space. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 199–206, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Ł. Stettner) **99k:93096** 93E20 (58G32)
Dündar, Pınar The Steiner distance of diamond graph. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 19–24. 05C12
Dundas, Bjørn Ian Relative K-theory and topological cyclic homology. *Acta Math.* **179** (1997), *no.* 2, 223–242. (Teimuraz Pirashvili) **99e:19007** 19D55
— K-theory theorems in topological cyclic homology. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 23–33. (Thierry Lambre) **99h:19004** 19D55 (16E40, 55P47)
— Continuity of K-theory: an example in equal characteristics. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 5, 1287–1291. (Ross Staffeldt) **99e:19004** 19D45 (11S70, 19D50)
phan minh Dung *see* **Phan Minh Dung**
nguyễn việt Dũng² *see* **Nguyễn Việt Dũng²**
Dung, Le On steady state solutions for a class of reaction-diffusion systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 341–358. (Vladimir Grebenev) **99h:35098** 35K57 (35B40)
— Global attractors and steady state solutions for a class of reaction-diffusion systems. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 1–29. (Sergei A. Vakulenko) **99f:35086** 35K57 (35B40, 47H20)
— Global L^∞ estimates for a class of reaction-diffusion systems. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 72–94. (Siegfried Carl) **99g:35062** 35K57 (35B45, 35Q80, 92D25)
— (*with* Smith, H. L.; Waltman, Paul) Growth in the unstirred chemostat with different diffusion rates. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 131–142, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92024** 92D25 (35Q80)
Dung, Nguyen Viet *see* **Nguyễn Việt Dũng²**
le Dung Muu *see* **Le Dung Muu**
lê Dũng Tráng *see* **Lê Dũng Tráng**
Dunham, Bruce (*with* Bingham, N. H.) Estimating diffusion coefficients from count data: Einstein-Smoluchowski theory revisited. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 667–679. (Francis Comets) **99m:62127** 62M05 (60K40)
Dunham, Charles B. Accurate evaluation of even and odd functions. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 189–191. 65D20

— Fitting approximations with fixed components at zero. (English summary) *Int. J. Comput. Math.* **71** (1999), *no.* 1, 97–98. 65D15 (41A20)

Dunkerton, Timothy J. (*with* Lelong, M.-Pascale) Inertia-gravity wave breaking in three dimensions. I. Convectively stable waves. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 15, 2473–2488. (Summary) **99c:76012** 76B15 (76E99, 76U05, 86A05)

— (*with* Lelong, M.-Pascale) Inertia-gravity wave breaking in three dimensions. II. Convectively unstable waves. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 15, 2489–2501. (Summary) **99e:76009** 76B15 (76E15, 76E20, 76U05, 86A10)

Dunkl, Charles F. Monodromy of hypergeometric functions for dihedral groups. (English summary) *Integral Transform. Spec. Funct.* **1** (1993), *no.* 2, 75–86. (Summary) **99g:33003** 33C05 (20F36, 32G34, 33C80)

Dunmur, A. P. (*with* Titterington, D. Michael) The influence of initial conditions on maximum likelihood estimation of the parameters of a binary hidden Markov model. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 67–73. 62M05

Dunn, Barry (*with* Garcia, Ephrahim) Optimal placement of a proof mass actuator for active structural acoustic control. (English summary) *Mech. Structures Mach.* **27** (1999), *no.* 1, 23–35. 73K50 (73K12, 93C95)

Dunn, Graham A. *see* **Dynamics of cell and tissue motion, 99a:92008**

Dunn, J. *see* **Dunn, John**

Dunn, J. Michael (*with* Meyer, Robert K.) Combinators and structurally free logic. (English summary) *Log. J. IGPL* **5** (1997), *no.* 4, 505–537 (*electronic*). (J. P. Seldin) **99d:03013** 03B40

— (*with* Bimbó, Katalin) Two extensions of the structurally free logic LC. (English summary) *Log. J. IGPL* **6** (1998), *no.* 3, 403–424. (Martin W. Bunder) **99f:03012** 03B40

Dunn, John (*with* Gines, D.; Beylkin, Gregory) *LU* factorization of non-standard forms and direct multiresolution solvers. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 156–201. (Heike Faßbender) **99c:65087** 65F50 (65N22)

Dunn, Joseph C. Augmented gradient projection calculations for regulator problems with pointwise state and control constraints. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 130–153, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michael E. Fisher) **99f:49047** 49M07 (49M37, 65K10)

— L^2 sufficient conditions for end-constrained optimal control problems with inputs in a polyhedron. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1833–1851 (*electronic*). (Vera Zeidan) **99j:49036** 49K15 (49M07)

Dunne, Gerald V. (*with* Mannix, Jake) Supersymmetry breaking with periodic potentials. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 115–119. (Summary) **99b:81097** 81R40

— (*with* Bender, Carl M.; Meisinger, Peter N.) Complex periodic potentials with real band spectra. (English summary) *Phys. Lett. A* **252** (1999), *no.* 5, 272–276. 81Q20

Dunne, James E. (*with* De, Prabuddha; Ghosh, Jay B.; Wells, Charles E.) Complexity of the discrete time-cost tradeoff problem for project networks. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 302–306. (Summary) **99f:90183** 90C60 (68Q25, 90C35)

Dunne, Paul E. Ceilings of monotone Boolean functions. (English summary) *J.UCS* **2** (1996), *no.* 7, 533–548 (*electronic*). (Summary) **99f:68091** 68Q25 (03D15, 06E30, 94C10)

— (*with* Amos, Martyn; Gibbons, Alan) Toward feasible and efficient DNA computation. (English summary) *Complexity* **4** (1998), *no.* 1, 20–24. (Robert M. Baer) **99m:68047** 68Q05 (92D20)

Dunnett, Charles W. (*with* Tamhane, Ajit C.; Liu, Wei[4]) A generalized step-up-down multiple test procedure. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 353–363. 62F05 (92C50)

Dunning-Davies, J. (*with* Cole, G. H. A.) Time travel: fact or fiction? (English summary) *Hadronic J.* **20** (1997), *no.* 4, 317–328. 83A05

— (*with* Lavenda, B. H.) Problems with the entropy concept in modern applications of thermodynamics. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 3, 375–385. (Summary) **99i:80003** 80A10 (80A05, 85A40)

— Strings and inflation in modern cosmology. (English summary) *Hadronic J.* **22** (1999), *no.* 2, 117–122. 83F05 (83E30)

— Intermediate statistics? (English summary) *Hadronic J.* **22** (1999), *no.* 2, 211–217. 81S05

Dunninger, D. R. (*with* Wang, Hai Yan[1]) Multiplicity of positive solutions for a nonlinear differential equation with nonlinear boundary conditions. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 2, 155–165. (Rafael Ortega) **99h:34029** 34B15

Dunoyer, A. (*with* Balmer, L.; Burnham, K. J.; James, D. J. G.) On the discretization of single-input single-output bilinear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 361–372. 93A30 (93C55)

Dunsby, P. K. S. (*with* Ellis, George F. R.; Bassett, B. A. C. C.) Lensing and caustic effects on cosmological distances. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2345–2361. (Summary) **99h:83064** 83F05

Dunster, T. M. Asymptotics of the eigenvalues of the rotating harmonic oscillator. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 1, 45–73. (Laurence Nedelec) **99h:81049** 81Q20 (34E20)

Düntsch, Ivo (*with* Gediga, Günther) Algebraic aspects of attribute dependencies in information systems. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 119–133. (Summary) **99i:68113** 68T30

— Rough sets and algebras of relations. (English summary) *Incomplete information: rough set analysis*, 95–108, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 04A72 (03G15)

— (*with* Gediga, Günther) Simple data filtering in rough set systems. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 93–106. (Milan Mareš) **99j:68138** 68T30 (04A72)

Dünweg, Burkhard (*with* Grest, Gary S.; Kremer, Kurt) Molecular dynamics simulations of polymer systems. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 159–195, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60

Dunwoody, M. J. (*with* Jones, J. Mary) A group with strange decomposition properties. *J. Group Theory* **1** (1998), *no.* 3, 301–305. (Warren Dicks) **99d:20036** 20E08 (20E06, 20F05)

Dunworth, Christopher (*with* Boneh, Dan; Lipton, Richard J.; Sgall, Jiří) Making DNA computers error resistant. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 163–170, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05

Dunyak, James P. (*with* Freidlin, Mark I.) Optimal residence time control of Hamiltonian systems perturbed by white noise. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 233–252 (*electronic*). (Alexander Veretennikov) **99d:49049** 49K45 (34F05, 60F17, 60J60)

— Diffusions in perforated domains with mixed boundary conditions. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 873–893. (Zhongmin Qian) **99f:35069** 35K05 (35B27, 60J70)

Duoandikoetxea, Javier (*with* Vargas, Ana) Maximal operators associated to Fourier multipliers with an arbitrary set of parameters. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 683–696. (Rodolfo Torres) **99h:42033** 42B25 (42A45)

ha-Duong, Tuong *see* **Ha-Duong, Tuong**

Duong, Xuan Thinh (*with* Coulhon, Thierry) Riesz transforms for $1 \le p \le 2$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1151–1169. (Zhongmin Qian) **99e:58174** 58G11 (31C12, 53C21, 60J35)

Duong Quoc Viet On Cohen-Macaulayness and Gorensteinness of Rees algebras of integrally closed filtrations of height two equimultiple ideals. *Acta Math. Vietnam.* **23** (1998), *no.* 2, 217–229. (Santiago Zarzuela Armengou) **99m:13005** 13A30 (13H10)

hoang Duong Tuan *see* **Hoang Duong Tuan**

Dupač, Václav (*with* Fabian, Václav) Nonparametric estimation of a changing function. (English summary) *Statist. Decisions* **16** (1998), *no.* 3, 215–228. (Winfried Stute) **99i:62088** 62G07

— *see also* **Hájek, Jaroslav, 99k:01086**

Dupačová, Jitka Stochastic programming: approximation via scenarios. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 20 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99e:90060** 90C15 (90–02)

— Reflections on robust optimization. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 111–127, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99h:90072** 90C15

Dupain, Yves (*with* Bruna, Joaquim; Charpentier, Philippe) Zero varieties for the Nevanlinna class in convex domains of finite type in $\mathbf{C}^n$. *Ann. of Math.* (2) **147** (1998), *no.* 2, 391–415. (Der-Chen E. Chang) **99e:32023** 32F20 (32E99)

Dupaix, C. (*with* Hilhorst, D.; Laurençot, Philippe) Upper-semicontinuity of the attractor for a singularly perturbed phase field model. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 115–143. (Alan V. Lair) **99f:35009** 35B25 (34G20, 35J25, 35K20, 47H20, 58F39)

Dupin, J. C. (*with* Bair, J.) Cover and bounded parallel faces. (English summary) *Geom. Dedicata* **72** (1998), *no.* 3, 299–307. (Elisabeth M. Werner) **99k:52003** 52A20

Duplantier, Bertrand Random walks and quantum gravity in two dimensions. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 25, 5489–5492. (Summary) **99j:83034** 83C45 (82B41)

— Harmonic measure exponents for two-dimensional percolation. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 20, 3940–3943. (Summary) **99m:82029** 82B43 (82B41)

Du Plessis, A. A. *see* **du Plessis, A. A.**

Du Plessis, J. L. *see* **du Plessis, J. L.**

Du Plessis, J. Prieur *see* **du Plessis, J. Prieur**

Duplīĭ, S. A. (*with* Akulov, Vladimir P.; Chitov, V. V.) q-differential calculus and deformed light-cone. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 317–323, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 58B30 (81R50)

Dupont, F. (*with* McLachlan, Robert I.; Zeitlin, Vladimir) On a possible mechanism of anomalous diffusion by Rossby waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3185–3193. (Summary) **99g:76027** 76C20 (58F40, 76U05, 86A05, 86A10)

Dupont, Johan L. (*with* Bökstedt, Marcel; Brun, Morten) Homology of $O(n)$ and $O^1(1, n)$ made discrete: an application of edgewise subdivision. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 131–152. (Veena Sharma) **99c:20061** 20G10 (22E15, 55R45, 57T10)

— Chih-Han Sah (1934–1997). *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 1–2. 01A70

Dupont, Nicolas Un diviseur de zéro induisant un élément d'homotopie central. (English and French summaries) [A zero divisor inducing a central homotopy element] *Bull. Soc. Math. France* **125** (1997), *no.* 3, 337–344. (Kathryn P. Hess) **99a:55008** 55P62 (13D03)

— (*with* Vigué-Poirrier, Micheline) Formalité des espaces de lacets libres. (English and French summaries) [Formality of the free loop space] *Bull. Soc. Math. France* **126** (1998), *no.* 1, 141–148. (Yves Félix) **99i:55018** 55P62 (55P35)

— A counterexample to the Lemaire-Sigrist conjecture. (English summary) *Topology* **38** (1999), *no.* 1, 189–196. (Yves Félix) **99e:55019** 55P62 (55P50)

Dupont, Pierre E. (*with* Kasturi, P.) Constrained optimal control of vibration dampers. (English summary) *J. Sound Vibration* **215** (1998), *no.* 3, 499–509. 49N55 (73K12, 73K50)

Dupont, Todd F. (*with* Keenan, Philip T.) Superconvergence and postprocessing of fluxes from lowest-order mixed methods on triangles and tetrahedra. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1322–1332 (*electronic*). (S. Galanis) **99k:65100** 65N12 (65N06)

theseider Dupré, Daniele *see* **Theseider Dupré, Daniele**

Dupré, L. R. (*with* Van Keer, Roger; Melkebeek, J. A. A.) Computational methods for the evaluation of the electromagnetic losses in electrical machinery. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 4, 385–443. (Summary) **99j:78005** 78–08 (78A55)

— (*with* Van Keer, Roger; Melkebeek, J. A. A.) Complementary 2-D finite element procedures for the magnetic field analysis using a vector hysteresis model. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 1005–1023. (Summary) **99f:78001** 78–08

— (*with* Van Keer, Roger) Finite element methods for nonlinear elliptic and parabolic problems with memory properties. *Bull. Belg. Math. Soc. Simon Stevin* **6** (1999), *no.* 1, 1–67. (Preface) **99m:65002** 65–02 (65M60, 65N30)

Dupuis, Paul (*with* Ellis, Richard S.) ★ A weak convergence approach to the theory of large deviations. (English summary) Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xviii+479 *pp. ISBN* 0-471-07672-4 (Anatolii A. Pukhal'skiĭ) **99f:60057** 60F10 (60B10, 60F17)

— (*with* Boué, Michelle) A variational representation for certain functionals of Brownian motion. (English summary) *Ann. Probab.* **26** (1998), *no.* 4, 1641–1659. (Catherine Donati-Martin) **99m:60124** 60J65 (60F10, 60H99)

— (*with* Grenander, Ulf; Miller, Michael I.) Variational problems on flows of diffeomorphisms for image matching. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 587–600. (Naoyuki Ishimura) **99f:49006** 49J20 (58E25)

— (*with* Ramanan, Kavita) A Skorokhod problem formulation and large deviation analysis of a processor sharing model. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 109–124. (Summary) **99c:60201** 60K25 (68M10)

— (*with* James, Matthew R.) Rates of convergence for approximation schemes in optimal control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 719–741 (*electronic*). (Jose Luis Menaldi) **99b:49029** 49M25 (65U05, 93E20)

Duque Hoyos, Álvaro (*with* Ardila de la Peña, Victor Manuel; Julio-Arrieta, Carlos A.; Luna Torres, Joaquín; Restrepo, Mauricio) Sieves and adjunction. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **2** (1995), *no.* 2, 167–171. (Summary) **99g:18001** 18A40

Dür, Arne (*with* Althaler, Joachim) Finite linear recurring sequences and homogeneous ideals. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 5, 377–390. (Summary) **99e:94026** 94A55

— (*with* Althaler, Joachim) A generalization of the Massey-Ding algorithm. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 1, 1–14. (Wende Chen) **99i:94038** 94A55 (94B99)

— On the optimality of the discrete Karhunen-Loève expansion. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1937–1939 (*electronic*). (Summary) **99c:93118** 93E24 (94A12)

Durairajan, T. M. (*with* Kalpana Bai, S.) Optimal equivariant estimator with respect to convex loss function. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 283–295. (Summary) **99c:62019** 62C15 (62F10)

— (*with* Kalpana Bai, S.) Simultaneous equivariant estimation of the parameters of linear models. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 125–134. (Friedrich Liese) **99i:62004** 62A05 (62J05)

Durán, Ana Lía (*with* Estrada, Ricardo; Kanwal, Ram P.) Extensions of the Poisson summation formula. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 581–606. (Mridula Garg) **99a:46073** 46F10 (42A38)

— (*with* Estrada, Ricardo) An extension of the integral test. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1745–1751. (John A. Fridy) **99i:40001** 40A05 (26A06, 40A10)

Duran, Antonio J. *see* **Durán Guardeño, Antonio J.**

Durán, Carlos E. On the complete integrability of the geodesic flow of manifolds all of whose geodesics are closed. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1359–1370. (Donal Hurley) **99a:58122** 58F17 (58F07)

— A volume comparison theorem for Finsler manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3079–3082. (Zhongmin Shen) **99a:53085** 53C60

Duran, Jacques Static and dynamic arching effect in granular materials. (English summary) *Physics of dry granular media (Cargèse, 1997)*, 197–216, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E99 (73B99, 76A99)

Durán, Mirelli (*with* Cammaroto, Agatina; González, Samuel) Zero sum and barycentric problems. (Spanish. English and Spanish summaries) *Divulg. Mat.* **4** (1996), *no.* 1-2, 33–47 (1998). (Summary) **99c:05138** 05C55

Durán, Ricardo G. (*with* Etcheverry, J. I.; Rossi, J. D.) Numerical approximation of a parabolic problem with a nonlinear boundary condition. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 497–506. (Summary) **99a:65122** 65M60 (35K60)

— Error estimates for 3-d narrow finite elements. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 187–199. (Stephen W. Brady) **99c:65200** 65N30

— (*with* Hervella-Nieto, L.; Liberman, E.; Rodríguez, Rodolfo; Solomin, J.) Approximation of the vibration modes of a plate by Reissner-Mindlin equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1447–1463. (Riccardo Fazio) **99m:73045** 73K10 (65N30, 73V20)

Durand, Arnaud (*with* Lautemann, Clemens; Schwentick, Thomas) Subclasses of binary NP. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 189–207. (Bruno Poizat) **99m:03059** 03C13 (03D15, 68Q15)

Durand, Bruno (*with* Porrot, Sylvain; Dauchet, Max; Vereshchagin, Nikolai K.) Deterministic rational transducers and random sequences. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 258–272, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q68 (68Q30)

— *see also* **Börger, Egon et al., 99b:03004**

Durand, Dannie A new look at tree models for multiple sequence alignment. (English summary) *Mathematical support for molecular biology*, 65–84, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92014** 92D15 (68Q20, 92D20)

Durand, Fabien A characterization of substitutive sequences using return words. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 89–101. (Valérie Berthé) **99g:68157** 68R15 (68Q68)

Durand, Georges E. (*with* Virga, Epifanio G.) Hydrodynamic model for surface nematic viscosity. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4137–4142. (Summary) **99m:76005** 76A15

Durand, Jean-François (*with* Sabatier, Robert) Additive splines for partial least squares regression. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1546–1554. (Summary) **99a:62045** 62G05

Durand, Marc (*with* Dermenjian, Yves; Iftimie, Viorel) Spectral analysis of an acoustic multistratified perturbed cylinder. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 141–169. (Ghias Hachem) **99a:35035** 35J05 (35P25, 47F05, 76Q05)

— (*with* Iftimie, Viorel) Comparaison des semi-groupes associés à des opérateurs de Schrödinger dans un champ magnétique. [Comparison of semigroups associated with Schrödinger operators in a magnetic field] *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 685–700. (El Maati Ouhabaz) **99d:35032** 35J10 (81Q10)

Durand-Lose, J. O. Parallel transient time of one-dimensional sand pile. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 183–193. (Karel Culik, II) **99g:68140** 68Q80

Durán Guardeño, Antonio J. (*with* Berg, Christian) Orthogonal polynomials, L^2-spaces and entire functions. (English summary) *Math. Scand.* **79** (1996), *no.* 2, 209–223. (Olav Njåstad) **99c:42042** 42C05 (30E05, 44A60)

— The Hausdorff moment problem with complex exponents and a Müntz-Szasz theorem for distributions. (English summary) *Math. Nachr.* **187** (1997), 79–99. (Olav Njåstad) **99b:44009** 44A60 (30E05)

— Matrix inner product having a matrix symmetric second order differential operator. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 2, 585–600. (Walter Van Assche) **99b:42027** 42C05 (33C45, 34B05)

— *see also* **Proceedings: Symposium on Orthogonal Polynomials and Their Applications, 99h:33001**

Durán Martín, Angel (*with* Sanz Serna, J. M.) Error propagation in the numerical integration of relative equilibria. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 93–100, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L70 (58F05, 70–08, 70H05)

— Numerical integration of the nonlinear Schrödinger equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 701–706, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

Durán Sánchez, Claudia (*with* Barrera Sánchez, Pablo; Hernández Mederos, Victoria) ★ El ABC de los splines. (Spanish. Spanish summary) [The ABC of splines] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 9. *Sociedad Matemática Mexicana, México*, 1996. *iv*+245 *pp. ISBN* 968-36-4806-1 41–01 (41A15, 65D07)

Durany, J. (*with* Calvo, N.; Vázquez Cendón, C.) Numerical solution of a free boundary problem in temperate glaciers. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 617–622, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A23 (35R35)

Durban, D. Friction and singularities in steady penetration. *IUTAM Symposium on Non-linear Singularities in Deformation and Flow (Haifa*, 1997), 141–154, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 73E60 (73D05)

— *see also* **IUTAM Symposium: Non-linear Singularities in Deformation and Flow, 99h:76002**

Durbin, François (*with* Siarry, Patrick; Berthiau, Gérard; Haussy, Jacques) Enhanced simulated annealing for globally minimizing functions of many-continuous variables. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 209–228. 65Y15

Durbin, Paul A. (*with* Jacobs, Robert G.) Shear sheltering and the continuous spectrum of the Orr-Sommerfeld equation. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2006–2011. (Summary) **99d:76032** 76E05 (76D10)

Dureisseix, David (*with* Ladevèze, Pierre) A 2-level and mixed domain decomposition approach for structural analysis. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 238–245, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99h:73087** 73V20 (65N55)

Duren, Peter (*with* Hengartner, Walter) Harmonic mappings of multiply connected domains. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 201–220. (Abdallah Lyzzaik) **99f:30051** 30D40 (31A20)

Dürer, Albrecht *see* **Klingenberg, Wilhelm P. A., 99a:01026**

Durfee, Alan H. The index of grad $f(x, y)$. (English summary) *Topology* **37** (1998), *no.* 6, 1339–1361. (Eugenii Shustin) **99k:57073** 57R70 (32S30, 32S45, 58C27)

Durga Bhavani, S. (*with* Viswanath, K.) Measuring sensitivity to initial conditions. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 301–312. (Summary) **99g:54036** 54H20

— (*with* Viswanath, K.) Metric and topological sensitivity for flows. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 77–85. (Summary) **99i:54052** 54H20 (58F08)

Durham, S. D. (*with* Flournoy, N.; Li, Wu[3]) A sequential design for maximizing the probability of a favourable response. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 3, 479–495. (Summary) **99e:62133** 62L05

Durhuus, Bergfinnur (*with* Jonsson, Thordur) A polymer gas on a random surface. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 153–157. (Summary) **99d:82028** 82B41 (82D60)

Ďuriš, Pavol (*with* Jurdziński, Tomasz; Kutyłowski, Mirosław; Loryś, Krzysztof) Power of cooperation and multihead finite systems. (English summary) *Automata, languages and programming (Aalborg*, 1998), 896–907, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68100** 68Q42 (68Q05)

— (*with* Rolim, José D. P.) Lower bounds on the multiparty communication complexity. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 90–95. (Juraj Hromkovič) **99f:68067** 68Q15 (68Q10, 68Q22, 94C10)

Durkin, Marilyn B. Observations on the dynamics of the complex cosine-root family. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 3, 215–228. (Summary) **99e:58141** 58F23 (30D05)

Durlofsky, Louis J. Coarse scale models of two phase flow in heterogeneous reservoirs: volume averaged equations and their relationship to existing upscaling techniques. (English summary) *Comput. Geosci.* **2** (1998), *no.* 2, 73–92. 76S05 (76T05)

Durot, Cécile (*with* Tocquet, Anne-Sophie) Goodness of fit test for isotonic regression. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 199–204. (Summary) **99g:62055** 62G10

Dürr, Christoph (*with* LêThanh, Huong; Santha, Miklos) A decision procedure for well-formed linear quantum cellular automata. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 381–394. (T. C. Mohan) **99b:68063** 68Q05 (68Q80)

— (*with* Chrobak, Marek) Reconstructing polyatomic structures from discrete X-rays: NP-completeness proof for three atoms (extended abstract). (English summary)

Mathematical foundations of computer science, 1998 (*Brno*), 185–193, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25 (78A45)

Durran, Dale R. ★ Numerical methods for wave equations in geophysical fluid dynamics. (English summary) Texts in Applied Mathematics, 32. *Springer-Verlag, New York*, 1999. *xviii+465 pp. ISBN* 0-387-98376-7 (Yuri N. Skiba) **99j:86002** 86–08 (76C15, 76M10, 76M20, 76M25, 76V05, 86A10)

Durrer, R. (*with* Gasperini, Maurizio; Sakellariadou, M.; Veneziano, Gabriele) Seeds of large-scale anisotropy in string cosmology. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043511, 21 *pp.* 83F05 (83E30)

Durrett, Richard (*with* Chen, Zhen-Qing; Ma, Gang) Holomorphic diffusions and boundary behavior of harmonic functions. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1103–1134. (Summary) **99k:60195** 60J45 (31B25, 60J60)

— (*with* Bramson, Maury; Cox, J. Theodore) A spatial model for the abundance of species. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 658–709. (T. M. Liggett) **99f:60166** 60K35 (92D25, 92D40)

D'Urso, Pierpaolo (*with* Vichi, Maurizio) Dissimilarities between trajectories of a three-way longitudinal data set. (English summary) *Advances in data science and classification* (*Rome*, 1998), 585–592, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H20

Durst, F. (*with* Bernsdorf, J.; Schäfer, Michael) Comparison of cellular automata and finite volume techniques for simulation of incompressible flows in complex geometries. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 251–264. 76M25 (65M60)

Dursun, Uğur (*with* Carter, Sheila) Partial tubes and Chen submanifolds. *J. Geom.* **63** (1998), *no.* 1-2, 30–38. (Ivko Dimitric) **99m:53099** 53C40 (53A07, 53A10)

Durt, Thomas (*with* Bana, Gergely) Proof of Kolmogorovian censorship. (English summary) *Found. Phys.* **27** (1997), *no.* 10, 1355–1373. (S. Gudder) **99b:81017** 81P10

— Do dice remember? (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 457–473. (S. Gudder) **99m:81008** 81P05 (81P15)

Duru, I. H. (*with* Dayi, Ömer F.) q-deformed Kepler and Morse potentials from q-oscillators. *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 137–144, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R50

— (*with* Ahmedov, Hadji) Green function on the q-symmetric space $SU_q(2)/U(1)$. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 131–136, *PWN, Warsaw*, 1997. (Alexei Zhedanov) **99j:81066** 81R50

— (*with* Ahmedov, Hadji) On the invariant distance and Green function for $SU_q(2)$. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1069–1074. (Marcelo R. Ubriaco) **99h:81079** 81R50 (17B37)

— (*with* Ahmedov, Hadji) Scattering from the potential barrier $V = \cosh^{-2}\omega x$ from the path integration over SO(1, 2). (English summary) *J. Phys. A* **30** (1997), *no.* 1, 173–184. (Summary) **99d:81171** 81U05 (81S40)

— (*with* Ahmedov, Hadji) Green function on the q-symmetric space $SU_q(2)/U(1)$. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5741–5754. (Alexei Zhedanov) **99j:81067** 81R50

Durumeric, O. (*with* Litherland, R. A.; Simon, Jonathan K.; Rawdon, E.) Thickness of knots. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 233–244. (Sadayoshi Kojima) **99k:57025** 57M25

Dusart, Pierre The kth prime is greater than $k(\ln k + \ln\ln k - 1)$ for $k \geq 2$. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 411–415. (Marc Deléglise) **99d:11133** 11Y35 (11N05)

Du Sautoy, M. P. F. *see* **du Sautoy, M. P. F.**

Dushin, Fred (*with* Blair, Howard A.; Humenn, Polar) Simulations between programs as cellular automata. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 115–131, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68025** 68N17

Duske, Jürgen (*with* Parchmann, Rainer) Non-synchronized pattern languages are IO-macro languages. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 3, 143–149. (Summary) **99a:68107** 68Q45

Dussaud, René Sur une extension du critère de Sophie Germain. [On an extension of Sophie Germain's criterion] *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 22, 10–16, *Publ. Cent. Rech. Math. Pures Sér. I*, 22, *Univ. Neuchâtel, Neuchâtel*, 1991. (*see* **99f:11004**) 11D41

— Formules de Bairstow et courbes algébriques. [Bairstow formulas and algebraic curves] *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 25, 1–8, *Publ. Cent. Rech. Math. Pures Sér. I*, 25, *Univ. Neuchâtel, Neuchâtel*, 1994. (*see* **99h:00018**) 14H45

— Critère de Sophie Germain étendu. Tables et commentaires. (French summary) [Extension of Sophie Germain's criterion. Tables and commentary] *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 25, 9–16, *Publ. Cent. Rech. Math. Pures Sér. I*, 25, *Univ. Neuchâtel, Neuchâtel*, 1994. (*see* **99h:00018**) 11D41

— Ensembles algébriques metacycliques. (French summary) [Algebraic and metacyclic sets] *Publications du Centre de Recherches en Mathématiques Pures. Sér. II, Tome* 13, 1–16, *Publ. Centre Rech. Math. Pures Sér. II*, 13, *Univ. Neuchâtel, Neuchâtel*, 1995. (*see* **99g:00032**) 14H45

— Équations de Monge-Bairstow. (French summary) [Monge-Bairstow equations] *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 28, 1–9, *Publ. Cent. Rech. Math. Pures Sér. I*, 28, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **99e:00013**) 35J99 (30E25)

— Équations et courbes algébriques associées au théorème de Fermat. [Equations and algebraic curves associated with Fermat's theorem] *Publications du Centre de Recherches en Mathématiques Pures. Sér. II, Tome* 15, 1–16, *Publ. Cent. Rech. Math. Pures Sér. II*, 15, *Cent. Rech. Math. Pures* (*C.R.M.P.*), *Chambéry*, 1997. (*see* **99k:00023**) 11D41 (11G30)

— Un critère nouveau pour le théorème de Fermat. [A new criterion for Fermat's theorem] *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 28, 13–16, *Publ. Cent. Rech. Math. Pures Sér. I*, 28, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **99e:00013**) 11D41

— Chemins metacycliques. [Metacyclic paths] *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 28, 17–20, *Publ. Cent. Rech. Math. Pures Sér. I*, 28, *Univ. Neuchâtel, Neuchâtel*, 1997. (*see* **99e:00013**) 20F99

— Quartiques, sextiques, etc., en correspondance galoisienne. [Quartics, sextics, etc., in Galois correspondence] *Publications du Centre de Recherches en Mathématiques Pures. Sér. II, Tome* 15, 17–28, *Publ. Cent. Rech. Math. Pures Sér. II*, 15, *Cent. Rech. Math. Pures* (*C.R.M.P.*), *Chambéry*, 1997. (*see* **99k:00023**) 14H30 (12F10)

Dussault, Jean-Pierre Augmented penalty algorithms. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 355–372. (R. Tichatschke) **99f:90120** 90C30 (65K05)

— (*with* Pfister, Nicolas) Modelization of flexible objects using constrained optimization and B-spline surfaces. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 51–64, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 65Y25 (65D17, 73K99, 73V20, 90C90)

Duţă, Nicolae Representability and embeddability of P. Martin-Löf tests. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 245–262. 03D15

Dutko, Martin (*with* Perić, D.; Owen, D. R. J.) Aspects of adaptive strategies for large deformation problems at finite inelastic strains. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 349–363, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73G05)

Dutour, I. (*with* Fédou, J. M.) Object grammars and random generation. (English summary) *Discrete Math. Theor. Comput. Sci.* **2** (1998), 47–61. (Summary) **99j:68095** 68R05 (68Q50)

de souza Dutra, A. *see* **de Souza Dutra, A.**

Dutta, Bhaskar (*with* Chatterjee, Kalyan) Rubinstein auctions: on competition for bargaining partners. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 2, 119–145. (Akira Okada) **99f:90032** 90A60 (90A12, 90D10, 90D20)

— (*with* van den Nouweland, Anne; Tijs, Stef) Link formation in cooperative situations. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 245–256. (Summary) **99j:90121** 90D12

Dutta, Debasish (*with* Allen, Seth) Wall thickness control in layered manufacturing for surfaces with closed slices. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 223–238. (Summary) **99d:68226** 68U05 (52B55, 68U30)

Dutta, Jayasri (*with* Vetrivel, V.; Nanda, Sudarsan) Semi-invex functions and their subdifferentials. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 385–393. (Summary) **99m:49025** 49J52 (26B25, 90C26)

— (*with* Michel, Philippe Gaston) The distribution of wealth with imperfect altruism. (English summary) *J. Econom. Theory* **82** (1998), *no.* 2, 379–404. (From the introduction) **99k:90026** 90A09 (90A53)

Dutta, K. (*with* Goswami, V.) Multidimensional first order efficient sampling plans and their properties. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 178–188, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

Dutta, P. (*with* Dutta Majumder, Dwijesh) Performance evaluation of evolutionary class of algorithms—an application to 0-1 knapsack problem. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 7, 57–72. (Summary) **99f:90062** 90C09 (90C27, 90C60)

Dutta, Tapan Kumar[1] (*with* Sen, Mridul Kanti) On group-pseudo-ideals of semigroups. (English summary) *J. Pure Math.* **13** (1996), 19–23. (Summary) **99f:20096** 20M12

— (*with* Adhikari, Narayan Chandra) On ΓS-act. (English summary) *J. Pure Math.* **13** (1996), 46–52. (Summary) **99f:20104** 20M30

— (*with* Biswas, B. K.) Structure of fuzzy ideals of semirings. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 271–284. (Udo Hebisch) **99f:16050** 16Y60

— (*with* Adhikari, Narayan Chandra) Primitive Γ-semigroup. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 385–392. (H.-J. Hoehnke) **99g:20120** 20M99 (20N10)

— (*with* Biswas, B. K.) Characterisation of fuzzy semiprime ideals of the ring of integers Z. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 187–189. 13A99

Dutta, Tridib K. (*with* Mukherjee, S. P.) Optimum sampling plan for detection of independent defect categories in case of defect interference. (English summary) *IAPQR Trans.* **22** (1997), *no.* 1, 63–80. (Summary) **99k:62197** 62N10

Dutta Gupta, Shamita (*with* She, Xiaotie) The GL(2) Rankin-Selberg method for functions not of rapid decay. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 159–165. (M. Ram Murty) **99h:11049** 11F66 (11F12)

Dutta Majumder, Dwijesh Pattern recognition and machine learning: current status and some contributions. *Rev. Bull. Calcutta Math. Soc.* **5** (1997), *no.* 1, *iv+66 pp.* (From the text) **99m:68176** 68T10 (68T05)

— (*with* Dutta, P.) Performance evaluation of evolutionary class of algorithms—an application to 0-1 knapsack problem. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 7, 57–72. (Summary) **99f:90062** 90C09 (90C27, 90C60)

— (*with* Lohar, G.) On a differential geometric formulation of an optimal tracking problem. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 3, 259–269. 93B29 (93D15)

Dutta-Roy, Binayak (*with* Mitra, Indrajit; DasGupta, Ananda) Regularization and renormalization in scattering from Dirac delta potentials. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 12, 1101–1109. (Summary) **99h:81221** 81U05 (81T15)

Dutton, Ken (*with* Groves, Christopher N.) Self-tuning control of a cold mill automatic gauge control system. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 573–588. 93D21 (93C95)

Dutton, Ronald D. (*with* Brigham, Robert C.) Domination in claw-free graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 69–75. (Summary) **99j:05105** 05C35

— Inversion in k-sorted permutations. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 49–56. (Summary) **99f:68040** 68P10 (65Y99)

— (*with* Klostermeyer, William F.) A faster algorithm for least deviant path. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 33–40. (Summary) **99m:05149** 05C85

Duursma, Iwan M. (*with* Moreno, Oscar; Cherdieu, J. P.; Edouard, A.) Cyclic subcodes of generalized Reed-Muller codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 307–311. (Summary) **99a:94051** 94B15

— Weight distributions of geometric Goppa codes. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3609–3639. (Chao Ping Xing) **99m:11146** 11T71 (14G15, 94B27)

Duval, Anne (*with* Barkatou, Moulay A.) Sur la somme de certaines séries de factorielles. (English and French summaries) [On the sum of certain factorial series] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 1, 7–58. (Valeri Kaliaguine) **99f:40001** 40A05 (39A10, 40G99, 44A15)

Duval, C. (*with* Ovsienko, Valentin) Space of second-order linear differential operators as a module over the Lie algebra of vector fields. (English summary) *Adv. Math.* **132** (1997), *no.* 2, 316–333. (Janusz Grabowski) **99b:17028** 17B66 (58G99)

Duval, J. *see* **Duval, Julien**

Duval, Jean-Pierre Périodes locales et propagation de périodes dans un mot. (English and French summaries) [Local periods and period propagation in a word] *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 87–98. (Patrice Séébold) **99f:68163** 68R15

Duval, Julien (*with* Levenberg, Norman) Large polynomial hulls with no analytic structure. *Complex analysis and geometry* (*Trento*, 1995), 119–122, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Ahmed Zeriahi) **99g:32023** 32E20

— Sur la fonction extrémale plurisousharmonique relative à deux convexes. (English and French summaries) [On the extremal plurisubharmonic function relative to two convex sets] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 433–436. (J. Siciak) **99g:32025** 32F05 (31C10)

pradeilles-Duval, R. M. *see* **Pradeilles-Duval, R. M.**

Duvaut, Georges (*with* Ouariri, Hassan; Trad, Ahmed) Nouvelle méthode de calcul de la diffraction en haute fréquence. (English and French summaries) [New method for calculating the diffraction field at high frequency] *Équations aux dérivées partielles et applications*, 481–496, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99g:76133** 76Q05 (76M25)

Duverney, Daniel Sur les propriétés arithmétiques de la fonction de Tschakaloff. (English summary) [Arithmetical properties of the Chakalov function] *Period. Math. Hungar.* **35** (1997), *no.* 3, 149–157. (P. Bundschuh) **99j:11080** 11J72

— (*with* Nishioka, Keiji; Nishioka, Kumiko; Shiokawa, Iekata) Transcendence of Jacobi's theta series and related results. (English summary) *Number theory* (*Eger*, 1996), 157–168, *de Gruyter, Berlin*, 1998. (P. Bundschuh) **99h:11078** 11J85 (11B39, 11J81, 11J91)

— Expansion in Newton interpolation series and U-Laplace transform. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 29–45. (Wazir Hasan Abdi) **99f:30061** 30E20 (30E05)

cabanal-Duvillard, Thierry *see* **Cabanal-Duvillard, Thierry**

Duviryak, Askold The two-body time-asymmetric relativistic models with field-type interaction. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1147–1169. (A. Staruszkiewicz) **99d:83081** 83D05

nguyen Duy Binh *see* **Nguyen Duy Binh**

Duynkerke, Peter G. (*with* vanZanten, Margreet C.; Cuijpers, Joannes W. M.) Entrainment parameterization in convective boundary layers. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 6, 813–828. (Summary) **99j:86014** 86A10 (86–08)

Duysinx, P. (*with* Bendsøe, Martin P.) Topology optimization of continuum structures with local stress constraints. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 8, 1453–1478. (Summary) **99h:73054** 73K40 (73K20)

nguyen Duy Tien *see* **Nguyen Duy Tien**

Duzaar, Frank (*with* Gastel, Andreas) Minimizing p-harmonic maps at a free boundary. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 391–405. (Martin Fuchs) **99e:58047** 58E20

— (*with* Kuwert, Ernst) Minimization of conformally invariant energies in homotopy classes. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 4, 285–313. (Martin Fuchs) **99d:58045** 58E20

Duzhin, F. S. (*with* Gusein-Zade, Sabir M.) On the number of topological types of plane curves. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 197–198; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 626–627. (Sergey M. Finashin) **99i:57001** 57–04 (57M15, 57R42)

Dvali, Gia (*with* Antoniadis, Ignatios; Dimopoulos, Savas) Millimetre-range forces in superstring theories with weak-scale compactification. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 70–82. (Summary) **99b:81270** 81V22 (81T30)

— (*with* Lazarides, G.; Shafi, Q.) μ problem and hybrid inflation in supersymmetric $SU(2)_L \times SU(2)_R \times U(1)_{B\text{-}L}$. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 259–264. (Summary) **99b:81272** 81V22 (81T60)

— (*with* Kakushadze, Zurab) Large N domain walls as D-branes for $\mathcal{N} = 1$ QCD string. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 297–316. (Summary) **99i:81232** 81T60 (81T13, 81T30, 81V05)

— (*with* Tye, S.-H. Henry) Brane inflation. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 72–82. (Summary) **99k:81234** 81T30 (81V17)

Dvoeglazov, V. V. Chiral interactions of massive particles in the $(1/2, 0) \oplus (0, 1/2)$ representation. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 269–275, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jorge Goncalves Cardoso) **99k:81095** 81R20

— The Weinberg formalism and new looks at electromagnetic theory. (English summary) *The enigmatic photon, Vol.* 4, 305–353, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 81V10

— Gauge transformations for self/anti-self charge conjugate states. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 3, 619–627. (Lewis H. Ryder) **99c:81071** 81R20 (81T99)

— (*with* Khudyakov, S. V.) Gluonium as a bound state of massive particles of the $(1, 0) \oplus (0, 1)$ representation of the Lorentz group. (English summary) *Hadronic J.* **21** (1998), *no.* 5, 507–526. 81V25 (81R05)

Dvorak, George J. (*with* Srinivas, Mullahalli V.) New estimates of overall properties of heterogeneous solids. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 899–920. (Summary) **99k:73012** 73B27 (73K20)

Dvořák, Jan[1] (*with* Haslinger, Jaroslav) Shape optimization and homogenization based approach in material optimization. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 171–180, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **99g:49039** 49Q10 (73B27, 73K40)

— (*with* Skála, L.; Kapsa, V.) Analytic solutions of the Schrödinger equation for the modified quartic oscillator. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2953–2961. (M. Znojil) **99c:81034** 81Q05 (34L40)

Dvorak, R. (*with* Efthymiopoulos, C.; Contopoulos, George; Voglis, N.) Stickiness and cantori. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8167–8186. (A. Giorgilli) **99e:58153** 58F27 (58F13, 70K50)

Dvorak, Vaclav Bounds on the sizes of decision diagrams. (English summary) *J.UCS* **3** (1997), *no.* 1, 2–22 (*electronic*). (Summary) **99g:68094** 68Q25 (94C05)

Dvorkin, Yona (*with* Rom-Kedar, Vered; Paldor, Nathan) Chaotic Hamiltonian dynamics of particle's horizontal motion in the atmosphere. (English summary) *Phys. D* **106** (1997), *no.* 3-4, 389–431. (Summary) **99f:86005** 86A10 (58F13, 58F40, 70H05, 70K50)

— (*with* Paldor, Nathan) Analytical considerations of Lagrangian cross-equatorial flow. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 9, 1229–1237. (Summary) **99m:76113** 76U05 (86A10)

Dvornikov, M. V. (*with* Vil'ke, V. G.) The rolling of a wheel with a tire on a plane. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 393–404; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 359–369. 70F99

Dvorsky, Alexander (*with* Sahi, Siddhartha) Tensor products of singular representations and an extension of the θ-correspondence. (English summary) *Selecta Math.* (*N.S.*) **4** (1998), *no.* 1, 11–29. (Jing-Song Huang) **99e:22028** 22E46

Dvurečenskij, Anatolij Measures and $\perp$-decomposable measures on effects of a Hilbert space. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 259–288. (Marjan Matvejchuk) **99c:81012** 81P10 (28C99, 46L50, 46N50)

— (*with* Ahn, Sun Shin; Kim, Hee Sik) The Ker-Coker sequence in BCI-algebras. *Demonstratio Math.* **30** (1997), *no.* 4, 843–850. (Yishu Pu) **99i:06020** 06F35

— Solér's theorem and characterization of inner product spaces. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 23–29. (Marjan Matvejchuk) **99g:81014** 81P10 (46C15)

— (*with* Kim, Hee Sik) Connections between BCK-algebras and difference posets. (English summary) *Studia Logica* **60** (1998), *no.* 3, 421–439. (A. B. Thaheem) **99j:06010** 06F35 (03G12, 03G25, 06A06, 81P10)

— Professor Gudrun Kalmbach. Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 9–11. (Editors) **99m:01053** 01A70

— Fuzzy set representations of some quantum structures. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 67–78. (D. J. Foulis) **99j:81013** 81P10 (03E72, 03G12, 06C15)

— *see also* **Quantum structures, 99g:00049** *and* **Kalmbach, Gudrun, 99j:81014**

Dwilewicz, Roman *see* **Complex analysis and applications, 99h:32001**

Dwivedi, A. P. (*with* Chandel, Jyotsna) Six series equations involving generalized Bateman K-functions. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 222–228. (From the text) **99h:33053** 33C60

— (*with* Chandel, Jyotsna) n series equations involving generalised Bateman K-functions. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 236–240. (From the text) **99h:33054** 33C60

Dwivedi, Babita (*with* Abdussattar) Fluid space-times and conharmonic symmetries. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3280–3295. (Alicia M. Sintes) **99d:83020** 83C20 (83C15)

Dwivedi, I. H. Photon redshift and the appearance of a naked singularity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064004, 6 *pp.* 83C75

— (*with* Joshi, P. S.) Initial data and the end state of spherically symmetric gravitational collapse. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 41–59. (Leonardo Fernández-Jambrina) **99m:83150** 83C75 (83C57)

Dwivedi, Sunil K. (*with* Espinosa, Horacio D.; Zavattieri, Pablo D.) A finite deformation continuum/discrete model for the description of fragmentation and damage in brittle materials. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1909–1942. (*see* **99g:73003**) 73M25 (73Gxx, 73V05)

Dwork, Bernard Morris *see* **Katz, Nicholas M., 99m:01071** *and* **Obituary: Dwork, Bernard Morris**

Dwork, Cynthia (*with* Canetti, Ran; Naor, Moni; Ostrovsky, Rafail) Deniable encryption. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 90–104, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94025** 94A60

— Positive applications of lattices to cryptography. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 44–51, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Introduction) **99k:94034** 94A60 (68P25)

— (*with* Herlihy, Maurice; Waarts, Orli) Contention in shared memory algorithms. (English summary) *J. ACM* **44** (1997), *no.* 6, 779–805. (Julian Padget) **99b:68069** 68Q10 (68Q25)

— (*with* Sahai, Amit) Concurrent zero-knowledge: reducing the need for timing constraints. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 442–457, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94043** 94A60 (68Q10, 68Q15)

— (*with* Naor, Moni) An efficient existentially unforgeable signature scheme and its applications. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 187–208. (Summary) **99d:94024** 94A60

— (*with* Halpern, Joseph Y.; Waarts, Orli) Performing work efficiently in the presence of faults. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1457–1491 (*electronic*). (A. A. Chernyak) **99c:68027** 68M20 (68M15, 68Q22, 90B25)

Dworkin, Morris An interpretation for Garsia and Remmel's q-hit numbers. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 149–175. (James B. Haglund) **99b:05008** 05A30

Dwornik-Orzechowska, Teresa (*with* Wajch, Eliza) Comparison of compactifications via function spaces. (English summary) *Topology Proc.* **22** (1997), 165–180. (Summary) **99i:54023** 54D35 (54C35)

Dwyer, William G. Sharp homology decompositions for classifying spaces of finite groups. *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 197–220, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Jacques Thévenaz) **99b:55033** 55R40 (20J06)

— (*with* Wilkerson, C. W.) The elementary geometric structure of compact Lie groups. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 337–364. (Jesper M. Møller) **99g:22007** 22E15 (55P35, 57T10)

— Lie groups and p-compact groups. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 433–442 (*electronic*). (Haynes R. Miller) **99h:55025** 55R35
— (*with* Mitchell, Stephen A.) On the K-theory spectrum of a ring of algebraic integers. (English summary) *K-Theory* **14** (1998), *no.* 3, 201–263. (V. P. Snaith) **99i:19003** 19F27 (11R70, 19L64, 55N15, 55R40)
— (*with* Wilkerson, C. W.) Kähler differentials, the T-functor, and a theorem of Steinberg. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4919–4930. (Haynes R. Miller) **99e:55027** 55R35 (13A50, 55S10)
— (*with* Dror Farjoun, Emmanuel; Ravenel, Douglas C.) Bousfield localizations of classifying spaces of nilpotent groups. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1855–1861. (Samuel B. Smith) **99i:55016** 55P60 (55R35)
— *see also* **Stable and unstable homotopy**, **99a:55001**
D'yachenko, M. I. U-convergence of almost everywhere double Fourier series. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 47–64; *translation in Sb. Math.* **186** (1995), *no.* 1, 47–64. (Boris Petrovich Osilenker) **99e:42017** 42B05 (42B08)
— Spherical partial sums of double Fourier series of functions with bounded generalized variation. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 1, 29–58; *translation in Sb. Math.* **188** (1997), *no.* 1, 29–60. (Elijah Liflyand) **99c:42013** 42B05 (43A50)
— Fourier coefficients of piecewise-monotone functions of several variables. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 2, 35–48; *translation in Izv. Math.* **62** (1998), *no.* 2, 247–259. (Elijah Liflyand) **99e:42018** 42B05 (42A16)
D'yakonov, E. G. Reinforced Sobolev spaces and some new types of elliptic boundary value problems. I. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 532–539, 575; *translation in Differential Equations* **33** (1997), *no.* 4, 536–543. (M. Yu. Vasil'chik) **99a:46058** 46E35 (35J20)
— New types of elliptic boundary value problems in strengthened Sobolev spaces. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 4, 443–445. (Galina P. Lopushanska) **99a:35052** 35J25
— Asymptotically optimal algorithms for problems of Stokes type in strengthened Sobolev spaces. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 589–591. (Introduction) **99a:73133** 73V15 (65N22, 73K05, 73K10)
— On the Dirichlet boundary condition in spectral problems for difference elliptic operators. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997**, *no.* 4, 16–21, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997**, *no.* 4, 22–29 (1998). (Summary) **99b:65133** 65N25 (47B39)
— Reinforced Sobolev spaces and some new types of elliptic boundary value problems. II. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 508–517, 574; *translation in Differential Equations* **34** (1998), *no.* 4, 506–515. (M. Yu. Vasil'chik) **99m:46078** 46E35 (35J20)
— A posteriori error estimates, based on the use of weakened Sobolev spaces, for the solution of elliptic problems. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 734–738. (K. Najzar) **99m:65235** 65N55 (35J25, 46N40)
— Improved well-posedness of problems of Stokes and Navier-Stokes types and of their grid approximations. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 3–7, 51; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 1, 1–9. (Cun-Zheng Wang) **99d:35125** 35Q30 (65N99, 76D05, 76M25)
— New types of a posteriori error estimates for solving elliptic boundary value and spectral problems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 4, 3–9, 50. (Summary) **99k:65103** 65N15
Dyakonov, Konstantin M. Multiplicative structure in weighted BMOA spaces. (English summary) *J. Anal. Math.* **75** (1998), 85–104. (Da Chun Yang) **99g:30049** 30D50 (42B30, 46E15, 46J99)
— Embedding theorems for star-invariant subspaces generated by smooth inner functions. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 588–598. (Dragan Vukotić) **99k:46034** 46E15 (30D55, 30H05, 47A15)
— Besov spaces and outer functions. *Michigan Math. J.* **45** (1998), *no.* 1, 143–157. (Raymond Mortini) **99e:46033** 46E15 (30D55, 46E35)
D'yakonova, E. E. (*with* Vatutin, Vladimir) Critical branching processes in a random environment: probabilities of extinction at a fixed time. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 100–126. (I. Rakhimov) **99j:60131** 60J80 (60K35)
Dyankova, V. S. (*with* Ivanov, Ivan Ganchev) A numerical algorithm for the solution of a matrix quadratic equation. (Bulgarian. Bulgarian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 147–149, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 65F30
Dybjer, Peter (*with* Čubrić, Djordje; Scott, Philip) Normalization and the Yoneda embedding. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 2, 153–192. (Maria E. Maietti) **99d:03012** 03B40 (03F05, 03G30, 18A15, 18D15)
— *see also* **Semantics and logics of computation**, **99h:68111**
van Dyck, Jozef *see* **Van Dyck, Jozef**
Dyckhoff, Roy (*with* Pinto, Luís) Sequent calculi for the normal terms of the $\lambda\Pi$- and $\lambda\Pi\Sigma$-calculi. (English summary) *Workshop on Proof Search in Type-theoretic Languages* (*Lindau*, 1998), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 17, *Elsevier, Amsterdam*, 1998. (*see* **99h:68013**) 03B40 (03B15, 68N15)
Dyczij-Edlinger, Romanus (*with* Peng, Guanghua; Lee, Jin-Fa) Efficient finite element solvers for the Maxwell equations in the frequency domain. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 297–309. (Summary) **99k:78003** 78–08
Dydak, J. (*with* Dranishnikov, A. N.) Extension dimension and extension types. *Tr. Mat. Inst. Steklova* **212** (1996), *Otobrazh. i Razmer.*, 61–94. (Leonard R. Rubin) **99h:54049** 54F45 (54C20, 54C55)
Dye, C. (*with* Williams, Brian Gerard) Infectious disease persistence when transmission varies seasonally. (English summary) *Math. Biosci.* **145** (1997), *no.* 1, 77–88. (Summary) **99h:92037** 92D30 (92C60)
Dye, R. H. The plane sextic curve fixed by A_6. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 17–24. (Roberto Muñoz) **99m:14057** 14H45 (14N05)
Dye, Shane (*with* Tomasgard, Asgeir; Audestad, Jan A.; Stougie, Leen; van der Vlerk, Maarten H.; Wallace, Stein W.) Modelling aspects of distributed processing in telecommunication networks. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 161–184. (*see* **99e:90003**) 90B12
swinnerton-Dyer, H. P. F. *see* **Swinnerton-Dyer, H. P. F.**
Dyer, James S. (*with* Jia, Jianmin) Preference conditions for utility models: a risk-value perspective. (English summary) *Ann. Oper. Res.* **80** (1998), 167–182. (Summary) **99g:90014** 90A05 (90A10)
Dyer, M. J. On coefficients of q in Kazhdan-Lusztig polynomials. (English summary) *Algebraic groups and Lie groups*, 189–194, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99d:20064** 20F55
Dyer, Martin E. (*with* Bubley, Russ) Faster random generation of linear extensions. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 350–354, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 06A07, 52B55, 90C35)
— (*with* Bubley, Russ; Greenhill, Catherine) Beating the 2Δ bound for approximately counting colourings: a computer-assisted proof of rapid mixing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 355–363, *ACM, New York*, 1998. (*see* **99d:68011**) 05C15 (05C85, 68Q25, 90C35)
— (*with* Walker, John Andrew) Dominance in multi-dimensional multiple-choice knapsack problems. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 159–168. (José F. Fontanari) **99k:90107** 90C10 (90C27, 90C35)
— (*with* Gritzmann, Peter; Hufnagel, Alexander) On the complexity of computing mixed volumes. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 356–400 (*electronic*). (Hans-Dietrich Hecker) **99f:68092** 68Q25 (52A39, 52B55, 65Y25, 68U05)
— (*with* Frieze, Alan M.; Jerrum, Mark) Approximately counting Hamilton paths and cycles in dense graphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1262–1272 (*electronic*). (Peter Kirschenhofer) **99e:68067** 68Q25 (05C30, 05C45, 68R10)
kłosek-Dygas, M. M. *see* **Kłosek-Dygas, M. M.**
van Dyk, David (*with* Meng, Xiao-Li) Fast EM-type implementations for mixed effects models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 559–578. (Summary) **99c:62187** 62J05 (62F10)
van Dyke, Milton *see* **Van Dyke, Milton**
Dykema, Kenneth J. (*with* Haagerup, Uffe; Rørdam, Mikael) The stable rank of some free product C^*-algebras. *Duke Math. J.* **90** (1997), *no.* 1, 95–121. (Gustavo Corach) **99g:46077a** 46L05 (19B10, 19K56, 46L35, 46L80)
— (*with* Rørdam, Mikael) Purely infinite, simple C^*-algebras arising from free product constructions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 323–341. (Marie Choda) **99d:46074** 46L05
— (*with* Haagerup, Uffe; Rørdam, Mikael) Correction to: "The stable rank of some free product C^*-algebras". *Duke Math. J.* **94** (1998), *no.* 1, 213. (Gustavo Corach) **99g:46077b** 46L05 (19B10, 19K56, 46L35, 46L80)
— (*with* Rørdam, Mikael) Projections in free product C^*-algebras. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 1, 1–16. (Gustavo Corach) **99d:46075** 46L05
— Faithfulness of free product states. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 323–329. (Marie Choda) **99e:46066** 46L05 (46L30, 46L50)
— (*with* Kalton, Nigel J.) Spectral characterization of sums of commutators. II. (English summary) *J. Reine Angew. Math.* **504** (1998), 127–137. (Oscar Blasco) **99g:47079** 47B47 (47A10, 47D50)
— Simplicity and the stable rank of some free product C^*-algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 1–40. (Gustavo Corach) **99g:46078** 46L05 (19B10, 19K56, 46L35, 46L80)
Dykstra, Richard L. (*with* Bhattacharya, Bhaskar) A Fenchel duality aspect of iterative I-projection procedures. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 435–446. (Iosif Pinelis) **99b:62042** 62F30
— (*with* Kochar, Subhash; Rojo, Javier) Stochastic comparisons of parallel systems of heterogeneous exponential components. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 203–211. (Philip J. Boland) **99e:62041** 62G05 (60E15, 62N05)
— (*with* Kochar, Subhash; Robertson, Tim) Restricted tests for testing independence of time to failure and cause of failure in a competing-risks model. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 57–68. (Summary) **99c:62141** 62G20 (62F10)
Dym, Harry (*with* Arov, Damir Z.) J-inner matrix functions, interpolation and inverse problems for canonical systems. I. Foundations. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 4, 373–454. (Hendrik S. V. de Snoo) **99c:47011** 47A57 (34A55, 34L05, 46E22)
— A basic interpolation problem. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 381–423, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Adolf A. Nudelman) **99k:47034** 47A57 (30E05, 46E99)
— (*with* Arov, Damir Z.) On three Krein extension problems and some generalizations. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 1, 1–91. (Aad Dijksma) **99f:47019** 47A57 (30C40, 30E05, 46E22)
— (*with* Bolotnikov, Vladimir) On degenerate interpolation, entropy and extremal problems for matrix Schur functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 4, 367–435. (Joseph A. Ball) **99m:47014** 47A57 (30E05)
Dymarskiĭ, Ya. M. On normalized eigenfunctions of a class of quasilinear elliptic equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 127–129, 144; *translation in Differential Equations* **34** (1998), *no.* 1, 131–134. (Jan Bochenek) **99m:35057** 35J60 (35P30)
Dymchenko, Yu. V. (*with* Shlyk, V. A.) A relation between weighted condensor capacity and the weighted modulus of a family of separating surfaces. (Russian. English summary) *Dal'nevost. Mat. Sb. No.* 2 (1996), 72–80, 198. (P. Caraman) **99j:31008** 31B15 (46E15)
Dymkov, M. P. Existence and structure of the optimal solution of a quadratic optimization problem in linear 2-D control systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 18–22, 121–122. (Valeriu Prepeliță) **99f:49056** 49N35 (49J27, 49K27)
— Optimality conditions for linear 2-D control systems with constraints. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 495–512. (Jerzy Klamka) **99e:49025** 49K30 (93C35, 93C55)
— The problem of the control of a discrete-continuous 2D system with intermediate constraints. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1615–1622, 1726; *translation in Differential Equations* **33** (1997), *no.* 12, 1618–1625 (1998). (Jerzy Klamka) **99j:49054** 49K27 (93C30)

— Optimal control of a discrete Volterra system by a quadratic performance functional. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 3, 10–16, 123. (V. Kolmanovskiĭ) **99a:49042** 49N35 (34K35, 47N70, 93C22, 93C55)
— Linear optimal control problem for discrete 2-D systems with constraints. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 117–129. (Hans Benker) **99f:49036** 49K30 (90C48)
Dymnikov, Valentin P. (*with* Filatov, Aleksandr Nikolaevich) ★ Mathematics of climate modeling. (English summary) Translated from the Russian. Modeling and Simulation in Science, Engineering, & Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xvi+264 *pp. ISBN* 0-8176-3915-2 (Yuri N. Skiba) **99k:76058** 76E20 (34C35, 35B40, 47H20, 58F40, 76D05, 76U05, 86A10)
— (*with* Volodin, E. M.) On the sensitivity of climate models to small external effects. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 394–396. 86A10
Dymnikova, I. (*with* Capozziello, S.; de Ritis, R.; Rubano, C.; Scudellaro, P.) Reconstruction of the state equation and the scalar field potential in inflationary cosmology. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 291–300, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83F05
— (*with* Soltysek, B.) Spherically symmetric space-time with two cosmological constants. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1775–1793. (Alicia M. Sintes) **99j:83014** 83C15 (83C20, 83C57)
Dyn, Nira (*with* Cohen, Albert; Levin, David) Stability and inter-dependence of matrix subdivision schemes. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 33–45, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41041** 41A63 (42C15, 65D15)
— (*with* Levin, David) Analysis of Hermite-interpolatory subdivision schemes. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 105–113, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:42040** 42C15 (41A30)
— (*with* Shenkman, P.; Levin, David) Normals of the butterfly subdivision scheme surfaces and their applications. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 157–180. (Michael Kallay) **99m:65264** 65Y25 (65D17)
Dynin, Alexander A rigorous path integral construction in any dimension. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 317–329. (Ambar Sengupta) **99e:58035** 58D30 (81S40)
Dynin, D. *see* **Commutative harmonic analysis, 99h:43002**
Dynin, S. *see* **Commutative harmonic analysis, 99h:43002**
Dynkin, E. B. (*with* Kuznetsov, Sergei E.) Natural linear additive functionals of superprocesses. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 640–661. (John Verzani) **99c:60168a** 60J60 (60J45, 60J55, 60J80)
— (*with* Kuznetsov, Sergei E.) Nonlinear parabolic P.D.E. and additive functionals of superdiffusions. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 662–701. (John Verzani) **99c:60168b** 60J60 (35K55, 60J55, 60J80)
— Polylinear additive functionals of superprocesses. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 1, 257–278. (Ingemar Kaj) **99a:60082** 60J55
— (*with* Kuznetsov, Sergei E.) Fine topology and fine trace on the boundary associated with a class of semilinear differential equations. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 8, 897–936. (Kazuaki Taira) **99f:35046** 35J60 (31B35, 35B05, 60J45)
— Semilinear parabolic equations, diffusions, and superdiffusions. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 325–356. (Steven N. Evans) **99h:60155** 60J80 (35K15, 35K55, 35R60, 60J60)
— (*with* Kuznetsov, Sergei E.) Trace on the boundary for solutions of nonlinear differential equations. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4499–4519. (Ren Ming Song) **99a:60084** 60J60 (35J60, 60J45, 60J80)
— (*with* Kuznetsov, Sergei E.) Solutions of nonlinear differential equations on a Riemannian manifold and their trace on the Martin boundary. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4521–4552. (John Verzani) **99c:60168c** 60J60 (35J60, 58G32, 60J80)
Dyn′kin, Evsey Cauchy integral decomposition for harmonic forms. (English summary) *J. Anal. Math.* **73** (1997), 165–186. (D. Mitrović) **99c:58003** 58A14 (30E20, 30E25, 58A10)
— Inequalities for rational functions. (English summary) *J. Approx. Theory* **91** (1997), *no.* 3, 349–367. (Juan Carlos Fariña Gil) **99a:41010** 41A17 (30D50, 41A20)
Dynnikov, I. A. Semiclassical motion of the electron. A proof of the Novikov conjecture in general position and counterexamples. *Solitons, geometry, and topology: on the crossroad*, 45–73, *Amer. Math. Soc. Transl. Ser.* 2, 179, *Amer. Math. Soc., Providence, RI*, 1997. (Boris Hasselblatt) **99k:57074** 57R70 (58F40, 81Q20)
— (*with* Novikov, Sergeĭ Petrovich) Discrete spectral symmetries of small-dimensional differential operators and difference operators on regular lattices and two-dimensional manifolds. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 5(317), 175–234; *translation in Russian Math. Surveys* **52** (1997), *no.* 5, 1057–1116. (Alexei Zhedanov) **99e:35029** 35J05 (35J10, 39A70, 47B39)
— Surfaces in 3-torus: geometry of plane sections. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 162–177, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Boris Hasselblatt) **99k:57075** 57R70 (53A05)
Dyrakhova, M. S. (*with* Sofronov, E. T.) On the stability in the large of an automatic control system. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 20–26, *Yakut-sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 93D05
Dyrda, Kazimiera (*with* Janicka-Żuk, Irena) Axiomatization of the logics determined by finite relational systems of natural numbers with identity. (English summary) *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 4, 152–155. 03C13
— (*with* Janicka-Żuk, Irena; Treliński, Gustaw) Tadeusz Prucnal (1939–1998). (Polish) *Wiadom. Mat.* **34** (1998), 167–170. (Editors) **99m:01054** 01A70
Dyshko, A. L. (*with* Abramov, A. A.; Konyukhova, N. B.; Levitina, T. V.) On numerical-analytic investigation of scalar scattering by ideal prolate spheroids and triaxial ellipsoids. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 9–15, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M06 (76Q05, 78A45)
— (*with* Abramov, A. A.; Konyukhova, N. B.; Levitina, T. V.; Ul′yanova, V. I.) Methods for solving some multiparameter spectral problems in mathematical physics. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 293–299, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 35J25 (65N25)
— (*with* Voronov, N. A.; Konyukhova, N. B.; Staroverova, I. B.) On some nonlinear singular problems in models of relativistic cosmology. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 304–310, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 83F05 (35Q75)
Dyubin, G. N. (*with* Korbut, A. A.) On the average behaviour of primal and dual greedy algorithms for the knapsack problem. *Operations Research Proceedings* 1996 (*Braunschweig*), 55–60, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27
Dzagnidze, O. P. Differentiability of the indefinite double Lebesgue integral. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 22–25. 26B05 (28Axx)
— Some criteria for the differentiability of functions of two variables. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 1, 9–12. 26B05
— Lebesgue points and segments for functions of two variables. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 3, 369–372 (1996). 42B10 (26B15)
— Associated integrals, functions, series and a radial derivative of the Poisson spherical integral. *Proc. A. Razmadze Math. Inst.* **114** (1997), 107–111. 33C55 (40G10, 42A50, 42B05, 42C10)
— For Fourier analysis on the sphere. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 357–360 (1999). 42A38 (33C45, 33C55)
— Allied integrals, functions, and series for the unit sphere. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 213–232. (R. K. Saxena) **99i:42010** 42A50 (33C50, 33C55)
Džamonja, Mirna A note on the splitting property in strongly dense posets of size $\aleph_0$. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/98), *no.* 2, 321–326. 06A07 (04A20)
Dzëbyak, V. *see* **Dziobiak, Wiesław**
Dzedzej, Z. (*with* Augustynowicz, Antoni; Gel′man, B. D.) The solution set to BVP for some functional-differential inclusions. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 3, 257–263. (Tzanko D. Donchev) **99m:34152** 34K10 (34A60)
Džeroski, Sašo *see* **Inductive logic programming, 99b:68007**
Dzhabrailov, M. S. On the continuity of embeddings in vector-valued Besov spaces and their applications. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 84–98. (H. Triebel) **99m:46094** 46E40 (46E35)
— On the coercive solvability of operator-differential equations in abstract Besov spaces. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 99–108. (Jacek Banasiak) **99k:34128** 34G10 (35A10, 46N20)
— Continuity and compactness of embeddings in vector-valued Besov spaces. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 452–454. (N. Ya. Krugljak) **99g:46049** 46E40 (46E35)
— On the coercive solvability of operator-differential equations in Besov-type spaces. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 301–303. (Zinovi Sheftel) **99m:35257** 35R20 (34G20, 35A05, 47N20)
Dzhafarov, V. (*with* Karamancıoğlu, A.) A sectoring algorithm for exact computation of the frequency response of linear interval systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 4, 483–493. (Summary) **99c:93044** 93B40 (93B30)
Dzhagmaidze, Z. A. On a characteristic problem for higher-order linear hyperbolic systems. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 185–189 (1994). 35L25
Dzhaiani, G. V. (*with* Gilbert, Robert Pertsch; Mandzhavidze, G. F.) Ilia Vekua's 90th birthday anniversary. International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 1–10. (Editors) **99m:01058** 01A70
Dzhala, V. R. A statistical global optimization code with adaptation of the search step. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 2, 94–99, 155. 90C15 (90C30)
Dzhalilov, A. A. (*with* Khanin, K. M.) On the invariant measure for homeomorphisms of the circle with a break. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 11–21, 95; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 153–161 (1999). (András Krámli) **99j:58124** 58F11 (58F15)
Dzhalilova, R. K. (*with* Kasumov, S. Yu.; Shirinov, K. F.) Application of the Lee theory to the study of a class of filtration processes. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 82–86 (1997). 35Q35 (76S05)
Dzhalladova, I. A. (*with* Valeev, K. G.) On a generalization of the averaging method. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 906–911; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1016–1022 (1998). (Jan I. Seidler) **99k:34127** 34F05 (34C29)
Dzhandzhgava, P. V. Approximate solution of the two-dimensional Dirichlet problem with discontinuous boundary conditions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 2, 224–227 (1996). 65N06 (65N30)
Dzhaparidze, K. O. (*with* van Zuijlen, M. C. A.) Introduction to option pricing in a securities market. I. Binary models. (English summary) Mathematics of finance, Part I. *CWI Quarterly* **9** (1996), *no.* 4, 319–355. (Jostein Paulsen) **99a:90035** 90A09
— (*with* Spreij, Peter; Valkeila, Esko) On Hellinger processes for parametric families of experiments. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 41–61, *World Sci. Publishing, River Edge, NJ*, 1997. (Dieter Mussmann) **99m:62147** 62M99 (60G99, 62B15)
— Introduction to option pricing in a securities market. II. Poisson approximation. (English summary) Mathematics of finance, Part II. *CWI Quarterly* **10** (1997), *no.* 1, 65–100. (Jostein Paulsen) **99a:90036** 90A09
Dzharadin, Dzhekhad Minimal p-saturated nonnilpotent formations. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 59–64, *Gomel. Gos. Univ., Gomel′*, 1995. (*see* **99g:20004**) 20D10
— On formations with systems of hereditary subformations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 1, 3–7; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 1, 1–5. (Alexander N. Skiba) **99b:20033** 20D10

Dzhenaliev, M. T. (*with* Aĭsagaliev, S. A.; Dzhenalieva, M. M.) On the heat equation with integral averages. I. Averaging with respect to the space variable. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 3–8. (Alexander A. Pankov) **99e:35085** 35K05 (35B27)

— (*with* Aĭsagaliev, S. A.; Dzhenalieva, M. M.) On the heat equation with integral averages. II. Averaging with respect to the time variable. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 24–32. (Alexander A. Pankov) **99e:35086** 35K05 (35B27)

— (*with* Kasymbekova, A. S.; Smatov, K. S.) The problem of the control of coefficients with loaded summands for a parabolic equation. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 26–32. 49J20 (35K10, 49K20)

Dzhenalieva, M. M. (*with* Aĭsagaliev, S. A.; Dzhenaliev, M. T.) On the heat equation with integral averages. I. Averaging with respect to the space variable. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 3, 3–8. (Alexander A. Pankov) **99e:35085** 35K05 (35B27)

— (*with* Aĭsagaliev, S. A.; Dzhenaliev, M. T.) On the heat equation with integral averages. II. Averaging with respect to the time variable. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 24–32. (Alexander A. Pankov) **99e:35086** 35K05 (35B27)

Dzhgarkava, D. T. Problem of optimal control with one-sided mixed restritions for controlled objects described by integral equations with measure. (English and Georgian summaries) Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 9–46. (Krystyn Styczeń) **99g:49024** 49K27 (45D05, 49K22)

Dzhokhadze, O. M. The first mixed problem for pseudoparabolic equations on a plane. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 177–180. 35K70

— General Darboux type problem for a third order equations with dominated lower terms. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 344–347 (1997). 35G15 (35B35)

— Darboux and Goursat type problems in the trihedral angle for hyperbolic type equations of third order. *Rend. Sem. Mat. Univ. Padova* **98** (1997), 107–123. (R. G. Airapetyan) **99k:35110** 35L35

— On the boundary value problem in a dihedral angle for normally hyperbolic systems of first order. (English summary) *Georgian Math. J.* **5** (1998), *no.* 2, 121–138. (Rainer Picard) **99d:35094** 35L40

Dzhordzhadze, G. P. (*with* Chechelashvili, G.; Kiknadze, N.) Practical scheme of reduction to gauge-invariant variables. (English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 90–106; *reprinted in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1316–1328 (1997). (Frans Cantrijn) **99a:58061** 58F05 (70G50, 70H35, 81T13)

— (*with* Piechocki, Włodzimierz) Dynamical ambiguities in a singular gravitational field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, *L*41–*L*45. (Maciej Przanowski) **99g:83013** 83C10

— Hamiltonian reduction and quantization on symplectic manifolds. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **13** (1998), 1–98. (Ivailo M. Mladenov) **99e:58083** 58F06 (81S10)

— (*with* Piechocki, Włodzimierz) Massless particle in 2d spacetime with constant curvature. (English summary) *Phys. Lett. B* **448** (1999), *no.* 3-4, 203–208. (Summary) **99m:83162** 83C99 (81R05)

Dzhrbashyan, A. M. An extension of the factorization theory of M. M. Dzhrbashyan. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 47–75 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 39–61. (Faizo A. Shamoyan) **99k:30048** 30D35 (31A05)

Dzhrbashyan, Mkhitar M. *see* **Obituary: Dzhrbashyan, Mkhitar M.** *and* **Nersesyan, A. B.**

Dzhumabaev, D. S. On a condition for exponential dichotomy on the whole axis. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1996**, *no.* 5, 43–48. 34D10

— On an approach to the solution of nonlinear boundary value problems. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 17–24. (V. G. Kolomiets) **99i:34034** 34B15

— Estimates for the approximation of singular boundary value problems for ordinary differential equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1814–1821; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1739–1746. (Summary) **99h:34030** 34B15 (34A45)

Dzhumabaeva, A. A. (*with* Kunitsyn, A. L.) On the stability of periodic Hamiltonian systems under multiple fourth-order resonance. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 756–761; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 699–703 (1999). (Summary) **99m:70010** 70H05 (58F05, 58F10, 70K20)

Dzhumadil'daev, A. S. (*with* Ibraev, Sh. Sh.) Defining relations of nilpotent subalgebras of modular classical Lie algebras. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 5(323), 233–234. 17B30

Dzhunushaliev, V. D. Multidimensional gravity on the principal bundles. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 583–592. (Summary) **99a:83061** 83E15 (53C80)

— Domain with noncompactified extra dimensions in the multidimensional universe with compactified extra dimensions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1655–1661. (Alberto Saa Vazquez) **99i:83083** 83E15

— (*with* Singleton, Douglas Alexander) Wormholes and flux tubes in 5D Kaluza-Klein theory. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064018, 6 *pp.* 83E05 (83E15)

Dzhuraev, Abdukhamid Dzhuraevich (*with* Begehr, Heinrich G. W.) ★ An introduction to several complex variables and partial differential equations. (English summary) Pitman Monographs and Surveys in Pure and Applied Mathematics, 88. *Longman, Harlow*, 1997. viii+454 *pp.* *ISBN* 0-582-25500-7 (Makhlouf Derridj) **99g:32001** 32-01 (35-01, 35A20, 35J99)

— On singular integral equations approach to generalized analytic functions. (English summary) *Generalized analytic functions* (*Graz*, 1997), 17–25, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vladimir Mityushev) **99i:30066** 30G20 (30E25, 45E05)

Dzhuraev, T. D. (*with* Kadyrov, R. R.) On the behavior of solutions of elliptic-parabolic equations at infinity and in a neighborhood of a boundary point. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 19–35 (1996). (Megumi Saigo) **99f:35138** 35M10 (35B40)

— (*with* Mamazhanov, M.) On a class of boundary value problems for a higher-order equation with a parabolic-hyperbolic operator. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 35–41 (1996). (V. V. Kovrizhkin) **99i:35111** 35M10

— (*with* Kadyrov, R. R.) A priori estimates for the L_2-norms of the derivatives of the solution of a nonlocal boundary value problem for an equation of mixed type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 11–15. 35M10 (35B45)

— (*with* Takhirov, Zh. O.) On a nonlocal problem for a quasilinear parabolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 39–44. (Ya Zhe Chen) **99f:35098** 35K60

Dziadosz, Susan (*with* Crisp, David; Garity, Dennis J.; Insel, Thomas; Schmidt, Thomas A.; Wiles, Peter) Closed curves and geodesics with two self-intersections on the punctured torus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 189–209. (Mark Sheingorn) **99b:11078** 11J06 (30F35, 57M50)

Dziechcińska-Halamoda, Z. (*with* Michael, Jerzy; Szwiec, W.) Games without repetitions on graphs with vertex disjoint cycles. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 3, 254–258. (Summary) **99d:90143** 90D05 (05C99)

Dziembowski, Stefan Bounded-variable fixpoint queries are PSPACE-complete. (English summary) *Computer science logic* (*Utrecht*, 1996), 89–105, *Lecture Notes in Comput. Sci.*, 1258, *Springer, Berlin*, 1997. (Summary) **99a:68039** 68P15 (03B70, 68Q15, 68Q25)

Dziobiak, Wiesław (*with* Adaricheva, K. V.; Gorbunov, V. A.) Algebraic point lattices of quasivarieties. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 4, 363–386, 478; *translation in Algebra and Logic* **36** (1997), *no.* 4, 213–225. (A. A. Iskander) **99c:08013** 08C15

— (*with* Adaricheva, K. V.; Gorbunov, V. A.) Algebraic point lattices of quasivarieties. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 295–297. 08C15

Dziok, Jacek (*with* Paprocki, Ewald) Classes of functions with two fixed points, involving the Carlson-Shaffer operator. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 5–18. (Georgi Dimkov) **99i:30016** 30C45

— (*with* Stankiewicz, Jan) On a class of p-valent analytic functions with fixed argument of coefficients defined by fractional calculus. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 19–35. (H. M. Srivastava) **99i:30015** 30C45 (26A33)

— Some extremal problems for p-valent alpha-convex functions. (English summary) *Transform methods & special functions, Varna* '96, 100–106, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:30017** 30C45

Dziri, Raja (*with* Zolésio, Jean-Paul) Dynamical shape control in non-cylindrical hydrodynamics. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 113–122. (Summary) **99k:49087** 49Q10 (35Q35, 76B99, 76M30)

Dziubański, Jacek Atomic decomposition of H^p spaces associated with some Schrödinger operators. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 75–98. (A. F. M. ter Elst) **99j:46030** 46E15 (35J10, 42B30)

Dziuk, Gerhard (*with* Hutchinson, John E.) Finite element approximations and the Dirichlet problem for surfaces of prescribed mean curvature. (English summary) *Mathematical visualization* (*Berlin*, 1997), 73–87, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65N30

Dzugutov, Mikhail (*with* Aurell, Erik; Vulpiani, Angelo) Universal relation between the Kolmogorov-Sinai entropy and the thermodynamical entropy in simple liquids. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1762–1765. (Summary) **99e:58118** 58F11 (58F40)

Džurina, Jozef Oscillation of a second order delay differential equations. (English summary) *Arch. Math.* (*Brno*) **33** (1997), *no.* 4, 309–314. (M. Cecchi) **99a:34185** 34K15

— Oscillation of delay differential equations. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 97–105. (Klaus Morgenthal) **99k:34153** 34K15

Dzyuba, S. M. On the existence and stability of a unique periodic regime. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 15–22; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 166–171. (Fozi M. Dannan) **99m:34089** 34C25 (34D20, 34D99)

Dzyubenko, G. A. (*with* Gilewicz, Jacek; Shevchuk, I. A.) Piecewise monotone pointwise approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 311–348. (Hong Kun Xu) **99f:41008** 41A10 (41A29)

Dzyubenko, Karen Georgievich (*with* Chikrii, Arkadii A.) Bilinear Markov processes for searching for moving objects. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 92–106, 155. (Summary) **99d:90063** 90B40 (90D40, 93E05)

–E–

E, Weinan Nonlinear continuum theory of smectic-A liquid crystals. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 2, 159–175. (Paolo Biscari) **99e:76007** 76A15 (73B05, 82D30)

— (*with* Engquist, Björn) Blowup of solutions of the unsteady Prandtl's equation. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 12, 1287–1293. (Sergey Nikolaevich Alekseenko) **99c:35196** 35Q35 (35B35, 76D10)

— *see also* **Hyperbolic equations and frequency interactions, 99h:35002**

Eades, Peter (*with* Houle, Michael E.; Webber, Richard) Finding the best viewpoints for three-dimensional graph drawings. (English summary) *Graph drawing* (*Rome*, 1997), 87–98, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

graham-Eagle, James *see* **Graham-Eagle, James**

Eagles, P. M. On equilibrium modes and their stability in the small-gap Taylor problem by a new method. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3080–3087. (Summary) **99g:76053** 76E10 (76D99, 76U05)

Eagon, John A. (*with* Reiner, Victor) Resolutions of Stanley-Reisner rings and Alexander duality. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 3, 265–275. (Ralf Fröberg) **99h:13017** 13D25 (13D02, 13H10)

Ealy, C. E., Jr. Cayley color graphs and Cayley graphs of finitely presented loops. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 141–148. (Summary) **99k:05082** 05C25 (05C15)

Eames, Ian (*with* McIntyre, M. E.) On the connection between Stokes drift and Darwin drift. (English summary) *Math. Proc. Cambridge Philos. Soc.* **126** (1999), *no.* 1, 171–174. (From the introduction) **99m:76031** 76B99 (76D99, 76S05, 76V05)

— A hundred years of Hele-Shaw's analogue computer. (English summary) *Math. Today* (*Southend-on-Sea*) **35** (1999), *no.* 3, 85–88. 01A55 (68–03)

Earle, Clifford J. Some maximal holomorphic motions. *Lipa's legacy* (*New York*, 1995), 183–192, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Z. Ye (Zbl 889.58066)) **99e:58142** 58F23 (30C62, 30D05)

— (*with* Gardiner, Frederick P.; Lakic, Nikola) Vector fields for holomorphic motions of closed sets. (English summary) *Lipa's legacy* (*New York*, 1995), 193–225, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Yoichi Imayoshi) **99f:30069** 30F60 (30C62, 32G15)

Earnest, A. G. (*with* Khosravani, Azar) Universal positive quaternary quadratic lattices over totally real number fields. *Mathematika* **44** (1997), *no.* 2, 342–347. (Andrzej Sładek) **99a:11045** 11E12 (11E25)

Earnshaw, S. On the mathematical theory of sound [Philos. Trans. **150** (1860), 133–148]. (English summary) *Classic papers in shock compression science*, 83–104, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76Q05 (76N99)

sa Earp, Ricardo *see* **Sa Earp, Ricardo**

Earwood, John (*with* Denardo, Bruce; Sazonova, Vera) Parametric instability of two coupled nonlinear oscillators. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 187–195. (Summary) **99j:70027** 70K20 (70K28)

Eastham, Michael S. P. (*with* Brown, B. Malcolm; McCormack, Daniel K. R.) Absolute continuity and spectral concentration for slowly decaying potentials. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 181–197. (Alexander Alenitsyn) **99g:34165** 34L40 (34B24, 65L10)

— (*with* Brown, B. Malcolm; Hinz, Andreas M.; Kriecherbauer, Thomas; McCormack, Daniel K. R.; Schmidt, Karl Michael) Welsh eigenvalues of radially periodic Schrödinger operators. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 347–357. (Carol Shubin) **99m:34196** 34L40 (35J10, 35P15)

— (*with* Brown, B. Malcolm; McCormack, Daniel K. R.) Extensions of a new algorithm for the numerical solution of linear differential systems on an infinite interval. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 547–558. (Marco Marletta) **99f:65099** 65L05 (34A45)

— On the location of spectral concentration for Sturm-Liouville problems with rapidly decaying potential. *Mathematika* **45** (1998), *no.* 1, 25–36. (Christian Remling) **99e:34127** 34L40 (34B24, 47E05)

— The asymptotic form of the spectral function in Sturm-Liouville problems with a large potential like $-x^\epsilon$ ($\epsilon \leq 2$). (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 37–45. (Anton Zettl) **99a:34068** 34B24 (34L15, 34L40)

— (*with* Brown, B. Malcolm; McCormack, Daniel K. R.; Plum, Michael) On a new algorithm for the computation of enclosures for the Titchmarsh-Weyl m-function. *Results Math.* **33** (1998), *no.* 1-2, 50–64. (Anton Zettl) **99b:34138** 34L40 (34B24, 34E05, 34E20, 65L05)

Easther, Richard (*with* Maeda, Kei-ichi) Chaotic dynamics and two-field inflation. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 5, 1637–1652. 83F05 (58F13)

gamboa-Eastman, Stephen *see* **Gamboa-Eastman, Stephen**

Easton, Alan K. (*with* Steiner, J. M.; Zhang, De Fu) Random walk methods for the solution of the diffusion equation. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 275–282, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65M70 (76M35)

— (*with* Singh, Manmohan[2]; Cui, Gurong) Solutions of two species reaction-diffusion systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 359–373. (Summary) **99i:92019** 92D25 (35K57, 92D40)

— (*with* Singh, Manmohan[2]; Cui, Gurong; Kozlova, Irina) Numerical study of the two-dimensional spruce budworm reaction-diffusion equation with density dependent diffusion. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Natur. Resource Modeling* **11** (1998), *no.* 2, 143–154. (Summary) **99d:92029** 92D25

— *see also* **Computational techniques and applications: CTAC95, 99g:00035**

Eastwood, Brian J. (*with* Eastwood, Vera R.) Tabulating weighted sup-norm functionals of Brownian bridges via Monte Carlo simulation. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 707–719, *North-Holland, Amsterdam*, 1998. (Lajos Horváth) **99k:60205** 60J65 (62E25, 65C05)

Eastwood, Michael G. (*with* Tod, Kenneth Paul) Local constraints on Einstein-Weyl geometries. (English summary) *J. Reine Angew. Math.* **491** (1997), 183–198. (Andrew Swann) **99a:53056** 53C25

— (*with* Bailey, Toby N.; Gover, A. Rod; Mason, Lionel J.) The Funk transform as a Penrose transform. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 67–81. (Peter R. Law) **99i:32037** 32L25

Eastwood, Vera R. (*with* Steinebach, Josef) Detecting changes in a multivariate renewal process. (English summary) *Metrika* **46** (1997), *no.* 1, 1–19. (Lajos Horváth) **99d:62064** 62H15 (62G20)

— (*with* Eastwood, Brian J.) Tabulating weighted sup-norm functionals of Brownian bridges via Monte Carlo simulation. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 707–719, *North-Holland, Amsterdam*, 1998. (Lajos Horváth) **99k:60205** 60J65 (62E25, 65C05)

Easwaran, Chirakkal V. (*with* Chikwendu, Sunday C.) A Laplace-transform multiple-scale procedure for the asymptotic solution of weakly non-linear partial differential equations. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 117–122. 35C20

Eaton, Joe (*with* Wheeler, Mary F.; Dawson, Clint N.) Transport of multispecies contaminants with biological and chemical kinetics in porous media. *Modelling and computation for applications in mathematics, science, and engineering* (*Evanston, IL*, 1996), 25–37, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1998. (*see* **99k:00033**) 76S05 (86A60)

Eaton, John W. (*with* Meadows, Edward S.; Henson, Michael A.; Rawlings, James B.) Receding horizon control and discontinuous state feedback stabilization. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1217–1229. 93D15

Eaton, Morris L. Admissibility in quadratically regular problems and recurrence of symmetric Markov chains: Why the connection? (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 231–247. (Christian P. Robert) **99g:62010** 62C15 (60J10, 62C10)

Eaton, Nancy Intersection representation of complete unbalanced bipartite graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 123–129. (Douglas B. West) **99c:05100** 05C35 (05C75, 05C78)

— (*with* Hull, Thomas) Defective list colorings of planar graphs. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 79–87. (Summary) **99i:05078** 05C15

Ebanks, Bruce R. (*with* Davison, Thomas M. K.) The cocycle equation on periodic semigroups. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 216–221. (K. D. Magill, Jr.) **99h:39029** 39B52

— (*with* Cheng, Raymond; Dasgupta, Abhijit; Kinch, L. F.; Larson, L. M.; McFadden, Robert B.) When does $f^{-1} = 1/f$? *Amer. Math. Monthly* **105** (1998), *no.* 8, 704–717. (James Foran) **99h:39026** 39B22 (30C35, 39B32)

— Quasi-homogeneous associative functions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 351–357. (B. Schweizer) **99f:39033** 39B12 (39B22, 54E70)

— Localizable composable measures of fuzziness. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 343–355. (Summary) **99c:04006** 04A72 (28E10, 39B52)

Ebara, Hiroyuki (*with* Bai, Leqiang; Nakano, Hideo[1]; Maeda, Hajime) An adaptive distributed fault-tolerant routing algorithm for the star graph. (English summary) *Algorithms and computation* (*Singapore*, 1997), 62–71, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10 (68M15)

— (*with* Bai, Leqiang; Maeda, Hajime; Nakano, Hideo[1]) A broadcasting algorithm with time and message optimum on arrangement graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 2, 17 *pp.* (*electronic*). (Summary) **99c:68008** 68M10 (05C85, 68R10)

Ebeling, Wolfgang (*with* Gusein-Zade, Sabir M.) Suspensions of fat points and their intersection forms. *Singularities* (*Oberwolfach*, 1996), 141–165, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Jan Stevens) **99k:32061** 32S30

— (*with* Steenbrink, Joseph H. M.) Spectral pairs for isolated complete intersection singularities. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 1, 55–76. (Marko Roczen) **99c:32053** 32S35 (14B05, 14D07, 32S55)

Ebenfelt, Peter (*with* Baouendi, Mohamed Salah; Rothschild, Linda Preiss) Algebraicity of holomorphic mappings between real algebraic sets in $\mathbf{C}^n$. *Acta Math.* **177** (1996), *no.* 2, 225–273. (J. Merker) **99b:32030** 32H02 (32C16, 32F25)

— (*with* Baouendi, Mohamed Salah; Rothschild, Linda Preiss) Parametrization of local biholomorphisms of real analytic hypersurfaces. *Asian J. Math.* **1** (1997), *no.* 1, 1–16. (Mario Landucci) **99b:32022** 32F25 (32H02)

— (*with* Khavinson, Dmitry; Shapiro, Harold S.) Analytic continuation of Jacobi polynomial expansions. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 1, 19–31. (Peter A. McCoy) **99e:42041** 42C10 (35A20)

— (*with* Berenstein, Carlos A.; Gindikin, S. G.; Helgason, Sigurdur; Tumanov, Alexander) ★ Integral geometry, Radon transforms and complex analysis. Lectures given at the 1st C.I.M.E. Session held in Venice, June 3–12, 1996. Edited by E. Casadio Tarabusi, M. A. Picardello and G. Zampieri. Lecture Notes in Mathematics, 1684. *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo* (*C.I.M.E.*), *Florence*, 1998. *viii*+160 *pp. ISBN* 3-540-64207-2 (Editors) **99c:00011** 00B25 (32–06)

— Holomorphic mappings between real analytic submanifolds in complex space. *Integral geometry, Radon transforms and complex analysis* (*Venice*, 1996), 35–69, *Lecture Notes in Math.*, 1684, *Springer, Berlin*, 1998. (Shanyu Ji) **99h:32026** 32H02 (32F25, 32J20)

— (*with* Baouendi, Mohamed Salah; Rothschild, Linda Preiss) CR automorphisms of real analytic manifolds in complex space. *Comm. Anal. Geom.* **6** (1998), *no.* 2, 291–315. (Gerd Schmalz) **99i:32024** 32F25 (32C16)

— (*with* Khavinson, Dmitry; Shapiro, Harold S.) Extending solutions of holomorphic partial differential equations across real hypersurfaces. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 411–432. (Yûsaku Hamada) **99j:35014** 35B60 (32D15, 35A20, 35J15)

Eberbach, Eugeniusz Concurrent features and amalgamation of logic programming with algorithmic programming: a calculus of self-modifiable algorithms approach. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 125–148 (*electronic*). (*see* **99d:68010**) 68N17 (68Q20)

Eberhard, Andrew (*with* Nyblom, Michael; Ralph, Daniel) Applying generalised convexity notions to jets. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 111–157, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Seeger) **99i:49019** 49J52 (90C31)

— (*with* Nyblom, Michael) Jets, generalised convexity, proximal normality and differences of functions. *Nonlinear Anal.* **34** (1998), *no.* 3, 319–360. (S. Rolewicz) **99h:49023** 49J52 (52A01, 90C26)

Eberhard, Peter (*with* Bischof, Christian H.) Some aspects of algorithmic differentiation of ordinary differential equations. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 294–304, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 34–04 (34A45, 70E15)

— (*with* Bischof, Christian H.) Automatic differentiation of numerical integration algorithms. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 717–731. (Summary) **99i:65066** 65L05 (34A45)

Eberhardt, Bernd Computing minimal surfaces with particle systems. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 52–58, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65D17 (49Q05)

Eberle, Andreas Diffusions on path and loop spaces: existence, finite-dimensional approximation and Hölder continuity. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 77–99. (Summary) **99k:58194** 58G32 (31C25, 60G17, 60J60)

Eberlein, Ernst *see* **High dimensional probability, 99e:60003**

Eberly, Janice C. (*with* Van Mieghem, Jan A.) Multi-factor dynamic investment under uncertainty. (English summary) *J. Econom. Theory* **75** (1997), *no.* 2, 345–387. (N. H. Bingham) **99c:90018** 90A09

Eberspächer, Matthias (*with* Scheid, Werner) The modified Newton-Sabatier method for the coupled channel inverse scattering problem with charged particles at fixed energy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3061–3072. (Tuncay Aktosun) **99h:81223** 81U40

Ebert, Dietmar (*with* Zhukovskiĭ, V. Ch.; Vshivtsev, A. S.) Temperature behaviour of a SU(2) gauge theory with external fields. *Problems of quantum field theory* (*Alushta*, 1996), 47–50, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05 (81T13)

— Bosonization in particle physics. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 103–114, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 81V05

— Hadronization in particle physics. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 115–121, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 81V05

Ebert, G. L. (*with* Metsch, Klaus; Szőnyi, T.) Caps embedded in Grassmannians. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 181–196. (Antonio Cossidente) **99c:51016** 51E22 (51E20)

— Hermitian arcs. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 87–105. (Jörg Eisfeld) **99d:51012** 51E21

— Partitioning problems and flag-transitive planes. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 27–44. (Summary) **99h:51007** 51E15 (51E23)

Ebiefung, A. A. New perturbation results for solving the linear complementarity problem with P_0-matrices. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 37–39. (Summary) **99b:90135** 90C33

Ebihara, Y. (*with* Kitada, Toshiyuki) On the behavior of explicit solutions of quasilinear hyperbolic-elliptic equations with convective term. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 225–243. (Summary) **99d:35110** 35M10

Ebmeyer, Carsten Error estimates for a class of degenerate parabolic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1095–1112 (*electronic*). (Mark Ainsworth) **99e:65125** 65M15 (65M60)

Eboli, Claudia (*with* Leont'ev, A. N.; Herskovits, José) Optimization theory application to slitted plate bending problems. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 20, 2679–2694. (Summary) **99a:73098** 73K40 (73K10)

Ebrahimi, Nader How to measure uncertainty in the residual life time distribution. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 48–56. (Ramesh C. Gupta) **99j:62140** 62N05

— Multivariate age replacement. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 1032–1040. (Karol Andrzejczak) **99b:90064** 90B25 (60K10, 62N05)

— (*with* Devarajan, Karthik) A nonparametric approach to accelerated life testing under multiple stresses. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 629–644. 90B25

Ebrahimi-Vishki, Hamid Reza The universal V-compactification of a semigroup. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 159–164, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (James Chew) **99e:22008** 22A20 (43A60, 54H15)

— (*with* Pourabdollah, Mohammad Ali) More on norm-continuity of weakly almost periodic function. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **2** (1997), *no.* 1, 29–33. (A. Precupanu) **99g:43008** 43A60 (54H15)

Ecalle, Jean (*with* Menous, Frédéric) Well-behaved convolution averages and the non-accumulation theorem for limit-cycles. (English summary) *The Stokes phenomenon and Hilbert's 16th problem* (*Groningen*, 1995), 71–101, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Tovbis) **99b:34058** 34C05 (40H05, 58F21)

Eccles, Peter J. ★ An introduction to mathematical reasoning. (English summary) Numbers, sets and functions. *Cambridge University Press, Cambridge*, 1997. xii+350 *pp.* *ISBN* 0-521-59269-0; 0-521-59718-8 (W. T. Whitley) **99c:00006** 00A35 (00–01, 11–01)

Eccleston, J. A. (*with* Chan, B. S. P.) On the construction of complete and partial nearest neighbour balanced designs. (English summary) *Australas. J. Combin.* **18** (1998), 39–50. (Summary) **99g:05021** 05B05

— (*with* Martin, Richard John; Jones, Geoff) Some results on two-level factorial designs with dependent observations. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 363–384. (Rainer Schwabe) **99f:62096** 62K15 (62M10)

— (*with* Martin, Richard John; Jones, Geoff) Eight-run two-level factorial designs under dependence. (English summary) *Metrika* **48** (1998), *no.* 2, 127–139. 62K15

Ecer, A. *see* **Parallel computational fluid dynamics, 99d:76002**

Echahed, Rachid (*with* Janodet, Jean-Christophe) Admissible graph rewriting and narrowing. (English summary) *Logic programming* (*Manchester*, 1998), 325–340, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68Q42 (68Q55, 68R10)

Echarte Reula, Francisco Javier (*with* Gómez Martín, José Ramón; Núñez Valdés, J.) Les algèbres de Lie filiformes complexes dérivées d'autres algèbres de Lie. [Complex filiform Lie algebras derived from other Lie algebras] *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 45–55, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (José María Ancochea Bermúdez) **99a:17013** 17B30

Echavarría Heras, Héctor (*with* Solana A., Elena) A mathematical model for general radial insertion of LDL receptors near coated pits: formal analysis and applications. (English summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 87–104, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 92C05 (35Q80, 92C30)

Echerbault, Mireille Sur le modèle d'Heisenberg. [On the Heisenberg model] *Séminaire de Probabilités, XXX*, 162–177, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Roberto Fernández) **99k:82004** 82B05 (60J25, 60K35, 82B20)

— (*with* Bakry, Dominique) Sur les inégalités GKS. (English and French summaries) [On the GKS inequalities] *Séminaire de Probabilités, XXX*, 178–206, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Daniel Ueltschi) **99b:82008** 82B05 (82B20)

Echeverría, Javier (*with* Ibarra, Andoni; Mormann, Thomas) The long and winding road to the philosophy of science in Spain. (English summary) *Representations of scientific rationality*, 11–55, *Poznań Stud. Philos. Sci. Humanities*, 61, *Rodopi, Amsterdam*, 1997. (*see* **99k:00024**) 01A60 (00A30)

— Similitudes, isomorphisms and homeomorphisms between scientific representations. (Spanish. English and Spanish summaries) Semantics and representation in scientific theories: formal analysis. *Theoria* (*San Sebastián*) (2) **13** (1998), *no.* 31, 89–112. (*see* **99a:00056**) 00A30

Echeverría-Enríquez, Arturo (*with* Muñoz-Lecanda, Miguel C.; Román-Roy, Narciso) Multivector fields and connections: setting Lagrangian equations in field theories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4578–4603. (Manuel de León) **99i:58059** 58F05 (53C05)

Echkina, E. Yu. (*with* Bulanov, S. V.; Inovenkov, I. N.; Pegoraro, F.; Pichushkin, V. V.) On the structural stability of magnetic configurations with two null lines. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 802–815. (Summary) **99k:76151** 76W05

Echols, Robert (*with* Dine, Michael; Gray, Joshua P.) Renormalization of higher derivative operators in the Matrix model. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 103–110. (Summary) **99h:81162** 81T30 (81T15)

Echterhoff, Siegfried (*with* Kaliszewski, S.; Raeburn, Iain) Crossed products by dual coactions of groups and homogeneous spaces. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 151–176. (Yoshikazu Katayama) **99h:46124** 46L55 (22D25)

Ecimovic, P. (*with* Hunter, Geoffrey[2]; Schlifer, I.; Walker, I. M.; Beamish, D.; Donev, S.; Kowalski, Marian; Arslan, S.; Heck, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

Eck, Christof ★ Existenz und Regularität der Lösungen für Kontaktprobleme mit Reibung. (German) [Existence and regularity of solutions for contact problems with friction] Dissertation, Universität Stuttgart, Stuttgart, 1996. *Mathematisches Institut A der Universität Stuttgart, Stuttgart*, 1996. ii+169 *pp.* (Józef Joachim Telega) **99j:73091** 73T05 (35Q72, 73C35, 73V25)

— (*with* Jarušek, J.) Existence results for the static contact problem with Coulomb friction. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 445–468. (Alain Brillard) **99c:73071** 73T05 (49J40, 73V25)

Ecke, R. E. (*with* Vorobieff, P.) Transient states during spin-up of a Rayleigh-Bénard cell. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2525–2538. 76E15 (76U05)

Ecker, Jürgen On the number of polynomial functions on nilpotent groups of class 2. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 133–137, *Heyn, Klagenfurt*, 1998. (Wim Malfait) **99h:20036** 20D15 (20D60)

Eckertson, F. W. (*with* García-Ferreira, S.; Sanchis, Manuel; Watson, W. Stephen) An isocompact Tychonoff space whose square is not isocompact. (English summary) *Topology Proc.* **22** (1997), 181–190. (Jack R. Porter) **99m:54011** 54D20 (54B10)

Eckhardt, Bruno (*with* Hüpper, Bruno) Semiclassical cross sections. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 63–82, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20

— (*with* Marzinzik, Kerstin; Schmiegel, Armin) Transition to turbulence in shear flows. (English summary) *A perspective look at nonlinear media*, 327–338, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:76045** 76F10

— *see also* **Classical, semiclassical and quantum dynamics in atoms, 99a:81002**

Eckhoff, Jürgen The maximum number of triangles in a K_4-free graph. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 95–106. (Jenő Lehel) **99m:05075** 05C35

Eckle, H.-P. Corner transfer matrices and novel polynomials. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 77–84, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— Corner transfer matrix of asymmetric vertex models. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 378–383, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

Eckmann, Beno 4-manifolds, group invariants, and l_2-Betti numbers. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 271–279. (Alain Valette) **99b:57002** 57M05 (20F05, 55N25, 55P20)

— Naissance des fibrés et homotopie. (English and French summaries) [The origins of fiber spaces and homotopy] *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 21–36, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Haynes R. Miller) **99h:01030** 01A60 (55–03)

Eckmann, Jean-Pierre (*with* Collet, Pierre) Oscillations of observables in 1-dimensional lattice systems. (English summary) *Math. Phys. Electron. J.* **3** (1997), *Paper* 3, 19 *pp.* (*electronic*). (Karl Petersen) **99a:28014** 28D05 (82B05, 82C05)

— (*with* Wayne, C. Eugene) Non-linear stability analysis of higher-order dissipative partial differential equations. (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 3, 20 *pp.* (*electronic*). (Arnaldo do Nascimento) **99g:35019** 35B35 (35K55, 35Q55)

Eckstein, Jonathan (*with* Ferris, Michael C.) Operator-splitting methods for monotone affine variational inequalities, with a parallel application to optimal control. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 218–235. (Summary) **99c:90133** 90C33 (49J40)

— Approximate iterations in Bregman-function-based proximal algorithms. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 113–123. (Vincenţiu Dumitru) **99j:90097** 90C33 (47H17, 47N10, 65H10)

Economou, A. (*with* Fakinos, D.) Overall station balance and decomposability for non-Markovian queueing networks. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 870–887. (Leonardo Pasini) **99m:60144** 60K25 (68M20, 90B22)

Eda, Katsuya The non-commutative Specker phenomenon. *J. Algebra* **204** (1998), *no.* 1, 95–107. (R. Göbel) **99h:20049** 20E18

— Free σ-products and fundamental groups of subspaces of the plane. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 283–306. (Alexander N. Dranishnikov) **99b:55027** 55Q52 (20F34)

— (*with* Kawamura, Kazuhiro) The fundamental groups of one-dimensional spaces. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 163–172. (R. E. Stong) **99b:55022** 55Q07 (55Q52)

Edalat, Abbas Domains for computation in mathematics, physics and exact real arithmetic. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 4, 401–452. (Marat M. Arslanov) **99m:03091** 03D65 (03D80, 03E15, 28C15, 54F45, 68Q55)

— When Scott is weak on the top. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 401–417. (Peter Johnstone) **99c:68166** 68Q55 (06B35, 28C15, 34C35, 54B20, 58F13)

— (*with* Alvarez-Manilla, M.; Saheb-Djahromi, N.) An extension result for continuous valuations. (English summary) *Third Workshop on Computation and Approximation (Comprox III) (Birmingham, 1997)*, 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 13, *Elsevier, Amsterdam*, 1998. (*see* **99i:00013**) 06B35 (28A99)

— (*with* Desharnais, Josée; Panangaden, Prakash) A logical characterization of bisimulation for labeled Markov processes. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 478–487, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60 (68Q10)

— (*with* Heckmann, Reinhold) A computational model for metric spaces. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 53–73. (W. J. Kotzé) **99b:06009** 06B35 (28C15, 54E40)

— (*with* Negri, Sara) The generalized Riemann integral on locally compact spaces. (English summary) Domain theory. *Topology Appl.* **89** (1998), *no.* 1-2, 121–150. (R. G. Bartle) **99k:28005** 28A25 (06B35, 68Q99)

— *see also* **Workshop: Computation and Approximation**, **99i:00013**

Edamenko, N. S. (*with* Olemskoĭ, I. V.) Efficient integration of a dynamical system of a special form. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 63–66, 244, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 65L05

Eddahbi, M'Hamed Application des transformées de Radon à la décomposition de certains processus de Dirichlet. (French summary) [Application of Radon transforms to the decomposition of certain Dirichlet processes] *Afrika Mat.* (3) **7** (1997), 71–82. (Jean Bertoin) **99c:60178** 60J65 (44A12, 60H05, 60J55)

— (*with* Boufoussi, B.; Kamont, Anna) Sur la dérivée fractionnaire du temps local brownien. (English summary) [On the fractional derivative of Brownian local time] *Probab. Math. Statist.* **17** (1997), *no.* 2, 311–319 (19*N*). (Philippe Biane) **99c:60167** 60J55

— (*with* Erraoui, M.) EDPS paraboliques à coefficients non-lipschitziens avec réflexion. (French summary) [Parabolic SPDE with reflection and non-Lipschitz coefficients] *Ann. Math. Blaise Pascal* **5** (1998), *no.* 2, 7–19. (Catherine Donati-Martin) **99m:60094** 60H15 (35K99, 35R60)

— (*with* Erraoui, M.) On quasi-linear parabolic SPDEs with non-Lipschitz coefficients. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 105–126. (Krystyna Twardowska) **99c:60129** 60H15 (35R60)

Edel, Yves (*with* Bierbrauer, Jürgen) Extending and lengthening BCH codes. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 4, 314–333. (Henk van Tilborg) **99c:94052** 94B15

— (*with* Bierbrauer, Jürgen) Construction of digital nets from BCH-codes. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 221–231, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:94040** 94B05 (05B15, 65C05)

— (*with* Rains, Eric M.; Sloane, Neil J. A.) On kissing numbers in dimensions 32 to 128. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 22, 5 *pp.* (*electronic*). (Summary) **99c:94064** 94B75

Edelen, D. G. B. (*with* Lagoudas, Dimitris C.) Matching the inner and outer solutions in the continuum theory of dislocations. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 1, 59–73. (Andrzej Trzęsowski) **99k:73013** 73B27 (73C99, 73S10)

Edelman, Alan (*with* Elmroth, Erik; Kågström, Bo) A geometric approach to perturbation theory of matrices and matrix pencils. I. Versal deformations. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 653–692. (Summary) **99e:58021** 58C27 (15A21, 15A22, 65F15)

— (*with* Lippert, Ross A.; Arias, Tomás A.) Multiscale computation with interpolating wavelets. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 278–310. (Ewald Quak) **99e:65188** 65T99 (42C15, 65D20, 81–08)

— (*with* Ma, Yanyuan) Nongeneric eigenvalue perturbations of Jordan blocks. (English summary) *Linear Algebra Appl.* **273** (1998), 45–63. (Summary) **99d:15016** 15A42 (15A18)

— (*with* Friedman, David) A counterexample to a Hadamard matrix pivot conjecture. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 53–56. (Summary) **99c:05039** 05B20

— (*with* Arias, Tomás A.; Smith, Steven T.) The geometry of algorithms with orthogonality constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 303–353 (*electronic*). (Michael M. Dediu) **99h:65075** 65F30 (15A18, 51F20, 65H10, 90C30)

— (*with* McCorquodale, Peter; Toledo, Sivan) The future fast Fourier transform? (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1094–1114 (*electronic*). (Manfred Tasche) **99m:65253** 65T20 (65Y20)

Edelman, P. H. (*with* Reiner, Victor) Visibility complexes and the Baues problem for triangulations in the plane. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 35–59. (Summary) **99h:52013** 52B40 (55P99)

Edelsbrunner, Herbert Algebraic decomposition of non-convex polyhedra. (English summary) 36*th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 248–257, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68U05

— Shape reconstruction with Delaunay complex (invited paper). (English summary) *LATIN'98: theoretical informatics (Campinas*, 1998), 119–132, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68228** 68U05

— (*with* Axen, Ulrike) Auditory Morse analysis of triangulated manifolds. (English summary) *Mathematical visualization (Berlin*, 1997), 223–236, *Springer, Berlin*, 1998. (*see* **99k:65005**) 58E05 (00A69, 65Y99)

— (*with* Facello, Michael; Liang, Jie) On the definition and the construction of pockets in macromolecules. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 83–102. (Jean-Paul Doignon) **99k:92010** 92C40 (52B55, 92D20)

— Deformable smooth surface design. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 87–115. (Antonio López-Carmona) **99j:65023** 65D17 (65Y25)

Edelson, William (*with* Gargano, Michael L.) Minimal edge-ordered spanning trees solved by a genetic algorithm with feasible search space. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 37–45. (Summary) **99j:05175** 05C85 (05C05)

Edelstein, José D. BPS solitons and Killing spinors in three-dimensional $N = 2$ supergravity. (English summary) *Trends in theoretical physics (La Plata*, 1997), 439–442, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99f:83074** 83E50

— (*with* Tătaru, Liviu; Tătar, Radu) Rules for localized overlappings and intersections of p-branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 3, 27 *pp.* (*electronic*). (Marco Spaans) **99e:81185** 81T30 (83E30)

— Self-dual solitons in $N = 2$ supersymmetric semilocal Chern-Simons theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 21, 1689–1697. (Summary) **99c:81235** 81T60 (81T13)

— (*with* Trobo, M. L.; Brito, F. A.; Bazeia, D.) Kinks inside supersymmetric domain ribbons. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7561–7569. (Summary) **99k:81304** 81T60

Edelstein, Michael (*with* Radjavi, Heydar; Tan, Kok-Keong) Boundedness stability properties of linear and affine operators. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 111–125. (Summary) **99b:47002** 47A05 (15A04, 47B15, 47B20)

Edelstein-Keshet, Leah (*with* Watmough, James; Grunbaum, Daniel) Do travelling band solutions describe cohesive swarms? An investigation for migratory locusts. (English summary) *J. Math. Biol.* **36** (1998), *no.* 6, 515–549. (Summary) **99f:92036** 92D50

Edemskiĭ, V. A. On the group of points of a formal group as a Galois module. (Russian. Russian summary) *Algebras, groups and varieties (Russian)*, 27–37, 81, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 11S31

Eder, Gernot The experimental significance of quantized phase differences. (English summary) *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 117–125 (1998). (Summary) **99e:81111** 81S05

Edgar, Gerald A. ★ Integral, probability, and fractal measures. *Springer-Verlag, New York*, 1998. x+286 *pp. ISBN* 0-387-98205-1 (Lars Olsen) **99c:28024** 28A80 (28A75, 28A78, 60D05)

Edgar, S. Brian (*with* Ludwig, Garry) Conformally Ricci flat pure radiation metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3453–3473. (J. B. Griffiths) **99a:83018** 83C15 (83C20)

— (*with* Andersson, F.) Curvature-free asymmetric metric connections and Lanczos potentials in Kerr-Schild spacetimes. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2859–2861. (János Kánnár) **99d:83009** 83C15 (53C80, 83C60)

Ĕdgarov, S. Zh. Statistical estimation of the distribution of the convolution component. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 20–26. (Jacek Koronacki) **99h:62045** 62G07

Edgington, Dorothy *see* **Woods, Michael**, **99a:03034**

Edidin, Dan (*with* Graham, William A.) Localization in equivariant intersection theory and the Bott residue formula. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 619–636. (Michel Brion) **99g:14005** 14C17 (14L30, 55N91, 57R20)

— (*with* Graham, William A.) Equivariant intersection theory. *Invent. Math.* **131** (1998), *no.* 3, 595–634. (Burt Totaro) **99j:14003a** 14C17 (14F99)

— *see also* **Vistoli, Angelo**, **99j:14003b**

Edigarian, Armen On definitions of the pluricomplex Green function. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 233–246. (Evgeny A. Poletsky) **99f:32039** 32H15 (32F05)

— (*with* Zwonek, Włodzimierz) Invariance of the pluricomplex Green function under proper mappings with applications. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 367–380. (Summary) **99d:32017** 32F05 (32H15, 32H35)

— (*with* Zwonek, Włodzimierz) On a symmetric pluricomplex Green function. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 35–40. (Marek Jarnicki) **99d:32031** 32H15 (32F05)

Edissonov, I. (*with* Petrov, Valko Georguiev; Nikolov, S. G.) Reconstruction of polynomial right-hand side of one-dimensional dynamical system on given integral curve. (English and Russian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 3, 4, 30–38. (Summary) **99k:34027** 34A55 (34A05)

— (*with* Petrov, Valko Georguiev; Nikolov, S. G.) Reconstruction of polynomial right-hand sides of two-dimensional dynamical system on given integral curve. (English and Russian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 4, 5, 45–54. (Summary) **99k:34028** 34A55

peirce Edition Project *see* **Peirce Edition Project**

Edixhoven, Bas Serre's conjecture. (English summary) *Modular forms and Fermat's last theorem (Boston, MA*, 1995), 209–242, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80 (11G05)

— Special points on the product of two modular curves. (English summary) *Compositio Math.* **114** (1998), *no.* 3, 315–328. (Ben Moonen) **99k:11087** 11G15 (14G35, 14K22)
— (*with* Coleman, Robert F.) On the semi-simplicity of the U_p-operator on modular forms. *Math. Ann.* **310** (1998), *no.* 1, 119–127. (Alexey A. Panchishkin) **99b:11043** 11F25 (11F11, 11F33, 11F85)
— *see also* **Bertolini, Massimo, 99f:11079**
dyczij-Edlinger, Romanus *see* **Dyczij-Edlinger, Romanus**
Edmonds, Jack (*with* Cameron, Kathie) Lambda composition. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 9–16. (Summary) **99c:05149** 05C70
Edmonds, Jeff A. (*with* Barnes, Greg) Time-space lower bounds for directed *st*-connectivity on graph automata models. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1190–1202 (*electronic*). (Mukkai S. Krishnamoorthy) **99g:68089** 68Q25 (68Q05, 68Q15, 68R10)
— Time-space tradeoffs for undirected *st*-connectivity on a graph automata. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1492–1513 (*electronic*). (Mukkai S. Krishnamoorthy) **99g:68090** 68Q25 (68Q05, 68Q15, 68R10)
Edmunds, David E. (*with* Cianchi, Andrea) On fractional integration in weighted Lorentz spaces. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 439–451. (Vladimir D. Stepanov) **99b:26008** 26A33 (42B20, 42B25)
— (*with* Kokilashvili, Vakhtang) Two-weight compactness criteria for potential type operators. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 123–125. 42B20 (47B38, 47G10)
— (*with* Popivanov, N. I.) A nonlocal regularization of some over-determined boundary-value problems. I. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 85–105 (*electronic*). (Guan Quan Zhang) **99c:35172** 35L80 (35N10, 35R25)
— (*with* Netrusov, Yu.) Entropy numbers of embeddings of Sobolev spaces in Zygmund spaces. (English summary) *Studia Math.* **128** (1998), *no.* 1, 71–102. (Petr Gurka) **99d:46047** 46E35 (35P20, 41A46)
Edneral, V. F. A symbolic approximation of periodic solutions of the Hénon-Heiles system by the normal form method. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 445–463. (Summary) **99c:34081** 34C25 (34–04, 34C20, 68Q40)
— *see also* **Simplification of systems of algebraic and differential equations with applications, 99a:00047**
Edouard, A. (*with* Moreno, Oscar; Duursma, Iwan M.; Cherdieu, J. P.) Cyclic subcodes of generalized Reed-Muller codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 307–311. (Summary) **99a:94051** 94B15
Edwardes, Michael D. deB. Where variance is largest for Mann and Whitney's U under a sum of powers marginal distribution. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 195–198. (Summary) **99d:62047** 62G10
Edwards, A. W. F. Seven-set Venn diagrams with rotational and polar symmetry. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 149–152. (Summary) **99c:05020** 05A99
Edwards, Brian J. (*with* Dimitropoulos, Costas D.; Chae, Kyung-Sun; Beris, Antony N.) Efficient pseudospectral flow simulations in moderately complex geometries. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 517–549. (Summary) **99c:76083** 76M25
Edwards, C. Martin (*with* Rüttimann, Gottfried T.) The lattice of weak*-closed inner ideals in a W^*-algebra. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 131–166. (J. D. Maitland Wright) **99i:46053** 46L70 (46L10)
— (*with* Rüttimann, Gottfried T.) Exposed faces of the unit ball in a JBW*-triple. (English summary) *Math. Scand.* **82** (1998), *no.* 2, 287–304. (Yaakov Friedman) **99k:46124** 46L70 (46B20)
Edwards, Christopher (*with* Spurgeon, Sarah K.) Sliding mode stabilization of uncertain systems using only output information. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1129–1144. 93D15
— (*with* Spurgeon, Sarah K.) Robust output tracking using a sliding-mode controller/observer scheme. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 967–983. 93B12 (93B07)
— (*with* Spurgeon, Sarah K.) Compensator based output feedback sliding mode controller design. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 601–614. (Ülle Kotta) **99j:93019** 93B12 (93B52, 93C05)
Edwards, David Alan[2] (*with* French, Donald A.) Asymptotic and computational analysis of large shear deformations of a thermoplastic material. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 700–727 (*electronic*). (Summary) **99i:73008** 73B30 (65M06, 73E50, 73G20, 73V20)
Edwards, Harold M. Kummer and Kronecker. *Mathematics in Berlin*, 61–69, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70 (01A55)
Edwards, Hugh (*with* Hierons, Robert; Jackson, Bill) The zero-free intervals for characteristic polynomials of matroids. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 153–165. (Marcel Wild) **99e:05032** 05B35
Edwards, John T. (*with* Frischmuth, Kurt; Ford, Neville J.) Volterra integral equations with non-Lipschitz nonlinearity. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 65–82. (Neide Bertoldi Franco) **99c:65246** 65R20 (45D05)
Edwards, Keith (*with* Cairnie, Niall) The achromatic number of bounded degree trees. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 87–97. (Gary MacGillivray) **99e:05048** 05C15 (05C05, 68Q25)
Edwards, Phillip (*with* Mahmood, Munir) An algebraic proof that polygons have less area than the circle with same perimeter. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 2, 283–286. 52A38 (51M25)
— (*with* Mahmood, Munir) Some inequalities and sequences converging to e. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 430–434. 26D15
Edwards, S. F. Entanglements of polymers. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 1–7, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82064** 82D60
Èdzhibia, G. V. (*with* Volosevich, P. P.; Kornilina, M. A.; Levanov, E. I.) Self-similar and numerical solutions of equations of magnetohydrodynamics taking into account nonlinear bulk sources and sinks. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 2, 25–41. 76N15 (76W05)
van Eeden, Constance (*with* van der Laan, Paul) On using a loss function in selecting the best of two gamma populations in terms of their scale parameters. (English summary) *Statistics* **28** (1996), *no.* 4, 355–370. (Neeraj Misra) **99b:62026** 62F07
Eells, James Automorphisms of the circle—and Teichmüller theory. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 44–52, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoichi Imayoshi) **99g:32035** 32G15 (22E67, 58D05)
— (*with* Verjovsky, Alberto) Harmonic and Riemannian foliations. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 1–12. (James J. Hebda) **99b:53040** 53C12 (57R30, 58E20)
Efendiev, Messoud (*with* Miranville, Alain) Finite-dimensional attractors for reaction-diffusion equations in $\mathbf{R}^n$ with a strong nonlinearity. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 399–424. (Piotr Biler) **99m:35117** 35K57 (34G20, 35B40, 47H20, 58F39)
Efetov, Konstantin ★ Supersymmetry in disorder and chaos. (English summary) *Cambridge University Press, Cambridge*, 1997. *xiv+441 pp. ISBN* 0-521-47097-8 (Ashok Kumar Mishra) **99m:82001** 82–02 (58F13, 81Q50, 82B28, 82B44, 82C70, 82D30, 82D60)
Effros, Edward G. (*with* Webster, Corran) Operator analogues of locally convex spaces. (English summary) *Operator algebras and applications* (*Samos*, 1996), 163–207, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (Wend Werner) **99b:46081** 46L05 (46A32, 47D15)
— (*with* Ruan, Zhong-Jin) On the analogues of integral mappings and local reflexivity for operator spaces. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1289–1310. (Christian Le Merdy) **99h:46026** 46B28 (46L05, 47D25)
Efimchik, N. E. (*with* Emelichev, V. A.) On an efficient algorithm that solves the problem of the allocation of medians and centers in a graph in a typical case. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fiz.-Mat. Navuk* **1997**, *no.* 4, 117–120, 143. (Valentin E. Brimkov) **99k:05148** 05C85 (05C12, 68R10)
Efimov, A. V. (*with* Pospelov, A. S.; Umnyashkin, S. V.) Some properties of multiplicative orthonormal systems, which are used in digital signal processing. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 137–182. (W. R. Wade) **99m:94010** 94A12 (42C10)
Eflov, V. B. A reciprocity theorem for the vector transport equation. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 37–43. (Summary) **99c:76100** 76Q05
Efrat, Alon (*with* Aronov, Boris; Halperin, Dan; Sharir, Micha) On the number of regular vertices of the union of Jordan regions. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 322–334, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99m:68204** 68U05 (52B55)
— (*with* Chew, L. Paul; Dor, D.; Kedem, Klara) Geometric pattern matching in d-dimensional space. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 257–274. (Ilya S. Molchanov) **99m:65262** 65Y25 (52B55, 68U05)
Efrat, Ido Small maximal pro-p Galois groups. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 237–249. (Helmut Völklein) **99e:12005** 12F10 (12G05)
Efremov, A. A. d-r.e. degrees that are isolated from above. I. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 20–28; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 17–25. (A. Kučera) **99f:03053** 03D25 (03D30)
— d-r.e. degrees that are isolated from above. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 18–25; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 7, 15–22 (1999). (A. Kučera) **99h:03023** 03D25 (03D30)
Efremov, P. V. Matchings in geometric bipartite graphs. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 10–22, 63 (1998). (Mechthild Opperud) **99m:05120** 05C70 (68R10, 90C35)
Efromovich, Sam Simultaneous sharp estimation of functions and their derivatives. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 273–278. (Margaret P. Gessaman) **99c:62087** 62G05 (62E20, 62J02)
— On global and pointwise adaptive estimation. (English summary) *Bernoulli* **4** (1998), *no.* 2, 273–282. (Ulrich Stadtmüller) **99i:62089** 62G07 (62G20)
— Data-driven efficient estimation of the spectral density. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 762–769. (Summary) **99c:62269** 62M15
Efron, Bradley R. A. Fisher in the 21st century (invited paper presented at the 1996 R. A. Fisher Lecture). (English summary) With comments and a rejoinder by the author. *Statist. Sci.* **13** (1998), *no.* 2, 95–122. (Summary) **99e:62004** 62A10
Efstathiou, M. (*with* Gutiérrez-Peña, E.; Smith, Adrian F. M.) Laplace approximations for natural exponential families with cuts. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 77–92. (Célestin C. Kokonendji) **99b:62017** 62E17
Efthimiou, Costas J. (*with* Apikyan, S. A.) Minimal models of CFT on Z_N-surfaces. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4291–4307. (Satoru Saito) **99a:81161** 81T40 (14H45, 17B68, 81R10)
— (*with* Ameduri, Marco) Is the classical Bukhvostov-Lipatov model integrable? A Painlevé analysis. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 132–139. (Claire R. Gilson) **99c:35244** 35Q99 (35A25)
— (*with* Apikyan, S. A.) The conformal properties of Liouville field theory on Z_N-Riemann surfaces. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 333–337. (Kazuto Oshima) **99j:81163** 81T40
Efthymiopoulos, C. (*with* Contopoulos, George; Voglis, N.; Dvorak, R.) Stickiness and cantori. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8167–8186. (A. Giorgilli) **99e:58153** 58F27 (58F13, 70K50)
— (*with* Voglis, N.) Angular dynamical spectra. A new method for determining frequencies, weak chaos and cantori. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2913–2928. (Summary) **99a:58116** 58F13 (70K50)
Egardt, Bo (*with* Tittus, Michael) Control design for integrator hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 491–500. (John Tsinias) **99d:93029** 93B51 (93C30)
Egawa, H. S. (*with* Tsuda, Noritsugu) Random surfaces in three-dimensional simplicial gravity. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 223–230. (Summary) **99c:83021** 83C27 (83C45)
Egawa, Yoshimi Contractible cycles in graphs with girth at least 5. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 213–264. (Andreas Huck) **99k:05098** 05C38
— (*with* Inoue, Katsumi[3]) Radius of $(2k-1)$-connected graphs. (English summary) *Ars Combin.* **51** (1999), 89–95. (Summary) **99j:05061** 05C12 (05C40)

— (*with* Ota, Katsuhiro) Vertex-disjoint claws in graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 225–246. (Summary) **99i:05108** 05C35

Egbers, C. (*with* Wulf, P.; Rath, H. J.) Routes to chaos in wide-gap spherical Couette flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1359–1372. 76–05 (76E99)

Eğecioğlu, Ömer (*with* Peinado, Marcus) Algorithms for almost-uniform generation with an unbiased binary source. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 117–126, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q20 (65C10)

— (*with* Azizoğlu, M. Cemil) Isoperimetric number of the Cartesian product of graphs and paths. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 135–143. (Summary) **99j:05095** 05C35

Egeland, Olav (*with* Paulsen, Marit J.; Fossen, Thor I.) A passive output feedback controller with wave filter for marine vehicles. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 15, 1239–1253. 93B52 (93C95)

— (*with* Pettersen, K. Y.) Time-varying exponential stabilization of the position and attitude of an underactuated autonomous underwater vehicle. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 112–115. 93C95 (93D15)

Egelja, Aleksandra (*with* Kröner, Dietmar; Schwörer, R.; Lanson, N.; Mancip, M.; Vila, Jean-Paul) Combined finite volume and smoothed particle method. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 50–74, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76109** 76M25 (76X05)

Egermann, P. (*with* Orlandi, P.; Hopfinger, E. J.) Vortex rings descending in a stratified fluid. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2819–2827. (Summary) **99h:76015** 76C05 (76–05, 76V05)

Egerstedt, Magnus (*with* Martin, Clyde F.) A control theoretic model of the muscular actions in human head-eye coordination. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 19 *pp.* (*electronic*). (Andrzej Świerniak) **99m:92005** 92C10 (49N55, 70Q05, 92J30, 93C95)

Égertné Molnár, Éva Parallel Cholesky factorization with the processor farm application. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 97–104. 65F10

Eggar, M. H. Pinhole cameras, perspective, and projective geometry. *Amer. Math. Monthly* **105** (1998), *no.* 7, 618–630. (Dieter Jungnickel) **99f:51004** 51A05 (51N15)

— A natural occurrence of non-generic behaviour for polynomials. *Austral. Math. Soc. Gaz.* **26** (1999), *no.* 1, 19–21. 14J99

Eggermont, P. P. B. Nonlinear smoothing and the EM algorithm for positive integral equations of the first kind. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 75–91. (Keigo Watanabe) **99j:65245** 65R30 (62G05)

Eggers, Hans (*with* Greiner, Martin; Jouault, Bruno; Schmiegel, Jürgen; Giesemann, Jens; Lipa, Peter) Wavelets: from signal analysis to the analysis of complex processes. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fís.* **44** (1998), *suppl.* 2, 11–14. (*see* **99g:81002**) 42C15 (94A12)

Eggers, Jens Hydrodynamic singularities. *A perspective look at nonlinear media*, 305–312, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (*see* **99d:00025**) 76C99 (76D99)

Egghe, L. A metric characterization of the Lorenz dominance order. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 193–208. (Gerhard Behrendt) **99g:06005** 06A07

— Properties of topologies of information retrieval systems. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 61–79. (Richard A. Alò) **99b:68061** 68P20 (54A05, 54D05, 54D10, 54E05)

Eggleton, Roger B. (*with* MacDougall, James A.) Triangle-free and triangle-saturated graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 3–21. (Summary) **99j:05106** 05C35

— (*with* MacDougall, James A.) Almost K_m-saturated graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 187–203. (Summary) **99j:05160** 05C75 (05C35)

Egidi, Lavinia A quantifier elimination for the theory of p-adic numbers. (English summary) *Comput. Complexity* **7** (1998), *no.* 3, 205–263. (Daniel Lazard) **99m:68082** 68Q25 (03C10, 11S99, 12Y05)

Egishyants, S. A. (*with* Ostrovskiĭ, E. I.) Error estimation for the method of dependent tests for multiple parametric integrals with infinite variance. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 627–634; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 604–610. (Sergei A. Nemnyugin) **99f:65012** 65C05 (65U05)

Eglin-Leclerc, Marie-Christine (*with* Dorkenoo, Marius; Rémila, Eric) Construction of non-intersecting colored flows through a planar cellular figure. (English summary) *STACS* 98 (*Paris*, 1998), 587–595, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:05108** 05C85 (52C99)

Èglit, M. È. (*with* Bakhvalov, N. S.) Effective moduli of composites reinforced by systems of plates and rods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 813–834; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 783–804. (Leonid V. Gibiansky) **99e:73070** 73K20 (73B27)

Egly, Uwe (*with* Tompits, Hans) Is non-monotonic reasoning always harder? (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 60–75, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:03074** 03F20 (03B60, 03D15, 68T27)

— On definitional transformations to normal form for intuitionistic logic. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 165–201. (A. Tauts) **99a:03010** 03B20 (03F20)

— (*with* Tompits, Hans) On proof complexity of circumscription. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 141–155, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03F20 (03B35)

— An answer to an open problem of Urquhart. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 201–209. (Piotr Wojtylak) **99i:03006** 03B05 (03F20)

Egner, Sebastian (*with* Minkwitz, Torsten) Sparsification of rectangular matrices. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 135–149. (Summary) **99d:65139** 65F50 (65Y20)

Egorchenko, I. A. Differential invariants for a nonlinear representation of the Poincaré algebra. Invariant equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 200–205, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81R05 (22E70)

Egorov, A. A. Stability of classes of Lipschitz solutions of systems of first-order linear differential equations. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 5, 583–587. (Vladimir P. Burskiĭ) **99b:35019** 35F05 (35B35)

Egorov, A. D. Functional quadrature methods in approximate path integration. (English summary) *Path integrals: Dubna '96*, 379–383, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Zherelo, A. V.) Approximate formulae for functional integrals based on interpolation of measures. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 156–158, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 58D30

— L_2-isomorphic Gaussian models for a class of functional integrals with respect to non-Gaussian quasimeasures. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 22–26, 123. (Summary) **99d:28021** 28C20 (46G12, 60B11, 60G15)

— On functional quadrature formulas for integrals with respect to measures generated by solutions of stochastic differential equations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 5–8, 139. (Summary) **99k:60149** 60H10 (60H05, 65D32)

Egorov, A. I. *see* **Egorov, Aleksandr Ivanovich**

Egorov, A. V. *see* **Egorov, Andreĭ Vladimirovich**

Egorov, Aleksandr Ivanovich Control of systems depending on the start and finish. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 69–78, 296–297. 49K25 (93C55)

Egorov, Andreĭ Aleksandrovich On a variant of domain decomposition method for solution of mathematical physics problems. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 153–155, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M55

— The grid domain decomposition method in the solution of nonlinear problems in mathematical physics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1555–1556, 1583; *translation in Differential Equations* **33** (1997), *no.* 11, 1560–1562 (1998). 65M55

Egorov, Andreĭ Vladimirovich Structural stability of free groups. *Comm. Algebra* **26** (1998), *no.* 6, 1923–1929. (S. Andreadakis) **99e:20045** 20F32 (20E05)

Egorov, I. *see* **Egorov, Igor**

Egorov, I. V. (*with* Buldakov, E. V.; Sychëv, Vladimir Vasil'evich) Certain features of similarity solutions for flows in viscous vortex cores. *Fluid Dynam.* **33** (1998), *no.* 1, 31–35; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 1, 38–43 (*Russian. Russian summary*). (Summary) **99b:76027** 76D99 (76C05)

— (*with* Buldakov, E. V.; Sychëv, Vladimir Vasil'evich) Properties of similarity solutions for flows in turbulent vortex cores. *Fluid Dynam.* **33** (1998), *no.* 3, 346–350; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 3, 60–64 (*Russian. Russian summary*). (Summary) **99h:76021** 76D05 (76C05, 76F99)

Egorov, Igor (*with* Karlsson, Anders; Rikte, Sten) Time-domain Green dyadics for temporally dispersive, simple media. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3219–3240. (Summary) **99d:78025a** 78A40

— (*with* Karlsson, Anders; Rikte, Sten) Corrigenda: "Time-domain Green dyadics for temporally dispersive, simple media". *J. Phys. A* **31** (1998), *no.* 22, 5191. (Editors) **99d:78025b** 78A40

— Time-domain Green dyadics for temporally dispersive, bi-isotropic media. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7363–7378. (Summary) **99h:78019** 78A45

Egorov, M. L. (*with* Zalgaller, V. A.) Visibility curves for ovals. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 13–35, 196. (E. Hertel) **99e:52002** 52A10

Egorov, N. V. (*with* Vinogradova, E. M.) A mathematical model of an electron gun with a field cathode. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 57–62, 243–244, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 78A35

Egorov, R. I. On the stability of ε-optimal strategies in pursuit and evasion games. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 27–29, *Yakut-sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 90D26

Egorov, S. B. (*with* Borzov, V. V.; Damaskinskiĭ, E. V.) Representations of the deformed oscillator algebra under different choices of generators. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 80–106, 284. (Pavel Šťovíček) **99i:81089** 81R50 (17B37)

Egorov, Yurīĭ Vladimirovich (*with* Shubin, Mikhail) ★ Foundations of the classical theory of partial differential equations. Translated from the 1988 Russian original by R. Cooke. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Partial differential equations. I*, Encyclopaedia Math. Sci., 30, Springer, Berlin, 1992; MR 93a:35004b]. *Springer-Verlag, Berlin*, 1998. *iv*+259 *pp. ISBN* 3-540-63825-3 (Editors) **99f:35003** 35–02

— (*with* Kondrat'ev, Vladimir) On estimates of the first eigenvalue in some elliptic problems. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 73–84, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Jan Bochenek) **99e:34121** 34L15 (34B24, 35J99, 35P15)

— (*with* Kondrat'ev, Vladimir) Two theorems on blow-up solutions for semilinear parabolic equations of second order. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 47–52. (Grzegorz Karch) **99h:35108** 35K60 (35B05)

— (*with* Kondrat'ev, Vladimir) On the eigenvalues of the Dirichlet problem. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 4, 451–453. 35J20 (35P15)

— (*with* Kondrat'ev, Vladimir; Oleĭnik, Ol'ga Arsen'evna) Asymptotic behavior of solutions of nonlinear elliptic and parabolic systems in cylindrical domains. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 3, 45–68; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 359–382. (Varga Kalantarov) **99e:35115** 35K60 (35B40, 35J65)

— (*with* Kondrat'ev, Vladimir) On asymptotic behavior in an infinite cylinder of solutions to an elliptic equation of second order. (English summary) *Appl. Anal.* **71** (1999), *no.* 1-4, 25–39. 35J25 (35B05, 35B40)

Egorova, I. A. The distribution of vertices in strata of plane planted forest. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 179–188, *VSP, Utrecht*, 1997. (Summary) **99g:60014** 60C05 (05C30)

Egorova, Ira (*with* Boutet de Monvel-Berthier, Anne-Marie) On solutions of nonlinear Schrödinger equations with Cantor-type spectrum. (English summary) *J. Anal. Math.* **72** (1997), 1–20. (R. G. Airapetyan) **99d:35148** 35Q55 (34L40)

Egorychev, G. P. Three problems in combinatorics. (Russian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 93–95, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 15A15

Egozcue, Juan José (*with* Díez, Pedro; Huerta, Antonio) A posteriori error estimation for standard finite element analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 141–157. 65N30 (65N15)

Eğrifes, Harun (*with* Demirhan, Doğan; Büyükkılıç, Fevzi) Polynomial solutions of the Schrödinger equation for the "deformed" hyperbolic potentials by Nikiforov-Uvarov method. (English summary) *Phys. Scripta* **59** (1999), *no.* 2, 90–94. 81Q05

Eguchi, Shinto (*with* Copas, J. B.) A class of local likelihood methods and near-parametric asymptotics. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 709–724. (Ulrich Stadtmüller) **99j:62052** 62G07 (62F10)

Eguchi, Tohru (*with* Hori, Kentaro; Xiong, Chuan-Sheng) Gravitational quantum cohomology. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1743–1782. (Ralph Martin Kaufmann) **99a:32027** 32G81 (14N10, 58D10, 58F07, 81T40)

— String duality and a new description of the E_6 singularity. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 131–140, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Henrik Aratyn) **99m:81183** 81T30 (14H45, 32S05, 58F07, 81–02, 81T60)

— (*with* Xiong, Chuan-Sheng) Quantum cohomology at higher genus: topological recursion relations and Virasoro conditions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 219–229. (Alexandre I. Kabanov) **99i:14033** 14H15 (14C17, 14N10, 17B68, 32G81)

— String duality. (Japanese) *Sūgaku* **50** (1998), *no.* 3, 293–306. 81T30

Eguiazarova, Elina V. The regularized Shapley value for a bin packing game. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 95–100. (From the text) **99b:90177** 90D46 (05A99)

Egusquiza, I. L. (*with* de Vega, H. J.) Strings next to and inside black holes. (English summary) *String theory in curved space times* (*Paris*, 1996), 425–443, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83C57)

— (*with* Feinstein, Alexander; Pérez Sebastián, M. A.; Valle Basagoiti, M. A.) On the entropy and the density matrix of cosmological perturbations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1927–1936. 83F05 (83C25)

Ehara, Jun-ichi (*with* Watanabe, Shinsuke) Shock waves in an inhomogeneous nonlinear LC circuit. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 37–45. (*see* **99f:76003**) 34C15 (94C05)

Ehlers, Philip John (*with* Porter, Timothy) Erratum to: "Varieties of simplicial groupoids. I. Crossed complexes" [J. Pure Appl. Algebra **120** (1997), no. 3, 221–233; MR 98d:55012]. *J. Pure Appl. Algebra* **134** (1999), *no.* 2, 207–209. (From the text) **99k:55007** 55P15 (18G30, 18G55, 55U35)

Ehlers, W. (*with* Eipper, G.) The simple tension problem at large volumetric strains computed from finite hyperelastic material laws. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 17–27. (Summary) **99d:73027** 73C50

Eholzer, Wolfgang (*with* Gaberdiel, Matthias R.) Unitarity of rational $N = 2$ superconformal theories. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 61–85. (Summary) **99e:81075** 81R10 (11F22, 17B68, 81T40)

— (*with* Choie, YoungJu) Rankin-Cohen operators for Jacobi and Siegel forms. (English summary) *J. Number Theory* **68** (1998), *no.* 2, 160–177. (B. Ramakrishnan) **99b:11050** 11F60 (11F46, 11F55)

Ehrenborg, Richard (*with* Billera, Louis J.; Readdy, Margaret) The *cd*-index of zonotopes and arrangements. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 23–40, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Johann Linhart) **99h:52011** 52B12 (52B30)

— (*with* Readdy, Margaret; Steingrímsson, Einar) Mixed volumes and slices of the cube. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 1, 121–126. (S. S. Kutateladze (Zbl 896.52017)) **99j:52008** 52A39

Ehrenfeucht, Andrzej (*with* Harju, Tero; Rozenberg, Grzegorz) 2-structures—a framework for decomposition and transformation of graphs. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 401–478, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68R10 (05C99, 68Q99)

— (*with* Rozenberg, Grzegorz; Salomaa, Kai) Semantics of nonsequential tree-based computation schemes. (English summary) *Fund. Inform.* **29** (1997), *no.* 4, 305–324. (K. G. Subramanian) **99c:68078** 68Q05 (68Q55)

— (*with* Harju, Tero; ten Pas, P.; Rozenberg, Grzegorz) Permutations, parenthesis words, and Schröder numbers. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 259–264. (Summary) **99d:05003** 05A15

— (*with* Păun, Gheorghe; Rozenberg, Grzegorz) On representing recursively enumerable languages by internal contextual languages. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 61–83. (Summary) **99g:68111** 68Q45 (03D05)

— *see also* **Structures in logic and computer science, 99b:68008**

Ehrenmark, Ulf Torsten (*with* Body, Giles L.) Reflection of gravity waves by a steep beach with a porous bed. (English summary) *J. Fluid Mech.* **359** (1998), 265–280. (Summary) **99a:76011** 76B15

— Oblique wave incidence on a plane beach: the classical problem revisited. (English summary) *J. Fluid Mech.* **368** (1998), 291–319. (Summary) **99j:76007** 76B15 (86A05)

— A note on tuning in Roseau's alternative edge waves. (English summary) *J. Fluid Mech.* **382** (1999), 245–262. (Summary) **99m:76013** 76B15 (86A05)

Ehrenstein, Uwe (*with* Koch, Werner) Local dynamics near a nonsemisimple resonance in Blasius boundary-layer flow. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 209–215, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76D10 (76E99, 76F99)

Ehresmann, Andrée C. Colimits in free categories. (French summary) *Diagrammes* **37** (1997), 3–12. (Summary) **99k:18002** 18A30

Ehresmann, Charles Les connexions infinitésimales dans un espace fibré différentiable. [Infinitesimal connections in a differentiable fiber space] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 24, 153–168, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 53B05

— Sur les variétés presque complexes. [On almost complex manifolds] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 35, 291–300, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 53C15

Ehrgott, Matthias (*with* Nickel, Stefan) Reducing the number of criteria in quasi-convex multicriteria optimization. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 319–324, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C29

— Discrete decision problems, multiple criteria optimization classes and lexicographic max-ordering. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 31–44, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

Ehrhard, Thomas *see* **Logic and models of computation, 99h:03001**

Ehrhardt, Matthias (*with* Arnold, Anton) Discrete transparent boundary conditions for wide angle parabolic equations in underwater acoustics. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 611–638. (Summary) **99g:76084** 76M20 (65M06, 76Q05, 86–08, 86A05)

Ehrich, Sven On orthogonal polynomials for certain nondefinite linear functionals. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 119–128. (Sarjoo Prasad Yadav) **99k:26015** 26C10 (33C45, 41A15, 65D07)

— (*with* Mastroianni, Giuseppe) Marcinkiewicz inequalities based on Stieltjes zeros. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 129–141. (L. Leindler) **99j:41021** 41A17 (26D20)

— On localised error bounds for orthogonal approximation from shift invariant spaces. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 393–407. (Alexey L. Lukashov) **99g:42041** 42C15 (41A30)

— On product integration with Gauss-Kronrod nodes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 78–92 (*electronic*). (G. A. Evans) **99e:65044** 65D32 (65R20)

Ehrig, Hartmut (*with* Corradini, Andrea; Montanari, Ugo; Rossi, Francesca; Heckel, Reiko; Löwe, Michael) Algebraic approaches to graph transformation. Basic concepts and double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 163–245, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Heckel, Reiko; Korff, Martin; Löwe, Michael; Korff, Leila Ribeiro; Wagner, Annika; Corradini, Andrea) Algebraic approaches to graph transformation. II. Single pushout approach and comparison with double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 247–312, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Heckel, Reiko; Wolter, Uwe; Corradini, Andrea) Integrating the specification techniques of graph transformation and temporal logic. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 219–228, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (03B45, 03B70, 68Q50, 68R10)

— (*with* Kreowski, Hans-Jörg; Orejas, Fernando) Correctness of horizontal and vertical composition for implementation concepts based on constructors and abstractors. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 365–387. (Eric G. Wagner) **99k:68112** 68Q65

— (*with* Gajewsky, M.; Wolter, Uwe) From abstract data types to algebraic development techniques: a shift of paradigms. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 1–17, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

— (*with* Große-Rhode, Martin; Wolter, Uwe) Applications of category theory to the area of algebraic specification in computer science. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 1–35. (Horst Reichel) **99a:68122** 68Q65 (03G30, 18C10)

Ehrlacher, A. (*with* Fedelich, B.) An analysis of stability of equilibrium and of quasi-static transformations on the basis of the dissipation function. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 5, 833–855. (Summary) **99e:73054** 73E99 (73B30, 73H05)

— (*with* Hassani, Seddiq; Alaoui Soulimani, A.) A nonlinear viscoelastic model: the pseudo-linear model. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 567–598. (Summary) **99c:73032** 73F99 (73F05)

Ehrlich, Paul E. The nonspacelike cut locus revisited. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 589–596. (Victor Tapia) **99a:53077** 53C50

— (*with* Jung, Yoon-Tae; Kim, Seon-Bu) Volume comparison theorems for Lorentzian manifolds. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 39–56. (Eduardo García-Río) **99k:53125** 53C50 (53C20)

Ehrlich, W. K. (*with* Nair, V. N.; James, D. A.; Zevallos, J.) A statistical assessment of some software testing strategies and application of experimental design techniques. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 165–184. (Summary) **99a:62140** 62N05 (62K99)

Ei, Hiromi (*with* Ito, Shunji) Decomposition theorem on invertible substitutions. *Osaka J. Math.* **35** (1998), *no.* 4, 821–834. (Katalin Bencsath) **99k:20050** 20E05 (20E36, 20F28)

Ei, Shin-Ichiro Interaction of pulses in FitzHugh-Nagumo equations. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 6–13, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35Q80 (92C20)

— (*with* Ikota, Ryo; Mimura, Masayasu) A three phase partition problem arising in a competition-diffusion system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 55–63, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57 (35Q55)

— (*with* Yanagida, Eiji) Slow dynamics of interfaces in the Allen-Cahn equation on a strip-like domain. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 555–595 (*electronic*). (Jean-Michel Rakotoson) **99a:35141** 35K60 (35B99, 35Q72)

Eiben, A. E. (*with* van Kemenade, Cees H. M.) Diagonal crossover in genetic algorithms for numerical optimization. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 447–465. (*see* **99b:90008**) 90C27 (90C30)

Eichelsbacher, Peter Large deviations for products of empirical probability measures in the τ-topology. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 903–920. (Tim Zajic) **99c:60053** 60F10 (60B12, 60G57, 62G20)

— Large deviations in partial sums of U-processes in stronger topologies. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 207–214. (Sergei Utev) **99h:60051** 60F10 (46E30)

— Moderate and large deviations for U-processes. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 273–296. (Miguel A. Arcones) **99c:60054** 60F10 (60B12, 62G20)

— (*with* Schmock, Uwe) Exponential approximations in completely regular topological spaces and extensions of Sanov's theorem. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 233–251. (Anatolii A. Pukhal'skiĭ) **99h:60052** 60F10 (60B05)

— (*with* Löwe, Matthias) Large deviations principle for partial sums U-processes. (Russian summary) *Teor. Veroyatnost. i Primenen.* **43** (1998), *no.* 1, 97–115. (Miguel A. Arcones) **99m:60044** 60F10 (60B12, 62G20)

— (*with* Grunwald, Malte) Exponential tightness can fail in the strong topology. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 83–86. (Dominique Lépingle) **99k:60073** 60F10

Eichenauer-Herrmann, Jürgen (*with* Herrmann, Eva; Wegenkittl, Stefan) A survey of quadratic and inversive congruential pseudorandom numbers. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 66–97, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:11085** 11K45 (65C10)

— (*with* Niederreiter, Harald) Lower bounds for the discrepancy of triples of inversive congruential pseudorandom numbers with power of two modulus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 211–217. (Peter J. Hellekalek) **99m:11086** 11K45 (11K38, 65C10)

Eichhorn, Dennis A combinatorial approach to partitions with parts in the gaps. *Acta Arith.* **85** (1998), *no.* 2, 119–133. (David M. Bressoud) **99f:11136** 11P81 (05A17)

Eichhorn, Jürgen Poincaré's theorem and Teichmüller theory for open surfaces. (English summary) *Asian J. Math.* **2** (1998), *no.* 2, 355–404. (Nikolai K. Smolentsev) **99e:32029** 32G15 (58D17)

— (*with* Fricke, Jan) The module structure theorem for Sobolev spaces on open manifolds. (English summary) *Math. Nachr.* **194** (1998), 35–47. (Nikolai K. Smolentsev) **99j:58032** 58D15 (46E35)

Eichler-Liebenow, C. (*with* van der Houwen, P. J.; Sommeijer, B. P.) Analysis of approximate factorization in iteration methods. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 245–258. (Summary) **99f:65114** 65L06

— (*with* Nguyen Huu Cong; Weiner, Rüdiger; Strehmel, K.) Linearly implicit splitting methods for higher space-dimensional parabolic differential equations. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 259–274. (Summary) **99f:65135** 65M20

Eich-Soellner, Edda (*with* Führer, Claus) ★ Numerical methods in multibody dynamics. (English summary) European Consortium for Mathematics in Industry. *B. G. Teubner, Stuttgart*, 1998. 290 *pp. ISBN* 3-519-02601-5 (Michael Hanke) **99i:70012** 70E99 (34A09, 65L99, 70–08, 70F99)

Eichstaedt, Matthias (*with* Lu, Qi; Teng, Shang-Hua) Parallel profile matching for large scale webcasting. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 17–28, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (90C27)

Eick, Bettina Special presentations for finite soluble groups and computing (pre-)Frattini subgroups. (English summary) *Groups and computation, II* (*New Brunswick, NJ*, 1995), 101–112, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99a:20014** 20D10 (20–04)

— (*with* O'Brien, E. A.) The groups of order 512. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 379–380, *Springer, Berlin*, 1999. (Summary) **99m:20034** 20D15

Eid, R. (*with* Taşeli, H.) The confined system approximation for solving non-separable potentials in three dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 3095–3114. (Summary) **99a:81026** 81Q05 (81–08)

Eida, Atsuhiko (*with* Pilipović, Stevan S.) On the microlocal decomposition of some classes of hyperfunctions. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 455–461. (Andrea D'Agnolo) **99m:58178** 58G07 (32A45, 46F15)

Eide, Hans A. (*with* Stamnes, Jakob J.) Exact and approximate solutions for focusing of two-dimensional waves. I. Theory. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1285–1291. (From the summary) **99c:78014a** 78A40 (78–08, 78A45)

— (*with* Stamnes, Jakob J.) Exact and approximate solutions for focusing of two-dimensional waves. II. Numerical comparisons among exact, Debye, and Kirchhoff theories. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1292–1307. (From the summary) **99c:78014b** 78A40 (78–08, 78A45)

— (*with* Stamnes, Jakob J.) Exact and approximate solutions for focusing of two-dimensional waves. III. Numerical comparisons between exact and Rayleigh-Sommerfeld theories. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1308–1319. (From the summary) **99c:78014c** 78A40 (78–08, 78A45)

Eidel, W. (*with* Bauer, H. F.) Transient motion of a viscous liquid with free surface in a cylindrical container. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 2, 97–106. 76D99

Eidelman, Samuil D. (*with* Zhitarashu, N. V.) L_p-theory of generalized solutions of linear parabolic conjugation problems. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 101–108, 121, 124. (Vladimir P. Burskiĭ) **99b:35083** 35K50 (35D05, 46F10)

— (*with* Drin′, R. Ya.) About the investigations of results of the action of pseudodifferential operators on the special classes of test functions. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 3, 32–37. (Mihai Neagu) **99c:35268** 35S05 (35K99, 47G30)

— (*with* Zhitarashu, N. V.) On the asymptotic representation and stabilization of solutions of some model boundary value problems and conjugation problems for a parabolic system of second-order equations. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 2, 116–126, 128, 131. (Pavel Năslău) **99g:35024** 35C20 (35K10)

— (*with* Zhitarashu, N. V.) ★ Parabolic boundary value problems. (English summary) Translated from the Russian original by Gennady Pasechnik and Andrei Iacob. Operator Theory: Advances and Applications, 101. *Birkhäuser Verlag, Basel*, 1998. *xii*+298 *pp. ISBN* 3-7643-2972-6 (P. Szeptycki) **99h:35080** 35K20 (35–02)

Èĭdel′man, Yu. S. (*with* Gohberg, Israel) A look-ahead block Schur algorithm for diagonal plus semiseparable matrices. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 25–34. (Summary) **99b:65056** 65F30 (15A23)

Eidenbenz, Stephan (*with* Stamm, Christoph; Widmayer, Peter) Positioning guards at fixed height above a terrain—an optimum inapproximability result. (English summary) *Algorithms—ESA '98* (*Venice*), 187–198, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68209** 68U05 (68Q25)

Èĭderman, V. Ya. Estimates for potentials and δ-subharmonic functions outside exceptional sets. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 181–218; *translation in Izv. Math.* **61** (1997), *no.* 6, 1293–1329. (A. Yu. Rashkovskiĭ) **99c:31012** 31B15

— Hausdorff measure and capacity associated with Cauchy potentials. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 6, 923–934. (Summary) **99m:28015** 28A78 (28A80, 31A15)

Eidus, D. Radiation principle for inhomogeneous media. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1458–1477. (Hideo Soga) **99c:35130** 35L05 (35J05, 35P25, 76Q05, 78A45)

Eie, Minking The cohomology group associated with Jacobi cusp forms over Cayley numbers. (English summary) *Amer. J. Math.* **120** (1998), *no.* 4, 811–826. (Aloys Krieg) **99g:11062** 11F55

— (*with* Lai, King F.) On Bernoulli identities and applications. (English summary) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 167–213. (Bruce C. Berndt) **99h:11017** 11B68 (11M41)

— (*with* Chen, Kwang-Wu) A theorem on zeta functions associated with polynomials. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3217–3228. (Bruce C. Berndt) **99m:11099** 11M41

Eigen, Stanley (*with* Prasad, V. S.) Multiple Rokhlin tower theorem: a simple proof. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 11–14 (*electronic*). (N. N. Ganikhodzhaev) **99h:28032** 28D05 (58F11)

— (*with* Hajian, Arshag; Halverson, Kim) Multiple recurrence and infinite measure preserving odometers. (English summary) *Israel J. Math.* **108** (1998), 37–44. (Nathaniel Friedman) **99m:28035** 28D05

— (*with* Hajian, Arshag; Weiss, Benjamin) Borel automorphisms with no finite invariant measure. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3619–3623. (Mahendra G. Nadkarni) **99b:28024** 28D99

Eigenthaler, Günther (*with* Woracek, Harald) A remark on permutable polynomials. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 139–142, *Heyn, Klagenfurt*, 1998. (Summary) **99i:20081** 20M14 (12E05)

— *see also* **Contributions to general algebra, 99f:00014**

van Eijck, Jan A natural term language. (English summary) *From universal morphisms to megabytes: a Baayen space odyssey*, 287–300, *Math. Centrum, Centrum Wisk. Inform., Amsterdam*, 1994. (Neculai Curteanu) **99b:03043** 03B65 (68S05, 68T27, 68T30)

— Presuppositions and information updating. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 87–110, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B45 (03B65)

van Eijk, Rogier M. (*with* de Boer, Frank S.; van der Hoek, Wiebe; Meyer, John-Jules Ch.) A language for modular information-passing agents. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 273–297. (Summary) **99j:68130** 68T25 (68Q10)

vanden Eijnden, E. *see* **Vanden Eijnden, E.**

van Eijndhoven, S. J. L. (*with* Heemels, W. P. M. H.; Stoorvogel, Anton A.) Linear quadratic regulator problem with positive controls. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 551–578. (Patrizio Colaneri) **99f:49053** 49N10 (49K15, 93C15)

meyer Eikenberry, Shawna *see* **Meyer Eikenberry, Shawna**

Eilam, Tamar (*with* Flammini, Michele; Zaks, Shmuel) A complete characterization of the path layout construction problem for ATM networks with given hop count and load. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 207–220. (Summary) **99f:68093** 68Q25 (68M10)

Eilam-Tzoreff, Tali The disjoint shortest paths problem. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 2, 113–138. (Yong Bing Shi) **99f:05069** 05C38 (05C85)

Eilbeck, J. C. (*with* López-Gómez, Julián) On the periodic Lotka-Volterra competition model. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 58–87. (John H. Swart) **99d:92025** 92D25 (34C23, 34C25, 34D99)

Eilenberg, Samuel Exposition des théories de Morse et Lusternik-Schnirelmann. [Presentation of the Morse and Lyusternik-Shnirel′man theories] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 36, 301–306, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 58E05 (57R70)

— Foncteurs de modules et leurs satellites. [Functors of modules and their satellites] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 46, 379–381, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 16E30

— *see also* **Bass, Hyman et al., 99k:01045**

Eilenberger, G. (*with* Schmidt, Klaus Horst) Poincaré maps of Duffing-type oscillators and their reduction to circle maps. II. Methods and numerical results. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3903–3927. (Summary) **99c:34071** 34C15 (34D08, 58F13, 70K40)

Eilers, Søren (*with* Loring, Terry A.; Pedersen, Gert K.) Stability of anticommutation relations: an application of noncommutative CW complexes. (English summary) *J. Reine Angew. Math.* **499** (1998), 101–143. (Vladimir Manuilov) **99e:46067** 46L05 (46L80, 46L85)

— (*with* Dădărlat, Marius) Compressing coefficients while preserving ideals in K-theory for C^*-algebras. (English summary) *K-Theory* **14** (1998), *no.* 3, 281–304. (Beatriz Abadie) **99h:46132** 46L80 (19K14, 46L35)

— (*with* Loring, Terry A.; Pedersen, Gert K.) Quasidiagonal extensions and AF algebras. *Math. Ann.* **311** (1998), *no.* 2, 233–249. (Vladimir Manuilov) **99e:46068** 46L05 (46L80)

— (*with* Akemann, Charles A.) Noncommutative end theory. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 47–88. (Catalin Badea) **99h:46133** 46L85 (46L89)

Ein, Lawrence (*with* Lazarsfeld, Robert; Nakamaye, Michael) Zero-estimates, intersection theory, and a theorem of Demailly. *Higher-dimensional complex varieties* (*Trento*, 1994), 183–207, *de Gruyter, Berlin*, 1996. (Takao Fujita) **99c:14006** 14C20 (14C17, 32L10)

Einmahl, Uwe (*with* Mason, David M.) Strong approximations to the local empirical process. (English summary) *High dimensional probability* (*Oberwolfach*, 1996), 75–92, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60060** 60F15 (60F17)

Einsiedler, M. (*with* Schmidt, Klaus[1]) Markov partitions and homoclinic points of algebraic $\mathbf{Z}^d$-actions. (English summary) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 265–284. (Thomas Ward) **99f:58065** 58F03 (22D40)

Einstein, Albert ★ The collected papers of Albert Einstein. Vol. 8. The Berlin years: correspondence, 1914–1918. English translation by Ann M. Hentschel in consultation with Klaus Hentschel. *Princeton University Press, Princeton, NJ*, 1998. *xxvi+714 pp. ISBN* 0-691-04841-X (From the publisher's foreword) **99e:01033** 01A75

— *see also* **Bergia, Silvio**, **99b:01015**; **Sterrett, Susan G.**, **99d:01027**; **Rosenkranz, Ze'ev**, **99d:01036**; **Navarro Veguillas, Luis**, **99f:01018**; **Itagaki, Ryoichi** *and* **Rowe, David E.**, (**99k:01080**)

Einstein, T. L. (*with* Stella, A. L.) Survey of self-avoiding random surfaces on cubic lattices: issues, controversies, and results. *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 159–173, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (*see* **99e:82103**) 82B41 (65Y25)

Einy, Ezra (*with* Monderer, Dov; Moreno, Diego) The least core, kernel and bargaining sets of large games. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 585–601. (Kensaku Kikuta) **99f:90202** 90D12 (90D13)

— (*with* Moreno, Diego; Shitovitz, Benyamin) The core of a class of non-atomic games which arise in economic applications. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 1–14. (O. A. Malafeyev) **99m:90170** 90D12

Eipper, G. (*with* Ehlers, W.) The simple tension problem at large volumetric strains computed from finite hyperelastic material laws. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 17–27. (Summary) **99d:73027** 73C50

mato Eiroa, Pilar *see* **Mato Eiroa, Pilar**

Eirola, Timo Detection of generic one parameter bifurcations of Hamiltonian equilibria. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 129–143. (Ian Melbourne) **99m:58137** 58F14 (34C23, 34C35, 58F05, 70H05)

Eiselt, H. A. (*with* Bhadury, Joyendu) Reachability of locational equilibria. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 2, 101–107. (Horst W. Hamacher) **99f:90212** 90D43 (90B80)

Eisenbaum, Nathalie Une version sans conditionnement du théorème d'isomorphisms de Dynkin. (English summary) [An unconditioned version of Dynkin's isomorphism theorem] *Séminaire de Probabilités, XXIX*, 266–289, *Lecture Notes in Math.*, 1613, *Springer, Berlin*, 1995. (Haya Kaspi) **99e:60171** 60J55 (60G15, 60J25, 60J65)

— (*with* Kaspi, Haya) On the Markov property of local time for Markov processes on graphs. *Stochastic Process. Appl.* **64** (1996), *no.* 2, 153–172. (Matthias Weber) **99c:60159** 60J40 (60J55, 60J60)

— Théorèmes limites pour les temps locaux d'un processus stable symétrique. (French summary) [Limit theorems for the local times of a symmetric stable process] *Séminaire de Probabilités, XXXI*, 216–224, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Haya Kaspi) **99f:60138** 60J55 (60G15, 60J25, 60J30)

Eisenberg, Eli (*with* Horwitz, Lawrence P.) Lax-Phillips theory and the unstable system in quantum mechanics. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 267–280, *Internat. Press, Cambridge, MA*, 1997. (Summary) **99a:81192** 81U99 (47A40, 47N50, 81Q10)

— (*with* Horwitz, Lawrence P.; Strauss, Y.) The Lax-Phillips semigroup of the unstable quantum system. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 323–332, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Ghias Hachem) **99i:81131** 81S99 (47A40, 47N50)

Eisenberg, R. S. (*with* Barcilon, V.; Chen, Duan Pin; Jerome, Joseph W.) Qualitative properties of steady-state Poisson-Nernst-Planck systems: perturbation and simulation study. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 631–648. (John G. Milton) **99e:92008** 92C05 (34B15, 35Q80, 92C45)

Eisenbiegler, J. (*with* Gottlieb, Johannes; Löwe, Welf; Schlaeger, S.; Thül, M.; Zimmermann, Wolf D.) Parallel CG-methods—automatically optimized for PC- and workstation-clusters. (English summary) *High performance algorithms for structured matrix problems*, 181–197, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65Y05

Eisenbrand, Friedrich (*with* Buchmann, Johannes) On factor refinement in number fields. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 345–350. (Michel Olivier) **99e:11155** 11Y40 (11R04, 11R27)

Eisenbud, David (*with* Diaconis, Persi W.; Sturmfels, Bernd) Lattice walks and primary decomposition. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 173–193, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Heinrich Niederhausen) **99i:13035** 13P10 (05A15, 05E99)

— *see also* **Vasconcelos, Wolmer V.**, **99c:13048**

Eisenfeld, J. Reply to: "Computer algebra is indispensible in some problems of mathematical biology" [Math. Biosci. **151** (1998), no. 2, 219–225; MR 99i:92001] by Q. Zheng. *Math. Biosci.* **151** (1998), *no.* 2, 227. (From the text) **99i:92002** 92B05

Eisenriegler, Erich Random walks in polymer physics. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 1–24, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82B41 (82D60)

Eisenstat, Stanley C. (*with* Ipsen, Ilse C. F.) Relative perturbation results for eigenvalues and eigenvectors of diagonalisable matrices. (English summary) *BIT* **38** (1998), *no.* 3, 502–509. (Hongyuan Zha) **99j:65056** 65F15

— (*with* Ipsen, Ilse C. F.) Three absolute perturbation bounds for matrix eigenvalues imply relative bounds. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 149–158 (*electronic*). (Wen Yu Sun) **99h:65065** 65F15 (15A42)

— (*with* Demmel, James W.; Gilbert, John R.; Li, Xiaoye S.; Liu, Joseph W. H.) A supernodal approach to sparse partial pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 3, 720–755 (*electronic*). (Summary) **99m:65094** 65F50 (65F05)

Eisenstein, Gotthold *see* **Schappacher, Norbert**, (**99k:01080**)

Eisfeld, Jörg Subsets of association schemes corresponding to eigenvectors of the Bose-Mesner algebra. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 265–274. (Sanpei Kageyama) **99h:05127** 05E30 (51E20)

— On the common nature of spreads and pencils in PG(d, q). (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 95–104. (S. G. Hoggar) **99g:05042** 05B25 (20B25, 51E20)

— On pairs of Baer subplanes in PG$(2, q^2)$. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 57–63. (Johannes Ueberberg) **99j:51007** 51E15 (51E20)

Eisinberg, Alfredo (*with* Franzè, Giuseppe; Pugliese, Paolo) Vandermonde matrices on integer nodes. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 75–85. (Luis Verde-Star) **99m:65054** 65F05 (11C20, 15A23, 65F35)

Eisner, Jan (*with* Kučera, Milan) Spatial patterns for reaction-diffusion systems with conditions described by inclusions. (English summary) *Appl. Math.* **42** (1997), *no.* 6, 421–449. (Summary) **99g:35063** 35K57 (47H15, 47N20)

Eisner, Tímea The dyadic Cesàro operators. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 201–214. (F. Móricz) **99h:42051** 42C10 (47B38)

— The two-parameter Cesàro operators. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 243–258. (Loukas Grafakos) **99h:47035** 47B38 (42B30, 46E30)

Eiter, Thomas (*with* Bonatti, Piero A.) Querying disjunctive databases through nonmonotonic logics. (English summary) *Database theory—ICDT '95* (*Prague*), 68–81, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68067** 68P15 (68T27)

— (*with* Ibaraki, Toshihide; Makino, Kazuhisa) Two-face Horn extensions. (English summary) *Algorithms and computation* (*Singapore*, 1997), 112–121, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68171** 68T05 (68N17, 68T35)

— (*with* Lu, James J.; Subrahmanian, V. S.) Computing non-ground representations of stable models. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 198–217, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68027** 68N17

— (*with* Gottlob, Georg; Veith, Helmut) Modular logic programming and generalized quantifiers. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 289–308, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

— (*with* Gottlob, Georg; Leone, Nicola) Abduction from logic programs: semantics and complexity. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 129–177. (Summary) **99a:68028** 68N17 (68Q25)

— (*with* Ibaraki, Toshihide; Makino, Kazuhisa) Computing intersections of Horn theories for reasoning with models. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 292–297, *MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68190** 68T27 (03B70, 68T30)

— (*with* Ibaraki, Toshihide; Makino, Kazuhisa) On disguised double Horn functions and extensions. (English summary) *STACS 98* (*Paris*, 1998), 50–60, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68N17 (06E30)

— (*with* Gottlob, Georg; Gurevich, Yuri) Existential second-order logic over strings (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 16–27, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 03C85 (03C13, 68Q45, 68Q60)

— (*with* Gottlob, Georg) On the expressiveness of frame satisfiability and fragments of second-order logic. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 73–82. (Feodor Alexandrovich Murzin) **99a:03038** 03C13 (03B15)

Ejerhed, Eva *see* **Logic, action and cognition**, **99k:03012**

Ejiri, Norio The boundary of the space of full harmonic maps of S^2 into $S^{2m}(1)$ and extra eigenfunctions. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 83–121. (Xiao Huan Mo) **99d:58046** 58E20 (53C42)

Eke, Boniface I. A fuzzy interpretation of linear systems. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 449–459. (Summary) **99c:15050** 15A99

Ekel, P. Ya. (*with* Pedrycz, Witold; Schinzinger, Roland) A general approach to solving a wide class of fuzzy optimization problems. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 49–66. (Summary) **99a:90236** 90C70

— Approach to decision making in fuzzy environment. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 59–71. (*see* **99i:90003**) 90C27 (90C70)

Ekeland, Ivar (*with* Chiappori, Pierre-André) A convex Darboux theorem. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 287–297 (1998). (Dave Furth) **99k:58007a** 58A15 (53C15, 90A40)

— (*with* Ghoussoub, N.) Z_2-equivariant Ljusternik-Schnirelman theory for non-even functionals. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 3, 341–370. (Vitaly B. Moroz) **99f:58034** 58E05 (35J60, 49J52, 58E40)

Ekeland, Kersti (*with* Owren, Brynjulf; Øines, Eivor) Stiffness detection and estimation of dominant spectra with explicit Runge-Kutta methods. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 4, 368–382. (Summary) **99j:65122** 65L06

Ekert, Artur (*with* Barenco, Adriano; Berthiaume, André; Deutsch, David; Jozsa, Richard; Macchiavello, Chiara) Stabilization of quantum computations by symmetrization. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1541–1557. (V. Ya. Kreinovich) **99a:68060** 68Q05 (03D10, 03D15, 81P99)

— From quantum code-making to quantum code-breaking. *The geometric universe* (*Oxford*, 1996), 195–214, *Oxford Univ. Press, Oxford*, 1998. (Emanuel H. Knill) **99e:81029** 81P99 (81-01, 94A60)

— (*with* Macchiavello, Chiara) An overview of quantum computing. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 19–44, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05 (81P99)

— (*with* Castagnoli, Giuseppe; Macchiavello, Chiara) Quantum computation: from the sequential approach to simulated annealing. (English summary) Proceedings of the

International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 463–469. (*see* **99e:81004**) 81P99

— (*with* Jozsa, Richard) Quantum algorithms: entanglement-enhanced information processing. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1769–1782. (Emanuel H. Knill) **99i:81023** 81P99 (68Q05)

— (*with* Cleve, Richard; Macchiavello, Chiara; Mosca, Michele) Quantum algorithms revisited. (English summary) Quantum coherence and decoherence (Santa Barbara, CA, 1996). *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1969, 339–354. (Frank Antonsen) **99m:81030** 81P99

Ekhad, Shalosh B. (*with* Zeilberger, Doron) Curing the Andrews syndrome. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 3, 299–310. (Summary) **99f:05003** 05A15 (33C20)

— (*with* Zeilberger, Doron) There are more than $2^{n/17}$ n-letter ternary square-free words. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.9 (1 *HTML document*). 68R15

Ekholm, Tobias Immersions in the metastable range and spin structures on surfaces. *Math. Scand.* **83** (1998), *no.* 1, 5–41. (Martin Raußen) **99k:57062** 57R42 (57Q35, 57R15, 57R25)

Ekici, Naime (*with* Aydin, Elâ) Residually finite subalgebras of Lie algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 109–112. (Yuliy Billig) **99k:17008** 17B05

— (*with* Temizyürek, Ahmet) A basis of the metabelian Lie product of Lie algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 191–198. (Plamen Koshlukov) **99g:17011** 17B01 (17B30)

Ekincioğlu, İsmail (*with* Özkın, İ. Kaya) On high order Riesz transformations generated by a generalized shift operator. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 51–60. (N. K. Karapetyants) **99a:47044** 47B38 (44A05)

— On the pseudodifferential operators on $\mathbf{R}^+_n$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **12** (1999), *no.* 1, 1–6. 35S05 (47G30, 58G15)

Ekman, Jan Propositions in propositional logic provable only by indirect proofs. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 69–91. (Henry Africk) **99g:03059** 03F05 (03B05, 03B20)

Ekmekçi, N. (*with* Hacısalihoğlu, H. Hilmi) On helices of a Lorentzian manifold. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 45–50 (1997). (Pascual Lucas Saorin) **99f:53068** 53C50

— (*with* Ilarslan, K.) Higher curvatures of a regular curve in Lorentzian space. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 97–102. (Dean E. Allison) **99k:53022** 53B30

Ekongolo, S. B. (*with* Malti, R.; Ragot, José) Dynamic SISO and MISO system approximations based on optimal Laguerre models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1318–1323. 93B30 (93C80)

Ekstrand, C. Z_2-graded cocycles in higher dimensions. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 359–378. (Thomas Ackermann) **99h:58186** 58G15 (81T50)

Ekström, Magnus Strong consistency of the maximum spacing estimate. (English summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 55–72; *reprinted in Theory Probab. Math. Statist. No.* 55 (1997), 55–73 (1998). (Tadashi Nakamura) **99k:62047** 62F12

Él′, G. A. (*with* Gurevich, Aleksandr Viktor; Zybkin, K. P.) Development of stochastic oscillations in a one-dimensional dynamical system described by the Korteweg-de Vries equation. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 1, 182–195; *translated from Zh. Èksper. Teoret. Fiz.* **115** (1999), *no.* 1, 333–360 (*Russian*). (Summary) **99k:35155** 35Q53 (35R60, 60H15)

abou-el-Ela, A. M. A. *see* **Abou-El-Ela, A. M. A.**

El Abbadi, Amr (*with* Abdel-Ghaffar, Khaled A. S.) Optimal allocation of two-dimensional data (extended abstract). (English summary) *Database theory—ICDT '97 (Delphi)*, 409–418, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68P20)

Elabbasy, E. M. Oscillation criteria for second order differential equations with damping. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **23** (1994), *no.* 2, 111–127. (Hiroshi Onose) **99b:34062** 34C10

— On the oscillation of perturbed second order nonlinear damped differential equations. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 2, 391–404 (1998). (John R. Graef) **99i:34047** 34C10

— Oscillation theorems for perturbed second order nonlinear differential equations with damping. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 1–14. (Ján Ohriska) **99j:34045** 34C10

— Oscillation theorems for second order sublinear ordinary differential equations. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 243–254. (Ondřej Došlý) **99j:34046** 34C10

El-Adawy, T. M. (*with* Abd-Alla, M. Z.) Note on the essential maximal numerical range. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 23–30. (John Duncan) **99a:47009** 47A12

El-Afifi, M. M. (*with* Sharkawi, I. E.; Ahmed, A. R.) On the operational exponential function. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *no.* 1, 187–192 (1997). (Summary) **99a:44005** 44A40

El Alaoui, El-Houcine Chakir (*with* Agrachev, Andrei; Gauthier, J. P.) Sub-Riemannian metrics on $\mathbf{R}^3$. (English summary) *Geometric control and non-holonomic mechanics (Mexico City, 1996)*, 29–78, *CMS Conf. Proc.*, 25, *Amer. Math. Soc., Providence, RI*, 1998. (Fernand Pelletier) **99j:53029** 53C15 (53C20, 93B29)

Elalaoui-Talibi, Hussain A remark on graphs of Marczewski measurable functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 813–816. (Summary) **99d:28006** 28A20

El-Amawy, A. (*with* Osman, M. A.) A distributed fault-tolerant routing algorithm for generalized de Bruijn networks. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 951–970 (*electronic*). (*see* **99f:68006**) 68M10

El Amin, Kaidi (*with* Ramírez, Maria Isabel; Rodríguez-Palacios, Ángel) Absolute-valued algebraic algebras are finite-dimensional. (English summary) *J. Algebra* **195** (1997), *no.* 1, 295–307. (Alexander V. Il′tyakov) **99c:17004** 17A75 (17A80, 46H70)

— (*with* Haily, Abdelfattah) Modules with a "nice" endomorphism ring and a new characterization of semisimple modules and rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2445–2452. (Jeremy Haefner) **99d:16033** 16S50 (16D60)

El Amri, H. (*with* Amaziane, B.; Bourgeat, Alain) Existence of solutions to various rock types model of two-phase flow in porous media. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 121–132. (Summary) **99a:76141** 76S05 (35K60, 35Q35, 76T05)

Elamri, Khalid (*with* Hamdouni, Aziz; Vallée, Claude; Millet, Olivier) Compatibility of large deformations in nonlinear shell theory. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 855–864. (Summary) **99f:73056** 73K15 (73C50)

— (*with* Hamdouni, Aziz; Vallée, Claude; Millet, Olivier) Intrinsic formulation of compatibility conditions in nonlinear shell theory. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 421–429. (Summary) **99a:73093** 73K15

El Amrouss, A. R. (*with* Moussaoui, Mimoun) Non-résonance entre les deux premières valeurs propres d'un problème quasi-linéaire. (English summary) [Nonresonance between the first two eigenvalues of a quasilinear problem] *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 3, 317–331. (Summary) **99a:34051** 34B15 (34C25)

— (*with* Moussaoui, Mimoun) Solvabilité d'un problème aux limites semi-linéaire autour de la première valeur propre. (English summary) [Solvability of a boundary value problem with respect to the first eigenvalue] *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 461–471. (From the introduction) **99g:34047** 34B15 (47H15, 47N20)

Elandt-Johnson, Regina C. (*with* Johnson, Norman Lloyd[2]) ★ Survival models and data analysis. Reprint of the 1980 original [MR 81j:62195]. Wiley Classics Library. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xviii+457 pp. ISBN* 0-471-34992-5 (Title) **99k:62205** 62P10 (62N05)

El-Arabawy, H. (*with* Essawy, A. H.; El-Sawaby, Sh. M.) Diffraction of water waves due to a presence of two headlands. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 10, 25–38. (Summary) **99i:76013** 76B15 (76M20, 86A05)

— (*with* Essawy, A. H.; El-Sawaby, Sh. M.) Diffraction of water waves due to a presence of two headlands. (English summary) *J. Comput. Appl. Math.* **104** (1999), *no.* 1, 27–39. 76B15

— (*with* Essawy, A. H.; El-Sawaby, Sh. M.) Diffraction of Kelvin waves due to elliptical shapes of islands. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 2, 19–31. (Summary) **99j:76008** 76B15 (86A05)

El Arni, A. (*with* Bouchen, A.; Ouknine, Youssef; N'Zi, Modeste) Intégration stochastique multivoque et inclusions différentielles stochastiques rétrogrades. (English summary) [Multivalued stochastic integration and backward stochastic differential inclusions] *Acta Math. Vietnam.* **23** (1998), *no.* 2, 325–345. (V. Mackevičius) **99j:60081** 60H10 (34A60, 34F05, 60H20)

El-Assar, S. (*with* Atallah, Mikhail J.) On the distributive double p-algebras whose congruence lattices are chains. (English and Arabic summaries) *Delta J. Sci.* **19** (1995), *no.* 2, 1–35. (Miroslav Haviar) **99k:08003** 08A30 (06D15)

abou-El-Ata, M. O. *see* **Abou-El-Ata, M. O.**

El-Awadi, I. A. (*with* Boutros, Y. Z.; Abd-el-Malek, Mina B.; El-Mansi, S. M. A.) Group method analysis of the potential equation in triangular regions. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 418–428, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35A30 (80A20)

— (*with* Boutros, Y. Z.; Abd-el-Malek, Mina B.; El-Mansi, S. M. A.) Group method for temperature analysis of thermally stagnant lakes. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 131–144. (Summary) **99h:86004** 86A05 (86–08)

Elaydi, Hatem (*with* Paz, Robert) Optimal ripple-free deadbeat controllers. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1087–1104. (Summary) **99h:93050** 93B51 (93C57)

Elaydi, Saber N. Stability of integrodifferential systems of nonconvolution type. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 38–50, *Sci. Cult. Technol. Publ., Singapore*, 1995. (G. S. Jordan) **99j:45005** 45J05 (34K20, 45M10)

— (*with* Murakami, Satoru) Asymptotic stability versus exponential stability in linear Volterra difference equations of convolution type. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 401–410. (Summary) **99e:39058** 39A11 (34K20)

— (*with* Papaschinopoulos, Garyfalos; Schinas, John) Asymptotic theory for noninvertible systems. (English summary) *Advances in difference equations (Veszprém*, 1995), 155–164, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39016** 39A10

— (*with* Janglajew, K.) Dichotomy and trichotomy of difference equations. *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 417–448. (Summary) **99a:39012** 39A10 (39A12)

— Stability of integrodifferential systems of nonconvolution type. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 423–430. (Jarosław Morchało) **99f:34107** 34K20 (45J05, 45M10)

— (*with* Harris, William A., Jr.) On the computation of A^n. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 965–971 (*electronic*). (Summary) **99f:15002** 15–04 (15A21, 39A10)

— *see also* **Advances in difference equations, 99d:39001**

okb El-Bab, A. S. *see* **Okb El-Bab, A. S.**

El Badia, A. (*with* Ha-Duong, Tuong) Some remarks on the problem of source identification from boundary measurements. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 883–891. (Summary) **99e:35241** 35R30 (35J05)

— Coefficient identification in some partial differential equations from partial boundary measurements. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 11–18. (Summary) **99k:35191** 35R30 (35K10)

El-Bakry, Amr S. Convergence rate of primal-dual reciprocal barrier Newton interior-point methods. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 37–44. (Summary) **99a:90118** 90C05

abd El-Baky, Rashad A. *see* **Abd El-Baky, Rashad A.**

Elbarbary, E. M. E. (*with* Elshehawey, E. F.; Elshahed, Mostafa) Blood flow through a porous medium under periodic body acceleration. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 27–31. 92C35 (76Z05)

El-Barki, F. A. (*with* Ismail, A. I.; Shaker, M. O.; Amer, T. S.) On the motion of the pendulum on an ellipse. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 65–72. 70K99

El Barmi, Hammou (*with* Rothmann, Mark D.) Nonparametric estimation in selection biased models in the presence of estimating equations. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 4, 381–399. (Summary) **99j:62053** 62G07

abd-El-Barr, Mostafa I. *see* **Abd-El-Barr, Mostafa I.**

abd-El-Barr, Muhammad M. *see* **Abd-El-Barr, Muhammad M.**

El Bashir, Robert (*with* Bican, Ladislav) A version of Kulikov's criterion. *Ital. J. Pure Appl. Math. No.* 1 (1997), 29–41 (1998). (Mark Lane) **99m:20130** 20K20
— (*with* Kepka, Tomáš) Modules commuting (via Hom) with some limits. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 271–292. (Blas Torrecillas Jover) **99b:16002** 16D10
El Baz, Didier (*with* Spiteri, Pierre; Miellou, Jean Claude) Asynchronous multisplitting methods with flexible communication for pseudolinear P.D.E. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 145–152, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65M55 (65Y05)
Elbaz, Edgard ★ Quantum. (English summary) The quantum theory of particles, fields, and cosmology. Translated from the 1995 French original by Uzoma Chukwu and Swanny Prakash. Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1998. xviii+602 *pp. ISBN* 3-540-62093-1 (A. Ventura) **99j:81001** 81–01
— (*with* Novello, M.; De Lorenci, V. A.) Some aspects of geometrical confinement. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4539–4552. (Summary) **99e:81151** 81T13 (83C57)
Elbaz-Vincent, Philippe The indecomposable K_3 of rings and homology of SL_2. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 27–71. (Teimuraz Pirashvili) **99f:19001** 19D55
El Beheiry, E. M. A method for preview vibration control of systems having forcing inputs and rapidly-switched dampers. (English summary) *J. Sound Vibration* **214** (1998), *no.* 2, 269–283. 73K50 (93C95)
Elber, Gershon (*with* Lee, In-Kwon; Kim, Myung-Soo) New approximation methods for planar offset and convolution curves. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 83–101, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65195** 65Y25 (65D17)
Elbers, Hugo Johannes ★ Connecting informal and formal mathematics. (Dutch summary) Dissertation, Technische Universiteit Eindhoven, Eindhoven, 1998. *Technische Universiteit Eindhoven, Eindhoven*, 1998. *vi*+165 *pp. ISBN* 90-386-0611-7 (From the introduction) **99d:68132** 68Q42 (03B35, 03B40, 68N15)
Elbert, Árpád Stability of some difference equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 165–187, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39059** 39A11 (39A10)
— (*with* Kusano, Takaši) Principal solutions of non-oscillatory half-linear differential equations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 745–759. (Ondřej Došlý) **99h:34055** 34C10
— Additive groups connected with asymptotic stability of some differential equations. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 49–58. (Summary) **99c:34098** 34D05 (34B24, 34C10)
— (*with* Laforgia, Andrea) Asymptotic expansion for zeros of Bessel functions and of their derivatives for large order. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 685–695. (Summary) **99h:33012** 33C10
— Oscillation/nonoscillation criteria for linear second order differential equations. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 207–219. (Gary D. Jones) **99i:34048** 34C10
— (*with* Laforgia, Andrea) An upper bound for the zeros of the cylinder function $C_\nu(x)$. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 105–111. (F. W. J. Olver) **99c:33005** 33C10 (41A60)
El-Borai, Mahmoud M. (*with* Abou-Zaid, Moheb S.) On invariance properties of the Cauchy problem. (English summary) *Proc. Pakistan Acad. Sci.* **33** (1996), *no.* 3-4, 147–150. 35L05 (35A30)
— (*with* Moustafa, Osama L.) On the Cauchy problem of an abstract nonlinear evolution equation. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 19–25. (Nicolae H. Pavel) **99j:34084** 34G20 (47N20)
El Boukfaoui, Y. (*with* Bouslous, H.; Erraoui, M.) Stabilizability of infinite-dimensional uncertain system. (English summary) *Int. J. Appl. Math.* **1** (1999), *no.* 1, 1–10. 93D15 (34D99, 34H05, 93C25)
El Bouzid, Hassan (*with* Nicaise, Serge) Refined nonconforming finite element methods in polygonal domains. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 935–962. (Roger Pierre) **99c:65201** 65N30
Elbrønd Jensen, Helge *see* **Jensen, Helge Elbrønd**
Elcoate, C. D. (*with* Hughes, T. G.; Evans, H. Peredur) A novel method for integrating first- and second-order differential equations in elastohydrodynamic lubrication for the solution of smooth isothermal, line contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1099–1113. (Summary) **99k:76045** 76D08 (73T05, 76M10, 76M20)
Elcrat, Alan R. (*with* Bassanini, Piero) ★ Theory and applications of partial differential equations. (English summary) Mathematical Concepts and Methods in Science and Engineering, 46. *Plenum Press, New York*, 1997. x+439 *pp. ISBN* 0-306-45640-0 (Manfred W. Kracht) **99h:35001** 35–01
El Dabaghi, Fadi (*with* Ben Abda, Amel; Chaâbane, Slim; Jaoua, Mohamed) On a non-linear geometrical inverse problem of Signorini type: identifiability and stability. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1379–1398. (Alain Brillard) **99j:35233** 35R35 (35J25, 35Q72, 73C02)
— *see also* **Approximations and numerical methods for the solution of Maxwell's equations**, **99a:00020**
El-Damanawi, K. E. S. K. (*with* Jaswon, M. A.) Uniformly moving elastic singularities in the classical theory of elasticity. (English summary) *Boundary element research in Europe (Southampton, 1998)*, 225–232, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73C02 (73B50)
El-Daou, M. K. (*with* Ortiz, E. L.) A recursive formulation of Galerkin's method in terms of the tau method: bounded and unbounded domains. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 83–94. (Summary) **99e:65155** 65N30 (65L60)
— (*with* Ortiz, E. L.) The tau method as an analytic tool in the discussion of equivalence results across numerical methods. (English summary) *Computing* **60** (1998), *no.* 4, 365–376. (T. E. Simos) **99h:65144** 65L99
Eldem, Vasfi (*with* Başer, Ulviye) Almost diagonalization by dynamic output feedback with internal stability. (English summary) *Internat. J. Control* **70** (1998), *no.* 1, 51–70. (Summary) **99c:93036** 93B36 (93B52, 93D99)
— (*with* Özbay, Hitay; Selbuz, Hasan; Özçaldiran, Kadri) Partial disturbance rejection with internal stability and H_∞ norm bound. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 180–192 (*electronic*). (Summary) **99a:93085** 93D15 (93B36)
Eldén, Lars (*with* Berntsson, Fredrik) Spectral and wavelet methods for solving an inverse heat conduction problem. (English summary) *Inverse problems in engineering mechanics (Nagano, 1998)*, 3–10, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 80–08 (80A20)
— (*with* Dax, Achiya) Approximating minimum norm solutions of rank-deficient least squares problems. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 2, 79–99. (Dimitrios Noutsos) **99e:65052** 65F10 (65F25)
Elder, Gove Griffith Corrigendum: "Galois module structure of ideals in wildly ramified cyclic extensions of degree p^2" [Ann. Inst. Fourier (Grenoble) **45** (1995), no. 3, 625–647; MR 96d:11125]. *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 2, 609–610. (Editors) **99c:11145** 11S23 (11R33, 20C11)
— Galois module structure of ambiguous ideals in biquadratic extensions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 1007–1047. (Nigel Byott) **99k:11178** 11R33 (11S15)
El-Desouky, B. S. (*with* Hussen, S. A.) A generalization of a waiting time problem. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 369–374. (Klaus Schürger) **99i:05018** 05A19 (05A10)
El-Dib, Yusry O. (*with* Moatimid, Galal M.) Effects of an external periodic body force on the interfacial stability of a nematic layer. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 413–429. (Summary) **99f:76015** 76A15
Eldridge, Stephen E. (*with* Nedjah, Nadia; Walter, Colin D.) Optimal left-to-right pattern-matching automata. (English summary) *Algebraic and logic programming (Southampton, 1997)*, 273–286, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68136** 68Q42 (68Q68)
Elduque, Alberto Gradings on octonions. (English summary) *J. Algebra* **207** (1998), *no.* 1, 342–354. (Cándido M. González) **99g:17055** 17D05 (17A35, 17D10)
— Okubo algebras and twisted polynomials. (English summary) *Recent progress in algebra (Taejon/Seoul, 1997)*, 101–109, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Cándido M. González) **99i:17003** 17A75 (17D25)
abd ÈÌ'-Dzhafar, A. *see* **Abd ÈÌ'-Dzhafar, A.**
Elek, Gábor The l_p-cohomology and the conformal dimension of hyperbolic cones. (English summary) *Geom. Dedicata* **68** (1997), *no.* 3, 263–279. (Athanase Papadopoulos) **99b:53062** 53C23
— Amenability, l_p-homologies and translation invariant functionals. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 111–119. (George A. Willis) **99j:53057** 53C23 (43A07, 43A15)
— Coarse cohomology and l_p-cohomology. (English summary) *K-Theory* **13** (1998), *no.* 1, 1–22. (Mohammed E. B. Bekka) **99a:58148** 58G12 (46L85)
Elekes, G. A combinatorial problem on polynomials. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 383–389. (A. N. Philippou) **99e:05127** 05D99
abou-El-Ela, A. M. A. *see* **Abou-El-Ela, A. M. A.**
Elenin, G. G. (*with* Lysak, T. M.) Taking the detail balance relations into account in the construction of approximations of kinetic equations. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 78–91. (Summary) **99m:82039** 82C40
Eleonskiĭ, V. M. (*with* Korolev, V. G.; Kulagin, N. E.) On chaotic dynamics in "pseudobilliard" Hamiltonian systems with two degrees of freedom. (English summary) *Chaos* **7** (1997), *no.* 4, 710–730. (Roberto Markarian) **99c:58105** 58F13 (58F05)
— (*with* Korolev, V. G.; Kulagin, N. E.) Pseudo-billiards. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 223–251. (Nikolai Chernov) **99a:58065** 58F05 (70H05, 70K20, 70K50)
— (*with* Korolev, V. G.; Kulagin, N. E.) On Hamiltonian dynamical systems whose kinetic energy depends on the absolute magnitudes of the momenta. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 55–63. (Summary) **99d:58061** 58F05 (70H05)
— (*with* Alfimov, G. L.; Lerman, L. M.) Solitary wave solutions of nonlocal sine-Gordon equations. (English summary) *Chaos* **8** (1998), *no.* 1, 257–271. (Summary) **99a:35220** 35Q53 (35L70)
Èlerdashvili, È. Sh. On a restricted plane three-body problem. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 41–44. 70F07
Elezgaray, J. (*with* Aubry, Nadine; Berkooz, Gal; Coller, B.; Holmes, Philip J.; Lumley, John L.; Poje, A. C.) Low-dimensional models, wavelet transforms and control. *Eddy structure identification (Udine, 1994)*, 271–331, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (From the text) **99f:76068** 76Fxx (76M25)
— (*with* Berkooz, Gal; Holmes, Philip J.) Modelling the coupling between small and large scales in the Kuramoto-Sivashinsky equation. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 293–302, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:76059** 76F99 (35Q35, 35Q53)
— (*with* Petit, P.) Wavelet methods for a Stefan problem. *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 129–136, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 65N30 (80A22)
— Traveling wavelets for the simulation of a Hele-Shaw flow with surface tension. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 1, 103–108. (Summary) **99j:76088** 76M25 (42C15, 76B45, 76D99, 76S05)
Elezović, N. (*with* Pečarić, Josip) Stefenssen's inequality and estimates of error in trapezoidal rule. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 63–69. 65D32
— (*with* Pečarić, Josip) On Alzer's inequality. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 366–369. (Summary) **99b:26033** 26D15
— (*with* Giordano, Carla; Pečarić, Josip) A geometric mean inequality and some monotonicity results for the q-gamma function. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 253–258. (Andrea Laforgia) **99c:33027** 33D05
Elfadel, Ibrahim (*with* Silveira, L. Miguel; Kamon, Mattan; White, Jacob) A coordinate-transformed Arnoldi algorithm for generating guaranteed stable reduced-order models of RLC circuits. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 377–389. 94C05 (65F30, 78–08)
El-Fallah, O. (*with* Kellay, Karim) Sous-espaces biinvariants pour certains shifts pondérés. (English and French summaries) [Bi-invariant subspaces for some weighted shifts] *Ann.*

Inst. Fourier (Grenoble) **48** (1998), *no.* 5, 1543–1558. (Hari Bercovici) **99k:47012** 47A15 (47B37)

— (*with* Daoui, A.) Localisation spectrale et sous-espaces hyperinvariants. (English summary) [Spectral localization and hyperinvariant subspaces] *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2117–2122. (P. Rosenthal) **99j:47008** 47A15

Elfanni, Abdellah Construction par des éléments finis P_1 d'une approximation convergente de problèmes variationnels. (English and French summaries) [Construction by P_1 finite elements of a convergent approximation of some variational problems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 391–396. (Summary) **99f:65164** 65N30 (65K05)

— (*with* Chipot, Michel) On the numerical analysis of some variational problems with nonhomogeneous boundary conditions. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 345–361. (Shuzi Zhou) **99j:49066** 49M25 (49J10)

El Farouq, N. (*with* Cohen, Guy) Progressive regularization of variational inequalities and decomposition algorithms. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 407–433. (Summary) **99c:49010** 49J40 (65K10, 90C30)

El-Férik, Sami (*with* Malhamé, Roland P.; Boukas, El-Kébir) A tractable class of maximal hedging policies in multi-part manufacturing systems. (English summary) *Discrete Event Dyn. Syst.* **8** (1998), *no.* 3, 299–331. 90B30 (93E20)

El-Fiky, Ahmed Saber Difference partial differential systems with periodic coefficients. (English summary) *Bull. Fac. Sci. Alexandria Univ.* **38** (1998), *no.* 1-2, 1–5. 35R10 (35B05)

— On the Cauchy problem for a degenerate parabolic differential equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 555–558. (Stepan D. Ivasyshen) **99d:35092** 35K65

Elfving, Tommy A stationary iterative pseudoinverse algorithm. (English summary) *BIT* **38** (1998), *no.* 2, 275–282. (Jin Xi Zhao) **99d:65105** 65F10 (65F50)

— (*with* Björck, Åke; Strakoš, Zdeněk) Stability of conjugate gradient and Lanczos methods for linear least squares problems. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 720–736 (*electronic*). (Summary) **99a:65051** 65F20

El-Gabali, Magdi A. (*with* Kalla, Shyam L.) Simple algorithms for approximations of generalized elliptic-type integrals. (English summary) *Transform methods & special functions, Varna* '96, 114–120, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 65D20 (33C20, 33E05)

Elgamal, Mahmoud (*with* Nakagiri, Shin-ichi; Ha, Jun-Hong) Existence, uniqueness and continuous dependence of weak solutions of damped sine-Gordon equations. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 1–13. (*see* **99f:00019**) 35L70 (35B30, 35Q53)

Elgarayhi, A. (*with* El-Hanbaly, A.) On the solution of the Telford coagulation equation. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 500–505. (Summary) **99d:82079** 82D60 (35Q99, 85A15)

El Gayyar, M. K. (*with* Ramadan, A. A.; Kerre, Etienne E.) Smooth pretopological spaces. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 9–26. 54A05

El-Gebeily, M. A. (*with* Beg, G. K.) A Galerkin method for singular two point linear boundary value problems. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. C Theme Issues* **22** (1997), *no.* 2, 79–98. (Iulian Coroian) **99c:65142** 65L10 (34E05, 65L15, 65L60)

El Genaidy, M. M. (*with* Mokaddis, G. S.; Matta, C. H.) On Poisson queue with three heterogeneous servers. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 4, 53–60. 90B22 (60K25)

El-Gendi, B. A. (*with* Mohamed, Adel Samy) Separation for ordinary differential equation with matrix coefficient. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 243–252. (Anton Zettl) **99b:34038** 34B05 (34L99)

El Geneidy, M. *see* **Hu, Jiankun** *and* **Huang, Shou Dong**

Elgesem, Dag The modal logic of agency. (English summary) *Nordic J. Philos. Logic* **2** (1997), *no.* 2, 1–46. (J. M. Plotkin) **99g:03016** 03B45

abd El-Ghaffar, F. S. *see* **Abd El-Ghaffar, F. S.**

El Ghaoui, Laurent (*with* Lebret, Hervé) Robust solutions to least-squares problems with uncertain data. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1035–1064. (Ching-Tsuan Pan) **99c:65075** 65F20 (15A06)

— (*with* Scorletti, Gérard) Improved LMI conditions for gain scheduling and related control problems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 845–877. (Zbigniew Bartosiewicz) **99h:93053** 93B52 (93B35, 93C05, 93C50)

— (*with* Oustry, François; Lebret, Hervé) Robust solutions to uncertain semidefinite programs. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 33–52 (*electronic*). (J. Frédéric Bonnans) **99j:90091** 90C31 (90C25)

El-Ghazaly, Samir M. Physics-based modeling of millimeter-wave devices. (English summary) *Advances in computational electrodynamics*, 513–559, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78A55

Elghobashi, S. E. (*with* Kim, Inchul; Sirignano, William A.) On the equation for spherical-particle motion: effect of Reynolds and acceleration numbers. (English summary) *J. Fluid Mech.* **367** (1998), 221–253. 76T05 (76F99)

— (*with* Boratav, Oluş N.; Zhong, R.) On the alignment of strain, vorticity and scalar gradient in turbulent, buoyant, nonpremixed flames. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2260–2267. (Summary) **99e:80004** 80A25 (76F99)

El-Ghoul, M. (*with* Mostafa, M. H.) Homology and deformation retract of some real manifolds and their foldings. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 5, 355–362. (Summary) **99c:55006** 55N10

— (*with* Shamara, H. M.) Folding of some types of fuzzy manifolds and their retractions. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 387–391. (Summary) **99g:05169** 05C99 (04A72, 54A40)

ElGindy, Hossam (*with* Middendorf, Martin) Matrix multiplication on processor arrays with optical buses. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 3, 255–262. (Summary) **99i:65048** 65F30 (15–04, 68Q22)

— (*with* Avis, David; Beresford-Smith, Bryan; Devroye, Luc; Guévremont, Eric; Hurtado, Ferran; Zhu, Binhai) Unoriented Θ-maxima in the plane: complexity and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 278–296 (*electronic*). (Menachem Dishon) **99g:68088** 68Q25 (60D05, 68U10)

El-Gohary, Awad On the stability of relative programmed motion of satellite-gyrostat. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 4, 371–379. (Summary) **99e:70022** 70E15 (70K20, 70M20, 70Q05)

Elgondyev, K. K. (*with* Samoĭlenko, V. G.) On periodic solutions of linear differential equations with impulse action. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 1, 141–148; *translation in Ukrainian Math. J.* **49** (1997), *no.* 1, 156–164. (V. G. Zadorozhniĭ) **99c:34016** 34A37 (34C25, 34H05)

El Gradechi, Amine M. On the super-unitarity of discrete series representations of orthosymplectic Lie superalgebras. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 467–497. (Joris Van der Jeugt) **99g:17015** 17B10 (47B25, 81R05)

Elgueta, Manuel (*with* Cortázar, Carmen; Primicerio, Mario) Localization of the solution of a one-dimension one-phase Stefan problem. (English and Italian summaries) *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 71–82 (1997). (Galina I. Bizhanova) **99f:35228** 35R35 (35K05, 80A22)

— (*with* Cortázar, Carmen; Del Pino, Manuel) On the blow-up set for $u_t = \Delta u^m + u^m$, $m > 1$. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 541–561. (Summary) **99h:35085** 35K55 (35B05)

Elgueta A., Luisa (*with* Fiebig-Wittmaack, Melitta; Villagran, Maria Teresa) An averaging method applied to a Duffing equation. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 359–367. (Summary) **99h:34068** 34C29 (34C15)

mint Elhacen, Salma *see* **Mint Elhacen, Salma**

El Haddad, El Mahjoub Viscosity solutions of Hamilton-Jacobi equations in smooth Banach spaces. *Tokyo J. Math.* **21** (1998), *no.* 1, 35–47. (Andrzej Swiech) **99e:35240** 35R15 (35D05, 35F20, 49L25)

El Hafeez, S. A. (*with* Markov, Yu. G.) The evolution of a rotational motion of an elastic-rigid body about a fixed point in a gravitational field. (English summary) *Mech. Res. Comm.* **25** (1998), *no.* 6, 643–651. (Summary) **99h:70014** 70E15 (70K20, 70M20, 73K12)

El Hafsi, M. (*with* Bai, S. X.) Multiperiod production planning with demand and cost fluctuation. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 103–119. 90B30 (49N55, 93C95)

abd El-Hakeim, K. M. *see* **Abd El-Hakeim, K. M.**

El Hami, Charaf (*with* Draux, André) Hermite-Sobolev and closely connected orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **81** (1997), *no.* 1, 165–179. (A. G. Law) **99e:42035** 42C05 (33C45)

El-Hanbaly, A. (*with* Elgarayhi, A.) On the solution of the Telford coagulation equation. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 500–505. (Summary) **99d:82079** 82D60 (35Q99, 85A15)

El Hassan, N. (*with* Chambon, R.; Caillerie, D.) One-dimensional localisation studied with a second grade model. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 637–656. (Summary) **99e:73053** 73E99 (73B99, 73G20, 73V05)

El Hassouni, A. (*with* Tahri, E. H.) On the two-parameter quantum supergroups and quantum superplanes. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2065–2074. (Władysław Marcinek) **99e:58015** 58B30 (16W30, 17B37, 81R50)

El Hatri, M. Mathematical investigation for groundwater pollution. (English summary) *Recent advances in problems of flow and transport in porous media (Marrakech*, 1996), 77–87, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99b:35175** 35Q35 (35K55, 76S05, 86A05)

— *see also* **Recent advances in problems of flow and transport in porous media, 99a:76001**

El Hattab, Hanae (*with* Polonyi, Janos) Renormalization group transformation for the wave function. (English summary) *Ann. Physics* **268** (1998), *no.* 2, 246–272. (Manfred Salmhofer) **99i:81036** 81Q10 (81T17)

Elhay, Sylvan (*with* Ram, Yitshak M.) Constructing the shape of a rod from eigenvalues. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 597–608. (Summary) **99f:73050** 73K05 (15A18, 73D30, 73D50)

Elhedhli, Samir (*with* Pinar, Mustafa Çelebi) A penalty continuation method for the l_∞ solution of overdetermined linear systems. (English summary) *BIT* **38** (1998), *no.* 1, 127–150. (Marlies Borchardt) **99j:65111** 65K10 (65F20, 90C20)

Elhilali Alaoui, A. (*with* Combari, C.; Levy, Adam B.; Poliquin, R. A.; Thibault, L.) Convex composite functions in Banach spaces and the primal lower-nice property. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3701–3708. (Doug Ward) **99b:49016** 49J52 (46G05, 46N10, 58C20)

Elia, Nicola (*with* Dahleh, Munther A.) ★ Computational methods for controller design. Lecture Notes in Control and Information Sciences, 238. *Springer-Verlag London, Ltd., London*, 1998. *xii+153 pp. ISBN* 1-85233-075-9 (Petko Petkov) **99j:93001** 93–02 (65K10, 93B40)

— (*with* Dahleh, Munther A.) A quadratic programming approach for solving the l_1 multiblock problem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1242–1252. (R. N. Mukherjee) **99j:93031** 93B36 (93B40)

Eliahou, Shalom (*with* Kervaire, Michel A.) Sumsets in vector spaces over finite fields. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 12–39. (Georges Grekos) **99d:11020** 11B75 (05D05, 11T99)

Elias, Juan Sharp upper bounds for the Betti numbers of Cohen-Macaulay modules. *Illinois J. Math.* **41** (1997), *no.* 4, 505–531. (Joseph P. Brennan) **99e:13013** 13C14 (05A10, 13D02)

— On the depth of the tangent cone and the growth of the Hilbert function. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4027–4042. (Alfio Ragusa) **99m:13031** 13D40 (13H10)

— *see also* **Six lectures on commutative algebra, 99e:13001**

Elias, N. (*with* Cao, Guang Fu; Ghatage, P.; Yu, Da Hai) Composition operators on a Banach space of analytic functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 235–240. (Ke He Zhu) **99j:47042** 47B38 (46E15)

Elias, Uri Asymptotic approximation for matrix differential equations and applications. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 316–321, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34E20 (34A30, 34C10)

— (*with* Škerlík, Anton) On a conjecture about an integral criterion for oscillation. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 3, 393–399. (E. Müller-Pfeiffer) **99i:34049** 34C10

— (*with* Gingold, Harry) More on asymptotic approximation for matrix differential equations. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 97–111. (A. D. Wood) **99m:34120** 34E05 (34A30)

Eliashberg, Yakov (*with* Mishachev, N. M.) Wrinkling of smooth mappings and its applications. I. *Invent. Math.* **130** (1997), *no.* 2, 345–369. (Serge L. Tabachnikov) **99d:57021** 57R45 (57R52)
— (*with* Fraser, Maia) Classification of topologically trivial Legendrian knots. *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 17–51, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Serge L. Tabachnikov) **99f:57007** 57M25 (57N37)
Eliasson, L. H. Discrete one-dimensional quasi-periodic Schrödinger operators with pure point spectrum. *Acta Math.* **179** (1997), *no.* 2, 153–196. (Michael P. Lamoureux) **99k:47072** 47B39 (34L40, 47N50, 81Q10, 82B44)
— One-dimensional quasi-periodic Schrödinger operators—dynamical systems and spectral theory. (English summary) *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 178–190, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Dimitri Petritis) **99g:58101** 58F19 (34L40, 47E05, 58F27)
— Reducibility and point spectrum for linear quasi-periodic skew-products. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 779–787 (*electronic*). (Mahesh Nerurkar) **99m:58163** 58F27 (34C35, 54H20)
Eliazar, Iddo (*with* Yechiali, Uri) Polling under the randomly timed gated regime. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 79–93. (Summary) **99b:60156** 60K25
Elipe Sánchez, Antonio C. (*with* Lanchares, Víctor) Two equivalent problems: gyrostats in free motion and parametric quadratic Hamiltonians. *Mech. Res. Comm.* **24** (1997), *no.* 6, 583–590. (Igor Gashenenko) **99e:70023** 70E15 (70H05)
— (*with* Abad, A.; Palacián, J.; San Juan, J. F.) ATESAT: a symbolic processor for artificial satellite theory. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 497–510. (Summary) **99a:70003** 70–08 (70–04, 70F15)
— (*with* Barrio, Roberto; Palacios, Manuel) Chebyshev collocation methods for fast orbit determination. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 195–207. 65L60 (65L06)
Eliseev, A. V. (*with* Bulychev, Yu. G.) Algorithms for solving Riccati equations in problems of the control of time-dependent plants. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 102–110. 93B40 (93C05)
— (*with* Bulychev, Yu. G.) The use of the method of supporting integral curves for overcoming the stiffness of nonlinear filtering equations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 3, 8–14. 93E11 (65U05)
— (*with* Bulychev, Yu. G.) The stiffness problem for stochastic systems and a method for its solution. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 950–956. 65U05 (34F05)
Eliseev, S. M. (*with* Afanas′ev, G. N.; Stepanovskiĭ, Yu. P.) Transition of the light velocity in the Vavilov-Čerenkov effect. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1049–1072. (Summary) **99d:78019** 78A35 (78A40)
Elishakoff, Isaac (*with* Impollonia, N.) Behavior of stochastic shear beams under random loading via stochastic variational principles. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 12, 1983–1996. 73K05 (73K35)
— (*with* Ren, Yongjian) The bird's eye view on finite element method for structures with large stochastic variations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 51–61. (Summary) **99j:73095** 73V05 (65N30)
— (*with* Impollonia, N.; Ren, Yongjian) New exact solutions for randomly loaded beams with stochastic flexibility. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 16, 2325–2340. (Summary) **99m:73053** 73K35
Elitzur, Shmuel (*with* Giveon, Amit; Kutasov, David; Tsabar, David) Branes, orientifolds and chiral gauge theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 251–268. (David S. Berman) **99f:81196** 81T60 (81T13)
Elizalde, Emilio ★ Ten physical applications of spectral zeta functions. (English summary) Lecture Notes in Physics. New Series m: Monographs, 35. *Springer-Verlag, Berlin*, 1995. xii+224 *pp. ISBN* 3-540-60230-5 (Alfred Actor) **99b:58236** 58G26 (11M41, 11Z05, 81–02, 81T16, 81T20)
— (*with* Vanzo, Luciano; Zerbini, Sergio) Zeta-function regularization, the multiplicative anomaly and the Wodzicki residue. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 613–630. (Thomas Ackermann) **99e:58202** 58G26 (58G15, 81T50)
— Multidimensional extension of the generalized Chowla-Selberg formula. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 1, 83–95. (Alfred Actor) **99k:11137** 11M41 (11E45, 11Z05, 58G26)
— (*with* Filippi, Antonio; Vanzo, Luciano; Zerbini, Sergio) One-loop effective potential for a fixed charged self-interacting bosonic model at finite temperature with its related multiplicative anomaly. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7430–7443. (Summary) **99k:81195** 81T16 (58G26, 81T50)
— (*with* Vasilevich, D. V.) Heat kernel coefficients for Chern-Simons boundary conditions in QED. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 813–822. (Giampiero Esposito) **99m:58183** 58G11 (58G20, 81V10)
— (*with* Nojiri, Shin'ichi; Odintsov, Sergei D.) Possible quantum instability of primordial black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 061501, 3 *pp.* 83C57
Elizarov, A. M. (*with* Il′inskiĭ, N. B.; Potashev, A. V.) ★ Mathematical methods of airfoil design. (English summary) Inverse boundary-value problems of aerohydrodynamics. Translated from the 1994 Russian original by A. Fokin and revised by the authors. *Akademie Verlag, Berlin*, 1997. 292 *pp. ISBN* 3-05-501701-3 (Editors) **99d:76054** 76G25 (76B05, 76D10, 76H05, 76N20)
— *see also* **Chebotarev Research Institute of Mathematics and Mechanics**, **99k:01085** *and* **Proceedings: Lobachevskiĭ Mathematical Center. Kazan′ Mathematical Society**, **99m:00022**
Elizarova, T. G. (*with* Kalachinskaya, I. S.; Klyuchnikova, A. V.; Sheretov, Yu. V.) Application of quasi-hydrodynamic equations for modeling thermal convection at low Prandtl numbers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1732–1742; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1662–1671. (Summary) **99f:76089** 76M20 (76D45, 76R05)
Elizarraraz, David (*with* Verde-Star, Luis) On a class of differential equations that contains the equations of Euler and Chebyshev. *Adv. in Appl. Math.* **19** (1997), *no.* 4, 514–528. (V. Sree Hari Rao) **99g:34027** 34A30 (12H20)
— (*with* Verde-Star, Luis) Similar operators and a functional calculus for the first-order linear differential operator. *Adv. in Appl. Math.* **22** (1999), *no.* 1, 29–47. (S. K. Chatterjea) **99m:34021** 34A46
Elizondo, D. (*with* Tajine, M.) Growing methods for constructing recursive deterministic perceptron neural networks and knowledge extraction. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 295–322. (Summary) **99e:68137** 68T05
Elizondo, E. Javier (*with* Lima-Filho, P.) Chow quotients and projective bundle formulas for Euler-Chow series. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 4, 695–729. (Alexander E. Polishchuk) **99m:14004** 14C05 (14C25, 14L30)
El Jaï, Abdelhak (*with* Simon, Marie Claude; Zerrik, E.; Pritchard, A. J.) Regional controllability of distributed parameter systems. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1351–1365. 93B05 (93C20)
— (*with* Kassara, K.; Cabrera, O.) Spray control. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 709–730. 93A30 (93C30)
— (*with* El Yacoubi, Samira; Karrakchou, Jamila) Spreadability and spray actuators. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 367–379. (Summary) **99e:93007** 93B05 (92D40, 93C30)
El Janati, Abdessalam (*with* Chiheb, Raddouane; Cioranescu, Doina; Panasenko, G. P.) Structures réticulées renforcées en élasticité. (English and French summaries) [Reinforced lattice structures in elasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 897–902. (Ma. Eugenia Pérez Martinez) **99k:73011** 73B27 (35B27, 73K20)
El Kadiri, Mohamed Sur la représentation intégrale en théorie axiomatique des fonctions biharmoniques. [Integral representation of biharmonic functions in axiomatic theory] *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 579–589. (Eugen Popa) **99j:31017** 31D05
El-Kalaawy, O. H. (*with* Khater, A. H.; Ibrahim, R. S.; Callebaut, Dirk K.) Bäcklund transformations and exact soliton solutions for some nonlinear evolution equations of the ZS/AKNS system. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1847–1855. (Summary) **99i:35150** 35Q55 (58F37)
— (*with* Khater, A. H.; Helal, M. A.) Bäcklund transformations: exact solutions for the KdV and the Calogero-Degasperis-Fokas mKdV equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 719–731. (Xian Guo Geng) **99d:35142** 35Q53 (35A30, 35C05)
— (*with* Khater, A. H.; Callebaut, Dirk K.) Bäcklund transformations and exact soliton solutions for nonlinear Schrödinger-type equations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1121–1130. 35Q55 (58F37)
El Kamel, J. (*with* Fitouhi, A.) Expansion in terms of Gegenbauer polynomials for solutions of a perturbed Gegenbauer differential equation. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 213–226. (Summary) **99b:33005** 33C10 (34B30)
El Karoui, N. (*with* Biais, Bruno; Björk, Tomas; Cvitanić, Jakša; Jouini, Elyès; Rochet, Jean Charles) ★ Financial mathematics. Lectures given at the 3rd C.I.M.E. Session held in Bressanone, July 8–13, 1996. Edited by W. J. Runggaldier. Lecture Notes in Mathematics, 1656. *Springer-Verlag, Berlin*, 1997. viii+316 *pp. ISBN* 3-540-62642-5 (Marek Rutkowski) **99a:90033** 90A09 (60H10, 60H30, 90–06)
— (*with* Quenez, M. C.) Non-linear pricing theory and backward stochastic differential equations. *Financial mathematics* (*Bressanone*, 1996), 191–246, *Lecture Notes in Math.*, 1656, *Springer, Berlin*, 1997. (*see* **99a:90033**) 90A14 (60H10)
— (*with* Pardoux, Étienne; Quenez, M. C.) Reflected backward SDEs and American options. *Numerical methods in finance*, 215–231, *Publ. Newton Inst., Cambridge Univ. Press, Cambridge*, 1997. (A. F. Gualtierotti) **99b:60078** 60H10 (60G40, 90A09)
El Kashlan, A. *see* **Hu, Jiankun** *and* **Huang, Shou Dong**
El Khadiri, Abdelhafed Borne d'invariant métrique pour une famille noethérienne. (English summary) [Bound of an invariant metric for a Noetherian family] *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 265–275. (Arkadiusz Płoski) **99g:32009** 32B05 (32B10)
El Khadiri, Mohamed (*with* Bulteau, Stéphane) A Monte Carlo estimator based on a state space decomposition methodology for flow network reliability. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 161–175, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:90031** 90B10 (65C05, 90B12)
— (*with* Bulteau, Stéphane) A Monte Carlo simulation of the flow network reliability using importance and stratified sampling. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 271–287. (*see* **99e:90004**) 90B25 (90B10)
El-Khazali, Reyad Variable structure robust control of uncertain time-delay systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 327–332. (Keigo Watanabe) **99c:93018** 93B12 (93C41)
Elkhimova, Yu. V. Stability of time-dependent impulse control systems. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 115–122, 221. 93D05 (93C57)
El-Kholy, E. M. (*with* Shahin, R. M.) Cellular folding. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 177–181. (Summary) **99k:55003** 55M99
Elkies, Noam D. (*with* Gross, Benedict H.) Embeddings into the integral octonions. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 147–158. (Rainer Schulze-Pillot) **99g:11138** 11R54 (11E25, 17A35)
— Elliptic and modular curves over finite fields and related computational issues. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 21–76, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Jean-Marc Couveignes) **99a:11078** 11G20 (11Y16)
Elkin *see* **Ēlkin, V. I.**
lee-Elkin, Forest *see* **Lee-Elkin, Forest**
Ēlkin, V. I. (*with* Ivashko, D. G.) Admissible Lie algebras for some types of affine control systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1473–1479, 1581; *translation in Differential Equations* **32** (1996), *no.* 11, 1469–1476 (1997). (Valeriu Prepeliță) **99b:93008** 93B05 (17B66, 34H05, 58E25, 93B25)
— On control systems that admit Lie algebras with the *L*-property. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1490–1494, 1581; *translation in Differential Equations* **33** (1997), *no.* 11, 1496–1500 (1998). (Yuri L. Sachkov) **99m:93019** 93B17 (17B99, 93B29)
— (*with* Huang, Qiong Xiang) Classification of symmetric circulants of degree 4. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 1–8. (Hugo S. Sun) **99b:05074**

05C25
— Affine control systems: their equivalence, classification, quotient systems, and subsystems. Optimization and control, 1. *J. Math. Sci. (New York)* **88** (1998), *no.* 5, 675–721. (Andrew D. Lewis) **99a:93049** 93C15 (93B25)
El Kinani, A. (*with* Oudadess, M.) Involution généralisée et structure de C^*-algèbre. (English summary) [Generalized involution and structure of C^*-algebras] *Rev. Acad. Cienc. Zaragoza* (2) **52** (1997), 15–16. (Summary) **99b:46079** 46K05 (46L05)
— (*with* Oudadess, M.) Unified inequality and commutativity in Banach algebras with or without involution. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 49–55, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (From the introduction) **99a:46090** 46H05 (46K05)
— (*with* Oubbi, L.; Oudadess, M.) Spectral and boundedness radii in locally convex algebras. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 233–241. (Peter Dixon) **99c:46053** 46H05 (46H30)
El Kinani, E. H. (*with* Ouarab, A.) Moyal quantization of sdiff($T^{2k/N}$), q-deformation, and q-Moyal bracket. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 1011–1017. (Akira Yoshioka) **99f:58085** 58F06 (81S10)
— (*with* Ouarab, A.; Zakkari, M.) Supermulticonformal field theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1231–1242. (Summary) **99g:81204** 81T40 (81R10)
Ellatifi, A. (*with* Chipot, Michel) Regularity results for nonlocal variational inequalities. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 1–9. (Bernhard Kawohl) **99h:49010** 49J40 (35B65, 35J85, 49N60)
Ellem, R. M. (*with* Bazhanov, Vladimir V.) Thermodynamic Bethe ansatz for the subleading magnetic perturbation of the tricritical Ising model. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 563–580. (Deng Feng Wang) **99a:82017** 82B20 (81T40, 82B23)
Ellermeier, Wolfgang (*with* Colonius, Hans) Distribution inequalities for parallel models of reaction time with an application to auditory profile analysis. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 19–27. (Joachim Krauth) **99b:92069** 92J30
Ellers, Erich W. (*with* Gordeev, Nikolai) A generalization of Sourour's theorem. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 187–196. (Thomas H. Foregger) **99i:15021** 15A23
Ellers, H. The defect groups of a clique. *Representation theory of finite groups* (*Columbus, OH*, 1995), 61–66, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Andrei Marcus) **99b:20017** 20C20 (20C05)
Ellia, Philippe (*with* Sacchiero, Gianni) Smooth surfaces of $\mathbf{P}^4$ ruled in conics. *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 49–62, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (James E. Alexander) **99j:14038** 14J26 (14J25)
— Double structures and normal bundle of space curves. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 18–26. (N. Mohan Kumar) **99m:14059** 14H50 (14M06)
Ellinas, Demosthenes (*with* Arvanitoyeorgos, Andreas) Homogeneous spaces: from the classical to the quantum case. (English summary) *New developments in differential geometry, Budapest* 1996, 39–51, *Kluwer Acad. Publ., Dordrecht*, 1999. (István Heckenberger) **99m:16055** 16W30 (17B37)
Ellingham, M. N. (*with* Caro, Yair; Ramey, J. E.) Local structure when all maximal independent sets have equal weight. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 644–654 (*electronic*). (Bert L. Hartnell) **99g:05161** 05C85 (05C75, 68R10)
— (*with* Clark, Lane H.; Menser, D. K.) On the circumference of class 2 graphs. (English summary) *Util. Math.* **53** (1998), 243–253. (Summary) **99a:05046** 05C15
Ellingsrud, Geir (*with* Göttsche, Lothar) Wall-crossing formulas, the Bott residue formula and the Donaldson invariants of rational surfaces. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 307–329. (Zhenbo Qin) **99g:57034** 57R57 (14D20, 14J26)
Elliott, Charles M. Approximation of curvature dependent interface motion. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 407–440, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:35120** 35K60 (35Q72, 65N30, 73B30, 73V20)
— (*with* Garcke, Harald) Diffusional phase transitions in multicomponent systems with a concentration dependent mobility matrix. (English summary) *Phys. D* **109** (1997), *no.* 3-4, 242–256. (Sergey L. Gavrilyuk) **99b:35107** 35K65 (35Q55, 73B30, 76R50, 80A22)
— (*with* Gardiner, Andrew R.; Schätzle, Reiner) Crystalline curvature flow of a graph in a variational setting. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 425–460. (Shiah-Sen Wang) **99e:35227** 35Q99 (35K55, 73B30)
— (*with* Chen, Zhi Ming[1]; Tang, Qi) Justification of a two-dimensional evolutionary Ginzburg-Landau superconductivity model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 25–50. (Darko Kapor) **99b:35197** 35Q60 (35K55, 82D55)
Elliott, David (*with* Lifanov, I. K.; Litvinchuk, G. S.) The solution in a class of singular functions of Cauchy type bisingular integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 237–251. (Summary) **99a:45006** 45E05 (76G25)
— (*with* Venturino, Ezio) Sigmoidal transformations and the Euler-Maclaurin expansion for evaluating certain Hadamard finite-part integrals. (English summary) *Numer. Math.* **77** (1997), *no.* 4, 453–465. (Summary) **99f:65010** 65B15 (65D30)
— Sigmoidal transformations and the trapezoidal rule. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998/99), (*E*), *E77–E137* (*electronic*). (John P. Coleman) **99j:65030** 65D30 (41A55)
Elliott, Frank W., Jr. (*with* Cai, Xiao-Chuan; Casarin, Mario A.; Widlund, Olof B.) Overlapping Schwarz algorithms for solving Helmholtz's equation. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 391–399, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65N35)
Elliott, George A. (*with* Evans, David E.; Su, Hongbing) Classification of inductive limits of the Toeplitz algebra tensored with $\mathcal{K}$. *Operator algebras and quantum field theory* (*Rome*, 1996), 36–50, *Internat. Press, Cambridge, MA*, 199?. (Mahmood Khoshkam) **99h:46105** 46L05 (19K35, 46L80)
— (*with* Bratteli, Ola; Evans, David E.; Kishimoto, Akitaka) Homotopy of a pair of approximately commuting unitaries in a simple C^*-algebra. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 2, 466–523. (Carla Farsi) **99m:46132** 46L05 (46L80)
Elliott, Gregory S. (*with* Arnette, Stephen A.; Samimy, Mo) The effects of expansion on the turbulence structure of compressible boundary layers. (English summary) *J. Fluid Mech.* **367** (1998), 67–105. 76F99 (76N20)
Elliott, J. W. (*with* Smith, Frank T.) The effect of smooth deceleration of the external stream on an aligned flat-plate boundary layer. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 339–381. (Summary) **99c:76034** 76D10 (76E99)
Elliott, Lionel (*with* Zeb, A.; Ingham, D. B.; Lesnic, D.) Cauchy problem for the biharmonic equation solved using the regularization method. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 285–294, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 65N38 (35J40)
— (*with* Lesnic, D.; Ingham, D. B.) An inverse coefficient identification problem for the heat equation. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 11–16, *Elsevier, Oxford*, 1998. (Summary) **99m:80009** 80A20 (35R30)
— (*with* McCaffery, S. J.; Ingham, D. B.) One-dimensional enhanced sedimentation in inclined fracture channels. (English summary) *Math. Engrg. Indust.* **6** (1998), *no.* 4, 261–290. (Summary) **99a:76152** 76S05 (76T05, 86A99)
— (*with* McCaffery, S. J.; Ingham, D. B.) Two-dimensional enhanced sedimentation in inclined fracture channels. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 97–125. (Summary) **99g:76145** 76T05 (76A05, 86A05)
— (*with* Lesnic, D.) The decomposition approach to inverse heat conduction. (English summary) *J. Math. Anal. Appl.* **232** (1999), *no.* 1, 82–98. (Summary) **99k:35195** 35R30 (35A25, 35C99, 35K05)
Elliott, P. D. T. A. Shifted primes and Kubilius models. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 297–312, *VSP, Utrecht*, 1997. (A. J. Hildebrand) **99m:11091** 11K65 (11N37)
— (*with* Sárközy, András) The distribution of the number of prime divisors of numbers of form $ab+1$. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 313–321, *VSP, Utrecht*, 1997. (G. Greaves) **99j:11112** 11N60 (11N36)
Elliott, Robert J. (*with* Aggoun, Lakhdar; Moore, John Barratt) A measure change derivation of continuous state Baum-Welch estimators. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 12 *pp.* (*electronic*). (Summary) **99g:93078** 93E10
— (*with* Moore, John Barratt) State and parameter estimation for linear systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 13 *pp.* (*electronic*). (Summary) **99h:93108** 93E12
— (*with* Moore, John Barratt; Dey, Subhrakanti) Risk-sensitive generalizations of minimum variance estimation and control. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 15 *pp.* (*electronic*). (Daniel Hernández-Hernández) **99h:93113** 93E20 (49L20, 90C40, 93E11)
— (*with* Dufour, François) Adaptive control of linear systems with Markov perturbations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 351–372. (E. N. Barron) **99a:93104** 93E12 (93C40, 93E20, 93E35)
— (*with* van der Hoek, John) A finite-dimensional filter for hybrid observations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 736–739. (Summary) **99a:93099** 93E11
— (*with* Moore, John Barratt) A martingale Kronecker lemma and parameter estimation for linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1263–1265. (Engin Yaz) **99h:93101** 93E10 (60G44)
— (*with* Charalambous, Charalambos D.; Dey, Subhrakanti) New finite-dimensional risk-sensitive filters: small noise limits. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1424–1429. (Summary) **99e:93079** 93E11
— (*with* Madan, Dilip B.) A discrete time equivalent martingale measure. (English summary) *Math. Finance* **8** (1998), *no.* 2, 127–152. (Marek Rutkowski) **99c:90019** 90A09 (60G42)
— (*with* Charalambous, Charalambos D.) Classes of nonlinear partially observable stochastic optimal control problems with explicit optimal control laws. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 542–578 (*electronic*). (Jan H. van Schuppen) **99b:93049** 93E20 (93E11)
— (*with* Moore, John Barratt) Zakai equations for Hilbert space valued processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 597–605. (N. U. Ahmed) **99e:60109** 60G35 (60B12, 60H15)
— (*with* Charalambous, Charalambos D.) New explicit filters and smoothers for diffusions with nonlinear drift and measurements. (English summary) *Systems Control Lett.* **33** (1998), *no.* 2, 89–103. (Martin Daumer) **99a:93096** 93E11 (93E14)
Ellis, G. *see* **Ellis, Graham J.**
Ellis, George F. R. (*with* Wainwright, J.; Coley, Alan A.; Hancock, Matthew J.) On the isotropy of the Universe: do Bianchi VII$_0$ cosmologies isotropize? (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 331–350. (Nora Bretón Báez) **99c:83017** 83C15 (83C20)
— (*with* Maartens, Roy; Lesame, William M.) Newtonian-like and anti-Newtonian universes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1005–1017. (Maciej Przanowski) **99g:83047** 83C55 (83C15, 83F05)
— (*with* Bassett, B. A. C. C.; Dunsby, P. K. S.) Lensing and caustic effects on cosmological distances. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2345–2361. (Summary) **99h:83064** 83F05
— (*with* Mustapha, Nazeem; Bassett, B. A. C. C.; Hellaby, Charles) The distortion of the area distance-redshift relation in inhomogeneous isotropic universes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2363–2379. (Summary) **99d:83108** 83F05
— (*with* Solomons, D. M.) Caustics of compensated spherical lens models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2381–2396. (Summary) **99h:83065** 83F05
Ellis, Graham J. (*with* Leonard, Frank) Computing Schur multipliers and tensor products of finite groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 137–147. (D. F. Holt) **99h:20084** 20J05 (20-04, 20F05)
— (*with* Burns, John M.; MacHale, Desmond; Ó Murchú, P.; Sheehy, R.; Wiegold, James) Lower central series of groups with small upper central factors. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 113–122. (O. Yu. Dashkova) **99g:20061** 20F14
— The Schur multiplier of a pair of groups. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 3, 355–371. (R. Stöhr) **99h:20086** 20J06
— On groups with a finite nilpotent upper central quotient. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 89–96. (Martin R. Pettet) **99a:20033** 20F18 (20D15)
— On the Schur multiplier of a quotient of a direct product of groups. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 495–499. (Mohammad Reza R. Moghaddam)

99m:20126 20J05

— (*with* Burns, John M.) Inequalities for Baer invariants of finite groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 385–391. (Andrea Lucchini) **99i:20028** 20D15 (20C25, 20D30)

— On Peiffer central series. *Glasgow Math. J.* **40** (1998), *no.* 2, 177–185. (Antonio M. Cegarra) **99h:20056** 20F14

— (*with* McDermott, Aidan) Tensor products of prime-power groups. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 119–128. (E. F. Robertson) **99g:20049** 20E22 (20D60, 20J05)

— On the computation of certain homotopical-functors. (English summary) *LMS J. Comput. Math.* **1** (1998), 25–41 (*electronic*). (David A. Blanc) **99f:55002** 55–04 (20J06, 55P20)

Ellis, J. *see* **Ellis, Jonathan Richard**

Ellis, John *see* **Ellis, Jonathan Richard**

Ellis, John A. (*with* Markov, Minko) Embedding grids into grids: dilation four suffices. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 243–250. (Summary) **99f:68155** 68R10 (68M10)

Ellis, Jonathan Richard Testing the standard model and beyond. *Symétries quantiques* (*Les Houches*, 1995), 545–580, *North-Holland, Amsterdam*, 1998. (*see* **99k:81008**) 81V22

— (*with* Diamandis, G. A.; Georgalas, B. C.; Mavromatos, Nick E.; Nanopoulos, Dimitri V.; Papantonopoulos, E.) Irreversible time flow in a two-dimensional dilaton black hole with matter. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4265–4279. (Summary) **99d:83046** 83C45

— (*with* Kanti, P.; Mavromatos, Nick E.; Winstanley, Elizabeth; Nanopoulos, Dimitri V.) Decoherent scattering of light particles in a D-brane background. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 303–319. (Summary) **99e:81186** 81T30 (81U99)

— (*with* Leontaris, G. K.; Lola, S.; Nanopoulos, Dimitri V.) Fermion mass textures in an M-inspired flipped SU(5) model derived from string. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 86–96. (Summary) **99b:81273** 81V22 (81T30)

— (*with* Berglund, Per; Faraggi, Alon E.; Nanopoulos, Dimitri V.; Qiu, Zongan) Toward the M(F)-theory embedding of realistic free-fermion models. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 269–278. (Summary) **99e:81174** 81T30

— (*with* Benakli, Karim; Nanopoulos, Dimitri V.) Natural candidates for superheavy dark matter in string and M theory. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 047301, 4 *pp.* 81V22 (81T30)

Ellis, Richard S. (*with* Dupuis, Paul) ★ A weak convergence approach to the theory of large deviations. (English summary) Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xviii+479 *pp. ISBN* 0-471-07672-4 (Anatolii A. Pukhal'skiĭ) **99f:60057** 60F10 (60B10, 60F17)

Ellis, Robert *see* **Ellis, Robert Mortimor**

Ellis, Robert Lee (*with* Gohberg, Israel) Inversion formulas for infinite generalized Toeplitz matrices. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 29–64. (Introduction) **99f:47034** 47B35 (15A57, 45E05, 47A05, 47G10)

Ellis, Robert Mortimor *see* **Furstenberg, H., 99f:54053**

Elliston, Carl D. (*with* Elout, Melchior O.; Goodson, David Z.; Huang, Shi-Wei; Sergeev, A. V.; Watson, Deborah K.) Improving the convergence and estimating the accuracy of summation approximants of $1/D$ expansions for Coulombic systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5112–5122. (Peter N. Zhevandrov) **99g:81045** 81Q15

Elloumi, Mourad Comparison of strings belonging to the same family. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 49–63. (Summary) **99e:68056** 68Q20 (68P99)

Elmabsout, Badaoui (*with* Fanny, Cosson) Relative equilibrium in the three-body problem with a rigid body. (English and French summaries) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 293–315. (Summary) **99e:70030** 70F07

El Maghri, M. (*with* Bolintinéanu, S.) On the sensitivity of efficient points. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 375–382. (Constantin Zălinescu) **99g:90138** 90C31 (90C29)

— (*with* Bolintinéanu, S.) Second-order efficiency conditions and sensitivity of efficient points. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 569–592. (Laura Martein) **99g:90104** 90C29 (90C31)

Elmahi, A. (*with* Benkirane, A.) Strongly nonlinear elliptic unilateral problems having natural growth terms and L^1 data. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 289–303. (Zhi Ren Jin) **99j:35082** 35J85 (35J60)

— (*with* Benkirane, A.) An existence theorem for a strongly nonlinear elliptic problem in Orlicz spaces. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 11–24. (Jianfu Yang) **99m:35056** 35J60

Elmahi, I. (*with* Benkhaldoun, F.; Vilsmeier, R.; Gloth, O.; Patschull, A.; Hänel, D.) Finite volume simulation of a droplet flame ignition on unstructured meshes. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 187–205. (Summary) **99k:80003** 80–08 (80A25)

Elmallah, Ehab S. (*with* Lam, Chin-Hung) An $O(N^{1.695})$ permutation routing algorithm on augmented data manipulators. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 235–243, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10

El-Mallah, M. L. Absolute valued algebraic algebra satisfying $(x, x, x) = 0$. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 39–52. (Tserendorzh Dashdorzh) **99a:17003** 17A30 (17A20)

Elman, Howard C. (*with* Silvester, David J.; Wathen, Andrew J.) Iterative methods for problems in computational fluid dynamics. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 271–327, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65F10 (76M25)

— Preconditioning for the steady-state Navier-Stokes equations with low viscosity. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 4, 1299–1316 (*electronic*). (Nikolay P. Moshkin) **99m:65082** 65F30 (15A12, 65M06, 76D05, 76M25)

Elman, Richard (*with* Lum, Christopher) On the cohomological 2-dimension of fields. *Comm. Algebra* **27** (1999), *no.* 2, 615–620. (Adrian R. Wadsworth) **99m:12007** 12G05 (11E81)

El-Mansi, S. M. A. (*with* Boutros, Y. Z.; Abd-el-Malek, Mina B.; El-Awadi, I. A.) Group method analysis of the potential equation in triangular regions. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 418–428, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35A30 (80A20)

— (*with* Boutros, Y. Z.; Abd-el-Malek, Mina B.; El-Awadi, I. A.) Group method for temperature analysis of thermally stagnant lakes. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 131–144. (Summary) **99h:86004** 86A05 (86–08)

Elmasry, Amr (*with* Belal, Ahmed A.) Reaching the bound in the $(2, n)$ merging problem. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 261–271. (Summary) **99e:68027** 68P10

ben-El-Mechaiekh, Hichem *see* **Ben-El-Mechaiekh, Hichem**

El-Mennaoui, O. (*with* Driouich, A.) On the inverse Laplace transform for C_0-semigroups in UMD-spaces. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 1, 56–63. (Ioana Ciorănescu) **99g:47091** 47D06

El Miloudi, Marhrani (*with* Brillard, Alain) Asymptotics for quasilinear equations with nearly critical growth. *Extracta Math.* **12** (1997), *no.* 3, 277–290. (Kanishka S. Perera) **99d:35054** 35J65 (35B40, 49J20)

— (*with* Aamri, Mohamed) Normability of an S-ring. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 81–95. (V. I. Arnautov) **99e:16062** 16W80 (13J20, 46J05)

El Mir, Hassine (*with* Feki, Imed) Prolongement et contrôle d'un courant positif fermé par ses tranches. (English and French summaries) [Extension and mass control of a positive d-closed current by its slices] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 797–802. (Mohammed El Amrani) **99k:32015** 32C30 (32D15)

El Mohajir, Mohammed (*with* Deleersnijder, Eric; Beckers, Jean-Marie; Campin, Jean-Michel; Fichefet, Thierry; Luyten, Patrick) Some mathematical problems associated with the development and use of marine models. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 39–86, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A05

abd El-Monsef, M. E. *see* **Abd El-Monsef, M. E.**

El-Morshedy, H. A. (*with* Grace, S. R.) Oscillation and nonoscillation theorems for certain second-order difference equations with forcing term. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 614–625. (T. J. Mahar) **99d:39005** 39A10 (34C10)

— (*with* Grace, S. R.; Abadeer, A. A.) On the oscillation of certain second order difference equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 447–455. (I. P. Stavroulakis) **99k:39010** 39A10 (39A12)

Elmoselhi, Hamdi O. On the stability of spline function approximation for solutions of initial value problem. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 179–183. (Summary) **99h:65139** 65L20 (65L05)

El Moudni, A. (*with* Bouyekhf, R.) Stabilization and regulation of class of non-linear singularly perturbed discrete-time systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 963–982. (Vladimir Veliov) **99f:93125** 93D21 (93C55, 93C70, 93C73)

El Mrabet, Yamina (*with* Bourlès, Henri) Periodic-polynomial interpretation for structural properties of linear periodic discrete-time systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 241–251. (Ewa Pawłuszewicz) **99a:93064** 93C55 (93B07, 93B25)

Elmroth, Erik (*with* Edelman, Alan; Kågström, Bo) A geometric approach to perturbation theory of matrices and matrix pencils. I. Versal deformations. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 653–692. (Summary) **99e:58021** 58C27 (15A21, 15A22, 65F15)

Elnagar, Gamal N. (*with* Kazemi-Dehkordi, M. A.) Pseudospectral Chebyshev optimal control of constrained nonlinear dynamical systems. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 195–217. (Ludmila N. Polyakova) **99i:49037** 49M30 (49K15)

— (*with* Kazemi-Dehkordi, M. A.) Pseudospectral Legendre-based optimal computation of nonlinear constrained variational problems. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 363–375. (Summary) **99b:49030** 49M25 (65D32, 65K10)

— Optimal control computation for integro-differential aerodynamic equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 7, 653–664. (Summary) **99a:45022** 45L05 (49M99, 65R20)

— (*with* Li, Ken S.) A collocation method for solving non-linear optimal control problems. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 67–79. (*see* **99m:34001**) 49M30 (65L60)

— (*with* Khamayseh, Ahmed) Numerical solution of non-stationary aero-autoelasticity integro-differential operator equations. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 6, 501–513. (Summary) **99m:49046** 49M25 (45L05, 65K10, 65N35, 73K70)

El-Naggar, A. M. (*with* Alhanadwah, A. A.) Periodic oscillations of a single degree of freedom system with cubic and quartic non-linearities under bi-harmonic excitation. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **26** (1997), *no.* 1, 81–112. (Summary) **99a:70032** 70K40 (34C15, 34C25)

El-Nahhas, A. Boundedness of solutions of third order system. (English summary) *Proc. Pakistan Acad. Sci.* **33** (1996), *no.* 3-4, 171–173. 34C11

El-Namoury, A. R. M. (*with* Assas, L. M.) Creating A-stable difference methods for ordinary differential equations. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **9** (1998), *no.* 2, 65–70. (Summary) **99k:65065** 65L12 (65L20)

El Naschie, M. S. On the irreducibility of spatial ambiguity in quantum physics. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 913–919. (Summary) **99e:81030** 81P99

— Penrose universe and Cantorian spacetime as a model for noncommutative quantum geometry. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 931–933. (Summary) **99d:81025** 81P99 (58B30, 83C99)

— Fredholm operators and the wave-particle duality in Cantorian space. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 975–978. (Summary) **99e:81031** 81P99 (47N50)

— Knot theory in $\mathbf{R}^4$ and the Hausdorff dimension of a quantum path in $\mathbb{Z}^{(\infty)}$. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 1005–1007. (Summary) **99g:81031** 81P99 (57M25)

— On octahedrons in $\mathbf{R}^\infty$ and the mean dimension of space. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1783–1785. 81P99 (52A20)

— Hyperdimensional geometry and the nature of physical spacetime. (English summary) *Chaos Solitons Fractals* **10** (1999), *no.* 1, 155–158. 81P99

Eloe, Paul W. (*with* Henderson, Johnny) Singular nonlinear $(n-1, 1)$ conjugate boundary value problems. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 401–412.

(Marlène Frigon) **99f:34024** 34B15 (47H10)
— (*with* Doddaballapur, Vidya; Zhang, Yongzhi) Quadratic convergence of approximate solutions of two-point boundary value problems with impulse. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 81–95 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Alberto Cabada) **99m:34019** 34A45 (34A37, 34B15)
— (*with* Doddaballapur, Vidya) Monotone and quadratic convergence of approximate solutions of ordinary differential equations with impulse. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 373–382. (Alberto Cabada) **99d:34021** 34A37 (34A45)
— (*with* Henderson, Johnny) Singular nonlinear multipoint conjugate boundary value problems. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 497–511. (L. J. Grimm) **99g:34048** 34B15 (34B10)
— A generalization of concavity for finite differences. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 109–113. (R. S. Booth) **99m:39020** 39A12
— (*with* Henderson, Johnny) Positive solutions and nonlinear $(k, n-k)$ conjugate eigenvalue problems. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 309–317. (Anna Capietto) **99k:34042** 34B15 (47H15)
— (*with* Henderson, Johnny) Positive solutions of boundary value problems for ordinary differential equations with impulse. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 285–294. (Summary) **99a:34052** 34B15 (34A37)
— (*with* Sokol, Michael) Positive solutions and conjugate points for a boundary value problem with impulse. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 441–450. (Summary) **99h:34015** 34A37 (34B05, 34B15)
— (*with* Zhang, Yongzhi) A quadratic monotone iteration scheme for two-point boundary value problems for ordinary differential equations. *Nonlinear Anal.* **33** (1998), *no.* 5, 443–453. (Alberto Cabada) **99e:34015** 34A45 (34B15)
El Ouatouati, A. (*with* Fisette, P.; Johnson, D. A.) A fully symbolic model of multibody systems containing flexible plates. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 4, 357–382. 70E99 (70B15, 73K12)
Elout, Melchior O. (*with* Goodson, David Z.; Elliston, Carl D.; Huang, Shi-Wei; Sergeev, A. V.; Watson, Deborah K.) Improving the convergence and estimating the accuracy of summation approximants of $1/D$ expansions for Coulombic systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5112–5122. (Peter N. Zhevandrov) **99g:81045** 81Q15
Eloy, Christophe (*with* Le Dizès, Stéphane) Three-dimensional instability of Burgers and Lamb-Oseen vortices in a strain field. (English summary) *J. Fluid Mech.* **378** (1999), 145–166. (Summary) **99j:76050** 76E99 (76C05, 76F99)
abd-El-Reheem, Zaki F. *see* **Abd-El-Reheem, Zaki F.**
El-Reheem, Zaki F. A. *see* **Abd-El-Reheem, Zaki F.**
El-Saady, K. (*with* Bakeir, M. Y.) Separation axioms in fuzzy topological ordered spaces. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 211–215. 54A40 (54F05)
— (*with* Bakier, M. Y.) Fuzzy proximity ordered spaces. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 341–350. 54A40
El-Safty, Abdalla (*with* Hussien, M. A.) Chebyshev solution for stiff delay differential equations. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 323–335. (Summary) **99m:65153** 65L99 (34A45)
El-Sakkout, Hani (*with* Hajian, Mozafar T.; Wallace, Mark Glossop; Lever, Jonathan M.; Richards, Barry) Towards a closer integration of finite domain propagation and simplex-based algorithms. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 421–431. (*see* **99b:90006**) 90C08 (90C90)
Elsanousi, S. A. Minimization of stochastic functionals and random variational inequalities. (English summary) *Stochastics Stochastics Rep.* **64** (1998), *no.* 1-2, 143–160. (Summary) **99e:49021** 49J55 (49J40)
Elsässer, Bernhard Approximation with rational B-spline curves and surfaces. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 87–94, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41053** 41A63 (41A15)
El-Sawaby, Sh. M. (*with* Essawy, A. H.; El-Arabawy, H.) Diffraction of water waves due to a presence of two headlands. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 10, 25–38. (Summary) **99i:76013** 76B15 (76M20, 86A05)
— (*with* Essawy, A. H.; El-Arabawy, H.) Diffraction of water waves due to a presence of two headlands. (English summary) *J. Comput. Appl. Math.* **104** (1999), *no.* 1, 27–39. 76B15
— (*with* Essawy, A. H.; El-Arabawy, H.) Diffraction of Kelvin waves due to elliptical shapes of islands. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 2, 19–31. (Summary) **99j:76008** 76B15 (86A05)
El-Sayed, Ahmed M. A. (*with* El-Sayed, Wagdy G.; Moustafa, Osama L.) On some fractional functional equations. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 4, 321–332. (Summary) **99a:39051** 39B05 (26A33, 34K30, 45J05)
— (*with* Gaafar, F. M.) Exact solution of linear differential equations of fractional order. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 181–189. (R. N. Kalia) **99b:34013** 34A25 (26A33, 34A05)
— On some basic properties and applications of the fractional calculus. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 247–259. (E. R. Love) **99m:26006** 26A33 (26A46)
— Nonlinear functional-differential equations of arbitrary orders. *Nonlinear Anal.* **33** (1998), *no.* 2, 181–186. (Anatoly Kilbas) **99g:34131** 34K05 (26A33)
— Fractional-order evolutionary integral equations. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 139–146. (Tamara G. Sukacheva) **99j:34117** 34K30 (34G10, 45J05, 47D06)
Elsayed, E. A. (*with* Shyur, Huan-Jyh; Luxhøj, James T.) A general model for accelerated life testing with time-dependent covariates. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 3, 303–321. 90B25 (62N05)
El-Sayed, M. A. (*with* Hamza, Alaa E.) Stability problem of some nonlinear difference equations. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 331–340. (Ulrich Krause) **99g:39016** 39A11 (39A10)
El-Sayed, Salah M. (*with* Ivanov, Ivan Ganchev; Petkov, Milko Georgiev) A new modification of the Rojo method for solving symmetric circulant five-diagonal systems of linear equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 35–44. (Summary) **99d:65089** 65F05 (65F50)
— (*with* Ivanov, Ivan Ganchev) Properties of positive definite solutions of the equation $X + A^*X^{-2}A = I$. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 303–316. (Summary) **99c:15019** 15A24
— (*with* Abdel-Aziz, Mohammedi R.) Sensitivity analysis of the largest dependent eigenvalue functions of eigensystems. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 103–110. (F. Szidarovszky) **99m:65065** 65F15 (65G05)
El-Sayed, Wagdy G. (*with* El-Sayed, Ahmed M. A.; Moustafa, Osama L.) On some fractional functional equations. (English summary) *Pure Math. Appl.* **6** (1995), *no.* 4, 321–332. (Summary) **99a:39051** 39B05 (26A33, 34K30, 45J05)
Elschner, J. (*with* Schmidt, Gunther) Numerical solution of optimal design problems for binary gratings. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 603–626. (Summary) **99i:78023** 78A45 (49Q99, 78–08)
— (*with* Schmidt, Gunther) Diffraction in periodic structures and optimal design of binary gratings. I. Direct problems and gradient formulas. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 14, 1297–1342. (Hideo Soga) **99j:78020** 78A45 (35J20, 65N30, 78–08)
Elser, S. (*with* Bunk, B.; Frezzotti, R.; Jansen, Karl) Ordering monomial factors of polynomials in the product representation. (English summary) *Comput. Phys. Comm.* **118** (1999), *no.* 2-3, 95–109. 81–08
Elser, V. (*with* Baake, Michael; Grimm, Uwe) The entropy of square-free words. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 13–26. (Valérie Berthé) **99d:68202** 68R15 (05A15)
El-Serbiny, H. M. (*with* Moustafa, K. A.) A reduction into less order disjoint subclasses of a two-dimensional class of nonlinear partial differential equations. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **24** (1995), *no.* 1, 13–30. (Anthony D. Osborne) **99c:35210** 35Q53 (35A30)
El-Shahat, Ismail A. Decentralized adaptive controller via an optimal cost function. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **25** (1998), *no.* 2, 379–387. 93C40 (49N10)
Elshahed, Mostafa (*with* Elshehawey, E. F.; Elbarbary, E. M. E.) Blood flow through a porous medium under periodic body acceleration. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 27–31. 92C35 (76Z05)
Elshehawey, E. F. (*with* Elbarbary, E. M. E.; Elshahed, Mostafa) Blood flow through a porous medium under periodic body acceleration. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 11, 27–31. 92C35 (76Z05)
Elsheikh, Mohamed G. (*with* Khalifa, M. E.; Gavdzinskiĭ, V. N.) The method of integral equation formulation and the unbounded solutions of elastic contact problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 33–39. (Summary) **99d:73083** 73T05 (45E05, 65R20)
— (*with* Radwan, Ahmed E.) Gravitohydrodynamic instability of a streaming fluid cylinder. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 81–98. (Summary) **99e:76052** 76E99
El-Sheikh, S. A. (*with* Kandil, Ali; Nouh, A. A.) Strong and ultra-separation axioms on fuzzy bitopological spaces. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 459–467. 54A40 (54E55)
Elshobaky, E. (*with* Faragallah, M.) Eigenvalue distribution of integral operators defined by Besov-Orlicz kernels. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 29–42 (*electronic*). (A. Pietsch) **99i:47092** 47G10 (45P05, 47B06)
— (*with* Faragallah, M.) Eigenvalue distribution of integral operators defined by Orlicz kernels. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 2, 1–6 (*electronic*). (A. Pietsch) **99k:47046** 47B06 (45P05, 47G10)
Elskens, Yves (*with* Firpo, Marie-Christine) Kinetic limit of N-body description of wave-particle self-consistent interaction. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 193–209. (Brigitte Lucquin) **99k:82074** 82D10
— (*with* Antoni, Mickaël; Escande, Dominique F.) Explicit reduction of N-body dynamics to self-consistent particle-wave interaction. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 841–852. (Summary) **99a:82092** 82D10 (70F10)
Elsner, Carsten A metric result concerning the approximation of real numbers by continued fractions. *Fibonacci Quart.* **36** (1998), *no.* 4, 290–294. (Wieb Bosma) **99m:11075** 11J04 (11J70, 11J83, 11K50)
— On arithmetic properties of the convergents of Euler's number. *Colloq. Math.* **79** (1999), *no.* 1, 133–145. (Christoph Baxa) **99k:11110** 11J70 (11J04)
— A universal functional equation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 139–143. (Michael F. Singer) **99b:34016** 34A34 (34K05)
Elsner, Ludwig (*with* Bhatia, Rajendra; Krause, Gerd M.) Spectral variation bounds for diagonalisable matrices. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 102–107. (J. M. Day) **99c:15028** 15A42
— (*with* Han, Lu; Koltracht, Israel; Neumann, Michael; Zippin, M.) On a polygon equality problem. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 67–75. (Michael Felten) **99d:41024** 41A17 (46C99)
— (*with* Hershkowitz, Daniel) Hadamard functions preserving nonnegative H-matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 13–19. (Gong Ning Chen) **99g:15028** 15A57 (15A48)
— (*with* Szulc, Tomasz) Block P-matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 1–12. (Summary) **99c:15044** 15A57
— (*with* Szulc, Tomasz) Convex combinations of matrices—nonsingularity and Schur stability chracterizations. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 301–312. (Summary) **99f:15028** 15A45
— *see also* **Bunse-Gerstner, Angelika**, **99m:01046** *and* **Special Issue: Celebrating the 60th birthday of Ludwig Elsner**
El Soufi, Ahmad (*with* Ilias, Saïd; Ros, Antonio) Sur la première valeur propre des tores. [On the first eigenvalue of the torus] *Séminaire de Théorie Spectrale et Géométrie, No. 15, Année* 1996–1997, 17–23, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Noureddine Rahmani) **99e:58192** 58G25
— (*with* Petit, Robert) Applications harmoniques, applications pluriharmoniques et existence de 2-formes parallèles non nulles. (English summary) [Harmonic and pluriharmonic maps and existence of nonzero parallel 2-forms] *Comment. Math. Helv.* **73** (1998), *no.* 1, 1–21. (Uwe Semmelmann) **99a:58044** 58E20 (53C55)

ter Elst, A. F. M. (*with* Robinson, Derek W.) Spectral estimates for positive Rockland operators. (English summary) *Algebraic groups and Lie groups*, 195–213, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (A. H. Dooley) **99m:22004** 22E30 (35H05, 35S99, 43A65, 47A60, 47B99, 58G03)
— (*with* Robinson, Derek W.; Sikora, Adam) Heat kernels and Riesz transforms on nilpotent Lie groups. (English summary) *Colloq. Math.* **74** (1997), *no.* 2, 191–218. (Dominique Manchon) **99a:35029** 35H05 (22E25, 35J30, 47F05)
— (*with* Robinson, Derek W.) Weighted subcoercive operators on Lie groups. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 88–163. (Vladimir V. Kisil) **99h:47055** 47F05 (22E99, 35H05, 47D06)
— (*with* Robinson, Derek W.) Local lower bounds on heat kernels. (English summary) *Positivity* **2** (1998), *no.* 2, 123–151. (Brian C. Hall) **99k:35036** 35J40 (22E30, 35K25, 47D06, 58G11)
Elster, K. H. (*with* Elster, R.) Optimization of c-orthogonal posynomials. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 71–105. (Summary) **99h:90087** 90C28 (90C15)
Elster, R. (*with* Elster, K. H.) Optimization of c-orthogonal posynomials. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 1, 71–105. (Summary) **99h:90087** 90C28 (90C15)
Elstrodt, Jürgen A quick proof of the prime number theorem for arithmetic progressions. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 521–530, *Brepols, Turnhout*, 1998. (Alessandro Zaccagnini) **99m:11102** 11N13 (11N05)
— Annotationes historicae. (German) *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 1, 23–24. (Štefan Porubský) **99f:01011** 01A55 (40–03)
El-Tahir, Ali (*with* Dirar, M.; Shaddad, M. H.) A generalized field cosmology. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 3025–3031. 83F05
Elton, J. (*with* Hill, Theodore P.) On the basic representation theorem for convex domination of measures. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 449–466. (O. Lipovan) **99k:28015** 28B15 (46G12)
abd-Eltwab, Y. A. *see* **Abd-Eltwab, Y. A.**
Elumalai, S. Farthest points in normed linear spaces. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 43–52. (Bor-Luh Lin) **99f:46020** 46B20 (41A65)
— (*with* Cho, Yeol Je; Kim, Seong Sik) Best approximation sets in linear 2-normed spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 619–629. (Ioan Şerb) **99j:46003** 46A19 (41A65, 46B99)
Èl'vov, M. V. Analysis of the convergence of a class of barrier-projective methods for solving linear programming problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1525–1533. (Summary) **99k:90097** 90C05
Elworthy, K. D. (*with* Li, Xue-Mei[2]) Differentiation of heat semigroups and applications. *Probability theory and mathematical statistics (Vilnius, 1993)*, 239–251, *TEV, Vilnius*, 1994. (Ming Liao) **99h:60117** 60H10 (58G32, 60J35)
— (*with* Li, Xue-Mei[2]) A class of integration by parts formulae in stochastic analysis. I. *Itô's stochastic calculus and probability theory*, 15–30, *Springer, Tokyo*, 1996. (Hélène Airault) **99e:60131** 60H10 (60H05)
— (*with* Brzeźniak, Zdzisław) Stochastic flows of diffeomorphisms. (English summary) *Stochastic analysis and applications (Powys, 1995)*, 107–138, *World Sci. Publishing, River Edge, NJ*, 1996. (Ming Liao) **99b:60077** 60H10 (58G32)
— (*with* Le Jan, Yves; Li, Xue-Mei[2]) Concerning the geometry of stochastic differential equations and stochastic flows. (English summary) *New trends in stochastic analysis (Charingworth, 1994)*, 107–131, *World Sci. Publishing, River Edge, NJ*, 1997. (Ming Liao) **99j:58226** 58G32 (60H10)
— (*with* Li, Xue-Mei[2]; Yor, Marc) On the tails of the supremum and the quadratic variation of strictly local martingales. *Séminaire de Probabilités, XXXI*, 113–125, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Jia Gang Wang) **99b:60057** 60G44
— Stochastic differential equations on manifolds. *Probability towards 2000 (New York, 1995)*, 165–178, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Anton Thalmaier) **99g:58131** 58G32 (60H10)
— (*with* Li, Xue-Mei[2]; Rosenberg, Steven) Bounded and L^2 harmonic forms on universal covers. *Geom. Funct. Anal.* **8** (1998), *no.* 2, 283–303. (Gilles Carron) **99d:58180** 58G32 (53C20, 58A14)
— *see also* **New trends in stochastic analysis, 99f:60003**
Ely, Jeffrey S. (*with* Leclerc, Anthony) Reliable collision detection for time-dependent parametric surfaces. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 331–344. (Summary) **99g:65061** 65G10 (65Y25)
El Yacoubi, N. (*with* Kemmoun, H.) J-diviseurs topologiques de zéro d'une algèbre de Jordan localement multiplicativement convexe. (English summary) [Topological J-divisors of zero of a locally multiplicatively convex Jordan algebra] *Afrika Mat.* (3) **9** (1998), 19–26. (Khristo N. Boyadzhiev) **99b:46072** 46H70 (17C99)
El Yacoubi, Samira (*with* El Jaï, Abdelhak; Karrakchou, Jamila) Spreadability and spray actuators. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 367–379. (Summary) **99e:93007** 93B05 (92D40, 93C30)
El-Yaniv, Ran (*with* Karp, Richard M.) Nearly optimal competitive online replacement policies. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 814–839. (A. A. K. Majumdar) **99f:90040** 90B25 (68Q25, 90D40)
— Competitive solutions for on-line financial problems. *Online algorithms (Schloss Dagstuhl, 1996)*, 326–372, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 90A09
El-Zahar, Mohamed H. (*with* Fateen, Lobna A.) On sphere orders. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 249–253. (Joseph Neggers) **99j:06001** 06A06
El-Zanati, S. I. (*with* Plantholt, M.; Vanden Eynden, C.) Graph decompositions into generalized cubes. (English summary) *Ars Combin.* **49** (1998), 237–247. (Summary) **99c:05150** 05C70
— (*with* Vanden Eynden, C.) Cycle factorizations of cycle products. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 267–275. (Summary) **99c:05112** 05C38 (05C70)
— (*with* Bryant, Darryn E.; Khodkar, A.) Small embeddings for partial G-designs when G is bipartite. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 86–90. (Summary) **99m:05017** 05B05 (05C38)
Emamirad, H. (*with* Holtz, R.) Coherent state vectors and entire groups on a Fréchet space. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 165–175, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Ioana Ciorănescu) **99d:47032** 47D06 (47N50, 81R30)
Embid, Pedro F. (*with* Majda, Andrew J.) Low Froude number limiting dynamics for stably stratified flow with small or finite Rossby numbers. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 1–50. (Summary) **99a:76156** 76V05 (76U05, 86A05, 86A10)
Embrechts, Paul (*with* Bassi, Franco; Kafetzaki, Maria) Risk management and quantile estimation. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 111–130, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 90A46 (62P05)
Emch, Gérard G. (*with* Adler, Stephen L.) A rejoinder on quaternionic projective representations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4758–4762. (Summary) **99c:81055** 81R05 (22E99)
— Beyond irreducibility and back. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 187–193. (Nicolaas P. Landsman) **99b:81058** 81Q50 (46L55, 46L87)
— On the need to adapt de Finetti's probability interpretation to QM. (English summary) *Quantum probability (Gdańsk, 1997)*, 157–166, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (M. J. Mączyński) **99i:81010** 81P05 (60A05)
— (*with* Peter, Ingo J.) Quantum Anosov flows: a new family of examples. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4513–4539. (Władysław Adam Majewski) **99i:46052** 46L55 (58F17, 81T20)
Emelichev, V. A. (*with* Girlich, Eberhard; Podkopaev, D. P.) On the stability of effective solutions of a vector trajectory problem of discrete optimization. I. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 5–16, 120, 122. (N. I. Yanev) **99b:90107** 90C29 (90C27, 90C31)
— (*with* Yanushkevich, O. A.) Pareto-optimality conditions in discrete vector optimization problems. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 153–160. (Florica Luban) **99c:90104** 90C29 (90C27)
— (*with* Berdysheva, R. A.) Stability of linear trajectory problems of lexicographic optimization. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 83–88, 188; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 524–529 (1998). (From the text) **99c:90080** 90C10 (90C31)
— (*with* Podkopaev, D. P.) On conditions for the quasistability of the Pareto set of a vector problem on a system of subsets. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 39–41, 76. 90C29 (90C31)
— (*with* Efimchik, N. E.) On an efficient algorithm that solves the problem of the allocation of medians and centers in a graph in a typical case. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 117–120, 143. (Valentin E. Brimkov) **99k:05148** 05C85 (05C12, 68R10)
— (*with* Mel'nikov, O. I.; Sarvanov, V.; Tyshkevich, Regina I.; Zverovich, Igor E.) ★ Exercises in graph theory. (English summary) Translated from the Russian by Nikolai Korneenko. Kluwer Texts in the Mathematical Sciences, 19. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *viii+354 pp. ISBN* 0-7923-4906-7 (From the introduction) **99c:05001** 05–01
— (*with* Berdysheva, R. A.; Girlich, Eberhard) Stability, pseudostability and quasistability of vector trajectorial lexicographic optimization problem. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 35–56. (Yuri Nazarovich Sotskov) **99j:90089** 90C31 (90C27, 90C29)
— (*with* Berdysheva, R. A.) On the radii of stability, quasistability and steadiness of a vector trajectory problem of lexicographic optimization. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 1, 20–27; *translation in Discrete Math. Appl.* **8** (1998), *no.* 2, 135–142. (Johannes Terno) **99m:90113** 90C27
— (*with* Berdysheva, R. A.) Some forms of stability of a combinatorial problem of lexicographic optimization. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 11–21. (Johannes Terno) **99k:90126** 90C27 (90C31)
— (*with* Kravtsov, M. K.; Podkopaev, D. P.) On the quasistability of trajectory problems of vector optimization. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 21–27; *translation in Math. Notes* **63** (1998), *no.* 1-2, 19–24. (Summary) **99c:90105** 90C29 (90C31)
— (*with* Berdysheva, R. A.) On the stability radius of the lexicographic optimum of a vector trajectory problem. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 1, 43–46, 77. (Summary) **99m:90121** 90C29 (90C27, 90C31)
— (*with* Podkopaev, D. P.) On a quantitative measure of the stability of a vector problem of integer programming. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1801–1805; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1727–1731. (Valentin E. Brimkov) **99m:90102a** 90C10 (90C31)
— (*with* Podkopaev, D. P.) Corrections to: "On a quantitative measure of the stability of a vector problem of integer programming". (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 3, 544. (Valentin E. Brimkov) **99m:90102b** 90C10 (90C31)
Emelin, D. S. (*with* Golubkin, V. N.) Optimization of the shape of a short-span wing in a hypersonic gas flow taking into account laminar-turbulent transition in the boundary layer. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1592–1601. (Summary) **99k:76089** 76K05 (76M25)
Emel'yanenko, G. A. (*with* Sanikidze, D. G.; Khubedzhashvili, Sh. S.; Mirianashvili, M. G.; Machavariani, A. I.) On a numerical solution of Lippman-Schwinger singular integral equations. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 261–263 (1991). 65R20
Emel'yanov, Èduard Yu. Banach lattices on which every power-bounded operator is mean ergodic. (English summary) *Positivity* **1** (1997), *no.* 4, 291–295. (Radu Zaharopol) **99k:47019** 47A35 (46B42, 47B60)
Emel'yanov, S. V. (*with* Korovin, S. K.; Bobylev, N. A.) On the robustness of stable dynamical systems. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 449–451. (János Karsai) **99e:34067** 34D20 (34D30)
— (*with* Burovoi, I. A.; Levada, F. Yu.) ★ Control of indefinite nonlinear dynamic systems. (English summary) Induced internal feedback. Translated from the Russian by P. S. Ivanov. Lecture Notes in Control and Information Sciences, 231. *Springer-Verlag London, Ltd., London*, 1998. xvi+196 *pp. ISBN* 3-540-76245-0 (Engin Yaz) **99a:93040** 93B51 (93–02, 93A30, 93C10)

— (*with* Bobylev, N. A.; Korovin, S. K.) Estimates for perturbations of stable matrices. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 15–24; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 467–475. (Introduction) **99j:93074** 93D09 (15A42, 34D10)

Emel'yanova, I. S. A case of the solution of the Hess problem in trigonometric functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 10–15; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 3, 7–12. (Gennady Victorovich Gorr) **99h:70011** 70E15

Emerald, J. D. (*with* Subramanian, K. G.) A note on Polly Cracker public-key cryptosystems. (English summary) *Graph theory and its applications (Tirunelveli*, 1996), 63–69, *Tata McGraw-Hill, New Delhi*, 1997. (Xiu Yuan Yu) **99e:94035** 94A60 (05C90, 94C15)

— (*with* Subramanian, K. G.; Thomas, Durairaj Ginanaraj) Learning a subclass of context-free languages. (English summary) *Grammatical inference (Ames, IA*, 1998), 223–231, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45)

Emerson, D. R. *see* **Parallel computational fluid dynamics, 99d:76002**

Emerson, E. Allen (*with* Namjoshi, Kedar S.) On model checking for non-deterministic infinite-state systems. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN*, 1998), 70–80, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60

Emerson, William R. (*with* Cowen, Robert H.) On finding k_4 ($k_3 \leq x$). (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 26–30. (*see* **99h:05003**) 05C35

Emert, John W. (*with* Nelson, Roger) Volume and surface area for polyhedra and polytopes. *Math. Mag.* **70** (1997), *no.* 5, 365–371. (Daniel Hug) **99a:52007** 52A38 (51M20)

— (*with* Bagga, Jay S.; McGrew, J. Michael) Directed polygon visibility graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 61–67. (Summary) **99j:05079** 05C20

Émery, M. Closed sets supporting a continuous divergent martingale. *Séminaire de Probabilités, XXXI*, 176–189, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (From the text) **99b:60058** 60G44

— (*with* Yor, Marc) Sur un théorème de Tsirelson relatif à des mouvements browniens corrélés et à la nullité de certains temps locaux. [On a theorem of Tsirelson concerning correlated Brownian motions and the nullity of certain local times] *Séminaire de Probabilités, XXXII*, 306–312, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Paul McGill) **99j:60119** 60J65 (60J55)

— *see also* **Seminar: Probability Theory, 99f:60006**

Emery, Stephen J. Varieties and pseudovarieties of ordered normal bands. (English summary) *Semigroup Forum* **58** (1999), *no.* 3, 348–366. (Pascal Weil) **99m:20137** 20M07 (06F05, 08B15)

Emets, V. F. (*with* Kit, H. S.; Kunets, Ya. I.) Elastodynamic scattering from a thin-walled inclusion of low rigidity. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 3, 331–345. 73D25

Èminov, S. I. (*with* Nefedov, E. I.; Radtsig, Yu. Yu.) The phenomenon of fast convergence of the Galerkin method in diffraction theory. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 621–624; *translation in Dokl. Phys.* **43** (1998), *no.* 4, 225–228. 65M70 (78–08, 78A45)

Èminyan, K. M. On a binary problem. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 634–637; *translation in Math. Notes* **60** (1996), *no.* 3-4, 478–481 (1997). (Eugene M. Matveev) **99f:11138** 11P83 (11A63)

Emiris, Ioannis Z. (*with* Pan, Victor Y.) Techniques for exploiting structure in matrix formulae of the sparse resultant. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 353–369 (1998). (A. Sinan Sertöz) **99g:65059** 65F50 (13P10, 65D99, 65Y99)

— (*with* Brönnimann, Hervé; Pan, Victor Y.; Pion, Sylvain) Sign determination in residue number systems. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 173–197. (Summary) **99h:68094** 68Q40 (68U05)

Emmanouil, Ioannis Solvable groups and Bass' conjecture. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 283–287. (Vitaly A. Roman'kov) **99h:19002** 19A31 (15A99, 20F16)

Emmanuele, G. (*with* Hensgen, W.) Property (V) of Pełczyński in projective tensor products. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 227–231. (Dirk Werner) **99k:46014** 46B03 (46M05)

— (*with* Rao, T. S. S. R. K.) Spaces of Bochner integrable functions and spaces of representable operators as $\mathcal{U}$-ideals. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 467–478. (Henryk Hudzik) **99a:46066** 46E40 (46B20, 46B28, 47B60)

Emmerich, Frank Equidistribution properties of compound inversive pseudorandom vectors. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 16–28. (Francesco Fabris) **99b:11087** 11K45 (65C10)

Emmerich, Heike (*with* Nagatani, Takashi; Nakanishi, Ken) From modified KdV-equation to a second-order cellular automaton for traffic flow. (English summary) *Phys. A* **254** (1998), *no.* 3-4, 548–556. (Summary) **99h:90046** 90B20

Emms, Martin Models for polymorphic Lambek calculus. (English summary) *Logical aspects of computational linguistics (Nancy*, 1996), 168–187, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65 (68S05)

— (*with* Leiß, Hans) Extending the type checker of Standard ML by polymorphic recursion. (English summary) Gentzen (Rome, 1996). *Theoret. Comput. Sci.* **212** (1999), *no.* 1-2, 157–181. (Summary) **99j:68009** 68N15

Emparan, Roberto Black holes as fundamental strings: comparing the absorption of scalars. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3591–3599. (Summary) **99d:83093** 83E30 (81T30, 83C57)

— Absorption of scalars by extended objects. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 297–314. (Summary) **99b:83070** 83E30 (81T30)

— AdS membranes wrapped on surfaces of arbitrary genus. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 74–82. (Summary) **99e:83055** 83E30 (81T30, 83E50)

— (*with* Chamblin, Andrew; Gibbons, Gary W.) Superconducting p-branes and extremal black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084009, 11 *pp.* (Summary) **99m:83183** 83E30 (83C57, 83E15)

— (*with* Chamblin, Andrew; Ashbourn-Chamblin, J. M. A.; Sornborger, A.) Can extreme black holes have (long) abelian Higgs hair? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124014, 11 *pp.* 83C57

— (*with* Sachs, Ivo) Quantization of AdS_3 black holes in external fields: semiclassical results from pure gravity. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 12, 2408–2411. (Summary) **99d:83056** 83C57 (83C45)

— (*with* Chamblin, Andrew; Johnson, Clifford V.; Myers, Robert C.) Large N phases, gravitational instantons, and the nuts and bolts of AdS holography. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064010, 9 *pp.* (Summary) **99m:83067** 83C45 (81T40, 83E30)

Emsalem, Michel (*with* Dèbes, Pierre) On fields of moduli of curves. (English summary) *J. Algebra* **211** (1999), *no.* 1, 42–56. (Helmut Völklein) **99k:14044** 14H25 (14H30)

Emson, C. R. I. (*with* Bryant, C. F.; Simkin, J.; Trowbridge, C. W.; Nitta, K.) A comparison of Lorentz and Coulomb gauges in the solution of Maxwell's equations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford*, 1995), 301–312, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78002** 78–08 (78A25)

En, Tei Smoothness of wavelet and joint spectral radius. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 2, 241–256. (Lars F. Villemoes) **99h:42058** 42C15 (39A10)

Enagonio, Janice (*with* Montgomery, Michael T.) Tropical cyclogenesis via convectively forced vortex Rossby waves in a three-dimensional quasigeostrophic model. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 20, 3176–3207. (Summary) **99f:86004** 86A10 (76C20)

Enami, Ken'ichi (*with* Tanabe, Kosai; Yoshinaga, Naotaka) Angular momentum- and particle number-projections from cranking HFB self-consistent solution. *Symmetries in science, X (Bregenz*, 1997), 421–433, *Plenum, New York*, 1998. (*see* **99f:81004**) 81R05

Enatskaya, N. Yu. (*with* Khakimullin, E. R.) The limit distribution of the numbers of empty cells in the scheme of allocating grouped particles to grouped cells. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk*, 1996), 189–198, *VSP, Utrecht*, 1997. (Summary) **99g:60015** 60C05 (60F05)

Encarnación, Mark J. An efficient method for computing resultant systems. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 243–245. (Thomas Garrity) **99i:13037** 13P99

Enchev, Ognian B. White noise indexed by loops. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 985–999. (Rémi Léandre) **99g:60076** 60G15 (60B99)

Encheva, Sylvia B. (*with* Jensen, Helge Elbrønd) Optimal binary linear codes and Z_4-linearity. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1216–1222. (Summary) **99c:94040** 94B05

— On repeated-root cyclic codes and the two-way chain condition. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse*, 1997), 78–87, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94053** 94B15

Encinas, A. M. (*with* Bendito, E.; Carmona, Angeles) Some applications of potential theory. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 1045–1050, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 31C99 (78A30)

— (*with* Bendito, E.; Carmona, Angeles) Optimization of parameters associated with an interconnection network. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 1051–1056, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 90C35

Encinas, L. Hernández *see* **Hernández Encinas, Luis**

hernández Encinas, Luis *see* **Hernández Encinas, Luis**

Encinas, S. (*with* Villamayor U., Orlando E.) Good points and constructive resolution of singularities. *Acta Math.* **181** (1998), *no.* 1, 109–158. (Herwig Hauser) **99i:14020** 14E15

Endean, Geoffrey A note on Tauber's expanding universe in conformally flat coordinates. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1551–1554. (János Kánnár) **99a:83012** 83C15 (83C20)

Enderton, H. B. Alonzo Church and the reviews. *Bull. Symbolic Logic* **4** (1998), *no.* 2, 172–180. (John W. Dawson, Jr.) **99e:01024** 01A70 (01A74, 03–03)

Endimioni, Gérard On the nilpotent length of polycyclic groups. (English summary) *J. Algebra* **203** (1998), *no.* 1, 125–133. (A. H. Rhemtulla) **99g:20064** 20F16 (20E26)

Endo, Hiroshi Invariant submanifolds and their second fundamental forms. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 9–21. (Domingo Chinea) **99k:53052** 53C15

Endo, Hisaaki A construction of surface bundles over surfaces with non-zero signature. *Osaka J. Math.* **35** (1998), *no.* 4, 915–930. (Alexey N. Rudakov) **99m:55017** 55R10 (57R22)

Endo, Rika (*with* Kuriki, Rie; Sugamoto, Akio; Nojiri, Shin'ichi) A rule of thumb derivation of Born-Infeld action for D-branes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1309–1317. (Summary) **99c:81179** 81T30

Endow, Yasushi Gibbs differentiations of p-adic harmonizable processes and their applications to linear p-adic systems. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 41–50. (P. A. Morettin) **99g:60073** 60G10

Endrass, S. A projective surface of degree eight with 168 nodes. *J. Algebraic Geom.* **6** (1997), *no.* 2, 325–334. (Thomas A. Schmidt) **99a:14047** 14J17 (14J25, 14N05)

Endresen, Lars Petter (*with* Myrheim, Jan) A formula for steplength control in numerical integration. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 263–264. (Summary) **99b:65023** 65D30

Ene, Cristian A decidability question concerning length-increasing grammars. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **46** (1994), *no.* 4, 449–455. 68Q45

— (*with* Ţiplea, Ferucio Laurenţiu; Procopiuc, Octavian; Procopiuc, Cecilia-Magdalena) On the power and complexity of parallel communicating grammar systems. (English summary) *Artificial life: grammatical models (Mangalia*, 1994), 53–78, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (68Q05)

— (*with* Ţiplea, Ferucio Laurenţiu) Hierarchies of Petri net languages and a super-normal form. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 3, 187–204. (Anna Bagyinszkiné-Orosz) **99a:68113** 68Q45 (68Q90)

Ene, H. I. (*with* Mascarenhas, M. L.; Saint Jean Paulin, Jeannine) Fading memory effects in elastic-viscoelastic composites. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 7, 927–952. (Gérard Michaille) **99f:73005** 73B27 (73F15, 73K20)

Ene, Vasile Equivalent forms of a result of Malý, Preiss and Zajíček. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 47–50. (Luděk Zajíček) **99j:28004** 28A15 (26A24)

— On a theorem of Lee and Chew. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 1, 51–58. (Yôto Kubota) **99b:26012** 26A39 (26A45)

— Convergence and approximate differentiation. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 141–160. (Cheng-Ming Lee) **99i:26006** 26A24 (26A39)

— An elementary proof of the Banach-Zarecki theorem. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 295–301. (Summary) **99c:26007** 26A45 (26A46, 26A48)

— On the decomposition theorems of Lebesgue and Jordan. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 313–324. (B. K. Lahiri) **99g:26022** 26A45 (26A46, 28A20)

— Lusin's condition (N) and Foran's condition (M) are equivalent for Borel functions that are VBG on a Borel set. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 477–489. (James Foran) **99g:26023** 26A45

— Hake-Alexandroff-Looman type theorems. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 491–524. (J. Jarnik) **99g:26020** 26A39

— Characterizations of $VB^*G \cap (N)$. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 571–599. (Frank N. Huggins) **99g:26024** 26A45 (26A46)

— Characterizations of $VBG \cap (N)$. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 611–630. (Frank N. Huggins) **99g:26025** 26A45 (26A46)

— The wide Denjoy integral as the limit of a sequence of stepfunctions in a suitable convergence. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 719–734. (Summary) **99d:26012** 26A39

— *see also* **Obituary: Ene, Vasil**

Ene, Viviana Cohen-Macaulay modules over rings of type $k[x, y]/(x^t + y^3)$. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 23–37. (Santiago Zarzuela Armengou) **99b:13018** 13C14 (13D10, 13H10)

— Infinitesimal deformations of modules over $k[x]/(x^t)$. *Comm. Algebra* **26** (1998), *no.* 3, 825–838. (Gerhard Pfister) **99c:13023** 13C14

Enea, Maria Rosaria (*with* Korchmáros, Gábor) $\mathcal{J}$-transitive ovals in projective planes of odd order. (English summary) *J. Algebra* **208** (1998), *no.* 2, 604–618. (William Cherowitzo) **99j:51009** 51E21 (51A35)

Enelund, Mikael (*with* Olsson, Peter) Damping described by fading memory—analysis and application to fractional derivative models. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 7, 939–970. (Summary) **99h:73038** 73F15

Eng, Tony L. Linear DNA self-assembly with hairpins generates linear context-free grammars. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 289–296, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05 (68Q50, 92D20)

Engdahl, Karin (*with* Zigangirov, Kamil Sh.) On the calculation of the error probability for a multilevel modulation scheme using QAM-signaling. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1612–1620. 94B12

Enge, Andreas (*with* Huhn, Petra) A counterexample to H. Arsham's "Initializtion of the simplex algorithm: an artificial-free approach" [SIAM Rev. **39** (1997), no. 4, 736–744; MR 98i:90051]. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 6 *pp.* (*electronic*). 90C05 (68Q25)

Enge, Ole Quasitilted triangular algebras. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 167–182, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Lidia Angeleri Hügel) **99m:16018** 16G20

Engebretsen, Lars (*with* Andersson, Gunnar) Better approximation algorithms for Set Splitting and Not-All-Equal Sat. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 6, 305–311. (Summary) **99a:90215** 90C34 (68Q25)

Engel, Friedrich *see* **Killing, Wilhelm, 99e:01017**

Engel, Klaus-J. Operator matrices and systems of evolution equations. (English summary) Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 61–80. (Eugenio Sinestrari) **99a:34161** 34G10 (34K30, 35L99, 47D06, 47N20)

— Positivity and stability for one-sided coupled operator matrices. (English summary) *Positivity* **1** (1997), *no.* 2, 103–124. (Paolo Acquistapace) **99k:47087** 47D06 (34G10, 34K20, 34K30, 47B65)

— On the characterization of admissible control- and observation operators. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 225–227. (Summary) **99d:93007** 93B07 (93B25)

— Spectral theory and generator property for one-sided coupled operator matrices. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 267–295. (Paolo Acquistapace) **99k:47088** 47D06 (34G10, 34K30, 35L05, 47A10, 47N20)

Engelberg, S. The stability of the shock profiles of the Burgers' equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 97–101. 35Q53 (76L05)

Engelborghs, Koen (*with* Luzyanina, Tatyana; Lust, Kurt; Roose, Dirk) Computation, continuation and bifurcation analysis of periodic solutions of delay differential equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2547–2560. (Summary) **99b:34117** 34K15 (34C23, 34C25, 65F30)

— (*with* Roose, Dirk; Luzyanina, Tatyana) Bifurcation analysis of periodic solutions of neutral functional-differential equations: a case study. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 10, 1889–1905. (Summary) **99j:34097** 34K15 (34C23, 34C25, 34K40, 65L99)

Engelbrecht, Jüri (*with* Salupere, Andrus; Peipman, Tõnu; Maugin, Gérard A.) Spectral analysis of soliton formation. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 216–222, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 65M70 (35Q53)

Engelbrecht-Wiggans, Richard (*with* Kahn, Charles M.) Multi-unit pay-your-bid auctions with variable awards. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 25–42. (Summary) **99a:90082** 90A60

Engelfriet, J. *see* **Engelfriet, Joost**

Engelfriet, Joeri (*with* Herre, Heinrich) Generated models and extensions of nonmonotonic systems. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 85–99, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68018** 68N17 (03B70, 68Q55)

— Monotonicity and persistence in preferential logics. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 1–21 (*electronic*). (Summary) **99c:03040** 03B60 (03B35, 03B70, 68T27)

Engelfriet, Joost Context-free graph grammars. (English summary) *Handbook of formal languages, Vol. 3*, 125–213, *Springer, Berlin*, 1997. (K. G. Subramanian) **99c:68161** 68Q50 (03D05, 68R10)

— (*with* Rozenberg, Grzegorz) Node replacement graph grammars. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 1–94, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C85, 68Q10, 68R10)

— (*with* Gelsema, Tjalling) Axioms for generalized graphs, illustrated by a Cantor-Bernstein proposition. (English summary) *Acta Inform.* **35** (1998), *no.* 12, 1075–1096. (Summary) **99m:68150** 68R10 (05C60)

Engelhardt, Christoph (*with* Koch, Richard) Closed space curves of constant curvature consisting of arcs of circular helices. (English summary) *J. Geom. Graph.* **2** (1998), *no.* 1, 17–31. (Hellmuth Stachel) **99m:53006** 53A04

Engelking, R. *see* **Menger, Karl, 99j:01028**

Engels, Daniel W. (*with* Karger, David R.; Kolliopoulos, Stavros G.; Sengupta, Sudipta[2]; Uma, R. N.; Wein, Joel) Techniques for scheduling with rejection. (English summary) *Algorithms—ESA '98* (*Venice*), 490–501, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90B35

Engels, Gregor (*with* Andries, Marc; Habel, Annegret; Hoffmann, Berthold; Kreowski, Hans-Jörg; Kuske, Sabine; Plump, Detlef; Schürr, Andy; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

argamon-Engelson, Shlomo *see* **Argamon-Engelson, Shlomo**

Engibaryan, B. N. Application of multiple factorization to a homogeneous convolution equation. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 38–48; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 33–43. (N. K. Karapetyants) **99h:45005** 45E10 (47A68, 47G10)

Engibaryan, N. B. (*with* Gevorkyan, Gegham) New theorems for the integral renewal equation. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 5–20; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 2–16. (Summary) **99e:45002** 45E10 (60K05)

— (*with* Khachatryan, A. Kh.) On some integrable equations of convolution type in kinetic theory. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 466–482; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 452–467. (D. A. Shulaia) **99d:45004** 45E10 (76P05, 82C40)

Engineer, J. C. (*with* King, John Robert; Tew, R. H.) Diffraction by slender bodies. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 129–158. (John A. DeSanto) **99e:76104** 76Q05 (78A45)

Enginer, Y. (*with* Hortascu, M.; Kaya, Rüstem; Özdemir, N.; Ülker, K.; Yapiskan, B.) Quantum fluctuations of some gravitational waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1029–1048. 83C35 (83C47)

Engl, Heinz W. ★ Inverse problems. (Spanish summary) With an introduction in Spanish by Roberto Martínez Villa. Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 8. *Sociedad Matemática Mexicana, México*, 1995. *vi*+87 *pp. ISBN* 968-36-4844-4 (Julio Guacaneme Dix) **99i:00002** 00A05 (47A50, 65J20)

— (*with* Kaltenbacher, Barbara) Regularization methods for nonlinear ill-posed problems with applications to phase reconstruction. *Inverse problems in medical imaging and nondestructive testing* (*Oberwolfach*, 1996), 17–35, *Springer, Vienna*, 1997. (V. V. Vasin) **99g:65070** 65J20

— (*with* Deuflhard, Peter; Scherzer, Otmar) A convergence analysis of iterative methods for the solution of nonlinear ill-posed problems under affinely invariant conditions. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1081–1106. (Andreas Rieder) **99j:65105** 65J20 (35R25, 47H17)

— (*with* Stangl, C.) Existence and uniqueness of solutions of the equilibrium equations for a class of nonlinearly elastic materials. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 7, 467–481. (Massimo Lanza de Cristoforis) **99h:73019** 73C50 (35J99, 35Q72)

— (*with* Burger, Martin; Capasso, Vincenzo) Inverse problems related to crystallization of polymers. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 155–173. (Summary) **99j:80001** 80–08 (35R30, 80A22)

England, A. H. (*with* Gregory, P. W.) Finite lateral compression of an elastic-plastic fibre-reinforced tube: loading solutions. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 371–395. (Summary) **99j:73028** 73C50 (73G20, 73K20)

Engle, Robert F. (*with* Russell, Jeffrey R.) Autoregressive conditional duration: a new model for irregularly spaced transaction data. (English summary) *Econometrica* **66** (1998), *no.* 5, 1127–1162. 62M10 (62P20)

Engler, Antonio José Totally real rigid elements and Galois theory. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1189–1208. (Chr. U. Jensen) **99k:12005** 12F10 (12D15)

Englert, Berthold-Georg Classical analogs of unitarily equivalent Hamilton operators. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 375–384. (Summary) **99i:81125** 81S30 (81Q99)

Englert, François (*with* Houart, Laurent; Windey, Paul) Thermodynamics of black holes in presence of string instantons. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 228–231, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57 (83E30)

— (*with* Rabinovici, Eliezer) Statistical entropy of Schwarzschild black holes. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 269–274. (Summary) **99b:83049** 83C57 (83E30)

— (*with* Argurio, Riccardo; Houart, Laurent) Statistical entropy of the four-dimensional Schwarzschild black hole. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 275–281. (Summary) **99c:83044** 83C57 (83E30)

Engliš, Miroslav (*with* Peetre, Jaak) Green's functions for powers of the invariant Laplacian. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 40–73. (Peter A. McCoy) **99c:58146** 58G03 (32M15, 33E30, 35C15, 35J40)

— Invariant operators and the Berezin transform on Cartan domains. (English summary) *Math. Nachr.* **195** (1998), 61–75. (Jonathan Arazy) **99m:47035** 47B38 (32A37, 32M15, 33C80)

English, Burton C. (*with* Bhat, Mahadev G.; Alexander, Robert R.) Toward controlling nonpoint source pollution of groundwater: a hierarchical policy formulation game. (English summary) *Natur. Resource Modeling* **11** (1998), *no.* 4, 379–403. 90D40

Engman, Martin Trace formulae for S^1 invariant Green's operators on S^2. (English summary) *Manuscripta Math.* **93** (1997), *no.* 3, 357–368. (Summary) **99c:58160** 58G25

— Sharp bounds for eigenvalues and multiplicities on surfaces of revolution. (English summary) *Pacific J. Math.* **186** (1998), *no.* 1, 29–37. (Man Chun Leung) **99m:58193** 58G25 (34L40, 53A05, 58G03)

Engquist, Björn (*with* E, Weinan) Blowup of solutions of the unsteady Prandtl's equation. (English summary) *Comm. Pure Appl. Math.* **50** (1997), *no.* 12, 1287–1293. (Sergey Nikolaevich Alekseenko) **99c:35196** 35Q35 (35B35, 76D10)

— (*with* Luo, Erding) Convergence of a multigrid method for elliptic equations with highly oscillatory coefficients. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2254–2273. (Charles I. Goldstein) **99e:65170** 65N55 (65N12)

— (*with* Zhao, Hong-Kai) Absorbing boundary conditions for domain decomposition. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 315–324, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 65M55 (65N55)

— (*with* Zhao, Hong-Kai) Absorbing boundary conditions for domain decomposition. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 341–365. (Petr N. Vabishchevich) **99j:65228** 65N55

— Wavelet based numerical homogenization. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 503–512 (*electronic*). (Andreas Rieder) **99h:65076** 65F30 (42C15, 65N99, 65T99)

— (*with* Dorobantu, Mihai) Wavelet-based numerical homogenization. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 540–559 (*electronic*). (Summary) **99a:65183** 65N99

— (*with* Sjögreen, Björn) The convergence rate of finite difference schemes in the presence of shocks. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2464–2485 (*electronic*). (Gholam-Ali Zakeri) **99k:65080** 65M12 (76L05, 76M20)

Engwerda, Jacob C. On the open-loop Nash equilibrium in LQ-games. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 5, 729–762. (Han Sheng Wu) **99e:90122** 90D25 (34H05, 49K35, 90D10)

van Enk, S. (*with* Cirac, J. I.; Zoller, Peter; Kimble, H. J.; Mabuchi, H.) Transmission of quantum information in a quantum network: a quantum optical implementation. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 689–695. (Summary) **99k:81042** 81P99 (81V80)

Enkhbat, Rentsen An optimality condition for the minimization problem of a convex function over an arbitrary set. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 26–28. 90C25

— (*with* Kamada, Masaru; Bazarsad, Yadam) Finite algorithm for maximizing convex quadratic functions over compact set. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 29–40. 90C20 (90C25)

Ennes, Isabel P. (*with* Naculich, Stephen G.; Rhedin, Henric; Schnitzer, Howard J.) One-instanton predictions for non-hyperelliptic curves derived from M-theory. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 245–257. (Summary) **99h:81207** 81T60 (14H45, 81T13)

Enni, Steffen A note on mixed graphs and directed splitting off. (English summary) *J. Graph Theory* **27** (1998), *no.* 4, 213–221. (C. St. J. A. Nash-Williams) **99c:05077** 05C20 (05C40)

Enns, Dale (*with* Morton, Blaise; Zhang, Bing-Yu) Stability of dynamic inversion control laws applied to nonlinear aircraft pitch-axis models. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 1–25. 93D05 (93C95)

Enochs, Edgar E. (*with* García Rozas, J. R.) Gorenstein injective and projective complexes. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1657–1674. (Jan Trlifaj) **99i:16016** 16E10 (13D25, 18G05)

— (*with* Jenda, Overtoun M. G.) Gorenstein injective modules over Gorenstein rings. *Comm. Algebra* **26** (1998), *no.* 11, 3489–3496. (John Clark) **99h:16011** 16E30 (16D50, 16P40)

— (*with* García Rozas, J. R.) Flat covers of complexes. (English summary) *J. Algebra* **210** (1998), *no.* 1, 86–102. (Hans-Bjørn Foxby) **99m:13028** 13D25 (16E99)

— (*with* Jenda, Overtoun M. G.) Coliftings and Gorenstein injective modules. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 241–254. (John Clark) **99g:13031** 13H10 (13C11, 13E05)

Enock, Michel Inclusions irréductibles de facteurs et unitaires multiplicatifs. II. (English summary) [Irreducible inclusions of factors and multiplicative unitaries. II] *J. Funct. Anal.* **154** (1998), *no.* 1, 67–109. (Alexander Isaakovich Shtern) **99e:46078** 46L37 (16W30, 46L55)

Enoki, Ichiro Generalizations of Albanese mappings for non-Kähler manifolds. *Geometry and analysis on complex manifolds*, 51–62, *World Sci. Publishing, River Edge, NJ*, 1994. (G. K. Sankaran) **99b:32044** 32J18 (32C10)

Ėnol'skiĭ, V. Z. (*with* Bukhshtaber, V. M.; Leĭkin, D. V.) A recursive family of differential polynomials generated by the Sylvester identity, and addition theorems for hyperelliptic Klein functions. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 19–33, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 240–251 (1998). (Iskander A. Taimanov) **99f:33025** 33E05

— (*with* Belokolos, E. D.; Korostil, A. M.) Two-phase nonlinear waves in the long Josephson junction. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 253–269. (Summary) **99a:35247** 35Q60 (78A55, 82D55)

Enomoto, Hikoe (*with* Oda, Yoshiaki; Ota, Katsuhiro) Pyramidal tours with step-backs and the asymmetric traveling salesman problem. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 57–65. (Summary) **99g:90095** 90C27 (68Q25)

— Toughness and the existence of k-factors. III. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 277–282. (Summary) **99g:05138** 05C70

— (*with* Llado, Anna S.; Nakamigawa, Tomoki; Ringel, Gerhard) Super edge-magic graphs. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 105–109. (Summary) **99h:05102** 05C78

— (*with* Ota, Katsuhiro) Connected subgraphs with small degree sums in 3-connected planar graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 191–203. (M. E. Watkins) **99k:05089** 05C35 (05C40)

Enomoto, Kazuyuki Surfaces of finite total curvature. Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 75–79. (Christos Baikoussis) **99d:53006** 53A05

Enomoto, Masatoshi (*with* Watatani, Yasuo) Spectra and chromatic numbers of infinite graphs. *Kyushu J. Math.* **49** (1995), *no.* 2, 429–434. (Bojan Mohar) **99a:05098** 05C50 (05C15, 47A10)

— Commutation relations and related topics. (English summary) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 135–140. (*see* **99i:00029**) 46L50

Enomoto, Takeshi (*with* Matsuda, Yoshihisa) Behavior of Rossby waves at a critical latitude. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 102–112. (*see* **99f:76003**) 76C20

Enomoto, Yoshihisa (*with* Sekimura, Toshio) On the shape problems of vesicles of lipid bilayers. (English summary) *Forma* **12** (1997), *no.* 1, 1–14. (H. W. Vayo) **99e:92009** 92C10 (73P20, 76Z99, 92C40)

Enrich, Heber (*with* Catsigeras, Eleonora) Homoclinic tangencies near cascades of period doubling bifurcations. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 3, 255–299. (Alexander Loskutov) **99j:58147** 58F14 (58F15)

— A heteroclinic bifurcation of Anosov diffeomorphisms. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 567–608. (Eleonora Catsigeras) **99g:58074** 58F11 (58F14)

Enright, Thomas J. (*with* Wallach, Nolan R.) Embeddings of unitary highest weight representations and generalized Dirac operators. *Math. Ann.* **307** (1997), *no.* 4, 627–646. (From the introduction) **99k:22019** 22E45 (22E47, 22E70, 58G03)

Enright, W. H. (*with* Hayashi, Hiroshi[2]) Convergence analysis of the solution of retarded and neutral delay differential equations by continuous numerical methods. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 572–585 (*electronic*). (Ming Zhu Liu) **99h:65127** 65L06 (34K99)

Enriques, Federigo *see* **Gario, Paola**, **99h:01027** *and* **Israel, Giorgio**, **99k:01023**

echeverría-Enríquez, Arturo *see* **Echeverría-Enríquez, Arturo**

Enriquez, Benjamin (*with* Feĭgin, B. L.) Integrals of motion of classical lattice sine-Gordon system. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 507–528; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 738–756. (Naihuan Jing) **99e:58095** 58F07 (17B37)

— (*with* Rubtsov, Vladimir) Quantum groups in higher genus and Drinfeld's new realizations method ($\mathfrak{sl}_2$ case). (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **30** (1997), *no.* 6, 821–846. (Stanislav Z. Pakuliak) **99b:17011** 17B37 (17B68, 22E65)

— (*with* Felder, Giovanni) Elliptic quantum groups $E_{\tau,\eta}(\mathfrak{sl}_2)$ and quasi-Hopf algebras. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 651–689. (Andrew Pressley) **99m:17017** 17B37

— (*with* Feĭgin, B. L.; Rubtsov, Vladimir) Separation of variables for Gaudin-Calogero systems. (English summary) *Compositio Math.* **110** (1998), *no.* 1, 1–16. (Alexander E. Polishchuk) **99f:32030** 32G34 (14D20, 14H60)

— (*with* Frenkel, Edward) Geometric interpretation of the Poisson structure in affine Toda field theories. *Duke Math. J.* **92** (1998), *no.* 3, 459–495. (Alexander V. Shapovalov) **99c:58067** 58F07 (17B69)

— (*with* Felder, Giovanni) A construction of Hopf algebra cocycles for the Yangian double $DY(\mathfrak{sl}_2)$. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2401–2413. (Guy Laffaille) **99f:17015** 17B37 (81R50)

— Dynamical r-matrices for Hitchin's systems on Schottky curves. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 95–104. (Francesco Bottacin) **99d:58078** 58F07 (14H55, 32L05)

Enriquez, Nathanaël (*with* Le Jan, Yves) Statistic of the winding of geodesics on a Riemann surface with finite area and constant negative curvature. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 377–401. (Ming Liao) **99f:58221** 58G32 (28D99, 30F99)

— (*with* Franchi, Jacques; Le Jan, Yves) Enroulements des géodésiques sous la mesure de Patterson-Sullivan. (English and French summaries) [Stable windings of geodesics under the Patterson-Sullivan measure] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 723–726. (Boris Hasselblatt) **99k:58143** 58F17 (30F35, 60F99)

Ensz, Mark T. (*with* Storti, Duane W.; Ganter, Mark A.) Implicit methods for geometry creation. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 509–536. (Summary) **99f:68199** 68U05

Entacher, Karl Quasi-Monte Carlo methods for numerical integration of multivariate Haar series. II. (English summary) *BIT* **38** (1998), *no.* 2, 283–292. (Summary) **99h:65010** 65C05 (42C10, 65D30)

van Enter, Aernout C. D. (*with* Miękisz, Jacek; Zahradník, Miloš) Nonperiodic long-range order for fast-decaying interactions at positive temperatures. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1441–1447. (Dimitri Petritis) **99e:82006** 82B05

— (*with* Shlosman, S. B.) (Almost) Gibbsian description of the sign fields of SOS fields. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 353–368. (Raphael Lefevere) **99g:82004** 82B05

Entin, Rami (*with* Gomis, Jaume) Spectrum of chiral operators in strongly coupled gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105008, 7 *pp.* (Summary) **99k:81196** 81T17 (81T40, 83E50)

— (*with* Diaconescu, Duiliu-Emanuel) Calabi-Yau spaces and five-dimensional field theories and exceptional gauge symmetry. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 451–484. (Harald Skarke) **99m:81178** 81T30 (14J32, 32J81, 32S45)

Enting, I. G. (*with* Jensen, Iwan; Guttmann, Anthony J.) The finite lattice method of series expansions. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 411–416, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 82B20

— (*with* Bennett-Wood, D.; Gaunt, D. S.; Guttmann, Anthony J.; Leask, J. L.; Owczarek, Aleksander L.; Whittington, Stuart G.) Exact enumeration study of free energies of interacting polygons and walks in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4725–4741. (Summary) **99c:82031** 82B41 (82D60)

Entizne, Rosana V. (*with* Brignole, Diana M.) Boolean elements and representation of residuated lattices. (Spanish. Spanish summary) *Proceedings of the Fourth "Dr. Antonio*

A. R. Monteiro" Congress on Mathematics (Spanish) (Bahia Blanca, 1997), 105–117, Univ. Nac. del Sur, Bahia Blanca, 1997. (Summary) **99f:06011** 06B15

Entov, V. M. (*with* Gorodtsov, V. A.) Instability of displacement fronts of non-Newtonian fluids in a Hele-Shaw cell. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 115–131; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 111–126. (Summary) **99b:76085** 76S05 (76A05, 76A10, 76E15)

— (*with* Bogdanov, I. I.; Galamai, O. V.) On the penetration of liquid contaminants into aquifers. *Fluid Dynam.* **33** (1998), *no.* 5, 735–744 (1999); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 5, 119–129 (*Russian. Russian summary*). (Summary) **99m:76106** 76S05 (86A05)

Ephraim, H. Note on: "Investigation of the Einstein-Lorentz group" [Phys. Essays **9** (1996), no. 3, 380–385; MR 97h:83007] by S. Xu and X. Xu. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 305–306. (Summary) **99g:83006** 83A05

Ephremides, Anthony Use of stochastic comparisons in communication networks. (English summary) *Stochastic processes and related topics*, 103–121, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (George L. O'Brien) **99k:60229** 60K25 (68M20, 90B12)

— (*with* Sankaran, Chandrasekar) Solving a class of optimum multiuser detection problems with polynomial complexity. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1958–1961. 94A13

— (*with* Hajek, Bruce) Information theory and communication networks: an unconsummated union. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2416–2434. (Summary) **99h:94004** 94A05 (94A15)

Ephremidze, L. On approximate factorization of the spectral measures of stationary processes. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 35–38. (Lutz Peter Klotz) **99g:60080** 60G25 (30D55, 31A20)

— On the integrability of the ergodic Hilbert transform for a class of functions with equal absolute values. (English summary) *Georgian Math. J.* **5** (1998), *no.* 2, 101–106. (Idris Assani) **99d:28032** 28D05

— (*with* Janashia, G.; Lagvilava, E.) On the factorization of unitary matrix-functions. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **116** (1998), 101–106. (Mihály Bakonyi) **99j:47023** 47A68 (15A23, 35Q15)

Epifanio, G. (*with* Todorov, T. S.; Trapani, C.) Sets of compatible non-self-adjoint observables as examples of partial GW^* and von Neumann algebraic structures in a complex Hilbert space. (English summary) *Topics in complex analysis, differential geometry and mathematical physics (St. Konstantin, 1996)*, 165–176, *World Sci. Publishing, River Edge, NJ*, 1997. (Gerald Hofmann) **99e:46076** 46L10 (46L60, 47D40, 81Q10)

Epik, Eleanora (*with* Castro, Ian P.) Boundary layer development after a separated region. (English summary) *J. Fluid Mech.* **374** (1998), 91–116. 76D10 (76D15)

Epkenhans, Martin On double covers of the generalized alternating group $Z_d \wr \mathfrak{A}_m$ as Galois groups over algebraic number fields. *Acta Arith.* **82** (1997), *no.* 2, 129–145. (Akito Nomura) **99a:12007** 12F12 (11R32, 12E25, 12G05)

— On the Galois group of $f(X^d)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1489–1509. (Fernando Barrera-Mora) **99e:12003** 12F10

Epp, Richard J. (*with* Mann, Robert B.) A new approach to black hole microstates. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 23, 1875–1879. (Gil De Oliveira-Neto) **99f:83045** 83C57

Epperson, James F. (*with* Ames, Karen A.; Clark, Gordon W.; Oppenheimer, Seth F.) A comparison of regularizations for an ill-posed problem. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1451–1471. (Summary) **99b:65111** 65M30

Epperson, Jay Some estimates for radial Fourier multiplier operators with slowly decaying kernels. (English summary) *Math. Nachr.* **191** (1998), 109–121. (Stephen Buckley) **99d:42020** 42B15

Epple, Moritz Topology, matter, and space. I. Topological notions in 19th-century natural philosophy. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 4, 297–392. (Jeremy Gray) **99c:01012** 01A55 (00A79, 54–03, 57–03, 58–03)

— Orbits of asteroids, a braid, and the first link invariant. *Math. Intelligencer* **20** (1998), *no.* 1, 45–52. (Dušan Repovš) **99c:01013** 01A55 (57M25)

Eppstein, David Faster circle packing with application to nonobtuse triangulation. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 5, 485–491. (Frédéric Mathéus) **99d:52018** 52C15 (05B40, 05C85, 68R05, 68U05)

— Fast hierarchical clustering and other applications of dynamic closest pairs. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 619–628, *ACM, New York*, 1998. (*see* **99d:68011**) 68P05 (62H30)

— (*with* Barequet, Gill; Dickerson, Matthew) On triangulating three-dimensional polygons. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 155–170. (Summary) **99a:68168** 68U05 (52B55, 68Q25)

— Geometric lower bounds for parametric matroid optimization. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 463–476. (Jesús A. de Loera) **99h:90082** 90C27 (52B40, 68R05, 90C31)

— (*with* Amenta, Nina; Bern, Marshall) Optimal point placement for mesh smoothing. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 302–322. (I. Norman Katz) **99m:65028** 65D17 (65N30, 90C05)

— (*with* Galil, Zvi; Italiano, Giuseppe F.; Spencer, Thomas H.) Separator-based sparsification. II. Edge and vertex connectivity. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 341–381 (*electronic*). (Fabrizio Luccio) **99g:05058** 05C10 (05C85, 68Q25, 68R10)

— Finding the k shortest paths. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 653–674 (*electronic*). (Koduvayur R. Parthasarathy) **99h:05073** 05C38 (05C85, 90C39, 92D20, 94C15)

Epstein, Charles L. Deformations of singularities, complex manifolds and CR-structures. (English summary) *CR-geometry and overdetermined systems (Osaka, 1994)*, 85–109, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (John Bland) **99a:32017** 32G07 (32G05, 32S30)

— (*with* Bland, John) Embeddable CR-structures and deformations of pseudoconvex surfaces. (English summary) *Singularities and complex geometry (Beijing, 1994)*, 1–27, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99f:32025** 32G07 (32C16, 32F30)

— A relative index on the space of embeddable CR-structures. I. (English summary) *Ann. of Math.* (2) **147** (1998), *no.* 1, 1–59. (John Bland) **99a:32018a** 32G07 (32F20, 32F40, 35P15)

— A relative index on the space of embeddable CR-structures. II. (English summary) *Ann. of Math.* (2) **147** (1998), *no.* 1, 61–91. (John Bland) **99a:32018b** 32G07 (32F20, 32F40, 35P15)

Epstein, David Uncovering some subtleties of the uncovered set: social choice theory and distributive politics. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 81–93. (Summary) **99c:90013** 90A08

Epstein, David B. A. *see* **Epstein birthday schrift, 99h:00016**

Epstein, Henri (*with* Bros, Jacques; Moschella, Ugo) Analyticity properties and thermal effects for general quantum field theory on de Sitter space-time. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 535–570. (Michael Keyl) **99i:81135** 81T05 (32C81, 46N50, 81T20)

Epstein, Irving R. (*with* Rovinskiĭ, A. B.; Zhabotinskiĭ, A. M.) Target patterns arising from the short-wave instability in near-critical regimes of reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2412–2417. (Jian Hong Wu) **99b:92010** 92C05 (35K57, 35Q80, 92E20)

— (*with* Rovinskiĭ, A. B.; Zhabotinskiĭ, A. M.) Stability of planar reactive fronts in external fields. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5541–5547. (Summary) **99g:80012** 80A32 (80A25)

Epstein, Jerome (*with* Schücking, Engelbert L.; Kowalski, William P.; Lauro, Salvatore) What is space-time made of? (English summary) *Quantum gravity (Erice, 1995)*, 342–365, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrzej M. Frydryszak) **99m:81289** 81V25 (51P05, 83E99)

Epstein, Joshua M. ★ Nonlinear dynamics, mathematical biology, and social science. (English summary) Santa Fe Institute Studies in the Sciences of Complexity. Lecture Notes, IV. *Addison-Wesley Publishing Company, Advanced Book Program, Reading, MA*, 1997. xii+164 *pp. ISBN* 0-201-41988-2 (Joseph So) **99a:92042** 92H99 (92–01, 92D25, 92D30)

Epstein, Kenneth J. Generally covariant Dirac Hamiltonian. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 4, 617–627. (Stefano De Leo) **99d:83073** 83C60 (81R25)

Epstein, Leah (*with* Azar, Yossi) On-line machine covering. (English summary) *Algorithms—ESA '97 (Graz)*, 23–36, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90B35 (68M20, 68Q20)

— (*with* Azar, Yossi) Approximation schemes for covering and scheduling in related machines. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 39–47, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (*see* **99i:68002**) 90B22 (68M20)

— Lower bounds for on-line scheduling with precedence constraints on identical machines. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 89–98, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (*see* **99i:68002**) 90B35 (68M20)

— (*with* Alon, Noga; Azar, Yossi; Csirik, János; Sevast'yanov, S. V.; Vestjens, Arjen P. A.; Woeginger, Gerhard J.) On-line and off-line approximation algorithms for vector covering problems. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 104–118. (Editors) **99c:68116** 68Q25 (90C27)

Epstein, Marcelo (*with* de León, Manuel) On uniformity of shells. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 17, 2173–2182. (Summary) **99a:73092** 73K15

— (*with* de León, Manuel) Geometrical theory of uniform Cosserat media. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 127–170. (Marek Elżanowski) **99d:73018** 73B99 (53C05, 53C10, 53C80, 73S10)

— (*with* Ru, Chong-Qing; Mao, Scott X.) Electric-field induced interfacial cracking in multilayer electrostrictive actuators. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1301–1318. 73R05 (73M25)

Epstein-Feldman, Raisa (*with* Adler, Robert J.; Gallagher, Colin) Analysing stable time series. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 133–158, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10

— (*with* Iyer, Srikanth K.) Non-Gaussian density processes arising from non-Poisson systems of independent Brownian motions. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 213–220. (Robert J. Adler) **99f:60093** 60G60 (60F05, 60H15)

— *see also* **Practical guide to heavy tails, 99f:62010**

Epureanu, Bogdan I. (*with* Dowell, Earl H.) On the optimality of the Ott-Grebogi-Yorke control scheme. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 1–7. (Summary) **99a:58138** 58F40 (34H05, 58F13, 93C15, 93D99)

— (*with* Greenside, Henry S.) Fractal basins of attraction associated with a damped Newton's method. (English summary) *SIAM Rev.* **40** (1998), *no.* 1, 102–109 (*electronic*). (R. P. Tewarson) **99d:65153** 65H05 (58F12, 65H10)

Er, Guo-Kang An improved closure method for analysis of nonlinear stochastic systems. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 3, 285–297. 70L05

induráin Eraso, Esteban *see* **Induráin Eraso, Esteban**

dell'Erba, Ramiro (*with* dell'Isola, Francesco; Rotoli, Giacomo) The influence of the curvature dependence of the surface tension on the geometry of electrically charged menisci. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 89–105. 80A10

oral Erbas, Semra *see* **Oral Erbas, Semra**

Erbay, H. A. Nonlinear transverse waves in a generalized elastic solid and the complex modified Korteweg-de Vries equation. (English summary) *Phys. Scripta* **58** (1998), *no.* 1, 9–14. (Summary) **99d:73044** 73D35 (35Q53)

Erbay, Saadet Coupled modified Kadomtsev-Petviashvili equations in dispersive elastic media. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 289–297. (Summary) **99i:73031** 73D15 (35Q53, 73B25, 73C50)

Erbe, Lynn H. (*with* Kong, Qingkai) Some necessary and sufficient conditions for oscillation of neutral differential equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 133–148. (Summary) **99a:34186** 34K15 (34K40)

— (*with* Tang, Mo Xun) Existence and multiplicity of positive solutions to nonlinear boundary value problems. (English summary) Differential equations—theory, methods

and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 313–320. (*see* **99g:00038**) 35J65 (34B15, 35B05)
— (*with* Tang, Mo Xun) Uniqueness of positive radial solutions of $\Delta u + K(|x|)\gamma(u) = 0$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 4, 663–678. (Summary) **99j:35046** 35J60 (34A12, 35B05)
— (*with* Tang, Mo Xun) Uniqueness of positive radial solutions of $\Delta u + f(|x|, u) = 0$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 725–743. (Summary) **99j:35047** 35J60 (34B15, 35B05)
Ercal, F. (*with* Sadayappan, P.; Ramanujam, J.) Partitioning graphs on message-passing machines by pairwise mincut. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 223–237. (Summary) **99g:68020** 68M10
Ercan, Zafer Extension and separation of vector valued functions. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 423–430. (J. B. Prolla) **99k:46062** 46E40
Ercolani, Nicholas M. (*with* Levermore, C. David; Zhang, Taiyan) The behavior of the Weyl function in the zero-dispersion KdV limit. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 119–143. (Naruyoshi Asano) **99b:35182** 35Q53 (34A55, 34L25, 35B25, 35P20)
Ercolessi, Elisa (*with* Landi, Giovanni; Teotonio-Sobrinho, Paulo) Noncommutative lattices and the algebras of their continuous functions. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 439–466. (Yuri A. Kordyukov) **99k:46128** 46L89 (06A06, 46L05, 54C35)
Erdahl, R. M. Space filling zonotopes and Voronoi's conjecture on parallelohedra. *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 1, 2–15. (P. McMullen) **99h:52028** 52C22 (52B30)
Erdelyi, Ivan (*with* Wang, Sheng Wang) Elements of the local spectral theory for closed operators. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 181–190. (Vladimir Müller) **99g:47007** 47A11 (47B40)
Erdélyi, Tamás (*with* Borwein, Peter B.) Littlewood-type problems on subarcs of the unit circle. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1323–1346. (Jay M. Jahangiri) **99j:30004** 30C10
— (*with* Borwein, Peter B.) Müntz's theorem on compact subsets of positive measure. (English summary) *Approximation theory*, 115–131, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Yuri V. Kryakin) **99c:41006** 41A10 (41A17)
— Markov-Bernstein type inequalities for constrained polynomials with real versus complex coefficients. (English summary) *J. Anal. Math.* **74** (1998), 165–181. (J. Szabados) **99d:41025** 41A17
— (*with* Borwein, Peter B.) A Remez-type inequality for non-dense Müntz spaces with explicit bound. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 450–457. (Summary) **99c:41027** 41A17
Erdem, İpek (*with* Houshıyarı, Mastaneh) Global attractors for nonlinear pseudoparabolic and pseudohyperbolic equations. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 19–31. (Piotr Biler) **99m:35024** 35B40 (35K70, 35L99, 47H20, 58F39)
Erdem, Recai Higgs field as the gauge field corresponding to parity in the usual space-time. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 6, 465–478. (Summary) **99d:81169** 81T99
Erdmann, G. (*with* DeSanto, John A.; Hereman, Willy; Misra, Manavendra) Theoretical and computational aspects of scattering from rough surfaces: one-dimensional perfectly reflecting surfaces. (English summary) *Waves Random Media* **8** (1998), *no.* 4, 385–414. (Summary) **99j:76112** 76Q05 (76M25, 78–08, 78A45)
Erdmann, Karin Representations of $\mathrm{GL}_n(K)$ and symmetric groups. *Representation theory of finite groups* (*Columbus, OH*, 1995), 67–84, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Steffen König) **99b:20023** 20C30 (16G10, 20G05)
— (*with* Snashall, Nicole) Preprojective algebras of Dynkin type, periodicity and the second Hochschild cohomology. *Algebras and modules, II* (*Geiranger*, 1996), 183–193, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Thorsten Holm) **99h:16016** 16E40 (16D20, 16G20)
— (*with* Donkin, Stephen) Tilting modules, symmetric functions, and the module structure of the free Lie algebra. *J. Algebra* **203** (1998), *no.* 1, 69–90. (Alexander Kleshchev) **99e:20056** 20G05 (05E05, 20C30)
— (*with* Snashall, Nicole) On Hochschild cohomology of preprojective algebras. I, II. (English summary) *J. Algebra* **205** (1998), *no.* 2, 391–412, 413–434. (Thorsten Holm) **99e:16013** 16E40 (16D20, 16G20)
grosse-Erdmann, Karl-Goswin *see* **Grosse-Erdmann, Karl-Goswin**
Erdmenger, Johanna (*with* Osborn, Hugh) Conformally covariant differential operators: symmetric tensor fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 273–280. (R. Schimming) **99b:58238** 58G30
— (*with* Rupp, Christian; Sibold, Klaus) Conformal transformation properties of the supercurrent in four-dimensional supersymmetric theories. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 501–533. (Sergey Nikolaevich Roshchupkin) **99i:81233** 81T60
Erdoğan, Burak *see* **Erdoğan, Mehmet Burak**
Erdogan, Fazil (*with* Lu, Jianke) A crack problem with a broken line interface. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 284. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 229–238. (Summary) **99i:73059** 73M25 (45E05, 73C02, 73V35)
— (*with* Schulze, Gary W.) Periodic cracking of elastic coatings. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3615–3634. 73M25
Erdoğan, Mehmet On the Ricci curvature of a hypersurface in a sphere. *Math. Scand.* **82** (1998), *no.* 2, 186–190. (Man Chun Leung) **99h:53042** 53C21 (53C40)
Erdoğan, Mehmet Burak (*with* Ostrovskiĭ, I. V.) On mixture representation of the Linnik density. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 317–326. (Tomasz J. Kozubowski) **99f:60029** 60E10 (60E05)
— (*with* Ostrovskiĭ, I. V.) Analytic and asymptotic properties of generalized Linnik probability densities. *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 555–578. (Barry C. Arnold) **99b:60018** 60E05 (62E10)
Erdos, J. A. (*with* Katavolos, A.; Shulman, Viktor S.) Rank one subspaces of bimodules over maximal abelian selfadjoint algebras. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 554–587. (Allan P. Donsig) **99f:47054** 47D25 (47B10, 47D15)
— (*with* Lambrou, Michael S.; Spanoudakis, N. K.) Block strong M-bases and spectral synthesis. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 183–195. (Paolo Terenzi) **99e:46012** 46B15 (47A15, 47B07)
Erdős, László (*with* Yau, Horng-Tzer) Linear Boltzmann equation as scaling limit of quantum Lorentz gas. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 137–155, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Rossana Marra) **99h:82061** 82C40 (82C22)
— Lifschitz tail in a magnetic field: the nonclassical regime. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 3, 321–371. (Nariyuki Minami) **99h:82044** 82B44 (60H30, 60K35)
Erdős, Paul[1] (*with* Agoh, Takashi; Granville, Andrew) Primes at a (somewhat lengthy) glance. *Amer. Math. Monthly* **104** (1997), *no.* 10, 943–945. (S. W. Graham) **99g:11012** 11A41
— (*with* Gyárfás, András) A variant of the classical Ramsey problem. (English summary) *Combinatorica* **17** (1997), *no.* 4, 459–467. (W. G. Brown) **99h:05090** 05C55 (05C35, 05D10)
— (*with* Hajnal, András; Pach, János) On a metric generalization of Ramsey's theorem. (English summary) *Israel J. Math.* **102** (1997), 283–295. (Péter Komjáth) **99c:04004** 04A20 (05D10)
— (*with* Bukor, Jozsef; Šalát, Tibor; Tóth, János T.) Remarks on the (R)-density of sets of numbers. II. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 517–526. (W. Narkiewicz) **99e:11013** 11B05 (11K16)
— Problems in number theory. *New Zealand J. Math.* **26** (1997), *no.* 2, 155–160. (Georges Grekos) **99a:11001** 11–02
— (*with* Pomerance, Carl; Sárközy, András) On locally repeated values of certain arithmetic functions. IV. (English summary) *Ramanujan J.* **1** (1997), *no.* 3, 227–241. (Jean-Marie De Koninck) **99c:11119** 11N25 (11A25, 11N37)
— (*with* Ashbacher, Charles) Thoughts of Pal Erdos on some Smarandache notions. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 220–224. (Katalin Kovács) **99e:11004** 11A25
— (*with* Joó, István; Komornik, Vilmos) On the sequence of numbers of the form $\varepsilon_0 + \varepsilon_1 q + \cdots + \varepsilon_n q^n$, $\varepsilon_i \in \{0, 1\}$. *Acta Arith.* **83** (1998), *no.* 3, 201–210. (D. Boyd) **99a:11022** 11B83 (11R06)
— (*with* Komornik, Vilmos) Developments in non-integer bases. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 57–83. (Christopher Smyth) **99e:11132** 11R06 (11A67)
— (*with* Bollobás, Béla) Graphs of extremal weights. (English summary) *Ars Combin.* **50** (1998), 225–233. (Summary) **99i:05102** 05C35
— (*with* Chen, Guantao; Shreve, Warren E.) Ramsey numbers for irregular graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 139–145. (*see* **99i:00025**) 05C55
— (*with* Mauduit, Christian; Sárközy, András) On arithmetic properties of integers with missing digits. I. Distribution in residue classes. (English summary) *J. Number Theory* **70** (1998), *no.* 2, 99–120. (Yuri Bilu) **99e:11127** 11N69 (11K36, 11L07, 11L26, 11N36, 11N60, 11P55)
— (*with* Nicolas, Jean-Louis; Sárközy, András) On large values of the divisor function. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 225–245. (D. R. Heath-Brown) **99h:11108** 11N56 (11N37)
— (*with* Fishburn, Peter C.) Duplicated distances in subsets of finite planar sets. *Geombinatorics* **8** (1999), *no.* 3, 73–77. 52C10
— (*with* Montgomery, Hugh L.) Sums of numbers with many divisors. (English summary) *J. Number Theory* **75** (1999), *no.* 1, 1–6. (Jie Wu) **99k:11153** 11P05
— *see also* **Chung, F. R. K., 99b:05031**; **Csicsery, George Paul, 99g:01032**; **Schechter, Bruce, 99h:01038**; **Recent trends in combinatorics, 99k:00041**; **Sós, Vera T., 99k:01074**; **Dedicated to the memory of Paul Erdős, 99k:05003**; **Bollobás, Béla, 99m:01043**; **Charris, Jairo A.; Ivić, Aleksandar**; **Tenenbaum, Gérald**; **Bondy, J.-A.**; **Obituary: Erdős, Paul[1]**; **Paul Erdős**; **Cohen, Marion** *and* **Soifer, Alexander**, **(99i:00021)**
Erdős, Péter L. (*with* Székely, László A.) Pseudo-LYM inequalities and AZ identities. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 4, 431–443. (Douglas B. West) **99a:06001** 06A07
— (*with* Frank, András; Székely, László A.) Minimum multiway cuts in trees. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 67–75. (Summary) **99e:05073** 05C35
Eremenko, A. Rational solutions of first-order differential equations. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 181–190. (I. N. Baker) **99a:34009** 34A20 (30D35)
— *see also* **Gol'dberg, Anatoliĭ Asirovich**
Eremenko, S. Yu. (*with* Rvachev, V. L.) A survey of variants of the structural finite-element method. I. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1917–1922. 65N30 (73V05)
Erëmin, A. Yu. (*with* Tyrtyshnikov, E. E.; Zamarashkin, N. L.) Clusters, preconditioners, convergence. (English summary) *Linear Algebra Appl.* **263** (1997), 25–48. (Assem Deif) **99c:65073** 65F15
— (*with* Gruzinov, F. A.; Kolotilina, L. Yu.) Block SSOR preconditionings for high-order 3D FE systems. III. Incomplete BSSOR preconditionings based on p-partitionings. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 393–423. (Beny Neta) **99b:65059** 65F35 (15A12, 65N30)
— (*with* Kaporin, I. E.) The influence of the largest eigenvalues on the numerical convergence of the conjugate gradient method. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **248** (1998), *Chisl. Metody i Vopr. Organ. Vychisl.* 13, 5–16, 247. 65F10
Eremin, Ivan I. Some problems in piecewise-linear programming. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 49–61; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 12, 47–59 (1998). (E. G. Gol'shteĭn) **99a:90134** 90C08
— Sigma-piecewise functions and disjunctive programming problems. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 588–590. 90C08 (90C26)
— About some problems of disjunctive programming. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 25–43. (Robert A. Abrams) **99m:90099** 90C08
Eren, Senol (*with* Callialp, Fethi) On the calculation for units of ring of coefficients for a module in the algebraic number fields. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 77–81. (W. Narkiewicz) **99h:11125** 11R27

Erez, Boas (*with* Chinburg, Ted; Pappas, Georgios; Taylor, Martin J.) On the ϵ-constants of arithmetic schemes. *Math. Ann.* **311** (1998), *no.* 2, 377–395. (Nigel Byott) **99d:11121** 11R33 (14G40)

— (*with* Chinburg, Ted; Pappas, Georgios; Taylor, Martin J.) Localizations of Grothendieck groups and Galois structure. (English summary) *Recent progress in algebra (Taejon/Seoul, 1997)*, 47–63, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Cornelius Greither) **99i:20012** 20C10 (11R33, 14H25, 19E20, 20C15)

Ergin, A. Arif (*with* Shanker, Balasubramaniam; Michielssen, Eric) Fast evaluation of three-dimensional transient wave fields using diagonal translation operators. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 157–180. (Summary) **99g:76134** 76Q05 (76M25, 78–08, 78A45)

Ergon, Rolf Dynamic system multivariate calibration by system identification methods. (English summary) *MIC—Model. Identif. Control* **19** (1998), *no.* 2, 77–97. 93E12 (90B30)

— Dynamic system calibration: the low primary output sampling rate case. (English summary) *MIC—Model. Identif. Control* **19** (1998), *no.* 2, 99–107. (Summary) **99f:93136** 93E12 (90B80)

— On primary output estimation by use of secondary measurements as input signals in system identification. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 821–825. 93E10 (93E12)

Ergun, Nurettin (*with* Ganster, Maximilian; Watson, W. Stephen) Refinements of cellular families. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 307–318. (Summary) **99h:54040** 54D99

Erhel, Jocelyne (*with* Bristeau, M. O.) Augmented conjugate gradient. Application in an iterative process for the solution of scattering problems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 71–90. (P. Rochus) **99j:65041** 65F10 (65C99)

— (*with* Burrage, Kevin) On the performance of various adaptive preconditioned GMRES strategies. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 2, 101–121. (Summary) **99a:65040** 65F10

— (*with* Burrage, Kevin; Pohl, B.; Williams, Alan) A deflation technique for linear systems of equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1245–1260 (*electronic*). (Summary) **99b:65044** 65F15 (65F10)

Erić, T. N. (*with* Debeljković, D. Lj.; Bajić, V. B.; Milinković, S. A.) A Lyapunov analysis of stability robustness for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 53–62. (Summary) **99a:93077** 93D09 (93C05, 93C55)

Erichsen, Stefan (*with* Sauter, Stefan A.) Efficient automatic quadrature in 3-d Galerkin BEM. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 215–224. (Summary) **99e:65163** 65N38

Ericksen, J. L. On nonessential descriptions of crystal multilattices. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 4, 363–392. (Cesare Davini) **99k:73042** 73C50 (73B30)

Ericksen, Larry The Pascal-de Moivre triangles. *Fibonacci Quart.* **36** (1998), *no.* 1, 20–33. (G. L. Alexanderson) **99c:11018** 11B65

Erickson, Gary J. *see* **Maximum entropy and Bayesian methods, 99k:62005**

Erickson, Glenn W. (*with* Fossa, John A.) ★ Dictionary of paradox. *University Press of America, Lanham, MD*, 1998. 221 *pp. ISBN* 0-7618-1065-X; 0-7618-1066-8 (A. A. Mullin) **99c:00003** 00A20 (00A30, 03A05)

Erickson, Jeff (*with* Agarwal, Pankaj K.; Guibas, Leonidas J.) Kinetic binary space partitions for intersecting segments and disjoint triangles (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 107–116, *ACM, New York*, 1998. (*see* **99d:68011**) 68U05

— (*with* Agarwal, Pankaj K.) Geometric range searching and its relatives. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996)*, 1–56, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Hans-Dietrich Hecker) **99m:68203** 68U05

Erickson, M. A. (*with* Smith, Roy S.; Laub, A. J.) Power methods for calculating eigenvalues and eigenvectors of spectral operators on Hilbert spaces. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1117–1128. 93B60 (93B40)

Ericsson, Neil R. (*with* Hendry, David Forbes; Mizon, Grayham E.) Exogeneity, cointegration, and economic policy analysis. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 370–387. 62P20 (62M10)

Ericsson, Stefan The E and K functionals for the pair $(X(A), l_\infty(B))$. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 479–486. (Mieczysław Mastyło) **99f:46108** 46M35 (46E30)

Eriksen, P. S. (*with* Andersen, Heidi H.; Højbjerre, M.; Sørensen, Dorte) ★ Linear and graphical models. For the multivariate complex normal distribution. Lecture Notes in Statistics, 101. *Springer-Verlag, New York*, 1995. x+183 *pp. ISBN* 0-387-94521-0 (M. Studený) **99a:62002** 62–01 (05C90, 62H12, 62H15)

Eriksson, Anders[1] Structural instability analyses based on generalised path-following. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 45–74. (Summary) **99a:73074** 73H05 (73K99)

Eriksson, Bengt-Olov Some best constants in the Landau inequality on a finite interval. (English summary) *J. Approx. Theory* **94** (1998), *no.* 3, 420–454. (Gianluca Vinti) **99f:41013** 41A17 (26D10, 41A10)

Eriksson, Henrik (*with* Eriksson, Kimmo) Affine Weyl groups as infinite permutations. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 18, 32 *pp.* (*electronic*). (Joaquin O. Carbonara) **99d:20006** 20B35 (05A15, 05E15)

Eriksson, Kenneth (*with* Johnson, Claes; Larsson, Stig) Adaptive finite element methods for parabolic problems. VI. Analytic semigroups. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1315–1325 (*electronic*). (Erwin Schechter) **99d:65281** 65M60 (47D06, 65M15)

Eriksson, Kimmo (*with* Bousquet-Mélou, Mireille) Lecture hall partitions. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 101–111. (Christian Krattenthaler) **99c:05015** 05A17 (05A15, 05A30, 11P81, 20F55)

— (*with* Bousquet-Mélou, Mireille) Lecture hall partitions. II. (English summary) *Ramanujan J.* **1** (1997), *no.* 2, 165–185. (Christian Krattenthaler) **99c:05016** 05A17 (05A15, 05A30, 11P81, 20F55)

— (*with* Eriksson, Henrik) Affine Weyl groups as infinite permutations. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 18, 32 *pp.* (*electronic*). (Joaquin O. Carbonara) **99d:20006** 20B35 (05A15, 05E15)

Eriksson, Thomas (*with* Agrell, Erik) Optimization of lattices for quantization. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1814–1828. (Summary) **99h:94003** 94A05 (94A29)

Eriksson-Bique, Sirkka-Liisa (*with* Leutwiler, Heinz) On modified quaternionic analysis in $\mathbf{R}^3$. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 3, 228–234. (Marin S. Marinov) **99d:30044** 30G35

Eringen, A. Cemal A unified continuum theory of electrodynamics of liquid crystals. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1137–1157. (Paolo Biscari) **99k:76012** 76A15 (82D30)

— A mixture theory of electromagnetism and superconductivity. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 525–543. (Tatiana Allen) **99f:78006** 78A25 (73B99, 73R05, 76A99)

Erkanli, Alaattin (*with* Soyer, Refik; Angold, Adrian) Optimal Bayesian two-phase designs. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 175–191. (Summary) **99c:62205** 62K05 (62F15)

Erkekoğlu, Fazilet (*with* Hacısalihoğlu, H. Hilmi) Surfaces of parallel mean curvature in arbitrary-dimensional manifolds of constant curvature. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 387–391. 53C40

— On Darboux function. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 47–56. (Andrew Bucki) **99a:53016** 53B25

Erkip, Elza (*with* Cover, Thomas M.) The efficiency of investment information. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1026–1040. (Summary) **99a:90037** 90A09 (94A29)

Erlander, Sven Efficiency and the logit model. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 203–218. (*see* **99e:90003**) 62P20 (90B06)

Erlebach, Thomas (*with* Jansen, Klaus) Off-line and on-line call-scheduling in stars and trees. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 199–213, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Peter Brucker) **99i:90054** 90B35 (05C05, 68M20, 90B12)

— (*with* Jansen, Klaus; Kaklamanis, Christos; Persiano, Pino) An optimal greedy algorithm for wavelength allocation in directed tree networks. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 117–129, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68192** 68R10 (68Q25, 78A55, 90C35)

Erlich, Joshua (*with* Anselmi, Damiano; Freedman, D. Z.; Johansen, Andrei) Positivity constraints on anomalies in supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7570–7588. (Summary) **99k:81288** 81T50 (81T15, 81T60)

— (*with* Naqvi, Asad; Randall, Lisa) Coulomb branch of $N = 2$ supersymmetric product group theories from branes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046002, 10 *pp.* (Summary) **99k:81235** 81T30 (81T60)

Erlichson, Herman Understanding Galileo. (English summary) *Physis Riv. Internaz. Storia Sci. (N.S.)* **34** (1997), *no.* 3, 605–614 (1998). (A. G. Molland) **99k:01013** 01A45

— Galileo's work on swiftest descent from a circle and how he almost proved the circle itself was the minimum time path. *Amer. Math. Monthly* **105** (1998), *no.* 4, 338–347. (William R. Shea) **99e:01011** 01A45 (49–03)

Ermak, N. V. A remark on K-contact metric structures. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 43–55. (Zbigniew Olszak) **99m:53053** 53C15

Ermakov, Alexei (*with* van den Berg, Jacob) A new lower bound for the critical probability of site percolation on the square lattice. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 3, 199–212. (Wei-Shih Yang) **99b:60165** 60K35 (82B43)

— (*with* Tóth, Bálint; Werner, Wendelin) On some annihilating and coalescing systems. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 845–870. (Daniel Ueltschi) **99g:82058** 82C22 (60K35)

Ermakov, M. S. Asymptotic minimaxity of chi-squared tests. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 668–695. (M. P. Mokhyachuk) **99f:62064** 62G10 (62C20)

Ermakov, S. M. (*with* Dovgal', V. V.) A limit theorem for the Tauswort pseudonumber generator. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 102–115, 221. 65C10

Ermakov, S. V. (*with* Zhukov, Mikhail Yu.; Righetti, Pier Giorgio) Modeling of transport processes in the presence of substance-locking effects. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 743–776 (*electronic*). (Reinhard Redlinger) **99j:80006** 80A20 (35L65, 65M06, 76R50, 92E20)

Ermentrout, G. Bard (*with* Ren, Li Wei[1]) Monotonicity of phaselocked solutions in chains and arrays of nearest-neighbor coupled oscillators. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 208–234 (*electronic*). (Peter Ashwin) **99d:34058** 34C15 (34C29, 70K10)

Ermolaev, E. A. (*with* Zhestkov, S. V.; Kuvshinov, V. I.) Classes of exactly solvable degenerate systems of universal nonlinear partial differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 845–846, 864; *translation in Differential Equations* **33** (1997), *no.* 6, 849–851 (1998). (Florin Iacob) **99d:35011** 35A25 (35C05, 35E15, 35F20)

Ermolaev, Yu. B. Universal Cartan extension. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 11, 22–32; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 11, 20–30 (1998). (Vesselin Drensky) **99c:17005** 17B01 (17B60, 17B70)

— On a realization of a free Lie algebra. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 32–44, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 29–38. (Yuliy Billig) **99g:17038** 17B40 (17B01)

Ermolaeva, N. S. Yakov Davydovich Tamarkin. In America he was known as J. D. (Russian) *Priroda* **1998**, *no.* 8, 75–87. (R. L. Cooke) **99h:01035** 01A70 (01A60)

Ermolayeva, O. (*with* Spiridonov, Vyacheslav P.; Vinet, Luc; Zhedanov, A. S.) Self-similarity and orthogonal polynomials. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1863–1867. (Summary) **99k:33026** 33C45

Ermolenko, E. A. (*with* Al'brekht, È. G.) Synthesis of a time-optimal control in linear systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1443–1450, 1580; *translation in Differential Equations* **33** (1997), *no.* 11, 1449–1456 (1998). (Alexander J. Zaslavski) **99k:49079** 49N35 (49J15)

— (*with* Al'brekht, È. G.) On the optimal control of a second-order quasilinear system. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 50–55. 49K15 (49K40)

Ermolenko, G. Yu. (*with* Yushkov, S. A.) A method for solving the first initial-boundary value problem in the linear theory of elasticity for isotropic bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 715–718; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 665–668. (Summary) **99m:73024** 73D10 (73C02)

— A principle for the correspondence of boundary value static problems of nonlinear elastoviscosity with aging to boundary value problems of elasticity theory. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 155–161; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 618–623 (1999). (Summary) **99g:73065** 73G25 (73B40, 73F15, 73F20)

Èrnandes, F. L. *see* **Hernández, Francisco L.**

Erné, Marcel Prime ideal theorems and systems of finite character. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 513–536. (Paul E. Howard) **99c:03068** 03E25

— (*with* Deiters, K.) Negations and contrapositions of complete lattices. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 91–111. (Josef Niederle) **99f:06007** 06A23 (06A15)

Ernest, Paul A postmodern perspective on research in mathematics education. *Mathematics education as a research domain: a search for identity, Book* 1, 2, 71–85, *New ICMI Stud. Ser.*, 4, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michael Otte) **99h:00007** 00A35 (00A30, 01A80)

Erneux, Thomas (*with* Cohen, Donald S.) Controlled drug release asymptotics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1193–1204 (*electronic*). (Summary) **99c:92021** 92C50 (35Q80)

Ernst, Andreas T. (*with* Krishnamoorthy, Mohan) An exact solution approach based on shortest-paths for p-hub median problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 149–162. 90C27 (90B20)

— (*with* Krishnamoorthy, Mohan) Solution algorithms for the capacitated single allocation hub location problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 141–159. (*see* **99k:90002**) 90B80 (90C90)

Ernst, C. *see* **Ernst, Claus Dieter**

Ernst, Catherine *see* **Hölder, Otto, 99i:00003**

Ernst, Claus Dieter (*with* Diao, Yuanan; Janse van Rensburg, E. J.) Knot energies by ropes. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 799–807. (Torsten Asselmeyer) **99c:57016** 57M25

— (*with* Diao, Yuanan; Janse van Rensburg, E. J.) Properties of knot energies. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 37–47, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Kazushi Ahara) **99m:58050** 58E10 (57M25)

— (*with* Diao, Yuanan) The complexity of lattice knots. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 1–9. (Lorenzo Traldi) **99h:57005** 57M25

Ernst, Emil Ellipticity loss in isotropic elasticity. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 203–211. (Georg K. Dolzmann) **99k:73033** 73C02 (35J99, 73B05)

Ernst, M. H. (*with* van der Sman, R. G. M.) Diffusion lattice Boltzmann scheme on a orthorhombic lattice. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 1-2, 203–217. (Summary) **99k:82070** 82C70 (76M25, 82–08)

Ernst, Michael Duane A multivariate generalized Laplace distribution. (English summary) *Comput. Statist.* **13** (1998), *no.* 2, 227–232. 62H10

Ernst, Oliver *see* **Griebel, Michael et al., 99a:76078**

Ernst, U. (*with* Pawelzik, K.; Geisel, T.) Delay-induced multistable synchronization of biological oscillators. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part B*, 2150–2162. (Boris G. Zaslavskiĭ) **99b:92008** 92C05

Ernström, Lars (*with* Ohmoto, Toru; Yokura, Shoji) On topological Radon transformations. (English summary) *J. Pure Appl. Algebra* **120** (1997), *no.* 3, 235–254. (Gary P. Kennedy) **99a:14011** 14C40 (32S60)

— (*with* Kennedy, Gary) Recursive formulas for the characteristic numbers of rational plane curves. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 1, 141–181. (Andreas Gathmann) **99d:14056** 14N10 (14D20)

Eroh, Linda (*with* Schultz, Michelle) Matching graphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 73–86. (Olivia M. Carducci) **99i:05163** 05C70

Erovenko, V. A. L^p-essential spectral theory of ordinary differential operators with almost constant coefficients. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 177–185. (Summary) **99a:47071** 47E05 (34L05, 47A10)

Errami, Mohammed (*with* Russo, Francesco) Covariation de convolution de martingales. (English and French summaries) [Covariation of martingale convolution] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 601–606. (Dominique Lépingle) **99i:60096** 60G48

Erraoui, M. (*with* Ouknine, Youssef; Sbi, A.) Backward stochastic differential equations with distribution as terminal condition. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 349–356. (Xue Rong Mao) **99a:60057** 60H10

— (*with* Eddahbi, M'Hamed) EDPS paraboliques à coefficients non-lipschitziens avec réflexion. (French summary) [Parabolic SPDE with reflection and non-Lipschitz coefficients] *Ann. Math. Blaise Pascal* **5** (1998), *no.* 2, 7–19. (Catherine Donati-Martin) **99m:60094** 60H15 (35K99, 35R60)

— (*with* Ouknine, Youssef; Sbi, A.) Reflected solutions of backward stochastic differential equations with distribution as terminal condition. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 1–16. (Summary) **99e:60132** 60H10

— (*with* Eddahbi, M'Hamed) On quasi-linear parabolic SPDEs with non-Lipschitz coefficients. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 105–126. (Krystyna Twardowska) **99c:60129** 60H15 (35R60)

— (*with* Bouslous, H.; El Boukfaoui, Y.) Stabilizability of infinite-dimensional uncertain system. (English summary) *Int. J. Appl. Math.* **1** (1999), *no.* 1, 1–10. 93D15 (34D99, 34H05, 93C25)

Ershov, S. V. (*with* Potapov, A. B.) On the concept of stationary Lyapunov basis. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 167–198. (Dieter Beule) **99e:58119** 58F11 (34C35, 34D08)

Ershov, Yu. L. Free Δ^*-groups. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 2, 154–172, 244–245; *translation in Algebra and Logic* **35** (1996), *no.* 2, 86–95. (Jiří Močkoř) **99c:20028** 20E18

— *see also* **Handbook: Recursive mathematics, 99k:03003** *and* **99k:03004**

Ersland, Brit G. (*with* Espedal, Magne S.; Hersvik, Karl J.) Domain decomposition methods for flow in heterogeneous porous media. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 104–120, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Jian-Ping Zhu) **99k:76109** 76M25 (65M55, 76S05)

Ertaş, Abdulkadir The reflection principle for Δ_1^p-harmonic functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 191–196. 35B99 (31B35, 35J70)

Ertl, M. F. (*with* Katanaev, M. O.; Kummer, Wolfgang) Generalized supergravity in two dimensions. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 457–486. (Piret Kuusk) **99i:83102** 83E50 (83E30)

Ertürk, Riza (*with* Demirci, Mustafa) On the compactness in fuzzy topological spaces in Šostak's sense. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 75–81. 54A40 (54D30)

Erukhimov, V. L. (*with* Semënov, V. E.) Dynamo-optical effects and hidden anisotropy of a medium. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 7, 849–865; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 7, 571–582 (1999). (Summary) **99f:78007** 78A25

Erusalimskiĭ, Ya. M. (*with* Logvinov, S. Yu.) Some problems of achievability on graphs with restrictions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 2, 14–17, 98. 05C99

Ervin, Vincent J. (*with* Layton, William J.; Maubach, Joseph M.) An adaptive defect correction approach for convection dominated, convection diffusion problems. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 287–294, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (65M55)

— (*with* Duan, Jinqiao; Gao, Hong Jun) Trajectory and attractor convergence for a nonlocal Kuramoto-Sivashinsky equation. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 33–40. (Summary) **99h:35184** 35Q53 (35B40, 58F39)

— (*with* Layton, William J.) A robust and parallel relaxation method based on algebraic splittings. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 91–110. (Petr N. Vabishchevich) **99m:65198** 65N06 (35B25, 65N12)

Erwig, Martin Functional pearls: diets for fat sets. *J. Funct. Programming* **8** (1998), *no.* 6, 627–632. 68P05

Eryilmaz, Bora (*with* Wilson, Bruce H.; Shafai, Bahram) Improving control design for nonlinear parametric uncertainty. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 863–883. 93B50 (93C41)

— (*with* Wilson, Bruce H.; Shafai, Bahram) An adaptive angular sweep algorithm for value set construction. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 551–555. 93B30 (93C41, 93E03)

Erzakova, N. A. The Muckenhoupt constant and the measure of noncompactness of the embedding operator of Sobolev spaces. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 19–23; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 17–21. (J. Musielak) **99f:46043** 46E35 (28A78)

van Es, A. J. (*with* Kok, A. R.) Simple kernel estimators for certain nonparametric deconvolution problems. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 151–160. (Margaret P. Gessaman) **99m:62043** 62G05

Esa, Sahib (*with* Boshnakov, Georgi N.) Sufficient statistics for ARMA models with some fixed parameters. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1083–1099. (Summary) **99a:62129** 62M10

Esbelin, Henri-Alex (*with* More, Malika) Rudimentary relations and primitive recursion: a toolbox. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 129–148. (George Tourlakis) **99f:03051** 03D20

navarro-Esbrí, J. *see* **Navarro-Esbrí, J.**

Escalada-Imaz, Gonzalo (*with* Hähnle, Reiner) Deduction in many-valued logics: a survey. *Mathware Soft Comput.* **4** (1997), *no.* 2, 69–97. (Radim Bělohlávek) **99m:03044** 03B50 (03B35)

— (*with* Beckert, Bernhard; Hähnle, Reiner) Simplification of many-valued logic formulas using anti-links. (English summary) *J. Logic Comput.* **8** (1998), *no.* 4, 569–587. (Siegfried Gottwald) **99h:03009** 03B50 (94C10, 94D05)

fortes Escalona, Miguel Angel *see* **Fortes Escalona, Miguel Angel**

Escande, Dominique F. (*with* Bénisti, D.) Origin of diffusion in Hamiltonian dynamics. (English summary) 38th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Denver, CO, 1996). *Phys. Plasmas* **4** (1997), *no.* 5, *part* 2, 1576–1581. (Summary) **99a:82091** 82D05 (58F40)

— (*with* Antoni, Mickaël; Elskens, Yves) Explicit reduction of N-body dynamics to self-consistent particle-wave interaction. (English summary) *Phys. Plasmas* **5** (1998), *no.* 4, 841–852. (Summary) **99a:82092** 82D10 (70F10)

Escardó, M. H. (*with* Pavlović, Duško) Calculus in coinductive form. *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 408–417, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q40

Escassut, Alain (*with* Boutabaa, Abdelbaki; Haddad, Labib) On uniqueness of p-adic entire functions. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 145–155. (Daniel Barsky) **99j:30051** 30G06 (11S80, 12J25, 46S10)

— (*with* Mainetti, Nicolas) Spectral semi-norm of a p-adic Banach algebra. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 79–91. (L. Narici) **99b:46119** 46S10 (12J25, 46H05)

— Dissociated functions and p-adic characters. (English summary) *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 2, 123–134. (Bertin Diarra) **99m:12013** 12J27 (11S85, 46S10)

— (*with* Boutabaa, Abdelbaki) On uniqueness of p-adic meromorphic functions. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2557–2568. (M. S. Rangachari) **99a:46136** 46S10 (12J25, 30G30, 46J15)

— (*with* Haddad, Labib; Vidal, Robert) Urs, ursim, and non-urs for p-adic functions and polynomials. (English summary) *J. Number Theory* **75** (1999), *no.* 1, 133–144. (William A. Cherry) **99m:30093** 30G06 (30D35)

Eschenazi, Cesar (*with* Palmeira, Carlos Frederico) Local topology of elementary waves for systems of two conservation laws. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 127–144. (Pavel Dubovskiĭ) **99j:35130** 35L65 (58E05)

Eschenbach, Carola (*with* Kulik, Lars) An axiomatic approach to the spatial relations underlying left-right and in front of-behind. (English summary) *KI-97: advances in artificial intelligence* (*Freiburg*, 1997), 207–218, *Lecture Notes in Comput. Sci.*, 1303, *Springer, Berlin*, 1997. (*see* **99d:68006**) 68T99 (03B30)

Eschenbach, Carolyn A. (*with* Hall, Frank J.; Li, Zhongshan) From real to complex sign pattern matrices. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 159–172. (Rafael Canto) **99d:15003** 15A15 (15A09, 15A48)

Eschenburg, J.-H. (*with* Tribuzy, Renato) Associated families of pluriharmonic maps and isotropy. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 295–310. (Anne-Joëlle Vanderwinden) **99i:58038** 58E20 (53C35, 53C42)

— (*with* Heintze, Ernst) Unique decomposition of Riemannian manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3075–3078. (Joseph E. Borzellino) **99a:53030** 53C20

Escher, Christine M. Rigidity of minimal isometric immersions of spheres into spheres. (English summary) *Geom. Dedicata* **73** (1998), *no.* 3, 275–293. (G. Tóth) **99j:53081** 53C42 (58E20)

Escher, Joachim (*with* Amann, Herbert) ★ Analysis. I. (German. German summary) Grundstudium Mathematik. [Basic Study of Mathematics] *Birkhäuser Verlag, Basel*, 1998. *xvi+445 pp. ISBN* 3-7643-5976-5; 3-7643-5974-9 (Editors) **99k:00001** 00–01 (26–01)

— (*with* Constantin, Adrian) Global existence and blow-up for a shallow water equation. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 303–328. (Darryl D. Holm) **99m:35202** 35Q53 (35B40, 76B15)

— (*with* Scarpellini, Bruno) Stability properties of parabolic equations in unbounded domains. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 31–45. (Yoshio Yamada) **99d:35090** 35K60 (35B35)

— (*with* Constantin, Adrian) On the Cauchy problem for a family of quasilinear hyperbolic equations. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1449–1458. (Alan Shapiro) **99i:35137** 35Q53 (35L99, 76B15)

— (*with* Scarpellini, Bruno) On the asymptotics of solutions of parabolic equations on unbounded domains. *Nonlinear Anal.* **33** (1998), *no.* 5, 483–507. (Eduard Feireisl) **99e:35116** 35K60 (35B40)

— (*with* Mayer, Uwe F.; Simonett, Gieri) The surface diffusion flow for immersed hypersurfaces. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1419–1433 (*electronic*). (Vladimir Grebenev) **99f:58042** 58E15 (35K99, 35R35, 65C20)

Escher, Jutta (*with* Draayer, J. P.) Fermion realization of the nuclear Sp(6, **R**) model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5123–5147. (A. Ventura) **99k:81346** 81V35 (81R05)

Eschmeier, Jörg C_{00}-representations of $H^\infty(G)$ with dominating Harte spectrum. (English summary) *Banach algebras '97* (*Blaubeuren*), 135–151, *de Gruyter, Berlin*, 1998. (Alfredo Octavio) **99j:47009** 47A15 (47A13, 47A45, 47D27)

Escobar, J. M. (*with* Montenegro, R.; Montero García, Gustavo) A numerical model for three-dimensional wind fields. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 959–964, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 86–08 (86A10)

Escobar, José F. Some isoperimetric problems. (Spanish. English and Spanish summaries) *Rev. Acad. Colombiana Cienc. Exact. Fis. Natur.* **22** (1998), *no.* 82, 109–115. (Andrew Bucki) **99b:53054** 53C21 (35B45, 35P15, 49Q20, 52A40, 58G30)

Escobar, Luis A. (*with* Meeker, William Q.) Fisher information matrices with censoring, truncation, and explanatory variables. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 221–237. (Summary) **99a:62138** 62N05 (62B10)

martel Escobar, Ma. del Carmen *see* **Martel Escobar, Ma. del Carmen**

Escobar, Michael D. (*with* West, Mike) Computing nonparametric hierarchical models. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 1–22, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62053** 62G05

Escobedo, M. (*with* Herrero, Miguel A.; Velázquez, Juan J. L.) A nonlinear Fokker-Planck equation modelling the approach to thermal equilibrium in a homogeneous plasma. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 3837–3901. (Sergei A. Vakulenko) **99a:82093** 82D10 (35Q99, 76X05, 82C31)

Escobedo Conde, Raúl (*with* Bustamante González, Jorge) When a composition algebra is barrelled? *Extracta Math.* **12** (1997), *no.* 1, 19–23. (Denny Gulick) **99a:46005** 46A08 (46H05, 54C30)

— (*with* Bustamante González, Jorge; Arrazola, José R.) *A*-realcompact spaces. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 17–29. (A. H. Stone) **99e:54017** 54D20 (46E25, 46J99, 54C40)

Escoriza, J. (*with* Torrecillas Jover, Blas) Multiplication objects in commutative Grothendieck categories. *Comm. Algebra* **26** (1998), *no.* 6, 1867–1883. (C. Năstăsescu) **99d:18012** 18E15 (16W50)

Escott, A. E. (*with* Perkins, S.) Synchronizing codewords of q-ary Huffman codes. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 637–655. (Summary) **99j:94030** 94A45

de frutos-Escrig, David *see* **de Frutos-Escrig, David**

Escudero, Laureano F. (*with* Garín, A.; Pérez, Gloria) Some properties of cliques in 0-1 mixed integer programs. (English summary) *Top* **4** (1996), *no.* 2, 215–223. (Jürgen Köhler) **99d:90077** 90C11

— (*with* Martello, Silvano; Toth, Paolo) On tightening 0-1 programs based on extensions of pure 0-1 knapsack and subset-sum problems. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 379–404. (*see* **99b:90006**) 90C27

— (*with* Alonso, Antonio J.) 0-1 equivalent model representations for air traffic management. (English summary) *Top* **6** (1998), *no.* 1, 19–36. 90C09 (90B35)

Escudero, M. (*with* Gómez Martí, José) Edge-colorings of some large graphs on alphabets. (English summary) *Ars Combin.* **49** (1998), 49–55. (Summary) **99c:05064** 05C15 (05C90)

Escultura, E. E. Exact solution of Fermat's equation (a definitive resolution of Fermat's last theorem). (English summary) *Nonlinear Stud.* **5** (1998), *no.* 2, 227–254. 00A35 (01A99, 03A05, 11D41)

Eser, Dursun (*with* Özer, Mehmet Naci) Derivation of separable amplitude equations by multiple scales method. (English summary) *Turkish J. Math.* **22** (1998), *no.* 3, 309–317. (Summary) **99m:35236** 35Q55 (35L70, 58F07)

Esfeld, Michael Der Holismus der Quantenphysik: seine Bedeutung und seine Grenzen. (English summary) [Holism in quantum physics: its significance and its limits] *Philos. Natur.* **36** (1999), *no.* 1, 157–185. 00A30 (00A79, 81P05)

Esguerra, P. (*with* Muriel, A.; Jirkovsky, L.; Dresden, M.) Instabilities in classical and quantum fluids. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 381–397. (Summary) **99f:76066** 76E99 (76Y05, 82C70, 82D15)

Èshanov, A. A. The Tricomi problem for an equation of mixed type with two lines of degeneracy and singular coefficients in the lowest terms. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 101–109. 35M10

Eshima, Nobuoki (*with* Tabata, Minoru; Takagi, Ichiro; Hiroyama, Takashi) The Cauchy problem for the system of equations describing migration motivated by regional economic disparity. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 45–64. (Vladimir Mityushev) **99i:92036** 92H20 (45K05, 90A99)

— (*with* Tabata, Minoru; Takagi, Ichiro) The nonlinear integro-partial differential equation describing the logistic growth of human population with migration. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 169–183. (Summary) **99g:92033** 92D25 (45K05)

Esi, Ayhan The A-statistical and strongly $(A\text{-}p)$-Cesaro convergence of sequences. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 89–93. (Summary) **99h:40010** 40G05

— (*with* Et, Mikail) Some new sequence spaces defined by a modulus function. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 95–99. (Robert Schutz) **99f:40009** 40H05 (46A45)

— Some new sequence spaces defined by a sequence of moduli. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 61–68. (Mursaleen) **99f:46013** 46A45 (40J05)

— (*with* Et, Mikail) Statistical semiperiodic sequence spaces and $[f]$-lacunary statistically convergence. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 831–838. (Cihan Orhan) **99j:40015** 40H05 (40C05, 40D05)

Esi, Ayten Sequence spaces defined by a sequence of moduli. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **12** (1999), *no.* 1, 39–42. 46A45

Ésik, Zoltán (*with* Bloom, Stephen L.) Axiomatizing shuffle and concatenation in languages. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 62–91. (Christine Charretton) **99b:03045** 03C05 (03D05, 68Q45)

— (*with* Bloom, Stephen L.) Varieties generated by languages with poset operations. (English summary) *Math. Structures Comput. Sci.* **7** (1997), *no.* 6, 701–713. (Heinrich Seidel) **99b:68111** 68Q45 (08B20, 68Q10)

— Axiomatizing the equational theory of regular tree languages (extended abstract). (English summary) *STACS* 98 (*Paris*, 1998), 455–465, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q45 (03C05, 03D05)

— (*with* Bertol, Michael) Nonfinite axiomatizability of the equational theory of shuffle. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 505–539. (A. A. Iskander) **99d:68144** 68Q45 (03C05, 08B05)

— A Cayley theorem for ternary algebras. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 311–316. (R. Balbes) **99m:06023** 06D30 (06D05, 94C10)

— (*with* Bernátsky, L.) Semantics of flowchart programs and the free Conway theories. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 1-3, 35–78. (Stephen L. Bloom) **99m:68112** 68Q55

Esikova, N. B. (*with* Abakumov, M. V.; Gavrilyuk, K. V.; Lukshin, An. V.; Mukhin, S. I.; Sosnin, N. V.; Tishkin, V. F.; Favorskiĭ, A. P.) A mathematical model of the hemodynamics of a cardio-vascular system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 892–898, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 895–901 (1998). (Introduction) **99b:92017** 92C50 (92–08, 92C30)

E Silva, Aguinaldo S. *see* **e Silva, Aguinaldo S.**

Esipenko, D. G. (*with* Strygin, Vadim V.) A hybrid method for constructing asymptotics for a nonlinear singularly perturbed Cauchy problem with rapidly oscillating conditionally periodic coefficients. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 320–325, 429; *translation in Differential Equations* **34** (1998), *no.* 3, 320–325. (Yuri V. Rogovchenko) **99k:34119** 34E05 (34E15)

Eskin, Alex (*with* Margulis, Grigorii A.; Mozes, Shahar) Upper bounds and asymptotics in a quantitative version of the Oppenheim conjecture. *Ann. of Math.* (2) **147** (1998), *no.* 1, 93–141. (Alexander Starkov) **99a:11043** 11E04 (11E57, 22E40, 58F11)

— Counting problems and semisimple groups. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 539–552 (*electronic*). (Dmitry Y. Kleinbock) **99j:11077** 11J25 (22E40, 81Q50)

Eskin, Gregory (*with* Ralston, James V.) Inverse scattering problems for Schrödinger operators with magnetic and electric potentials. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 147–166, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Richard Ford) **99b:35028** 35J10 (35R30, 81U40)

— (*with* Ralston, James V.) Inverse scattering problems for the Schrödinger operators with external Yang-Mills potentials. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 91–106, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (Hiroshi Isozaki) **99a:81191** 81U40 (35J10, 35P25, 81Q10)

Èskin, L. D. (*with* Tonkonog, S. L.) On some symmetries and invariant solutions of the equations of the dynamics of a non-Newtonian fluid. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 55–62; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 3, 52–59. (Victor V. Zharinov) **99f:76011** 76A05 (35Q35)

Eslahchi, Ch. The edge Hall-condition number of a graph. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 177–180, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15

— (*with* Hajiabolhassan, H.; Mehrabadi, M. L.; Tusserkani, R.) A counterexample for Hilton-Johnson's conjecture on list-coloring of graphs. (English summary) *Australas. J. Combin.* **18** (1998), 127–131. (Summary) **99g:05075** 05C15

Esmaeili, Morteza (*with* Gulliver, T. Aaron; Secord, Norman P.) Trellis complexity of linear block codes via atomic codewords. (English summary) *Information theory and applications, II* (*Lac Delage, PQ*, 1995), 130–148, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (N. L. Manev) **99b:94060** 94B75 (11H31)

— (*with* Gulliver, T. Aaron; Secord, Norman P.; Mahmoud, Samy A.) A link between quasi-cyclic codes and convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 431–435. (Summary) **99a:94050** 94B15

Esmailzadeh, E. (*with* Jalili, N.) Parametric response of cantilever Timoshenko beams with tip mass under harmonic support motion. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 765–781. (Yuri V. Mikhlin) **99i:73044** 73K05 (73K12)

— (*with* Shahani, A. R.) Longitudinal and rotational coupled vibration of viscoelastic bars with tip mass. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 111–116. (Summary) **99h:73044** 73K12 (70K99, 73F15, 73K05)

garcía-Esnaola, M. *see* **García-Esnaola, M.**

Esnault, Hélène (*with* Viehweg, Eckart) Germs of de Rham cohomology classes which vanish at the generic point. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 857–862. (Sándor J. Kovács) **99i:14024** 14F40

— A remark on an algebraic Riemann-Roch formula for flat bundles. (English summary) *K-Theory* **13** (1998), *no.* 1, 61–68. (Şerban Bărcănescu) **99c:14012** 14C40 (19E20)

Esogbue, Augustine O. (*with* Kacprzyk, Janusz) Fuzzy dynamic programming. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 281–307, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C39 (04A72, 90C70)

— (*with* Hearnes, Warren E., II) Maintenance and replacement models under a fuzzy framework. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 421–447, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90B25

— (*with* Song, Qiang[2]) On the decomposition problem of fuzzy sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 57–66. (Summary) **99d:03047** 03E72

d'Espagnat, Bernard On the difficulties that attributing existence to "hidden" quantities may raise. *Realism and quantum physics*, 166–174, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P05

España, Salvador (*with* Ruiz Ochando, José; García Pérez, Pedro Luis) Locally threshold testable languages in strict sense: application to the inference problem. (English summary) *Grammatical inference (Ames, IA, 1998)*, 150–161, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68Q45 (68T10)

Esparza, Javier Petri nets, commutative context-free grammars, and basic parallel processes. (English summary) *Fund. Inform.* **31** (1997), *no.* 1, 13–25. (Anna Bagyinszkiné-Orosz) **99a:68129** 68Q90 (68Q10, 68Q15, 68Q50)

Espedal, Magne S. (*with* Hersvik, Karl J.; Ersland, Brit G.) Domain decomposition methods for flow in heterogeneous porous media. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 104–120, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Jian-Ping Zhu) **99k:76109** 76M25 (65M55, 76S05)

— (*with* Tai, Xue-Cheng; Frøyen, Johnny; Chan, Tony F. C.) Overlapping domain decomposition and multigrid methods for inverse problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 523–529, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65210** 65N55 (35R30)

— (*with* Tai, Xue-Cheng; Yan, Ning-ning) A hybrid nonoverlapping domain decomposition scheme for advection dominated advection-diffusion problems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 321–336. (Zheng Hui Xie) **99k:65115** 65N55 (76M25)

— (*with* Tai, Xue-Cheng) Rate of convergence of some space decomposition methods for linear and nonlinear problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1558–1570 (*electronic*). (Muhammad Aslam Noor) **99k:65101** 65N12 (65K10)

Espejo, M. Ruiz *see* **Ruíz Espejo, Mariano**

ruíz Espejo, Mariano *see* **Ruíz Espejo, Mariano**

Espejo Mohedano, R. (*with* Caridad Ocerin, J. M.; Segador, A. Gallego) Automatic aggregation of categories in multivariate contingency tables using information theory. (English summary) *Comput. Statist. Data Anal.* **29** (1999), *no.* 3, 285–294. 62H17

Espiau, B. On the mass center of articulated chains. (English summary) *Advances in robot kinematics: analysis and control (Salzburg*, 1998), 187–196, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

prieto Espinosa, Alberto *see* **Prieto Espinosa, Alberto**

Espinosa, Horacio D. (*with* Zavattieri, Pablo D.; Dwivedi, Sunil K.) A finite deformation continuum/discrete model for the description of fragmentation and damage in brittle materials. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1909–1942. (*see* **99g:73003**) 73M25 (73Gxx, 73V05)

puga-Espinosa, Isabel *see* **Puga-Espinosa, Isabel**

Espinosa, J. R. (*with* Riotto, A.; Ross, Graham G.) *D*-term inflation in superstring theories. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 461–477. (Summary) **99g:81158** 81T30

garcía Espinosa, Julio *see* **García Espinosa, Julio**

Espona, M. (*with* Serra, O.) Cayley digraphs based on the de Bruijn networks. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 305–317 (*electronic*). (William L. Kocay) **99h:05052** 05C25 (05C20, 94C15)

Esposito, Alessandra (*with* Belfiore, N. P.) Theoretical and experimental study of crossover operators of genetic algorithms. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 271–302. (Summary) **99g:65013** 65C20 (90C27)

— (*with* Catalano, M. S. Fiorenzo; Malucelli, F.; Tarricone, L.) A new matrix bandwidth reduction algorithm. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 99–107. 65F30 (90C08)

corbo Esposito, Antonio *see* **Corbo Esposito, Antonio**

Esposito, Giampiero Quantization of field theories in the presence of boundaries. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics (Trieste*, 1994), 125–135, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:81136** 81T20 (58G26, 81T16)

— (*with* Kamenshchik, A. Yu.; Pollifrone, Giuseppe) ★ Euclidean quantum gravity on manifolds with boundary. (English summary) Fundamental Theories of Physics, 85. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+319 *pp. ISBN* 0-7923-4472-3 (Alfred Actor) **99e:81164** 81T20 (81–02, 83–02, 83C45)

— SO(10) GUT models and cosmology. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow*, 1996), 232–238, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81V22 (83F05)

— (*with* Stornaiolo, Cosimo) Multimomentum maps on null hypersurfaces. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 10, 1395–1403. (Jörg Frauendiener) **99d:83004** 83C05

— (*with* Avramidi, Ivan G.) Lack of strong ellipticity in Euclidean quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1141–1152. (Dmitri V. Vassilevich) **99h:83030** 83C45 (58G11)

— Complex parameters in quantum mechanics. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 535–547. (M. Krishna) **99k:81328** 81U05

— Scattering from singular potentials in quantum mechanics. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9493–9504. (M. Krishna) **99j:81196** 81U05 (81Q05)

Esposito, Luca (*with* Mingione, Giuseppe) Some remarks on the regularity of weak solutions of degenerate elliptic systems. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 203–219. (Giuseppe Di Fazio) **99e:35033** 35J15 (35D10)

Esposito, Raffaele (*with* Carlen, Eric Anders; Lebowitz, Joel L.; Marra, R.; Rokhlenko, A.) Kinetics of a model weakly ionized plasma in the presence of multiple equilibria. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 193–218. (Carlo Cercignani) **99h:82072** 82D10 (35Q99, 76P05, 76X05, 82C40)

— (*with* Cercignani, Carlo; Marra, R.) The Milne problem with a force term. (English summary) *Transport Theory Statist. Phys.* **27** (1998), *no.* 1, 1–33. (Jürgen Batt) **99d:82051** 82C40 (76P05)

Esposito, Salvatore Covariant Majorana formulation of electrodynamics. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 231–244. (Summary) **99a:78013** 78A25

Esposito, Vincenzo Estimates and existence theorems for a class of nonlinear degenerate elliptic equations. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 189–206 (1998). (Summary) **99h:35063** 35J65

— (*with* Miserendino, Doriano) Poisson operators for Grüschin [Grushin] differential operators with double characteristic and related continuity theorems. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 101–126. (Ya. A. Roĭtberg) **99b:35075** 35J70 (35B30, 35G05, 35S05, 47G30)

degli Esposti, Mirko *see* **Degli Esposti, Mirko**

Esquembre, F. (*with* Balibrea Gallego, Francisco; Mondéjar, F.) Simple triangular maps of the unit square. (English summary) *Iteration theory (ECIT'94) (Opava)*, 243–246, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F08

Esquivel, Susana C. (*with* Leiva, Héctor Ariel; Gallard, Raúl H.) Selection mechanisms in evolutionary algorithms. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 17–33. 68Q20

Esrafilian, E. (*with* Mamourian, Ahmad; Taghizadeh, N.) On the existence of general solution of a first order elliptic systems by fixed-point theorem. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 539–545, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Yong Qing Li) **99f:35051** 35J60 (35J45, 45E05, 45G15, 47N20)

Essai, Azeddine Weighted FOM and GMRES for solving nonsymmetric linear systems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 277–292. (Chun-Hua Guo) **99m:65059** 65F10

Essam, J. W. (*with* Brak, R.; Owczarek, Aleksander L.) New results for directed vesicles and chains near an attractive wall. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 155–192. (Summary) **99g:82027** 82B41 (82D60)

— (*with* Brak, R.) Directed compact percolation near a wall. III. Exact results for the mean length and number of contacts. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 355–367. (Summary) **99k:82036** 82B43

Essawy, A. H. (*with* El-Arabawy, H.; El-Sawaby, Sh. M.) Diffraction of water waves due to a presence of two headlands. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 10, 25–38. (Summary) **99i:76013** 76B15 (76M20, 86A05)

— (*with* El-Arabawy, H.; El-Sawaby, Sh. M.) Diffraction of water waves due to a presence of two headlands. (English summary) *J. Comput. Appl. Math.* **104** (1999), *no.* 1, 27–39. 76B15

— (*with* El-Arabawy, H.; El-Sawaby, Sh. M.) Diffraction of Kelvin waves due to elliptical shapes of islands. (English summary) *Math. Sci. Res. Hot-Line* **3** (1999), *no.* 2, 19–31. (Summary) **99j:76008** 76B15 (86A05)

Esselaoui, D. (*with* Loukili, Y.; Bourgeat, Alain) Perfection of the simulation of freshwater/saltwater interface motion. (English summary) *Recent advances in problems of flow and transport in porous media (Marrakech*, 1996), 117–129, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 86A05 (76M25, 76S05)

van den Essen, Arno Polynomial automorphisms and the Jacobian conjecture. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants (Reims*, 1995), 55–81, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Jie Tai Yu) **99b:14015** 14E09 (13B10, 13B25)

Essén, Hanno Interior Schwarzschild problem and its integration. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 875–889. (Summary) **99a:83013** 83C15

Essén, Matts (*with* Wu, Shengjian) Fix-points and a normal family of analytic functions. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 171–178. (Summary) **99m:30069** 30D45

Esser, Gregor K. (*with* Dorsch, Rainer G.; Haimerl, Walter A.) Accurate computation of mean power and astigmatism by means of Zernike polynomials. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1686–1688. (Summary) **99b:78004** 78A10

Eßler, Fabian H. L. (*with* Korepin, Vladimir E.; Latrémolière, F. T.) Temperature corrections to conformal field theory. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 559–563. (Summary) **99i:82006** 82B10 (81T40)

— *see also* **Exactly solvable models of strongly correlated electrons, 99a:82003**

Essouabri, Driss Singularité des séries de Dirichlet associées à des polynômes de plusieurs variables et applications en théorie analytique des nombres. (English summary) [Singularity of the Dirichlet series associated with multivariate polynomials and applications in analytic number theory] *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 2, 429–483. (Andrzej Mądrecki) **99d:11098** 11M41 (11P21, 14E15)

Esteban, Maria J. (*with* Séré, Eric) Les équations de Dirac-Fock. (French summary) [The Dirac-Fock equations] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. V*, 10 *pp., École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35Q40 (81Q05)

garcía-Esteban, Mauricio *see* **García-Esteban, Mauricio**

Estep, Don (*with* Johnson, Claes) The pointwise computability of the Lorenz system. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1277–1305. (Summary) **99h:65145** 65L99 (34C35, 34D45)

Esterle, Jean Propriétés multiplicatives universelles de certains quotients d'algèbres de Fréchet. (English and French summaries) [Universal multiplicative properties of certain quotients of Fréchet algebras] *Ann. Fac. Sci. Toulouse Math.* (6) **5** (1996), *no.* 4, 645–659. (James Bell Cooper) **99g:46069** 46J05 (46J20)
— Embedding semigroups in commutative radical Banach algebras. (English summary) *Banach algebras '97* (*Blaubeuren*), 153–168, *de Gruyter, Berlin*, 1998. (H. G. Dales) **99m:46121** 46H40 (20M14, 46J40)
— (*with* Vol'berg, A. L.) Sous-espaces invariants par translations bilatérales de certains espaces de Hilbert de suites quasi-analytiquement pondérées. (English and French summaries) [Translation-invariant subspaces of some quasi-analytically weighted Hilbert spaces of sequences] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 295–300. (Håkan Hedenmalm) **99k:47013** 47A15 (46E99, 47B37)
— (*with* Chalendar, I.) L^1-factorization for C_{00}-contractions with isometric functional calculus. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 174–194. (Gilles Cassier) **99e:47056** 47D27 (47A65)
Estes, Dennis R. (*with* Chan, Wai-Kiu; Jöchner, M.) Representations of codimension ≥ 3 by definite quadratic forms. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 81–85. (Detlev W. Hoffmann) **99e:11042** 11E12 (11E08, 11E25)
Esteva, Francesc (*with* Hájek, Petr[1]; Godo, Lluís) Fuzzy logic and probability. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 237–244, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:03042** 03B52 (68T27)
— (*with* Plaza, E.; Garcia-Calvés, Pere; Godo, Lluís; López de Màntaras, R.) A logical approach to case-based reasoning using fuzzy similarity relations. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 105–122. (Summary) **99f:68191** 68T27 (03B52)
pérez-Esteva, Salvador *see* **Pérez-Esteva, Salvador**
Esteves, E. *see* **Meeting: Algebra**
gonzález Estévez, Javier *see* **González Estévez, Javier**
Estévez, P. G. (*with* Cerveró, José M.) Miura transformation between two non-linear equations in 2 + 1 dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2800–2807. 35Q55 (58F37)
— (*with* Conde, Esther; Gordoa, Pilar R.) Unified approach to Miura, Bäcklund and Darboux transformations for nonlinear partial differential equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 82–114. (Elena Medina Reus) **99c:58143** 58F37 (35Q58)
— (*with* Gordoa, Pilar R.) Non-classical symmetries and the singular manifold method: a further two examples. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7511–7519. (Yun Bo Zeng) **99k:35009** 35A30 (34A34, 35Q99, 58F35)
— Darboux transformation and solutions for an equation in 2 + 1 dimensions. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1406–1419. (Summary) **99j:35179** 35Q51 (58F37)
quintela Estévez, Peregrina *see* **Quintela Estévez, Peregrina**
Estivill-Castro, Vladimir (*with* Gasca Soto, María De Luz) Adaptability in the shortest-path problem. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 187–193, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 90C35 (93B10)
— (*with* Schuierer, Sven) Optimal algorithms for stabbing polygons by monotone chains. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 1–10 (*electronic*). (*see* **99d:68010**) 68U05
lópez Estrada, Jesús *see* **López Estrada, Jesús**
bonilla Estrada, Moisés *see* **Bonilla Estrada, Moisés**
garzón Estrada, Nilda *see* **Garzón Estrada, Nilda**
lam-Estrada, Pablo *see* **Lam-Estrada, Pablo**
Estrada, Ricardo On the Euler-Maclaurin formula. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 1, 117–133. (Summary) **99a:65011** 65B15 (41A58, 65D32)
— (*with* Gracia-Bondía, J. M.; Várilly, J. C.) On summability of distributions and spectral geometry. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 219–248. (Éric Leichtnam) **99a:58153** 58G18 (46F99, 58B30, 58G11, 58G26)
— Regularization of distributions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 625–636. (Ioana Ciorănescu) **99h:46068** 46F10 (46F20)
— (*with* Durán, Ana Lía; Kanwal, Ram P.) Extensions of the Poisson summation formula. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 581–606. (Mridula Garg) **99a:46073** 46F10 (42A38)
— (*with* Kanwal, Ram P.) Moment expansion analysis for time-domain asymptotics. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 489–499. (Todor Dimitrov Todorov) **99b:46057** 46F05 (34E05, 34K25, 65E05)
— (*with* Durán, Ana Lía) An extension of the integral test. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1745–1751. (John A. Fridy) **99i:40001** 40A05 (26A06, 40A10)
Estrada Sarlabous, J. (*with* Hernández Mederos, Victoria) Generation of points on a curve with prescribed distribution of their arc length. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 133–138. 65D17
Estrade, Anne (*with* Cohen, Serge) Régularisation d'équations de Stratonovitch à sauts entre variétés. (English and French summaries) [Regularization of Stratonovich equations with jumps between manifolds] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 233–265. (Jean Picard) **99j:60082** 60H10 (60H20, 60J75)
Estruch, Vicente D. (*with* Hernández, Vicente G.; Sánchez, Elena; Coll, Carmen) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 21 *pp.* (*electronic*). (Summary) **99e:93016** 93B15 (65F30)
— (*with* Hernández, Vicente G.; Sánchez, Elena; Coll, Carmen) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 155–175. (John Maroulas) **99f:93021** 93B15 (49N20)
Eswara, A. T. A parametric differentiated finite-difference study of Falkner-Skan problem. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 3, 191–196. 65N06 (34B15, 76D10)
Et, Mikail (*with* Esi, Ayhan) Some new sequence spaces defined by a modulus function. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 95–99. (Robert Schutz) **99f:40009** 40H05 (46A45)
— (*with* Çolak, Rifat) On some generalized difference sequence spaces and related matrix transformations. (English summary) *Hokkaido Math. J.* **26** (1997), *no.* 3, 483–492. (Summary) **99h:40012** 40J05 (46A45)
— (*with* Basarir, Metin) On some new generalized difference sequence spaces. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 3, 169–175. (Plamen Dzhakov) **99j:46012** 46A45
— (*with* Esi, Ayhan) Statistical semiperiodic sequence spaces and $[f]$-lacunary statistically convergence. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 831–838. (Cihan Orhan) **99j:40015** 40H05 (40C05, 40D05)
— (*with* Asma, Çiğdem) On v-invariant sequence spaces. (English summary) *Soochow J. Math.* **24** (1998), *no.* 4, 305–308. (Summary) **99m:40014** 40H05 (40C05, 46A45)
Et al. *see* **et al.**
Etalle, Sandro (*with* Gabbrielli, Maurizio; Meo, Maria Chiara) Unfold/fold transformations of CCP programs. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 348–363, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68N17)
— (*with* van Raamsdonk, Femke) Beyond success and failure. (English summary) *Logic programming* (*Manchester*, 1998), 190–204, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68N05)
— (*with* Gabbrielli, Maurizio; Meo, Maria Chiara) Unfold/fold transformations of CCP programs. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 299–321. 68T20 (68N20, 68Q10)
— A semantics for modular general logic programs. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 51–80. (Summary) **99f:68027** 68N17 (03B70)
— (*with* Bossi, A.; Cocco, N.) Termination of well-moded programs. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 243–257. (Summary) **99i:68018** 68N17
— (*with* Gabbrielli, Maurizio) Layered modes. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 225–244. (Summary) **99k:68028** 68N17 (68Q60)
Etayo Gordejuela, Fernando On quasi-slant submanifolds of an almost Hermitian manifold. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 217–223. (Andrew Bucki) **99j:53073** 53C40 (53C15)
Etayo Miqueo, José Javier The reign of projective geometry. (Spanish) *History of mathematics in the XIXth century, Part* 1 (*Spanish*) (*Madrid*, 1991), 115–138, *Real Acad. Cienc. Exact. Fis. Natur., Madrid*, 1992. (*see* **98d:01003**) 01A55 (51–03)
Etcheverry, J. I. (*with* Durán, Ricardo G.; Rossi, J. D.) Numerical approximation of a parabolic problem with a nonlinear boundary condition. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 497–506. (Summary) **99a:65122** 65M60 (35K60)
Etemadi, N. (*with* Sriram, T. N.; Vidyashankar, A. N.) L_p convergence of reciprocals of sample means with applications to sequential estimation in linear regression. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 1–15. (K. F. Yu) **99d:60046** 60F25 (60G10, 62L12, 62L15)
Etessami, Kousha Counting quantifiers, successor relations, and logarithmic space. (English summary) Tenth Annual Conference on Structure in Complexity Theory (Minneapolis, MN, 1995). *J. Comput. System Sci.* **54** (1997), *no.* 3, 400–411. (Summary) **99g:68071** 68Q15 (03C13, 03C80, 03D15, 68Q25)
Etheridge, Alison (*with* Stoica, Gheorghe) Processus d'Antoniadis-Carmona et le principe de déviations modérées. (English and French summaries) [Antoniadis-Carmona processes and the principle of moderate deviations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 607–610. (Anatolii A. Pukhal'skiĭ) **99i:60011** 60B12
Etheridge, Debra Lynn (*with* Rodriguez, Jesús) Periodic solutions of nonlinear discrete-time systems. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 119–137. (Summary) **99a:39013** 39A10 (39A12)
— (*with* Rodriguez, Jesús) Scalar discrete nonlinear two-point boundary value problems. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 127–144. (Summary) **99g:39020** 39A12 (39A10)
Etheridge, W. L. (*with* Brown, Jeffrey Lawrence) Local approximation of functions over points scattered in $\mathbf{R}^m$. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 189–199. (Summary) **99j:65018** 65D15 (65D05)
Etherington, David W. (*with* Crawford, James M.) A non-deterministic semantics for tractable inference. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 286–291, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T15 (03B70, 68N17)
Ethier, S. N. On the normal-selection model. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 309–320, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D25 (60J60, 60J70)
— (*with* Kurtz, Thomas G.) Coupling and ergodic theorems for Fleming-Viot processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 533–561. (Xue Lei Zhao) **99f:60074** 60F99 (60G10, 60G57, 60J60)
— An optional stopping theorem for nonadapted martingales. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 283–288. (Summary) **99e:60111** 60G40 (60G42, 60G48)
Etienne, Gwihen On the Möbius algebra of geometric lattices. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 921–933. (Volkmar Welker) **99m:05045** 05B35 (05A19)
Etingof, Pavel (*with* Kazhdan, David A.) Quantization of Poisson algebraic groups and Poisson homogeneous spaces. *Symétries quantiques* (*Les Houches*, 1995), 935–946, *North-Holland, Amsterdam*, 1998. (Benjamin David Enriquez) **99m:58105** 58F06 (58H99)
— (*with* Varchenko, A. N.) Geometry and classification of solutions of the classical dynamical Yang-Baxter equation. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 77–120. (V. A. Golubeva) **99e:32032** 32G34 (17B67, 35Q99, 81T40)
— (*with* Kirillov, Alexander A., Jr.) On Cherednik-Macdonald-Mehta identities. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 43–47 (*electronic*). (Summary) **99c:05194** 05E05 (05E35, 17B37)
— (*with* Gelaki, Shlomo) On finite-dimensional semisimple and cosemisimple Hopf algebras in positive characteristic. *Internat. Math. Res. Notices* **1998**, *no.* 16, 851–864. (Akira Masuoka) **99i:16068** 16W30
— (*with* Gelaki, Shlomo) Semisimple Hopf algebras of dimension pq are trivial. *J. Algebra* **210** (1998), *no.* 2, 664–669. (Akira Masuoka) **99k:16079** 16W30

— (*with* Gel'fand, Izrail' Moiseevich; Retakh, Vladimir) Nonabelian integrable systems, quasideterminants, and Marchenko lemma. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 1–12. (Nicolás Andruskiewitsch) **99h:58083** 58F07 (16W25)
— (*with* Gelaki, Shlomo) Some properties of finite-dimensional semisimple Hopf algebras. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 191–197. (E. J. Taft) **99e:16050** 16W30
— (*with* Gelaki, Shlomo) A method of construction of finite-dimensional triangular semisimple Hopf algebras. *Math. Res. Lett.* **5** (1998), *no.* 4, 551–561. (E. J. Taft) **99i:16069** 16W30
Etman, L. F. P. (*with* van Campen, D. H.; Schoofs, A. J. G.) Design optimization of multibody systems by sequential approximation. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 393–415. 70E99 (90C90)
Etnyre, John B. Symplectic convexity in low-dimensional topology. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 3–25. (Darko Milinković) **99j:57014** 57M50 (57R15, 58F05)
Eto, Kazufumi Cohen-Macaulay rings associated with digraphs. *J. Algebra* **206** (1998), *no.* 2, 541–554. (Alex Martsinkovsky) **99m:13045** 13H10 (05C45)
Et-Taoui, Boumediene (*with* Brehm, Ulrich) Congruence criteria for finite subsets of complex projective and complex hyperbolic spaces. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 81–95. (Sergey N. Astrakov) **99e:51021** 51M10 (51A05, 51A45, 51M15)
Ettari, Dario The Indian wife puzzle, Russell on universals. *Metalogicon* **10** (1997), *no.* 2, 41–45. 03A05
Ettinger, J. Mark Finitely presented partially ordered abelian groups. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 133–141. (N. Ya. Medvedev) **99a:06023** 06F20 (20K99)
Etzion, Tuvi (*with* Bar-Yahalom, Eli) Intersection of isomorphic linear codes. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 247–256. (Summary) **99h:94059** 94B05
— (*with* Östergård, Patric R. J.) Greedy and heuristic algorithms for codes and colorings. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 382–388. (Summary) **99a:94066** 94B65 (05C15)
— Perfect byte-correcting codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3140–3146. (Summary) **99i:94063** 94B05
— (*with* Vardy, Alexander) On perfect codes and tilings: problems and solutions. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 205–223 (*electronic*). (Simon N. Litsyn) **99f:94017** 94B25 (05B45)
— (*with* Talyansky, Roman; Roth, Ron M.) Efficient code constructions for certain two-dimensional constraints. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 794–799. 94A14
Eu, Byung Chan (*with* Al-Ghoul, Mazen) Generalized hydrodynamics and shock waves. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 3, *part A*, 2981–2992. (Summary) **99a:82072** 82C40 (76L05, 76M35)
— ★ Nonequilibrium statistical mechanics. (English summary) Ensemble method. Fundamental Theories of Physics, 93. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xiv*+387 *pp. ISBN* 0-7923-4980-6 (Vitor R. Vieira) **99m:82002** 82–02 (76A02, 82C03, 82C40, 82C70)
Eubank, Randall L. (*with* Kambour, E. L.; Kim, Jongtae; Klipple, K.; Reese, C. S.; Schimek, M.) Estimation in partially linear models. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 27–34. (Li-Xing Zhu) **99k:62074** 62G05 (62J02)
— (*with* Kim, Jongtae) A simple second order smoother. (English summary) *J. Statist. Comput. Simulation* **61** (1998), *no.* 3, 271–285. (Summary) **99h:62046** 62G07
— ★ Nonparametric regression and spline smoothing. (English summary) Second edition. Statistics: Textbooks and Monographs, 157. *Marcel Dekker, Inc., New York*, 1999. *xii*+338 *pp. ISBN* 0-8247-9337-4 (Serguei Yu. Novak) **99m:62057** 62G07 (62–01, 65D10)
Eubanks, David A. (*with* van Fleet, Patrick J.; Wang, Jian Zhong[2]) Moment computation in shift invariant spaces. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 465–479. (Peter R. Massopust) **99i:65153** 65T99 (41A30, 42C15)
Euclid ★ Les éléments. Vol. III. (French. French summary) [Elements. Vol. III] Livre X: grandeurs commensurables et incommensurables. Classification des lignes irrationnelles. [Book X: Commensurable and incommensurable magnitudes. Classification of irrational lines] Translated from the text of I. L. Heiberg [Johan Ludvig Heiberg] and with commentary by Bernard Vitrac. With a preface by Maurice Caveing. Bibliothèque d'Histoire des Sciences. [History of Science Library] *Presses Universitaires de France, Paris*, 1998. *viii*+433 *pp. ISBN* 2-13-049586-9 (H. W. Guggenheimer) **99m:01004** 01A20 (51–03)
— *see also* **Busard, Hubert L. L., 99d:01014**
Eugeni, Franco (*with* Di Gennaro, Fernando) Pseudo-Euclidean structures on Galois fields. (Italian. English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 129–142 (1998). (Summary) **99c:51007** 51E14 (51E22, 94A60)
Eulenstein, O. (*with* Vingron, Martin) On the equivalence of two tree mapping measures. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 103–128. (Summary) **99k:92016** 92D15 (05C05, 05C90)
Euler, Marianna (*with* Euler, Norbert) Symmetries for a class of explicitly space- and time-dependent $(1+1)$-dimensional wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 70–78, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Stanislav V. Spichak) **99c:35010** 35A30 (35L70, 35Q99, 58G16)
— (*with* Euler, Norbert; Lindblom, Ove; Persson, Lars-Erik) The higher-dimensional Bateman equation and Painlevé analysis of nonintegrable wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 185–192, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35C99)
Euler, Norbert (*with* Euler, Marianna) Symmetries for a class of explicitly space- and time-dependent $(1+1)$-dimensional wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 70–78, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Stanislav V. Spichak) **99c:35010** 35A30 (35L70, 35Q99, 58G16)
— (*with* Lindblom, Ove; Euler, Marianna; Persson, Lars-Erik) The higher-dimensional Bateman equation and Painlevé analysis of nonintegrable wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 185–192, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35C99)
— Transformation properties of $\ddot{x} + f_1(t)\dot{x} + f_2(t)x + f_3(t)x^n = 0$. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 310–337. (W.-H. Steeb) **99b:34014** 34A25 (34A34)
van Eupen, Marijn (*with* Hamada, Noboru) The nonexistence of ternary [38, 6, 23] codes. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 165–172. (Summary) **99a:94043** 94B05 (51E22)
Eva, C. (*with* Bertero, Mario; Bindi, D.; Boccacci, Patrizia; Cattaneo, M.; Lanza, V.) A novel blind-deconvolution method with an application to seismology. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 815–833. 86A22 (86A15)
Evangelista, Gianpaolo (*with* Cavaliere, Sergio) Discrete frequency warped wavelets: theory and applications. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 874–885. (Summary) **99h:94007** 94A11 (42C15)
Evans, A. B. *see* **Evans, Anthony B.**
Evans, A. Bram On expected values and "negative probability" in 4-space QED. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 291–306. (Jos Uffink) **99e:81032** 81P99 (81V10)
Evans, Allan K. Fourier dimension and fractal dimension. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 12, 1977–1982. (Summary) **99i:28014** 28A80 (42A38)
Evans, Anthony B. (*with* Arasu, K. T.; Balasubramanian, Ramachandran) A new family of nested row-column designs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 139–144. (Summary) **99k:05021** 05B05
Evans, Carolyn J. (*with* Talbot, H.; Jones, Ronald) Complete ordering and multivariate mathematical morphology: algorithms and applications. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam*, 1998), 27–34, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10
Evans, D. J. *see* **Evans, David John[2]**
Evans, D. V. (*with* Porter, Richard) The trapping of surface waves by multiple submerged horizontal cylinders. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 417–433. (Summary) **99i:76019** 76B15
— (*with* Kuznetsov, N. G.; Porter, Richard; Simon, M. J.) Uniqueness and trapped modes for surface-piercing cylinders in oblique waves. (English summary) *J. Fluid Mech.* **365** (1998), 351–368. (Summary) **99d:76011** 76B15 (35Q35)
— (*with* Porter, Richard) Trapped modes embedded in the continuous spectrum. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 263–274. (Summary) **99c:76009** 76B15
— (*with* Porter, Richard) An example of non-uniqueness in the two-dimensional linear water-wave problem involving a submerged body. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3145–3165. (Nikolay G. Kuznetsov) **99m:76014** 76B15 (35Q35)
— (*with* Porter, Richard) Trapping and near-trapping by arrays of cylinders in waves. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 149–179. (Summary) **99k:76025** 76B15 (86A05)
Evans, David E. (*with* Elliott, George A.; Su, Hongbing) Classification of inductive limits of the Toeplitz algebra tensored with $\mathscr{T}$. *Operator algebras and quantum field theory (Rome*, 1996), 36–50, *Internat. Press, Cambridge, MA*, 199?. (Mahmood Khoshkam) **99h:46105** 46L05 (19K35, 46L80)
— (*with* Kawahigashi, Yasuyuki) ★ Quantum symmetries on operator algebras. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi*+829 *pp. ISBN* 0-19-851175-2 (Carl Winsløw) **99m:46148** 46L37 (19K99, 46L60, 46L80, 46N55, 82B10)
— (*with* Bratteli, Ola; Elliott, George A.; Kishimoto, Akitaka) Homotopy of a pair of approximately commuting unitaries in a simple C^*-algebra. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 2, 466–523. (Carla Farsi) **99m:46132** 46L05 (46L80)
Evans, David John[1] (*with* Ahmad, A. R.) The smart alternating group explicit (SMAGE) method. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 263–271. 65L10 (65Y05)
— (*with* Bamigbola, O. M.; Ibiejugba, M. A.) Analysis of Chebyshev finite element method for nonlinear differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 309–320. (Summary) **99m:65148** 65L60
— (*with* He, Qi Ming[2]; Kang, Li Shan) Convergence and stability of the finite difference scheme for nonlinear parabolic systems with time delay. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 129–153 (1998). (Petr N. Vabishchevich) **99d:65248** 65M06 (65M12)
— Block iterative methods for reduced systems of linear equations. (English summary) *Algorithms for large scale linear algebraic systems (Gran Canaria*, 1996), 25–35, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F10
— (*with* Martins, M. Madalena) The accelerated overrelaxation quadrant interlocking iterative method. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 707–712, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65F10
— (*with* Li, Chang Jun; Li, Baojia) A generalized successive overrelaxation method for least squares problems. (English summary) *BIT* **38** (1998), *no.* 2, 347–355. (Frederick N. Fritsch) **99e:65066** 65F20 (65F10)
— (*with* Li, Chang Jun) Preconditioning the linear system for the SOR method. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 101–111. (Summary) **99c:65083** 65F35
— (*with* Yousif, W. S.) New point and group iterative methods for solving three-dimensional elliptic equations. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 353–362. (Summary) **99a:65131** 65N06
— (*with* Abdullah, R.) Communication analysis of the PIE and QIF algorithms on distributed memory architecture. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 293–313. (Summary) **99m:65056** 65F10 (65Y05, 68Q22)
— (*with* Shen, Hong[2]; You, Jia) An efficient parallel algorithm for visible-surface detection in 3D graphics display. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 359–371. (Summary) **99m:68216** 68U05 (68Q22)
— (*with* Abdullah, R.) The computational complexity of the quadrant interlocking (QI) iterative methods on shared memory parallel computers. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 391–410. 65F10 (65Y05)
— (*with* Abdullah, R.) The parallel QZ decomposition method for solving linear equations. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 441–460. 65F10 (65Y05)

— (*with* Okša, G.) Systolic computation of QZ matrix decomposition. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 1–27. 65F30 (65Y20)
— (*with* Wan, C. R.) Nineteen ways of systolic matrix multiplication. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 39–69. 65F30 (65Y05)
— (*with* Ahmad, A. R.) The Numerov alternating group explicit (numage) method. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 381–397. 65L10
— The use of preconditioning in direct methods of solving positive definite linear systems. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 101–121. (Summary) **99e:65047** 65F05 (65F35)
— Preconditioned explicit block simultaneous iterative methods. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 147–163. (Summary) **99f:65050** 65F10 (65F35)
— (*with* Li, Chang Jun) Sheldon and modified Sheldon methods for matrices with red-black ordering. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 175–190. (Summary) **99h:65053** 65F10 (15A06, 65F35)
— (*with* Bai, Zhong Zhi) Chaotic iterative methods for the linear complementarity problems. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 127–138. (Summary) **99h:90102** 90C33 (65Y05)
— (*with* Bai, Zhong Zhi; Wang, De Ren) A class of asynchronous matrix multi-splitting multi-parameter relaxation iterations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 221–238. (David R. Kincaid) **99j:65076** 65F50 (65F10)
— Parallel linear system solvers. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **25** (1998), *no.* 1, 1–15. (Zhenyue Zhang) **99i:65029** 65F05 (65Y05)
— (*with* Bai, Zhong Zhi) On the convergence of two-stage multisplitting methods for linear systems. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 3, 279–295. (Ming Kui Chen) **99j:65079** 65F50 (65F10, 65Y05)
— (*with* Barulli, M.) BSP linear solvers for dense matrices. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 777–795. (Summary) **99c:65255** 65Y05 (65F10)
— (*with* Kane, A. J.) Systolic neural algorithms. (English summary) *Int. J. Comput. Math.* **70** (1999), *no.* 4, 617–647. 68T05
— (*with* Al-Dabass, D.; Cheetham, A.) Simulation of a multi-dimensional pattern classifier. (English summary) *Int. J. Comput. Math.* **71** (1999), *no.* 2, 197–233. 68T10
— (*with* Mohanty, R. K.) Block iterative methods for one-dimensional nonlinear biharmonic problems on a parallel computer. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 239–263. (Summary) **99m:65133** 65L06 (65Y05)
— *see also* **Preconditioned iterative methods**, **99d:65007** *and* **Systolic algorithms**

Evans, David John² (*with* Lambert, A.; Milne, A. M.; Taylor, S.) A study of transmission and reflection characteristics of an aircraft antenna using INGRID. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 363–373, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (78A50)

Evans, David M. Finite covers with finite kernels. (English summary) Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 109–147. (U. Felgner) **99f:03040** 03C35 (20B35)

Evans, Denis J. (*with* Searles, Debra J.; Isbister, Dennis J.) The conjugate-pairing rule for non-Hamiltonian systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 337–349. (*see* **99d:58003**) 76M35 (58F40)
— (*with* Searles, Debra J.; Isbister, Dennis J.) Non-equilibrium molecular dynamics integrators using Maple. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 147–162. (Summary) **99a:70005** 70–08 (70–04, 76N15)
— (*with* Sarman, Sten S.; Cummings, Peter T.) Recent developments in non-Newtonian molecular dynamics. (English summary) *Phys. Rep.* **305** (1998), *no.* 1-2, 92 *pp.* (Summary) **99h:82073** 82D15 (76A05, 76A15, 76M35, 82D30)

Evans, G. A. Singular integrals and their application to finite element methods. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 273–303, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (J. Kofroň) **99d:65068** 65D30 (65R10)
— (*with* Chung, Kwok-Chiu) The evaluation of infinite range oscillatory integrals using optimal contours in the complex plane. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 39–52. (Summary) **99c:65043** 65D30 (30E20, 65E05)
— (*with* Webster, J. R.) The numerical evaluation of a class of singular, oscillatory integrals. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 309–322. (Summary) **99m:65046** 65D32
— (*with* Samson, J. H.) Symmetry reduction of Fourier kernels. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 109–122. (Summary) **99d:65075** 65D30 (42B10, 44A15)

Evans, George William, III (*with* Honkapohja, Seppo) Convergence of learning algorithms without a projection facility. (English summary) *J. Math. Econom.* **30** (1998), *no.* 1, 59–86. (James Bergin) **99m:90044** 90A19 (90A58)

Evans, Guy (*with* Middleditch, Alan; Miles, Nick) Stable computation of the 2D medial axis transform. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 577–598. (Summary) **99g:68208** 68U05

Evans, H. Peredur (*with* Hughes, T. G.; Elcoate, C. D.) A novel method for integrating first- and second-order differential equations in elastohydrodynamic lubrication for the solution of smooth isothermal, line contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1099–1113. (Summary) **99k:76045** 76D08 (73T05, 76M10, 76M20)

Evans, James Carl (*with* Nandi, K. K.; Alam, S. M. K.; Bhattacharjee, B.) Modified no-hair conjecture and the limiting process. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 877–885. (Gil De Oliveira-Neto) **99d:83064** 83C57 (83C15, 83D05)

Evans, James R. Graph theory and networks. *Mathematical programming for industrial engineers*, 271–306, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C35 (90–02, 90B10)

Evans, James W. (*with* Johnson, Richard A.; Green, David W.) Nonparametric Bayesian predictive distributions for future order statistics. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 247–254. (*see* **99i:62003**) 62G30

Evans, Jamie (*with* Krishnamurthy, Vikram) Exact filters for doubly stochastic AR models with conditionally Poisson observations. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 794–798. (Summary) **99m:93101** 93E11 (62M10)

Evans, Jonathan M. (*with* Duff, M. J.; Khuri, Ramzi R.; Lu, Jian Xin; Minasian, Ruben) The octonionic membrane. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 281–287. (Sergey Nikolaevich Roshchupkin) **99a:83064** 83E30 (81T30, 83E50)
— (*with* Duff, M. J.; Khuri, Ramzi R.; Lu, Jian Xin; Minasian, Ruben) The octonionic membrane. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 295–302. (Summary) **99f:83065** 83E30 (81T30, 83E50)

Evans, Lawrence C. (*with* Adalsteinsson, D.; Ishii, Hitoshi) The level set method for etching and deposition. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1153–1186. (Robert McOwen) **99a:35257** 35Q99 (35F25, 35K22, 49L25)
— ★ Partial differential equations. (English summary) Graduate Studies in Mathematics, 19. *American Mathematical Society, Providence, RI*, 1998. *xviii+662 pp. ISBN* 0-8218-0772-2 (Luigi Rodino) **99e:35001** 35–01
— (*with* Gangbo, Wilfrid) Differential equations methods for the Monge-Kantorovich mass transfer problem. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 653, *viii+66 pp.* (John Urbas) **99g:35132** 35Q99 (49J10)

Evans, Lewis (*with* Burnell, Stephen J.; Yao, Shuntian) The ultimatum game: optimal strategies without fairness. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 2, 221–252. (Summary) **99k:90205** 90D05

Evans, M. J. *see* **Evans, Michael Jon**

Evans, M. R. (*with* Kafri, Y.; Koduvely, H. M.; Mukamel, D.) Phase separation and coarsening in one-dimensional driven diffusive systems: local dynamics leading to long-range Hamiltonians. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 2764–2778. (Summary) **99e:82057** 82C05

Evans, M. W. *see* **Evans, Myron Wyn**

Evans, Martin D. D. Peso problems: their theoretical and empirical implications. (English summary) *Statistical methods in finance*, 613–646, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:90014** 90A09 (90A60)

Evans, Martin J. Relation modules of infinite groups. *Bull. London Math. Soc.* **31** (1999), *no.* 2, 154–162. (Donald S. Passman) **99k:20063** 20F05 (20C07)
— (*with* Dixon, Martyn R.; Smith, Howard) Locally soluble-by-finite groups with all proper non-nilpotent subgroups of finite rank. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 33–43. (Pavel Shumyatsky) **99k:20058** 20E25 (20F18)

Evans, Michael Jon (*with* Humke, P. D.) Contrasting symmetric porosity and porosity. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 19–41. (Luděk Zajíček) **99i:26013** 26A99

Evans, Myron Wyn (*with* Drăgănescu, Gheorghe; Avram, N. M.) Proposal of a new kind of Aharonov-Bohm effect. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 57–66, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99k:81041** 81P99
— Electromagnetism and general relativity. *The enigmatic photon, Vol.* 4, 1–31, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 83C50 (78A25)
— Field equations of the electromagnetic sector. *The enigmatic photon, Vol.* 4, 33–50, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 83C50 (78A25)
— The fundamental spin field $B^{(3)}$. *The enigmatic photon, Vol.* 4, 51–96, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A25
— The A cyclics derivation and reduction. *The enigmatic photon, Vol.* 4, 97–115, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A25
— Practical advantages of $B^{(3)}$ in atomic and molecular spectroscopy. *The enigmatic photon, Vol.* 4, 117–135, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 81V10 (81V35, 81V55)
— (*with* Recami, Erasmo) Physical meaning of the photon's wavefunction according to Ettore Majorana. *The enigmatic photon, Vol.* 4, 137–145, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 81V10 (81P99)
— The conservation of helicity. *The enigmatic photon, Vol.* 4, 163–204, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 81R20 (78A25)
— Reduction of Equation (1.29) to Equation (1.32). *The enigmatic photon, Vol.* 4, 355–356, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Four-dimensional cyclics. *The enigmatic photon, Vol.* 4, 357–362, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Complete Lie algebra of the Poincaré group. *The enigmatic photon, Vol.* 4, 363–374, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Standard expressions for generator matrices. *The enigmatic photon, Vol.* 4, 375–377, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Poincaré group, Maxwell equations and cyclics. *The enigmatic photon, Vol.* 4, 379–381, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— The Lehnert current. *The enigmatic photon, Vol.* 4, 383–384, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Some useful relations in spherical polar coordinates. *The enigmatic photon, Vol.* 4, 385–387, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Invariance of the B cyclics. (English summary) *The enigmatic photon, Vol.* 4, 391–398, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— The B cyclic theorem for multipole radiation. (English summary) *The enigmatic photon, Vol.* 4, 399–403, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Zero field helicity of the U(1) gauge. (English summary) *The enigmatic photon, Vol.* 4, 405–412, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Link between Yang-Mills theory of electrodynamics and relativistic helicity. (English summary) *The enigmatic photon, Vol.* 4, 413–418, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— Description of the inverse Faraday effect in terms of rotational energy transferred in a photon-electron collision. (English summary) *The enigmatic photon, Vol.* 4, 419–424, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)

— Molecular dynamics computer simulation of the inverse Faraday and Beth effects in liquid water. (English summary) *The enigmatic photon, Vol. 4*, 425–442, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78–02 (81–02)
— *see also* **Enigmatic photon, 99h:81226**
Evans, Nick (*with* Johnson, Clifford V.; Shapere, Alfred D.) Orientifolds, branes, and duality of 4D gauge theories. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 251–271. (Javier Borlaf González) **99d:81154** 81T60 (81T13, 81T30)
— (*with* Shvets, N. R.) The field theory of non-supersymmetric brane configurations. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 69–81. (Marco Spaans) **99f:81158** 81T30 (81T60, 83E30)
— Quark condensates in non-supersymmetric MQCD. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 1-2, 124–136. (Summary) **99h:81208** 81T60 (81T30, 81V05)
— Softly broken SQCD: in the continuum, on the lattice, on the brane. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 331–338. (Summary) **99c:81236** 81T60 (81R40, 81V05)
— Duality in nonsupersymmetric M-theory QCD. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085005, 7 *pp.* (Summary) **99k:81236** 81T30
Evans, R. *see* **Evans, Robert**
Evans, R. J. *see* **Evans, Robin J.**
Evans, Robert (*with* Gureev, T. E.) Tomography of objects with a priori known internal geometry. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1469–1480. (Summary) **99i:44002** 44A12 (65R99, 92C55)
Evans, Robert Andrew Coalitional bargaining with competition to make offers. (English summary) *Games Econom. Behav.* **19** (1997), *no.* 2, 211–220. (Summary) **99a:90251** 90D12 (90A05)
Evans, Robin J. (*with* Skafidas, E.; Fradkov, A. L.; Mareels, Iven M. Y.) Trajectory-approximation-based adaptive control for nonlinear systems under matching conditions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 287–299. (Summary) **99a:93060** 93C40 (93B40)
— (*with* Savkin, Andrey V.) A new approach to robust control of hybrid systems over infinite time. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1292–1296. 93B36 (93C57)
— (*with* Nešić, D.; Skafidas, E.; Mareels, Iven M. Y.) Minimum phase properties for input nonaffine nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 868–872. (Summary) **99m:93048** 93C10 (93B17, 93D15)
Evans, Ronald J. (*with* Berndt, Bruce C.; Williams, Kenneth S.) ★ Gauss and Jacobi sums. Canadian Mathematical Society Series of Monographs and Advanced Texts. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xii*+583 *pp. ISBN* 0-471-12807-4 (Charles Helou) **99d:11092** 11L05 (11A15, 11L10, 11T22, 11T24)
— Congruences for Jacobi sums. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 109–120. (Charles Helou) **99e:11109** 11L05 (11T22, 11T24)
Evans, Steven N. (*with* Pitman, Jim) Stopped Markov chains with stationary occupation times. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 3, 425–433. (Arthur O. Pittenger) **99a:60068** 60J10 (60G40, 60J15, 60J55)
— (*with* Pitman, Jim) Construction of Markovian coalescents. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 3, 339–383. (John Verzani) **99k:60184** 60J25 (60G57)
— (*with* Peres, Yuval) Eventual intersection for sequences of Lévy processes. (English summary) *Electron. Comm. Probab.* **3** (1998), 21–27 (*electronic*). (Davar Khoshnevisan) **99g:60130** 60J30 (60B15, 60D05, 60G17, 60J45)
— (*with* Perkins, Edwin A.) Collision local times, historical stochastic calculus, and competing superprocesses. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 5, 120 *pp.* (*electronic*). (Anton Wakolbinger) **99h:60098** 60G57 (60H99, 60J55, 60J80)
— (*with* Pitman, Jim) Stationary Markov processes related to stable Ornstein-Uhlenbeck processes and the additive coalescent. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 175–185. (Jörg-Uwe Löbus) **99j:60109** 60J25 (60G55)
— (*with* Williams, Ruth J.) Transition operators of diffusions reduce zero-crossing. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1377–1389. (Uwe Rösler) **99f:60140** 60J60 (35K10)
Evans, T. S. (*with* Kibble, T. W. B.; Steer, D. A.) Wick's theorem for nonsymmetric normal ordered products and contractions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5726–5738. (Lech Jakóbczyk) **99k:81125** 81S05 (81T99)
Evans, W. D. *see* **Evans, William Desmond**
Evans, William *see* **Evans, William S.**
Evans, William Desmond (*with* Benammar, M.; Bennewitz, C. W.; Beynon, M. J.; Brown, B. Malcolm; Dias, N. G. J.; Everitt, W. N.; Kirby, V. G.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)
— (*with* Burenkov, Viktor I.) Weighted Hardy-type inequalities for differences and the extension problem for spaces with generalized smoothness. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 209–230. (Luboš Pick) **99c:46025** 46E35
— (*with* Balinskiĭ, A. A.) On the virial theorem for the relativistic operator of Brown and Ravenhall, and the absence of embedded eigenvalues. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 233–248. (Giorgio Cattapan) **99f:81231** 81V45 (47N50, 81Q10)
— (*with* Burenkov, Viktor I.) On the evaluation of the norm of an integral operator associated with the stability of one-electron atoms. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 993–1005. (Saidachmat N. Lakaev) **99i:47091** 47G10 (45P05, 81V45)
— (*with* Harris, D. J.; Lang, Jan) Two-sided estimates for the approximation numbers of Hardy-type operators in L^∞ and L^1. (English summary) *Studia Math.* **130** (1998), *no.* 2, 171–192. (Luboš Pick) **99b:47072** 47G10 (47B06)
Evans, William S. (*with* Pippenger, Nicholas) On the maximum tolerable noise for reliable computation by formulas. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1299–1305. (Summary) **99e:94053** 94C10
— (*with* Pippenger, Nicholas) Average-case lower bounds for noisy Boolean decision trees. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 433–446 (*electronic*). (Johan Håstad) **99f:68094** 68Q25
Evard, Jean-Claude (*with* Gauchman, Hillel) Steffensen type inequalities over general measure spaces. (English summary) *Analysis* **17** (1997), *no.* 2-3, 301–322. (Peter W. Day) **99c:26016** 26D15 (28A99, 52A40)
Evdokimov, A. A. (*with* Perezhogin, A. L.) Minimal numerations of subsets of a finite set, and the problem of the Hamiltonicity of the graph of the middle layers of a hypercube. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 4, 6–12, 115. (Summary) **99g:05006** 05A15 (05C45)
Evdokimov, E. V. (*with* Shapovalov, A. V.) Hamiltonian dynamics of Darwin systems. (English summary) *Phys. D* **112** (1998), *no.* 3-4, 441–450. (F. Berezovskaya) **99c:92046** 92D25 (58F40)
Evdokimov, Sergei (*with* Ponomarenko, I. N.) On the geometric graph isomorphism problem. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 253–276. (Summary) **99b:68146** 68R10 (05C60, 05C85)
— (*with* Karpinski, Marek; Ponomarenko, I. N.) Compact cellular algebras and permutation groups. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 247–267. (Peter J. Cameron) **99k:20004** 20B05 (05C25, 20B25)
Even, Guy (*with* Goldreich, Oded; Luby, Michael G.; Nisan, Noam; Veličković, Boban) Efficient approximation of product distributions. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 1–16. (Gheorghe Barbu) **99g:68077** 68Q20 (68Q25)
Even, Shimon (*with* Goldreich, Oded; Micali, Silvio) On-line/off-line digital signatures. (English summary) *J. Cryptology* **9** (1996), *no.* 1, 35–67. (Summary) **99a:94029** 94A60
— (*with* Rajsbaum, Sergio) The use of a synchronizer yields the maximum computation rate in distributed networks. (English summary) *Theory Comput. Syst.* **30** (1997), *no.* 5, 447–474. (Summary) **99d:68020** 68M10
— (*with* Itkis, Gene; Rajsbaum, Sergio) On mixed connectivity certificates. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 253–269. (Italo José Dejter) **99h:05075** 05C40 (68Q10, 68R10)
— (*with* Avior, A.; Calamoneri, T.; Litman, Ami; Rosenberg, Arnold L.) A tight layout of the butterfly network. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 475–487. (Summary) **99b:68011** 68M10 (05C85, 68Q35)
Evenchik, Amir (*with* Kraus, Sarit; Sycara, Katia) Reaching agreements through argumentation: a logical model and implementation. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 1–69. (Summary) **99g:68192** 68T27 (90D12)
Everaars, Kees (*with* Koren, Barry) Using coordination to parallelize sparse-grid methods for 3-D CFD problems. (English summary) *Parallel Comput.* **24** (1998), *no.* 7, 1081–1106. (Summary) **99d:65273** 65M55 (65Y05)
Everest, G. R. (*with* Chothi, V.; Ward, Thomas B.) S-integer dynamical systems: periodic points. (English summary) *J. Reine Angew. Math.* **489** (1997), 99–132. (Liang-Chung Hsia) **99b:11089** 11K55 (28D15, 58F20)
— (*with* du Sautoy, M. P. F.) Integrating on p-adic Lie groups. (English summary) *Israel J. Math.* **103** (1998), 207–235. (Daniel Segal) **99k:11185** 11S80 (11S40, 22E35)
— (*with* Shparlinski, Igor E.) Counting the values taken by algebraic exponential polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 665–675. (A. J. van der Poorten) **99f:11042** 11D61 (11B83)
Everett, Hazel (*with* de Berg, Mark; Guibas, Leonidas J.) The union of moving polygonal pseudodiscs—combinatorial bounds and applications. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 69–81. (H. W. Guggenheimer) **99m:68205** 68U05 (05B40, 52B55)
— (*with* Klein, Sulamita; Reed, Bruce A.) An optimal algorithm for finding clique-cross partitions. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 171–177. (Summary) **99k:05128** 05C70 (05C85)
— (*with* Cerioli, Márcia R.; de Figueiredo, Celina Miraglia Herrera; Klein, Sulamita) The homogeneous set sandwich problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 31–35. (Summary) **99e:68120** 68R10 (05C85)
— (*with* Bose, Prosenjit; Fekete, Sándor P.; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)
Everett, Lisa (*with* Cvetič, Mirjam; Wang, Jing[§]) Effects of heavy states on the effective $N = 1$ supersymmetric action. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 52–66. (Summary) **99i:81228** 81T60
Everitt, B. S. ★ The Cambridge dictionary of statistics. (English summary) *Cambridge University Press, Cambridge*, 1998. *viii*+360 *pp. ISBN* 0-521-59346-8 (From the preface) **99f:62001** 62–00 (00A20)
Everitt, W. N. (*with* Markus, Lawrence) The Glazman-Krein-Naimark theorem for ordinary differential operators. (English summary) *New results in operator theory and its applications*, 118–130, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (Anton Zettl) **99c:47070** 47E05 (34B05, 34L99, 47A20, 47B25)
— (*with* Kwon, Kil Hyun; Littlejohn, Lance L.; Wellman, R.) On the spectral analysis of the Laguerre polynomials $\{L_n^{-k}(x)\}$ for positive integers k. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 251–283, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Hans W. Volkmer) **99b:33016** 33C45 (34B30, 34L10, 34L40, 47E05)
— (*with* Hayman, W. K.; Nasri-Roudsari, G.) On the representation of holomorphic functions by integrals. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 95–102. (Summary) **99j:30041** 30E20 (30D20)
— (*with* Benammar, M.; Bennewitz, C. W.; Beynon, M. J.; Brown, B. Malcolm; Dias, N. G. J.; Evans, William Desmond; Kirby, V. G.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)
— A Dirichlet-type integral inequality. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 457–463, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (A. A. Martynyuk) **99f:26022** 26D10 (34A40)
— (*with* Nasri-Roudsari, G.; Rehberg, J.) A note on the analytic form of the Kramer sampling theorem. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 310–319. (K. Pan) **99h:30036** 30E20

Everling, Ulrich An example of Fourier transforms of orbital integrals and their endoscopic transfer. (English summary) *New York J. Math.* **4** (1998), 17–29 (*electronic*). (Goran Muić) **99e:11061** 11F70 (22E35)

Evertse, Jan-Hendrik Lower bounds for resultants. II. (English summary) *Number theory* (*Eger*, 1996), 181–198, *de Gruyter, Berlin*, 1998. (Gerhard Kowol) **99g:11056** 11E76 (11C08, 11J68)

Eveson, S. P. (*with* Fewster, C. J.) Bounds on negative energy densities in flat spacetime. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084010, 6 *pp.* 83C47

Evett, Ian W. (*with* Foreman, Lindsey A.; Smith, Adrian F. M.) Bayesian analysis of DNA profiling data in forensic identification applications. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. A* **160** (1997), *no.* 3, 429–469. (Hans-Peter Herzel) **99c:92030** 92D20 (92B05)

Evfimievski, Alexandre V. A probabilistic algorithm for updating files over a communication link. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 300–305, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q10 (68Q20, 94A05)

Evje, S. (*with* Karlsen, Kenneth Hvistendahl; Brusdal, K.; Dahle, H. K.; Lie, Knut-Andreas) The corrected operator splitting approach applied to a nonlinear advection-diffusion problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 3-4, 239–260. (Summary) **99j:76090** 76M25 (76R50)

Evstatiev, E. G. (*with* Gerdzhikov, V. S.; Kaup, D. J.; Diankov, G. L.; Uzunov, I. M.) Stability and quasi-equidistant propagation of NLS soliton trains. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 323–328. (Summary) **99a:81198** 81V10

Evstigneev, I. V. (*with* Flåm, Sjur Didrik) Rapid growth paths in multivalued dynamical systems generated by homogeneous convex stochastic operators. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 61–81. (Nguyễn Hồng Thái) **99m:60097** 60H25 (47H04, 47N30, 90A06)

Evstigneev, V. A. (*with* Kas′yanov, V. N.) ★ Деревья: основные понятия, свойства и алгоритмы. (Russian. Russian summary) [Trees: basic concepts, properties and algorithms] *Novosibirsk. Gos. Univ., Novosibirsk*, 1992. 80 *pp. ISBN* 5-230-13505-0 05C05 (68R10)

Evsyukov, A. N. On the asymptotics of solutions of differential equations on complex manifolds. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1511–1518, 1582; *translation in Differential Equations* **32** (1996), *no.* 11, 1508–1514 (1997). (Todor V. Gramchev) **99j:58210** 58G17 (35A20, 35B40)

Evtukhov, V. M. (*with* Vasil′eva, N. S.) Asymptotic representations of regular solutions of a second-order semilinear differential equation. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 2, 228–234 (1996). 34E05

— (*with* Shebanina, E. V.) Asymptotic behaviour of solutions of *n*th order differential equations. *Mem. Differential Equations Math. Phys.* **13** (1998), 150–153. 34B05 (34E99)

Evtushenko, A. A. (*with* Kul′chitskiĭ-Zhigaĭlo, R. D.) Steady frictional heating from the axisymmetric sliding contact of a thermosensitive sphere and a rigid heat-insulated base. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **40** (1999), *no.* 1, 174–183. 73T05 (73B30)

Evtushenko, Yurīĭ Gavrilovich (*with* Golikov, A. I.) A modified Lagrange function for linear programming problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 45–48; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 12, 43–46 (1998). (C. Bergthaller) **99c:90072** 90C05

— Computation of exact gradients in distributed dynamic systems. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 45–75. (Summary) **99a:90186** 90C30 (49M05)

— *see also* **Errata: "A modified Lagrange function for linear programming problems"** *and* **Birthday: Evtushenko, Yurīĭ Gavrilovich**

Evtushik, L. E. Cartan connections and Kawaguchi geometry of spaces obtained by the moving frame method. Geometry, 3. *J. Math. Sci.* (*New York*) **89** (1998), *no.* 3, 1279–1300. (Sándor Bácsó) **99i:53015** 53B40

Ewell, John A. A trio of triangular number theorems. *Amer. Math. Monthly* **105** (1998), *no.* 9, 848–849. 11B75

— On Ramanujan's tau function. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 453–461. (Ken Ono) **99g:11059** 11F20 (11A25)

Ewerhart, Christian Rationality and the definition of consistent pairs. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 1, 49–59. (Reinhard Suck) **99f:90189** 90D05

Ewert, Janina Semicontinuity of topological limits of multivalued maps. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 4, 445–452. (Titu Bânzaru) **99h:54029** 54C60 (26E25)

Ewert-Krzemieniewski, Stanisław Conformally birecurrent manifolds and some vector fields. *Demonstratio Math.* **31** (1998), *no.* 3, 553–572. (Zbigniew Olszak) **99k:53018** 53B20

Ewing, Daniel W. (*with* Moser, Robert D.; Rogers, Michael M.) Self-similarity of time-evolving plane wakes. (English summary) *J. Fluid Mech.* **367** (1998), 255–289. (Summary) **99e:76070** 76F99 (76M25)

Ewing, Richard E. (*with* Lazarov, Raïcho D.; Pasciak, Joseph E.; Vassilev, A. T.) Mathematical modeling, numerical techniques, and computer simulation of flows and transport in porous media. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 13–30, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76S05 (76M25)

— (*with* Sævareid, Ove; Shen, Jian[1]) Discretization schemes on triangular grids. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 219–238. (D. Schultz) **99d:65297** 65N06

— (*with* Chen, Hongsen; Lazarov, Raïcho D.) Superconvergence of mixed finite element methods for parabolic problems with nonsmooth initial data. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 495–521. (Mark Ainsworth) **99c:65180** 65M60

— (*with* Weekes, Suzanne L.) Numerical methods for contaminant transport in porous media. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 75–95, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Zhangxin Chen) **99j:76072** 76M10 (65M60, 76S05, 76T05, 86A05)

— (*with* Lin, Tao[1]; Lin, Yanping) A mixed least-squares method for an inverse problem of a nonlinear beam equation. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 19–32. (Summary) **99j:34015** 34A55 (34B15, 65L60, 73D35)

— (*with* Chen, Zhangxin) Mathematical analysis for reservoir models. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 431–453 (*electronic*). (Małgorzata Peszyńska) **99m:76107** 76S05 (35K55, 76T05)

Exadaktylos, G. E. (*with* Vardoulakis, I.) Surface instability in gradient elasticity with surface energy. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 18, 2251–2281. (Paul Andrew Martin) **99g:73035** 73C99 (73H10)

— (*with* Vardoulakis, I.) The asymptotic solution of anisotropic gradient elasticity with surface energy for a mode-II crack. *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 87–98, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 73M25

— Some basic half-plane problems of the cohesive elasticity theory with surface energy. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 175–198. (Summary) **99j:73035** 73C99 (73B99)

Exarchakos, Theodoros G. Babylonian mathematics and Pythagorean triads. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 29–47. (K.-B. Gundlach) **99c:01004** 01A17 (11–03)

Exel, Ruy Amenability for Fell bundles. (English summary) *J. Reine Angew. Math.* **492** (1997), 41–73. (Robert S. Doran) **99a:46131** 46M20 (46L55)

— Partial actions of groups and actions of inverse semigroups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3481–3494. (Summary) **99b:46102** 46L55 (20M18)

Exner, George R. (*with* Jung, Il Bong) Some multiplicities for contractions with Hilbert-Schmidt defect. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 113–138, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (László Kérchy) **99h:47011** 47A20 (47A45, 47D27)

Exner, Pavel (*with* Vugal′ter, S. A.) Bound-state asymptotic estimates for window-coupled Dirichlet strips and layers. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7863–7878. (Giorgio Cattapan) **99f:58211** 58G25 (35J05, 35P99)

— (*with* Duclos, Pierre[1]; Meller, B.) Exponential bounds on curvature-induced resonances in a two-dimensional Dirichlet tube. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 133–162. (Hitoshi Kitada) **99a:35051** 35J25 (35J10, 35P05, 47F05, 81Q10)

— (*with* Bentosela, F.; Zagrebnov, V. A.) Electron trapping by a current vortex. (English summary) *J. Phys. A* **31** (1998), *no.* 17, *L*305–*L*311. (Summary) **99c:82072** 82D55 (81V10)

— (*with* Asch, Joachim; Duclos, Pierre[1]) Stability of driven systems with growing gaps, quantum rings, and Wannier ladders. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1053–1070. (M. Combescure) **99m:81056** 81Q20

Exoo, Geoffrey Some new Ramsey colorings. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research paper* 29, 5 *pp.* (*electronic*). (Summary) **99a:05140** 05D10

rodríguez Expósito, José *see* **Rodríguez Expósito, José**

Exton, Harold *q*-deformation and a stable closed static cosmology. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 189–192. (Summary) **99c:83105** 83F05 (33D90)

— Transformations of certain generalized Kampé de Fériet functions. II. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 3, 297–304. (Yoshishige Haraoka) **99e:33012** 33C50 (33C45, 33C90)

— Four-term recurrence relations for hypergeometric functions of the second order. II. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 43–51. (H. M. Srivastava) **99f:33005** 33C20

— New hypergeometric identities arising from Gauss's second summation theorem. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 269–274. (Axel Riese) **99c:33010** 33C20

— New hypergeometric transformations. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 135–137. (Summary) **99g:33010** 33C20 (68Q40)

— Summation formulae involving the Laguerre polynomial. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 2, 225–227. (Summary) **99j:33011** 33C45 (33C15)

— A Sturm-Liouville equation with orthogonality of extended Fourier-Bessel type. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 105–108. (From the text) **99a:34071** 34B30

— New solutions of the confluent Heun equation. (English summary) *Matematiche* (*Catania*) **53** (1998), *no.* 1, 11–20. (Summary) **99m:34002** 34A05 (33E15, 33E20, 81Q05)

Extremiana Aldana, J. Ignacio (*with* Hernández, Luis Javier; Rivas Rodríguez, M. Teresa) Closed model categories for $[n, m]$-types. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 10, 250–268 (*electronic*). (Pilar C. Carrasco) **99c:55010** 55P15 (18D15, 55U35)

Eyink, Gregory L. (*with* Alexander, Francis J.) Predictive turbulence modeling by variational closure. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 221–283. (Richard K. Jordan) **99e:76068** 76F99 (76M35, 82C31)

— Linear stochastic models of nonlinear dynamical systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 6975–6991. (Summary) **99j:82061** 82C35 (34C35)

Eymard, Pierre Homomorphismes des algèbres de groupe (d'après Paul J. Cohen). [Group algebra homomorphisms (after Paul J. Cohen)] *Séminaire Bourbaki, Vol. 7, Exp. No.* 231, 129–142, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 43A20 (22D15, 43A10)

Eymard, R. (*with* Gallouët, Thierry; Hilhorst, D.; Naït Slimane, Y.) Convergence of a finite volume scheme for a parabolic degenerate equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 3–11, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K65, 76M25)

— (*with* Gallouët, Thierry; Ghilani, Mustapha; Herbin, R.) Error estimate for the finite volume approximate of the solution to a nonlinear convective equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 13–24, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K99, 76M25)

— (*with* Gutnic, M.; Hilhorst, D.) The finite volume method for an elliptic-parabolic equation. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 181–195. (B. Kellogg) **99j:65167** 65M60 (76M10, 76S05)

— (*with* Gallouët, Thierry; Hilhorst, D.; Naït Slimane, Y.) Finite volumes and nonlinear diffusion equations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 747–761. (Erwin Schechter) **99j:65166** 65M60 (35K55)

Eynard, Bertrand Eigenvalue distribution of large random matrices, from one matrix to several coupled matrices. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 3,

633–664. (Jacobus Verbaarschot) **99f:82033** 82B44 (15A52)

— (*with* Mehta, Madan Lal) Matrices coupled in a chain. I. Eigenvalue correlations. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4449–4456. (Alexei Khorunzhy) **99g:82028** 82B41 (15A52)

— (*with* Guitter, E.; Kristjansen, Charlotte F.) Hamiltonian cycles on a random three-coordinate lattice. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 523–532. (Saburo Higuchi) **99j:82040** 82B41 (05C45)

vanden Eynden, C. *see* **Vanden Eynden, C.**

Eyral, Christophe Une nouvelle démonstration du théorème de Zariski-Lefschetz. (English and French summaries) [A new proof of the Zariski-Lefschetz theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 185–188. (Summary) **99h:14024** 14F35

Eyras, Eduardo (*with* Bergshoeff, E. A.; Lozano, Yolanda) The massive Kaluza-Klein monopole. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 77–86. (Summary) **99c:83083** 83E30 (83E50)

Eyre, David J. Unconditionally gradient stable time marching the Cahn-Hilliard equation. (English summary) *Computational and mathematical models of microstructural evolution (San Francisco, CA, 1998)*, 39–46, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 80–08 (65M12, 80A22)

Eyre, Timothy M. W. ★ Quantum stochastic calculus and representations of Lie superalgebras. Lecture Notes in Mathematics, 1692. *Springer-Verlag, Berlin*, 1998. *viii*+138 *pp. ISBN* 3-540-64897-6 (John E. Gough) **99i:81122** 81S25 (17B10)

— Chaotic decompositions in Z_2-graded quantum stochastic calculus. (English summary) *Quantum probability (Gdańsk*, 1997), 167–174, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Kalyanapuram R. Parthasarathy) **99m:81114** 81S25 (81R05)

— Chaotic expansions of elements of the universal enveloping superalgebra associated with a Z_2-graded quantum stochastic calculus. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 9–28. (Kalyanapuram R. Parthasarathy) **99k:81140** 81S25 (17A70)

Eyssette, F. (*with* Tadjouddine, M.; Faure, C.) Sparse Jacobian computation in automatic differentiation by static program analysis. (English summary) *Static analysis (Pisa*, 1998), 311–326, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 65–04 (65D99)

abul-Ez, M. A. *see* **Abul-Ez, M. A.**

Ezawa, Hiroshi Constructive proof of the existence of bound state in one dimension. (English summary) *Found. Phys.* **27** (1997), *no.* 11, 1495–1509. (Summary) **99j:81028** 81Q05 (81U05)

Ezawa, Kazuo J. Evidence propagation and value of evidence on influence diagrams. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 73–83. (Summary) **99g:90015** 90A05

Ezawa, Kiyoshi (*with* Matsuo, Yutaka; Murakami, Koichi) Matrix model for Dirichlet open string. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 29–36. (Summary) **99g:81159** 81T30

— (*with* Matsuo, Yutaka; Murakami, Koichi) Matrix regularization of an open supermembrane: towards M-theory five-branes via open supermembranes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5118–5133. (Summary) **99m:81184** 81T30 (83E30)

Ezentaş, Rıdvan Immersions preserved under rotations with totally reducible focal set. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 485–491. (Thomas E. Cecil) **99e:53090** 53C42

— (*with* Arslan, Kadri; Deszcz, Ryszard; Hotloś, Marian) On a certain subclass of conformally flat manifolds. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 283–299. (Eric Boeckx) **99i:53045** 53C25 (53C50)

— (*with* Arslan, Kadri; Çelik, Yunus; Deszcz, Ryszard) On the equivalence of Ricci-semisymmetry and semisymmetry. *Colloq. Math.* **76** (1998), *no.* 2, 279–294. (Eric Boeckx) **99a:53055** 53C25

Ezhkov, S. V. A graphical method for representing variable sets for solving search problems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 4, 33–35, 51. 90D26

Ezhov, Vladimir V. (*with* Schmalz, Gerd) A simple proof of Beloshapka's theorem on the parametrization of the automorphism group of CR-varieties. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 939–942; *translation in Math. Notes* **61** (1997), *no.* 5-6, 783–786. (Alexander V. Isaev) **99f:32013** 32C05 (32C16)

— Triviality of scalar linear type isotropy subgroup by passing to an alternative canonical form of a hypersurface. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 85–97. (Gerd Schmalz) **99j:32005** 32C16 (32F25, 32H02)

alegría Ezquerra, Pedro *see* **Alegría Ezquerra, Pedro**

Ezquerro, J. A. (*with* Gutiérrez, José Manuel; Hernández Verón, Miguel A.) A construction procedure of iterative methods with cubical convergence. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 181–199. (John B. Kioustelidis) **99a:65076** 65J15

— (*with* Hernández Verón, Miguel A.) Different acceleration procedures of Newton's method. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 1–17. (R. P. Tewarson) **99i:65055** 65H05

— (*with* Gutiérrez, José Manuel; Hernández Verón, Miguel A.; Salanova, M. A.) The super-Halley method and partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 713–718, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (47H17)

— (*with* Gutiérrez, José Manuel; Hernández Verón, Miguel A.; Salanova, M. A.) A multipoint method applied to the solution of Hammerstein integral equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 719–724, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (45G10, 47H17, 65R20)

— (*with* Gutiérrez, José Manuel; Hernández Verón, Miguel A.) A construction procedure of iterative methods with cubical convergence. II. Another convergence approach. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 59–68. (John B. Kioustelidis) **99g:65067** 65J15

— (*with* Gutiérrez, José Manuel; Hernández Verón, Miguel A.; Salanova, M. A.) The application of an inverse-free Jarratt-type approximation to nonlinear integral equations of Hammerstein-type. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 9–20. (V. V. Vasin) **99f:65201** 65R20 (45L05, 65J15)

— (*with* Gutiérrez, José Manuel; Hernández Verón, Miguel A.) Solving a nonlinear equation by a uniparametric family of iterative processes. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 301–308. (Summary) **99m:65106** 65H05

— (*with* Hernández Verón, Miguel A.; Salanova, M. A.) Construction of iterative processes with high order of convergence. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 191–201. (Summary) **99f:65073** 65H05 (26A18, 26A51)

— (*with* Hernández Verón, Miguel A.) Avoiding the computation of the second Fréchet-derivative in the convex acceleration of Newton's method. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 1–12. (Summary) **99h:65120** 65J15 (47H17)

— (*with* Hernández Verón, Miguel A.; Salanova, M. A.) Remark on the convergence of the midpoint method under mild differentiability conditions. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 305–309. (Summary) **99f:65085** 65J15 (47H17)

— (*with* Hernández Verón, Miguel A.; Salanova, M. A.) A new family of multipoint methods of second order. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 499–512. (A. M. Galperin) **99g:47147** 47H17 (65J15)

— (*with* Hernández Verón, Miguel A.) Region of accessibility for a class of Newton-type iterations. (English summary) *Proyecciones* **17** (1998), *no.* 1, 71–76. (Summary) **99d:65154** 65H05

— (*with* Hernández Verón, Miguel A.) Newton-type iterations as approximations of Chebyshev's method. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 44–55 (*electronic*). (Boro Döring) **99i:65061** 65J15

— (*with* Hernández Verón, Miguel A.) On a convex acceleration of Newton's method. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 311–326. (José Mario Martínez) **99m:65107** 65H05 (65B99, 65J15)

Ezquerro Marín, Luis Miguel (*with* Ballester-Bolinches, A.) On a theorem of Bryce and Cossey. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 455–460. (Alexander N. Skiba) **99e:20021** 20D10

— (*with* Ballester-Bolinches, A.; Bechtell, H.) On pre-Frattini residuals. *Glasgow Math. J.* **40** (1998), *no.* 2, 187–197. (Jian Hua Huang) **99k:20040** 20D10 (20D25, 20E28)

— (*with* Ballester-Bolinches, A.) On join properties of Hall π-subgroups of finite π-soluble groups. *J. Algebra* **204** (1998), *no.* 2, 532–548. (Francesco de Giovanni) **99g:20035** 20D20

Ezzaki, Fatima (*with* Castaing, Charles) SLLN for convex random sets and random lower semicontinuous integrands. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 527–553. (Christian Hess) **99e:60081** 60F15 (28B20, 60G48)

— (*with* Castaing, Charles) Convergences for convex weakly compact random sets in B-convex reflexive Banach spaces. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 123–149. (Erik J. Balder) **99g:60010** 60B12 (46B99)

Ezzat, Magdy A. (*with* Sherief, Hany H.) A problem in generalized magneto-thermoelasticity for an infinitely long annular cylinder. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 387–402. (Summary) **99g:73095** 73R05 (73B30)

Ezzinbi, Khalil (*with* Ait Dads, E.; Fatajou, S.) Weakly almost periodic solutions for some differential equations in a Banach space. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 157–170. (C. Corduneanu) **99h:34079** 34Gxx (34C27, 47D06)

— (*with* Ait Dads, E.) Existence of periodic solutions of nonautonomous retarded functional-differential equations. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 25–34. (Ovide Arino) **99i:34094** 34K15

— (*with* Adimy, Mostafa) Local existence and linearized stability for partial functional-differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 389–403. (Eugenio Sinestrari) **99m:34181** 34K30 (34K20, 47D06)

— (*with* Adimy, Mostafa) A class of linear partial neutral functional-differential equations with nondense domain. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 285–332. (Jian Hong Wu) **99f:35214** 35R10 (34K30, 47D06)

— (*with* Adimy, Mostafa) Strict solutions of nonlinear hyperbolic neutral differential equations. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 107–112. (Ti Jun Xiao) **99j:34115** 34K30 (34K40, 47D06)

Ezzine, Jelel (*with* Kavranoğlyu, Davut) On almost-sure stabilization of discrete-time jump parameter systems: an LMI approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1129–1146. 93D15

Ezzirani, Abdelkrim (*with* Guessab, Allal) A fast algorithm for Gaussian type quadrature formulae with mixed boundary conditions and some lumped mass spectral approximations. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 217–248. (Stephen W. Brady) **99c:65044** 65D30 (65D32, 65N35)

– F –

Fa, Wei (*with* Pang, Hou Rong; Ping, Jia Lun) Algebraic expressions for irreducible representations of the point-group D_{6h}. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 41–47. 20C35 (81R05)

Faase, F. J. On the number of specific spanning subgraphs of the graphs $G \times P_n$. (English summary) *Ars Combin.* **49** (1998), 129–154. (Y. H. Harris Kwong) **99g:05104** 05C30 (05C45, 05C70)

Fabbian, Linda (*with* Cassi, Davide) The spherical model on graphs. (English summary) *J. Phys. A* **32** (1999), *no.* 8, *L93–L98*. (Summary) **99k:82012** 82B20 (82B26, 82B27, 82D60)

Fabbri, Alessandro Cauchy horizon stability in two-dimensional "accelerated" black holes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 373–387. (Michael O. Katanaev) **99a:83045** 83C57

— (*with* Balbinot, R.; Mazzacurati, L.) Dilaton gravity black holes with a regular interior. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6185–6190. (Summary) **99m:83094** 83C57

— (*with* Navarro-Salas, J.) Critical energy flux and mass in solvable theories of 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084011, 6 *pp.* (Summary) **99k:83066** 83C57 (81T40)

— (*with* Cruz, Javier; Navarro-Salas, J.) Can conformal transformations change the fate of 2D black holes? (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 30–38. (Summary) **99m:83107** 83C57

Fabbri, Roberta Genericity of hyperbolicity in two-dimensional linear differential systems. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 109–111. 34D05 (34C35, 34D08, 54H20, 58F15)

Fabbrichesi, Marco (*with* Ferretti, Gabriele; Iengo, Roberto) Supergravity and Matrix theory do not disagree on multi-graviton scattering. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 2, 11 *pp.* (*electronic*). (Summary) **99c:83088** 83E30 (81T30, 83E50)

— (*with* Acatrinei, Ciprian; Iengo, Roberto) D-particles in the space-time of the shock wave. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 24, 20 *pp.* (*electronic*). (Summary) **99k:81209** 81T30 (81T20)

Fabel, Paul (*with* Ageev, S. M.; Bogatyĭ, Semen A.; Repovš, Dušan D.) Extensors of noncompact Lie groups. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 151–154. 22E99 (46B99, 54H11)

— Self-homeomorphisms of the 2-sphere which fix pointwise a nonseparating continuum. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 201–214. (Summary) **99k:57081** 57S25 (55M20, 57S05)

— (*with* Ageev, S. M.; Bogatyĭ, Semen A.) The Banach-Mazur compactum $Q(n)$ is an absolute retract. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 11–13, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 10–12. (Michael Tkačenko) **99d:54010** 54C55 (54C15)

Faber, M. (*with* Del Debbio, L.; Greensite, J.; Olejník, Š.) Center dominance, center vortices, and confinement. *New developments in quantum field theory* (*Zakopane*, 1997), 47–64, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 81V05

Faber, T. E. ★ Fluid dynamics for physicists. (English summary) Reprint of the 1995 original. *Cambridge University Press, Cambridge*, 1997. xxvi+440 *pp. ISBN* 0-521-42969-2 (Andrei Iacob) **99f:76001** 76-01

Faber, Vance (*with* Cook, Doug; Marathe, Madhav V.; Srinivasan, Aravind; Sussmann, Yoram J.) Low-bandwidth routing and electrical power networks. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 604–615, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 90B10 (68Q25, 68R10, 93C90)

Fabes, Eugene B. (*with* Safonov, Mikhail) Behavior near the boundary of positive solutions of second order parabolic equations. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 871–882. (W. Watzlawek) **99d:35071** 35K20 (35B40)

— (*with* Mendez, Osvaldo; Mitrea, Marius) Boundary layers on Sobolev-Besov spaces and Poisson's equation for the Laplacian in Lipschitz domains. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 323–368. (H. Triebel) **99j:35036** 35J25 (46E35, 46N20)

— *see also* **Kenig, Carlos E., 99k:01064**

Fábián, Csaba Statistical characterization of defective sections in a length of fiberglass. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 91–100 (1999). 62H05 (73S10)

Fabian, Marián (*with* Hájek, Petr[2]; Zizler, Václav) Uniform Eberlein compacta and uniformly Gâteaux smooth norms. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 351–362. (John R. Giles) **99m:46014** 46B03 (46B20)

— (*with* Heisler, M.; Matoušková, Eva) Remarks on continuous images of Radon-Nikodým compacta. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 59–69. (Jesús M. F. Castillo) **99g:46014** 46B22

Fabian, Václav (*with* Hannan, James) On Blackwell's minimax theorem and the compound decision method. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 195–209. (Summary) **99f:62019** 62C20 (62C10)

— (*with* Dupač, Václav) Nonparametric estimation of a changing function. (English summary) *Statist. Decisions* **16** (1998), *no.* 3, 215–228. (Winfried Stute) **99i:62088** 62G07

Fabiano, Richard H. Approximation for an integro-partial differential equation with strongly singular kernel. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 18 *pp.* (*electronic*). (Kenneth B. Hannsgen) **99g:45010** 45K05 (45L05, 49J25, 65R20, 93B52)

— Uniformly stable approximation for a linear viscoelastic model. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 57–62. (Summary) **99a:45019** 45K05 (34K20, 34K30, 45M10, 47D06, 73F15)

Fabien, B. C. (*with* Agrawal, S. K.; Veeraklaew, T.) Direct and indirect optimization of linear time-invariant dynamic systems using transformations. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 393–410. 49M30 (49N10)

Fabijonas, B. (*with* Lifschitz, Alexander E.; Miyazaki, Takeshi) A new class of instabilities of rotating flows. (English summary) Dynamics and statistics of concentrated vortices in turbulent flow (Carry-le-Rouet, 1997). *Eur. J. Mech. B Fluids* **17** (1998), *no.* 4, 605–613. (Summary) **99g:76146** 76U05 (76E99, 76F99)

— (*with* Lifschitz, Alexander E.) Asymptotic analysis of secondary instabilities of rotating fluids. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 597–606. (Yuri N. Skiba) **99i:76055** 76E20 (76B15, 76F99, 76U05)

Fabre, Caroline Contrôle et analyse asymptotique d'équations de fluide peu compressible. (English and French summaries) [Control and asymptotic analysis of slightly compressible fluid equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1093–1098. (Summary) **99e:35184** 35Q35 (76N10, 93C20)

— *see also* **Control and partial differential equations, 99g:00037**

Fabre, Jean-Pierre (*with* Bensaïd, Nadia) Convergence de l'estimateur à noyau de dérivées de Radon-Nikodym générales dans le cas mélangeant. (English and French summaries) [Convergence of the kernel estimator of general Radon-Nikodým derivatives in the mixing case] *Canad. J. Statist.* **26** (1998), *no.* 2, 267–282. (Michael Falk) **99i:62082** 62G07 (60G55)

Fabre, Sylvie (*with* Mossino, Jacqueline) H-convergence of multiplicable matrices. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 2, 125–139. (Kamel Hamdache) **99h:35018** 35B27 (35J15, 73B27)

— (*with* Courilleau, Patrick; Mossino, Jacqueline) Homogénéisation de problèmes non linéaires dans des milieux quasi-stratifiés. (English and French summaries) [Homogenization of some nonlinear problems in quasistratified media] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 401–406. (Summary) **99k:35017** 35B27 (73B27)

Fabre de la Ripelle, M. (*with* Lassaut, M.) Transformation of a three-body interaction into a sum of pairwise potentials: application to the quark-string-junction and the Urbana potentials. (English summary) *Few-Body Systems* **23** (1997), *no.* 1-2, 75–86. (A. Ventura) **99b:81277** 81V35 (81V25)

Fàbrega, J. *see* **Fàbrega, Josep**

Fàbrega, Joan (*with* Ortega, Joaquín Ma.) Holomorphic Triebel-Lizorkin spaces. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 177–212. (H. Triebel) **99a:46061** 46E35 (32A35, 46M35)

Fàbrega, Josep (*with* Balbuena, C.; Carmona, Angeles; Fiol, M. A.) Superconnectivity of bipartite digraphs and graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 61–75. (Summary) **99i:05128** 05C40 (05C20)

Fabrici, Igor (*with* Jendroľ, Stanislav) Subgraphs with restricted degrees of their vertices in planar graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 83–90. (Summary) **99d:05045** 05C35

Fabrici, Imrich Principal ideals in the direct product of two semigroups. *Semigroups* (*Luino*, 1992), 51–59, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M12

Fabrie, Pierre (*with* Carbou, Gilles) Comportement asymptotique des solutions faibles des équations de Landau-Lifschitz. (English and French summaries) [Asymptotic behavior of weak solutions for Landau-Lifschitz equations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 717–720. (Piotr P. Goldstein) **99f:35200** 35Q60 (35B40, 35Q55, 82D40)

— (*with* Miranville, Alain) Exponential attractors for nonautonomous first-order evolution equations. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 225–240. (Igor D. Chueshov) **99c:34132** 34G20 (35K55, 35Q30, 47H20, 58F39)

— (*with* Colin, Thierry) Semidiscretization in time for nonlinear Schrödinger-waves equations. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 671–690. (B. M. Herbst) **99j:65180** 65M99

Fabrikant, V. I. Relationship between the solutions to normal and tangential crack problems. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 329–337. (Summary) **99a:73107** 73M25 (73B40)

Fabris, Júlio C. (*with* Alvarenga, Flávio G.) Coupling gravity non-minimally to two scalar fields. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 520–525, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83C99

— (*with* Salim, J. M.; Sautú, S. L.) Inflationary cosmological solutions in Weyl integrable geometry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 953–959. 83C15 (83D05, 83F05)

— (*with* Bronnikov, K. A.; Clément, Gérard; Constantinidis, C. P.) Structure and stability of cold scalar-tensor black holes. (English summary) *Phys. Lett. A* **243** (1998), *no.* 3, 121–127. (Summary) **99b:83048** 83C57 (83D05)

de Fabritiis, Chiara *see* **De Fabritiis, Chiara**

Fabrizio, Mauro (*with* Gentili, Giorgio) On thermodynamics of some phase change models. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 43–62 (1998). (Summary) **99d:80006** 80A22 (80A10)

— (*with* Chiriţă, Stan; Ciarletta, Michele) Saint-Venant's principle in linear viscoelasticity. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 12-13, 1221–1236. (Samia Lyaghfouri-Challal) **99b:73022** 73F15 (73F99)

— (*with* Hanyga, Andrzej) An inverse problem in viscoelasticity. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 697–708. (Maurizio Grasselli) **99g:73064** 73F99 (35Q72, 35R30, 45K05, 73F05)

— (*with* Gentili, Giorgio; Reynolds, D. W.) On rigid linear heat conductors with memory. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 7-8, 765–782. (Renuka Datta) **99i:80006** 80A20 (80A97)

Fabry, Christian (*with* Fonda, Alessandro) Nonlinear resonance in asymmetric oscillators. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 58–78. (Maria Patrizia Pera) **99d:34070** 34C25 (34B15, 47H11)

— Inequalities verified by asymmetric nonlinear operators. *Nonlinear Anal.* **33** (1998), *no.* 2, 121–137. (Maria Patrizia Pera) **99c:47100** 47H15 (47H19)

Facchinei, Francisco (*with* Júdice, Joaquim; Soares, João) Algorithm 774: Fortran subroutines for generating box-constrained optimization problems. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 448–450. 65Y15

— (*with* Lucidi, Stefano) Convergence to second-order stationary points in inequality constrained optimization. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 746–766. (Jie Sun) **99h:90095** 90C30 (90C33)

— (*with* Dem'yanov, V. F.; Di Pillo, G.) Exact penalization via Dini and Hadamard conditional derivatives. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 19–36. (Summary) **99a:90185** 90C30 (49J52)

— (*with* Júdice, Joaquim; Soares, João) An active set Newton algorithm for large-scale nonlinear programs with box constraints. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 158–186 (*electronic*). (Zhen Yu Huang) **99c:90117** 90C30 (65K05, 90C06)

— (*with* Fischer, Andreas[1]; Kanzow, Christian) Regularity properties of a semismooth reformulation of variational inequalities. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 850–869 (*electronic*). (Jie Sun) **99g:90145** 90C33 (49J40, 65K05)

— (*with* Fischer, Andreas[1]; Kanzow, Christian) On the accurate identification of active constraints. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 14–32 (*electronic*). (Stefan Scholtes) **99k:90152** 90C30 (65K05)

Facchini, Alberto ★ Module theory. Endomorphism rings and direct sum decompositions in some classes of modules. Progress in Mathematics, 167. *Birkhäuser Verlag, Basel*, 1998. *xiv+285 pp. ISBN* 3-7643-5908-0 (G. Krause) **99h:16004** 16D70 (16–02)

— (*with* Nguyễn Việt Dũng[2]) Direct summands of serial modules. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 93–106. (Mamoru Kutami) **99k:16010** 16D70

Facello, Michael (*with* Edelsbrunner, Herbert; Liang, Jie) On the definition and the construction of pockets in macromolecules. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 83–102. (Jean-Paul Doignon) **99k:92010** 92C40 (52B55, 92D20)

Fachinotti, Víctor D. (*with* Cardona, Alberto; Huespe, Alfredo E.) A fast convergent and accurate temperature model for phase-change heat conduction. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 12, 1863–1884. (Summary) **99m:80003** 80–08 (65M12, 80A22)

Fack, V. (*with* Pitre, S. N.; Van der Jeugt, Joris) Racah coefficients, general recoupling coefficients and graph theoretical methods. (English summary) *Special functions and differential equations* (*Madras*, 1997), 178–183, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81061** 81R05 (05C90)

Faddeev, D. K. *see* **Kon'kova, T. Ya. et al., 99h:65080** *and* **Kublanovskaya, V. N.**

Faddeev, Lyudvig Dmitrievich Large new applications of Bethe ansatz. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 51–70, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Introduction) **99a:82009** 82B10 (82B23)

— The work of E. Witten [MR 93e:81001a]. *Fields Medallists' lectures*, 511–513, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (57–03, 58–03, 81–03)

— (*with* Volkov, A. Yu.) Quantum integrable models on 1 + 1 discrete space time. *Quantum fields and quantum space time* (*Cargèse*, 1996), 73–91, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Rinat M. Kashaev) **99d:81139** 81T40 (58F07, 81R50)

— A mathematician's view of the development of physics. *Les relations entre les mathématiques et la physique théorique*, 73–79, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (Ivailo M. Mladenov) **99m:81009** 81P05 (00A30, 00A79, 58–03, 81–03)

— (*with* Alekseev, Anton Yu.; Fröhlich, Jürg; Schomerus, Volker) Representation theory of lattice current algebras. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 31–60. (Stephen J. Summers) **99b:81072** 81R10 (18D10, 81R50, 81T40)

— (*with* Niemi, Antti J.) Partial duality in SU(N) Yang-Mills theory. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 214–218. (Summary) **99m:81141** 81T13

— (*with* Niemi, Antti J.) Partially dual variables in SU(2) Yang-Mills theory. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 8, 1624–1627. (Summary) **99m:81142** 81T13

Faddeeva, V. N. *see* **Kon'kova, T. Ya. et al., 99h:65080**

Faddy, M. J. (*with* Jones, Michael C.) Semiparametric smoothing for discrete data. (English summary) *Biometrika* **85** (1998), *no.* 1, 131–138. (Summary) **99d:62032** 62G05

— Markov death process modelling and analysis of binary data. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 9–13. 60J20 (62E15, 62P10)

Fadeev, S. I. Organization of numerical experiment for investigation of nonlinear boundary value problems by the method of continuation of solution with respect to parameter. (English summary) *Siberian J. Differential Equations* **1** (1998), *no.* 4, 321–350. (Summary) **99m:65139** 65L10 (34B15)

Fadell, Edward (*with* Husseini, Sufian) When are configuration bundles fiber-homotopically trivial? (English and French summaries) Dedicated to the memory of Gilles Fournier (Sherbrooke, PQ, 1997). *Ann. Sci. Math. Québec* **22** (1998), *no.* 2, 149–159. (Summary) **99m:55018** 55R10

Fadlalmoula, Z. (*with* Robertson, S. S.; O'Reilly, John; Leithead, W. E.) Individual channel analysis of the turbogenerator with a power system stabilizer. (English summary) *Internat. J. Control* **69** (1998), *no.* 2, 175–202. 93C95

rostami varnos Fadrani, D. *see* **Rostami Varnos Fadrani, D.**

Faermann, Birgit Local a-posteriori error indicators for the Galerkin discretization of boundary integral equations. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 43–76. (Juhani Pitkäranta) **99d:65337** 65N38 (45L05, 65R20)

Faetti, Sandro (*with* Virga, Epifanio G.) On a curvature surface energy for nematic liquid crystals. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 1, 31–52. (Ralph Saxton) **99d:76004** 76A15 (58E50, 76M30)

Fagan, William F. (*with* Cantrell, Robert Stephen; Cosner, Chris) Competitive reversals inside ecological reserves: the role of external habitat degradation. (English summary) *J. Math. Biol.* **37** (1998), *no.* 6, 491–533. (Summary) **99j:92026** 92D40 (35Q80, 92D25)

Fagella, Núria Surgery on the limbs of the Mandelbrot set. *Progress in holomorphic dynamics*, 139–158, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Walter Bergweiler) **99j:58167** 58F23 (30D05)

— Dynamics of the complex standard family. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 1–31. (Xavier Buff) **99j:58168** 58F23 (30D05)

Fagerberg, Rolf (*with* Boyar, Joan; Larsen, Kim S.) Amortization results for chromatic search trees, with an application to priority queues. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 504–521. (Ricardo Baeza-Yates) **99b:68041** 68P05 (68Q10, 68Q25)

Fages, François (*with* Gori, Roberta) Analysis of normal logic programs. (English summary) *Static analysis* (*Pisa*, 1998), 82–98, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (Summary) **99j:68012** 68N17 (68N20)

— (*with* Ruet, Paul; Soliman, Sylvain) Phase semantics and verification of concurrent constraint programs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 141–152, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (68T20)

— (*with* Fowler, Julian; Sola, Thierry) Experiments in reactive constraint logic programming. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 185–212. (Summary) **99c:68038** 68N17 (68Q10, 68T20)

Faggian, Claudia (*with* Sambin, Giovanni) From basic logic to quantum logics with cut-elimination. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 31–37. (R. Gylys) **99f:03026** 03B60 (03F05, 03G12, 81P10)

Faggian, Silvia (*with* Bardi, Martino) Hopf-type estimates and formulas for nonconvex nonconcave Hamilton-Jacobi equations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1067–1086 (*electronic*). (Paola Loreti) **99e:35023** 35F25 (35C99, 35L60, 49L20)

Fagin, Ronald (*with* Wimmers, Edward L.) Incorporating user preferences in multimedia queries (extended abstract). (English summary) *Database theory—ICDT '97* (*Delphi*), 247–261, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Fagiuoli, Enrico (*with* Zaffalon, Marco) A note about redundancy in influence diagrams. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 351–365. (Summary) **99k:90057** 90A46

Fagnani, Fabio (*with* Zampieri, Sandro) Difference equations, shift operators and systems over Noetherian factorial domains. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 55–86. (C. Praagman) **99i:93015** 93B25 (15A33, 15A54, 39A10)

— (*with* Zampieri, Sandro) Canonical kernel representations for behaviors over finite abelian groups. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 271–282. (From the introduction) **99a:93019** 93B25 (93B05, 93B10)

— (*with* Willems, Jan C.) Deterministic Kalman filtering in a behavioral framework. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 301–312. (Maria Letizia Corradini) **99c:93103** 93E11 (94A12)

— (*with* Zampieri, Sandro) Parameterized linear systems in the behavioral approach. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 40 *pp.* (*electronic*). (Margreet Kuijper) **99h:93029** 93B17 (34H05, 93A30)

— (*with* Margara, Luciano) Expansivity, permutivity, and chaos for cellular automata. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 6, 663–677. (Alejandro Eduardo Maass) **99i:58086** 58F08 (58F13)

— (*with* Profeti, Alessandro) Invariant measures for random dynamical systems over tori. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 201–203. (*see* **99f:58002**) 58F11

Fagnola, Franco On the realisation of classical Markov processes as quantum flows in Fock space. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 253–275, *TEV, Vilnius*, 1994. (Andreas Boukas) **99i:81123** 81S25 (60J60)

— (*with* Monte, Roberto) Quantum extensions of semigroups generated by Bessel processes. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 519–537, 639; *translation in Math. Notes* **60** (1996), *no.* 3-4, 389–401 (1997). (John E. Gough) **99f:81108** 81S25 (47D07, 60J35)

— Extending flows of classical Markov processes to quantum flows in Fock space. (English summary) *Probability towards* 2000 (*New York*, 1995), 179–193, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (John E. Gough) **99g:81112** 81S25 (46L50, 60J35)

— (*with* Rebolledo, Rolando) The approach to equilibrium of a class of quantum dynamical semigroups. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 561–572. (Kalyanapuram R. Parthasarathy) **99m:81115** 81S25 (81V80, 82C10)

— (*with* Chebotarëv, A. M.) Sufficient conditions for conservativity of minimal quantum dynamical semigroups. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 382–404. (John E. Gough) **99d:81064** 81S25 (47N50, 47N55, 82C10)

Fagui, Liu *see* **Liu, Fa Gui**

Fagundes, Pedro Luiz Equivariant Nielsen coincidence theory. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 117–142. (Peter Wong) **99e:55001** 55M20 (57S99)

Fahim, Abdelmajid Extensions galoisiennes d'algèbres différentielles. (English summary) [Galois extensions of differential algebras] *Pacific J. Math.* **180** (1997), *no.* 1, 7–40. (Juan José Morales Ruiz) **99c:12009** 12H05 (34A30)

— (*with* Chen, Guoting) Formal reduction of linear difference systems. (English summary) *Pacific J. Math.* **182** (1998), *no.* 1, 37–54. (P. W. Eloe) **99d:39004** 39A10 (12H10, 39A12)

Fahl, M. (*with* Sachs, Ekkehard W.) Modern optimization methods for structural optimization under flutter constraints. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 137–150, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 90C90 (49N55, 73K40)

Fahle, Torsten (*with* Schulze, Jürgen[2]) A parallel algorithm for the vehicle routing problem with time window constraints. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 585–607. (*see* **99k:90002**) 90B06

Fahmi, Rachid (*with* Potier-Ferry, Michel) The group representation theory and vibrations of cyclic structures. *Progress in partial differential equations, Vol. 1* (*Pont-à-Mousson*, 1997), 88–98, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Peter Ashwin) **99j:58060** 58E40 (35A30)

Fahrner, I. (*with* Stadtmüller, Ulrich) On almost sure max-limit theorems. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 229–236. (Lajos Horváth) **99g:60062** 60F15 (60F05, 60G70)

Fahroo, F. (*with* Ito, Kazufumi) Variational formulation of optimal damping designs. (English summary) *Optimization methods in partial differential equations* (*South Hadley, MA*, 1996), 95–114, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99g:49021** 49K20 (49Q10, 73K40, 73K50)

Fahsi, A. (*with* Belhaq, M.) On a criterion of saddle-loop connections in self-excited oscillators. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 265–271, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C23 (34C15, 34C37)

Faierman, Melvin (*with* Agranovich, Mikhail; Denk, Robert) Weakly smooth nonselfadjoint spectral elliptic boundary problems. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 138–199, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Jan Bochenek) **99a:35193** 35P20 (35J40, 35P05, 47F05)

Faigle, Ulrich (*with* Kern, Walter) Packing a bin online to maximize the total number of items. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 61–65, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27

— (*with* Kern, Walter; Kuipers, Jeroen) Computing the nucleolus of min-cost spanning tree games is NP-hard. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 443–450. (Summary) **99j:90122** 90D12 (68Q25)

— (*with* Fekete, Sándor P.; Hochstättler, Winfried; Kern, Walter) On approximately fair cost allocation in Euclidean TSP games. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 29–37. (Hans Peters) **99h:90118** 90D06 (90C27, 90D12, 90D46)

Faina, Loris (*with* Ceppitelli, Rita) Extremal solutions for a class of functional-differential equations. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 69–94. (Krzysztof A. Topolski) **99a:34173** 34K05 (34A12)

— Topological properties of equimeasurable functions. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 709–725. (M. Laczkovich) **99i:28006** 28A20

— The Peano phenomenon in functional-differential equations. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 277–287. (Vladimir P. Maksimov) **99k:34143** 34K05

— Interpolation of level sets for equimeasurable functions. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 349–363. (Ion Chiţescu) **99h:28005** 28A20

— Approximation of a functional Cauchy problem with infinite delay by means of a sequence of nonfunctional Cauchy problems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 114–132. (Minkyu Kwak) **99g:34156** 34K30 (34G20)

— The generic property of global convergence of successive approximations for functional-differential equations with infinite delay. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 219–234. (S. K. Ntouyas) **99m:34147** 34K05

Faiña-Medín, Andrés (*with* García-Jurado, Ignacio; Méndez-Naya, José; Méndez-Naya, Luciano) Unilateral commitment in the finitely repeated prisoners' dilemma. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 187–194. (Summary) **99i:90134** 90D20

Fainberg, V. Ya. (*with* Pak, N. K.) A new path-integral representation for the many-particle Green function of the relativistic particles. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 2, 328–338; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 2, 595–602. (George K. Savvidy) **99b:81129** 81S40 (81T13, 81V70)

— (*with* Pak, N. K.; Shikakhwa, M. S.) Non-relativistic fermions interacting through the Chern-Simons field and the Aharonov-Bohm scattering amplitude. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3531–3543. (Summary) **99a:81108** 81T15

Faĭnleĭb, A. S. (*with* Tulyaganova, M. I.) On the regular case of the Halasz theorem. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 85–90. (W. Narkiewicz) **99f:11123** 11N37 (11K65)

— (*with* Khudoleeva, O. I.) On the distribution of elements of normed free semigroups. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 68–72 (1997). (Z. Kryžius) **99h:11105** 11N37 (11K65)

— On small values of semi-additive functions. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 609–619. (Z. Kryžius) **99i:60037** 60E15 (60F05, 60F15)

Fairag, F. A two-level finite-element discretization of the stream function form of the Navier-Stokes equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 117–127. (André Nachbin) **99m:65183** 65M60 (65N30, 76D05, 76M10)

Fairén, Víctor (*with* Hernández Bermejo, Benito) Algebraic treatment of differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 291–296, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34A34 (34C20)

— (*with* Hernández Bermejo, Benito) Hamiltonian structure and Darboux theorem for families of generalized Lotka-Volterra systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6162–6174. (Vincent Naudot) **99j:58072** 58F05 (34A34, 58F40)

— (*with* Hernández Bermejo, Benito; Brenig, Léon) Algebraic recasting of nonlinear systems of ODEs into universal formats. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2415–2430. (W.-H. Steeb) **99g:34030** 34A34

— (*with* Hernández Bermejo, Benito) Simple evaluation of Casimir invariants in finite-dimensional Poisson systems. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 148–154. (Christine Médan) **99b:70015** 70H05 (58F05, 70E15)

Faires, J. Douglas (*with* Burden, Richard) ★ Numerical methods. Second edition. With 1 IBM-PC floppy disk (3.5 inch; HD). *Brooks/Cole Publishing Co., Pacific Grove, CA*, 1998. *xii*+594 *pp. ISBN* 0-534-35187-5 65–01

Fairhurst, Stephen (*with* Ashtekar, Abhay; Beetle, Christopher) Isolated horizons: a generalization of black hole mechanics. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, *L*1–*L*7. (Valter Moretti) **99k:83052** 83C57 (83C22, 83C47)

Fairlie, David B. (*with* Ueno, Tatsuya) Integrable top equations associated with projective geometry over Z_2. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7785–7790. (Ian A. B. Strachan) **99j:58071** 58F05 (14H55, 58F07, 70E15, 70H05)

— Moyal brackets in M-theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 263–274. (David S. Berman) **99i:81234** 81T60 (81S10, 81T30)

— (*with* Curtright, Thomas; Zachos, Cosmas) Features of time-independent Wigner functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025002, 14 *pp.* (Summary) **99k:81146** 81S30

Fairweather, Graeme (*with* Micula, Gheorghe) Direct numerical spline methods for first-order Fredholm integro-differential equations. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 59–66. (H. Brunner) **99c:65249** 65R20 (65L06)

— (*with* López Marcos, Juan Carlos) Galerkin methods for a semilinear parabolic problem with nonlocal boundary conditions. (English summary) John Crank 80th birthday special issue. *Adv. Comput. Math.* **6** (1996), *no.* 3-4, 243–262 (1997). (J. P. Hennart) **99a:65123** 65M60 (65M12, 65M15)

— (*with* Lou, Zhou-Ming; Bialecki, Bernard) Orthogonal spline collocation methods for biharmonic problems. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 267–303. (D. M. Sloan) **99i:65130** 65N35

— (*with* Li, Bingkun; Bialecki, Bernard) Discrete-time orthogonal spline collocation methods for Schrödinger equations in two space variables. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 453–477 (*electronic*). (G. W. Hedstrom) **99d:65295** 65M70

— *see also* **Proceedings: Conference on Numerical Analysis of Hamiltonian Differential Equations, 99g:65008**

Fait, Paolo L'éristique mise en formules. [Eristics expressed in formulas] *Dialogue* **37** (1998), *no.* 1, 131–154. (Roman Murawski) **99m:03002** 03–03 (01A99)

Faitakis, Yannis E. (*with* Kantor, Jeffrey C.) Residual generation and fault detection for discrete-time systems using an l_∞ technique. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 155–174. 93B36 (93B30)

— (*with* Thapliyal, S.; Kantor, Jeffrey C.) An LMI approach to the evaluation of alarm thresholds. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 659–667. 93B30

Faith, Carl Minimal cogenerators over Osofsky and Camillo rings. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 105–118, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (K. R. Fuller) **99i:16008** 16D50

— Commutative rings with acc on irreducible ideals. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 157–178, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (R. K. Markanda) **99k:13026** 13E99 (13A15)

— ★ Rings and things and a fine array of twentieth century associative algebra. (English summary) Mathematical Surveys and Monographs, 65. *American Mathematical Society, Providence, RI*, 1999. *xxxiv*+422 *pp. ISBN* 0-8218-0993-8 (Alberto Facchini) **99j:01015** 01A60 (01A70, 13-03, 16-00, 16-03)

Faivre, C. On decimal and continued fraction expansions of a real number. *Acta Arith.* **82** (1997), *no.* 2, 119–128. (Wieb Bosma) **99c:11102** 11K50 (11K16)

— A central limit theorem related to decimal and continued fraction expansion. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 455–463. (Jorge Donato Samur) **99m:11088** 11K50

Faiz, N. (*with* Agrawal, S. K.) Optimization of a class of nonlinear dynamic systems: new efficient method without Lagrange multipliers. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 11–28. (Summary) **99a:49028** 49K15 (49M29, 93B40)

Faĭziev, V. A. Two-dimensional real triangular quasirepresentations of a free group. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 6, 737–739. (Oleg G. Okunev) **99d:22029** 22E99 (47A56, 47A67)

Faĭziev, Yu. Ė. On summability in the sense of Lebesgue of spectral expansions. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 114–119. (Petru A. Kozhukhar') **99f:35147** 35P10 (35J10)

Faizullaev, B. A. (*with* Galkin, D.; Garnov, S.) Effective action in QFT: algebraic method of calculation and renormalization. *Problems of quantum field theory* (*Alushta*, 1996), 174–177, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T15

— (*with* Musakhanov, M. M.; Pak, N. K.) On the higher-loop contributions to the axial anomaly. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 192–197, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81T50

Fajans, J. (*with* Backhaus, E. Yu.; Wurtele, J. S.) Application of contour dynamics to systems with cylindrical boundaries. *J. Comput. Phys.* **145** (1998), *no.* 1, 462–468. 76M25 (76X05)

— (*with* Backhaus, E. Yu.; McCarthy, John E.) Equilibrium of highly asymmetric non-neutral plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 12–18. 76X05

— (*with* Backhaus, E. Yu.; Wurtele, J. S.) Stability of highly asymmetric non-neutral plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 19–30. 76E25 (76X05)

Fajstrup, Lisbeth (*with* Goubault, Eric; Raußen, Martin) Detecting deadlocks in concurrent systems. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 332–347, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

— A $\mathbf{Z}/2$ descent theorem for the algebraic K-theory of a semisimple real algebra. (English summary) *K-Theory* **14** (1998), *no.* 1, 43–77. (Teimuraz Pirashvili) **99d:19002** 19D06 (16K20, 55M20)

Fajszi, Bulcsu (*with* Molnár, Pal R.; Borbély, Tamas) On the pressure of electromagnetic radiation. (English summary) *The enigmatic photon, Vol.* 4, 205–218, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A40

Fakhri, H. (*with* Jafarizadeh, M. A.) Supersymmetry and shape invariance in differential equations of mathematical physics. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 181–190, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99d:34018** 34A30 (33C20, 34A05, 34A25, 81Q60)

— (*with* Jafarizadeh, M. A.) Parasupersymmetry and shape invariance in differential equations of mathematical physics and quantum mechanics. (English summary) *Ann. Physics* **262** (1998), *no.* 2, 260–276. (Avinash Khare) **99c:81052** 81Q60

— (*with* Jafarizadeh, M. A.) The embedding of parasupersymmetry and dynamical symmetry into GL(2, **C**) group. (English summary) *Ann. Physics* **266** (1998), *no.* 1, 178–206. (Avinash Khare) **99h:81059** 81Q60 (81R05)

Fakhroo, F. (*with* Banks, H. T.) Legendre-tau approximations for LQR feedback control of acoustic pressure fields. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 34 *pp.* (*electronic*). (Summary) **99g:93084** 93E20 (49N10)

— (*with* Banks, H. T.) Legendre-tau approximations for LQR feedback control of acoustic pressure fields. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 393–426. (Sergey V. Nikitin) **99i:93031** 93C20 (93B52)

Fakhry, M. E. (*with* Ahmad, K. E.; Jaheen, Zeinhum F.) Empirical Bayes estimation of $P(Y < X)$ and characterizations of Burr-type X model. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 297–308. (Summary) **99c:62015** 62C12 (62F15)

Fakinos, D. (*with* Economou, A.) Overall station balance and decomposability for non-Markovian queueing networks. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 870–887. (Leonardo Pasini) **99m:60144** 60K25 (68M20, 90B22)

Fakler, Robert Conditional and geometrical probability. (English summary) *Math. Ed.* **10** (1993), *no.* 1, 33–38. 60D05

Falaleev, L. P. (*with* Abdykalykov, A. D.) Euler and Riesz means of Fourier-Chebyshev series. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 1, 16–23. 42C10 (42A10, 42A24)

Falaschi, M. (*with* Alpuente, M.; Moreno Socías, Guillermo; Vidal, Germán) Safe folding/unfolding with conditional narrowing. (English summary) *Algebraic and logic*

programming (*Southampton*, 1997), 1–15, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N17 (68N15)

Falbel, Elisha (*with* Veloso, José M.) A parallelism for contact conformal sub-Riemannian geometry. (English summary) *Forum Math.* **10** (1998), *no.* 4, 453–478. (Fernand Pelletier) **99f:53027** 53C15

— (*with* Koseleff, Pierre-Vincent) The number of sides of a parallelogram. (English summary) *Discrete Math. Theor. Comput. Sci.* **3** (1999), *no.* 2, 33–42 (*electronic*). (Summary) **99j:20040** 20F18 (17B01)

Falceto, F. (*with* Asorey, M.; Luzón, G.) Unstable bundles in quantum field theory. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 1–16, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Martin Schlichenmaier) **99k:14053** 14H60 (14D20, 81T13, 81T40)

Falcitelli, M. (*with* Farinola, A.) Six-dimensional almost-Kähler manifolds with pointwise constant antiholomorphic sectional curvature. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 143–156 (1998). (Luis M. Hervella) **99e:53034** 53C15

— (*with* Farinola, A.; Kassabov, Ognian T.) Almost Kähler manifolds whose antiholomorphic sectional curvature is pointwise constant. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 151–166. (Luis M. Hervella) **99g:53034** 53C15

Falcó, Antonio (*with* Alsedà, Lluís) On the structure of the kneading space of bimodal degree one circle maps. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 145–149, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Víctor Jiménez López) **99j:58062** 58F03 (58F08)

— The set of periods for a class of crazy maps. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 546–554. (Alexander Loskutov) **99c:58053** 58F03 (58F08)

de Falco, Maria *see* **De Falco, Maria**

Falcolini, Corrado (*with* Conti, Roberto[2]; Contucci, Pierluigi) Polynomial invariants for trees: a statistical mechanics approach. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 225–237. (E. J. Janse van Rensburg) **99b:82035** 82B41 (05C05, 57M20)

Falcón, Santiago (*with* Gavete, L.; Manzano del Moral, Carlos; Herranz Calzada, J.) An error indicator for a finite point method using the Galerkin formulation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 769–774, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99 (65G05)

Falcone, Maurizio (*with* Briani, Ariela) A priori estimates for the approximation of a parabolic boundary control problem. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 49–65, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Enrique Zuazua) **99g:93041** 93C20 (35K05, 65K10, 65N06)

— (*with* Ferretti, Roberto) Convergence analysis for a class of high-order semi-Lagrangian advection schemes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 909–940 (*electronic*). (Meng Zhao Qin) **99c:65164** 65M12 (65M06, 76M20)

— *see also* **Bardi, Martino**, **99e:49001**

Falcone, Tony (*with* Takesaki, Masamichi) Operator valued weights without structure theory. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 323–341. (Fyodor A. Sukochev) **99c:46067** 46L10 (46L40)

Falconer, Kenneth J. ★ Techniques in fractal geometry. (English summary) *John Wiley & Sons, Ltd., Chichester*, 1997. xviii+256 *pp. ISBN* 0-471-95724-0 (Christoph Bandt) **99f:28013** 28A80 (00A69, 11K55, 58F13)

— (*with* Lammering, Birger) Fractal properties of generalized Sierpiński triangles. (English summary) *Fractals* **6** (1998), *no.* 1, 31–41. (Miguel Angel Martín) **99d:28013** 28A80 (28A78)

— (*with* Järvenpää, Maarit) Packing dimensions of sections of sets. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 89–104. (Norbert Patzschke) **99g:28012** 28A78

Faldey, Jutta On a gap theorem of Fabry's type for classical orthogonal series. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 21–34. (Summary) **99h:33035** 33C45

Faldin, N. V. (*with* Rudnev, S. A.) Linearization of a relay tracking system by a useful signal. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 36–43. 93B18 (93D15)

Faldum, Andreas (*with* Willems, Wolfgang) A characterization of MMD codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1555–1558. (Summary) **99i:94064** 94B05

Fales, Carl L. (*with* Huck, Friedrich O.; Rahman, Zia-ur) ★ Visual communication. (English summary) An information theory approach. The Kluwer International Series in Engineering and Computer Science, 409. *Kluwer Academic Publishers, Boston, MA*, 1997. xviii+203 *pp. ISBN* 0-7923-9956-0 (Gilbert Crombez) **99b:94010** 94A12 (68U10, 94A15)

Falgout, Robert D. (*with* Cleary, Andrew J.; Henson, Van Emden; Jones, Jim E.) Coarse-grid selection for parallel algebraic multigrid. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 104–115, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55)

Falguera, José L. Incommensurability and representational ontosemantics. (Spanish. English and Spanish summaries) Semantics and representation in scientific theories: formal analysis. *Theoria* (*San Sebastián*) (2) **13** (1998), *no.* 31, 161–185. (*see* **99a:00056**) 00A30

— *see also* **Semantics and representation in scientific theories: formal analysis**, **99a:00056**

Falk, James E. (*with* Lopez-Cardona, Emma) The surgical separation of sets. (English summary) *J. Global Optim.* **11** (1997), *no.* 4, 433–462. (Summary) **99e:90070** 90C26 (90C25)

Falk, M. *see* **Falk, Michael**

Falk, Markus (*with* Daumer, Martin) On-line change-point detection (for state space models) using multi-process Kalman filters. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 125–135. (Summary) **99h:93105** 93E11

Falk, Michael (*with* Marohn, Frank) Efficient estimation of the shape parameter in Pareto models with partially known scale. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 229–239. (Stergios B. Fotopoulos) **99c:62060** 62F12

— Local asymptotic normality of truncated empirical processes. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 692–718. (Lajos Horváth) **99c:62046** 62F05 (62F12)

— Local asymptotic normality of intermediate and central order statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1729–1755. (László Viharos) **99m:62078** 62G30 (62E20)

Falk, Michael J. Arrangements and cohomology. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 135–157. (Volkmar Welker) **99g:52017** 52B30 (05B35, 13D03)

Falk, Richard S. (*with* Arnold, Douglas N.; Winther, Ragnar) Preconditioning discrete approximations of the Reissner-Mindlin plate model. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **31** (1997), *no.* 4, 517–557. (Summary) **99b:73028** 73K10 (73V05)

Falkenberg, Sven (*with* Geyer, Bodo; Lavrov, Petr M.; Moshin, P.) On the structure of quantum gauge theories with external fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4077–4089. (Mohamed Kachkachi) **99g:81130** 81T13 (81T08, 81T70)

— (*with* Geyer, Bodo) Effective average action in $N = 1$ super-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085004, 8 *pp.* 81T60 (81T13)

Falkenburg, Brigitte Bohr's principles of unifying quantum disunities. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 95–120. (*see* **99g:00024**) 81P05 (00A30)

— *see also* **Models, theories and disunity in physics**, **99g:00024** *and* **Hellwig, Karl-Eberhard**, (**99g:00024**)

Fall, Andrew The foundations of taxonomic encoding. (English summary) *Comput. Intelligence* **14** (1998), *no.* 4, 598–642. (M. Studený) **99m:68193** 68T30 (94B25)

el-Fallah, O. *see* **El-Fallah, O.**

Fallat, Shaun M. (*with* Johnson, Charles Royal; Smith, Ronald L.; van den Driessche, P.) Eigenvalue location for nonnegative and Z-matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 187–198. (Thomas L. Markham) **99e:15009** 15A18 (15A48, 15A57)

— (*with* Kirkland, Stephen J.) Perron components and algebraic connectivity for weighted graphs. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 131–148. (Summary) **99j:05140** 05C50 (05C40)

— (*with* Hall, H. Tracy; Johnson, Charles Royal) Characterization of product inequalities for principal minors of M-matrices and inverse M-matrices. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 451–458. (Jeffrey Stuart) **99j:15010** 15A15 (15A45, 15A48)

— (*with* Johnson, Charles Royal) Sub-direct sums and positivity classes of matrices. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 149–173. (Gregory Taylor) **99m:15021** 15A48

— *see also* **Johnson, Charles Royal**, (**99c:01028**)

Fällström, Anders (*with* Backlund, Ulf) Maximal ideals in $A(\Omega)$. (English summary) *Complex geometric analysis in Pohang* (1997), 173–179, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Igor F. Krasichkov-Ternovskiĭ) **99m:46128** 46J15 (32E25, 46J20)

Falomir, Horacio Global boundary conditions for the Dirac operator. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 238–250, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Guido Cognola) **99h:58199** 58G26 (58G20, 81T20)

— *see also* **Trends in theoretical physics**, **99e:81005**

Falqui, Gregorio (*with* Aldrovandi, Ettore) Toda field theory as a clue to the geometry of W_n-gravity. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 155–171, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:81193** 81T40 (14D20, 14H60, 32J25)

— (*with* Casati, Paolo; Magri, Franco; Pedroni, Marco) A note on fractional KdV hierarchies. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4606–4628. (Summary) **99d:58076** 58F07

— (*with* Reina, Cesare; Zampa, Alessandro) Krichever maps, Faà di Bruno polynomials, and cohomology in KP theory. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 349–361. (Francesco Bottacin) **99a:58088** 58F07 (14H15, 35Q53)

— (*with* Magri, Franco; Pedroni, Marco) Bi-Hamiltonian geometry, Darboux coverings, and linearization of the KP hierarchy. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 303–324. (Alexander V. Shapovalov) **99h:58084** 58F07 (35Q53)

— (*with* Casati, Paolo; Magri, Franco; Pedroni, Marco) Bi-Hamiltonian reductions and $\mathcal{W}_n$-algebras. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 291–310. (Carlo Morosi) **99f:58095** 58F07 (17B68)

— (*with* Casati, Paolo; Magri, Franco; Pedroni, Marco; Zubelli, Jorge P.) Darboux transformations and Darboux coverings: some applications to the KP hierarchy. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 45–65. (C. Rogers) **99m:58173** 58F37 (35A30, 35Q53, 58F07)

garcia-Falset, J. *see* **Garcia-Falset, J.**

Faltings, Gerd Crystalline cohomology of semistable curve—the $\mathbf{Q}_p$-theory. *J. Algebraic Geom.* **6** (1997), *no.* 1, 1–18. (Abdellah Mokrane) **99k:14035** 14F30 (14F20)

— Integral crystalline cohomology over very ramified valuation rings. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 117–144. (Adolfo Quirós) **99e:14022** 14F30 (11G25, 14F20, 14F40, 14G20, 14L05)

— *see also* **Modern mathematics**, **99a:00002** *and* **Grothendieck, Alexander**, **99c:14023**

Faltinsen, O. M. Ringing loads on a slender vertical cylinder of general cross-section. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 199–217. (Summary) **99k:76026** 76B15 (86A05)

Fama, C. J. (*with* Clarke, C. J. S.) A rigidity result on the ideal boundary structure of smooth spacetimes. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2829–2840. (Ulf S. Nilsson) **99j:53089** 53C50 (53C80, 83C99)

Famelis, I. Th. (*with* Papageorgiou, George; Tsitouras, Ch.) A P-stable singly diagonally implicit Runge-Kutta-Nyström method. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 345–353. 65L06

Famoye, F. Bootstrap based tests for generalized negative binomial distribution. (English summary) *Computing* **61** (1998), *no.* 4, 359–369. (Summary) **99h:62053** 62G09

Fampa, Marcia (*with* Anstreicher, Kurt M.) A long-step path following algorithm for semidefinite programming problems. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 181–196, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Jos F. Sturm) **99f:90077** 90C25 (90C05)

Fan, Ai Hua (*with* Dooley, Anthony H.) Chains of Markovian projections and (G, Γ)-measures. (English summary) *Trends in probability and related analysis* (*Taipei*,

1996), 101–116, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99c:28058** 28D99 (42A55, 60G09)

— Gibbs measures and some related topics. (English summary) *Trends in probability and related analysis (Taipei, 1996)*, 117–127, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99c:28016** 28A78 (42A55, 42C15, 60G42, 60G57, 60K35)

— Multifractal analysis of infinite products. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 1313–1336. (Bernard Schmitt) **99e:82043** 82B31 (60F10)

— (*with* Lau, Ka-Sing) Asymptotic behavior of multiperiodic functions $G(x) = \prod_{n=1}^{\infty} g(x/2^n)$. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 129–150. (Kirill A. Kopotun) **99j:41054** 41A63 (28A80)

— Moyenne de localisation fréquentielle des paquets d'ondelettes. (French summary) [Average of frequency localization of wavelet packets] *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 63–70. (Jean-Pierre Gabardo) **99i:42045** 42C15

Fan, C. K. (*with* Lusztig, George) Factorization of certain exponentials in Lie groups. (English summary) *Algebraic groups and Lie groups*, 215–218, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Karl-Hermann Neeb) **99g:22006** 22E10 (22E46)

— (*with* Bremke, Kirsten) Comparison of a-functions. (English summary) *J. Algebra* **203** (1998), *no.* 2, 355–360. (Jian Yi Shi) **99d:20063** 20F55

Fan, C. W. *see* **Fan, Cheng Wen**

Fan, Chen-Ming (*with* Shyr, H. J.; Yü, Shih Shêng) d-words and d-languages. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 709–727. (Summary) **99e:68089** 68Q45 (68R15)

— (*with* Shyr, H. J.) Some properties of maximal comma-free codes. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 121–135. (Véronique Bruyère) **99m:68156** 68R15 (68Q45, 94A45)

Fan, Cheng Wen (*with* Hwu, Chyanbin) Mixed boundary-value problems of two-dimensional anisotropic elasticity with perturbed boundaries. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1269–1282. (Igor Yu. Chudinovich) **99f:73029** 73C35 (73B40)

Fan, Chenwu (*with* Chu, Peter C.) A three-point combined compact difference scheme. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 370–399. (Snezhana Gocheva-Ilieva) **99h:65136** 65L12 (65N06)

— (*with* Chu, Peter C.) A three-point sixth-order nonuniform combined compact difference scheme. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 663–674. 65M06 (65N06)

Fan, Cong (*with* Liu, Jiuqiang) Hamiltonian decompositions of strong products. (English summary) *J. Graph Theory* **29** (1998), *no.* 1, 45–55. (Günter Schaar) **99i:05134** 05C45

Fan, Da Shan (*with* Pan, Yi Biao) Singular integral operators with rough kernels supported by subvarieties. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 799–839. (Shan Zhen Lu) **99c:42029** 42B20 (47G10)

— (*with* Yang, Da Chun) The weighted Herz-type Hardy spaces $h\dot{K}_q^{\alpha,p}(\omega_1,\omega_2)$. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 19–41. (Summary) **99c:46021** 46E15 (46F05)

— (*with* Chen, Lung-Kee) On singular integrals along surfaces related to black [block] spaces. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 261–268. (Tomás F. Godoy) **99c:42027** 42B20

— (*with* Pan, Yi Biao) L^2-boundedness of a singular integral operator. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 317–333. (Javier Duoandikoetxea) **99d:42022** 42B20 (42B30, 47G10)

— (*with* Lu, Shan Zhen; Pan, Yi Biao) A class of discrete singular integral operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 229–234. (Wei Wang) **99k:42030** 42B20

— (*with* Al-Hasan, Abdelnaser J.) L^p-boundedness of a singular integral operator. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 404–412. (William T. Sledd) **99k:42027** 42B20 (47G10)

— (*with* Lu, Shan Zhen; Yang, Da Chun) Regularity in Morrey spaces of strong solutions to nondivergence elliptic equations with VMO coefficients. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 425–440. (Xi Ting Liang) **99i:35020** 35J15 (35B45, 35B65, 42B20)

— (*with* Guo, Kanghui; Pan, Yi Biao) Singular integrals along submanifolds of finite type. *Michigan Math. J.* **45** (1998), *no.* 1, 135–142. (Javier Duoandikoetxea) **99g:42016** 42B20

— (*with* Lu, Shan Zhen; Yang, Da Chun) Regularity of some nonlinear quantities on superharmonic functions in local Herz-type Hardy spaces. (English summary) *Publ. Mat.* **42** (1998), *no.* 2, 319–338. (Giuseppe Di Fazio) **99m:35025** 35B65 (42B30, 46E30)

— (*with* Chen, Daning) Multiplier transformations on H^p spaces. (English summary) *Studia Math.* **131** (1998), *no.* 2, 189–204. (Da Chun Yang) **99e:42032** 42B30 (46E15, 47B38)

— (*with* Guo, Kanghui; Pan, Yi Biao) Singular integrals with rough kernels along real-analytic submanifolds in $\mathbf{R}^n$. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 1, 8–19. (Gerald B. Folland) **99k:42031** 42B20 (42B15, 42B25)

— (*with* Guo, Kanghui; Pan, Yi Biao) A note of a rough singular integral operator. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 73–81. (Marta Urciuolo) **99k:42032** 42B20 (42B25)

Fan, En Gui (*with* Zhang, Hong Qing[1]) Bäcklund transformations and exact solutions for Kadomtsev-Petviashvili equation in 2 + 1 dimensions. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **37** (1997), *no.* 6, 624–626. (Xian Guo Geng) **99a:35231** 35Q53 (35Q51, 58F07, 58F37)

— (*with* Zhang, Hong Qing[1]) The homogeneous balance method for solving nonlinear soliton equations. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 3, 353–362. (Summary) **99c:35202** 35Q51 (35C05)

— (*with* Zhang, Hong Qing[1]) A new approach to Backlund transformations of nonlinear evolution equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 7, 645–650; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 603–608 (*Chinese. English and Chinese summaries*). 35Q53 (35A30, 58F37)

— (*with* Zhang, Hong Qing[1]) Backlund transformation and exact solutions for Whitham-Broer-Kaup equations in shallow water. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 8, 713–716; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 667–670 (*Chinese. English and Chinese summaries*). 35Q53 (76B15)

— (*with* Zhang, Hong Qing[1]) New exact solutions to a solutions to a system of coupled KdV equations. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 389–392. 35Q53 (35C05)

Fan, Fusheng (*with* Guo, Lingzhong) Group graded Gamma rings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 177–186. (Andrew Borisovich Verëvkin) **99g:16061** 16Y99

Fan, Genghua Proofs of two minimum circuit cover conjectures. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 353–367. (Cun-Quan Zhang) **99g:05139** 05C70 (05C38)

Fan, Gui Qing (*with* Lin, Cheng De) Determination of the fixed bonds of generalized hexagonal systems. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 6, 824–830. (Summary) **99m:92052** 92E10

Fan, Haitao Traveling waves, Riemann problems and computations of a model of the dynamics of liquid/vapor phase transitions. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 385–437. (Pavel Dubovskiĭ) **99j:35131** 35L65 (76N10, 80A22)

Fan, Heng (*with* Shi, Kang-jie; Hou, Bo Yu; Yang, Zhong-Xia) Integrable boundary conditions associated with the $Z_n \times Z_n$ Belavin model and solutions of reflection equation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2809–2823. (Andrey V. Tsiganov) **99e:82026** 82B23 (82B20)

— (*with* Hou, Bo Yu; Li, Guang-liang; Shi, Kang-jie; Wang, Yan Shen) A one-dimensional many-body integrable model from Z_n Belavin model with open boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4746–4758. (Kazuhiro Hikami) **99g:81237** 81V70 (81R50, 82B23)

— (*with* Hou, Bo Yu; Li, Guang-liang; Shi, Kang-jie) A new solution to the reflection equation for the Z_n symmetric Belavin model. (English summary) *Phys. Lett. A* **250** (1998), *no.* 1-3, 79–87. (Andrey V. Tsiganov) **99j:82014** 82B20 (82B23)

Fan, Hong Bing (*with* Xie, Li Tong) A new result on reconstructible local subgraphs. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 440–444. (Yuan Hong) **99b:05102** 05C60

— Almost every graph has a fixed edge. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 20, 2148–2150. 05C60

— (*with* Zhu, Xuding) Oriented walk double covering and bidirectional double tracing. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 89–102. (R. Balakrishnan) **99m:05121** 05C70

Fan, Hong Yi[1] (*with* Fan, Yue) Laguerre polynomial states and phase states in k-photon sub-Fock space. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 4, 489–492. (Summary) **99c:81077** 81R30 (81V80)

— (*with* Fan, Yue) Weyl correspondence and path integral for two-mode correlated system. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 6, 433–439. (Summary) **99c:81115** 81S30 (81S40)

— (*with* Wang, Yi-Hua) Interaction Hamiltonian for relative-number-phase of Ban's phase operator formalism. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 18, 715–718. (Summary) **99f:81084** 81R30 (81V80)

— (*with* Fan, Yue; Chan, F. T.) Fermionic coherent state representation for generalized fermionic Bogolyubov transformation. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 27, 1113–1116. 81R30

— (*with* Xiao, Min) An alternative approach for deriving a positive P-representation. (English summary) *Phys. Lett. A* **244** (1998), *no.* 4, 256–260. (K. Wódkiewicz) **99e:81087** 81R30

— (*with* Fan, Yue) New representation of thermal states in thermal field dynamics. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 242–246. (Summary) **99d:82043** 82C10

— (*with* Liu, Nai-le) Negative hypergeometric states of the quantized radiation field. (English summary) *Phys. Lett. A* **250** (1998), *no.* 1-3, 88–92. (Summary) **99h:81238** 81V80

Fan, Jia-Chun (*with* Kobayashi, Toshihiro) Adaptive stabilization of a class of semilinear parabolic distributed parameter systems in the case of collocated actuators and sensors. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 155–165. (Summary) **99h:93094** 93D21 (93C20)

— (*with* Kobayashi, Toshihiro) A simple adaptive PI controller for linear systems with constant disturbances. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 733–736. (Summary) **99a:93058** 93C40

Fan, Jia Shen (*with* Wang, Xiao Guo; Qiang, Shi Zhong; Jia, Chun Sheng) A new method of solution for the Reissner plate bending problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 114–119, *IX–X*. 73K10

Fan, Jian Xi Diagnosability of crossed cubes under two strategies. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 5, 456–462. (Summary) **99g:68016** 68M10 (68M15)

— (*with* Jia, Hong) The problem of embedding cycles into crossed cubes and an algorithm for it. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 2, 11–18. (Summary) **99h:68019** 68M10

Fan, Jiang-Bei (*with* Yu, Ming[1]) G/G gauged supergroup valued WZNW field theory. (English summary) *Interface between physics and mathematics (Hangzhou, 1993)*, 253–266, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **99d:81140** 81T40 (81R10)

Fan, Jiang Hua (*with* Li, Pei Xing; Wang, Ze Ke) An analysis of the computational complexity of the KNA algorithm. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 6, 34–37. (Summary) **99a:65198** 65Y20

— (*with* Wang, Ze Ke) A note on vector labelling algorithm. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 381–383. (From the text) **99c:90118** 90C30 (26E25, 65H05)

Fan, Jianqing (*with* Härdle, Wolfgang; Mammen, Enno) Direct estimation of low-dimensional components in additive models. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 943–971. (Theo Gasser) **99i:62064** 62G05

— (*with* Lin, Sheng-Kuei) Test of significance when data are curves. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1007–1021. (Summary) **99e:62077** 62G10

— (*with* Farmen, Mark; Gijbels, Irène) Local maximum likelihood estimation and inference. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 591–608. (Summary) **99a:62046** 62G05

— (*with* Kreutzberger, Eva) Automatic local smoothing for spectral density estimation. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 359–369. (Adhir K. Basu) **99i:62201** 62M10 (62G05)

Fan, Jin-yan (*with* Yan, Shi Jian[2]; Xu, Ling-ling; Huang, Kai-bin) The solubility of the multidimensional TLS problem. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 121–124. 65F30 (90C30)

Fan, Jishan (*with* Ding, Shi Jin) Asymptotics for the time dependent Ginzburg-Landau equations. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 241–255. (Summary) **99k:35162** 35Q55 (35B40, 58E50)

Fan, Jiu-Lun (*with* Xie, Wei-Xin) A dual concept of subsethood measure: supersethood measure. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 881–889. (Summary) **99g:03056** 03E72

— (*with* Xie, Wei-Xin) Some notes on similarity measure and proximity measure. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 403–412. 90A05 (90C70, 93C42)

Fan, John L. (*with* Calderbank, A. Robert) A modified concatenated coding scheme, with applications to magnetic data storage. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1565–1574. 94B12

Fan, Lei (*with* Cui, Hongbin; Zheng, Chong-You) On induced mappings. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 2, 22–27. 06A23

Fan, Long Zhen (*with* Tang, Guo Xing) The value of investment opportunity and investment decision—a geometric Brownian motion model. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 8–12. 90A09

Fan, Meng *see* **Fan, Meng[2]**

Fan, Meng[1] (*with* Wang, Ke[1]) Asymptotic stability for linear autonomous differential equation with several delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 605–610. (Michael I. Gil') **99k:34169** 34K20 (92D25)

— (*with* Wang, Ke[1]) Optimal harvesting policy for single population with periodic coefficients. (English summary) *Math. Biosci.* **152** (1998), *no.* 2, 165–177. (Summary) **99e:92033** 92D40 (90A30)

Fan, Meng[2] (*with* Wu, Jie-Zhi; Lu, Xi-Yun; Denny, Andrew G.; Wu, Jain-Ming) Post-stall flow control on an airfoil by local unsteady forcing. (English summary) *J. Fluid Mech.* **371** (1998), 21–58. (From the summary) **99i:76041** 76D15 (76B05, 76C05, 76G25)

— (*with* Wu, Jie-Zhi; Zhou, Ye) A note on kinetic energy, dissipation and enstrophy. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 503–505. (Summary) **99j:76105** 76N10

— (*with* Wu, Jie-Zhi; Zhou, Ye; Lu, Xi-Yun) Turbulent force as a diffusive field with vortical sources. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 627–635. (Summary) **99k:76083** 76F99 (76D05)

Fan, Peng-Dong (*with* Chen, Jin-Quan) Algebraic solutions for point groups: the tetrahedral group for the group chain $T \supset C_3$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 467–488. (A. J. Coleman) **99a:81053** 81R05 (20C35, 81V55)

Fan, Qinjie (*with* Li, Huiru; Zhai, Yanhui) Topological entropy for solutions of p-order Feigenbaum's functional equations. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 328–334. (Witold Jarczyk) **99f:39034** 39B12 (26A18, 39B22, 58F08)

— (*with* Liao, Gongfu) Minimal subshifts which display Schweizer-Smítal chaos and have zero topological entropy. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 33–38. (Karen Brucks) **99d:54023** 54H20 (54C70, 58F03, 58F13)

Fan, Shou Fang Improvements concerning the asymptotic value of the "intermediate point" in the second mean value theorem for integrals. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 17–24. 26A06

Fan, Suo Hai Strong retracts of graphs and the regularity of strong endomorphism monoids of graphs. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 115–119. (Ming-Yao Xu) **99j:05090** 05C25 (20M17)

Fan, Tian You (*with* Sun, Yingfei; Zhou, Meike) The existence of generalized solutions for a nonhomogeneous boundary value problem. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 210–214. (Summary) **99j:35168** 35Q30 (35D05, 76A05)

— (*with* Li, Xianfang; Sun, Yingfei) Several fundamental theorems and conservative integrals in quasicrystal elasticity theory. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 226–232. (Summary) **99j:73037** 73C99 (73B99)

— (*with* Li, Cheng Yue; Tong, Ming Sheng) Nontrivial homoclinic orbits of second-order singular periodic Hamiltonian systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 20, 2147–2153. 58E05 (34C37, 58F05, 70H05)

— (*with* Wang, Wenxin; Zhang, Liangxin) Analytic study on angular fields of HRR solution. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 313–323. (Summary) **99c:73063** 73M25 (73E99)

Fan, Tsai-Hung (*with* Fuh, Cheng-Der; Hung, Wen-Liang) Importance resampling for Markov chains. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1007–1026. (Summary) **99i:62098** 62G09 (60J10)

Fan, Wentao (*with* Tan, Liansheng) The disturbance rejection in singular systems. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 523–528. 93D21 (93C30)

Fan, Xi-Jun (*with* Phan-Thien, Nhan; Zheng, Rong) Completed double layer boundary element method for periodic suspensions. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 2, 167–193. (Summary) **99c:76005** 76A99 (76M15, 76T05)

Fan, Xian Ling Regularity of Lagrangians with $\alpha(x)$-growth conditions. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 1, 1–5. (Summary) **99e:49051** 49N60 (49J10)

— (*with* Zhao, Pei Hao) Periodic solutions of nonautonomous Lipschitz Hamiltonian differential inclusions. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 6–13. (Shi Qing Zhang) **99e:34052** 34C25 (34A60)

— (*with* Wang, Zong Xin; Zhu, Zheng You) Inertial manifolds for nonautonomous infinite-dimensional dynamical systems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 7, 695–704; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 649–657 (*Chinese. English and Chinese summaries*). (Almut Burchard) **99m:34145** 34G20 (35B40, 47H20, 58F39)

— (*with* Wang, Zong Xin; Zhu, Zheng You) Convergent families of approximate inertial manifolds for nonautonomous evolution equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 8, 765–775; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 715–724 (*Chinese. English and Chinese summaries*). (Almut Burchard) **99m:34146** 34G20 (35B40, 47H20, 58F39)

— (*with* Zhao, Dun) The Nemytskiĭ operators from $L^{p_1(x)}(\Omega)$ to $L^{p_2(x)}(\Omega)$. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 1, 1–5. (Summary) **99i:47117** 47H30 (46E30, 49J99)

Fan, Xiao Jun (*with* Cheng, Chang Jun) Nonlinear axisymmetric bending and composite problems of viscoelastic circular plates. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 6, 635–644. 73K10 (73F15)

Fan, Xiao Ping (*with* Yan, Quan Sheng; Xu, Jian Min; Mao, Zong Yuan; Zhou, Qi Jie) Dynamic modeling for a class of constrained planar two-link flexible manipulators. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 933–938. 93C85

Fan, Yanqin (*with* Liu, Yanjun) A note on asymptotic normality for deconvolution kernel density estimators. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 1, 138–141. (Summary) **99k:62075** 62G05

— Goodness-of-fit tests based on kernel density estimators with fixed smoothing parameters. (English summary) *Econometric Theory* **14** (1998), *no.* 5, 604–621. (Summary) **99i:62103** 62G10

— A data-driven test for dispersive ordering. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 331–336. (Summary) **99j:62075** 62G99

Fan, Yue (*with* Fan, Hong Yi[1]) Laguerre polynomial states and phase states in k-photon sub-Fock space. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 4, 489–492. (Summary) **99c:81077** 81R30 (81V80)

— (*with* Fan, Hong Yi[1]) Weyl correspondence and path integral for two-mode correlated system. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 6, 433–439. (Summary) **99c:81115** 81S30 (81S40)

— (*with* Fan, Hong Yi[1]; Chan, F. T.) Fermionic coherent state representation for generalized fermionic Bogolyubov transformation. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 27, 1113–1116. 81R30

— (*with* Fan, Hong Yi[1]) New representation of thermal states in thermal field dynamics. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 242–246. (Summary) **99d:82043** 82C10

Fan, Yun Twisted Y-group algebras of finite groups. (English summary) *Progr. Natur. Sci. (English Ed.)* **8** (1998), *no.* 3, 274–284. (J. E. Adney) **99g:20018** 20C10

Fan, Zhong (*with* Zheng, Ying Ping) Comparison of input buffer scheduling algorithms in $M_1 + M_2/M/1/k$ system. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 656–662. 90B35 (90B22)

Fan, Zhou-Tian A note on the power sequence of a fuzzy matrix. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 281–286. (Summary) **99j:15040** 15A99

Fanaï, Hamid-Reza Rigidité du flot géodésique de certaines nilvariétés de rang deux. [Rigidity of the geodesic flow of certain nilmanifolds of rank two] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 25–36, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Dorothee Schueth) **99c:53036** 53C22 (58F17)

— Spectre marqué des longueurs et métriques conformément équivalentes. (English summary) [Marked length spectrum and conformally equivalent metrics] *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 525–528. (Rafael Oswaldo Ruggiero) **99i:58121** 58F17 (58F11)

Fanchi, John R. *see* **Parametrized relativistic quantum theory, 99k:81005** *and* **99k:81006**

Fanciullo, Maria Stella Partial Hölder continuity for second order nonlinear nonvariational parabolic systems with controlled growth. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 1, 199–215 (1998). (Zhuo Qun Wu) **99f:35078** 35K55 (35B65)

Fang, Ai Nong (*with* Cheng, Jin Fa) Systems of generalized Beltrami equations in spaces of even dimension and systems of Beltrami equations in higher-dimensional spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 789–798. (Sheng Gong) **99d:30024** 30C62

— (*with* Chu, Yu Ming; Song, Ying Qing) Bounded convex domains and quasiballs in three-space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 417–422. (Summary) **99i:30035** 30C65

— Compactness of homeomorphisms with integrable dilatations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 463–466. (Lai Yi Zhu) **99f:30032** 30C62

— (*with* Zheng, Shen Zhou) L^p-integrability of (K_1, K_2)-quasiregular mappings. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1019–1024. (Summary) **99m:46092** 46E35 (30C65, 35J45, 35J60)

Fang, Biao (*with* Carranza, F. L.; Haber, R. B.) An adaptive space-time finite element model for oxidation-driven fracture. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 399–423. (*see* **99b:73001**) 73V05 (73M25)

Fang, C. C. *see* **Fang, Chao-Ching**

Fang, C. Y. (*with* Chen, Sei-Wang; Chang, K. E.) Neural simulation of Petri nets. (English summary) *Parallel Comput.* **25** (1999), *no.* 2, 183–207. (Summary) **99k:68153** 68T05 (68Q90)

Fang, Chao-Ching (*with* Sheu, T. W. H.; Tsai, S. F.) Application of an element-by-element BiCGSTAB iterative solver to a monotonic finite element model. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 57–70. 65N30 (65F30)

Fang, Fuquan On the topology of isoparametric hypersurfaces with four distinct principal curvatures. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 259–264. (Leslie Coghlan) **99g:53057** 53C40 (55R25)

Fang, G. *see* **Fang, Guangcai**

Fang, Gensun Recovery of functions via their irregular sampling values. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 4, 268–271. (Summary) **99c:41021** 41A15 (65D07)

Fang, Guangcai Morse indices of degenerate critical orbits and applications—perturbation methods in equivariant cases. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 101–118. (Yiming Long) **99k:58035** 58E05 (58F05)

Fang, Haitao (*with* Qian, Min Ping; Gong, Guang Lu) An improved annealing method and its large-time behavior. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 55–74. (Laurent Miclo) **99g:60137** 60J60 (49R05, 60F05, 65C05)

Fang, Hong Bin (*with* von Rosen, Dietrich; Fang, Kai-Tai) An extension of the complex normal distribution. (English summary) *Advances in the theory and practice of statistics*, 415–427, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Tonghui T. Wang) **99c:62159** 62H12 (62H05)

Fang, Hong Jin (*with* Cai, Chuan Ren; Wei, Jun Chao) Graded antisimple radicals. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 3, 207–216. (Stefan Veldsman) **99m:16037** 16N80 (16W50)

Fang, Hua Jing (*with* Lu, Hao[2]; Wang, Zhi Hong; Huang, Xin Han) A four-block H^∞ control design problem with irrational transfer matrices. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 573–575. 93B36

Fang, Hui[1] (*with* Zhang, Qin Qin) Linearized oscillations of odd-order neutral delay differential equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 398–408. (Summary) **99a:34187** 34K15 (34K40)

Fang, J. Q. (*with* Li, Qing Shan; Jeary, A. P.) A new function transform technique for the solution of FEM dynamic equations. (English summary) *Comput. & Structures* **70** (1999), *no.* 3, 345–355. (Summary) **99j:73112** 73V20 (65N30, 73K12)

Fang, Jian Cheng (*with* Shen, Gong Xun; Li, Xue En; Wan, De Jun; Dong, Xiao Yong) A study of the Kalman filtering method and the analysis of filtering accuracy in GPS kinematic positioning with speed observation. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 914–919. 93E11

Fang, Jin Ming Further characterizations of L-fuzzy H-set. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 3, 355–359. (Summary) **99a:04007** 04A72

— Minimal regular topological molecular lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 983–991. 54A40 (06F30)

Fang, Jin Xuan (*with* Meng, Guang Wu) L-fuzzy homomorphisms between L-fuzzy topological groups. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 4, 13–17. (Summary) **99d:22007** 22A99

— On the variational principle and fixed point theorem in fuzzy metric spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 363–372. (Summary) **99c:90156** 90C70 (54A40, 54E70, 54H25, 90C48)

— (*with* Li, Junhua) On the variational principle and fixed point theorem in F-type topological spaces. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 290–294. 54H25

Fang, Jinmig *see* **Fang, Jin Ming**

Fang, Jun (*with* Tam, Christopher K. W.; Kurbatskii, Konstantin A.) Non-homogeneous radiation and outflow boundary conditions simulating incoming acoustic and vorticity waves for exterior computational aeroacoustics problems. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 9, 1107–1123. (Summary) **99a:73106** 73K70 (73V15, 76M20)

Fang, Kai-Tai (*with* Zhu, Li-Xing; Zhang, Jin-Ting) A projection NT-type test for spherical symmetry of a multivariate distribution. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 109–122, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62H15

— (*with* von Rosen, Dietrich; Fang, Hong Bin) An extension of the complex normal distribution. (English summary) *Advances in the theory and practice of statistics*, 415–427, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Tonghui T. Wang) **99c:62159** 62H12 (62H05)

— (*with* Zhu, Li-Xing; Bhatti, M. Ishaq) On estimated projection pursuit-type Crámer-von Mises statistics. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 1–14. (Andrzej S. Kozek) **99e:62106** 62H15 (62F05, 62H40)

— (*with* Pan, Jian-Xin; von Rosen, Dietrich) Local influence assessment in the growth curve model with unstructured covariance. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 263–278. (C. R. Rao) **99a:62078** 62H12 (62J12)

— (*with* Chen, Xi Ru; Zhang, Run Chu; Zhu, Li-Xing) Asymptotics in addition of pseudo-random sequences. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 612–621. (Peter J. Hellekalek) **99a:65018** 65C10 (11K45)

— (*with* Kotz, Samuel; Liang, Jia-Juan) On multivariate vertical density representation and its application to random number generation. (English summary) *Statistics* **30** (1997), *no.* 2, 163–180. (Summary) **99a:62006** 62–09 (62H05, 65C10)

— (*with* Li, Run-Ze; Zhu, Li-Xing) A projection NT-type test of elliptical symmetry based on the skewness and kurtosis measures. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 314–323. (Summary) **99g:62087** 62H40 (62H15)

— (*with* Zheng, Zukang; Lu, Wenliang) Discrepancy with respect to Kaplan-Meier estimator. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 329–344. (Summary) **99b:62054** 62G05

— (*with* Li, Run-Ze; Liang, Jia-Juan) A multivariate version of Ghosh's T_3-plot to detect non-multinormality. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 371–386. (Summary) **99j:62079** 62H15 (62G10)

— (*with* Tian, Guo Liang; Xie, Min Yu) Uniform designs on convex polyhedra. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 14, 1472–1475. 52A22

— (*with* Pan, Jian-Xin; von Rosen, Dietrich) On the posterior distribution of the covariance matrix of the growth curve model. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 33–39. (Jack C. Lee) **99k:62114** 62H12

Fang, Kui (*with* Tan, Jian Rong; Zhu, Guo-qing) C^2- (C^3-) continuous interpolation spline curve and surface. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 238–245. (Summary) **99c:65030** 65D17

— (*with* Chen, Dong Gui) B-spline curves with given tangent polygons. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 22–27. 65D17 (65D07)

— (*with* Zhu, Guo-qing; Luo, Jian-shu) C^k shape-preserving piecewise interpolating polynomials of degree $2k$. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 1–10. (Summary) **99c:65018** 65D07

Fang, Li Fei (*with* Gao, Chun Yi; Zhao, Ren Ke) Sharp neighborhoods of certain close-to-convex functions. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 3, 1–6. 30C45

Fang, Lian Circular arc approximation by quintic polynomial curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 843–861. (Antonio López-Carmona) **99f:41038** 41A63 (65D05)

Fang, Ming (*with* Sun, Yong[2]) The Yale shooting problem: a case study in non-monotonic reasoning. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 5, 700–706. (Summary) **99m:68189** 68T27

Fang, Ming Liang A unicity theorem for entire functions. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 2, 19–22. (Summary) **99c:30058** 30D35

— (*with* Guo, Hui) On meromorphic functions sharing two values. (English summary) *Analysis* **17** (1997), *no.* 4, 355–366. (Anand Prakash Singh) **99b:30039** 30D35

— On unicity of meromorphic functions and their derivatives. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 353–358. (Summary) **99f:30048** 30D35

— (*with* Hua, Xin-Hou) Meromorphic functions that share one finite set CM. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 15–22. (Hong Xun Yi) **99g:30039** 30D35 (30D05)

Fang, Qi (*with* Wang, Xu Yi; Liang, Hai Shao) A probabilistic grammar for structural pattern recognition and an algorithm for it. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 4, 495–502. 68Q50 (68T10)

Fang, Qi Qin (*with* Zhang, Shunyan) Capacity and covering theorems. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **31** (1995), *no.* 1, 11–19. (Summary) **99g:31005** 31A15

Fang, Qing Inertial manifold theory for a class of reaction-diffusion equations on thin tubular domains. *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 14–22, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35K57 (58F39)

Fang, Qiqing *see* **Fang, Qi Qin**

Fang, S. *see* **Fang, Shizan**

Fang, S.-C. *see* **Fang, Shu Cherng**

Fang, Shao C. (*with* Venkatesh, Santosh S.) The capacity of majority rule. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 1, 83–109. (Summary) **99f:68172** 68T05 (90C10)

Fang, Shao Mei Fourier spectral methods for nonlinear Klein-Gordon equations. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **25** (1997), *no.* 4, 13–16. (Summary) **99c:65186** 65M70 (35L70)

— (*with* Lu, Bai-nian) Fourier spectral and pseudospectral methods for ferromagnetic chain equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 399–408. (Summary) **99b:65122** 65M70

Fang, Shi Zu Two-parameter finite streams of random events. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 165–170. (Summary) **99d:60054** 60G60 (60J30)

Fang, Shizan Stochastic anticipative calculus on the path space over a compact Riemannian manifold. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 3, 249–282. (Hélène Airault) **99i:60110** 60H07 (58G32, 60H05)

Fang, Shu Cherng (*with* Rajasekera, J. R.; Tsao, H.-S. J.) ★ Entropy optimization and mathematical programming. International Series in Operations Research & Management Science, 8. *Kluwer Academic Publishers, Boston, MA*, 1997. x+343 *pp. ISBN* 0-7923-9939-0 (John J. Dinkel) **99b:90119** 90C30 (90–02, 94A17)

— (*with* Chen, Yen-Hung) Solving convex programming problems with equality constraints by neural networks. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 41–68. (Summary) **99e:90066** 90C25

— (*with* Hu, Cheng-Feng) Solving fuzzy inequalities with concave membership functions. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 233–240. 90C70 (65F30)

— (*with* Wu, Soon-Yi; Lin, Chih-Jen) Relaxed cutting plane method for solving linear semi-infinite programming problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 759–779. (Tian Xiong Han) **99k:90183** 90C34

— (*with* Guan, Sichong) A global-filtering algorithm for linear programming problems with stochastic elements. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 3, 287–316. (E. G. Gol'shteĭn) **99m:90104** 90C15 (90C05)

— (*with* Lin, Chih-Jen; Wu, Soon-Yi) An unconstrained convex programming approach to linear semi-infinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 443–456 (*electronic*). (Levent Tunçel) **99f:90083** 90C26 (49N15)

— (*with* Hu, Cheng-Feng; Wang, Hsiao Fan; Wu, Soon-Yi) Linear programming with fuzzy coefficients in constraints. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 10, 63–76. 90C70 (90C05)

— (*with* Li, Guangzhi) Solving fuzzy relation equations with a linear objective function. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 107–113. (Summary) **99k:90201** 90C70 (90C08)

Fang, Ting Gang A new integral inequality and its applications. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 214–216. 26D10

Fang, Tong (*with* Rong, Hai Wu) Asymptotic stability of second-order linear stochastic differential equations. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 3, 72–78, *VI.* 34D20 (34F05)

— (*with* Rong, Hai Wu; Wang, Ming Yu) Stability and bifurcations of stochastic Arnold systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 112–116, *VIII–IX.* 34F05

— (*with* Xu, Wei[3]; Rong, Hai Wu) C^r stochastic center manifold theory. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 3, 8–13, *I.* (Summary) **99f:58116** 58F10

— (*with* Chen, Yong Hong[2]; Xu, Jian Xue) A chaotic attractor in the normal form network. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 6, 676–681. 58F13 (58F36)

— (*with* Rong, Hai Wu; Xu, Wei[3]) The maximal Lyapunov exponent and stability for coupled nonlinear stochastic systems with two degrees of freedom. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 22–29, *II.* (Summary) **99e:34078** 34F05 (34D08, 60H10, 70L05)

Fang, Xiao Chun The amenability of crossed products with coactions. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **25** (1997), *no.* 6, 715–717. (Summary) **99c:46080** 46L55

— The multiplier bimodule of a Hilbert bimodule. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 1–4. (Sze-Kai Tsui) **99h:46107** 46L05 (46H25)

Fang, Ximing (*with* Feng, Mang; Wang, Ke Lin; Shi, Lei[3]; Yan, Min; Zhu, Xiwen) Exact solution of Jaynes-Cummings model without rotating wave approximation. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 2, 169–172. (Summary) **99h:81239** 81V80 (81R30)

Fang, Xin Gui (*with* Li, Cai Heng; Praeger, Cheryl E.) On orbital regular graphs and Frobenius graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 85–99. (Summary) **99c:05090** 05C25 (20B25)

— (*with* Praeger, Cheryl E.) On graphs admitting arc-transitive actions of almost simple groups. (English summary) *J. Algebra* **205** (1998), *no.* 1, 37–52. (John van Bon) **99f:05052** 05C25 (20B25)

Fang, Yang Wang (*with* Wu, Bao Wei; Han, Chong Zhao) Robust H^∞ control of bilinear systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 5–8. 93B36 (93C10)

— (*with* Cao, Huai Xin; Han, Chong Zhao) An algorithm for iterative computation of nonlinear transfer functions for discrete nonlinear systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 16–20. 93B40 (65D15)

— (*with* Han, Chong Zhao) Stability of discrete closed-loop control systems using nonlinear transfer functions. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 11, 8–12. 93D05 (93C55)

Fang, Yi On minimal annuli with a straight line boundary. (English summary) *Geom. Dedicata* **73** (1998), *no.* 2, 157–164. (Fei-Tsen Liang) **99i:53004** 53A10 (30C80)

Fang, Yong (*with* Chow, Tommy W. S.) An iterative learning control method for continuous-time systems based on 2-D system theory. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 6, 683–689. (Summary) **99c:93062** 93C30 (93E35)

Fang, Yuguang (*with* Feng, Xiangbo; Loparo, Kenneth A.) Optimal state estimation for stochastic systems: an information-theoretic approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 771–785. (Summary) **99c:93114** 93E20 (93E10, 93E11)

Fang, Yun Lan (*with* Zheng, Hui Rao; Hu, Xiao^2) Fast inverse Cholesky decomposition for rectangular Toeplitz-block matrix. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 4, 418–422. 65F35 (65F10)

— (*with* Zheng, Hui Rao; Zhang, Li; Wang, Zhi Ping) Fast inverse Cholesky decomposition for rectangular Toeplitz-block matrices. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 41–47. (Summary) **99d:65096** 65F05 (15A23)

Fang, Zhao Ben (*with* Block, H. W.; Chhetry, D.; Sampson, Allan R.) Metrics on permutations useful for positive dependence. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 219–234. (Ram Shanmugam) **99k:62106** 62H05

Fang, Zhi Ming An improved method for simplifying the diagrams of four-valued logic functions. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 5, 158–162. 03B50

Fanggui, Wang *see* **Wang, Fang Gui**

Fania, Maria Lucia (*with* Livorni, Elvira Laura) Degree ten manifolds of dimension n greater than or equal to 3. (English summary) *Math. Nachr.* **188** (1997), 79–108. (Kristian Ranestad) **99d:14035** 14J40 (14C20)

Fannes, Mark Using density matrices in classical dynamical systems. *Quantum probability (Gdańsk, 1997)*, 175–182, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (D. Petz) **99k:82010** 82B10 (28D20, 47A35, 47N55)

— (*with* Andries, Johan; De Cock, Mieke) The entropy of an irreversible quantum dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5989–6005. (Matthew J. Donald) **99g:82051** 82C10

— (*with* Benatti, Fabio) Statistics and quantum chaos. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9123–9130. (Introduction) **99i:81046** 81Q50

Fannjiang, Albert (*with* Papanicolaou, George C.) Convection-enhanced diffusion for random flows. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 5-6, 1033–1076. (Gershon Wolansky) **99b:76069** 76M35 (76R50, 82C31, 82C43)

— Anomalous diffusion in random flows. *Mathematics of multiscale materials (Minneapolis, MN, 1995–1996)*, 81–99, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Leonid I. Piterbarg) **99e:76059** 76F05 (60J65, 76M35, 76R50)

— (*with* Ryzhik, Leonid; Papanicolaou, George C.) Evolution of trajectory correlations in steady random flows. (English summary) *Recent advances in partial differential equations, Venice* 1996, 105–130, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (W. A. Woyczyński) **99e:76058** 76F05 (60F05, 76M35)

— Boundary value problem with unbounded, fast oscillatory random flows. (English summary) *J. Differential Equations* **143** (1998), *no.* 2, 327–359. (Jacob Rubinstein) **99j:35175** 35Q35 (35B27, 35R60, 60J70, 76M35, 76R50)

Fanny, Cosson (*with* Elmabsout, Badaoui) Relative equilibrium in the three-body problem with a rigid body. (English and French summaries) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 293–315. (Summary) **99e:70030** 70F07

Fan'ola, F. *see* **Fagnola, Franco**

Fantechi, Barbara (*with* Manetti, Marco) Obstruction calculus for functors of Artin rings. I. (English summary) *J. Algebra* **202** (1998), *no.* 2, 541–576. (D.-M. Popescu) **99f:14004** 14B12 (13J10, 14B07, 14D15)

— (*with* Manetti, Marco) On the T^1-lifting theorem. *J. Algebraic Geom.* **8** (1999), *no.* 1, 31–39. (Francesco Bottacin) **99j:14009** 14D15 (14B10, 14B12)

— (*with* Göttsche, Lothar; van Straten, Duco) Euler number of the compactified Jacobian and multiplicity of rational curves. (English summary) *J. Algebraic Geom.* **8** (1999), *no.* 1, 115–133. (Jim A. Bryan) **99i:14065** 14N10 (14H40, 14J28)

Faouzi, Abdelkhalek (*with* Charles, Bernard) Forme de Jordan des extensions d'opérateurs linéaires (problème de Carlson) et sous-espaces réduisants minimaux contenant un sous-espace donné. (French summary) [Jordan form of extensions of linear operators (Carlson problem) and minimal reducing subspaces containing a given subspace] *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 45–51. (H. K. Farahat) **99k:15021** 15A21 (47A05)

Farach-Colton, Martin (*with* Liberatore, Vincenzo) On local register allocation. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 564–573, *ACM, New York*, 1998. (*see* **99d:68011**) 68N20

— (*with* Thorup, Mikkel) String matching in Lempel-Ziv compressed strings. (English summary) *Algorithmica* **20** (1998), *no.* 4, 388–404. (Summary) **99a:68086** 68Q25 (68P99)

— (*with* Amir, Amihood; Benson, Gary) Optimal parallel two-dimensional text searching on a CREW PRAM. (English summary) *Inform. and Comput.* **144** (1998), *no.* 1, 1–17. (Summary) **99b:68089** 68Q22 (68Q25)

— *see also* **Combinatorial pattern matching, 99h:68002** *and* **Mathematical support for molecular biology, 99k:92003**

Faradzhev, R. G. (*with* Mamedova, G. G.) Some problems in the theory of controllability and reversibility of bilinear sequential machines. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaĭdzhana* **51(52)** (1995/96), *no.* 1-12, 28–32 (1997). 93B05 (93C10)

— (*with* Nagiev, A. T.; Feĭziev, F. G.) Analytic description and quadratic optimization of binary multi-dimensional nonlinear sequential-cellular machines. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 750–752. 93C30 (68Q80, 90C20)

— (*with* Nagiev, A. T.; Guseĭnov, I. N.) Criteria for the diagnosability of bilinear sequential machines. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 5, 606–607. 93B30 (68M15)

Farafonova, N. K. The geometry of a Grassmannian foliation. II. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 60–70; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 8, 57–66 (1999). (Peter J. Topalov) **99k:53046** 53C12

Farag, M. H. (*with* Khater, A. H.; Shamardan, A. B.; Abel-Hamid, A. H.) Analytical and numerical solutions of a quasilinear parabolic optimal control problem. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 29–43. (Summary) **99d:49012** 49J20 (49M30, 65K10)

Faragallah, M. (*with* Elshobaky, E.) Eigenvalue distribution of integral operators defined by Besov-Orlicz kernels. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 29–42 (*electronic*). (A. Pietsch) **99i:47092** 47G10 (45P05, 47B06)

— (*with* Elshobaky, E.) Eigenvalue distribution of integral operators defined by Orlicz kernels. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 2, 1–6 (*electronic*). (A. Pietsch) **99k:47046** 47B06 (45P05, 47G10)

Faraggi, Alon E. (*with* Argyres, Philip C.; Shapere, Alfred D.) Curves of marginal stability in $N = 2$ super-QCD. *Strings '95 (Los Angeles, CA, 1995)*, 1–2, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T60 (81T13)

— (*with* Pati, Jogesh C.) A family-universal anomalous U(1) in string models as the origin of supersymmetry breaking and squark degeneracy. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 21–52. (Summary) **99f:81221** 81V22 (81R40, 81T30)

— Family universal anomalous U(1) in realistic superstring derived models. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 315–322. (Summary) **99c:81275** 81V22 (81T30)

— (*with* Berglund, Per; Ellis, Jonathan Richard; Nanopoulos, Dimitri V.; Qiu, Zongan) Toward the M(F)-theory embedding of realistic free-fermion models. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 269–278. (Summary) **99e:81174** 81T30

— (*with* Matone, Marco) Equivalence principle, Planck length and quantum Hamilton-Jacobi equation. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 77–81. (Summary) **99m:81068** 81Q99

Faraggi, David (*with* Simon, Richard) Bayesian variable selection method for censored survival data. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1475–1485. (Summary) **99k:62187** 62N05 (62F15)

Faragó, István (*with* Tarvainen, P.) Qualitative analysis of one-step algebraic models with tridiagonal Toeplitz matrices. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 3, 177–192. (Ji Chun Li) **99j:65072** 65F30 (65C20, 65M06, 65M60)

— A new matrix-splitting method and its application to M-matrices. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 51–59. (Summary) **99m:65060** 65F10 (65F35)

Farago, Oded (*with* Kantor, Yacov) Pseudo-boundaries in discontinuous two-dimensional maps. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 445–451. (Summary) **99b:58208** 58F27

Farah, Ilijas (*with* Todorčević, Stevo B.) ★ Some applications of the method of forcing. (English summary) Yenisei Series in Pure and Applied Mathematics. *Yenisei, Moscow; Lycée, Troitsk*, 1995. iv+148 *pp. ISBN* 5-88623-014-9 (Eva Coplakova) **99f:03001** 03–02 (03E05, 03E35, 03E40)

— Completely additive liftings. *Bull. Symbolic Logic* **4** (1998), *no.* 1, 37–54. (Jakub Jasiński) **99h:03025** 03E15 (03E35)

Farahani, K. (*with* Mofid, M.; Vafai, A.) Finite element solution of Dirichlet's nonlinear partial differential equation with mixed boundary conditions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 81–88. (Summary) **99j:65210** 65N30 (65M60, 65N30)

Farahi, M. H. (*with* Rubio, J. E.; Wilson, D. A.) The optimal control of the linear wave equation. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 833–848. 49K20 (49J20)

— (*with* Rubio, J. E.; Wilson, D. A.) The global control of a nonlinear wave equation. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 1–15. 93C20 (35L70)

— On the approximation of an infinite-dimensional linear programming problem. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 153–160, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 49K20 (90C08)

Farahmand, K. (*with* Sambandham, M.) On the expected number of real zeros of random trigonometric polynomials. (English summary) *Analysis* **17** (1997), *no.* 4, 345–353. (Natesan Renganathan) **99b:60065** 60G99

— Complex roots of a random algebraic polynomial. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 724–730. (Natesan Renganathan) **99d:60057** 60G99 (60B99)

— (*with* Hannigan, P.) The expected number of local maxima of a random algebraic polynomial. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 991–1002. (G. Samal) **99a:60053** 60G99

— (*with* Jahangiri, Jay M.) On real zeros of random polynomials with hyperbolic elements. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 347–350. (V. Thangaraj) **99j:60107** 60G99 (42B99)

— (*with* Jahangiri, Jay M.) Complex roots of a class of random algebraic polynomials. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 220–228. (Natesan Renganathan) **99j:60068** 60G99

— (*with* Jahangiri, Jay M.) On the powers of strongly close-to-convex functions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 2, 71–77. (James A. Hummel) **99d:30016** 30C45

— (*with* Sambandham, M.; Gore, Henry) The average number of point [points] of inflection of random algebraic polynomials. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 721–731. (V. Thangaraj) **99g:60094** 60G99

Faran, James J., V A synthetic Frobenius theorem. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 1, 11–32. (Maria H. Papatriantafillou) **99f:58004** 58A03 (18F15, 58A05, 58A10)

Faraoni, Valerio (*with* Dumse, R. M.) The gravitational interaction of light: from weak to strong fields. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 91–105. (W. B. Bonnor) **99k:83100** 83C99 (81V10)

— (*with* Gunzig, Edgard) Cosmic entropy from the bosonic string? (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 199–203. (*see* **99k:00032**) 83F05 (83E15, 83E30)

— (*with* Gunzig, Edgard) Einstein frame or Jordan frame? (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 217–225. (*see* **99k:00032**) 83D05

Faraut, Jacques Quelques problèmes d'analyse sur les espaces symétriques ordonnés. [Some problems of analysis on ordered symmetric spaces] *Positivity in Lie theory: open problems*, 71–80, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Michel Pevzner) **99h:43019** 43A85 (22E30)

Faravelli, L. (*with* Breitung, K.; Casciati, F.) Optimization methods in structural reliability. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 359–369, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90C90 (90B25, 90C15)

Faraway, Julian J. (*with* Park, Dongryeon) Sequential design for response curve estimation. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 155–164. (Summary) **99d:62074** 62L05 (62G05)

— (*with* Csörgő, Sándor) The paradoxical nature of the proportional hazards model of random censorship. (English summary) *Statistics* **31** (1998), *no.* 1, 67–78. (Summary) **99a:62040** 62G05 (62N05)

Farb, Benson Relatively hyperbolic groups. *Geom. Funct. Anal.* **8** (1998), *no.* 5, 810–840. (Michel Coornaert) **99j:20043** 20F32 (20F10, 57M07)

— (*with* Mosher, Lee) A rigidity theorem for the solvable Baumslag-Solitar groups. With an appendix by Daryl Cooper. *Invent. Math.* **131** (1998), *no.* 2, 419–451. (Raul Quiroga) **99b:57003** 57M07 (20F32, 57M20)

— (*with* Masur, Howard) Superrigidity and mapping class groups. *Topology* **37** (1998), *no.* 6, 1169–1176. (Sylvain Gervais) **99f:57017** 57M50 (57M60)

— (*with* Brady, Noel) Filling-invariants at infinity for manifolds of nonpositive curvature. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3393–3405. (Michel Coornaert) **99c:53039** 53C23 (20F32, 53C21, 53C35)

Farber, Michael (*with* Braverman, Maxim) Novikov type inequalities for differential forms with non-isolated zeros. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 357–375. (Patrick T. McDonald) **99b:58220** 58G05 (58E05, 58G25, 58G26)

— (*with* Katz, Gabriel; Levine, Jerome) Morse theory of harmonic forms. (English summary) *Topology* **37** (1998), *no.* 3, 469–483. (Alexander Fel'shtyn) **99i:58026** 58E05 (58A10)

Fărcaş, Gh. (*with* Laslo, Graţiela) Distributive noncommutative lattices of type (G). *Mathematica* **38(61)** (1996), *no.* 1-2, 105–109. (Joel Berman) **99f:06013** 06B99 (06D99)

— (*with* Laslo, Graţiela) On non-commutative distributive lattices of type (G). *Mathematica* **39(62)** (1997), *no.* 2, 239–243. (M. E. Adams) **99f:06016** 06D05

Fardanesh, B. (*with* Jain, Sandeep; Khorrami, Farshad) Decentralized control of large-scale power systems with unknown interconnections. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 591–608. 93A14

Fardoun, Ali Stability for the p-energy of the equator map of the ball into an ellipsoid. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 2, 171–176. (Albert Jeune) **99c:58042** 58E20 (49Q20, 53C21)

Färe, Rolf (*with* Chambers, Robert G.) Translation homotheticity. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 629–641. (Summary) **99b:90027** 90A10

— (*with* Chambers, Robert G.; Chung, Yangho) Profit, directional distance functions, and Nerlovian efficiency. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 351–364. (Summary) **99c:90025** 90A11

Farebrother, Richard William Simpler tests of linear inequality constraints in the standard linear model. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 67–73, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62J05

— Simple methods for fitting circles or points to spherical data. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 135–139, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 62H11

— *see also* **Linear algebra and statistics, 99i:00019**

Farenick, Douglas R. (*with* Lee, Woo Young) Errata: "On hyponormal Toeplitz operators with polynomial and circulant-type symbols" [Integral Equations Operator Theory **29** (1997), no. 2, 202–210; MR 98j:47059]. Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 496–499. (From the text) **99d:47024** 47B35 (47B20)

Fares, M. E. Mixed variational formulation in geometrically non-linear elasticity and a generalized nth-order beam theory. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 4, 685–691. (Summary) **99m:73020** 73C50 (73K05, 73V25)

Farewell, V. T. (*with* Cook, Richard J.) Authors' addendum: "Conditional inference for subject-specific and marginal agreement: two families of agreement measures" [Canad. J. Statist. **23** (1995), no. 4, 333–344]. *Canad. J. Statist.* **26** (1998), *no.* 2, 381. 62F99 (62P10, 62P15)

Fargason, Chad Percolation dimension of Brownian motion in $\mathbf{R}^3$. (English summary) *Electron. Comm. Probab.* **3** (1998), 51–63 (*electronic*). (Davar Khoshnevisan) **99g:60149** 60J65

Farge, M. (*with* Koster, F.; Griebel, Michael; Kevlahan, N. K.-R.; Schneider, Kai) Towards an adaptive wavelet-based 3D Navier-Stokes solver. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 339–364, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76123** 76M25 (76F99)

Fargier, Hélène (*with* Dubois, Didier; Prade, Henri) Fuzzy modeling of priority and preference in constraint satisfaction problems. (English summary) *Sci. Iran.* **2** (1996), *no.* 4, 313–328. 68T20

— (*with* Sabbadin, Régis; Lang, Jérôme) Towards qualitative approaches to multi-stage decision making. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 441–471. (Summary) **99g:90017** 90A05 (90C90)

Farhadi, Hamid-Reza Characterization of compact and abelian locally compact groups based on the isomorphisms of the algebras $L^1(G)^{**}$. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 191–193, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 22D15 (43A15, 46J99)

— Bipositive isomorphisms between the second duals of group algebras of locally compact groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 95–99. (A. T.-M. Lau) **99d:43003** 43A20 (22D15)

Farhadmotamed, F. (*with* Lendi, K.; van Wonderen, A. J.) Regularization of quantum relative entropy in finite dimensions and application to entropy production. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1115–1135. (Matthew J. Donald) **99m:82004** 82B10 (82C10)

Farhat, Charbel (*with* de La Bourdonnaye, Armel; Macedo, Antonini P.; Magoulès, Frédéric; Roux, François-Xavier) A non-overlapping domain decomposition method for the exterior Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 42–66, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65190** 65N55 (65Y05)

— (*with* Roux, François-Xavier) Parallel implementation of direct solution strategies for the coarse grid solvers in 2-level FETI method. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 158–173, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65Y05)

— (*with* Cai, Xiao-Chuan; Sarkis, Marcus V.) A minimum overlap restricted additive Schwarz preconditioner and applications in 3D flow simulations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 479–485, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76106** 76M25 (65M55, 76H05, 76J20)

— (*with* Mandel, Jan) The two-level FETI method for static and dynamic plate problems. I. An optimal iterative solver for biharmonic systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 129–151. (From the summary) **99c:73078a** 73V05 (65N55, 73K10)

— (*with* Chen, Po-Shu; Mandel, Jan; Roux, François-Xavier) The two-level FETI method. II. Extension to shell problems, parallel implementation and performance results. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 153–179. (From the summary) **99c:73078b** 73V05 (65N55, 73K15)

— (*with* Lesoinne, M.; Le Tallec, Patrick) Load and motion transfer algorithms for fluid/structure interaction problems with non-matching discrete interfaces: momentum and energy conservation, optimal discretization and application to aeroelasticity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 95–114. (Summary) **99a:73103** 73K70 (73V20, 76M25)

— (*with* Lacour, Catherine; Rixen, Daniel J.) Incorporation of linear multipoint constraints in substructure based iterative solvers. I. A numerically scalable algorithm. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 997–1016. (Summary) **99f:73080** 73V05

— (*with* Koobus, Bruno) Second-order time-accurate and geometrically conservative implicit schemes for flow computations on unstructured dynamic meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 103–129. (Summary) **99k:76101** 76M20 (73K70)

— (*with* Rixen, Daniel J.) A simple and efficient extension of a class of substructure based preconditioners to heterogeneous structural mechanics problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 489–516. (Summary) **99i:73072** 73V05

— (*with* Koobus, Bruno) On the implicit time integration of semi-discrete viscous fluxes on unstructured dynamic meshes. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 8, 975–996. 76M25

— *see also* **Domain decomposition methods, 99f:65005**

Farhi, Edward (*with* Gutmann, Sam) Quantum computation and decision trees. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 915–928. (Emanuel H. Knill) **99h:68074** 68Q25 (68Q05, 81P99)

Farhloul, Mohamed (*with* Fortin, Michel) A nonconforming mixed finite element for second-order elliptic problems. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 445–457. (Robert Beauwens) **99b:65130** 65N12 (65N30)

— A mixed finite element method for a nonlinear Dirichlet problem. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 121–132. (Viorel Arnautu) **99c:65202** 65N30 (76A05, 76M10)

Faria, Luerbio (*with* de Figueiredo, Celina Miraglia Herrera; Xavier de Mendonça Neto, Candido Ferreira) The splitting number of the 4-cube. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 141–150, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:68122** 68R10 (05C85)

Faria, Luis (*with* Almeida, António; Febra, Renato) Refined two-dimensional models for the analysis of free boundary flows between parallel plates. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 163–180. (Peter A. McCoy) **99d:76072** 76M25 (76D07)

Faria, Teresa Normal forms on centre manifolds for periodic functional-differential equations. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 322–326, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34K15 (58F36)

Faria da Veiga, Paulo A. (*with* O'Carroll, Michael L.; Schor, Ricardo) A classical large N hierarchical vector model in three dimensions: a nonzero fixed point and canonical decay of correlation functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1501–1516. (Christof Külske) **99a:82044** 82B28 (82B20)

— (*with* O'Carroll, Michael L.; Schor, Ricardo) On the large-distance behavior of correlations for a hierarchical N-component classical vector model in three dimensions. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 47–55. (Summary) **99h:82031** 82B28 (82B05)

— (*with* Schor, Ricardo; Barata, João C. A.; Pereira, Emmanuel) Spectral properties of weakly coupled Landau-Ginzburg stochastic models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 2689–2694. (Summary) **99m:81063** 81Q40 (82C20)

González-Farías, Graciela *see* **González-Farías, Graciela**

Farid, Mohammad (*with* Davis, Mark H. A.) Corrections to: "A target recognition problem: sequential analysis and optimal control" [SIAM J. Control Optim. **34** (1996),

no. 6, 2116–2132; MR 97k:49018]. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1481–1484 (*electronic*). (Summary) **99c:49008** 49J40 (49L25, 62C10)

Faridani, Adel Sampling in parallel-beam tomography. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 33–53, *Plenum, New York*, 1998. (Olga Klimenko) **99j:94006** 94A12 (44A12, 65R10, 92C55)

Farin, Gerald E. (*with* Hansford, Dianne) ★ The geometry toolbox. (English summary) For graphics and modeling. *A K Peters, Ltd., Natick, MA*, 1998. *xvi*+288 *pp. ISBN* 1-56881-074-1 (From the preface) **99d:65389** 65Y25 (15–01, 51–01)

— (*with* Baumgarten, Christoph) Smooth rational cubic spline interpolation. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 17–24, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:65012** 65D07 (41A15, 65D05)

— ★ NURBS. (English summary) From projective geometry to practical use. Second edition. *A K Peters, Ltd., Natick, MA*, 1999. *xvi*+267 *pp. ISBN* 1-56881-084-9 (Editors) **99m:65031** 65D17 (51N15, 65Y25, 68U05, 68U07)

— (*with* Gross, Lee Michael) A transfinite form of Sibson's interpolant. (English summary) 13th European Workshop on Computational Geometry CG'97 (Würzburg, 1997). *Discrete Appl. Math.* **93** (1999), *no.* 1, 33–50. (*see* **99k:00039**) 65Y25 (52C15, 65D15)

Farina, Alberto Finite-energy solutions, quantization effects and Liouville-type results for a variant of the Ginzburg-Landau systems in $\mathbf{R}^K$. (English summary) *Differential Integral Equations* **11** (1998), *no.* 6, 875–893. (Summary) **99j:35199** 35Q55 (58E50)

Farina, C. *see* **Farina de Souza, Carlos**

Farina, Lorenzo (*with* Benvenuti, Luca) A note on minimality of positive realizations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 6, 676–677. (Summary) **99b:93016** 93B15 (15A23)

— (*with* Benvenuti, Luca) Invariant polytopes of linear systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 233–240. (Summary) **99e:93074** 93D30 (93C55)

— (*with* Benvenuti, Luca) Constrained control for uncertain discrete-time linear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 555–565. (Summary) **99c:93070** 93C41 (93D15)

Farina de Souza, Carlos (*with* de Albuquerque, Luiz C.; Rabello, S.) Schwinger's method and the computation of determinants. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 6, 524–528. (Summary) **99b:58235** 58G26 (81T16)

— (*with* Borges, P. F.; Boschi-Filho, H.) Generalized partition functions and interpolating statistics. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 843–852. (Summary) **99d:82010** 82B10 (81V70)

— (*with* Cougo-Pinto, M. V.; Negrão, M. R.; Tort, A. C.) Bosonic Casimir effect in external magnetic field. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4457–4462. 81T20

— (*with* Cougo-Pinto, M. V.; Santos, F. C.; Tort, A. C.) QED vacuum between a conducting and a permeable plate. (English summary) *J. Phys. A* **32** (1999), *no.* 24, 4463–4474. 81V10

suárez Fariñas, Mayte *see* **Suárez Fariñas, Mayte**

Farinati, Marco A. (*with* Solotar, Andrea) On the Picard group of involutive algebras and coalgebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2115–2137. (Blas Torrecillas Jover) **99e:16009** 16D90 (16W30)

— (*with* Solotar, Andrea) Localization on (necessarily) topological coalgebras and cohomology. *J. Algebra* **208** (1998), *no.* 2, 575–603. (Mitsuhiro Takeuchi) **99m:16058** 16W30 (16E40, 16W80, 18G60)

Farinelli, S. (*with* Schwarz, Günter) On the spectrum of the Dirac operator under boundary conditions. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 67–84. (Liviu I. Nicolaescu) **99m:58189** 58G20 (58G03, 58G25)

Farinola, A. (*with* Falcitelli, M.) Six-dimensional almost-Kähler manifolds with pointwise constant antiholomorphic sectional curvature. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 143–156 (1998). (Luis M. Hervella) **99e:53034** 53C15

— (*with* Falcitelli, M.; Kassabov, Ognian T.) Almost Kähler manifolds whose antiholomorphic sectional curvature is pointwise constant. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 151–166. (Luis M. Hervella) **99g:53034** 53C15

Farjami, Yaghoub (*with* Hesaaraki, Mahmoud) Structure of shock waves in planar motion of plasma. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 797–821. (James F. Reineck) **99g:76148** 76W05 (34C37, 35L67, 58F40, 76L05)

Farjas, J. (*with* Herrero, R.; Pi, F.; Orriols, G.) Experimental analysis of codimension-2 bifurcations in a periodically-forced opto-thermal oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1413–1435. (Summary) **99g:58087** 58F14 (34C23)

dror Farjoun, Emmanuel *see* **Dror Farjoun, Emmanuel**

Farkas, Daniel R. (*with* Letzter, Gail) Ring theory from symplectic geometry. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 155–190. (Fujio Kubo) **99f:16026** 16S32 (16W25, 16W50, 17B60, 58F05)

Farkas, Gavril (*with* Varga, Csaba) A multiplicity theorem in equivariant case. *Mathematica* **38(61)** (1996), *no.* 1-2, 221–226. (Andrzej Szulkin) **99b:58072** 58E40 (34C25, 58E05)

Farkas, Gyula Local controllability of reactions. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 1–14. (Summary) **99j:92031** 92E20 (80A32, 93B05)

— On local observability of chemical systems. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 15–22. (From the introduction) **99m:92054** 92E20 (80A30, 93B07)

Farkas, Hershel M. A variation on a theorem of Euler. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 75–81, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Ken Ono) **99j:11122** 11P81 (11P83)

— (*with* Kra, Irwin) On the quintuple product identity. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 771–778. (Yaacov Kopeliovich) **99f:11056** 11F27 (11P82)

Farkas, Miklos Two ways of modelling cross-diffusion. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 1225–1233. (Daniel Ševčovič) **99e:35223** 35Q80 (35K57)

— (*with* Graef, John R.; Qian, Chuanxi) Asymptotic periodicity of delay differential equations. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 150–165. (Ovide Arino) **99i:34098** 34K15

Farkaş, Walter A Calderon-Zygmund extension theorem for abstract Sobolev spaces. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 379–395. (Summary) **99k:42041** 42B25 (46E35)

Farkh, Samir (*with* Nour, Karim) Résultats de complétude pour des classes de types du système $\mathscr{IF}2$. (English and French summaries) [Completeness results for some classes of types of the system $\mathscr{IF}2$] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 6, 513–537. (Ugo de'Liguoro) **99d:68037** 68N15 (03B40, 03B70)

— (*with* Nour, Karim) Un résultat de complétude pour les types $\forall^+$ du système $\mathscr{F}$. (English and French summaries) [A completeness result for the $\forall^+$ types of system $\mathscr{F}$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 275–279. (Summary) **99d:03014** 03B40 (03F35, 03F55)

Farkhi, Elza (*with* Donchev, Tzanko) Stability and Euler approximation of one-sided Lipschitz differential inclusions. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 780–796 (*electronic*). (Oleg P. Filatov) **99c:34024** 34A60 (34H05, 49J24, 49M25)

Farley, Arthur M. (*with* Pelc, Andrzej; Proskurowski, Andrzej) Minimum-time multidrop broadcast. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 61–77. (Summary) **99b:90049** 90B12 (05C90, 68M10)

Farley, Jonathan David Chain decomposition theorems for ordered sets and other musings. (English summary) *African Americans in mathematics* (*Piscataway, NJ*, 1996), 3–13, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 34, *Amer. Math. Soc., Providence, RI*, 1997. (Josef Niederle) **99a:06002** 06A07 (05A18, 06–02)

— The fixed point property for posets of small width. (English summary) *Order* **14** (1997/98), *no.* 2, 125–143. (Summary) **99b:06002** 06A06

Farmen, Mark (*with* Fan, Jianqing; Gijbels, Irène) Local maximum likelihood estimation and inference. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 591–608. (Summary) **99a:62046** 62G05

Farmer, Jeff D. Fibers over the sphere of a uniformly convex Banach space. *Michigan Math. J.* **45** (1998), *no.* 2, 211–226. (Richard M. Aron) **99h:46063** 46E50 (46B03, 46G20, 46J15)

Farnsteiner, Rolf Auslander-Reiten theory for restricted Lie algebras. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 165–186, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Daniel K. Nakano) **99h:17025** 17B50

— On the distribution of AR-components of restricted Lie algebras. (English summary) *Trends in the representation theory of finite-dimensional algebras* (*Seattle, WA*, 1997), 139–157, *Contemp. Math.*, 229, *Amer. Math. Soc., Providence, RI*, 1998. (Yuri B. Ermolaev) **99m:17009** 17B10 (16G70, 17B50)

— Representations of nilpotent Lie algebras. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 1, 28–39. (Jörg Feldvoss) **99m:17013** 17B30 (16G70, 17B50, 17B55)

Faro, E. (*with* Bullejos, M.; G. Cabello, Julia) On the equivariant 2-type of a G-space. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 215–245. (R. E. Stong) **99c:55013** 55P91 (55N91, 55R91, 55S45)

lo Faro, Giovanni *see* **Lo Faro, Giovanni**

Faron, C. (*with* Coupey, P.) Towards correspondences between conceptual graphs and description logics. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 165–178, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T30

Farooq Anjum, M. (*with* Ahmed, Mohammed Shahgir) Neural-net-based direct self-tuning control of nonlinear plants. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 85–104. 93C83 (93C10)

Farouki, Rida T. (*with* Pottmann, Helmut) Polynomial and rational Pythagorean-hodograph curves reconciled. *The mathematics of surfaces, VI* (*Uxbridge*, 1994), 355–378, *Inst. Math. Appl. Conf. Ser. New Ser.*, 58, *Oxford Univ. Press, New York*, 1996. (Marshall Walker) **99f:65026** 65D17 (65D10)

— (*with* Rampersad, Joanne) Cycles upon cycles: an anecdotal history of higher curves in science and engineering. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 95–116, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:01003** 01A05 (00A69, 65–03)

— (*with* Ramamurthy, Rajesh) Degenerate point/curve and curve/curve bisectors arising in medial axis computations for planar domains with curved boundaries. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 615–635. (Summary) **99d:65390** 65Y25

— (*with* Ramamurthy, Rajesh) Specified-precision computation of curve/curve bisectors. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 599–617. (Summary) **99e:65192** 65Y25 (68U05)

— (*with* Tsai, Yi-Feng; Yuan, Guo-Feng) Contour machining of free-form surfaces with real-time PH curve CNC interpolators. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 1, 61–76. 65D17 (41A63)

— (*with* Ramamurthy, Rajesh) Voronoi diagram and medial axis algorithm for planar domains with curved boundaries. I. Theoretical foundations. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 119–141. (Antonio López-Carmona) **99m:65263** 65Y25 (65D17)

el Farouq, N. *see* **El Farouq, N.**

Farrahi, A. H. (*with* Lee, Der Tsai; Sarrafzadeh, Majid) Two-way and multiway partitioning of a set of intervals for clique-width maximization. (English summary) *Algorithmica* **23** (1999), *no.* 3, 187–210. (Xiao Tie Deng) **99j:05176** 05C85

Farre, George L. *see* **Schempp, Walter Johannes, 99h:78022**

martí-Farré, Jaume *see* **Martí-Farré, Jaume**

Farrell, Edward J. On circuit polynomials and determinants of matrices. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 47–52. (Summary) **99m:05105** 05C50

— (*with* Kennedy, John W.; Quintas, Louis V.) Graph permanent, determinant and cycle polynomials. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 73–82. (Norbert Seifter) **99d:05061** 05C50 (15A15)

— Three-discordant permutations revisited. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 1, 9–20. (Ian Anderson) **99g:05007** 05A15

— (*with* Beezer, Robert A.) Counting subgraphs of a regular graph. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 1, 47–55. (Haruo Hosoya) **99h:05060** 05C30 (68Q20)

— (*with* Ramsamooj, N.) On the derivatives of a certain characteristic polynomial. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 1, 93–99. (Haruo Hosoya) **99j:05151** 05C70

— Matchings in rectangular cacti. *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 2, 163–183. (Charles H. C. Little) **99m:05122** 05C70

Farrell, F. T. (*with* Jones, Lowell Edwin) Rigidity for aspherical manifolds with $\pi_1 \subset GL_m(\mathbf{R})$. *Asian J. Math.* **2** (1998), *no.* 2, 215–262. (A. A. Ranicki) **99j:57032** 57R57 (53C20)
— (*with* Jones, Lowell Edwin; Ontaneda, P.) Examples of non-homeomorphic harmonic maps between negatively curved manifolds. *Bull. London Math. Soc.* **30** (1998), *no.* 3, 295–296. (Martin Scharlemann) **99h:58042** 58E20
Farrell, J. A. (*with* Sureshbabu, Natarajan) Wavelet-based system identification for nonlinear control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 412–417. (Summary) **99i:93017** 93B30 (93C40)
Farrell, P. G. (*with* Aguado, L. E.) On hybrid stack decoding aigorithms for block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 398–409. (Summary) **99a:94055** 94B35
— *see also* **Honary, Bahram, 99e:94047**
Farris, Frank (*with* Russell, Thomas) Integrability, Gorman systems, and the Lie bracket structure of the real line. (English summary) With an appendix by Robert L. Bryant. *J. Math. Econom.* **29** (1998), *no.* 2, 183–209. (V. V. Obukhovskiĭ) **99f:90029** 90A40 (34A26, 34A34)
Farris, T. N. *see* **Van Dooren, R.**
Farsi, Carla Soft non-commutative toral C^*-algebras. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 35–49. (Summary) **99j:46088** 46L87 (46L05, 46L80)
sanjari Farsipour, N. *see* **Sanjari Farsipour, N.**
Farto, José-Miguel Strategies for the initialization of numerical methods for the solution of an ODE at a singular point. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 725–730, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L99
— (*with* González, Ana-Belén; Martín Ordóñez, Pablo) An algorithm for the systematic construction of solutions to perturbed problems. (English summary) *Comput. Phys. Comm.* **111** (1998), *no.* 1-3, 110–132. (Summary) **99a:34157** 34E10 (34–04, 65L99, 70–04, 70–08, 70M20)
— (*with* Martín Ordóñez, Pablo) Improved numerical integration of perturbed oscillators via average. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 129–139. 65L05 (65L60)
— (*with* González, Ana-Belén; Getino, Juan) An algorithm for an eigenvalues problem in the Earth rotation theory. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 243–254. (Summary) **99i:86002** 86–08 (86–04, 86A99)
Farwell, R. S. (*with* Chisholm, J. S. R.) Spin gauge theories: a summary. *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 53–56, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00022**) 81V25 (81R25)
Farwig, Reinhard (*with* Sohr, Hermann) Weighted L^q-theory for the Stokes resolvent in exterior domains. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 251–288. (Michael Wiegner) **99h:35158** 35Q30 (47N20, 76D05)
Farza, M. (*with* Busawon, K. K.; Hammouri, H.) Observer design for a special class of nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 405–418. (Summary) **99h:93021** 93B07 (93B50)
Fašangová, Eva Asymptotic analysis for a nonlinear parabolic equation on **R**. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 525–544. (Summary) **99j:35094** 35K55 (35B40)
Fasano, Antonio (*with* Mikelić, Andro; Primicerio, Mario) Homogenization of flows through porous media with permeable grains. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 1–31. (Robert Lipton) **99e:76119** 76S05 (35B27, 35Q35, 73B27)
— Phase transition with supercooling. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 49–69. (Peter G. Danilaev) **99f:35229** 35R35 (73B30, 80A22)
— (*with* Andreucci, D.; Ricci, Riccardo) A continuous model for Ziegler-Natta polymerization. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 219–226, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 80A32
Fasino, Dario Spectral properties of Toeplitz-plus-Hankel matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 87–98 (1998). (Israel Koltracht) **99g:15029** 15A57 (47B35)
— (*with* Inglese, Gabriele) Discrete methods in the study of an inverse problem for Laplace's equation. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 105–118. (Summary) **99j:65205** 65N30
— (*with* Inglese, Gabriele) An inverse Robin problem for Laplace's equation: theoretical results and numerical methods. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 41–48. (Summary) **99j:65206** 65N30 (35J05, 35R30)
Fasoli, Maria Alessandra Finite-memory systems. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 3, 291–306. (Jerzy Klamka) **99e:93044** 93C55 (93A30)
Fassari, Silvestro (*with* Klaus, Martin) Coupling constant thresholds of perturbed periodic Hamiltonians. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4369–4416. (Mihai Pascu) **99j:81040** 81Q15 (34L40, 35J10, 47A55, 47E05, 47F05)
Faßbender, Heike (*with* Bunse-Gerstner, Angelika) Error bounds in the isometric Arnoldi process. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 53–72. (Raffaella Pavani) **99b:65043** 65F15 (15A18)
— (*with* Benner, Peter; Watkins, David S.) Two connections between the *SR* and *HR* eigenvalue algorithms. (English summary) *Linear Algebra Appl.* **272** (1998), 17–32. (Raffaella Pavani) **99a:65045** 65F15 (15A18)
— (*with* Benner, Peter) The symplectic eigenvalue problem, the butterfly form, the SR algorithm, and the Lanczos method. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 19–47. (Raffaella Pavani) **99h:65063** 65F15 (15A18)
— (*with* Benner, Peter; Watkins, David S.) SR and SZ algorithms for the symplectic (butterfly) eigenproblem. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 41–76. (Ilse C. F. Ipsen) **99m:65068** 65F15 (15A18, 15A23)
— (*with* Mackey, D. Steven; Mackey, Niloufer; Xu, Hongguo) Hamiltonian square roots of skew-Hamiltonian matrices. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 125–159. (George D. Poole) **99k:15022** 15A21 (15A24, 65F30)
Fasshauer, Gregory E. (*with* Schumaker, Larry L.) Scattered data fitting on the sphere. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 117–166, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41054** 41A63 (65D10)
Fassih, A. (*with* Khan, Mohammad K.; Della Vecchia, B.) On the monotonicity of positive linear operators. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 22–37. (Y. Sitaraman) **99a:41034** 41A36
Fassino, Claudia (*with* Manzini, Gianmarco) Fast-secant algorithms for the non-linear Richards equation. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 10, 921–930. 76M10 (65H10, 76S05)
Fassò, Alessandro Robust tests for ARCH and GARCH components. (Italian. English and Italian summaries) *Statistica* (*Bologna*) **57** (1997), *no.* 3, 325–350 (1998). 62G10
Fassò, Francesco (*with* Benettin, Giancarlo; Guzzo, Massimiliano) Fast rotations of the rigid body: a study by Hamiltonian perturbation theory. II. Gyroscopic rotations. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1695–1717. (Vassili G. Gelfreich) **99d:70012** 70E15 (58F30, 70E20, 70H05)
— (*with* Guzzo, Massimiliano; Benettin, Giancarlo) Nekhoroshev-stability of elliptic equilibria of Hamiltonian systems. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 347–360. (Dario Bambusi) **99j:58117** 58F10 (34C29, 34D10, 58F05, 58F30, 70H05)
— Quasi-periodicity of motions and complete integrability of Hamiltonian systems. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1349–1362. (H. Scott Dumas) **99j:58185** 58F27 (58F05, 58F07, 70H05)
— (*with* Ratiu, Tudor S.) Compatibility of symplectic structures adapted to noncommutatively integrable systems. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 199–220. (Sonia Pinto de Carvalho) **99g:58049** 58F05 (58F07)
— (*with* Guzzo, Massimiliano; Benettin, Giancarlo) On the stability of elliptic equilibria. (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 1, 16 *pp.* (*electronic*). (Luigi Chierchia) **99e:58157** 58F30 (34C35, 34D99, 70H05, 70K20)
— (*with* Benettin, Giancarlo) From Hamiltonian perturbation theory to symplectic integrators and back. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 73–87. (Vassili G. Gelfreich) **99k:34097** 34C37 (58F05, 58F30, 70–08, 70H05)
Fast, Henry A few remarks about equality of indicatrices of two functions and a conjecture. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 779–781. (Summary) **99d:26001** 26A15
Fatajou, S. (*with* Ait Dads, E.; Ezzinbi, Khalil) Weakly almost periodic solutions for some differential equations in a Banach space. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 157–170. (C. Corduneanu) **99h:34079** 34Gxx (34C27, 47D06)
Fateen, Lobna A. (*with* El-Zahar, Mohamed H.) On sphere orders. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 249–253. (Joseph Neggers) **99j:06001** 06A06
Fateev, V. A. (*with* Baseilhac, P.; Grangé, P.) Exact duality between integrable deformations of BC_n and $C_n^{(1)}$ affine Toda theories. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 937–951. (Luigi Martina) **99g:81194** 81T40 (58F07, 81R10, 81T10)
— (*with* Baseilhac, P.) Fermion-boson duality in integrable quantum field theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2807–2818. (Mathias Pillin) **99j:81107** 81T10
Fáth, Gábor Propagation failure of traveling waves in a discrete bistable medium. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 176–190. (Summary) **99a:35129** 35K57
Fathi, Albert Solutions KAM faibles conjuguées et barrières de Peierls. (English and French summaries) [Weakly conjugate KAM solutions and Peierls's barriers] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 6, 649–652. (Joaquín Delgado Fernández) **99b:58209** 58F27 (58F11)
— Orbites hétéroclines et ensemble de Peierls. (English and French summaries) [Heteroclinic orbits and the Peierls set] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1213–1216. (Guido Gentile) **99k:58066** 58F05 (34C37, 70H35)
Fatibene, Lorenzo (*with* Francaviglia, Mauro) Spin structures on manifolds. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 69–98, *Univ. Stud. Bologna, Bologna*, 1998. (Uwe Semmelmann) **99m:53047** 53C10 (57R15)
— (*with* Francaviglia, Mauro) Deformations of spin structures and gravity. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 915–928. (Summary) **99m:83145** 83C60
— (*with* Cavaglià, Marco; Francaviglia, Mauro) Two-dimensional dilaton gravity coupled to massless spinors. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3627–3643. (Michael O. Katanaev) **99k:81279** 81T40 (83C99)
— (*with* Ferraris, Marco; Francaviglia, Mauro; Godina, M.) Gauge formalism for general relativity and fermionic matter. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1371–1389. (Hans P. Künzle) **99h:83038** 83C60 (58E30)
Faticoni, Theodore G. Direct sums and refinement. *Comm. Algebra* **27** (1999), *no.* 1, 451–464. (Ulrich Albrecht) **99m:20129** 20K15
Fatollahi, Amir H. (*with* Ghezelbash, Amir M.; Kaviani, Kamran; Parvizi, Shahrokh) Interacting spinors-scalars and AdS/CFT correspondence. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 291–298. (From the text) **99m:81187** 81T30 (81T40, 83E30)
— (*with* Kavianib, Kamran; Parvizi, Shahrokh) Interaction of branes at angles in M(atrix) model. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 271–276. (Summary) **99g:81171** 81T30
Fatoohi, Louay J. (*with* Stephenson, F. Richard; Al-Dargazelli, Shetha S.) The Babylonian first visibility of the lunar crescent: data and criterion. *J. Hist. Astronom.* **30** (1999), *no.* 1, 51–72. 01A17
Fatori, Luci Harue (*with* Muñoz Rivera, Jaime E.) Regularizing properties and propagations of singularities for thermoelastic plates. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 797–821. (Song Jiang) **99f:73013** 73B30 (35B40, 35Q72, 73K10)
Fattash, I. (*with* Sushkov, Yu. A.) On a class of multifunctional systems. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 67–86, 220. 93C30 (93B12)
— (*with* Mazkur, A.; Sushkov, Yu. A.) Mathematical models of multistate systems. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 84–104, 222–223. (Summary) **99k:93010** 93A30 (93C83)

Fattebert, Jean-Luc A block Rayleigh quotient iteration with local quadratic convergence. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 56–74 (*electronic*). (Summary) **99i:65034** 65F15

Fattorini, H. O. Nonlinear infinite-dimensional optimal control problems with state constraints and unbounded control sets. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 127–146 (1997). (Stanisław Walczak) **99a:49036** 49K27 (34G20, 47N70)

— Control problems for parabolic equations with state constraints and unbounded control sets. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 129–140, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Fredi Tröltzsch) **99f:49029** 49K20 (35K99, 35Q30, 93C20)

— (*with* Sritharan, S. S.) Optimal control problems with state constraints in fluid mechanics and combustion. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 159–192. (Ruxandra Stavre) **99d:49039** 49K20 (35Q30, 76D05, 80A25, 93C20)

Fattorusso, Luisa (*with* Idone, Giovanna) Partial Hölder continuity results for solutions of non-linear non-variational elliptic systems with strictly controlled growth. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 161–167, *VSP, Utrecht*, 1998. (Summary) **99f:35047** 35J60 (35B65)

Fătu-Mihoc, Cristina Ioana (*with* Mihoc, Ion) The informational study of a statistical collectivity. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 161–172. 62B99 (94A17)

Faudree, Ralph J. (*with* Chen, Guantao; Shreve, Warren E.) Note on Whitney's theorem for k-connected graphs. (English summary) *Ars Combin.* **49** (1998), 33–40. (Summary) **99c:05117** 05C40

— Turán type extremal theory and generalized Ramsey theory. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 5–23. (Summary) **99j:05107** 05C35 (05C55)

— (*with* Favaron, Odile; Li, Hao[1]) Independence, domination, irredundance, and forbidden pairs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 193–212. (Douglas F. Rall) **99a:05073** 05C35

— (*with* Chen, Guantao; Gould, Ronald J.) Intersections of longest cycles in k-connected graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 143–149. (Andreas Huck) **99a:05083** 05C38 (05C40)

— (*with* Brandt, Stephan; Goddard, Wayne) Weakly pancyclic graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 3, 141–176. (Feng Tian) **99a:05082** 05C38

— (*with* Gyárfás, András; Lehel, Jenő) Path-pairable graphs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 145–157. (Summary) **99j:05120** 05C38

Faugeras, Olivier (*with* Papadopoulo, Théodore) Grassmann-Cayley algebra for modelling systems of cameras and the algebraic equations of the manifold of trifocal tensors. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1123–1152. (H. K. Farahat) **99c:15049** 15A75 (14M15)

Faugère, Jean-Charles (*with* Moreau de Saint-Martin, François; Rouillier, Fabrice) Design of regular nonseparable bidimensional wavelets using Gröbner basis techniques. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 845–856. 94A11 (42C15)

Faulkner, John R. (*with* Allison, Bruce N.) Elementary groups and invertibility for Kantor pairs. *Comm. Algebra* **27** (1999), *no.* 2, 519–556. (Alain D'Amour) **99k:17002** 17A40 (17B60, 17C30, 17C50)

Fauquant-Millet, Florence Sur une algèbre parabolique P de $\check{U}_q(\mathrm{sl}_{n+1})$ et ses semi-invariants par l'action adjointe de P. (English and French summaries) [A parabolic algebra P of $\check{U}_q(\mathrm{sl}_{n+1})$ and its semi-invariants under the adjoint action of P] *Bull. Sci. Math.* **122** (1998), *no.* 7, 495–519. (Şerban Raianu) **99k:17027** 17B37

Faure, C. (*with* Tadjouddine, M.; Eyssette, F.) Sparse Jacobian computation in automatic differentiation by static program analysis. (English summary) *Static analysis* (*Pisa*, 1998), 311–326, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 65–04 (65D99)

Faure, Claude-Alain A descriptive definition of the KH-Stieltjes integral. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 113–124. (D. K. Dutta) **99i:26011** 26A39 (26A42, 26A45)

— (*with* Frölicher, Alfred) Categorical aspects in projective geometry. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 87–103. (Summary) **99k:18008** 18B99 (51A10)

Faure, Henri Discrepancy lower bounds for special quasi-random sequences. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 232–237, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:11080** 11K38 (65C10)

Fauser, Bertfried (*with* Stumpf, Harald) Positronium as an example of algebraic composite calculations. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 399–418. (Jayme Vaz, Jr.) **99b:81269** 81V10 (81R25)

— Dirac theory from a field-theoretic point of view. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 89–107, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Waldyr Alves Rodrigues, Jr.) **99h:81074** 81R25 (15A66)

— On an easy transition from operator dynamics to generating functionals by Clifford algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4928–4947. (Jayme Vaz, Jr.) **99h:81075** 81R25 (15A66)

Fausz, Jerry L. (*with* Haddad, Wassim M.; Chellaboina, Vijaya-Sekhar) Optimal nonlinear disturbance rejection control for nonlinear cascade systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 997–1018. 93D15 (93A20)

— (*with* Haddad, Wassim M.; Chellaboina, Vijaya-Sekhar; Abdallah, Chaouki T.) A unification between nonlinear-nonquadratic optimal control and integrator backstepping. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 879–906. (Emmanuel Delaleau) **99f:93039** 93B35 (93C10, 93D22)

— (*with* Haddad, Wassim M.; Chellaboina, Vijaya-Sekhar; Abdallah, Chaouki T.) Optimal discrete-time control for non-linear cascade systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 827–839. (Vũ Ngọc Phát) **99c:93071** 93C55 (93D21)

— (*with* Haddad, Wassim M.; Chellaboina, Vijaya-Sekhar) Nonlinear controllers for nonlinear systems with input nonlinearities. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 649–664. (Summary) **99m:49001** 49J15 (49N35, 93C10, 93D99)

Fautrelle, Y. (*with* Sneyd, A. D.) Instability of a plane conducting free surface submitted to an alternating magnetic field. (English summary) *J. Fluid Mech.* **375** (1998), 65–83. (Summary) **99h:76088** 76W05 (76E25)

Fauve, Stephan *see* **Hydrodynamics and nonlinear instabilities, 99i:76001**

Fauvel, John *see* **History of mathematics. Histories of problems, 99m:00001b**

Faux, M. (*with* Claus, Piet; de Wit, Bernard; Kleijn, B.; Siebelink, R.; Termonia, P.) $N = 2$ supergravity Lagrangians with vector-tensor multiplets. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 148–178. (Sergiu I. Vacaru) **99f:83072** 83E50

Favard, Pascal (*with* Amigues, Jean-Pierre; Gaudet, Gérard; Moreaux, Michel) On the optimal order of natural resource use when the capacity of the inexhaustible substitute is limited. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 153–170. 90A30

Favaron, Odile (*with* Flandrin, Evelyne; Ryjáček, Zdeněk) Factor-criticality and matching extension in DCT-graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 271–278. (Summary) **99b:05110** 05C70

— (*with* Shi, Minyong) Minimally k-factor-critical graphs. (English summary) *Australas. J. Combin.* **17** (1998), 89–97. (Summary) **99b:05111** 05C70

— (*with* Cockayne, E. J.; Puech, Joël; Mynhardt, Christina M.) Packing, perfect neighbourhood, irredundant and R-annihilated sets in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 253–262. (Summary) **99f:05088** 05C70 (05C35)

— (*with* Ainouche, A.; Li, Hao[1]) Global insertion and Hamiltonicity in DCT-graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 1–13. (Zdeněk Ryjáček) **99c:05120** 05C45

— (*with* Cockayne, E. J.; Puech, Joël; Mynhardt, Christina M.) An inequality chain of domination parameters for trees. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 127–142. (Gary MacGillivray) **99m:05118** 05C70 (05C50)

— (*with* Faudree, Ralph J.; Li, Hao[1]) Independence, domination, irredundance, and forbidden pairs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 193–212. (Douglas F. Rall) **99a:05073** 05C35

— Irredundance in inflated graphs. (English summary) *J. Graph Theory* **28** (1998), *no.* 2, 97–104. (Douglas F. Rall) **99g:05140** 05C70 (05C35)

— (*with* Li, Hao[1]; Plummer, Michael D.) Some results on K_r-covered graphs. (English summary) *Util. Math.* **54** (1998), 33–44. (Summary) **99i:05164** 05C70

— (*with* Brousek, Jan; Ryjáček, Zdeněk) Forbidden subgraphs, Hamiltonicity and closure in claw-free graphs. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 29–50. (Ralph Faudree) **99m:05099** 05C45 (05C38)

Favati, Paola (*with* Meini, Beatrice) Relaxed functional iteration techniques for the numerical solution of $M/G/1$ type Markov chains. (English summary) *BIT* **38** (1998), *no.* 3, 510–526. (John P. Lehoczky) **99i:60167** 60K25 (90B22)

— (*with* Meini, Beatrice) On functional iteration methods for solving nonlinear matrix equations arising in queueing problems. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 39–49. 90B22 (65F30)

Favier, S. J. (*with* Zalik, Richard A.) Frames and Riesz bases. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 59–76, *New Age, New Delhi*, 1997. (Summary) **99d:42058** 42C15 (42–02)

Favini, Angelo (*with* Romanelli, Silvia) Degenerate second order operators as generators of analytic semigroups on $C[0,+\infty]$ or on $L^p_{\alpha-1/2}(0,+\infty)$. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 93–100, *Transilvania, Cluj-Napoca*, 1997. (Alexei I. Filinkov) **99m:47047** 47D06 (34G10)

— (*with* Barbu, Viorel) On some degenerate parabolic problems. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 77–86. (Stepan D. Ivasyshen) **99c:35090** 35K20 (34G20, 47N20)

— (*with* Fuhrman, Marco) Approximation results for semigroups generated by multivalued linear operators and applications. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 781–805. (Atsushi Yagi) **99k:47089** 47D06 (34G10)

— (*with* Barbu, Viorel) Existence for an implicit nonlinear differential equation. *Nonlinear Anal.* **32** (1998), *no.* 1, 33–40. (Tamara G. Sukacheva) **99m:34134** 34G20 (34A09, 35L99)

— (*with* Barbu, Viorel) The analytic semigroup generated by a second order degenerate differential operator in $C[0,1]$. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 23–42. (Vitali A. Liskevich) **99i:47069** 47D06 (34G10)

— (*with* Romanelli, Silvia) Analytic semigroups on $C[0,1]$ generated by some classes of second order differential operators. (English summary) *Semigroup Forum* **56** (1998), *no.* 3, 362–372. (Alexei I. Filinkov) **99j:47053** 47D06 (34G10)

— (*with* Yagi, Atsushi) ★ Degenerate differential equations in Banach spaces. (English summary) Monographs and Textbooks in Pure and Applied Mathematics, 215. *Marcel Dekker, Inc., New York*, 1999. *xii*+313 *pp. ISBN* 0-8247-1677-9 (Irina V. Melnikova) **99i:34079** 34G10 (34A09, 35K45, 35K65, 47D06, 47N20)

Favini, Bernardo (*with* Valorani, Mauro) On the numerical integration of multi-dimensional initial boundary value problems for the Euler equations in quasi-linear form. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 6, 781–814. (M. M. Sussman) **99m:65168** 65M06 (76H05, 76M25, 76N10)

Favis, Wassilis (*with* Weiß, Viola) Mean values of weighted cells of stationary Poisson hyperplane tessellations of $\mathbf{R}^d$. (English summary) *Math. Nachr.* **193** (1998), 37–48. (Rodney Coleman) **99f:60021** 60D05

Favorov, S. Yu. (*with* Rashkovskiĭ, A. Yu.; Ronkin, L. I.) Almost periodic currents and holomorphic chains. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 445–449. (Mohammed El Amrani) **99k:32016** 32C30

— (*with* Rashkovskiĭ, A. Yu.; Ronkin, L. I.) Almost periodic divisors in a strip. (English summary) *J. Anal. Math.* **74** (1998), 325–345. (Daniele Struppa) **99k:42016** 42A75 (30D15)

— A generalized Kahane-Khinchin inequality. (English summary) *Studia Math.* **130** (1998), *no.* 2, 101–107. (Pawel Hitczenko) **99b:60028** 60E15 (46B99, 60E10)

Favorskiĭ, A. P. (*with* Lebo, I. G.; Rozanov, V. B.; Tishkin, V. F.; Nikishin, V. V.; Popov, I. V.) Numerical simulation of Richtmyer-Meshkov instability. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 346–356, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99 (76M25)

— (*with* Abakumov, M. V.; Gavrilyuk, K. V.; Esikova, N. B.; Lukshin, An. V.; Mukhin, S. I.; Sosnin, N. V.; Tishkin, V. F.) A mathematical model of the hemodynamics of a

cardio-vascular system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 892–898, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 895–901 (1998). (Introduction) **99b:92017** 92C50 (92-08, 92C30)

Favre, Charles Points périodiques d'applications birationnelles de $\mathbf{P}^2$. (English and French summaries) [Periodic points of birational mappings of $\mathbf{P}^2$] *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 4, 999–1023. (Jean-Yves Briend) **99i:32031** 32H50 (32C30, 32H04)

Favre, G. (*with* Santharoubane, L.) Nilpotent Lie algebras of classical simple type. *J. Algebra* **202** (1998), *no.* 2, 589–610. (Rolf Farnsteiner) **99b:17006** 17B30 (17B05)

Favretti, Marco (*with* Cardin, Franco) Hyper-impulsive motion on manifolds. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 1–21. (Andrew D. Lewis) **99e:58138** 58F17 (34A26, 34H05, 70Q05)

— Equivalence of dynamics for nonholonomic systems with transverse constraints. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 4, 511–536. (Andrew D. Lewis) **99k:70014** 70F25 (49S05, 58F05, 70H33, 70H35)

— (*with* Cardin, Franco) When is a vector field injective? (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 397–406. (A. Morimoto) **99h:53048** 53C22 (34A26)

al-Fawzan, M. A. *see* **Al-Fawzan, M. A.**

Fay, Temple H. (*with* Walls, Gary L.) $\overline{R}$-groups. (English summary) *J. Algebra* **212** (1999), *no.* 1, 375–393. (Howard Smith) **99m:20075** 20F19 (20J15)

Faybusovich, Leonid A Hamiltonian formalism for optimization problems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 13 *pp.* (*electronic*). (Florian Jarre) **99h:90077** 90C25 (58F05, 58F40)

— Linear systems in Jordan algebras and primal-dual interior-point algorithms. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 149–175. (Michael L. Dowling) **99b:90089** 90C25 (17C99, 90C05)

— Euclidean Jordan algebras and interior-point algorithms. (English summary) *Positivity* **1** (1997), *no.* 4, 331–357. (T. S. Ravisankar) **99m:90108** 90C25 (17C99)

— Infinite-dimensional semidefinite programming: regularized determinants and self-concordant barriers. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 39–49, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Jos F. Sturm) **99c:90155** 90C48 (90C05, 90C25, 90C34)

Fayolle, G. (*with* Afanassieva, L. G.; Delcoigne, F.) On polling systems where servers wait for customers. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 527–545. (John P. Lehoczky) **99g:60164** 60K25 (68M20, 90B22)

Fayyazuddin, Ansar (*with* Spaliński, Michał) The Seiberg-Witten differential from M-theory. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 219–228. (Angel Maria Uranga) **99c:81237** 81T60 (14H45, 81T13, 81T30)

— (*with* Aharony, Ofer; Maldacena, Juan M.) The large N limit of $\mathcal{N} = 2, 1$ field theories from threebranes in F-theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 13, 22 *pp.* (*electronic*). (Marco Spaans) **99d:81103** 81T30 (81T60, 83E30)

— (*with* Bergman, Oren) String junction transitions in the moduli space of $N = 2$ SYM. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 139–151. (Douglas J. Smith) **99k:81292** 81T60 (81T13, 81T30)

Fazekas, Francis Survey of the volume "matrix algorithms & methods" /II(MAM/II). (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 9–17. 65Fxx

Fazekas, István (*with* Kukush, A. G.) Asymptotic properties of an estimator in nonlinear functional errors-in-variables models with dependent error terms. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 23–39. (Wilfried Grossmann) **99d:62066** 62J02

— (*with* Kukush, A. G.) Asymptotic properties of estimators in nonlinear functional errors-in-variables with dependent error terms. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part I (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 3, 3890–3895. (Summary) **99i:62142** 62J02

— (*with* Tómács, Tibor) Strong laws of large numbers for pairwise independent random variables with multidimensional indices. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 149–161. (J. Hüsler) **99k:60039** 60E15

Fazio, Riccardo Numerical applications of the scaling concept. (English summary) *Acta Appl. Math.* **55** (1999), *no.* 1, 1–25. (G. W. Hedstrom) **99m:65140** 65L10 (34B15, 65M99, 76N10)

Fazylov, V. R. (*with* Pinyagina, O. V.) The convex programming method with given absolute-relative error. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1247–1254. (Vladimir I. Venets) **99k:90117** 90C25

Fdil, Abdelhaq Some results on convergence acceleration for the E-algorithm. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 4, 393–413. (Mariano Gasca) **99c:65004** 65B05 (65B10)

— Convergence acceleration by the $E_{+\rho}$-algorithm. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 3, 327–338. (Thomas A. Atchison) **99i:65007** 65B05

— Accélération de la convergence par le $\widehat{\Theta}$-algorithme. (English and French summaries) [Convergence acceleration by the $\widehat{\Theta}$-algorithm] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1011–1014. (Summary) **99h:65008** 65B10

Fearn, D. R. (*with* Lamb, C. J.; McLean, D. R.; Ogden, R. R.) The influence of differential rotation on magnetic instability, and nonlinear magnetic instability in the magnetostrophic limit. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 173–200. (Summary) **99j:76045** 76E25 (76U05, 76W05, 86A25)

Fearn, T. (*with* Brown, P. J.; Vannucci, M.) Multivariate Bayesian variable selection and prediction. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 627–641. (Summary) **99a:62029** 62F15 (62J05)

Fearnley-Sander, Desmond (*with* Stokes, Tim) Equality algebras. *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 177–191. (S. Rudeanu) **99b:08003** 08B05 (03G25, 08A30)

Febra, Renato (*with* Almeida, António; Faria, Luis) Refined two-dimensional models for the analysis of free boundary flows between parallel plates. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 163–180. (Peter A. McCoy) **99d:76072** 76M25 (76D07)

Fečkan, Michal Chaotic behaviour of singular impulsive ordinary differential equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 189–196, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:34057** 34C37 (34A37, 58F13)

— Bifurcation of periodic and chaotic solutions in discontinuous systems. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math.* (*Brno*) **34** (1998), *no.* 1, 73–82. (Summary) **99d:34061** 34C23 (34A60, 34C25, 34E15, 58F13)

— Differential inclusions at resonance. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 483–495. (Markus Kunze) **99j:34018** 34A60 (34B15, 34C25, 47H15)

— Existence results for implicit differential equations. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 35–42. (Peter Kunkel) **99e:34001** 34A09 (47H05, 47H17)

— Chaotic solutions in differential inclusions: chaos in dry friction problems. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2861–2873. (Sergei A. Dovbysh) **99j:34065** 34C99 (34A60, 34C25, 58F13, 70K40, 70K50)

Fecko, Marián On $3 + 1$ decompositions with respect to an observer field via differential forms. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4542–4560. (Charles G. Torre) **99a:53088** 53C80 (58A10, 83C99)

— Space-time decompositions via differential forms. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 33–43. (Akira Asada) **99j:58007** 58A10 (53C50)

Feddersen, Falk Weakly nonlinear shear waves. (English summary) *J. Fluid Mech.* **372** (1998), 71–91. (Paul Andrew Martin) **99h:76030** 76D33 (76E30, 86A05)

Fedele, R. *see* **New perspectives in the physics of mesoscopic systems, 99e:81003**

Fedeli, Alessandro On the cardinality of Hausdorff spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 104–108 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A25

— On the cardinality of Hausdorff spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 581–585. 54A25

Fedelich, B. (*with* Ehrlacher, A.) An analysis of stability of equilibrium and of quasi-static transformations on the basis of the dissipation function. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 5, 833–855. (Summary) **99e:73054** 73E99 (73B30, 73H05)

Feder, Meir (*with* Merhav, Neri) Universal prediction. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2124–2147. (Summary) **99h:94026** 94A15

Feder, Moshe (*with* Pfeffermann, Danny; Signorelli, David) Estimation of autocorrelations of survey errors with application to trend estimation in small areas. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 339–348. 62D05

Feder, Tomás (*with* Shende, Sunil M.) Online channel allocation in FDMA networks with reuse constraints. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 295–302. 68M10

— (*with* Hell, Pavol) List homomorphisms to reflexive graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 236–250. (Stanisław P. Radziszowski) **99d:68190** 68R10 (05C85)

Federer, Walter T. ★ Statistical design and analysis for intercropping experiments. Vol. II. (English summary) Three or more crops. Springer Series in Statistics. *Springer-Verlag, New York*, 1999. *xxiv*+262 *pp. ISBN* 0-387-98533-6 (Rahul Mukerjee) **99m:62113** 62K10 (62-02)

di Federico, Vittorio *see* **Di Federico, Vittorio**

Fedkiw, Ronald P. (*with* Merriman, Barry; Osher, Stanley) Numerical methods for a one-dimensional interface separating compressible and incompressible flows. (English summary) *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 155–194, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:76067** 76M20 (65M99, 76M25, 76N10)

— (*with* Merriman, Barry; Osher, Stanley) Efficient characteristic projection in upwind difference schemes for hyperbolic systems. The complementary projection method. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 1, 22–36. (Summary) **99a:76096** 76M20 (65M06)

— (*with* Marquina, Antonio; Merriman, Barry) An isobaric fix for the overheating problem in multimaterial compressible flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 545–578. (Summary) **99i:76110** 76M25 (76N15)

Fedorchuk, I. M. Reduction and some exact solutions of the eikonal equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 241–244, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35C05 (35Q99)

Fedorchuk, V. M. Subgroup structure of the Poincaré group $P(1, 4)$ and symmetry reduction of five-dimensional equations of mathematical physics. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 193–199, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Stanislav V. Spichak) **99c:81058** 81R05 (22E70, 35A30, 81Q05)

— (*with* Leĭbov, O. S.) Reduction and certain exact solutions of the multidimensional Monge-Ampère equation. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1913–1916. 35J60

Fedorchuk, V. V. A differentiable manifold with noncoinciding dimensions for the continuum hypothesis. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 149–160; *translation in Sb. Math.* **186** (1995), *no.* 1, 151–162. (Dušan Repovš) **99e:54025** 54F45 (57N99)

— (*with* Cammaroto, Filippo[1]; Porter, Jack R.) H-closed functions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 563–572. 54C10 (54C20, 54D25)

— (*with* Sadovnichiĭ, Yu. V.) On some categorical properties of uniform spaces of probability measures. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 131–151. (Z. Semadeni) **99b:46031** 46E27 (46M15, 54E15)

— The Suslin number of the functor of probability measures. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 55–60. (Ryszard J. Pawlak) **99e:54001** 54A25 (28A99, 54B20)

Fedorchuk, Vasyl *see* **Fedorchuk, V. M.**

Fedorchuk, Vitaly V. *see* **Fedorchuk, V. V.**

Fedorcuk, Vitaly V. *see* **Fedorchuk, V. V.**

Fedorenko, A. D. (*with* Fedorenko, V. V.; Ivanov, Anatoliĭ Fedorovich; Sharkovs'kiĭ, Aleksandr) Solution behaviour in a class of difference-differential equations. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 37–48. (Frederick R. Marotto) **99e:34097** 34K15 (58F14)

Fedorenko, R. P. (*with* Strakhovskaya, L. G.) A nuclear reactor as a stiff system. Asymptotic methods for the integration of equations of dynamics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 638–652. 82D75 (65M06)

Fedorenko, V. V. (*with* Fedorenko, A. D.; Ivanov, Anatoliĭ Fedorovich; Sharkovs'kiĭ, Aleksandr) Solution behaviour in a class of difference-differential equations. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 37–48. (Frederick R. Marotto) **99e:34097** 34K15 (58F14)

Fedorenko, V. V. (*with* Roslyakov, G. S.) The study of three-dimensional gas flow in a nozzle using the completely implicit method. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 296–303. (Summary) **99j:76098** 76M25 (76N15)

Fedorov, A. V. *see* **Fedorov, Andrei Vladimirovich**

Fedorov, Aleksandr V. (*with* Zhilin, A. A.) The structure of a shock wave in a two-velocity mixture of compressible media with different pressures. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 10–19. (Summary) **99i:76085** 76L05 (34C99, 76N10, 76T05)

— (*with* Zhilin, A. A.) Propagation of shock waves in a two-phase mixture with different pressures of the components. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **40** (1999), *no.* 1, 55–63. 76L05 (76M25)

Fedorov, Alexey V. (*with* Melville, W. Kendall) Nonlinear gravity—capillary waves with forcing and dissipation. (English summary) *J. Fluid Mech.* **354** (1998), 1–42. (F. Milinazzo) **99d:76028** 76D33 (76B15, 76D45)

Fedorov, Andrei Vladimirovich *see* **Computational modelling and computing in physics, 99k:65003**

Fedorov, Sergeĭ Igor'evich On harmonic analysis in a multiply connected domain and character-automorphic Hardy spaces. (Russian) *Algebra i Analiz* **9** (1997), *no.* 2, 192–240; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 339–378. (A. V. Chernecky (Zbl 892.32004)) **99d:32046** 32N05 (30D55, 32A35, 46E20)

— Weighted norm inequalities and the Muckenhoupt condition in a multiply connected domain. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1221–1254. (Jia Rong Yu) **99k:30064** 30D55 (42B30)

Fedorov, V. E. ★ Полугруппы и группы операторов с ядрами. (Russian. Russian summary) [Semigroups and groups of operators with kernels] *Chelyabinsk. Gos. Univ., Chelyabinsk*, 1998. 79 *pp. ISBN* 5-230-20012-X (Adam Bobrowski) **99k:47090** 47D06 (34G10, 47N20)

— (*with* Sviridyuk, G. A.) On units of analytic semigroups of operators with kernels. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 604–616, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 522–533. (Evgeniĭ Mel'nikov) **99j:47056** 47D06 (34G10)

Fedorov, Valerii V. Design of spatial experiments: model fitting and prediction. *Design and analysis of experiments*, 515–553, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05 (62M30)

— (*with* Hackl, Peter) ★ Model-oriented design of experiments. (English summary) Lecture Notes in Statistics, 125. *Springer-Verlag, New York*, 1997. viii+117 *pp. ISBN* 0-387-98215-9 (N. Gaffke) **99f:62089** 62K05

— (*with* Montepiedra, Grace) Minimum bias designs with constraints. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 1, 97–111. (N. Gaffke) **99c:62209** 62K05

— (*with* Müller, Werner G.) Another view on optimal design for estimating the point of extremum in quadratic regression. (English summary) *Metrika* **46** (1997), *no.* 2, 147–157. (A. I. Khuri) **99c:62206** 62K05

— (*with* Batsell, S.; Flanagan, D.) Multivariate prediction: selection of the most informative components to measure. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 215–222, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62103** 62K05

— (*with* Montepiedra, Grace; Nachtsheim, Christopher J.) Optimal design and the model validity range. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 215–227. (Summary) **99g:62107** 62K05

Fedorov, Ya. V. (*with* Sommers, Hans-Jürgen; Khoruzhenko, Boris A.) Universality in the random matrix spectra in the regime of weak non-Hermiticity. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 449–489. (Alexei Khorunzhy) **99i:60080** 60F99 (15A52, 60B15, 82B41)

— (*with* Titov, Mikhail; Sommers, Hans-Jürgen) Statistics of S-matrix poles for chaotic systems with broken time reversal invariance: a conjecture. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, *R*1195–*R*1198. 81Q50

— (*with* Sommers, Hans-Jürgen; Titov, Mikhail) S-matrix poles for chaotic quantum systems as eigenvalues of complex symmetric random matrices: from isolated to overlapping resonances. (English summary) *J. Phys. A* **32** (1999), *no.* 5, *L*77–*L*87. 81Q50 (81U20, 82B41)

Fedorov, Yu. N. (*with* Borisov, Adriyan V.) On two modified integrable problems in dynamics. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 6, 102–105. (Igor Gashenenko) **99e:70019** 70E15 (70F25, 70H05)

— Dynamical systems with an invariant measure on the Riemannian symmetric pairs $(\mathrm{GL}(N), \mathrm{SO}(N))$. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 38–44. (Igor N. Nikitin) **99e:58069** 58F05 (70E15, 70H05)

Fëdorov, Yu. S. (*with* Konyaev, Yu. A.) Asymptotic analysis of some classes of singularly perturbed problems on the half-axis. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 111–117; *translation in Math. Notes* **62** (1997), *no.* 1-2, 93–98 (1998). (Leonid V. Kalachev) **99d:34102** 34E10 (34E15)

Fedorova, A. N. (*with* Tseĭtlin, M. G.) Wavelets in optimization and approximations. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 527–534. (*see* **99d:00030**) 42C15

— (*with* Tseĭtlin, M. G.) Wavelet approach to mechanical problems. Symplectic group, symplectic topology and symplectic scales. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 31–40, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99i:58067** 58F06 (42C15, 58F05)

— (*with* Tseĭtlin, M. G.) Wavelet approach to polynomial mechanical problems. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 101–108, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70–08 (42C15)

Fedorova, A. T. (*with* Khokholov, V. B.) Cesàro means of Lagrange interpolation processes. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 76–82, *Yakut·sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 41A05

Fedoryuk, M. V. Equations with rapidly oscillating solutions [MR 91j:58158]. *Partial differential equations, V*, 1–51, 241–247, *Encyclopaedia Math. Sci.*, 34, *Springer, Berlin*, 1999. (*see* **99i:35002**) 58G15 (34E20, 35B40, 35S05, 58C27, 58G16)

— *see also* **Partial differential equations, 99i:35002**

Fedoseev, Sergei A. (*with* Gitman, Michael B.; Trusov, P. V.) On the stochastic optimization problems of plastic metal working processes under stochastic initial conditions. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 111–125. (Summary) **99j:90052** 90C15 (90C70, 90C90)

Fedosov, Boris V. (*with* Aizenberg, Lev; Tarkhanov, Nikolai N.) Residues of closed differential forms. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 1–19. (D. Lehmann) **99k:58005** 58A12 (55R40, 57R20)

— (*with* Schulze, Bert-Wolfgang; Tarkhanov, Nikolai N.) On the index of elliptic operators on a wedge. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 164–209. (Robert Lauter) **99j:58193** 58G10 (35S15, 47G30)

Fedotov, E. M. On a class of two-layer difference schemes for nonlinear boundary value problems with memory. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 4, 86–97; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 4, 84–95. (A. O. Oganesyan) **99b:65098** 65M06 (76M20)

Fedotov, I. A. (*with* Dragomir, Sever Silvestru) An inequality of Grüss' type for Riemann-Stieltjes integral and applications for special means. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 287–292. (E. R. Love) **99m:26017** 26A42 (26D10)

Fedotov, Sergei Traveling waves in a reaction-diffusion system: diffusion with finite velocity and Kolmogorov-Petrovskii-Piskunov kinetics. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5143–5145. (Summary) **99f:80008** 80A32 (35K57, 35Q99)

— Wave front for a reaction-diffusion system and relativistic Hamilton-Jacobi dynamics. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 5040–5044. 35K57 (35Q80, 92B05)

Fedotova, Z. I. On properties of two simplified nonlinearly dispersive models of long wave hydrodynamics. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 159–171. (Summary) **99h:76010** 76B15 (76M20)

— (*with* Chubarov, L. B.; Shkuropatskii, D. A.) Investigation of computational models of long surface waves in the problem of interaction of a solitary wave with a conic island. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 289–306. 76M25 (76B15, 76B25, 86–08, 86A05)

Fédou, J. M. (*with* Dutour, I.) Object grammars and random generation. (English summary) *Discrete Math. Theor. Comput. Sci.* **2** (1998), 47–61. (Summary) **99j:68095** 68R05 (68Q50)

Fedynyak, S. I. (*with* Sheremeta, Myroslav M.) On the derivative of the Dirichlet series. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 206–223, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 181–197. (Shlomo Strelitz) **99g:30004** 30B50 (30D15)

Fedzyanīn, D. V. (*with* Tikhonenko, O. M.) The total demand volume and waiting time distribution for an unreliable queueing system with an infinite number of servers. (Belorussian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 115–117, 144. 90B22

Feely, Orla (*with* Kotsios, Stelios) The model-matching problem for a special class of discrete systems with discontinuity. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 93–104. (Toshio Saito) **99b:93022** 93B30 (93C55)

Feffer, Loren Butler Oswald Veblen and the capitalization of American mathematics. Raising money for research, 1923–1928. (English summary) *Isis* **89** (1998), *no.* 3, 474–497. (Summary) **99g:01045** 01A80

Fefferman, Charles L. (*with* Fröhlich, Jürg; Graf, Gian Michele) Stability of nonrelativistic quantum mechanical matter coupled to the (ultraviolet cutoff) radiation field. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **93** (1996), *no.* 26, 15009–15011 (*electronic*). (Summary) **99b:81278** 81V35 (81Q10)

— Stability of matter with magnetic fields. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 119–133, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (H. Hogreve) **99e:81261** 81V35 (81Q10)

— (*with* Seco, Luis A.) Arithmetic aspects of atomic structures. Mathematical results in quantum mechanics (Ascona, 1996). *Helv. Phys. Acta* **71** (1998), *no.* 1, 1–25. (From the introduction) **99k:81347** 81V45 (11Z05, 81–02)

Fehér, János (*with* Kátai, Imre; Bui Minh Phong) On multiplicative functions satisfying a special relation. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 49–57. (Péter Kiss) **99f:11007** 11A25 (11N64)

— On generalized q-multiplicative functions. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 357–365. (Aleksander Grytczuk) **99d:11090** 11K65 (11A25, 11N64)

Fehér, László (*with* de Boer, Jan) Wakimoto realizations of current algebras: an explicit construction. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 759–793. (Josep Herrero) **99e:81072** 81R10 (17B67, 81T40)

— (*with* Balog, J.; Palla, László) Coadjoint orbits of the Virasoro algebra and the global Liouville equation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 2, 315–362. (Kazuto Oshima) **99b:81073** 81R10 (17B68, 81T40)

— (*with* Delduc, F.; Gallot, L.) Nonstandard Drinfeld-Sokolov reduction. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5545–5563. (Carlo Morosi) **99e:58094** 58F07

Fehmers, G. C. (*with* Kamp, L. P. J.; Sluijter, F. W.) An algorithm for quadratic optimization with one quadratic constraint and bounds on the variables. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 893–901. 90C20 (65K05)

Fehrer, Detlef (*with* Horacek, Helmut) Presenting inequations in mathematical proofs. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 3–23. (Summary) **99k:68172** 68T15 (03B35)

Fei, Chu Hong (*with* Qian, Fu Cai; Wan, Bai Wu) A hybrid algorithm for global optimization using chaotic search. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 3, 232–235. 90C30

Fei, Guihua (*with* Wang, Tixiang) The minimal period problem for nonconvex even second order Hamiltonian systems. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 543–559. (Maria Letizia Bertotti) **99k:34088** 34C25 (58E05, 58F05, 58F22, 70H05)

Fei, He Liang (*with* Tang, Yin Cai) Statistical analysis with software of progressive stress accelerated life testing under Weibull distribution. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 407–413. 62N05 (90B25)

Fei, Ning Regularity of the W-minima of a general regular functional. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 239–246. (Daizhan Cheng) **99g:49032** 49N35 (49N60)

Fei, Pusheng (*with* Gong, Liu Tang) Local and global stability of infinite-horizon variational problem. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 3, 278–284. (Alexander J. Zaslavski) **99m:49008** 49J24 (49K40)

Fei, Shao-Ming (*with* Albeverio, Sergio) An integral representation for Ising models. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 23, 2393–2407. (Nicolae Angelescu) **99j:82011** 82B20

— (*with* Albeverio, Sergio) Current algebras over manifolds: Poisson algebras, q-deformations and quantization. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 1-2, 30–48. (Pavel Šťovíček) **99j:58014** 58B20 (58F05, 81R10)

— (*with* Albeverio, Sergio) Integrable Poisson algebras and two-dimensional manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1211–1218. (Jeffrey K. Lawson) **99f:58073** 58F05 (53C15)

— (*with* Albeverio, Sergio) Symmetry, integrable chain models and stochastic processes. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 723–750. (Murray T. Batchelor) **99h:82021** 82B23 (82C23)

Fei, Shu Min (*with* Feng, Chun Bo) Robust stabilization of norm-bounded nonlinear uncertain systems. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 4, 77–82. 93D15

Fei, Zhengdong (*with* Liu, Qinghua; Guo, Zhen[2]; Condon, Anne E.; Corn, Robert M.; Lagally, Max G.; Smith, Lloyd M.) A surface-based approach to DNA computation. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 123–132, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)

Feichtinger, Gustav (*with* Hommes, Cars H.; Milik, Alexandra) Chaotic consumption patterns in a simple 2-D addiction model. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 147–173. (Summary) **99d:90033** 90A40

— (*with* Kort, Peter M.; Hartl, Richard F.; Haunschmied, Josef L.) Optimal enforcement policies (crackdowns) on an illicit drug market. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 169–184. 90A60 (49K15)

— (*with* Mäurer, Helmut[2]; Büskens, Ch.) Solution techniques for periodic control problems: a case study in production planning. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 185–203. (Summary) **99e:90022** 90A16 (49N20)

Feichtinger, Hans (*with* Aldroubi, Akram) Exact iterative reconstruction algorithm for multivariate irregularly sampled functions in spline-like spaces: the L^p-theory. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 9, 2677–2686. (R. L. Stens) **99h:42054** 42C15 (41A15, 46E99, 47B37, 94A12)

Feichtinger, U. (*with* Moritsch, O.; Rant, J.; Schweda, M.; Zerrouki, H.) The finiteness of the four-dimensional antisymmetric tensor field model in a curved background. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4513–4537. (Summary) **99e:81165** 81T20 (81T60)

Feig, Ephraim (*with* Ben-Or, Michael) On algebras related to the discrete cosine transform. (English summary) *Linear Algebra Appl.* **266** (1997), 81–106. (Vitězslav Veselý) **99e:15021** 15A30 (15A21, 39A12, 94A12)

Feige, Uriel Collecting coupons on trees, and the cover time of random walks. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 341–356. (David J. Aldous) **99c:60011** 60C05 (60J15)

— Randomized graph products, chromatic numbers, and the Lovász ϑ-function. (English summary) *Combinatorica* **17** (1997), *no.* 1, 79–90. (Summary) **99f:05059** 05C35 (90C27)

— (*with* Kilian, Joe) Zero knowledge and the chromatic number. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 187–199. (Summary) **99k:68076** 68Q25 (05C15, 68Q15, 68R10)

Feigelson, Aaron (*with* Hellerstein, Lisa) The forbidden projections of unate functions. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 221–236. (J. M. S. Simões-Pereira) **99a:06020** 06E30

Feigelstock, Shalom Mapping near-rings of abelian groups. (English summary) *Houston J. Math.* **23** (1997), *no.* 1, 29–32. 16Y30

— Self extending rings. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 121–123. 16S99

Feigenbaum, Joan (*with* Kannan, Sampath K.; Vardi, Moshe Y.; Viswanathan, Mahesh) Complexity of problems on graphs represented as OBDDs (extended abstract). (English summary) *STACS 98 (Paris, 1998)*, 216–226, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25 (68R10)

— (*with* Cowen, Lenore J.; Kannan, Sampath K.) A formal framework for evaluating heuristic programs. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 193–206. (Summary) **99h:68154** 68T20 (68Q25)

— (*with* Fortnow, Lance; Laplante, Sophie; Naik, Ashish V.) On coherence, random-self-reducibility, and self-correction. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 174–191. (Uwe Schöning) **99j:68041** 68Q15

Feigenbaum, Mitchell J. The impact of chaos on physics. *The impact of chaos on science and society (Tokyo, 1991)*, 127–132, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 58F13 (00A79, 58F40, 82C03)

Feighelstein, Marcelo (*with* Dinitz, Yefim; Zaks, Shmuel) On optimal graphs embedded into paths and rings, with analysis using l_1-spheres. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 171–183, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68M10

Feigin, B. L. (*with* Enriquez, Benjamin) Integrals of motion of classical lattice sine-Gordon system. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 507–528; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 738–756. (Naihuan Jing) **99e:58095** 58F07 (17B37)

— (*with* Odesskiĭ, A. V.) Elliptic deformations of current algebras and their representations by difference operators. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 3, 57–70, 96; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 3, 193–203 (1998). (V. Leksin) **99k:17033** 17B37 (17B67, 17B68)

— (*with* Jimbo, Michio; Miwa, Tetsuji; Odesskiĭ, A. V.; Pugai, Yaroslav) Algebra of screening operators for the deformed W_n algebra. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 501–541. (Jun'ichi Shiraishi) **99b:81075** 81R10 (17B68, 81T40)

— (*with* Enriquez, Benjamin; Rubtsov, Vladimir) Separation of variables for Gaudin-Calogero systems. (English summary) *Compositio Math.* **110** (1998), *no.* 1, 1–16. (Alexander E. Polishchuk) **99f:32030** 32G34 (14D20, 14H60)

Feijóo, Gonzalo R. (*with* Hughes, Thomas J. R.; Mazzei, Luca; Quincy, Jean-Baptiste) The variational multiscale method—a paradigm for computational mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 3–24. (I. N. Molchanov) **99m:65239** 65N55 (65M55, 73V05, 73V25)

Feijs, L. M. G. (*with* Krikhaar, R. L.) Relation algebra with multi-relations. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 57–74. (Summary) **99j:68085** 68Q65

— (*with* van Ommering, R. C.) Relation partition algebra—mathematical aspects of uses and part-of relations. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 2, 163–212. (D. Rosenblatt) **99m:68025** 68N05 (03G15, 04A05)

Fein, Burton (*with* Schacher, Murray) Relative Brauer groups of discrete valued fields. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 677–684. (Ido Efrat) **99f:13001** 13A20 (12E15)

Feinberg, Burt (*with* Bertram, Aaron) On stable rank two bundles with canonical determinant and many sections. *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 259–269, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Xiao Jiang Tan) **99i:14012** 14D20 (14H60)

Feinberg, Eugene A. On measurability and representation of strategic measures in Markov decision processes. (English summary) *Statistics, probability and game theory*, 29–43, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Summary) **99i:90113** 90C40

— (*with* Shwartz, Adam) Constrained dynamic programming with two discount factors: applications and an algorithm. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 628–631. 90C40 (93E20)

Feinberg, Yossi An incomplete cooperation structure for a voting game can be strategically stable. (English summary) *Games Econom. Behav.* **24** (1998), *no.* 1-2, 2–9. (Summary) **99i:90124** 90D12 (90A28)

Feingold, Mario (*with* Dana, Itzhack; Rutman, Yaakov) Band Husimi distributions and the classical-quantum correspondence on the torus. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5655–5667. (Summary) **99g:81053** 81Q50

Feinsilver, Philip (*with* Schott, René) Formal power series, operator calculus, and duality on Lie algebras. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 157–171. (Andrej A. Zolotykh) **99g:16057** 16W60 (17B30, 17B35)

— (*with* Schott, René) Computing representations of a Lie group via the universal enveloping algebra. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 329–338. (Hartmut Schlosser) **99i:22014** 22E45 (17B35, 22E70)

Feinstein, Alexander (*with* Egusquiza, I. L.; Pérez Sebastián, M. A.; Valle Basagoiti, M. A.) On the entropy and the density matrix of cosmological perturbations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1927–1936. 83F05 (83C25)

Feinstein, J. F. (*with* Somerset, D. W. B.) A note on ideal spaces of Banach algebras. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 611–617. (John Duncan) **99j:46053** 46H10 (46J40)

Feintuch, Avraham (*with* Markus, Alexander) Isometric dilations in nest algebras. (English summary) *Integral Equations Operator Theory* **26** (1996), *no.* 3, 346–352. (Introduction) **99e:47013** 47A20 (47D25, 47N70, 93B25)

Feireisl, Eduard (*with* O'Dowd, Geoffrey) Stabilisation d'un système hybride par un feedback non linéaire, non monotone. (English and French summaries) [Stabilization of a hybrid system with a nonlinear nonmonotone feedback] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 323–327. (Summary) **99f:93117** 93D15 (35L05, 73K50, 93C20)

— (*with* Petzeltová, Hana) Singular kernels and compactness in nonlinear conservation laws. *J. Differential Equations* **142** (1998), *no.* 2, 291–304. (Christophe Cheverry) **99b:35132** 35L65 (45K05)

— (*with* Petzeltová, Hana) On the zero-velocity-limit solutions to the Navier-Stokes equations of compressible flow. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 109–116. (Summary) **99e:35174** 35Q30 (76N10)

— (*with* Petzeltová, Hana) On compactness of bounded solutions to multidimensional conservation laws with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 193–204. (Summary) **99b:35133** 35L65 (35B35, 45K05)

— Finite energy travelling waves for nonlinear damped wave equations. *Quart. Appl. Math.* **56** (1998), *no.* 1, 55–70. (Enzo Vitillaro) **99a:35180** 35L70 (35A15, 35B40)

— Front propagation for degenerate parabolic equations. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 735–746. (Wenxian Shen) **99m:35133** 35K65 (35B40, 35K57)

de Feis, Italia *see* **De Feis, Italia**

Feisel, Sandra (*with* von zur Gathen, Joachim; Shokrollahi, M. Amin) Normal bases via general Gauss periods. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 271–290. (Safwan Akbik) **99c:11148** 11T22 (12E20)

Feistauer, Miloslav (*with* Angot, Philippe; Dolejší, Vít; Felcman, Jiří) Analysis of a combined barycentric finite volume-nonconforming finite element method for nonlinear convection-diffusion problems. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 263–310. (Claus-Dieter Munz) **99f:76095** 76M25 (65M60, 76M10)

— (*with* Najzar, Karel) Finite element approximation of a problem with a nonlinear Newton boundary condition. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 403–425. (Qian Li) **99c:65203** 65N30

— Analysis in compressible fluid mechanics. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 579–596. (Summary) **99h:76057** 76M10 (65M55, 76M25, 76N10)

Feit, Paul Structure theory for pro-objects from an arbitrary category. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3587–3623. (Peter Johnstone) **99k:18003** 18A35 (18A20, 20E18)

Feit, Walter The work of Efim Zelmanov [see MR 97c:00049]. *Fields Medallists' lectures*, 611–619, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*,

1997. (*see* **99b:00010**) 01A70 (17–03, 20–03)
— Integral representations of Weyl groups rationally equivalent to the reflection representation. *J. Group Theory* **1** (1998), *no.* 3, 213–218. (Jürgen Ritter) **99g:20020** 20C15 (20F55)
Feix, Marc R. (*with* Geronimi, C.; Cairó, Laurent; Leach, P. G. L.; Lemmer, R. L.; Bouquet, S.) On the singularity analysis of ordinary differential equations invariant under time translation and rescaling. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7437–7461. (Summary) **99i:34015** 34A34 (34A20)
— (*with* Cairó, Laurent) Similarity and rescaling. *Extracta Math.* **13** (1998), *no.* 1, 1–19. (P. G. L. Leach) **99j:34008** 34A25 (35A30)
Feĭziev, F. G. (*with* Faradzhev, R. G.; Nagiev, A. T.) Analytic description and quadratic optimization of binary multi-dimensional nonlinear sequential-cellular machines. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 750–752. 93C30 (68Q80, 90C20)
Fejes, Sándor (*with* Rosenfeld, Azriel) Migration processes. I. The continuous case. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 1, 5–25. (Summary) **99a:68174** 68U10 (68T10)
— (*with* Rosenfeld, Azriel) Migration processes. II. The discrete case. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 1, 27–40. (Summary) **99a:68175** 68U10 (68T10)
Fejes Tóth, Gábor (*with* Kuperberg, Greg; Kuperberg, Włodzimierz) Highly saturated packings and reduced coverings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 127–145. (Uwe Schnell) **99a:52028** 52C17
— Recent progress on packing and covering. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 145–162, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52036** 52C17 (52B55, 52C07, 52C10, 52C15)
Fekete, Sándor P. (*with* Pulleyblank, William R.) Traveling the boundary of Minkowski sums. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 171–174. (Summary) **99b:68198** 68U05
— (*with* Bose, Prosenjit; Everett, Hazel; Houle, Michael E.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)
— (*with* Faigle, Ulrich; Hochstättler, Winfried; Kern, Walter) On approximately fair cost allocation in Euclidean TSP games. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 29–37. (Hans Peters) **99h:90118** 90D06 (90C27, 90D12, 90D46)
— (*with* Meijer, Henk) Rectangle and box visibility graphs in 3D. (English summary) *Internat. J. Comput. Geom. Appl.* **9** (1999), *no.* 1, 1–27. (Henk J. A. M. Heijmans) **99m:68210** 68U05 (68R10)
Feki, Imed (*with* El Mir, Hassine) Prolongement et contrôle d'un courant positif fermé par ses tranches. (English and French summaries) [Extension and mass control of a positive d-closed current by its slices] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 797–802. (Mohammed El Amrani) **99k:32015** 32C30 (32D15)
Felbacq, D. (*with* Guizal, B.; Zolla, F.) Limit analysis of the diffraction of a plane wave by a one-dimensional periodic medium. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4604–4607. (Summary) **99g:78021** 78A45 (78A05)
Felcman, Jiří (*with* Angot, Philippe; Dolejší, Vít; Feistauer, Miloslav) Analysis of a combined barycentric finite volume-nonconforming finite element method for nonlinear convection-diffusion problems. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 263–310. (Claus-Dieter Munz) **99f:76095** 76M25 (65M60, 76M10)
— (*with* Šolin, P.) On the construction of the Osher-Solomon scheme for 3D Euler equations. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 1, 43–64. (Claus-Dieter Munz) **99e:76086** 76M25 (65M99, 76H05)
Feldbacher, Karin (*with* Burkard, Rainer E.; Klinz, Bettina; Woeginger, Gerhard J.) Minimum-cost strong network orientation problems: classification, complexity, and algorithms. (English summary) *Networks* **33** (1999), *no.* 1, 57–70. (K. G. Murty) **99k:90185** 90C35 (05C20, 90C27)
Felder, Giovanni (*with* Varchenko, A. N.) Three formulae for eigenfunctions of integrable Schrödinger operators. (English summary) *Compositio Math.* **107** (1997), *no.* 2, 143–175. (Yvette Kosmann-Schwarzbach) **99a:17010** 17B10 (17B37, 33C80, 35J10, 35Q40, 82B23)
— (*with* Enriquez, Benjamin) Elliptic quantum groups $E_{\tau,\eta}(\mathfrak{sl}_2)$ and quasi-Hopf algebras. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 651–689. (Andrew Pressley) **99m:17017** 17B37
— (*with* Enriquez, Benjamin) A construction of Hopf algebra cocycles for the Yangian double $DY(\mathfrak{sl}_2)$. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2401–2413. (Guy Laffaille) **99f:17015** 17B37 (81R50)
Felder, Miguel (*with* Gargantini, Angelo; Morzenti, Angelo) A theory of implementation and refinement in timed Petri nets. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 127–161. (Raymond Devillers) **99k:68119** 68Q90 (68Q10, 68Q60)
Felderhof, B. U. Dynamical conductivity of the dilute Lorentz gas with spherically symmetric scatterers. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 307–329. (Summary) **99g:82048** 82C05 (82C70)
Feldhay, Rivka The use and abuse of mathematical entities: Galileo and the Jesuits revisited. *The Cambridge companion to Galileo*, 80–145, *Camb. Companions Philos., Cambridge Univ. Press, Cambridge*, 1998. (*see* **99k:01020**) 01A45
Feldman, A. B. (*with* Chernyak, Yuri B.; Cohen, Richard J.) Wave-front propagation in a discrete model of excitable media. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7025–7040. (Summary) **99d:92008** 92C05 (35B99, 35K55, 92B05)
Feldman, David V. (*with* Wilce, Alexander) Abelian extensions of quantum logics. Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 39–43. (Adonai S. Sant'Anna) **99f:81018** 81P10 (03G12)
Fel'dman, G. M. The Skitovich-Darmois theorem for discrete periodic abelian groups. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 747–756. (N. Sarapa) **99d:60005** 60B15
Feldman, Israel[1] (*with* Markus, Alexander) On some properties of factorization indices. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 326–337. (I. Spitkovsky) **99f:47023** 47A68 (15A23, 30E25)
Feldman, J. *see* **Feldman, Jacob[1]**
Feldman, Jacob *see* **Feldman, Jacob[2]**
Feldman, Jacob[1] (*with* Smorodinsky, Meir) Simple examples of non-generating Girsanov processes. (English summary) *Séminaire de Probabilités, XXXI*, 247–251, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Jia Gang Wang) **99f:60144** 60J65 (60G44, 60H05)
— Uncountably many Vershik-inequivalent group actions of equal entropy. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 255–261, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (N. N. Ganikhodzhaev) **99b:28018** 28D15 (28D20)
— (*with* Rudolph, Daniel J.) Standardness of sequences of σ-fields given by certain endomorphisms. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 175–189. (G. R. Goodson) **99h:28033** 28D05 (60G07)
Feldman, Jacob[2] The structure of perceptual categories. (English summary) *J. Math. Psych.* **41** (1997), *no.* 2, 145–170. (A. Rapoport) **99c:92066** 92J10
Feldman, Joel S. (*with* Knörrer, Horst; Sinclair, Robert; Trubowitz, Eugene) Superconductivity in a repulsive model. Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 154–191. (Klaus Ziegler) **99a:82100** 82D55 (82B26)
— (*with* Froese, Richard; Ghoussoub, N.; Gui, Changfeng) An improved Moser-Aubin-Onofri inequality for axially symmetric functions on S^2. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 95–104. (Thierry Coulhon) **99c:58048** 58E35 (35J85, 53A05)
Fel'dman, K. È. (*with* Bukhshtaber, V. M.) An addition formula for the first half-integer Pontryagin class in complex cobordisms. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 151–152; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1287–1288. (From the text) **99c:57057** 57R20
Feldman, Mikhail Regularity for nonisotropic two-phase problems with Lipschitz free boundaries. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1171–1179. (Li Shang Jiang) **99a:35277** 35R35 (35J15, 35R05, 80A22)
Fel'dman, N. I. (*with* Nesterenko, Yu. V.) Transcendental numbers. *Number theory, IV*, 1–345, *Encyclopaedia Math. Sci.*, 44, *Springer, Berlin*, 1998. (Michel Waldschmidt) **99a:11088b** 11J81 (11–02, 11J25, 11J68, 11J82, 11J85, 11J86)
Feldman, Nathan S. The Berger-Shaw theorem for cyclic subnormal operators. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 741–751. (John B. Conway) **99a:47031** 47B20
— Essentially subnormal operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1171–1181. (Warren R. Wogen) **99m:47028** 47B20 (47C15, 47D25)
— Tensor products of subnormal operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2685–2695. (Warren R. Wogen) **99m:47029** 47B20 (47A80, 47D25)
Feldman, Philip M. (*with* Rachev, Svetlozar T.; Rüschendorf, Ludger) Limiting distribution of the collision resolution interval. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 1–22. (Pavel P. Bocharov) **99a:60111** 60K30 (60F05, 94A05)
epstein-Feldman, Raisa *see* **Epstein-Feldman, Raisa**
Feldman, Raisa E. *see* **Epstein-Feldman, Raisa**
Feldman, William Nonlinear Carleman operators on Banach lattices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2109–2115. (Radu Zaharopol) **99j:47104** 47H30 (45P05, 47B60, 47H06)
Feldmann, Anja (*with* Gilbert, Anna Catherine; Willinger, Walter) Scaling analysis of conservative cascades, with applications to network traffic. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 971–991. 94A05 (90B12)
Feldmann, D. Matthew (*with* Pelzl, Paul J.; King, Frederick W.) Resolution of some mathematical problems arising in the relativistic treatment of the S states of three-electron systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6262–6275. (A. Ventura) **99m:81290** 81V45
Feldmann, Heiko (*with* Guttmann, Anthony J.; Jensen, Iwan; Shrock, Robert; Tsai, Shan-Ho) Study of the Potts model on the honeycomb and triangular lattices: low-temperature series and partition function zeros. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2287–2310. (Summary) **99b:82019** 82B20 (82B26)
Feldmann, Sven (*with* Heinig, Georg) Parametrization of minimal rank block Hankel matrix extensions and minimal partial realizations. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 153–171. (Dmitriy S. Kalyuzhniy) **99k:47183** 47N70 (15A57, 47A20, 47B35, 93B15)
Feldstein, Alan (*with* Liu, Yunkang) On neutral functional-differential equations with variable time delays. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 371–384. (Olof J. Staffans) **99d:34157** 34K40 (34K05)
Feldvoss, Jörg (*with* Klingler, Lee) Tensor powers and projective modules for Hopf algebras. *Algebras and modules, II* (*Geiranger*, 1996), 195–203, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Vladislav K. Kharchenko) **99h:16058** 16W30 (17B10)
— Chief factors and the principal block of a restricted Lie algebra. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 187–194, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Yuri B. Ermolaev) **99h:17006** 17B10 (17B50)
— (*with* Nakano, Daniel K.) Representation theory of the Witt algebra. *J. Algebra* **203** (1998), *no.* 2, 447–469. (Serge M. Skryabin) **99d:17009** 17B10 (17B50)
Felea, Victor On Armstrong databases for conditional generalized embedded dependencies. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 79–91. (Summary) **99c:68070** 68P15 (03B70)
Felgenhauer, U. (*with* Wagner, Marcus) Essential properties of L^∞-functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 229–242. (Carlo Bardaro) **99c:26009** 26B15 (28A20, 46E30, 49N60)
niederdrenk-Felgner, Cornelia *see* **Niederdrenk-Felgner, Cornelia**
Felikson, A. A. On Thurston signatures. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 217–218; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 826–827. (Jože Vrabec) **99b:57028** 57M50
— Coxeter decompositions of hyperbolic polygons. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 801–817. (Luis Paris) **99k:52018** 52B05 (20F55)
González Felipe, R. *see* **González Felipe, R.**
Felipe, Raúl (*with* Ongay-Larios, Fausto) On a supersymmetric integrable system. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 33–38, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:58090** 58F07 (35Q58)

— (*with* Fraguela-Collar, Andrés) About the stability of Sobolev's system in the case of viscous fluid. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 25–42. (Introduction) **99m:76057** 76E10 (35B35, 35Q35, 47N20, 76D99, 76U05)

— (*with* Ongay-Larios, Fausto) N-extended superelliptic integrable systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3730–3737. (Iskander A. Taimanov) **99i:58073** 58F07 (14M30)

Felippa, C. A. (*with* Park, K. C.) A variational framework for solution method developments in structural mechanics. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 1, 242–249. (Summary) **99a:73087** 73K12 (73V25)

Feliu, V. (*with* Cerrada, J. A.) Analysis and design of minimum-phase zeros of sampled systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1397–1416. 93B51 (93B60)

Félix, Yves (*with* Ben-Naoum, Abdou Kouider) Lefschetz number and degree of a self-map. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 229–241. (John F. Oprea) **99b:55002** 55M20 (55P62)

— (*with* Murillo-Mas, Aniceto) Gorenstein graded algebras and the evaluation map. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 28–32. (Jean-Claude Thomas) **99c:57069** 57T05 (16E99, 55P35)

— (*with* Cornea, Octavian; Lemaire, Jean-Michel) Rational category and cone length of Poincaré complexes. (English summary) *Topology* **37** (1998), *no.* 4, 743–748. (Edgar H. Brown, Jr.) **99a:55002** 55M30 (55P62, 57P10)

— (*with* Halperin, Steven; Lemaire, Jean-Michel) The rational LS category of products and of Poincaré duality complexes. (English summary) *Topology* **37** (1998), *no.* 4, 749–756. (Edgar H. Brown, Jr.) **99a:55003** 55M30 (55P62, 57P10)

Felleisen, Matthias (*with* Ariola, Zena M.) The call-by-need lambda calculus. (English summary) *J. Funct. Programming* **7** (1997), *no.* 3, 265–301. (Summary) **99g:68024** 68N15 (03B40, 68Q55)

Fellouris, A. G. (*with* Backhouse, N. B.) The supertrace on the Grassmann envelope $\mathbf{M}(m,n;\Lambda)$. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 17–29. (Mark Curtis Wilson) **99e:17042** 17B99 (15A75)

— Some elementary superdifferentiable functions. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 21–39. (Fausto Ongay-Larios) **99k:58026** 58C50

Fellows, Michael R. (*with* Downey, Rodney G.; Taylor, Udayan) The parameterized complexity of relational database queries and an improved characterization of $W[1]$. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 194–213, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99j:68040** 68Q15 (68P15, 68Q25)

— (*with* Courcelle, Bruno; Downey, Rodney G.) A note on the computability of graph minor obstruction sets for monadic second order ideals. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1194–1198 (*electronic*). (Summary) **99h:68129** 68R10 (03C85, 05C99)

— (*with* Downey, Rodney G.; Regan, Kenneth W.) Descriptive complexity and the W hierarchy. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 119–134, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:68072** 68Q15 (03D10, 03D15, 03D20, 03D30, 03D80, 68Q25)

— (*with* Hell, Pavol; Seyffarth, K.) Constructions of large planar networks with given degree and diameter. (English summary) *Networks* **32** (1998), *no.* 4, 275–281. (Summary) **99h:90041** 90B10 (68M10, 90C35)

— (*with* Downey, Rodney G.) Threshold dominating sets and an improved characterization of $W[2]$. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 123–140. (Summary) **99h:68072** 68Q25 (68Q15)

Felmer, Patricio L. Variational methods in Hamiltonian systems. (English summary) *Dynamical systems* (*Temuco*, 1991/1992), 151–178, *Travaux en Cours*, 52, *Hermann, Paris*, 1996. (Vittorio Coti Zelati) **99e:58037** 58E05 (34C25, 34C37, 58F05, 58F22, 70H05)

— (*with* Clément, Philippe; Mitidieri, Enzo) Homoclinic orbits for a class of infinite-dimensional Hamiltonian systems. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 367–393. (Vittorio Coti Zelati) **99d:58036** 58E05 (35B10, 35K55, 58F05, 58F22)

— (*with* Del Pino, Manuel) Local minimizers for the Ginzburg-Landau energy. *Math. Z.* **225** (1997), *no.* 4, 671–684. (Peter E. Zhidkov) **99a:35240** 35Q55 (49J35, 58E50, 82D55)

— (*with* Del Pino, Manuel) Localizing spike-layer patterns in singularly perturbed elliptic problems. *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 35–42, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35B25 (35J10, 35Q55)

— (*with* Martínez, Salomé) Existence and uniqueness of positive solutions to certain differential systems. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 4, 575–593. (Minoru Murata) **99m:35052** 35J55 (35B05, 35J65)

— (*with* Del Pino, Manuel) Multi-peak bound states for nonlinear Schrödinger equations. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 127–149. (Claire R. Gilson) **99c:35228** 35Q55 (35B05, 35J10)

— (*with* Silva, Elves Alves de B. e) Homoclinic and periodic orbits for Hamiltonian systems. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 285–301. (Addolorata Salvatore) **99f:58035** 58E05 (34C25, 34C37, 58F05, 58F22, 70H05)

Fels, Gregor (*with* Geatti, Laura) Geometry of biinvariant subsets of complex semisimple Lie groups. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 329–356. (Karl-Hermann Neeb) **99g:22014** 22E46 (32C16)

Fels, Mark (*with* Olver, Peter J.) On relative invariants. *Math. Ann.* **308** (1997), *no.* 4, 701–732. (Samuel Evens) **99k:58029** 58D19 (22E45, 53C20, 57S99)

— (*with* Olver, Peter J.) Moving coframes. I. A practical algorithm. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 2, 161–213. (Kazushige Ueno) **99c:53012** 53A55 (58D19, 58H05, 68U10)

Felsenthal, Dan S. (*with* Machover, Moshé; Zwicker, William) The bicameral postulates and indices of a priori voting power. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 83–116. (Pavel Yu. Chebotarev) **99i:90032** 90A28

Fel'shtyn, A. L. (*with* Pilyugina, Violetta) Topology of an attraction domain, dynamical zeta functions and Reidemeister torsion. *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 259–278. (Dieter H. Mayer) **99f:58164** 58F20 (58F12)

— (*with* Hill, Richard Michael) Comparisons for the Reidemeister and Nielsen numbers. (Russian) *Algebra i Analiz* **10** (1998), *no.* 3, 163–182. (Alexander N. Dranishnikov) **99m:57021** 57Q10 (55M35)

Felsner, Stefan (*with* Wernisch, Lorenz) Maximum k-chains in planar point sets: combinatorial structure and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 192–209 (*electronic*). (Summary) **99d:68102** 68Q25 (06A07, 68R05)

Felten, Michael Direct and inverse estimates for Bernstein polynomials. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 459–468. (M. Lachance) **99g:41005** 41A10 (41A17)

— Local and global approximation theorems for positive linear operators. (English summary) *J. Approx. Theory* **94** (1998), *no.* 3, 396–419. (A. Kroó) **99m:41038** 41A36

Feltenmark, Stefan (*with* Kiwiel, Krzysztof C.; Lindberg, Per-Olov) Solving unit commitment problems in power production planning. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 236–241, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B70 (90C90)

Feltovich, Nick (*with* Duffy, John) Does observation of others affect learning in strategic environments? An experimental study. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 131–152. 90D20

Feltz, Carol J. Generalizations of the δ-corrected Kolmogorov-Smirnov goodness-of-fit test. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 407–413. 62G10

Fendel, Joe (*with* Berenbom, Jonathan; Gilbert, George T.; Hatcher, Rhonda L.) Sliding piece puzzles with oriented tiles. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 23–33. (Summary) **99g:05016** 05A99

Fendick, Kerry W. (*with* Whitt, Ward) Verifying cell loss requirements in high-speed communication networks. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 319–338. 60K25 (60K30, 90B12)

Fendler, Gero On dilations and transference for continuous one-parameter semigroups of positive contractions on $\mathcal{L}^p$-spaces. *Ann. Univ. Sarav. Ser. Math.* **9** (1998), *no.* 1, *iv*+97 *pp.* (Michael A. Perel'muter) **99k:47101** 47D07 (47A20, 47A60, 47B38, 47B44)

Fendley, Paul Excited-state energies and supersymmetric indices. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 210–236. (Summary) **99d:81155** 81T60 (58G40, 58Z05, 81T10)

Fendrik, Alejandro J. (*with* Carlo, Gabriel; Vergini, Eduardo) Numerical verification of Percival's conjecture in a quantum billiard. (English summary) *Phys. Rev. E* (3) **57** (1998), *no. 5, part A*, 5397–5403. (Summary) **99a:81043** 81Q50

Feng, Bao-Feng (*with* Mitsui, Taketomo) A finite difference method for the Korteweg-de Vries and the Kadomtsev-Petviashvili equations. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 95–116. (D. Schultz) **99m:65158** 65M06 (65M12)

Feng, Beiye The heteroclinic cycle in the model of competition between n species and its stability. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 404–413. (Summary) **99k:92026** 92D25 (34C37)

Feng, Bin Lu (*with* Chen, Wen Deng; Yu, Yuan Hong) Stability of a class of predator-prey systems. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 1, 38–44. (Ying Guo Lei) **99b:92039** 92D25 (35B35, 35Q80)

— (*with* Li, Yan Sheng; Yu, Yuan Hong) Lipschitz stability and exponential asymptotic stability of differential systems. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 4–8. (Rong Yuan) **99c:34107** 34D20 (34D05)

— (*with* Yu, Yuan Hong) Oscillation of Volterra integral equations and of functional-differential equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 261–265. (Bo Zhang) **99d:34130** 34K15 (45G10, 45M99)

— (*with* Wang, Zhi Bin; Yu, Yuan Hong) Forced oscillation of solutions of neutral parabolic equations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 78–86. (Summary) **99g:35136** 35R10 (35B05)

— A generalization of Lyapunov's stability theorem. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 211–214. 34D08

— (*with* Yan, Xing Min; Yu, Yuan Hong) Oscillation of second-order differential equations with advanced argument. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 36–39. 34K15

Feng, Bo (*with* Li, Jianming; Song, Xingchang) The reduction of differential calculus on direct product group. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 2, 257–262. (Andrzej Sitarz) **99m:58020** 58B30

Feng, C. K. (*with* Chou, Y.-T.; Lin, Sinn-Cheng) Nonlinear asymptotic theory of hypersonic flow past a circular cone. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 1–15. 76K05

Feng, Chun Bo Using passivity analysis to study the stability of time-varying nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 775–781. (Summary) **99a:93072** 93D05

— (*with* Guo, Lei[1]; Xin, Xin) An LMI-based unified approach to reduced-order controller design. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 612–622. (Peng Shi) **99b:93028** 93B51 (93B11)

— (*with* Guo, Lei[1]; Xin, Xin) LMI-based reduced-order controllers for mixed H^2/H^∞ control problems: the continuous-time case. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 294–300. 93B36

— (*with* Guo, Lei[1]; Xin, Xin) LMI-based reduced-order controllers for mixed H^2/H^∞ control problems: the discrete-time case. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 355–358. 93B36

— (*with* Guo, Lei[1]; Xin, Xin) A matrix inequality approach to stabilization and L_2-gain control problems for multiple nonlinear Lur'e systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 630–635. 93D21

— (*with* Liu, Bing[1]; Xue, Yu Sheng) Design of discrete predictive control systems with dynamic uncertainty. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 455–459. 93C41 (93D09)

— (*with* Tian, Yu Ping[1]; Huang, Yi[2]) Robust stability of multivariable systems with nonlinear and linear structured uncertainties. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 531–541. (Jacek Kabziński) **99m:93076** 93D09 (93B36)

— (*with* Yin, Bin; Zhao, Xiao Hui[2]) Adaptive tracking control of time-varying systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 784–789. 93C40 (93D21)

— (*with* Zhao, Xiao Hui[2]) A scheme for robust model reference adaptive control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 865–871. 93C40 (93B35)

— (*with* Fei, Shu Min) Robust stabilization of norm-bounded nonlinear uncertain systems. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 4, 77–82. 93D15

— (*with* Guo, Lei[1]) Robust H^∞ controller design for a class of uncertain systems. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 2, 208–214. (Andrzej Świerniak) **99j:93092** 93D21 (93B36, 93B51)

— Calculation of eigenvalues and their distribution for linear systems. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 4, 443–448. 65F15 (93B40)

— (*with* Huang, Yi[2]; Xu, Ke Kang; Tian, Yu Ping[1]) Eigenstructure assignment via dynamic output feedback. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 280–288. (Krzysztof Kuźmiński) **99i:93024** 93B55

Feng, Chun Hua (*with* Yang, Xi Tao) The existence of unique almost periodic solutions for a class of neutral Volterra integro-differential equations with infinite delay. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 395–402. (Summary) **99m:45016** 45J05 (34K15)

Feng, De Xing (*with* Luo, Yue Hu) Asymptotic stability of C_0 semigroups. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 396–402. (Ti Jun Xiao) **99a:47062** 47D06

— (*with* Luo, Yue Hu; Yung, Siu Pang) Stability of linear systems in Banach space. *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1399–1401. 34G10 (34D99, 47D06)

— (*with* Luo, Yue Hu) On exponential stability of C_0 semigroups. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 624–636. (Vũ Quốc Phóng) **99f:47047** 47D06

— (*with* Luo, Yue Hu; Weng, Shao Peng) Stability of linear systems in Banach spaces. (Chinese) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 15, 1676–1677. 93D05 (93C25)

— (*with* Shi, Donghua; Zhang, Weitao) Boundary feedback stabilization of Timoshenko beam with boundary dissipation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 483–490. (Kenneth B. Hannsgen) **99i:93051** 93D15 (47H20, 73K05, 73K50)

— (*with* Luo, Yue Hu) Perturbations of rank one and pole assignment for distributed parameter systems with a single unbounded input. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 179–189. 93B55 (93C20)

Feng, Dejun (*with* Wu, Jun[2]) Category and dimension of compact subsets of $\mathbf{R}^n$. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1680–1683. (Miguel Angel Martín) **99d:28009** 28A75 (28A80)

Feng, Dengguo (*with* Pei, Ding Yi; Xiao, Guo Zhen[1]) Maximum correlation analysis of nonlinear combining functions. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 31–36. (Summary) **99e:94054** 94C10 (06E30)

Feng, En Min (*with* Wang, Xiu Mei; Wang, Xi Lu) On the application of the ABS algorithm to linear programming and linear complementarity. (English summary) Second International Conference on ABS Method (Beijing, 1995). *Optim. Methods Softw.* **8** (1997), *no.* 2, 133–142. (Summary) **99a:90119** 90C05 (90C33)

— (*with* Lin, Gui-Hua; Xia, Zun Quan) Some improved convergence results for pseudo-monotone variational inequalities. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 339–346. (Muhammad Aslam Noor) **99k:49024** 49J40 (47H19, 90C33)

— (*with* Wang, Xi Lu; Wang, Xiu Mei; Teng, Hong Fei) A global optimization algorithm for layout problems with behavior constraints. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 98–104. 90C90 (90C30)

Feng, Gang[1] (*with* Cao, S. G.; Rees, N. W.) Stability analysis and design for a class of continuous-time fuzzy control systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1069–1087. 93C42 (93D10)

— (*with* Cao, S. G.; Rees, N. W.; Ma, Jian) H_∞ control of fuzzy dynamic systems. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 4, 559–576. 93B36 (93C42)

Feng, Gui-Liang (*with* Wu, Xinwen; Rao, T. R. N.) New double-byte error-correcting codes for memory systems. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1152–1163. (Summary) **99e:94041** 94B05 (94B15)

Feng, Guo-chen (*with* Zhang, Shu-gong) The eigenvalue method for solving multipolynomial system. *Advances in numerical mathematics; Proceedings of the Second Japan-China Seminar on Numerical Mathematics (Tokyo, 1994)*, 1–8, *Lecture Notes Numer. Appl. Anal.*, 14, *Kinokuniya, Tokyo*, 1995. (*see* **98c:65005**) 65H05

— (*with* Yu, Bo[1]) Globally convergent interior path following methods for nonlinear programming and Brouwer fixed point problems. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 325–343, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30 (65K05)

— (*with* Lin, Zheng Hua; Yu, Bo[1]) Existence of an interior pathway to a Karush-Kuhn-Tucker point of a nonconvex programming problem. *Nonlinear Anal.* **32** (1998), *no.* 6, 761–768. (Dorel Duca) **99f:90082** 90C26

Feng, Hanying (*with* Yang, Ping Hua; Xu, Rui[2]) Global asymptotic stability of periodic solution in N-species competition system with time delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 375–383. (Summary) **99j:92022** 92D25 (34K20)

Feng, Haodi Orthogonal factorizations. *Adv. Math. (China)* **27** (1998), *no.* 2, 184–186. 05C70

Feng, Hong (*with* Wang, Jun[1]) Minimum cutsets for an element of a subspace lattice over a finite vector space. (English summary) *Order* **14** (1997/98), *no.* 2, 145–151. (Miklós Bóna) **99i:06002** 06A07 (05A05)

Feng, Hui (*with* Shen, Long-jun) Long time asymptotic behavior of solution of difference scheme for a semilinear parabolic equation. I. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 395–402. (Summary) **99f:65127** 65M06

— (*with* Shen, Long-jun) Long time asymptotic behavior of solution of difference scheme for a semilinear parabolic equation. II. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 571–576. (Summary) **99k:65072** 65M06

Feng, J. *see* **Feng, Jimmy**

Feng, J. W. *see* **Feng, Jun Wen**

Feng, Jian Feng (*with* Tirozzi, Brunello) An analysis on neural dynamics with saturated sigmoidal functions. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 71–99. (Summary) **99d:92006** 92B20 (58F40)

— (*with* Tirozzi, Brunello) Capacity of the Hopfield model. (English summary) *J. Phys. A* **30** (1997), *no.* 10, 3383–3391. (Matthias Löwe) **99a:82071** 82C32 (92B20)

— (*with* Chen, Dayue; Qian, Min Ping) The metastable behavior of the three-dimensional stochastic Ising model. II. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1129–1135. (Summary) **99c:82036** 82B44 (82B20)

— Generalization errors of the simple perceptron. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4037–4048. (Dimitri Petritis) **99e:82072** 82C32 (92B20)

— *see also* **Bovier, Anton, 99f:82052**

Feng, Jian Qiang (*with* He, Can Zhi) Clustering principal component estimation of linear model parameters. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 3, 1–4, 63. 62H25 (62H30)

Feng, Jimmy (*with* Ganatos, P.; Weinbaum, Sheldon) The general motion of a circular disk in a Brinkman medium. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2137–2146. (From the summary) **99e:76120** 76S05 (76D99)

Feng, Jin Fu (*with* Ling, Rui Liang) An exact wave function for the damped harmonic oscillator. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1952–1956. 81Q05

Feng, Jing Hai (*with* Shen, Yu Bo) Reliability analysis for a system that consists of two dependent parallel components. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 1–5. 90B25

Feng, Jiuchao (*with* Li, Xuemei) Fast control and synchronization of chaotic systems. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1997), *no.* 5, 529–533. 58F13

Feng, Ju Fu (*with* Shi, Qing Yun; Cheng, Min De) A unified method for stereo vision based on conics. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 2-3, 268–274. (Summary) **99h:68176** 68U10

Feng, Jun E Notes on metacompact spaces and submetacompact spaces. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 2, 151–154. 54D20

Feng, Jun Wen (*with* Yu, Po Lung) Minimum spanning table and optimal expansion of competence set. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 655–679. (Koduvayur R. Parthasarathy) **99k:90186** 90C35 (05C05, 68T05, 92J45)

Feng, Kang (*with* Wang, Dao-liu) Variations on a theme by Euler. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 97–106. (Werner M. Seiler) **99j:70021** 70H05 (34A45, 65L99, 70–08)

— The step-transition operators for multi-step methods of ODE's. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 193–202. (Summary) **99d:65210** 65L06

Feng, Keqin Non-congruent number, odd graph and the BSD conjecture on $y^2 = x^3 - n^2x$. (English summary) *Singularities and complex geometry (Beijing, 1994)*, 54–66, *AMS/IP Stud. Adv. Math.*, 5, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:11085** 11G40 (11G05)

— (*with* Shiue, Peter Jau-Shyong; Xiang, Qing) On aperiodic and periodic complementary binary sequences. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 296–303. (Summary) **99m:94026** 94A55

— (*with* Hu, Weiqun) On real quadratic function fields of Chowla type with ideal class number one. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1301–1307. (Martha Rzedowski-Calderón) **99h:11133** 11R58 (11R29)

Feng, Li Xin (*with* Cao, Chong Guang) Additive operators that preserve inverse matrices. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 3–6. 15A09 (15A33)

Feng, Mang (*with* Wang, Ke Lin; Shi, Lei[3]; Fang, Ximing; Yan, Min; Zhu, Xiwen) Exact solution of Jaynes-Cummings model without rotating wave approximation. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 2, 169–172. (Summary) **99h:81239** 81V80 (81R30)

Feng, Minfu (*with* Ming, Ping Bing) A stabilized finite difference method for the equation of fluidized bed modelling and its nonlinear stability analysis. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 298–311. (Jian-Ping Zhu) **99i:76095** 76M20 (65M06, 76S05, 86A05)

Feng, Qi *see* **Qi, Feng**

Feng, Qilin (*with* Lu, Jiang) Strong consistency of the number of vertices of given degrees in nonuniform random recursive trees. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 61–69. (R. T. Smythe) **99c:60016** 60C05 (60F15)

Feng, Rong-Quan (*with* Du, Shao-Fei) Vertex-transitive graphs with automorphism group A_5. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 48–50. (*see* **99g:05001**) 05C25

— (*with* Kwak, Jin Ho; Kim, Juyoung; Lee, Jaeun) Isomorphism classes of concrete graph coverings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 265–272 (*electronic*). (Michael Hofmeister) **99k:05062** 05C10 (05C30, 57M15)

— (*with* Du, Shao-Fei) A construction of association schemes from vectors in orthogonal spaces of odd characteristic. (English summary) *Util. Math.* **54** (1998), 3–12. (Summary) **99g:05188** 05E30

Feng, Shan (*with* Zheng, Li Hui; Pan, De Hui) A time domain approach to worst case H_∞ identification. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 154–159. 93B30 (93B36)

— (*with* Zheng, Li Hui; Zhang, Jing Tian; Wang, An Xing) A differential game approach to option pricing: theoretical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 10–12. 90A09 (90D25)

— (*with* Zheng, Li Hui; Zhang, Jing Tian; Wang, An Xing) A differential game approach to the option pricing problem: numerical analysis. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 11, 47–49. 90A09 (90D25)

Feng, Shi Yong (*with* Zou, Guo Hua) Sample rotation method with auxiliary variable. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1497–1509. (Summary) **99c:62024** 62D05

— (*with* Zou, Guo Hua) Comparison of variance estimates for systematic sampling—a new criterion. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 47–57. 62D05

— (*with* Zou, Guo Hua) A generalized ratio estimator and a generalized difference estimator and their optimality. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 359–365. 62D05

Feng, Shui (*with* Iscoe, Ian; Seppäläinen, Timo) A microscopic mechanism for the porous medium equation. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 147–182. (Pablo A. Ferrari) **99a:60114** 60K35 (35K55, 35Q35, 82C20, 82C22)

— Large deviation upper bound and its application to measure valued processes. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 441–451, *North-Holland, Amsterdam*, 1998. (Anatolii A. Pukhal'skiĭ) **99m:60045** 60F10 (60B05)

— (*with* Hoppe, Fred M.) Large deviation principles for some random combinatorial structures in population genetics and Brownian motion. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 975–994. (Vadim R. Fatalov) **99k:60074** 60F10 (60C05, 92D10)

— (*with* Hoppe, Fred M.) Limiting behaviour of some combinatorial structures in population genetics. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 65–70. (Summary) **99e:92019** 92D10

— (*with* Dawson, Donald A.) Large deviations for the Fleming-Viot process with neutral mutation and selection. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 207–232. (Anatolii A. Pukhal'skiĭ) **99h:60050** 60F10 (60G57, 60J10, 92D10)

Feng, Simin (*with* Winful, Herbert G.; Hellwarth, Robert W.) Spatiotemporal evolution of focused single-cycle electromagnetic pulses. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4630–4649. (Summary) **99m:78004** 78A25

Feng, Sze-Shiang (*with* Qiu, Xi-Jun; Zhu, Zhi-Yuan) Energy spectrum of excitations in the Proca-Chern-Simons system. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2105–2113. 81T13 (81S40)

— (*with* Wang, Bin[2]; Qiu, Xi-Jun; Zong, Hong-Shi) Bosonization to order $1/m$ by duality in three dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 29, 2393–2398. (Summary) **99g:81137** 81T16

Feng, Tai (*with* Wu, Qi Guang) The existence of uniformly minimum risk unbiased estimators in growth curve models. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 68–77. (Tonghui T. Wang) **99h:62075** 62H12

Feng, W. *see* **Feng, Wen Ying**

Feng, Wei[1] (*with* Lu, Xin; Liu, Wei) Comparison and numerical simulations for diffusive models of resource and sexual competition. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2765–2774. (Qi Xiao Ye) **99e:35224** 35Q80 (35B40, 35K57, 92D40)

Feng, Wei Dong (*with* He, Guo Guang; Liu, Bao) A review of traffic flow theory. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 71–82. 90B20 (90–02)

Feng, Wei Guo (*with* Lin, Zhi Xin; Yang, Ya Ping) q-phase-coherent states and their squeezing properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1976–1988. 81R30

Feng, Weibing (*with* Shi, Dong Yang; Li, Kai-tai) Nonconforming finite element penalty method for Stokes equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117–118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 53–58. (Summary) **99b:65148** 65N30 (76D05, 76M10)

— (*with* He, Ji Huan; Liu, Gaolian) A generalized variational principle for coupled thermoelasticity with finite displacement. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 4, 215–218. 73B30 (73C50, 73V25)

Feng, Weiguo (*with* Yang, Ya Ping; Lin, Zhi Xin; Xie, Shuangyuan; Wu, Xiang[2]) q-phase-coherent states and their squeezing properties. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6441–6453. (Apostolos Vourdas) **99m:81093** 81R30

— (*with* Yang, Ya Ping; Xie, Shuangyuan; Wu, Xiang[2]) Statistics for q-commutator in the case of $q^{r+1} = 1$. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 879–886. (Roberto Casalbuoni) **99g:81100** 81R50 (81S05)

Feng, Wen Ying A new spectral theory for nonlinear operators and its applications. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 163–183. (Yong Qing Li) **99d:47061** 47H12 (47N20)

— (*with* Webb, Jeffrey R. L.) Solvability of three point boundary value problems at resonance. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3227–3238. (P. Ch. Tsamatos) **99a:34053** 34B15 (34B10)

Feng, Xiangbo (*with* Loparo, Kenneth A.; Fang, Yuguang) Optimal state estimation for stochastic systems: an information-theoretic approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 771–785. (Summary) **99c:93114** 93E20 (93E10, 93E11)

Feng, Xiaobing Interface conditions and non-overlapping domain decomposition methods for a fluid-solid interaction problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 417–424, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:73059** 73K70 (65M55, 73V20, 76M25)

— Absorbing boundary conditions for electromagnetic wave propagation. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 145–168. (Hideo Soga) **99f:78010** 78A40 (35Q60, 65M99, 78–08)

Feng, Xiufeng (*with* Tamano, Kenichi) Countably fan-tight subspaces of a countable product of Lasnev spaces are metrizable. (English summary) *Topology Proc.* **22** (1997), 191–196. (Summary) **99i:54034** 54E35 (54A25, 54B10)

Feng, Xue Shang Well-posed solutions of the third order Benjamin-Ono equation in weighted Sobolev spaces. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 525–537. (Eugene Schlereth) **99d:35137** 35Q53 (35L75, 76X05)

— (*with* Wang, Lian Gui; Yang, Fu Xing) An approximate solution method for some (magneto-) hydrodynamic wave problems: parameter differentiation. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 1–11. (Summary) **99d:76074** 76M25 (35Q35, 35Q53, 76W05, 86A10)

— Reviews on analytical solutions to the KdV related equations. (English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 6–14. 35Q53 (35B65)

Feng, Yan-Quan (*with* Gao, Tai-Ping) Automorphism groups and isomorphisms of Cayley digraphs of abelian groups. (English summary) *Australas. J. Combin.* **16** (1997), 183–187. (Summary) **99h:20043** 20D45 (05C25, 20F05)

— Finite groups whose abelian subgroup orders are consecutive integers. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 503–506. 20D60

Feng, Yanqin (*with* Li, Shuchao; Mao, Jing Zhong) The weakly graceful tree with application. (English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 3, 269–272. (Summary) **99m:05143** 05C78

Feng, Yi (*with* Chen, Baizhu) Economic development and the transition to democracy: a formal model. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 1–16. (Summary) **99k:92052** 92H10 (92K10)

Feng, Ying Jun (*with* Zhang, Jie) A necessary condition for the existence of efficient sets for a class of multiobjective programming problems. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 51–52, 61. 90C29

Feng, You He A local extension approach to global asymptotic behavior for functional-differential equations with infinite delay. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 1–9. (Summary) **99b:34122** 34K20

— Persistence in impulsive systems. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 1–6. (Summary) **99b:92040** 92D25

— Neutral functional-differential equations in C space. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 611–627. (Michael I. Gil') **99k:34181** 34K40 (34K05)

Feng, Yu Yu (*with* Kozak, Jernej; Zhang, Ming[6]) On the dimension of the C^1 spline space for the Morgan-Scott triangulation from the blossoming approach. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 71–86, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41008** 41A15 (41A63)

— (*with* Kozak, Jernej) On spline interpolation of space data. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 167–174, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:41024** 41A63 (65D07)

— (*with* Deng, Jian Song) A method for constructing smooth planar convexity-preserving interpolating curves. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 1–8. (*see* **99k:65006**) 65D17

— (*with* Chen, Zhi Bing; Xi, Mei Cheng; Chen, Xiao Qun; Zhang, Ming[6]) The blossoming method for studying the dimension of a bivariate spline space. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 64–78. (Summary) **99m:41052** 41A65 (65D07)

— (*with* Deng, Jian Song; Xi, Mei Cheng) The dimension of the spline space $S_3^4(\Delta ms)$ over a Morgan-Scott partition. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 91–98. (*see* **99k:65006**) 41A15 (65D07)

— (*with* Chen, Xiao Qun; Xi, Mei Cheng; Li, Xu Qiang) The dimensionality of natural spline spaces. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 4, 377–383. 41A15 (65D07)

Feng, Yuanhua (*with* Heiler, Siegfried) Locally weighted autoregression. (English summary) *Econometrics in theory and practice*, 101–117, *Physica, Heidelberg*, 1998. (Summary) **99g:62134** 62M10 (62P20)

— (*with* Heiler, Siegfried) A simple root n bandwidth selector for nonparametric regression. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 1, 1–21. (Summary) **99c:62095** 62G05

Feng, Yuhu Mean-square integral and differential of fuzzy stochastic processes. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 271–280. (Summary) **99k:60004** 60A05

— Convergence theorems for fuzzy random variables and fuzzy martingales. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 435–441. 60A05 (60G48)

Feng, Yusheng (*with* Oden, J. Tinsley; Patra, Abani) Parallel domain decomposition solver for adaptive hp finite element methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2090–2118. (Summary) **99d:65352** 65N55 (65N30, 65Y05)

— (*with* Oden, J. Tinsley; Prudhomme, Serge) Local and pollution error estimation for Stokesian flows. (English summary) Finite elements in fluids. *Internat. J. Numer. Methods Fluids* **27** (1998), *no.* 1-4, *Special Issue*, 33–39. (Stephen W. Brady) **99c:76071** 76M10 (65M06, 76D07)

Feng, Z. C. *see* **Feng, Zaichun**

Feng, Z.-Q. *see* **Feng, Zhi-Qiang**

Feng, Zaichun Coupling between neighboring two-dimensional modes of water waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2405–2411. (Summary) **99e:76008** 76B15

Feng, Zhao Sheng (*with* Liu, Guo Zhong; Ji, Wen Duo) Existence and number of periodic solutions of equations of (R_n^m) type. (Chinese. Chinese summary) *Math. Practice Theory* **28** (1998), *no.* 3, 226–228. 34C25

— Nonexistence of algebraic curve solutions to second-order polynomial autonomous systems over the complex field. (Chinese) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 150–153. 34A20 (34C99)

Feng, Zhaoshu (*with* Michel, Anthony N.) Global asymptotic stability of a class of feedback neural networks with an application to optimization problems. (English summary) Sydney R. Parker Memorial Issue, Part II. *Circuits Systems Signal Process.* **17** (1998), *no.* 2, 219–241. (Summary) **99h:92001** 92B20

Feng, Zhen Xing (*with* Tang, Shao Wu; Li, Zheng Xiu) An application of the boundary element method to problems of transient heat conduction with moving boundary. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 4, 371–377. 65N38 (80–08)

— (*with* Tang, Shao Wu) On analytical treatment of all boundary and volume integrals in BEM. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 407–409. 65N38 (65D30)

Feng, Zheng Zhu (*with* Peng, Hong; Yan, Li Hong) A comparison of evolutionary strategies and hybrid evolutionary strategies for constrained optimization problems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 35–40. 90C30 (90C90)

Feng, Zhi Gang (*with* Chen, Gang[3]) Nonorthogonal wavelet packets of multiplicity r. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 277–283. (Ding-Xuan Zhou) **99m:42048** 42C15 (41A25)

Feng, Zhi-Qiang (*with* De Saxcé, G.) The bipotential method: a constructive approach to design the complete contact law with friction and improved numerical algorithms. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 225–245. (Summary) **99e:73091** 73T05 (73V25)

Feng, Zhigang (*with* Xie, He Ping) On stability of fractal interpolation. (English summary) *Fractals* **6** (1998), *no.* 3, 269–273. (Norbert Patzschke) **99g:28017** 28A80 (41A05)

Feng, Zhilan (*with* Velasco-Hernández, Jorge X.) Competitive exclusion in a vector-host model for the dengue fever. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 523–544. (Summary) **99h:92014** 92C60 (92D30)
— (*with* Castillo-Chavez, Carlos) To treat or not to treat: the case of tuberculosis. (English summary) *J. Math. Biol.* **35** (1997), *no.* 6, 629–656. (Lutz Edler) **99a:92014** 92C60
Feng, Zhou *see* **Zhou, Feng²**
cedio-Fengya, D. J. *see* **Cedio-Fengya, D. J.**
Fenley, Sérgio R. Limit sets of foliations. *Progress in knot theory and related topics*, 105–112, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (Torsten Asselmeyer) **99c:57059** 57R30 (57N10)
— The structure of branching in Anosov flows of 3-manifolds. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 259–297. (Darryl McCullough) **99a:58123** 58F18 (57M50, 57R30, 58F15)
— Quasi-Fuchsian Seifert surfaces. (English summary) *Math. Z.* **228** (1998), *no.* 2, 221–227. (James W. Anderson) **99c:57037** 57M50 (57N10)
— Continuous extension of Anosov foliations in 3-manifolds with negatively curved fundamental group. (English summary) *Pacific J. Math.* **186** (1998), *no.* 2, 201–216. (Sandra L. Shields) **99k:58135** 58F15 (57R30, 58F18)
Fenn, Roger Some new results in the theory of braids and generalised braids. (English summary) *KNOTS '96 (Tokyo)*, 47–71, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57012** 57M25
— (*with* Keyman, Ebru; Rourke, Colin P.) The singular braid monoid embeds in a group. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 881–892. (Darren D. Long) **99k:57013** 57M25
Fennemore, George (*with* Xin, Jack X.) Wetting fronts in one-dimensional periodically layered soils. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 387–427 (*electronic*). (Vladimir Grebenev) **99b:76084** 76S05 (35B40, 35K99, 35Q99)
lópez Fenner, Julio *see* **López Fenner, Julio**
Fenske, Christian C. An index for periodic orbits of local semidynamical systems. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4973–4991. (A. Pelczar) **99b:54066** 54H20 (55M25, 58F22)
Fenster, Della Dumbaugh Leonard Eugene Dickson and his work in the arithmetics of algebras. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 2, 119–159. (Patrick J. Morandi) **99e:01020** 01A60 (16–03)
Fenton, P. C. (*with* Rossi, John) Cercles de remplissage for entire functions. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 1, 59–66. (Indrajit Lahiri) **99k:30044** 30D15 (30D20, 30D35)
Fenton, R. G. (*with* Zlatanov, D.; Benhabib, B.) Identification and classification of the singular configurations of mechanisms. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 743–760. (Summary) **99f:70016** 70B15
Fényes, T. Integral representations of the Laplace transform and moments of the Bessel function with respect to the order. *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 1–8. (Khélifa Trimèche) **99m:44007** 44A20
— Integral representations of the Laplace transform and moments of the modified Bessel function with respect to the order. *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 9–14. (Khélifa Trimèche) **99m:44008** 44A20
de Feo, O. *see* **De Feo, O.**
Feoktistov, K. M. Computation of the high and low prices of options by means of completion of the market. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 165–166; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 382–383. 90A09 (90A60)
Feoli, A. (*with* Wood, W. R.; Papini, G.) A dynamical symmetry breaking model in Weyl space. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3322–3331. (Alberto Saa Vazquez) **99c:83012** 83C15 (83D05)
Feranchuk, I. D. (*with* Tolstik, A. L.) Operator method for coupled anharmonic oscillators. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2115–2128. 81Q05
Ferapontov, E. V. (*with* Balk, A. M.) Invariants of wave systems and web geometry. *Nonlinear waves and weak turbulence*, 1–30, *Amer. Math. Soc. Transl. Ser. 2*, 182, *Amer. Math. Soc., Providence, RI*, 1998. (Vladislav Goldberg) **99d:53015** 53A60 (35L99, 35Q99, 76B15, 78A40)
Feras, F. Direct methods for solving singular integral equations with shifts in the unit circle. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 92–98. 65R20 (45L10)
blanc-Féraud, Laure *see* **Blanc-Féraud, Laure**
von Ferber, C. (*with* Holovatch, Yu.) Polymer stars in three dimensions. Three loop results. (English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 34–50; *reprinted in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1274–1286 (1997). (Stuart G. Whittington) **99b:82036** 82B41 (82B28, 82D60)
Ferdinands, R. J. D. $G_{n,3}(\mathbf{C})$ is prime if n is odd. (English summary) *Topology Appl.* **86** (1998), *no.* 3, 233–251. (Edgar H. Brown, Jr.) **99d:55006** 55R05 (55P10, 55P62)
Ferencz, Robert M. (*with* Hughes, Thomas J. R.) Iterative finite element solutions in nonlinear solid mechanics. *Handbook of numerical analysis, Vol. VI*, 3–178, *North-Holland, Amsterdam*, 1998. (Xiaoguang Allan Zhong) **99k:73114** 73V05 (65N30, 73C50, 73Kxx)
— (*with* Rifai, Steven M.; Johan, Zdeněk; Wang, Wen-Ping; Grisval, Jean-Pierre; Hughes, Thomas J. R.) Multiphysics simulation of flow-induced vibrations and aeroelasticity on parallel computing platforms. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 3-4, 393–417. 73K70 (73V20, 76M25)
Ferenczi, Sébastien Measure-theoretic complexity of ergodic systems. (English summary) *Israel J. Math.* **100** (1997), 189–207. (Mariusz Lemańczyk) **99d:28033** 28D05
— (*with* Arnoux, Pierre; Hubert, Pascal) Trajectories of rotations. *Acta Arith.* **87** (1999), *no.* 3, 209–217. (Jean-Paul Allouche) **99k:11039** 11B85 (11J70, 58F03, 68R15)
Ferenczi, V. (*with* Habala, P.) A uniformly convex Banach space whose subspaces fail Gordon-Lewis property. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 6, 481–492. (Vladimir M. Kadets) **99j:46018** 46B20 (46B70, 46M35)
Feres, R. (*with* Labourie, François) Topological superrigidity and Anosov actions of lattices. (English summary) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 5, 599–629. (Alexander Starkov) **99k:58112** 58F11 (22E40, 58F15)
Feretić, Svjetlan (*with* Svrtan, Dragutin) Combinatorics of diagonally convex directed polyominoes. (English and French summaries) Proceedings of the 6th Conference on Formal Power Series and Algebraic Combinatorics (New Brunswick, NJ, 1994). *Discrete Math.* **157** (1996), *no.* 1-3, 147–168. (K. G. Subramanian) **99c:05046** 05B50
— A new way of counting the column-convex polyominoes by perimeter. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 173–184. (Daniel Ashlock) **99i:05009** 05A15 (05B50)
Ferfera, A. (*with* Chabour, Rachid) Noninteracting control with singularity for a class of bilinear systems. *Nonlinear Anal.* **33** (1998), *no.* 1, 91–96. (Valeriu Prepeliță) **99f:93070** 93C10 (93B52)
Ferger, Dietmar Moment inequalities for U-statistics with degeneracy of higher order. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 142–148. (Miguel A. Arcones) **99i:60038** 60E15
— Testing for the existence of a change-point in a specified time interval. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 277–289, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:62062** 62G09 (62F03)
Fergola, P. (*with* Wen, Xian Zhang; Ma, Zhi En; Tenneriello, C.) Effects of toxicants on chemostat models with n populations competing for a critical nutrient. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 1, 43–61. (Summary) **99b:92049** 92D25
— (*with* Guo, San Gang; Ma, Zhi En; Tenneriello, C.) The threshold of population survival in a polluted chemostat model. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 117–127. (Summary) **99h:92026** 92D25
— (*with* Ma, Zhi En; Guo, San Gang; Tenneriello, C.) Effects of toxicants on chemostat model with time variable nutrient input and washout. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 342–350. (Summary) **99j:92019** 92D25 (34C99)
Ferguson, Helaman R. P. (*with* Bailey, David H.; Arno, Steven) Analysis of PSLQ, an integer relation finding algorithm. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 351–369. (Michael E. Pohst) **99c:11157** 11Y16 (68Q25)
fernandez-Feria, R. *see* **Fernandez-Feria, R.**
el-Férik, Sami *see* **El-Férik, Sami**
Ferland, Jacques A. (*with* Hertz, Alain; Lavoie, Alain) An object-oriented methodology for solving assignment-type problems with neighborhood search techniques. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 347–359. (Summary) **99k:90131** 90C27 (90C35)
Ferleger, S. (*with* Burago, D. Yu.; Kononenko, Alexey Vladimir) Uniform estimates on the number of collisions in semi-dispersing billiards. *Ann. of Math.* (2) **147** (1998), *no.* 3, 695–708. (Nikolai Chernov) **99f:58120** 58F11 (58F99, 70F10, 70F35)
— (*with* Burago, D. Yu.; Kononenko, Alexey Vladimir) A geometric approach to semi-dispersing billiards. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 303–319. (Nikolai Chernov) **99c:58091** 58F11 (58F20)
— (*with* Burago, D. Yu.; Kononenko, Alexey Vladimir) Topological entropy of semi-dispersing billiards. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 791–805. (Valery Covachev) **99m:58146** 58F17 (58F22)
Ferligoj, Anuška (*with* Batagelj, Vladimir) Constrained clustering problems. (English summary) *Advances in data science and classification (Rome, 1998)*, 137–144, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30
de Fermat, Pierre *see* **Suominen, Kalevi** *and* **Grégoire, Michèle**, (**99h:01003**)
Fermé, Eduardo L. On the logic of theory change: contraction without recovery. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 2, 127–137. (G. Mirkowska) **99j:03024** 03B60 (03B70, 68T27)
Fermüller, Christian G. (*with* Langsteiner, Herbert) Tableaux for finite-valued logics with arbitrary distribution modalities. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk, 1998)*, 156–171, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)
— (*with* Leitsch, Alexander) Decision procedures and model building in equational clause logic. (English summary) *Log. J. IGPL* **6** (1998), *no.* 1, 17–41. (Sauro Tulipani) **99b:03019** 03B25 (03B35, 68T15)
— (*with* Baaz, Matthias; Salzer, Gernot; Zach, Richard) Labeled calculi and finite-valued logics. (English summary) Many-valued logics. *Studia Logica* **61** (1998), *no.* 1, 7–33. (Radim Bělohlávek) **99m:03043** 03B50 (03B22, 03F05)
Fernandes, Cristina G. (*with* Călinescu, Gruia; Finkler, Ulrich; Karloff, Howard) A better approximation algorithm for finding planar subgraphs. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 269–302. (Summary) **99b:05130** 05C85 (68Q25, 68R10)
— A better approximation ratio for the minimum size k-edge-connected spanning subgraph problem. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 105–124. (Summary) **99b:68147** 68R10 (05C85, 68Q25)
Fernandes, E. (*with* Álvarez Paiva, J. C.) Crofton formulas in projective Finsler spaces. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 91–100 (*electronic*). (Daniel Hug) **99j:53097** 53C65 (53C60)
Fernandes, Luís (*with* Fischer, Andreas[1]; Júdice, Joaquim; Requejo, C.; Soares, João) A block active set algorithm for large-scale quadratic programming with box constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 75–95. (*see* **99b:90006**) 90C20
Fernandes, Paulo (*with* Plateau, Brigitte; Stewart, William J.) Efficient descriptor-vector multiplications in stochastic automata networks. (English summary) *J. ACM* **45** (1998), *no.* 3, 381–414. (Summary) **99f:68141** 68Q75 (68M20)
— (*with* Plateau, Brigitte; Stewart, William J.) Optimizing tensor product computations in stochastic automata networks. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 325–351. (Summary) **99f:68021** 68M20 (68Q75)
Fernandes, Rosário (*with* Dias da Silva, J. A.; Fonseca, Amélia) The covering number of the elements of a matroid and generalized matrix functions. (English summary) *Linear Algebra Appl.* **271** (1998), 191–219. (Marcel Wild) **99a:05024** 05B35
Fernandes, Rui Loja (*with* Santos, João P.) Integrability of the periodic KM system. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 475–484. (Roman G. Smirnov) **99a:58089** 58F07 (70H05)
— (*with* Oliva, Waldyr Muniz) Hamiltonian dynamics of the Lotka-Volterra equations. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 327–334, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C35 (34D45, 58F05, 92D25)

— (*with* Duarte, Pedro; Oliva, Waldyr Muniz) Dynamics of the attractor in the Lotka-Volterra equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 143–189. (Bernhard Lani-Wayda) **99h:34075** 34D45 (34C35, 58F12, 92D25)

Fernandes, Vitor H. Normally ordered inverse semigroups. (English summary) *Semigroup Forum* **56** (1998), *no.* 3, 418–433. (G. Pollák) **99g:20110** 20M18 (08C15, 20M07)

Fernández, A. *see* **Fernández López, Antonio²**

san luis Fernández, Ana María *see* **San Luis Fernández, Ana María**

nepomuceno Fernández, Ángel *see* **Nepomuceno Fernández, Ángel**

Fernández, Antonio *see* **Fernández López, Antonio²**

Fernández, Antonio² (*with* García Pérez, Pedro Luis) The Morrison-Greene formalism in relativistic hydrodynamics. Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 9–31. (Jaime Muñoz Masqué) **99j:58057** 58E30 (58A20, 58E50, 76M30, 76Y05)

Fernández, Ariel (*with* Niel, Blanca) Folding pathways as brachistochrones. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahía Blanca, 1997)*, 179–186, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (Summary) **99b:92031** 92D20 (92C40)

— (*with* Colubri, Andrés) Microscopic dynamics from a coarsely defined solution to the protein folding problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3167–3187. (James L. Cornette) **99i:92014** 92D20 (92E10)

— (*with* Appignanesi, Gustavo A.; Montani, Ruben A.) Glassy relaxation dynamics and ruggedness beyond the ultrametric limit. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 669–677. (Summary) **99c:82039** 82B80

— The Lagrangian structure of long-time torsional dynamics leading to RNA folding. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 1-2, 237–267. 92D20

Fernandez, Bastien (*with* Coutinho, Ricardo) Fronts and interfaces in bistable extended mappings. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1407–1433. (Volker Matthias Gundlach) **99i:58087** 58F10 (82C05)

Fernández, Begoña (*with* Caballero, María Emilia; Nualart, David) Composition of skeletons and support theorems. (English summary) *Stochastic differential and difference equations (Győr, 1996)*, 21–33, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (V. Mackevičius) **99f:60107** 60H10 (28C20, 60B05)

— (*with* Méléard, Sylvie) A Hilbertian approach for fluctuations on the McKean-Vlasov model. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 33–53. (René Ferland) **99b:60127** 60J60 (60K35)

— (*with* Caballero, María Emilia; Nualart, David) Estimation of densities and applications. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 831–851. (Shi Zan Fang) **99f:60103** 60H07 (60H15, 60J60)

Fernandez, C. *see* **Fernández, Claudio A.**

Fernandez, Carmen *see* **Fernández Llana, Carmen**

Fernández, Claudio A. (*with* Astaburuaga, M. A.; Bisognin, E.; Bisognin, V.) Global attractor and finite dimensionality for a class of dissipative equations of BBM's type. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 25, 14 *pp.* (*electronic*). (Alp O. Eden) **99j:35181** 35Q53 (34G20, 35B40, 47H20)

— (*with* Astaburuaga, M. A.; Coimbra Charao, R.; Perla Menzala, Gustavo) Scattering frequencies for a perturbed system of elastic wave equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 52–75. (Akira Tsutsumi) **99a:35162** 35L50 (35B20, 47N20, 73D25)

soler Fernández, David *see* **Soler Fernández, David**

Fernández, F. *see* **Fernández-Sánchez, F.**

Fernández, F. J. *see* **Fernández y Fernández-Arroyo, Fidel José**

Fernández, F. R. *see* **Fernández García, Francisco Ramón**

Fernández, Francisco M. (*with* Castro, E. A.) Application of the Bogolyubov transformation to anharmonic oscillators. (English summary) *Bulgar. J. Phys.* **25** (1998), *no.* 1-2, 20–23. 81Q05

— Generating functions for Hermite polynomials of arbitrary order. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 189–191. (A. M. Gavrilik) **99h:33036** 33C45 (81R30)

— (*with* Nieto, Michael Martin; Truax, D. Rodney) Reply to: "Generating functions for Hermite polynomials of arbitrary order" [Phys. Lett. A **237** (1998), no. 3, 189–191; MR 99h:33036] by F. M. Fernández. (English summary) *Phys. Lett. A* **237** (1998), *no.* 3, 192–193. (A. M. Gavrilik) **99h:33037** 33C45 (81R30)

— Construction of invariants by perturbation theory. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 4–6. (Summary) **99a:70038** 70K99 (58F30, 70H05)

— The particle in a box with a perturbation. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 405–412. 81Q05

calvete Fernández, Herminia Inmaculada *see* **Calvete Fernández, Herminia Inmaculada**

díez Fernández, Honorato *see* **Díez Fernández, Honorato**

gutiérrez Fernández, J. Carlos *see* **Gutiérrez Fernández, J. Carlos**

Fernández, J. L. *see* **Fernández-Pérez, José L.**

delgado Fernández, Joaquín *see* **Delgado Fernández, Joaquín**

Fernández, José L. *see* **Fernández-Pérez, José L.**

gómez Fernández, Juan Alfredo *see* **Gómez Fernández, Juan Alfredo**

Fernández, L. M. (*with* Cabrerizo, J. L.; Fernández Andrés, Manuel; Guo, Zhen[1]) The structure of a class of K-contact manifolds. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 4, 331–340. (David Blair) **99m:53051** 53C15 (53C25)

martínez Fernandez, Luis *see* **Martínez Fernandez, Luis**

Fernández, Luis Alberto Optimal control of some quasilinear parabolic equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 1081–1086, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49K20 (35K60)

Fernández, M. *see* **Fernández Andrés, Manuel**

sobrón Fernández, Ma. Inés *see* **Sobrón Fernández, Ma. Inés**

suárez Fernández, Manuel *see* **Suárez Fernández, Manuel**

rodríguez-arias Fernández, Mariano *see* **Rodríguez-Arias Fernández, Mariano**

Fernández, Maribel (*with* Mackie, Ian) Coinductive techniques for operational equivalence of interaction nets. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 321–332, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15

— Negation elimination in empty or permutative theories. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 1, 97–133. (Alexander Leitsch) **99m:68094** 68Q40 (03B35)

Fernández, Marisa (*with* Cordero, Luis A.; Gray, Alfred; Ugarte, Luis) Nilpotent complex structures on compact nilmanifolds. (English summary) Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 83–100. (Francisco M. Cabrera) **99b:53091** 53C56

— (*with* Ugarte, Luis) Canonical cohomology of compact G_2-nilmanifolds. (English summary) *Quaternionic structures in mathematics and physics (Trieste, 1994)*, 127–138 (*electronic*), *Int. Sch. Adv. Stud. (SISSA), Trieste*, 1998. (Francisco M. Cabrera) **99j:53030** 53C15 (53C10)

— (*with* Ibáñez, Raúl; de León, Manuel) Coeffective and de Rham cohomologies on almost contact manifolds. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 285–303. (Luis Ugarte) **99f:53028** 53C15 (58G05)

— (*with* Ugarte, Luis) Dolbeault cohomology for G_2-manifolds. (English summary) *Geom. Dedicata* **70** (1998), *no.* 1, 57–86. (Francisco M. Cabrera) **99b:53038** 53C10 (53C25, 53C30)

— (*with* Ibáñez, Raúl; de León, Manuel) The canonical spectral sequences for Poisson manifolds. (English summary) *Israel J. Math.* **106** (1998), 133–155. (Juan Carlos Marrero Gonzalez) **99k:58067** 58F05 (53C15, 55T99, 57R15, 58A12)

— (*with* Ibáñez, Raúl; de León, Manuel) Coeffective and de Rham cohomologies of symplectic manifolds. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 281–296. (Domingo Chinea) **99k:53053** 53C15 (58A12)

Fernandez, Mary (*with* Buneman, Peter; Davidson, Susan; Suciu, Dan) Adding structure to unstructured data. (English summary) *Database theory—ICDT '97 (Delphi)*, 336–350, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68T30 (68P15)

Fernández, Pablo (*with* Córdoba, Antonio) Convergence and divergence of decreasing rearranged Fourier series. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1129–1139 (*electronic*). (Sergeĭ V. Konyagin) **99e:42006** 42A20 (11L20)

Fernández, Pascual (*with* Pelegrín Pelegrín, Blas) On the sum-max bicriterion path problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 12, 1043–1054. (Summary) **99f:90170** 90C35 (90C29)

sánchez-Fernández, Rafael *see* **Sánchez-Fernández, Rafael**

caballero Fernández, Rafael E. *see* **Caballero Fernández, Rafael E.**

Fernández, Roberto Random fields in lattices. The Gibbsianness issue. (English summary) *Resenhas* **3** (1998), *no.* 4, 391–421. (Aernout C. D. van Enter) **99m:60151** 60K35 (82B05, 82B26)

Fernandez, Victor M. (*with* Zabusky, Norman J.; Silver, Deborah) Collapse, intensification and reconnection in vortex dominated flows: visiometrics and modeling. (English summary) *Computational physics (Canberra, 1996)*, 59–78, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:76121** 76M25 (76C05)

Fernández, Zulima (*with* de Vicente, Santiago) Numerical study of a compressible model for two-phase flows. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 689–694, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25 (76N10, 76T05)

Fernández-Alcober, Gustavo A. (*with* Shepherd, Raymond T.) On the order of p-groups of abundance zero. *J. Algebra* **201** (1998), *no.* 2, 392–400. (Carlo M. Scoppola) **99a:20017** 20D15

Fernández-Alonso, Rogelio (*with* Raggi, Francisco) The lattice structure of nonhereditary torsion theories. *Comm. Algebra* **26** (1998), *no.* 6, 1851–1861. (Maureen H. Fenrick) **99c:16026** 16S90 (13D30)

Fernández Anaya, Guillermo (*with* Muñoz Gutiérrez, Stalin; Sánchez-Guzmán, R. A.; Mayol Cuevas, Walterio) Simultaneous stabilization using evolutionary strategies. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1417–1435. 93D15

— (*with* Trejo Ortiz, Alejandro A. R.) Regular expression simplification. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 59–71. (*see* **99a:00035**) 68Q45 (68N20, 68Q40)

Fernández Andrés, Manuel (*with* Cabrerizo, J. L.; Fernández, L. M.; Guo, Zhen[1]) The structure of a class of K-contact manifolds. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 4, 331–340. (David Blair) **99m:53051** 53C15 (53C25)

fernández y Fernández-Arroyo, Fidel José *see* **Fernández y Fernández-Arroyo, Fidel José**

Fernández-Baca, David (*with* Lagergren, Jens) A polynomial-time algorithm for near-perfect phylogeny. (English summary) *Automata, languages and programming (Paderborn, 1996)*, 670–680, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Satoru Miyano) **99a:92002** 92B10 (68Q25, 92D15)

— Faster non-linear parametric search with applications to optimization and dynamic geometry. (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 33–41, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:90106** 90C35 (68Q25)

Fernández-Blanco, Maria Teresa (*with* Viaño Rey, Juan M.) Calculation of the distribution of tangential stresses in elastic beams. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 917–922, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05

Fernández C., David J. (*with* Negro, Javier; del Olmo, Mariano A.) Group approach to the factorization of the radial oscillator equation. (English summary) *Ann. Physics* **252** (1996), *no.* 2, 386–412. (Raj Wilson) **99a:81024** 81Q05 (81R05)

— (*with* Glasser, M. Lawrence; Nieto, Luis Miguel) New isospectral oscillator potentials. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 15–20. (Jiu Qing Liang) **99b:81065** 81Q60 (34L99, 81Q10)

— (*with* Hussin, V.; Mielnik, Bogdan) A simple generation of exactly solvable anharmonic oscillators. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 309–316. (Peter N. Zhevandrov) **99g:81036** 81Q05

Fernández-Cara, Enrique (*with* Real Anguas, José) Remarks on the controllability of some stochastic partial differential equations. (English summary) *Control and estimation of distributed parameter systems (Vorau, 1996)*, 141–151, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Summary) **99d:93004** 93B05 (35R60, 60H15, 93E03)

— Remarks on the approximate and null controllability of semilinear parabolic equations. (English summary) *Control and partial differential equations (Marseille-Luminy, 1997)*, 73–81 (*electronic*), *ESAIM Proc.*, **4**, *Soc. Math. Appl. Indust., Paris*, 1998. (Irina F. Sivergina) **99k:93056** 93C20 (35K55, 93B05)

— On the controllability of Navier-Stokes equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 15–22, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93B05 (35Q30, 76D05)

— (*with* Dubova, Anna; González-Burgos, Manuel) Controllability of semilinear parabolic PDEs with discontinuities. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 1075–1080, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93B05 (35K55)

— (*with* Dubova, Anna; González-Burgos, Manuel) Controllability results for discontinuous semilinear parabolic partial differential equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1391–1395. (Summary) **99h:93012** 93B05 (35K55, 93C20)

— (*with* Garrido-Atienza, María José; Real Anguas, José) On the approximate controllability of a stochastic parabolic equation with a multiplicative noise. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 8, 675–680. (Summary) **99m:93005** 93B05 (35K99, 35R60, 93C20, 93E03)

— On the approximate and null controllability of the Navier-Stokes equations. (English summary) *SIAM Rev.* **41** (1999), *no.* 2, 269–277 (*electronic*). (Summary) **99m:93052** 93C20 (35Q30, 76D05, 93B05)

Fernández Chapou, J. Luis The motion of a sphere on a surface of revolution: a geometric approach. (English summary) *Geometric control and non-holonomic mechanics* (*Mexico City*, 1996), 199–220, *CMS Conf. Proc.*, 25, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:70017** 70F25 (58F05, 70E15)

Fernández de Córdoba, Pedro (*with* Gastaldi, Carlota; Urrea, Marcel) Decision theory: von Neumann's contributions. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 37–42. (Summary) **99f:90211** 90D40 (01A60, 90D05)

Fernandez de la Vega, Wenceslao (*with* Lamari, M.) The module allocation problem: an average case analysis. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 307–312, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68025** 68M20

— The largest induced tree in a sparse random graph. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 93–97. (Summary) **99a:05131** 05C80 (05C05)

— (*with* Paschos, Vangelis Th.; Stafylopatis, Andreas N.) Average-case complexity for the execution of recursive definitions on relational databases. (English summary) *Acta Inform.* **35** (1998), *no.* 3, 211–243. (Lawrence V. Saxton) **99a:68040** 68P15

Fernandez-Feria, R. Nonparallel linear stability analysis of Long's vortex. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1114–1126. (Summary) **99m:76063** 76E99 (76C05, 76M25)

Fernández García, Francisco Ramón (*with* Puerto Albandoz, Justo; Monroy, L.) Two-person non-zero-sum games as multicriteria goal games. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 195–208. (Summary) **99j:90113** 90D05 (90A05)

— (*with* Monroy, L.; Puerto Albandoz, Justo) Multicriteria goal games. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 403–421. (Summary) **99g:90165** 90D06 (90C29)

Fernández García-Hierro, Manuel (*with* Palacios, Isidro) Continuity of the uniform rotundity modulus relative to linear subspaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 2, 273–277. (Summary) **99a:46021** 46B20

— (*with* Benítez, Carlos; Soriano, María L.) On the norm of the product of linear functionals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1437–1441. (Summary) **99h:46032** 46C15 (46B20)

Fernández Llana, Carmen (*with* Osiewalski, Jacek; Steel, Mark F. J.) Classical and Bayesian inference robustness in multivariate regression models. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1434–1444. (I. Guttman) **99b:62100** 62J05 (62F15, 62F35, 62H05)

— (*with* Steel, Mark F. J.) On Bayesian modeling of fat tails and skewness. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 359–371. (Christian P. Robert) **99f:62041** 62F15

— (*with* Steel, Mark F. J.) Reference priors for non-normal two-sample problems. (English summary) *Test* **7** (1998), *no.* 1, 179–205. (J. W. Pratt) **99m:62033** 62F15

— (*with* Steel, Mark F. J.) Multivariate Student-t regression models: pitfalls and inference. (English summary) *Biometrika* **86** (1999), *no.* 1, 153–167. (Summary) **99m:62098** 62J05 (62F15, 62H10)

Fernández López, Antonio[1] (*with* García Rus, Eulalia; Gómez Lozano, Miguel; Siles Molina, Mercedes) Goldie theorems for associative pairs. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2987–3020. (L. Márki) **99h:17003** 17A40 (16U20)

— (*with* Jaa, Omar) Local algebras and the largest spectrum finite ideal. *Extracta Math.* **13** (1998), *no.* 1, 61–67. (John Duncan) **99j:46054** 46H10

— (*with* García Rus, Eulalia) Algebraic lattices and nonassociative structures. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3211–3221. (Ernest Stitzinger) **99a:06006** 06B05 (17A99)

Fernández López, Antonio[2] (*with* Naranjo, Francisco) Rybakov's theorem for vector measures in Fréchet spaces. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 33–42. (Brian Jefferies) **99f:46061** 46G10 (46E40)

— (*with* Mayoral, Fernando; Naranjo, Francisco; Paúl, Pedro J.) Weakly sequentially complete Fréchet spaces of integrable functions. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 3, 223–228. (Summary) **99e:46031** 46E10 (46A04, 46A30, 46E40)

— (*with* Díaz Alcaide, Juan Carlos; Naranjo, Francisco) Fréchet AL-spaces have the Dunford-Pettis property. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 383–386. (Plamen Dzhakov) **99j:46008** 46A40 (46A04)

— (*with* Naranjo, Francisco; Ricker, Werner J.) Completeness of L^1-spaces for measures with values in complex vector spaces. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 76–87. (Oscar Blasco) **99d:46051** 46E40 (46E30)

Fernández Manín, G. (*with* Muñoz, Rafael) Optimality of the spectral discretization of collocation of the Poisson problem with mixed boundary conditions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 731–736, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N35

Fernández-Merchant, S. (*with* Ábrego Lerma, Bernardo Manuel; Arocha Pérez, Jorge Luis; Neumann-Lara, Víctor) Tightness problems in the plane. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 1–11. (Daniel Turzík) **99k:05121** 05C65

Fernández Muñiz, José L. (*with* Alvarez Marín, Luz del Carmen) The R_F-convergence and theorems of Banach-Steinhaus type. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 33–54, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (D. E. Wulbert) **99h:28006** 28A20 (26A42, 41A55, 46G99)

— (*with* Guzmán Ovando, Maria E.) Riesz lattices and quasipositive operators. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 39–42, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (*see* **99i:00016**) 47B65

— (*with* Morales Galindo, Soledad B.) The topology of Rf-convergence. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 43–47, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (*see* **99i:00016**) 46A19 (46E99)

— Coins and weighings. II. (Spanish) *Miscelánea Mat. No.* 26 (1997), 33–47. 05A99

Fernández Novoa, J. Moderation of sigma-finite Borel measures. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 289–295. (R. G. Bartle) **99c:28037** 28C15 (03E50, 28E15)

— Generalized Riesz measures. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 139–148. (George Bachman) **99f:28019** 28C15

Fernández-Núñez, José Lagrangian structure of the two-dimensional Lotka-Volterra system. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2457–2462. (Summary) **99g:92042** 92D40 (34A26, 34A34)

Fernández-Pérez, José L. On asymptotic values of subharmonic functions. (English summary) *Complex methods in approximation theory* (*Almería*, 1995), 55–62, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Stephen J. Gardiner) **99h:31013** 31B25 (30D40)

— (*with* Anderson, James Milne; Cantón, Alicia) On smoothness of symmetric mappings. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 161–169. 30C62

— (*with* Nicolau, Artur) Boundary behaviour of inner functions and holomorphic mappings. (English summary) *Math. Ann.* **310** (1998), *no.* 3, 423–445. (Kenneth Stephenson) **99c:30062** 30D40 (30C99)

Fernandez-Ponce, J. M. (*with* Kochar, Subhash; Muñoz-Perez, J.) Partial orderings of distributions based on right-spread functions. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 221–228. (Moshe Shaked) **99d:60015** 60E15 (60K10, 62N05)

Fernández-Pousa, Carlos R. (*with* Gallas, M. V.; Miramontes, J. Luis; Sánchez Guillén, Joaquín) Integrable systems and W-algebras. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 475–479, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 58F07 (17B68)

— (*with* Miramontes, J. Luis) Semi-classical spectrum of the homogeneous sine-Gordon theories. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 745–769. (Luigi Martina) **99e:81139** 81T10 (35Q53, 58F07, 81T40)

Fernández-Sánchez, F. (*with* Freire Macías, Emilio; Pizarro, Luis; Rodríguez-Luis, A. J.) Analytical and numerical study of a van der Pol-Duffing oscillator. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 94C05)

— (*with* Pizarro, Luis; Freire Macías, Emilio; Rodríguez-Luis, A. J.) Bifurcations of codimension two in an enzyme model. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 92C45 (35B32, 35Q80)

— (*with* Rodríguez-Luis, A. J.; Freire Macías, Emilio; Gamero, E.; Pizarro, Luis) Islands of periodic orbits in an electronic system. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 19 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 34C25, 94C05)

— (*with* Freire Macías, Emilio; Rodríguez-Luis, A. J.) Isolas, cusps and global bifurcations in an electronic oscillator. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 319–336. (Alan R. Champneys) **99c:58118** 58F14 (34C15, 34C37, 94C05)

— (*with* Freire Macías, Emilio; Gamero, E.; Rodríguez-Luis, A. J.) Codimension-two global bifurcations in a three-dimensional van der Pol-Duffing oscillator. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 249–254, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23 (34C15, 58F14)

Fernández Sanjuán, Miguel Angel Liénard systems, limit cycles, and Melnikov theory. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 1, 340–344. (Ernest Fontich) **99d:58139** 58F21 (34C05, 34C23)

— Using nonharmonic forcing to switch the periodicity in nonlinear systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4377–4382. 70K40 (70K50)

Fernández Vilaboa, J. M. (*with* Alonso Alvárez, J. N.; López López, M. P.; Villanueva Novoa, E.; González Rodríguez, R.) A Picard-Brauer five term exact sequence for braided categories. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 11–41, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Summary) **99b:18011** 18D10

— (*with* Alonso Alvárez, J. N.; Villanueva Novoa, E.) Yetter-Drinfel'd H-Azumaya monoids in closed categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 239–265. (R. Gylys) **99f:18011** 18D10 (16W30)

— (*with* Villanueva Novoa, E.; González Rodríguez, R.) The exact sequence $\mathrm{Pic}(\mathscr{E}') \to \mathrm{Pic}(\mathscr{E}') \to K_1A(F) \to B(\mathscr{E}) \to B(\mathscr{E}')$ for a monoidal functor between closed categories. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2727–2743. (Summary) **99f:18014** 18D15

Fernández y Fernández-Arroyo, Fidel José (*with* Jiménez Guerra, Pedro; Ulecia García, María Teresa) A Radon-Nikodým theorem for vector polymeasures. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 189–200. (Brian Jefferies) **99m:28026** 28B05 (46G10)

Fernando, Harindra J. S. (*with* Hunt, J. C. R.) Turbulence, waves and mixing at shear-free density interfaces. I. A theoretical model. (English summary) *J. Fluid Mech.* **347** (1997), 197–234. (From the summary) **99i:76071a** 76F99 (76-05)

— (*with* McGrath, J. L.; Hunt, J. C. R.) Turbulence, waves and mixing at shear-free density interfaces. II. Laboratory experiments. (English summary) *J. Fluid Mech.* **347** (1997), 235–261. (From the summary) **99i:76071b** 76F99 (76-05)

— (*with* Manasseh, Richard; Ching, Chang-Yun) The transition from density-driven to wave-dominated isolated flows. (English summary) *J. Fluid Mech.* **361** (1998), 253–274. (Summary) **99b:76095** 76V05 (86A05, 86A10)

Fernando, K. V. Accurately counting singular values of bidiagonal matrices and eigenvalues of skew-symmetric tridiagonal matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 373–399 (*electronic*). (Zhenyue Zhang) **99j:65057** 65F15 (15A18)

Fernando, Sharmanthie (*with* Mansouri, Freydoon) Supermultiplets of AdS black holes in 2 + 1 dimensions. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 52–59. (Summary) **99k:83067** 83C57

— (*with* Mansouri, Freydoon) The structure of AdS black holes and Chern-Simons theory in 2 + 1 dimensions. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 505–520. (Summary) **99k:83068** 83C57 (81T13)

Fernau, Henning (*with* Stiebe, Ralf) Regulation by valences. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 239–248, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68090** 68Q45

— Graph-controlled grammars as language acceptors. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 2, 79–91. (Summary) **99j:68067** 68Q45 (68Q50)

— (*with* Freund, Rudolf J.; Holzer, Markus) Character recognition with k-head finite array automata. (English summary) *Advances in pattern recognition (Sydney*, 1998), 282–291, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T10 (68Q45)

— (*with* Staiger, Ludwig) IFS and control languages. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 740–750, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q45 (28A80)

— (*with* Wätjen, Dietmar) Remarks on regulated limited ET0L systems and regulated context-free grammars. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 35–55. (Rani Siromoney) **99f:68117** 68Q45

de Fernex, Tommaso Ample vector bundles with sections vanishing along conic fibrations over curves. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 67–79. (Jarosław A. Wiśniewski) **99f:14056** 14J60 (14C20)

— (*with* Lanteri, Antonio) Ample vector bundles and del Pezzo manifolds. (English summary) *Kodai Math. J.* **22** (1999), *no.* 1, 83–98. (Gian Mario Besana) **99m:14076** 14J60 (14J45)

Ferng, W. R. (*with* Lin, Wen-Wei; Wang, Chern-Shuh) Numerical algorithms for undamped gyroscopic systems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 49–66. (Summary) **99j:70002** 70–08 (65F99, 70J05)

Fernholz, Luisa T. A conversation with John W. Tukey. *The practice of data analysis* (*Princeton, NJ*, 1995), 26–45, *Princeton Univ. Press, Princeton, NJ*, 1997. (*see* **99b:62003**) 01A70

— *see also* **Practice of data analysis, 99b:62003**

Fernique, Xavier ★ Fonctions aléatoires gaussiennes, vecteurs aléatoires gaussiens. (French) [Gaussian random functions, Gaussian random vectors] *Université de Montréal, Centre de Recherches Mathématiques, Montreal, QC*, 1997. iv+217 *pp. ISBN* 2-921120-28-3 (Evarist Giné) **99f:60078** 60G15 (60G17)

— (*with* Mathieu, Frédéric) En appliquant un théorème de Talagrand: une caractérisation des espaces auto-reproduisants. (English and French summaries) [Applying Talagrand's theorem to characterize the reproducing kernel spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 347–350. (Summary) **99k:60009** 60B11

Feron, Eric (*with* McConley, Marc W.; Appleby, Brent D.; Dahleh, Munther A.) Computational complexity of Lyapunov stability analysis problems for a class of nonlinear systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2176–2193 (*electronic*). (Guy Jumarie) **99f:93060** 93B40 (65Y20, 93D09)

— (*with* McConley, Marc W.; Dahleh, Munther A.) Polytopic control Lyapunov functions for robust stabilization of a class of nonlinear systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 77–83. (Ji Tao Sun) **99d:93062** 93D21 (93C10)

Ferone, Adele (*with* Ferone, Vincenzo; Volpicelli, Roberta) Moser-type inequalities for solutions of linear elliptic equations with lower-order terms. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1031–1048. (Xi Ting Liang) **99a:35053** 35J25 (35B05, 35B20, 35J65)

— (*with* Ferone, Vincenzo; Volpicelli, Roberta) Moser-type inequalities for solutions of nonlinear elliptic equations. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 727–743. (Rolando Magnanini) **99k:35061** 35J65 (35B45, 35B65)

— (*with* Jalal, M. A.; Rakotoson, Jean Michel; Volpicelli, Roberta) Nonlocal generalized models for a confined plasma in a Tokamak. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 43–46. 35J60 (35Q35, 76X05)

Ferone, Vincenzo (*with* Alvino, Angelo; Trombetti, Guido) A remark on the regularity of solutions of nonlinear elliptic equations. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 2, 459–472 (1997). (Xi Ping Zhu) **99a:35079** 35J65 (35B65)

— (*with* Ferone, Adele; Volpicelli, Roberta) Moser-type inequalities for solutions of linear elliptic equations with lower-order terms. (English summary) *Differential Integral Equations* **10** (1997), *no.* 6, 1031–1048. (Xi Ting Liang) **99a:35053** 35J25 (35B05, 35B20, 35J65)

— (*with* Murat, François) Quasilinear problems having quadratic growth in the gradient: an existence result when the source term is small. (English and French summaries) *Équations aux dérivées partielles et applications*, 497–515, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:35046** 35J60

— (*with* Alvino, Angelo; Trombetti, Guido) A priori estimates for a class of non-uniformly elliptic equations. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 381–391. (Summary) **99f:35034** 35J25 (35B45)

— (*with* Ferone, Adele; Volpicelli, Roberta) Moser-type inequalities for solutions of nonlinear elliptic equations. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 727–743. (Rolando Magnanini) **99k:35061** 35J65 (35B45, 35B65)

— (*with* Mercaldo, Anna) A second order derivation formula for functions defined by integrals. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 549–554. (Summary) **99g:49019** 49K10 (26B05)

— (*with* Alvino, Angelo; Trombetti, Guido) On the properties of some nonlinear eigenvalues. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 437–451 (*electronic*). (Maria J. Esteban) **99d:35119** 35P30 (35J05, 49R05)

— (*with* Posteraro, Maria Rosaria; Rakotoson, Jean Michel) Nonlinear parabolic equations with p-growth and unbounded data. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 291–296. (Summary) **99k:35082** 35K55

— (*with* Boccardo, Lucio; Fusco, Nicola; Orsina, Luigi) Regularity of minimizing sequences for functionals of the calculus of variations via the Ekeland principle. *Differential Integral Equations* **12** (1999), *no.* 1, 119–135. (Giuseppe Mingione) **99j:49079** 49N60 (49J10)

Ferragina, Paolo (*with* Luccio, Fabrizio) Dynamic dictionary matching in external memory. (English summary) *Inform. and Comput.* **146** (1998), *no.* 2, 85–99. (Ricardo Baeza-Yates) **99i:68030** 68P20 (68P05)

— (*with* Grossi, Roberto) Optimal on-line search and sublinear time update in string matching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 713–736 (*electronic*). (Maxime Crochemore) **99f:68079** 68Q20 (68P05, 68P20, 68Q25)

— (*with* Grossi, Roberto; Montangero, Manuela) On updating suffix tree labels. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 249–262. (Summary) **99b:68042** 68P05

Ferragut, Luis Adaptive multigrid methods for hybrid finite elements. (English summary) *Algorithms for large scale linear algebraic systems (Gran Canaria*, 1996), 55–71, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Weimin Han) **99d:65343** 65N55 (65N30)

— (*with* Asensio Sevilla, María Isabel) Mixed finite element solution of a combustion model with local radiation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 569–574, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 80A25

rodríguez-Ferran, Antonio *see* **Rodríguez-Ferran, Antonio**

Ferrand, André (*with* Renaud, Marc) Analyse des points morts d'une plate-forme dite de Stewart. (French summary) [Analysis of the dead points of a Stewart platform] *Mech. Mach. Theory* **33** (1998), *no.* 4, 409–424. 70B15

Ferrand, Emmanuel On the Bennequin invariant and the geometry of wave fronts. (English summary) *Geom. Dedicata* **65** (1997), *no.* 2, 219–245. (Summary) **99c:57061** 57R42 (53A04)

— Sur la structure symplectique de la variété des géodésiques d'un espace de Hadamard. (English summary) [Symplectic structure of the manifold of geodesics of a Hadamard space] *Geom. Dedicata* **68** (1997), *no.* 1, 79–89. (Hansjörg Geiges) **99c:53037** 53C22 (58F05)

— (*with* Pushkar', Petr E.) Non-cancellation of cusps on wave fronts. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 827–831. (Summary) **99j:57030** 57R45 (57R15, 58C27)

Ferrández, Angel (*with* Barros, Manuel; Lucas, Pascual; Meroño, Miguel A.) Willmore tori and Willmore-Chen submanifolds in pseudo-Riemannian spaces. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 45–66. (Summary) **99m:53098** 53C40 (53C50)

— (*with* Lucas, Pascual; Meroño, Miguel A.) Biharmonic Hopf cylinders. *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 957–975. (Udo Hertrich-Jeromin) **99k:53126** 53C50 (53C40)

— (*with* Alías, Luis J.; Lucas, Pascual; Meroño, Miguel A.) On the Gauss map of B-scrolls. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 371–377. (Christos Baikoussis) **99k:53123** 53C50 (53A40)

Ferrándiz Leal, José Manuel (*with* Vigo-Aguiar, Jesús) A general procedure for the adaptation of multistep algorithms to the integration of oscillatory problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1684–1708 (*electronic*). (David R. Hill) **99g:65077** 65Lxx

Ferrando, Joan Josep (*with* Sáez, Juan Antonio) An intrinsic characterization of the Schwarzschild metric. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1323–1330. (Volker Perlick) **99d:83022** 83C20 (83C15)

Ferrando, Sebastian Upcrossing inequalities for powers of nonlinear operators and Chacon processes. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 85–104. (Joseph Max Rosenblatt) **99e:47015** 47A35 (28D99, 47H99)

— (*with* Çömez, Doğan) On the sequences that are good in the mean for positive L_p-contractions, $1 \le p < \infty$. *Illinois J. Math.* **42** (1998), *no.* 4, 617–629. (Radu Zaharopol) **99i:47014** 47A35 (28D05, 47B38, 47B65)

Ferrante, Augusto A parametrization of the minimal square spectral factors of a nonrational spectral density. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 30 *pp.* (*electronic*). (Mohsen Pourahmadi) **99e:60107** 60G25 (93E15)

— (*with* Michaletzky, György) Splitting subspaces and acausal spectral factors. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 3, 26 *pp.* (*electronic*). (Summary) **99g:93038** 93B60 (60G10, 93E03)

— (*with* Levy, Bernard C.) Canonical form of symplectic matrix pencils. (English summary) *Linear Algebra Appl.* **274** (1998), 259–300. (H.-J. Kowalsky (translated from Zbl 902.15006)) **99m:15007** 15A22 (47A56, 93B10)

Ferrante, Francesco Ursprung. The origins of thought in Ernst Schröder's *Introduction to lessons on algebra of logic* (1890). *Metalogicon* **9** (1996), *no.* 2, 105–137. 03–03 (01A55, 03A05)

Ferrante, L. (*with* Bruni, C.; Koch, Giorgio) Identifiability of a stochastic model for cell debris in flow cytometry. (English summary) *J. Math. Biol.* **37** (1998), *no.* 4, 329–340. (Summary) **99i:92013** 92D20 (60K40)

Ferrante, Marco (*with* Cappuccio, Nunzio; Fonseca, Giovanni) A note on the stationarity of a threshold first-order bilinear process. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 379–384. (Patrik Albin) **99k:62154** 62M10

Ferrar, J. *see* **Monster and Lie algebras, 99e:00021**

Ferrara, Antonella (*with* Bartolini, Giorgio; Usai, Elio) Applications of a sub-optimal discontinuous control algorithm for uncertain second order systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 299–319. (Summary) **99a:93012** 93B12 (93C41, 93C85)

— (*with* Bartolini, Giorgio; Utkin, Vadim I.; Zolezzi, T.) A control vector simplex approach to variable structure control of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 321–335. (Summary) **99a:93013** 93B12 (93C10, 93C41)

— (*with* Bartolini, Giorgio; Pisano, Alessandro; Usai, Elio) Adaptive reduction of the control effort in chattering-free sliding-mode control of uncertain nonlinear systems.

(English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 51–71. (Summary) **99c:93049** 93C10 (93B12)

— (*with* Bartolini, Giorgio; Savkin, Andrey V.) Reduced-order adaptive control based on the concept of robust strictly positive realness. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 363–378. (Summary) **99i:93037** 93C40 (93B35, 93C70)

— (*with* Bartolini, Giorgio; Punta, E.; Usai, Elio) Chattering elimination in the hybrid control of constrained manipulators via first/second order sliding mode control. (English summary) *Dynam. Control* **9** (1999), *no.* 2, 99–124. 93C85 (93B12)

— (*with* Bartolini, Giorgio) On the parameter convergence properties of a combined VS/adaptive control scheme during sliding motion. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 70–76. 93B12 (93C40)

— (*with* Bartolini, Giorgio; Stotskiĭ, A. A.) Robustness and performance of an indirect adaptive control scheme in presence of bounded disturbances. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 789–793. 93B35 (93C40)

— (*with* Bartolini, Giorgio; Giacomini, L.) A robust control design for a class of uncertain non-linear systems featuring a second-order sliding mode. (English summary) *Internat. J. Control* **72** (1999), *no.* 4, 321–331. (Summary) **99k:93031** 93B12 (93B36)

Ferrara, Sergio Bertotti-Robinson geometry and supersymmetry. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 135–147, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99a:83046** 83C57 (83E50)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo; Frè, Pietro; Trigiante, Mario) R-R scalars, U-duality and solvable Lie algebras. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 617–629. (Summary) **99f:81140** 81T30 (81R05)

— (*with* Gibbons, Gary W.; Kallosh, Renata) Black holes and critical points in moduli space. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 75–93. (Summary) **99d:83057** 83C57 (83E50)

— (*with* Antoniadis, Ignatios; Minasian, Ruben; Narain, K. S.) R^4 couplings in M- and type II theories on Calabi-Yau spaces. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 571–588. (Gonzalo Violero) **99c:81159** 81T30 (32J81, 83E30)

— (*with* Maldacena, Juan M.) Branes, central charges and U-duality invariant BPS conditions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 749–758. (Mario Trigiante) **99e:81187** 81T30 (83E30)

— (*with* Günaydin, Murat) Orbits of exceptional groups, duality and BPS states in string theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2075–2088. (Mario Trigiante) **99g:81160** 81T30 (17B81, 83E30, 83E50)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo; Frè, Pietro; Trigiante, Mario) $E_{7(7)}$ duality, BPS black-hole evolution and fixed scalars. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 463–518. (Krzysztof Galicki) **99e:83061** 83E50 (81T60, 83C57, 83E30)

— (*with* Riccioni, Fabio; Sagnotti, Augusto) Tensor and vector multiplets in six-dimensional supergravity. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 115–140. (Sergiu I. Vacaru) **99g:83082** 83E50 (83E30)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo) Duality, central charges and entropy of extremal BPS black holes. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 185–196. (Summary) **99e:83049** 83E30 (81T30, 83C57)

— (*with* D'Auria, Riccardo; Kounnas, Costas) $N = (4, 2)$ chiral supergravity in six dimensions and solvable Lie algebras. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 289–299. (Mario Trigiante) **99g:83081** 83E50 (17B30, 81T50)

— (*with* Porrati, Massimo) Central extensions of supersymmetry in four and three dimensions. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 255–260. (Sergey Nikolaevich Roshchupkin) **99c:81180** 81T30 (32J81, 81T60, 83E30)

— (*with* Andrianopoli, Laura) K-K excitations on $AdS_5 \times S^5$ as $N = 4$ "primary" superfields. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 248–253. (Summary) **99c:81158** 81T30 (83E30)

— (*with* Kehagias, Alexandros A.; Partouche, H.; Zaffaroni, Alberto[1]) Membranes and fivebranes with lower supersymmetry and their AdS supergravity duals. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 42–48. (Summary) **99f:81159** 81T30 (83E30, 83E50)

— (*with* Kehagias, Alexandros A.; Partouche, H.; Zaffaroni, Alberto[1]) AdS_6 interpretation of 5D superconformal field theories. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 57–62. (Summary) **99c:83098** 83E50 (81T30, 83E30)

— (*with* Frønsdal, Christian) Gauge fields as composite boundary excitations. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 19–28. (Summary) **99e:83056** 83E30 (81T13, 81T30)

Ferrara Dentice, Eva (*with* Lo Re, Pia Maria; Melone, Nicola) Tallini set and Grassmannian. (Italian. English summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 527–539. (Norman L. Johnson) **99f:51013** 51E20

Ferrarese, Giorgio Relativistic polar continua. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 3–24 (1997). (Summary) **99a:73008** 73B25 (73B30, 78A25, 83A05)

— Riemannian geometry in generalized frames of reference. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 257–267. (Hans P. Künzle) **99e:53020** 53B30 (53B50)

— (*with* Stazi, L.) Superfluids and Cosserat continua. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 13–24 (1998). (Gérard A. Maugin) **99f:76005** 76A02 (73B99, 76A15, 76Y05, 82D50)

— (*with* Palladino, Franco) The collection of mathematical models of the departments of mathematics of the University of Turin and Turin Polytechnic. (Italian. English summary) *Nuncius Ann. Storia Sci.* **13** (1998), *no.* 1, 169–185. (Summary) **99e:01014** 01A55

Ferrari, Andrew B. (*with* Titi, Edriss S.) Gevrey regularity for nonlinear analytic parabolic equations. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 1–16. (Jianzhong Su) **99a:35116** 35K55 (35B65)

Ferrari, Carlo *see* **Topics in fluid mechanics, 99h:76005** *and* **Nocilla, Silvio, (99h:76005)**

Ferrari, F. *see* **Ferrari, Frank**

Ferrari, Franco (*with* Sobczyk, Jan T.) Quantum field theories on algebraic curves. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 289–298, *PWN, Warsaw*, 1997. (Martin Schlichenmaier) **99m:81216** 81T40 (14H30)

— (*with* Lazzizzera, Ignazio) Perturbative analysis of Chern-Simons field theory in the Coulomb gauge. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1773–1783. (Summary) **99a:81109** 81T15 (81T13)

— Topologically nontrivial sectors of the Maxwell field theory on algebraic curves. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 1-2, 91–103. (Martin Schlichenmaier) **99f:81181** 81T40 (14H99)

— (*with* Sobczyk, Jan T.) Operator formalism for bosonic beta-gamma fields on general algebraic curves. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5148–5165. (Martin Schlichenmaier) **99m:81217** 81T40 (14H30)

— (*with* Lazzizzera, Ignazio) A Chern-Simons field theory description of topologically linked polymers. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 167–173. (Summary) **99h:82079** 82D60 (58Z05, 81T13)

— (*with* Sobczyk, Jan T.) Monodromy properties of energy momentum tensor on general algebraic curves. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 1-2, 161–176. (Matthias Dörrzapf) **99m:81218** 81T40 (14H55, 17B68)

Ferrari, Frank (*with* Bilal, Adel) Exact multiplets of spontaneously broken discrete global symmetries: the example of $N = 2$ SUSY QCD. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 372–377, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81221** 81T60 (81R40, 81T13)

— The dyon spectra of finite gauge theories. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 1, 53–96. (Henrik Aratyn) **99a:81170** 81T60 (58F07, 81T13)

— (*with* Bilal, Adel) The BPS spectra and superconformal points in massive $N = 2$ supersymmetric QCD. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 175–228. (Martin Schlichenmaier) **99c:81229** 81T60 (81T13, 81T17)

Ferrari, Gian Luigi (*with* Montanari, Ugo) A tile-based coordination view of asynchronous π-calculus. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 52–70, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68101** 68Q55 (68Q10)

— (*with* Montanari, Ugo) Parameterized structured operational semantics. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 1–31. (Summary) **99g:68127** 68Q55

Ferrari, Italo Mass and energy in various mechanics. (Italian. English and Italian summaries) *Atti Sem. Mat. Fis. Univ. Modena* **47** (1999), *no.* 1, 13–46. 70A05 (70H40, 83A05)

Ferrari, M. *see* **Ferrari, Mauro[2]**

Ferrari, Mario *see* **Seminar: Epistemology of Mathematics, 99a:00007**

Ferrari, Mauro[1] Cut-free tableau calculi for some intuitionistic modal logics. (English summary) *Studia Logica* **59** (1997), *no.* 3, 303–330. (Branislav Boričić) **99c:03017** 03B45 (03F05)

Ferrari, Mauro[2] (*with* Nadeau, J. C.) Invariant tensor-to-matrix mappings for evaluation of tensorial expressions. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 43–61. (Summary) **99k:73030** 73B40 (73B05, 73C99)

Ferrari, Pablo A. Growth processes on a strip. (English summary) *Disordered systems* (*Temuco*, 1991/1992), 87–111, *Travaux en Cours*, 53, *Hermann, Paris*, 1996. (T. M. Liggett) **99c:60214** 60K35

— (*with* Fontes, L. R. G.) Fluctuations of a surface submitted to a random average process. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 6, 34 *pp.* (*electronic*). (T. M. Liggett) **99e:60214** 60K35

— (*with* Martínez, Servet A.) Hamiltonians on random walk trajectories. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 47–68. (Filippo Cesi) **99k:60247** 60K35 (82B41, 82C41)

Ferrari, Paola (*with* Savoia, Marco) Fuzzy number theory to obtain conservative results with respect to probability. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 205–222. 60E99 (04A72, 28E10, 73K99)

Ferrari, Paolo The meaning of capacity constraint multipliers in the theory of road network equilibrium. Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 107–120. (*see* **99a:49002**) 90B20 (90B10)

Ferrari, Ruggero Floquet energies and quantum Hall effect in a periodic potential. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 11, 1105–1123. (Summary) **99b:81289** 81V70

Ferrari, Silvia L. de Paula (*with* Cordeiro, Gauss M.) A note on Bartlett-type correction for the first few moments of test statistics. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 261–269. (Summary) **99f:62028** 62F03 (62F05)

— (*with* Cordeiro, Gauss M.; Botter, Denise A.; Cribari-Neto, Francisco) Modified maximum likelihood estimation in one-parameter exponential family models. (English summary) *Comm. Statist. Theory Methods* **28** (1999), *no.* 1, 157–178. 62F10

Ferrari, Valeria Gravitational waves emitted by stars and black holes: frequencies, energies and waveforms. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 3–45, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C35 (83C57)

— Gravitational waves, stars and black holes. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 3–22, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C35 (83C57)

Ferrario, Davide Computing Reidemeister classes. (English summary) *Fund. Math.* **158** (1998), *no.* 1, 1–18. (Peter Wong) **99g:55002** 55M20 (55P99)

Ferraris, Marco (*with* Francaviglia, Mauro; Spallicci, A.) Physical limitations of McVittie metric. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 343–348, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C15

— (*with* Francaviglia, Mauro; Spallicci, A.) Transition metrics: method and applications. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 349–358, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83010** 83C15 (83–04)

— (*with* Borowiec, Andrzej; Francaviglia, Mauro; Volovich, I. V.) Universality of the Einstein equations for Ricci squared Lagrangians. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 43–55. (Hans P. Künzle) **99a:83003** 83C05

— (*with* Fatibene, Lorenzo; Francaviglia, Mauro; Godina, M.) Gauge formalism for general relativity and fermionic matter. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1371–1389. (Hans P. Künzle) **99h:83038** 83C60 (58E30)

— (*with* Borowiec, Andrzej; Francaviglia, Mauro) Lagrangian symmetries of Chern-Simons theories. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8823–8833. (Charles G. Torre) **99m:81137** 81T13 (83C99)

Ferraro, R. D. (*with* Wang, Ping[3]) Parallel multigrid finite volume computation of three-dimensional thermal convection. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 9, 49–60. 76M25 (76R99, 80–08)

Ferrarotti, Massimo (*with* Wilson, Leslie C.) Generalized Hestenes lemma and extension of functions. (Italian) *Geometry Seminars, 1996–1997 (Italian)* (*Bologna*), 99–109, *Univ. Stud. Bologna, Bologna*, 1998. (Enrique Outerelo Domínguez) **99h:58016** 58C25

— (*with* Fortuna, Elisabetta) On semialgebraic tangent cones. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 4, 383–390. (Guang Xing Zeng) **99k:14089** 14P10 (14P05)

Ferré, Louis Determining the dimension in sliced inverse regression and related methods. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 132–140. (Summary) **99a:62093** 62J05

Ferreira, Afonso Galvao (*with* Corrêa, Ricardo C.; Porto, Stella C. S.) Selected algorithmic techniques for parallel optimization. *Handbook of combinatorial optimization, Vol.* 3, 407–456, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (65Y05, 90–02)

— (*with* Diallo, Mohamadou; Rau-Chaplin, Andrew) Communication-efficient deterministic parallel algorithms for planar point location and 2d Voronoi diagram. (English summary) *STACS* 98 (*Paris*, 1998), 399–409, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68U05 (68Q22)

— *see also* **Parallel algorithms for irregularly structured problems**, **99g:65007** *and* **Solving irregularly structured problems in parallel**, **99h:65007**

pinto-Ferreira, Carlos *see* **Pinto-Ferreira, Carlos**

Ferreira, Carlos E. (*with* Barrera, Junior; Hashimoto, Ronaldo F.) Finding optimal sequential decompositions of erosions and dilations. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 299–306, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (68U05)

— (*with* Martin, Alexander; de Souza, C. C.; Weismantel, Robert; Wolsey, Laurence A.) The node capacitated graph partitioning problem: a computational study. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 229–256. (Summary) **99b:90146** 90C35 (05C90)

Ferreira, Eva *see* **Ferreira García, Eva**

Ferreira, F. F. (*with* Fontanari, J. F.) Probabilistic analysis of the number partitioning problem. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3417–3428. (Summary) **99b:82009** 82B05 (05A17, 11Z05)

Ferreira, Fernando (*with* Marques, António) Extracting algorithms from intuitionistic proofs. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 143–160. (Stewart Shapiro) **99f:03082** 03F55 (03D15, 03F30)

Ferreira, J. A. *see* **Ferreira, José Augusto Mendes**

da motta Ferreira, João Carlos *see* **da Motta Ferreira, João Carlos**

Ferreira, Jorge On a variational inequality for a hyperbolic-parabolic equation with a Lipschitzian nonlinearity. (English summary) *Proyecciones* **16** (1997), *no.* 2, 125–139. (Enzo Vitillaro) **99k:35136** 35L85 (35M20, 49J40)

Ferreira, José Augusto Mendes On the convergence on nonrectangular grids. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 333–344. (Patrick M. Knupp) **99a:65115** 65M50 (65M15, 65M20)

— On the supraconvergence of finite difference methods for solving an evolution problem with Neumann boundary conditions. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 335–342, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65M50 (65M15)

— (*with* Grigorieff, R. D.) On the supraconvergence of elliptic finite difference schemes. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 275–292. (Summary) **99f:65152** 65N12 (65N06)

Ferreira, José Luis Endogenous formation of coalitions in noncooperative games. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 1, 40–58. (Summary) **99k:90210** 90D10

Ferreira, José M. (*with* Pedro, Ana M.) Oscillations of delay difference systems. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 364–383. (Saber Elaydi) **99e:39017** 39A10

Ferreira, L. O. (*with* Pivovarov, M. L.; Lopes, R. V. F.) Rigid body rotation evolution due to a disturbing torque which is known in a body frame. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 239–246. (Summary) **99h:70015** 70E15

Ferreira, Luiz A. The structures underlying soliton solutions in integrable hierarchies. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields* (*Mérida*, 1996), 515–519, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99e:58096** 58F07 (17B67)

— (*with* Aratyn, Henrik; Gomes, J. F.; Zimerman, A. H.) Solitons from dressing in an algebraic approach to the constrained KP hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9483–9492. (Alexander V. Shapovalov) **99k:58080** 58F07

— (*with* Alvarez, Orlando; Sánchez Guillén, Joaquín) A new approach to integrable theories in any dimension. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 689–736. (Henrik Aratyn) **99e:58089** 58F07 (81T40)

— (*with* Blas Achic, H. S.; Gomes, J. F.; Zimerman, A. H.) Some comments on the bi(tri)-Hamiltonian structure of generalized AKNS and DNLS hierarchies. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 225–233. (Roman G. Smirnov) **99a:58083** 58F07

Ferreira, O. P. (*with* Oliveira, P. R.) Subgradient algorithm on Riemannian manifolds. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 93–104. (Doug Ward) **99f:90180** 90C48 (49M30, 58E25)

Ferreira, P. *see* **Ferreira, Pedro Alexandre**

Ferreira, P. M. (*with* Gracey, J. A.) Non-zeta knots in the renormalization of the Wess-Zumino model? (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 85–92. (Summary) **99b:81151** 81T15 (81T18)

Ferreira, Pedro Alexandre (*with* Ammari, Habib) Numerical methods for scattering problems by curved gratings at high frequencies. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 17, 1531–1549. (Charles I. Goldstein) **99g:78003** 78–08 (65N06, 78A45)

garcía-Ferreira, S. *see* **García-Ferreira, S.**

Ferreira García, Eva Using M-type smoothing splines to estimate the spectral density of a stationary time series. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 197–205. (Summary) **99d:62089** 62M15

Ferreirós Domínguez, José The set-theoretic approach in mathematics. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 3, 389–412. (I. Grattan-Guinness) **99m:01020** 01A55 (01A60, 03–03, 04–03)

Ferrel, Juan Limaco (*with* Milla Miranda, Manuel) The Navier-Stokes equation in noncylindrical domain. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 247–265. (Rodolfo Salvi) **99k:76042** 76D05

— (*with* Medeiros, Luis Adauto) Elliptic regularization and Navier-Stokes system. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 165–177. (Long An Ying) **99f:35165** 35Q30 (35R35, 76D05)

Ferrer, Geraldo (*with* Baganha, Manuel P.; Pyke, David F.) The residual life of the renewal process: a simple algorithm. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 435–443. 90B05 (90B22)

Ferrer, J. *see* **Ferrer Llop, Josep**

Ferrer, Jesús (*with* Alegre Gil, Carmen; Gregori, Valentin) On a class of real normed lattices. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 785–792. (Summary) **99i:54042** 54F05 (54E15, 54E52, 54E55)

Ferrer, Josep *see* **Ferrer Llop, Josep**

Ferrer, S. (*with* Lara, Martín; Palacián, J.; San Juan, J. F.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. I. Periodic orbits near the origin. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1199–1213. (Summary) **99k:58155a** 58F22 (58F05, 70F15, 70H05, 70K99)

— (*with* Lara, Martín; Palacián, J.; San Juan, J. F.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. II. Relative equilibria and bifurcations in the reduced system. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1215–1229. (Summary) **99k:58155b** 58F14 (58F05, 70F15, 70H05, 70K99)

Ferrera Cuesta, Juan Mosco convergence of sequences of homogeneous polynomials. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 31–41. (Summary) **99c:46046** 46G20 (46E50)

— Convergence of polynomial level sets. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4757–4773. (Luiza Amália de Moraes) **99k:46078** 46G20

Ferreres, Gilles (*with* Fromion, Vincent) A new upper bound for the skewed structured singular value. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 1, 33–49. (Summary) **99i:93018** 93B36 (93B40)

Ferrer Llop, Josep (*with* Puerta Sales, Fernando; Puerta, X.) Differentiable structure of the set of controllable $(A, B)^t$-invariant subspaces. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 161–177. (Mihail Voicu) **99e:93008** 93B05 (15A04)

— (*with* Puerta Sales, Fernando) Global block-similarity and pole assignment of class C^p. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 924–932 (*electronic*). (Petko Petkov) **99d:93009** 93B12 (93B29)

Ferrero, D. (*with* Padró, Carles) Disjoint paths of bounded length in large generalized cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 285–298. (Summary) **99i:05120** 05C38

Ferrero, Miguel A. (*with* Paques, Antonio) A note on the structure of distributive rings. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 2, 111–117. (Stuart A. Steinberg) **99a:16003** 16D15 (16L30, 16N60, 16U20)

— Some new results on closed submodules and ideals. (English summary) *East-West J. Math.* **1** (1998), *no.* 1, 95–107. (Edmund R. Puczyłowski) **99k:16006** 16D20 (16P60, 16S20)

— (*with* Puczyłowski, Edmund R.) The singular ideal and radicals. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 195–209. (R. F. Rossa) **99d:16024** 16N80

Ferretti, Claudio (*with* Sakakibara, Yasubumi) Splicing on tree-like structures. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 227–243. (Summary) **99g:68123** 68Q50 (68Q05, 68Q45)

Ferretti, Gabriele (*with* Fabbrichesi, Marco; Iengo, Roberto) Supergravity and Matrix theory do not disagree on multi-graviton scattering. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 2, 11 *pp.* (*electronic*). (Summary) **99c:83088** 83E30 (81T30, 83E50)

— (*with* Aref'eva, Irina Ya.; Koshelev, Alexey S.) Taming the non-abelian Born-Infeld action. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2399–2413. (Summary) **99j:81132** 81T30

— (*with* Danielsson, Ulf H.) Creation of strings in D-particle quantum mechanics. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 78–83. (Summary) **99f:81155** 81T30

Ferretti, Roberto Internal approximation schemes for optimal control problems in Hilbert spaces. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 25 *pp.* (*electronic*). (Walter Alt) **99i:49035** 49M25 (49K27)

— (*with* Finzi Vita, Stefano) On a variational approximation of superlinear indefinite elliptic problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 759–771. (Michael Mascagni) **99h:65189** 65N30 (35J60)

— (*with* Falcone, Maurizio) Convergence analysis for a class of high-order semi-Lagrangian advection schemes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 909–940 (*electronic*). (Meng Zhao Qin) **99c:65164** 65M12 (65M06, 76M20)

Ferretti, Roberto Giorgio An estimate for the multiplicity of binary recurrences. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1143–1148. (F. Beukers) **99f:11086** 11J13 (11B37)

Ferretti, Vincent (*with* Sankoff, David; Parent, Marie-Noelle; Marchand, Isabelle) On the Nadeau-Taylor theory of conserved chromosome segments. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 262–274, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92025** 92D10 (92D20)

Ferreyra, E. (*with* Godoy, T.; Urciuolo, M.) L^p-L^q estimates for convolution operators with n-dimensional singular measures. (English summary) *J. Fourier Anal. Appl.* **3**

(1997), *no.* 4, 475–484. (Javier Duoandikoetxea) **99c:42020b** 42B15 (47B38)

— (*with* Godoy, T.; Urciuolo, M.) Boundedness properties of some convolution operators with singular measures. *Math. Z.* **225** (1997), *no.* 4, 611–624. (Javier Duoandikoetxea) **99c:42020a** 42B15 (47B38)

— (*with* Godoy, T.; Urciuolo, M.) Endpoint bounds for convolution operators with singular measures. (English summary) *Colloq. Math.* **76** (1998), *no.* 1, 35–47. (Andreas Seeger) **99f:42033** 42B20

Ferreyra, Guillermo (*with* Dorroh, J. Robert) A free boundary problem in $\mathbf{R}^d$ with both smooth and nonsmooth fit. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 579–589 (*electronic*). (Andrzej Swiech) **99d:49052** 49L25 (35R35)

— *see also* **Differential geometry and control, 99f:93003**

Ferri, F. J. (*with* Díaz, M. E.; Ayala, G.; Albert, Jesus V.; Domingo, Juan M.) Accurate detection and characterization of corner points using circular statistics and fuzzy clustering. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 687–696, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30

Ferri, Stefania Combinatorial properties characterizing elliptic quadrics in PG$(3, q)$. (Italian. English summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 31–34 (1998). (J. C. Fisher) **99d:51008** 51E20

Ferrier, Jean-Louis (*with* Cottenceau, Bertrand; Hardouin, Laurent; Boimond, Jean-Louis) Synthesis of greatest linear feedback for timed-event graphs in dioid. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1258–1262. 93B51 (93C83)

Ferrieres, X. (*with* Grando, J.; Alliot, J. C.) Using time domain methods (FDTD, MOT) for radar cross section (RCS) predictions on perfectly conducting objects. *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 375–390, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Ferrieux, Dominique Estimation à noyau de densités moyennes de mesures aléatoires associées. (English and French summaries) [Kernel estimates of mean densities of associated random measures] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1131–1134. (Summary) **99k:60127** 60G57

Ferris, Michael C. (*with* Eckstein, Jonathan) Operator-splitting methods for monotone affine variational inequalities, with a parallel application to optimal control. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 218–235. (Summary) **99c:90133** 90C33 (49J40)

— (*with* Horn, Jeffrey D.) Partitioning mathematical programs for parallel solution. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 35–61. (Panos M. Pardalos) **99d:90111** 90C30 (65Y05)

carrà Ferro, Giuseppa *see* **Carrà Ferro, Giuseppa**

Ferro, Giuseppa Carra' *see* **Carrà Ferro, Giuseppa**

vilares Ferro, Manuel *see* **Vilares Ferro, Manuel**

potier-Ferry, Michel *see* **Potier-Ferry, Michel**

Ferry, Steven C. Limits of polyhedra in Gromov-Hausdorff space. (English summary) *Topology* **37** (1998), *no.* 6, 1325–1338. (Alexander N. Dranishnikov) **99e:57035** 57Q10 (55M10, 57R67)

Ferson, Wayne E. (*with* Jagannathan, Ravi) Econometric evaluation of asset pricing models. (English summary) *Statistical methods in finance*, 1–33, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62137** 62P20 (90A09)

Ferziger, Joel H. Direct and large eddy simulation of turbulence. *Numerical methods in fluid mechanics*, 53–97, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:76074** 76F99 (76M99)

Fesenko, Ivan B. (*with* Vostokov, S. V.) Elliptic curves and formal groups. (Russian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 9–33, "*Vishcha Shkola*", *Kiev*, 1993. (*see* **99a:00015**) 14H52 (14L05)

— Abelian extensions of complete discrete valuation fields. *Number theory* (*Paris*, 1993–1994), 47–74, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Yoshihiro Koya) **99d:11128** 11S31

— On deeply ramified extensions. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 325–335. (Jean-Pierre Wintenberger) **99j:11139** 11S15

victoria-Feser, M.-P. *see* **Victoria-Feser, M.-P.**

Fessas, Procopis S. (*with* Parisses, Costantinos E.) Numerical computation of the local feedback stabilizing matrix via linear programming. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1175–1179. 93D15 (93B40)

Fessler, Jeffrey A. (*with* Hero, Alfred O.; Piramuthu, Robinson; Titus, Steven R.) Minimax emission computed tomography using high-resolution anatomical side information and B-spline models. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 920–938. (Summary) **99m:94011** 94A12 (92C55)

Fessler, Robert The Ważewski retraction principle and a Poincaré index formula. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 205–207. (*see* **99f:58002**) 54H20

Fetecău, Constantin (*with* Fetecău, R. C.) Unidirectional flows of second grade fluids in spherical domains. (English summary) *Libertas Math.* **18** (1998), 135–144. (H. Ramkissoon) **99j:76001** 76A05

Fetecău, R. C. (*with* Fetecău, Constantin) Unidirectional flows of second grade fluids in spherical domains. (English summary) *Libertas Math.* **18** (1998), 135–144. (H. Ramkissoon) **99j:76001** 76A05

Fetter, Helga James spaces: two examples of pathological Banach spaces. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 305–314, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:46021** 46B20 (46–01)

— Spreading models and the ergodic theorem. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 213–223, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Manuel González) **99j:46019** 46B20 (47A35)

Feudel, Fred (*with* Schmidtmann, Olaf; Seehafer, Norbert) Nonlinear Galerkin methods based on the concept of determining modes for the magnetohydrodynamic equations. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7141–7155. (Summary) **99g:76114** 76M25 (76W05)

— (*with* Witt, Annette; Braun, Robert; Grebogi, Celso; Kurths, Jürgen) Tracer dynamics in a flow of driven vortices. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1605–1614. 76F20 (76D05)

Feuer, Arie (*with* Levine, Michael) Vibrational control of a flexible beam. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 803–825. 93C85 (73K05, 73K50)

— (*with* Goodwin, Graham C.; Lee, Sang Jeong) On the reconstruction of a finite sum of sinusoids from non-uniform periodic samples. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 615–629. (Summary) **99h:93109** 93E12 (93B07, 94A12)

Feuerstein, Esteban (*with* Azar, Yossi; Bartal, Yair; Fiat, Amos; Leonardi, Stefano; Rosén, Adi) On capital investment. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 429–441, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (N. H. Bingham) **99c:90017** 90A09 (68Q25)

— Uniform service systems with k servers. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 23–32, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q25 (68N25)

— (*with* Leonardi, Stefano; Marchetti-Spaccamela, Alberto; Santoro, Nicola) Efficient token-based control in rings. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 175–180. (Summary) **99b:68014** 68M10

— (*with* Marchetti-Spaccamela, Alberto) Memory paging for connectivity and path problems in graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 6, 22 *pp.* (*electronic*). (Summary) **99e:05115** 05C85 (05C40, 68N25)

Feuillebois, F. (*with* Bławzdziewicz, J.) Calculation of an effective slip in a settling suspension at a vertical wall. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 1, 66–77. (Summary) **99e:76122** 76T05

Feuring, Thomas (*with* Buckley, James J.; Lippe, Wolfram-M.; Tenhagen, Andreas) Stability analysis of neural net controllers using fuzzy neural networks. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 303–313. (*see* **99k:93004**) 93C42 (93D05)

— (*with* Lippe, Wolfram-M.) The fuzzy neural network approximation lemma. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 227–236. (Summary) **99m:68163** 68T05

— (*with* Buckley, James J.; Hayashi, Yoichi) Neural net solutions to fuzzy linear programming. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 99–111. 90C70 (68T05)

Feverati, G. (*with* Ravanini, F.; Takács, Gábor) Truncated conformal space at $c = 1$, nonlinear integral equation and quantization rules for multi-soliton states. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 264–273. (Summary) **99e:81222** 81T40 (81T10)

— (*with* Ravanini, F.; Takács, Gábor) Non-linear integral equation and finite volume spectrum of sine-Gordon theory. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 543–586. (Summary) **99k:81175** 81T10

Fewster, C. J. (*with* Eveson, S. P.) Bounds on negative energy densities in flat spacetime. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084010, 6 *pp.* 83C47

Fey, Michael Multidimensional upwinding. I. The method of transport for solving the Euler equations. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 159–180. (Summary) **99c:76084a** 76M25 (76N10)

— Multidimensional upwinding. II. Decomposition of the Euler equations into advection equations. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 181–199. (Summary) **99c:76084b** 76M25 (76N10)

Feyel, Denis (*with* de La Pradelle, Arnaud) On the approximate solutions of the Stratonovitch equation. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 7, 14 *pp.* (*electronic*). (Marco Ferrante) **99j:60075** 60H07 (60G17)

Feynman, Richard P. ★ Statistical mechanics. A set of lectures. Reprint of the 1972 original. Advanced Book Classics. *Perseus Books, Advanced Book Program, Reading, MA*, 1998. *xiv*+354 *pp. ISBN* 0-201-36076-4 (M. Lawrence Glasser) **99i:82001** 82–01

akbari-Feyzaabaadi, S. *see* **Akbari-Feyzaabaadi, S.**

Feza Güvenilir, A. (*with* Çelebi, A. Okay) Existence of solutions of semilinear higher order elliptic equations. (English summary) *Indian J. Math.* **38** (1996), *no.* 3, 203–218. (Gianni Arioli) **99f:35048** 35J60

Fiacca, Antonella (*with* Papageorgiou, Nikolaos S.; Papalini, Francesca) A class of nonlinear boundary value problems and second order vector differential equations. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 149–164. (Summary) **99a:34054** 34B15 (47H15, 47N20)

— (*with* Papageorgiou, Nikolaos S.; Papalini, Francesca) On the existence of optimal controls for nonlinear infinite-dimensional systems. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 291–312. (Angelo Favini) **99g:49005** 49J27 (34G20, 47N20)

— (*with* Cardinali, Tiziana; Papageorgiou, Nikolaos S.) An existence theorem for evolution inclusions involving opposite monotonicities. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 1–14. (Markus Kunze) **99d:34109** 34G20 (34A60, 49J24)

Fiagbedzi, Yawvi A. (*with* Cherid, Ali) An observer for systems described by neutral functional-differential equations. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 379–395. (Krishnan Balachandran) **99j:93014** 93B07 (34K35, 93C30)

— (*with* Cherid, Ali) A perturbation approach to finite-dimensional stabilization of time-lag systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 789–802. (Summary) **99d:93053** 93D15

Fialko, Sergej (*with* Mutzel, Petra) A new approximation algorithm for the planar augmentation problem (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 260–269, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68Q25, 68U05)

Fialkow, Lawrence A. (*with* Curto, Raúl E.) Flat extensions of positive moment matrices: relations in analytic or conjugate terms. *Nonselfadjoint operator algebras, operator theory, and related topics*, 59–82, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Vladimir Derkach) **99i:47026** 47A57 (44A60)

— (*with* Curto, Raúl E.) Flat extensions of positive moment matrices: recursively generated relations. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 648, x+56 *pp.* (Mihai Putinar) **99d:47015** 47A57 (15A57, 30E05, 44A60)

ledesma Fiallo, Luis Angel *see* **Ledesma Fiallo, Luis Angel**

Fiat, Amos (*with* Azar, Yossi; Bartal, Yair; Feuerstein, Esteban; Leonardi, Stefano; Rosén, Adi) On capital investment. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 429–441, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (N. H. Bingham) **99c:90017** 90A09 (68Q25)

— (*with* Woeginger, Gerhard J.) Competitive analysis of algorithms. *Online algorithms (Schloss Dagstuhl, 1996), 1–12, Lecture Notes in Comput. Sci., 1442, Springer, Berlin, 1998.* (*see* **99m:68003**) 68Q25
— (*with* Woeginger, Gerhard J.) Competitive odds and ends. *Online algorithms (Schloss Dagstuhl, 1996), 385–394, Lecture Notes in Comput. Sci., 1442, Springer, Berlin, 1998.* (*see* **99m:68003**) 68Q25
— (*with* Awerbuch, Baruch; Bartal, Yair) Distributed paging for general networks. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 67–104. (Luisa Gargano) **99h:68064** 68Q22 (68M10)
— (*with* Foster, Dean P.; Karloff, Howard; Rabani, Yuval; Ravid, Yiftach; Vishwanathan, Sundar) Competitive algorithms for layered graph traversal. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 448–463 (*electronic*). (Summary) **99g:68064** 68Q10 (05C85, 68Q25, 68R10)
— *see also* **Online algorithms**, **99m:68003**
Fichefet, Thierry (*with* Deleersnijder, Eric; Beckers, Jean-Marie; Campin, Jean-Michel; El Mohajir, Mohammed; Luyten, Patrick) Some mathematical problems associated with the development and use of marine models. *The mathematics of models for climatology and environment (Puerto de la Cruz, 1995), 39–86, NATO ASI Ser. Ser. I Glob. Environ. Change, 48, Springer, Berlin, 1997.* (*see* **99d:86001**) 86A05
Fichera, Gaetano A boundary value problem connected with response of semi-space to a short laser pulse. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 197–227. (Ya. A. Roĭtberg) **99c:35139** 35L35 (35B40, 35E15, 35Q72)
— *see also* **Oleĭnik, Ol'ga Arsen'evna**, **99c:35140**; **Grioli, Giuseppe**; **Bibliography: Fichera, Gaetano** *and* **Ricci, Paolo Emilio**
Fichet, Bernard (*with* Diatta, Jean) Quasi-ultrametrics and their 2-ball hypergraphs. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 87–102. (Summary) **99g:54022** 54E15 (05C65)
Fichmann, Luiz A compact dissipative dynamical system for a difference equation with diffusion. *J. Differential Equations* **138** (1997), *no.* 1, 1–18. (A. D. Mednykh (Zbl 890.39005)) **99d:58157** 58F39 (35K99, 35R10, 39A10, 58F09)
Fichtner, K.-H. (*with* Liebscher, Volkmar; Freudenberg, W.) Time evolution and invariance of boson systems given by beam splittings. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 511–531. (John E. Gough) **99k:81141** 81S25 (46N50, 81P15)
Fidaleo, F. Some operator ideals in non-commutative functional analysis. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 759–776. (Summary) **99i:46041** 46L05 (46B28, 46L50, 47B49, 47D50)
lópez-Fidalgo, J. *see* **López-Fidalgo, J.**
Fidel, Manuel M. Semantic models of modal logic in n-valued logics. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahía Blanca, 1997), 167–177, Univ. Nac. del Sur, Bahía Blanca, 1997.* (S. Rudeanu) **99m:03129** 03G20 (06D30)
Fidge, Colin (*with* Lermer, Karl) Compilation as refinement. (English summary) *Formal Methods Pacific '97 (Wellington), 142–164, Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore, 1997.* (Summary) **99b:68023** 68N05 (68N20)
— (*with* Utting, Mark) Refinement of infeasible real-time programs. (English summary) *Formal Methods Pacific '97 (Wellington), 243–262, Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore, 1997.* (Summary) **99b:68126** 68Q60 (68Q10)
Fiduccia, Charles M. (*with* Scheinerman, Edward R.; Trenk, Ann N.; Zito, Jennifer S.) Dot product representations of graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 113–138. (Michael Jacobson) **99c:05161** 05C75
— (*with* Forcade, Rodney W.; Zito, Jennifer S.) Geometry and diameter bounds of directed Cayley graphs of abelian groups. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 157–167 (*electronic*). (Dave Witte) **99g:05096** 05C25 (68R10, 90B12)
Fiebig-Wittmaack, Melitta (*with* Elgueta A., Luisa; Villagran, Maria Teresa) An averaging method applied to a Duffing equation. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 359–367. (Summary) **99h:34068** 34C29 (34C15)
— Existence of multiple ordered solutions for a semilinear elliptic boundary value problem. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 61–66. (Summary) **99k:35062** 35J65 (47H15, 47N20)
Fiedler, Bernd An algorithm for the decomposition of ideals of the group ring of a symmetric group. (English summary) *Sém. Lothar. Combin.* **39** (1997), *Art. B39e, 26 pp. (electronic).* (Ben Ford) **99b:20024** 20C30 (05E10, 20C05, 20C40)
— A characterization of the dependence of the Riemannian metric on the curvature tensor by Young symmetrizers. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 135–157. (Emil Zakhary) **99g:53020** 53B21 (05E10, 20C30, 53A55)
Fiedler, Bernold (*with* Dangelmayr, Gerhard; Kirchgässner, Klaus; Mielke, Alexander) ★ Dynamics of nonlinear waves in dissipative systems: reduction, bifurcation and stability. (English summary) With a contribution by G. Raugel. Pitman Research Notes in Mathematics Series, 352. *Longman, Harlow, 1996.* vi+277 *pp. ISBN* 0-582-22929-4 (Arnd Scheel) **99d:58002** 58–02 (35L70, 35Q55, 58Fxx, 76B15, 76E30)
— (*with* Turaev, D. V.) Normal forms, resonances, and meandering tip motions near relative equilibria of Euclidean group actions. (English summary) *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 2, 129–159. (Ian Melbourne) **99m:58171** 58F36 (34C20, 34C35, 35K99, 58F14)
— (*with* Behrends, Ehrhard) Periods of discretized linear Anosov maps. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 331–341. (Franco Vivaldi) **99c:58128** 58F20
— (*with* Scheel, Arnd; Vishik, Mark I.) Large patterns of elliptic systems in infinite cylinders. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 9, 879–907. (Alan V. Lair) **99m:35053** 35J55 (34G20, 47H20, 58F39)
— (*with* Gedeon, Tomáš) A class of convergent neural network dynamics. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 288–294. (Brian D. Sleeman) **99c:92008** 92B20 (34C35, 34D20)
Fiedler, Brian Continuous adaptation of a curvilinear grid. *Numerical methods in fluid mechanics, 99–107, CRM Proc. Lecture Notes, 16, Amer. Math. Soc., Providence, RI, 1998.* (From the text) **99f:76099** 76M25 (86–08)
Fiedler, Miroslav Additive compound graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 97–108. (Thomas H. Foregger) **99c:05131** 05C50
— Ultrametric sets in Euclidean point spaces. (English summary) *Electron. J. Linear Algebra* **3** (1998), 23–30 (*electronic*). (Summary) **99e:51015** 51K05 (05C12)
— Some characterizations of symmetric inverse M-matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 179–187. (Robert Beauwens) **99h:15024** 15A57 (05C99, 15A48)
— (*with* Pták, Vlastimil) Some inequalities related to M-matrices. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 171–176. (Jeffrey Stuart) **99b:15022** 15A45
Fiedorowicz, Zbigniew (*with* Song, Yongjin) The braid structure of mapping class groups. Surgery and geometric topology (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 2, 21–29. (From the introduction) **99g:18005** 18D10 (20F38, 57M99)
Fieker, C. (*with* Daberkow, M.; Klüners, Jürgen; Pohst, Michael E.; Roegner, K.; Schörnig, M.; Wildanger, K.) KANT V4. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 267–283. (Wieb Bosma) **99g:11150** 11Y40 (12Y05, 68Q40)
Field, C. A. (*with* Tingley, M. A.) Small sample asymptotics: applications in robustness. *Robust inference, 513–536, Handbook of Statist., 15, North-Holland, Amsterdam, 1997.* (*see* **99d:62025**) 62F35 (62E17)
Field, John Edwin (*with* Bourne, N. K.) Shock-induced collapse and luminescence by cavities. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 295–311. (*see* **99k:76002**) 76Q05 (78A99)
Field, Martyn R. Optimizing a parallel conjugate gradient solver. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 27–37 (*electronic*). (*see* **99a:65007**) 65F10
Field, Michael Symmetry breaking for equivariant maps. (English summary) *Algebraic groups and Lie groups, 219–253, Austral. Math. Soc. Lect. Ser., 9, Cambridge Univ. Press, Cambridge, 1997.* (Michael Dellnitz) **99k:58127** 58F14 (58E09)
Field, T. R. (*with* Low, Robert) Causal relations via linking in twistor space. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 339–348. (Peter R. Law) **99i:81075** 81R25 (32L25)
Fields, Joe (*with* Gaborit, Philippe; Leon, Jeffrey S.; Pless, Vera) All self-dual Z_4 codes of length 15 or less are known. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 311–322. (Summary) **99a:94061** 94B60
Fiengo, Robert (*with* May, Robert C.) Names and expressions. *J. Philos.* **95** (1998), *no.* 8, 377–409. 03B45 (03A05, 03B65)
Fierro, Francesca (*with* Goglione, Roberta; Paolini, Maurizio) Numerical simulations of mean curvature flow in the presence of a nonconvex anisotropy. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 573–601. (Maura Ughi) **99k:58040** 58E12 (53A10, 65C20)
— (*with* Goglione, Roberta) Error estimates and numerical simulations of mean curvature flow through a modified reaction-diffusion equation. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 513–528. (Zhangxin Chen) **99d:65262** 65M15 (35K57, 65M99, 76R99)
Fierro, Rafael (*with* Lewis, Frank L.; Liu, Kai[1]) Hybrid control system design using a fuzzy logic interface. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 3, 401–419. (Summary) **99b:93034** 93C42 (93C30)
Fieux, Etienne (*with* Solotar, Andrea) Une suite spectrale pour les groupes d'homotopie des espaces d'applications équivariantes. (English and French summaries) [A spectral sequence for the homotopy groups of spaces of equivariant mappings] *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 565–582. (Summary) **99h:55014** 55P91 (18G10, 55Q05, 55S37, 55T99)
Fife, Paul C. (*with* Wang, Xuefeng) A convolution model for interfacial motion: the generation and propagation of internal layers in higher space dimensions. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 85–110. (Stanislaus Maier-Paape) **99i:45017** 45K05 (35K55, 35Q72, 73B30, 82B24)
— (*with* Wang, Xiao Ping[1]) Periodic structures in a van der Waals fluid. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 235–250. (Denis Serre) **99c:76091** 76N10 (35L65, 35Q35, 76A02, 76T05)
— (*with* Charach, Chaim) Solidification fronts and solute trapping in a binary alloy. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1826–1851 (*electronic*). (Summary) **99d:80005** 80A22 (73B30)
Figallo, Aldo V. Q-operators on implicative Łukasiewicz algebras. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics (Spanish) (Bahía Blanca, 1997), 141–154, Univ. Nac. del Sur, Bahía Blanca, 1997.* (Manuel Abad) **99i:06014** 06D30 (03G20, 03G25, 06F35)
Figari, R. (*with* Dell'Antonio, Gianfausto; Teta, A.) Diffusion of a particle in presence of N moving point sources. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 4, 413–424. (Paolo Acquistapace) **99k:81331** 81U10 (47D06, 47N50, 81Q10)
— (*with* Brasche, Johannes; Teta, A.) Singular Schrödinger operators as limits of point interaction Hamiltonians. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 163–178. (Summary) **99a:35040** 35J10 (35P05, 81Q10)
Figotin, Alexander (*with* Kuchment, Peter) Spectral properties of classical waves in high-contrast periodic media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 683–702 (*electronic*). (Peter D. Hislop) **99f:47061** 47F05 (35P05, 35Q60, 73D15, 76Q05, 78A40)
— (*with* Klein, Abel) Midgap defect modes in dielectric and acoustic media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1748–1773 (*electronic*). (Anatoly M. Kamchatnov) **99f:78011** 78A40 (35Q99, 76Q05)
Figueira, M. S. (*with* Foglio, M. E.) Cumulant expansion of the periodic Anderson model in infinite dimensions. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7879–7894. (Summary) **99a:82051** 82B44
Figueira, Mário (*with* Dias, João-Paulo; Sanchez, Luis) Formation of singularities for the solutions of some quasilinear wave equations. (English summary) *Équations aux dérivées partielles et applications, 453–460, Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris, 1998.* (Summary) **99h:35138** 35L70
— (*with* Dias, João-Paulo) On the stability of the weak solutions for a quasilinear equation with a semilinear source term. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 229–240. (Summary) **99b:35145** 35L70 (35B35)

— (*with* Dias, João-Paulo; Sanchez, Luis) On the existence of shock fronts for a Burgers equation with a singular source term. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1107–1113. (Summary) **99e:35196** 35Q53 (35L67, 76L05)

Figueiredo, Annibal (*with* Rocha Filho, Tarcísio M.; Brenig, Léon) Algebraic structures and invariant manifolds of differential systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2929–2946. (Michael K. Kinyon) **99h:34010** 34A34 (17A99, 34C20)

— (*with* Rocha Filho, Tarcísio M.; Brenig, Léon) [QPSI] a MAPLE package for the determination of quasi-polynomial symmetries and invariants. (English summary) *Comput. Phys. Comm.* **117** (1999), *no.* 3, 263–272. 65–04 (65C20)

Figueiredo, B. D. B. Gödel-type spacetimes and the motions of charged particles. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3849–3862. (Summary) **99h:83030** 83C50 (83C10, 83D05)

de Figueiredo, Celina Miraglia Herrera (*with* Gimbel, John; de Mello, Célia Picinin; Szwarcfiter, Jayme L.) Sources and sinks in comparability graphs. (English summary) *Order* **14** (1997), *no.* 1, 75–83. (H. A. Jung) **99b:05138** 05C99 (06A07)

— (*with* Meidanis, João; de Mello, Célia Picinin) On edge-colouring indifference graphs. (English summary) Latin American Theoretical INformatics (Valparaíso, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 1, 91–106. (Summary) **99f:05037** 05C15 (68R10)

— (*with* Faria, Luerbio; Xavier de Mendonça Neto, Candido Ferreira) The splitting number of the 4-cube. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 141–150, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:68122** 68R10 (05C85)

— (*with* Cerioli, Márcia R.; Everett, Hazel; Klein, Sulamita) The homogeneous set sandwich problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 31–35. (Summary) **99e:68120** 68R10 (05C85)

— (*with* Gimbel, John; de Mello, Célia Picinin; Szwarcfiter, Jayme L.) Even and odd pairs in comparability and in P_4-comparability graphs. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 293–297. (Summary) **99i:05188** 05C85 (68Q25)

de Figueiredo, Djairo G. *see* **De Figueiredo, Djairo G.**

Figueiredo, Isabel (*with* Leal, Carlos) Ellipticity of Koiter's and Naghdi's models for nonhomogeneous anisotropic shells. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 75–84. (Summary) **99i:73048** 73K15

bastos de Figueiredo, J. C. *see* **Bastos de Figueiredo, J. C.**

Figueiredo, Lucília (*with* Camarão, Carlos) Towards higher-order types. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68N15

Figueiredo, Mário A. T. (*with* Leitão, José M. N.) Absolute phase image reconstruction: a stochastic nonlinear filtering approach. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 868–882. 94A12 (93E11)

de Figueiredo, Rui J. P. Optimal interpolating and smoothing functional artificial neural networks (FANNs) based on a generalized Fock space framework. (English summary) Sydney R. Parker Memorial Issue, Part II. *Circuits Systems Signal Process.* **17** (1998), *no.* 2, 271–287. (Summary) **99d:92007** 92B20

— (*with* Chen, Gang[4]; Chen, Guanrong) Feedback control of unknown chaotic dynamical systems based on time-series data. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 5, 640–644. 93B52 (93C30)

Figueiredo, Vera (*with* Rodrigues Costa, Sueli I.; Grou, Maria Alice) Mechanical curves—a kinematic Greek look through the computer. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 459–468. 70B99 (53A17)

Figueiredo, W. (*with* Ma, Y. Q.) Quantum spherical XY model in a random field: coherent state path integral approach. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 1, 103–106. (Summary) **99g:82039** 82B44 (82D30)

Figueroa, Héctor (*with* Cariñena, José F.) Hamiltonian versus Lagrangian formulations of supermechanics. (English summary) *J. Phys. A* **30** (1997), *no.* 8, 2705–2724. (Summary) **99a:58060** 58F05 (58A50, 70G99, 70H05)

— (*with* Cariñena, José F.) Geometric formulation of higher-order Lagrangian systems in supermechanics. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 1, 25–58. (Fausto Ongay-Larios) **99a:58007** 58A50 (58C50, 58F05, 70H33, 70H35)

— (*with* Gracia-Bondía, J. M.; Lizzi, Fedele; Várilly, J. C.) A nonperturbative form of the spectral action principle in noncommutative geometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 329–339. (Daniela Bigatti) **99e:58179** 58G15 (46L87, 58B30, 58G40, 81V22)

Figueroa-O'Farrill, José M. $N = 2$ structures in string theories. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5559–5575. (Stanislav Z. Pakuliak) **99a:81136** 81T30 (81T40, 81T70)

— (*with* Stanciu, Sonia) Supersymmetric cosets from gauged SWZW models. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 23, 1677–1685. (Summary) **99e:81223** 81T40 (81R10)

— (*with* Acharya, Bobby S.; Spence, Bill) Branes at angles and calibrated geometry. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 12, 18 *pp.* (*electronic*). (Krzysztof Galicki) **99f:53060** 53C42 (53C80, 81T30, 81T60)

— (*with* Acharya, Bobby S.; Spence, Bill; O'Loughlin, M.) Euclidean D-branes and higher-dimensional gauge theory. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 583–602. (Héctor H. Garcia-Compeán) **99j:58033** 58D27 (57R57, 58D29, 81T60)

— (*with* Imaanpur, A.; McCarthy, James G.) Supersymmetry and gauge theory on Calabi-Yau 3-folds. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 167–174. (Joan Simón Soler) **99e:53024** 53C07 (14J32, 32J81, 53C80, 58D27, 81T30, 81T60)

Figurina, T. Yu. Construction of reachable domains of a mechanical system with a small parameter. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 31–35. 93B03 (70Q05, 93C70)

Fijalkow, Eric A numerical solution to the Vlasov equation. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 2-3, 319–328. 76M25 (65R20, 76X05)

— Numerical solution to the Vlasov equation: the 1D code. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 2-3, 329–335. 76M25 (65R20, 76X05)

— Numerical solution to the Vlasov equation: the 2D code. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 2-3, 336–344. 76M25 (65R20, 76X05)

Fikioris, George (*with* Margetis, Dionisios; Myers, John M.; Wu, Tai Tsun) Highly directive current distributions: general theory. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2531–2547. (Summary) **99e:78025** 78A40

el-Fiky, Ahmed Saber *see* **El-Fiky, Ahmed Saber**

Fila, M. (*with* Amann, Herbert) A Fujita-type theorem for the Laplace equation with a dynamical boundary condition. (English summary) *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 321–328. (Rodolfo Salvi) **99e:35036** 35J25 (35B35, 35K50)

— (*with* Chipot, Michel; Chlebík, M.; Shafrir, Itai) Existence of positive solutions of a semilinear elliptic equation in $\mathbf{R}^n_+$ with a nonlinear boundary condition. *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 429–471. (Jianfu Yang) **99h:35060** 35J65 (35B05)

Fiáková, Z. (*with* Mihók, Peter; Semanišin, Gabriel) A note on maximal k-degenerate graphs. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 489–498. (J. Mitchem) **99m:05133** 05C75

Filakovszky, Péter (*with* Bukor, Jozsef; Tóth, János T.) On the Diophantine equation $x_1x_2\cdots x_n = h(n)(x_1 + x_2 + \cdots + x_n)$. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 123–130. (Lajos Hajdu) **99k:11050** 11D72

Filali, Mahmoud Minimal left ideals in the group algebra and its second conjugate. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 73–83. (Ryszard Szwarc) **99b:22009** 22D15 (43A15)

— Finite-dimensional right ideals in some algebras associated with a locally compact group. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1729–1734. (Adolf R. Mirotin) **99i:43001** 43A10

— Finite-dimensional left ideals in some algebras associated with a locally compact group. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2325–2333. (Adolf R. Mirotin) **99j:22005** 22D15 (43A10, 43A20)

— On the semigroup βS. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 241–247. (James Chew) **99i:22004** 22A15

Filali, Mohammed (*with* Diekmann, Odo) Perturbations d'un générateur infinitésimal par un opérateur dépendant du temps. (English and French summaries) [Perturbations of an infinitesimal generator by a time-dependent operator] *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 21–29. (Paolo Acquistapace) **99f:47046** 47D06 (34G10)

Filar, Jerzy A. (*with* Altman, Eitan; Avrachenkov, Konstantin E.) Asymptotic linear programming and policy improvement for singularly perturbed Markov decision processes. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 97–109. (Andris Abakuks) **99m:90156** 90C40

Filar, Maria (*with* Szałajko, Krystyna) Non-linear m-parabolic problem for a time-spatial wedge. (English and Polish summaries) *Opuscula Math. No.* 17 (1997), 5, 9, 13–21. (Jianzhong Su) **99b:35086** 35K55

Filaseta, Michael (*with* Browkin, Jerzy; Greaves, G. R. H.; Schinzel, Andrzej) Squarefree values of polynomials and the abc-conjecture. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 65–85, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (D. R. Heath-Brown) **99d:11101** 11N32 (11D99)

— (*with* Konyagin, Sergeĭ) On a limit point associated with the abc-conjecture. *Colloq. Math.* **76** (1998), *no.* 2, 265–268. (G. Greaves) **99b:11029** 11D75

Filatov, Aleksandr Nikolaevich (*with* Dymnikov, Valentin P.) ★ Mathematics of climate modeling. (English summary) Translated from the Russian. Modeling and Simulation in Science, Engineering, & Technology. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xvi+264 *pp. ISBN* 0-8176-3915-2 (Yuri N. Skiba) **99k:76058** 76E20 (34C35, 35B40, 47H20, 58F40, 76D05, 76U05, 86A10)

Filatov, N. M. Improved dual version of the generalized minimum variance controller. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 131–143. 93E20 (93E35)

Filatov, O. P. Averaging of a controlled differential inclusion. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 782–785, 862; *translation in Differential Equations* **33** (1997), *no.* 6, 785–788 (1998). (Ĭordan I. Slavov) **99a:34035** 34A60 (34C29, 34H05, 49J24)

— (*with* Kozlov, R. I.) Erratum to: "Generalized Carathéodory existence theorems for a system of ordinary differential equations" [Differentsial'nye Uravneniya **31** (1995), no. 6, 1098–1099, 1104; MR 96k:34020] by È. G. Shifrin. (Russian) *Differ. Uravn.* **33** (1997), *no.* 11, 1568; *translation in Differential Equations* **33** (1997), *no.* 11, 1577 (1998). (From the text) **99k:34011** 34A34

— (*with* Kaĭrakbaev, A. K.) An iterative method for computing the limits of maximal means. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1661–1664; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1591–1594. (Summary) **99f:65124** 65L99

Filé, Gilberto (*with* Cortesi, Agostino; Winsborough, William) The quotient of an abstract interpretation. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 163–192. (Summary) **99b:68026** 68N15 (68Q55, 68Q60)

— (*with* Cortesi, Agostino) Sharing is optimal. (English summary) *J. Logic Programming* **38** (1999), *no.* 3, 371–386. (Summary) **99h:68030** 68N17 (68N20, 68Q60)

Files, Steve T. Transitivity and full transitivity for nontorsion modules. *J. Algebra* **197** (1997), *no.* 2, 468–478. (Luigi Salce) **99a:20059** 20K30 (20K21)

— (*with* Göbel, Rüdiger) Gauss' theorem for two submodules. *Math. Z.* **228** (1998), *no.* 3, 511–536. (Manfred Dugas) **99d:13012** 13C13 (13F10, 20K20)

Filho, Antonio Castelo (*with* Cuminato, José A.; Boaventura, Maurilio; Tomé, Murilo F.) Simulation of free surface flows in a distributed memory environment. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 77–92. (*see* **99k:65002**) 76M20 (76M25)

drigo Filho, E. *see* **Drigo Filho, E.**

boschi-Filho, H. *see* **Boschi-Filho, H.**

bellandi Filho, J. *see* **Bellandi Filho, J.**

prates Filho, J. S. *see* **Prates Filho, J. S.**

lopes Filho, M. C. *see* **Lopes Filho, M. C.**

lima-Filho, P. *see* **Lima-Filho, P.**

da silva Filho, P. B. *see* **da Silva Filho, P. B.**

rocha Filho, Tarcísio M. *see* **Rocha Filho, Tarcísio M.**

Filimonov, A. M. (*with* Myshkis, Anatolii) On approximation of difference operator with differential one by investigation of oscillations of 1-dimensional discrete systems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 197–204, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 34K05 (35R10, 39A70, 70J99)

— Continuous and discrete models of bounded one-dimensional media in the theory of viscoelasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 285–296; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 275–285. (Summary) **99c:73031** 73F99

— (*with* Myshkis, Anatolii) Asymptotic estimate of solution of one mixed difference-differential equation of oscillations theory. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 13–16. (Summary) **99d:34155** 34K25 (70J99)
Filina, M. Yu. (*with* Alidema, R. I.; Leonov, G. A.) On the movements of Froude-Zhukovskii pendulum. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **1** (1994), *no.* 4, 481–486. (Bozhidar Cheshankov) **99c:34067** 34C15 (70K10)
Filinovskiĭ, Aleksei V. (*with* Muravei, Leonid A.) Stabilization of solutions of the wave equation in domains with a perturbed star-shaped boundary. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 452–454. (A. V. Perzhan) **99f:35116** 35L05 (35B40)
— On the continuity of the spectrum of the Neumann problem for second-order elliptic operators in expanding domains. (Russian) *Mat. Zametki* **61** (1997), *no.* 3, 471–475; *translation in Math. Notes* **61** (1997), *no.* 3-4, 387–391. (M. S. Agranovich) **99h:35149** 35P05 (47F05)
— Integral estimates for solutions of the Helmholtz equation in unbounded domains. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 759–768; *translation in Math. Notes* **61** (1997), *no.* 5-6, 635–643. (Summary) **99b:35024** 35J05 (35B45)
— (*with* Muravei, Leonid A.) Wave equation and Helmholtz equation in domains with perturbed star-shaped boundary. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 503–520 (1998). (D. G. Natroshvili) **99c:35132** 35L05 (35B40, 35J05)
— Decay of solutions of the first mixed problem for the wave equation in domains with infinite boundaries. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 736–739. 35L05 (35B05)
— Decrease of solutions of the wave equation, and spectral properties of the Laplace operator in expanding domains. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 154–156; *translation in Math. Notes* **63** (1998), *no.* 1-2, 140–142. (Vladimir Tulovsky) **99f:35119** 35L20 (35B40, 35P05)
Filipczak, Małgorzata On Foran's sequence conditions. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 233–239. (James Foran) **99h:26007** 26A15
Filipich, C. P. (*with* Rosales, M. B.; Bellés, P. M.) Natural vibration of rectangular plates considered as tridimensional solids. (English summary) *J. Sound Vibration* **212** (1998), *no.* 4, 599–610. (Summary) **99a:73086** 73K12 (73K10)
Filipović, Vojislav Ž. (*with* Kovačević, Branko D.) On robustified adaptive minimum-variance controller. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 117–129. 93E12 (93B36)
Filipowski, Sharon On the complexity of solving sparse symmetric linear programs specified with approximate data. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 769–792. (Charles E. Blair) **99a:90201** 90C31 (65G99, 65K05, 90C05)
Filippi, Antonio (*with* Elizalde, Emilio; Vanzo, Luciano; Zerbini, Sergio) One-loop effective potential for a fixed charged self-interacting bosonic model at finite temperature with its related multiplicative anomaly. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7430–7443. (Summary) **99k:81195** 81T16 (58G26, 81T50)
Filippi, L. (*with* Wallis, S. G.; Manson, J. R.) A conservative semi-Lagrangian algorithm for one-dimensional advection-diffusion. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 671–679. 65M99
de Filippis, V. *see* **De Filippis, V.**
Filipponi, Piero (*with* Hart, Evelyn L.) The Zeckendorf decomposition of certain Fibonacci-Lucas products. *Fibonacci Quart.* **36** (1998), *no.* 3, 240–247. (Peter J. Grabner) **99d:11006** 11A63 (11B39)
— Representing generalized Lucas numbers in terms of their α-values. *Fibonacci Quart.* **36** (1998), *no.* 5, 457–462. (Neville Robbins) **99i:11009** 11B39
— On the numbers that preserve their fractional parts when raised to negative powers. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 799–803. (Shiro Ando) **99k:11034** 11B83
Filippov, A. T. (*with* Cavaglià, Marco; de Alfaro, Vittorio) Definition of time in quantum cosmology. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 375–380, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C45
— (1 + 1)-dimensional models related to gravity. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 290–298, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T10 (83C99)
— Integrable 1 + 1 dimensional matter—dilaton gravity models. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 239–242, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C99 (83E30)
— (*with* Cavaglià, Marco; de Alfaro, Vittorio) Quantization of the string inspired dilaton gravity and the Birkhoff theorem. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 265–270. (Summary) **99b:83032** 83C45 (83E30)
Filippov, G. F. (*with* Dotsenko, I. S.; Lisetskyi, A. F.) Construction of the basis functions of the two rotator nuclear model in the Fock-Bargmann space. *Symmetry methods in physics, Vol. 1 (Dubna, 1995)*, 160–163, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81V35
— (*with* Draayer, J. P.) Fock-Bargmann space and SU(3) models. (English summary) *Phys. Particles Nuclei* **29** (1998), *no.* 6, 549–559. (Summary) **99h:81063** 81R05 (81V35)
Filippov, V. T. On a completely characteristic ideal of alternative algebras. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 3, 323–339, 358–359; *translation in Algebra and Logic* **36** (1997), *no.* 3, 193–203. (Oleg Smirnov) **99b:17043** 17D05
— On the n-Lie algebra of Jacobians. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 660–669, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 573–581. (Plamen Koshlukov) **99g:17006** 17A42 (17B99)
Filippov, V. V. On a theorem of Aronszajn. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 75–79, 142; *translation in Differential Equations* **33** (1997), *no.* 1, 75–79. (Ł. Górniewicz) **99c:34028** 34A99
— On the Dirichlet problem for a second-order vector ordinary differential equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1057–1068, 1150; *translation in Differential Equations* **33** (1997), *no.* 8, 1063–1074 (1998). (S. A. Brykalov) **99j:34022** 34B15 (34A60, 54H99)
— On a condition for the uniform continuity of a sequence of solution spaces. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 416–423; *translation in Math. Notes* **61** (1997), *no.* 3-4, 340–345. (A. Pelczar) **99e:34021** 34A99 (34A12, 34A60, 54C05)
— On the existence of periodic solutions. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 769–784; *translation in Math. Notes* **61** (1997), *no.* 5-6, 644–656. (Ł. Górniewicz) **99a:34117** 34C25 (34A60)
— (*with* Klebanov, Boris S.) On the acyclicity of the solution set of the Cauchy problem for differential equations. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 836–842; *translation in Math. Notes* **62** (1997), *no.* 5-6, 701–706 (1998). (Philip Korman) **99d:34007** 34A12 (34C25)
Filippov, Vadim I. On the completeness and other properties of some function systems in L_p, $0 < p < \infty$. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 42–53. (Martin Bartelt) **99h:41029** 41A30
Filippychev, D. S. Application of the method of characteristics to obtain a solution of the transport equation. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1999**, *no.* 1, 24–27, 51. 76X05 (82D10)
Filk, Thomas *see* **Honerkamp, Josef, 99j:82001**
Fill, James Allen (*with* Holst, Lars) On the distribution of search cost for the move-to-front rule. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 3, 179–186. (Martin V. Hildebrand) **99b:60118** 60J27 (60C05, 60J10, 68P20)
— (*with* Dobrow, Robert P.) The number of m-ary search trees on n keys. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 435–453. (E. M. Reingold) **99f:68034** 68P05 (68R05)
— An interruptible algorithm for perfect sampling via Markov chains. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 131–162. (Olle Häggström) **99g:60113** 60J10 (60G40, 62E25)
— The move-to-front rule: a case study for two perfect sampling algorithms. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 283–302. (Martin V. Hildebrand) **99g:60114** 60J10 (60K30)
Fillmore, Peter A. *see* **Operator algebras and their applications, 99c:46002** *and* **Canadian Mathematical Society, 99m:01104**
Fillod, R. (*with* Bouhaddi, N.) Substructuring by a two level dynamic condensation method. (English summary) *Comput. & Structures* **60** (1996), *no.* 3, 403–409. (Summary) **99g:73101** 73V05
Filo, J. (*with* Chipot, Michel) An example of blowup for a degenerate parabolic equation with a nonlinear boundary condition. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 89–102. (Summary) **99a:35140** 35K60 (35B40)
Flonov, Yu. P. The stability of recurrence and dissipativity for general kernels. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 147–154; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 153–160. (Summary) **99d:60078** 60J10
Fil'shtinskiĭ, M. L. Diffraction of acoustic-electric waves by tunnel cavities in an unbounded piezo-ceramic medium. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 699–706; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 649–655. 73R05 (73D25)
Filter, Wolfgang (*with* Constantinescu, Corneliu; Weber, Karl) ★ Advanced integration theory. (English summary) With the collaboration of Alexia Sontag. Mathematics and its Applications, 454. *Kluwer Academic Publishers, Dordrecht*, 1998. $x+861$ *pp. ISBN* 0-7923-5234-3 (Richard Becker) **99m:28001** 28–01 (26–01, 28–02, 46–01)
Fimmel, Torsten Verdier duality for systems of coefficients over simplicial sets. (English summary) *Math. Nachr.* **190** (1998), 51–122. (Timothy Porter) **99g:55024** 55U30 (14F99, 18F20, 18G30, 55N25)
Finashin, S. M. On the topology of real plane algebraic curves with nondegenerate quadratic singularities. (Russian. Russian summary) *Algebra i Analiz* **8** (1996), *no.* 6, 186–204; *translation in St. Petersburg Math. J.* **8** (1997), *no.* 6, 1039–1051. (Summary) **99c:14067** 14P05 (14H20, 14J28)
— Quotient spaces of surfaces with real fibering under complex conjugation. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 5, 151–160; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 5, 1017–1023. (Stanisław Janeczko) **99a:57020** 57N13 (14J17, 57M12)
— Complete decomposability of quotients by complex conjugation for real complete intersection surfaces. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 111–118. (Victoria Powers) **99a:57027** 57R55 (14P05)
Finbow, Wendy A. (*with* Dawson, Robert J. MacG.; Mak, Philip) Monostatic simplexes. II. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 209–219. (H. W. Guggenheimer) **99g:52012** 52B11 (52B12)
— (*with* Dawson, Robert J. MacG.) What shape is a loaded die? *Math. Intelligencer* **21** (1999), *no.* 2, 32–37. 00A69
Fine, Benjamin (*with* Rosenberger, Gerhard; Stille, Michael) Conjugacy pinched and cyclically pinched one-relator groups. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 207–227. (David Meier) **99c:20039** 20F05 (20E06, 20E26)
— (*with* Gaglione, Anthony M.; Myasnikov, A. G.; Rosenberger, Gerhard; Spellman, Dennis) A classification of fully residually free groups of rank three or less. (English summary) *J. Algebra* **200** (1998), *no.* 2, 571–605. (Dimitrios Varsos) **99b:20053** 20E26
Fine, Jason P. (*with* Cheng, Su Chun; Wei, Lee Jen) Prediction of cumulative incidence function under the proportional hazards model. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 219–228. (Summary) **99a:62148** 62P10 (62N05)
Fine, Jeanne *see* **Experimental designs, 99a:62101**
Finelli, Fabio (*with* Casadio, Roberto; Venturi, Giovanni) Adiabatic invariant treatment of a collapsing sphere of quantized dust. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2451–2464. (Summary) **99e:83031** 83C47 (83C55)
— (*with* Bertoni, C.; Venturi, Giovanni) Adiabatic invariants and scalar fields in a de Sitter space-time. (English summary) *Phys. Lett. A* **237** (1998), *no.* 6, 331–336. (Maria E. X. Guimarães) **99b:81163** 81T20 (83C47)
Finesso, L. (*with* Csiszár, Imre) On a problem about I-projections. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 41–50. (P. N. Rathie) **99k:94021** 94A17 (62B10)
Finet, C. (*with* Tkebuchava, G. E.) Walsh-Fourier series and their generalizations in Orlicz spaces. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 405–418. (Sándor Fridli) **99e:42042** 42C10 (46E30)
de Finetti, Bruno *see* **Gower, B. S., 99k:01035**

Finin, G. S. (*with* Ostapenko, V. V.; Polivoda, O. V.) Optimal distribution of resources for consumers with equal expenditure. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1998**, *no.* 6, 106–109. 90C08 (90C90)

— (*with* Ostapenko, V. V.) Optimization of a system of consumption intervals in a resource allocation problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 120–127, 154. 90C90 (90A40)

Finis, Tobias Some computational results on Hecke eigenvalues of modular forms on a unitary group. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 149–180. (Stefan Breulmann) **99g:11063** 11F55 (11F60)

Finizio, Norman J. (*with* Lewis, Scott J.) Pitch tournament designs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 19–27. (Summary) **99j:05046** 05B30

— (*with* Merritt, Adele J.) Z-cyclic triplewhist tournaments—some exceptional cases. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 19–34. (Summary) **99j:05047** 05B30

— (*with* Leonard, Philip A.) More ZCPS-Wh(v) and several new infinite classes of Z-cyclic whist tournaments. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 193–202. (Ian Anderson) **99h:05021** 05B30

— New infinite classes of Z-cyclic whist tournaments. (English summary) *Util. Math.* **53** (1998), 81–99. (Ian Anderson) **99d:05015** 05B30

— (*with* Leonard, Philip A.) Inductive extensions of some Z-cyclic whist tournaments. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 299–307. (Summary) **99k:05047** 05B30

Fink, A. M. A best possible Hadamard inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 223–230. (Ion Raşa) **99b:26034** 26D15 (26D20)

Fink, Andreas Algorithmische Methoden zur Kartierung von DNA-Sequenzen. (English and German summaries) [Algorithmic methods for the mapping of DNA sequences] *Operations Research Proceedings* 1996 (*Braunschweig*), 66–71, *Springer, Berlin*, 1997. (*see* **99a:90009**) 92D20

Fink, Eugene (*with* Wood, Derick) Strong restricted-orientation convexity. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 35–51. (Jacques F. Bair) **99a:52001** 52A20

— (*with* Wood, Derick) Generalized halfspaces in restricted-orientation convexity. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 99–120. (Armin Hoffmann) **99h:52001** 52A01 (52A20, 52A30)

Fink, John Frederick Labelings that realize connected subgraphs of all conceivable values. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 29–37. (*see* **99i:00022**) 05C78

Fink, Thorsten A note on direct decompositions of large powers of the group of integers. *Comm. Algebra* **26** (1998), *no.* 11, 3553–3562. (Ulrich Albrecht) **99m:20131** 20K20

Finke, Gerd (*with* Dror, Moshe; Gravier, Sylvain; Kubiak, Wieslaw) On the complexity of a restricted list-coloring problem. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 103–109. (Summary) **99h:05109** 05C85 (05C15, 68Q25)

Finkel, Alain (*with* Schnoebelen, Philippe) Fundamental structures in well-structured infinite transition systems. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 102–118, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q60 (68Q68)

Finkelberg, M. (*with* Schechtman, Vadim) Localization of modules over small quantum groups. Algebraic geometry, 5. *J. Math. Sci.* **82** (1996), *no.* 1, 3127–3164. (From the introduction) **99c:17025** 17B37

martínez-Finkelshtein, Andrei *see* **Martínez-Finkelshtein, Andrei**

Finkelstein, David Ritz (*with* Baugh, James; Saller, Heinrich; Tang, Zhong) General covariance is Bose-Einstein statistics. (English summary) *On Einstein's path* (*New York*, 1996), 67–80, *Springer, New York*, 1999. (Sebastiano Sonego) **99m:83065** 83C45 (81P99)

— Action physics. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 447–455. (*see* **99k:00032**) 81P99

Finkelstein, Elizabeth (*with* Birman, Joan S.) Studying surfaces via closed braids. *J. Knot Theory Ramifications* **7** (1998), *no.* 3, 267–334. (Sergei K. Lando) **99i:57007** 57M25

— Closed incompressible surfaces in closed braid complements. *J. Knot Theory Ramifications* **7** (1998), *no.* 3, 335–379. (Sergei K. Lando) **99i:57013** 57M25 (57N10)

Finkelstein, Mark (*with* Tucker, Howard G.; Veeh, Jerry Alan) Point processes without topology. (English summary) *Statistics, probability and game theory*, 65–81, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Günter Last) **99d:60052** 60G55 (60G57)

— (*with* Tucker, Howard G.; Veeh, Jerry Alan) Confidence intervals for the number of unseen types. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 423–430. (Warren Esty) **99f:62045** 62F25

— (*with* Tucker, Howard G.; Veeh, Jerry Alan) Extinguishing the distinguished logarithm problems. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2773–2777. (Lin-Cheng Zhao) **99m:60029** 60E10 (60F05)

Finkelstein, Robert J. q-uncertainty relations. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1795–1803. (Robert Rałowski) **99g:81087** 81R50 (81S05)

— (*with* Cadavid, A. C.) General relativistic solitons. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7318–7326. (Summary) **99k:83098** 83C99 (83–08)

— (*with* Cadavid, A. C.) Kerr-Schild description of a rotating dyon. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 31–51. (Alberto Saa Vazquez) **99m:83028** 83C15 (83C22)

Finkler, Ulrich (*with* Călinescu, Gruia; Fernandes, Cristina G.; Karloff, Howard) A better approximation algorithm for finding planar subgraphs. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 269–302. (Summary) **99b:05130** 05C85 (68Q25, 68R10)

Finlayson, A. B. (*with* Merkin, John H.) Travelling waves in an ionic quadratic autocatalytic chemical system. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 5, 89–112. (Summary) **99m:92055** 92E20

Finn, Lee Samuel A numerical approach to binary black hole coalescence. (English summary) *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 147–166, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83–08 (83C57)

Finn, Robert S. (*with* Concus, Paul) Comments on a paper of J. B. Keller, A. C. King and G. Merchant: "Surface tension" [in *Of fluid mechanics and related matters (La Jolla, CA, 1990)*, 161–168, Scripps Inst. Oceanogr., San Diego, CA, 1991; MR 99d:76029]. *Nonlinear Anal.* **27** (1996), *no.* 7, 857–861. (John F. Harper) **99d:76030** 76D45 (76B45)

— (*with* Lu, Jianan) Some remarkable properties of H-graphs. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 57–61. (Fei-Tsen Liang) **99j:53008** 53A10 (35J60)

— (*with* Lu, Jianan) Regularity properties of H-graphs. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 379–399. (Rabah Souam) **99e:53007** 53A10 (35B65, 35J99, 76B45)

Finner, H. (*with* Roters, Markus) Asymptotic comparison of step-down and step-up multiple test procedures based on exchangeable test statistics. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 505–524. (S. Panchapakesan) **99h:62064** 62G30

Finney, John D. (*with* Sadegh, Nader; Heck, Bonnie S.) An explicit method for computing the positive real lemma matrices. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1057–1069. (Frank Uhlig) **99b:93019** 93B25 (65F30, 93–01)

Finnigan, T. D. (*with* Ivey, G. N.) Submaximal exchange between a convectively forced basin and a large reservoir. (English summary) *J. Fluid Mech.* **378** (1999), 357–378. (Summary) **99j:76041** 76E20 (76–05, 76R05, 86A05)

Fino, Anna Geometry and topology of homogeneous spaces. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 31–34. 53C30 (53C10)

— Systems of roots and topology of complex flag manifolds. (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 299–308. (A. L. Onishchik) **99j:57044** 57T15 (32M10)

Finocchiaro, Daniele (*with* Pellegrini, Marco; Bientinesi, Paolo) On numerical approximation of electrostatic energy in 3D. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 707–725. (Summary) **99h:78003** 78–08 (78A30)

Finogenko, I. A. (*with* Matrosov, V. M.) On attraction for autonomous mechanical systems with sliding friction. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 100–109; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 95–102. (Summary) **99d:70020** 70F20 (34D99, 70K20)

Finster, Felix Local U(2, 2) symmetry in relativistic quantum mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6276–6290. (Dan Radu Grigore) **99k:81018** 81P05

Finston, David R. (*with* Walcher, Sebastian) On a class of additive group actions on affine three-space. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 463–485. (Gene Freudenburg) **99i:14054** 14L30

Finta, Z. Best piecewise convex uniform approximation. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 49–52. (Yuly Makovoz) **99c:41037** 41A29 (41A50)

von Fintel, Kai Quantifiers and "if"-clauses. *Philos. Quart.* **48** (1998), *no.* 191, 209–214. (Anthony M. Ungar) **99k:03025** 03B65

Fintushel, Ronald (*with* Stern, Ronald John) Constructions of smooth 4-manifolds. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 443–452 (*electronic*). (Vicente Muñoz) **99g:57033** 57R55 (57N13, 57R57)

— (*with* Stern, Ronald John) Knots, links, and 4-manifolds. *Invent. Math.* **134** (1998), *no.* 2, 363–400. (Paolo Lisca) **99j:57033** 57R57 (57M25, 57N13, 57R55)

Finzel, Martina (*with* Berens, Hubert; Li, Wu[3]; Xu, Yuan[1]) Hoffman's error bounds and uniform Lipschitz continuity of best l_p-approximations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 183–201. (Summary) **99e:41026** 41A65 (49J45)

— (*with* Li, Wu[3]) Uniform Lipschitz continuity of best l_p-approximations by polyhedral sets. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 112–118. (William W. Hager) **99k:41043** 41A50 (49K40, 90C31)

Finzi Vita, Stefano (*with* Birindelli, Isabeau) A class of quasi-linear elliptic systems arising in image segmentation. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 4, 445–459. (Kanishka S. Perera) **99k:35043** 35J60 (35Q99, 49Q20, 68U10)

— (*with* Ferretti, Roberto) On a variational approximation of superlinear indefinite elliptic problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 759–771. (Michael Mascagni) **99h:65189** 65N30 (35J60)

Fiol, M. A. Some applications of the proper and adjacency polynomials in the theory of graph spectra. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research Paper* 21, 24 *pp.* (*electronic*). (Willem H. Haemers) **99c:05133** 05C50 (05C12, 05E30, 05E35)

— (*with* Garriga, E.) From local adjacency polynomials to locally pseudo-distance-regular graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 162–183. (Willem H. Haemers) **99c:05132** 05C50 (05C12, 05E30, 05E35)

— (*with* Garriga, E.) The alternating and adjacency polynomials, and their relation with the spectra and diameters of graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 77–97. (Robert Beezer) **99h:05083** 05C50 (05E30)

— (*with* Balbuena, C.; Carmona, Angeles; Fàbrega, Josep) Superconnectivity of bipartite digraphs and graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 61–75. (Summary) **99i:05128** 05C40 (05C20)

Fionov, A. N. (*with* Ryabko, B. Ya.) A fast and efficient homophonic coding algorithm. (English summary) *Algorithms and computation* (*Osaka*, 1996), 427–435, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **99c:94034** 94A60

— (*with* Ryabko, B. Ya.) Homophonic coding with logarithmic memory size. (English summary) *Algorithms and computation* (*Singapore*, 1997), 253–262, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 94A60

— An efficient method for the randomization of messages based on arithmetic coding. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* **1** **4** (1997), *no.* 2, 51–74, 115–116. (Summary) **99a:94030** 94A60

Fioravanti, D. (*with* Stanishkov, M.) On the null-vectors in the spectra of the 2D integrable hierarchies. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 109–119. (Summary) **99c:81219** 81T40 (58F07)

di Fiore, Carmine *see* **Di Fiore, Carmine**

Fiore, Gaetano (*with* Schupp, Peter[1]) Statistics and quantum group symmetries. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 369–377, *Banach Center*

Publ., 40, *Polish Acad. Sci., Warsaw*, 1997. (Pavel Šťovíček) **99a:81072** 81R50 (17B37)
— Deforming maps for Lie group covariant creation and annihilation operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3437–3452. (Władysław Marcinek) **99e:81093** 81R50 (17B37, 81S05)
— Braided chains of q-deformed Heisenberg algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5289–5298. (Fabio Gavarini) **99f:81091** 81R50 (17B37)
Fiore, Marcelo (*with* Cattani, Gian Luca; Winskel, Glynn) A theory of recursive domains with applications to concurrency (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 214–225, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (18D05, 68Q55)
— (*with* Honda, Kohei) Recursive types in games: axiomatics and process representation (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 345–356, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15 (68Q55)
Fiorentino, Giuseppe (*with* Serra, Stefano) Multigrid methods for indefinite Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 223–236 (1998). (Summary) **99e:65070** 65F30
— A structured approach to Toeplitz and Toeplitz-like linear systems with applications to (semi) elliptic problems. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 169–178, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65F30 (65N06)
Fiorenza, Alberto (*with* Krbec, Miroslav) Indices of Orlicz spaces and some applications. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 433–451. (Ha Huy Bang) **99b:46032** 46E30 (26A12, 42B20)
— BMO regularity for one-dimensional minimizers of some Lagrange problems. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 289–303. (Elvira Mascolo) **99d:49070** 49N60 (49N10)
Fiorenza, Renato On some notions associated with curves in $\mathbf{R}^k$. (Italian. English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 9–45 (1998). (Summary) **99d:49077** 49Q20 (65D17)
Fioresi, R. A deformation of the big cell inside the Grassmannian manifold $G(r, n)$. (English summary) *Rev. Math. Phys.* **11** (1999), *no.* 1, 25–40. (Mitsuhiro Takeuchi) **99k:16080** 16W30 (14M15)
Fiorini, Gene (*with* Lazebnik, F. G.) An extremal characterization of the incidence graphs of projective planes. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 257–260. (Summary) **99i:05109** 05C35 (05B25)
Fiorini, Paolo (*with* Shiller, Zvi) Time-optimal trajectory planning in dynamic environments. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 433–458. (*see* **99b:70004**) 93C85 (49J15, 70B15, 70Q05)
Fiorini, Stanley (*with* Sciriha, Irene; Lauri, Josef) Minimal basis for a vector space with an application to singular graphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 21–24. (Summary) **99i:05142** 05C50
Fiorot, Jean-Charles (*with* Bécar, Jean-Paul) Massic-vector-based conics modelling. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 17–24, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65239** 65Y25
— (*with* Cattiaux-Huillard, I.) Uniform point distribution on a circle. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 103–110, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65260** 65Y25 (53A04)
— (*with* Jeannin, Pierre) BR-form of an entire rational curve with a preassigned point. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 111–118, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:65013** 65D17
— (*with* Gibaru, Olivier) The smooth G^2 filling of a rectangular patch hole joining four heterogeneous surfaces. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 175–182, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65039** 65D17 (65Y25)
— (*with* Jeannin, Pierre) Une nouvelle construction du polygone massique de contrôle d'une courbe spline rationnelle. (English and French summaries) [New control massic [global] polygon construction of a rational spline] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1015–1019. (Summary) **99e:41025** 41A63 (41A15)
— (*with* Gibaru, Olivier) Surface de remplissage G^2-continu à n côtés. (English and French summaries) [A G^2-continuous n-sided filling patch] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 307–312. (Summary) **99j:65024** 65D17 (65Y25)
— (*with* Jeannin, Pierre) New control polygons for polynomial curves. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 65–76, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Antonio López-Carmona) **99m:65032** 65D17 (41A63, 65Y25)
Firby, Peter (*with* Haviland, Julie) Independence and average distance in graphs. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 27–37. (Summary) **99c:05101** 05C35 (05C12)
Firdosh Khan, M. (*with* Siddiqi, A. H.; Ahmad, Rais) Generalized multivalued η-mixed vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 137–144. (George Isac) **99j:47102** 47H19 (47H04, 49J40)
Firica, Gabriel Multilevel Landau-Zener formulae: adiabatic reduction on a complex path. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 360–390. (Alain Joye) **99e:81054** 81Q20 (34G10, 47N50)
Firinguetti L., Luis A simulation study of ridge regression in an incorrectly specified model. (English summary) *Estadística* **48** (1996), *no.* 150-151, 115–154 (1998). 62J07 (62E25)
Firmani, Bruno (*with* Leuzzi, Maria Laura) Upper and lower bounds for the stress intensity factor. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 745–753. (Cornelius O. Horgan) **99j:73020** 73C02 (73M25, 73V05)
— (*with* Trivellato, F.; Bertolazzi, Enrico) Finite volume modelling of free surface draining vortices. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 175–185. (*see* **99k:65002**) 76M25 (76C05, 76D05)
sadighi Firozabadi, Babak *see* **Sadighi Firozabadi, Babak**
Firpo, Marie-Christine (*with* Elskens, Yves) Kinetic limit of N-body description of wave-particle self-consistent interaction. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 193–209. (Brigitte Lucquin) **99k:82074** 82D10
Firsova, E. M. (*with* Zemlyakov, S. D.) Operative adjustment of a time-dependent system based on the self-regulation criterion. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 76–83. 93C15 (93C95)
— The principle of multiplicative adaptation in problems of the control of time-dependent dynamical systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 6, 86–99. 93C40 (93C41)
Firsova, N. E. Correct statement of a scattering problem for quantum charged scalar particles on the Reissner-Nordström black holes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 509–520. (Summary) **99d:83058** 83C57 (83C47)
— S matrix for quantum charged massive scalar particles on Schwarzschild black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 12, 127502, 4 *pp.* 83C57 (81T20)
Fisch, Nathaniel J. *see* **Meeting: Division of Plasma Physics, American Physical Society, 99b:76001**
Fischer, A. *see* **Fischer, Andreas[2]**
Fischer, A. E. (*with* Moncrief, V.) Hamiltonian reduction of Einstein's equations of general relativity. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 142–161. (Alan D. Rendall) **99a:83005** 83C05 (53C80)
Fischer, Alexander Approximation of almost periodic functions by periodic ones. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 193–205. (Weiyi Su) **99f:42020** 42A75 (41A30)
Fischer, Andreas[1] (*with* Fernandes, Luís; Júdice, Joaquim; Requejo, C.; Soares, João) A block active set algorithm for large-scale quadratic programming with box constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 75–95. (*see* **99b:90006**) 90C20
— New constrained optimization reformulation of complementarity problems. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 105–117. (Summary) **99a:90209** 90C33
— (*with* Facchinei, Francisco; Kanzow, Christian) Regularity properties of a semismooth reformulation of variational inequalities. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 850–869 (*electronic*). (Jie Sun) **99g:90145** 90C33 (49J40, 65K05)
— (*with* Facchinei, Francisco; Kanzow, Christian) On the accurate identification of active constraints. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 14–32 (*electronic*). (Stefan Scholtes) **99k:90152** 90C30 (65K05)
Fischer, Andreas[2] (*with* van Neerven, J. M. A. M.) Robust stability of C_0-semigroups and an application to stability of delay equations. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 82–100. (Summary) **99g:47092** 47D06 (34K20, 34K30, 47A10, 47N20)
Fischer, B. (*with* Friedrich, Jochen; Kupfer, C.; Müller, Georg; Vizman, D.) Experimental and numerical analysis of the influence of a rotating magnetic field on convection in Rayleigh-Bénard configurations. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows (Aussois, 1997)*, 279–294, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76–05, 76E15, 76E25)
Fischer, Bernd (*with* Wathen, Andrew J.; Silvester, David J.) The convergence of iterative solution methods for symmetric and indefinite linear systems. (English summary) *Numerical analysis 1997 (Dundee)*, 230–243, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65058** 65F10
— (*with* Ramage, A.; Silvester, David J.; Wathen, Andrew J.) Minimum residual methods for augmented systems. (English summary) *BIT* **38** (1998), *no.* 3, 527–543. (Jin Yun Yuan) **99i:65031** 65F10 (65F35, 65F50)
Fischer, Bert (*with* Di Biase, Fausto) Boundary behaviour of H^p functions on convex domains of finite type in $\mathbf{C}^n$. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 25–38. (Daniel H. Luecking) **99h:32007** 32A40
Fischer, Claude Linear amplification and error growth in the 2D Eady problem with uniform potential vorticity. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 22, 3363–3380. (Summary) **99h:86010** 86A10
Fischer, Eldar Cycle factors in dense graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 309–323. (Summary) **99m:05123** 05C70 (05C38)
Fischer, Gerald Differential geometry over the structure sheaf: a way to quantum physics. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 45–51. (Jaime Muñoz Masqué) **99m:58007** 58A05 (14A15)
Fischer, Hans-Jürgen On generating orthogonal polynomials for discrete measures. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 183–205. (K. Pan) **99d:65377** 65T20 (42C05)
Fischer, Herbert (*with* Flanders, Harley) A minimal code list. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 345–348. (Summary) **99m:65259** 65Y20 (65D25, 68Q25)
Fischer, Ian S. The dual angle and axis of a screw motion. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 331–340. (Summary) **99e:70007** 70B15
Fischer, Jan-Wilhelm (*with* Brass, Helmut; Petras, Knut) The Gaussian quadrature method. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 115–150 (1997). (I. P. Mysovskikh) **99a:65032** 65D32
Fischer, Joachim (*with* Fujino, Seiji) Über S. A. Gerschgorin (1901–1933). [About S. A. Gershgorin (1901–1933)] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 1, 15–19. 01A70
Fischer, Klaus Drei Grundirrtümer der Maschinentheorie des Bewußtseins. [Three fundamental fallacies in the machine theory of consciousness] *Philos. Natur.* **36** (1999), *no.* 1, 53–90. 00A30 (68T01)
Fischer, Martin J. (*with* Harris, Carl M.) Approximating by enhanced interpolation in queueing analyses. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 9, 707–717. 90B22
Fischer, Matthias (*with* Lukovszki, Tamás; Ziegler, Martin[2]) Geometric searching in walkthrough animations with weak spanners in real time. (English summary)

Algorithms—ESA '98 (Venice), 163–174, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68U05 (68P05, 68Q20)

Fischer, Michael J. (*with* Rabin, Michael O.) Super-exponential complexity of Presburger arithmetic. *Quantifier elimination and cylindrical algebraic decomposition (Linz*, 1993), 122–135, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 03F20 (03B25, 03F30, 68Q25)

— (*with* Paterson, Michael S.) Optimal layout of edge-weighted forests. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 135–159. (Summary) **99j:68103** 68R10 (05C85, 68Q35)

Fischer, Paul (*with* Klasner, Norbert; Wegener, Ingo) On the cut-off point for combinatorial group testing. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 83–92. (Summary) **99k:62018** 62C99 (05B05, 62F03)

Fischer, Paul F. Projection techniques for iterative solution of $A\underline{x} = \underline{b}$ with successive right-hand sides. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 193–204. (Summary) **99g:65038** 65F10 (76M25)

— (*with* Gottlieb, Sigal) Modified conjugate gradient method for the solution of $A\underline{x} = \underline{b}$. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 173–183. (Summary) **99g:65039** 65F10

— (*with* Mullen, Julie S.) Filtering techniques for complex geometry fluid flows. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 1, 9–18. (Summary) **99i:76126** 76M25

Fischer, Thomas Robert (*with* Chen, Qing[3]) Image coding using robust quantization for noisy digital transmission. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 496–505. 94A12

— (*with* Yang, Liuyang) Trellis-coded quantization for binary erasure channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 781–787. 94A40

Fischer, Werner (*with* Hupfer, Thomas; Leschke, Hajo; Müller, Peter[1]) Existence of the density of states for multi-dimensional continuum Schrödinger operators with Gaussian random potentials. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 133–141. (Nariyuki Minami) **99b:82049** 82B44 (47B80, 47N55)

— (*with* Leschke, Hajo; Müller, Peter[1]) On the averaged quantum dynamics by white-noise Hamiltonians with and without dissipation. (English summary) *Ann. Physik* (8) **7** (1998), *no.* 2, 59–100. (Serguei E. Tcheremchantsev) **99m:81109** 81S20

— (*with* Koch, Elke) Minimal surfaces with self-intersections along straight lines. I. Derivation and properties. (English summary) *Acta Cryst. Sect. A* **55** (1999), *no.* 1, 58–64. (Summary) **99m:53016** 53A10

Fischetti, Matteo (*with* Balas, Egon) On the monotonization of polyhedra. (English summary) *Math. Programming* **78** (1997), *no.* 1, *Ser. A*, 59–84. (Summary) **99b:90095** 90C27 (52B05)

— (*with* Salazar González, Juan José; Toth, Paolo) A branch-and-cut algorithm for the symmetric generalized traveling salesman problem. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 378–394. (Summary) **99f:90091** 90C27 (90C35)

— (*with* Salazar González, Juan José; Toth, Paolo) Solving the orienteering problem through branch-and-cut. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 133–148. (Anton Volgenant) **99f:90092** 90C27 (90C35)

Fischler, Willy (*with* Halyo, Edi; Rajaraman, Arvind; Susskind, Leonard) The incredible shrinking torus. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 2, 409–426. (Yolanda Lozano) **99d:81115** 81T30 (81T13, 81T60)

— (*with* Banks, Tom; Klebanov, Igor R.; Susskind, Leonard) Schwarzschild black holes in matrix theory. II. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 8, 16 *pp. (electronic)*. (Summary) **99d:83089** 83E30 (81T30, 83C57)

— (*with* Banks, Tom; Klebanov, Igor R.) Evaporation of Schwarzschild black holes in Matrix theory. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 54–58. (Summary) **99b:81175** 81T30

Fischlin, Marc Cryptographic limitations on parallelizing membership and equivalence queries with applications to random self-reductions. (English summary) *Algorithmic learning theory (Otzenhausen*, 1998), 72–86, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68164** 68T05 (68Q15)

Fisette, P. (*with* Péterkenne, J. M.) Contribution to parallel and vector computation in multibody dynamics. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 717–728. 70–08 (70E99)

— (*with* El Ouatouati, A.; Johnson, D. A.) A fully symbolic model of multibody systems containing flexible plates. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 4, 357–382. 70E99 (70B15, 73K12)

Fishback, Paul E. A composition problem involving analytic functions. *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 95–98. (G. U. Brauer) **99e:30006** 30C45 (46J15)

Fishburn, Peter C. (*with* LaValle, Irving H.) Linear lexicographic state-dependent utility. (English summary) *Decision making under risk and uncertainty (Durham, NC*, 1990), 83–91, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A43

— Cancellation conditions for multiattribute preferences on finite sets. (English summary) *Essays in decision making*, 157–167, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90A08 (90C29)

— Linear extensions of additive partial orders. (English summary) *Order* **14** (1997/98), *no.* 2, 153–169. (Summary) **99c:06004** 06A07

— (*with* Trotter, William T.) Dimensions of split semiorders. (English summary) *Order* **14** (1997/98), *no.* 2, 171–178. (Summary) **99b:06006** 06A07

— (*with* Kim, Jeong Han; Lagarias, Jeffrey C.; Wright, Paul E.) Interference-minimizing colorings of regular graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 15–40 (*electronic*). (Theodore C. Enns) **99c:05102** 05C35 (05C15)

— (*with* Erdös, Paul[1]) Duplicated distances in subsets of finite planar sets. *Geombinatorics* **8** (1999), *no.* 3, 73–77. 52C10

— (*with* Calderbank, A. Robert; Duel-Hallen, Alexandra; Rabinovich, Asya) Interpolation by convolutional codes, overload distortion, and the erasure channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 94–105. 94B10 (94B35)

Fisher, A. J. (*with* Binney, J. J.; Dowrick, N. J.; Newman, M. E. J.) ★ Zjawiska krytyczne. (Polish. Polish summary) [Critical phenomena] Wstęp do teorii grupy renormalizacji. [An introduction to the renormalization group] Translated from the 1992 English original by Grzegorz Musiał and Piotr Pawlicki. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 488 *pp. ISBN* 83-01-12454-7 (Paweł H. Węgrzyn) **99h:82030** 82B27 (81T17, 82–01, 82B26, 82B28)

Fisher, Albert M. (*with* Bedford, Tim) Ratio geometry, rigidity and the scenery process for hyperbolic Cantor sets. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 3, 531–564. (Summary) **99b:58137** 58F11 (58F15)

— (*with* Kaimanovich, Vadim A.) A Poisson formula for harmonic projections. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 209–216. (Sam Northshield) **99d:60087** 60J50 (28C10, 31A10, 43A07)

Fisher, B. *see* **Fisher, Brian**

Fisher, Benji (*with* Dąbrowski, Romuald) A stationary phase formula for exponential sums over $\mathbf{Z}/p^m\mathbf{Z}$ and applications to GL(3)-Kloosterman sums. *Acta Arith.* **80** (1997), *no.* 1, 1–48. (S. Friedberg (Zbl 893.11032)) **99d:11093** 11L05 (11F30, 11L07)

Fisher, Brian (*with* Pehlivan, Serpil) Non-commutative neutrix convolution products of functions and distributions. (English summary) *J. Natur. Sci. Math.* **34** (1994), *no.* 1, 69–75. (Summary) **99b:46058** 46F10

— (*with* Jain, Rajendra Kumar[1]; Shrivastava, A. K.) Fixed points on three complete metric spaces. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 27–35. 54H25

— (*with* Kılıçman, Adem; Ault, J. C.) Generalizations of commutative neutrix convolution products of functions. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 1–12. (Summary) **99h:46069** 46F10 (44A35)

— (*with* Nicholas, Joel D.) The exponential integral and the convolution. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 139–148. (R. N. Kalia) **99h:33003** 33B10

— (*with* Kılıçman, Adem) An extension of a result on the neutrix convolution product of distributions. (English summary) *Transform methods & special functions, Varna '96*, 107–113, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 46F10

— (*with* Kılıçman, Adem; Nicholas, Joel D.) The commutative neutrix product of $B^{(r)}(x, n)$ and $\delta^{(s)}(x)$. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 397–403. (Summary) **99d:46056** 46F10 (33B15)

— (*with* Nicholas, Joel D.) On the commutative neutrix product of $x_+^{r-1/2}$ and $x_+^{-r-1/2}$. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1235–1244. (Summary) **99k:46066** 46F10

— (*with* Kılıçman, Adem; Nicholas, Joel D.) On the beta function and the neutrix product of distributions. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 35–42. 46F10

— (*with* Nicholas, Joel D.) Some results on the commutative neutrix product of distributions. (English summary) *J. Anal.* **6** (1998), 33–41. (Summary) **99j:46045** 46F10

— (*with* Cho, Yeol Je; Kang, Shin Min) Common fixed point theorems for Mann type iterations. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 385–390. (Charles Ejike Chidume) **99i:47101** 47H10 (47H17)

Fisher, D. Grant (*with* Niu, Steve S.) Recursive information forgetting with augmented UD identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 623–637. 93B30 (93E12)

— (*with* Bourke, Mary M.) Solution algorithms for fuzzy relational equations with max-product composition. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 61–69. (Summary) **99j:04001** 04A72

Fisher, Daniel S. (*with* Le Doussal, Pierre; Monthus, Cécile) Random walkers in one-dimensional random environments: exact renormalization group analysis. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 4795–4840. 82B41

Fisher, David C. (*with* Spalding, Anne) Domination of circulant graphs: an example of min-plus algebra. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **128** (1997), 45–54. (Anthony E. Barkauskas) **99g:05141** 05C70 (05C35)

— (*with* Clark, W. Edwin; Shekhtman, Boris; Suen, W.-C. Stephen) Upper bounds for the domination number of a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 99–123. (Summary) **99j:05103** 05C35

— (*with* McKenna, Patricia A.; Boyer, Elizabeth D.) Hamiltonicity, diameter, domination, packing, and biclique partitions of Mycielski's graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 93–105. (Jerrold W. Grossman) **99f:05089** 05C70 (05C15, 05C35, 05C45, 05C50)

— (*with* Lundgren, J. Richard; Merz, Sarah K.; Reid, K. B.) The domination and competition graphs of a tournament. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 103–110. (Robert C. Brigham) **99g:05086** 05C20 (05C75)

Fisher, Evan (*with* Lee, Travis; Minzner, Max) Excursions of a random walk related to the strong law of large numbers. *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 595–606. (M. S. Sgibnev) **99h:60141** 60J15 (60F20)

Fisher, J. Chris (*with* Jamison-Waldner, Robert E.) Properties of affinely regular polygons. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 241–259. (Tamás Szőnyi) **99m:51029** 51N10 (33C45, 51M20)

— (*with* Ruoff, Dieter) A hyperbolic concurrency theorem. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 46–52. (Gary L. Ebert) **99b:51013** 51M09 (51A99)

— Frobenius orbits. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 45–54. (T. G. Ostrom) **99h:51008** 51E15 (51E20)

Fisher, Marshall L. (*with* Jörnsten, Kurt O.; Madsen, Oli B. G.) Vehicle routing with time windows: two optimization algorithms. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 488–492. 90B06 (90C27)

Fisher, Michael D. A normal form for temporal logics and its applications in theorem-proving and execution. (English summary) *J. Logic Comput.* **7** (1997), *no.* 4, 429–456. (Neculai Curteanu) **99a:03026** 03B45 (03B35, 68T15, 68T27)

— (*with* Dixon, Clare; Wooldridge, Michael) Resolution for temporal logics of knowledge. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 345–372. (Zoran Ognjanović) **99g:03015** 03B45 (68T15)

Fisher, Michael Ellis Renormalization group theory: its basis and formulation in statistical physics. (English summary) *Rev. Modern Phys.* **70** (1998), *no.* 2, 653–681. (Antonio González-Arroyo) **99e:82041** 82B28 (82B27)

Fisher, Nicholas I. (*with* Hall, Peter Gavin) Geoffrey Stuart Watson: tributes and obituary (3 December 1921–3 January 1998). (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 257–267. (Editors) **99m:01055** 01A70

— (*with* Beran, Rudolf) A conversation with Geoff Watson. *Statist. Sci.* **13** (1998), *no.* 1, 75–93. (Summary) **99m:01040** 01A70

Fisher, Paul (*with* Cowen, Robert Julian) Security Council reform. A game-theoretic analysis. I. (English summary) *Math. Today (Southend-on-Sea)* **34** (1998), *no.* 4, 100–104. 90D40 (90D80)

Fisher, Paul S. (*with* Chao, Hongyang; Hua, Zeyi) An approach to integer wavelet transformations for lossless image compression. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 19–38, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Ding-Xuan Zhou) **99k:42056** 42C15 (65D15, 68M10, 94A12)

Fisher, Ronald Aylmer *see* **Efron, Bradley, 99e:62004**

Fisher, S. G. (*with* Gartside, P. M.; Mizokami, Takemi; Shimane, Norihito) Near metric properties of hyperspaces. (English summary) *Topology Proc.* **22** (1997), 197–211. (Summary) **99h:54014** 54B20 (54E20)

Fisher, Stephen D. (*with* Shapiro, Jonathan E.) The essential norm of a composition operator on a planar domain. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 113–130. (Wayne Stewart Smith) **99k:47065** 47B38 (30D55, 30H05)

Fishman, George S. (*with* Rubin, David S.) Best- and worst-case variances when bounds are available for the distribution function. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 35–53. (Truc Nguyen) **99k:62033** 62E17

Fishman, L. Z. On the preservation of stability and bifurcations under discretization. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 9, 111–116; *translation in Automat. Remote Control* **57** (1996), *no.* 9, *part* 2, 1311–1315 (1997). (Summary) **99c:34020** 34A45 (34C05, 34C23, 34D20, 65L10)

— On the preservation of the properties of continuous systems under their discretization by the Runge-Kutta and Adams methods. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 10, 105–112; *translation in Automat. Remote Control* **58** (1997), *no.* 10, *part* 1, 1640–1646 (1998). (Iulian Coroian) **99c:65133** 65L06 (34A45)

— On invariant manifolds of multistep difference methods for ordinary differential equations. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 173–175. (Snezhana Gocheva-Ilieva) **99d:65211** 65L06

— Criteria for safe and unsafe boundaries of the stability domain of equations with delay. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 706–713; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 685–691. (Summary) **99f:34108** 34K20

— On the discretization of continuous systems having a focus-type equilibrium state. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 64–70; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 509–514. (Summary) **99j:34032** 34C05 (34A45)

— On a discrete system constructed by the Störmer method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 9, 64–71; *translation in Automat. Remote Control* **59** (1998), *no.* 9, *part* 1, 1255–1261 (1999). (Summary) **99k:34022** 34A45 (34C30)

— On a property of the Störmer method. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1822–1828; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1747–1753. (Summary) **99h:65146** 65L99 (65Q05)

Fishman, Louis Path integral representations and the scalar Helmholtz equation. (English summary) *Path integrals: Dubna '96*, 347–353, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:81089** 81S40

— Exact, uniform asymptotic, and numerical constructions of Helmholtz operator symbols. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 259–263, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35C99 (35J05, 65N99)

Fishman, Shmuel (*with* Agam, Oded) Spectral statistics of chaotic and disordered systems. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 122–153, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q50

Fishman, V. M. The structure of the Tate module of the Jacobian variety of a curve with potentially good reduction. (Russian. Russian summary) *Trudy Moskov. Mat. Obshch.* **55** (1994), 323–364, 366; *translation in Trans. Moscow Math. Soc.* **1994**, 249–279 (1995). (Takeshi Ooe) **99b:14023** 14G20 (11G20, 14H40, 14K15)

Fister, K. Renee (*with* Lenhart, Suzanne; McNally, Joseph Scott) Optimizing chemotherapy in an HIV model. (English summary) *Electron. J. Differential Equations* **1998**, No. 32, 12 *pp.* (*electronic*). (Summary) **99i:92007** 92C50 (49N55)

Fitch, Walter M. An introduction to molecular biology for mathematicians and computer programmers. (English summary) *Mathematical support for molecular biology*, 1–31, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92015** 92D15 (92B10, 92D20)

Fitouhi, A. (*with* El Kamel, J.) Expansion in terms of Gegenbauer polynomials for solutions of a perturbed Gegenbauer differential equation. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 213–226. (Summary) **99b:33005** 33C10 (34B30)

Fitoussi, David (*with* Tennenholtz, Moshe) Minimal social laws. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 26–31, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T01 (90A08, 92H10)

Fitt, A. D. (*with* Lattimer, T. R. B.) Unsteady slot suction from a high-Reynolds-number cross-flow. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 293–310. (Summary) **99b:76030** 76D99

— (*with* Howell, P. D.) The manufacture of continuous smelting electrodes from carbon-paste briquettes. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 4, 353–376. 76T05 (76D99)

Fitting, Melvin Bertrand Russell, Herbrand's theorem, and the assignment statement. (English summary) *Artificial intelligence and symbolic computation (Plattsburgh, NY, 1998)*, 14–28, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 03B45

— *see also* **Festschrift: Parikh, Rohit J., 99i:03003**

Fitzenberger, Bernd A guide to censored quantile regressions. *Robust inference*, 405–437, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G05

FitzGerald, D. G. (*with* Leech, Jonathan) Dual symmetric inverse monoids and representation theory. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 345–367. (Mária B. Szendrei) **99g:20116** 20M30 (20M18, 20M20)

Fitzgerald, Jeannie W. (*with* Lax, R. F.) Decoding affine variety codes using Gröbner bases. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 147–158. (Stefan Dodunekov) **99m:94064** 94B60 (13P10)

FitzGerald, Patrick E. B. (*with* Knuiman, Matthew W.) Interpretation of regressive logistic regression coefficients in analyses of familial data. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 909–920. 62P10

Fitzgerald, Robert W. (*with* Beintema, Mark B.; Bonn, Jeffrey T.; Yucas, Joseph L.) Orderings of finite fields and balanced tournaments. *Ars Combin.* **49** (1998), 41–48. (N. Ito) **99d:05037** 05C20 (05B15, 11T99)

Fitzgibbon, William E. (*with* Langlais, Michel) Diffusive SEIR models with logistic population control. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 3, 1–16. (Summary) **99d:92037** 92D30 (35Q80)

— (*with* Morgan, J. J.; Parrott, Mary E.; Webb, G. F.) An age dependent regularization of Martin's problem. *Reaction diffusion systems (Trieste, 1995)*, 131–139, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Hal Leslie Smith) **99f:92032** 92D30 (34C99, 35Q80, 47H05)

— (*with* Morgan, J. J.; Parrott, Mary E.) Periodicity in diffusive age-structured SEIR models. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 195–216. (K. Gopalsamy) **99m:92047** 92D30 (35B10, 35Q80)

Fitzpatrick, Ben G. (*with* Keeling, S. L.) On approximation in total variation penalization for image reconstruction and inverse problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 941–958. (M. Z. Nashed) **99f:65092** 65J20 (49J20)

— (*with* Butera, Jeffrey V.; Wypasek, Christian J.) Dispersion modeling and simulation in subsurface contaminant transport. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1183–1197. (Summary) **99h:86006** 86A05 (76S05, 86–08, 93A30)

Fitzpatrick, Ben, Jr. Some aspects of the work and influence of R. L. Moore. *Handbook of the history of general topology, Vol.* 1, 41–61, *Kluwer Acad. Publ., Dordrecht*, 1997. (Albert C. Lewis) **99c:01020** 01A70 (01A60, 01A72, 54–03)

Fitzpatrick, Patrick On the scalar rational interpolation problem. (English summary) *Math. Control Signals Systems* **9** (1996), *no.* 4, 352–369. (Summary) **99c:41029** 41A20 (93B30, 94B99)

— (*with* Jennings, Sylvia M.) Comparison of two algorithms for decoding alternant codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 211–220. (Summary) **99h:94069** 94B35

Fitzpatrick, Shannon (*with* Hartnell, Bert L.) Paired-domination. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 63–72. (Douglas F. Rall) **99i:05177** 05C75 (05C70)

Fitzpatrick, Simon (*with* Dragomir, Sever Silvestru) Hadamard's inequality for s-convex functions in the first sense and applications. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 633–642. (Ion Raşa) **99i:26023** 26D15 (26A51)

— *see also* **Ni, Ren Xing, 99m:46039**

Fitzsimmons, P. J. The quasi-sure ratio ergodic theorem. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 3, 385–405. (M. G. Shur) **99h:60147** 60J45 (28D99, 60J40, 60J55)

— Markov processes with identical bridges. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 12, 12 *pp.* (*electronic*). (Kyle Siegrist) **99h:60142** 60J25 (60J35)

— Brownian space-time functions of zero quadratic variation depend only on time. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2423–2429. (F. B. Knight) **99j:60120** 60J65 (60H05, 60J60)

Fivaz, M. (*with* Brunner, S.; Tran, T. M.; Vaclavik, J.) Global approach to the spectral problem of microinstabilities in tokamak plasmas using a gyrokinetic model. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3929–3949. (Summary) **99h:76096** 76X05 (76E25)

Fivel, Daniel I. The lattice dynamics of completely entangled states and its application to communication schemes. *Fundamental problems in quantum theory (Baltimore, MD, 1994)*, 687–697, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (V. Ya. Kreinovich) **99a:94031** 94A60 (11T71, 68P25, 81P99)

Fix, George J. (*with* Bedivan, Dana M.) Least squares methods for Volterra equations and generalizations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 679–693. (Gustaf Gripenberg) **99f:65199** 65R20 (45L05)

Fix, James D. (*with* Ladner, Richard E.) Sorting by parallel insertion on a one-dimensional subbus array. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1267–1281. (Summary) **99h:68065** 68Q22 (68P10)

Fix, Limor (*with* Alur, Rajeev; Henzinger, Thomas A.) Event-clock automata: a determinizable class of timed automata. (English summary) *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 253–273. (Summary) **99k:68104** 68Q60 (68Q45, 68Q68)

Fixman, Uri (*with* Okoh, Frank; Rao, G. K. R.) An eigenvalue problem for the numerical range of a bounded linear operator. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 421–435. (Kiran Chandra Das) **99k:47010** 47A12

Fiziev, P. P. Spinless matter in transposed-equi-affine theory of gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1341–1370. (Summary) **99c:83076** 83D05

Fjelstad, Paul (*with* Gal, Sorin G.) n-dimensional hyperbolic complex numbers. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 47–68. (Vladislav V. Kravchenko) **99i:30067** 30G35

fon-der-Flaass, D. *see* **Fon-Der-Flaass, D.**

Flach, Sergej Existence and properties of discrete breathers. (English summary) *Nonlinear physics: theory and experiment (Lecce, 1995)*, 390–397, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99d:35138** 35Q53 (35B32, 35Q58)

— (*with* Abel, Markus; Pikovskiĭ, A. S.) Localization in a coupled standard map lattice. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 4–21. (Summary) **99e:58128** 58F13 (58F27)

— (*with* Kladko, K.) Moving discrete breathers? (English summary) *Phys. D* **127** (1999), *no.* 1-2, 61–72. (Summary) **99j:70029** 70K99 (35Q99)

— *see also* **Localization in nonlinear lattices, 99d:58004**

Flagg, Robert C. (*with* Kopperman, Ralph; Sünderhauf, Philipp) Smyth completion as bicompletion. (English summary) *Topology Appl.* **91** (1999), *no.* 2, 169–180. (P. Fletcher) **99k:54020** 54E15 (54D35)

Flaherty, J. E. (*with* Loy, R. M.; Dindar, M.; Shephard, M. S.; Szymanski, B. K.; Teresco, J. D.; Ziantz, L. H.) An adaptive and parallel framework for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 74–90, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65189** 65Y05 (65M60, 65N30)

Flajolet, Philippe (*with* Daudé, Hervé; Vallée, Brigitte) An average-case analysis of the Gaussian algorithm for lattice reduction. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 397–433. (M. Znojil) **99a:65196** 65U05 (68Q25)

— (*with* Clément, Julien; Vallée, Brigitte) The analysis of hybrid trie structures. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 531–539, *ACM, New York*, 1998. (*see* **99d:68011**) 68P05

— (*with* Salvy, Bruno) Euler sums and contour integral representations. (English summary) *Experiment. Math.* **7** (1998), *no.* 1, 15–35. (Bruce C. Berndt) **99c:11110** 11M41 (11Y60)

— (*with* Coffman, E. G., Jr.; Flatto, Leopold; Hofri, Micha) The maximum of a random walk and its application to rectangle packing. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 373–386. (Ren Ding) **99f:60127** 60J15 (52C15)

Flake, Gary William ★ The computational beauty of nature. (English summary) Computer explorations of fractals, chaos, complex systems, and adaptation. A Bradford Book. *MIT Press, Cambridge, MA*, 1998. *xx*+493 *pp. ISBN* 0-262-06200-3 (Remo Badii) **99g:00027** 00A69 (00A08, 00A72, 28A80, 58F13)

Flåm, Sjur Didrik (*with* Antipin, A. S.) Equilibrium programming using proximal-like algorithms. (English summary) *Math. Programming* **78** (1997), *no.* 1, *Ser. A*, 29–41. (Summary) **99b:90090** 90C25 (90D10)

— 2 × 2 games, fictitious play and Green's theorem. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 89–101, *Univ. Rovira Virgili, Tarragona*, 1998. (Summary) **99a:90240** 90D05

— Restricted attention, myopic play, and the learning of equilibrium. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 473–482. (Summary) **99f:90194** 90D10 (90A14)

— Averaged predictions and the learning of equilibrium play. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 6, 833–848. (Summary) **99e:90117** 90D10

— (*with* Mirman, Leonard J.) Groping for optimal growth. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 2, 191–207. (Summary) **99f:90024** 90A16

— (*with* Evstigneev, I. V.) Rapid growth paths in multivalued dynamical systems generated by homogeneous convex stochastic operators. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 61–81. (Nguyễn Hông Thái) **99m:60097** 60H25 (47H04, 47N30, 90A06)

Flament, C. (*with* Pacitto, G.; Bacri, J.-C.; Drikis, I.; Tsebers, A. O.) Viscous fingering in a magnetic fluid. I. Radial Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2464–2472. (Summary) **99g:76149** 76W05 (76E25, 76S05)

Flament, Dominique Quelques étapes de la constitution du nombre complexe. [Some steps in the development of complex numbers] *Géométrie complexe* (*Paris*, 1992), 241–269, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Burnett Meyer) **99b:01003** 01A05 (30-03)

Flammini, Michele (*with* Bermond, Jean-Claude; Di Ianni, Miriam; Pérennes, Stéphane) Acyclic orientations for deadlock prevention in interconnection networks (extended abstract). (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 52–64, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (68M10, 68Q25)

— (*with* Cicerone, Serafino; Di Stefano, Gabriele) Static and dynamic low-congested interval routing schemes. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 592–603, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68M10

— (*with* Eilam, Tamar; Zaks, Shmuel) A complete characterization of the path layout construction problem for ATM networks with given hop count and load. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 207–220. (Summary) **99f:68093** 68Q25 (68M10)

— (*with* Gambosi, Giorgio; Nanni, Umberto; Tan, Richard B.) Multidimensional interval routing schemes. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 115–133. (Summary) **99d:68021** 68M10

Flanagan, D. (*with* Batsell, S.; Fedorov, Valerii V.) Multivariate prediction: selection of the most informative components to measure. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 215–222, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62103** 62K05

Flanagan, Éanna É. (*with* Tichy, Wolfgang) How unique is the expected stress-energy tensor of a massive scalar field? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124007, 18 *pp.* 83C47 (81T20)

Flanders, Harley (*with* Fischer, Herbert) A minimal code list. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 345–348. (Summary) **99m:65259** 65Y20 (65D25, 68Q25)

Flandoli, Franco Stochastic differential equations in fluid dynamics. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 121–148 (1998). (Alp O. Eden) **99h:35238** 35R60 (35Q30, 60H15, 76M35)

— (*with* Crauel, Hans) Additive noise destroys a pitchfork bifurcation. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 2, 259–274. (Bohdan Maslowski) **99d:58115** 58F12 (34C23, 34F05, 60H10)

— (*with* Crauel, Hans) Hausdorff dimension of invariant sets for random dynamical systems. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 449–474. (Arnaud Debussche) **99h:58117** 58F12 (28A78, 34C35, 34G20, 35Q30)

— (*with* Berselli, Luigi C.) Remarks on determining projections for stochastic dissipative equations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 197–214. (Summary) **99i:35184** 35R60 (35Q30, 60H15, 76D05, 76M35)

Flandrin, Evelyne (*with* Favaron, Odile; Ryjáček, Zdeněk) Factor-criticality and matching extension in DCT-graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 271–278. (Summary) **99b:05110** 05C70

Flandrin, Patrick (*with* Hlawatsch, F.) The interference structure of the Wigner distribution and related time-frequency signal representations. (English summary) *The Wigner distribution*, 59–133, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12

— (*with* Martin, Wolfgang) The Wigner-Ville spectrum of nonstationary random signals. (English summary) *The Wigner distribution*, 211–267, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12 (60G10, 60G35)

— Separability, positivity, and minimum uncertainty in time-frequency energy distributions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4016–4040. (Summary) **99h:94015** 94A12 (42A38)

— (*with* Abry, Patrice; Veitch, Darryl) Long-range dependence: revisiting aggregation with wavelets. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 3, 253–266. (P. A. Morettin) **99i:62192** 62M10 (60G18, 62M15)

— (*with* Chassande-Mottin, Eric) On the time-frequency detection of chirps. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 252–281. 94A12

Flannery, K. E. (*with* Dai, H. K.; O'Neil, Thomas E.) Lower bounds for t-reflecting sequences: a computational approach. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 178–193 (*electronic*). (*see* **99f:68006**) 68R10

Flapan, Erica Knots and graphs in chemistry. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 547–560. (Summary) **99c:57017** 57M25 (92E10)

— (*with* Liang, Chengzhi; Mislow, Kurt) Amphicheiral links with odd crossing number. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 87–91. (G. Burde) **99c:57027** 57M25

— Topological rubber gloves. (English summary) Girona 97 special issue. *J. Math. Chem.* **23** (1998), *no.* 1-2, 31–49. (Douglas J. Klein) **99m:92053** 92E10 (92D20)

— (*with* Forcum, Brian) Intrinsic chirality of triple-layered naphthalenophane and related graphs. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 379–388. (Summary) **99i:92034** 92E10 (05C90)

Flasiński, M. Power properties of NLC graph grammars with a polynomial membership problem. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 189–231. (Andrea Maggiolo-Schettini) **99e:68097** 68Q50 (68R10)

Flato, Moshé (*with* Sternheimer, Daniel; Simon, Jacques C. H.; Taflin, Erik) Nonlinear relativistic wave equations in general dimensions. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 53–70, *World Sci. Publishing, River Edge, NJ*, 1997. (R. Schimming) **99j:58205** 58G16 (22E45, 35A30, 35Q75)

— (*with* Dito, Giuseppe; Sternheimer, Daniel) Nambu mechanics, n-ary operations and their quantization. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 43–66, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Markus J. Pflaum) **99b:58103** 58F06 (70H99, 81S10)

— (*with* Araki, Huzihiro; Michéa, Sébastien; Sternheimer, Daniel) Some infinite-dimensional algebras arising in spin systems and in particle physics and their grand algebra. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 155–171. (Albert Jeu-Liang Sheu) **99h:81067** 81R10 (17B65, 22E70, 81R50)

— (*with* Frønsdal, Christian) Interacting singletons. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 249–259. (Gagik T. Ter-Kazarian) **99h:81163** 81T30 (83E30, 83E50)

Flatto, Leopold (*with* Coffman, E. G., Jr.; Flajolet, Philippe; Hofri, Micha) The maximum of a random walk and its application to rectangle packing. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 373–386. (Ren Ding) **99f:60127** 60J15 (52C15)

Flavin, James N. The method of cross-sectional integrals for P.D.E.s. Proceedings of the VIII International Conference on Waves and Stability in Continuous Media, Part I (Palermo, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 45, *part I* (1996), 253–263. (From the text) **99f:35013** 35B35 (35A25, 35C99)

— (*with* Rionero, Salvatore) On the temperature distribution in cold ice. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 4, 299–312. (Summary) **99c:86009** 86A40 (80A20)

— A velocity-acceleration inequality for steady continuum flow. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 749–753. (Summary) **99a:76032** 76C99

Fleck, Albert *see* **Stürzbecher, Manfred**, **99k:01076**

Fleck, Joseph A., Jr. New Taylor-expansion method for solving a general class of wave equations. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 8, 2182–2198. (Summary) **99e:78023** 78A40 (78–08)

Fleck, N. A. (*with* Budiansky, Bernard; Amazigo, J. C.) On kink-band propagation in fiber composites. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 9, 1637–1653. 73D99 (73E70, 73K20, 73M25)

Fleckinger, Jacqueline (*with* Alziary, Bénédicte; Cardoulis, Laure) Maximum principle and existence of solutions for elliptic systems involving Schrödinger operators. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat.* (*Esp.*) **91** (1997), *no.* 1, 47–52. (Summary) **99f:35040** 35J45 (35B50, 35J10)

— (*with* Komech, A. I.) On soliton-like asymptotics for 1D nonlinear reaction systems. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 295–306 (1998). (Sergei A. Vakulenko) **99b:35093** 35K57 (34A34, 35Q51)

— (*with* Takáč, Peter) Maximum and anti-maximum principles for some elliptic problems. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 19–32, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (David L. Finn) **99c:35025** 35B50 (35J60)

— (*with* Gossez, Jean-Pierre; Takáč, Peter; de Thélin, François) Nonexistence of solutions and an anti-maximum principle for cooperative systems with the p-Laplacian. (English summary) *Math. Nachr.* **194** (1998), 49–78. (P. Lindqvist) **99j:35078** 35J70 (35B50, 35J45)

— (*with* Kaper, Hans G.; Takáč, Peter) Dynamics of the Ginzburg-Landau equations of superconductivity. *Nonlinear Anal.* **32** (1998), *no.* 5, 647–665. (Peter E. Zhidkov) **99c:35219** 35Q55 (35B30, 35B40, 58F39, 82D55)

van Fleet, Patrick J. (*with* Eubanks, David A.; Wang, Jian Zhong[2]) Moment computation in shift invariant spaces. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 465–479. (Peter R. Massopust) **99i:65153** 65T99 (41A30, 42C15)

Flehinger, Betty J. (*with* Reiser, Benjamin; Yashchin, Emmanuel) Survival with competing risks and masked causes of failures. (English summary) *Biometrika* **85** (1998), *no.* 1, 151–164. (Summary) **99d:62033** 62G05 (62N05)

Fleige, Andreas (*with* Najman, B.) Nonsingularity of critical points of some differential and difference operators. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 85–95, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Jing Lin Liu) **99g:47082** 47B50 (34L05, 39A70, 47B39, 47E05)

— Non-semibounded sesquilinear forms and left-indefinite Sturm-Liouville problems. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 1, 20–33. (Aad Dijksma) **99k:47074** 47B50 (34B24, 34L05, 47B25, 47E05)

Fleischer, Jason Wolf (*with* Diamond, P. H.) Compressible Alfven turbulence in one dimension. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, *R*2709–*R*2712. 76F99 (76W05)

Fleischer, L. Faster algorithms for the quickest transshipment problem with zero transit times. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on*

Discrete Algorithms (*San Francisco, CA*, 1998), 147–156, *ACM, New York*, 1998. (*see* **99d:68011**) 90B10 (90C35)

Fleischer, Mark (*with* Jacobson, Sheldon H.) Information theory and the finite-time behavior of the simulated annealing algorithm: experimental results. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 35–43. 90C27 (94A15)

Fleischer, Rudolf On the Bahncard problem. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 65–74, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (68Q20)

Fleischmann, Klaus (*with* Dawson, Donald A.) Longtime behavior of a branching process controlled by branching catalysts. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 241–257. (Luis G. Gorostiza) **99c:60187** 60J80 (60G57, 60J55)

— (*with* Dawson, Donald A.; Leduc, Guillaume) Continuous dependence of a class of superprocesses on branching parameters and applications. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 562–601. (Alexander Schied) **99g:60152** 60J80 (60G57, 60J40)

Fleischmann, Peter (*with* Janiszczak, Ingo) On the computation of conjugacy classes of Chevalley groups. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 221–234. (Demetris I. Deriziotis) **99c:20069** 20G40

— Squarefree polynomials over finite fields and regular semisimple classes of certain classical groups. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 2, 113–139. (Alla S. Detinko) **99e:20062** 20G40 (11T06)

— (*with* Lempken, Wolfgang; Tiep, Pham Huu) The p-intersection subgroups in quasi-simple and almost simple finite groups. (English summary) *J. Algebra* **207** (1998), *no.* 1, 1–42. (Robert M. Guralnick) **99j:20021** 20D06 (20G40)

Fleischner, Herbert (*with* Andersen, Lars Døvling; Regner, Susanne) Algorithms and outerplanar conditions for A-trails in plane Eulerian graphs. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 2, 99–112. (Cun-Quan Zhang) **99c:05121** 05C45 (05C85)

Fleitas, J. R. (*with* Bellandi Filho, J.; Guzzo, M. M.; de Aquino, V. M.) On the matricial representations of exponential operators. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 591–597. (Pierre Anglès) **99k:22012** 22E15 (15A90, 81R05)

Flekkøy, Eirik G. (*with* Le Pennec, Thierry; Måløy, Knut Jørgen; Messager, Jean Claude; Ammi, Madani) Silo hiccups: dynamic effects of dilatancy in granular flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3072–3079. 76–05 (73E99, 76A99)

Fleming, D. J. (*with* Ruckle, W. H.) Remarks on the Wilansky property. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 667–675. (Cihan Orhan) **99k:40010** 40H05 (46A45)

— (*with* DeFranza, J.; Rhoades, Billy E.) On the absolute Hardy-Bohr criteria. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 161–172. (Amnon Jakimovski) **99m:40004** 40C05 (40G99, 40H05, 46A45)

mackenzie-Fleming, Kirsten *see* **Mackenzie-Fleming, Kirsten**

Fleming, Richard J. (*with* Grossman, George W.; Lenker, Terry; Narayan, Sivaram K.; Ong, S.-C.) On Schur D-stable matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 39–50. (Pauline van den Driessche) **99i:15012** 15A18

Fleming, Wendell H. (*with* Sheu, Shuenn-Jyi) Asymptotics for the principal eigenvalue and eigenfunction of a nearly first-order operator with large potential. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1953–1994. (Alexander Veretennikov) **99a:60064** 60H30 (93E20)

— (*with* Zhang, Qing[1]) Risk-sensitive production planning of a stochastic manufacturing system. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1147–1170 (*electronic*). (Summary) **99c:90060** 90B30 (49L25, 93E20)

Flenner, Hubert (*with* Manaresi, Mirella) Variation of ramification loci of generic projections. (English summary) *Math. Nachr.* **194** (1998), 79–92. (Fyodor L. Zak) **99j:14015** 14E22 (14C17)

Flesch, J. (*with* Thuijsman, F.; Vrieze, O. J.) Simplifying optimal strategies in stochastic games. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1331–1347 (*electronic*). (Vivek S. Borkar) **99f:90204** 90D15 (90D05, 90D20, 93E20)

Flesia, S. Rigorous and numerical results on two-dimensional oriented self-avoiding walks. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 85–91, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B41

— Oriented self-avoiding walks with orientation-dependent interactions. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 99–119, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82B41 (82B80)

Flessas, George P. (*with* Govinder, K. S.; Leach, P. G. L.) Remarks on the symmetry Lie algebras of first integrals of scalar third order ordinary differential equation with maximal symmetry. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 63–79. (Qingjiu Qiu) **99g:34026** 34A26 (58F35)

Fletcher, C. R. (*with* Ağargün, A. G.) Unique factorisation for commutative rings without identity. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 401–408. (Daniel D. Anderson) **99c:13001** 13A05 (13F99)

Fletcher, L. R. (*with* Goodwin, M. S.) Exact pole assignment with regularity by output feedback in descriptor systems. I. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 379–411. (Summary) **99b:93030a** 93B55 (93B52)

— Pole assignment and controllability subspaces in descriptor systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 677–709. (Summary) **99j:93046** 93B55 (93B05)

Fletcher, R. *see* **Fletcher, Roger**

Fletcher, Raymond R., III Tiling rectangles with symmetric hexagonal polyominoes. Proceedings of the Twenty-seventh Southeastern International Conference on Combinatorics, Graph Theory and Computing (Baton Rouge, LA, 1996). *Congr. Numer.* **122** (1996), 3–29. (Marjorie Senechal) **99a:05026** 05B45 (05B50)

Fletcher, Roger Dense factors of sparse matrices. (English summary) *Approximation theory and optimization* (*Cambridge*, 1996), 145–166, *Cambridge Univ. Press, Cambridge*, 1997. (Dao Sheng Zheng) **99e:65048** 65F05 (15A23, 65F50)

— Block triangular orderings and factors for sparse matrices in LP. (English summary) *Numerical analysis* 1997 (*Dundee*), 91–110, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65082** 65F50

— (*with* Leyffer, Sven) Numerical experience with lower bounds for MIQP branch-and-bound. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 604–616 (*electronic*). (Summary) **99a:90139** 90C11

— A new degeneracy method and steepest-edge-based conditioning for LP. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1038–1059 (*electronic*). (E. G. Gol'shteĭn) **99g:90065** 90C05

Fleuren, Micha Smarandache factors and reverse factors. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 5–38. 11Y70

Fleury, A. (*with* Bellin, G.) Planar and braided proof-nets for multiplicative linear logic with mix. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 309–325. (R. Gylys) **99m:03120** 03F50 (03B70, 68Q10)

Fleury, Gérard En arpentant les arcs. [Spanning the arcs] *Séminaire d'Analyse*, 1993–1994 (*Aubière*), *Exp. No.* 24, 19 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 9, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (B. Le Gac (Zbl 907.28003)) **99k:26006** 26A30 (28A75, 51M25)

Fleury, Marc The propagator of the Calogero-Moser system in an external quadratic potential. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 320–338. (Iskander A. Taimanov) **99m:81057** 81Q20 (58F40, 70F10)

Fleury, Odile Sur les sous-groupes finis de Aut $U(\mathfrak{sl}_2)$ et Aut $U(\mathfrak{h})$. (French summary) [On the finite subgroups of Aut $U(\mathfrak{sl}_2)$ and Aut $U(\mathfrak{h})$] *J. Algebra* **200** (1998), *no.* 2, 404–427. (François Dumas) **99b:17018** 17B40 (16W20, 17B35, 20E08)

Flicker, Yuval Z. Report on the fundamental lemma for GL(4) and GSp(2). Automorphic forms on algebraic groups (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 965 (1996), 190–206. (Marko Tadić) **99g:11067** 11F70 (11R39, 22E55)

— Cyclic automorphic forms on a unitary group. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 367–439. (Volker J. Heiermann) **99c:11057** 11F70 (22E55)

— Elementary proof of the fundamental lemma for a unitary group. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 74–98. (Summary) **99e:22020** 22E35 (11S37)

— (*with* Scheiderer, Claus; Sujatha, R.) Grothendieck's theorem on non-abelian H^2 and local-global principles. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 731–750. (Philippe Gille) **99a:11129** 11R34 (11E10, 14F20, 20G10)

— Matching of orbital integrals on GL(4) and GSp(2). (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 655, *viii*+112 *pp.* (Henry H. Kim) **99g:11068** 11F70 (22E35, 22E50)

Fliege, Jörg (*with* Maier, Ulrike) Charge distribution of points on the sphere and corresponding cubature formulae. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 147–159, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (*see* **99a:41001**) 65D32

— (*with* Maier, Ulrike) The distribution of points on the sphere and corresponding cubature formulae. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 2, 317–334. 65D32 (41A55)

van de Fliert, B. W. (*with* van der Hout, R.) Stress-driven diffusion in a drying liquid paint layer. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 5, 447–461. (Song Jiang) **99j:76119** 76R50 (35Q35, 76A05)

Fliess, Michel (*with* Mounier, Hugues; Rouchon, Pierre; Rudolph, Joachim) Systèmes linéaires sur les opérateurs de Mikusiński et commande d'une poutre flexible. (English and French summaries) [Linear systems involving Mikusiński operators and control of a flexible beam] *Élasticité, viscoélasticité et contrôle optimal* (*Lyon*, 1995), 183–193 (*electronic*), *ESAIM Proc.*, 2, *Soc. Math. Appl. Indust., Paris*, 1997. (Guenter Leugering) **99c:93057** 93C20 (35Q72, 73K05, 73K50)

— (*with* Bourlès, Henri) Finite poles and zeros of linear systems: an intrinsic approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 897–922. 93B55 (93C05)

— (*with* Lévine, Jean; Martin, Philippe Pierre; Rouchon, Pierre) Nonlinear control and diffieties, with an application to physics. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 81–92, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Emilia Petrisor) **99i:93026** 93C10 (58H99, 70Q05)

— (*with* Mounier, Hugues) Controllability and observability of linear delay systems: an algebraic approach. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 301–314 (*electronic*). (Birgit Jacob) **99f:93011** 93B05 (06F25, 93C25)

— (*with* Mounier, Hugues; Rudolph, Joachim; Rouchon, Pierre) Tracking control of a vibrating string with an interior mass viewed as delay system. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 315–321 (*electronic*). (Enrique Zuazua) **99h:73057** 73K50 (73D30, 93B05)

— (*with* Hotzel, Richard) On linear systems with a fractional derivation: introductory theory and examples. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 385–395. (Summary) **99c:93064** 93C30 (93B05)

Fligner, Michael (*with* Adkins, Laura) A non-iterative procedure for maximum likelihood estimation of the parameters of Mallows' model based on partial rankings. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2199–2220. (Summary) **99i:62062** 62G05

Flippen, L. D., Jr. Initial-interval driven biasing of nodal concentration along a fixed curve. (English summary) *Comput. & Structures* **70** (1999), *no.* 6, 691–698. 65N30 (65Y25)

Floater, Michael S. (*with* Iske, Armin) Thinning and approximation of large sets of scattered data. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 87–96, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D15)

— (*with* Iske, Armin) Thinning, inserting, and swapping scattered data. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 139–144, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65015** 65D05 (41A63)

— (*with* Micchelli, Charles A.) Nonlinear means in geometric modeling. (English summary) *Approximation theory*, 197–207, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:65031** 65D17 (41A30)

— (*with* Micchelli, Charles A.) Nonlinear stationary subdivision. (English summary) *Approximation theory*, 209–224, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (*see* **99a:00051**) 65D05 (41A05)

— Local and global convexity preservation. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 183–190, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65040** 65D17 (65Y25)

— (*with* Peña, J. M.) Tensor-product monotonicity preservation. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 353–362. (Crăciun Iancu) **99k:65017** 65D07 (41A29)

— Total positivity and convexity preservation. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 46–66. (M. W. Müller) **99k:41025** 41A29 (26B25)

— (*with* Gotsman, Craig) How to morph tilings injectively. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 117–129. (S. Stein) **99k:52032** 52C22 (05B45)
Flocchini, Paola (*with* Geurts, Frédéric) Searching for chaos in cellular automata: compositional approach. (English summary) *Complex. Int.* **2** (1995), 15 *HTML documents (electronic)*. (Summary) **99k:58103** 58F08 (58F13, 68Q80)
— (*with* Roncato, Alessandro; Santoro, Nicola) Symmetries and sense of direction in labeled graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 99–115. (Jozef Širáň) **99i:05194** 05C99 (05C78, 68R10)
— (*with* Mans, Bernard; Santoro, Nicola) Sense of direction: definitions, properties, and classes. (English summary) *Networks* **32** (1998), *no.* 3, 165–180. (Qiao Li) **99j:68104** 68R10 (90B12, 94C15)
le Floch, Laurent *see* **Le Floch, Laurent**
Flohr, Michael A. I. On fusion rules in logarithmic conformal field theories. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 10, 1943–1958. (Summary) **99b:81216** 81T40 (81R10)
— Singular vectors in logarithmic conformal field theories. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 523–552. (Mark A. Walton) **99g:81198** 81T40 (81R10)
— Logarithmic conformal field theory and Seiberg-Witten models. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 179–189. (Isabel P. Ennes) **99m:81219** 81T40 (14H55, 33C80, 81T60)
Flondor, Paul (*with* Guaraldo, Francesco) Some results on real Nash groups. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 137–145. (Karl Heinz Dovermann) **99j:58005** 58A07
Floratos, E. G. (*with* Nicolis, S.) An SU(2) analogue of the Azbel-Hofstadter Hamiltonian. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3961–3975. (Rodolfo Cuerno) **99e:82015** 82B20 (81R50)
— (*with* Leontaris, G. K.) Octonionic self-duality for supermembranes. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 445–459. (Sergey Nikolaevich Roshchupkin) **99e:81188** 81T30 (83E30)
— (*with* Leontaris, G. K.; Polychronakos, Alexios P.; Tzani, R.) Instanton solutions of the self-dual membrane in various dimensions. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 125–130. (Summary) **99a:81137** 81T30 (81T60)
— (*with* Kehagias, Alexandros A.) Eight-dimensional self-dual spaces. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 283–290. (Luis Ugarte) **99h:53030** 53C07 (53C80, 81T13)
— (*with* Leontaris, G. K.) A note on the supersymmetries of the self-dual supermembrane. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 75–81. (Summary) **99b:81188** 81T30 (81T60)
Florchinger, Patrick Adaptive stabilization of nonlinear stochastic systems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 109–120. (Tomás Caraballo) **99e:60133** 60H10 (93D15, 93E15)
— New results on universal formulas for the stabilization of stochastic differential systems. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 233–240. (Engin Yaz) **99b:93048** 93E15 (93D15)
mizera-Florczak, B. *see* **Mizera-Florczak, B.**
Floreanini, Roberto Renormalization group flow equations in quantum gravity. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ*, 1995), 39–48, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83034** 83C45
— (*with* Benatti, Fabio) Complete positivity and the neutral kaon system. (English summary) *Quantum probability (Gdańsk*, 1997), 71–85, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (B. V. Rajarama Bhat) **99i:82027** 82C10 (46L60, 47N50, 81S99)
— (*with* Lapointe, Luc; Vinet, Luc) The dynamical algebra of the three-body Calogero model. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 229–236. (Kazuhiro Hikami) **99c:81279** 81V70 (82B21)
Florens, Danielle *see* **Florens-Landais, Danielle**
Florens, Jean-Pierre (*with* Renault, Eric; Touzi, Nizar) Testing for embeddability by stationary reversible continuous-time Markov processes. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 744–769. (Summary) **99h:62107** 62M05 (62P20)
Florenskiĭ, P. A. *see* **Ford, Charles E., 99g:01033**
Florens-Landais, Danielle (*with* Gautherat, Emmanuelle; Nisipasu, Ecaterina) Asymptotic expansions and large deviations in estimation of an Ornstein-Uhlenbeck model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 205–210. (Summary) **99h:62108** 62M09 (62E20)
— (*with* Pham, Huyên) Large deviation probabilities in estimation of Poisson random measures. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 117–139. (Anatolii A. Pukhal'skiĭ) **99h:60053** 60F10 (60G57, 62M09)
Florenzano, Monique (*with* Ben-El-Mechaiekh, Hichem; Chebbi, Souhail; Llinares Ciscar, Juan Vicente) Abstract convexity and fixed points. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 138–150. (Louis A. Talman) **99c:47089** 47H10 (47H04, 52A01, 54H25)
sanchez-Flores, Adolfo *see* **Sanchez-Flores, Adolfo**
Flores, Antonio I. *see* **Padilla Gálvez, Jesús, 99f:54002**
Flores, Francisco Einstein's 1935 derivation of $E = mc^2$. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 2, 223–243. (Helmuth K. Urbantke) **99g:83001** 83-03 (01A60)
román-Flores, Heriberto *see* **Román-Flores, Heriberto**
Flores-Bazán, Fabián (*with* Martínez-Legaz, Juan-Enrique) Simplified global optimality conditions in generalized conjugation theory. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 305–329, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Michelot) **99j:90060** 90C26 (49N15, 90C48)
Flores Peñafiel, Alfinio Geometry of numerical iterations. (Spanish. Spanish summary) *Miscelánea Mat. No.* 22 (1995), 37–49. 58F08
— Weight ratios in geometry. (Spanish) *Miscelánea Mat. No.* 27 (1998), 1–14. 51M04
Flores Pérez, M. (*with* Nesterov, A. I.) Vortex dynamics in the Chern-Simons-Higgs system near critical coupling. (Spanish. English and Spanish summaries) *Rev. Mexicana Fís.* **45** (1999), *no.* 1, 9–13. 81T13
Flores-Reyna, G. (*with* Cruz-Pacheco, G.; Jorge, M. C.; Minzoni, Antonmaria; Smyth, Noel F.) Approximate evolution of lump initial conditions for the Benjamin-Ono equation. (English summary) *Wave Motion* **28** (1998), *no.* 3, 195–202. 35Q53 (76B15)
Flores-Sintas, Antonio (*with* Cadenas, José M.; Martin, Fernando) A local geometrical properties application to fuzzy clustering. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 245–256. (Summary) **99h:62082** 62H30
Floret, Klaus Factorization of finite-rank operators in Banach operator ideals. (English summary) *Bull. Soc. Roy. Sci. Liège* **67** (1998), *no.* 1-2, 35–42. (Oscar Blasco) **99g:47110** 47D50 (46B28, 47A68)
— (*with* Ansemil, José M.) The symmetric tensor product of a direct sum of locally convex spaces. (English summary) *Studia Math.* **129** (1998), *no.* 3, 285–295. (José Bonet) **99b:46003** 46A32 (46A03, 46M05)
Florez, E. (*with* Suarez, A.; Garcia Vera, Diego Antonio; Montero García, Gustavo) Preconditioning Krylov methods. *Algorithms for large scale linear algebraic systems (Gran Canaria*, 1996), 151–174, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F35
— (*with* Montero García, Gustavo; Suarez, A.; García León, María Dolores; Montenegro, R.) Control of a system governed by the convection-diffusion equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 1087–1092, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93C20 (35K57)
Floría Gimeno, Luis (*with* Aparicio, Ignacio) A BF-regularization of a nonstationary two-body problem under the Maneff perturbing potential. *Extracta Math.* **12** (1997), *no.* 3, 291–299. (Florin N. Diacu) **99d:70015** 70F05
— (*with* Aparicio, Ignacio) On the performance of the Deprit's linearizing D-transformation. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 151–156, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70H15 (70F15, 70H05)
Florian, August Some recent results in discrete geometry. II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 159–171. (Uwe Schnell) **99b:52044** 52C17 (52A38, 52A40)
Florian, Helmut (*with* Püngel, J.; Tutschke, Wolfgang) Matrix differential transformations. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 103–117. (Summary) **99m:35014** 35A30 (15A54, 34A25, 35C05)
— *see also* **Generalized analytic functions, 99d:00020**
Floriani, E. (*with* Chazottes, J.-R.; Lima, R.) Relative entropy and identification of Gibbs measures in dynamical systems. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 697–725. (Luis M. Barreira) **99b:58141** 58F11
de Floriani, Leila *see* **De Floriani, Leila**
Florig, Martin On Borchers' theorem. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 289–293. (Summary) **99k:46105** 46L10 (46L57, 46L60, 81T05)
Florig, Michael A note on different concepts of generalized equilibria. (English summary) *J. Math. Econom.* **29** (1998), *no.* 3, 245–254. (Jeffrey L. Coles) **99f:90031** 90A56
Florit, Luis A. (*with* Dajczer, Marcos) On Chen's basic equality. *Illinois J. Math.* **42** (1998), *no.* 1, 97–106. (Ivko Dimitric) **99b:53080** 53C40
— (*with* Zheng, Fangyang) On nonpositively curved Euclidean submanifolds: splitting results. (English summary) *Comment. Math. Helv.* **74** (1999), *no.* 1, 54–62. (Sergio Console) **99m:53100** 53C40
— (*with* Zheng, Fangyang) On nonpositively curved Euclidean submanifolds: splitting results. II. *J. Reine Angew. Math.* **508** (1999), 1–15. (Sergio Console) **99m:53101** 53C40
— (*with* Dajczer, Marcos) Euclidean conformally flat submanifolds in codimension two obtained as intersections. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 265–269. (Maria Helena Noronha) **99b:53081** 53C40
Floryan, J. M. (*with* Hamed, M. S.) Numerical simulation of unsteady nonisothermal capillary interfaces. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 110–140. 76M25 (65M55, 76D45)
Floudas, Christodoulos A. (*with* Adjiman, C. S.; Schweiger, Carl A.) Mixed-integer nonlinear optimization in process synthesis. (English summary) *Handbook of combinatorial optimization, Vol.* 1, 1–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C11 (90–02, 90C27)
— (*with* Zlobec, S.) Optimality and duality in parametric convex lexicographic programming. (English summary) *Multilevel optimization: algorithms and applications*, 359–379, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:90165** 90C27 (90C31)
— (*with* Schweiger, Carl A.) Interaction of design and control: optimization with dynamic models. (English summary) *Optimal control (Gainesville, FL*, 1997), 388–435, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:49002**) 49N55 (90C90)
— (*with* Klepeis, J. L.; Pardalos, Panos M.) Global optimization approaches in protein folding and peptide docking. (English summary) *Mathematical support for molecular biology*, 141–171, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92020** 92D20 (90C90, 92C40)
Flournoy, N. (*with* Durham, S. D.; Li, Wu[3]) A sequential design for maximizing the probability of a favourable response. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 3, 479–495. (Summary) **99e:62133** 62L05
Floyd, Edward R. Which causality? Differences between trajectory and Copenhagen analyses of an impulsive perturbation. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1111–1124. 81P05
Floyd, William J. (*with* Cannon, James W.; Kenyon, Richard; Parry, Walter R.) Hyperbolic geometry. *Flavors of geometry*, 59–115, *Math. Sci. Res. Inst. Publ.*, 31, *Cambridge Univ. Press, Cambridge*, 1997. (Lee Mosher) **99c:57036** 57M50 (57N10)
Flucher, Martin (*with* Wei, Juncheng) Semilinear Dirichlet problem with nearly critical exponent, asymptotic location of hot spots. (English summary) *Manuscripta Math.* **94** (1997), *no.* 3, 337–346. (Tadeusz Pruszko) **99b:35066** 35J65 (35B40)
— (*with* Bandle, Catherine) Table of inequalities in elliptic boundary value problems. (English summary) *Recent progress in inequalities (Niš*, 1996), 97–125, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Robert J. McCann) **99h:35028** 35Jxx (26D10, 35–00, 49N60)
— (*with* Wei, Juncheng) Asymptotic shape and location of small cores in elliptic free-boundary problems. *Math. Z.* **228** (1998), *no.* 4, 683–703. (Mahdi Boukrouche) **99i:35047** 35J65 (35B25, 35R35, 58E05)
— (*with* Müller, Stefan C.) Radial symmetry and decay rate of variational ground states in the zero mass case. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 712–719

(*electronic*). (Summary) **99a:35063** 35J60 (35B40)

bayer-Fluckiger, Eva *see* **Bayer-Fluckiger, Eva**

Flude, James P. M. The Edmonds asymptotic formulas for the $3j$ and $6j$ symbols. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3906–3915. (A. J. Coleman) **99h:81064** 81R05 (20C35)

Flueck, Michel (*with* Descloux, Jean; Romerio, Michel V.) A problem of magnetostatics related to thin plates. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 859–876. (Summary) **99i:78015** 78A30 (78–08)

de Fluiter, Babette Lucie Elisabeth ★ Algorithms for graphs of small treewidth. (Dutch summary) Dissertation, Rijksuniversiteit te Utrecht, Utrecht, 1997. *Rijksuniversiteit te Utrecht, Utrecht*, 199?. *iv*+246 *pp. ISBN* 90-393-1528-0 (From the introduction) **99g:68152** 68R10 (05C85, 68Q25, 90C35)

— (*with* Bodlaender, Hans L.) Parallel algorithms for treewidth two. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 157–170, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (68Q22)

Flum, Jörg (*with* Kubierschky, Max; Ludäscher, Bertram) Total and partial well-founded Datalog coincide. (English summary) *Database theory—ICDT'97* (*Delphi*), 113–124, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99c:68071** 68P15 (03B70, 68N17)

Flume, R. Some remarks on $N = 2$ extended supersymmetric Yang-Mills theories and Seiberg-Witten duality. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 223–228, *PWN, Warsaw*, 1997. (Michael Murray) **99m:81248** 81T60 (14H52, 81T13)

— (*with* Magro, M.; O'Raifeartaigh, Lochlainn; Sachs, Ivo; Schnetz, O.) Uniqueness of the Seiberg-Witten effective Lagrangian. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 331–345. (Michael A. I. Flohr) **99b:81234** 81T60 (81T13)

— (*with* Albert, T.-D.; Ruhlig, K.) Multimagnon scattering in the ferromagnetic XXX-model with inhomogeneities. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1667–1683. (Summary) **99e:82012** 82B20

Flyer, Natasha Asymptotic upper bounds for the coefficients in the Chebyshev series expansion for a general order integral of a function. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1601–1616. (Summary) **99a:42017** 42C10 (41A50)

Flytzanis, E. (*with* Kanakis, L.) Unimodular eigenvalues and invariant probabilities for some classes of linear operators. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 277–283, *TEV, Vilnius*, 1994. (Wojciech Bartoszek) **99g:47014** 47A35 (28D05)

Foata, Dominique (*with* Zeilberger, Doron) A classic proof of a recurrence for a very classical sequence. *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 380–384. (Peter Paule) **99h:11019** 11B83 (05A15, 11B37, 39A10)

— (*with* Han, Guo-Niu) Inverses of words. (English summary) *Sém. Lothar. Combin.* **39** (1997), *Art. B39d*, 8*pp.* (*electronic*). (Jennifer R. Galovich) **99b:05011** 05A99 (68R15)

— (*with* Han, Guo-Niu) Transformations on words. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 172–191. (Volker Strehl) **99g:68158** 68R15 (05A05, 20M05)

— (*with* Zeilberger, Doron) A combinatorial proof of Bass's evaluations of the Ihara-Selberg zeta function for graphs. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2257–2274. (H. M. Stark) **99i:05137** 05C50 (11M41)

Focant, S. (*with* Gallay, Thierry) Existence and stability of propagating fronts for an autocatalytic reaction-diffusion system. (English summary) *Phys. D* **120** (1998), *no.* 3-4, 346–368. (Summary) **99d:35082** 35K57 (35B35, 80A32, 92E20)

Focardi, M. Semicontinuity of vectorial functionals in Orlicz-Sobolev spaces. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 141–161 (1998). (Henryk Hudzik) **99k:49028** 49J45 (46E35)

Fock, V. V. (*with* Roslyĭ, A. A.) Moduli space of flat connections as a Poisson manifold. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3195–3206. (Valentino Zocca) **99c:58024** 58D27 (58F05)

Foda, Mostafa A. Generation of ripple-size internal waves on a fluidized seafloor: the ephemeral ripples. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 109–117. (*see* **99k:76006**) 86A05

Foda, Omar (*with* Dasmahapatra, Srinandan) Strings, paths and standard tableaux. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 3, 501–522. (Rinat Kedem) **99a:05142** 05E10 (82B23)

— (*with* Lee, Keith S. M.; Welsh, Trevor A.) A Burge tree of Virasoro-type polynomial identities. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 29, 4967–5012. (Anne Schilling) **99k:17047** 17B68 (05A19, 11P99, 81R10)

— (*with* Misra, Kailash C.; Okado, Masato) Demazure modules and vertex models: the $\hat{sl}(2)$ case. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1601–1622. (Christoph Schweigert) **99e:17036** 17B67 (17B10, 81R10)

— (*with* Leclerc, Bernard; Okado, Masato; Thibon, Jean-Yves; Welsh, Trevor A.) RSOS models and Jantzen-Seitz representations of Hecke algebras at roots of unity. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 31–42. (Summary) **99a:20007** 20C30 (17B10)

Foda, Salah G. (*with* Mahmoud, Magdi S.) Adaptive stabilization of delay differential systems with unknown uncertainty bounds. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 259–275. (Summary) **99d:93054** 93D15 (93C40)

Fodor, Gábor (*with* Telek, Miklós; Pfening, András) Analysis of the completion time of Markov reward models and its application. (English summary) *Acta Cybernet.* **13** (1998), *no.* 4, 439–452. 90C40

— (*with* Telek, Miklós; Pfening, András) An effective numerical method to compute the moments of the completion time of Markov reward models. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 59–65. (Summary) **99g:65132** 65U05 (90C40)

Fodor, János C. (*with* Marichal, Jean-Luc) On nonstrict means. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 308–327. (L. Losonczi) **99f:39035** 39B12

— (*with* De Baets, Bernard) Twenty years of fuzzy preference structures (1978–1997). (English summary) Fuzzy sets and applications. *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 1-2, 61–82. (*see* **99a:90004**) 90A06

— (*with* De Baets, Bernard) Twenty years of fuzzy preference structures (1978–1997). (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **20** (1997), *no.* 1, 45–66. (Summary) **99m:90009** 90A05 (90–02, 90C70)

— (*with* Calvo, Tomasa) Aggregation functions defined by t-norms and t-conorms. (English summary) *Aggregation and fusion of imperfect information*, 36–48, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72 (90C70)

— (*with* Orlovskiĭ, S. A.; Perny, Patrice; Roubens, Marc) The use of fuzzy preference models in multiple criteria choice, ranking and sorting. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 69–101, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C29 (04A72, 90A06, 90C70)

— (*with* Fonck, Pascale; Roubens, Marc) An application of aggregation procedures to the definition of measures of similarity between fuzzy sets. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 67–74. (Summary) **99d:90010** 90A05 (03E72)

— (*with* Jenei, Sándor) On continuous triangular norms. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 273–282. (Summary) **99h:03031** 03E72

Fodor, Jerry *see* **Casalegno, Paolo**

Foerster, Angela (*with* Links, Jon; Roditi, Itzhak) Anisotropic correlated electron model associated with the Temperley-Lieb algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 14, 1035–1040. (Summary) **99c:82074** 82D55 (81R50, 82B23)

— (*with* Lima-Santos, A.; Roditi, Itzhak) Bethe ansatz solution of the anisotropic correlated electron model associated with the Temperley-Lieb algebra. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4309–4324. (Yao Zhong Zhang) **99i:82015** 82B23 (81R50)

— (*with* Links, Jon; Roditi, Itzhak) Integrable multiparametric quantum spin chains. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 687–695. (Robert A. Weston) **99g:82008** 82B20 (82B23)

— (*with* Links, Jon; Karowski, Michael) Bethe ansatz solution of a closed spin 1 XXZ Heisenberg chain with quantum algebra symmetry. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 726–735. (Andrey V. Tsiganov) **99k:82014** 82B20 (81R50, 82B23)

Fogedby, Hans C. Soliton approach to the noisy Burgers equation: steepest descent method. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 4943–4968. (Summary) **99b:82073** 82C24 (35Q53)

Fogel, David B. (*with* Wasson, Eugene C.; Boughton, Edward M.; Porto, Vincent W.; Shively, Jamen W.) Initial results of training neural networks to detect breast cancer using evolutionary programming. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 497–510. (*see* **99b:90008**) 90C90 (92B20, 92C50)

— (*with* Wasson, Eugene C.; Boughton, Edward M.; Porto, Vincent W.; Shively, Jamen W.) Erratum: "Initial results of training neural networks to detect breast cancer using evolutionary programming" [Control Cybernet. **26** (1997), no. 3, 497–510]. *Control Cybernet.* **26** (1997), *no.* 4, 665. 90C90 (92B20, 92C50)

Fogel, Leonardo (*with* Zaverucha, Gerson) Normal programs and multiple predicate learning. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 175–184, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (Summary) **99k:68155** 68T05 (68N17)

Fogel, Sergio (*with* Bar-Yehuda, Reuven) Partitioning a sequence into few monotone subsequences. (English summary) *Acta Inform.* **35** (1998), *no.* 5, 421–440. (Summary) **99d:68089** 68Q20 (05C85, 68Q35, 68R10)

Foglio, M. E. (*with* Figueira, M. S.) Cumulant expansion of the periodic Anderson model in infinite dimensions. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7879–7894. (Summary) **99a:82051** 82B44

Foguel, Tuval Groups with all cyclic subgroups conjugate-permutable groups. *J. Group Theory* **2** (1999), *no.* 1, 47–51. (Gunnar Traustason) **99m:20093** 20F99 (20D40)

Foias, Ciprian What do the Navier-Stokes equations tell us about turbulence? *Harmonic analysis and nonlinear differential equations* (*Riverside, CA*, 1995), 151–180, *Contemp. Math.*, 208, *Amer. Math. Soc., Providence, RI*, 1997. (Alain Miranville) **99e:76055** 76Fxx (35Q30, 76D05)

— (*with* Frazho, A. E.; Gohberg, Israel; Kaashoek, M. A.) ★ Metric constrained interpolation, commutant lifting and systems. (English summary) Operator Theory: Advances and Applications, 100. *Birkhäuser Verlag, Basel*, 1998. *xii*+587 *pp. ISBN* 3-7643-5889-0 (Joseph A. Ball) **99i:47027** 47A57 (30E05, 47A20, 47N70, 93B36)

— (*with* Bercovici, Hari) On the Zorn spaces in Beurling's approach to the Riemann hypothesis. *Analysis and topology*, 143–149, *World Sci. Publishing, River Edge, NJ*, 1998. (Jörn Steuding) **99k:11134** 11M26 (46E99)

— (*with* Bercovici, Hari; Tannenbaum, Allen R.) On skew Toeplitz operators. II. *Nonselfadjoint operator algebras, operator theory, and related topics*, 23–35, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Warren R. Wogen) **99g:47013** 47A20 (47B35, 93B25)

— *see also* **Nonselfadjoint operator algebras, operator theory, and related topics, 99b:47001**

Foisy, Martine (*with* Gingras, Yves) Émergence et évolution de la recherche en mathématiques au Québec, 1945–1984. [Emergence and evolution of mathematical research in Quebec, 1945–1984] *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 191–209, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A80

Fok, Ken A nonlinear Fabes-Stroock result. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 967–983. (Yehuda Pinchover) **99e:35018** 35B50 (35J60, 35K99)

Fokas, A. S. Integrability: from d'Alembert to Lax. (English summary) *Recent advances in partial differential equations, Venice* 1996, 131–161, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Piotr G. Grinevich) **99b:35196** 35Q58 (34A34, 34A55, 34L25, 58F07)

— (*with* Tanveer, S.) A Hele-Shaw problem and the second Painlevé transcendent. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 169–191. (Summary) **99b:76029** 76D99 (34A34, 35J99, 35Q35, 76D45, 76S05)

— (*with* Pelloni, B.) The solution of certain initial boundary-value problems for the linearized Korteweg-de Vries equation. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 645–657. (Summary) **99e:35197** 35Q53 (35C15)

— Lax pairs and a new spectral method for linear and integrable nonlinear PDEs. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 31–68. (Jennifer Zhao) **99e:65136** 65M70 (35A25, 35Q53)

— (*with* Menyuk, C. R.) Integrability and self-similarity in transient stimulated Raman scattering. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 1–31. (Summary) **99i:78024** 78A45 (34A34, 34A55, 34L25, 35Q60)

— (*with* Sung, Li-yeng) The Cauchy problem for the Kadomtsev-Petviashvili-I equation without the zero mass constraint. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 113–138. (Sen Zhong Huang) **99h:35185** 35Q53

Fokianos, Konstantinos (*with* Kedem, Benjamin) Prediction and classification of non-stationary categorical time series. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 277–296. (Mamikon S. Ginovian) **99k:62159** 62M10

Fokin, A. *see* **Elizarov, A. M. et al., 99d:76054**

Fokin, M. V. Qualitative properties of solutions of linearized Euler equations. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk*, 1996), 138–156, 191, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Vladimir V. Shelukhin) **99e:76027** 76C99 (35Q30, 76E99, 76F99, 76U05)

Fokkema, Diederik R. (*with* Sleijpen, Gerard L. G.; Van der Vorst, Henk A.) Jacobi-Davidson style QR and QZ algorithms for the reduction of matrix pencils. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 94–125 (*electronic*). (Summary) **99e:65061** 65F15

Fokkink, Robbert J. (*with* Aarts, Jan M.) Fixed points of the bucket handle. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 3, 881–885. (Wayne Lewis) **99b:54071** 54H25 (54F15, 54H11)

— (*with* Aarts, Jan M.; Vermeer, Johannes) Coincidence theorems for involutions. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 3–8. (Zbigniew Karno) **99d:55001** 55M20 (54F45, 54H25, 55M10, 55M30)

Fokkink, Willem Jan (*with* van de Pol, Jaco) Simulation as a correct transformation of rewrite systems. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 249–258, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q42

— An axiomatization for regular processes in timed branching bisimulation. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 329–340. (Summary) **99g:68065** 68Q10

— (*with* Aceto, Luca; Ingólfsdóttir, Anna) A Cook's tour of equational axiomatizations for prefix iteration. (English summary) *Foundations of software science and computation structures (Lisbon*, 1998), 20–34, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q10 (68Q60)

— (*with* Verhoef, Chris) A conservative look at operational semantics with variable binding. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 24–54. (Andrea Maggiolo-Schettini) **99j:68077** 68Q55 (68Q60)

— (*with* Aceto, Luca; Ingólfsdóttir, Anna) A menagerie of non-finitely based process semantics over BPA*—from ready simulation to completed traces. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 3, 193–230. (Wiesław Zielonka) **99k:68059** 68Q10 (68Q55, 68Q60)

Földes, A. (*with* Csáki, Endre) On asymptotic independence of partial sums. (English summary) *Asymptotic methods in probability and statistics (Ottawa, ON*, 1997), 373–381, *North-Holland, Amsterdam*, 1998. (Allan Gut) **99k:60056** 60F05

— (*with* Csáki, Endre; Révész, Pál) A strong invariance principle for the local time difference of a simple symmetric planar random walk. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 25–39. (Lajos Horváth) **99i:60065** 60F15 (60F17, 60J15, 60J55)

Folgado, J. (*with* Rodrigues, Helder Carrico) Structural optimization with a non-smooth buckling load criterion. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 235–253. (*see* **99k:73003**) 73K40 (49Q10, 73B27, 73H05, 90C90)

Folguera, Alejandra Davey-Stewartson type equations of the second and third order: derivation and classification. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2947–2968. (Oktay K. Pashaev) **99i:35145** 35Q55

Folkerts, Enno Invertibility in $\lambda\eta$. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN*, 1998), 418–429, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03012** 03B40 (68N15)

Folkow, Peter D. Time domain inversion of a viscoelastically restrained Timoshenko beam. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 551–562. (Summary) **99m:73031** 73D50 (65M55, 73F15, 73K05)

Föllmer, Hans (*with* Küchler, Uwe) Richard von Mises. *Mathematics in Berlin*, 111–116, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

— Ein Nobel-Preis für Mathematik? [A Nobel prize for mathematics?] *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 1, 4–7. (Editors) **99k:01090** 01A80 (01A60, 90–03)

Folly, Y. Sur la rigidité des représentations de sl(2). (Italian summary) [On the rigidity of representations of sl(2)] *Rend. Sem. Fac. Sci. Univ. Cagliari* **67** (1997), *no.* 1, 1–8. (José María Ancochea Bermúdez) **99k:17014** 17B10 (17B20)

Fomenko, A. T. ★ Symplectic geometry. (English summary) Translated from the 1988 Russian original by R. S. Wadhwa. Second edition. Advanced Studies in Contemporary Mathematics, 5. *Gordon and Breach Publishers, Luxembourg*, 1995. *xvi*+467 *pp. ISBN* 2-88124-901-9 (Editors) **99k:58068** 58F05 (58–02, 70H05)

— (*with* Bolsinov, A. V.) On the dimension of the space of integrable Hamiltonian systems with two degrees of freedom. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 45–69. (Peter J. Topalov) **99h:58080** 58F07 (58F05, 70H05)

— (*with* Bolsinov, A. V.) Orbital isomorphism between two classical integrable systems. The Euler case and the Jacobi problem. (English summary) *Lie groups and Lie algebras*, 359–382, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ya. L. Umanskiy) **99k:58084** 58F07 (58F05, 70E15, 70H05)

— *see also* **Tensor and vector analysis, 99g:53001**

Fomenko, M. N. On some L-functions of a polynomial ring over a finite field. (Russian. Russian summary) *Algebra i Logika* **35** (1996), *no.* 4, 476–495, 499; *translation in Algebra and Logic* **35** (1996), *no.* 4, 266–278. (Matti Jutila) **99c:11111** 11M41 (11T06)

Fomichev, V. V. (*with* Il'in, A. V.; Korovin, S. K.) Algorithms for the inversion of linear scalar dynamical systems: the controlled model method. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 329–339, 429; *translation in Differential Equations* **33** (1997), *no.* 3, 326–336. (Ülle Kotta) **99c:93043** 93B40 (93B17)

Fomin, A. A. (*with* Mutzbauer, Otto) Abelian groups with an endomorphism with irreducible minimum polynomial. (English summary) *Bull. Greek Math. Soc.* **37** (1995), 49–65. (Ross P. Abraham) **99c:13022** 13C13 (13F05, 13F30, 20K99)

— (*with* Wickless, W. J.) Self-small mixed abelian groups G with $G/T(G)$ finite rank divisible. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3563–3580. (L. Bican) **99j:20061** 20K21 (20K30, 20K40)

Fomin, A. I. Differential symmetry algebras for linear homogeneous differential equations. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 2, 189–210 (1998). (Valentin V. Lychagin) **99d:58181** 58G35 (35A30)

Fomin, A. S. A local limit theorem in a latency period problem. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 80–84. 60F05

Fomin, Aleksander I. *see* **Fomin, A. I.**

Fomin, Alexander A. *see* **Fomin, A. A.**

Fomin, F. V. (*with* Golovach, P. A.; Petrov, Nikolaĭ Nikolaevich) Search problems on 1-skeletons of regular polyhedrons. *Game theory and applications, III*, 27–37, *Nova Sci. Publ., Commack, NY*, 1997. (Miroslav D. Ašić) **99b:90178** 90D46 (90B40, 90D26)

— Helicopter search problems, bandwidth and pathwidth. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 59–70. (P. A. Biryukov) **99i:90140** 90D43 (05C78, 05C85, 90B40)

— (*with* Golovach, P. A.; Petrov, Nikolaĭ Nikolaevich) Search problems on 1-skeletons of regular polyhedrons. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 101–111. (Bernhard von Stengel) **99h:90129** 90D43 (05C99, 90B40)

Fomin, Sergey (*with* Stanton, Dennis W.) Rim hook lattices. (English summary) *Algebra i Analiz* **9** (1997), *no.* 5, 140–150; *reprinted in St. Petersburg Math. J.* **9** (1998), *no.* 5, 1007–1016. (Grant Walker) **99c:05202** 05E10 (05A17)

Fomin, V. I. On optimal embeddings of Hölder and weighted spaces of numerical sequences. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 168–169. 46B45 (46E99)

Fomin, Vasiliĭ Mikhaĭlovich Antiplane waves in an elastic medium with a doubly periodic system of cavities. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 479–488; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 443–451. (Summary) **99m:73026** 73D15

Fomin, Vladimir ★ Optimal filtering. Vol. I. (English summary) Filtering of stochastic processes. Translated from the Russian manuscript by Natalie Fomina. Mathematics and its Applications, 457. *Kluwer Academic Publishers, Dordrecht*, 1999. *xiv*+375 *pp. ISBN* 0-7923-5286-6 (George Yin) **99m:93102** 93E11 (60G35, 93–02)

Fomina, Natalie *see* **Fomin, Vladimir, 99m:93102**

Fomina, T. V. Integral forms of linear algebraic groups. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 424–430; *translation in Math. Notes* **61** (1997), *no.* 3-4, 346–357. (V. L. Popov) **99g:20089** 20G30

Fonck, Pascale (*with* Fodor, János C.; Roubens, Marc) An application of aggregation procedures to the definition of measures of similarity between fuzzy sets. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 67–74. (Summary) **99d:90010** 90A05 (03E72)

Fonda, Alessandro (*with* Fabry, Christian) Nonlinear resonance in asymmetric oscillators. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 58–78. (Maria Patrizia Pera) **99d:34070** 34C25 (34B15, 47H11)

Fon-Der-Flaass, D. (*with* Bending, T. D.) Crooked functions, bent functions, and distance regular graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 34, 14 *pp.* (*electronic*). (Sung-Yell Song) **99h:05126** 05E30

Fonf, Vladimir (*with* Deville, Robert; Hájek, Petr[2]) Analytic and polyhedral approximation of convex bodies in separable polyhedral Banach spaces. (English summary) *Israel J. Math.* **105** (1998), 139–154. (G. M. Ustinov) **99h:46006** 46B03 (46B20, 46G20, 52A27)

Fong, B. H. (*with* Hurricane, O. A.; Cowley, S. C.) Nonlinear magnetohydrodynamic detonation. I. (English summary) *Phys. Plasmas* **4** (1997), *no.* 10, 3565–3580. (Summary) **99d:76098** 76W05 (76E25, 76X05, 85A30)

Fong, Duncan (*with* DeSarbo, Wayne S.; Kim, Youngchan) A Bayesian multidimensional scaling procedure for the spatial analysis of revealed choice data. (English summary) *J. Econometrics* **89** (1999), *no.* 1-2, 79–108. (Summary) **99m:62082** 62H11 (62F15)

Fong, I-Kong (*with* Lee, Fu-Ming; Fu, Li Chen) Stable on-line parameter identification algorithms for systems with non-parametric uncertainties and disturbances. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 329–345. 93B30 (93C41)

— (*with* Hu, Shao-Chung; Kuo, Te-Son) Multivariable pi-sharing theory and its application on the Lur'e problem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1501–1505. 93E12 (90C90)

— (*with* Wen, Cheng) H_∞-norm performance robustness analysis of a linear parametric uncertain system. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 2, 203–209. (Summary) **99c:93040** 93B36 (93C41)

Fong, N. Kh. (*with* Bocharov, P. P.) Analysis of the queueing system $MAP_2/G_2/1/r$ with absolute priority. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 11, 102–117; *translation in Automat. Remote Control* **58** (1997), *no.* 11, *part* 1, 1782–1794 (1998). (Summary) **99b:60154** 60K25 (90B22)

Fong, Paul (*with* Milgram, R. James) On the geometry and cohomology of the simple groups $G_2(q)$ and ${}^3D_4(q)$. *Group representations: cohomology, group actions and topology (Seattle, WA*, 1996), 221–244, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Kaustuv M. Das) **99f:20088** 20J06 (20D06, 55R25, 55R40)

Fong, Yuen (*with* Beidar, K. I.) On radicals of monomial algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 3913–3919. (R. F. Rossa) **99i:16042** 16N80

— (*with* Beidar, K. I.; Ke, W.-F.) On complemented radicals. (English summary) *J. Algebra* **201** (1998), *no.* 1, 328–356. (Edmund R. Puczyłowski) **99a:16015** 16N80 (16R20)

Fonseca, Amélia (*with* Dias da Silva, J. A.; Fernandes, Rosário) The covering number of the elements of a matroid and generalized matrix functions. (English summary) *Linear Algebra Appl.* **271** (1998), 191–219. (Marcel Wild) **99a:05024** 05B35

da Fonseca, C. M. The inertia of certain Hermitian block matrices. (English summary) *Linear Algebra Appl.* **274** (1998), 193–210. (Bryan E. Cain) **99c:15045** 15A57 (15A42)

— (*with* Petronilho, J.) Path polynomials of a circuit: a constructive approach. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 313–325. (Summary) **99f:15034** 15A57 (05C50)

— On determinant preservers over skew fields. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 209–218. (Peter Butkovič) **99e:15006** 15A15 (15A04, 15A33)

Fonseca, Giovanni (*with* Cappuccio, Nunzio; Ferrante, Marco) A note on the stationarity of a threshold first-order bilinear process. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 379–384. (Patrik Albin) **99k:62154** 62M10

Fonseca, Irene (*with* Fusco, Nicola) Regularity results for anisotropic image segmentation models. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 463–499. (Françoise

Dibos) **99f:49007** 49J20 (49N60)
— (*with* Acerbi, Emilio; Fusco, Nicola) Regularity of minimizers for a class of membrane energies. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 11–25 (1998). (Jean-Pierre Raymond) **99j:49078** 49N60 (35J20, 49J10, 73C50, 73V25)
— (*with* Marcellini, Paolo) Relaxation of multiple integrals in subcritical Sobolev spaces. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 57–81. (Giovanni Bellettini) **99c:49014** 49J45 (49Q20)
— (*with* Bouchitté, Guy; Mascarenhas, Luisa) A global method for relaxation. (English summary) *Arch. Rational Mech. Anal.* **145** (1998), *no.* 1, 51–98. (Giovanni Alberti) **99j:49020** 49J45 (73B27, 73V25)
— (*with* Francfort, Gilles) 3D-2D asymptotic analysis of an optimal design problem for thin films. (English summary) *J. Reine Angew. Math.* **505** (1998), 173–202. (Sisto Baldo) **99k:73091** 73K40 (49Q10, 73V25)
— (*with* Bouchitté, Guy; Malý, Jan) The effective bulk energy of the relaxed energy of multiple integrals below the growth exponent. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 463–479. (Georg K. Dolzmann) **99i:73024** 73C50 (49J99, 49Q20, 73V25)
— (*with* Müller, Stefan C.; Pedregal, Pablo) Analysis of concentration and oscillation effects generated by gradients. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 736–756 (*electronic*). (Georg K. Dolzmann) **99e:49013** 49J45 (35B99)
— (*with* Leoni, Giovanni) Bulk and contact energies: nucleation and relaxation. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 190–219 (*electronic*). (Pablo Pedregal) **99j:49002** 49J20 (73B30, 73C50, 73T05, 73V25, 80A22)
Fonseca, Jun S. Ono (*with* Silva, Emílio C. Nelli; Kikuchi, Noboru) Optimal design of periodic piezocomposites. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 49–77. (Summary) **99e:73075** 73K40 (73B27, 73K20, 73R05)
Fonseca, M. (*with* Bonilla Estrada, Moisés; Malabre, Michel) On the approximation of non-proper control laws. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 775–796. 93D15
Fonseca, Pedro D. Non-existence of local integrals of motion in the multi-deformed Ising model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 24, 1931–1935. (Summary) **99d:81141** 81T40 (82B20)
Fonseca-Neto, J. B. (*with* Aman, J. E.; MacCallum, Malcolm A. H.; Rebouças, M. J.) Riemann-Cartan spacetimes of Gödel type. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1089–1101. (Alberto Saa Vazquez) **99b:83063** 83D05 (53C80)
— (*with* Rebouças, M. J.) On a class of Riemann-Cartan space-times of Gödel type. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1301–1317. (Alberto Saa Vazquez) **99g:83015** 83C15 (83D05)
Font, Anamaría Heterotic-type II duality. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields (Mérida, 1996)*, 477–483, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99e:81189** 81T30 (14J32, 32J81)
Font, José A. (*with* Papadopoulos, Philippos) Relativistic hydrodynamics around black holes and horizon adapted coordinate systems. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024005, 10 *pp.* (Summary) **99m:83132** 83C57 (83–08, 83C55)
Font, Juan J. Automatic continuity of certain isomorphisms between regular Banach function algebras. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 333–343. (R. J. Loy) **99a:46096** 46J10 (46E15, 46H40)
— Disjointness preserving mappings between Fourier algebras. *Colloq. Math.* **77** (1998), *no.* 2, 179–187. (Michael M. Neumann) **99g:43002** 43A15 (47B48, 47B60)
— Linear isometries between certain subspaces of continuous vector-valued functions. *Illinois J. Math.* **42** (1998), *no.* 3, 389–397. (Ali Ülger) **99h:46059** 46E40 (46B04)
— (*with* Araujo, Jesús) Codimension 1 linear isometries on function algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2273–2281. (Summary) **99j:46059** 46J10
Fontaine, Dan (*with* Krstić, Miroslav; Kokotović, Petar V.; Paduano, James D.) Useful nonlinearities and global stabilization of bifurcations in a model of jet engine surge and stall. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1739–1745. 93D15 (93C95)
Fontaine, Jean-Marc Deforming semistable Galois representations. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11138–11141. (Ian Kiming) **99a:11064** 11F80 (11R39, 14F30)
Fontana, Luigi (*with* Krantz, Steven G.; Peloso, Marco M.) Hodge theory in the Sobolev topology for the de Rham complex. (English summary) *Mem. Amer. Math. Soc.* **131** (1998), *no.* 622, viii+100 *pp.* (Jürgen Eichhorn) **99a:58155** 58G20 (35J25, 35N15, 35S05, 47F05, 58A14, 58G05)
Fontana, Marco (*with* Gabelli, Stefania; Houston, Evan) UMT-domains and domains with Prüfer integral closure. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1017–1039. (J. W. Brewer) **99d:13024** 13F05
Fontanari, J. F. (*with* Ferreira, F. F.) Probabilistic analysis of the number partitioning problem. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3417–3428. (Summary) **99b:82009** 82B05 (05A17, 11Z05)
Fontanella, F. *see* **Advanced topics in multivariate approximation, 99f:41002**
ciocan-Fontanine, Ionuţ *see* **Ciocan-Fontanine, Ionuţ**
Fontelos, M. A. (*with* Velázquez, Juan J. L.) A free boundary problem for the Stokes system with contact lines. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1209–1303. (A. Elcrat) **99j:35235** 35R35 (35Q30, 76D07)
galaz Fontes, Fernando *see* **Galaz Fontes, Fernando**
Fontes, L. R. G. (*with* Isopi, M.; Kohayakawa, Y.; Picco, Pierre) The spectral gap of the REM under Metropolis dynamics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 917–943. (Christian Maes) **99g:60184** 60K35 (82B44)
— (*with* Ferrari, Pablo A.) Fluctuations of a surface submitted to a random average process. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 6, 34 *pp.* (*electronic*). (T. M. Liggett) **99e:60214** 60K35
Fontich, E. (*with* Martín de la Torre, Pau) Construction of some unstable symplectic maps. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics (Odeillo, 1995)*, 95–103, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Dmitry V. Treshchëv) **99b:58213** 58F30 (34C99, 58F10, 70H05, 70K99)
— (*with* Baldomà, M.) Poincaré-Melnikov theory for n-dimensional diffeomorphisms. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 2, 129–152. (Vassili G. Gelfreich) **99d:58147** 58F30 (34C37, 58F15)
Foo, Norman Y. (*with* Antoniou, Grigoris; MacNish, Cara Kimberley) Restriction and expansion concepts for default logic. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 640–652 (*electronic*). (Summary) **99g:68188** 68T27 (03B70)
— (*with* Zhang, Yan[1]) Answer sets for prioritized logic programs. (English summary) *Logic programming (Port Washington, NY, 1997)*, 69–83, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17
Foong, S. K. (*with* Kenno, S.) Path integral solution of telegrapher equation: application to restoring and designing waveforms. (English summary) *Path integrals: Dubna '96*, 354–358, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:35230** 35R30 (35Q99, 60J70, 65C05, 65M99, 94A12)
— Functional integration and wave propagation. (English summary) *Functional integration (Cargèse, 1996)*, 97–130, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (Takashi Ichinose) **99j:58037** 58D30 (35L05, 60G55, 60J75)
— (*with* Kanno, Shokichi) An introduction to a proof of Page's conjecture on the average entropy of a subsystem. (English summary) *Topics in theoretical physics (Sorak Mountain Resort, 1995)*, 221–224, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81P05 (82B03)
— Addendum: "Overcoming dissipative distortions by a waveform restorer and designer" [J. Math. Phys. **36** (1995), no. 5, 2324–2340; MR 96a:35219]. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5536–5542. (Summary) **99h:35226** 35R30 (60J70, 94A12)
Foote, Robert L. Geometry of the Prytz planimeter. (English summary) Pacific Institute of Mathematical Sciences Workshop on Nonholonomic Constraints in Dynamics (Calgary, AB, 1997). *Rep. Math. Phys.* **42** (1998), *no.* 1-2, 249–271. (Summary) **99k:70015** 70F25 (53C65)
Foralewski, Paweł (*with* Hudzik, Henryk) Some basic properties of generalized Calderon-Lozanovskiĭ spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 523–538. (Lars Erik Persson) **99a:46046** 46E30 (46M35)
— On some geometric properties of generalized Calderón-Lozanovskiĭ spaces. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 55–66. (Evgeniy I. Pustylnik) **99d:46041** 46E30
Forbes, Anthony D. Prime clusters and Cunningham chains. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1739–1747. (Samuel S. Wagstaff, Jr.) **99m:11007** 11A41 (11Y55)
Forbes, Florence (*with* Ycart, Bernard) Counting stable sets on Cartesian products of graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 105–116. (C. C. Rousseau) **99j:05093** 05C30 (05C55)
Forbes, G. W. (*with* Asatryan, A. A.) Reducing canonical diffraction problems to singularity-free one-dimensional integrals. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1320–1328. (Summary) **99a:78025** 78A45
— (*with* Alonso, M. A.) Asymptotic estimation of the optical wave propagator. I. Derivation of a new method. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1329–1340. (I. Kay) **99e:78012** 78A05 (78–08, 78A40)
— (*with* Alonso, M. A.) Asymptotic estimation of the optical wave propagator. II. Relative validity. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1341–1354. (I. Kay) **99e:78013** 78A05 (78–08, 78A40)
Forbes, Lawrence K. (*with* Hocking, Graeme C.) Withdrawal from a two-layer inviscid fluid in a duct. (English summary) *J. Fluid Mech.* **361** (1998), 275–296. (Summary) **99a:76157** 76V05 (76B99)
— (*with* Koerber, A. J.) Two-dimensional steady free surface flow into a semi-infinite mat sink. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2781–2785. (Summary) **99g:76016** 76B15
— (*with* Gray, Brian F.) Burning down the house: the time to ignition of an irradiated solid. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2667–2688. (Summary) **99f:80007** 80A25
Forbes, Tony *see* **Forbes, Anthony D.**
Forcade, Rodney W. (*with* Fiduccia, Charles M.; Zito, Jennifer S.) Geometry and diameter bounds of directed Cayley graphs of abelian groups. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 157–167 (*electronic*). (Dave Witte) **99g:05096** 05C25 (68R10, 90B12)
Forcheri, Paola (*with* Gentilini, Paolo; Molfino, Maria Teresa) Informational logic as a tool for automated reasoning. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 167–190. (Editors) **99b:68172** 68T27 (03B35, 68T15)
Forchhammer, Søren (*with* Martins, Bo) Tree coding of bilevel images. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 517–528. (Summary) **99k:94012** 94A12
— (*with* Justesen, Jørn) Entropy bounds for constrained two-dimensional random fields. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 118–127. (Summary) **99k:94023** 94A29 (94A17)
Forcina, Antonio (*with* Dardanoni, Valentino) A unified approach to likelihood inference on stochastic orderings in a nonparametric context. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1112–1123. (Joachim Krauth) **99i:62131** 62H17 (62G10)
Forcum, Brian (*with* Flapan, Erica) Intrinsic chirality of triple-layered naphthalenophane and related graphs. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 379–388. (Summary) **99i:92034** 92E10 (05C90)
Ford, Ben Overgroups of irreducible linear groups. II. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 3869–3913. (Cornelius Pillen) **99m:20102** 20G15 (20E28, 20G05)
Ford, C. *see* **Ford, Christopher**
Ford, Charles E. The influence of P. A. Florensky on N. N. Luzin. (English, French and Russian summaries) *Historia Math.* **25** (1998), *no.* 3, 332–339. (Summary) **99g:01033** 01A70
Ford, Christopher (*with* Mitreuter, U. G.; Tok, T.; Wipf, A.; Pawlowski, J. M.) Monopoles, Polyakov loops, and gauge fixing on the torus. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 26–50. (Massimo Di Pierro) **99j:81119** 81T13 (53C80)

— (*with* Sachs, Ivo) Canonical equivalence of Liouville and free fields. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 149–154. (Kazuto Oshima) **99f:81124** 81T10

Ford, G. W. (*with* O'Connell, R. F.) Comment on: "Dissipative quantum dynamics with a Lindblad functional" [Phys. Rev. Lett. **79** (1997), no. 17, 3101–3104; MR 99c:82043] by S. Gao. *Phys. Rev. Lett.* **82** (1999), *no.* 16, 3376. 82C10

— *see also* **Gao, Shiwu**

Ford, J. A. (*with* Moghrabi, Issam A. R.) Further investigation of multi-step quasi-Newton methods. (English summary) *Sci. Iran.* **1** (1995), *no.* 4, 327–334. 65H10 (90C30)

— Improved Illinois-type methods for the solution of nonlinear equations. (English summary) *Sci. Iran.* **4** (1997), *no.* 1-2, 28–34. 65H10

Ford, Kevin The distribution of totients. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 27–34 (*electronic*). (Abdelhakim Smati) **99f:11125** 11N60 (11A25)

— Sums and products from a finite set of real numbers. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 59–66. (Vsevolod F. Lev) **99i:11014** 11B75 (05D99, 11B25)

— The distribution of totients. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 67–151. (John B. Friedlander) **99m:11106** 11N37 (11N64)

Ford, L. H. (*with* Pfenning, Michael J.) Scalar field quantum inequalities in static spacetimes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3489–3502. (Summary) **99k:83048** 83C47 (81T20, 83C57)

Ford, Neville J. (*with* Frischmuth, Kurt; Edwards, John T.) Volterra integral equations with non-Lipschitz nonlinearity. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 65–82. (Neide Bertoldi Franco) **99c:65246** 65R20 (45D05)

— (*with* Baker, Christopher T. H.; Roberts, Jason A.) Nonlinear Volterra integro-differential equations—stability and numerical stability of θ-methods. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 397–416. (Summary) **99j:45006** 45J05 (45L05, 45M99, 65R20)

Ford, R. A. (*with* Hamdan, M. H.) Coupled parallel flow through composite porous layers. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 261–271. (Summary) **99f:76124** 76S05 (76M20)

Fordy, A. P. (*with* Özer, Mehmet Naci) A new integrable reduction of the matrix NLS equation. (English summary) *Hadronic J.* **21** (1998), *no.* 4, 387–404. (Summary) **99k:35163** 35Q55 (35Q53, 58F07)

Foreman, Lindsey A. (*with* Smith, Adrian F. M.; Evett, Ian W.) Bayesian analysis of DNA profiling data in forensic identification applications. (English summary) With discussion and a reply by the authors. *J. Roy. Statist. Soc. Ser. A* **160** (1997), *no.* 3, 429–469. (Hans-Peter Herzel) **99c:92030** 92D20 (92B05)

Foreman, Matthew (*with* Cummings, James) The tree property. (English summary) *Adv. Math.* **133** (1998), *no.* 1, 1–32. (From the introduction) **99j:03034** 03E05 (03E35)

Forest, M. Gregory (*with* Wang, Qi^2) The role of microstructure in taming the Rayleigh capillary instability of cylindrical jets. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 161–182. (Summary) **99k:76063** 76E99 (76A10, 76B45)

— (*with* McLaughlin, Richard M.) An anelastic, scale-separated model for mixing, with application to atmospheric transport phenomena. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 880–892. (Summary) **99k:86005** 86A10 (76R99)

Forestier, A. (*with* González Rodelas, Pedro) Implicit schemes in fluid dynamics. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 781–786, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M20 (35L65, 65M99)

Forestier, M. Y. (*with* Borchers, W.; Kräutle, S.; Pasquetti, R.; Peyret, R.; Rautmann, R.; Ross, Nicole; Sabbah, Cyril) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)

Forgács, P. (*with* Balázs, L. K.; Balog, J.; Mohammedi, N.; Palla, László; Schnittger, J.) Quantum equivalence of σ models related by non-abelian duality transformations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3585–3594. (Summary) **99k:81191** 81T15

— (*with* Woynarovich, Ferenc) Scaling limit of the one-dimensional attractive Hubbard model: the non-half-filled band case. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 701–730. 82B20

Forge, D. (*with* Ramírez Alfonsín, Jorge L.) Straight line arrangements in the real projective plane. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 155–161. (Margaret M. Bayer) **99g:52018** 52B30 (05B30)

Förger, Kristin (*with* Louis, Jan) Holomorphic couplings in string theory. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 33–64. (Introduction) **99f:81171** 81T30 (81T15)

— (*with* Stieberger, S.) String amplitudes and $N = 2$, $d = 4$ prepotential in heterotic $K3 \times T^2$ compactifications. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 135–160. (Gonzalo Violero) **99f:81160** 81T30 (11Z05, 32J81, 83E30)

Forger, Michael Invariant polynomials and Molien functions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1107–1141. (Angelina Chin) **99g:13005** 13A50 (17B20, 22E70)

Forges, Françoise (*with* Minelli, Enrico) Self-fulfilling mechanisms in Bayesian games. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 292–310. (Sylvain Sorin) **99j:90130** 90D20 (90D15)

Forgó, Ferenc (*with* Joó, István) Necessary conditions for two-function minimax inequalities. (English summary) *New trends in mathematical programming*, 59–64, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 49K35

— (*with* Joó, István) A general nontopological two-function minimax theorem. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 376–383. (Tamaki Tanaka) **99j:49010** 49J35 (49K35, 52A37, 52A40)

Formal'skiĭ, A. M. On a modification of a proportional-integrodifferential regulator. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 4, 85–89, 113. 93B52 (93D15)

— (*with* Lavrovskiĭ, È. K.) On the stabilization of the position of a circular membrane. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 457–465; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 443–450. (Summary) **99c:73057** 73K50 (73K10, 93C20)

Forman, Robin Morse theory for cell complexes. *Adv. Math.* **134** (1998), *no.* 1, 90–145. (Wolfgang Kühnel) **99b:57050** 57Q99 (57R70, 58E05)

— Combinatorial vector fields and dynamical systems. (English summary) *Math. Z.* **228** (1998), *no.* 4, 629–681. (Alexander Fel'shtyn) **99f:58165** 58F20 (58G26)

— Witten-Morse theory for cell complexes. *Topology* **37** (1998), *no.* 5, 945–979. (Friedbert Prüfer) **99m:58046** 58E05 (57R45, 57R70, 58G05)

Formanov, Sh. K. (*with* Khusanbaev, Ya. M.) On the sum of a random number of random variables with Markov switching. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 102–105 (1996). 60J10 (60E10)

Formański, Sebastian (*with* Plebański, Jerzy F.; Przanowski, Maciej) Linear superposition of two type-N nonlinear gravitons. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 25–31. (J. D. Finley, III) **99j:83015** 83C15 (83C60)

Formby, John P. (*with* Bishop, John A.; Zheng, Buhong) Inference tests for Gini-based tax progressivity indexes. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 322–330. 62P20

— (*with* Smith, W. James; Zheng, Buhong) The coefficient of variation, stochastic dominance and inequality: a new interpretation. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 319–323. (Summary) **99m:90045** 90A19

Formenti, Enrico (*with* Cattaneo, Gianpiero; Margara, Luciano; Mazoyer, Jacques) A shift-invariant metric on $S^{\mathbf{Z}}$ inducing a non-trivial topology. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 179–188, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68107** 68Q80

— (*with* Blanchard, François; Kůrka, Petr) Cellular automata in the Cantor, Besicovitch, and Weyl topological spaces. (English summary) *Complex Systems* **11** (1997), *no.* 2, 107–123. (Michael Hurley) **99j:58108** 58F08 (68Q80)

— (*with* Cattaneo, Gianpiero; Margara, Luciano; Mauri, Giancarlo) Transformations of the one-dimensional cellular automata rule space. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1593–1611. (Henning Fernau) **99d:68166** 68Q80 (58F08)

Formica, M. R. (*with* Capobianco, M. R.) A numerical method for a class of Volterra integral equations with logarithm perturbation kernel. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 291–304. (B. P. Parashar) **99h:65213** 65R20 (45L05)

Formisano, Andrea (*with* Dovier, Agostino; Policriti, Alberto) On T logic programming. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 323–337, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68017** 68N17

Fornæss, John Erik (*with* Gavosto, Estela A.) The Cauchy Riemann equation on singular spaces. *Duke Math. J.* **93** (1998), *no.* 3, 453–477. (Steven George Krantz) **99c:32022** 32F20 (35N15)

— (*with* Sibony, Nessim) Fatou and Julia sets for entire mappings in $\mathbf{C}^k$. *Math. Ann.* **311** (1998), *no.* 1, 27–40. (Marco Abate) **99e:32044** 32H50

— (*with* Sibony, Nessim) Hyperbolic maps on $\mathbf{P}^2$. *Math. Ann.* **311** (1998), *no.* 2, 305–333. (Marco Abate) **99d:32032** 32H50 (32C30)

— The disc method. *Math. Z.* **227** (1998), *no.* 4, 705–709. (Eric Bedford) **99c:32011** 32D15 (32D10)

— (*with* Wu, He) Classification of degree 2 polynomial automorphisms of $\mathbf{C}^3$. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 195–210. (M. Kh. Gizatullin) **99e:14015** 14E09

Fornasini, Ettore (*with* Valcher, Maria Elena) Recent developments in 2D positive systems theory. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 713–735. (Summary) **99c:93063** 93C30 (93–02, 93A30)

— (*with* Valcher, Maria Elena) Multidimensional systems with finite support behaviors: signal structure, generation, and detection. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 760–779 (*electronic*). (Shojiro Sakata) **99c:93067** 93C35 (93B05, 94A55)

Fornberg, Bengt Calculation of weights in finite difference formulas. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 685–691 (*electronic*). 65L12 (65M06)

Forney, G. David, Jr. (*with* Vardy, Alexander) Generalized minimum-distance decoding of Euclidean-space codes and lattices. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1992–2026. (Stefan Dodunekov) **99c:94058** 94B35 (11H31)

— (*with* Ungerboeck, Gottfried) Modulation and coding for linear Gaussian channels. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2384–2415. (Summary) **99i:94034** 94A40

Forni, Giovanni Solutions of the cohomological equation for area-preserving flows on compact surfaces of higher genus. *Ann. of Math.* (2) **146** (1997), *no.* 2, 295–344. (Boris Hasselblatt) **99d:58102** 58F11 (58F17)

— (*with* de Bièvre, Stephan) Transport properties of kicked and quasiperiodic Hamiltonians. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1201–1223. (Alain Joye) **99g:82046** 82C05 (81Q10)

— (*with* de Bièvre, Stephan) On the growth of averaged Weyl sums for rigid rotations. (English summary) *Studia Math.* **130** (1998), *no.* 3, 199–212. (Thomas Ward) **99e:11114** 11L15 (11K70, 28D05)

Forrest, A. H. K-groups associated with substitution minimal systems. (English summary) *Israel J. Math.* **98** (1997), 101–139. (V. S. Prasad) **99c:54056** 54H20 (19K35, 28D05)

Forrest, Brian Fourier analysis on coset spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 173–190. (Mohammed E. B. Bekka) **99h:43020** 43A85 (43A07, 43A15)

Forrest, John J. (*with* Anbil, Ranga; Pulleyblank, William R.) Column generation and the airline crew pairing problem. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998,** *Extra Vol. III*, 677–686 (*electronic*). (Uwe Zimmermann) **99g:90163** 90C90 (90B25, 90C10)

Forrester, P. J. (*with* Fulford, G. R.; Jones, Arthur Raymond) ★ Modelling with differential and difference equations. (English summary) Australian Mathematical Society Lecture Series, 10. *Cambridge University Press, Cambridge*, 1997. x+405 *pp. ISBN* 0-521-44069-6; 0-521-44618-X (John Brindley) **99f:00009** 00A71 (00A69, 34–01, 39–01)

— (*with* Odlyzko, Andrew M.) A nonlinear equation and its application to nearest neighbor spacings for zeros of the zeta function and eigenvalues of random matrices.

Organic mathematics (*Burnaby, BC*, 1995), 239–251, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Andrzej Mądrecki) **99c:11107** 11M26 (82B41)

— (*with* Baker, T. H.) The Calogero-Sutherland model and generalized classical polynomials. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 175–216. (Laurent Habsieger) **99c:33012** 33C45 (33C50, 33C60, 81V70)

— (*with* Baker, T. H.) A q-analogue of the type A Dunkl operator and integral kernel. *Internat. Math. Res. Notices* **1997**, *no.* 14, 667–686. (Laurent Habsieger) **99e:33022** 33D80 (33D65, 39A10)

— (*with* Baker, T. H.) Generalizations of the q-Morris constant term identity. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 1, 69–87. (Laurent Habsieger) **99e:05013** 05A30 (05A19, 33D05, 33D60)

— (*with* Baker, T. H.; Pearce, Paul A.) Random matrix ensembles with an effective extensive external charge. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6087–6101. (Summary) **99h:82035** 82B41

— Exact results for two-dimensional Coulomb systems. Fundamental problems in statistical mechanics (Altenberg, 1997). *Phys. Rep.* **301** (1998), *no.* 1-3, 235–270. (A. Ventura) **99k:82005** 82B05 (82D10, 82D20)

Forrey, Robert C. Computing the hypergeometric function. (English summary) *J. Comput. Phys.* **137** (1997), *no.* 1, 79–100. (J. P. Singhal) **99g:33004** 33C05 (33–04, 65D20)

Forsgren, Anders (*with* Gill, Philip E.) Primal-dual interior methods for nonconvex nonlinear programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1132–1152 (*electronic*). (Yin Zhang) **99k:90121** 90C26 (90C30)

Forst, Christian V. Molecular evolutionary dynamics. (English summary) *A perspective look at nonlinear media*, 207–226, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (*see* **99d:00025**) 92C40 (92D20, 92D25)

Förste, Stefan (*with* Ghoshal, Debashis) Strings from orientifolds. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 95–120. (Marco Spaans) **99g:81161** 81T30

— A note on inflationary string cosmology. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 44–50. (Summary) **99c:83089** 83E30 (81T30)

Förster, K. *see* **Förster, Karl Martin**

Förster, K.-H. (*with* Nagy, Béla) On nonnegative realizations of rational matrix functions and nonnegative input-output systems. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 89–104, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (K. B. Datta) **99f:93022** 93B15 (47N70)

— (*with* Nagy, Béla) On nonnegative operators and fully cyclic peripheral spectrum. (English summary) *Electron. J. Linear Algebra* **3** (1998), 13–22 (*electronic*). (Anton Schep) **99h:47045** 47B65 (47A10, 47B15)

— (*with* Nagy, Béla) Spectral properties of rational matrix functions with nonnegative realizations. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 189–200. (Summary) **99c:93026** 93B25 (15A18)

— (*with* Nagy, Béla) Transfer functions and spectral projections. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 367–376. (Reinhard Mennicken) **99e:47014** 47A25 (47A10, 47A45)

Förster, K.-J. (*with* Köhler, P.; Nikolov, Geno P.) Monotonicity and stopping rules for compound Gauss-type quadrature formulae. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 55–74. (Summary) **99a:41044** 41A55 (65D32)

Förster, Karl Martin Test cases for unsteady one-dimensional flow with variable cross-section. (English summary) *Acta Mech.* **131** (1998), *no.* 1-2, 1–25. 76N15 (76L05)

Forster, Thomas Quine's NF—60 years on. *Amer. Math. Monthly* **104** (1997), *no.* 9, 838–845. (M. Randall Holmes) **99j:03046** 03E70

Forsyth, P. A. (*with* Zvan, R.; Vetzal, K. R.) Penalty methods for American options with stochastic volatility. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 199–218. (Summary) **99b:90025** 90A09 (65N30)

— (*with* Graham, Edward) Preconditioning methods for very ill-conditioned three-dimensional linear elasticity problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 1, 77–99. (Summary) **99j:73096** 73V05

Fort, Hugo (*with* Gambini, Rodolfo; Pullin, Jorge) Lattice knot theory and quantum gravity in the loop representation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2127–2143. (Summary) **99d:83031** 83C27 (57M25, 83C45)

— The worldsheet formulation as an alternative method for simulating dynamical fermions. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 174–178. (Summary) **99i:81259** 81T80 (81V05)

— (*with* Aroca, Josep Maria; Gambini, Rodolfo) Path integral loop representation of $2+1$ lattice non-abelian gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045007, 9 *pp.* (Summary) **99k:81204** 81T25 (81T27)

Fort, Jean-Claude (*with* Pagès, Gilles) Correction: "Convergence of stochastic algorithms: from the Kushner-Clark theorem to the Lyapounov functional method" [Adv. in Appl. Probab. **28** (1996), no. 4, 1072–1094; MR 98b:62147]. *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 270. (Editors) **99b:62124** 62L20 (60F05)

Forte, B. (*with* Mendivil, Franklin) A classical ergodic property for IFS: a simple proof. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 609–611. (Thomas Bogenschütz) **99d:58103** 58F11 (28D05)

— (*with* Mendivil, Franklin; Vrscay, E. R.) "Chaos games" for iterated function systems with grey level maps. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 878–890 (*electronic*). (Summary) **99a:28007** 28A80 (58F13, 60J15)

Forte, Sandra (*with* Vianello, Maurizio) Functional bases for transversely isotropic and transversely hemitropic invariants of elasticity tensors. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 543–552. (Cesare Davini) **99j:73017** 73B40 (73B10)

Forte, Stefano (*with* Latorre, José I.) A proof of the irreversibility of renormalization group flows in four dimensions. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 709–728. (Manfred Salmhofer) **99m:81153** 81T17 (81T50)

Fortes Escalona, Miguel Angel (*with* De Las Peñas Cabrera, Inmaculada; Sánchez Campos, Esperanza) Elementary proofs of the Wedderburn-Artin theorems for associative pairs. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 107–114. (Antonio Fernández López) **99k:17003** 17A40 (16N20)

borelli Forti, Costanza *see* **Borelli Forti, Costanza**

Forti, Gian Luigi (*with* Paganoni, Luigi) A distributionally chaotic triangular map with zero sequence topological entropy. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 147–152. (Krzysztof Ciesielski) **99f:58139** 58F13 (54H20)

— (*with* Paganoni, Luigi; Smítal, Jaroslav) Dynamics of homeomorphisms on minimal sets generated by triangular mappings. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 1–20. (Henk P. Bruin) **99m:54029** 54H20 (58F08, 58F12)

Forti, Marco (*with* Honsell, Furio) Addendum and corrigendum: "Choice principles in hyperuniverses" [Ann. Pure Appl. Logic **77** (1996), no. 1, 35–52; MR 97a:03060]. (English summary) *Ann. Pure Appl. Logic* **92** (1998), *no.* 2, 211–214. (Summary) **99c:03069** 03E25 (03E70, 54C65, 54E99)

— (*with* Berarducci, Alessandro; Dikranjan, Dikran N.; Watson, W. Stephen) Cardinal invariants and independence results in the poset of precompact group topologies. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 19–49. (A. Revuz) **99b:22001** 22A05

Fortin, A. (*with* Béliveau, A.; Demay, Y.) A two-dimensional numerical method for the deformation of drops with surface tension. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 3, 225–240. (Summary) **99e:76076** 76M10 (76D45)

Fortin, Dominique (*with* Rudolf, Rüdiger) Weak Monge arrays in higher dimensions. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 105–115. (Xiao Dong Hu) **99f:05021** 05B30 (90C35)

Fortin, Michel (*with* Farhloul, Mohamed) A nonconforming mixed finite element for second-order elliptic problems. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 445–457. (Robert Beauwens) **99b:65130** 65N12 (65N30)

Fortini, Pierluigi (*with* Calura, Mirco; Montanari, Enrico) Lagrangian planetary equations in Schwarzschild spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3121–3129. (Summary) **99g:83012** 83C10 (83C15)

Fortner, Brand (*with* Meyer, Theodore E.) ★ Number by colors. (English summary) A guide to using color to understand technical data. *TELOS. The Electronic Library of Science, Santa Clara, CA*; *Springer-Verlag, New York*, 1997. xxvi+349 *pp. ISBN* 0-387-94685-3 (Editors) **99a:92043** 92J99 (92J10)

Fortnow, Lance (*with* Buhrman, Harry; Torenvliet, Leen) Using autoreducibility to separate complexity classes. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 520–527, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15 (03D15)

— Counting complexity. (English summary) *Complexity theory retrospective, II*, 81–107, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— (*with* Laplante, Sophie) Nearly optimal language compression using extractors. (English summary) *STACS 98* (*Paris*, 1998), 84–93, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68090** 68Q30 (68Q15)

— (*with* Buhrman, Harry; Thierauf, Thomas) Nonrelativizing separations. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 8–12, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68043** 68Q15

— (*with* Buhrman, Harry) Two queries. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 13–19, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68042** 68Q15

— (*with* Rogers, John D.) Complexity limitations on quantum computation. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 202–209, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q05, 81P99)

— (*with* Downey, Rodney G.) Uniformly hard languages. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 228–233, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

— (*with* Feigenbaum, Joan; Laplante, Sophie; Naik, Ashish V.) On coherence, random-self-reducibility, and self-correction. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 174–191. (Uwe Schöning) **99j:68041** 68Q15

— (*with* Freivalds, Rūsiņš; Gasarch, William I.; Kummer, Martin Walter; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank) On the relative sizes of learnable sets. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 139–156. (Philip Ross Watson) **99c:68210** 68T05 (03D25, 03D80, 68Q99)

— (*with* Goldsmith, Judy; Levy, Matthew A.; Mahaney, Stephen R.) L-printable sets. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 137–151 (*electronic*). (Marius Zimand) **99f:68068** 68Q15 (03D05, 03D15, 03D30, 68Q30, 68Q45)

Fortuna, Elisabetta (*with* Ferrarotti, Massimo) On semialgebraic tangent cones. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 4, 383–390. (Guang Xing Zeng) **99k:14089** 14P10 (14P05)

Fortuna, L. (*with* Muscato, G.; Nunnari, G.) Singular perturbation approximation of bounded real balanced and stochastically balanced transfer matrices. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 253–269. 93C70 (93B36)

Fortunato, Donato (*with* Benci, Vieri; Pisani, Lorenzo) Remarks on topological solitons. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 349–367. (B. A. Malomed (Zbl 892.35101)) **99f:35172** 35Q51 (35L70)

— (*with* Benci, Vieri) A new variational principle for the fundamental equations of classical physics. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 333–352. (Paolo Piccione) **99a:58053** 58E30 (53C80, 83C22)

— (*with* Benci, Vieri; Pisani, Lorenzo) Soliton like solutions of a Lorentz invariant equation in dimension 3. *Rev. Math. Phys.* **10** (1998), *no.* 3, 315–344. (Patricio L. Felmer) **99h:58046** 58E30 (35Q51)

Forzani, Liliana (*with* Aimar, H.; Toledano, R.) Balls and quasi-metrics: a space of homogeneous type modeling the real analysis related to the Monge-Ampère equation. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 377–381. (Wen Xiong Chen) **99j:35043** 35J60 (42B25)

— (*with* Scotto, Roberto) The higher order Riesz transform for Gaussian measure need not be of weak type (1, 1). (English summary) *Studia Math.* **131** (1998), *no.* 3, 205–214. (B. S. Rubin) **99h:42034** 42B25 (42C10, 47D03, 60H99)

Fosam, E. B. (*with* Shanbhag, D. N.) An extended Laha-Lukacs characterization result based on a regression property. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 173–186. (M. Riedel) **99d:62008** 62E10 (60E05, 60E10, 62J02)

Foschi, Silvia (*with* Ritelli, Daniele) "Stability" properties of generalized Lotka-Volterra predator prey systems. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 755–764. (Miklós Farkas) **99h:34063** 34C25 (34D99, 92D25)

Foschini, Gerard J. Thoughts on Milnor. Comment on: "Fubini foiled: Katok's paradoxical example in measure theory" [Math. Intelligencer **19** (1997), no. 2, 30–32; MR 98g:28005] by J. Milnor. *Math. Intelligencer* **20** (1998), *no.* 4, 3, 64. (Nathaniel F. G. Martin) **99h:26013** 26A30 (28A99)

Fosco, C. D. Bosonization in more than two spacetime dimensions. (English summary) *First Latin American Symposium on High Energy Physics and VII Mexican School of Particles and Fields (Mérida, 1996)*, 485–495, *AIP Conf. Proc.*, 400, *Amer. Inst. Phys., New York*, 1997. (Summary) **99f:81125** 81T10 (81T99)

— (*with* Le Guillou, J. C.) Decoupling transformations in path-integral bosonization. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 483–498. (Summary) **99j:81111** 81T10 (81S40)

— (*with* Núñez, Carlos; Schaposnik, Fidel A.) Loop corrections and bosonization formulae. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 31–45. (Summary) **99i:81152** 81T15

— (*with* Lopez, Ana) Dirac fermions and domain wall defects in 2 + 1 dimensions. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 685–700. 81T10

Fosdick, Roger (*with* Ketema, Yohannes; Yu, Jang-Horng) A non-linear oscillator with history dependent force. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 447–459. (Summary) **99a:73072** 73F15 (70K99, 73K12)

— (*with* Bělik, Pavel) The state of pure shear. (English summary) *J. Elasticity* **52** (1998), *no.* 1, 91–98. (Summary) **99k:73031** 73B99 (73C02, 73C50)

— (*with* Ketema, Yohannes; Yu, Jang-Horng) Dynamics of a viscoelastic spherical shell with a nonconvex strain energy function. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 221–244. (Summary) **99a:73073** 73F15 (73G25, 73K12, 73K15)

Foskey, Mark Split dual Dyer-Lashof operations. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 233–249. (R. M. Vogt) **99h:55029** 55S12

Foss, S. G. (*with* Chernova, N. I.) On polling systems with an infinite number of stations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 940–956, *iv*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 832–846. (Volker Schmidt) **99f:60155** 60K25

— (*with* Tweedie, R. L.) Perfect simulation and backward coupling. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 187–203. (Mark R. Jerrum) **99f:60123** 60J10 (68Q25)

— (*with* Last, Günter) On the stability of greedy polling systems with general service policies. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 49–68. (Muhammad El-Taha) **99e:60203** 60K25 (60K30, 90B22)

— (*with* Tweedie, R. L.; Corcoran, J. N.) Simulating the invariant measures of Markov chains using backward coupling at regeneration times. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 303–320. (Olle Häggström) **99d:60079** 60J10 (60K25)

— (*with* Chernova, N. I.) On the stability of a partially accessible multi-station queue with state-dependent routing. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 55–73. (Walter M. Böhm) **99j:60136** 60K20 (60K25, 90B22)

Fossa, John A. (*with* Erickson, Glenn W.) ★ Dictionary of paradox. *University Press of America, Lanham, MD*, 1998. 221 *pp. ISBN* 0-7618-1065-X; 0-7618-1066-8 (A. A. Mullin) **99c:00003** 00A20 (00A30, 03A05)

Fossen, Thor I. (*with* Paulsen, Marit J.; Egeland, Olav) A passive output feedback controller with wave filter for marine vehicles. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 15, 1239–1253. 93B52 (93C95)

Fößmeier, Ulrich (*with* Kaufmann, Michael) Solving rectilinear Steiner tree problems exactly in theory and practice. (English summary) *Algorithms—ESA '97 (Graz)*, 171–185, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q25 (90C27)

— Interactive orthogonal graph drawing: algorithms and bounds. (English summary) *Graph drawing (Rome, 1997)*, 111–123, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

Fossorier, Marc P. C. (*with* Lin, Shu; Snyders, Jakov) Reliability-based syndrome decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 388–398. (Summary) **99b:94052** 94B35

— (*with* Lin, Shu; Rhee, Dojun) Bit-error probability for maximum-likelihood decoding of linear block codes and related soft-decision decoding methods. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3083–3090. (Summary) **99i:94071** 94B35 (94B05)

Fossy, Jules (*with* Morillon, Marianne) The Baire category property and some notions of compactness. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 1–19. (J. M. Plotkin) **99m:03096** 03E25 (03E35)

Foster, Dean P. (*with* Vohra, Rakesh V.) Asymptotic calibration. (English summary) *Biometrika* **85** (1998), *no.* 2, 379–390. (Heleno Bolfarine) **99j:62002** 62A15 (62C15)

— (*with* Young, H. Peyton) On the nonconvergence of fictitious play in coordination games. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 1, 79–96. (Summary) **99k:90217** 90D12

— (*with* Vohra, Rakesh V.) An axiomatic characterization of a class of locations in tree networks. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 347–354. (Neville G. F. Sancho) **99j:90103** 90C35 (90A08, 90B10)

— (*with* Fiat, Amos; Karloff, Howard; Rabani, Yuval; Ravid, Yiftach; Vishwanathan, Sundar) Competitive algorithms for layered graph traversal. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 448–463 (*electronic*). (Summary) **99g:68064** 68Q10 (05C85, 68Q25, 68R10)

Foster, James A. Exploring the polynomial hierarchy with generic sets. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 166–183 (*electronic*). (*see* **99d:68010**) 68Q15

Foster, Leslie V. Corrigendum: "The growth factor and efficiency of Gaussian elimination with rook pivoting" [J. Comput. Appl. Math. **86** (1997), no. 1, 177–194; MR 98k:65013]. *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 177. 65F05 (65G05)

Foster, M. R. (*with* Kunka, M. D.; Tanveer, S.) Dendritic crystal growth for weak undercooling. II. Surface energy effects on nonlinear evolution. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 673–710. (Summary) **99m:80014** 80A22

Foster, Scott Scalar field cosmologies and the initial spacetime singularity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3485–3504. (Volker Perlick) **99i:83074** 83C75 (83C15)

Fotakis, Dimitris (*with* Pantziou, Grammati E.; Pentaris, George P.; Spirakis, Paul G.) Frequency assignment in mobile and radio networks. (English summary) *Networks in distributed computing (Piscataway, NJ, 1997)*, 73–90, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 45, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:68004** 68M10 (05C85, 68Q25, 68R10, 90B12)

Foth, Philip A. Geometry of moduli spaces of flat bundles on punctured surfaces. (English summary) *Internat. J. Math.* **9** (1998), *no.* 1, 63–73. (Nitin Nitsure) **99i:14014** 14D20 (14H60)

Fotheringham, Paul (*with* Hollerbach, Rainer) Inertial oscillations in a spherical shell. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 1-2, 23–43. (Summary) **99j:76128** 76U05 (86A05, 86A10)

Foti, S. (*with* Lancellotta, R.) A note on finite deformation consolidation models. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 1–7. (Summary) **99e:73026** 73B99 (73C99, 73G99, 76S05)

Fotopoulos, Stergios B. Invariance principles for deconvoluting kernel density estimation. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 2, 155–170. (Summary) **99b:62055** 62G05

Fottner, Hubert Lifting induction theorems. (English summary) *J. Algebra* **205** (1998), *no.* 1, 244–274. (Jacques Thévenaz) **99m:20011** 20C20 (19A22)

Foucart, Thierry Régression bornée partielle. (English and French summaries) [Partial ridge regression] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 759–762. (Summary) **99k:62133** 62J07

— Stability of the inverse correlation matrix. Partial ridge regression. (English summary) *J. Statist. Plann. Inference* **77** (1999), *no.* 1, 141–154. 62J05

Fouché, Willem L. Symmetries in Ramsey theory. *East-West J. Math.* **1** (1998), *no.* 1, 43–60. (Bruce Landman) **99j:05185** 05D10 (05C55)

— Symmetries and Ramsey properties of trees. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 325–330. (Summary) **99i:05144** 05C55 (05C05)

— Symmetry and the Ramsey degrees of finite relational structures. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 2, 135–147. (Pavel Valtr) **99m:05160** 05D10 (05C55)

Foucher, F. (*with* Ciavaldini, J.-F.) Optimal control and regularization to model the atmospheric electron content from satellite measurements. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 117–130. (Summary) **99b:49035** 49N55 (86A10)

Foufou, S. (*with* Brun, J. M.; Bouras, A.) Surfaces intersection for solid algebra: a classification algorithm. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996)*, 114–131, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65193** 65Y25

Fougères, Anne-Laure (*with* Capéraà, P.; Genest, C.) A nonparametric estimation procedure for bivariate extreme value copulas. (English summary) *Biometrika* **84** (1997), *no.* 3, 567–577. (Summary) **99c:62078** 62G05

— Estimation de densités unimodales. (English and French summaries) [Unimodal density estimation] *Canad. J. Statist.* **25** (1997), *no.* 3, 375–387. (Winfried Stute) **99c:62088** 62G05

Foulds, Leslie R. (*with* Rumchev, Ventseslav G.) On the combinatorial properties of reachable positive single-input systems. (English summary) *Systems Sci.* **23** (1997), *no.* 1, 13–24. (Boris G. Zaslavskiĭ) **99e:93049** 93C55 (93B05)

— (*with* Hamacher, Horst W.; Wilson, John Montgomery) Integer programming approaches to facilities layout models with forbidden areas. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 90–95, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C90 (90C10)

— (*with* Hamacher, Horst W.; Wilson, John Montgomery) Integer programming approaches to facilities layout models with forbidden areas. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 405–417. (*see* **99b:90006**) 90C10 (90C90)

— (*with* Partovi, Fariborz Y.) Integrating the analytic hierarchy process and graph theory to model facilities layout. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 435–451. (*see* **99e:90003**) 90B80 (90C35)

— (*with* Yamaguchi, Tadashi; Lamb, John D.) Central cycles in graphs. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 48 (1998), 93–99. (Summary) **99g:05069** 05C12

— (*with* Basnet, Chuda; Wilson, John Montgomery) An exact algorithm for a milk tanker scheduling and sequencing problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 559–568. (*see* **99k:90002**) 90B35 (90C35)

— (*with* Tang, Guochun) Single machine scheduling with controllable processing times and compression costs. II. Heuristics for the general case. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 75–84. 90B35

Fouliras, P. E. (*with* Margaritis, Konstantinos G.) A parallel demand-driven simulation algorithm for SIMD computers. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 53–73. 68Q22

Foulis, David J. (*with* Bennett, Mary Katherine) A generalized Sasaki projection for effect algebras. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 55–66. (Summary) **99g:03064** 03G12 (08A55, 81P10)

— *see also* **Kalmbach, Gudrun, 99j:81014**

Foulloy, L. (*with* Mauris, G.; Benoît, Eric) Fuzzy linguistic methods for the aggregation of complementary sensor information. (English summary) *Aggregation and fusion of imperfect information*, 214–230, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72

Foulquié Moreno, Ana A note on summability conditions on Fourier coefficients. (English summary) *Complex methods in approximation theory (Almería, 1995)*, 63–68, *Monogr. Cienc. Tecnol.*, 2, *Univ. Almería, Almería*, 1997. (Tamotsu Tsuchikura) **99f:42008** 42A16 (42C05)

— (*with* Branquinho, A.; Marcellán, Francisco) On inverse problems for orthogonal polynomials satisfying a differential equation. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 87–108. (Paolo Emilio Ricci) **99k:33022** 33C45 (42C05)

— (*with* Marcellán, Francisco) Strong asymptotics on the support of the measure of orthogonality for polynomials orthogonal with respect to a discrete Sobolev inner product. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 1, 53–66. (Walter Van Assche) **99b:42028** 42C05 (33C45)
— (*with* Marcellán, Francisco; Peherstorfer, Franz; Steinbauer, Robert) Strong asymptotics on the support of the measure of orthogonality for polynomials orthogonal with respect to a discrete Sobolev inner product on the unit circle. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 411–425. (Summary) **99i:42036** 42C05
Fountain, John B. (*with* Gould, Victoria; Smith, Paula) Maximal orders in semigroups. *Comm. Algebra* **27** (1999), *no.* 1, 173–187. (L. Márki) **99k:20109** 20M10
— (*with* Gomes, Gracinda M. S.; Gould, Victoria) Enlargements, semiabundancy and unipotent monoids. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 595–614. (Mária B. Szendrei) **99k:20110** 20M10 (20M07)
— *see also* **Semigroups, formal languages and groups, 99b:20001**
Fountain, R. H. (*with* Wan, K. Kong) Quantization by parts, maximal symmetric operators, and quantum circuits. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2153–2186. (Summary) **99h:82078** 82D55 (81P99)
Foupouagnigni, M. (*with* Koepf, Wolfram; Ronveaux, André) Fourth-order difference equation for the associated classical discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 103–108. (Summary) **99i:39006** 39A10 (33C45, 39A12)
— (*with* Ronveaux, André; Koepf, Wolfram) Fourth order q-difference equation for the first associated of the q-classical orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 231–236. (Summary) **99j:33022** 33D45 (39A10)
Fouque, Jean-Pierre (*with* Papanicolaou, George C.; Sircar, K. Ronnie) Asymptotics of a two-scale stochastic volatility model. (English summary) *Équations aux dérivées partielles et applications*, 517–525, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 90A09 (60H10)
— (*with* Chillan, J.) Pressure fields generated by acoustical pulses propagating in randomly layered media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1532–1546 (*electronic*). (Summary) **99d:73038** 73D25 (60H30, 73D70, 73V30, 76Q05)
— (*with* Papanicolaou, George C.; Samuelides, Y.) Forward and Markov approximation: the strong-intensity-fluctuations regime revisited. (English summary) *Waves Random Media* **8** (1998), *no.* 3, 303–314. (Summary) **99d:35192** 35R60 (35J10, 35Q99)
Fouqueré, Christophe (*with* Abrusci, V. Michele; Vauzeilles, Jacqueline) Tree adjoining grammars in noncommutative linear logic (extended abstract). (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 96–117, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (03F50, 68Q45)
Fouquet, Jean-Luc (*with* Hahn, Geña; Tuza, Zsolt; Woodrow, Robert E.) On magnitude networks. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 75–84. (Introduction) **99k:68134** 68R10 (05C85)
Fouquet, Thierry (*with* Collino, Francis; Joly, Patrick) Une méthode de raffinement de maillage espace-temps pour le système de Maxwell en dimension un. (English and French summaries) [A space-time mesh refinement method for the 1D Maxwell system] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 263–268. (Summary) **99k:78001** 78–05 (65M55, 78A25)
Fourati, S. Points de croissance des processus de Lévy et théorie générale des processus. (English summary) [Increase times of Lévy processes and general theory of processes] *Probab. Theory Related Fields* **110** (1998), *no.* 1, 13–49. (Loïc Chaumont) **99e:60164** 60J30 (60G07, 60J55)
Fourdrinier, Dominique (*with* Strawderman, William E.; Wells, Martin T.) On the construction of Bayes minimax estimators. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 660–671. (N. Giri) **99e:62102** 62H12 (62C10, 62C20)
— (*with* Lemaire, Anne-Sophie) Estimation de la moyenne d'une loi l_1-exponentielle multidimensionnelle. (English and French summaries) [Estimation of the mean of a multivariate l_1-exponential distribution] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 991–996. (Christian P. Robert) **99h:62020** 62F10 (62C20)
— (*with* Strawderman, William E.; Wells, Martin T.) Estimation robuste pour des lois à symétrie elliptique à matrice de covariance inconnue. (English and French summaries) [Robust estimation for elliptically symmetric distributions with unknown covariance matrix] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1135–1140. (P. Laurie Davies) **99m:62084** 62H12 (62C15, 62F35)
Fourie, Jan H. Projections on operator duals. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 11–18. (Klaus-Dieter Bierstedt) **99m:46007** 46A32 (46B28, 47D15)
Fourlinnie, Hervé Version Carleman du théorème de l'"edge of the wedge". (English and French summaries) [Carleman version of the "edge of the wedge" theorem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 561–566. (Harold P. Boas) **99k:32010** 32A40 (32D15, 32F25)
Fourment, L. (*with* Coupez, T.; Chenot, J. L.) Adaptive solutions in industrial forming process simulation. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 365–381, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73E99)
Fournais, S. Semiclassics of the quantum current. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 601–628. (Hiroshi Isozaki) **99d:81035** 81Q10 (35J10, 35P20)
Fourneau, Jean-Michel (*with* Yazici-Pekergin, Nihal; Verchère, Dominique) Réseaux généralisés multiclasses avec synchronisations cycliques. (English and French summaries) [Multiclass generalized networks with cyclical synchronization] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 353–372. (Summary) **99f:90036** 90B22 (60K25)
— *see also* **Performance evaluation, 99e:90004**
Fournet, Cédric (*with* Abadi, Martín; Gonthier, Georges) Secure implementation of channel abstractions. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 105–116, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q10 (94A60)
Fournier, Gilles *see* **Dedicated to the memory of Gilles Fournier, 99i:00033**
charon-Fournier, Irène *see* **Charon-Fournier, Irène**
Fournier, J. J. F. Hardy and Paley inequalities for fully-odd Vilenkin systems. *Acta Math. Hungar.* **75** (1997), *no.* 1-2, 89–103. (Sándor Fridli) **99d:42046** 42C10 (43A17)
Fournier, L. (*with* Hänel, D.; Dervieux, Alain; Vilsmeier, R.; Gloth, O.; Viozat, Cécile) Development of Navier-Stokes solvers on hybrid grids. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 89–111, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76117** 76M25 (76D05)
Fournier, Richard (*with* Ma, Jinxi; Ruscheweyh, Stephan) Convex univalent functions and omitted values. (English summary) *Approximation theory*, 225–241, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Roger W. Barnard) **99i:30018** 30C45
— Extensions of the geometric-arithmetic means inequality to a disc of the complex plane. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 19–24. (Wolfram Koepf) **99k:30019** 30C45 (26D15)
Fournier-Prunaret, Danièle (*with* Mira, Christian; Gardini, Laura) Some contact bifurcations in two-dimensional examples. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 77–96, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F14 (58F13)
Fourrier, Laurence (*with* Boileau, Michel) Knot theory and plane algebraic curves. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 779–792. (Stephen P. Paris) **99e:57009** 57M25 (14H45, 32S55)
Foussats, A. (*with* Zandron, O. S.) About the supersymmetric extension of the symplectic Faddeev-Jackiw quantization formalism. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L513–L517. (Summary) **99h:81100** 81S10 (81T60)
Foust, G. M. (*with* Rodger, C. A.) Hypergraph designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 125–140. (Jean-Claude Bermond) **99m:05039** 05B30 (05C65)
Fowkes, N. D. (*with* Hood, M. J.) Surface tension effects in a wedge. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 553–561. (Summary) **99f:76031** 76B45
— (*with* Broadbridge, Philip; Fulford, G. R.; Chan, D. Y. C.; Lassig, C.) Bubbles in wet, gummed wine labels. (English summary) *SIAM Rev.* **41** (1999), *no.* 2, 363–372 (*electronic*). (Summary) **99m:76051** 76D08 (73H05, 76S05)
Fowler, Andrew C. Glaciers and ice sheets. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 301–336, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A40
— (*with* Kember, G.) Singular systems analysis as a moving-window spectral method. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 55–79. (Summary) **99d:94003** 94A11 (94A12)
— (*with* Yang, Xin-She) Fast and slow compaction in sedimentary basins. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 365–385 (*electronic*). (Summary) **99i:76142** 76S05 (35Q35, 76R99, 86A05)
Fowler, David Wilbur Richard Knorr (1945–1997): an appreciation. *Historia Math.* **25** (1998), *no.* 2, 123–132. (C. J. Scriba) **99j:01020** 01A70
— (*with* Robson, Eleanor) Square root approximations in old Babylonian mathematics: YBC 7289 in context. (English and French summaries) *Historia Math.* **25** (1998), *no.* 4, 366–378. (K.-B. Gundlach) **99m:01002** 01A17
Fowler, Julian (*with* Fages, François; Sola, Thierry) Experiments in reactive constraint logic programming. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 185–212. (Summary) **99c:68038** 68N17 (68Q10, 68T20)
Fowler, Neal J. (*with* Raeburn, Iain) Discrete product systems and twisted crossed products by semigroups. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 171–204. (Claire Anantharaman-Delaroche) **99k:46118** 46L55
Fox, Jeffrey (*with* Haskell, Peter) K homology and regular singular Dirac-Schrödinger operators on even-dimensional manifolds. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 251–272. (Jonathan M. Rosenberg) **99e:58177** 58G12 (19K35, 19K56)
Fox, Leslie *see* **Obituary: Fox, Leslie, 99k:01078**
Fox, Patricia L. *see* **Parallel computational fluid dynamics, 99d:76002**
Fox, Ronald F. Construction of the Jordan basis for the baker map. (English summary) *Chaos* **7** (1997), *no.* 2, 254–269. (Joan Carles Tatjer) **99d:58104** 58F11 (28D10, 58F19)
— Entropy evolution for the baker map. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 462–465. (Summary) **99f:58123** 58F11
Foxby, Hans-Bjørn (*with* Avramov, Luchezar L.) Cohen-Macaulay properties of ring homomorphisms. (English summary) *Adv. Math.* **133** (1998), *no.* 1, 54–95. (Rafael H. Villarreal) **99c:13043** 13H10 (13B10, 14E40)
Foxman, J. A. (*with* Robbins, J. M.) Periodic orbit Maslov indices for systems with time-reversal symmetry. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8187–8190. (Christian Grosche) **99c:81044** 81Q50 (58F22, 81Q20)
van Fraassen, Bas C. Putnam's paradox: metaphysical realism revamped and evaded. *Mind, causation, and world*, 1997, 17–42, *Philos. Perspect.*, 11, *Blackwell, Cambridge, MA*, 1997. (*see* **99f:00011**) 03A05
— Modal interpretation of repeated measurement. A rejoinder to S. Leeds and R. Healey: "A note on van Fraassen's modal interpretation of quantum mechanics" [Philos. Sci. **63** (1996), no. 1, 90–104; MR 97d:81012]. (English summary) *Philos. Sci.* **64** (1997), *no.* 4, 669–676. (Pieter E. Vermaas) **99c:81019** 81P15
Frabetti, Alessandra Dialgebra (co)homology. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 35–38. 16E40
— Leibniz homology of dialgebras of matrices. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 2, 123–141. (Jerry Lodder) **99g:16013** 16E40 (17A30, 18G60)
Frachebourg, L. (*with* Krapivsky, P. L.) Fixation in a cyclic Lotka-Volterra model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, *L*287–*L*293. (Summary) **99b:92041** 92D25 (82C20)
Frączak, Wojciech (*with* Best, Eike; Hopkins, Richard P.; Klaudel, Hanna; Pelz, Elisabeth) M-nets: an algebra of high-level Petri nets, with an application to the semantics of concurrent programming languages. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 813–857. (Summary) **99i:68085** 68Q90 (68Q10, 68Q55)
— (*with* Zaremba, Marek B.) A non-SOS operational semantics for a process algebra. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 47–54. (Summary) **99f:68061** 68Q10 (68Q55)
Frączek, Krzysztof Relationships between moduli of near convexity and near smoothness. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 37–44. (Summary) **99f:46022** 46B20 (41A65)

Fradet, Pascal (*with* Le Métayer, Daniel) Structured Gamma. (English summary) *Sci. Comput. Programming* **31** (1998), *no.* 2-3, 263–289. (Summary) **99c:68032** 68N15 (68Q50)

Fradkin, E. S. Towards a quantum field theory in curved phase space. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 746–756, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81083** 81S10 (58F06)

— (*with* Palchik, M. Ya.) New developments in *D*-dimensional conformal quantum field theory. (English summary) *Phys. Rep.* **300** (1998), *no.* 1-2, 111 *pp.* (R. Delbourgo) **99b:81141** 81T10 (81T40)

Fradkov, A. L. Swinging control of nonlinear oscillations. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1189–1202. 93C10 (93B50)

— (*with* Skafidas, E.; Evans, Robin J.; Mareels, Iven M. Y.) Trajectory-approximation-based adaptive control for nonlinear systems under matching conditions. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 287–299. (Summary) **99a:93060** 93C40 (93B40)

— (*with* Hill, David J.) Exponential feedback passivity and stabilizability of nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 697–703. (Summary) **99c:93096** 93D21 (93B52)

— (*with* Makarov, I. A.) Algorithms for the control of oscillations in Hamiltonian systems. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 312–314. (From the introduction) **99j:93053** 93C10 (49K15, 70H05, 70Q05)

— (*with* Polushin, I. G.) Quasidissipativity and *L*-dissipativity of nonlinear systems. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 319–322. 93D20 (93C10)

Fraenkel, Aviezri S. Combinatorial games: selected bibliography with a succinct gourmet introduction. *Electron. J. Combin.* **1** (1994), *Dynamic Survey* 2, 45 *pp.* (*electronic*). 90–00 (05A99, 90Dxx)

— Multivision: an intractable impartial game with a linear winning strategy. *Amer. Math. Monthly* **105** (1998), *no.* 10, 923–928. (E. Marchi) **99j:90134** 90D46 (05A99)

— (*with* Ozery, Michal) Adjoining to Wythoff's game its *P*-positions as moves. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 283–296. (P. A. Biryukov) **99m:90185** 90D46

Fragalà, Ilaria (*with* Bouchitté, Guy; Buttazzo, Giuseppe) Mean curvature of a measure and related variational problems. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 179–196 (1998). (Giovanni Bellettini) **99j:49082** 49Q20 (49J45)

— A relaxation result for a class of variational problems with a lack of compactness. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 821–835. (Erik J. Balder) **99a:49021** 49J45

— Remark on the semiconductor equations. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 129–134 (1998). (Muthusamy Lakshmanan) **99e:82104** 82D99 (35K55, 35Q99, 78A20, 78A35)

Fragopoulos, D. (*with* Casavola, Alessandro; Grimble, M. J.) A polynomial solution to the scalar 4-block H_∞ general distance problem. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 33–52. 93B36 (93D21)

Fragopoulou, Paraskevi (*with* Akl, Selim G.) Spanning subgraphs with applications to communication on a subclass of the Cayley-graph-based networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 79–96. (Luisa Gargano) **99h:68130** 68R10 (05C90, 68M10, 90B12)

Fragoulopoulou, Maria Tensor products of enveloping locally C^*-algebras. *Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie, Heft* 21, *vi* + 81 *pp.*, *Schriftenreihe Math. Inst. Univ. Münster* 3. *Ser.*, 21, *Univ. Münster, Münster*, 1997. (Camillo Trapani) **99e:46069** 46L05 (46K05)

— (*with* Goldmann, Helmut) Commutative lmc algebras with discrete spectrum. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 371–389. (Summary) **99a:46099** 46J40 (46H20)

Fraguela-Collar, Andrés (*with* Felipe, Raúl) About the stability of Sobolev's system in the case of viscous fluid. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 25–42. (Introduction) **99m:76057** 76E10 (35B35, 35Q35, 47N20, 76D99, 76U05)

Fragulis, G. F. Generalized Cayley-Hamilton theorem for polynomial matrices with arbitrary degree. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1341–1349. 93B25 (65F15)

— *see also* **Karampetakis, N. P.**

Frahm, Holger (*with* Pfannmuller, M. P.) A new algebraic Bethe ansatz for gl(2, 1) invariant vertex models. (English summary) *J. Phys. A* **30** (1997), *no.* 15, L543–L548. (Summary) **99a:82036** 82B23

— (*with* Matveenko, S. I.) Correlation functions in the Calogero-Sutherland model with open boundaries. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 671–675. (Summary) **99h:81236** 81V70

— (*with* Stahlsmeier, Martin) Spinon statistics in integrable spin-*S* Heisenberg chains. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 293–299. (Summary) **99h:82023** 82B23 (81T27, 81T40, 82B20)

Frahm, Klaus M. (*with* Guhr, Thomas; Müller-Groeling, Axel) Between Poisson and GUE statistics: role of the Breit-Wigner width. (English summary) *Ann. Physics* **270** (1998), *no.* 2, 292–327. (Summary) **99j:82041** 82B41

Fraigniaud, Pierre (*with* Gavoille, Cyril) Interval routing schemes. (English summary) *Algorithmica* **21** (1998), *no.* 2, 155–182. (Neville G. F. Sancho) **99a:68020** 68M10

— Hierarchical broadcast networks. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 303–305. (Summary) **99i:68009** 68M10 (90B12)

Fraiman, Ricardo (*with* Cuevas, Antonio) A plug-in approach to support estimation. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2300–2312. (Summary) **99m:62040** 62G05

Fraisse, Anne-Marie (*with* Roy, Madeleine; Robert, Christian P.) Semi-tail upper bounds on admissible estimators in continuous exponential families with a nuisance parameter. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 147–162. (Kurt Hoffmann) **99f:62018** 62C15 (62F10)

Fraley, Chris Algorithms for model-based Gaussian hierarchical clustering. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 270–281 (*electronic*). 62H30 (65F99)

Frame, Michael (*with* Kern, Albert) An abstract Mandelbrot set algorithm for $z^n + c$. (English summary) *Fractals* **6** (1998), *no.* 1, 1–10. (Fuyao Ren) **99c:30052** 30D05 (58F23)

França, H. M. (*with* Dechoum, K.; Malta, C. P.) Classical aspects of the Pauli-Schrödinger equation. (English summary) *Phys. Lett. A* **248** (1998), *no.* 2-4, 93–102. (Summary) **99g:81060** 81Q99 (81P99)

Franca, Leopoldo P. (*with* Brezzi, Franco; Hughes, Thomas J. R.; Russo, Alessandro) Stabilization techniques and subgrid scales capturing. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 391–406, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (I. Norman Katz) **99f:65162** 65N30

— (*with* Brezzi, Franco; Russo, Alessandro) Further considerations on residual-free bubbles for advective-diffusive equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 25–33. (Martin Stynes) **99j:65197** 65N30 (65N12, 76M10, 76Rxx)

— (*with* Nesliturk, A.; Stynes, Martin) On the stability of residual-free bubbles for convection-diffusion problems and their approximation by a two-level finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 35–49. (Andrei I. Tolstykh) **99k:65107** 65N30 (65M60, 76M10, 76Rxx)

— (*with* Macedo, Antonini P.) A two-level finite element method and its application to the Helmholtz equation. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 1, 23–32. 65N30

Francaviglia, Mauro (*with* Ferraris, Marco; Spallicci, A.) Physical limitations of McVittie metric. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 343–348, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C15

— (*with* Ferraris, Marco; Spallicci, A.) Transition metrics: method and applications. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 349–358, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83010** 83C15 (83–04)

— A new action for Einstein equations and two-dimensional gravity. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 248–253, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C05

— (*with* Casciaro, Biagio) A new variational characterization of Jacobi fields along geodesics. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 219–228. (Victor Tapia) **99f:53040** 53C22 (49J20)

— (*with* Casciaro, Biagio) Generalized Jacobi equations and the curvature of variational principles. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 597–604. (Victor Tapia) **99b:58069** 58E30 (58E10)

— (*with* Fatibene, Lorenzo) Spin structures on manifolds. (English summary) *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 69–98, *Univ. Stud. Bologna, Bologna*, 1998. (Uwe Semmelmann) **99m:53047** 53C10 (57R15)

— (*with* Fatibene, Lorenzo) Deformations of spin structures and gravity. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 915–928. (Summary) **99m:83145** 83C60

— (*with* Borowiec, Andrzej; Ferraris, Marco; Volovich, I. V.) Universality of the Einstein equations for Ricci squared Lagrangians. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 43–55. (Hans P. Künzle) **99a:83003** 83C05

— (*with* Cavaglià, Marco; Fatibene, Lorenzo) Two-dimensional dilaton gravity coupled to massless spinors. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3627–3643. (Michael O. Katanaev) **99k:81279** 81T40 (83C99)

— (*with* Fatibene, Lorenzo; Ferraris, Marco; Godina, M.) Gauge formalism for general relativity and fermionic matter. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1371–1389. (Hans P. Künzle) **99h:83038** 83C60 (58E30)

— (*with* Cardone, Fabio; Mignani, Roberto) Energy and relativistic clock rates in five dimensions. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1619–1627. (Helmuth K. Urbantke) **99k:83110** 83E15 (83A05)

— (*with* Borowiec, Andrzej; Ferraris, Marco) Lagrangian symmetries of Chern-Simons theories. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8823–8833. (Charles G. Torre) **99m:81137** 81T13 (83C99)

— (*with* Amici, Oriella; Casciaro, Biagio) Relations between variational derivatives of functions and scalar densities. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 207–220. (Victor Tapia) **99e:58054** 58E30 (49Q20)

— *see also* **Conference: General Relativity and Gravitational Physics, 99e:83002** *and* **Proceedings: Conference on General Relativity and Gravitation, 99g:83002**

France-Jackson, H. On special atoms. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 302–306. (Richard Wiegandt) **99c:16018** 16N80

Francel, Margaret (*with* John, David Jerome) Counting balanced ternary designs. (English summary) *Ars Combin.* **49** (1998), 161–184. (Elizabeth J. Billington) **99g:05022** 05B05

— (*with* Sarvate, Dinesh G.) One- and two-block configurations in balanced ternary designs. (English summary) *Ars Combin.* **49** (1998), 217–224. (Summary) **99c:05023** 05B05

Franceschetti, D. R. (*with* Deaton, Russell; Garzon, Max; Rose, J. A.; Stevens, S. E., Jr.) DNA computing: a review. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 231–245. 68Q05 (68Q10)

— (*with* Deaton, Russell; Murphy, R. C.; Garzon, Max; Stevens, S. E., Jr.) Good encodings for DNA-based solutions to combinatorial problems. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 247–258, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68052** 68Q05

— (*with* Gao, Yuan; Garzon, Max; Murphy, R. C.; Rose, J. A.; Deaton, Russell; Stevens, S. E., Jr.) DNA implementation of nondeterminism. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 137–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05

de Francesco, Nicoletta *see* **De Francesco, Nicoletta**

di Francesco, Philippe *see* **Di Francesco, Philippe**

Francez, Nissim (*with* Sagiv, Mooly; Rodeh, Michael; Wilhelm, Reinhard) A logic-based approach to program flow analysis. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 457–504. (Summary) **99b:68123** 68Q60

Francfort, Gilles (*with* Allaire, Grégoire) Existence of minimizers for non-quasiconvex functionals arising in optimal design. (English and French summaries) *Ann. Inst. H.*

Poincaré Anal. Non Linéaire **15** (1998), *no.* 3, 301–339. (António Ornelas) **99d:49010** 49J20 (49Q20)
— (*with* Marigo, J.-J.) Revisiting brittle fracture as an energy minimization problem. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1319–1342. (Summary) **99f:73066** 73M25 (49J10, 73V25)
— (*with* Fonseca, Irene) 3D-2D asymptotic analysis of an optimal design problem for thin films. (English summary) *J. Reine Angew. Math.* **505** (1998), 173–202. (Sisto Baldo) **99k:73091** 73K40 (49Q10, 73V25)
— (*with* Marigo, J.-J.) Cracks in fracture mechanics: a time indexed family of energy minimizers. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 197–202, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (From the introduction) **99k:73100** 73M25 (73V25)
Franchek, Matthew A. (*with* Piedmonte, Michael D.; Meckl, Peter H.; Nwokah, Osita D. I.) Multivariable vibration control of a coupled flexible structure using QFT. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 475–498. 93C85 (73K50)
— (*with* Herman, Paul A.) Direct connection between time-domain performance and frequency-domain characteristics. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1021–1042. (Summary) **99f:93097** 93C80 (93C05)
— (*with* Glass, John W.) NARMAX modelling and robust control of internal combustion engines. (English summary) *Internat. J. Control* **72** (1999), *no.* 4, 289–304. 93A30 (93C95)
— *see also* **Errata: "Direct connection between time-domain performance and frequency-domain characteristics"**
Franchella, Miriam On the origins of Dénes König's infinity lemma. *Arch. Hist. Exact Sci.* **51** (1997), *no.* 1, 3–27. (D. Laugwitz (Zbl 880.01006)) **99e:05001** 05–03 (01A60, 04–03, 04A20)
Francheteau, Jacques (*with* Métivier, Guy) Existence de chocs faibles pour des systèmes quasi-linéaires hyperboliques multidimensionnels. (English and French summaries) [Existence of weak shocks for multidimensional hyperbolic quasilinear systems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 725–728. (Summary) **99g:35081** 35L67
Franchetti, Carlo (*with* Semenov, E. M.) Geometric properties, associated with the Jung constant, of rearrangement-invariant spaces. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 5, 184–209. (Alexander Mekler) **99k:46048** 46E30 (46B20)
Franchi, Bruno (*with* Peletier, L. A.) Ground states for Gaussian curvature type equations. *Asymptot. Anal.* **17** (1998), *no.* 1, 53–70. (John Urbas) **99f:35049** 35J60 (34B15)
— (*with* Pérez, Carlos; Wheeden, Richard L.) Self-improving properties of John-Nirenberg and Poincaré inequalities on spaces of homogeneous type. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 1, 108–146. (J. Michael Pearson) **99d:42042** 42B99 (46N20)
— (*with* Serapioni, Raul; Serra Cassano, Francesco) Irregular solutions of linear degenerate elliptic equations. (English summary) *Potential Anal.* **9** (1998), *no.* 3, 201–216. (Ya. A. Roĭtberg) **99m:35087** 35J70
Franchi, Jacques (*with* Enriquez, Nathanaël; Le Jan, Yves) Enroulements des géodésiques sous la mesure de Patterson-Sullivan. (English and French summaries) [Stable windings of geodesics under the Patterson-Sullivan measure] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 723–726. (Boris Hasselblatt) **99k:58143** 58F17 (30F35, 60F99)
Francini, Elisa Starshapedness of level sets for solutions of nonlinear elliptic equations. (English summary) *Math. Nachr.* **193** (1998), 49–56. (Jie Yang) **99j:35048** 35J60 (35B05)
— (*with* Greco, Antonio) Blow-up in exterior domains: existence and star-shapedness. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 431–441. (Yoshihito Tomita) **99g:35041** 35J65 (35B05)
Franciosa, Paolo Giulio (*with* Brightwell, Graham R.) On the Boolean dimension of spherical orders. (English summary) *Order* **13** (1996), *no.* 3, 233–243. (K. P. Bogart) **99c:06002** 06A07 (05C10, 68P20, 68R05)
— (*with* Ausiello, Giorgio; Frigioni, Daniele; Giaccio, Roberto) Decremental maintenance of reachability in hypergraphs and minimum models of Horn formulae. (English summary) *Algorithms and computation* (*Singapore*, 1997), 122–131, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05107** 05C85 (05C65, 68R10)
Franciosi, Michelangelo An inequality for the geometrical Fefferman-Stein maximal function. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 277–286. (Norman J. Weiss) **99a:42009** 42B25
Franciosi, Silvana (*with* de Giovanni, Francesco; Sysak, Yaroslav P.) On subnormal subgroups of factorized groups. *J. Algebra* **198** (1997), *no.* 2, 469–480. (L. A. Kurdachenko) **99f:20045** 20E15 (20D40)
— (*with* de Giovanni, Francesco; Kurdachenko, Leonid A.) Groups with finite conjugacy classes of non-subnormal subgroups. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 169–181. (H. Heineken) **99b:20061** 20F24 (20E15)
— (*with* de Giovanni, Francesco; Sysak, Yaroslav P.) On ascendant subgroups of infinite groups. *Comm. Algebra* **26** (1998), *no.* 10, 3313–3333. (D. J. S. Robinson) **99f:20046** 20E15
Francis, Bruce Allen (*with* Chen, Tongwen) ★ Optimal sampled-data control systems. (English summary) Reprint of the 1995 original. Communications and Control Engineering Series. *Springer-Verlag London, Ltd., London*, 1996. xii+374 *pp. ISBN* 3-540-19949-7 (Tamer Başar) **99a:93001** 93–02 (49K30, 93C57)
— (*with* Boulet, Benoit) Consistency of open-loop experimental frequency-response data with coprime factor plant models. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1680–1691. (Yuri V. Zaika) **99j:93095** 93E03 (93B36, 93E12)
— From digital control to digital signal processing. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 93–107, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C62 (94A12)
— *see also* **Learning, control and hybrid systems, 99g:93003**
Francis, George K. (*with* Sullivan, John M.; Kusner, Robert B.; Brakke, Ken A.; Hartman, Chris; Chappell, Glenn) The minimax sphere eversion. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 3–20, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— (*with* Sullivan, John M.; Hartman, Chris) Computing sphere eversions. (English summary) *Mathematical visualization* (*Berlin*, 1997), 237–255, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A05 (53–04)
gavilanes-Franco, Antonio *see* **Gavilanes-Franco, Antonio**
Franco, Daniel *see* **Franco Leis, Daniel**
Franco, Daniel H. T. (*with* Del Cima, Oswaldo M.; Helayël-Neto, José A.; Piguet, Olivier) On the non-renormalization properties of gauge theories with a Chern-Simons term. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 2, 25 *pp.* (*electronic*). (Massimo Di Pierro) **99d:81088** 81T15 (81T13)
— (*with* Del Cima, Oswaldo M.; Helayël-Neto, José A.; Piguet, Olivier) Exact scale invariance of the *BF*-Yang-Mills theory in three dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 10, 15 *pp.* (*electronic*). (Summary) **99c:81141** 81T15 (81T13, 81T50)
Franco, J. *see* **Franco, John V.**
Franco, J. M. (*with* Gómez, I.) Two three-parallel and three-processor SDIRK methods for stiff initial-value problems. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 119–134. (F. Milinazzo) **99d:65205** 65L05 (65L06, 65L20)
— (*with* Gómez, I.; Rández, L.) Canonical DIRK methods versus SDIRK methods for nondissipative stiff problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 737–742, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L99
— (*with* Gómez, I.) A parallel diagonally iterated RK method for convection-diffusion and stiff problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 821–837. (Summary) **99d:65212** 65L06
Franco, John V. (*with* Swaminathan, R. P.) Average case results for satisfiability algorithms under the random-clause-width model. (English summary) *Ann. Math. Artificial Intelligence* **20** (1997), *no.* 1-4, 357–391. (Summary) **99d:68103** 68Q25 (03B05, 03D15)
— *see also* **Artificial intelligence and mathematics, 99m:68006**
Franco, Manuel (*with* Ruiz Gómez, José María) Characterization of discrete populations through conditional expectations of order statistics. (English summary) *Statist. Papers* **39** (1998), *no.* 3, 249–262. (Mir Masoom Ali) **99k:62026** 62E10 (62G30)
— (*with* Belzunce, Félix; Ruiz Gómez, José María) On aging properties based on the residual life of *k*-out-of-*n* systems. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 2, 193–199. (Summary) **99m:90078** 90B25 (62N05)
— (*with* Ruiz Gómez, José María) Characterization based on conditional expectations of adjacent order statistics: a unified approach. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 861–874. (A. H. Khan) **99f:62021** 62E10 (62G30)
Franco, Zachary M. Distribution of binomial coefficients modulo *p*. *Number theory* (*Eger*, 1996), 199–209, *de Gruyter, Berlin*, 1998. (Gerhard Larcher) **99d:11017** 11B65 (11B75)
Franco Brañas, José R. (*with* Almeida Benítez, Pedro R.) The go-away algorithm for block factorization of a sparse matrix. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 107–117, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 05C15 (05C85, 15A23, 65F50)
Franco Coronil, Daniel (*with* Chacón Rebollo, Tómas) Modelling of compressible flows with highly oscillating initial data by homogenization. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 911–916, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76N10 (76M25)
— (*with* Chacón Rebollo, Tómas; Ortegón Gallego, Francisco; Sánchez Muñoz, Isabel) Modelling of compressible flows with highly oscillating initial data by homogenization. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 435–464. (Roland Schiestel) **99a:76066** 76F10 (35B27, 35Q35, 76M25, 76N10)
Françoise, Jean-Pierre (*with* Fronville, Alexandra) Computer algebra and bifurcation theory of vector fields of the plane. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 57–63, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:58117** 58F14 (34–04, 34C23, 58–04)
— ★ Géométrie analytique et systèmes dynamiques. (French. French summary) [Analytic geometry and dynamical systems] Cours de troisième cycle. [Third-cycle course] Mathématiques. [Mathematics] *Presses Universitaires de France, Paris*, 1995. *xiii*+251 *pp. ISBN* 2-13-047249-4 (Robert Roussarie) **99d:58001** 58–01 (34C35, 58F14, 58F21)
— (*with* Calogero, F.) Hamiltonian character of the motion of the zeros of a polynomial whose coefficients oscillate over time. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 211–218. (Jean-Pierre Marco) **99b:58093** 58F05 (34A26)
— (*with* Briskin, Miriam; Yomdin, Yosef) Une approche au problème du centre-foyer de Poincaré. (English and French summaries) [An approach to Poincaré's center-focus problem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1295–1298. (Robert Roussarie) **99j:34030** 34C05 (34C29, 34E05, 58F21)
— The successive derivatives of the period function of a plane vector field. (English summary) *J. Differential Equations* **146** (1998), *no.* 2, 320–335. (I. D. Iliev) **99d:34071** 34C25 (34C20, 58F22)
— (*with* Briskin, Miriam; Yomdin, Yosef) The Bautin ideal of the Abel equation. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 431–443. (Lubomir Gavrilov) **99d:58128** 58F14 (34C05)
Franco Leis, Daniel (*with* Nieto, Juan J.) A new maximum principle for first-order impulsive differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 261–266, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Eduardo Liz) **99e:34014** 34A37 (34B15)
— (*with* Nieto, Juan J.) A new maximum principle for impulsive first-order problems. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1607–1616. (O. S. Chernikova) **99i:34019** 34A37 (34B05)
Francos, A. (*with* Conde, Carlos; Montes Cañete, Guillermo; Kindelán, U.) Modelling two-dimensional thermohydraulic processes using second-order finite-volume methods. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 683–688, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25
Francos, Joseph M. (*with* Friedlander, Benjamin) Parameter estimation of two-dimensional moving average random fields. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2157–2165. (Summary) **99i:60105** 60G60
— (*with* Friedlander, Benjamin) Two-dimensional polynomial phase signals: parameter estimation and bounds. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 2, 173–205. (Summary) **99d:94006** 94A12
Francq, Christian (*with* Berlinet, Alain) On Bartlett's formula for non-linear processes. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 535–552. (Pham Dinh Tuan)

99c:62240 62M10 (62G20)
— (*with* Roussignol, Michel) On white noises driven by hidden Markov chains. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 6, 553–578. (Tobias Rydén) **99c:62237** 62M09 (62F12)
— (*with* Zakoïan, Jean-Michel) Estimation de la précision asymptotique dans l'estimation de modèles ARMA faibles. (English and French summaries) [Covariance matrix estimation for estimators of weak ARMA models] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 377–380. (V. V. Anh) **99i:62202** 62M10 (60G10)
— (*with* Zakoïan, Jean-Michel) Estimating linear representations of nonlinear processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 145–165. (Pham Dinh Tuan) **99f:62106** 62M10
Francsics, Gábor (*with* Hanges, Nicholas) Analytic regularity for the Bergman kernel. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. V*, 11 *pp.*, *Univ. Nantes, Nantes*, 1998. (Makhlouf Derridj) **99j:32028** 32H10 (35H05, 46E22)
Frandsen, Gudmund Skovbjerg (*with* Miltersen, Peter Bro; Skyum, Sven) Dynamic word problems. (English summary) *J. ACM* **44** (1997), *no.* 2, 257–271. (Itsuo Takanami) **99b:68094** 68Q25 (20M05, 68P05)
Frangi, A. (*with* Novati, G.) On the numerical stability of time-domain elastodynamic analyses by BEM. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 403–417. (Summary) **99m:73073** 73V10
Frangos, N. E. (*with* Dalang, Robert C.) The stochastic wave equation in two spatial dimensions. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 187–212. (Rémi Léandre) **99c:60127** 60H15
Franić, Ivan *see* **Neralić, Luka**, **99m:01083**
Frank, A. *see* **Frank, Alejandro**
Frank, A. M. (*with* Andreev, V. K.) On the stability of the Couette flow of an ideal fluid with free boundaries. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 5, 99–105. (Summary) **99j:76049** 76E99 (76M25)
Frank, Alejandro (*with* Bijker, Roelof; Lemus, R.; Arias, J. M.; Pérez-Bernal, F.) A comparison between algebraic models of molecular spectroscopy. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 37–46, *Plenum, New York*, 1998. (Summary) **99g:81234** 81V55 (81R05)
Frank, András (*with* Erdős, Péter L.; Székely, László A.) Minimum multiway cuts in trees. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 67–75. (Summary) **99e:05073** 05C35
— Applications of relaxed submodularity. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 343–354 (*electronic*). (J. Richard Lundgren) **99i:90079** 90C27 (05C40, 90C35)
— (*with* Ibaraki, Toshihide; Nagamochi, Hiroshi) Two arc-disjoint paths in Eulerian digraphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 557–589 (*electronic*). (Cun-Quan Zhang) **99i:05121** 05C38 (05C45)
— *see also* **Connectivity augmentation of networks: structures and algorithms**
Frank, E. H. (*with* Levenston, M. E.; Grodzinsky, A. J.) Variationally derived 3-field finite element formulations for quasistatic poroelastic analysis of hydrated biological tissues. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 231–246. (Summary) **99a:73126** 73V05 (73P20)
Frank, Frederik Charles *see* **Sinha, K. P.**
Frank, Günter (*with* Wang, Yuefei) On the meromorphic solutions of algebraic differential equations. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 49–54. (Enid M. Steinbart) **99b:34006** 34A20 (30D35)
— (*with* Reinders, Martin) A unique range set for meromorphic functions with 11 elements. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 185–193. (Summary) **99m:30060** 30D35
Frank, Ian ★ Search and planning under incomplete information. (English summary) A study using bridge card play. CPHC/BCS Distinguished Dissertations. *Springer-Verlag London, Ltd., London*, 1998. *xx*+340 *pp. ISBN* 3-540-76257-4 (From the introduction) **99k:68177** 68T20
— (*with* Basin, David) Search in games with incomplete information: a case study using Bridge card play. (English summary) *Artificial Intelligence* **100** (1998), *no.* 1-2, 87–123. (Summary) **99h:68155** 68T20 (90D10)
Frank, Jason (*with* Vuik, C.) Parallel implementation of a multiblock method with approximate subdomain solution. (English summary) *Appl. Numer. Math.* **30** (1999), *no.* 4, 403–423. 65F10 (65Y05)
Frank, Karin² (*with* Heinrich, Stefan) Computing discrepancies related to spaces of smooth periodic functions. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 238–250, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Pierre Hillion) **99g:65026** 65D30 (65C05)
Frank, Leonid S. ★ Singular perturbations in elasticity theory. (English summary) Analysis and its Applications, 1. *IOS Press, Amsterdam*; *Ohmsha Ltd., Tokyo*, 1997. *xviii*+352 *pp. ISBN* 90-5199-307-2 (Guido Sweers) **99h:35010** 35B25 (35Q72, 73C02, 73K05, 73K10)
— (*with* Didelot, S.; Maigrot, L.) On a degenerate elliptic singular perturbation. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 2, 151–181. (Dietrich Göhde) **99b:34095** 34E15 (34B05, 34E05, 35B25, 46N20)
Frank, Michael ★ Beiträge zur Theorie der Hilbert-C^*-Moduln. (German. German summary) [Contributions to the theory of Hilbert C^*-modules] Habilitationsschrift, Universität Leipzig, Leipzig, 1997. Berichte aus der Mathematik. [Reports from Mathematics] *Verlag Shaker, Aachen*, 1997. vi+190 *pp. ISBN* 3-8265-3217-1 (William Paschke) **99b:46082** 46L05
Frank, Michael Patrick (*with* Knight, Thomas F., Jr.; Margolus, Norm) Reversibility in optimally scalable computer architectures. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 165–182, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68M07 (68Q05)
Frank, O. (*with* Menéndez, M. L.; Pardo, Leandro) Asymptotic distributions of weighted divergence between discrete distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 867–885. (Summary) **99c:62038** 62E20 (62B10)
Frank, P. M. (*with* Ge, Jian-Hua; Lin, Ching-Fang) H_∞ control via output feedback for state delayed systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 1–7. 93B36 (93C30)
— (*with* Zhou, Dong Hua) Strong tracking filtering of nonlinear time-varying stochastic systems with coloured noise: application to parameter estimation and empirical robustness analysis. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 295–307. 93E11
Frank, Paul D. (*with* Booker, Andrew J.; Dennis, J. E., Jr.; Serafini, David B.; Torczon, Virginia) Optimization using surrogate objectives on a helicopter test example. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 49–58, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 90C90 (93C95)
Franke, Carsten (*with* Schaback, Robert) Convergence order estimates of meshless collocation methods using radial basis functions. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 381–399. (Bruce A. Finlayson) **99j:65213** 65N35 (65R20)
Franke, Jens (*with* Schwermer, Joachim) A decomposition of spaces of automorphic forms, and the Eisenstein cohomology of arithmetic groups. *Math. Ann.* **311** (1998), *no.* 4, 765–790. (Chandrashekhar Khare) **99k:11077** 11F75 (11F55)
Franke, John E. (*with* Yakubu, Abdul-Aziz) Diffusion between patches in multi-species discrete competitive systems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 205–212, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:92026** 92D25 (39A10, 92D40)
— (*with* Yakubu, Abdul-Aziz) Global asymptotic behavior and dispersion in age-structured, discrete competitive systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 375–395. (V. N. Razzhevaikin) **99k:92027** 92D25
— (*with* Yakubu, Abdul-Aziz) Extinction and persistence in a size-structured, discrete competitive system with dispersion. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 159–174, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Krystyna Twardowska) **99m:92049** 92D40 (34C35, 39A10, 39A12, 92D25)
Franke, Richard (*with* Hagen, Hans) Least squares surface approximation using multiquadrics and parametric domain distortion. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 177–196. 65D17 (65D15)
Frankel, David M. (*with* Burdzy, Krzysztof; Pauzner, Ady) On the time and direction of stochastic bifurcation. *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 483–500, *North-Holland, Amsterdam*, 1998. (Lorenzo Peccati) **99k:60148** 60H10
— Creative bargaining. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 43–53. (Summary) **99a:90252** 90D12 (90A60)
Frankel, I. (*with* Almog, Y.) Rheology of dilute suspensions of Brownian dipolar axisymmetric particles. (English summary) *J. Fluid Mech.* **366** (1998), 289–310. (Summary) **99c:76109** 76T05 (76A05, 76Z10)
— (*with* Puyesky, I.) The motion of a dipolar spherical particle in homogeneous shear and time-periodic fields. (English summary) *J. Fluid Mech.* **369** (1998), 191–216. (Summary) **99f:76017** 76A99 (76W05, 76Z10)
Frankel, J. I. (*with* Osborne, G. E.) A new time treatment for solving partial integro-differential equations of radiative transport. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 91–103. (Summary) **99j:65236** 65R20
Frankel, Victor H. *see* **Özkaya, Nihat**
Franketti, Karlo *see* **Franchetti, Carlo**
Frankl, Peter (*with* Tokushige, N.) Some inequalities concerning cross-intersecting families. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 247–260. (Robert J. Simpson) **99i:05006** 05A05 (05D05)
Franklin, Allan Selectivity and the production of experimental results: "Any fool can take data. It's taking good data that counts." E. Commins (private communication). *Arch. Hist. Exact Sci.* **53** (1998), *no.* 5, 399–485. 01A99
Franklin, Matthew (*with* Buhrman, Harry; Garay, Juan A.; Hoepman, Jaap-Henk; Tromp, John; Vitányi, Paul) Mutual search (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 481–489, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q10 (68R10)
Frankowska, Halina (*with* Rampazzo, Franco) Relaxing constrained control systems. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 71–81. (Marc Quincampoix) **99d:49015** 49J24 (34H05)
Franks, Edwin (*with* Ryan, John) Bounded monogenic functions on unbounded domains. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 71–79, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Wolfgang Sprössig) **99a:30043** 30G35 (35C99)
— (*with* McIntosh, Alan G. R.) Discrete quadratic estimates and holomorphic functional calculi in Banach spaces. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 271–290. (Christian Le Merdy) **99j:47017** 47A60 (30A99, 47A13)
— (*with* Albrecht, David; McIntosh, Alan G. R.) Holomorphic functional calculi and sums of commuting operators. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 291–305. (Christian Le Merdy) **99j:47018** 47A60 (47A13)
Franks, J. (*with* Rykken, E.) Pseudo-Anosov homeomorphisms with quadratic expansion. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2183–2192. (Romeo F. Thomas) **99j:58151** 58F15
Franscini, Stefano *see* **Conference: Statistical Science**, **99e:62002**; **Marazzi, Christian**, (**99e:62002**); **Waldvogel, Francis**, (**99e:62002**) *and* **Osterwalder, Konrad**, (**99e:62002**)
Franses, Philip Hans (*with* Hobijn, Bart) Increasing seasonal variation; unit roots versus shifts in mean and trend. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 255–261. 62M10
— (*with* Breitung, Jörg) On Phillips-Perron-type tests for seasonal unit roots. (English summary) *Econometric Theory* **14** (1998), *no.* 2, 200–221. (Summary) **99c:62242** 62M10 (62P20)
Franssen, Michael Embedding first-order tableaux into a pure type system. (English summary) *Workshop on Proof Search in Type-theoretic Languages* (*Lindau*, 1998), 23 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 17, *Elsevier, Amsterdam*, 1998. (*see* **99h:68013**) 68Q60 (03B15, 03B35, 68T15)
Frantz, Marc Two functions whose powers make fractals. *Amer. Math. Monthly* **105** (1998), *no.* 7, 609–617. (S. Dubuc) **99g:28018** 28A80 (26A27, 28A78)

Frantzeskakis, D. J. (*with* Polymilis, C.; Hizanidis, K.) Phase plane Stäckel potential dynamics of the Manakov system. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 1112–1124. (Summary) **99c:35229** 35Q55 (58F39)

Franz, Astrid Hausdorff dimension estimates for invariant sets with an equivariant tangent bundle splitting. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1063–1074. (Oliver Knill) **99k:58136** 58F15

— (*with* Boichenko, V. A.; Leonov, G. A.; Reitmann, V.) Hausdorff and fractal dimension estimates for invariant sets of non-injective maps. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 207–223. (Remo Badii) **99d:58114** 58F12 (28A80, 58F11)

Franz, Jürgen (*with* Magiera, Ryszard) On information inequalities in sequential estimation for stochastic processes. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 1–27. (Valeri Stefanov) **99a:62122** 62L12

— On statistics in failure-repair models under censoring. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 37–52, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N05 (62F10, 62G05)

— (*with* Magiera, Ryszard) Sequential estimation for a family of counting processes in the nuisance parameter case. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 147–162. (Sharaschandra R. Adke) **99i:62184** 62L12 (62M09)

— *see also* **Advances in stochastic models for reliability, quality and safety, 99f:62004**

Franz, U. *see* **Franz, Uwe[1]**

Franz, Uwe *see* **Franz, Uwe[2]**

Franz, Uwe[1] (*with* Neuenschwander, Daniel; Schott, René) Gauss laws in the sense of Bernstein and uniqueness of embedding into convolution semigroups on quantum groups and braided groups. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 101–127. (Gyula Pap) **99d:60007** 60B99 (16W30)

— A mixed quantum-classical central limit theorem. (English summary) *Quantum probability* (*Gdańsk*, 1997), 183–189, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (John E. Gough) **99k:81142** 81S25 (46L50, 60F05)

— (*with* Schott, René) Diffusion on braided spaces. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2748–2762. (John E. Gough) **99g:81113** 81S25 (16W30)

— (*with* Schott, René) Evolution equations and Lévy processes on quantum groups. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1395–1404. (Nicolás Andruskiewitsch) **99g:81117** 81S30 (17B37, 81R50)

Franz, Uwe[2] (*with* Boese, Günter) "To create a foundation". Comment on: "Life in and after the GDR. Interviews with Horst Sachs and Gustav Burosch" [Mitt. Dtsch. Math.-Ver. **1997**, no. 3, 23–33; MR 99b:01023] by V. A. Schmidt and M. Aigner. (German) *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 4, 41–42. (Editors) **99b:01024b** 01A70

Franz, Wolfgang *see* **Burde, Gerhard, 99m:01047**

Franzblau, Deborah S. A new class of Hamiltonian cubic planar graphs. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 18–21. (*see* **99h:05003**) 05C45

Franzé, Giuseppe (*with* Eisinberg, Alfredo; Pugliese, Paolo) Vandermonde matrices on integer nodes. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 75–85. (Luis Verde-Star) **99m:65054** 65F05 (11C20, 15A23, 65F35)

colli Franzone, Piero *see* **Colli Franzone, Piero**

Franzova, N. Long time existence for the heat equation with a spatially correlated noise term. (English summary) *Stochastic Anal. Appl.* **17** (1999), *no.* 2, 169–190. (Summary) **99m:35278** 35R60 (35B99, 35K05, 60H15)

Frappat, L. (*with* Avan, J.; Rossi, Marco; Sorba, P.) From quantum to elliptic algebras. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1083–1092. (Paul Demkin) **99h:17016** 17B37 (17B67, 17B68, 81R10, 81R50)

— (*with* Hussin, V.; Rideau, Guy) Classification of the quantum deformations of the superalgebra gl(1|1). (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4049–4072. (Robert Rałowski) **99i:81098** 81R50 (17B37)

— (*with* Avan, J.; Rossi, Marco; Sorba, P.) New $\mathscr{W}_{q,p}(\mathrm{sl}(2))$ algebras from the elliptic algebra $\mathscr{A}_{q,p}(\widehat{\mathrm{sl}}(2)_c)$. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 27–35. (Summary) **99h:81081** 81R50 (17B37, 17B81, 81R10)

— (*with* Avan, J.; Rossi, Marco; Sorba, P.) Central extensions of classical and quantum q-Virasoro algebras. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 13–24. (Fabio Gavarini) **99j:81068** 81R50 (17B37)

Frappier, Clément (*with* Ben Ghanem, Riadh) Explicit quadrature formulae for entire functions of exponential type. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 267–279. (Dimitar Kolev Dimitrov) **99k:41048** 41A55 (30D15, 33C10)

— Representation formulas for entire functions of exponential type and generalized Bernoulli polynomials. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 307–316. (Petʳr Rusev) **99i:30045** 30D30 (11B68, 12E10, 33C10)

Frasca, Marco Duality in perturbation theory and the quantum adiabatic approximation. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 5, 3439–3442. (Summary) **99h:81046** 81Q15

Fraser, Blair (*with* Dueck, Gerhard W.) Multiple-valued logic minimization using universal literals and cost tables. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 239–244, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Fraser, Christophe (*with* Tong, David) Instantons, three-dimensional gauge theories, and monopole moduli spaces. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085001, 13 *pp.* (Summary) **99k:81305** 81T60 (58D27, 81T13, 81T30)

Fraser, Donald A. S. (*with* Naderi, Amir) On the definition of conditional probability. (English summary) *Research developments in probability and statistics*, 23–26, *VSP, Utrecht*, 1996. (Giulianella Coletti) **99a:60001** 60A05

— (*with* McDunnough, Philip; Naderi, Amir; Plante, André) From the likelihood map to Euclidean minimal sufficiency. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 223–230 (19*N*). (Dieter Mussmann) **99e:62007** 62B05 (62A10)

— (*with* Wong, A. C. M.) On the accuracy of approximate Studentization. (English summary) *Statist. Papers* **38** (1997), *no.* 3, 351–356. (Jack C. Lee) **99g:62008** 62A20 (62F12)

— (*with* Reid, N.; Wu, Jian Rong) On the informative presentation of likelihood. (English summary) *Applied statistical science, III*, 253–265, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62056** 62F15 (62F25)

— (*with* Wong, A. C. M.; Wu, Jian Rong) An approximation for the noncentral chi-squared distribution. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 275–287. (Summary) **99b:62018** 62E17

— (*with* Cakmak, S.; McDunnough, Philip; Reid, N.; Yuan, Xiaojin) Likelihood centered asymptotic model exponential and location model versions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 211–222. (Summary) **99g:62019** 62F03

— *see also* **Haq, M. Safiul**

Fraser, Maia (*with* Eliashberg, Yakov) Classification of topologically-trivial Legendrian knots. *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 17–51, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Serge L. Tabachnikov) **99f:57007** 57M25 (57N37)

Fraser, Niall M. (*with* Tajima, May) Modelling multi-issue negotiation. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 177–186, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90D12)

Fraser, W. B. (*with* Stump, D. M.) On the dynamical theory of twist in yarn plying. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 41–56. 73K99 (73K05)

— (*with* Stump, D. M.) Yarn twist in the ring-spinning balloon. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 707–723. (Summary) **99e:73078** 73K99

— (*with* Clark, J. D.; Sharma, Rajiv; Rahn, Christopher D.) The dynamic response of a ballooning yarn: theory and experiment. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2767–2789. (Summary) **99f:73053** 73K12 (73H10)

Fraternali, Piero *see* **Proceedings: Workshop on Deductive Databases and Logic Programming, 99g:68052**

canals-Frau, Damian *see* **Canals-Frau, Damian**

Frau, M. (*with* Lerda, A.; Sciuto, S.; Zemba, Guillermo R.) The extended conformal theory of Luttinger systems. *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 409–413, *World Sci. Publishing, River Edge, NJ*, 1997. (Kazuhiro Hikami) **99m:81294** 81V70 (81R10, 81T40, 82B10)

— (*with* Billó, M.; Di Vecchia, P.; Lerda, A.; Russo, Rodolfo; Sciuto, S.) The Lorentz force between D0 and D6 branes in string and M(atrix) theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2977–2990. (Summary) **99h:81152** 81T30

Frauendorfer, Karl (*with* Gaese, Ralf) Linear duality, term structure, and valuation. *Operations Research Proceedings* 1997 (*Jena*), 13–18, *Springer, Berlin*, 1998. (From the introduction) **99h:90015** 90A09 (90C05)

— (*with* Marohn, Ch.) Refinement issues in stochastic multistage linear programming. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 305–328, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90066** 90C15

Fraughnaugh, Kathryn (*with* Pullman, Norman J.; Monson, Sylvia D.; Rees, Rolf S.) Uni-intersection graphs. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 14–22. (Hiroshi Maehara) **99d:05074** 05C75

Frayssé, Valérie (*with* Toumazou, Vincent) A note on the normwise perturbation theory for the regular generalized eigenproblem. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 1, 1–10. (Summary) **99a:65048** 65F15

de Fraysseix, H. (*with* de Mendez, P. Ossona) A short proof of a Gauss problem. (English summary) *Graph drawing* (*Rome*, 1997), 230–235, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99g:05059** 05C10

Frazho, A. E. (*with* Foias, Ciprian; Gohberg, Israel; Kaashoek, M. A.) ★ Metric constrained interpolation, commutant lifting and systems. (English summary) Operator Theory: Advances and Applications, 100. *Birkhäuser Verlag, Basel*, 1998. *xii*+587 *pp. ISBN* 3-7643-5889-0 (Joseph A. Ball) **99i:47027** 47A57 (30E05, 47A20, 47N70, 93B36)

Frazier, Michael W. (*with* Garrigós, Gustavo; Wang, Kunchuan; Weiss, Guido) A characterization of functions that generate wavelet and related expansion. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 883–906. (Eugenio Hernández) **99c:42058** 42C15

Fré, Pietro U-duality, solvable Lie algebras and extremal black-holes. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 7–44, *World Sci. Publishing, River Edge, NJ*, 1997. (Mario Trigiante) **99d:83102** 83E50 (83C57, 83E30)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo; Ferrara, Sergio; Trigiante, Mario) R-R scalars, U-duality and solvable Lie algebras. (English summary) *Nuclear Phys. B* **496** (1997), *no.* 3, 617–629. (Summary) **99f:81140** 81T30 (81R05)

— (*with* Andrianopoli, Laura; D'Auria, Riccardo; Ferrara, Sergio; Trigiante, Mario) $E_{7(7)}$ duality, BPS black-hole evolution and fixed scalars. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 463–518. (Krzysztof Galicki) **99e:83061** 83E50 (81T60, 83C57, 83E30)

— (*with* Bertolini, Matteo; Iengo, Roberto; Scrucca, Claudio A.) Black holes as D3-branes on Calabi-Yau threefolds. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 22–30. (Summary) **99e:83051** 83E30 (81T30, 83C57)

— *see also* **Conference: General Relativity and Gravitational Physics, 99e:83002**

Frecker, Mary I. (*with* Nishiwaki, Shinji; Min, Seungjae; Kikuchi, Noboru) Topology optimization of compliant mechanisms using the homogenization method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 535–559. (Summary) **99a:73011** 73B27 (73K40)

Freddi, Lorenzo Optimal control problems in a nonreflexive framework and application to weakly converging nonlinear input operators. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 343–349, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 49J45 (49Q20)

Fredebeul, Christoph A-BDF: a generalization of the backward differentiation formulae. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1917–1938 (*electronic*). (Sándor Frivaldszky) **99h:65124** 65L05

Frederiksen, Jorgen S. (*with* Davies, A. G.) Performance of integro-differential closure equations for two-dimensional turbulence. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 319–326, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76F99

— Precursors to blocking anomalies: the tangent linear and inverse problems. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 14, 2419–2436. 86A10

Fredman, Michael L. (*with* Henzinger, Monika R.) Lower bounds for fully dynamic connectivity problems in graphs. (English summary) *Algorithmica* **22** (1998), *no.* 3, 351–362. (Fabrizio Luccio) **99k:68078** 68Q25 (05C40)
— (*with* Cohen, David M.) New techniques for designing qualitatively independent systems. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 411–416. (Summary) **99e:05030** 05B30
— (*with* Hampapuram, Haripriyan) Optimal biweighted binary trees and the complexity of maintaining partial sums. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 1–9 (*electronic*). (Ranjan Chaudhuri) **99d:68051** 68P05 (68Q25)
Fredricks, Gregory A. (*with* Nelsen, Roger B.) Diagonal copulas. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 121–128, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60011** 60E05 (62H05)
— (*with* Nelsen, Roger B.) Copulas constructed from diagonal sections. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 129–136, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99c:60021** 60E05 (62H05)
Fredriksson, Kimmo (*with* Ukkonen, Esko) A rotation invariant filter for two-dimensional string matching. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 118–125, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q20
Freed, Daniel S. Two index theorems in odd dimensions. *Comm. Anal. Geom.* **6** (1998), *no.* 2, 317–329. (John Roe) **99k:58170** 58G10 (19K56, 81T50)
Freeden, Willi (*with* Schreiner, M.) Orthogonal and nonorthogonal multiresolution analysis, scale discrete and exact fully discrete wavelet transform on the sphere. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 493–515. (Margit Rösler) **99i:42046** 42C15 (41A30, 43A90)
— (*with* Schneider, Frank) Regularization wavelets and multiresolution. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 225–243. (Summary) **99b:65074** 65J20 (42C15, 86A30)
Freedman, Allen R. (*with* Gupta, R. N.; Guralnick, Robert M.) Shirshov's theorem and representations of semigroups. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 159–176. (Jan Okniński) **99b:20098** 20M20 (16S36)
Freedman, Benedict (*with* Freedman, Michael Hartley) Kneser-Haken finiteness for bounded 3-manifolds locally free groups, and cyclic covers. (English summary) *Topology* **37** (1998), *no.* 1, 133–147. (Mark Brittenham) **99h:57036** 57N10 (57M10, 57M25)
Freedman, D. A. De Finetti's theorem in continuous time. (English summary) *Statistics, probability and game theory*, 83–98, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (Marco Scarsini) **99d:60048** 60G09 (60J27)
Freedman, D. Z. (*with* Anselmi, Damiano; Grisaru, Marcus T.; Johansen, Andrei) Non-perturbative formulas for central functions of supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 543–571. (Ilya Shapiro) **99i:81155** 81T17 (81T13, 81T60)
— (*with* Osborn, Hugh) Constructing a c-function for SUSY gauge theories. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 353–360. (Summary) **99c:81147** 81T17 (81T60)
— (*with* Anselmi, Damiano; Erlich, Joshua; Johansen, Andrei) Positivity constraints on anomalies in supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7570–7588. (Summary) **99k:81288** 81T50 (81T15, 81T60)
Freedman, H. I. (*with* Peng, Qiu-Liang) Global stability in a diffusive stage-structured population system with two time delays. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 4, 397–422. (Jian Hong Wu) **99m:92029** 92D25 (35B35, 35K10)
Freedman, Michael Hartley (*with* Hain, Richard M.; Teichner, Peter) Betti number estimates for nilpotent groups. (English summary) *Fields Medallists' lectures*, 413–434, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Karel Dekimpe) **99d:20052** 20F18 (20J05, 57M07, 57N10)
— (*with* McMullen, Curtis T.) Elder siblings and the taming of hyperbolic 3-manifolds. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 415–428. (Athanase Papadopoulos) **99i:57031** 57M60 (30F40, 57M50)
— Topological views on computational complexity. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 453–464 (*electronic*). (Christopher H. Ting) **99j:68028** 68Q05 (57M25, 68Q15, 81T13, 81T70)
— Limit, logic, and computation. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 1, 95–97 (*electronic*). (Bruno Poizat) **99e:68049** 68Q15 (00A35, 03D15)
— P/NP, and the quantum field computer. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 1, 98–101 (*electronic*). (Summary) **99b:68064** 68Q05 (68Q15, 81P99)
— (*with* Freedman, Benedict) Kneser-Haken finiteness for bounded 3-manifolds locally free groups, and cyclic covers. (English summary) *Topology* **37** (1998), *no.* 1, 133–147. (Mark Brittenham) **99h:57036** 57N10 (57M10, 57M25)
— *see also* **Milnor, John**, (**99b:00010**)
Freeman, Benny D. (*with* Smith, Steven W.; Hall, Carol K.; McCormick, Julie A.) Self-diffusion coefficients and atomic mean-squared displacements in entangled hard chain fluids. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 203–215, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60
Freeman, Herbert *see* **Advances in pattern recognition, 99k:68002**
Freeman, John M. A strategy for determining polynomial orthogonality. *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 239–244, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (R. K. Raina) **99f:33009** 33C45
Freeman, S. N. (*with* Catchpole, E. A.; Morgan, B. J. T.) Estimation in parameter-redundant models. (English summary) *Biometrika* **85** (1998), *no.* 2, 462–468. (C. J. Park) **99i:62036** 62F10
Freese, Raymond (*with* Andalafte, Edward) Strong additivity of metric isosceles orthogonality. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 121–128. (Summary) **99f:51023** 51F20
Frege, Gottlob *see* **Read, Stephen, 99a:03001**; **Kleemeier, Ulrike, 99b:01017**; **Koslicki, Kathrin, 99b:03009**; **Wehmeier, Kai F., 99c:01019**; **Hovens, Frans, 99f:01015**; **Belna, Jean-Pierre, 99g:01019**; **Schroeder-Heister, Peter, 99g:03002**; **Burge, Tyler, 99i:03001**; **Vilkko, Risto, 99k:01030** *and* **Aho, Tuomo, 99m:01017**
Freguglia, Paolo The foundations of higher-dimensional geometry according to Giuseppe Veronese. (Italian. English summary) *Geometry Seminars, 1996–1997* (*Italian*) (*Bologna*), 253–277, *Univ. Stud. Bologna, Bologna*, 1998. (Ciro Ciliberto) **99i:14001** 14–03 (01A55)
Frehse, Jens (*with* Málek, Josef; Steinhauer, Mark) An existence result for fluids with shear dependent viscosity—steady flows. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 3041–3049. (Adélia Sequeira) **99g:76006** 76A05 (35Q35, 76A10)
— (*with* Bensoussan, Alain) Dual regularity methods in the theory of nonlinear elliptic systems. (English summary) *Équations aux dérivées partielles et applications*, 139–149, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Monica Lazzo) **99j:35041** 35J55 (35D10, 35J60)
— (*with* Růžička, Michael) Regularity for steady solutions of the Navier-Stokes equations. (English summary) *Theory of the Navier-Stokes equations*, 159–178, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99e:35179** 35Q30 (76D05)
kazakova-Frehse, N. *see* **Kazakova-Frehse, N.**
Frei, Günther Zum Gedenken an Bartel Leendert van der Waerden (2.2.1903–12.1.1996). [In memoriam Bartel Leendert van der Waerden (2.2.1903–12.1.1996)] *Elem. Math.* **53** (1998), *no.* 4, 133–138. 01A70
— Zur Geschichte des Crelleschen Journals. [On the history of Crelle's journal] *J. Reine Angew. Math.* **500** (1998), 1–4. 01A74 (01A55, 01A60)
— Helmut Hasse und seine Arbeiten im Crelleschen Journal. [Helmut Hasse and his works in Crelle's Journal] *J. Reine Angew. Math.* **500** (1998), 15–21. (Editors) **99m:01056** 01A70 (11–03)
Freidel, Laurent (*with* Altschüler, Daniel) Vassiliev knot invariants and Chern-Simons perturbation theory to all orders. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 261–287. (David H. Adams) **99c:57008** 57M25 (57R57, 58G18, 81T18)
Freidlin, Mark I. Probabilistic approach to the small viscosity asymptotics for Navier-Stokes equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4069–4076. (Gershon Wolansky) **99g:76033** 76D05 (35B40, 35Q30, 60J70, 76M35)
— (*with* Venttsel', A. D.) ★ Random perturbations of dynamical systems. (English summary) Translated from the 1979 Russian original by Joseph Szücs. Second edition. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 260. *Springer-Verlag, New York*, 1998. *xii*+430 *pp. ISBN* 0-387-98362-7 (From the preface) **99h:60128** 60H25 (34C29, 34C35, 34F05, 58F30, 60F10)
— (*with* Weber, Matthias[1]) Random perturbations of nonlinear oscillators. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 925–967. (Toshio Mikami) **99g:60098** 60H10 (34C29, 34F05)
— Random and deterministic perturbations of nonlinear oscillators. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 223–235 (*electronic*). (Marta Sanz Solé) **99j:60084** 60H10 (34F05, 35B99, 60J60)
— (*with* Dunyak, James P.) Optimal residence time control of Hamiltonian systems perturbed by white noise. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 233–252 (*electronic*). (Alexander Veretennikov) **99d:49049** 49K45 (34F05, 60F17, 60J60)
— (*with* Pfeiffer, Ruth) A threshold estimation problem for processes with hysteresis. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 337–347. (Marianne Huebner) **99e:62145** 62M05
Freĭdovich, L. B. (*with* Burkov, I. V.) Stabilization of the position of a Lagrangian system with elastic elements under constraints on the control with and without measurement of velocity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 447–456; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 433–441. (A. E. Zakrzhevskiĭ) **99d:70037** 70K99 (70B15, 70Q05, 73K12, 93D15)
— (*with* Pervozvanskiĭ, Anatoliĭ Arkad'evich) On the astatism of nonlinear systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 35–43; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 1, 934–940. (Summary) **99j:93054** 93C10 (93D05)
Freĭgeĭt, M. R. (*with* Pryakhina, O. D.; Tukodova, O. M.) Solution of nonstationary coupled electromechanical problems for layered media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 1031–1042; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 995–1006 (1998). (Summary) **99c:73066** 73R05 (78A99)
Freiling, Chris (*with* Rinne, D.; Thomson, Brian S.) A Riemann-type integral based on the second symmetric derivative. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 539–556. (James Foran) **99c:26004** 26A24 (26A42)
— On the problem of characterizing derivatives. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 805–812. (Summary) **99d:26005** 26A24
Freiling, Gerhard (*with* Rykhlov, V.) Pointwise convergence of eigenfunction expansions for a general class of regular eigenvalue problems. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 27–45. (Christiane Tretter) **99d:34160** 34L10 (34B27)
— (*with* Yurko, V. A.) Expansion theorems for boundary value problems with a singularity. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 1, 25–39. (Christiane Tretter) **99b:34133** 34L10 (34B27)
— (*with* Yurko, V. A.) On constructing differential equations with singularities from incomplete spectral information. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1131–1150. (Boris M. Levitan) **99k:34026** 34A55 (34L05)
— (*with* Trushin, I. Yu.) Abel-summability of eigenfunction expansions of three-point boundary value problems. (English summary) *Math. Nachr.* **190** (1998), 129–148. (Reinhard Mennicken) **99c:34191** 34L10 (34B10)
— (*with* Lee, S.-R.; Jank, Gerhard) Coupled matrix Riccati equations in minimal cost variance control problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 556–560. (Keigo Watanabe) **99m:93098** 93E10 (93C99)
— (*with* Ionescu, Vlad) Time-varying discrete Riccati equation: some monotonicity results. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 135–148. (Author's review (G.F.)) **99k:93063** 93C55 (39A12)
Frein, Y. (*with* Lee, Hyo-Seong; Bouhchouch, A.; Dallery, Yves) Performance evaluation of open queueing networks with arbitrary configuration and finite buffers. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 181–206. (From the summary) **99b:90056** 90B22 (60K25, 90B12)

Freire, Alexandre (*with* Müller, Stefan C.; Struwe, Michael) Weak convergence of wave maps from (1 + 2)-dimensional Minkowski space to Riemannian manifolds. (English summary) *Invent. Math.* **130** (1997), *no.* 3, 589–617. (Caio J. C. Negreiros) **99g:58035** 58E20

Freire Macías, Emilio (*with* Fernández-Sánchez, F.; Pizarro, Luis; Rodríguez-Luis, A. J.) Analytical and numerical study of a van der Pol-Duffing oscillator. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 94C05)

— (*with* Pizarro, Luis; Rodríguez-Luis, A. J.; Fernández-Sánchez, F.) Bifurcations of codimension two in an enzyme model. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 92C45 (35B32, 35Q80)

— (*with* Gamero, E.; Rodríguez-Luis, A. J.; Algaba, A.) Simplified normal forms for nonhyperbolic equilibria in $\mathbf{R}^3$. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C20 (34C23, 58F36)

— (*with* Rodríguez-Luis, A. J.; Gamero, E.; Pizarro, Luis; Fernández-Sánchez, F.) Islands of periodic orbits in an electronic system. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 19 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 34C25, 94C05)

— (*with* Fernández-Sánchez, F.; Rodríguez-Luis, A. J.) Isolas, cusps and global bifurcations in an electronic oscillator. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 319–336. (Alan R. Champneys) **99c:58118** 58F14 (34C15, 34C37, 94C05)

— (*with* Gamero, E.; Rodríguez-Luis, A. J.; Algaba, A.) Normal forms for the Hopf-zero degeneracy in reversible systems. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 356–363, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C20 (58F14)

— (*with* Pizarro, Luis; Rodríguez-Luis, A. J.) Numerical continuation of several kinds of degenerated homoclinic orbits in planar systems. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 468–474, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C37 (58F14)

— (*with* Rodríguez-Luis, A. J.; Gamero, E.; Pizarro, Luis) Analysis of a degenerated Bogdanov-Takens bifurcation in an engineering model. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 486–493, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C23 (58F14)

— (*with* Algaba, A.; Gamero, E.) Hypernormal forms of the Hopf-pitchfork interaction. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 133–137, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 58F14

— (*with* Fernández-Sánchez, F.; Gamero, E.; Rodríguez-Luis, A. J.) Codimension-two global bifurcations in a three-dimensional van der Pol-Duffing oscillator. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 249–254, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23 (34C15, 58F14)

— (*with* Gamero, E.; Rodríguez-Luis, A. J.) Estimation of canard blowup in a van der Pol oscillator. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 267–272, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C25 (34E15)

— (*with* Ponce, Enrique; Torres, Francisco) Filippov transformations in piecewise linear systems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 273–278, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34A30 (34C25)

— (*with* Gamero, E.; Rodríguez-Luis, A. J.) Study of a degenerate Bogdanov-Takens bifurcation in a family of mechanical oscillators. *Mech. Res. Comm.* **25** (1998), *no.* 3, 287–297. (From the text) **99g:34085** 34C23 (34C37, 58F14, 70K99)

— (*with* Algaba, A.; Gamero, E.; Rodríguez-Luis, A. J.) Analysis of Hopf and Takens-Bogdanov bifurcations in a modified van der Pol-Duffing oscillator. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 4, 369–404. (Stephan A. van Gils) **99g:34084** 34C23 (34C15, 58F14)

— (*with* Belhaq, M.; Houssni, M.; Rodríguez-Luis, A. J.) Second period-doubling in a three-dimensional system. *Mech. Res. Comm.* **26** (1999), *no.* 2, 123–128. 34C23 (58F14)

Freistühler, Heinrich Some results on the stability of non-classical shock waves. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 25–38. (L. Hsiao) **99e:35142** 35L67 (35B35, 76L05)

— *see also* **Analysis of systems of conservation laws, 99k:35003**

Freitag, Burkhard (*with* Zukowski, Ulrich; Brass, Stefan) Improving the alternating fixpoint: the transformation approach. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl*, 1997), 40–59, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68034** 68N17

Freitag, E. (*with* Hunt, Bruce) A remark on a theorem of Runge. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 6, 464–469. (John B. Little) **99j:14025** 14G35 (11F46, 14Q15)

— (*with* Borcherds, Richard Ewen; Weissauer, R.) A Siegel cusp form of degree 12 and weight 12. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 141–153. (Rainer Schulze-Pillot) **99d:11047** 11F46 (11E45, 11F27)

de Freitas, J. A. Teixeira Hybrid finite element formulations for elastodynamic analysis in the frequency domain. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 13, 1883–1923. (Summary) **99i:73068** 73V05 (73K12)

Freitas, L. P. (*with* Aldrovandi, R.; Barbosa, A. L.) Closed expressions for Lie algebra invariants and finite transformations. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3021–3050. (Edson Stédile) **99a:81051** 81R05 (17B81)

— (*with* Aldrovandi, R.) Continuous iteration of dynamical maps. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5324–5336. (Remo Badii) **99h:58120** 58F13 (26A18, 58F03)

Freitas, Pedro (In)stability results for the wave equation with indefinite damping. (English summary) *International Conference on Differential Equations (Lisboa*, 1995), 350–355, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35L05 (35B35, 35J20)

— The linear damped wave equation, Hamiltonian symmetry, and the importance of being odd. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 635–640. (Summary) **99f:35114** 35L05

— (*with* Sweers, Guido) Positivity results for a nonlocal elliptic equation. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 697–715. (Rolando Magnanini) **99h:35031** 35J15 (35B05)

Freivalds, Rūsiņš (*with* Jain, Sanjay[1]) Kolmogorov numberings and minimal identification. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 175–194. (Summary) **99k:68156** 68T05 (68Q99)

— (*with* Apsītis, Kalvis; Arikawa, Setsuo; Hirowatari, Eiju; Smith, Carl H.) Recursive inference of real functions. I. Strict inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 199–204. (*see* **99i:65003**) 03D20 (03D80)

— (*with* Apsītis, Kalvis; Arikawa, Setsuo; Hirowatari, Eiju; Smith, Carl H.) Recursive inference of real functions. II. Approximate inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 205–210. (*see* **99i:65003**) 03D20 (03D80)

— (*with* Fortnow, Lance; Gasarch, William I.; Kummer, Martin Walter; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank) On the relative sizes of learnable sets. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 139–156. (Philip Ross Watson) **99c:68210** 68T05 (03D25, 03D80, 68Q99)

— *see also* **Randomized algorithms, 99f:68008**

Freixas, J. (*with* Puente, M. A.) Complete games with minimum. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 97–109. (Summary) **99i:90125** 90D12

tarrés i Freixenet, Juan *see* **Tarrés i Freixenet, Juan**

Fremlin, D. H. On compact spaces carrying Radon measures of uncountable Maharam type. (English summary) *Fund. Math.* **154** (1997), *no.* 3, 295–304. (Richard Becker) **99d:28019** 28C15 (03E50)

Frémond, Michel (*with* Kuttler, Kenneth L.; Nedjar, Boumediene; Shillor, Meir) One-dimensional models of damage. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 541–570. (Ramon Quintanilla) **99k:35172** 35Q72 (73B05, 73K05, 73M25)

— (*with* Kuttler, Kenneth L.; Shillor, Meir) Existence and uniqueness of solutions for a dynamic one-dimensional damage model. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 271–294. (Alain Brillard) **99k:73071** 73F15 (35Q72)

— *see also* **Variations of domain and free-boundary problems in solid mechanics, 99k:73004**

French, Donald A. Discontinuous Galerkin finite element methods for a forward-backward heat equation. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 37–44. (Summary) **99d:65282** 65M60

— (*with* Edwards, David Alan[2]) Asymptotic and computational analysis of large shear deformations of a thermoplastic material. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 700–727 (*electronic*). (Summary) **99i:73008** 73B30 (65M06, 73E50, 73G20, 73V20)

French, M. (*with* Rogers, Eric) Approximate models for adaptive feedback linearization. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1305–1321. 93B17

French, Simon (*with* Atherton, Elizabeth) Issues in supporting intertemporal choice. (English summary) *Essays in decision making*, 135–156, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90A08

— (*with* Xie, Zhigang) Towards a constructive approach to act-conditional subjective expected utility models. (English summary) *Top* **5** (1997), *no.* 2, 167–186. (Joseph D. Cole) **99k:90056** 90A43 (90A05, 90A06, 90A10)

French, Steven (*with* Ladyman, James) Superconductivity and structures: revisiting the London account. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 3, 363–393. (M. Lawrence Glasser) **99d:82002** 82-03 (00A79, 01A60, 82D55)

— (*with* da Costa, Newton C. A.; Bueno, Otávio) Is there a Zande logic? (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 1, 41–54. (Summary) **99a:03031** 03B60

Freni, Domenico Contribution to matroidal hyperstructures. (Italian. English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 271–295 (1998). (Umberto Cerruti) **99g:20125** 20N20 (05B35)

Freniche, Francisco (*with* García-Vázquez, Juan Carlos; Rodríguez-Piazza, Luis) The failure of Fatou's theorem on Poisson integrals of Pettis integrable functions. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 28–41. (Brian Jefferies) **99k:46075** 46G10 (28B05, 46B20, 46E40)

Frenk, J. B. G. (*with* dos Santos Gromicho, Jaoquim António) An elementary rate of convergence proof for the deep cut ellipsoid algorithm. (English summary) *Recent advances in nonsmooth optimization*, 106–120, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99f:90121** 90C30 (90C08)

— (*with* Dekker, R.; Kleijn, M. J.) On the marginal cost approach in maintenance. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 771–781. (Stefanka Chukova) **99a:90095** 90B25

— (*with* Scott, C. H.; Jefferson, T. R.) A duality theory for a class of generalized fractional programs. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 239–245. (Summary) **99a:90207** 90C32 (49N15)

— (*with* Carrizosa, Emilio) Dominating sets for convex functions with some applications. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 281–295. (Summary) **99a:90152** 90C25

— (*with* Kleijn, M. J.) On regenerative processes and inventory control. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 61–94. (Sophia Kalpazidou) **99m:60147** 60K30 (90B05)

Frenkel, Alexander L. (*with* Zhang, Xiaojing) Large-scale instability of generalized oscillating Kolmogorov flows. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 540–564 (*electronic*). (Alexander Lifschitz) **99f:76067** 76E99 (76D99, 76F99)

Frenkel, Edward (*with* Reshetikhin, N. Yu.) Deformations of $\mathcal{W}$-algebras associated to simple Lie algebras. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 1, 1–32. (Christoph Schweigert) **99k:17028** 17B37 (17B35, 81R50, 82B23)

— (*with* Enriquez, Benjamin) Geometric interpretation of the Poisson structure in affine Toda field theories. *Duke Math. J.* **92** (1998), *no.* 3, 459–495. (Alexander V. Shapovalov) **99c:58067** 58F07 (17B69)

— (*with* Gaitsgory, D.; Kazhdan, David A.; Vilonen, Kari) Geometric realization of Whittaker functions and the Langlands conjecture. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 451–484. (Ernst-Wilhelm Zink) **99f:11148** 11R39 (11F70, 14H60, 22E50, 22E55)

Frenkel, Igor B. (*with* Khovanov, Mikhail G.) Canonical bases in tensor products and graphical calculus for $U_q(\mathfrak{sl}_2)$. *Duke Math. J.* **87** (1997), *no.* 3, 409–480. (Kailash C. Misra) **99a:17019** 17B37 (17B10)

— (*with* Kirillov, Alexander A., Jr.; Varchenko, A. N.) Canonical basis and homology of local systems. (English summary) *Internat. Math. Res. Notices* **1997**, *no.* 16, 783–806. (From the introduction) **99j:17019** 17B37 (17B10)

Frenkel, Josif (*with* Brandt, F. T.; Guerra, A.) The Boltzmann equation in scalar field theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4281–4288. (Summary) **99d:81074** 81T10 (82C40)

Frenkel, P. E. Integer sets with distinct subset sums. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3199–3200. (Vsevolod F. Lev) **99a:11012** 11B05 (11B75)

Frenkin, A. R. (*with* Barinova, E. G.; Kornienko, A. G.; Chizhov, G. A.) Singular solutions of nonlinear equations of Schrödinger type of a special form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 1, 12–14. (Summary) **99b:35190** 35Q55

Frénod, Emmanuel (*with* Sonnendrücker, Eric) Homogenization of the Vlasov equation and of the Vlasov-Poisson system with a strong external magnetic field. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 3-4, 193–213. (Kamel Hamdache) **99m:82046** 82D10 (35B27, 35Q99, 76X05)

Frentzen, Hilbert Boundary conditions for quasi-differential operators in L^p spaces. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 274–287. (Sobhy El-Sayed Ibrahim) **99e:47058** 47E05 (34B05)

Fresa, R. (*with* Albanese, Raffaele) Upper and lower bounds for local electromagnetic quantities. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 499–515. (Summary) **99a:78002** 78–08

Fresse, Benoit Homologie de Quillen pour les algèbres de Poisson. (English and French summaries) [Quillen homology for Poisson algebras] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1053–1058. (Tiberiu Dumitrescu) **99j:16001** 16E40 (17B55, 19D55)

— Cogroups in algebras over an operad are free algebras. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 4, 637–676. (Teimuraz Pirashvili) **99i:18010** 18C15 (16W30, 17A30, 18D10)

— Lie theory of formal groups over an operad. *J. Algebra* **202** (1998), *no.* 2, 455–511. (Paul G. Goerss) **99c:14063** 14L05 (18D10)

Freudenberg, W. (*with* Fichtner, K.-H.; Liebscher, Volkmar) Time evolution and invariance of boson systems given by beam splittings. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 511–531. (John E. Gough) **99k:81141** 81S25 (46N50, 81P15)

Freudenburg, Gene Local slice constructions in $k[X, Y, Z]$. *Osaka J. Math.* **34** (1997), *no.* 4, 757–767. (Hiroshi Niitsuma) **99i:13010** 13B10 (14L30)

— (*with* Daigle, Daniel) Locally nilpotent derivations over a UFD and an application to rank two locally nilpotent derivations of $k[X_1, \cdots, X_n]$. (English summary) *J. Algebra* **204** (1998), *no.* 2, 353–371. (Andrzej Tyc) **99c:13011** 13B10

Freuder, Eugene C. (*with* Bessière, Christian; Régin, Jean-Charles) Using constraint metaknowledge to reduce arc consistency computation. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 125–148. (Summary) **99j:68128** 68T20

— *see also* **Artificial intelligence and mathematics, 99m:68006**

Freund, Lambert B. (*with* Sørensen, Niels J.) Dynamic bifurcation during high-rate planar extension of a thin rectangular block. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 709–724. 73E50 (73H10)

— (*with* Hurtado, J. A.) The force on a dislocation near a weakly bonded interface. (English summary) *J. Elasticity* **52** (1998/99), *no.* 2, 167–180. (Summary) **99m:73013** 73C02

— A surface chemical potential for elastic solids. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1835–1844. (Summary) **99j:73009** 73B30 (73C50)

Freund, Michael[2] Preferential reasoning in the perspective of Poole default logic. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 209–235. (Zoran Ognjanović) **99k:03022** 03B60 (03B70, 68T27)

Freund, R. *see* **Freund, Rudolf J.**

Freund, Robert M. (*with* Nunez, Manuel A.) Condition measures and properties of the central trajectory of a linear program. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 1–28. (Summary) **99g:90067** 90C05 (90C31)

Freund, Roland W. *see* **Workshop: Iterative Methods and Parallel Computing, 99m:65008**

Freund, Rudolf J. (*with* Păun, Gheorghe; Procopiuc, Cecilia-Magdalena; Procopiuc, Octavian) Parallel communicating grammar systems with context-sensitive components. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 166–174, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (68Q50)

— Multi-level eco-array grammars. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 175–201, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B05, 92D40)

— (*with* Fernau, Henning; Holzer, Markus) Character recognition with k-head finite array automata. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 282–291, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T10 (68Q45)

— (*with* Mihalache, Valeria) Molecular computations on circular and linear strings. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 201–217, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68044** 68Q05 (68Q45, 92D20)

— (*with* Kari, Lila; Păun, Gheorghe) DNA computing based on splicing: the existence of universal computers. (English summary) *Theory Comput. Syst.* **32** (1999), *no.* 1, 69–112. (Rani Siromoney) **99j:68029** 68Q05 (03D10)

Freund, Yoav (*with* Auer, Peter; Cesa-Bianchi, Nicolò; Schapire, Robert E.) Gambling in a rigged casino: the adversarial multi-armed bandit problem. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 322–331, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 90D05 (68Q99, 90D20)

— (*with* Kearns, Michael; Mansour, Yishay; Ron, Dana; Rubinfeld, Ronitt; Schapire, Robert E.) Efficient algorithms for learning to play repeated games against computationally bounded adversaries. *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 332–341, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05 (90D20)

— (*with* Kearns, Michael; Ron, Dana; Rubinfeld, Ronitt; Schapire, Robert E.; Sellie, Linda) Efficient learning of typical finite automata from random walks. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 23–48. (Rani Siromoney) **99f:68118** 68Q45 (68T05)

— (*with* Schapire, Robert E.) A decision-theoretic generalization of on-line learning and an application to boosting. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 119–139. (Summary) **99g:68172** 68T05

Frey, Andreas (*with* Takahashi, Yoshitaka) An explicit solution for an $M/GI/1/N$ queue with vacation time and exhaustive service discipline. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 430–441. (Takehisa Fujisawa) **99i:60168** 60K25 (90B22)

Frey, Darrin D. Conjugacy of Alt_5 and $\mathrm{SL}(2, 5)$ subgroups of $E_6(\mathbf{C})$, $F_4(\mathbf{C})$, and a subgroup of $E_8(\mathbf{C})$ of type A_2E_6. (English summary) *J. Algebra* **202** (1998), *no.* 2, 414–454. (Martin W. Liebeck) **99h:20076** 20G20 (20D06, 20E07)

Frey, Douglas R. A class of relaxation algorithms for finding the periodic steady-state solution in nonlinear systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 6, 659–663. (Summary) **99e:94052** 94C05 (65L99)

Frey, Gerhard On ternary equations of Fermat type and relations with elliptic curves. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 527–548, *Springer, New York*, 1997. (*see* **99k:11004**) 11G05 (11D41)

Frey, Pascal J. (*with* Pébay, Philippe P.) Delaunay-admissibilité des triangulations de surfaces. (English and French summaries) [Delaunay-conformity of surface triangulations] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 313–318. (Summary) **99g:65139** 65Y25 (65D17, 65M50, 65N50)

— (*with* Borouchaki, Houman; George, Paul-Louis) 3D Delaunay mesh generation coupled with an advancing-front approach. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 115–131. (Summary) **99b:65162** 65N50 (65M50)

— (*with* Borouchaki, Houman) Geometric evaluation of finite element surface meshes. (English summary) *Finite Elem. Anal. Des.* **31** (1998), *no.* 1, 33–53. 65D17 (65Y25)

— (*with* Borouchaki, Houman; Hecht, Frédéric) Mesh gradation control. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 1143–1165. (Summary) **99g:76102** 76M25 (65M55)

— (*with* Borouchaki, Houman) Surface mesh quality evaluation. (English summary) *Internat. J. Numer. Methods Engrg.* **45** (1999), *no.* 1, 101–118. 65N55 (65N22)

Frey, Rüdiger (*with* Stremme, Alexander) Market volatility and feedback effects from dynamic hedging. (English summary) *Math. Finance* **7** (1997), *no.* 4, 351–374. (Summary) **99a:90038** 90A09

— (*with* Sommer, Daniel) The generalization of the Geske-formula for compound options to stochastic interest rates is not trivial—a note. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 501–509. (Wolfgang J. Runggaldier) **99k:90027** 90A09 (60G35)

Frey, Sérgio L. (*with* Carneiro de Araújo, J. H.; Martins-Costa, M. L.) An alternative Galerkin formulation for streamline problems. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 3, 219–225. (Summary) **99m:76089** 76M25 (65N30)

Freyberger, Matthias Quantum state measurements and complementarity. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 193–197. (Oliver Rudolph) **99c:81006** 81P05 (81P15)

Freyd, Peter (*with* Bass, Hyman; Cartan, Henri; Heller, Alex; Mac Lane, Saunders) Samuel Eilenberg (1913–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1344–1352. (Editors) **99k:01045** 01A70

vila-Freyer, Roberto *see* **Vila-Freyer, Roberto**

Frezza, F. (*with* Gori, Franco[1]; Vicalvi, S.; Santarsiero, M.; Schettini, G.; Ambrosini, S.; Borghi, Riccardo) An elementary approach to spinors. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 256–262. (Summary) **99c:81073** 81R25 (15A66, 53A50)

Frezza, Ruggero (*with* Borges, Carlos F.) On models of Gaussian reciprocal processes and the reconstruction of periodic Jacobi matrices. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 22 *pp.* (*electronic*). (Alexander Veretennikov) **99j:60048** 60G15 (65U05, 93E25)

Frezzotti, R. (*with* Bunk, B.; Elser, S.; Jansen, Karl) Ordering monomial factors of polynomials in the product representation. (English summary) *Comput. Phys. Comm.* **118** (1999), *no.* 2-3, 95–109. 81–08

Frias, Marcelo F. (*with* Maddux, Roger D.) Non-embeddable simple relation algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 115–135. (Szabolcs Mikulás) **99a:03063** 03G15

— (*with* Baum, Gabriel A.; Haeberer, Armando M.) Fork algebras in algebra, logic and computer science. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 1–25. (Summary) **99f:03091** 03G25 (03B70, 68Q60)

— (*with* Maddux, Roger D.) Completeness of a relational calculus for program schemes. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 127–134, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68080** 68Q60 (03B70, 68Q55)

— Independence of the axiomatization of fork. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 211–215. (Summary) **99g:03068** 03G25 (08B05)

Fribourg, Laurent (*with* Veloso Peixoto, Marcos) Unfolding parametric automata. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 88–101, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68Q68 (68Q55, 68Q60)

Frič, Roman History of sequential convergence spaces. *Handbook of the history of general topology, Vol.* 1, 343–355, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:01001**) 01A60 (54–03)

— (*with* Borsík, Ján) Pointwise convergence fails to be strict. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 313–320. (Paul R. Meyer) **99g:54001** 54A05 (54C30, 54C35)

— (*with* Nogura, Tsugunori) Rings of maps: sequential convergence and completion and strictness. (English summary) Real functions (Liptovský Ján, 1996) *Mt. Math.*

Publ. **14** (1998), 137–143. (J. R. Isbell) **99i:54019** 54C35 (54A20, 54D35)
— *see also* **Real functions, 99f:00022**
Frick, H. Computing projections into cones generated by a matrix. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 975–987. (Summary) **99c:62158** 62H12 (65F30)
— (*with* Rahlfs, V. W.) On power and necessary sample sizes of the Wilcoxon-Mann-Whitney test. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2445–2460. 62G10
Frick, Marietjie (*with* Borowiecki, Mieczysław; Broere, Izak; Mihók, Peter; Semanišin, Gabriel) A survey of hereditary properties of graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 5–50. (Vadim E. Zverovich) **99d:05029** 05C15 (05C35, 05C75)
— (*with* Broere, Izak; Semanišin, Gabriel) Maximal graphs with respect to hereditary properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 51–66. (Vadim E. Zverovich) **99e:05072** 05C35 (05C15, 05C75)
— (*with* Bucko, Jozef; Mihók, Peter; Vasky, Roman) Uniquely partitionable graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 103–113. (Summary) **99b:05107** 05C70
— (*with* Broere, Izak; Mihók, Peter) The order of uniquely partitionable graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 115–125. (Summary) **99b:05106** 05C70
— (*with* Broere, Izak; Dorfling, Michael; Dunbar, Jean E.) A path(ological) partition problem. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 113–125. (Peter Mihók) **99i:05159** 05C70 (05C38)
Frick, Peter *see* **Frik, P. G.**
Fricke, Gerd H. (*with* Hedetniemi, Stephen T.; Jacobs, David P.) Independence and irredundance in k-regular graphs. (English summary) *Ars Combin.* **49** (1998), 271–279. (Summary) **99c:05183** 05C85
— (*with* Haynes, Teresa W.; Hedetniemi, Sandra M.; Hedetniemi, Stephen T.; Henning, Michael A.) On perfect neighborhood sets in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 221–225. (Summary) **99k:05090** 05C35 (05C70)
Fricke, Jan Quadratzerlegung eines Rechtecks. (German summary) [Partitioning a rectangle into squares] *Math. Semesterber.* **42** (1995), *no.* 1, 53–62. (S. Stein) **99b:05030** 05B45 (52C20)
— (*with* Eichhorn, Jürgen) The module structure theorem for Sobolev spaces on open manifolds. (English summary) *Math. Nachr.* **194** (1998), 35–47. (Nikolai K. Smolentsev) **99j:58032** 58D15 (46E35)
Jeltsch-Fricker, R. *see* **Jeltsch-Fricker, R.**
Frid, Anna E. The subword complexity of fixed points of binary uniform morphisms. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 179–187, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99a:68108** 68Q45 (68R15)
— On uniform D0L words. (English summary) *STACS* 98 (*Paris*, 1998), 544–554, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68119** 68Q45 (68R15)
— The frequency of the occurrence of words in a D0L sequence. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **5** (1998), *no.* 1, 82–87, 105. (Nikolai Volodin) **99k:68150** 68R15 (05A99, 68Q45)
— On the frequency of factors in a D0L word. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 29–41. (Summary) **99h:68103** 68Q45 (68R15)
Frid, Hermano (*with* Liu, I-Shih) Oscillation waves in Riemann problems for phase transitions. *Quart. Appl. Math.* **56** (1998), *no.* 1, 115–135. (Pavel Krejčí) **99d:35098** 35L65 (65M12, 73B30, 80A22)
— (*with* Chen, Gui-Qiang) Large-time behavior of entropy solutions of conservation laws. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 308–357. (Yu. G. Rykov) **99m:35150** 35L65 (35B35)
Fridli, Sándor Integrability and L^1-convergence of trigonometric and Walsh series. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 149–172. (Naza Tanović-Miller) **99d:42004** 42A16 (42A32, 42B05, 42C10, 43A70)
— (*with* Schipp, Ferenc) Strong summability, approximation and L_1-convergence. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 77–90, *New Age, New Delhi*, 1997. (Summary) **99d:42047** 42C10
— On the L_1-convergence of Fourier series. (English summary) *Studia Math.* **125** (1997), *no.* 2, 161–174. (C. Carton-Lebrun) **99h:42007** 42A20 (42A24)
— (*with* Schipp, Ferenc) Strong approximation via Sidon type inequalities. (English summary) *J. Approx. Theory* **94** (1998), *no.* 2, 263–284. (Francesco Altomare) **99e:41011** 41A17 (42A24)
— (*with* Simon, Péter) Ferenc Schipp is sixty. *Math. Pannon.* **10** (1999), *no.* 1, 3–4. 01A70
— On the integrability of Walsh-Fourier transform. (English summary) *Math. Pannon.* **10** (1999), *no.* 1, 93–102. (S. M. Mazhar) **99m:42010** 42A38 (42C10)
Fridman, A. A. (*with* Kennedy, Lawrence A.; Saveliev, A. V.) Superadiabatic combustion in porous media: wave propagation, instabilities, new type of chemical reactor. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 2, 1–26. 80A25 (76S05, 80A32)
Fridman, Emilia (*with* Shaked, Uri) H_∞-state-feedback control of linear systems with small state delay. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 141–150. (Ian Petersen) **99e:93026** 93B36 (93C30)
Fridman, Leonid Separation of motions in multirate discontinuous control systems with delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 240–254; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1263–1275. (Arkadii V. Kim) **99k:34142** 34H05 (34C05, 34E15, 93C30)
Fridy, John A. (*with* Khan, Mohammad K.) Tauberian theorems via statistical convergence. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 73–95. (E. Omey) **99m:40007** 40E05 (40G05, 60F05)
Fried, E. *see* **Fried, Ervin**
Fried, Eliot (*with* Grach, German) An order-parameter-based theory as a regularization of a sharp-interface theory for solid-solid phase transitions. *Arch. Rational Mech. Anal.* **138** (1997), *no.* 4, 355–404. (Matthias Wilhelm Winter) **99i:73009** 73B30 (35Q72, 73B40, 80A22)
— Correspondence between a phase-field theory and a sharp-interface theory for crystal growth. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 1, 33–60. (Domingo A. Tarzia) **99a:73020** 73B30 (35R35, 80A22, 82D25)
— (*with* Cermelli, Paolo) The influence of inertia on the configurational forces in a deformable solid. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1964, 1915–1927. (Gérard A. Maugin) **99a:73002** 73A05 (73B30)
Fried, Ervin (*with* Sichler, J.) On endomorphisms and automorphisms of monounary algebras. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 13–36. (Keith A. Kearnes) **99h:08008** 08A60 (08A35, 08C05)
— Cover-preserving embeddings of distributive lattices. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 145–161. (Ivo Düntsch) **99g:06009** 06B10 (06D05)
Fried, H. M. (*with* McKellar, Bruce H. J.; Gabellini, Y.) A functional approach to chaos in quantum field theory. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 192–195, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81T15
Fried, Katalin A note on a multiplicative problem. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 187–190 (1998). (Georges Grekos) **99e:11014** 11B34
Fried, Michael D. (*with* Kopeliovich, Yaacov) Applying modular towers to the inverse Galois problem. (English summary) *Geometric Galois actions*, 2, 151–175, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Akito Nomura) **99k:12008** 12F12 (11R58)
— (*with* Jarden, Moshe) On Σ-Hilbertian fields. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 307–313. (Peter Müller) **99k:12004** 12E25 (14G05, 20E18)
Friedel, H. (*with* Laedke, E. W.; Spatschek, K. H.) Dynamics of surface waves in the Faraday experiment. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 223–229, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76B25, 76E99)
Friedelmeyer, Jean-Pierre Augustus Leopold Crelle, 1780–1855. *Mathematics in Berlin*, 27–32, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70 (01A55)
Friedgut, Ehud Boolean functions with low average sensitivity depend on few coordinates. (English summary) *Combinatorica* **18** (1998), *no.* 1, 27–35. (Summary) **99g:28021** 28A99 (05A16, 05C80, 28A60)
— (*with* Kahn, Jeff) On the number of copies of one hypergraph in another. (English summary) *Israel J. Math.* **105** (1998), 251–256. (Nigel Martin) **99e:05092** 05C65
Friedl, Katalin (*with* Demetrovics, János; Rónyai, Lajos) Periodical scheduling. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 337–342. (Summary) **99b:90048** 90B12 (90B35)
Friedland, Lazar Autoresonant solutions of the nonlinear Schrödinger equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3865–3875. (Summary) **99e:35209** 35Q55
Friedland, Lew Spectral geometry and almost Hermitian manifolds. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 627–633. (Domenico Perrone) **99f:58212** 58G25 (53C15)
Friedland, Shmuel Properly discontinuous groups acting on certain matrix homogeneous spaces. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 151–167. (From the text) **99b:22020** 22E40
— (*with* Ochs, Gunter) Hausdorff dimension, strong hyperbolicity and complex dynamics. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 405–430. (Run Sheng Yang) **99g:58091** 58F15 (28A78, 58F11, 58F12, 58F23)
— Computing the Hausdorff dimension of subshifts using matrices. (English summary) *Linear Algebra Appl.* **273** (1998), 133–167. (Run Sheng Yang) **99c:28017** 28A78 (58F03)
— (*with* Loewy, Raphael) Spaces of symmetric matrices containing a nonzero matrix of bounded rank. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 161–170. (R. Piziak) **99j:15024** 15A30
Friedlander, Ana (*with* Dostál, Zdeněk; Santos, Sandra Augusta) Solution of coercive and semicoercive contact problems by FETI domain decomposition. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 82–93, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65163** 65N30 (90C20)
Friedlander, Benjamin (*with* Golden, Stuart) A modification of the discrete polynomial transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1452–1455. (N. C. Mohanty) **99m:94002** 94A11 (94A12)
— (*with* Francos, Joseph M.) Parameter estimation of two-dimensional moving average random fields. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2157–2165. (Summary) **99i:60105** 60G60
— (*with* Francos, Joseph M.) Two-dimensional polynomial phase signals: parameter estimation and bounds. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 2, 173–205. (Summary) **99d:94006** 94A12
Friedlander, Eric M. Motivic complexes of Suslin and Voevodsky. (English summary) Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 833, 5, 355–378. (Claudio Pedrini) **99g:14025** 14F99 (14C35, 19E08, 19E20, 19F27)
— Geometry of infinitesimal group schemes. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 55–65 (*electronic*). (Daniel K. Nakano) **99i:14052** 14L15 (17B50)
— (*with* Lawson, H. Blaine, Jr.) Moving algebraic cycles of bounded degree. *Invent. Math.* **132** (1998), *no.* 1, 91–119. (Claudio Pedrini) **99k:14011** 14C25 (14C15)
Friedlander, John B. (*with* Duke, William; Iwaniec, Henryk) Representations by the determinant and mean values of L-functions. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 109–115, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Matti Jutila) **99f:11105** 11M06 (11L40)
— Topics in analytic number theory. *Number theory and its applications* (*Ankara*, 1996), 47–64, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (G. Greaves) **99j:11105** 11N36 (11L05)
Friedlander, Susan J. (*with* Strauss, Walter A.; Vishik, M. M.) Nonlinear instability in an ideal fluid. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 2, 187–209. (Arjen Doelman) **99a:76057** 76E30 (35Q35, 76C99)
— (*with* Lyashenko, Andrei A.) A sufficient condition for instability in the limit of vanishing dissipation. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 544–558. (Alexander Lifschitz) **99g:76065** 76E99 (34G20, 35B35, 35Q35)
— (*with* Vishik, M. M.) Asymptotic methods for magnetohydrodynamic instability. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 377–398. (Benoît P. Desjardins) **99f:76059** 76E25 (35Q35, 76W05)

— (*with* Lyashenko, Andrei A.) Nonlinear instability of a precessing body with a cavity filled by an ideal fluid. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 600–618 (*electronic*). (Alexander Lifschitz) **99f:76060** 76E30 (35Q72, 70E99, 76U05)

— (*with* Howard, Louis) Instability in parallel flows revisited. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 1, 1–21. (Alexander Lifschitz) **99f:76050** 76E05

Friedler, F. (*with* Fülöp, J.; Imreh, Balázs) On the formulation of some classes of PNS-problems as set covering problems. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 329–337. (Xue Liang Li) **99f:68095** 68Q25 (90C27, 90C35)

Friedman, Avner ★ Mathematics in industrial problems. Part 8. (English summary) The IMA Volumes in Mathematics and its Applications, 83. *Springer-Verlag, New York*, 1997. x+184 *pp. ISBN* 0-387-94865-1 (John Adam) **99c:00008a** 00A71 (00A69, 73–02, 76–02)

— ★ Mathematics in industrial problems. Part 9. (English summary) The IMA Volumes in Mathematics and its Applications, 88. *Springer-Verlag, New York*, 1997. x+210 *pp. ISBN* 0-387-94945-3 (John Adam) **99c:00008b** 00A71 (00A69, 73–02, 76–02, 93A30)

— (*with* Hu, Bei) Head-media interaction in magnetic recording. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 1, 79–101. (Sergey Nikolaevich Alekseenko) **99c:76041** 76D99 (35Q35, 78A99)

— (*with* Huang, Chaocheng) Averaged motion of charged particles in a curved strip. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1557–1587. (George Rowlands) **99d:78022** 78A35 (35B60, 35Q60)

— ★ Mathematics in industrial problems. Part 10. (English summary) The IMA Volumes in Mathematics and its Applications, 100. *Springer-Verlag, New York*, 1998. x+183 *pp. ISBN* 0-387-98518-2 (John Adam) **99g:00028** 00A69 (00A71, 76–02, 78–02, 93A30)

— (*with* Reitich, Fernando) Asymptotic behavior of solutions of coagulation-fragmentation models. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 563–591. (Summary) **99i:45018** 45K05 (45G10, 82C99)

tønnesen-Friedman, Christina Wiis *see* **Tønnesen-Friedman, Christina Wiis**

Friedman, David (*with* Edelman, Alan) A counterexample to a Hadamard matrix pivot conjecture. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 53–56. (Summary) **99c:05039** 05B20

Friedman, Erich Packing unit squares in squares: a survey and new results. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Dynamic Survey* 7, 24 *pp.* (*electronic*). (Gerard J. Chang) **99k:52029** 52C15 (05B40)

— Heesch tiles with surround numbers 3 and 4. *Geombinatorics* **8** (1999), *no.* 4, 101–103. 52C20

Friedman, J. *see* **Friedman, Joel**

Friedman, James W. (*with* Mezzetti, Claudio) Games with partially enforceable agreements. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 2, 176–200. (Summary) **99b:90171** 90D12

Friedman, Joel Computing Betti numbers via combinatorial Laplacians. (English summary) *Algorithmica* **21** (1998), *no.* 4, 331–346. (Summary) **99c:52022** 52B55 (52B05, 58G99)

— Error bounds on the power method for determining the largest eigenvalue of a symmetric, positive definite matrix. (English summary) *Linear Algebra Appl.* **280** (1998), *no.* 2-3, 199–216. (Alan L. Andrew) **99f:65058** 65F15 (15A18)

— (*with* Joux, Antoine; Roichman, Yuval; Stern, Jacques; Tillich, Jean-Pierre) The action of a few permutations on r-tuples is quickly transitive. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 335–350. (Martin Klazar) **99e:05106** 05C80 (05A05, 94A60)

— *see also* **Emerging applications of number theory, 99m:11003**

Friedman, John L. Topological censorship and chronology protection. (English summary) *Gravitation and cosmology* (*Pune*, 1995), 157–167, *Astrophys. Space Sci. Lib.*, 211, *Kluwer Acad. Publ., Dordrecht*, 1997. (Seth A. Major) **99d:83075** 83C75

— Relativistic astrophysics. (English summary) *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 479–489, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83C55 (83C35, 83C57)

— (*with* Louko, Jorma; Winters-Hilt, Stephen N.) Reduced phase space formalism for spherically symmetric geometry with a massive dust shell. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7674–7691. (Gil De Oliveira-Neto) **99a:83032** 83C45 (83C47, 83E05)

— Rotating relativistic stars. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 23–39, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C55

— Lorentzian universes from nothing. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2639–2644. (Viqar Husain) **99i:83036** 83C45

— (*with* Louko, Jorma; Whiting, Bernard F.) Hamiltonian spacetime dynamics with a spherical null-dust shell. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2279–2298. (Summary) **99a:83009** 83C05 (83C55)

Friedman, M. J. (*with* Doedel, Eusebius; Kunin, B. I.) Successive continuation for locating connecting orbits. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 103–124. (Alan R. Champneys) **99c:34089** 34C37 (34A45, 34B15, 58F14, 65J15)

Friedman, Menahem (*with* Ma, Ming; Kandel, Abraham) Numerical solutions of fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 133–138. 65L06

— (*with* Ma, Ming; Kandel, Abraham) Solutions to fuzzy integral equations with arbitrary kernels. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 3, 249–262. 65R20 (45A05)

Friedman, Nir (*with* Halpern, Joseph Y.) Plausibility measures: a user's guide. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 175–184, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68186** 68T30 (68T27)

— (*with* Boutilier, Craig; Goldszmidt, Moisés; Koller, Daphne) Context-specific independence in Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 115–123, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

— (*with* Halpern, Joseph Y.) A qualitative Markov assumption and its implications for belief change. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 263–273, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68187** 68T30 (03B60, 68T27)

— (*with* Yakhini, Zohar) On the sample complexity of learning Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 274–282, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68156** 68T05 (68T30)

— (*with* Boutilier, Craig; Halpern, Joseph Y.) Belief revision with unreliable observations. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 127–134, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 03B70 (68T27)

— (*with* Koller, Daphne; Pfeffer, Avi) Structured representation of complex stochastic systems. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 157–164, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30

— (*with* Dearden, Richard; Russell, Stuart) Bayesian Q-learning. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 761–768, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T05 (62F15)

Friedman, Paul D. The Langlands parameters of subquotients of certain derived functor modules. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 210–241. (William M. McGovern) **99e:22029** 22E46 (22E47)

Friedman, Robert David Donaldson and Seiberg-Witten invariants of algebraic surfaces. *Algebraic geometry—Santa Cruz* 1995, 85–100, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Zhenbo Qin) **99b:14032** 14J10 (32J27, 57N13, 57R55, 57R57)

— (*with* Morgan, John W.; Witten, Edward) Vector bundles and F theory. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 679–743. (I. Dolgachev) **99g:14052** 14J60 (14B07, 14D20, 14H52, 14J27, 14J32, 32J81, 81T30)

— (*with* Morgan, John W.) Algebraic surfaces and Seiberg-Witten invariants. *J. Algebraic Geom.* **6** (1997), *no.* 3, 445–479. (Yildiray Ozan) **99b:32045** 32J27 (14J26, 14J29, 57R57, 58D27)

— ★ Algebraic surfaces and holomorphic vector bundles. (English summary) Universitext. *Springer-Verlag, New York*, 1998. x+328 *pp. ISBN* 0-387-98361-9 (I. Dolgachev) **99c:14056** 14J60 (14–01, 14J15, 32J15, 57R55)

— (*with* Morgan, John W.; Witten, Edward) Principal G-bundles over elliptic curves. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 97–118. (Arnaud Beauville) **99j:14037** 14H60 (14D20, 14H52)

Friedman, Roy (*with* Attiya, Hagit) A correctness condition for high-performance multiprocessors. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1637–1670 (*electronic*). (Summary) **99b:68009** 68M07

Friedman, Sy D. (*with* Veličković, Boban) Δ_1-definability. (English summary) Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 93–99. (Jakub Jasiński) **99g:03049** 03E05 (03E35, 03E45, 03E55)

— (*with* Koepke, Peter) An elementary approach to the fine structure of L. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 4, 453–468. (Ralf-Dieter Schindler) **99i:03062** 03E45

— Generic saturation. *J. Symbolic Logic* **63** (1998), *no.* 1, 158–162. (Peter Vojtáš) **99i:03061** 03E40 (03E45, 03E55)

Friedrich, Harald (*with* Trost, Johannes) Accurate WKB wave functions for weakly attractive inverse-square potentials. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1683–1686. (Summary) **99m:81058** 81Q20

— *see also* **Classical, semiclassical and quantum dynamics in atoms, 99a:81002**

Friedrich, Helmut Einstein's equation and conformal structure. (English summary) *The geometric universe* (*Oxford*, 1996), 81–98, *Oxford Univ. Press, Oxford*, 1998. (János Kánnár) **99g:83011** 83C05 (58G16, 83C30)

— Evolution equations for gravitating ideal fluid bodies in general relativity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2317–2322. (Norbert Noutchegueme) **99c:83004** 83C05 (83C55)

Friedrich, J. A dual reciprocity boundary element model for the degradation of strongly eroded archaeological signs. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 281–293. 65Y25 (65N30)

Friedrich, Jochen (*with* Fischer, B.; Kupfer, C.; Müller, Georg; Vizman, D.) Experimental and numerical analysis of the influence of a rotating magnetic field on convection in Rayleigh-Bénard configurations. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 279–294, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76–05, 76E15, 76E25)

Friedrich, Oliver Weighted essentially non-oscillatory schemes for the interpolation of mean values on unstructured grids. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 194–212. (Summary) **99e:76087** 76M25

Friedrich, R. (*with* Ottmann, Thomas; Schuierer, Sven) Two-dimensional string matching for non-rectangular patterns. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 247–262 (*electronic*). (*see* **99f:68006**) 68Q20

Friedrich, Rudolf (*with* Bestehorn, Michael) Natural patterns in nonequilibrium systems. (English summary) *A perspective look at nonlinear media*, 31–44, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99f:82039** 82C05 (76Exx, 76F99, 92C15)

— (*with* Galla, Th.; Naert, A.; Peinke, J.; Schimmel, Th.) Disordered structures analyzed by the theory of Markov processes. (English summary) *A perspective look at nonlinear media*, 313–326, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99g:76069** 76F20 (28A80, 60J20, 73B99, 76M35)

— (*with* Siegert, S.; Peinke, J.) Analysis of data sets of stochastic systems. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 275–280. (Summary) **99b:82077** 82C31

— (*with* Bestehorn, Michael) Rotationally invariant order parameter equations for natural patterns in nonequilibrium systems. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 2642–2652. (Summary) **99k:82071** 82C99 (76E30)

Friedrich, Thomas On the spinor representation of surfaces in Euclidean 3-space. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 143–157. (Hans-Bert Rademacher) **99i:53057** 53C40 (58G30)

— (*with* Schellhaas, Helmut) Computation of the percentage points and the power for the two-sided Kolmogorov-Smirnov one sample test. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 361–375. (Summary) **99e:62078** 62G10

Friel, Nial (*with* Molchanov, Ilya S.) Distances between grey-scale images. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 283–290, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (60B99)

Frieler, K. (*with* Rehren, Karl-Henning) A non-abelian square root of abelian vertex operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3073–3090. (Jens Böckenhauer) **99f:81120** 81T05 (46F10, 81R10)

Fries, Christian Nonlinear asymptotic stability of general small-amplitude viscous Laxian shock waves. *J. Differential Equations* **146** (1998), *no.* 1, 185–202. (Roberto Natalini) **99h:35132** 35L67

Fries, J. F. *see* **Bonsiepen, Wolfgang, 99e:00008**

Friesecke, G. (*with* McLeod, J. Bryce) Dynamic stability of non-minimizing phase mixtures. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2427–2436. (Nenad Antonić) **99d:73009** 73B30 (35Q99)

Frieze, Alan M. (*with* Chen, Hui[4]) Analysis of parallel algorithms for finding a maximal independent set in a random hypergraph. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 4, 359–377. (Lyuben R. Mutafchiev) **99a:05130** 05C80 (05C65)

— (*with* McDiarmid, Colin) Algorithmic theory of random graphs. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 5–42. (Mark R. Jerrum) **99c:05177** 05C80 (05C85, 68Q25, 68R10)

— (*with* Broder, Andrei Z.; Upfal, Eli) Dynamic packet routing on arrays with bounded buffers. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 273–281, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99g:68012** 68M10

— (*with* Szpankowski, Wojciech) Greedy algorithms for the shortest common superstring that are asymptotically optimal. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 21–36. (Editors) **99c:68122** 68Q25 (68P05, 90D20)

— (*with* Blum, Avrim L.; Kannan, Ravindran; Vempala, Santosh) A polynomial-time algorithm for learning noisy linear threshold functions. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 35–52. (Peter Auer) **99m:68158** 68T05 (68Q99)

— (*with* Dyer, Martin E.; Jerrum, Mark) Approximately counting Hamilton paths and cycles in dense graphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1262–1272 (*electronic*). (Peter Kirschenhofer) **99e:68067** 68Q25 (05C30, 05C45, 68R10)

— (*with* Broder, Andrei Z.; Upfal, Eli) Static and dynamic path selection on expander graphs: a random walk approach. (English summary) *Random Structures Algorithms* **14** (1999), *no.* 1, 87–109. (Tatiana Smirnova-Nagnibeda) **99m:05144** 05C80 (60J15)

— (*with* Broder, Andrei Z.; Suen, W.-C. Stephen; Upfal, Eli) Optimal construction of edge-disjoint paths in random graphs. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 542–574 (*electronic*). (Zbigniew Palka) **99f:05068** 05C38 (05C85, 68R10, 90B10)

Frigioni, Daniele (*with* Ausiello, Giorgio; Franciosa, Paolo Giulio; Giaccio, Roberto) Decremental maintenance of reachability in hypergraphs and minimum models of Horn formulae. (English summary) *Algorithms and computation* (*Singapore*, 1997), 122–131, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05107** 05C85 (05C65, 68R10)

— (*with* Marchetti-Spaccamela, Alberto; Nanni, Umberto) Fully dynamic shortest paths and negative cycles detection on digraphs with arbitrary arc weights. (English summary) *Algorithms—ESA '98* (*Venice*), 320–331, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85)

— (*with* Miller, Tobias; Nanni, Umberto; Pasqualone, Giulio; Schaefer, Guido; Zaroliagis, Christos D.) An experimental study of dynamic algorithms for directed graphs. *Algorithms—ESA '98* (*Venice*), 368–380, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q25 (68R10)

— (*with* Marchetti-Spaccamela, Alberto; Nanni, Umberto) Semidynamic algorithms for maintaining single-source shortest path trees. (English summary) *Algorithmica* **22** (1998), *no.* 3, 250–274. (Václav Koubek) **99g:05163** 05C85 (68P05, 68Q25, 68R10)

— (*with* Cicerone, Serafino; Nanni, Umberto; Pugliese, Francesco) A uniform approach to semi-dynamic problems on digraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 69–90. (Summary) **99g:68151** 68R10 (05C20, 05C85, 68P05)

Friis-Jensen, Britt (*with* Cooper, David L.; Rettrup, Sten) Normalization of projected spin eigenfunctions. (English summary) *J. Math. Chem.* **22** (1997), *no.* 2-4, 249–254 (1998). (A. J. Coleman) **99j:81209** 81V55 (20C15, 81R05, 81V45)

Frik, P. G. (*with* Grossmann, Alex; Tchamitchian, Philippe) Wavelet analysis of signals with gaps. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4091–4107. (Summary) **99d:94007** 94A12 (42C15)

Fring, Andreas Braid relations in affine Toda field theory. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 7, 1337–1352. (From the text) **99c:81131** 81T10 (81R50)

— (*with* Kostrykin, V.; Schrader, Robert) Ionization probabilities through ultra-intense fields in the extreme limit. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8599–8610. (Radosław Szmytkowski) **99b:81281** 81V45 (81V80)

— (*with* Bytsko, Andrei G.) Anyonic interpretation of Virasoro characters and the thermodynamic Bethe ansatz. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 3, 573–591. (Rinat Kedem) **99g:81068** 81R10 (17B68, 82B20)

— (*with* Bytsko, Andrei G.) Thermodynamic Bethe ansatz with Haldane statistics. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 3, 588–608. (Summary) **99f:82004** 82B05 (81V70)

— (*with* Babujian, H. M.; Karowski, Michael; Zapletal, A.) Exact form factors in integrable quantum field theories: the sine-Gordon model. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 535–586. (Summary) **99j:81105** 81T10

Frioui, Assia (*with* Vasil′ev, R. K.) Construction des opérateurs linéaires polynomiaux de classe S_2. (English and French summaries) [Construction of linear polynomial operators of class S_2] Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 427–444. (Allan Pinkus) **99g:41032** 41A35 (41A25)

Fripertinger, Harald Enumeration of linear codes by applying methods from algebraic combinatorics. (English summary) *IX. Mathematikertreffen Zagreb-Graz* (*Motovun*, 1995), 31–42, *Grazer Math. Ber.*, 328, *Karl-Franzens-Univ. Graz, Graz*, 1996. (Wolfgang Willems) **99c:94041** 94B05 (05A15)

— Enumeration, construction and random generation of block codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 213–219. (Summary) **99h:94073** 94B60

Frisch, Alan M. (*with* Anthony, Simon) Cautious induction in inductive logic programming. (English summary) *Inductive logic programming* (*Prague*, 1997), 45–60, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

Frisch, Sophie Interpolation by integer-valued polynomials. (English summary) *J. Algebra* **211** (1999), *no.* 2, 562–577. (Lahoucine Izelgue) **99m:13016** 13B25

Frisch, Uriel *see* **Advances in turbulence**

Frischmuth, Kurt (*with* Hänler, M.) On the inverse problem for the Ekman equation. (English summary) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 541–544. (Summary) **99a:35268** 35R30 (35J25, 35Q35, 76B10)

— (*with* Ford, Neville J.; Edwards, John T.) Volterra integral equations with non-Lipschitz nonlinearity. (English summary) *Rostock. Math. Kolloq. No.* 51 (1997), 65–82. (Neide Bertoldi Franco) **99c:65246** 65R20 (45D05)

— (*with* Arnold, Martin) Solving problems with unilateral constraints by DAE methods. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 1, 47–67. (Summary) **99c:70021** 70F25 (34A09, 65L99, 70E15)

Frishman, Yitzhak (*with* Hanany, Amihay; Karliner, Marek) On the stability of quark solitons in QCD. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 265–273, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05

— (*with* Armoni, Adi; Sonnenschein, Jacob; Trittmann, U.) The spectrum of multi-flavor QCD_2 and the non-abelian Schwinger equation. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 503–515. (Summary) **99h:81224** 81V05 (81T13)

— (*with* Armoni, Adi; Sonnenschein, Jacob) Screening in supersymmetric gauge theories in two dimensions. (English summary) *Phys. Lett. B* **449** (1999), *no.* 1-2, 76–80. (Summary) **99k:81290** 81T60 (81T30, 81T40)

Frisius, Thomas A mechanism for the barotropic equilibration of baroclinic waves. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 18, 2918–2936. (Summary) **99d:76038** 76E20 (76C99, 76U05, 86A10)

Fristrup, Peter (*with* Keiding, Hans) Minimal manipulability and interjacency for two-person social choice functions. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 455–467. (Fouad T. Aleskerov) **99e:90008** 90A08

Friswell, M. I. (*with* Garvey, S. D.; Penny, J. E. T.) Some further insight into self-adjoint second-order systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 2, 237–252. (Summary) **99i:70024** 70J05

Fritsch, Gerda (*with* Fritsch, Rudolf) ★ The four-color theorem. (English summary) History, topological foundations, and idea of proof. Translated from the 1994 German original by Julie Peschke. *Springer-Verlag, New York*, 1998. *xvi*+260 *pp. ISBN* 0-387-98497-6 (E. Keith Lloyd) **99i:05079** 05C15 (01A55, 01A60, 05-03)

Fritsch, H. Suboptimality in a stochastic control problem. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 138–143, *Springer, Berlin*, 1998. (Negash G. Medhin) **99h:49041** 49K45 (93E20)

Fritsch, Rudolf Ein axiomatischer Zugang zu einigen Winkelsätzen der ebenen Geometrie. [An axiomatic approach to theorems on angles in plane geometry] *Schr. Sudet.dtsch. Akad. Wiss. Künste Forsch.beitr. Nat.wiss. Kl.* **16** (1995), *Sonderdr.*, 41–57. (Victor V. Pambuccian) **99e:51020** 51M05 (01A99)

— (*with* Fritsch, Gerda) ★ The four-color theorem. (English summary) History, topological foundations, and idea of proof. Translated from the 1994 German original by Julie Peschke. *Springer-Verlag, New York*, 1998. *xvi*+260 *pp. ISBN* 0-387-98497-6 (E. Keith Lloyd) **99i:05079** 05C15 (01A55, 01A60, 05-03)

— (*with* Golasiński, Marek) Simplicial and categorical diagrams, and their equivariant applications. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 4, 73–81 (*electronic*). (Stanisław Betley) **99d:55013** 55U10 (18G30, 55P15, 55P91, 55U35)

Frittelli, Simonetta (*with* Kozameh, Carlos N.; Newman, Ezra T.) Describing GR by characteristic surfaces. (English summary) *Quantum gravity* (*Erice*, 1995), 213–227, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Jörg Frauendiener) **99j:83009** 83C05

— (*with* Newman, Ezra T.; Kozameh, Carlos N.) An unorthodox view of GR via characteristic surfaces. *The geometric universe* (*Oxford*, 1996), 317–323, *Oxford Univ. Press, Oxford*, 1998. (Jörg Frauendiener) **99j:83056** 83C99

— (*with* Newman, Ezra T.; Silva-Ortigoza, Gilberto) Conjugate points along null geodesics of asymptotically flat spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 689–703. (Jörg Frauendiener) **99d:83007** 83C10 (83C20)

— (*with* Kozameh, Carlos N.; Newman, Ezra T.) Erratum: "On the dynamics of characteristic surfaces" [J. Math. Phys. **36** (1995), no. 11, 6397–6416; MR 96m:53072d]. *J. Math. Phys.* **40** (1999), *no.* 2, 1113. 53C50 (53C80, 83C60)

— (*with* Kozameh, Carlos N.; Newman, Ezra T.) Erratum: "Lorentzian metrics from characteristic surfaces" [J. Math. Phys. **36** (1995), no. 9, 4975–4983; MR 96m:53072a]. *J. Math. Phys.* **40** (1999), *no.* 2, 1114. 53C50 (53C80, 83C60)

— (*with* Kozameh, Carlos N.; Newman, Ezra T.) Erratum: "GR via characteristic surfaces" [J. Math. Phys. **36** (1995), no. 9, 4984–5004; MR 96m:53072b]. *J. Math. Phys.* **40** (1999), *no.* 2, 1115. 53C50 (53C80, 83C60)

— (*with* Kozameh, Carlos N.; Newman, Ezra T.) Erratum: "Linearized Einstein theory via null surfaces" [J. Math. Phys. **36** (1995), no. 9, 5005–5022; MR 96m:53072c]. *J. Math. Phys.* **40** (1999), *no.* 2, 1116. 53C50 (53C80, 83C60)

Fritts, David C. (*with* Garten, J. F.; Arendt, Steve; Werne, J.) Dynamics of counter-rotating vortex pairs in stratified and sheared environments. (English summary) *J. Fluid Mech.* **361** (1998), 189–236. (Summary) **99c:76017** 76C05 (76V05)

— (*with* Andreassen, Øyvind; Hvidsten, Per Øyvind; Arendt, Steve) Vorticity dynamics in a breaking internal gravity wave. I. Initial instability evolution. (English summary) *J. Fluid Mech.* **367** (1998), 27–46. (From the summary) **99d:76021a** 76C10 (76E99, 76V05)

— (*with* Arendt, Steve; Andreassen, Øyvind) Vorticity dynamics in a breaking internal gravity wave. II. Vortex interactions and transition to turbulence. (English summary) *J. Fluid Mech.* **367** (1998), 47–65. (From the summary) **99d:76021b** 76C10 (76E99, 76F99, 76V05)

Fritz, József (*with* Liverani, Carlangelo; Olla, Stefano) Reversibility in infinite Hamiltonian systems with conservative noise. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 481–496. (T. M. Liggett) **99c:60215** 60K35 (82C21)

— (*with* Rœlly, S.; Zessin, H.) Stationary states of interacting Brownian motions. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 151–164. (Hans-Otto Georgii) **99h:60164** 60K35 (60J25)

Fritzsche, Bernd (*with* Kirstein, Bernd; Krug, Vera) On several types of resolvent matrices of nondegenerate matricial Carathéodory problems. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 137–170. (Daniel Alpay) **99h:47023** 47A57 (30E05)

Frobenius, Georg Ferdinand *see* **Haubrich, Ralf**, (**99k:01080**)

Fröberg, Ralf ★ An introduction to Gröbner bases. (English summary) Pure and Applied Mathematics. *John Wiley & Sons, Ltd., Chichester*, 1997. x+177 *pp. ISBN* 0-471-97442-0 (Daniel Mall) **99d:13032** 13P10 (13C40)

Froeschlé, Claude (*with* Celletti, Alessandra; Penna, Gabriella Della) Analytical approximation of the solution of the dissipative standard map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 12, 2471–2479. 58F27

— *see also* **Analysis and modelling of discrete dynamical systems**, **99j:58002**

Froese, Richard (*with* Feldman, Joel S.; Ghoussoub, N.; Gui, Changfeng) An improved Moser-Aubin-Onofri inequality for axially symmetric functions on S^2. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 95–104. (Thierry Coulhon) **99c:58048** 58E35 (35J85, 53A05)

— Upper bounds for the resonance counting function of Schrödinger operators in odd dimensions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 538–546. (B. Hellwig) **99f:35150** 35P20 (35J10, 47F05)

Fröhler, Stefan (*with* Oberst, Ulrich) Continuous time-varying linear systems. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 97–110. (Summary) **99h:93006** 93A10 (34A09, 34H05)

Fröhlich, Albrecht Some remarks on wild extensions of number fields. *J. Reine Angew. Math.* **495** (1998), 29–33. (Nigel Byott) **99b:11124** 11R33

Fröhlich, J. *see* **Fröhlich, Jürg**

Fröhlich, Jochen (*with* Lang, Jens) Two-dimensional cascadic finite element computations of combustion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 255–267. (Summary) **99b:80001** 80–08 (80A25)

Fröhlich, Jürg (*with* Fefferman, Charles L.; Graf, Gian Michele) Stability of nonrelativistic quantum mechanical matter coupled to the (ultraviolet cutoff) radiation field. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **93** (1996), *no.* 26, 15009–15011 (*electronic*). (Summary) **99b:81278** 81V35 (81Q10)

— The geometrization principle. *Deformation theory and symplectic geometry* (*Ascona*, 1996), 67–68, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Kamran Kaviani) **99b:58026** 58B30 (46L87, 81T99)

— (*with* Grandjean, Olivier; Recknagel, Andreas) Supersymmetry and non-commutative geometry. *Quantum fields and quantum space time* (*Cargèse*, 1996), 93–121, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Yuri A. Kordyukov) **99d:58024** 58B30 (46L60, 46L87, 81T60)

— (*with* Borgs, C.; Chayes, J. T.) Dobrushin states in quantum lattice systems. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 591–619. (Roberto Fernández) **99h:82005** 82B10 (60K35, 82B24, 82B26)

— (*with* Borgs, C.; Chayes, J. T.) Dobrushin states for classical spin systems with complex interactions. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 5-6, 895–928. (Daniel Ueltschi) **99a:82005** 82B05 (82B20, 82B24, 82B26)

— (*with* Grandjean, Olivier; Recknagel, Andreas) Supersymmetric quantum theory, non-commutative geometry, and gravitation. *Symétries quantiques* (*Les Houches*, 1995), 221–385, *North-Holland, Amsterdam*, 1998. (Alan L. Carey) **99k:58015a** 58B30 (53C55, 58G30, 81Q60, 83C99)

— (*with* Bach, Volker; Sigal, Israel Michael) Renormalization group analysis of spectral problems in quantum field theory. (English summary) *Adv. Math.* **137** (1998), *no.* 2, 205–298. (H. Hogreve) **99e:81051a** 81Q15 (47N50, 81Q10, 81T17)

— (*with* Bach, Volker; Sigal, Israel Michael) Quantum electrodynamics of confined nonrelativistic particles. (English summary) *Adv. Math.* **137** (1998), *no.* 2, 299–395. (H. Hogreve) **99e:81051b** 81Q15 (47N50, 81Q10, 81V10)

— (*with* Alekseev, Anton Yu.; Faddeev, Lyudvig Dmitrievich; Schomerus, Volker) Representation theory of lattice current algebras. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 31–60. (Stephen J. Summers) **99b:81072** 81R10 (18D10, 81R50, 81T40)

— (*with* Hoppe, Jens) On zero-mass ground states in super-membrane Matrix models. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 613–626. (Jihad Mourad) **99g:81162** 81T30

— (*with* Grandjean, Olivier; Recknagel, Andreas) Supersymmetric quantum theory and differential geometry. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 527–594. (Alan L. Carey) **99k:58015b** 58B30 (53C55, 58G30, 81Q60, 83C99)

Frohman, Charles (*with* Bullock, Doug; Kania-Bartoszyńska, Joanna) Skein homology. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 140–144. (Daniel Ruberman) **99g:57006** 57M25 (55N35)

— (*with* Bullock, Doug; Kania-Bartoszyńska, Joanna) Skein quantization and lattice gauge field theory. Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 811–824. (S. V. Duzhin) **99f:57006** 57M25 (81T25)

Froidure, Véronique (*with* Pin, Jean-Éric) Algorithms for computing finite semigroups. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 112–126, *Springer, Berlin*, 1997. (Jorge Almeida) **99k:20111** 20M10

abraham-Frois, Gilbert *see* **Abraham-Frois, Gilbert**

Fröjdh, P. (*with* Johannesson, H.) Interacting electrons and localized spins: exact results from conformal field theory. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 265–271, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 82D20 (81T40)

Frölicher, Alfred (*with* Faure, Claude-Alain) Categorical aspects in projective geometry. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 87–103. (Summary) **99k:18008** 18B99 (51A10)

Frolkovič, P. Maximum principle and local mass balance for numerical solutions of transport equation coupled with variable density flow. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 137–157. (N. L. Vulchanov) **99j:76124** 76S05 (65M99, 65N99, 76M25)

Frolov, Andrei N. On one-sided strong laws for large increments of sums. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 155–165. (J. Steinebach) **99d:60042** 60F15 (60F10)

— (*with* Martikaïnen, A. I.; Steinebach, Josef) On the maximal gain over head runs. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 165–181. (Anant P. Godbole) **99i:60068** 60F15

— (*with* Martikaïnen, A. I.) On the length of the longest increasing run in $\mathbf{R}^d$. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 153–161. (Endre Csáki) **99m:60052** 60F15 (60F05)

Frolov, Andrei V. Self-similar collapse of a scalar field in higher dimensions. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 407–417. (Summary) **99i:83084** 83E15

Frolov, B. N. (*with* Baburova, O. V.; Vshivtsev, A. S.; Myasnikov, V. P.) A model of an ideal fluid with spin and a nonabelian color charge. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 183–186; *translation in Phys. Dokl.* **42** (1997), *no.* 11, 611–614. (M. I. Monastyrskiĭ) **99f:81128** 81T13 (76Y05)

— (*with* Baburova, O. V.) Perfect hypermomentum fluid: variational theory and equations of motion. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 31, 5391–5407. (Summary) **99k:85002** 85A30 (76Y05)

— (*with* Sunchalin, A. M.) BRST-transformations in the quadratic theory of gravitation in spaces with torsion. (Russian) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 126–128. 83D05 (81T70)

— (*with* Baburova, O. V.) Perfect fluid and test particle with spin and dilatonic charge in a Weyl-Cartan space. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 7–13. 83D05 (83C55)

Frolov, G. A. (*with* Kitaev, Mikhail Yu.) Improvement of accuracy in numerical methods for inverting Laplace transforms based on the Post-Widder formula. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 23–34. (Fritz Keinert) **99f:65198** 65R10

— (*with* Kitaev, Mikhail Yu.) A problem of numerical inversion of implicitly defined Laplace transforms. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 35–44. (Summary) **99d:65362** 65R10 (65R30)

Frolov, N. N. (*with* Klevchikhin, Yu. A.) Multipliers of Hermite expansions in the spaces L^p. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 86–95, 199. (V. D. Koshmanenko) **99j:47024** 47A70 (46E30)

— A boundary value problem for the Burgers system. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 921–932; *translation in Math. Notes* **62** (1997), *no.* 5-6, 771–780 (1998). (Summary) **99d:35139** 35Q53 (76D99)

Frolov, S. A. *see* **Frolov, Sergeĭ Anatol'evich**

Frolov, S. I. Continuous products and random walks. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 884–893. (Introduction) **99g:60120** 60J15

Frolov, Sergeĭ Anatol'evich (*with* Slavnov, A. A.; Sochichiu, Corneliu) $SO(N)$-invariant Wess-Zumino action and its quantization. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 270–291; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1407–1425 (1996). (George K. Savvidy) **99g:81133** 81T13 (81T10, 81T16)

— (*with* Arutyunov, G. È.; Medvedev, P. B.) Elliptic Ruijsenaars-Schneider model from the cotangent bundle over the two-dimensional current group. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5682–5689. (V. A. Golubeva) **99h:81234** 81V70 (81R10)

— (*with* Arutyunov, G. È.; Chekhov, L. O.) R-matrix quantization of the elliptic Ruijsenaars-Schneider model. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 405–432. (Benjamin David Enriquez) **99h:81080** 81R50 (81V70)

— (*with* Arutyunov, G. È.) On the Hamiltonian structure of the spin Ruijsenaars-Schneider model. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4203–4216. (Kazuhiro Hikami) **99i:81271** 81V70 (58F07, 81R10)

— (*with* Arutyunov, G. È.) Antisymmetric tensor field on AdS_5. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 173–177. (Frans R. Klinkhamer) **99m:81238** 81T60 (81T30, 83E30)

Frolov, Valery P. Quantum gravity and black hole entropy. *Quantum gravity* (*Erice*, 1995), 119–134, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Marco Cavaglià) **99i:83057** 83C57 (83C45)

— Quantum fields in curved spacetime. *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 521–535, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 81T20 (83C47)

— (*with* Novikov, Igor D.) ★ Black hole physics. (English summary) Basic concepts and new developments. Chapter 4 and Section 9.9 written jointly with N. Andersson. Fundamental Theories of Physics, 96. *Kluwer Academic Publishers Group, Dordrecht*, 1998. *xxii*+770 *pp. ISBN* 0-7923-5145-2 (Asghar Qadir) **99m:83110** 83C57 (83–01)

— (*with* Fursaev, D. V.) Black hole entropy in induced gravity: reduction to 2D quantum field theory on the horizon. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124009, 9 *pp.* (Summary) **99m:83111** 83C57 (81T20)

Frolov, Yu. N. Expansion of entire functions in Lagrange series. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 119–124; *translation in Math. Notes* **61** (1997), *no.* 1-2, 100–104. (Pet'r Rusev) **99e:30019** 30D10 (41A58, 46E15)

Frolova, A. A. (*with* Cheremisin, F. G.) The flow of a rarefied gas around cylindrical bodies. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2096–2102; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 2012–2018. (Summary) **99i:76096** 76M20 (76J20, 76P05)

Frolova, Elena Veniaminovna (*with* Solonnikov, Vsevolod A.) L_p-theory for the Stefan problem. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 299–323, 343. (Galina I. Bizhanova) **99f:35232** 35R35 (35D05, 35K05, 80A22)

Fröman, Nanny (*with* Fröman, Per Olof) JWKB connection-formula problem revisited again via Borel summation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4417–4429. (Guillermo Palma) **99i:81042** 81Q20

Fröman, Per Olof (*with* Fröman, Nanny) JWKB connection-formula problem revisited again via Borel summation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4417–4429. (Guillermo Palma) **99i:81042** 81Q20

Fromion, Vincent (*with* Ferreres, Gilles) A new upper bound for the skewed structured singular value. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 1, 33–49. (Summary) **99i:93018** 93B36 (93B40)

Frommer, Andreas (*with* Diekmann, Ralf; Monien, Burkhard) Nearest neighbor load balancing on graphs. (English summary) *Algorithms—ESA* '98 (*Venice*), 429–440, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68022** 68M20

— (*with* Glässner, Uwe) Restarted GMRES for shifted linear systems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 15–26 (*electronic*). (Summary) **99b:65033** 65F10

Frønsdal, Christian Cohomology and quantum groups. *Quantum groups* (*Karpacz*, 1994), 31–62, *PWN, Warsaw*, 1995. (Fabio Gavarini) **99i:17017** 17B37 (81R50)

— Generalization and deformations of quantum groups. (English summary) *Deformation theory and symplectic geometry* (*Ascona*, 1996), 69–84, *Math. Phys. Stud.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99h:16059** 16W30 (17B37, 81R50)

— (*with* Flato, Moshé) Interacting singletons. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 249–259. (Gagik T. Ter-Kazarian) **99h:81163** 81T30 (83E30, 83E50)

— (*with* Ferrara, Sergio) Gauge fields as composite boundary excitations. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 19–28. (Summary) **99e:83056** 83E30 (81T13, 81T30)

Frontczak, Maria (*with* Skibiński, Przemysław; Spodzieja, Stanisław) On factorization of polynomials with holomorphic coefficients. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 39–54. (Amnon Rosenmann) **99c:12002** 12D05 (13P05)

Frontini, Marco (*with* Tagliani, Aldo) Inverse Laplace transform for positive functions and the moment problem. (Italian. English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 15–32. (Summary) **99h:44002** 44A10 (44A60)

— (*with* Gotusso, Laura) A conservative nonlinear model for a discrete vibrating string fixed at the end points. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 329–343. (Summary) **99g:73067** 73K03 (35Q72, 65M06, 73V15)

— (*with* Tagliani, Aldo) Maximum entropy in the generalized moment problem. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6706–6714. (P. N. Rathie) **99m:44010** 44A60 (94A17)

Fronville, Alexandra (*with* Françoise, Jean-Pierre) Computer algebra and bifurcation theory of vector fields of the plane. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 57–63, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:58117** 58F14 (34–04, 34C23, 58–04)

— (*with* Sadovskiĭ, A. P.; Żołądek, Henryk) Solution of the 1:−2 resonant center problem in the quadratic case. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 191–207. (Summary) **99g:34063** 34C05 (58F21)

Frosali, Giovanni Asymptotic analysis for a particle transport problem in a moving medium. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 167–185. (Luisa Arlotti) **99j:82067** 82C70 (45K05)

— (*with* Banasiak, Jacek; Spiga, Giampiero) Asymptotic analysis for a particle transport equation with inelastic scattering in extended kinetic theory. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 851–874. (Luisa Arlotti) **99h:82068** 82C70 (47D06, 47N55, 76P05, 82C40)

Frossard, Emmanuelle Fibres dégénérées des schémas de Severi-Brauer d'ordres. [Degenerate fibers of Brauer-Severi schemes of orders] *J. Algebra* **198** (1997), *no.* 2, 362–387. (Juliusz Brzeziński) **99b:14006** 14C25 (16H05)

— Groupe de Chow de dimension zéro des fibrations en variétés de Severi-Brauer. (English summary) [Zero-dimensional Chow group of fibrations in Severi-Brauer varieties] *Compositio Math.* **110** (1998), *no.* 2, 187–213. (Bruno Fabre) **99c:14011** 14C25 (12G05, 14G27)

Frota, C. L. (*with* Cousin, A. T.; Lar′kin, N. A.; Medeiros, Luis Adauto) On the abstract model of the Kirchhoff-Carrier equation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 389–404. (From the introduction) **99b:34105** 34G20 (35Q99, 47N20)

— (*with* Cousin, A. T.; Lar′kin, N. A.) Regular solutions and stability for the nonlinear thermoviscoelastic system with nonlinear damping on the boundary. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 119–125, *VSP, Utrecht*, 1998. (Summary) **99f:35206** 35Q72 (35B35, 73B30, 73F15)

— (*with* Cousin, A. T.; Lar′kin, N. A.) Regular solutions and energy decay for the equation of viscoelasticity with nonlinear damping on the boundary. *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 273–296. (Ming Mei) **99e:73058** 73F15 (35B40, 35Q72)

— (*with* Lar′kin, N. A.) On a variational inequality for the nonhomogeneous degenerated Kirchhoff equation with a frictional damping. (English summary) *Portugal. Math.* **55** (1998), *no.* 3, 277–291. (Vyacheslav N. Pivovarchik) **99i:35159** 35Q72 (73C50, 73D35, 73K03)

Frota-Mattos, Luis A. (*with* Blundo, Carlo; Stinson, Douglas R.) Generalized Beimel-Chor schemes for broadcast encryption and interactive key distribution. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 313–334. (Simon R. Blackburn) **99h:94044** 94A60 (68P25)

Frougny, Christiane (*with* Sakarovitch, Jacques) Synchronisation déterministe des automates à délai borné. (English and French summaries) [Deterministic synchronization of automata with bounded delay] *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 61–77. (J.-M. Autebert) **99a:68126** 68Q68 (68Q10, 68Q45)

Frøyen, Johnny (*with* Tai, Xue-Cheng; Espedal, Magne S.; Chan, Tony F. C.) Overlapping domain decomposition and multigrid methods for inverse problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 523–529, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99h:65210** 65N55 (35R30)

Froyland, Gary Approximating physical invariant measures of mixing dynamical systems in higher dimensions. *Nonlinear Anal.* **32** (1998), *no.* 7, 831–860. (T. Y. Li) **99d:58105** 58F11 (28D99)

Fruchard, Augustin Canards discrets. [Discrete canards] *Séminaire d'Analyse*, 1992–1993 (*Aubière*), Exp. *No.* 7, 23 *pp.*, *Sémin. Anal. Univ. Blaise Pascal* (*Clermont II*), 8, *Univ. Blaise Pascal* (*Clermont II*), *Clermont-Ferrand*, 1996. (J. S. Joel) **99a:58055** 58F03 (03H05, 34E15, 58F14)

— Les triplets de la variété de Grassmann $G_2(\mathbf{R}^6)$. (English and French summaries) [The triples of the Grassmann manifold $G_2(\mathbf{R}^6)$] *Geom. Dedicata* **68** (1997), *no.* 2, 123–144. (J. W. P. Hirschfeld) **99e:51023** 51M35

— (*with* Benoît, Eric; Schäfke, Reinhard; Wallet, Guy) Overstability: towards a global study. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 873–878. (B. L. J. Braaksma) **99k:34120** 34E15 (34A20)

Fruchter, Gila E. (*with* Srebro, Uri; Zeheb, Ezra) Stability of discrete nonlinear control systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 4, 333–351. (A. A. Martynyuk) **99b:93038** 93D09 (93C55)

Frühwirth, Thom Theory and practice of constraint handling rules. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 95–138. (Summary) **99d:68040** 68N17 (68T20)

de Frutos, Javier (*with* García-Archilla, Bosco; Novo, Julia) Postprocessing of spectral methods for the discretization of dissipative partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 743–748, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M70

— (*with* Muñoz, Rafael) Error estimates for Galerkin-type spectral discretizations for a parabolic problem with not very regular initial data. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 749–754, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M60 (65M15)

angeles de Frutos, M. *see* **Angeles de Frutos, M.**

de Frutos Baraja, J. *see* **de Frutos, Javier**

de Frutos-Escrig, David (*with* Llana-Díaz, Luis; Núñez García, Manuel) An invitation to friendly testing. Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 531–545. (Summary) **99k:68062** 68Q10 (68Q55)

Fry, Robb Smooth partitions of unity on Banach spaces. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 145–150. (Summary) **99a:46080** 46G05 (46B20)

— Analytic approximation on c_0. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 509–520. (Summary) **99f:46023** 46B20 (46G20)

Fryant, A. (*with* Vemuri, M. K.) Wave polynomials. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 205–209. (Manfred W. Kracht) **99i:35086** 35L05 (33E15, 35C15)

— (*with* Naftalevich, A.; Vemuri, M. K.) Orthogonal homogeneous polynomials. (English summary) *Adv. in Appl. Math.* **22** (1999), *no.* 3, 371–379. (F. Móricz) **99m:42039** 42C05 (33C50)

Frydryszak, Andrzej The graded Heisenberg group and its Q-representations (the odd part). (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 2, 89–97. (Anargyros Fellouris) **99f:81071** 81R05 (22E70, 43A32)

Fryntov, A. E. A simple proof of Dubinin's theorem. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 3-4, 347–355. (Albert Baernstein, II) **99a:30031** 30C85

— On behavior of gap series on curves and a $\cos\pi\lambda$-type theorem. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 195–209. (Summary) **99m:30059** 30D20

— (*with* Rossi, John; Weitsman, Allen) Circular means of fine Green's functions and the longest arc relation. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 211–224. (Summary) **99m:31001** 31A05 (31A15)

Fryszkowski, Andrzej (*with* Bartuzel, Grzegorz) Relaxation of the differential inclusions of the Sturm-Liouville type. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 953–960. (Stefan Miricá) **99a:34034** 34A60 (34B24)

Fu, Bin² (*with* Beigel, Richard) Solving intractable problems with DNA computing. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 154–168, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q05 (92D20)

Fu, Cai Fang (*with* Hu, Bi Jin; Huang, Jian Zhong²; Tian, Jin Wen; Zhu, Hong Zhang; Cui, Jiong Cheng) LMS estimation and inversion in lithology. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 246–250. 86A32 (62M09)

Fu, Chin-Mei (*with* Huang, Wen-Chung) Decompositions of $K_{m,n}$ into 4-cycles and 8-cycles. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 69–72. (Katherine Heinrich) **99c:05151** 05C70 (05C38)

— (*with* Chou, Chao-Chih; Huang, Wen-Chung) Decomposition of $K_{m,n}$ into short cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 195–203. (Summary) **99k:05127** 05C70 (05C38)

Fu, Chu Li (*with* Wei, Xue Mei) The existence and uniqueness of a solution to a nonclassical heat equation. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 16–20. (Summary) **99k:35074** 35K05 (35K55)

Fu, Chun-Chieh (*with* Lin, Song-Sun) On the critical mass of the collapse of a gaseous star in spherically symmetric and isentropic motion. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 461–469. (F. Nahon) **99k:85004** 85A30 (76N15)

Fu, Dong Sheng A parallel algorithm for the fast Fourier transform. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 218–224. 65T20 (42A10)

— (*with* Liu, Guo Qing) A uniformly convergent exponential fitted difference scheme for a nonlinear singular perturbation problem. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 173–184. (Ching-An Wang) **99k:65063** 65L10

Fu, Fang Wei (*with* Xia, Shu Tao) Nonperiodic cyclic equivalence classes of cyclic codes and algebraic constructions of cyclically permutable codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 341–352, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99e:94046** 94B15

— (*with* Xia, Shu Tao; Yang, Yi Xian) Period distribution of generalized B-J codes and constructions of cyclically permutable (CP) codes. *Chinese Sci. Bull.* **42** (1997), *no.* 14, 1222–1227. (From the text) **99a:94052** 94B15

— (*with* Xia, Shu Tao) Binary nonlinear 2-weight codes for error detection. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 415–422. (Summary) **99m:94067** 94B60

— (*with* Luo, Yuan) Depth distributions of linear codes. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 19, 2046–2049. 94B05

— (*with* Shen, Shi-Yi) Strong coding theorem and asymptotic error exponent of arbitrarily varying source with a fidelity criterion. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 168–174. (Summary) **99e:94019** 94A29

— (*with* Vinck, Adrianus J.) On the capacity of generalized write-once memory with state transitions described by an arbitrary directed acyclic graph. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 308–313. (Summary) **99m:68046** 68P99

— (*with* Kløve, Torleiv; Shen, Shi-Yi) On the Hamming distance between two i.i.d. random n-tuples over a finite set. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 803–807. (Summary) **99k:94068** 94B65

Fu, H. L. *see* **Fu, Hung-Lin**

Fu, Hong-Chen (*with* Sasaki, Ryu) Probability distributions and coherent states of B_r, C_r and D_r algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 901–925. (Massimo

Blasone) **99f:81085** 81R30 (22E60)

Fu, Hong-yuan (*with* Tang, Wei-jun; Shen, Long-jun) On the coupling of boundary integral and finite element methods for Signorini problems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 561–570. (Summary) **99i:73075** 73V05 (65N30, 73V10, 73V25)

Fu, Hung-Lin (*with* Lindner, C. C.; Rodger, C. A.) The Doyen-Wilson theorem for minimum coverings with triples. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 341–352. (H. Lenz) **99a:05013** 05B07 (05C70)

— (*with* Škoviera, Martin; Tsai, Ming-Chun) The maximum genus, matchings and the cycle space of a graph. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 329–339. (Arthur T. White) **99d:05023** 05C10 (05C38, 05C70)

— (*with* Lindner, C. C.) The Doyen-Wilson theorem for maximum packings of K_n with 4-cycles. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 103–117. (R. Balakrishnan) **99b:05112** 05C70

— (*with* Woolbright, David E.) On the existence of rainbows in 1-factorizations of K_{2n}. (English summary) *J. Combin. Des.* **6** (1998), *no.* 1, 1–20. (Akira Saito) **99b:05118** 05C70 (05C15)

— (*with* Rodger, C. A.) Group divisible designs with two associate classes: $n = 2$ or $m = 2$. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 94–117. (Chester J. Salwach) **99g:05023** 05B05

Fu, Jian (*with* Gao, Xiaochun; Li, Xinhua; Gao, Jun[2]) Phase formulation and exact solutions for the relativistic Klein-Gordon field with a time-dependent Hamiltonian. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 77–84. (Summary) **99h:81031** 81Q05

Fu, Jingli (*with* Liu, Rongwan; Mei, Feng Xiang) Lie symmetries and conserved quantities of holonomic mechanical systems in terms of quasi-coordinates. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 215–220. (P. G. L. Leach) **99k:70012** 70F20 (58F07, 70H33)

— (*with* Liu, Rongwan; Mei, Feng Xiang) Lie symmetries and conserved quantities of systems of relative motion dynamics. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 221–225. (P. G. L. Leach) **99k:70013** 70F20 (58F07, 70H33)

Fu, Joseph H. G. Bi-Lipschitz rough normal coordinates for surfaces with an L^1 curvature bound. *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 439–453. (Giandomenico Orlandi) **99k:49090** 49Q15 (53A05)

Fu, Jun (*with* Chen, Ren Zhao) Existence of solution for a class of time-varying illness control systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 110–115. 49N55 (35B37)

— (*with* Zhang, Dan Song; Chen, Ren Zhao) The uniqueness theorem for solutions to a class of time-varying illness control systems. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 116–121. 49N55 (35B27)

— (*with* Liu, Yu Hong) Properties of points on a sphere under continuous mappings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 422–424. 55M20

Fu, Junyi Common solutions of vector variational inequalities in ordered Banach spaces. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 4, 355–360. 49J40 (47H19, 90C29)

Fu, Jyun-Horng (*with* Miller, David F.) Computational matrix representation modules for linear operators with explicit constructions for a class of Lie operators. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 1–26. (Summary) **99h:65092** 65F99 (34C20, 58F36, 65J10, 93B29)

Fu, Kai Xin (*with* Mao, Se Ling; Peng, Xue Feng) Finite difference equations and even order spline-on-spline interpolation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 21–26. 65D15 (41A15)

Fu, Li Two classes of approximating exact penalty function algorithms and numerical experiments with them. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 154–162. 90C30 (49M30)

Fu, Li Chen (*with* Lee, Fu-Ming; Fong, I-Kong) Stable on-line parameter identification algorithms for systems with non-parametric uncertainties and disturbances. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 329–345. 93B30 (93C41)

— (*with* Lian, Kuang-Yow; Wang, Li Sheng[1]) A skew-symmetric property of rigid-body systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 187–197. (Alexander M. Kovalev) **99b:70005** 70E15 (70Q05, 93C85)

Fu, Li Ya The gravitational field of a celestial body with magnetic charge, magnetic moment and mass quadrupole moment. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 154–163. (Summary) **99h:83015** 83C25

Fu, Libin (*with* Duan, Yishi) The general decomposition theory of SU(2) gauge potential, topological structure and bifurcation of SU(2) Chern density. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4343–4355. (S. Timothy Swift) **99g:53030** 53C07 (53C80, 57R20, 57R25, 81T13)

Fu, M. *see* **Fu, Minyue**

Fu, Michael C. (*with* Hu, Jian-Qiang) ★ Conditional Monte Carlo. (English summary) Gradient estimation and optimization applications. The Kluwer International Series in Engineering and Computer Science, 392. *Kluwer Academic Publishers, Boston, MA*, 1997. xvi+399 *pp. ISBN* 0-7923-9873-4 (Joseph Kreimer) **99b:65002** 65C05 (65–02)

— (*with* Cao, Xi-Ren; Hu, Jian-Qiang) On performance potentials and conditional Monte Carlo for gradient estimation for Markov chains. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 263–272. (*see* **99m:90004**) 65C05 (65U05)

Fu, Ming Fu (*with* Huang, Mo Jia; Bufler, H.) A self-consistent analysis for coupled elastoplastic damage problems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 12, 1217–1226; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1119–1126 (*Chinese. English and Chinese summaries*). 73M25 (73B30, 73E99)

Fu, Minyue (*with* Xie, Lin) Finite test of robust strict positive realness. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 887–897. 93B36 (93D09)

— (*with* Li, Huaizhong; Niculescu, Silviu-Iulian) Robust stability and stabilization of time-delay systems via integral quadratic constraint approach. (English summary) *Stability and control of time-delay systems*, 101–116, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D09 (34K35, 93D15)

— Comments on: "A procedure for the positive definiteness of forms of even order" [IEEE Trans. Automat. Control **41** (1996), no. 4, 615–617; MR 96k:93034] by M. A. Hasan and A. A. Hasan. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1430. (Summary) **99h:93047** 93B40 (93B15)

— (*with* Luo, Zhi-Quan; Ye, Yinyu) Approximation algorithms for quadratic programming. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 29–50. (Jos F. Sturm) **99f:90072** 90C20 (90C30)

Fu, Sheng-Chen (*with* Tsai, Long-Yi) Oscillation in nonlinear difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 193–201. (T. J. Mahar) **99k:39061** 39A12 (34C10)

Fu, Siqi (*with* Straube, Emil J.) Compactness of the $\overline{\partial}$-Neumann problem on convex domains. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 629–641. (Der-Chen E. Chang) **99h:32019** 32F20

— (*with* Boas, Harold P.; Straube, Emil J.) The Bergman kernel function: explicit formulas and zeroes. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 805–811. (Anthony D. Thomas) **99f:32037** 32H10

Fu, Tung-Shan A characterization of half-dual polar graphs. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 75–80. (Robert Beezer) **99k:05135** 05C75 (05B25, 05E30)

Fu, Wantao (*with* Cheng, Yonghong) On the strict efficiency in a locally convex space. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 40–44. (Summary) **99k:90143** 90C29 (41A65, 90C48)

Fu, Wei Ping (*with* Xu, Jian Xue; Zhang, Xin Hua; Jiang, Yao Lin) A method of constructing nonlinear normal modes and Hopf bifurcation in an electromechanical coupled system. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 7–13, *I.* 70K99 (34C23)

Fu, Wenjiang J. Penalized regressions: the bridge versus the lasso. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 3, 397–416. 62J07

Fu, X. *see* **Fu, Xi Lin**

Fu, X.-C. (*with* Duan, Jinqiao; Liu, Pei De; Manning, Anthony) A linear chaotic quantum harmonic oscillator. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 15–19. (Summary) **99h:81054** 81Q50

Fu, Xi Lin (*with* Zhang, Li Qin[1]) Properties of solutions to a class of neutral delay differential inequalities and their applications. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 10–14. (Jian Hong Wu) **99b:34131** 34K40 (34K15, 35R10)

— (*with* Zhang, Li Qin[1]) Criteria on boundedness in terms of two measures for Volterra type discrete systems. (English summary) Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2673–2681. (V. G. Kurbatov) **99f:39020** 39A11 (34D20, 34K20)

— (*with* Wang, Peiguang; Yu, Yuan Hong) Oscillations of solution for a class of higher-order neutral differential equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 397–402. (George Karakostas) **99m:34168** 34K15 (34K40)

— (*with* Liu, Xinzhi) Stability criteria in terms of two measures for discrete systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 327–337. (V. G. Kurbatov) **99k:39056** 39A11 (93D05)

— (*with* Wu, Jian Hong) Oscillation in neutral partial functional-differential equations and inequalities. (English summary) *Electron. J. Qual. Theory Differ. Equ.* **1998**, *No.* 5, 14 *pp. (electronic)*. (Summary) **99e:35238** 35R10 (35B05)

— (*with* Liu, Xinzhi) Oscillation criteria for high order delay partial differential equations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 193–208. (Ludwik Byszewski) **99g:35137** 35R10 (35B05)

— (*with* Liu, Xinzhi) On boundedness of solutions of functional-differential systems with infinite delay. (English summary) *Appl. Anal.* **70** (1999), *no.* 3-4, 269–280. (Summary) **99m:34159** 34K15

— (*with* Liu, Xinzhi) High order nonlinear differential inequalities with distributed deviating arguments and applications. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 147–167. (I. P. Stavroulakis) **99m:34163** 34K15 (35R10)

Fu, Xudong Lower bounds on sizes of cutting planes proofs for modular coloring principles. (English summary) *Proof complexity and feasible arithmetics (Rutgers, NJ, 1996)*, 135–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (M. I. Dekhtyar) **99c:03084** 03F20 (03D15, 68Q25, 94C10)

Fu, Yan (*with* Li, Xiao Ping[2]) A regularization method for solving an inverse problem for a partial differential equation. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 8, 254–259. 65M30 (65J20)

Fu, Yi Ping (*with* Zhou, Li[1]) The asymptotic behavior of solutions of a periodic competitor-competitor-mutualist model with delay. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 102–104. 35K57 (35B10, 35B40)

— (*with* Zhou, Li[1]; Song, Kaitai) Asymptotic behavior of solutions for a periodic transport equation with delay. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 2, 135–138. (Summary) **99d:92012** 92C30

Fu, Yibin Some asymptotic results concerning the buckling of a spherical shell of arbitrary thickness. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 1111–1122. (Summary) **99b:73026** 73H05 (73K15)

— A nonlinear stability analysis of an incompressible elastic plate subjected to an all-round tension. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 11, 2261–2282. (Summary) **99j:73064** 73H05 (73C50, 73K10)

Fu, Yu (*with* Song, Guoxiang) The projective property on the solution space of wavelet collocation. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 425–429, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 42C15

Fu, Yuxi Symmetric π-calculus. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 202–208. (Summary) **99a:68063** 68Q10 (68Q55)

— Reaction graph. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 510–530. (Summary) **99k:68063** 68Q10

Fuad, T. S. R. Representations of right quasigroups. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 128–131, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99g:20124** 20N05

Fuchino, Sakaé (*with* Shelah, Saharon; Soukup, Lajos) Sticks and clubs. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 57–77. (Douglas R. Burke) **99j:03044** 03E55 (03E05, 03E35)
— (*with* Soukup, Lajos) More set-theory around the weak Freese-Nation property. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 159–176. (A. Kanamori) **99a:03048** 03E05 (03E35, 03E55, 06A06, 06E05)
— (*with* Plewik, Szymon) On a theorem of E. Helly. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 491–497. (B. K. Lahiri) **99c:26001** 26A03 (03E10, 03E35, 06A05)
Fuchs, Christopher A. (*with* Bennett, Charles H.; DiVincenzo, David P.; Mor, Tal; Rains, Eric M.; Shor, Peter W.; Smolin, John A.; Wootters, William K.) Quantum nonlocality without entanglement. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 2, 1070–1091. (V. Ya. Kreinovich) **99m:81027** 81P99 (68Q75, 81P15)
Fuchs, Dirk Cooperation between top-down and bottom-up theorem provers by subgoal clause transfer. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 157–169, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68T15
— Coupling saturation-based provers by exchanging positive/negative information. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 317–331, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68T15
— (*with* Fuchs, Marc) Cooperation between top-down and bottom-up theorem provers. (English summary) *J. Artificial Intelligence Res.* **10** (1999), 169–198 (*electronic*). 68T15
Fuchs, Dmitry (*with* Tabachnikov, S. L.) Invariants of Legendrian and transverse knots in the standard contact space. *Topology* **36** (1997), *no.* 5, 1025–1053. (From the introduction) **99a:57006** 57M25 (58F05)
— (*with* Tabachnikov, S. L.) More on paperfolding. *Amer. Math. Monthly* **106** (1999), *no.* 1, 27–35. (Igor Rivin) **99m:53009** 53A05 (51M15)
Fuchs, Jürgen (*with* Ganchev, A. Ch.; Vecsernyés, P.) On the quantum symmetry of rational field theories. (English summary) *Quantum groups* (*Karpacz*, 1994), 473–482, *PWN, Warsaw*, 1995. (Jens Böckenhauer) **99g:81088** 81R50 (16W30, 81T40)
— (*with* Schweigert, Christoph) ★ Symmetries, Lie algebras and representations. (English summary) A graduate course for physicists. Cambridge Monographs on Mathematical Physics. *Cambridge University Press, Cambridge*, 1997. xxii+438 *pp. ISBN* 0-521-56001-2 (Publisher's description) **99k:81078** 81R05 (17B81, 81–01, 81R10)
— From the fusion rules to the operator product algebra. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **6** (1997), *no.* 1-2, 1–28. (Mark A. Walton) **99k:81281** 81T40 (81R10)
— Universal simple current vertex operators. (English summary) *Ann. Physics* **266** (1998), *no.* 1, 254–273. (Mirko Primc) **99g:81069** 81R10 (17B69)
— (*with* Böckenhauer, Jens) CFT fusion rules, DHR gauge groups and CAR algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3503–3522. (Stephen J. Summers) **99e:81220** 81T40 (46L60, 81S05, 81T05)
— (*with* Schweigert, Christoph) Branes: from free fields to general backgrounds. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 99–136. (Matthias Dörrzapf) **99i:81211** 81T40 (81T30)
— (*with* Schweigert, Christoph) Completeness of boundary conditions for the critical three-state Potts model. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 141–146. (Summary) **99i:81212** 81T40 (81R10, 82B27)
— (*with* Ganchev, A. Ch.; Szlachányi, Kornél; Vecsernyés, P.) S_4 symmetry of $6j$ symbols and Frobenius-Schur indicators in rigid monoidal C^* categories. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 408–426. (Yasuyuki Kawahigashi) **99k:81111** 81R50 (18D10, 20C35)
— (*with* Schweigert, Christoph) Orbifold analysis of broken bulk symmetries. (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 266–276. (Matthias Dörrzapf) **99k:81282** 81T40 (81R40)
Fuchs, László[1] (*with* Lee, Sang Bum[1]) Equivalent presentations of modules over Prüfer domains. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 151–157. (C. P. L. Rhodes) **99d:13013** 13C13 (13F05)
— (*with* Salce, Luigi; Zanardo, Paolo) Note on the transitivity of pure essential extensions. *Colloq. Math.* **78** (1998), *no.* 2, 283–291. (Daniel Simson) **99m:13036** 13F05 (16E60, 18E15, 18G25)
Fuchs, Lazarus *see* **Bölling, Reinhard**, (**99k:01080**)
Fuchs, M. *see* **Fuchs, Martin[2]**
Fuchs, Marc (*with* Fuchs, Dirk) Cooperation between top-down and bottom-up theorem provers. (English summary) *J. Artificial Intelligence Res.* **10** (1999), 169–198 (*electronic*). 68T15
Fuchs, Martin[2] On a class of variational problems related to plasticity with polynomial hardening. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 269–275. (Summary) **99g:73116** 73V25 (49J10, 49N35, 73E99)
— Differentiability properties of minima of nonsmooth variational integrals. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 23–29. (Georg K. Dolzmann) **99d:49071** 49N60 (49J52)
— (*with* Li, Gongbao; Martio, Olli) Second order obstacle problems for vectorial functions and integrands with subquadratic growth. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 549–558. (Giuseppe Mingione) **99i:49003** 49J10 (35J85, 49N60)
— (*with* Serëgin, G. A.) A regularity theory for variational integrals with $L\ln L$-growth. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 171–187. (Reza Malek-Madani) **99i:49046** 49N60 (35J60, 46N20, 49J10, 73V25)
— (*with* Serëgin, G. A.) Regularity results for the quasi-static Bingham variational inequality in dimensions two and three. (English summary) *Math. Z.* **227** (1998), *no.* 3, 525–541. (Giuseppe Mingione) **99f:76006** 76A05 (35Q35, 49J40, 73E60, 76M30)
— (*with* Osmolovskiĭ, V. G.) Variational integrals on Orlicz-Sobolev spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 393–415. (Erich Miersemann) **99f:49060** 49N60 (46E35, 49J52)
Fuchs, Peter Rudolf Maillet's determinant and a certain basis of the Stickelberger ideal. (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 121–128. (Summary) **99g:11131** 11R29 (11R18)
Fuchs, Ulrich (*with* Alt, Helmut; Kriegel, Klaus) On the number of simple cycles in planar graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 15–24, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68181** 68R10 (05C35, 05C38, 68Q35)
— (*with* Alt, Helmut; Rote, Günter; Weber, Gerald) Matching convex shapes with respect to the symmetric difference. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 89–103. (Rephael Wenger) **99i:68118** 68U05 (52B55)
— (*with* Schwarzkopf, Otfried; Rote, Günter; Welzl, Emo) Approximation of convex figures by pairs of rectangles. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 77–87. (Summary) **99a:52019** 52B55 (52A27, 68U05)
Fuchs, Wolfgang Heinrich Johannes *see* **Anderson, James Milne et al.**, **99k:01042**
Fuchs-Seliger, Susanne A note on duality in consumer theory. (English summary) *Econom. Theory* **13** (1999), *no.* 1, 239–246. (Summary) **99h:90032** 90A40
Fucito, Francesco (*with* Bianchi, Massimo; Rossi, Giancarlo; Martellini, Maurizio) String theory and ALE instantons. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 173–179, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:81150** 81T30 (83E30)
— (*with* Martellini, Maurizio; Zeni, Mauro) A new non-perturbative approach to QCD by BF-theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 504–508, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81192** 81T70 (81T13, 81V05)
— (*with* Martellini, Maurizio; Zeni, Mauro) Nonlocal observables and confinement in BF formulation of Yang-Mills theory. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 339–348, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Sergei K. Lando) **99c:81254** 81T70 (58D29, 81T13)
Fudali, Stanisław Hilbert's Third Problem (equality of volumes of two tetrahedra with equal altitudes and with equal areas of bases). (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 35–43, *Polsk. Akad. Nauk, Warsaw*, 1997. (Summary) **99g:01027** 01A60
— Hilbert's Fourth Problem (on the straight line as the shortest distance between two points). (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 45–54, *Polsk. Akad. Nauk, Warsaw*, 1997. (Summary) **99h:01031** 01A60
Fudenberg, Drew (*with* Levine, David K.) ★ The theory of learning in games. (English summary) MIT Press Series on Economic Learning and Social Evolution, 2. *MIT Press, Cambridge, MA*, 1998. *xvi*+276 *pp. ISBN* 0-262-06194-5 (James Bergin) **99i:90121** 90D10 (90D15, 90D20)
— (*with* Levine, David K.; Pesendorfer, Wolfgang) When are nonanonymous players negligible? (English summary) *J. Econom. Theory* **79** (1998), *no.* 1, 46–71. (Summary) **99a:90243** 90D10
Fuduli, A. (*with* Astorino, A.; Gaudioso, M.) Analysis of regularization techniques in convex nondifferentiable optimization. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 20–25, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C25 (49J52)
Fueki, Shigeo (*with* Yamaguchi, Seiichi) Kählerian torse-forming vector fields and Kählerian submersions. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 257–275. (Sorin Dragomir) **99a:53082** 53C55
— Pointed helical submanifolds of pseudo-Riemannian manifolds. *J. Geom.* **62** (1998), *no.* 1-2, 129–143. (Luis J. Alías) **99m:53102** 53C40 (53C50)
— Helices and isometric immersions. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 427–445. (Bao Qiang Wu) **99j:53082** 53C42
Fuelberth, John (*with* Gunawardena, Athula) 4-caps in orthogonal spaces. (English summary) *Mostly finite geometries* (*Iowa City, IA*, 1996), 207–212, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Christine M. O'Keefe) **99b:51002** 51A50 (51E22)
andrade de Fuenmayor, Carmen *see* **Andrade de Fuenmayor, Carmen**
Fuentes, M. E. (*with* Riera, J. J.; Valdés-Sosa, Pedro A.; Ohárriz, Y.) EEG-distributed inverse solutions for a spherical head model. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 1009–1019. 78A55
Fuentes-González, R. (*with* Burusco Juandeaburre, A.) Construction of the L-fuzzy concept lattice. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 109–114. (Summary) **99i:06003** 06A23 (03E72)
cartas-Fuentevilla, R. *see* **Cartas-Fuentevilla, R.**
Fuertes, Wifredo García (*with* Mateos Guilarte, Juan) Self-dual solitons in $N = 2$ supersymmetric Chern-Simons gauge theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6214–6229. (Summary) **99b:81235** 81T60 (81T13, 81V70)
Fuertes, Yolanda (*with* González-Diez, Gabino) On the Lefschetz number of quasiconformal self-mappings of compact Riemann surfaces. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 567–578. (José M. Muñoz Porras) **99b:32028** 32G15 (30F10)
Fugarolas, M. A. Besov spaces and a trace ideal. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 75–81. (A. Pietsch) **99k:47047** 47B10 (46E35, 47D50)
Fugère, B. J. (*with* Haddad, Lucien) On partial clones containing all idempotent partial operations. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 369–373, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 08A40
— (*with* Tremblay, Richard) Generating functions related to pairs of inverse functions. (English summary) *Transform methods & special functions, Varna* '96, 484–495, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99k:33037** 33C45 (26A33)
Fuh, Cheng-Der Large deviation probabilities in the strong law of large numbers for Markov additive processes. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 129–142, *World Sci. Publishing, River Edge, NJ*, 1997. (O. K. Zakusilo) **99d:60031** 60F10 (60J05)
— (*with* Fan, Tsai-Hung; Hung, Wen-Liang) Importance resampling for Markov chains. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1007–1026. (Summary) **99i:62098** 62G09 (60J10)
Führ, Hartmut Continuous wavelet transforms with abelian dilation groups. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3974–3986. (Summary) **99c:42059** 42C15 (22D12, 81R30)
Führer, Christian (*with* Rannacher, Rolf) An adaptive streamline-diffusion finite element method for hyperbolic conservation laws. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 3, 145–162. (Summary) **99j:65168** 65M60 (35L05, 76M10, 76Rxx)

Führer, Claus (*with* Eich-Soellner, Edda) ★ Numerical methods in multibody dynamics. (English summary) European Consortium for Mathematics in Industry. *B. G. Teubner, Stuttgart*, 1998. 290 *pp. ISBN* 3-519-02601-5 (Michael Hanke) **99i:70012** 70E99 (34A09, 65L99, 70–08, 70F99)

Fuhrman, Marco On the sum of generators of analytic semigroups. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 147–199 (1997). (Jacek Banasiak) **99d:47033** 47D06 (46M35, 47A55)

— Sums of generators of analytic semigroups and multivalued linear operators. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 63–105. (Yuri Sil′chenko) **99d:47034** 47D06 (46M35, 47A05)

— (*with* Favini, Angelo) Approximation results for semigroups generated by multivalued linear operators and applications. (English summary) *Differential Integral Equations* **11** (1998), *no.* 5, 781–805. (Atsushi Yagi) **99k:47089** 47D06 (34G10)

— Hypercontractivity properties of nonsymmetric Ornstein-Uhlenbeck semigroups in Hilbert spaces. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 241–260. (Isabel Simão) **99k:60150** 60H10 (47D07, 60B11)

Fuhrmann, Rainer (*with* Torres, Fernando) On Weierstrass points and optimal curves. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 25–46. (Chao Ping Xing) **99e:11081** 11G20 (14G15, 14H55, 51E15, 51E20)

Fujihira, Hideyuki Topological properties of invariant sets of continuous mappings. *Bull. Fac. Educ. Utsunomiya Univ. Sect. 2 No.* 48 (1998), 1–4. (S. A. Naimpally) **99h:47066** 47H10 (46B20, 54H25)

Fujii, Akio (*with* Kitaoka, Yoshiyuki) On plain [plane] lattice points whose coordinates are reciprocals modulo a prime. (English summary) *Nagoya Math. J.* **147** (1997), 137–146. (Werner Georg Nowak) **99a:11113** 11P21 (11L05)

— The distribution of the zeros of the Riemann zeta function and Baker's theorems. *Number theory* (*Eger*, 1996), 211–233, *de Gruyter, Berlin*, 1998. (Daniel A. Goldston) **99m:11097** 11M26

Fujii, Jun Ichi (*with* Furuta, Takayuki) An operator version of the Wilf-Diaz-Metcalf inequality. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 47–52. (Frank Hansen) **99d:47019** 47A63 (47B15)

— The Ando-Bhatia-Kittaneh inequalities and their equality conditions. Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 1–10. (Fuad Kittaneh) **99k:47038** 47A63 (15A60, 47A30, 47B47)

— The Lyapunov equation and operator means. Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 20–27. (D. Petz) **99m:47019** 47A63 (46L99, 47A62)

— (*with* Fujii, Masatoshi) Bhatia-Kittaneh's operator norm inequality. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 91–92. (Summary) **99j:47019** 47A63 (47A30)

Fujii, Kazuyuki Coherent states and path integrals: lattice versus continuum. (English summary) *Path integrals: Dubna* '96, 369–373, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81R30 (81S40)

— (*with* Homma, Yasushi; Suzuki, Tatsuo[2]) Nonlinear Grassmann sigma models in any dimension and an infinite number of conserved currents. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 290–294. (Summary) **99i:81143** 81T10

Fujii, Masatoshi (*with* Jiang, Jian Fei; Kamei, Eizaburo; Tanahashi, Kôtarô) A characterization of chaotic order and a problem. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 149–156. (From the introduction) **99k:47039** 47A63

— (*with* Jiang, Jian Fei; Kamei, Eizaburo) Operator functions associated with the grand Furuta inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 267–277. (Frank Hansen) **99c:47019** 47A63

— (*with* Nakamoto, Ritsuo) Simultaneous extensions of Selberg inequality and Heinz-Kato-Furuta inequality. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 219–225. (Frank Hansen) **99m:47020** 47A63

— (*with* Fujii, Jun Ichi) Bhatia-Kittaneh's operator norm inequality. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 91–92. (Summary) **99j:47019** 47A63 (47A30)

Fujii, Michihiko (*with* Kojima, Sadayoshi) Flexible boundaries in deformations of hyperbolic 3-manifolds. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 71–82. (From the introduction) **99h:57026** 57M50 (57N10)

— (*with* Soma, Teruhiko) Totally geodesic boundaries are dense in the moduli space. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 589–601. (From the summary) **99b:57029** 57M50

— (*with* Kojima, Sadayoshi) Flexible boundaries in deformations of hyperbolic 3-manifolds. *Osaka J. Math.* **34** (1997), *no.* 3, 541–551. (Darren D. Long) **99a:57013** 57N10 (57M50)

Fujii, Nobuhiko (*with* Nakamura, Akihiro[1]; Redheffer, Raymond M.) On the excess of sets of complex exponentials. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1815–1818. (N. A. Shirokov) **99i:30006** 30B60

Fujii, Nobuo (*with* Belov, Sergei) Solution of the Dirichlet problem for Laplace equation on domains with analytic boundaries. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 73–79, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 35J25 (31A25)

Fujii, S. (*with* Nogura, Tsugunori) Characterizations of compact ordinal spaces via continuous selections. (English summary) *Topology Appl.* **91** (1999), *no.* 1, 65–69. (A. H. Stone) **99k:54011** 54C65 (54B20, 54D30, 54F05, 54F65)

Fujii, Takao (*with* Shimomura, Takashi; Kawasaki, Katsumasa) Synthesis of strictly positive real $\mathscr{H}_2$ controllers with loop transfer recovery. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 1, 44–55. 93B36

Fujiié, Setsuro ★ Solutions ramifiées des problèmes de Cauchy caractéristiques et fonctions hypergéométriques à deux variables. (French) [Ramified solutions of characteristic Cauchy problems and hypergeometric functions of two variables] Dissertation, Tohoku University, Sendai, 1994. Tohoku Mathematical Publications, 6. *Tohoku University, Mathematical Institute, Sendai*, 1997. vi+59 *pp.* (R. G. Airapetyan) **99b:33030** 33C70 (35A20, 35C99)

Fujikawa, Kazuo Phase operator for the photon, an index theorem and quantum deformation. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 130–148, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81114** 81S05 (58G10)

Fujiki, Akira Partial compactifications of certain hyper-Kähler quotients. *Geometric complex analysis* (*Hayama*, 1995), 199–204, *World Sci. Publishing, River Edge, NJ*, 1996. (María Laura Barberis) **99a:53057** 53C25 (32L25)

— Nagata threefold and twistor space. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 139–146 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (J. T. Davidov) **99i:32032** 32J05 (32J17, 32L25)

Fujikoshi, Yasunori Error bounds for asymptotic expansions of the distributions of the classification statistic W and related statistics. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 3–15, *VSP, Utrecht*, 1995. (Summary) **99h:62083** 62H30 (62H10)

— (*with* Satoh, Kenichi) Modified AIC and C_p in multivariate linear regression. (English summary) *Biometrika* **84** (1997), *no.* 3, 707–716. (Khursheed Alam) **99b:62101** 62J05 (62H12)

— (*with* Kanda, Takashi) Some basic properties of the MLE's for a multivariate normal distribution with monotone missing data. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 161–190. (Summary) **99g:62076** 62H12

— (*with* Seo, Takashi) Asymptotic approximations for EPMC's of the linear and the quadratic discriminant functions when the sample sizes and the dimension are large. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 3, 269–280. (Issa Fakhre-Zakeri) **99e:62111** 62H30

Fujima, Shoichi Iso-P2 P1/P1/P1 domain-decomposition/finite-element method for the Navier-Stokes equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 246–253, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65Y05 (65M55, 65M60, 76M10)

— Mortar element method for flow problems in primitive variables form. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 209–219. (*see* **99f:76004**) 76M10

Fujimori, Kazuo (*with* Hayakawa, Kisaburo; Matsumoto, Kenichiro; Yamashita, Masashi; Suzuki, Yoshiaki; Kimura, Hidenori) Robust H^∞-output feedback control of decoupled automobile active suspension systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 392–396. 93B36 (93C95)

Fujimori, Masami ★ Integral and rational points on algebraic curves of certain types and their Jacobian varieties over number fields. Dissertation, Tohoku University, Sendai, 1996. Tohoku Mathematical Publications, 4. *Tohoku University, Mathematical Institute, Sendai*, 1997. xviii+49 *pp.* (Emmanuel Peyre) **99b:11067** 11G30 (14G05, 14H40)

— Rational points of a curve which has a nontrivial automorphism. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 551–569. (David Harari) **99c:11075** 11G30 (14G05)

— A remark on naive height of a polarized abelian variety and its applications. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 7, 145–147. (Carlo Gasbarri) **99a:14069** 14K15 (11G10)

Fujimoto, Hideaki Darlington-type realization of a class of 2-variable 2-wire-lines networks. (English summary) *J. Fac. Sci. Tech. Kinki Univ. No.* 32 (1996), 179–185. (Summary) **99b:94061** 94C05

Fujimoto, Hirotaka Uniqueness problem with truncated multiplicities in value distribution theory. (English summary) *Nagoya Math. J.* **152** (1998), 131–152. (Shanyu Ji) **99m:32029** 32H30 (30D35)

Fujimoto, Hisashi Dynamical behaviors for population growth equations with delays. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 549–558. (Introduction) **99k:92028** 92D25 (34K15, 34K20)

Fujimoto, Ichiro A Gelfand-Naimark theorem for C^*-algebras. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 95–119. (Robert S. Doran) **99b:46083** 46L05

Fujimoto, Katsushige (*with* Murofushi, Toshiaki; Sugeno, Michio) Canonical separated hierarchical decomposition of the Choquet integral over a finite set. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 3, 257–272. (Endre Pap) **99i:28025** 28E10 (28C99)

— (*with* Murofushi, Toshiaki; Sugeno, Michio) Canonical hierarchical decomposition of Choquet integral over finite set with respect to null additive fuzzy measure. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 345–363. (Endre Pap) **99j:28022** 28E10

Fujimoto, Kenji (*with* Sugie, Toshiharu) Controller design for an inverted pendulum based on approximate linearization. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 585–597. (Summary) **99b:93018** 93B18 (93C15)

— (*with* Sugie, Toshiharu) Stabilization of generalized Hamiltonian systems—canonical transformation approach. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 616–622. 93D15 (93C10)

— (*with* Oga, Akira; Sugie, Toshiharu) Nonlinear controller design for linear systems via the parametrization of nonlinear stabilizing controllers. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 623–629. 93D15 (93B51)

Fujimoto, Kou (*with* Takahashi, Yukio[1]; Makimoto, Naoki) Asymptotic properties of stationary distributions in two-stage tandem queueing systems. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 118–141. (Summary) **99e:60204** 60K25 (90B22)

Fujimoto, Satoshi (*with* Kawakami, Norio) Exact Drude weight for the one-dimensional Hubbard model at finite temperatures. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 465–474. (Summary) **99b:82020** 82B20 (82B26)

Fujimoto, Tadahiro (*with* Ohno, Yoshio) Wrinkly surfaces: generating parametric surfaces by procedural interpolation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2168–2179. (Summary) **99e:65019** 65D17 (65D10)

Fujimoto, Yoshio On explicit constructions of rational elliptic surfaces with multiple fibers. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 517–523. (I. Dolgachev) **99m:14069** 14J27 (14J26)

— (*with* Sato, Eiichi) On smooth projective threefolds with non-trivial surjective endomorphisms. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 10, 143–145. (Sándor J. Kovács) **99m:14072** 14J30

Fujimura, Kaoru (*with* Nagata, Masato) Degenerate 1:2 steady state mode interaction—MHD flow in a vertical slot. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 377–400. (Summary) **99a:76161** 76W05 (76E25)

— (*with* Zhou, Heng) Further improvement of weakly nonlinear theory of hydrodynamic stability. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 84–92. (Isom H. Herron) **99d:76034** 76E05 (76E30)

— Pattern generation due to 1 : 2 resonance. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 11–15. (*see* **99f:76003**) 76E15 (34C99)

Fujimura, Masayo (*with* Nishizawa, Kiyoko) Bifurcations of Nusse-Yorke's family in the quadratic rational functions. Problems concerning complex dynamical systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 959 (1996), 90–102. (Introduction) **99g:58088** 58F14 (58F03)

— Moduli spaces of maps with two critical points. (English summary) Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 57–66. (Helena E. Nusse) **99h:58157** 58F23

— (*with* Nishizawa, Kiyoko) Bifurcations and algebraic curves for quadratic rational functions $\{mf(x)\}_m$. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 31–45. (Summary) **99a:58131** 58F23

— (*with* Nishizawa, Kiyoko) Branch locus of polynomial maps. (English summary) Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 32–38. (Peter Petek) **99m:30009** 30C10 (58F23)

Fujinaka, Toru (*with* Li, Deyu; Shibata, Hiroshi[1]) A discrete-time SAC system with no output tracking error. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 304–312. 93C55 (93D15)

Fujino, Ryoichi (*with* Arimura, Hiroki; Wataki, Atsushi; Arikawa, Setsuo) A fast algorithm for discovering optimal string patterns in large text databases. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 247–261, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68Q25

— (*with* Arimura, Hiroki; Wataki, Atsushi; Arikawa, Setsuo) A fast algorithm for finding optimum word-association patterns. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 175–182. (*see* **99i:65003**) 68Q20 (68P99)

Fujino, Seiji (*with* Fischer, Joachim) Über S. A. Gerschgorin (1901–1933). [About S. A. Gershgorin (1901–1933)] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 1, 15–19. 01A70

— (*with* Heil, Erhard) Who was Karl Hessenberg? (English summary) *Information* **1** (1998), *no.* 1, 29–36. (Editors) **99m:01057** 01A70

— (*with* Hoshino, Fumitaka; Sugihara, Masaaki) Verification of a numerical method for the exact solution of Burgers' equation using overload function of C++. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 11–16. (*see* **99h:65005**) 65M70

Fujioka, Atsushi (*with* Inoguchi, Jun-ichi) Bonnet surfaces with constant curvature. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 288–293. (Rabah Souam) **99e:53004** 53A05

Fujioka, Hisaya (*with* Hozumi, Jin; Hara, Shinji) Robust servo problem with $\mathscr{H}_\infty$ norm constraint. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 803–823. 93B36

Fujisaka, Hirokazu (*with* Watanabe, Takeshi; Iwayama, Takahiro) Dynamic scaling rules in the development process of drift wave turbulence. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 140–151. (*see* **99e:76056**) 76F99

— (*with* Iwayama, Takahiro; Okamoto, Hisao) Theoretical determination of the scaling exponent ξ in 2-dimensional decaying turbulence. (Japanese. Japanese summary) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 152–163. (*see* **99e:76056**) 76F99

— (*with* Watanabe, Takeshi; Iwayama, Takahiro; Okamoto, Hisao) Formation of the order structure and dynamical scaling rules in 2-dimensional turbulent systems. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 10–19. (*see* **99k:76004**) 76F99

Fujisaki, Eiichiro (*with* Okamoto, Tatsuaki) Statistical zero knowledge protocols to prove modular polynomial relations. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 16–30, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99i:94043** 94A60

Fujisaki, Hiroshi (*with* Kohda, Tohru) The frequency distribution of i.i.d. two-valued strings. (Japanese. Japanese summary) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 142–147. (*see* **99f:65007**) 60E05

Fujisaki, Yasumasa (*with* Minamide, Nariyasu; Simizu, Akira) A parametrization of all observers for descriptor systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 767–777. 93B07 (93C30)

— (*with* Duan, Yiran; Ikeda, Masao) A system representation and a control strategy based on an input-output data array. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 630–637. 93A30 (93B51)

Fujisawa, Hironori Efficient tests for mean structure in random effects models. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 487–512. (Tonghui T. Wang) **99h:62076** 62H15

Fujisawa, Katsuki Numerical experiments on interior point method programs related to positive semidefinite programming. (Japanese. English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 190–199. (Shinji Mizuno) **99d:90112** 90C30 (65K05)

— (*with* Kubo, Mikio) The life span method—a new variant of local search. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 363–393. (Horst W. Hamacher) **99k:90135** 90C27 (90C10, 90C20)

— (*with* Nakata, Kazuhide; Kojima, Masakazu) Using the conjugate gradient method in interior-points methods for semidefinite programs. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 297–316. 90C30 (90C08)

Fujisawa, Rikitaro *see* **Yamaguti, Kiyosi, 99i:01020**

Fujisawa, Takehisa (*with* Takahashi, Misa; Ōsawa, Hideo) A stochastic assembly system with resume levels. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 127–146. (Summary) **99i:90045** 90B05 (60K25, 90B22)

Fujisawa, Taro Polarized threefolds with non-zero effective anti-adjoint divisors. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 231–249. (Atanas Iliev) **99a:14061** 14J45 (14E30, 14J30)

— Limits of Hodge structures in several variables. (English summary) *Compositio Math.* **115** (1999), *no.* 2, 129–183. (Jan Nagel) **99m:14019** 14C30 (14D07, 32G20, 32J25)

Fujise, Tetsuro (*with* Murao, Hirokazu) Parallel algorithms for factoring polynomials in one variable. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 1–6. (*see* **99h:00034**) 65H05 (13P10, 65Y05, 68Q40)

Fujishige, Satoru Another simple proof of the validity of Nagamochi and Ibaraki's min-cut algorithm and Queyranne's extension to symmetric submodular function minimization. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 626–628. 05C85 (68Q20, 68R10)

— (*with* Yang, Zaifu) A lexicographic algebraic theorem and its applications. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 75–91. (Constantin Udrişte) **99k:15035** 15A48 (15A39)

Fujita, Etsuro (*with* Nomura, Takaaki) Berezin transforms on the 2×2 matrix space related to the $U(2) \times U(2)$-action. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 152–179. (Miroslav Engliš) **99k:43008** 43A80 (32M15, 33C45, 47A10, 47B38)

Fujita, Hiroshi[1] Remarks on the domain-dependence of convergence rate of iterations in a certain domain decomposition method. Analysis by the Steklov-Poincaré operator. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 71–84, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:65344** 65N55

— (*with* Kawarada, Hideo) Variational inequalities for the Stokes equation with boundary conditions of friction type. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 15–33, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Jürgen Socolowsky) **99j:76028** 76D07 (35Q35, 49J40, 76M25, 76M30)

— (*with* Morimoto, Hiroko; Okamoto, Hisashi) Stability of some Navier-Stokes flows in doubly connected domains. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 116–125, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99g:76063** 76E99 (35Q30, 76D05)

— (*with* Kawarada, Hideo; Suito, H.) Wave motion breaking upon the shore. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 145–159, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:86007** 86A05 (76M20, 86–08)

— *see also* **Recent developments in domain decomposition methods and flow problems, 99g:00054**

Fujita, Hisaaki Minimal injective resolution of an order over a local Dedekind domain. *Comm. Algebra* **26** (1998), *no.* 2, 447–451. (From the text) **99m:16014** 16E99

Fujita, Keiko (*with* Morimoto, Mitsuo) Conical Fourier-Borel transformations for harmonic functionals on the Lie ball. (English summary) *Generalizations of complex analysis and their applications in physics* (*Warsaw/Rynia*, 1994), 95–113, *Banach Center Publ.*, 37, *Polish Acad. Sci., Warsaw*, 1996. (Roberto Luiz Soraggi) **99b:32006** 32A45 (42A38, 46F12)

— (*with* Morimoto, Mitsuo) Spherical Fourier-Borel transformation. *Functional analysis and global analysis* (*Quezon City*, 1996), 78–87, *Springer, Singapore*, 1997. (Yoshifumi Ito) **99k:32002** 32A25 (32A45, 35A22, 44A15, 46N20)

— (*with* Morimoto, Mitsuo) Eigen functions of the Laplacian of exponential type. *New trends in microlocal analysis* (*Tokyo*, 1995), 39–58, *Springer, Tokyo*, 1997. (Günter Berger) **99f:35025** 35J05 (35P05, 46N20)

Fujita, Ken-etsu Calculus of classical proofs. I. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 321–335, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (Summary) **99e:03037** 03F05 (03B05, 03B40, 68N15)

— Calculus of classical proofs from programming viewpoint. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 7–34. (*see* **99a:03003**) 03F05 (03B70, 68Q99)

— Strong normalization of pure GL_w-$\lambda\mu$-terms. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 1–13. (*see* **99d:03003**) 03B40 (03B70, 68N15)

— On proof terms and embeddings of classical substructural logics. (English summary) *Studia Logica* **61** (1998), *no.* 2, 199–221. (Summary) **99f:03013** 03B40 (03B20, 03F50)

Fujita, Masayuki[1] (*with* Uchida, Kenko; Kojima, Akira) H_∞ control attenuating initial-state uncertainties. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 245–252. 93B36 (93C41)

— (*with* Hirata, Kenji) A switching state feedback control of input constrained linear discrete-time systems. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 316–323. 93B51 (93C55)

Fujita, Satoshi A fault tolerant broadcast scheme in star graphs. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 312–320, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (Summary) **99c:68011** 68M10 (68R10)

— A quorum based k-mutual exclusion by weighted k-quorum systems. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 191–197. (Summary) **99e:68041** 68Q10 (05A05)

— (*with* Pérennes, Stéphane; Peters, Joseph G.) Neighbourhood gossiping in hypercubes. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 189–195. (Summary) **99f:68015** 68M10

Fujita, Shigeji (*with* Godoy, Salvador) Quantum derivation of Ginzburg-Landau equation. New formula for penetration depth. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 287–294. (Guang Shan Tian) **99g:82082** 82D55 (82B21)

Fujita, Takao On Kodaira energy and adjoint reduction of polarized threefolds. *Manuscripta Math.* **94** (1997), *no.* 2, 211–229. (Jarosław A. Wiśniewski) **99a:14007** 14C20 (14E30, 14J30)

— An appendix to T. Kawachi-V. Maşek's paper on global generation of adjoint bundles on normal surfaces: "Reider-type theorems on normal surfaces" [J. Algebraic Geom. **7** (1998), no. 2, 239–249; MR 99f:14040]. *J. Algebraic Geom.* **7** (1998), *no.* 2, 251–252. (Marco Andreatta) **99f:14041** 14J17 (14C20, 14E05)

Fujita, Toshiharu (*with* Iwamoto, Seiichi; Tsurusaki, Kazuyoshi) Conditional decision-making in a fuzzy environment. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 150–162. (*see* **99b:90009**) 90A05

— (*with* Tsurusaki, Kazuyoshi) Stochastic optimization of multiplicative functions with negative value. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 351–373. (Summary) **99h:90073** 90C15

Fujita, Yasuhiro (*with* Morimoto, Hiroaki) On Bellman equations in quadratic ergodic control with controller constraints. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 1–15. (E. N. Barron) **99i:49031** 49L20 (49K45, 93E20)

Fujito, Toshihiro A unified approximation algorithm for node-deletion problems. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 213–231. (Mukkai S. Krishnamoorthy) **99e:05116** 05C85

— (*with* Berman, Piotr) On approximation properties of the independent set problem for low degree graphs. (English summary) *Theory Comput. Syst.* **32** (1999), *no.* 2, 115–132. (Summary) **99k:68075** 68Q25 (68R10)

Fujiwara, Akio (*with* Nagaoka, Hiroshi) Operational capacity and pseudoclassicality of a quantum channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1071–1086. (Summary) **99e:94023** 94A40

Fujiwara, Daisuke (*with* Tsuchida, Tetsuo) The time slicing approximation of the fundamental solution for the Schrödinger equation with electromagnetic fields. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 299–327. (Vitali A. Liskevich) **99b:35029** 35J10 (35A08, 47N50, 81Q05, 81V10)

— (*with* Kumano-go, Naoto; Taniguchi, Kazuo) A simple proof of the Kumano-go–Taniguchi theorem. (Japanese) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 59–67. (*see* **99m:35003**) 35S30

Fujiwara, Hidenori Analyse harmonique pour certaines représentations induites d'un groupe de Lie nilpotent. [Harmonic analysis for certain induced representations of a nilpotent Lie group] *J. Math. Soc. Japan* **50** (1998), *no.* 3, 753–766. (Mohammed E. B. Bekka) **99f:22011** 22E27 (22E25)

Fujiwara, Kazuhiro Rigid geometry, Lefschetz-Verdier trace formula and Deligne's conjecture. *Invent. Math.* **127** (1997), *no.* 3, 489–533. (From the introduction) **99c:14030** 14F20 (14G20)

Fujiwara, Koji (*with* Nevo, Amos) Maximal and pointwise ergodic theorems for word-hyperbolic groups. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 843–858. (Dmitry Y. Kleinbock) **99j:22006** 22D40 (28D15)

— The second bounded cohomology of a group acting on a Gromov-hyperbolic space. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 1, 70–94. (Jon M. Corson) **99c:20072** 20J05 (20F32, 57M25, 57M50, 57S30)

Fujiwara, Masahiko θ-congruent numbers. *Number theory* (*Eger*, 1996), 235–241, *de Gruyter, Berlin*, 1998. (Andrew Bremner) **99c:11068** 11G05

Fujiwara, Takashi (*with* Komuro, Naoto) Generalized supremum in partially ordered linear space and faces of the positive cone. (English summary) *J. Hokkaido Univ. Educ. Nat. Sci.* **49** (1998), *no.* 1, 5–9. (Summary) **99i:46003** 46A40

Fujiwara, Toru (*with* Kasami, Tadao; Sugita, Tsukasa) The split weight (w_L, w_R) enumeration of Reed-Muller codes for $w_L + w_R < 2d_{\min}$. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 197–211, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94047** 94B05

— (*with* Morelos-Zaragoza, Robert; Kasami, Tadao; Lin, Shu) Constructions of generalized concatenated codes and their trellis-based decoding complexity. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 725–731. (Summary) **99k:94051** 94B12

Fujiwara, Yuka (*with* Uezu, Tatsuya) On the bifurcation of trapezoid maps—an example of a class of one-dimensional maps with a superconvergent period doubling cascade. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 39–52. (Frederick R. Marotto) **99m:58134** 58F13 (58F14)

Fukada, Atsushi (*with* Kaji, Tadashi; Higashino, Teruo; Taniguchi, Kenichi; Mori, Masaaki) A conformance testing for communication protocols modeled as a set of DFSMs. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2519–2527. 68Q60

— (*with* Nakata, Akio; Higashino, Teruo; Taniguchi, Kenichi) Generation of test cases with timing constraints from timed I/O automata. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 85–94. (Summary) **99m:68127** 68Q68 (68Q60, 90B35)

Fukagai, Nobuyoshi (*with* Ito, Masayuki[2]; Narukawa, Kimiaki) A bifurcation problem of some nonlinear degenerate elliptic equations. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 895–926. (Norman Dancer) **99c:35070** 35J65 (34B15, 35B32, 47H15)

— (*with* Ito, Masayuki[2]; Narukawa, Kimiaki) Limit as $p \to \infty$ of p-Laplace eigenvalue problems and L^∞-inequality of the Poincaré type. (English summary) *Differential Integral Equations* **12** (1999), *no.* 2, 183–206. (Jan Bochenek) **99m:35058** 35J60 (35B40, 35P30)

Fukamachi, Shuichi (*with* Miyazaki, Masamichi; Takeda, Masayuki; Shinohara, Takeshi) Speeding up the pattern matching machine for compressed texts. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2638–2648. (Summary) **99h:68061** 68Q20 (68P20)

Fukaya, Kenji Geometry of gauge fields. (English summary) *Lectures on geometric variational problems* (*Sendai*, 1993), 43–114, *Springer, Tokyo*, 1996. (Joa Weber) **99b:57064** 57R57 (57R55, 58D27, 58D29, 58E05)

— Informal note on topology, geometry and topological field theory. *Geometry from the Pacific Rim* (*Singapore*, 1994), 99–116, *de Gruyter, Berlin*, 1997. (Dave Auckly) **99b:57065** 57R57 (58D29)

— (*with* Oh, Yong-Geun) Zero-loop open strings in the cotangent bundle and Morse homotopy. *Asian J. Math.* **1** (1997), *no.* 1, 96–180. (Joa Weber) **99e:58038** 58E05 (58D29, 58F09)

— The achievements of Fields medalist M. Kontsevich. II. (Japanese) *Sūgaku* **51** (1999), *no.* 1, 66–71. 01A70 (14–02, 58–02)

Fukaya, Takako On Hasse zeta functions of enveloping algebras of solvable Lie algebras. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 8, 187–188. (Shin-ya Koyama) **99b:11101a** 11M41 (17B30, 17B35)

— On Hasse zeta functions of enveloping algebras of solvable Lie algebras. II. *Proc. Japan Acad. Ser. A Math. Sci.* **72** (1996), *no.* 9, 199–201. (Shin-ya Koyama) **99b:11101b** 11M41 (17B30, 17B35)

— Hasse zeta functions of noncommutative rings. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 20–33. (*see* **99a:11003**) 11R54

— Hasse zeta functions of non-commutative rings. *J. Algebra* **208** (1998), *no.* 1, 304–342. (Shin-ya Koyama) **99i:11078** 11M41 (11R54)

Fukazawa, Kenji (*with* Ishikawa, Ken-Ichi; Inagaki, Tomohiro; Yamamoto, Kazuhiro) Dynamical symmetry breaking in compact flat spaces. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 237–255. (Summary) **99c:81081** 81R40 (81T20, 83F05)

Fuks, G. (*with* Zhukov, V. P.) The influence of the Hall effect on the compressibility of a plasma in a strong toroidal magnetic field. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 3–9. (Summary) **99h:76042** 76E25 (76W05)

Fukś, Henryk (*with* Boccara, Nino) Cellular automaton rules conserving the number of active sites. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6007–6018. (François Blanchard) **99e:58112** 58F08 (68Q80)

Fukshansky, A. (*with* Stroth, Gernot) Semiclassical parabolic systems related to M_{24}. (English summary) *Geom. Dedicata* **70** (1998), *no.* 3, 305–329. (Dmitrii V. Pasechnik) **99d:20023** 20D08 (51E24)

Fukuchi, Jun-ichiro (*with* Athreya, Krishna B.) Confidence intervals for endpoints of a c.d.f. via bootstrap. (English summary) *J. Statist. Plann. Inference* **58** (1997), *no.* 2, 299–320. (Hung Trung Nguyen) **99c:62127** 62G09 (62G15)

Fukuchi, Yasuhiro Graph labelings in elementary abelian groups. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 117–122. (Summary) **99f:05099** 05C78 (20K01)

Fukuda, Komei (*with* Namiki, Makoto; Tamura, Akihisa) EP theorems and linear complementarity problems. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 107–119. (David E. Stewart) **99b:90136** 90C33 (68Q25)

— (*with* Bremner, D.; Marzetta, A.) Primal-dual methods for vertex and facet enumeration. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 333–357. (Jesús A. de Loera) **99h:52016** 52B55 (68Q25, 68U05, 90C27)

— (*with* Da Silva, Ilda P. F.) Isolating points by lines in the plane. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 48–65. (Joseph Zaks) **99d:52010** 52B30 (52A10, 68Q25)

Fukuda, Nobuyuki[2] Finite-dimensional simple modules over quantised Weyl algebras. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 403–408. (K. R. Goodearl) **99e:16032** 16S36 (16D60, 16P40)

Fukuda, Ryoji (*with* Satô, Hiroshi[1]) Φ-density theorem on a metric space. *Kyushu J. Math.* **51** (1997), *no.* 1, 89–100. (W. P. Ziemer) **99c:28010** 28A15 (28A75)

Fukuda, Tokuo Fuzzy random data obtained as vague perceptions of random phenomena. *Statistical methods in control and signal processing*, 299–326, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 60G99 (04A72, 60D05)

Fukuda, Toshio (*with* Chen, Xinkai) Computer-controlled continuous-time variable structure systems with sliding modes. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 619–639. (Summary) **99m:93015** 93B12 (93C57)

— (*with* Chen, Xinkai) Variable structure system theory based disturbance identification and its applications. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 373–384. 93B12 (93B30)

— (*with* Chen, Xinkai) Implicit state estimators and their application to pole assignment controllers for systems with uncertainties. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 101–122. (Summary) **99c:93074** 93C73 (93B55, 93C41)

— (*with* Chen, Xinkai) VSS theory-based disturbance estimation scheme for MIMO systems and its applications. (English summary) *Internat. J. Control* **69** (1998), *no.* 6, 733–752. 93B12 (93E10)

— (*with* Chen, Xinkai) Adaptive quasi-sliding mode control for discrete-time multivariable systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 133–140. (Nicholas P. Karampetakis) **99k:93032** 93B12 (93C40)

Fukuhara, Kenzo Induced maps by homotopy pullbacks and pushouts. *Mem. College Ed. Akita Univ. Natur. Sci. No.* 53 (1998), 1–16. 55P05

Fukuhara, Shinji The space of period polynomials. *Acta Arith.* **82** (1997), *no.* 1, 77–93. (Introduction) **99i:11027** 11F20 (11B68, 11F11, 11F67)

— Modular forms, generalized Dedekind symbols and period polynomials. *Math. Ann.* **310** (1998), *no.* 1, 83–101. (Joanna Kania-Bartoszynska) **99k:11061** 11F20 (11F11, 57M99)

Fukui, Kazuhiko Commutators of foliation preserving homeomorphisms for certain compact foliations. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 1, 65–73. (Sandra L. Shields) **99b:57056** 57R30

— (*with* Imanishi, Hideki) On commutators of foliation preserving homeomorphisms. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 227–236. (Gaël Meigniez) **99i:57048** 57R30

Fukui, Seiichi (*with* Suzuki, Norihiko; Owa, Shigeyoshi) An application of Ruscheweyh derivatives for multivalent functions. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 121–125. (Summary) **99c:30034** 30C45

— p-valently α-convex functions of order β. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 14–19. (*see* **99a:00033**) 30C45

Fukui, T. *see* **Fukui, Toshizumi**

Fukui, Takahiro (*with* Kawakami, Norio) Spectral flow of non-Hermitian Heisenberg spin chain with complex twist. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 715–733. (Summary) **99b:82021** 82B20 (82B26)

Fukui, Toshizumi (*with* Koike, Satoshi; Kuo, Tzee-Char) Blow-analytic equisingularities, properties, problems and progress. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 8–29, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Kevin Houston) **99a:32051** 32S15 (14P20, 58C27)

— (*with* Koike, Satoshi; Shiota, Masahiro) Modified Nash triviality of a family of zero-sets of real polynomial mappings. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 5, 1395–1440. (Laurenţiu Păunescu) **99m:14112** 14P20 (58A07, 58A35, 58C27)

— (*with* Nuno Ballesteros, Juan J.; Saia, Marcelo José) On the number of singularities in generic deformations of map germs. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 141–152. (Kevin Houston) **99m:32046** 32S30 (58C27)

— *see also* **Errata: "Topological types of singularities of analytic functions (the work of the late Etsuo Yoshinaga)", (99a:00050)**

Fukuma, Masafumi (*with* Kawai, Hikaru; Kitazawa, Yoshihisa; Tsuchiya, Asato) String field theory from IIB matrix model. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 153–164. (Summary) **99d:81116** 81T30

Fukuma, Seiji (*with* Muramatsu, Hisanobu) L_p estimates based on Besov norms for maximal functions of solutions to Schrödinger equations. (Japanese) Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 1–11. (*see* **99i:00030**) 35Q55 (35B45)

— Radial functions and maximal estimates for radial solutions to the Schrödinger equation. *Tsukuba J. Math.* **22** (1998), *no.* 2, 509–518. (Cristian E. Gutiérrez) **99m:35039** 35J10 (35B45, 42B25, 46N20, 65M99)

Fukuma, Yoshiaki A lower bound for sectional genus of quasi-polarized manifolds. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 339–362. (Marino Palleschi) **99b:14004** 14C20 (14J40)

— On relative Kodaira energy of quasi-polarized fibre spaces and its application. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 503–513. (Andrew J. Sommese) **99c:14007** 14C20 (14J10, 14J40)

— (*with* Ishihara, Hironobu) Complex manifolds polarized by an ample and spanned line bundle of sectional genus three. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 159–168. (Antonio Lanteri) **99g:14007** 14C20 (14J40)

— A lower bound for $K_X L$ of quasi-polarized surfaces (X, L) with non-negative Kodaira dimension. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1209–1235. (Marino Palleschi) **99m:14008** 14C20 (14J99)

— On the nonemptiness of the adjoint linear system of polarized manifolds. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 267–278. (Marino Palleschi) **99j:14006** 14C20

— On polarized surfaces (X, L) with $h^0(L) > 0$, $\kappa(X) \geq 0$ and $g(L) = q(X) + 1$. (English summary) *Geom. Dedicata* **69** (1998), *no.* 2, 189–206. (Gian Mario Besana) **99d:14027** 14J25 (14C20)

— On sectional genus of quasi-polarized 3-folds. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 363–377. (Andrew J. Sommese) **99c:14051** 14J30 (14C20)

Fukumi, Toshio (*with* Nagao, Hidemi; Kamada, Kenji; Ohta, Koji; Matsueda, Hideaki) Quantum calculations connected with path integrals. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 203–206. (*see* **99b:00018**) 81S40

Fukumoto, Yasuhide (*with* Moffatt, H. Keith) Motion of a vortex ring in a viscous fluid. Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 107–120. (*see* **99e:76056**) 76D99 (76C05)

Fukushi, Takeo Perfect braided crossed modules and their mod-q analogues. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 135–146. (Timothy Porter) **99c:20073** 20J99

Fukushima, Hiroaki (*with* Sugie, Toshiharu) Identification of the smallest unfalsified model set based on stochastic noisy data. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 9, 477–482. 93E10 (93E12)

Fukushima, Júlia T. (*with* Moran, Regina C. C. P.; Vlachonikolis, Ioannis G.) On the distribution of quadratic forms and applications in the analysis of repeated measurements. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2625–2640. (Summary) **99i:62024** 62E15 (62J99)

Fukushima, Katsuhiko (*with* Kitagawa, Seinosuke) A generalization of the Newton-Raphson method. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 211–214. 65H05

Fukushima, Kazuhiro Perturbation method for φ^4-field equation. (English summary) *Mem. Fac. Ed. Kumamoto Univ. Natur. Sci. No.* 46 (1997), 1–7. (Woodford W. Zachary) **99c:81024** 81Q05 (35Q53, 58F07)

Fukushima, Masao (*with* Yamashita, Nobuo) Some properties of the restricted NCP-functions for the nonlinear complementarity problem. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 62–74. (Joaquím J. Júdice) **99f:90153** 90C33

— (*with* Luo, Zhi-Quan; Pang, Jong-Shi) A globally convergent sequential quadratic programming algorithm for mathematical programs with linear complementarity constraints. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 1, 5–34. (S. R. Mohan) **99e:90088** 90C30 (90C33)

— (*with* Kanzow, Christian) Theoretical and numerical investigation of the D-gap function for box constrained variational inequalities. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 55–87. (Michael M. Kostreva) **99i:90100** 90C33 (49J40, 90C30)

— (*with* Kanzow, Christian) Solving box constrained variational inequalities by using the natural residual with D-gap function globalization. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 45–51. (Michael M. Kostreva) **99j:90098** 90C33

— (*with* Jiang, Houyuan; Qi, Liqun; Sun, De Feng) A trust region method for solving generalized complementarity problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 140–157 (*electronic*). (Bruce D. Craven) **99c:90134** 90C33 (65K05)

— Parallel variable transformation in unconstrained optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 658–672 (*electronic*). (I. Norman Katz) **99e:90089** 90C30 (49M37, 65Y05)

— (*with* Pang, Jong-Shi) Some feasibility issues in mathematical programs with equilibrium constraints. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 673–681 (*electronic*). (Summary) **99c:90119** 90C30

— *see also* **Reformulation: nonsmooth, piecewise smooth, semismooth and smoothing methods, 99k:90004**

Fukushima, Masatoshi Dirichlet forms, Caccioppoli sets and the Skorohod equation. *Stochastic differential and difference equations (Győr, 1996)*, 59–66, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Wilhelm Stannat) **99m:60126** 60J65 (31C25, 60J50, 60J55)

— Distorted Brownian motions and BV functions. (English summary) *Trends in probability and related analysis (Taipei, 1996)*, 143–150, *World Sci. Publishing, River Edge, NJ*, 1997. (Patrick Fitzsimmons) **99m:60127** 60J65 (31C25, 60J55)

— Analysis of symmetric diffusion processes and related topics in analysis. (Japanese) *Sūgaku* **50** (1998), *no.* 1, 56–67. (Yoichi Ôshima) **99g:60138** 60J60 (31C25, 60J50)

Fukuta, Yuichi A simple discrete-time approximation of continuous-time bubbles. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 6, 937–954. (Summary) **99b:90021** 90A09

Fukuyama, Katusi Riesz-Raikov sums and irrational rotations. (English summary) *Trends in probability and related analysis (Taipei, 1996)*, 151–158, *World Sci. Publishing, River Edge, NJ*, 1997. (F. Móricz) **99c:60065** 60F15 (42C15, 65C05)

— (*with* Takahashi, Shigeru) The central limit theorem for lacunary series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 599–608. (F. Móricz) **99c:60041** 60F05 (42A55)

Fukuyama, Takeshi (*with* Yu, Song-Ju; Toda, Kouichi; Sasa, Narimasa) N soliton solutions to the Bogoyavlenskii-Schiff equation and a quest for the soliton solution in $(3 + 1)$ dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3337–3347. (Summary) **99b:35188** 35Q53

— (*with* Masuda, Tetsu; Sasa, Narimasa) Neugebauer-Kramer solutions of the Ernst equation in Hirota's direct method. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5717–5731. (Dmitri Korotkin) **99i:83015** 83C15

Fukuyu, Akio (*with* Rozi, Tashpulat) Response of Hill's spherical vortices to a 3-dimensional infinitesimal disturbance. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 80–96. (*see* **99e:76056**) 76C05 (76F99)

Fukuzaki, Kenji (*with* Aoyama, Kiwamu) Equivalence of the induction schema and the least number principle for open formulas. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 149–162. (Christian Bennet) **99c:03089** 03F30

Fulcheri, Pascale (*with* Olivi, Martine) Matrix rational H_2 approximation: a gradient algorithm based on Schur analysis. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 2103–2127 (*electronic*). (Ulrich Tautenhahn) **99e:93024** 93B30 (41A20, 47N70)

Fulford, G. R. (*with* Forrester, P. J.; Jones, Arthur Raymond) ★ Modelling with differential and difference equations. (English summary) Australian Mathematical Society Lecture Series, 10. *Cambridge University Press, Cambridge*, 1997. x+405 *pp. ISBN* 0-521-44069-6; 0-521-44618-X (John Brindley) **99f:00009** 00A71 (00A69, 34–01, 39–01)

— (*with* Broadbridge, Philip; Fowkes, N. D.; Chan, D. Y. C.; Lassig, C.) Bubbles in wet, gummed wine labels. (English summary) *SIAM Rev.* **41** (1999), *no.* 2, 363–372 (*electronic*). (Summary) **99m:76051** 76D08 (73H05, 76S05)

Fu-Li (*with* Buldygin, V. V.) On the asymptotic normality of estimators of impulse transfer functions of linear systems. I. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 16–24; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 17–24. (Zuzana Prášková) **99k:62176** 62M20 (60G25)

— (*with* Buldygin, V. V.) On the asymptotic normality of estimators of impulse transfer functions of linear systems. II. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 30–37; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 29–36 (1998). (Zuzana Prášková) **99k:62177** 62M20 (60G25)

Fuliński, A. On Marian Smoluchowski's life and contribution to physics. (English summary) Marian Smoluchowski Symposium on Statistical Physics (Zakopane, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 6, 1523–1537. (Cheng Xun Wu) **99j:82002** 82–03 (01A70, 82C31)

Fuller, A. T. Maxwell's treatment of governors fitted with differential gears. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 385–408. 93–03 (01A55, 70–03, 70Q05)

Fuller, J. David (*with* Murphy, Frederic H.) On the convergence of the decoupling algorithm for multiperiod equilibrium models. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 1, 33–39. (Summary) **99b:90029** 90A14

Fuller, Kent R. A note on quasi-duality. (English summary) *Abelian groups, module theory, and topology (Padua, 1997)*, 227–234, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Kwangil Koh) **99i:16014** 16D90 (16D20)

— On reflexivity of representations of local commutative algebras. *Colloq. Math.* **77** (1998), *no.* 1, 115–119. (William H. Gustafson) **99b:16005** 16D80 (13C13)

Fuller, Terry Diffeomorphism types of genus 2 Lefschetz fibrations. *Math. Ann.* **311** (1998), *no.* 1, 163–176. (John B. Etnyre) **99f:57035** 57R50 (14J27, 57M12, 57N13)

Fuller, Wayne A. Estimation for the nonlinear errors-in-variables model. (English summary) *Econometrics in theory and practice*, 15–21, *Physica, Heidelberg*, 1998. (Summary) **99g:62153** 62P20

— (*with* Shin, Dong Wan) Unit root tests based on unconditional maximum likelihood estimation for the autoregressive moving average. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 591–599. 62M10

Fulman, Jason The combinatorics of biased riffle shuffles. (English summary) *Combinatorica* **18** (1998), *no.* 2, 173–184. (Stanley Gill Williamson) **99j:05003** 05A15 (60C05)

— The distribution of descents in fixed conjugacy classes of the symmetric groups. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 2, 171–180. (Ira Gessel) **99j:05004** 05A15 (05E99, 20B30)

Fulmek, Markus Dual rook polynomials. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 67–81. (Christian Krattenthaler) **99b:05002** 05A15 (05A19)

Fülöp, Géza BRST-co-BRST quantization of reparametrization-invariant theories. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 21, 3629–3648. (Mohamed Kachkachi) **99f:81208** 81T70 (58F40)

Fülöp, J. (*with* Imreh, Balázs; Friedler, F.) On the formulation of some classes of PNS-problems as set covering problems. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 329–337. (Xue Liang Li) **99f:68095** 68Q25 (90C27, 90C35)

Fulp, R. (*with* Barnich, Glenn; Lada, Tom; Stasheff, James D.) The sh Lie structure of Poisson brackets in field theory. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 585–601. (Friedemann Brandt) **99j:17030** 17B55 (18G35, 58F05)

Fulton, C. T. (*with* Pruess, Steven) The computation of spectral density functions for singular Sturm-Liouville problems involving simple continuous spectra. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 1, 107–129. (Summary) **99j:65127** 65L10 (65–04)

Fulton, Scott R. A comparison of multilevel adaptive methods for hurricane track prediction. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 120–132 (*electronic*). (Summary) **99a:86002** 86–08 (76M20, 86A10)

Fulton, William ★ Young tableaux. (English summary) With applications to representation theory and geometry. London Mathematical Society Student Texts, 35. *Cam-*

bridge University Press, Cambridge, 1997. x+260 *pp. ISBN* 0-521-56144-2; 0-521-56724-6 (Tadeusz Józefiak) **99f:05119** 05E10 (05E05, 05E15, 14M15, 20G05)

— ★ Intersection theory. Second edition. Ergebnisse der Mathematik und ihrer Grenzgebiete. 3. Folge. A Series of Modern Surveys in Mathematics [Results in Mathematics and Related Areas. 3rd Series. A Series of Modern Surveys in Mathematics], 2. *Springer-Verlag, Berlin*, 1998. *xiv*+470 *pp. ISBN* 3-540-62046-X (From the preface) **99d:14003** 14C17 (14–02)

— (*with* Pragacz, Piotr) ★ Schubert varieties and degeneracy loci. Appendix J by the authors in collaboration with I. Ciocan-Fontanine. Lecture Notes in Mathematics, 1689. *Springer-Verlag, Berlin*, 1998. *xii*+148 *pp. ISBN* 3-540-64538-1 (Laurent Manivel) **99m:14092** 14M15 (14C17)

— Universal Schubert polynomials. *Duke Math. J.* **96** (1999), *no.* 3, 575–594. (Venkatramani Lakshmibai) **99m:14093** 14M15 (05E15, 14C17)

Fumin, Song *see* **Song, Fu Min**

Funahashi, Ken-ichi Approximation theory, dynamical systems, and recurrent neural networks. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv*, 1994), 51–58, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Virginia W. Noonburg) **99m:41031** 41A30 (34C35, 92B20)

Funahashi, Yasuyuki (*with* Ooba, Tatsushi) On a common quadratic Lyapunov function for widely distant systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1697–1699. (Summary) **99i:93044** 93D05 (34D20, 34H05)

Funaki, Tadahisa Singular limit for reaction-diffusion equation with self-similar Gaussian noise. (English summary) *New trends in stochastic analysis (Charingworth*, 1994), 132–152, *World Sci. Publishing, River Edge, NJ*, 1997. (Krystyna Twardowska) **99m:60095** 60H15 (35K57, 35R60)

— (*with* Woyczyński, Wojbor A.) Interacting particle approximation for fractal Burgers equation. (English summary) *Stochastic processes and related topics*, 141–166, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Piotr Biler) **99g:60185** 60K35 (35Q53, 60H10, 60J25, 76D99, 76M35)

— (*with* Biler, Piotr; Woyczyński, Wojbor A.) Fractal Burgers equations. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 9–46. (Ana Bela Cruzeiro) **99g:35111** 35Q53 (76D99, 76F99, 76M35)

Funakoshi, Mitsuaki (*with* Yoshimatsu, Katsunori) Pattern selection in high aspect ratio Faraday surface waves. Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 110–121. (*see* **99a:00032**) 76B15 (35Q51)

— (*with* Ichida, Yoshio) Chaotic mixing in flows between two eccentric cylinders. (Japanese. Japanese summary) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 31–52. (*see* **99e:76056**) 76F20

— (*with* Kawakami, Akihiko) Elliptic vortices within a shear flow and the exterior flow. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 65–79. (*see* **99e:76056**) 76F10 (76C05, 76D99)

— (*with* Ohsugi, Yasuo) Generation of shallow water waves by localized topographical variations. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 201–213. (*see* **99f:76003**) 76B15

Funakoshi, Shota Elementary construction of the sheaf of small 2-microfunctions and an estimate of supports. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 221–240. (Nobuyuki Tose) **99a:58141** 58G07 (32C38, 35A27)

Funar, Louis (*with* Grimaldi, Renata) La topologie à l'infini des variétés à géométrie bornée et croissance linéaire. (English summary) [The topology at infinity of manifolds with bounded geometry and linear growth] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 851–858. (Ronaldo Alves Garcia) **99b:53048** 53C20

— On discrete solvgroups and Poénaru's condition. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 2, 81–85. (Ilya Kapovich) **99k:20074** 20F32 (57M07)

Funaro, D. (*with* Giangi, M.; Mansutti, D.) A splitting method for unsteady incompressible viscous fluids imposing no boundary conditions on pressure. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 95–104. (Summary) **99b:76064** 76M25 (65M70, 76D05, 76M20)

Funderlic, R. E. (*with* Chu, Moody T.; Golub, Gene H.) Rank modifications of semidefinite matrices associated with a secant update formula. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 428–436 (*electronic*). (Henry Wolkowicz) **99g:90117** 90C30 (65F30)

Fundo, Mishel The dentability in the spaces with two topologies. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1117–1130. (Klaus-Dieter Bierstedt) **99e:46001** 46A04 (46A70, 46B20)

— Hemivariational inequalities in subspaces of $L^p(\Omega)$ ($p \geq 3$). *Nonlinear Anal.* **33** (1998), *no.* 4, 331–340. (Daniel Goeleven) **99e:49009** 49J40 (47H19)

Fung, M. K. KdV equation as an Euler-Poincaré equation. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 2, 789–796. (Woodford W. Zachary) **99e:58097** 58F07 (35A30, 35Q53, 58F05)

Fung, R.-F. (*with* Chen, K.-W.) Dynamic analysis and vibration control of a flexible slider-crank mechanism using PM synchronous servo motor drive. (English summary) *J. Sound Vibration* **214** (1998), *no.* 4, 605–637. 73K50 (93C95)

Fung, R. Y. K. (*with* Tang, Jia Fu; Wang, Ding Wei; Ip, A.) A hybrid genetic algorithm for a type of nonlinear programming problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 11–21. 90C30 (65K05)

Fung, T. C. Higher-order accurate least-squares methods for first-order initial value problems. (English summary) *Internat. J. Numer. Methods Engrg.* **45** (1999), *no.* 1, 77–99. 65L05 (65L07)

— On the accuracy of Galerkin methods in the time domain. (English summary) *J. Vib. Control* **5** (1999), *no.* 2, 155–174. (Summary) **99j:73113** 73V20 (65N30, 73K12)

Fung, Wing-Kam (*with* Shi, Peide) A note on transforming a response variable for linearity. (English summary) *Biometrika* **85** (1998), *no.* 3, 749–754. (Summary) **99m:62105** 62J05

Funk, Jonathon (*with* Bunge, Marta C.) Spreads and the symmetric topos. II. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 1, 49–84. (Peter Johnstone) **99k:18006a** 18B25 (18A32, 18C15, 54B30, 54C10)

— (*with* Bunge, Marta C.) Erratum to: "Spreads and the symmetric topos. II". *J. Pure Appl. Algebra* **133** (1998), *no.* 3, 327–328. (Peter Johnstone) **99k:18006b** 18B25 (18A32, 18C15, 54B30, 54C10)

Funken, S. A. (*with* Carstensen, Carsten; Stephan, Ernst P.) On the adaptive coupling of FEM and BEM in 2-d-elasticity. (English summary) *Numer. Math.* **77** (1997), *no.* 2, 187–221. (Rolf Rannacher) **99d:73087** 73V05 (65N30, 73V10)

Funo, Eiichiro (*with* Meeden, Glen; Geyer, Charles J.; Lang, Joseph) The admissibility of the maximum likelihood estimator for decomposable log-linear interaction models for contingency tables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 473–493. (Summary) **99c:62021** 62C15 (62F10, 62H17)

Furbach, Ulrich (*with* Baumgartner, Peter) Calculi for disjunctive logic programming. (English summary) *Logic programming (Port Washington, NY*, 1997), 229–243, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68014** 68N17 (68Q55)

— *see also* **Logic programming and nonmonotonic reasoning, 99a:68011**

Füredi, Zoltán Scrambling permutations and entropy of hypergraphs. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 2, 97–104. (Sergeĭ L. Bezrukov) **99a:05106** 05C65

— (*with* Downey, Rodney G.; Jockusch, Carl G., Jr.; Rubel, Lee A.) Difference sets and computability theory. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 63–72. (A. A. Mullin) **99h:03022** 03D20 (03D25, 05B10)

— (*with* Ruszinkó, Miklós) An improved upper bound of the rate of Euclidean superimposed codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 799–802. (Summary) **99k:94069** 94B65

Fürer, Martin (*with* Subramanian, C. R.; Veni Madhavan, C. E.) Algorithms for coloring semi-random graphs. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 2, 125–158. (Summary) **99g:68155** 68R10 (05C15, 05C85, 68Q25)

Furi, Massimo (*with* Pera, Maria Patrizia) Global bifurcation of fixed points and the Poincaré translation operator on manifolds. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 313–331. (Christian Fenske) **99b:58034** 58C30 (34C25, 47H15, 58F14)

— (*with* Pera, Maria Patrizia) Carathéodory periodic perturbations of the zero vector field on manifolds. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 79–92. (Anna Capietto) **99h:58153** 58F22 (34C25, 58C30, 58F30)

— (*with* Spadini, Marco) Multiplicity of forced oscillations for the spherical pendulum. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 147–157. (Roman Srzednicki) **99h:58154** 58F22 (34C25, 58F30, 70K40)

Furlan, P. The price for quantum group symmetry: chiral versus 2D WZNW model. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 92–101, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81T40 (81R50)

— (*with* Ganchev, A. Ch.; Petkova, Valentina B.) Fusion rules for admissible representations of affine algebras: the case of $A_2^{(1)}$. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 645–668. (Mark A. Walton) **99k:81091** 81R10 (17B67)

Furlani, Edward P. Quantization and scattering of massive scalar fields on exterior domains. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7895–7917. (Michael Keyl) **99g:81145** 81T20 (35Q40, 46N50, 47N50, 81U20)

Furman, Alex (*with* Weiss, Benjamin) On the ergodic properties of Cartan flows in ergodic actions of $SL_2(\mathbf{R})$ and $SO(n, 1)$. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1371–1382. (Alexander Starkov) **99a:58105** 58F11 (22D40, 58F15)

Furman, Judith (*with* Borchers, Brian) A two-phase exact algorithm for MAX-SAT and weighted MAX-SAT problems. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 299–306. 90C27 (90C35)

Furmańczyk, K. (*with* Niemiro, W.) Sufficiency in Bayesian models. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 1, 113–120. (Dieter Mussmann) **99d:62002** 62B05 (62F15)

Furno, Marilena A robust heteroskedasticity consistent covariance matrix estimator. (English summary) *Statistics* **30** (1997), *no.* 3, 201–219. (Summary) **99c:62071** 62F35

Furrer, Hansjörg Risk processes perturbed by α-stable Lévy motion. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 59–74. (Paul Embrechts) **99e:60198** 60K20 (62P05)

Furs, A. N. (*with* Barkovsky, M. L.) Complex Maxwell groups in the description of evanescent photons. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3241–3253. (Summary) **99c:78008** 78A25

— (*with* Barkovskiĭ, L. M.) Refractive index tensors in connection with problems of photon scattering. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2061–2074. (Summary) **99k:78005** 78A10

Fursaev, D. V. Euclidean and canonical formulations of statistical mechanics in the presence of Killing horizons. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 447–468. (Guido Cognola) **99d:83052** 83C47 (81T20)

— (*with* Frolov, Valery P.) Black hole entropy in induced gravity: reduction to 2D quantum field theory on the horizon. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124009, 9 *pp.* (Summary) **99m:83111** 83C57 (81T20)

Fursikov, Andrei V. Time-periodic statistical solutions of the Navier-Stokes equations. (English summary) *Turbulence modeling and vortex dynamics (Istanbul*, 1996), 123–147, *Lecture Notes in Phys.*, 491, *Springer, Berlin*, 1997. (Arnaud Debussche) **99a:35199** 35Q30 (35R60, 76D05, 76M35)

— (*with* Gunzburger, Max D.; Hou, LiSheng) Optimal Dirichlet control and inhomogeneous boundary value problems for the unsteady Navier-Stokes equations. (English summary) *Control and partial differential equations (Marseille-Luminy*, 1997), 97–116 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Ruxandra Stavre) **99k:49013** 49J20 (35Q30, 49K20, 76D05)

— Optimal control problems for Navier-Stokes system with distributed control function. *Optimal control of viscous flow*, 109–150, *SIAM, Philadelphia, PA*, 1998. (Alexander Yurjevich Chebotarev) **99h:49005** 49J20 (35Q30, 76D05)

— On boundary zero controllability of the three-dimensional Navier-Stokes equations. (English summary) *Theory of the Navier-Stokes equations*, 31–45, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Mary Ann Horn) **99h:93013** 93B05 (35Q30, 76D05, 93C20)

— (*with* Imanuvilov, Oleg Yu.) Local exact boundary controllability of the Boussinesq equation. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 391–421 (*electronic*). (Alexander Yurjevich Chebotarev) **99c:93058** 93C20 (35Q35, 76D05, 93B05)

— (*with* Gunzburger, Max D.; Hou, LiSheng) Boundary value problems and optimal boundary control for the Navier-Stokes system: the two-dimensional case. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 852–894 (*electronic*). (Sergey V. Nikitin) **99c:76030** 76D05 (35Q30, 49J20)

Fursov, A. S. (*with* Nosov, A. P.) Using asymptotic invariance methods for output stabilization of a class of uncertain systems with stable zero dynamics. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 80–93. (Éva Gyurkovics) **99e:93068** 93D15 (93D09, 93D20, 93D25)

Furstenberg, Eric (*with* Li, Jie; Schneider, Jodi) Stick knots. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 561–568. (Sergei K. Lando) **99g:57007** 57M25

Furstenberg, H. (*with* Glasner, Eli) Robert Ellis and the algebra of dynamical systems. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 3–12, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Krzysztof Ciesielski) **99f:54053** 54H20 (01A70, 54–03)

— (*with* Glasner, Eli) Subset dynamics and van der Waerden's theorem. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 197–203, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (François Blanchard) **99d:11010** 11B25 (54H20)

Furta, S. D. (*with* Kozlov, Valeriĭ V.) ★ Асимптотики решений сильно нелинейных систем дифференциальных уравнений. (Russian. Russian summary) [Asymptotic expansions of solutions of strongly nonlinear systems of differential equations] *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1996. 244 *pp.* *ISBN* 5-211-03775-8 (Sergei A. Dovbysh) **99b:34084** 34D05 (34E05, 58F10)

— (*with* Bardin, B. S.) Soliton-like oscillations of an infinite beam on a non-linearly elastic support. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 145–156. (Summary) **99a:73056** 73D35 (35Q72, 58F27, 58F40, 73K05, 73K12)

Furtado, Susana (*with* Silva, Fernando C.) On the characteristic polynomial of matrices with prescribed columns and the stabilization and observability of linear systems. (English summary) *Electron. J. Linear Algebra* **4** (1998), 19–31 (*electronic*). (Jacek Kabziński) **99h:15009** 15A18 (93D15)

Furter, J. E. (*with* Bridges, Thomas J.; Lahiri, Avijit) Instability and bifurcation near the symplectic 1:4 resonance. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 271–292. (Jörg M. Härterich) **99d:58127** 58F14 (34C23, 34C25, 70H05, 70K99)

Furter, Jean-Philippe On the degree of the inverse of an automorphism of the affine space. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 3, 277–292. (Joseph Gubeladze) **99g:14015** 14E09 (13B10, 13F20)

Furth, Dave The core of the inductive limit of a direct system of economies with a communication structure. (English summary) *J. Math. Econom.* **30** (1998), *no.* 4, 433–472. (C. D. Aliprantis) **99m:90037** 90A14 (90D44)

Furudate, Takashi (*with* Imae, Joe) A design method of fixed-order H_∞ controllers via bilinear matrix inequalities. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 10, 554–567. 93B36 (93B51)

Furuhata, Hitoshi A cylinder theorem for isometric pluriharmonic immersions. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 301–311. (Luis M. Hervella) **99b:53084** 53C42 (53C50)

— (*with* Matsuzoe, Hiroshi; Urakawa, Hajime) Open problems in affine differential geometry and related topics. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 125–127. 53A15 (53–02)

Furuichi, Shigeru (*with* Ohya, Masanori; Suyari, Hiroki) An analysis of the quantum amplification process based on quantum mutual entropy. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 225–235. (*see* **99b:00018**) 94A05 (81P99)

— (*with* Oshima, Kunio) Quantum control on quantum amplifier processes by means of squeezed state. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 113–123. (*see* **99h:65005**) 81P99

— (*with* Oshima, Kunio) Application of matrices generated by rank one matrices in mathematical science. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 131–140. (Shao Kuan Li) **99k:15040** 15A57 (15A18)

Furukado, Maki (*with* Ito, Shunji) The quasi-periodic tiling of the plane and Markov subshifts. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 1, 1–42. (R. Blind) **99f:52024** 52C20 (28D05)

Furukawa, Koichi (*with* Murakami, Tomoko; Ueno, Ken; Ozaki, Tomonobu; Shimazu, Keiko) On a sufficient condition for the existence of most specific hypothesis in Progol. (English summary) *Inductive logic programming* (*Prague*, 1997), 157–164, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

— (*with* Padmanabhuni, Srinivas; Goebel, Randy) Curried least general generalization: a framework for higher order concept learning. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 45–60, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05)

Furukawa, Nagata Parametric orders on fuzzy numbers and their roles in fuzzy optimization problems. (English summary) *Optimization* **40** (1997), *no.* 2, 171–192. (J. J. Buckley) **99m:04004** 04A72 (90C70)

— A new parametric method for finding efficient solutions in biobjective shortest route problems. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 107–113. (*see* **99h:90006**) 90C35 (90C29)

Furukawa, Tôru A remark on torsion-free subgroups in group rings. *Math. J. Okayama Univ.* **38** (1996), 109–114 (1998). (Antonio Giambruno) **99k:16057** 16S34 (20C07)

Furumochi, Tetsuo (*with* Burton, T. A.) Periodic solutions of a neutral integro-differential equation. *Funkcial. Ekvac.* **41** (1998), *no.* 2, 327–336. (George Seifert) **99m:34187** 34K40 (45J05)

Furuoya, Tasuku (*with* Shiga, Tokuzo) Sample Lyapunov exponent for a class of linear Markovian systems over $\mathbf{Z}^d$. *Osaka J. Math.* **35** (1998), *no.* 1, 35–72. (Klaus Fleischmann) **99g:60099** 60H10 (60J30)

Furusawa, Harushi The chordal norm of Kleinian groups. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 71–76. (Makoto Masumoto) **99h:30040** 30F40 (20H10, 22E40)

Furusawa, Hitoshi (*with* Kawahara, Yasuo) Crispness and representation theorem in Dedekind categories. Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 63–69. (*see* **99d:03003**) 03G30 (03E72, 03G15)

— A representation theorem for relation algebras: concepts of scalar relations and point relations. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 109–119. (Szabolcs Mikulás) **99m:03127** 03G15 (03G10)

— (*with* Kawahara, Yasuo) An algebraic formalization of fuzzy relations. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 125–135. (Summary) **99i:03069** 03E72

Furusawa, Masaaki (*with* Shalika, Joseph A.) The fundamental lemma for the Bessel and Novodvorsky subgroups of GSp(4). (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 2, 105–110. (Dihua Jiang) **99k:11075** 11F70

Furushima, Mikio Errata to the paper: "On the minimal compactifications of $\mathbf{C}^{2n}$" [Math. Nachr. **186** (1997), 115–129; MR 98e:32049]. *Math. Nachr.* **193** (1998), 255. 32J05

Furusho, Yasuhiro (*with* Kusano, Takaši) A supersolution-subsolution method for nonlinear biharmonic equations in $\mathbf{R}^N$. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 749–768. (Introduction) **99g:35033** 35J30 (35B45, 35J60)

— (*with* Kusano, Takaši) Positive entire solutions to nonlinear biharmonic equations in the plane. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 161–173. (Summary) **99a:35064** 35J60 (35B05)

Furuta, Katsuhisa (*with* Hara, Masaaki; Pan, Yaodong; Hoshino, Tasuku) Evaluation of discrete-time VSC on an inverted pendulum apparatus with additional dynamics. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 159–181. (*see* **99a:93003**) 93C95

— (*with* Pan, Yaodong) Variable structure control for sampled-data systems. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 164–183, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C57 (93B12)

Furuta, Mikio Donaldson invariants and Seiberg-Witten theory. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 181–198. 57R57 (58D27, 58G05)

Furuta, Takayuki (*with* Yanagida, Masahiro) Generalized means and convexity of inversion for positive operators. *Amer. Math. Monthly* **105** (1998), *no.* 3, 258–259. (Frank Hansen) **99b:47025** 47A63 (47B15)

— Operator inequalities associated with Hölder-McCarthy and Kantorovich inequalities. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 137–148. (T. Ando) **99k:47040** 47A63

— (*with* Yamazaki, Takeaki; Yanagida, Masahiro) Order preserving operator inequalities via Furuta inequality. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 471–476. (Summary) **99i:47030** 47A63

— (*with* Fujii, Jun Ichi) An operator version of the Wilf-Diaz-Metcalf inequality. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 47–52. (Frank Hansen) **99d:47019** 47A63 (47B15)

— (*with* Yamazaki, Takeaki; Yanagida, Masahiro) On a conjecture related to Furuta-type inequalities with negative powers. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 213–218. (Frank Hansen) **99j:47020** 47A63

— Simplified proof of an order preserving operator inequality. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 7, 114. (From the text) **99i:47031** 47A63

— (*with* Yamazaki, Takeaki; Yanagida, Masahiro) An extension of order preserving operator inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 48–59. (Masatoshi Fujii) **99k:47043** 47A63

— (*with* Yanagida, Masahiro; Yamazaki, Takeaki) Generalized operator functions implying order preserving operator inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 60–67. (Editors) **99g:47033** 47A63 (47A56)

Furutani, Eiko (*with* Hagiwara, Tomomichi; Araki, Mituhiko) Two-degree-of-freedom design method of linear-quadratic servo systems with an integral compensator: analysis of the performance deterioration by the introduction of an observer. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 941–958. 93B52 (49N10)

— (*with* Araki, Mituhiko) Robust stability of state-predictive and Smith control systems for plants with a pure delay. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 907–919. (Summary) **99d:93049** 93D09 (93C30)

Furutani, Hiroshi Application of Eigen's evolution model to infinite population genetic algorithms with selection and mutation. (English summary) *Complex Systems* **10** (1996), *no.* 5, 345–366. (Summary) **99c:68211** 68T05

Furutani, Kenro (*with* Booss, Bernhelm) The Maslov index: a functional analytical definition and the spectral flow formula. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 1–34. (Liviu I. Nicolaescu) **99e:58172** 58G10 (47B25, 58G20)

Furuya, Jun (*with* Tanigawa, Yoshio) Estimation of a certain function related to the Dirichlet divisor problem. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 171–189, *VSP, Utrecht*, 1997. (Jörn Steuding) **99j:11106** 11N37 (11N56)

Furuya, Mamoru (*with* Niitsuma, Hiroshi) On the differential submodules of modules. *Math. J. Okayama Univ.* **38** (1996), 13–24 (1998). (Andrzej Nowicki) **99h:13008** 13B10 (13N05)

Furuzawa, Mitsue (*with* Inuzuka, Nobuhiro; Seki, Hirohisa; Itoh, Hidenori) Induction of recursive logic programs based on structural analysis of saturations. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3155–3164. (Summary) **99j:68013** 68N17 (68T05)

Fuschi, P. (*with* Polizzotto, Castrenze) Internal-variable constitutive model for rate-independent plasticity with hardening saturation surface. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 73–95. (Summary) **99b:73018** 73E05 (73B30)

Fusco, Giorgio (*with* Alikakos, Nicholas D.; Chen, Xinfu) Motion by surface tension along a fixed boundary. *Differential equations and applications* (*Hangzhou*, 1996), 1–13, *Internat. Press, Cambridge, MA*, 199?. (Barbara Priwitzer) **99b:35171** 35Q35 (49Q10, 76D45)

— (*with* Bellettini, Giovanni) The dynamics of $V = H - \overline{H}$: motion of a small drop on a fixed surface. (English summary) *International Conference on Differential Equations*

(*Lisboa*, 1995), 26–38, *World Sci. Publishing, River Edge, NJ*, 1998. (Barbara Priwitzer) **99j:35091** 35K55 (35Q35, 53A05, 76D99)

— (*with* Oliva, Waldyr Muniz) Asymptotic behaviour of a system of repelling particles: asymptotic velocities, phases, scattering operators and integrability. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 69–81, *World Sci. Publishing, River Edge, NJ*, 1998. (Lev Lerman) **99j:34066** 34C99 (70F10)

— (*with* Alikakos, Nicholas D.) Slow dynamics for the Cahn-Hilliard equation in higher space dimensions: the motion of bubbles. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 1, 1–61. (Xiang Sheng Xu) **99d:35013** 35B25 (35K10, 35Q80, 35R35, 80A22)

— (*with* Alikakos, Nicholas D.; Bronsard, Lia) Slow motion in the gradient theory of phase transitions via energy and spectrum. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 1, 39–66. (Stanislaus Maier-Paape) **99d:82025** 82B26 (35Q72, 73B30)

Fusco, Nicola (*with* Fonseca, Irene) Regularity results for anisotropic image segmentation models. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 463–499. (Françoise Dibos) **99f:49007** 49J20 (49N60)

— (*with* Acerbi, Emilio; Fonseca, Irene) Regularity of minimizers for a class of membrane energies. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 11–25 (1998). (Jean-Pierre Raymond) **99j:49078** 49N60 (35J20, 49J10, 73C50, 73V25)

— (*with* Marcellini, Paolo; Ornelas, António) Existence of minimizers for some non-convex one-dimensional integrals. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 167–185. (Jean-Pierre Raymond) **99e:49002** 49J05

— (*with* Boccardo, Lucio; Ferone, Vincenzo; Orsina, Luigi) Regularity of minimizing sequences for functionals of the calculus of variations via the Ekeland principle. *Differential Integral Equations* **12** (1999), *no.* 1, 119–135. (Giuseppe Mingione) **99j:49079** 49N60 (49J10)

— (*with* Cianchi, Andrea) Gradient regularity for minimizers under general growth conditions. *J. Reine Angew. Math.* **507** (1999), 15–36. (Elvira Mascolo) **99m:49062** 49N60 (49J99)

Fushchich, Vīl'gel'm Īllīch (*with* Basarab-Horwath, Peter) Implicit and parabolic ansatzes: some new ansatzes for old equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 34–47, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (C. Rogers) **99c:35008** 35A30 (35Q55)

— (*with* Barannyk, Lyudmyla L.) Symmetry reduction on subalgebras of the Poincaré algebra of a nonlinear system of differential equations of a vector field. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 50–57. (Summary) **99k:35010** 35A30 (58F35)

— (*with* Zhdanov, Renat) On new representations of Galilei groups. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 426–435. (Eric Y. Leung) **99b:22030** 22E70 (81R05)

— (*with* Symenoh, Z. I.) Symmetry of equations with convection terms. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 470–479. (Stanislaus Maier-Paape) **99i:35062** 35K55 (22E70, 35A30, 35Q55)

— (*with* Barannik, L. F.; Basarab-Horwath, Peter) On the classification of subalgebras of the conformal algebra with respect to inner automorphisms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4899–4922. (J. Lõhmus) **99m:81070** 81R05 (17B68)

— (*with* Symenoh, Z. I.; Tsifra, I. M.) Symmetry of the Schrödinger equation with variable potential. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 13–22. (Sen Yue Lou) **99a:35233** 35Q55 (35A30, 35Q53)

— What is the velocity of the electromagnetic field? (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 159–161. (T. Erber) **99d:78012** 78A25

— (*with* Zhdanov, Renat; Revenko, I. V.) Stationary mKdV hierarchy and integrability of the Dirac equations by quadratures. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 155–158. (Woodford W. Zachary) **99d:58093** 58F07 (35Q53, 81Q05)

— (*with* Boĭko, V. K.) Lowering of order and general solutions of some classes of partial differential equations. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 311–318. 35A25 (35A30)

— *see also* **Symmetry in nonlinear mathematical physics, 99b:00027**; **Nikitin, Anatolii, 99c:01024** *and* **Obituary: Fushchich, Vīl'gel'm Īl'ich, 99c:01025**

Fushimi, Masanori Definition of a finite random number sequence and pseudorandom number generation. (Japanese) Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 58–63. (*see* **99a:00044**) 11K45 (65C10)

— (*with* Morohosi, Hozumi) Error estimation for quasi-Monte Carlo methods. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 101–108. (*see* **99f:65007**) 65C05 (65U05)

— (*with* Morohosi, Hozumi) Designing a uniform random number generator with approximate asymptotic randomness. (Japanese. English summary) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 109–117. (*see* **99f:65007**) 65C10

llorens-Fuster, Enrique *see* **Llorens-Fuster, Enrique**

romero Fuster, M. Carmen *see* **Romero Fuster, M. Carmen**

Futamase, Toshifumi (*with* Itoh, Yousuke; Hotta, M.; Morikawa, Masahiro) Thermal hair of a quantum black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064016, 11 *pp.* 83C57

— (*with* Takada, Masahiro) How is the local-scale gravitational instability influenced by the surrounding large-scale structure formation? (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 461–486. (Summary) **99m:85005** 85A40

— (*with* Morishima, Takahiro) Collapsing open isotropic universe generated by nonminimally coupled scalar field. (English summary) *Phys. Lett. B* **447** (1999), *no.* 1-2, 46–50. 83F05

Futatsugi, Kokichi (*with* Matsumoto, Michihiro) Test set coinduction—toward automated verification of behavioural properties. (English summary) *International Workshop on Rewriting Logic and its Applications* (*Pont-à-Mousson*, 1998), 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 15, *Elsevier, Amsterdam*, 1998. (*see* **99h:68014**) 68Q65 (68Q42)

Futorny, V. M. ★ Representations of affine Lie algebras. Queen's Papers in Pure and Applied Mathematics, 106. *Queen's University, Kingston, ON*, 1997. *xii*+89 *pp. ISBN* 0-88911-756-X (Yuliy Billig) **99f:17006** 17B10 (17B67)

— (*with* Grishkov, A. N.; Melville, Duncan J.) Quantum imaginary Verma modules for affine Lie algebras. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 119–123. (Stefano Capparelli) **99k:17029** 17B37 (17B10)

— (*with* Mazorchuk, Vladimir) BGG-resolution for α-stratified modules over simply-laced finite-dimensional Lie algebras. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 229–240. (James E. Humphreys) **99g:17016** 17B10 (17B55)

Futschik, Andreas (*with* Pflug, Georg Ch.) The likelihood ratio test for simple tree order: a useful asymptotic expansion. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 57–68. (Subhash C. Kochar) **99i:62056** 62F30 (62F03)

Fuzhong, Cong *see* **Cong, Fu Zhong**

Fyodorov, Yan V. *see* **Fedorov, Ya. V.**

–G–

Gaafar, F. M. (*with* El-Sayed, Ahmed M. A.) Exact solution of linear differential equations of fractional order. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 181–189. (R. N. Kalia) **99b:34013** 34A25 (26A33, 34A05)

Gaál, István Computing power integral bases in algebraic number fields. (English summary) *Number theory* (*Eger*, 1996), 243–254, *de Gruyter, Berlin*, 1998. (Michael E. Pohst) **99d:11113** 11R04 (11Y40)

— Power integral bases in composita of number fields. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 158–165. (Franz Lemmermeyer) **99b:11116** 11R04 (11R20)

Gaal, Lisl ★ Classical Galois theory. With examples. Reprint of the third (1979) edition. *AMS Chelsea Publishing, Providence, RI*, 1998. *viii+248 pp. ISBN* 0-8218-1375-7 (Editors) **99g:12001** 12-01 (11R32, 12F10)

Gaal, P. (*with* Golomb, Solomon W.) On the number of permutations of n objects with greatest cycle length k. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 211–218, *VSP, Utrecht*, 1997. (Don P. Rawlings) **99j:05001** 05A05 (05A15, 60C05)

Gaasterland, Terry (*with* Lobo, Jorge) Qualifying answers according to user needs and preferences. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 121–137. 68N17 (68P15)

Gabai, David (*with* Kazez, William H.) Group negative curvature for 3-manifolds with genuine laminations. (English summary) *Geom. Topol.* **2** (1998), 65–77 (*electronic*). (Lee Mosher) **99e:57023** 57M50

Gabaldon, Alfredo (*with* Gelfond, Michael) From functional specifications to logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 355–369, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17

— (*with* Baral, Chitta; Provetti, Alessandro) Value minimization in circumscription. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 163–186. (Summary) **99f:68184** 68T27 (03B70)

— (*with* Baral, Chitta; Provetti, Alessandro) Formalizing narratives using nested circumscription. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 107–164. (Summary) **99h:68163** 68T30 (68T27)

— (*with* Nguyen, Hung T.) Exclusive OR operation that leads to the narrowest intervals. *Reliab. Comput.* **4** (1998), *no.* 3, 303–306. 68T27

Gabali, M. A. *see* **El-Gabali, Magdi A.**

el-Gabali, Magdi A. *see* **El-Gabali, Magdi A.**

Gabardo, Jean-Pierre (*with* Nashed, M. Zuhair) An analogue of Cohen's condition for nonuniform multiresolution analyses. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 41–61, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Steen Pedersen) **99c:42060** 42C15

— (*with* Nashed, M. Zuhair) Nonuniform multiresolution analyses and spectral pairs. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 209–241. (A. G. Baskakov) **99g:42031** 42C05 (42C10)

— Trigonometric moment problems for arbitrary finite subsets of $\mathbf{Z}^n$. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4473–4498. (Zoltán Sasvári) **99a:42005** 42A70 (43A35, 44A60)

Gabarró, Joaquim (*with* Messeguer, Xavier) Parallel dictionaries with local rules on AVL and brother trees. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 2, 79–85. (Summary) **99f:68035** 68P05 (68Q22)

Gabasov, R. (*with* Kirillova, F. M.; Kostina, E. A.) Closable feedback with respect to state for optimization of uncertain control systems. II. Multiply closed feedback. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 90–99; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 2, 1137–1145 (1997). (Summary) **99a:49043** 49N35 (93C42)

— (*with* Lubochkin, A. V.) Design of a controller for a linear-quadratic problem of optimal control. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 3–14; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1403–1413 (1998). (Summary) **99j:49076** 49N35

— (*with* Balashevich, N. V.; Kirillova, F. M.) Positional solution of a linear problem of optimal hierarchical control. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 3–15; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 155–165. (Ryszard Gessing) **99k:49080** 49N35 (93A13)

— (*with* Balashevich, N. V.; Kirillova, F. M.) Synthesis of optimal feedback and stabilization of systems with delay in the control. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 139–150; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 133–143. (Summary) **99d:49066** 49N35 (93D15)

— (*with* Lubochkin, A. V.) Stabilization of linear dynamical systems by optimal controls of linear-quadratic problems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 556–565; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 519–527. (Summary) **99m:93082** 93D15 (49N10, 93D21)

— (*with* Ruzhitskaya, E. A.) Robust stabilization of dynamical systems by bounded controls. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 778–786; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 721–728 (1999). (Summary) **99m:93090** 93D21

— (*with* Kirillova, F. M.; Kostina, E. A.) A method for constructing local points of Nash equilibrium in a linear game-theoretic problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 912–917; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 875–880. (Summary) **99e:90118** 90D10

— (*with* Kirillova, F. M.; Kostina, E. A.) An adaptive method for solving l_1-extremal problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1461–1472. (Summary) **99k:90153** 90C30 (49M30)

Gabbasov, N. S. On the theory of linear integral equations of the third kind. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1192–1201, 1294; *translation in Differential Equations* **32** (1996), *no.* 9, 1194–1203 (1997). (Peter Junghanns) **99a:45002** 45A05 (45L05, 45P05, 47G10)

— An optimal method for solving integral equations of the third kind. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 12–15. (From the introduction) **99j:65237** 65R20 (45L05)

Gabbay, Dov M. Fibred semantics and the weaving of logics. II. Fibring non-monotonic logics. (English summary) *Logic Colloquium '92* (*Veszprém*, 1992), 75–94, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1995. (Branislav Boričić) **99j:03010** 03B45

— Fibred semantics and the weaving of logics. I. Modal and intuitionistic logics. (English summary) *J. Symbolic Logic* **61** (1996), *no.* 4, 1057–1120. (Katalin Bimbó) **99j:03009** 03B45 (03B20)

— (*with* D'Agostino, Marcello; Russo, Alessandra) Grafting modalities onto substructural implication systems. (English summary) *Studia Logica* **59** (1997), *no.* 1, 65–102. (Jerzy Kotas) **99a:03024** 03B45 (03B50)

— (*with* Reyle, U.) Labelled resolution for classical and nonclassical logics. (English summary) *Studia Logica* **59** (1997), *no.* 2, 179–216. (Neculai Curteanu) **99a:03012** 03B35 (03B20, 03B45, 03B65, 68T15, 68T27)

— (*with* Beckert, Bernhard) Fibring semantic tableaux. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 77–92, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

— (*with* Shekhtman, V. B.) Products of modal logics. I. (English summary) *Log. J. IGPL* **6** (1998), *no.* 1, 73–146. (N. C. A. da Costa) **99c:03018** 03B45

— (*with* Nossum, Rolf; Thielscher, Michael) Agents in proactive environments. (English summary) *J. Logic Comput.* **9** (1999), *no.* 1, 25–45. (Summary) **99j:68132** 68T27 (03B70)

— *see also* **Handbook of logic in artificial intelligence and logic programming**, **99a:68009**

Gabbay, Michael (*with* Nam, Keeyeol; Ott, Edward; Guzdar, Parvez N.) Spiral wave dynamics in the complex Ginzburg-Landau equation with broken chiral symmetry. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 69–83. (Summary) **99c:35226** 35Q55

— (*with* Ott, Edward; Guzdar, Parvez N.) The dynamics of scroll wave filaments in the complex Ginzburg-Landau equation. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 371–395. (Yoram Schiffmann) **99h:92006** 92C15 (35Q55, 76E30)

— (*with* Nam, Keeyeol; Ott, Edward; Guzdar, Parvez N.) Stability of spiral wave vortex filaments with phase twists. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2580–2585. 35Q35 (76E30)

Gabbouj, Moncef (*with* Karczewicz, Marta) Robust B-spline image modeling with application to image processing. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 912–917. 65T20

Gabbrielli, Maurizio (*with* Etalle, Sandro; Meo, Maria Chiara) Unfold/fold transformations of CCP programs. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 348–363, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68N17)

— (*with* Etalle, Sandro; Meo, Maria Chiara) Unfold/fold transformations of CCP programs. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 299–321. 68T20 (68N20, 68Q10)

— (*with* Etalle, Sandro) Layered modes. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 225–244. (Summary) **99k:68028** 68N17 (68Q60)

— *see also* **Workshop: Concurrent Constraint Programming for Time Critical Applications and Multi-agent Systems**, **99h:68011**

Gabelaya, A. G. Stabilization of linear autonomous systems with incomplete information by the CSTAB method. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 242–246 (1995). 93D15 (93C05)

Gabelli, Stefania (*with* Fontana, Marco; Houston, Evan) UMT-domains and domains with Prüfer integral closure. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1017–1039. (J. W. Brewer) **99d:13024** 13F05

Gabellini, Y. (*with* McKellar, Bruce H. J.; Fried, H. M.) A functional approach to chaos in quantum field theory. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 192–195, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81T15

Gaberdiel, Matthias R. (*with* Eholzer, Wolfgang) Unitarity of rational $N = 2$ superconformal theories. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 61–85. (Summary) **99e:81075** 81R10 (11F22, 17B68, 81T40)

— (*with* Bergman, Oren) A non-supersymmetric open-string theory and S-duality. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 183–204. (Summary) **99f:81146** 81T30

— (*with* Zwiebach, Barton) Tensor constructions of open string theories. I. Foundations. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 569–624. (Summary) **99m:81185a** 81T30 (81T70)

— (*with* Zwiebach, Barton) Tensor constructions of open string theories. II. Vector bundles, D-branes and orientifold groups. (English summary) *Phys. Lett. B* **410** (1997), *no.* 2-4, 151–159. (Summary) **99m:81185b** 81T30 (81R10, 81T70)

— (*with* Bergman, Oren; Lifschytz, Gilad) String creation and heterotic-type I′ duality. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 524–544. (Claudio A. Scrucca) **99f:81147** 81T30 (83E30)

— (*with* Hauer, Tamás; Zwiebach, Barton) Open string-string junction transitions. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 117–145. (Summary) **99i:81181** 81T30

Gabetta, E. (*with* Pareschi, Lorenzo; Toscani, Giuseppe) Relaxation schemes for nonlinear kinetic equations. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2168–2194. (Hans Babovsky) **99c:76096** 76P05 (65C20, 82C40)

— (*with* Carlen, Eric Anders; Toscani, Giuseppe) Propagation of smoothness and the rate of exponential convergence to equilibrium for a spatially homogeneous Maxwellian gas. (English summary) *Comm. Math. Phys.* **199** (1999), *no.* 3, 521–546. (Carlo Cercignani) **99k:82060** 82C40 (76P05)

Gabidulin, È. M. (*with* Simonis, Juriaan) Metrics generated by families of subspaces. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1336–1341. (Summary) **99e:94042** 94B05

pestano-Gabino, Celina *see* **Pestano-Gabino, Celina**

Gabisonija, I. (*with* Meskhi, A.) Two-weight inequalities for discrete Hardy-type and Hilbert transforms. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 191–193. 42B10

Gabisoniya, V. E. (*with* Kul'ba, V. V.; Karsanidze, T. V.) A methodology for determining the composition and characteristics of a new type of redundancy for databases of a structural-technological reserve. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 34–37. 68P15

Gabitov, Ildar (*with* Marshall, I. D.) Removing the time dependence in a rapidly oscillating Hamiltonian. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 845–857. (Ugo C. Bessi)

99f:70026 70H05 (34C99, 58F05, 78A60)

Gaboriau, Damien Mercuriale de groupes et de relations. (English and French summaries) [Price-list for groups and relations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 219–222. (Tullio G. Ceccherini-Silberstein) **99h:28034** 28D05 (22D40, 43A07)

— (*with* Jaeger, Andre; Levitt, Gilbert; Lustig, Martin) An index for counting fixed points of automorphisms of free groups. *Duke Math. J.* **93** (1998), *no.* 3, 425–452. (Olympia Talelli) **99f:20051** 20E36 (20E05, 20E08, 57M07)

— (*with* Levitt, Gilbert; Lustig, Martin) A dendrological proof of the Scott conjecture for automorphisms of free groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 325–332. (Frédéric Paulin) **99d:20035** 20E05 (20E08, 20F28)

Gaborit, Philippe Mass formulas for self-dual codes over Z_4 and $\mathbf{F}_q + u\mathbf{F}_q$ rings. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1222–1228. (Summary) **99c:94042** 94B05

— (*with* Fields, Joe; Leon, Jeffrey S.; Pless, Vera) All self-dual Z_4 codes of length 15 or less are known. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 311–322. (Summary) **99a:94061** 94B60

Gabow, Harold N. (*with* Bang-Jensen, Jørgen; Jordán, Tibor; Szigeti, Zoltán) Edge-connectivity augmentation with partition constraints. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 306–315, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C40, 05C85, 68Q25)

— Algorithms for graphic polymatroids and parametric $\overline{s}$-sets. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 48–86. (Daniel Turzík) **99b:05131** 05C85 (68R10)

— (*with* Goemans, Michel X.; Williamson, David P.) An efficient approximation algorithm for the survivable network design problem. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 13–40. (Summary) **99f:90160** 90C35 (68M10, 68R10, 90B10)

— (*with* Manu, K. S.) Packing algorithms for arborescences (and spanning trees) in capacitated graphs. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 83–109. (R. Balakrishnan) **99m:05124** 05C70 (05C85)

— *see also* **ACM Symposium: Theory of Computing**, **99e:68001**

Gabriel, Bissanga (*with* Jiang, Fu Ru) Application of the modified method of multiple scales to the bending problems for circular thin plate at very large deflection and the asymptotics of solutions. I. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 10, 937–950; *translated from Appl. Math. Mech.* **19** (1998), *no.* 10, 865–877 (*Chinese. English and Chinese summaries*). (Summary) **99k:73080** 73K10

Gabriel, Cl. (*with* Brout, R.; Lubo, M.; Spindel, Ph.) Minimal length uncertainty principle and the trans-Planckian problem of black hole physics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044005, 6 *pp.* 83C57 (83C45)

Gabriel, H. (*with* Bülow, A.; Hennig, D.) Soliton interaction for a nonlinear discrete double chain. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part B*, 2380–2392. 35Q55 (70K99)

Gabriel, K. Ruben Generalised bilinear regression. (English summary) *Biometrika* **85** (1998), *no.* 3, 689–700. (Summary) **99i:62159** 62J12

Gabriel, Patrick (*with* Lemańczyk, Mariusz; Schmidt, Klaus[1]) Extensions of cocycles for hyperfinite actions and applications. (English summary) *Monatsh. Math.* **123** (1997), *no.* 3, 209–228. (Mahesh Nerurkar) **99a:28015** 28D05 (28D15)

Gabriel, Peter Matrix problems and representation theory. (English summary) *Trends in ring theory* (*Miskolc*, 1996), 27–38, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Simson) **99h:16033** 16G60 (15A21, 16G10, 16G20)

Gabriel, Richard Jacobi's method for normal matrices of third and fourth order. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 31–36. (Summary) **99h:65066** 65F15

Gabriel, Steven A. A hybrid smoothing method for mixed nonlinear complementarity problems. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 2, 153–173. (Michael M. Kostreva) **99a:90210** 90C33

— An NE/SQP method for the bounded nonlinear complementarity problem. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 493–506. (S. R. Mohan) **99m:90142** 90C33

Gabriel Argüelles, J. Rigoberto (*with* Martínez Olivé, Víctor) Asymptotics of the kinematic dynamo equation with initial conditions located on invariant manifolds of the field ABC, $A = B = C = 1$, with strong accumulation of magnetic energy. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 259–278, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Manuel Núñez Jiménez) **99h:76089** 76W05 (34E20)

Gabrielides, N. C. (*with* Ginnis, Alexandros; Kaklis, Panagiotis D.) Sectional-curvature preserving skinning surfaces with a 3D spine curve. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 113–123, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (41A29)

Gabrielli, Davide Polymeric phase of simplicial quantum gravity. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 79–85. (Francois Vanderseypen) **99d:83032** 83C27 (83C45)

Gabrielov, A. Frontier and closure of a semi-Pfaffian set. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 605–617. (Patrice Orro) **99m:14111** 14P10 (32B10)

Gabrielyan, È. V. (*with* Martirosyan, V. A.) On the uniqueness of entire functions that have lacunary power series and are bounded in a Jordan angle. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 58–68; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 49–58 (1996). (Vanja Hadzijski) **99k:30045** 30D15 (30B10, 30E10)

Gabrielyan, M. S. (*with* Movsisyan, L. A.) On a problem of the control of the motion of a thermoelastic plate-layer. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 3, 15–22. 73K10 (73B30)

— (*with* Movsisyan, L. A.) A return to the problem of the control of the motion of an elastic beam. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **51** (1998), *no.* 3, 23–27. 73K50 (73K05)

— On the optimal control of a mechanical system of continuum power in conflict situations. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **51** (1998), *no.* 4, 72–76. 73K50 (49N55)

jaskold Gabszewicz, Jean *see* **Jaskold Gabszewicz, Jean**

Gabszewicz, Jean J. *see* **Jaskold Gabszewicz, Jean**

Gachechiladez, T. *see* **Gachechiladze, T. G.**

Gachechiladze, A. An implicit Signorini's problem in the theory of elasticity. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 2, 192–195. (Summary) **99g:73024** 73C02 (35J15, 35Q72, 73B27, 73B40)

Gachechiladze, Dzh. Numerical solution of the second fundamental problem of dynamics in the mathematical theory of elasticity. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 449–452 (1996). 73C02 (65N06, 73D99, 73V15)

Gachechiladze, R. (*with* Maisaia, O.) A theorem on isoperimetric problem of the elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 12–15. 35Q72 (73C02)

— (*with* Maisaia, O.) On an extremal problem of the elasticity theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 194–198. (Summary) **99f:73024** 73C02

— (*with* Maisaia, O.) Signorini's problem in the couple-stress elasticity and its reduction to the boundary variational inequalities. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 4–7. (Summary) **99i:73028** 73C99 (35Q72, 73B40, 73V25)

Gachechiladze, T. G. (*with* Kashmadze, G. Sh.) The β-entropy of finite fuzzy subsets. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 38–40. 94A17 (03E72)

— (*with* Criado, Francisco; Meladze, H.) Inverse spline-interpolation for numerically solving a piston problem with isothermic gas compression and constant velocity. (English summary) *Int. J. Comput. Math.* **71** (1999), *no.* 1, 83–95. 65H10 (65D07)

Gačić, Nebojša (*with* Zečević, Aleksandar I.) A partitioning algorithm for the parallel solution of differential-algebraic equations by waveform relaxation. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 4, 421–434. (Summary) **99m:65157** 65L99

Gacki, Henryk An application of the Kantorovich-Rubinstein maximum principle in the stability theory of Markov operators. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 215–223. (Manfred Wolff) **99j:60103** 60J05 (47B38)

— (*with* Szarek, Tomasz; Wedrychowicz, Stanisław) On existence, and stability of solutions of stochastic integral equations. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 175–189. (Summary) **99d:60072** 60H20 (45G10, 47H40)

Gács, András A remark on blocking sets of almost Rédei type. (English summary) *J. Geom.* **60** (1997), *no.* 1-2, 65–73. (Christine M. O'Keefe) **99e:51009** 51E21

Gad, R. M. M. (*with* Abdel-Megied, M.; Buchner, Klaus) Topologie und Verklebung singulärer Raum-Zeiten. (English summary) [Topology and glueing of singular space-times] *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 57–68, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Wiesław Sasin) **99a:58006** 58A40 (83C99)

Gadag, Veeresh (*with* Balasooriya, Uditha) A likelihood ratio test for a shift in the lifelength distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1937–1945. (Summary) **99g:62021** 62F03 (62N05)

Gadala, M. S. (*with* Wang, J.) ALE formulation and its application in solid mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 1-2, 33–55. (Summary) **99h:73076** 73V05 (73E05)

Gaddis, F. Dale (*with* Blanchet-Sadri, F.) On a product of finite monoids. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 75–91. (G. J. Lallement) **99c:20094** 20M35

Gadducci, Fabio (*with* Corradini, Andrea) A 2-categorical presentation of term graph rewriting. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 87–105, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q42

— (*with* Montanari, Ugo) Axioms for contextual net processes. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 296–308, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q90 (68Q10)

— (*with* Corradini, Andrea) Rational term rewriting. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 156–171, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q42

— (*with* Carabetta, Georgia; Degano, Pierpaolo) CCS semantics via proved transition systems and rewriting logic. (English summary) *International Workshop on Rewriting Logic and its Applications* (*Pont-à-Mousson*, 1998), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 15, *Elsevier, Amsterdam*, 1998. (*see* **99h:68014**) 68Q10 (68Q42, 68Q60)

— (*with* Heckel, Reiko) An inductive view of graph transformation. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 223–237, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q42 (68R10)

Gadea, Pedro M. (*with* Hernández Encinas, Luis) Reflector spaces over the 4-dimensional Kaneyuki-Kozai's para-Hermitian symmetric spaces. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 41–49. (Cornelia-Livia Bejan) **99e:53072** 53C35 (53C50)

— (*with* Montesinos Amilibia, Angel; Muñoz Masqué, Jaime) La classe $\mathcal{X}_2 \oplus \mathcal{X}_4$ d'Abbena et Garbiero des structures homogènes kählériennes. (English and French summaries) [The Abbena-Garbiero class $\mathcal{X}_2 \oplus \mathcal{X}_4$ of Kähler homogeneous structures] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 383–386. (Sergio Console) **99h:53068** 53C30 (53C55)

Gadella, M. (*with* Bohm, Arno; Loewe, Mark; Maxson, S.; Patuleanu, P.; Püntmann, C.) Gamow-Jordan vectors and non-reducible density operators from higher-order S-matrix poles. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6072–6100. (Summary) **99b:81261** 81U20

— (*with* Antoniou, Ioannis; Suchanecki, Z.) Some general properties of the Liouville operator. *Irreversibility and causality* (*Goslar*, 1996), 38–56, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Robert Alicki) **99j:82055** 82C10 (47N55)

— (*with* Antoniou, Ioannis; Suchanecki, Z.) General properties of the Liouville operator. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1641–1654. (Władysław Adam Majewski) **99e:82059** 82C10 (47N55)

— (*with* Antoniou, Ioannis; Pronko, G. P.) Gamow vectors for degenerate scattering resonances. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2459–2475. (R. G. Newton) **99b:81260** 81U20 (47A40, 47N50, 81U05)

— (*with* Antoniou, Ioannis; Prigogine, Ilya; Pronko, G. P.) Relativistic Gamow vectors. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 2995–3018. (M. J. Mączyński) **99g:81228** 81U30

Gadidov, Anda Strong law of large numbers for multilinear forms. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 902–923. (Pawel Hitczenko) **99d:60043** 60F15

Gadiyak, G. V. (*with* Cheblakova, E. A.) Convective flow in an upright enclosed square cavity: a comparison exercise. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 139–149. (*see* **99e:76001**) 76M25

Gadjiev, Akif D. On generalized potential-type integral operators. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 37–44. (Takahide Kurokawa) **99b:31006** 31B99

Gadyl'shin, R. R. On the asymptotics of eigenvalues for a periodically fixed membrane. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 3–19; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 1–14. (Jan Bochenek) **99d:35115** 35P20 (35J05, 47F05)

— (*with* Il'in, A. M.) Asymptotics of the eigenvalues of the Dirichlet problem in a domain with a narrow crack. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 25–48; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 503–526. (Kamoliddin Kh. Boimatov) **99k:35138** 35P20 (35B25, 35J25)

Gadzhisalikhoglu, G. G. *see* **Hacısalihoğlu, H. Hilmi**

Gaenssler, P. *see* **Gänssler, Peter**

Gaenssler, Peter *see* **Gänssler, Peter**

Gaese, Ralf (*with* Frauendorfer, Karl) Linear duality, term structure, and valuation. *Operations Research Proceedings* 1997 (*Jena*), 13–18, *Springer, Berlin*, 1998. (From the introduction) **99h:90015** 90A09 (90C05)

Gaeta, Giuseppe Reduction of Poincaré normal forms. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 2, 103–114. (A. D. Bruno) **99a:34111** 34C20 (58F36)

— (*with* Morando, Paola) Commuting-flow symmetries and common solutions to differential equations with common symmetries. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 337–347. (Philip J. Aston) **99b:58204** 58G35 (34A26, 35A30, 58F35)

— (*with* Bambusi, Dario; Cicogna, Giampaolo; Marmo, Giuseppe) Normal forms, symmetry and linearization of dynamical systems. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5065–5082. (Victor G. LeBlanc) **99k:34079** 34C20 (58F36)

— (*with* Morando, Paola) Reducible connections in gauge theories. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 121–129. (Manuel de León) **99i:58022** 58D19 (58E15)

Gaetan, C. (*with* Guyon, X.) Simulation des modèles de Gibbs spatiaux par chaine de Markov. (English summary) [Simulation of spatial Gibbs models by Markov chains] *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 289–318, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:60173** 60J10

Gaffet, B. A completely integrable Hamiltonian motion on the surface of a sphere. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1581–1596. (M. E. R. de Sousa Dias) **99e:70047** 70H05 (58F05, 58F07, 76N15)

Gaffke, Norbert (*with* Heiligers, Berthold) Approximate designs for polynomial regression: invariance, admissibility, and optimality. *Design and analysis of experiments*, 1149–1199, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62J02 (62K05)

— (*with* Abt, Markus; Liski, Erkki P.; Sinha, Bikas Kumar) Optimal designs in growth curve models. II. Correlated model for quadratic growth: optimal designs for parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 287–296. (Christine Hildegard Müller) **99f:62086** 62K05

Gaffney, Terence Equisingularity of plane sections, t_1 condition and the integral closure of modules. *Real and complex singularities* (*São Carlos*, 1994), 95–111, *Pitman Res. Notes Math. Ser.*, 333, *Longman, Harlow*, 1995. (Mihai Tibăr) **99a:32052** 32S15 (14B05, 32S60)

— Aureoles and integral closure of modules. *Stratifications, singularities and differential equations, II* (*Marseille*, 1990; *Honolulu, HI*, 1990), 55–62, *Travaux en Cours*, 55, *Hermann, Paris*, 1997. (Aleksandr G. Aleksandrov) **99a:32053** 32S15 (14M10, 32S60)

Gafiichuk, V. V. (*with* Demchuk, A. V.) Analysis of dissipative structures in the Gierer-Mainhardt [Meinhardt] model. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1945–1949. (Summary) **99h:58047** 58E30 (58F39)

Gafni, Eli (*with* Koutsoupias, Elias) Three-processor tasks are undecidable. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 970–983 (*electronic*). (Summary) **99k:68071** 68Q22 (68Q10)

Gaftoi N., Violeta (*with* Morales, Jesús; Ovando Zúñiga, Gerardo; Peña, J. J.) Lanczos spintensor for the Robinson-Trautman metrics of the vacuum and Einstein-Maxwell fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1297–1308. (Brian Edgar) **99k:83017** 83C20 (83C22, 83C60)

Gafurov, M. U. (*with* Adirov, T. Kh.; Khamdamov, I. M.) Asymptotic analysis of a Hill-type statistical estimator for the parameter of the generalized Weibull distribution. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 11–22. (Summary) **99f:62030** 62F10 (62G05)

Gagliardi, Daniel (*with* Lewinter, Martin) An interpolation theorem for the maximum deficiencies of spanning trees. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 37. (*see* **99g:05001**) 05C35 (05C05)

— (*with* Harary, Frank; Lewinter, Martin) A lower bound for the number of irregular multigraphs. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 6–8. (*see* **99i:05002**) 05C30

Saglione, Anthony M. (*with* Spellman, Dennis) Almost locally free groups and the genus question. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2821–2836. (Peter M. Neumann) **99i:20003** 20A10 (20E05, 20E25)

— (*with* Fine, Benjamin; Myasnikov, A. G.; Rosenberger, Gerhard; Spellman, Dennis) A classification of fully residually free groups of rank three or less. (English summary) *J. Algebra* **200** (1998), *no.* 2, 571–605. (Dimitrios Varsos) **99b:20053** 20E26

Gagné, Robert (*with* Dionne, Georges; Vanasse, Charles) Inferring technological parameters from incomplete panel data. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 303–327. 62P20

Gagneux, Gérard (*with* Plouvier-Debaigt, Anne; Donné, Bruno; Urruty, Patrick) Solutions renormalisées pour des modèles des milieux poreux. (English and French summaries) [Renormalized solutions for some porous media models] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1091–1095. (Elias Tuma) **99b:35109** 35K65 (35Q35, 76S05)

— Sur l'analyse de modèles de la filtration diphasique en milieu poreux. (French summary) [Analysis of models of two-phase filtration in porous media] *Équations aux dérivées partielles et applications*, 527–540, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Samia Lyaghfouri-Challal) **99k:76138** 76S05 (35Q35, 76T05)

— (*with* Antontsev, Stanislav N.) Petits paramètres et passages à la limite dans les problèmes de filtration diphasique. [Small parameters and passages to the limit in two-phase filtration problems] *Progress in partial differential equations, Vol. 1* (*Pont-à-Mousson*, 1997), 18–27, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Introduction) **99e:35008** 35B25 (35Q35, 76S05, 76T05)

Gagnidze, A. G. Asymptotic behavior of solutions of the heat equation with coefficients that have a weak "splash". (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 29–32. 35K05 (35B40)

— The dependence of solution uniqueness classes of boundary value problems for general parabolic systems on the geometry of an unbounded domain. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 321–332. (Alain Brillard) **99f:35073** 35K50

— Asymptotic expansion of solutions of parabolic equations with a small parameter. (English summary) *Georgian Math. J.* **5** (1998), *no.* 6, 501–512. (Summary) **99h:35022** 35C20 (35K55)

Gagnon, Michel Hodge number distribution for CICY manifolds. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 1917–1940. (Mark Gross) **99e:14045** 14J32 (14M10, 32J17)

Gagola, Stephen M., Jr. A note on the non-existence of regular bases for finite groups. *Amer. Math. Monthly* **105** (1998), *no.* 8, 759–761. 20C15

— (*with* Lewis, Mark L.) Squares of characters that are the sum of all irreducible characters. *Illinois J. Math.* **42** (1998), *no.* 4, 655–672. (Herbert Pahlings) **99h:20007** 20C15

Gähler, F. (*with* Klitzing, R.) The diffraction pattern of self-similar tilings. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 141–174, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Mihail N. Kolountzakis) **99b:52054** 52C22 (82D25)

Gähler, Werner (*with* Bayoumi, Fatma; Kandil, Ali; Nouh, A. A.) The theory of global fuzzy neighborhood structures. I. The general case. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 225–254. (From the summary) **99h:54005** 54A40

— (*with* Bayoumi, Fatma; Kandil, Ali; Nouh, A. A.) The theory of global fuzzy neighborhood structures. II. Fuzzy topogenous orders. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 153–173. 54A40

— (*with* Bayoumi, Fatma; Kandil, Ali; Nouh, A. A.) The theory of global fuzzy neighborhood structures. III. Fuzzy uniform structures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 175–199. 54A40

— (*with* Abd-Allah, A. S.; Kandil, Ali) Extended fuzzy topologies. I. On fuzzy stacks. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 223–261. (Summary) **99a:54006** 54A40

— (*with* Abd-Allah, A. S.; Kandil, Ali) Extended fuzzy topologies. II. Characterizing notions. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 539–574. 54A40

— (*with* Abd-Allah, A. S.; Kandil, Ali) Extended fuzzy topologies. III. Closedness and compactness. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 575–608. 54A40

al-Gahtani, H. J. *see* **Al-Gahtani, H. J.**

Gaibisso, Carlo (*with* Nardelli, Enrico; Proietti, Guido) Intersection reporting on two collections of disjoint sets. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 41–52. (Summary) **99j:68019** 68P05

Gaida, Ingo (*with* Cvetič, Mirjam) Duality-invariant non-extreme black holes in toroidally compactified string theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 291–306. (Summary) **99b:83068** 83E30 (81T30, 83C57)

— (*with* Behrndt, Klaus; Lüst, Dieter; Mahapatra, Swapna; Mohaupt, Thomas) From type IIA black holes to T-dual type IIB D-instantons in $N = 2$, $D = 4$ supergravity. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 659–699. (Gianguido Dall'Agata) **99h:83051** 83E30 (81T30, 83C57, 83E50)

— Quantum probes of repulsive singularities in $N = 2$ supergravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2261–2269. (Summary) **99d:83103** 83E50 (83C57)

— Gauge symmetry enhancement and $N = 2$ supersymmetric quantum black holes in heterotic string vacua. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 1-2, 227–241. (Marcos Mariño) **99f:83066** 83E30 (81T30, 83C57)

— (*with* Behrndt, Klaus; Brunner, Ilka) Entropy and conformal field theories of AdS_3 models. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 310–316. (Summary) **99c:83082** 83E30 (81T30, 81T40, 83C57)

Gaĭdideĭ, Yu. B. (*with* Johansson, Magnus; Aubry, Serge; Christiansen, Peter Leth; Rasmussen, K. Ø.) Dynamics of breathers in discrete nonlinear Schrödinger models. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 115–124. (Summary) **99e:70060** 70K99 (58F40, 78A60)

Gaĭduk, A. R. Synthesis of systems for the control of multivariable plants. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 9–17. 93B51 (93C35)

Gaĭduk, Ĭ. G. (*with* Gonchar, N. S.) Incommensurate phases in the ANNNI model in the presence of an external magnetic field. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 29–34. (Summary) **99j:82030** 82B26 (82B20)

Gaĭduk, S. I. The problem of transverse oscillations of a rectangular membrane under dynamic impact at one point. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fiz.-Mat. Navuk* **1998**, *no.* 2, 52–57, 140. 73D30 (73K10)

Gaidukov, M. N. (*with* Popov, V. N.) Exact solution of the kinetic equation in the problem of nonisothermal flow in the neighborhood of a weakly curved surface. *Fluid Dynam.* **33** (1998), *no.* 2, 289–297; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 165–173 (*Russian. Russian summary*). 76P05

Gaier, Dieter Complex approximation on touching domains. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 325–342. (Summary) **99a:30036** 30E10

— Calculus on arcs in the complex plane. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 3, 291–302. (P. Szüsz) **99m:30002** 30A99 (30E20)

Gaiffi, Giovanni Blowups and cohomology bases for De Concini-Procesi models of subspace arrangements. *Selecta Math.* (*N.S.*) **3** (1997), *no.* 3, 315–333. (Hiroaki Terao) **99d:52009** 52B30 (14F25)

Gaĭko, V. A. Application of topological methods to qualitative investigation of two-dimensional polynomial dynamical systems. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 211–213. (*see* **99f:58002**) 34C05 (34C23)

Gail, H. Richard (*with* Hantler, S. L.; Taylor, B. A.) Non-skip-free $M/G/1$ and $G/M/1$ type Markov chains. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 733–758. (John P. Lehoczky) **99f:60156** 60K25 (60J10, 90B22)

— (*with* de Souza e Silva, Edmundo) An algorithm to calculate transient distributions of cumulative rate and impulse based reward. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 509–536. (Jaap Wessels) **99m:60108** 60J27 (90C40)

— (*with* Hantler, S. L.; Taylor, B. A.) Matrix-geometric invariant measures for $G/M/1$ type Markov chains. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 537–569. (Peter Gerrard Taylor) **99f:60157** 60K25

Gail, Mitchell H. (*with* Borkowf, Craig B.) Parametric methods for bivariate quantile-partitioned tables and the efficiency of corresponding nonparametric methods. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 919–934. (Summary) **99e:62107** 62H17 (62P10)

Gaĭnanov, D. N. Alternative covers and independence systems in pattern recognition. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 16–41, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68T10

Gaines, Jessica (*with* Crisan, Dan; Lyons, Terry) Convergence of a branching particle method to the solution of the Zakai equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1568–1590 (*electronic*). (A. Ya. Olenko) **99e:60117** 60G57 (65U05, 93E11)

Gaĭnov, A. T. Maximal annihilating spaces of symmetric and skew-symmetric matrices. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 3, 291–300, 376; *translation in Algebra and Logic* **37** (1998), *no.* 3, 164–169. (Andrei Kelarev) **99k:16061** 16S50

— Convolution algebras. *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 123–135. (H. Röhrl) **99g:17003** 17A01

Gaioli, Fabián H. (*with* Garcia Alvarez, Edgardo T.) Feynman's proper time approach to QED. (English summary) Parametrized relativistic quantum theory, Part 2 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 10, 1529–1538. (Summary) **99k:81341** 81V10

— (*with* Garcia Alvarez, Edgardo T.) Classical and quantum theories of spin. (English summary) Parametrized relativistic quantum theory, Part 2 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 10, 1539–1550. (Dan Radu Grigore) **99m:81085** 81R20 (81P99)

Gairola, U. C. (*with* Singh, Shyam Lal; Mishra, Swami Nath) Convergence of sequences of iterates of multivalued operators. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 13–24. (Charles Ejike Chidume) **99f:47065** 47H04

Gaĭshun, I. V. Conditions for the stability of discrete Volterra equations. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 5–8, 121. (V. G. Kurbatov) **99e:39060** 39A11 (39A12, 93D05)

— (*with* Astrovskiĭ, A. I.) Description of the set of uniformly observable linear time-dependent systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 5, 5–8, 124. (B. Mordukhovich) **99c:93014** 93B07 (93C25)

— Stability of discrete Volterra processes with decreasing aftereffect. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 6, 118–124; *translation in Automat. Remote Control* **58** (1997), *no.* 6, *part* 2, 981–986. (Michail G. Blizorukov) **99c:39015** 39A11 (34K20, 39A10)

— Linear discrete equations in F-spaces and their stability. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 147–154, 284; *translation in Differential Equations* **33** (1997), *no.* 2, 147–154. (A. Ya. Dorogovtsev) **99f:39021** 39A11 (47A99, 47B37, 47B39)

— Discrete equations with variable structure and the stability of their solutions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1607–1614, 1725; *translation in Differential Equations* **33** (1997), *no.* 12, 1611–1617 (1998). (Michail G. Blizorukov) **99m:39016** 39A11 (39A10)

— (*with* et al.) Ėduard Iosifovich Grudo. (Russian) *Differ. Uravn.* **33** (1997), *no.* 12, 1708–1713; *translation in Differential Equations* **33** (1997), *no.* 12, 1715–1721 (1998). (Editors) **99k:01057** 01A70

— Axiomatic approach to the concept of a fuzzy vector space. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 2, 5–9, 123. (Summary) **99a:15001** 15A03 (04A72, 15A99)

— (*with* Borukhov, V. T.) Factorization of transfer operators and the structure of infinite zeros of infinite-dimensional linear dynamical systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 5–9, 122. (Summary) **99k:93057** 93C25 (93B60)

— (*with* Boĭchuk, A. A.; Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Mitropol'skiĭ, Yuriĭ Alekseevich; Perestyuk, N. A.) Anatoliĭ Mikhaĭlovich Samoĭlenko (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 1, 3–6; *translation in Differential Equations* **34** (1998), *no.* 1, 1–4. (Editors) **99k:01046** 01A70

Gaĭsin, A. M. An estimate for Dirichlet series with real coefficients on a ray. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 810–823, 958; *translation in Math. Notes* **60** (1996), *no.* 5-6, 611–621 (1997). (Jia Rong Yu) **99f:30006** 30B50

— An asymptotic estimate for the sum of a Dirichlet series on curves. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 810–816; *translation in Math. Notes* **61** (1997), *no.* 5-6, 681–686. (Shlomo Strelitz) **99g:30003** 30B50 (30D20)

— On a theorem of Hayman. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 501–516, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 431–445. (Lev Sergeevich Maergoiz) **99h:30030** 30D15

Gaĭsin, T. I. The Spencer complex for manifolds over algebras. (Russian. English and Russian summaries) *Tr. Geom. Semin. No.* 23 (1997), 33–41. (Valentin V. Lychagin) **99j:58231** 58H10 (35N15)

Gaitan, Frank Berry's phase in the presence of a stochastically evolving environment: a geometric mechanism for energy-level broadening. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1665–1677. (Péter Pál Lévay) **99h:81104** 81S20 (81Q99, 82C05)

Gaitán, H. Priestley duality for demi-p-lattices. (English summary) *Algebra Universalis* **37** (1997), *no.* 3, 277–295. (Brian A. Davey) **99a:06015** 06D15 (06B20, 06D05)

Gaite, José On thermodynamic approaches to conformal field theory. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 627–640. (Robert A. Weston) **99f:81182** 81T40 (82B23)

cavazos-Gaither, Alma E. *see* **Cavazos-Gaither, Alma E.**

Gaither, Carl C. *see* **Mathematically speaking, 99k:00008**

Gaitsgory, D. (*with* Frenkel, Edward; Kazhdan, David A.; Vilonen, Kari) Geometric realization of Whittaker functions and the Langlands conjecture. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 451–484. (Ernst-Wilhelm Zink) **99f:11148** 11R39 (11F70, 14H60, 22E50, 22E55)

Gaĭvoronskiĭ, A. A. (*with* Stella, F.) Stochastic optimization with structured distributions: the case of Bayesian nets. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 189–211. (*see* **99b:90006**) 90C15

Gajda, W. (*with* Banaszak, G.; Krasoń, P.) On the map between homology of Henselization and completion of some local rings. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 3–8. (Kevin P. Knudson) **99h:19005** 19F27 (13B40, 20G10)

Gajek, Lesław (*with* Okolewski, Andrzej) Steffensen-type inequalities for order and record statistics. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 41–59. (H. L. Harter) **99b:62089** 62G30 (60G70)

— (*with* Mizera-Florczak, B.) Information inequalities for the minimax risk of sequential estimators (with applications). (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 1, 85–100. (Mayer Alvo) **99e:62137** 62L12 (62C20)

— (*with* Rychlik, Tomasz) Projection method for moment bounds on order statistics from restricted families. II. Independent case. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 156–182. (Erich Haeusler) **99h:62065** 62G30

Gajer, Paweł Corrigendum: "The intersection Dold-Thom theorem" [Topology **35** (1996), no. 4, 939–967; MR 97i:55013]. *Topology* **37** (1998), *no.* 2, 459–460. (From the text) **99k:55004** 55N33 (55Q70, 58A35)

Gajewsky, M. (*with* Ehrig, Hartmut; Wolter, Uwe) From abstract data types to algebraic development techniques: a shift of paradigms. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 1–17, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

Gajić, Ljiljana (*with* Stojaković, Mila) Equivalents of the variational principle in fuzzy and probabilistic metric spaces. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 247–255. (Christiane Tammer) **99j:49029** 49J52 (49J40, 54A40, 54E70)

Gajic, Z. (*with* Hsieh, T.-H.) An algorithm for solving the singularly perturbed H_∞ algebraic Riccati equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 69–77. (Summary) **99f:93057** 93B40 (65F30, 93B36, 93C70)

Gakwaya, Jean-Sylvestre Extended Grzegorczyk hierarchy in the BSS model of computability. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 127–151, *Springer, Berlin*, 1997. (Cristian Calude) **99k:68051** 68Q05 (03D55)

Gál, Anna (*with* Wigderson, Avi) Boolean complexity classes vs. their arithmetic analogs. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 99–111. (Frederic Green) **99f:68069** 68Q15

— (*with* Beimel, Amos) On arithmetic branching programs. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 68–80, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68041** 68Q15

le Gal, P. *see* **Le Gal, P.**

oláh-Gál, Róbert *see* **Oláh-Gál, Róbert**

Gal, Shmuel (*with* Baston, Vic) Rendezvous on the line when the players' initial distance is given by an unknown probability distribution. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1880–1889 (*electronic*). (Summary) **99i:90133** 90D15 (90D60)

Gal, Sorin G. Fuzzy variant of the Stone-Weierstrass approximation theorem. *Mathematica* **37(60)** (1995), *no.* 1-2, 103–108. (W. J. Kotzé) **99d:46102** 46S40 (41A65, 46E99)

— On the Kurzweil-Henstock integral in probability. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 3-4, 263–269. (Summary) **99m:26014** 26A39

— Remarks on a paper of O. Olteanu: "Uniform approximation of certain continuous functions" [Stud. Cerc. Mat. **46** (1994), no. 5, 533–541; 1 681 244]. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 29–30. 41A30

— Approximation and interpolation of functions of hyperbolic complex variable. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 25–35. (D. D. Stancu) **99g:41028** 41A30 (30E05, 30E10)

— (*with* Fjelstad, Paul) n-dimensional hyperbolic complex numbers. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 47–68. (Vladislav V. Kravchenko) **99i:30067** 30G35

Gal, Tomas Linear programming. II. Degeneracy graphs. (English summary) *Advances in sensitivity analysis and parametric programming*, 4.1–4.36, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (Summary) **99i:90060** 90C05 (90C31)

— (*with* Hanne, Thomas) On the development and future aspects of vector optimization and MCDM. A tutorial. (English summary) *Multicriteria analysis* (*Coimbra*, 1994), 130–145, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29

Galajinsky, A. *see* **Galazhinskiĭ, A. V.**

Galajinsky, A. V. *see* **Galazhinskiĭ, A. V.**

Galajinsky, Anton V. *see* **Galazhinskiĭ, A. V.**

Galakhov, E. I. (*with* Skubachevskiĭ, A. L.) On contractive nonnegative semigroups with nonlocal conditions. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 45–78; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 43–74. (Vitali A. Liskevich) **99e:47045** 47D06 (35J99, 47F05)

Galaktionov, O. S. (*with* Meleshko, V. V.; Peters, G. W. M.; Meijer, H. E. H.) Stokes flow in a rectangular cavity with a cylinder. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 2, 81–102. (Summary) **99i:76037** 76D07

— (*with* Anderson, P. D.; Peters, G. W. M.; van de Vosse, F. N.; Meijer, H. E. H.) Analysis of mixing in three-dimensional time-periodic cavity flows. (English summary) *J. Fluid Mech.* **386** (1999), 149–166. 76R99

Galaktionov, V. A. (*with* Vázquez, Juan Luis) A dynamical systems approach for the asymptotic analysis of nonlinear heat equations. *International Conference on Differential Equations* (*Lisboa*, 1995), 82–106, *World Sci. Publishing, River Edge, NJ*, 1998. (Lisa Santos) **99j:35095** 35K55 (35B40, 58F39)

— (*with* Dold, J. W.; Lacey, Andrew A.; Vázquez, Juan Luis) Rate of approach to a singular steady state in quasilinear reaction-diffusion equations. (English summary) *Ann.*

Scuola Norm. Sup. Pisa Cl. Sci. (4) **26** (1998), *no.* 4, 663–687. (Andreas Unterreiter) **99m:35116** 35K57 (35K65)
— (*with* Posashkov, S. A.) Maximal sign-invariants of quasilinear parabolic equations with gradient diffusivity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4948–4964. (Summary) **99g:35053** 35K55
— (*with* Levine, Howard A.) A general approach to critical Fujita exponents in nonlinear parabolic problems. *Nonlinear Anal.* **34** (1998), *no.* 7, 1005–1027. (Hong Ming Yin) **99f:35079** 35K55
— (*with* Budd, C. J.; Chen, Jianping) Focusing blow-up for quasilinear parabolic equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 965–992. (Ya Zhe Chen) **99h:35084** 35K55 (35B40, 35K65)
— On invariant subspaces for nonlinear finite-difference operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1293–1308. (Małgorzata Peszyńska) **99j:65136** 65M06 (35A30, 35K55, 39A70, 47B39)
— (*with* Shmarev, Sergei I.; Vázquez, Juan Luis) Second-order interface equations for nonlinear diffusion with very strong absorption. (English summary) *Commun. Contemp. Math.* **1** (1999), *no.* 1, 51–64. (Summary) **99m:35098** 35K55 (35R35)
Galam, S. (*with* Mauger, A.) Topology invariance in percolation thresholds. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 2, 255–258. 82B43
Galamai, O. V. (*with* Bogdanov, I. I.; Entov, V. M.) On the penetration of liquid contaminants into aquifers. *Fluid Dynam.* **33** (1998), *no.* 5, 735–744 (1999); *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 5, 119–129 (*Russian. Russian summary*). (Summary) **99m:76106** 76S05 (86A05)
Galambos, Gábor (*with* Békési, József; Raita, Timo) Longest fragment first algorithms for data compression. (English summary) *New trends in mathematical programming*, 13–28, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99h:68043** 68P99 (94A29)
Galambos, János Further metric results on series expansions. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 377–384. (W. W. Adams) **99e:11108** 11K55
Galán, M. *see* **Galán, Manuel J.**
ruiz Galán, Manuel *see* **Ruiz Galán, Manuel**
Galán, Manuel J. (*with* Winter Althaus, Gabriel; Périaux, Jacques; Mantel, B.; Sánchez, I.) An introduction on global optimization by genetic algorithms. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 343–367, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65K05 (90C99)
Galán, Manuel Ruiz *see* **Ruiz Galán, Manuel**
Galanc, Tadeusz Intermediate states of a process in the problem of the identification of a barrier in the functioning of a certain inventory storage and issue system. (English summary) *Systems Sci.* **24** (1998), *no.* 2, 87–98. 90B05
Galanis, George N. On a type of linear differential equations in Fréchet spaces. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 501–510. (Sergey G. Lobanov) **99c:34126** 34G10 (46G05, 46N20)
— On a type of Fréchet principal bundles over Banach bases. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 15–30. (Liliana Maxim-Răileanu) **99i:58012** 58B25
— Projective limits of Banach vector bundles. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 11–24. (Enrique Outerelo Domínguez) **99b:58020** 58B20 (58A20)
Galanis, S. (*with* Hadjidimos, Apostolos; Noutsos, D.) A Young-Edison's type algorithm for complex p-cyclic SOR spectra. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 87–106. (T. Y. Li) **99j:65044** 65F10
Galántai, A. The local convergence of quasi-Newton ABS methods. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **37** (1997), 31–38. 65H10
ramírez Galarza, Ana Irene *see* **Ramírez Galarza, Ana Irene**
Galata, Robert *see* **Econometrics in theory and practice, 99f:62007**
Galavíz Casas, José Fractals and recursiveness. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 315–330, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 28A80 (68U30)
— The Cantor set. (Spanish. Spanish summary) *Miscelánea Mat. No.* 24 (1996), 23–37. (Peter R. Massopust) **99j:28006** 28A80
Galaz Fontes, Fernando (*with* Kostyuchenko, A. G.) Behaviour of eigenvalues related to the oscillation of an elastic tube conveying liquid. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 125–144, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99i:34116** 34L05 (35P05, 47A56, 47E05, 73K70)
— How much has to be added in order to complete a normed space? (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 87–94, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (*see* **99i:00016**) 46B20 (46A30)
Galazhinskiĭ, A. V. (*with* Deriglazov, A. A.) Covariant supplementation scheme for infinitely reducible first class constraints. *Problems of quantum field theory* (*Alushta*, 1996), 336–339, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T70
— (*with* Deriglazov, A. A.) Formulations for $D = 10$ superstring and superparticle with manifestly covariant irreducible constraints. *Problems of quantum field theory* (*Alushta*, 1996), 340–343, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T30 (83E30)
— (*with* Bellucci, S.) Complex structure in the Gupta-Bleuler quantization method. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 274–280. (Dan Radu Grigore) **99e:81247** 81T70 (81T15)
— (*with* Bellucci, S.) A modification of the 10D superparticle action inspired by the Gupta-Bleuler quantization scheme. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 103–107. (Summary) **99c:81227** 81T60 (81T70)
— (*with* Deriglazov, A. A.) Possible generalization of the superstring action to eleven dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046005, 10 *pp.* (Summary) **99k:83117** 83E30 (81T30)
— (*with* Gitman, D. M.) Siegel superparticle, higher-order fermionic constraints, and path integrals. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 435–453. (Ilya Shapiro) **99k:81323** 81T70 (81T60)
— (*with* Gitman, D. M.) On minimal coupling of the ABC superparticle to supergravity background. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 047504, 4 *pp.* 83E50 (81T60)
Galazyuk, V. A. (*with* Gedeon, I. V.) The method of homogeneous solutions in an axisymmetric problem of statics for a finite cylinder with homogeneous conditions on the ends. (English summary) *J. Math. Sci. (New York)* **86** (1997), *no.* 2, 2637–2641. 73C02
Galba, E. F. Representation of a weighted pseudo-inverse matrix in terms of other pseudo-inverse matrices. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 4, 12–17. (Predrag S. Stanimirović) **99b:15001** 15A09
Galbiati, Giulia (*with* Morzenti, Angelo; Maffioli, Francesco) On the logical definability of some maximum leaves problems. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 214–225, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99g:68072** 68Q15 (03B70, 03C40, 03D15, 68Q25)
Galbiati, Jorge (*with* Allende, Héctor) Robust tests in time series modeling. (English summary) *Estadística* **48** (1996), *no.* 150-151, 35–79 (1998). (Summary) **99e:62150** 62M10 (62F35)
Galbis, A. (*with* Bonet, José; Meise, Reinhold) On the range of convolution operators on non-quasianalytic ultradifferentiable functions. (English summary) *Studia Math.* **126** (1997), *no.* 2, 171–198. (Michael Langenbruch) **99a:46071** 46F10 (35R50, 46E10)
Galbraith, H. W. (*with* Louck, James D.; Chen, William Y. C.) Combinatorics of $3n$-j coefficients. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1868–1873. (Roberto Casalbuoni) **99k:81080** 81R05
Gal'chuk, L. I. (*with* Konev, Viktor) On sequential estimation of parameters in continuous-time stochastic regression. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 123–138, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99m:62135** 62M10 (62L10)
— On sequential estimation of parameters for linear regression with martingale noise. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 105–114, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62098** 62L12 (62M10)
garcía de Galdeano, Zoel *see* **García de Galdeano, Zoel**
Galdi, Giovanni P. On the steady, translational self-propelled motion of a symmetric body in a Navier-Stokes fluid. *Classical problems in mechanics*, 97–169, *Quad. Mat.*, 1, *Aracne, Rome*, 1997. (Rodolfo Salvi) **99h:76022** 76D05 (35Q30)
— Mathematical questions relating to the plane steady motion of a Navier-Stokes fluid past a body. *Recent topics on mathematical theory of viscous incompressible fluid* (*Tsukuba*, 1996), 117–160, *Lecture Notes Numer. Appl. Anal.*, 16, *Kinokuniya, Tokyo*, 1998. (Maria Specovius-Neugebauer) **99d:35126** 35Q30 (76D05)
— *see also* **Navier-Stokes equations and related nonlinear problems, 99m:35004**
Galé, C. (*with* Calvete Fernández, Herminia Inmaculada) On the quasiconcave bilevel programming problem. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 613–622. (Stephan Dempe) **99f:90115** 90C30 (90D65)
Gale, David ★ Tracking the automatic ant. And other mathematical explorations. A collection of Mathematical Entertainments columns from The Mathematical Intelligencer. *Springer-Verlag, New York*, 1998. *xii*+241 *pp. ISBN* 0-387-98272-8 00A08
Galé, José E. (*with* White, Michael C.) An analytic semigroup version of the Beurling-Helson theorem. *Math. Z.* **225** (1997), *no.* 1, 151–165. (Robert S. Doran) **99h:43007** 43A20 (46H99, 46J10, 47D03)
— (*with* Corach, Gustavo) Averaging with virtual diagonals and geometry of representations. (English summary) *Banach algebras '97* (*Blaubeuren*), 87–100, *de Gruyter, Berlin*, 1998. (John Duncan) **99m:46167** 46M20 (46H25)
Galeana-Sánchez, Hortensia Kernels in edge-colored digraphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 87–99. (Matúš Harminc) **99a:05055** 05C20
— (*with* Neumann-Lara, Víctor) New classes of critical kernel-imperfect digraphs. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 85–89. (Matúš Harminc) **99g:05087** 05C20
— (*with* Pastrana Ramírez, L.) Kernels in edge coloured line digraph. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 91–98. (Matúš Harminc) **99g:05088** 05C20
— (*with* Rajsbaum, Sergio) A conjecture on cycle-pancyclism in tournaments. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 2, 243–251. (Summary) **99m:05065** 05C20 (05C38)
— (*with* Neumann-Lara, Víctor) On the dichromatic number in kernel theory. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 213–219. (Matúš Harminc) **99k:05080** 05C20 (05C15)
— (*with* Li, Xueliang) Semikernels and (k, l)-kernels in digraphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 340–346 (*electronic*). (Matúš Harminc) **99c:05078** 05C20
Galea Rojas, Manuel *see* **Errata: "On structural comparative calibration under a t-model"**
Galeeva, G. Ya. (*with* Akhatov, I. Sh.; Vakhitova, N. K.; Nigmatulin, R. I.; Khismatullin, D. B.) On weak oscillations of a gas bubble in a spherical volume of a compressible fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 952–962; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 921–930 (1998). (Summary) **99c:76090** 76N10
Galeeva, R. (*with* Brucks, K.; Mumbrú, Pere; Rockmore, Daniel N.; Tresser, Charles) On the $*$-product in kneading theory. (English summary) *Fund. Math.* **152** (1997), *no.* 3, 189–209. (Summary) **99c:54055** 54H20
solaeche Galera, María Cristina *see* **Solaeche Galera, María Cristina**
Galgani, Luigi (*with* Carati, Andrea) Recent progress on the Abraham-Lorentz-Dirac equation. (English summary) *New perspectives in the physics of mesoscopic systems* (*Caserta*, 1996), 24–31, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:78012** 78A25
Galiano, G. (*with* Díaz Díaz, Jesús Ildefonso) Existence and uniqueness of solutions of the Boussinesq system with nonlinear thermal diffusion. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 59–82. (Grzegorz Karch) **99j:35174** 35Q35 (35D05, 35K55, 76D99, 76R50)
— (*with* Díaz Díaz, Jesús Ildefonso; Padial, J. F.) On the uniqueness of solutions of a nonlinear elliptic problem arising in the confinement of a plasma in a stellarator device. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 61–73. (Ya Zhe Chen) **99k:35060** 35J65 (76W05)
rodríguez-Galiano, Ma. Isabel *see* **Rodríguez-Galiano, Ma. Isabel**

Galias, Zbigniew (*with* Zgliczyński, Piotr) Computer assisted proof of chaos in the Lorenz equations. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 165–188. (Timothy Sauer) **99h:58123** 58F13 (34–04, 34C28, 34C99, 58–04)

— (*with* Zgliczyński, Piotr) Chaos in the Lorenz equations for classical parameter values. A computer assisted proof. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 209–210. (*see* **99f:58002**) 58F13

Galicki, Krzysztof (*with* Boyer, Charles P.; Mann, Benjamin M.; Rees, Elmer G.) Einstein manifolds of positive scalar curvature with arbitrary second Betti number. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 1–7. (Andrew Swann) **99c:53041** 53C25 (14J45, 57S25)

— (*with* Boyer, Charles P.; Mann, Benjamin M.) Quaternionic geometry and 3-Sasakian manifolds. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 7–24 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Roger Bielawski) **99j:53061** 53C25

— (*with* Boyer, Charles P.; Mann, Benjamin M.; Rees, Elmer G.) Compact 3-Sasakian 7-manifolds with arbitrary second Betti number. *Invent. Math.* **131** (1998), *no.* 2, 321–344. (Roger Bielawski) **99b:53066** 53C25 (14J45, 57S25)

— (*with* Boyer, Charles P.; Mann, Benjamin M.) Hypercomplex structures from 3-Sasakian structures. (English summary) *J. Reine Angew. Math.* **501** (1998), 115–141. (Maria Dolores Monar) **99g:53049** 53C25 (53C55)

— (*with* Boyer, Charles P.; Mann, Benjamin M.) A note on smooth toral reductions of spheres. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 149–158. (Andrew Swann) **99c:53042** 53C25 (57S25)

Galicki, Mirosław (*with* Pająk, Grzegorz; Pająk, Iwona) Time-optimal control of redundant manipulators. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 333–341. (*see* **99b:70004**) 93C85 (49J99, 70B15)

Galil, Zvi (*with* Eppstein, David; Italiano, Giuseppe F.; Spencer, Thomas H.) Separator-based sparsification. II. Edge and vertex connectivity. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 341–381 (*electronic*). (Fabrizio Luccio) **99g:05058** 05C10 (05C85, 68Q25, 68R10)

— *see also* **Pattern matching algorithms**, **99f:68109**

Galilei, Galileo ★ Diálogo sobre los dos máximos sistemas del mundo ptolemaico y copernicano. (Spanish. Spanish summary) [Dialogue concerning the two chief world systems—Ptolemaic and Copernican] Translated from the Italian, edited, and with an introduction and notes by Antonio Beltrán Marí. *Alianza Editorial, S.A., Madrid*, 1994. *lxxxiv*+417 *pp. ISBN* 84-206-9412-6 (William R. Shea) **99j:01008** 01A45

— *see also* **Berti, Enrico**, **99b:01002**; **Erlichson, Herman**, **99e:01011**; **Gavagna, Veronica**, **99h:01022**; **Remmert, Volker R.**, **99h:01023**; **Erlichson, Herman**, **99k:01013**; **Palmieri, Paolo**, **99k:01016**; **Cambridge companion to Galileo**, **99k:01020**; **Torrini, Maurizio**; **Wallace, William A.**, (**99k:01020**); **Machamer, Peter**, (**99k:01020**); **Feldhay, Rivka**, (**99k:01020**); **Hooper, Wallace**, (**99k:01020**); **Shea, William**, (**99k:01020**) *and* **Swerdlow, Noel M.**, (**99k:01020**)

moreno Galindo, A. *see* **Moreno Galindo, A.**

Galindo, C. *see* **Galindo Pastor, Carlos**

Galindo, Christian D. On nonparametric estimation of mean functionals. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 143–149. (Somnath Datta) **99m:62044** 62G05

Galindo, Félix *see* **Galindo Soto, Félix**

Galindo, Jorge (*with* Hernández, Salvador) On a theorem of van Douwen. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 109–113 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99a:22004** 22A05 (54C45, 54H11)

— (*with* Hernández, Salvador) Transmission of continuity to the Bohr topology. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 161–175. (M. Rajagopalan) **99b:22006** 22B05 (22B10, 43A20, 54H11)

— (*with* Hernández, Salvador) On a theorem of van Douwen. *Extracta Math.* **13** (1998), *no.* 1, 115–123. (K. D. Magill, Jr.) **99k:54031** 54H11 (54C45)

morales Galindo, Soledad B. *see* **Morales Galindo, Soledad B.**

zúñiga-Galindo, W. A. *see* **Zúñiga-Galindo, W. A.**

Galindo-Legaria, César A. (*with* Pellenkoft, Arjan; Kersten, Martin L.) Uniformly-distributed random generation of join orders. (English summary) *Database theory—ICDT '95* (*Prague*), 280–293, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68072** 68P15

Galindo Pastor, Carlos A remark on the Henselization of a regular local ring. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **20** (1999), no. 1, 142. *Chinese Ann. Math. Ser. B* **20** (1999), *no.* 1, 63–64. 13J15

Galindo Soto, Félix (*with* Sanz Gil, Javier) Filtering of multidimensional semiperiodic processes. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 94A12

— (*with* Núñez Jiménez, Manuel) Spectral analysis in magnetohydrodynamic equilibria. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9997–10003. (Alexander Lifschitz) **99j:76142** 76W05 (76E25)

Galison, Peter *see* **Cultures of theory**, **99h:01002**

Gałka, A. (*with* Gambin, B.; Telega, Józef Joachim) Variational bounds on the effective moduli of anisotropic piezoelectric composites. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 4, 675–689. (David J. Bergman) **99m:73061** 73R05 (73K20, 78A99)

— (*with* Telega, Józef Joachim) Dynamic contact problems for systems with finite degrees of freedom: the case of piecewise regular constraints. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 479–495. (Anders Klarbring) **99g:73096** 73T05 (73D99)

Galkin, D. (*with* Faizullaev, B. A.; Garnov, S.) Effective action in QFT: algebraic method of calculation and renormalization. *Problems of quantum field theory* (*Alushta*, 1996), 174–177, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T15

Gałkowski, Krzysztof Elementary operations and equivalence of two-dimensional systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1129–1148. 93C30 (93A30)

— (*with* Rogers, Eric; Owens, David H.) Control systems theory for linear repetitive processes—recent progress and open research problems. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 737–774. (Summary) **99c:93003** 93A30 (93B50, 93C30)

— State-space realizations of multi-input multi-output systems—elementary operations approach. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 119–144. 93B15 (93B25)

— (*with* Rogers, Eric; Owens, David H.) Matrix rank based conditions for reachability/controllability of discrete line repetitive processes. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 201–224. (Summary) **99c:93006** 93B05 (93C55)

le Gall, Jean-François *see* **Le Gall, Jean-François**

le Gall, Pierre *see* **Le Gall, Pierre**

Galla, Th. (*with* Friedrich, Rudolf; Naert, A.; Peinke, J.; Schimmel, Th.) Disordered structures analyzed by the theory of Markov processes. (English summary) *A perspective look at nonlinear media*, 313–326, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99g:76069** 76F20 (28A80, 60J20, 73B99, 76M35)

Gallagher, Colin (*with* Adler, Robert J.; Epstein-Feldman, Raisa) Analysing stable time series. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 133–158, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62M10

Gallagher, Isabelle Perturbations antisymétriques et oscillations dans des systèmes paraboliques. (French summary) [Antisymmetric perturbations and oscillations in parabolic systems] *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. IV*, 12 *pp., Univ. Nantes, Nantes*, 1998. (Varga Kalantarov) **99i:35007** 35B25 (35K55, 35Q35, 76D99, 76U05)

— Asymptotic of the solutions of hyperbolic equations with a skew-symmetric perturbation. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 363–384. (Yu. G. Rykov) **99k:35014** 35B25 (35C20, 35L60, 76N10)

— Applications of Schochet's methods to parabolic equations. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 10, 989–1054. (Piotr Biler) **99m:35099** 35K55 (35L60, 35Q35, 76C99)

Gallagher, J. *see* **Gallagher, John**

Gallagher, Jason (*with* Armando, Alessandro; Smaill, Alan; Bundy, Alan) Automating the synthesis of decision procedures in a constructive metatheory. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 259–279. (Summary) **99e:03013** 03B35 (03B05, 68T15)

Gallagher, John (*with* Hill, Patricia M.) Meta-programming in logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 421–497, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99f:68029** 68N17 (03B70)

Gallagher, P. *see* **Zhang, Wenpeng**, **99a:11112**

Gallamov, M. M. Extension of mappings of a Banach space onto sets of positive Wiener measure. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 2, 10–14, 98. (A. V. Uglanov) **99f:46063** 46G12 (60B11)

Gallant, Robert P. (*with* Colbourn, Charles J.) Asymptotic existence of tight orthogonal main effect plans. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 33–40. (Shinji Kuriki) **99i:62178** 62K99 (05B15)

— (*with* Colbourn, Charles J.) On uncollapsing three factor orthogonal main effect plans. (English summary) *Util. Math.* **54** (1998), 75–83. (Summary) **99g:05024** 05B05

Gallarati, Dionisio Surfaces of order n passing with multiplicity i through a twisted cubic. (Italian. English and Italian summaries) *Atti Accad. Ligure Sci. Lett.* (5) **53** (1996), 83–86 (1997). (Summary) **99a:14008** 14C20 (14N10)

Gallard, Raúl H. (*with* Esquivel, Susana C.; Leiva, Héctor Ariel) Selection mechanisms in evolutionary algorithms. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 17–33. 68Q20

Gallardo, Julio (*with* Pinto, Manuel) Asymptotic constancy of solutions of delay-differential equations of implicit type. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 487–504. (P. Ch. Tsamatos) **99h:34116** 34K25

Gallardo, Léonard Some methods to find moment functions on hypergroups. (English summary) *Harmonic analysis and hypergroups* (*Delhi*, 1995), 13–31, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Khélifa Trimèche) **99d:43011** 43A62

— A central limit theorem for Markov chains and applications to hypergroups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1837–1845. (Mohamed Sifi) **99i:60137** 60J10 (43A62, 60B99, 60F05)

Gallardo, Luis Une variante du problème de Waring sur $\mathbf{F}_2[t]$. (English and French summaries) [An $\mathbf{F}_2[t]$-variant of Waring's problem] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 117–121. (Mireille Car) **99f:11157** 11T55 (11P05)

— (*with* Cherly, Jørgen; Vaserstein, Leonid; Wheland, Ethel) Solving quadratic equations over polynomial rings of characteristic two. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 131–142. (Gábor Hetyei) **99e:13030** 13P05 (12Y05, 68Q40)

benavides Gallardo, Raúl *see* **Benavides Gallardo, Raúl**

Gallardo Molina, José María Second-order differential equations with nonseparated boundary conditions and generation of analytic semigroups. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 279–283, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34B05 (47D06)

Gallas, M. V. (*with* Fernández-Pousa, Carlos R.; Miramontes, J. Luis; Sánchez Guillén, Joaquín) Integrable systems and W-algebras. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 475–479, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 58F07 (17B68)

Gallavotti, Giovanni M. (*with* Bonetto, Federico) Reversibility, coarse graining and the chaoticity principle. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 263–275. (Yves Elskens) **99b:58140** 58F11 (58F12, 82C03, 82C05)

— (*with* Ruelle, David) SRB states and nonequilibrium statistical mechanics close to equilibrium. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 279–285. (Oliver Knill) **99a:82057** 82C05 (58F11)

— Chaotic principle: some applications to developed turbulence. (English summary) *J. Statist. Phys.* **86** (1997), *no.* 5-6, 907–934. (Dieter H. Mayer) **99a:76067a** 76F20 (58F13, 58F40, 76M35, 82C35)

— Dynamical ensembles equivalence in fluid mechanics. (English summary) *Phys. D* **105** (1997), *no.* 1-3, 163–184. (Dieter H. Mayer) **99a:76067b** 76F20 (58F13, 58F40, 76D05, 76M35, 82C35)

— Reminiscences on science at IHÉS: a problem on homoclinic theory and a brief review. (English summary) *Les relations entre les mathématiques et la physique théorique*, 99–117, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (Luigi Chierchia) **99m:58002** 58–03 (01A72, 01A74, 58F15, 58F27)
— Methods in the theory of quasi-periodic motions. (English summary) *Recent advances in partial differential equations, Venice* 1996, 163–173, *Proc. Sympos. Appl. Math., 54, Amer. Math. Soc., Providence, RI*, 1998. (Luigi Chierchia) **99d:58144** 58F27 (34C27, 70H05, 70H20)
— (*with* Bonetto, Federico; Gentile, Guido; Mastropietro, Vieri) Lindstedt series, ultraviolet divergences and Moser's theorem. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 545–593. (Luigi Chierchia) **99i:58132** 58F27 (34C30, 70H05)
— Chaotic dynamics, fluctuations, nonequilibrium ensembles. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 384–392. (Guido Gentile) **99g:82044** 82C03 (58F11, 82C05)
— (*with* Bonetto, Federico; Gentile, Guido; Mastropietro, Vieri) Quasi-linear flows on tori: regularity of their linearization. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 707–736. (O. Christov) **99e:58148** 58F27 (34C27, 58F30, 70H05)
— Chaotic hypothesis and universal large deviations properties. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 205–233 (*electronic*). (Guido Gentile) **99k:82045** 82C03 (58F15, 60F10, 82C05)
— Breakdown and regeneration of time reversal symmetry in nonequilibrium statistical mechanics. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 250–257. (Nikolai Chernov) **99b:82061** 82C05 (58F11)
Gallay, Thierry Periodic patterns and traveling fronts for the Ginzburg-Landau equation. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 230–238, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:35222** 35Q55 (76E30)
— (*with* Mielke, Alexander) Diffusive mixing of stable states in the Ginzburg-Landau equation. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 1, 71–97. (Peter E. Zhidkov) **99m:35223** 35Q55 (76E30)
— (*with* Focant, S.) Existence and stability of propagating fronts for an autocatalytic reaction-diffusion system. (English summary) *Phys. D* **120** (1998), *no.* 3-4, 346–368. (Summary) **99d:35082** 35K57 (35B35, 80A32, 92E20)
ortegón Gallego, Francisco *see* **Ortegón Gallego, Francisco**
Gallego, Francisco Javier (*with* Purnaprajna, B. P.) Very ampleness and higher syzygies for Calabi-Yau threefolds. *Math. Ann.* **312** (1998), *no.* 1, 133–149. (Mark Gross) **99g:14048** 14J32 (14C20)
rivera-Gallego, Wilson *see* **Rivera-Gallego, Wilson**
alvarez-Gallegos, Joaquín *see* **Alvarez-Gallegos, Joaquín**
Gallerano, F. (*with* Napoli, E.) A dynamic subgrid-scale tensorial eddy viscosity model. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 1, 1–14. (Summary) **99m:76070** 76F99 (76M25)
Galles, C. D. (*with* Berrone, Lucio R.) Mathematical inequalities via a thermodynamic heuristic. (English summary) *Riv. Mat. Pura Appl. No.* 19 (1996), 57–64. (Jerzy Popenda) **99c:26022** 26D20 (80A99)
Galles, David (*with* Pearl, Judea) Testing identifiability of causal effects. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 185–195, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68188** 68T30 (68T27)
— (*with* Pearl, Judea) Axioms of causal relevance. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 9–43. (Summary) **99c:68230** 68T27 (03B48, 68T30)
Gallestey, E. Computing spectral value sets using the subharmonicity of the norm of rational matrices. (English summary) *BIT* **38** (1998), *no.* 1, 22–33. (Summary) **99b:65045** 65F15
Galley, Clive N. A CRCW PRAM lower bound for problems on two-dimensional arrays. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 77–95. (Friedhelm Meyer auf der Heide) **99f:68081** 68Q22 (68Q25)
Galli, Alain (*with* Gao, Haiyu; Zhao, Pengda; Wang, Jiahua) Updating of population parameters and credibility of discriminant analysis. (English summary) *Math. Geol.* **31** (1999), *no.* 3, 249–275. (Summary) **99k:86009** 86A32
Gallian, Joseph A. A dynamic survey of graph labeling. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Dynamic Survey* 6, 43 *pp.* (*electronic*). (Martin Bača) **99m:05141** 05C78
Gallier, Jean Typing untyped λ-terms, or reducibility strikes again! (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 2-3, 231–270. (Martin W. Bunder) **99b:03026** 03B40
Galligani, E. (*with* Ruggiero, V.; Zanni, L.) Splitting methods and parallel solution of constrained quadratic programs. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 121–136. (Nikolai K. Krivulin) **99e:90062** 90C20 (65K05, 65Y05, 90C33)
— (*with* Ruggiero, V.; Zanni, L.) A minimization method for the solution of large symmetric eigenproblems. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 99–115. (Summary) **99j:65058** 65F15 (65F50)
Gallo, Angela The generalization of Sokhotski formulas on two complex variables. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 425–438. (J. Siciak) **99c:32001** 32A25 (30E20, 32A20)
— A Cauchy problem related to a second order non-linear evolutive system. (English summary) *J. Inform. Optim. Sci.* **20** (1999), *no.* 1, 49–73. (Alan V. Lair) **99m:34135** 34G20 (35A05)
Gallo, Giorgio (*with* Cambini, Riccardo; Scutellà, Maria Grazia) Flows on hypergraphs. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 195–217. (Summary) **99g:90153** 90C35 (05C65)
Gallopoulos, E. (*with* Simoncini, V.) Transfer functions and resolvent norm approximation of large matrices. (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 190–201 (*electronic*). (Summary) **99i:65039** 65F15 (93C80)
Gallot, L. (*with* Delduc, F.) Supersymmetric Drinfeld-Sokolov reduction. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4729–4745. (Carlo Morosi) **99f:58096** 58F07
— (*with* Delduc, F.; Fehér, László) Nonstandard Drinfeld-Sokolov reduction. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5545–5563. (Carlo Morosi) **99e:58094** 58F07
Gallot, Sylvestre Curvature-decreasing maps are volume-decreasing (on joint work with G. Besson and G. Courtois). (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 339–348 (*electronic*). (Boris Hasselblatt) **99h:58143** 58F17 (53C20, 53C35)
— (*with* Besson, Gérard; Courtois, G.) A real Schwarz lemma and some applications. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 2, 381–410. (Andrea Sambusetti) **99k:53064** 53C20 (53C23)
Gallouët, Thierry (*with* Boccardo, Lucio; Orsina, Luigi) Existence and nonexistence of solutions for some nonlinear elliptic equations. *J. Anal. Math.* **73** (1997), 203–223. (Philip W. Schaefer) **99c:35067** 35J65 (35D05)
— (*with* Eymard, R.; Hilhorst, D.; Naït Slimane, Y.) Convergence of a finite volume scheme for a parabolic degenerate equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 3–11, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K65, 76M25)
— (*with* Eymard, R.; Ghilani, Mustapha; Herbin, R.) Error estimate for the finite volume approximate of the solution to a nonlinear convective equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 13–24, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K99, 76M25)
— (*with* Buffard, Thierry; Hérard, Jean-Marc) Un schéma simple pour les équations de Saint-Venant. (English and French summaries) [A naive scheme for solving the Saint-Venant shallow-water equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 385–390. (Summary) **99g:76089** 76M20 (76B15)
— (*with* Eymard, R.; Hilhorst, D.; Naït Slimane, Y.) Finite volumes and nonlinear diffusion equations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 747–761. (Erwin Schechter) **99j:65166** 65M60 (35K55)
Galloway, D. J. (*with* Hollerbach, Rainer; Proctor, M. R. E.) On the adjustment to the Bondi-Gold theorem in a spherical-shell fast dynamo. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 111–132. (Summary) **99c:76116** 76W05 (85A30)
Galloway, Gregory J. (*with* Andersson, Lars Åke; Howard, Ralph) The cosmological time function. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 309–322. (Robert J. Low) **99b:53087** 53C50 (83C75)
— (*with* Chruściel, Piotr T.) Horizons non-differentiable on a dense set. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 449–470. (Alan D. Rendall) **99c:83066** 83C75 (53C50, 83C57)
— (*with* Andersson, Lars Åke; Howard, Ralph) A strong maximum principle for weak solutions of quasi-linear elliptic equations with applications to Lorentzian and Riemannian geometry. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 6, 581–624. (Wen Xiong Chen) **99d:35045** 35J60 (35B50, 35D10, 53C21, 58E15)
Gal'mak, A. M. On the reducibility of n-ary groups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 164–169, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20N15
Galmiche, Didier *see* **Workshop: Proof Search in Type-theoretic Languages, 99h:68013**
Galoppo, Annalisa (*with* Beidleman, James C.; Manfredino, M.) On PC-hypercentral and CC-hypercentral groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 3045–3055. (B. Amberg) **99g:20067** 20F19 (20F24)
— Groups with many normal or self-normalizing subgroups. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 397–408. (Richard E. Phillips) **99m:20076** 20F22
Galotta, Rosanna Asymptotic behavior of bounded minimal surfaces of two Jordan curves in parallel planes (in $\mathbf{R}^3$). (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 39–42. 49Q05
Galper, A. R. (*with* Miloh, T.) Hydrodynamics and stability of a deformable body moving in the proximity of interfaces. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 795–806. (Summary) **99k:73095** 73K70 (76B10)
Galperin, Efim A. Some old traditions in mathematics and in mathematical education. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 9–17. (Summary) **99m:01107** 01A99 (26-03, 34A99, 49-03)
— (*with* Wiecek, Malgorzata M.) Retrieval and use of the balance set in multiobjective global optimization. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 111–123. (*see* **99i:90003**) 90C29 (90C90)
— *see also* **Global optimization, control, and games, 99i:90003**
Galperin, Noam (*with* Rotstein, Héctor; Gutman, Per-Olof) Set membership approach for reducing value sets in the frequency domain. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1346–1350. 93C30 (93C80)
Galstyan, S. Sh. (*with* Ovsepyan, R. I.) Trigonometric series with rapidly decreasing coefficients. (Russian. Russian summary) *Mat. Sb.* **187** (1996), *no.* 11, 3–26; *translation in Sb. Math.* **187** (1996), *no.* 11, 1577–1600. (Elijah Liflyand) **99d:42005** 42A16 (42A63)
Galtchouk, L. *see* **Gal'chuk, L. I.**
Galtchouk, L. I. *see* **Gal'chuk, L. I.**
Gal'tsov, D. V. (*with* Rytchkov, O. A.) Generating branes via sigma models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 122001, 13 *pp.* (Summary) **99m:81186** 81T30 (83E30)
Galué, Leda (*with* Al Zamel, A.; Kalla, Shyam L.) Evaluation of fractional integrals involving hypergeometric functions. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 303–312. (J. P. Singhal) **99k:44001** 44A10 (33C20)
— (*with* Prieto, Ana Isolina) Generalized radiation integrals involving Meijer's G-function. (Spanish. English and Esperanto summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 57–64. (Summary) **99g:33038** 33C60
— (*with* Valbuena M., Magdely; Ali, Ismail) Some properties of the finite Laplace transform. (English summary) *Transform methods & special functions, Varna '96*, 517–522, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:44002** 44A10

— (*with* Kalla, Shyam L.) Some recurrence relations for the generalized hypergeometric functions of the Gauss type. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 1, 49–62. (P. Anandani) **99k:33011** 33C20

— (*with* Luque, Rafael) Evaluation of fractional integrals involving Fox's H-function. (Spanish. English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 1, 67–73. (Summary) **99g:33039** 33C60

Galusinski, Cédric Existence d'attracteurs exponentiels uniformes pour une équation hyperbolique amortie. (English and French summaries) [Existence of uniform exponential attractors of a hyperbolic equation with damping] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 169–172. 35L70 (34G20, 35B40, 47H20, 58F12)

— Existence and continuity of uniform exponential attractors of the singularity perturbed Hodgkin-Huxley system. (English summary) *J. Differential Equations* **144** (1998), *no.* 1, 99–169. (Hideo Ikeda) **99a:35255** 35Q80 (34G20, 35B40, 35L70, 47H20, 58F39)

— (*with* Hnid, M.; Miranville, Alain) Exponential attractors for nonautonomous partially dissipative equations. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 1–22. (Piotr Biler) **99m:35100** 35K55 (34G20, 35B40, 35Q30, 47H20, 58F39, 76D05)

Galuzzi, Massimo (*with* Alesina, Alberto[1]) A new proof of Vincent's theorem. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 3-4, 219–256. (A. J. van der Poorten) **99j:11021** 11B75

— A remark about the binomial transform. *Fibonacci Quart.* **36** (1998), *no.* 3, 287–288. (Valery V. Karachik) **99c:05007** 05A10 (05A15)

Galvanetto, Ugo (*with* Bishop, Steven R.) Computational techniques for nonlinear dynamics in multiple friction oscillators. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 373–382. (Summary) **99f:70002** 70–08

Galvão, M. Luísa (*with* Smith, Patrick F.) Chain conditions in modular lattices. *Colloq. Math.* **76** (1998), *no.* 1, 85–98. (Mária Tomková-Csontoová) **99k:06006** 06C05 (06E20)

Galves, A. (*with* Dorea, Chang Chung Yu; Kira, E.; Alencar, A. P.) Markovian modeling of the stress contours of Brazilian and European Portuguese. (English summary) *Rebrape* **11** (1997), *no.* 2, 161–173. (Summary) **99a:62124** 62M05

padilla Gálvez, Jesús *see* **Padilla Gálvez, Jesús**

Gambaudo, Jean-Marc Transition to chaos for surface diffeomorphisms. *Dynamical systems (Temuco, 1991/1992)*, 125–149, *Travaux en Cours*, 52, *Hermann, Paris*, 1996. (Robert Ghrist) **99d:58121** 58F13 (34C35, 58F03, 58F14)

— (*with* Miled, Slimane Ben) Cascades of periodic orbits in two dimensions. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1627–1641. (Michael Hurley) **99c:58129** 58F20 (54H20)

— *see also* **Dynamical systems, 99b:58005** *and* **Disordered systems, 99b:82002**

Gambin, B. (*with* Galka, A.; Telega, Józef Joachim) Variational bounds on the effective moduli of anisotropic piezoelectric composites. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 4, 675–689. (David J. Bergman) **99m:73061** 73R05 (73K20, 78A99)

Gambini, Rodolfo (*with* Pullin, Jorge) Variational derivation of exact skein relations from Chern-Simons theories. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 621–640. (David H. Adams) **99a:57029** 57R57 (57M25, 58D30, 58G40, 81T16)

— (*with* Fort, Hugo; Pullin, Jorge) Lattice knot theory and quantum gravity in the loop representation. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 4, 2127–2143. (Summary) **99d:83031** 83C27 (57M25, 83C45)

— Canonical quantum general relativity and spin network invariants. (English summary) *Trends in theoretical physics (La Plata, 1997)*, 425–431, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (José A. Zapata) **99i:83037** 83C45 (57M25, 83C27)

— (*with* Lewandowski, Jerzy; Marolf, Donald; Pullin, Jorge) On the consistency of the constraint algebra in spin network quantum gravity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 97–109. (Francois Vanderseypen) **99f:83025** 83C27 (83C45)

— (*with* Griego, Jorge; Pullin, Jorge) Vassiliev invariants: a new framework for quantum gravity. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 3, 675–696. (Stephen F. Sawin) **99m:83069** 83C45 (57M25)

— (*with* Pullin, Jorge) Does loop quantum gravity imply $\Lambda = 0$? (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 279–283. (Kirill V. Krasnov) **99j:83035** 83C45

— (*with* Morales-Técotl, Hugo A.; Urrutia, Luis F.; Vergara, J. David) Loop variables for compact two-dimensional quantum electrodynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3711–3724. (Summary) **99k:81340** 81V10

— (*with* Aroca, Josep Maria; Fort, Hugo) Path integral loop representation of $2 + 1$ lattice non-abelian gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045007, 9 *pp.* (Summary) **99k:81204** 81T25 (81T27)

Gamboa, F. (*with* Bercu, Bernard; Rouault, A.) Large deviations for quadratic forms of stationary Gaussian processes. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 75–90. (Vadim R. Fatalov) **99c:60052** 60F10 (60G15, 62M15)

Gamboa, J. M. (*with* Broughton, S. A.; Bujalance, Emilio; Costa, Antonio F.; Gromadzki, G.) Symmetries of Accola-Maclachlan and Kulkarni surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 637–646. (Víctor González-Aguilera) **99f:14036** 14H55 (30F10, 30F35)

Gamboa, Jorge (*with* Plyushchay, Mikhail S.) Classical anomalies for spinning particles. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 485–504. (Summary) **99c:81223** 81T50

Gamboa de Buen, Berta What is a suitable basis for a complete normed space? (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society (Spanish) (San Luis Potosí, 1996)*, 95–108, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (*see* **99i:00016**) 46B15

Gamboa-Eastman, Stephen The topological unification of general relativity and quantum mechanics. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 194–199. (Summary) **99f:81031** 81P99 (83C99)

Gamboa Saraví, Ricardo E. *see* **Trends in theoretical physics, 99e:81005**

Gambolati, Giuseppe (*with* Pini, Giorgio) A numerical eigenvalue study of preconditioned non-equilibrium transport equations. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 343–361. 76S05 (76M25)

Gambosi, Giorgio (*with* Flammini, Michele; Nanni, Umberto; Tan, Richard B.) Multi-dimensional interval routing schemes. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 115–133. (Summary) **99d:68021** 68M10

Gamerman, Dani Markov chain Monte Carlo for dynamic generalised linear models. (English summary) *Biometrika* **85** (1998), *no.* 1, 215–227. (Summary) **99b:62038** 62F15 (62J12)

Gamermann, A. (*with* Wang, Shitong; Scott, Elizabeth A.) Extract rules by using rough set and knowledge-based NN. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 279–284. (Summary) **99b:68159** 68T05 (03B70)

Gamero, E. (*with* Freire Macías, Emilio; Rodríguez-Luis, A. J.; Algaba, A.) Simplified normal forms for nonhyperbolic equilibria in $\mathbf{R}^3$. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C20 (34C23, 58F36)

— (*with* Rodríguez-Luis, A. J.; Freire Macías, Emilio; Pizarro, Luis; Fernández-Sánchez, F.) Islands of periodic orbits in an electronic system. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 19 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34C15 (34C23, 34C25, 94C05)

— (*with* Freire Macías, Emilio; Rodríguez-Luis, A. J.; Algaba, A.) Normal forms for the Hopf-zero degeneracy in reversible systems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 356–363, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C20 (58F14)

— (*with* Rodríguez-Luis, A. J.; Freire Macías, Emilio; Pizarro, Luis) Analysis of a degenerated Bogdanov-Takens bifurcation in an engineering model. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 486–493, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C23 (58F14)

— (*with* Algaba, A.; Freire Macías, Emilio) Hypernormal forms of the Hopf-pitchfork interaction. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 133–137, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 58F14

— (*with* Fernández-Sánchez, F.; Freire Macías, Emilio; Rodríguez-Luis, A. J.) Codimension-two global bifurcations in a three-dimensional van der Pol-Duffing oscillator. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 249–254, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23 (34C15, 58F14)

— (*with* Freire Macías, Emilio; Rodríguez-Luis, A. J.) Estimation of canard blowup in a van der Pol oscillator. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 267–272, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C25 (34E15)

— (*with* Freire Macías, Emilio; Rodríguez-Luis, A. J.) Study of a degenerate Bogdanov-Takens bifurcation in a family of mechanical oscillators. *Mech. Res. Comm.* **25** (1998), *no.* 3, 287–297. (From the text) **99g:34085** 34C23 (34C37, 58F14, 70K99)

— (*with* Algaba, A.; Freire Macías, Emilio; Rodríguez-Luis, A. J.) Analysis of Hopf and Takens-Bogdanov bifurcations in a modified van der Pol-Duffing oscillator. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 4, 369–404. (Stephan A. van Gils) **99g:34084** 34C23 (34C15, 58F14)

jiménez-Gamero, M. D. *see* **Jiménez-Gamero, M. D.**

Gamet, L. (*with* Ducros, F.; Nicoud, F.; Poinsot, T.) Compact finite difference schemes on non-uniform meshes. Application to direct numerical simulations of compressible flows. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 2, 159–191. (Summary) **99i:76097** 76M20 (76N10)

Gámez, J. L. (*with* Cañada, A.; Montero, J. A.) Uniqueness of the optimal for a nonlinear elliptic control problem arising from population dynamics. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 49J20 (35J25, 92D25)

— (*with* Ambrosetti, Antonio; Arcoya, David) Asymmetric bound states of differential equations in nonlinear optics. *Rend. Sem. Mat. Univ. Padova* **100** (1998), 231–247. (Boris Buffoni) **99m:34103** 34C37 (34B15, 58E05, 58F99, 78A60)

— (*with* Cañada, A.; Montero, J. A.) Study of an optimal control problem for diffusive nonlinear elliptic equations of logistic type. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1171–1189 (*electronic*). (Srdjan Stojanovic) **99m:49005** 49J20 (35Q99, 49M25, 92D25)

Gámez, José L. (*with* Mendoza, José) On Denjoy-Dunford and Denjoy-Pettis integrals. (English summary) *Studia Math.* **130** (1998), *no.* 2, 115–133. (Kevin T. Andrews) **99k:28013** 28B05 (26A39, 46G10)

Gamgam, H. A nonparametric test for a linear trend of variances. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 85–94. (Summary) **99k:62096** 62G10

Gamkrelidze, Revaz Valerianovich (*with* Agrachev, Andrei) Symplectic methods for optimization and control. (English summary) *Geometry of feedback and optimal control*, 19–77, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93B29 (93–02)

— *see also* **Kharatishvili, Guram, 99m:01072** *and* **Dedicated to Revaz Gamkrelidze**

Gammelin, H. Gorenstein space with nonzero evaluation map. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3433–3440. (Yves Félix) **99m:16015** 16E99 (55P62)

Gammerman, A. J. (*with* Wang, Shitong) Description of learning space based on interval fuzzy sets and fuzzy inductive learning algorithm ILA. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 83–89. (Summary) **99k:68167** 68T05

Gams, Matjaž (*with* Bojadžiev, D.) Addendum to: "Sloman's view of Gödel's sentence" [Artificial Intelligence **74** (1995), no. 2, 389–393; MR 96c:03008] by Bojadžiev. (English summary) *Artificial Intelligence* **98** (1998), *no.* 1-2, 363–365. (Summary) **99a:03006** 03A05 (00A30, 03F30, 03H15)

Gan, Gaoxiong (*with* Bain, Lee J.) Some results for type I censored sampling from geometric distributions. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 85–97. (Summary) **99b:62024** 62F03

— MLE are stochastically increasing if likelihoods are unimodal. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 289–292. (Summary) **99f:62031** 62F10

Gan, Shixin (*with* Cheng, Riyan) Almost sure convergence of weighted sums of NA sequences. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 11–16. (Przemysław Matuła) **99d:60040** 60F15

— On the convergence of weighted sums of L_q-mixingale arrays. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 113–120. (Dominique Lépingle) **99j:60061** 60G48 (60F05, 60F25)

Gan, Si Qing Regularity properties of Runge-Kutta methods. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 122–126. 65M06

Gan, Wee Teck (*with* Loke, Hung Yean) Modular forms of level p on the exceptional tube domain. *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 161–202. (Gordan Savin) **99c:11052** 11F55 (32N15)

— A note on Kottwitz's invariant $e(G)$. (English summary) *J. Algebra* **208** (1998), *no.* 1, 372–377. (Jorge A. Vargas) **99j:22027** 22E60 (11E81, 20G15)

— (*with* Gross, Benedict H.) Haar measure and the Artin conductor. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1691–1704. (Stefan Kühnlein) **99f:20078** 20G30 (11G99)

Gan, Wen Quan (*with* Wang, Zhao Hui; Chen, Hao Xun; Hu, Bao Sheng) Short-term scheduling of multipurpose batch processes with a rolling time horizon scheme. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 569–574. 90B35

Gan, Xiao Bing (*with* Hu, Qi Ying) Analysis of some production line problems in CIMS. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 95–102. 90B35 (90B30)

Ganapathy Iyer, V. (*with* Narasinga Rao, A.) R. Vaidyanathaswamy (1894–1960). Reprint of the 1961 original [MR **25** #4980]. *J. Indian Math. Soc.* (*N.S.*) **64** (1997), *no.* 1-4, 1–13. 01A70

Ganatos, P. (*with* Feng, Jimmy; Weinbaum, Sheldon) The general motion of a circular disk in a Brinkman medium. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2137–2146. (From the summary) **99e:76120** 76S05 (76D99)

Ganatsiou, Chryssa On G-continued fractions with identically distributed rests. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2051–2059. (Wieb Bosma) **99g:11097** 11K50

Ganchev, A. Ch. (*with* Fuchs, Jürgen; Vecsernyés, P.) On the quantum symmetry of rational field theories. (English summary) *Quantum groups* (*Karpacz*, 1994), 473–482, *PWN, Warsaw*, 1995. (Jens Böckenhauer) **99g:81088** 81R50 (16W30, 81T40)

— (*with* Furlan, P.; Petkova, Valentina B.) Fusion rules for admissible representations of affine algebras: the case of $A_2^{(1)}$. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 645–668. (Mark A. Walton) **99k:81091** 81R10 (17B67)

— (*with* Fuchs, Jürgen; Szlachányi, Kornél; Vecsernyés, P.) S_4 symmetry of $6j$ symbols and Frobenius-Schur indicators in rigid monoidal C^* categories. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 408–426. (Yasuyuki Kawahigashi) **99k:81111** 81R50 (18D10, 20C35)

Gandarias-Núñez, M. L. Nonclassical potential symmetries of the Burgers equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 130–137, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35A30)

— Nonclassical symmetries and nonclassical potentials of a Fokker-Planck equation. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 435–440, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35K55 (35Q99)

— (*with* Bruzón, M. S.) Classical and nonclassical symmetries of a generalized Boussinesq equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 8–12. (Vladislav G. Dubrovsky) **99b:35183** 35Q53 (35A30)

— (*with* Venero, P.; Ramírez-Labrador, José) Similarity reductions for a nonlinear diffusion equation. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 234–244. (Roman O. Popovich) **99f:35087** 35K57 (35C05)

— (*with* Romero, Juan Luis; Díaz Moreno, José Manuel) Nonclassical symmetry reductions of a porous medium equation with convection. (English summary) *J. Phys. A* **32** (1999), *no.* 8, 1461–1473. (Summary) **99m:76108** 76S05 (35K55, 35Q35)

Gandenberger, Georg M. Trigonometric S matrices, affine Toda solitons and supersymmetry. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4553–4590. (Henrik Aratyn) **99i:81099** 81R50 (58F07, 81U20)

Gander, Martin J. Overlapping Schwarz waveform relaxation for parabolic problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 425–431, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65M55 (76M25)

— (*with* Stuart, Andrew M.) Space-time continuous analysis of waveform relaxation for the heat equation. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2014–2031 (*electronic*). (Erwin Schechter) **99h:65164** 65M55 (65Y05)

— (*with* Drexler, Michael) Circular billiard. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 315–323 (*electronic*). (Norbert Hungerbühler) **99c:51024** 51M04 (78A05)

— Note on the optimal intercept time of vessels to a nonzero range. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 673 (*electronic*). 90D26 (70Q05)

Gandhi, Om P. FDTD in bioelectromagnetics: safety assessment and medical applications. *Advances in computational electrodynamics*, 613–651, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78A55 (92C50)

Ganesa Moorthy, C. (*with* Vimala, S.) A problem of V. K. Srinivasan on Lebesgue-Stieltjes measurable sets. (English summary) *J. Anal.* **6** (1998), 75–79. (Elżbieta Wagner) **99m:28005** 28A05 (28A12)

Ganesh, Ayalvadi (*with* O'Connell, Neil) The linear geodesic property is not generally preserved by a FIFO queue. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 98–111. (John P. Lehoczky) **99g:60169** 60K25 (60F10, 68M20, 90B22)

— Large deviations of the sojourn time for queues in series. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 3–26. (Leonardo Pasini) **99e:90034** 90B12 (60F10, 60K25, 90B22)

— (*with* Green, Peter J.; O'Connell, Neil; Pitts, Susan M.) Bayesian network management. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 267–282. (Hanspeter Schmidli) **99c:90045** 90B12 (60F10, 62C10)

Ganesh, Mahadevan (*with* Spence, A.) Orthogonal collocation for a nonlinear integro-differential equation. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 2, 191–206. (H. Brunner) **99d:65366** 65R20 (45L05, 65L60)

— (*with* Graham, I. G.; Sivaloganathan, J.) A new spectral boundary integral collocation method for three-dimensional potential problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 778–805 (*electronic*). (Summary) **99b:65173** 65R20 (45L05)

Gangal, Anil D. (*with* Pandit, Sagar A.) On generalized Nambu mechanics. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2899–2912. (Paola Morando) **99d:70023** 70H05 (58F05, 70E15, 76C99, 76M99)

Gangaraj, S. K. (*with* Babuška, Ivo M.; Strouboulis, T.) A posteriori estimation of the error in the recovered derivatives of the finite element solution. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 369–396. (Gert Lube) **99c:65194** 65N15 (65N30)

— (*with* Babuška, Ivo M.; Ihlenburg, Frank; Strouboulis, T.) A posteriori error estimation for finite element solutions of Helmholtz' equation. II. Estimation of the pollution error. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 3883–3900. (Zhangxin Chen) **99a:76080** 76M10 (65N30, 76Q05)

— (*with* Babuška, Ivo M.; Strouboulis, T.; Copps, K.; Datta, Dibyendu Kumar) Practical aspects of a posteriori estimation for reliable finite element analysis. (English summary) *Comput. & Structures* **66** (1998), *no.* 5, 627–664. (Summary) **99a:73117** 73V05

— (*with* Babuška, Ivo M.; Hugger, Jens; Strouboulis, T.; Copps, K.) The asymptotically optimal meshsize function for bi-p degree interpolation over rectangular elements. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 185–221. (Qian Li) **99d:65309** 65N30

Gangbo, Wilfrid (*with* Święch, Andrzej) Optimal maps for the multidimensional Monge-Kantorovich problem. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 1, 23–45. (Michele Carriero) **99f:49070** 49Q20 (28A99)

— The Monge mass transfer problem and its applications. (English summary) *Monge Ampère equation: applications to geometry and optimization* (*Deerfield Beach, FL*, 1997), 79–104, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (W. P. Ziemer) **99k:49092** 49Q20 (28A35, 28D05)

— (*with* Cardaliaguet, P.; Dacorogna, Bernard; Georgy, N.) Geometric restrictions for the existence of viscosity solutions. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **16** (1999), *no.* 2, 189–220. (Summary) **99k:35023** 35D05 (35F30, 49L25)

— (*with* Evans, Lawrence C.) Differential equations methods for the Monge-Kantorovich mass transfer problem. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 653, *viii+66 pp.* (John Urbas) **99g:35132** 35Q99 (49J10)

Ganghoffer, J. F. (*with* Brillard, Alain; Schultz, Jacques) Modelling of the mechanical behaviour of joints bonded by a nonlinear incompressible elastic adhesive. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 2, 255–276. (Summary) **99c:73072** 73T05 (73C50, 73V25)

— (*with* Brillard, Alain; Schultz, Jacques) Mechanical modelling of adhesion and adherence between two solids. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 305–326. (Ján Lovišek) **99h:73072** 73T05 (49J40, 73V05)

— (*with* Sluys, L. J.; de Borst, R.) A reappraisal of nonlocal mechanics. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 17–46. (Summary) **99j:73057** 73E99 (73B99)

Gangl, Herbert (*with* Browkin, Jerzy) Tame and wild kernels of quadratic imaginary number fields. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 291–305. (Jurgen Hurrelbrink) **99c:11144** 11R70 (11R11, 19C99, 19F27)

Gangopadhyay, A. K. *see* **Gangopadhyay, Ashis K.**

Gangopadhyay, Amit Kumar (*with* Chakrabarti, Sadasiv) Generalized density functions in a topological group. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 97–111. 54H11 (22A10)

Gangopadhyay, Ashis K. (*with* Mallick, Bani K.; Denison, David G. T.) Estimation of spectral density of a stationary time series via an asymptotic representation of the periodogram. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 281–290. (*see* **99k:62004**) 62M15

Gangopadhyay, Sreela (*with* Rao, B. V. Raja) Strategic purely nonatomic random walks. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 409–415. (E.-A. Weiss, Jr.) **99c:60099** 60G50 (60A10, 60J15)

Gangopadhyay, T. Packing graphs in their complements. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 117–124. (Summary) **99a:05111** 05C70

— Some results on packing graphs in their complements. (English summary) *Ars Combin.* **51** (1999), 269–286. (David Burns) **99k:05129** 05C70 (05C05)

Gangui, Alejandro (*with* Peter, Patrick; Gunzig, Edgard) Fermionic currents in cosmic strings. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 205–216. (*see* **99k:00032**) 83F05 (83E30)

Ganguly, Ashish (*with* Bagchi, Bijan Kumar) Generating isospectral Hamiltonians from a modified Crum-Darboux transformation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 21, 3711–3721. (Alexey V. Samokhin) **99e:58092** 58F07 (35Q40)

Ganguly, Ashok (*with* Nimbhorkar, Sanjay) Fixed point theorem on probabilistic metric spaces for metrically inward mappings and other results. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 199–202. 54E70 (54H25)

— (*with* Wadhwa, Kamal) A variational like inequality problem in non-compact sets. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 213–220. (E. Tarafdar) **99m:49015** 49J40 (47H19, 52A07, 54C60)

— (*with* Wadhwa, Kamal) An iterative scheme for a class of random quasivariational inequalities. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **67** (1997), *no.* 4, 389–394. (Mihail Yu. Kokurin) **99f:65086** 65J15 (49J40, 65K05, 65U05)

— (*with* Nimbhorkar, Sanjay) A fixed point theorem for nearly densifying maps in probabilistic analysis. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 73–75. 54H25

— (*with* Tapi, U. D.; Chandel, Raghvendra Singh) Some results on general topology. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 1–5. 54D10 (54D15)

Ganguly, D. K. (*with* Majumdar, Madhabendu) Some results on projection of planar sets. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 815–820. (Elżbieta Wagner) **99j:28001** 28A05 (26A21)

— (*with* Majumdar, Madhabendu) On a theorem of Ruziewicz. *Kyushu J. Math.* **52** (1998), *no.* 1, 163–166. (Marek Balcerzak) **99c:28002** 28A05 (54E52)

Ganguly, S. *see* **Ganguly, Sobhakar**

Ganguly, Snehasis (*with* Layton, J. B.; Balakrishna, C.; Kane, J. H.) A fully symmetric multi-zone Galerkin boundary element method. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 991–1009. 65N30 (65N38)

Ganguly, Sobhakar (*with* Basu, C. K.; Sinha Roy, S.) A new regular measure on a topological space. II. (English summary) *J. Pure Math.* **12** (1995), 7–15. (Summary) **99g:28003** 28A12
— (*with* Basu, C. K.; Sinha Roy, S.) Existence of an invariant measure on a generalized topological group. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 131–134. (Michael Tkačenko) **99e:54029** 54H11 (22A05, 54D10)
— (*with* Basu, C. K.; Sinha Roy, S.) Existence and uniqueness of an invariant integral on a more general class of functions in a generalized topological group. (English summary) *J. Pure Math.* **14** (1997), 10–17. (V. V. Mukhin) **99m:28033** 28C99 (22A10)
nagoor Gani, A. *see* **Nagoor Gani, A.**
Gani, Joseph Mark (*with* Yakowitz, S.; Blount, M.) The spread and quarantine of HIV infection in a prison system. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1510–1530. (Summary) **99d:92038** 92D30 (62C10, 62C12)
— On sequences of events with repetitions. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 265–271. (Anant P. Godbole) **99c:60012** 60C05 (62E15)
— Elementary methods for failure due to a sequence of Markovian events. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 311–318. (Summary) **99e:90109** 90C40 (60J10, 60J27)
— Obituary: José Enrique Moyal. *J. Appl. Probab.* **35** (1998), *no.* 4, 1012–1017. (Editors) **99k:01058** 01A70
Ganief, Shahiem (*with* Moori, Jamshid) Generating pairs for the Conway groups Co_2 and Co_3. (English summary) *J. Group Theory* **1** (1998), *no.* 3, 237–256. (Jürgen Müller) **99f:20025** 20D08 (20C15)
— (*with* Moori, Jamshid) 2-generations of the fourth Janko group J_4. (English summary) *J. Algebra* **212** (1999), *no.* 1, 305–322. (Hiroyoshi Yamaki) **99m:20024** 20D08 (20F05)
Ganikhodzhaev, N. N. (*with* Rozikov, U. A.) On periodic Gibbs distributions of the Ising model on Bethe lattices. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 8–18 (1996). (B. M. Gurevich) **99f:60169** 60K35 (82B05, 82B20)
— (*with* Rozikov, U. A.) Extremity of the disordered phase in the ferromagnetic Potts model on the Bethe lattice. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 35–41 (1997). (B. S. Nahapetian) **99k:82042** 82B44 (82B20)
— (*with* Mukhamedov, F. M.) On quantum quadratic stochastic processes and some ergodic theorems for such processes. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 8–20. (John E. Gough) **99i:81124** 81S25 (46L50)
— (*with* Rozikov, U. A.) Classes of normal subgroups of finite index of the group representation of the Cayley tree. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 31–39. (David I. Moldavanskiĭ) **99f:20042** 20E06
Ganley, Joseph L. (*with* Salowe, Jeffrey S.) The power-p Steiner tree problem. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 115–127. (András Faragó) **99e:90076** 90C27 (68Q35)
— Computing optimal rectilinear Steiner trees: a survey and experimental evaluation. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 161–171. (Summary) **99j:68105** 68R10 (05C85, 68Q35)
Gannon, T. (*with* Ruelle, P.; Walton, Mark A.) Spectra of conformal field theories with current algebras. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 49–57, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 81T40 (81R10)
Gannoun, Ali (*with* Berlinet, Alain; Matzner-Løber, Eric) Propriétés asymptotiques d'estimateurs convergents des quantiles conditionnels. (English and French summaries) [Asymptotic properties of convergent estimators of conditional quantiles] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 611–614. (Arnold Janssen) **99k:62069** 62G05 (62E20)
— (*with* Berlinet, Alain; Matzner-Løber, Eric) Normalité asymptotique d'estimateurs convergents du mode conditionnel. (English and French summaries) [Asymptotic normality of convergent estimators of the conditional mode] *Canad. J. Statist.* **26** (1998), *no.* 2, 365–380. (Yves Lepage) **99k:62034** 62E20 (62G05)
— (*with* Matzner-Løber, Eric; De Gooijer, Jan G.) Nonparametric forecasting: a comparison of three kernel-based methods. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1593–1617. (Summary) **99f:62117** 62M20 (62G05)
Ganor, Ori J. Toroidal compactification of heterotic 6D non-critical strings down to four dimensions. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 223–235. (Summary) **99b:81189** 81T30 (83E30)
— A note on zeroes of superpotentials in F-theory. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 55–66. (Summary) **99c:81181** 81T30 (32J81, 83E30)
— (*with* Sethi, Savdeep) New perspectives on Yang-Mills theories with sixteen supersymmetries. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 7, 32 *pp.* (*electronic*). (Summary) **99f:81197** 81T60 (81T13)
— (*with* Motl, Luboš) Equations of the (2, 0) theory and knitted fivebranes. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 9, 34 *pp.* (*electronic*). (Angel Maria Uranga) **99g:81163** 81T30 (81T60, 83E30)
— (*with* Cheung, Yeuk-Kwan E.; Krogh, Morten) Correlators of the global symmetry currents of 4D and 6D superconformal theories. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 171–192. (Summary) **99h:81160** 81T30 (81T40)
— On zeroes of superpotentials in F-theory. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 25–29. (Summary) **99b:81190** 81T30
— (*with* Gopakumar, Rajesh; Ramgoolam, Sanjaye) Higher loop effects in M(atrix) orbifolds. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 268–273. (Summary) **99e:81190** 81T30 (81T15)
Ganova, R. V. Oracle programming in a higher level language. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 2, 49–69. (Gerhard Lischke) **99m:68050** 68Q05 (03D60, 03D75)
Gânscă, Ioan (*with* Coman, Gheorghe; Ţâmbulea, Leon) Contributions to rational Bézier curves and surfaces. *Approximation and optimization, Vol. II* (*Cluj-Napoca*, 1996), 107–116, *Transilvania, Cluj-Napoca*, 1997. (From the introduction) **99a:65023** 65D17 (41A15)
Ganser, G. H. (*with* Christie, I.; Wilder, J. W.) Numerical solution of a two-dimensional fluidized bed model. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 381–394. (Summary) **99e:76081** 76M20 (76S05)
Ganslandt, Mattias (*with* Carlsson, Hans) Noisy equilibrium selection in coordination games. (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 23–34. (Summary) **99f:90193** 90D10
Gansner, Emden (*with* Abello, James) Short and smooth polygonal paths. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 151–162, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 68U05 (65D17)
Gänssler, Peter (*with* Ziegler, Klaus) On function-indexed partial-sum processes. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 285–311, *TEV, Vilnius*, 1994. (Summary) **99e:60091** 60F17 (60F15)
— (*with* Rost, Daniel; Ziegler, Klaus) On random measure processes with application to smoothed empirical processes. *High dimensional probability* (*Oberwolfach*, 1996), 93–102, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60072** 60F17 (60B12, 60F20)
Ganster, Maximilian (*with* Dontchev, Julian; Rose, David Alon) Ideal resolvability. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 92–103 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A05 (04A15, 28A05, 54A20, 54H05)
— (*with* Ergun, Nurettin; Watson, W. Stephen) Refinements of cellular families. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 307–318. (Summary) **99h:54040** 54D99
— (*with* Dontchev, Julian; Rose, David Alon) α-scattered spaces. II. (English summary) *Houston J. Math.* **23** (1997), *no.* 2, 231–246. 54G12 (54C08, 54F65, 54G15, 54G20)
— (*with* Arenas, Francisco García; Dontchev, Julian) On some weaker forms of Alexandroff spaces. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **23** (1998), *no.* 1, 79–89. (Summary) **99b:54056** 54G05 (54G10, 54H05)
— (*with* Kanibir, Alev; Reilly, Ivan L.) Two comments concerning certain topological spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 965–967. (Summary) **99j:54002** 54A05 (54D05)
— (*with* Dontchev, Julian) More on sg-compact spaces. (English summary) *Portugal. Math.* **55** (1998), *no.* 4, 457–464. (Summary) **99j:54026** 54D30 (54A05, 54H05)
— (*with* Dontchev, Julian) A decomposition of almost rc-Lindelöf spaces. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 155–160. (Summary) **99h:54034** 54D20 (54B15)
— (*with* Dontchev, Julian; Noiri, Takashi) Unified operation approach of generalized closed sets via topological ideals. (English summary) *Math. Japon.* **49** (1999), *no.* 3, 395–401. 54H05 (54C08, 54D10)
Ganter, Bernhard Attribute exploration with background knowledge. (English summary) ORDAL '96 (Ottawa, ON). *Theoret. Comput. Sci.* **217** (1999), *no.* 2, 215–233. (*see* **99m:68011**) 68T30
Ganter, Frieda M. Automorphism groups for quasi-homogeneous Gorenstein surface singularities. (English summary) *J. Algebra* **202** (1998), *no.* 1, 36–43. (Angel Granja) **99c:14049** 14J17 (14J26, 14J50)
Ganter, Mark A. (*with* Ensz, Mark T.; Storti, Duane W.) Implicit methods for geometry creation. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 509–536. (Summary) **99f:68199** 68U05
Gantert, Nina Functional Erdős-Renyi laws for semiexponential random variables. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1356–1369. (Karl Grill) **99k:60096** 60F17 (60F10, 60G50)
— (*with* Zeitouni, Ofer) Quenched sub-exponential tail estimates for one-dimensional random walk in random environment. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 177–190. (Didier Piau) **99g:60186** 60K35 (60F10, 60J15, 82C44)
Gantmakher, F. R. ★ The theory of matrices. Vol. 1. Translated from the Russian by K. A. Hirsch. Reprint of the 1959 translation. *AMS Chelsea Publishing, Providence, RI*, 1998. $x+374$ *pp. ISBN* 0-8218-1376-5 (From the preface) **99f:15001** 15-01 (01A75)
Ganzburg, Michael I. Best approximation of functions like $|x|^\lambda \exp(-A|x|^{-\alpha})$. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 379–410. (D. Leviatan) **99f:41009** 41A10 (41A25, 41A30)
— (*with* Ash, J. Marshall) An extremal problem for trigonometric polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 211–216. (V. A. Baskakov) **99b:42001** 42A05 (41A10)
Ganzha, E. I. On Lie algebras associated with nondiagonalizable integrable systems of hydrodynamic type. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 34–37, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 30–32. (Summary) **99f:35007** 35A30 (17B99, 35Q35)
Ganzinger, H. *see* **Rewriting techniques and applications, 99f:68010**
Gao, An Xi (*with* Ma, Run Nian) A (g, f)-factorization orthogonal to a star of a bipartite graph. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 25–28. (Summary) **99h:05094** 05C70
Gao, Biao (*with* Borchers, Al; Du, Ding Zhu; Wan, Peng Jun) The k-Steiner ratio in the rectilinear plane. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 1–17. (Summary) **99h:68128** 68R10 (05C85, 68Q25)
— (*with* Du, Ding Zhu; Hwang, Frank K.; Kim, Jeong Han) On multirate rearrangeable Clos networks. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 464–471 (*electronic*). (Summary) **99h:94093** 94C15 (05C90)
Gao, Bing Song (*with* Zhou, Kun Ping; Hu, Xin Xin) A primal-dual affine scaling algorithm for box linear programming. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 305–309. 90C05
Gao, Chang Duo Transformations of a class of recursive functions. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 1, 19–23. (Summary) **99c:68033** 68N15 (03D20)
Gao, Cheng Xiu (*with* Liu, Jun[6]) Dijkstra algorithms for large-scale nonlinear network models. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 37–40. 90C06 (90B10, 90C35)
Gao, Chenggang (*with* Konno, Hiroshi; Saitoh, Ichiroh) Cutting plane/tabu search algorithms for low rank concave quadratic programming problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 225–240. (Summary) **99g:90080** 90C20 (90C26)
Gao, Chengying (*with* Luo, Xiaonan; Wang, Jianmin; Guan, Lü Tai) Representation of practical recurrent curves. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 413–422, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65030** 65D17

Gao, Chun Yi (*with* Fang, Li Fei; Zhao, Ren Ke) Sharp neighborhoods of certain close-to-convex functions. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 3, 1–6. 30C45

Gao, Cun Chen (*with* Wang, Li; Liu, Yong Qing) Sliding mode variable structure control of neutral interconnected control systems with delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 358–363. 93B12 (93C30)

— (*with* Zhang, Xinzheng; Liu, Xiao Hua) Stabilization decomposition of neutral linear time-varying interconnected control systems with the multi-group multi-delays. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 794–801. 93D15 (93C30)

Gao, David Yang (*with* Russell, David L.) An extended beam theory for smart materials applications. II. Static formation problems. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 69–94. (Summary) **99a:73079** 73K05 (35Q72, 93C20)

— Bi-complementarity and duality: a framework in nonlinear equilibria with applications to the contact problem of elastoplastic beam theory. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 672–697. (Ján Lovišek) **99e:73103** 73V25 (49J40, 73K05, 73T05, 90C33)

— Pure complementary energy principle and triality theory in finite elasticity. *Mech. Res. Comm.* **26** (1999), *no.* 1, 31–37. (Matthias Wilhelm Winter) **99j:73029** 73C50 (73G05, 73V25)

Gao, Feng (*with* Liu, Xinjun; Gruver, William A.) Performance evaluation of two-degree-of-freedom planar parallel robots. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 661–668. (Summary) **99f:70008** 70B15

Gao, Feng (*with* Zhang, Lian-sheng; Zhu, Wen Xing) Nonlinear integer programming and global optimization. (English summary) *J. Comput. Math.* **17** (1999), *no.* 2, 179–190. (Summary) **99m:90103** 90C10 (90C30)

Gao, Feng[1] (*with* Liu, Wan Quan; Sreeram, V.; Teo, Kok Lay) Feedback control of singular decentralized systems with direct control feedthrough. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 831–841. 93B52 (93A14)

Gao, Fengxiu (*with* Zhou, Jin Jun; Chen, Wei Hong) Best linear approximation and correlation immunity of functions over Z_m^*. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 303–308. (Summary) **99m:65255** 65T20 (94A55)

Gao, Fu Qing A note on Cramer's theorem. *Séminaire de Probabilités, XXXI*, 77–79, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Bronius Riauba) **99f:60012** 60B12 (60F10)

— Large deviations for diffusion processes in Hölder norm. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 2, 147–158. (Paolo Baldi) **99d:60032** 60F10 (60J60)

— Chung's law of the iterated logarithm for locally square integrable martingales. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 20, 2156–2162. 60F15 (60G44)

Gao, Fu Shun (*with* Sun, Yu Xiang[1]) Criteria for a matrix to be an M-matrix. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 535–538. 15A57

— A characterization of M-matrices. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 2, 12–14. 15A57

Gao, Furong (*with* Tian, Yu-Chu) Adaptive control of chaotic continuous-time systems with delay. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 1–12. (Summary) **99c:93052** 93C10 (34K35, 93C40)

Gao, Guang Hong (*with* Yang, Feng Lin; Zhang, Da Li) The Stefan problem for the heat-conduction equation with an unknown coefficient and a nonlinear boundary condition. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 25–29. 35R35 (35K05, 80A22)

Gao, Guo Zhu (*with* Huang, Zhen Xun) Some stability theorems for retarded functional-differential equations. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 652–658. (Summary) **99e:34106** 34K20

— (*with* Tao, You Shan) Oscillation of forced neutral differential equations with positive and negative coefficients. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 271–280. (A. F. Ivanov) **99g:34147** 34K15

Gao, H. *see* **Gao, Huajian**

Gao, Hai Yin (*with* Weng, Shi You; Li, Xiao Chun; Hou, Xue Zhang) Observability of a class of shift robots. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 21–26. 93B07 (93C85)

Gao, Haiyu (*with* Zhao, Pengda; Wang, Jiahua; Galli, Alain) Updating of population parameters and credibility of discriminant analysis. (English summary) *Math. Geol.* **31** (1999), *no.* 3, 249–275. (Summary) **99k:86009** 86A32

Gao, Hang (*with* Wang, Li Qin; Meng, Ling Qi) Existence and Hölder continuity of solutions for a class of semilinear degenerate elliptic equations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 10–15. 35J70 (35B65, 35J60)

— A maximum principle for coefficient optimal control. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 97–101. 49K15

Gao, Hong Jun (*with* Duan, Jinqiao) On the initial-value problem for the generalized two-dimensional Ginzburg-Landau equation. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 536–548. (Spyridon Kamvissis) **99a:35234** 35Q55 (34G20)

— (*with* Guo, Bo Ling) Global dynamics and control of a nonlinear body equation with strong structural damping. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 673–678. (Summary) **99k:73061** 73D35 (35Q72, 73K12, 73K50, 93C85)

— (*with* Duan, Jinqiao; Ervin, Vincent J.) Trajectory and attractor convergence for a nonlocal Kuramoto-Sivashinsky equation. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 33–40. (Summary) **99h:35184** 35Q53 (35B40, 58F39)

— (*with* Guo, Bo Ling) Regularity for the solutions of a one-dimensional generalized Ginzburg-Landau equation and convergence of linear and nonlinear Galerkin approximations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 236–239. 35Q55 (65M12)

Gao, Hong Wei Weakly stable sets in cooperative games. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 4, 1–5. 90D12

Gao, Hong-Ye[2] Wavelet shrinkage denoising using the non-negative garrote. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 4, 469–488. (P. A. Morettin) **99m:62058** 62G07

— (*with* Bruce, Andrew G.; Stuetzle, Werner) Subset-selection and ensemble methods for wavelet de-noising. (English summary) *Statist. Sinica* **9** (1999), *no.* 1, 167–182. 62G07 (42C15)

Gao, Hongsheng (*with* Smith, Peter Jeffry) Some bounds on the distribution of certain quadratic forms in normal random variables. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 73–81. (Goro Nagase) **99j:62011** 62E15 (62H10)

Gao, Huajian (*with* Movchan, A. B.; Willis, John R.) On perturbations of plane cracks. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 26-27, 3419–3453. (Summary) **99c:73062** 73M25

Gao, Hui Qi (*with* Hou, Zeng Guang; Wu, Cang Pu) A neural network based method for dynamical hierarchical optimization of a class of large-scale systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 160–165. 93A13 (93C83)

Gao, J. T. (*with* Pettitt, Anthony N.; Wolff, Rodney C. L.) Local linear kernel estimation for discontinuous nonparametric regression functions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2871–2894. (Summary) **99i:62090** 62G07

— (*with* Pettitt, Anthony N.; Kelly, J. M.) Bias correction for censored data with exponential lifetimes. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 941–963. (Summary) **99e:62173** 62N05

Gao, Ji Normal structure and modulus of U-convexity in Banach spaces. *Function spaces, differential operators and nonlinear analysis (Paseky nad Jizerou, 1995)*, 195–199, *Prometheus, Prague*, 1996. (E. Behrends (Zbl 868.46006)) **99m:46033** 46B20

— W*-uniform rotundity in dual space. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 17–21, *World Sci. Publishing, River Edge, NJ*, 1998. (Stephen J. Dilworth) **99j:46020** 46B20

Gao, Jian[3] (*with* Li, Hong[1]) A new convergence criterion for block Jacobi matrix iteration. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 87–88. 65F10

Gao, Jiang (*with* Dai, Guan Zhong) Optimal likelihood-ratio detection of Bernoulli-Gaussian processes. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 179–185. 93E14

— (*with* Hu, Bao Sheng; Dai, Guan Zhong) Frequency-domain properties applied to optimal estimation and smoothing of systems involving model mismatches. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 79–82, 87. 93E10 (93E14)

Gao, Jidong (*with* Xu, Qin; Gu, Wei) Generalized adjoint for physical processes with parameterized dicontinuities. V. Coarse-grain adjoint and problems in gradient check. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 11, 2130–2135. (Summary) **99c:86002** 86A10

— (*with* Xu, Qin; Gu, Wei) Baroclinic Eady wave and fronts. I. Viscous semigeostrophy and the impact of boundary condition. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 24, 3598–3615. (Summary) **99h:86015** 86A10

— (*with* Xu, Qin) Generalized adjoint for physical processes with parameterized discontinuities. VI. Minimization problems in multidimensional space. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 7, 994–1002. (Summary) **99k:86006** 86A10

Gao, Jin Shou D^p multipliers on bounded symmetric domains. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **24** (1997), *no.* 3, 190–194. (Weiping Yin) **99f:32003** 32A35 (32M15)

Gao, Jing (*with* Yang, Zhi; Qiu, Rongsheng) An adaptive neuron PID controller with optimal prediction for unknown time-varying delay systems. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **2** (1998), *no.* 1, 57–61. 93D15 (93C30)

Gao, Jun[2] (*with* Fu, Jian; Gao, Xiaochun; Li, Xinhua) Phase formulation and exact solutions for the relativistic Klein-Gordon field with a time-dependent Hamiltonian. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 77–84. (Summary) **99h:81031** 81Q05

Gao, Jun-bin (*with* Yang, Yi Du; Shih, Tsi Min) The defect iteration of the finite element for elliptic boundary value problems and Petrov-Galerkin approximation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 152–164. (Ji Chun Li) **99d:65315** 65N30 (65N12)

Gao, Ke Quan (*with* Liu, San Ming) Duality in nonsmooth multiobjective fractional programming. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 105–108, 112. 90C29 (49N15)

Gao, Lan Chang (*with* Jiang, Zhao Lin; Sun, Qing Ying) Interpolation methods for finding the inverse matrices of level-2 (r_1, r_2)-circulant matrices of type (n_1, n_2). (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 80–84. (Summary) **99c:65077** 65F20

Gao, Li Using Huber method to solve nonlinear L_1-norm problem. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 263–271, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C25

Gao, Li Qun (*with* Lu, Li Lei; Zhang, Si Ying) Robust control for linear time-delay systems with structured uncertainty. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 345–349. 93D09 (93B36)

— (*with* Lu, Li Lei; Zhang, Si Ying) The design of robust strongly stabilizing controllers for uncertain time-delay linear systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 6–10. 93D21 (93C30)

— (*with* Wang, Xiang Dong; Zhang, Si Ying) Robust stabilization of a class of uncertain nonlinear systems via state feedback. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 299–301. 93D21

Gao, Li Xin (*with* Wei, Mu Sheng) An iterative method for simultaneously finding the multiple roots of a polynomial, and its convergence condition. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 2, 16–21. 65H05

Gao, Ling Yun On the distribution of values of differential polynomials. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 301–305. (Yu Zan He) **99k:30049** 30D35

— On m-admissible components of solutions. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 297–306. (Summary) **99c:34006** 34A20 (30D35)

— (*with* Song, Shugang; Shu, Zhibiao) On m-nonadmissible components of solutions of systems of differential equations. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 116–121, 139. (Ilpo Laine) **99g:34014** 34A20

— (*with* Sun, Dao Chun) Meromorphic solutions of systems of algebraic differential equations. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 229–234. (Ilpo Laine) **99j:34006** 34A20

Gao, Long Chang A note on catastrophe theory. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 89–93. 58C28

Gao, Lu-duan (*with* Chen, Zhi[1]; Deng, Nai Yang) A class of discretized Newton methods for solving systems of nonlinear equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 57–68. (Summary) **99c:65102** 65H10

Gao, Ming Chu Holomorphic integrated mild C-existence families. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 63–73. (Yuri Sil'chenko) **99d:47035** 47D06 (34G10)

— Mild integrated C-existence families and abstract Cauchy problems. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 95–104. (Yuri Sil'chenko) **99g:47093** 47D06 (34G10)

— (*with* Wang, Sheng Wang) Automatic extensions of local regularized semigroups and local regularized cosine functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1651–1663. (Dieter Lutz) **99i:47072** 47D06 (34G10, 47D09)

Gao, Mingzhe A supremum on Hardy-Hilbert's inequality with weights. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 18–23. (Summary) **99g:26043** 26D15

— On Hilbert's integral inequality. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 32–35. (Summary) **99m:26029** 26D15

— (*with* Li, Tan; Debnath, Lokenath) Some improvements on Hilbert's integral inequality. *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 682–689. (Franck Barthe) **99k:26024** 26D15 (26D10)

Gao, Mu (*with* Xu, Jingbo; Cai, Shoufu; Wang, Qinmei) Properties of the states generated by the excitations on a q-coherent state. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 4, 633–636. (K. Wódkiewicz) **99k:81104** 81R30 (81R50)

Gao, Puyun (*with* Liu, Zhaonan) An indirect method of finding integrals for three-dimensional quadratic homogeneous systems. (English summary) *Phys. Lett. A* **244** (1998), *no.* 1-3, 49–52. (Summary) **99b:34017** 34A34 (34A05)

Gao, Qi Ju A class of multivalued operators and its applications. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 4, 23–25. 47H04 (34A60, 34G20, 47N20)

— (*with* Wan, Yong) Integrability of distributions over CR-submanifolds of a quasi-Kähler manifold. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 1, 7–9, 15. (Bang-yen Chen) **99e:53084** 53C40 (53C15)

— (*with* Tang, Chun-Lei) Elliptic resonant problems at higher eigenvalues with an unbounded nonlinear term. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 56–66. (Thomas Bartsch) **99e:35075** 35J65 (58E05)

Gao, Qian (*with* Tian, Jin Wen) Bootstrap kernel estimators for density functionals. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 455–458. (Summary) **99m:62051** 62G05

— (*with* Tian, Jin Wen; Huang, Jian Zhong[2]) The Bouligand dimension of some graphs based on wavelet series. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 115–118. 42A16 (28A78)

Gao, Qing (*with* Li, Li Kang) An additive Schwarz method for plate bending problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 261–271. (Juhani Pitkäranta) **99c:73079** 73V05 (65F10, 65N30, 73K10)

Gao, Qingshi (*with* Zhao, Lijun; Liu, Zhiyong) An efficient multiway merging algorithm. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 543–551. (Summary) **99k:68040** 68P10

Gao, Ren Xiang (*with* Zhang, Shi Ying; Liu, Bao) A method of simulated moment estimation for the Box-Cox transformation model. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 40–48. (Summary) **99m:62099** 62J05

Gao, S. *see* **Gao, Shu Hong**

Gao, S. C. (*with* Pavel, N. H.; Schirrmeister, N.) Optimal control of a functional equation associated with closed range operators. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 383–392. (Gabriel Dimitriu) **99c:49024** 49K27 (47N10)

— (*with* Pavel, N. H.) Optimal control of a functional equation associated with closed range selfadjoint operators. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2979–2986. (Vladimir I. Sumin) **99a:49014** 49J27 (47N10, 49J20, 49K20)

Gao, Shi An (*with* Chen, Zong-Xuan) Entire solutions of differential equations with finite order transcendental entire coefficients. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 453–464. (Gary G. Gundersen) **99c:34004** 34A20

— (*with* Yang, Rong Hua) A problem on complex oscillations of homogeneous linear differential equations. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 24, 2603–2605. (Hong Xun Yi) **99g:34015** 34A20 (30D35)

Gao, Shiwu Dissipative quantum dynamics with a Lindblad functional. (English summary) *Phys. Rev. Lett.* **79** (1997), *no.* 17, 3101–3104. (Summary) **99c:82043** 82C10

— Gao replies: "Comment on: 'Dissipative quantum dynamics with a Lindblad functional'" [Phys. Rev. Lett. **82** (1999), no. 16, 3376; 1 684 976] by G. W. Ford and R. F. O'Connell. *Phys. Rev. Lett.* **82** (1999), *no.* 16, 3377. 82C10

— *see also* **Ford, G. W.**

Gao, Shou Ping (*with* Li, Yang Cheng) Strong contact equivalence of multiparameter equivariant bifurcation problems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 10–15. (Zhong-Hua Yang) **99m:58031** 58C27 (58F14)

Gao, Shu Hong (*with* Panario, Daniel) Tests and constructions of irreducible polynomials over finite fields. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 346–361, *Springer, Berlin*, 1997. (Joachim von zur Gathen) **99m:11141** 11T06 (11Y16, 68Q40, 94A60)

— (*with* Key, J. D.) Bases of minimum-weight vectors for codes from designs. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 1–15. (J. W. P. Hirschfeld) **99k:94057** 94B25 (51E22)

— (*with* Novick, Beth; Qiu, Ke) From Hall's matching theorem to optimal routing on hypercubes. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 291–301. (Qiao Li) **99j:68106** 68R10 (05A05, 68M10)

— (*with* Brawley, Joel V.; Mills, Donald) Computing composed products of polynomials. (English summary) *Finite fields: theory, applications, and algorithms (Waterloo, ON, 1997)*, 1–15, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Vincenzo Acciaro) **99i:12008** 12Y05 (68Q25)

— (*with* Howell, Jason; Panario, Daniel) Irreducible polynomials of given forms. (English summary) *Finite fields: theory, applications, and algorithms (Waterloo, ON, 1997)*, 43–54, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Igor E. Shparlinski) **99g:11143** 11T06 (11Y16)

— Elements of provable high orders in finite fields. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1615–1623. (Igor E. Shparlinski) **99i:11114** 11T30

Gao, Shu Ping (*with* Zhang, Gang[2]) An adaptive pole placement algorithm without static error and its global convergence. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 52–56. 93B55 (93C05)

Gao, Sijie (*with* Kuang, Zhiquan; Liang, Canbin) "Clock rate synchronizable" reference frames in curved space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2862–2865. (Robert J. Low) **99d:83078** 83C99 (53C80)

Gao, Suo Gang (*with* Nan, Ji Zhu) Some anzahl theorems in symplectic geometry over the finite local ring $\mathbf{Z}/p^k\mathbf{Z}$. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 214–220. (Yu Chen) **99m:20116** 20G99 (11E57)

Gao, Tai-Ping (*with* Yang, Aimin) A fan-type sufficient condition for Hamiltonian bipartite graphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 30–32. (Summary) **99i:05135** 05C45

— (*with* Feng, Yan-Quan) Automorphism groups and isomorphisms of Cayley digraphs of abelian groups. (English summary) *Australas. J. Combin.* **16** (1997), 183–187. (Summary) **99h:20043** 20D45 (05C25, 20F05)

— (*with* Yang, Aimin) On a characterization of reach-preservable graphs. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 6–8. (*see* **99h:05003**) 05C75

Gao, Ting On the structure of a radical of lattice-ordered rings. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 529–537. (N. Sankaran) **99g:06024** 06F25

Gao, Wan Dong (*with* He, Wei[1]) The Alexandorff [Aleksandrov] compactification of an L-fuzzy topological space. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 90–92, 98. 54A40 (54D35)

Gao, Wei (*with* Shi, Ning-Zhong) A note on the choice of optimal scores for ordinal data. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 187–194. (Summary) **99e:62108** 62H17

Gao, Wei-guo A new ILU preconditioner for bordered linear systems. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 97–104. 65F10 (65N22)

— (*with* Xue, Jungong; Qu, Yanyun) A new implementation of EN method. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 199–208. 65F10 (65F30)

Gao, Weidong (*with* Yu, Hongquan) Note on the union-closed sets conjecture. (English summary) *Ars Combin.* **49** (1998), 280–288. (Dinesh G. Sarvate) **99f:05115** 05D05

— (*with* Hamidoune, Y. O.) Zero sums in abelian groups. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 261–263. (Summary) **99h:05118** 05D10

— On the number of subsequences with given sum. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 127–138. (Robert J. Simpson) **99j:20022** 20D06 (05A05, 20K01)

Gao, Wen (*with* Yin, Baocai) A radial basis function interpolation surface. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 63–68. (Summary) **99m:65040** 65D17 (65D05)

Gao, Wenjie (*with* Wang, Junyu) Existence of solutions to boundary value problems for a nonlinear second order equation with weak Carathéodory functions. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 175–185. (L. E. Bobisud) **99f:34031** 34B15

Gao, Xi Kan (*with* Li, Qing Guo) The R_0 and R_1 separation axioms in topological De Morgan algebras. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 6, 1–3. 54H12

— (*with* Li, Qing Guo) A fuzzy fixed point theorem. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 6–8. 54A40 (54H25)

Gao, Xi Ling (*with* Cai, Qi Fu) A numerical method for a system of shallow water equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 4, 467–471. 76M20 (76B15)

— (*with* Cai, Qi Fu; Xiang, Yu Zhang; Ge, Ji Chuan) A second-order finite volume method for the 2D shallow water equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 18–22. 76M20 (76B15)

Gao, Xiaochun (*with* Fu, Jian; Li, Xinhua; Gao, Jun[2]) Phase formulation and exact solutions for the relativistic Klein-Gordon field with a time-dependent Hamiltonian. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 77–84. (Summary) **99h:81031** 81Q05

Gao, Xie Ping A study of a structure learning algorithm for neural networks. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 10–12. 68T05

Gao, Xin-Lin A mathematical analysis of the elasto-plastic plane stress problem of a power-law material. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 139–149. (Summary) **99e:73049** 73E05

Gao, Y. *see* **Gao, Yuan**

Gao, Y.-T. *see* **Gao, Yi Tian**

Gao, Ya-Jun (*with* Zhong, Zai-Zhe; Gui, Yuan-Xing) Extended double Riemann-Hilbert problem and multiple representations of the infinite-dimensional symmetric group for the stationary axisymmetric vacuum field equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3155–3165. (Summary) **99f:83016** 83C20 (22E65, 22E67)

— (*with* Gui, Yuan-Xing) Quantized braided linear algebras relating to quantized braided groups. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5960–5967. (Abed-El-Farid Djemai) **99b:16057** 16W30

Gao, Yan (*with* Tian, Jie Mei) Research on linearization of adaptive systems and a design method. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol. (Chin. Ed.)* **17** (1997), *no.* 3, 296–300. (*see* **99a:93004**) 93C40 (93B51)

Gao, Yan[1] A class of Wilson arbitrary quadrilateral elements for an axisymmetric problem. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 12, 1211–1216; *translated from Appl.*

Math. Mech. **19** (1998), *no.* 12, 1113–1117 (*Chinese. English and Chinese summaries*). (Summary) **99m:65212** 65N30
— (*with* Meng, Fan Wen; Xia, Zun Quan) Second-order directional derivatives for max-type functions. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 6, 621–624. 49J52 (49J50, 49K35)
— On the minimal quasidifferential in the one-dimensional case. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 211–218. (Diethard Pallaschke) **99g:49015** 49J52
Gao, Yi Solving generalized complementarity problems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 201–208. 90C33
Gao, Yi Ming (*with* Guo, Xi Juan; Chang, Fu Qing) Criteria for a matrix to be generalized diagonally dominant or an M-matrix. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 59–63. 65F35
Gao, Yi Tian (*with* Tian, Bo; Zhao, Ke Yi) Some analytical solutions for the $(2+1)$-dimensional nonintegrable and integrable dispersive long wave equations. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 133–135. 35Q51 (35C99)
— (*with* Tian, Bo) Generalized variable-coefficient KP equation. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2299–2301. 35Q53
Gao, Yin Zhi Gracefulness of the graph $C_{2n} \cup P_2$. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 1, 18–21. 05C78
— (*with* Luo, Yun Ling; Wang, Qun) The rate of L^1-convergence of Grünwald interpolatory operators. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 55–59. 41A36
Gao, Ying (*with* Zhang, Guang) Oscillation of neutral delay differential equations with positive and negative coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 8–12. (Summary) **99c:34160** 34K15 (34K40)
— (*with* Zhang, Guang; Cheng, Sui Sun) Classification schemes for positive solutions of a second-order nonlinear difference equation. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 39–51. (E. Thandapani) **99k:39050** 39A10
Gao, Yong (*with* Chen, Zhi Ping) Process properties and stability of optimal solution sets of stochastic programming problems with random processes. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 466–472. (Summary) **99a:90140** 90C15 (90C31)
— (*with* Nie, Zan Kan; Zhang, Wen Xiu) Optional (predictable) projections of measurable set-valued stochastic processes in reflexive Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 99–104. (Summary) **99b:60060** 60G44 (60B99)
— (*with* Chen, Zhi Ping) Stochastic programming problems with random processes—the martingale properties of their optimal value processes and optimal solution set processes. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 335–338. 90C15
— (*with* Xu, Zong Ben) Characteristic analysis and prevention on premature convergence in genetic algorithms. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 2, 113–125. (R. Shonkwiler) **99a:68147** 68T05 (60J20, 92D25)
Gao, You (*with* You, Hong) Small sets of generators of unitary groups over finite fields not of characteristic two. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 46–50. 20G40
Gao, Yu Bin (*with* Liu, Bo Lian; Shao, Yan Ling) Extremal matrices of generalized upper exponents for symmetric primitive matrices. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 559–566. (Gang Song Leng) **99g:15024** 15A48 (05C50)
— (*with* Shao, Yan Ling) The sets of upper generalized exponents for a class of primitive undirected [directed] graphs. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 409–416. (Yubao Guo) **99b:05099** 05C50
— (*with* Shao, Yan Ling) The kth upper generalized exponents of primitive symmetric digraphs. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 161–164. (Summary) **99e:05061** 05C20
Gao, Yuan (*with* Garzon, Max; Murphy, R. C.; Rose, J. A.; Deaton, Russell; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA implementation of nondeterminism. (English summary) *DNA based computers III (Philadelphia, PA, 1997)*, 137–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05
Gao, Yuan Yuan (*with* Wang, Da Hai; Liu, Ming Hui) Comment: "An improvement and strengthening of the Negoiță–Ralescu representation theorem" [Beijing Shifan Daxue Xuebao **1980**, no. 3-4, 41–46; MR 84k:03134] by P. Z. Wang and X. G. Chen. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 4, 13–15. 03E72
Gao, Yun[1] The degeneracy of extended affine Lie algebras. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 233–249. (Stefano Capparelli) **99i:17026** 17B67
Gao, Zhen Lin Semilattice congruences of partially ordered semigroups. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 26–29. (Editors) **99f:06018** 06F05
— On the least property of the semilattice congruences on po-semigroups. (English summary) *Semigroup Forum* **56** (1998), *no.* 3, 323–333. (R. J. Warne) **99a:06022** 06F05 (20M99)
Gao, Zhi Min (*with* Yasui, Yoshikazu) A decomposition of k-semi-stratifiable spaces. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 199–202. (Summary) **99b:54041** 54E99 (54B15)
— (*with* Yasui, Yoshikazu) A theorem on closed images of k-semistratifiable spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 11–12. 54E40
— (*with* Yasui, Yoshikazu) Some remarks on kc-semi-stratifiable spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 477–480. (Summary) **99i:54032** 54E20
— Metrizability of some generalized metric spaces in terms of g-functions. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 115–125. 54E35 (54E40)
Gao, Ziyou (*with* He, Guoping; Wu, Fang) An algorithm of sequential systems of linear equations for nonlinear optimization problems with arbitrary initial point. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 561–571. (Eugenia Duca) **99g:90118** 90C30 (65K05)
— (*with* Lai, Yan Lian; He, Guoping) A generalized projection quasi-Newton method for nonlinear optimization problems. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 353–362. (*see* **99m:90004**) 90C30
Gao, Zong Sheng (*with* Sun, Dao Chun) Regular growth of Taylor series. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 111–120. (Jian-Hua Zheng) **99c:30054** 30D15 (30B10)
— A fundamental inequality for quasialgebroid functions and its application. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 823–830. (Bi Yun Yao) **99d:30036** 30D60 (30C62, 30D35)
— (*with* Sun, Dao Chun) The Borel directions of the largest type of algebroid functions. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 701–710. (Lo Yang) **99e:30021** 30D35
— Some results on the value distributions of quasiconformal mappings. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 4, 367–375. (Jixiu Chen) **99d:30031** 30D35 (30C62)
— (*with* Sun, Dao Chun) Filling discs of meromorphic functions of infinite order. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 44–48. (Summary) **99j:30033** 30D30
Gapanovich, V. S. Control of mechanical systems under conditions of uncertainty. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 27–32, 240, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 93C41 (70Q05)
Gapinski, Steven (*with* Harrison, John Watkins; Brennan, Thomas) The Gergonne p-pile problem and the dynamics of the function $x \mapsto \lfloor (x+r)/p \rfloor$. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 103–113. (Christian Radoux) **99m:05001** 05A05 (11B37)
Gaposhkin, V. F. Spectral criteria for the existence of generalized ergodic transformations. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 2, 251–271; *translation in Theory Probab. Appl.* **41** (1996), *no.* 2, 247–264 (1997). (Summary) **99d:28034** 28D05 (47A35, 60F05, 60G10)
— On the almost everywhere convergence of Riesz means of homogeneous random fields. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 461–472; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 405–415 (1998). (F. Móricz) **99c:60066** 60F15 (60G60)
Garabedian, P. R. (*with* Gardner, Henry J.) On the computation of stability limits for fusion experiments. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 327–333, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76X05 (76E25)
— ★ Partial differential equations. Reprint of the 1964 original. *AMS Chelsea Publishing, Providence, RI*, 1998. *xii+672 pp. ISBN* 0-8218-1377-3 (Editors) **99f:35001** 35-01
— Magnetohydrodynamic stability of fusion plasmas. (English summary) Dedicated to the memory of Fritz John. *Comm. Pure Appl. Math.* **51** (1998), *no.* 9-10, 1019–1033. (Zensho Yoshida) **99m:76120** 76W05 (76E25, 76M25, 76X05, 82D10)
— (*with* Ku, Long-Poe) Quasiaxially symmetric stellarators with three field periods. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 645–648. (Summary) **99k:76161** 76X05
Garaev, M. Z. Diophantine equations of the third degree. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 99–108. (Ákos Pintér) **99f:11037** 11D25
Garain, D. N. (*with* Srivastava, Ajay Kumar) Effect of perturbations in Coriolis and centrifugal forces on the first order normalization in the new kind restricted problem of three bodies. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 473–476. 70F07
Garaizar, Xabier (*with* Gordon, Michael K.; Shearer, Michael) An elastoplasticity model for antiplane shearing with a non-associative flow rule: genuine nonlinearity of plastic waves. *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 344–363. (Anne Nouri) **99a:73064** 73E50 (35Q72, 73E05, 73E70)
— (*with* Trangenstein, John) Adaptive mesh refinement and front-tracking for shear bands in an antiplane shear model. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 750–779 (*electronic*). (Summary) **99g:73055** 73E99 (65M55, 73V20)
Garandet, J. P. (*with* Marty, Ph.; Martin Witkowski, L.; Trombetta, P.; Tomasino, T.) On the stability of rotating MHD flows. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows (Aussois, 1997)*, 327–343, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76E25 (76U05, 76W05)
Garanin, S. F. Self-similar evolution of Rayleigh-Taylor instability in the corner-point regions. *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 33–39, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99
Garashchenko, F. G. (*with* Pantalienko, L. A.) Analysis and estimation of parametric systems based on practical stability methods. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 145–161, 298–299. 93D10 (34D20)
— (*with* Kutsenko, I. A.) Practical stability of discrete processes, estimates, and their optimization. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 50–60, 154. (Summary) **99e:93057** 93D10 (93C55)
— (*with* Pichkur, V. V.) Structural optimization of dynamical systems on the basis of the generalized Bellman principle. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 6, 6–13, 149. (Summary) **99j:49060** 49L20 (90C29, 90C39)
Garattini, Remo Space-time foam, Casimir energy and black hole pair creation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 159–164. 83C57 (83C45)
— Wormholes and black-hole pair creation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 963–974. (Alfredo Macias) **99h:83036** 83C57 (83E05)
Garay, Barnabas M. Some remarks on Ważewski's retract principle. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 97–105. (Roman Srzednicki) **99j:34067** 34C99 (34A12, 34A99)
Garay, Juan A. (*with* Bellare, Mihir; Rabin, Tal) Batch verification with applications to cryptography and checking (invited paper). (English summary) *LATIN'98: theoretical informatics (Campinas, 1998)*, 170–191, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99h:94043** 94A60
— (*with* Buhrman, Harry; Franklin, Matthew; Hoepman, Jaap-Henk; Tromp, John; Vitányi, Paul) Mutual search (extended abstract). (English summary) *Proceedings of the Ninth*

Annual ACM-SIAM Symposium on Discrete Algorithms (*San Francisco, CA*, 1998), 481–489, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q10 (68R10)

— (*with* Moses, Yoram) Fully polynomial Byzantine agreement for $n > 3t$ processors in $t + 1$ rounds. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 247–290 (*electronic*). (A. T. Amin) **99d:68094** 68Q22 (68M10, 68M15)

— (*with* Kutten, Shay; Peleg, David) A sublinear time distributed algorithm for minimum-weight spanning trees. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 302–316 (*electronic*). (Summary) **99b:68148** 68R10 (05C05, 05C85, 68Q22, 68Q25)

Garay, Luis J. (*with* Mena Marugán, Guillermo A.) Thiemann transform for gravity with matter fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3763–3775. (Jorge A. Pullin) **99j:83036** 83C45 (83C05)

— (*with* Barceló, Carlos) Wormhole effective interactions in anti-de Sitter spacetime. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 623–645. (Summary) **99c:83027** 83C45 (83C47, 83E05)

— (*with* Barceló, Carlos) Quantum fields in anti-de Sitter wormholes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5291–5294. (Summary) **99m:83064** 83C45 (81T20, 83E05)

— Thermal properties of spacetime foam. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124015, 11 *pp.* 83C45

Garay, Oscar J. (*with* Arroyo, J.; Barros, Manuel) Spectral decomposition of spherical immersions with respect to the Jacobi operator. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 205–212. (Pascual Lucas Saorin) **99g:53062** 53C42

— (*with* Arroyo, J.; Mencía, J. J.) On a family of surfaces of revolution of finite Chen-type. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 73–80. (Theodoros Vlachos) **99b:53075** 53C40

— (*with* Barros, Manuel) Hopf submanifolds in S^7 which are Willmore-Chen submanfolds. *Math. Z.* **228** (1998), *no.* 1, 121–129. (Miguel Angel Meroño) **99d:53065** 53C42 (53C40)

Garba, A. A mixed spectral/wavelet method for the solution of the Stokes problem. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 297–315. (Summary) **99f:76100** 76M25 (42C15, 65M70, 76D05)

Garbe, R. (*with* Glazebrook, Kevin D.) Stochastic scheduling with priority classes. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 119–144. (Summary) **99b:90069** 90B35

Garbet, X. (*with* Waltz, R. E.) Turbulence scaling laws in fusion plasmas. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 275–285, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76X05 (76F99)

Garbey, M. (*with* Tromeur-Dervout, D.) A new parallel solver for the nonperiodic incompressible Navier-Stokes equations with a Fourier method: application to frontal polymerization. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 316–331. (Summary) **99g:76105** 76M25 (65Y05, 76D05, 80–08, 80A25)

Garcea, Giovanni (*with* Trunfio, Giuseppe A.; Casciaro, Raffaele) Mixed formulation and locking in path-following nonlinear analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 247–272. (Summary) **99i:73069** 73V05 (65N55)

Garcés Calvelo, Alejandro (*with* Iriarte Quirós, Manrique) Simple data types in denotational semantics. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 2, 173–183. 68Q55 (68N15)

Garcet Rodríguez, Sandra A. (*with* Allende Alonso, Sira; Bouza Herrera, Carlos N.; Suárez Fariñas, Mayte) A parametric programming algorithm for learning in artificial neural networks through linear regression curve fitting. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 55–60. 90C31 (65K05)

— (*with* Suárez Fariñas, Mayte; Allende Alonso, Sira; Bouza Herrera, Carlos N.) The parametric problem of linear complementarity. Solution algorithms. Application to the fit of a multivariate linear regression model with LS-LAD criterion. (Spanish. English and Spanish summaries) *Investigación Oper.* **18** (1997), *no.* 1-3, 11–56. (Summary) **99j:62097** 62J05 (90C33)

García, A. *see* **García, Alfredo**

García, A. A. *see* **García Díaz, Alberto**

García, A. O. (*with* Coquereaux, Robert; Trinchero, R.) Finite-dimensional quantum group covariant differential calculus on a complex matrix algebra. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 221–232. (Adriana M. Criscuolo) **99j:58018** 58B30 (17B37, 81R50)

García, Alberto *see* **García Díaz, Alberto**

García, Alejandro L. (*with* McNamara, Guy R.; Alder, Berni J.) A hydrodynamically correct thermal lattice Boltzmann model. (English summary) *J. Statist. Phys.* **87** (1997), *no.* 5-6, 1111–1121. (Summary) **99f:82055** 82C40 (76P05)

García, Alfredo (*with* Hernando, C.; Hurtado, Ferran; Noy, M.; Tejel, F. Javier) Packing trees into planar graphs. (English summary) *Graph drawing* (*Rome*, 1997), 383–390, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99g:05060** 05C10 (68R10)

— (*with* Tejel, F. Javier) A lower bound for the number of polygonizations of N points in the plane. (English summary) *Ars Combin.* **49** (1998), 3–19. (W. Moser) **99g:52030** 52C10 (05A16)

— (*with* Jodrá, Pedro; Tejel, F. Javier) An efficient algorithm for on-line searching of minima in Monge path-decomposable tridimensional arrays. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 3–9. (Summary) **99j:68051** 68Q25 (65Y20, 68U05, 90C27)

García, Alicia (*with* Dal Lago, Walter; Sánchez, Cristián U.) Projective subspaces in the variety of normal sections and tangent spaces to a symmetric space. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 415–428. (Anna M. Fino) **99h:53066** 53C30 (53C35)

García, Antonio G. (*with* Zayed, Ahmed I.) Nonuniform sampling of bandlimited signals with polynomial growth on the real axis. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1717–1721. (Peter A. McCoy) **99a:94003** 94A11 (94A12)

— (*with* Hernández-Medina, Miguel Ángel) Fourier duality associated with regular Sturm-Liouville problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 297–302, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34L10

— (*with* Moro, Julio; Hernández-Medina, Miguel Ángel) On the distributional Fourier duality and its applications. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 43–54. (Stevan Pilipović) **99m:46103** 46F12 (40A05, 42A38)

— (*with* Zayed, Ahmed I.) Kramer's sampling theorem with discontinuous kernels. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 197–206. (Paşc Găvruţa) **99g:41004** 41A05 (34B24, 41A58, 94A24)

García, Arnaldo *see* **Meeting: Algebra**

García, C. *see* **García, Cristóbal**

pérez-García, Cristina *see* **Pérez-García, Cristina**

García, Cristóbal (*with* Algaba, A.; Merino, M.; Maestre, M.) Resonance phenomena in an electronic circuit. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 139–144, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C15 (94C05)

García, D. *see* **García Vera, Diego Antonio**

muñoz García, E. *see* **Muñoz García, E.**

García, Ephrahim (*with* Dunn, Barry) Optimal placement of a proof mass actuator for active structural acoustic control. (English summary) *Mech. Structures Mach.* **27** (1999), *no.* 1, 23–35. 73K50 (73K12, 93C95)

ferreira García, Eva *see* **Ferreira García, Eva**

vazquez García, Fernando *see* **Vazquez García, Fernando**

fernández García, Francisco Ramón *see* **Fernández García, Francisco Ramón**

acosta García, Gerardo *see* **Acosta García, Gerardo**

García, Germain (*with* Bernussou, Jacques; Arzelier, Denis) Stabilization of an uncertain linear dynamic system by state and output feedback: a quadratic stabilizability approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 839–858. 93D15 (93D21)

— (*with* Bernussou, Jacques) Identification of the dynamics of a lead acid battery by a diffusive model. (English and French summaries) *Systèmes différentiels fractionnaires* (*Paris*, 1998), 87–98, *ESAIM Proc.*, 5, *Soc. Math. Appl. Indust., Paris*, 1998. (*see* **99h:00027**) 93E12 (80A99)

— (*with* Daafouz, Jamal; Bernussou, Jacques) H_2 guaranteed cost control for singularly perturbed uncertain systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1323–1329. (Summary) **99j:93065** 93C70 (93D21)

— (*with* Tabouriech, Sophie; Suárez, Rodolfo; Álvarez-Ramírez, José) Nonlinear bounded control for norm-bounded uncertain systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1254–1258. 93B36 (93C42)

montero García, Gustavo *see* **Montero García, Gustavo**

García, Humberto E. (*with* Ray, Asok) State-space supervisory control of reconfigurable discrete event systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 767–797. 93C83 (93A30)

García, I. A. (*with* Chavarriga, Javier; Giné, Jaume) Isochronous centers of a linear center perturbed by homogeneous polynomials. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 65–80, *Univ. Lleida, Lleida*, 199?. (I. D. Iliev) **99a:34075** 34C05 (34C20)

— (*with* Chavarriga, Javier; Giné, Jaume) Integrability of quasihomogeneous vector fields in the plane. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:34043** 34C05 (34A34, 58F21)

— (*with* Chavarriga, Javier; Giné, Jaume) Quadratic integrable chordal systems. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 225–230, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Henryk Żołądek) **99d:34042** 34C05 (34A05)

— (*with* Chavarriga, Javier; Giné, Jaume) Isochronous centers of a linear center perturbed by fourth degree homogeneous polynomial. (English summary) *Bull. Sci. Math.* **123** (1999), *no.* 2, 77–96. (I. D. Iliev) **99m:34058** 34C05 (34–04, 34C20, 34C25)

García, J. *see* **García Espinosa, Julio**

García, J. Antonio (*with* Pons, Josep M.) Faddeev-Jackiw approach to gauge theories and ineffective constraints. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 21, 3691–3710. (Summary) **99e:81144** 81T13 (81T70)

martínez-García, J. C. *see* **Martínez-García, J. C.**

tapia García, J. M. *see* **Tapia García, J. M.**

díaz-García, José A. *see* **Díaz-García, José A.**

lópez García, José Luis *see* **López García, José Luis**

martín-García, José M. *see* **Martín-García, José M.**

García, Josefa M. (*with* Jara, P.; Merino, L. M.) Decomposition of locally finite modules. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 147–157, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (S. S. Page) **99e:16008** 16D70 (16W30)

García, Julio C. *see* **García Corte, Julio César**

cabrera García, M. *see* **Cabrera García, M.**

García, M. D. *see* **García León, María Dolores**

martínez García, Ma. Lina *see* **Martínez García, Ma. Lina**

núñez García, Manuel *see* **Núñez García, Manuel**

reyes García, Marcelo *see* **Reyes García, Marcelo**

ulecia García, María Teresa *see* **Ulecia García, María Teresa**

sánchez García, Miguel *see* **Sánchez García, Miguel**

García, N. *see* **García García, Nuria**

lopes García, Nancy *see* **Lopes García, Nancy**

García, Nancy Lopes *see* **Lopes García, Nancy**

garcía García, Nuria *see* **García García, Nuria**

García, Núria Pla *see* **García García, Nuria**

García, P. *see* **García-Calvés, Pere**

lópez-García, Pedro *see* **López-García, Pedro**

García, Pedro L. *see* **García Pérez, Pedro Luis**

García, R. *see* **García, Ronaldo Alves**

García, R. A. *see* **García, Rafael A.**

García, R. D. M. (*with* Siewert, C. E.) The F_N method in atmospheric radiative transfer. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1623–1649. (Summary) **99i:85002** 85A25 (86A10)

— (*with* Chalhoub, E. S.) A new quadrature scheme for solving azimuthally dependent transport problems. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 607–624. (Summary) **99e:82090** 82C80 (65R20, 82C70)

Garcia, R. S. (*with* Dowker, H. F.) A handlebody calculus for topology change. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1859–1879. (Stephen F. Sawin) **99i:83035** 83C45 (57R70)

obaya García, Rafael *see* **Obaya García, Rafael**

García, Rafael A. (*with* Mancilla Aguilar, J. L.; D'Attellis, C. E.) Exact linearization of nonlinear systems: trajectory tracking with bounded controls and state constraints. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 455–467. 93B17 (93C15)

Garcia, René Asymptotic null distribution of the likelihood ratio test in Markov switching models. (English summary) *Internat. Econom. Rev.* **39** (1998), *no.* 3, 763–788. (Summary) **99c:62288** 62P20 (62M10)

Garcia, Ronaldo Alves (*with* Sotomayor, Jorge) Structural stability of parabolic points and periodic asymptotic lines. (English and Portuguese summaries) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 83–102. (Robert Roussarie) **99g:58069** 58F10 (53A05)

Garcia, S. A. (*with* Yoon, K. T.; Moon, S. Y.; Heard, G. W.; Chung, T. J.) Flowfield-dependent mixed explicit-implicit (FDMEI) methods for high and low speed and compressible and incompressible flows. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 75–104. (*see* **99b:76003**) 76M25

Garcia Alvarez, Edgardo T. (*with* Gaioli, Fabián H.) Feynman's proper time approach to QED. (English summary) Parametrized relativistic quantum theory, Part 2 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 10, 1529–1538. (Summary) **99k:81341** 81V10

— (*with* Gaioli, Fabián H.) Classical and quantum theories of spin. (English summary) Parametrized relativistic quantum theory, Part 2 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 10, 1539–1550. (Dan Radu Grigore) **99m:81085** 81R20 (81P99)

García-Archilla, Bosco (*with* Novo, Julia; Titi, Edriss S.) An efficient form of the nonlinear Galerkin method. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 13 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65M60

— (*with* Sanz Serna, J. M.; Skeel, Robert D.) Long-time step methods for oscillatory differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 111–123, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65107** 65L06

— (*with* de Frutos, Javier; Novo, Julia) Postprocessing of spectral methods for the discretization of dissipative partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997), 743–748, Colecc. Congr., 9, Univ. Vigo, Vigo, 1998.* (*see* **99d:00018**) 65M70

— (*with* Novo, Julia; Titi, Edriss S.) Postprocessing the Galerkin method: a novel approach to approximate inertial manifolds. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 941–972 (*electronic*). (Summary) **99b:65115** 65M60 (34G20, 47H20)

— (*with* Novo, Julia; Titi, Edriss S.) An approximate inertial manifolds approach to postprocessing the Galerkin method for the Navier-Stokes equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 893–911. (Tsorng-Whay Pan) **99i:65104** 65M60 (34G20, 35Q30, 47H20, 76D05)

— (*with* Sanz Serna, J. M.; Skeel, Robert D.) Long-time-step methods for oscillatory differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 930–963 (*electronic*). (David E. Stewart) **99g:65087** 65L99 (65L70, 70–08)

García Azorero, J. P. (*with* Barenblatt, G. I.; De Pablo, Arturo; Vázquez, Juan Luis) Mathematical model of the non-equilibrium water-oil displacement in porous strata. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 19–45. (Summary) **99j:76121** 76S05 (35Q35, 86A05)

— (*with* Peral Alonso, Ireneo) Hardy inequalities and some critical elliptic and parabolic problems. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 441–476. (Katsuyuki Ishii) **99f:35099** 35K60 (35B30, 35J60)

— (*with* De Pablo, Arturo) Finite propagation for a pseudoparabolic equation: two-phase non-equilibrium flows in porous media. *Nonlinear Anal.* **33** (1998), *no.* 6, 551–573. (Elena Comparini) **99h:35115** 35K70 (35Q99, 35R35, 76S05, 76T05)

Garcia Barroso, Evelia Un théorème de décomposition pour les polaires génériques d'une courbe plane. (English and French summaries) [A decomposition theorem for the generic polars of a plane curve] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 59–62. (Victor Zvonilov) **99h:14031** 14H20

García-Calcines, J. M. (*with* García-Pinillos, M.; Hernández, Luis Javier) A closed simplicial model category for proper homotopy and shape theories. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 221–242. (Summary) **99a:55017** 55U35 (18B99, 18G99)

Garcia-Calvés, Pere (*with* Rodriguez, Ricardo O.; Godo, Lluís) Using fuzzy similarity relations to revise and update a knowledge base. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 357–370. (Jonathan Lawry) **99b:68176** 68T27 (03B52, 03B60, 04A72)

— (*with* Plaza, E.; Esteva, Francesc; Godo, Lluís; López de Màntaras, R.) A logical approach to case-based reasoning using fuzzy similarity relations. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 105–122. (Summary) **99f:68191** 68T27 (03B52)

García-Carpintero Sánchez-Miguel, Manuel Indexicals as token-reflexives. (English summary) *Mind* **107** (1998), *no.* 427, 529–563. 03B65

García-Colín, Leopoldo S. (*with* Bhalekar, Anil A.) Recent trends in irreversible thermodynamics. (English summary) *Proc. Pakistan Acad. Sci.* **34** (1997), *no.* 1, 35–58. 80A10

García-Compeán, Hugo (*with* Plebański, Jerzy F.; Przanowski, Maciej) Geometry associated with self-dual Yang-Mills and the chiral model approaches to self-dual gravity. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 3, 549–571. (Ian A. B. Strachan) **99i:58068** 58F06 (53C80, 58B30, 83C99)

— (*with* Plebański, Jerzy F.; Quiroz-Pérez, Norma) On the reduced SU(N) gauge theory in the Weyl-Wigner-Moyal formalism. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2089–2102. (Maciej Przanowski) **99e:81145** 81T13 (81S30, 81T30)

— (*with* Obregón, O.; Plebański, Jerzy F.; Ramírez Romero, Cupatitzio) Towards a gravitational analogue to S duality in non-abelian gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7501–7506. (Summary) **99k:81306** 81T60 (81T13)

— (*with* Obregón, O.; Ramírez Romero, Cupatitzio) Gravitational duality in MacDowell-Mansouri gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104012, 3 *pp.* (Summary) **99m:83168** 83D05 (81T60)

García Corte, Julio César (*with* Quezada Batalla, Roberto) On strong perturbations of covariant generators of quantum dynamical semigroups. *Fourth Symposium on Probability Theory and Stochastic Processes (Spanish) (Guanajuato, 1996), 91–105, Aportaciones Mat. Notas Investigación, 12, Soc. Mat. Mexicana, México*, 1996. (Franco Fagnola) **99h:81106** 81S25 (47N50, 82C10)

— (*with* Chebotarëv, A. M.; Quezada Batalla, Roberto) On the Lindblad equation with unbounded variable coefficients. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 125–140; *translation in Math. Notes* **61** (1997), *no.* 1-2, 105–117. (Lech Jakóbczyk) **99c:82042** 82C10 (47D07, 47N50)

— (*with* Chebotarëv, A. M.; Quezada Batalla, Roberto) A priori estimates and existence theorems for the Lindblad equation with unbounded time-dependent coefficients. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 44–65. (Franco Fagnola) **99m:81112** 81S25 (47N50, 82C10)

García-Cortí, J. L. (*with* Almeida Rodriguez, Angel Jose; Pacheco Castelao, José Miguel) Morphogenesis in reaction-diffusion systems with catalytic-dependent diffusion coefficients. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 23 pp. (electronic), Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 35K57 (35Q80)

Garcia de Andrade, L. C. On non-Riemannian domain walls. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1629–1637. (Summary) **99g:83067** 83D05

— On the stability of wormholes in Weitzenböck space-time. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 25, 2045–2047. (Summary) **99e:83045** 83D05 (83E05)

— Negative energy density in spinning matter sources in wormhole space-times with torsion. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 38, 3069–3072. 83D05

— On time dislocation solution of Einstein field equations. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 2, 93–97. 83D05

García de Galdeano, Zoel *see* **Hormigón, Mariano, (99d:01045)**

García de la Banda, Maria (*with* Marriott, Kim; Stuckey, Peter J.; Søndergaard, Harald) Differential methods in logic program analysis. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 1–37. (Summary) **99a:68029** 68N17

— (*with* Muthukumar, K.; Bueno, F.; Hermenegildo, Manuel) Automatic compile-time parallelization of logic programs for restricted, goal level, independent and-parallelism. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 165–218. (Summary) **99h:68032** 68N17 (68N20)

García Díaz, Alberto (*with* Bretón Báez, Nora) Colliding waves in dilaton-axion gravity. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields (Rio de Janeiro, 1995), 508–512, World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83C15 (83C35)

— (*with* Hehl, Friedrich W.; Lämmerzahl, Claus; Macías, Alfredo; Socorro, José) Plebański-Demiański-like solutions in metric-affine gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1793–1799. (Serguey M. Pokas') **99d:83082** 83D05

— (*with* Bretón Báez, Nora; Manko, Vladimir S.; Denisova, T. E.) Arbitrarily deformed Kerr-Newman black hole in an external gravitational field. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3382–3388. (Summary) **99m:83100** 83C57 (83C22)

— (*with* Lämmerzahl, Claus; Macías, Alfredo; Mielke, Eckehard W.; Socorro, José) Colliding waves in metric-affine gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3457–3462. 83D05

García-Esnaola, M. (*with* Carnicer, J. M.; Peña, J. M.) Bases with convexity preserving properties. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995), 17–31, Ser. Approx. Decompos., 8, World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41023** 41A29 (41A63)

— (*with* Peña, J. M.) Optimal convexity preserving bases. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996), 119–126, Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:65012** 65D15 (15A48, 41A29, 65Y99)

— (*with* Carnicer, J. M.) Global convexity of curves and polygons. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 893–907. (Michael Kallay) **99h:65025** 65D17 (52B55)

García Espinosa, Julio (*with* Oñate, Eugenio; Idelsohn, S.) An alpha-adaptive approach for stabilized finite element solution of advective-diffusive problems with sharp gradients. *Advances in adaptive computational methods in mechanics (Cachan, 1997), 309–323, Stud. Appl. Mech., 47, Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65M60 (76M10)

— (*with* Oñate, Eugenio; Idelsohn, S.) Stabilization of the numerical solution of the convective transport problem using finite elements. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997), 53–61, Colecc. Congr., 9, Univ. Vigo, Vigo, 1998.* (*see* **99d:00018**) 76M10 (65M12)

García-Esteban, Mauricio (*with* Sira-Ramírez, Hebertt; Pérez-Moreno, Rafael A.) Design of pulse width modulation controllers for stabilization and tracking in derived DC-to-DC power converters. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 301–318. 93D15 (93C95)

— (*with* Sira-Ramírez, Hebertt; Zinober, Alan S. I.) Dynamical adaptive pulse-width-modulation control of DC-to-DC power converters: a backstepping approach. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 205–222. 93C95 (93C40)

Garcia-Falset, J. (*with* Llorens-Fuster, Enrique; Sims, Brailey) Fixed point theory for almost convex functions. *Nonlinear Anal.* **32** (1998), *no.* 5, 601–608. (Tomás Domínguez Benavides) **99b:47083** 47H10

García-Ferreira, S. (*with* Eckertson, F. W.; Sanchis, Manuel; Watson, W. Stephen) An isocompact Tychonoff space whose square is not isocompact. (English summary) *Topology Proc.* **22** (1997), 181–190. (Jack R. Porter) **99m:54011** 54D20 (54B10)

— Continuous functions between Isbell-Mrówka spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 185–195. (J. R. Isbell) **99b:54006** 54A20 (54A35, 54C20)

García García, Nuria (*with* Simó, Carles) Monte Carlo and uniform distribution methods for the numerical approximation of partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol.*

I, II (Spanish) (*Vigo*, 1997), 755–761, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65C05

— (*with* Vigo, Marc; Brunet, Pere) Directional adaptive surface triangulation. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 107–126. (Summary) **99j:65028** 65D17 (65N30)

García Gómez, Carles *see* **Proceedings: Catalan Days of Applied Mathematics, 99a:00038**

fernández García-Hierro, Manuel *see* **Fernández García-Hierro, Manuel**

García-Huidobro, Marta (*with* Manásevich, Raúl; Mitidieri, Enzo; Yarur, Cecilia S.) Existence and nonexistence of positive singular solutions for a class of semilinear elliptic systems. *Arch. Rational Mech. Anal.* **140** (1997), *no.* 3, 253–284. (Rolando Magnanini) **99e:35049** 35J60 (35B05)

— (*with* Manásevich, Raúl; Yarur, Cecilia S.) On positive singular solutions for a class of nonhomogeneous p-Laplacian-like equations. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 23–51. (Summary) **99a:35065** 35J60 (34A34, 35B05)

— (*with* Clément, Philippe; Manásevich, Raúl) Positive solutions of small norm to a quasilinear elliptic inclusion problem. *Adv. Differential Equations* **4** (1999), *no.* 1, 71–114. (Salvatore A. Marano) **99m:34027** 34A60 (34A12, 35B05, 35J60, 35R70)

— (*with* Manásevich, Raúl; Schmitt, Klaus) Positive radial solutions of quasilinear elliptic partial differential equations on a ball. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 175–190. (Alexandra Kurepa) **99i:35048** 35J65 (34A12, 34B15, 35B05)

García Juárez, Pedro (*with* Bezanilla López, Arnoldo) Stability of the iterative process $x_{n+1} = Tx_n$ for Kannan maps in metric spaces. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla, 1995), 5 pp. (electronic), Benemérita Univ. Autón. Puebla, Puebla*, 1997. (K. D. Magill, Jr.) **99k:54035** 54H25

García-Jurado, Ignacio (*with* Faiña-Medín, Andrés; Méndez-Naya, José; Méndez-Naya, Luciano) Unilateral commitment in the finitely repeated prisoners' dilemma. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 187–194. (Summary) **99i:90134** 90D20

— (*with* Meca-Martínez, Ana; Sánchez-Soriano, J.; Tijs, Stef) Strong equilibria in claim games corresponding to convex games. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 211–217. (Milan Mareš) **99k:90218** 90D12

— *see also* **Games and politics, 99h:90007**

García León, María Dolores (*with* Florez, E.; Montero García, Gustavo; Suarez, A.; Montenegro, R.) Control of a system governed by the convection-diffusion equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 1087–1092, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93C20 (35K57)

García-Ligero, M. J. (*with* Hermoso Carazo, Aurora; Linares Pérez, Josefa) Least squared estimation for distributed parameter systems with uncertain observations. I. Linear prediction and filtering. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 11–18. (Summary) **99e:93075** 93E10

García-López, C. M. (*with* Ramos, J. I.) Intermediate boundary conditions in operator-splitting techniques and linearization methods. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 113–136. (Summary) **99c:65159** 65M06

García-López, J. *see* **García López de Lacalle, Jesús**

García López, Ricardo Exponential sums and singular hypersurfaces. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 45–58. (W. A. Zúñiga Galindo) **99e:11112** 11L07 (11L03, 14B05)

García López de Lacalle, Jesús (*with* Asberg, B.; Blanco Viejo, Gregoria; Bose, Prosenjit; Overmars, Mark H.; Toussaint, G.; Wilfong, Gordon; Zhu, Binhai) Feasibility of design in stereolithography. (English summary) *Algorithmica* **19** (1997), *no.* 1-2, 61–83. (Joos Heintz) **99c:65260** 65Y25 (65D17, 68U05, 68U07)

— (*with* Ramos, P. A.; Snoeyink, Jack) Fitting a set of points by a circle. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 389–402. (Summary) **99h:52017** 52B55 (68U05)

Garcia-Margallo, J. (*with* Díaz Bejarano, J.) The greatest number of limit cycles of the generalized Rayleigh-Liénard oscillator. (English summary) *J. Sound Vibration* **221** (1999), *no.* 1, 133–142. (Summary) **99m:34059** 34C05 (70K10)

García Melián, J. (*with* Sabina, José C.) Boundary layers, dead nuclei and comparison principle in nonlinear scattering problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 441–446, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35J65 (35B05)

— (*with* Sabina, José C.) Maximum and comparison principles for operators involving the p-Laplacian. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 49–65. (David L. Finn) **99b:35054** 35J60 (35B05)

García-Muñiz, M. A. (*with* González, Santos) Baric, Bernstein and Jordan algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 913–930. (Sebastian Walcher) **99b:17045; EA 99m** 17D92

García Navarro, P. Study of the applicability of an explicit uncentered scheme to one-dimensional nonstationary problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 447–452, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35L65

García-Olivares, Antonio (*with* Lozano, Antonio; Dopazo, César) The instability growth leading to a liquid sheet breakup. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2188–2197. (Summary) **99e:76051** 76E99 (76C05, 76M25)

García-Palomares, Ubaldo M. (*with* González-Castaño, Francisco J.) Incomplete projection algorithms for solving the convex feasibility problem. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 177–193. (Alfredo N. Iusem) **99k:90115** 90C25 (65H10)

— A superlinearly convergent projection algorithm for solving the convex inequality problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 97–103. (Alfredo N. Iusem) **99i:90070** 90C25 (65K05, 90C31)

García Pérez, Pedro Luis (*with* Ruiz Ochando, José; España, Salvador) Locally threshold testable languages in strict sense: application to the inference problem. (English summary) *Grammatical inference (Ames, IA, 1998)*, 150–161, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68Q45 (68T10)

— (*with* Fernández, Antonio[2]) The Morrison-Greene formalism in relativistic hydrodynamics. Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 9–31. (Jaime Muñoz Masqué) **99j:58057** 58E30 (58A20, 58E50, 76M30, 76Y05)

García-Pinillos, M. (*with* García-Calcines, J. M.; Hernández, Luis Javier) A closed simplicial model category for proper homotopy and shape theories. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 221–242. (Summary) **99a:55017** 55U35 (18B99, 18G99)

García-Planas, Ma. Isabel (*with* Magret, Ma. Dolors) A generalized Sylvester equation: a criterion for structural stability of triples of matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 93–109. (Summary) **99j:15018** 15A21

— Kronecker stratification of the space of quadruples of matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 872–885 (*electronic*). (Summary) **99c:34113** 34D30 (15A21, 93B25)

García-Prada, Oscar Seiberg-Witten invariants and vortex equations. *Symétries quantiques (Les Houches, 1995)*, 885–934, *North-Holland, Amsterdam*, 1998. (Steven B. Bradlow) **99k:58190** 58G30 (57R57, 58D27)

García-Río, Eduardo (*with* Vanhecke, Lieven) Conformal geodesic transformations. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 2, 13–36. (José Carmelo González-Dávila) **99b:53023** 53B20 (53B25, 53C22)

— (*with* Vanhecke, Lieven) Geodesic transformations and space forms. (English summary) *Math. J. Toyama Univ.* **20** (1997), 57–77. (José Carmelo González-Dávila) **99c:53044** 53C25

— (*with* Kupeli, Demir N.) On affine Riemannian maps. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 71–79. (John C. Wood) **99k:53066** 53C20 (58E20)

— (*with* Kupeli, Demir N.) Some splitting theorems for stably causal spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 35–44. (Paul E. Ehrlich) **99g:53067** 53C50 (53C80)

— (*with* Vanhecke, Lieven) Holomorphic geodesic transformations. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 46–60. (Liviu Ornea) **99e:53058** 53C22 (53C55)

— (*with* Vázquez-Abal, María Elena) Harmonic tensor fields. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 33–42. (Summary) **99j:53036** 53C20 (53C05, 58E20)

— (*with* Vanhecke, Lieven) Divergence-preserving geodesic transformations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 6, 1309–1323. (Jürgen Berndt) **99j:53015** 53B20 (53C22)

— (*with* Vanhecke, Lieven; Vázquez-Abal, María Elena) Notes on harmonic tensor fields. (English summary) *New developments in differential geometry, Budapest* 1996, 123–142, *Kluwer Acad. Publ., Dordrecht*, 1999. (Maria Falcitelli) **99k:53035** 53C05 (53C50)

García-Roig, J.-L. On the group of isometries and a system of functional equations of a real normed plane. *Inner product spaces and applications*, 42–53, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (W. Benz) **99e:46015** 46B20 (39B52, 46B07, 46C15)

— (*with* Salillas, J.) On a conditional Cauchy functional equation involving powers of finite and number fields. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 257–263. (S. L. Segal) **99d:39028** 39B52 (11R99, 11T99)

— (*with* Martín-Gutiérrez, Emma) On a conditional Cauchy functional equation involving cubes of finite fields. I. The case of characteristic $p \equiv 1 \pmod 3$. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 385–396. (K. D. Magill, Jr.) **99f:39039** 39B52 (12E20)

García Rozas, J. R. (*with* Torrecillas Jover, Blas) Torsion injective covers and resolvents. *Tsukuba J. Math.* **21** (1997), *no.* 3, 795–808. (J. K. Luedeman) **99b:16048** 16S90 (16D90, 16E10)

— (*with* Torrecillas Jover, Blas) Existence of covers over fixed rings. (English summary) *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels*, 1996), 159–165, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (M. Teply) **99e:16038** 16S90 (16S35)

— (*with* Enochs, Edgar E.) Gorenstein injective and projective complexes. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1657–1674. (Jan Trlifaj) **99i:16016** 16E10 (13D25, 18G05)

— (*with* Enochs, Edgar E.) Flat covers of complexes. (English summary) *J. Algebra* **210** (1998), *no.* 1, 86–102. (Hans-Bjørn Foxby) **99m:13028** 13D25 (16E99)

García Rus, Eulalia Strongly regular Jordan triple systems are shift-free. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 649–655. (Yaakov Friedman) **99b:17042** 17C99 (17A40)

— (*with* Fernández López, Antonio[1]; Gómez Lozano, Miguel; Siles Molina, Mercedes) Goldie theorems for associative pairs. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2987–3020. (L. Márki) **99h:17003** 17A40 (16U20)

— (*with* Fernández López, Antonio[1]) Algebraic lattices and nonassociative structures. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3211–3221. (Ernest Stitzinger) **99a:06006** 06B05 (17A99)

García-Sánchez, Pedro A. (*with* Rosales, J. C.; Urbano-Blanco, J. M.) On Cohen-Macaulay subsemigroups of $\mathbf{N}^2$. *Comm. Algebra* **26** (1998), *no.* 8, 2543–2558. (Joseph Gubeladze) **99g:13032** 13H10 (20M14, 20M25)

— (*with* Rosales, J. C.) On numerical semigroups with high embedding dimension. (English summary) *J. Algebra* **203** (1998), *no.* 2, 567–578. (Jonathan Leech) **99g:20108** 20M14 (20M05)

— (*with* Rosales, J. C.) Nonnegative elements of subgroups of $\mathbf{Z}^n$. (English summary) *Linear Algebra Appl.* **270** (1998), 351–357. (Mary E. Flahive) **99c:11027** 11D04 (11D79, 15A06)

— (*with* Rosales, J. C.) On normal affine semigroups. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 175–186. (Jonathan Leech) **99m:20144** 20M14 (13H10)

García-Soidán, Pilar H. (*with* González-Manteiga, Wenceslao; Prada-Sánchez, José M.) Edgeworth expansions for nonparametric distribution estimation with applications. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 213–231. (Arup Bose) **99e:62042** 62G05 (62E20)

— Edgeworth expansions for triangular arrays. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 705–722. (Summary) **99b:62021** 62E20 (60F05)

García-Vázquez, Juan Carlos (*with* Freniche, Francisco; Rodríguez-Piazza, Luis) The failure of Fatou's theorem on Poisson integrals of Pettis integrable functions. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 28–41. (Brian Jefferies) **99k:46075** 46G10 (28B05, 46B20, 46E40)

Garcia Vera, Diego Antonio (*with* Suarez, A.; Florez, E.; Montero García, Gustavo) Preconditioning Krylov methods. *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 151–174, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:65004**) 65F35

García Zapata, J. L. Finite morphisms between differentiable algebras. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 129–134. (Gustavo Corach) **99k:46088** 46J05 (46H25, 46M15)

Garcke, Harald (*with* Elliott, Charles M.) Diffusional phase transitions in multicomponent systems with a concentration dependent mobility matrix. (English summary) *Phys. D* **109** (1997), *no.* 3-4, 242–256. (Sergey L. Gavrilyuk) **99b:35107** 35K65 (35Q55, 73B30, 76R50, 80A22)

— (*with* Sturzenhecker, Thomas) The degenerate multi-phase Stefan problem with Gibbs-Thomson law. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 929–941. (Gawtum Namah) **99m:80012** 80A22 (35R35)

— (*with* Barrett, John W.; Blowey, James F.) Finite element approximation of a fourth order nonlinear degenerate parabolic equation. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 525–556. (Manfred Dobrowolski) **99j:65144** 65M12 (35K65, 65M60)

— (*with* Nestler, Britta; Stoth, Barbara) On anisotropic order parameter models for multi-phase systems and their sharp interface limits. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 87–108. (Jing Xue Yin) **99g:82023** 82B24 (35K99, 58E50)

— (*with* Dal Passo, Roberta; Grün, Günther) On a fourth-order degenerate parabolic equation: global entropy estimates, existence, and qualitative behavior of solutions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 321–342 (*electronic*). (Qing Fang) **99c:35118** 35K60 (35B05, 35B40)

Gard, Thomas C. Recurrence of stochastic multi-population models. (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 747–757, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:92026** 92D25

— Practical persistence in stochastic population models. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 205–215, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:90225** 90D25 (60H10)

van Garderen, Kees Jan Curved exponential models in econometrics. (English summary) *Econometric Theory* **13** (1997), *no.* 6, 771–790. (Kurt Hoffmann) **99b:62161** 62P20 (62B05)

Gardies, Jean-Louis ★ L'organisation des mathématiques grecques de Théétète à Archimède. (French. French summary) [The organization of Greek mathematics from Theaetetus to Archimedes] Problèmes et Controverses. [Problems and Controversies] *Librairie Philosophique J. Vrin, Paris*, 1997. 311 *pp. ISBN* 2-7116-1310-0 (Victor V. Pambuccian) **99k:01003** 01A20 (03A05)

Gardiner, A. *see* **Gardiner, Anthony D.**

Gardiner, Andrew R. (*with* Elliott, Charles M.; Schätzle, Reiner) Crystalline curvature flow of a graph in a variational setting. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 425–460. (Shiah-Sen Wang) **99e:35227** 35Q99 (35K55, 73B30)

Gardiner, Anthony D. (*with* Praeger, Cheryl E.) Topological covers of complete graphs. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 549–559. (Roman Nedela) **99a:05034** 05C10 (05C25)

Gardiner, C. W. (*with* Zoller, Peter) Quantum noise in quantum optics: the stochastic Schrödinger equation. *Fluctuations quantiques* (*Les Houches*, 1995), 79–136, *North-Holland, Amsterdam*, 1997. (*see* **99k:81356**) 81V80 (81–02, 81S25, 82C10)

Gardiner, Frederick P. (*with* Earle, Clifford J.; Lakic, Nikola) Vector fields for holomorphic motions of closed sets. (English summary) *Lipa's legacy* (*New York*, 1995), 193–225, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Yoichi Imayoshi) **99f:30069** 30F60 (30C62, 32G15)

— *see also* **Bers, Lipman**, **99g:01041a** *and* **99g:01041b**

Gardiner, Stephen J. Harmonic approximation and boundary behaviour. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 45–62, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Vanja Hadzijski) **99e:31001** 31–02 (30E10, 31B05, 41A63)

— Asymptotic values and minimal fine limits of subharmonic functions of slow growth. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 668–676. (Vladimir Eiderman) **99k:31006** 31B25 (31B05)

— (*with* Armitage, David H.; Haußmann, Werner; Rogge, L.) Best one-sided L^1-approximation by harmonic functions. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 181–194. (Antonio Bonilla-Ramirez) **99e:31005** 31B05 (41A30)

Gårding, Lars Hörmander's work on linear differential operators [reprinted from *Proceedings of the International Congress of Mathematicians*, Inst. Mittag-Leffler, Djursholm, 1963; see MR **28** #1]. *Fields Medallists' lectures*, 77–81, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (35–03)

— Hyperbolic equations in the twentieth century. (English and French summaries) *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 37–68, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Min You Qi) **99j:01016** 01A60 (35–03, 35Lxx, 46–03)

— On the span of translates of integrable functions in octants. Dedicated to the memory of Fritz John. *Comm. Pure Appl. Math.* **51** (1998), *no.* 9-10, 1123–1132. (A. A. Borichev) **99k:42015** 42A65 (43A20, 46E15)

— *see also* **Petrovskiĭ, Ivan Georgievich**, **99m:01106a** *and* **99m:01106b**

Gardini, Laura (*with* Fournier-Prunaret, Danièle; Mira, Christian) Some contact bifurcations in two-dimensional examples. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 77–96, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F14 (58F13)

— (*with* Bischi, Gian-Italo) Basin fractalization due to focal points in a class of triangular maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 7, 1555–1577. (Peter Moson) **99b:58167** 58F14

— (*with* Maĭstrenko, Yuriĭ L.; Sushko, Irina) About two mechanisms of reunion of chaotic attractors. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1373–1390. (Summary) **99g:58084** 58F13

— (*with* Bischi, Gian-Italo; Stefanini, Luciano) Synchronization, intermittency and critical curves in a duopoly game. (English summary) *Math. Comput. Simulation* **44** (1998), *no.* 6, 559–585. (Summary) **99c:90164** 90D12 (90A16)

— (*with* Bischi, Gian-Italo) Role of invariant and minimal absorbing areas in chaos synchronization. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5710–5719. (Helena E. Nusse) **99h:58122** 58F13 (58F12)

Gardner, B. J. (*with* Chick, Helen L.) Commutative quasiregular rings with isomorphic additive and circle composition groups. II. Rational algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 657–670. (David F. Anderson) **99a:13003** 13A99

— Self-pseudoprojective completely decomposable abelian groups. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 259–265. (Ross P. Abraham) **99i:20074** 20K20 (16S90)

Gardner, Carl L. (*with* Ringhofer, Christian A.) Approximation of thermal equilibrium for quantum gases with discontinuous potentials and application to semiconductor devices. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 780–805 (*electronic*). (J. R. Ockendon) **99c:81280** 81V70 (78A55)

Gardner, Christopher Quantum Lie algebras for B_l, C_l and D_l. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1123–1131. (Yao Zhong Zhang) **99d:17019** 17B37 (81R50)

— (*with* Delius, Gustav W.; Gould, Mark D.) The structure of quantum Lie algebras for the classical series B_l, C_l and D_l. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1995–2019. (Mariano A. del Olmo) **99k:81109** 81R50 (17B37)

Gardner, Henry J. (*with* Garabedian, P. R.) On the computation of stability limits for fusion experiments. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 327–333, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76X05 (76E25)

— *see also* **Computational physics**, **99f:00012**

Gardner, Martin *see* **Mathematical recreations**, **99g:00014** *and* **Mathemagician and pied puzzler**, **99m:00002**

Gardner, Philippa A type-theoretic description of action calculi. *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 1 *p.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68Q55 (68N15)

Gardner, R. *see* **Gardner, Robert Brown**

Gardner, R. B. *see* **Gardner, Robert Brown**

Gardner, Richard J. (*with* Zhang, Gaoyong) Affine inequalities and radial mean bodies. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 505–528. (P. R. Goodey) **99e:52006** 52A20 (52A38, 52A40)

— (*with* Soranzo, Alessandro; Volčič, Aljoša) On the determination of star and convex bodies by section functions. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 69–85. (G. D. Chakerian) **99k:52004** 52A20 (52A30, 52A38)

Gardner, Robert *see* **Gardner, Robert Bentley**

Gardner, Robert A. Spectral analysis of oscillatory travelling waves and applications. *Differential equations and applications* (*Hangzhou*, 1996), 82–95, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 35Q53 (35B40)

— Spectral analysis of long wavelength periodic waves and applications. (English summary) *J. Reine Angew. Math.* **491** (1997), 149–181. (Joel Smoller) **99a:35196** 35Qxx (35B10, 35B35)

— Evans function analysis in the continuous spectrum. *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 65–73, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Jesús Hernández) **99g:35064** 35K57 (35B35, 35B40)

— (*with* Zumbrun, Kevin) The gap lemma and geometric criteria for instability of viscous shock profiles. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 7, 797–855. (Roberto Natalini) **99c:35152** 35L67 (34C99, 35B35, 35L65, 58F39)

Gardner, Robert Bentley Bicyclic directed triple systems. (English summary) *Ars Combin.* **49** (1998), 249–257. (Summary) **99c:05029** 05B07

— (*with* Weems, Amy) A Bernstein type L^p inequality for a certain class of polynomials. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 472–478. (Walter Schempp) **99g:41012** 41A17 (30C10)

— Bicyclic decompositions of K_v into copies of $K_3 \cup \{e\}$. (English summary) *Util. Math.* **54** (1998), 51–57. (Summary) **99g:05142** 05C70

Gardner, Robert Brown (*with* Kamran, Niky) Exterior differential systems and normal forms of parabolic systems. (English summary) *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 215–230, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Ian M. Anderson) **99b:58013** 58A15 (35A30, 35K45, 58A17, 58G37)

— *see also* **Differential geometry and control**, **99f:93003** *and* **Wilkens, George R.**, **99m:01097**

sánchez Garduño, Faustino *see* **Sánchez Garduño, Faustino**

Gardy, Danièle (*with* Boucheron, Stéphane) An urn model from learning theory. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 43–67. (Hajime Yamato) **99e:60032** 60C05 (68T05)

Gareeva, T. M. (*with* Pokornyĭ, Yu. V.; Lazarev, K. P.) On the spectral properties of some nonlocal boundary value problems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 45–49, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 44–48. (From the text) **99k:34038** 34B05 (34B27, 34L05)

Garefalakis, Theodoulos A new family of randomized algorithms for list accessing. (English summary) *Algorithms—ESA '97* (*Graz*), 200–216, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68P05 (68Q25)

Garel, B. (*with* Barbe, Philippe; Doisy, M.) Last passage time for the empirical mean of some mixing processes. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 237–245. (Winfried Stute) **99j:60030** 60F05 (62F12, 62M10)

Garey, L. E. (*with* Shaw, R. E.) Efficient algorithms for solving nonlinear Volterra integro-differential equations with two-point boundary conditions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 755–760. (Summary) **99e:65182** 65R20 (45L05)

— (*with* Shaw, R. E.) A parallel algorithm for solving Toeplitz linear systems. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 241–247. (Summary) **99k:65031** 65F10 (65Y05)

Garfinkel, Robert S. (*with* Gopal, Ram D.; Goes, Paulo B.) Interval protection of confidential information in a database. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 309–322. 68P15

Garfinkle, David (*with* Berger, Beverly K.; Isenberg, James A.; Moncrief, V.; Weaver, Marsha) The singularity in generic gravitational collapse is spacelike, local and oscillatory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1565–1573. (Robert J. Low) **99j:83052** 83C75

— (*with* Berger, Beverly K.) Phenomenology of the Gowdy universe on $T^3 \times \mathbf{R}$. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4767–4777. (Summary) **99k:83010** 83C15

Garg, Anupam Application of the discrete Wentzel-Kramers-Brillouin method to spin tunneling. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5166–5179. (Laurence Nedelec) **99h:81050** 81Q20

Garg, Ashim (*with* Chuang, Richie Chih-Nan; He, Xin[1]; Kao, Ming-Yang; Lu, Hsueh-I) Compact encodings of planar graphs via canonical orderings and multiple parentheses. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 118–129, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68P99 (68R10)

Garg, G. L. (*with* Goel, Asha) Conditions implying closedness (openness) and perfectness of maps. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 327–332. (Summary) **99a:54009** 54C10

— (*with* Goel, Asha) Some conditions implying continuity of maps. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 271–274. (Summary) **99h:54020** 54C05 (54A20)

Garg, Mridula (*with* Gupta, Mahesh Kumar) Application of convolution for distribution of sum of two independent random variables. (English summary) *Ganita Sandesh* **11** (1997), *no.* 1, 37–44. 62E15

— (*with* Gupta, Mahesh Kumar) Fractional integral operator and statistical distribution. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 245–252. (Summary) **99d:33016** 33C60 (26A33)

Garg, Naveen (*with* Konjevod, Goran; Ravi, R.) A polylogarithmic approximation algorithm for the group Steiner tree problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 253–259, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68Q25, 68Q35)

Garg, Pankaj Kumar (*with* Bhatia, Davinder) A note on vector valued Lagrangian and multiobjective fractional programming duality via Dini derivatives. (English summary) *J. Stat. Manag. Syst.* **1** (1998), *no.* 2-3, 125–133. (Summary) **99i:90083** 90C29 (90C32)

— (*with* Bhatia, Davinder) Duality for nonsmooth nonlinear fractional multiobjective programs via (F, ρ)-convexity. (English summary) *Optimization* **43** (1998), *no.* 2, 185–197. 90C29 (49N15)

— (*with* Bhatia, Davinder) (V, ρ) invexity and non-smooth multiobjective programming. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 4, 399–414. (Andrew C. Eberhard) **99j:90070** 90C29 (49J52)

Garg, R. B. (*with* Kapur, P. K.; Sehgal, V. K.; Jha, A. K.) Numerical and transient solutions of K out of N: G systems in discrete time with multiple repair facilities. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 61–76. 60K10 (62N05)

Garg, Ravindra A fixed point theorem in 2-Banach spaces. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 61–64. 47H10

— A fixed point theorem for non-expansive type mappings in uniform space generated by a fuzzy metric. (English summary) *Ganita* **49** (1998), *no.* 2, 113–120. 54H25 (54A40)

— A common fixed point theorem for compatible mappings of type-(A) on uniform space. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 2, 85–93. 54H25

Garg, Vijay Kumar (*with* Tomlinson, Alexander I.) Using the causal domain to specify and verify distributed programs. (English summary) *Acta Inform.* **34** (1997), *no.* 9, 667–686. (Ryszard Janicki) **99h:68113** 68Q60 (68Q10)

Gargano, Luisa (*with* De Marco, Gianluca; Vaccaro, Ugo) Concurrent multicast in weighted networks. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 193–204, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68M10 (68Q25, 90B12)

— Limited wavelength conversion in all-optical tree networks. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 544–555, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 90C35 (68M10, 90B12)

— (*with* De Bonis, Annalisa; Vaccaro, Ugo) Improved algorithms for chemical threshold testing problems. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 127–136, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q20 (68Q25)

— (*with* Rescigno, Adele A.; Vaccaro, Ugo) Minimum time broadcast in faulty star networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 97–119. (A. T. Amin) **99e:68123** 68R10 (05C85, 68M10, 68M15)

— (*with* Bermond, Jean-Claude; Pérennes, Stéphane) Optimal sequential gossiping by short messages. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 145–155. (Summary) **99d:68019** 68M10 (05C90, 90B12)

— (*with* Bermond, Jean-Claude; Rescigno, Adele A.; Vaccaro, Ugo) Fast gossiping by short messages. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 917–941 (*electronic*). (A. T. Amin) **99d:68184** 68R10 (68M10, 90B12, 94C15)

Gargano, Michael L. (*with* LoSacco, Frank; Gargano, Michael R.) The traveling fly problem. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 47. (*see* **99g:05001**) 60C05

— (*with* LoSacco, Frank; Varden, Stuart) Self descriptive lists. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 53–54. (*see* **99i:05002**) 05A99

— (*with* Kennedy, John W.; Quintas, Louis V.) Group weighted balanced digraphs and their duals. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 161–167. (Summary) **99j:05080** 05C20 (05C75)

— (*with* Malerba, Joseph F.) Binary Fibonacci strings. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 169–178. (Summary) **99j:11016** 11B39

— (*with* Edelson, William) Minimal edge-ordered spanning trees solved by a genetic algorithm with feasible search space. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 37–45. (Summary) **99j:05175** 05C85 (05C05)

Gargano, Michael R. (*with* Gargano, Michael L.; LoSacco, Frank) The traveling fly problem. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 47. (*see* **99g:05001**) 60C05

Gargantini, Angelo (*with* Felder, Miguel; Morzenti, Angelo) A theory of implementation and refinement in timed Petri nets. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 127–161. (Raymond Devillers) **99k:68119** 68Q90 (68Q10, 68Q60)

Gargantini, I. (*with* Liu, Jia-yi) Finding voxels shared by a ray and a linear octree. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 179–185, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 68U05

Gargett, T. D. (*with* McArthur, I. N.) Derivative expansion of one-loop effective actions for Yang-Mills fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4430–4448. (R. Delbourgo) **99f:81134** 81T18 (81T13)

Gargov, Georgi K. (*with* Atanassov, Krassimir T.) Elements of intuitionistic fuzzy logic. I. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 39–52. (Siegfried Gottwald) **99h:03012** 03B52

Garibaldi, R. Skip Isotropic trialitarian algebraic groups. (English summary) *J. Algebra* **210** (1998), *no.* 2, 385–418. (Jean-Pierre Tignol) **99k:20092** 20G15

— Trialitarian groups and the Hasse principle. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 97–113. (Philippe Gille) **99m:11049** 11E72 (20G10)

Garibaldi, Ubaldo (*with* Costantini, Domenico; Penco, M. A.) Ludwig Boltzmann at the birth of statistical mechanics. (Italian. English and Italian summaries) *Statistica* (*Bologna*) **56** (1996), *no.* 3, 279–300 (1997). (Summary) **99a:82002** 82–03 (01A55)

— (*with* Costantini, Domenico) A probabilistic foundation of elementary particle statistics. I. (English summary) *Stud. Hist. Philos. Sci.* **28** (1997), *no.* 4, 483–506. (M. Lawrence Glasser) **99b:82005** 82B03 (82–03)

— (*with* Costantini, Domenico; Monari, P.) From single events to statistical events. (Italian. English and Italian summaries) *Statistica* (*Bologna*) **58** (1998), *no.* 2, 191–211. 62F15

— (*with* Costantini, Domenico) A probabilistic foundation of elementary particle statistics. II. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 1, 37–59. (M. Lawrence Glasser) **99g:82001** 82B03 (82B05, 82B10)

Garibay Bonales, Fernando (*with* Vera Mendoza, Rigoberto) Formula for calculating the spectral radius of compact operators. (Spanish) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 195–196, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 47A10

Garibotti, C. R. (*with* Colavecchia, F. D.; Gasaneo, G.) Hypergeometric integrals arising in atomic collisions physics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6603–6612. (M. Lawrence Glasser) **99c:33008** 33C15 (33C70, 81V45)

Garibyan, A. B. Fast algorithms for the numerical solution of an integral equation of the second kind with a Toeplitz-type kernel. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 4, 223–230 (1994). 65R20 (45E10, 45L05)

Gariepy, R. F. (*with* Shillor, Meir; Xu, Xiangsheng) Existence of generalized weak solutions to a model for in situ vitrification. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 6, 543–559. (Vitaly A. Volpert) **99m:80013** 80A22 (35J70, 35Q99)

Garikipati, Krishna (*with* Hughes, Thomas J. R.) A study of strain localization in a multiple scale framework—the one-dimensional problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 3-4, 193–222. (Weimin Han) **99g:73056** 73E99 (73E60, 73V20)

Garimella, Suresh V. (*with* Chen, Li[4]; Reizes, John A.; Leonardi, Eddie) The development of a bubble rising in a viscous liquid. (English summary) *J. Fluid Mech.* **387** (1999), 61–96. 76D99 (76T05)

Garín, A. (*with* Escudero, Laureano F.; Pérez, Gloria) Some properties of cliques in 0-1 mixed integer programs. (English summary) *Top* **4** (1996), *no.* 2, 215–223. (Jürgen Köhler) **99d:90077** 90C11

Gario, Paola Enriques and the European mathematical communities from the late nineteenth to the early twentieth century. (Italian. English summary) *Geometry Seminars, 1996–1997* (*Italian*) (*Bologna*), 279–306, *Univ. Stud. Bologna, Bologna*, 1998. (I. Dolgachev) **99h:01027** 01A55 (01A60, 14–03)

Garist, V. È. (*with* Pal'chik, È. M.) On Fukushima's theorem. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 3–8, *Gomel. Gos. Univ., Gomel'*, 1998. (Summary) **99h:20044** 20D45

Garist, Yu. È. (*with* Pal'chik, È. M.) On finite groups that admit automorphisms of prime order. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 75–82, *Gomel. Gos. Univ., Gomel'*, 1996. (From the summary) **99h:20031** 20D10 (20D45)

— (*with* Pal'chik, È. M.) On finite groups that admit a coprime automorphism. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 20–26, *Gomel. Gos. Univ., Gomel'*, 1997. (Summary) **99h:20045** 20D45

Garity, Dennis J. (*with* Crisp, David; Dziadosz, Susan; Insel, Thomas; Schmidt, Thomas A.; Wiles, Peter) Closed curves and geodesics with two self-intersections on the punctured torus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 189–209. (Mark Sheingorn) **99b:11078** 11J06 (30F35, 57M50)

Garkavi, A. L. On the existence of a best approximation of a function of two variables by sums of plane waves. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 130–136. (Yuly Makovoz) **99i:41025** 41A50

Garloff, Jürgen (*with* Hungerbühler, Ralf) Bounds for the range of a bivariate polynomial over a triangle. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 3–13. (Summary) **99b:65064** 65G10 (26B99, 65H10)

— (*with* Graf, B.) Solving strict polynomial inequalities by Bernstein expansion. *Symbolic methods in control system analysis and design*, 339–352, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (65H10)

Garmann, Robert Locality preserving load balancing with provably small overhead. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 80–91, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y25

Garmatii, G. Yu. (*with* Popovich, V. S.) Solution of nonstationary heat-conduction problems for thermosensitive bodies under convective heat exchange. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 2037–2041. 80A20

Garmo, Hans Random railways modeled as random 3-regular graphs. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 113–136. (Edward A. Bender) **99b:05125** 05C80

Gărnefska, Lichka V. *see* **G″rnevska, L. V.**

Garner, J. B. (*with* Shivaji, Ratnasingham) Nonhomogeneous diffusion with singularities at the boundaries. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3663–3669. (Achilles Tertikas) **99c:35049** 35J45 (34B15)

Garner, K. M. (*with* Bailey, R. N.; Hobbs, M. F.) Using simulated annealing and genetic algorithms to solve staff scheduling problems. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 27–43. 90C90 (90C27)

Garnett, Lucy Statistical properties of foliations. *Geometric dynamics* (*Rio de Janeiro*, 1981), 294–299, *Lecture Notes in Math.*, 1007, *Springer, Berlin*, 1983. (*see* **84m:58003**) 58F18 (58F11)

Garnica Vigil, Eugenio (*with* Sánchez Morgado, Héctor) $\overline{\partial}$-torsion and compact orbits of Anosov actions on complex 3-manifolds. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 131–145. (Alexander Fel′shtyn) **99g:58129** 58G26 (32L30, 58F20)

Garnier, Josselin Multi-scaled diffusion-approximation. Applications to wave propagation in random media. (English summary) *ESAIM Probab. Statist.* **1** (1995/97), 183–206 (*electronic*). (Jörg-Uwe Löbus) **99c:35266** 35R60 (35Q60, 60J60, 73B35, 78A40)

— Asymptotic behavior of the quantum harmonic oscillator driven by a random time-dependent electric field. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 211–241. (M. Combescure) **99m:81122** 81S99

— Asymptotic transmission of solitons through random media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1969–1995 (*electronic*). (Summary) **99d:35151** 35Q55 (35R60, 82D30)

Garnov, S. (*with* Faizullaev, B. A.; Galkin, D.) Effective action in QFT: algebraic method of calculation and renormalization. *Problems of quantum field theory* (*Alushta*, 1996), 174–177, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81T15

Garofalo, Nicola (*with* Donnelly, Harold) Schrödinger operators on manifolds, essential self-adjointness, and absence of eigenvalues. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 241–257. (Timo Weidl) **99j:35029** 35J10 (47F05, 58G30)

— (*with* Danielli, Donatella; Nhieu, Duy-Minh) Isoperimetric and trace inequalities with respect to Carnot-Carathéodory metrics. *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 51–62, *Univ. Stud. Bologna, Bologna*, 1998. (Luca Capogna) **99f:58223** 58G99 (53C20)

— (*with* Danielli, Donatella) Geometric properties of solutions to subelliptic equations in nilpotent Lie groups. *Reaction diffusion systems* (*Trieste*, 1995), 89–105, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Luca Capogna) **99a:22015** 22E30 (22E25, 35B99, 35H05)

Garoufalidis, Stavros (*with* Levine, Jerome) On finite type 3-manifold invariants. II. *Math. Ann.* **306** (1996), *no.* 4, 691–718. (Mark R. Woodard) **99b:57036** 57N10 (57M25)

— (*with* Ohtsuki, Tomotada) On finite type 3-manifold invariants. V. Rational homology 3-spheres. (English summary) *Geometry and physics* (*Aarhus*, 1995), 445–457, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Mark R. Woodard) **99b:57039** 57N10 (57M25)

— (*with* Levine, Jerome) Finite type 3-manifold invariants, the mapping class group and blinks. (English summary) *J. Differential Geom.* **47** (1997), *no.* 2, 257–320. (Justin D. Roberts) **99b:57040** 57N10 (57M25, 57N05)

— (*with* Levine, Jerome) On finite type 3-manifold invariants. IV. Comparison of definitions. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 291–300. (Mark R. Woodard) **99b:57038** 57N10 (57M25)

— (*with* Levine, Jerome) Finite type 3-manifold invariants and the structure of the Torelli group. I. (English summary) *Invent. Math.* **131** (1998), *no.* 3, 541–594. (Zhenghan Wang) **99m:57012** 57M50 (57N10)

— (*with* Ohtsuki, Tomotada) On finite type 3-manifold invariants. III. Manifold weight systems. (English summary) *Topology* **37** (1998), *no.* 2, 227–243. (Mark R. Woodard) **99b:57037** 57N10 (57M25)

Garousi, Mohammad R. Superstring scattering from D-branes bound states. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 8, 28 *pp.* (*electronic*). (Summary) **99k:81237** 81T30

Garren, Steven T. (*with* Richards, Donald St. P.) General conditions for comparing the reliability functions of systems of components sharing a common environment. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 124–135. (Bent Natvig) **99f:60153** 60K10 (62N05, 90B25)

— Maximum likelihood estimation of the correlation coefficient in a bivariate normal model with missing data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 281–288. (Summary) **99b:62093** 62H12

Garrido, José (*with* Cai, Jun) Aging properties and bounds for ruin probabilities and stop-loss premiums. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 1, 33–43. (Summary) **99k:62199** 62P05

— (*with* Chaubey, Yogendra P.; Trudeau, Sonia) On the computation of aggregate claims distributions: some new approximations. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 3, 215–230. 62P05

garrido Garrido, Julián *see* **Garrido Garrido, Julián**

Garrido, M. A. (*with* Márquez, Alberto) Embedding a graph in the grid of a surface with the minimum number of bends is NP-hard. (English summary) *Graph drawing* (*Rome*, 1997), 124–133, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68Q25 (68Q35, 68R10)

Garrido, M. Carmen (*with* Ruiz, Alberto[2]; López-de-Teruel, Pedro E.) Probabilistic inference from arbitrary uncertainty using mixtures of factorized generalized Gaussians. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 167–217 (*electronic*). 68T10

Garrido, P. L. (*with* Torres, J. J.; Marro, J.) Neural networks with fast time-variation of synapses. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7801–7816. (Dimitri Petritis) **99e:82075** 82C32 (92B20)

caraballo Garrido, Tomás *see* **Caraballo Garrido, Tomás**

Garrido-Atienza, María José (*with* Fernández-Cara, Enrique; Real Anguas, José) On the approximate controllability of a stochastic parabolic equation with a multiplicative noise. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 8, 675–680. (Summary) **99m:93005** 93B05 (35K99, 35R60, 93C20, 93E03)

Garrido de Barrios, Ninfa (*with* Andrade de Fuenmayor, Carmen) Two generalizations of the Hubbell integral. (Spanish. English and Spanish summaries) *Lect. Mat.* **16** (1995), *no.* 2, 187–207. (S. L. Kalla) **99b:33045** 33E20 (33C65)

Garrido Garrido, Julián The justification of measurement. (English summary) *Representations of scientific rationality*, 89–105, *Poznań Stud. Philos. Sci. Humanities*, 61, *Rodopi, Amsterdam*, 1997. (*see* **99k:00024**) 00A30 (01A99)

Garrido-Moctezuma, R. (*with* Suarez, D. A.; Lozano Leal, Rogelio) Adaptive log control of positive real systems. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 437–449. 93E20 (93E35)

Garriga, E. (*with* Fiol, M. A.) From local adjacency polynomials to locally pseudo-distance-regular graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 162–183. (Willem H. Haemers) **99c:05132** 05C50 (05C12, 05E30, 05E35)

— (*with* Fiol, M. A.) The alternating and adjacency polynomials, and their relation with the spectra and diameters of graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 77–97. (Robert Beezer) **99h:05083** 05C50 (05E30)

Garrigós, Gustavo (*with* Frazier, Michael W.; Wang, Kunchuan; Weiss, Guido) A characterization of functions that generate wavelet and related expansion. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 883–906. (Eugenio Hernández) **99c:42058** 42C15

Garrison, John C. Quantum mechanics of periodic systems. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 196–203. (Summary) **99i:81029** 81Q05

Garrity, Thomas (*with* Mizner, Robert) The equivalence problem for higher-codimensional CR structures. (English summary) *Pacific J. Math.* **177** (1997), *no.* 2, 211–235. (Summary) **99b:32007** 32C16

Garroni, Adriana (*with* Dal Maso, Gianni) The capacity method for asymptotic Dirichlet problems. (English summary) *Asymptot. Anal.* **15** (1997), *no.* 3-4, 299–324. (Patrizia Donato) **99c:35044** 35J25 (31C15, 35B27)

— (*with* Braides, Andrea) On the non-local approximation of free-discontinuity problems. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 817–829. (Sisto Baldo) **99e:49012** 49J45 (49Q10)

— (*with* Ambrosio, Luigi; Braides, Andrea) Special functions with bounded variation and with weakly differentiable traces on the jump set. *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 219–243. (Giovanni Bellettini) **99d:49075** 49Q15 (49J52)

Garroni, M. G. (*with* Solonnikov, Vsevolod A.; Vivaldi, M. A.) On the oblique derivative problem in an infinite angle. *Topol. Methods Nonlinear Anal.* **7** (1996), *no.* 2, 299–325. (Giovanna Citti) **99b:35039** 35J25 (35K20)

— (*with* Solonnikov, Vsevolod A.; Vivaldi, M. A.) Existence and regularity results for oblique derivative problems for heat equations in an angle. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 47–79. (Peter G. Danilaev) **99a:35110** 35K20

Garsia, Adriano (*with* Tesler, Glenn) Plethystic formulas for Macdonald q,t-Kostka coefficients. (English summary) *Adv. Math.* **123** (1996), *no.* 2, 144–222. (Mark D. Haiman) **99j:05189e** 05E05 (33C80, 33D80)

— (*with* Remmel, Jeffrey B.) Plethystic formulas and positivity for q,t-Kostka coefficients. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 245–262, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Mark D. Haiman) **99j:05189d** 05E05 (33C80, 33D80)

— *see also* **Selected papers in honor of Adriano Garsia, 99f:00030**

Garsiya, Kh. K. *see* **García Corte, Julio César**

Garten, J. F. (*with* Arendt, Steve; Fritts, David C.; Werne, J.) Dynamics of counter-rotating vortex pairs in stratified and sheared environments. (English summary) *J. Fluid Mech.* **361** (1998), 189–236. (Summary) **99c:76017** 76C05 (76V05)

Garthwaite, Paul H. (*with* Al-Awadhi, Shafeeqah A.) An elicitation method for multivariate normal distributions. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1123–1142. (Summary) **99a:62033** 62F25 (62H10)

Gartland, Eugene C., Jr. (*with* Davis, Timothy A.) Finite element analysis of the Landau-de Gennes minimization problem for liquid crystals. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 336–362 (*electronic*). (J. W. Jerome) **99c:65198** 65N30 (76A15, 82D30)

Gartling, D. K. (*with* Reddy, J. N.) ★ The finite element method in heat transfer and fluid dynamics. *CRC Press, Boca Raton, FL*, 1994. xii+390 *pp. ISBN* 0-8493-9410-4 (From the preface) **99a:80003** 80A20 (65M60, 65N30, 76M10, 80-08)

Gärtner, Bernd Exact arithmetic at low cost—a case study in linear programming. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 157–166, *ACM, New York*, 1998. (*see* **99d:68011**) 90C08

— (*with* Schönherr, Sven) Exact primitives for smallest enclosing ellipses. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 33–38. (Summary) **99j:68142** 68U05 (65Y25)

Gärtner, J. (*with* Molchanov, Stanislav Alekseevich) Parabolic problems for the Anderson model. II. Second-order asymptotics and structure of high peaks. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 17–55. (Matthias Löwe) **99f:82059** 82C44 (47B80, 60H25)

Gärtner, Rudolf Relativitätstheorie im Orthogonaldiagramm. [Relativity theory in the orthogonal diagram] Forschungsbeiträge der Naturwissenschaftlichen Klasse, Band 19. *Schr. Sudet.dtsch. Akad. Wiss. Künste Forsch.beitr. Nat.wiss. Kl.* **19** (1998), 95–114. (*see* **99k:00025**) 83A05

Gartside, P. M. (*with* Knight, R. W.; McIntyre, D. W.) All finite distributive lattices occur as intervals between Hausdorff topologies. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 167–172 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A10 (06D05, 54D80)

— (*with* Fisher, S. G.; Mizokami, Takemi; Shimane, Norihito) Near metric properties of hyperspaces. (English summary) *Topology Proc.* **22** (1997), 197–211. (Summary) **99h:54014** 54B20 (54E20)

— Nonstratifiability of topological vector spaces. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 133–140. (Summary) **99b:46015** 46B20 (54E20, 54E35, 54H11)

— Monotone normality in products. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 181–195. (Summary) **99k:54012** 54D15 (54E20)

Garunkštis, R. The universality theorem with weight for the Lerch zeta-function. (English summary) *New trends in probability and statistics, Vol. 4 (Palanga, 1996)*, 59–67, *VSP, Utrecht*, 1997. (Matti Jutila) **99i:11076** 11M35
— (*with* Laurinčikas, Antanas) A limit theorem with weight for the Lerch zeta function in the space of analytic functions. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 109–121. (Matti Jutila) **99h:11100** 11M35
Garvan, Cynthia Wilson (*with* Ghosh, Malay) Noninformative priors for dispersion models. (English summary) *Biometrika* **84** (1997), *no.* 4, 976–982. (Rahul Mukerjee) **99g:62033** 62F15
Garvey, S. D. (*with* Friswell, M. I.; Penny, J. E. T.) Some further insight into self-adjoint second-order systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 2, 237–252. (Summary) **99i:70024** 70J05
Garza-Hume, C. E. Boundary regularity of p-harmonic maps with free and partially constrained boundary conditions. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 83–107. (Martin Fuchs) **99j:58055** 58E20 (35B65)
Garzon, M. *see* **Garzon, Max**
Garzon, Maria Luisa (*with* de Vicente, Santiago; Diez, Javier) Augmented Lagrangian methods for domain decomposition. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 1069–1074, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M55 (65N55)
Garzon, Max (*with* Deaton, Russell; Rose, J. A.; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA computing: a review. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 231–245. 68Q05 (68Q10)
— (*with* Deaton, Russell; Murphy, R. C.; Franceschetti, D. R.; Stevens, S. E., Jr.) Good encodings for DNA-based solutions to combinatorial problems. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 247–258, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **44**, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68052** 68Q05
— (*with* Gao, Yuan; Murphy, R. C.; Rose, J. A.; Deaton, Russell; Franceschetti, D. R.; Stevens, S. E., Jr.) DNA implementation of nondeterminism. (English summary) *DNA based computers III (Philadelphia, PA, 1997)*, 137–148, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05
Garzón Estrada, Nilda *see* **Symposium: Artificial Intelligence, 99m:68013**
Gasanenko, V. A. Viability of solutions of multidimensional stochastic differential equations. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1316–1323; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1485–1493 (1998). (Summary) **99k:49015** 49J24 (49J55, 60H10)
Gasaneo, G. (*with* Colavecchia, F. D.; Garibotti, C. R.) Hypergeometric integrals arising in atomic collisions physics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6603–6612. (M. Lawrence Glasser) **99c:33008** 33C15 (33C70, 81V45)
Gasanov, A. D. On the boundary behavior and interior smoothness of solutions of the Kolmogorov equation. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 57–67. (Stepan D. Ivasyshen) **99m:35134** 35K65 (35B65, 35K10)
Gasanov, A. I. (*with* Seyidmamedov, Z.) Determination of unknown elastoplastic properties in Signorini problem. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 979–991. (Mircea Sofonea) **99e:73055** 73E99 (47H19, 49J40, 73V25)
— Inverse coefficient problems for elliptic variational inequalities with a nonlinear monotone operator. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1151–1169. (Summary) **99i:35176** 35R30 (35J85, 49J40, 73T05, 73V25)
— Variational approach to a non-local identification problem related to non-linear ion transport. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1195–1206. (From the text) **99f:35207** 35Q72 (35K85, 93B30)
Gasanova, T. Kh. (*with* Musaev, K. M.) On some boundary properties of generalized analytic functions. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 142–148. (Igor M. Mitelman) **99m:30094** 30G20
Gasarch, William I. (*with* Beigel, Richard; Kummer, Martin Walter; Martin, Georgia; McNicholl, Timothy; Stephan, Frank) On the query complexity of sets. (English summary) *Mathematical foundations of computer science 1996 (Cracow)*, 206–217, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **99b:03057** 03D15 (03D30)
— (*with* Fortnow, Lance; Freivalds, Rūsiņš; Kummer, Martin Walter; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank) On the relative sizes of learnable sets. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 139–156. (Philip Ross Watson) **99c:68210** 68T05 (03D25, 03D80, 68Q99)
— (*with* Beals, Robert M.; Chang, Richard; Torán, Jacobo) On finding the number of graph automorphisms. (English summary) *Chicago J. Theoret. Comput. Sci.* **1999**, *Article* 1, 28 *pp.* (*electronic*). (Dieter Kratsch) **99m:68076** 68Q25 (05C60, 05C85, 68Q15)
Gasbarra, Dario (*with* Arjas, Elja) On prequential model assessment in life history analysis. (English summary) *Biometrika* **84** (1997), *no.* 3, 505–522. (Per Kragh Andersen) **99d:62091** 62M20 (60G25, 62A15)
Gasbarri, Carlo Hauteurs canoniques sur l'espace de modules des fibrés stables sur une courbe algébrique. (English and French summaries) [Canonical heights on the moduli space of stable bundles over an algebraic curve] *Bull. Soc. Math. France* **125** (1997), *no.* 4, 457–491. (Klaus Künnemann) **99e:14029** 14G40 (11G30, 14D20, 14G25)
Gasbarri, P. (*with* Santini, Paolo Maria) Lifting surface in subsonic unsteady regime. (English and Italian summaries) *Meccanica* **34** (1999), *no.* 1, 1–27. 76G25 (73K70, 76B05)
Gasca, Mariano (*with* Alonso, P.; Peña, J. M.) Scaled pivoting and error bounds for totally positive linear systems. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc, 1996)*, 9–16, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 65F05
— Total positivity and graph design. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 23–30, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99 (65D17)
— (*with* Carnicer, J. M.) Bivariate polynomial interpolation with asymptotic conditions. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 1–18, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 41A63 (41A10)
Gasca Soto, María De Luz (*with* Estivill-Castro, Vladimir) Adaptability in the shortest-path problem. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society (Spanish) (Queretaro, 1994)*, 187–193, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 90C35 (93B10)
gonzalez-Gascon, F. *see* **Gonzalez-Gascon, F.**
cani-Gascuel, Marie-Paule *see* **Cani-Gascuel, Marie-Paule**
Gascuel, Olivier (*with* Berry, Vincent) Inferring evolutionary trees with strong combinatorial evidence. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 111–123, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99f:92011** 92D15 (68Q25)
Gåsemyr, Jørund On identifiability in the autopsy model of reliability systems of lifemonitored and conditionally lifemonitored components. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 427–437. 90B25 (62N05)
— (*with* Natvig, Bent) The posterior distribution of the parameters of component lifetimes based on autopsy data in a shock model. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 271–292. (Mohamed E. Ghitany) **99i:62048** 62F15 (62N05)
Gasharov, Vesselin N. (*with* Avramov, Luchezar L.; Peeva, Irena V.) Complete intersection dimension. (English summary) *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 67–114 (1998). (Paul Roberts) **99c:13033** 13D05 (13D25)
— A short proof of the Littlewood-Richardson rule. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 451–453. (Timothy Y. Chow) **99h:05122** 05E10 (05E05, 20C30)
— On the Neggers-Stanley conjecture and the Eulerian polynomials. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 134–146. (Ira Gessel) **99i:05020** 05A20 (05A15, 06A06)
— Factoring the Poincaré polynomials for the Bruhat order on S_n. *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 159–164. (Ernesto Vallejo) **99g:05180** 05E05 (14M15)
— (*with* Peeva, Irena V.) Binomial free resolutions for normal toric surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1583–1588. (Mark R. Johnson) **99i:13022** 13D02 (14M25)
Gashkov, S. B. On the complexity of integration of rational fractions. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 122–133. (Alexey R. Alimov) **99k:11192** 11Y16 (68Q25)
— Simplified justification of the probabilistic Miller-Rabin test for primality. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 4, 35–38; *translation in Discrete Math. Appl.* **8** (1998), *no.* 6, 545–548. (Igor E. Shparlinski) **99k:11191** 11Y11
Gąsieniec, Leszek (*with* Pelc, Andrzej) Broadcasting with linearly bounded transmission faults. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 121–133. (Summary) **99c:90046** 90B12 (05C90, 68M10)
— (*with* Crochemore, Maxime; Hariharan, Ramesh; Muthukrishnan, S.; Rytter, Wojciech) A constant time optimal parallel algorithm for two-dimensional pattern matching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 668–681 (*electronic*). (Katsushi Inoue) **99g:68092** 68Q25 (68Q22)
— (*with* Czumaj, Artur; Pelc, Andrzej) Time and cost trade-offs in gossiping. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 400–413 (*electronic*). (Ralf Klasing) **99j:68003** 68M10 (05C85, 68Q22, 68R10, 90B12)
— *see also* **Graham, Ronald L. et al., 99c:68001** *and* **99m:68002**
Gasilov, V. A. (*with* Benattar, R.; Zakharov, S. V.; Nikiforov, A. F.; Novikov, V. G.; Krukovskii, A. Yu.; Zakharov, V. S.) Influence of magnetohydrodynamic Rayleigh-Taylor instability on radiation of imploded heavy ion plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 175–187. 76X05
Gasiński, L. Optimal shape design problems for a class of systems described by parabolic hemivariational inequality. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 299–317. (Anna Salvadori) **99f:49066** 49Q10 (35K85, 49J40)
Gasmi, Sofiane (*with* Kahle, Waltraud) Parameter estimation in renewal processes with imperfect repair. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 53–65, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N05 (60K10)
Gáspár, Csaba A multipole expansion technique in solving boundary integral equations. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 289–297. (Summary) **99e:65164** 65N38
Gaspar, D. (*with* Suciu, N.) On the geometric structure of regular dilations. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 105–120, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (László Kérchy) **99h:47012** 47A20 (47A45)
Gaspar, F. J. (*with* Pascau, A.) A new multigrid method for higher-order discretizations in convection-diffusion problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 929–934, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N55
Gaspard, Pierre ★ Chaos, scattering and statistical mechanics. (English summary) Cambridge Nonlinear Science Series, 9. *Cambridge University Press, Cambridge*, 1998. *xx*+475 *pp. ISBN* 0-521-39511-9 (Oliver Knill) **99i:58105** 58F13 (58F40, 81Q50, 82C05)
— (*with* Klages, R.) Chaotic and fractal properties of deterministic diffusion-reaction processes. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 409–423. (Summary) **99d:58122** 58F13 (58F11, 58F40, 82C05)
— *see also* **Chaos and irreversibility, 99d:58003**
Gasparim, Elizabeth Rank two bundles on the blow-up of $\mathbb{C}^2$. (English summary) *J. Algebra* **199** (1998), *no.* 2, 581–590. (Wei-Ping Li) **99a:14063** 14J60 (14D20)
Gaspart, Frédéric Objective measures of well-being and the cooperative production problem. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 95–112. (Maurice Salles) **99b:90017** 90A08
Gasparyan, A. E. (*with* Khachatryan, A. A.) Propagation of one-dimensional waves in an infinite micropolar medium in the presence of a magnetic field. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **49** (1996), *no.* 4, 70–76 (1997). 73D15 (73B25, 73R05)

Gasparyan, K. V. Laws of the iterated logarithm for optional martingales. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 33–53 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 23–41. (Dominique Lépingle) **99g:60064** 60F15 (60G48)

Gasperini, Maurizio (*with* Giovannini, M.; Meissner, K. A.; Veneziano, Gabriele) Evolution of a string network in backgrounds with rolling horizons. (English summary) *String theory in curved space times* (*Paris*, 1996), 49–67, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83F05)

— (*with* Giovannini, M.) Von Neumann and Shannon-Wehrl entropy for squeezed states and cosmological particle production. (English summary) *String theory in curved space times* (*Paris*, 1996), 249–259, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 82B10 (83F05)

— Relic gravitons from the pre-big bang: what we know and what we do not know. (English summary) *String theory in curved space times* (*Paris*, 1996), 333–365, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83F05 (83C45)

— Repulsive gravity in the very early universe. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1703–1709. (Markku Lehto) **99i:83107** 83F05 (83C75)

— Low-energy quantum string cosmology. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 28, 4779–4786. (Mark D. Roberts) **99m:83070a** 83C45 (83E30)

— Errata: "Low-energy quantum string cosmology". *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1151. (Mark D. Roberts) **99m:83070b** 83C45 (83E30)

— (*with* Durrer, R.; Sakellariadou, M.; Veneziano, Gabriele) Seeds of large-scale anisotropy in string cosmology. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043511, 21 *pp.* 83F05 (83E30)

Gasquet, C. (*with* Witomski, P.) ★ Fourier analysis and applications. (English summary) Filtering, numerical computation, wavelets. Translated from the French and with a preface by R. Ryan. Texts in Applied Mathematics, 30. *Springer-Verlag, New York*, 1999. *xviii*+442 *pp. ISBN* 0-387-98485-2 (Albert Cohen) **99h:42003** 42-02 (42Axx, 94A11, 94A12)

Gass, Saul I. (*with* Witzgall, Christoph; Harary, Howard H.) Fitting circles and spheres to coordinate measuring machine data. (English summary) *New trends in mathematical programming*, 65–91, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99f:65021** 65D10 (90C90)

Gasser, Ingenuin (*with* Markowich, Peter A.) Quantum hydrodynamics, Wigner transforms and the classical limit. (English summary) *Asymptot. Anal.* **14** (1997), *no.* 2, 97–116. (Oleg Yu. Shvedov) **99i:81043** 81Q20 (35Q40, 70H20, 81Q05)

— (*with* Illner, R.; Markowich, Peter A.; Schmeiser, Christian) Semiclassical, $t \to \infty$ asymptotics and dispersive effects for Hartree-Fock systems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 699–713. (Peter E. Zhidkov) **99k:35164** 35Q55

solberg Gasser, Kirsten Lackner *see* **Solberg Gasser, Kirsten Lackner**

Gasser, M. (*with* Schuëller, G. I.) Some basic principles of reliability-based optimization (RBO) of structures and mechanical components. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 80–103, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 90B25 (90C15)

Gasser, Theo (*with* Wang, Kongming) Asymptotic and bootstrap confidence bounds for the structural average of curves. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 972–991. (Alan M. Polansky) **99g:62063** 62G15 (62G09)

— (*with* Hall, Peter Gavin; Presnell, Brett) Nonparametric estimation of the mode of a distribution of random curves. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 681–691. (Summary) **99e:62043** 62G05

Gassiat, Elisabeth (*with* Gautherat, Emmanuelle) Identification of noisy linear systems with discrete random input. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1941–1952. (Summary) **99h:94016** 94A12

Gassmann, H. I. Modelling support for stochastic programs. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 107–137. (*see* **99e:90003**) 90C15

Gaßner, Christine On NP-completeness of linear machines. (English summary) *J. Complexity* **13** (1997), *no.* 2, 259–271. (Robert E. Byerly) **99d:68069** 68Q05 (03D10, 03D15, 68Q15)

Gastaldi, Carlota (*with* Urrea, Marcel; Fernández de Córdoba, Pedro) Decision theory: von Neumann's contributions. (Spanish. English and Spanish summaries) *Divulg. Mat.* **6** (1998), *no.* 1, 37–42. (Summary) **99f:90211** 90D40 (01A60, 90D05)

Gastaldi, F. (*with* Monteiro Marques, Manuel D. P.; Martins, J. A. C.) Mathematical analysis of a two degree-of-freedom frictional contact problem with discontinuous solutions. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 247–261. (David E. Stewart) **99g:73097** 73T05 (34A60)

Gastaldi, Lucia (*with* Boffi, Daniele; Brezzi, Franco) On the convergence of eigenvalues for mixed formulations. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 131–154 (1998). (I. Norman Katz) **99i:65121** 65N25 (65J99, 65K99, 65M60)

Gastaminza, S. (*with* de la Peña, José Antonio; Platzeck, María Inés; Redondo, María Julia; Trepode, S.) Finite-dimensional algebras with vanishing Hochschild cohomology. *J. Algebra* **212** (1999), *no.* 1, 1–16. (Thierry Lambre) **99m:16009** 16E40 (16G20)

Gastel, Andreas (*with* Duzaar, Frank) Minimizing p-harmonic maps at a free boundary. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 2, 391–405. (Martin Fuchs) **99e:58047** 58E20

— Regularity theory for minimizing equivariant (p-)harmonic mappings. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 4, 329–367. (Martin Fuchs) **99c:58043** 58E20

— Construction of harmonic maps between spheres by joining three eigenmaps. (English summary) *Internat. J. Math.* **9** (1998), *no.* 7, 821–844. (Anne-Joëlle Vanderwinden) **99m:58063** 58E20

van Gastel, Martine *see* **Van Gastel, Martine**

Gastin, Paul (*with* Meyer, Raphaël; Petit, Antoine) A (non-elementary) modular decision procedure for LTrL. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 356–365, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q60 (03B25, 03B35, 03B45)

— (*with* Diekert, Volker) Approximating traces. (English summary) *Acta Inform.* **35** (1998), *no.* 7, 567–593. (Yves Metivier) **99d:68074** 68Q10 (68Q45, 68Q55)

Gastmans, R. *see* **Kiritsis, Elias, 99d:81121**

Gastwirth, Joseph L. (*with* Csörgő, Miklós; Zitikis, Ričardas) Asymptotic confidence bands for the Lorenz and Bonferroni curves based on the empirical Lorenz curve. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 65–91. (Yves Lepage) **99k:62098** 62G15 (62P20)

Gasull, Armengol (*with* Cima, Anna; Mañosas, Francesc) The genesis of Markus-Yamabe counterexamples. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 49–55, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:34147** 34D20 (34C35, 34H05, 58F12, 93D20)

— (*with* Guillamon i Grabolosa, Toni) A theorem of global asymptotical stability. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34D05 (58F10)

— (*with* Cima, Anna; Torregrosa, Joan) Index and multiplicity. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99j:58025** 58C27 (55M25)

— (*with* Guillamon i Grabolosa, Toni; Mañosa, V.) Centre and isochronicity conditions for systems with homogeneous nonlinearities. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 105–116, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (A. P. Sadovskiĭ) **99c:34048** 34C05 (58F21)

— (*with* Cima, Anna; Torregrosa, Joan) On the relation between index and multiplicity. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 757–768. (Christian Fenske) **99j:58024** 58C27 (55M25, 57R45)

— (*with* Torregrosa, Joan) Center problem for several differential equations via Cherkas' method. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 322–343. (Pavao Mardešić) **99k:34057** 34C05

Gát, Gy. Pointwise convergence of the Cesàro means of double Walsh series. (English summary) *Ann. Univ. Sci. Budapest. Sect. Comput.* **16** (1996), 173–184. (Ferenc Weisz) **99b:42033** 42C10 (43A75)

— On the lower bound of Sunouchi's operator with respect to Vilenkin systems. (Russian summary) *Anal. Math.* **23** (1997), *no.* 4, 259–272. (Sándor Fridli) **99f:42057** 42C10 (42B20)

— On the two-dimensional pointwise dyadic calculus. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 191–215. (W. R. Wade) **99c:42049** 42C10

— On $(C, 1)$ summability of integrable functions with respect to the Walsh-Kaczmarz system. (English summary) *Studia Math.* **130** (1998), *no.* 2, 135–148. (W. R. Wade) **99e:42043** 42C10 (40G05)

Gat, Omri (*with* Zeitak, Reuven) Multiscaling in passive scalar advection as stochastic shape dynamics. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 5511–5519. (Summary) **99c:76053** 76F99 (76M35)

Gatermann, Karin Semi-invariants, equivariants and algorithms. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 2, 105–124. (Frank D. Grosshans) **99b:20010** 20C15 (13A50, 13C14, 13P10)

— (*with* Lauterbach, Reiner) Automatic classification of normal forms. *Nonlinear Anal.* **34** (1998), *no.* 2, 157–190. (Ian Melbourne) **99e:58161** 58F36 (34C20, 34C35, 58C27, 58F14)

Gates, Ann Q. (*with* Kreinovich, Vladik; Longpré, Luc) Kolmogorov complexity justifies software engineering heuristics. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 150–154. 68Q30 (68N99)

Gates, D. J. Stationary states of a directed planar growth process. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 857–877. (Summary) **99b:60113** 60J20 (82B24)

Gates, R. *see* **Gates, Robbie**

Gates, Richard (*with* Quinn, Terrance J., II) Estimation of salmon escapement: models with entry, mortality and stochasticity. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 3, 217–250. (Summary) **99i:90138** 90D40 (92D40)

Gates, Robbie On the generic solution to $P(X) \cong X$ in distributive categories. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 191–212. (Jürgen Koslowski) **99b:18013** 18D35 (18C10, 68Q65)

Gates, S. James, Jr. A new proposed description of the 4D, $N = 1$ supersymmetric effective action for scalar multiplets. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 414–419, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81235** 81T60 (81V05)

— Progress toward a classical (SUSY)^2 4D, $N = 1$ Green-Schwarz σ-model action. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 130–135, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 81T60 (83E50)

— $N = 1$ supersymmetry and the phenomenological pion physics effective action. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 171–181. (*see* **99b:81006**) 81V05 (81T60)

— (*with* Ketov, Sergei V.) 2D (4, 4) hypermultiplets. I. Diversity for $N = 4$ models. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 111–118. (Summary) **99h:81209** 81T60

— (*with* Ketov, Sergei V.) 2D (4, 4) hypermultiplets. II. Field theory origins of dualities. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 119–124. (From the introduction) **99h:81210** 81T60

— (*with* Grisaru, Marcus T.; Knutt-Wehlau, Marcia E.; Siegel, Warren) Component actions from curved superspace: normal coordinates and ectoplasm. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 203–210. (Ilya Shapiro) **99c:83099** 83E50 (81T30, 83E30)

— (*with* Rana, Lubna) Superspace geometrical representations of extended super Virasoro algebras. (English summary) *Phys. Lett. B* **438** (1998), *no.* 1-2, 80–88. (Sergey Nikolaevich Roshchupkin) **99m:81082** 81R10 (17B68)

— (*with* Kadoyoshi, Tomoko; Nojiri, Shin'ichi; Odintsov, Sergei D.) Quantum cosmology in the models of 2D and 4D dilatonic supergravity with WZ matter. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084026, 17 *pp.* (Summary) **99m:83201** 83E50 (83C45)

Gatesoupe, Michel (*with* Salinger, David L.; Stegeman, Jan D.) Deux analyses de Fourier sur l'ensemble de Cantor. (English and French summaries) [Two Fourier analyses on the Cantor set] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1311–1316. (Satoru Igari) **99i:43006** 43A25 (42B05, 43A15)

Gateva-Ivanova, Tatiana (*with* van den Bergh, Michel) Semigroups of I-type. (English summary) *J. Algebra* **206** (1998), *no.* 1, 97–112. (Kirby C. Smith) **99h:20090** 20M05

von zur Gathen, Joachim (*with* Nöcker, Michael) Exponentiation in finite fields: theory and practice. *Applied algebra, algebraic algorithms and error-correcting codes*

(*Toulouse*, 1997), 88–113, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Introduction) **99c:68123** 68Q25 (68P25, 94A60)

— (*with* Shparlinski, Igor E.) The CREW PRAM complexity of modular inversion. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 305–315, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68104** 68Q25 (11Y16, 68Q22)

— (*with* Shparlinski, Igor E.) Orders of Gauss periods in finite fields. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 1, 15–24. (Francesco Pappalardi) **99j:11142** 11T30

— (*with* Hartlieb, Silke) Factoring modular polynomials. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 5, 583–606. (Igor E. Shparlinski) **99g:11148** 11Y16 (13P05)

— (*with* Feisel, Sandra; Shokrollahi, M. Amin) Normal bases via general Gauss periods. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 271–290. (Safwan Akbik) **99c:11148** 11T22 (12E20)

— (*with* Shparlinski, Igor E.) Computing components and projections of curves over finite fields. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 822–840 (*electronic*). (Genady Lazarevich Margolin) **99h:11065** 11G20 (11Y16, 14G15, 68Q40)

Gather, Ursula (*with* Becker, Claudia) Outlier identification and robust methods. *Robust inference*, 123–143, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

— (*with* Hilker, Torsten) A note on Tyler's modification of the MAD for the Stahel-Donoho estimator. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2024–2026. (Hannu Oja) **99c:62072** 62F35 (62H12)

— (*with* Kamps, Udo) Characteristic properties of generalized order statistics from exponential distributions. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 4, 383–391. (Summary) **99h:60020** 60E05 (62E10, 62G30)

Gatica, Gabriel N. (*with* Wendland, Wolfgang L.) Coupling of mixed finite elements and boundary elements for linear and nonlinear elliptic problems. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 39–75. (Summary) **99a:65167** 65N38 (65N30)

— (*with* Hernandez, E. C.; Mellado, M. E.) A domain decomposition method for linear exterior boundary value problems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 1–9. (Summary) **99d:65345** 65N55 (80–08)

— (*with* Barrenechea, Gabriel R.; Hsiao, George C.) Weak solvability of interior transmission problems via mixed finite elements and Dirichlet-to-Neumann mappings. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 2, 145–160. (Summary) **99h:65184** 65N30 (45A05, 45L05, 65R20)

— (*with* Barrenechea, Gabriel R.; Thomas, Jean-Marie) Primal mixed formulations for the coupling of FEM and BEM. I. Linear problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 7–32. (Leonid Yasnitsky) **99d:65310** 65N30 (73V05, 73V10)

— (*with* Barrenechea, Gabriel R.; Barrientos, Mauricio A.) On the numerical analysis of finite element and Dirichlet-to-Neumann methods for nonlinear exterior transmission problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 705–735. (Ji Chun Li) **99i:65123** 65N30 (65N38)

Gatien, Daniel Holomorphic cylinders with Lagrangian boundaries and periodic orbits of Hamiltonian systems. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 147–154. (Miguel T. Abreu) **99h:58062** 58F05 (53C15, 58F22)

— *see also* **Lalonde, François**, **99f:58026**

Gato-Rivera, Beatriz (*with* Rosado, Jose Ignacio) Families of singular and subsingular vectors of the topological $N = 2$ superconformal algebra. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 477–522. (Zoltán Bajnok) **99c:81066** 81R10 (17B81, 81T40)

Gatsinzi, J.-B. (*with* Tignol, Jean-Pierre) Involutions and Brauer-Severi varieties. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 2, 149–160. (Anne Quéguiner-Mathieu) **99g:16023** 16K20 (16W10)

Gatski, T. B. (*with* Grasso, F.; Pirozzoli, S.) Analysis and simulation of a turbulent, compressible starting vortex. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 356–367. (Summary) **99k:76122** 76N10 (76F99, 76M25)

Gatti, E. (*with* Micheletti, S.; Sacco, Riccardo) A new Galerkin framework for the drift-diffusion equation in semiconductors. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 2, 101–135. (J. W. Jerome) **99j:65207** 65N30 (65N15, 82D99)

Gatti, Mauro (*with* Cirelli, Renzo; Manià, Alessandro) On the nonlinear extension of quantum superposition and uncertainty principles. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 1-2, 64–86. (Paul Busch) **99k:81131** 81S10 (58B20, 81P05)

Gatti, S. *see* **Gatti, Stefania**

Gatti, Simona Stability and uniqueness of travelling-wave solutions in a combustion model. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 273–294 (1997). (Summary) **99b:80009** 80A25 (35B35, 35K55)

Gatti, Stefania A parabolic equation in combustion theory: direct and inverse problems. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 117–120. 35K55 (35R30)

— An existence result for an inverse problem for a quasilinear parabolic equation. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 53–65. (Hamid Bellout) **99a:35269** 35R30 (35K55, 80A25)

Gatto, Letterio (*with* Ponza, Fabrizio) Derivatives of Wronskians with applications to families of special Weierstrass points. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2233–2255. (Raquel Mallavibarrena) **99i:14032** 14H10 (14H55)

Gatto, Marino (*with* De Leo, G. A.) Interspecific competition among macroparasites in a density-dependent host population. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 467–490. (Summary) **99h:92025** 92D25

Gattobigio, Mario (*with* Liguori, Antonio; Mintchev, Mihail) Quantization of the nonlinear Schrödinger equation on the half line. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 143–148. (Summary) **99g:81124** 81T10 (81U40)

Gattringer, Christof (*with* Jaimungal, Sebastian; Semenoff, Gordon) Topology and duality in abelian lattice theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 282–290. (Summary) **99b:81165** 81T25

— (*with* Hip, Ivan) Clover improvement, spectrum and Atiyah-Singer index theorem for the Dirac operator on the lattice. (English summary) *Nuclear Phys. B* **541** (1999), *no.* 1-2, 305–319. 81T25 (58G10)

— Loop representation for 2D Wilson lattice fermions in a scalar background field. (English summary) *Nuclear Phys. B* **543** (1999), *no.* 1-2, 533–542. (Summary) **99m:81163** 81T25

Gau, Hwa-Long (*with* Wu, Pei Yuan) Numerical range of $S(\varphi)$. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 49–73. (Summary) **99i:47008** 47A12 (15A60, 47A20)

— (*with* Wu, Pei Yuan) Dilation to inflations of $S(\varphi)$. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 109–123. (Summary) **99j:47011** 47A20 (47A12)

Gaubert, Stéphane (*with* Benveniste, Albert; Jard, Claude) Algebraic techniques for timed systems. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 373–388, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68M20)

— (*with* Cohen, Guy; Quadrat, Jean-Pierre) Algebraic system analysis of timed Petri nets. (English summary) *Idempotency* (*Bristol*, 1994), 145–170, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Zbigniew Banaszak) **99b:93005** 93A30 (68Q90, 93B25)

— (*with* Gunawardena, Jeremy) The duality theorem for min-max functions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 43–48. (Summary) **99g:49026** 49K35

— (*with* Akian, Marianne; Bapat, Ravindra) Asymptotics of the Perron eigenvalue and eigenvector using max-algebra. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 927–932. (Rafael Canto) **99k:15012** 15A18 (15A03, 15A04, 15A54)

— (*with* Cohen, Guy; Quadrat, Jean-Pierre) Timed-event graphs with multipliers and homogeneous min-plus systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1296–1302. (Summary) **99f:93099** 93C83 (68Q90)

— (*with* Butkovič, Peter; Cuninghame-Green, Raymond) Minimal (max, +) realization of convex sequences. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 137–147 (*electronic*). (Valeriu Prepeliță) **99f:93100** 93C83 (15A15, 15A33, 93B51)

— (*with* Mairesse, Jean) Modeling and analysis of timed Petri nets using heaps of pieces. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 683–697. (Summary) **99m:68139** 68Q90

Gaucher, Philippe Lambda-opérations sur l'homologie d'une algèbre de Lie de matrices. (English and French summaries) [Lambda operations on the homology of a Lie algebra of matrices] *K-Theory* **13** (1998), *no.* 2, 151–167. (Jerry Lodder) **99b:19004** 19D55 (55N35)

Gauchman, Hillel (*with* Evard, Jean-Claude) Steffensen type inequalities over general measure spaces. (English summary) *Analysis* **17** (1997), *no.* 2-3, 301–322. (Peter W. Day) **99c:26016** 26D15 (28A99, 52A40)

Gaudenzi, Marcellino On Sturm theorem for n-th order equations with weight of nonconstant sign. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 191–212. (Anton Zettl) **99j:34047** 34C10

— On the solvability of nonselfadjoint symmetric boundary value problems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 364–372, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34B05

— Boundary value problems for linear monotone cyclic feedback systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 397–417. (Summary) **99d:34027** 34B05 (34C10)

— Existence and comparison of eigenvalues for linear differential equations of order n. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 187–214. (Uri Elias) **99d:34028** 34B05

— On the number of the zeros of solutions of a linear differential equation. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 306–325. (Uri Elias) **99d:34049** 34C10

— (*with* Habets, P.) Nonselfadjoint 4th order boundary value problems. *Nonlinear Anal.* **33** (1998), *no.* 3, 303–320. (Salvatore A. Marano) **99c:34029** 34B05 (34L05)

Gaudenzi, Paolo Exact higher order solutions for a simple adaptive structure. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 26-27, 3595–3610. (Summary) **99c:73038** 73K05 (73K20, 73K50)

Gaudet, Gérard (*with* Amigues, Jean-Pierre; Favard, Pascal; Moreaux, Michel) On the optimal order of natural resource use when the capacity of the inexhaustible substitute is limited. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 153–170. 90A30

Gaudiello, Antonio (*with* Corbo Esposito, Antonio; Donato, Patrizia; Picard, Colette) Homogenization of the p-Laplacian in a domain with oscillating boundary. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 4, 1–23. (P. Lindqvist) **99a:35016** 35B27 (35J65, 49J45)

— (*with* Donato, Patrizia; Sgambati, Luciana) Homogenization of bounded solutions of elliptic equations with quadratic growth in periodically perforated domains. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 223–243. (Summary) **99b:35009** 35B27 (35J65, 49J45, 73B27)

— (*with* Cardone, Giuseppe; Donato, Patrizia) A compactness result for elliptic equations with subquadratic growth in perforated domains. *Nonlinear Anal.* **32** (1998), *no.* 3, 335–361. (Dietrich Göhde) **99b:35064** 35J65 (35B27, 73B27)

Gaudioso, M. (*with* Astorino, A.; Fuduli, A.) Analysis of regularization techniques in convex nondifferentiable optimization. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 20–25, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C25 (49J52)

— (*with* Celani, M.; Cerulli, R.; Sergeev, Yaroslav D.) A multiplier adjustment technique for the capacitated concentrator location problem. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 87–102. 90B80 (90C09)

Gaudoin, O. CPIT goodness-of-fit tests for the power-law process. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 165–180. (Summary) **99a:62065** 62G10

Gaudron, Guillaume Scaling laws and convergence for the advection-diffusion equation. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 649–663. (Leonid I. Piterbarg) **99e:76061** 76F10 (60J60, 76M35)

Gaudron, Isabelle (*with* Trouvé, Alain) Fluctuations of empirical means at low temperature for finite Markov chains with rare transitions in the general case. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 2, 215–251. (Laurent Miclo) **99i:60054** 60F10 (60J10, 62M10, 65C05)

Gaudry, Garth (*with* Sjögren, Peter) Singular integrals on the complex affine group. *Colloq. Math.* **75** (1998), *no.* 1, 133–148. (Shobha Madan) **99k:43003** 43A32 (22E10, 42B20)

Gauduchon, P. Canonical connections for almost-hypercomplex structures. *Complex analysis and geometry* (*Trento*, 1995), 123–136, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (María Laura Barberis) **99g:53031** 53C07 (53C15)

Gaul, L. (*with* Schanz, M.; Wenzel, Wolfgang; Zastrau, B.) A boundary element formulation for generalized viscoelastic solids in time domain. *Boundary element topics* (*Stuttgart*, 1995), 31–50, *Springer, Berlin*, 1997. (*see* **99e:00017**) 73V10 (65N38, 73F15)

— (*with* Schweizer, Bernhard) Analytische Berechnung der integralfreien Terme aus den Somigliana-Identitäten. (English and German summaries) [Analytical computation of the integral-free terms of the Somigliana identities] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 823–832. (Summary) **99i:73016** 73C02 (65N38, 73V10)

Gaul, Wolfgang (*with* Löffler, Michael) Multiperiod price optimization in oligopolies considering reference price effects. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 353–358, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90A12

— *see also* **Proceedings: Operations Research, 99a:90009**

Gauld, David (*with* Greenwood, Sina) Microbundles revisited. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 114–119 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 57N55 (55R60)

Gaulter, Mark Lattices without short characteristic vectors. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 3, 353–362. (Detlev W. Hoffmann) **99f:11085** 11H55 (11F27, 11H50)

Gaultier, Maurice (*with* Lezaun Iturralde, Mikel) Semi-continuité supérieure des attracteurs associés à l'approximation d'un problème du type Bénard avec contraintes. (English and French summaries) [Upper semicontinuity of attractors for the approximation of a Bénard-type problem with constraints] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 173–178. (Peter E. Kloeden) **99h:35214** 35Q99 (34G20, 35B40, 47H20, 76D05)

álvarez-Gaumé, Luis *see* **Álvarez-Gaumé, Luis**

Gaunt, D. S. (*with* Bennett-Wood, D.; Enting, I. G.; Guttmann, Anthony J.; Leask, J. L.; Owczarek, Aleksander L.; Whittington, Stuart G.) Exact enumeration study of free energies of interacting polygons and walks in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4725–4741. (Summary) **99c:82031** 82B41 (82D60)

Gauntlett, Jerome P. S-duality and H-monopoles. *Strings* '95 (*Los Angeles, CA*, 1995), 198–199, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30 (58D27)

Gaur, A. K. Relative numerical ranges in topological algebras. *Functional analysis*, 32–41, *Narosa, New Delhi*, 1998. (M. J. Crabb) **99m:46116** 46H05 (47A12)

— Difference sequence spaces defined by a sequence of moduli. (English summary) *Demonstratio Math.* **31** (1998), *no.* 2, 275–278. (Summary) **99j:40006** 40C05 (40H05)

Gaur, Minakshi (*with* Gupta, Vijay) Rate of convergence of modified Baskakov type operators for functions of bounded variation. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 93–108. (Summary) **99k:41035** 41A35

Gauss, Carl Friedrich *see* **Sols Lucía, Ignacio, 99a:01014**; **Biermann, Kurt-R., 99b:01019** *and* **Reich, Karin, 99h:01028**

Gauß, Eugen Fractals and Fun—einige Programme für Varianten klassischer Fraktale. [Fractals and fun—some programs for variants of classical fractals] *Überblicke Mathematik* 1998, 81–107, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 00A69

Gauss, Johann Friedrich Carl *see* **Gauss, Carl Friedrich**

Gaussier, Hervé Tautness and complete hyperbolicity of domains in $\mathbf{C}^n$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 105–116. (Bernard Joseph Coupet) **99b:32039** 32H20 (32F05, 32H15, 32M05)

Gautam, Vishvajit V. S. (*with* Kumar, Vinod[3]) Remarks on Banaschewski-Fomin-Shanin extensions. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 23–30. (Worthen Hunsaker) **99b:54022** 54C10 (54C20)

Gautherat, Emmanuelle (*with* Florens-Landais, Danielle; Nisipasu, Ecaterina) Asymptotic expansions and large deviations in estimation of an Ornstein-Uhlenbeck model. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 205–210. (Summary) **99h:62108** 62M09 (62E20)

— (*with* Gassiat, Elisabeth) Identification of noisy linear systems with discrete random input. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1941–1952. (Summary) **99h:94016** 94A12

Gautheron, Philippe Simple facts concerning Nambu algebras. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 417–434. (Markus J. Pflaum) **99e:58084** 58F06 (17A42)

Gautheron, Véronique Enseigner les débuts de l'analyse en utilisant des infinitésimaux. [Teaching introductory analysis using infinitesimals] Logique dans l'enseignement des mathématiques (Liège, 1996). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 5, *suppl.*, 39–44. (Antoine Delcroix) **99k:00013** 00A35 (03H05)

Gauthier, Georges (*with* Gondret, P.; Rabaud, M.) Axisymmetric propagating vortices in the flow between a stationary and a rotating disk enclosed by a cylinder. (English summary) *J. Fluid Mech.* **386** (1999), 105–126. 76–05 (76E10, 76U05)

Gauthier, J. P. (*with* Xu, Cheng-Zhong; Bounabat, A.) An observer for infinite-dimensional skew-adjoint bilinear systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 20 *pp.* (*electronic*). (Summary) **99g:93016** 93B07 (93C10)

— (*with* Viel, F.; Busvelle, E.) A stable control structure for binary distillation columns. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 475–505. 93C95 (93D15)

— (*with* Agrachev, Andrei; El Alaoui, El-Houcine Chakir) Sub-Riemannian metrics on $\mathbf{R}^3$. (English summary) *Geometric control and non-holonomic mechanics* (*Mexico City*, 1996), 29–78, *CMS Conf. Proc.*, 25, *Amer. Math. Soc., Providence, RI*, 1998. (Fernand Pelletier) **99j:53029** 53C15 (53C20, 93B29)

— (*with* Ligarius, Ph.; Xu, Cheng-Zhong) A simple observer for distributed systems: application to a heat exchanger. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 23 *pp.* (*electronic*). (Yuri V. Zaika) **99h:93022** 93B07 (93C20)

Gauthier, Luc Théorie des correspondances birationnelles selon Zariski. [The theory of birational correspondences according to Zariski] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 10, 57–64, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 14E05

— Quelques variétés usuelles en géométrie algébrique. [Some usual varieties in algebraic geometry] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 37, 307–311, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 14N05 (14H40, 14M15)

Gauthier, N. Identities for a class of sums involving Horadam's generalized numbers $\{W_n\}$. *Fibonacci Quart.* **36** (1998), *no.* 4, 295–304. (Péter Kiss) **99e:11017** 11B37

Gauthier, Paul M. (*with* Bensuda, Ch.) Superharmonic approximation on a closed set. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 17–32 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 11–22. (Peter Boyadjiev) **99j:30038** 30E10

— (*with* Arakelyan, N. U.) Propagation of smallness and the uniqueness of harmonic and holomorphic functions. (Russian. Russian summary) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 4, 2–28; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 4, 2–24 (1996). (Vladimir Logvinenko) **99h:31011** 31B05 (30D15)

— Mittag-Leffler theorems on Riemann surfaces and Riemannian manifolds. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 547–562. (Fumio Maitani) **99h:30046** 30F99 (31C12)

— (*with* Bagby, Thomas) Note on the support of Sobolev functions. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 257–260. (W. P. Ziemer) **99g:46037** 46E35 (31B05)

— Covering properties of holomorphic mappings. *Complex geometric analysis in Pohang* (1997), 211–218, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Stephen M. Zemyan) **99h:30007** 30C25 (30C70)

— (*with* Xiao, Jie[1]) Functions of bounded expansion: normal and Bloch functions. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 168–188. (P. Lappan) **99m:30070** 30D45

Gauthier, S. (*with* Souffland, D.; Grégoire, O.; Schiestel, R.) A multi-scale turbulence model for compressible mixing flows. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 78–82, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76078** 76F99 (76L05)

Gauthier, Yvon A polynomial translation of Gödel's functional interpretation. *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 3, 130–137. 03F10

Gautier, Antoine (*with* Granot, Frieda; Zheng, Harry) Qualitative sensitivity analysis in monotropic programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 695–707. (Victor P. Il'ev) **99j:90063** 90C27 (90C31)

Gautreau, Ronald Doublevaluedness in cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1445–1459. (Wathek Talebaoui) **99h:83009** 83C15 (83F05)

Gautschi, Walter Orthogonal polynomials: applications and computation. (English summary) *Acta numerica*, 1996, 45–119, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (Sven Ehrich) **99j:65019** 65D15 (42C05)

— The computation of special functions by linear difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 213–243, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:65030** 65D20 (39A10)

— (*with* Kuijlaars, A. B. J.) Zeros and critical points of Sobolev orthogonal polynomials. (English summary) *J. Approx. Theory* **91** (1997), *no.* 1, 117–137. (Leonid B. Golinskiĭ) **99a:42016** 42C05 (33C45)

— (*with* Milovanović, Gradimir V.) s-orthogonality and construction of Gauss-Turán-type quadrature formulae. (English summary) Special issue dedicated to William B. Gragg (Monterey, CA, 1996). *J. Comput. Appl. Math.* **86** (1997), *no.* 1, 205–218. (I. P. Mysovskikh) **99a:65030** 65D30 (41A55)

— Ostrowski and the Ostrowski Prize. *Math. Intelligencer* **20** (1998), *no.* 3, 32–34. 01A70

Gauvin, Jacques (*with* Janin, Robert) Lipschitz dependence of the optimal solution to elementary convex programs. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 149–161, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Jia Liu Mei) **99a:90203** 90C31

Gauyacq, Ginette Edge-forwarding index of star graphs and other Cayley graphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 2-3, 149–160. (Dragan Marušič) **99h:05053** 05C25 (05C38)

Gava, E. (*with* Narain, K. S.; Sarmadi, M. H.) On the bound states of p- and $(p+2)$-branes. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 214–238. (Ion V. Vancea) **99b:81191** 81T30

— (*with* Morales, Jose F.; Narain, K. S.; Thompson, George) Bound states of type I D-strings. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 95–108. (Summary) **99k:81238** 81T30 (58Z05, 81T40)

— *see also* **String theory, gauge theory and quantum gravity, 99a:81005**

benzoni-Gavage, S. *see* **Benzoni-Gavage, S.**

Gavagna, Veronica Images of Galileo in the *Terra machinis mota* of Paolo Casati. (Italian) *Boll. Storia Sci. Mat.* **17** (1997), *no.* 1, 105–148. (Massimo Galuzzi) **99h:01022** 01A45

Gavaldà, Ricard (*with* Balcázar, José L.; Siegelmann, Hava T.) Computational power of neural networks: a characterization in terms of Kolmogorov complexity. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1175–1183. (Summary) **99c:68077** 68Q05 (68Q30, 68T05)

Gavarini, Fabio Quantum function algebras as quantum enveloping algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1795–1818. (Guy Laffaille) **99c:17026** 17B37

— A Brauer algebra-theoretic proof of Littlewood's restriction rules. (English summary) *J. Algebra* **212** (1999), *no.* 1, 240–271. (Ben Ford) **99m:20095** 20G05

Gavasheli, M. Dimension of topological convex structure. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 369–371 (1995). 54F45

Gavdzinskiĭ, V. N. (*with* Elsheikh, Mohamed G.; Khalifa, M. E.) The method of integral equation formulation and the unbounded solutions of elastic contact problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 33–39. (Summary) **99d:73083** 73T05 (45E05, 65R20)

Gaveau, Bernard (*with* Schulman, L. S.) Theory of nonequilibrium first-order phase transitions for stochastic dynamics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1517–1533. (Summary) **99e:82063** 82C26 (60K35)

— (*with* Beals, Richard William; Greiner, Peter C.) Uniforms hypoelliptic Green's functions. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 3, 209–248. (Gerald B. Folland) **99e:35024; EA 99m** 35H05 (35A08, 35C99)

— (*with* Moreau, Michel; Tóth, János) Dissipation of energy and of information in nonequilibrium reaction-diffusion systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5351–5354. (Summary) **99f:82041** 82C05

— (*with* Benichou, Olivier; Moreau, Michel) Resonant diffusion in a linear network of fluctuating obstacles. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*,

103–116. (Summary) **99h:82066** 82C44

Gavete, L. (*with* Manzano del Moral, Carlos; Herranz Calzada, J.; Falcón, Santiago) An error indicator for a finite point method using the Galerkin formulation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 769–774, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99 (65G05)

Gaviano, M. (*with* Lera, D.) Test functions with variable attraction regions for global optimization problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 207–223. (Summary) **99f:90122** 90C30 (90–04)

— (*with* Lera, D.) On linear convergence of gradient-type minimization algorithms. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 475–487. (Stefan M. Stefanov) **99f:90123** 90C30 (65K05)

sarrión Gavilán, María Dolores *see* **Sarrión Gavilán, María Dolores**

Gavilanes-Franco, Antonio (*with* Leach Albert, Javier; Nieva, Susana) Free variable tableaux for a many sorted logic with preorders. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 102–116, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Ralph W. Wilkerson) **99a:03013** 03B35

— (*with* Martín, P. J.; Leach Albert, Javier) Free variable tableaux for a logic with term declarations. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 202–216, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B70)

Gavioli, Andrea A viability result in the upper semicontinuous case. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 381–395. (Giovanni Colombo) **99k:34032** 34A60 (34G20, 49J24)

Gavioli, Norberto (*with* Mann, Avinoam; Monti, Valerio; Previtali, Andrea; Scoppola, Carlo M.) Groups of prime power order with many conjugacy classes. *J. Algebra* **202** (1998), *no.* 1, 129–141. (W. E. Deskins) **99d:20028** 20D15

Gavlas, Heather (*with* Chartrand, Gary; Hevia, Héctor; Johnson, Mark A.) Rotation and jump distances between graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 285–300. (András Gyárfás) **99f:05084** 05C60 (05C12)

— (*with* Chartrand, Gary; Henning, Michael A.; Rashidi, Reza) Stratidistance in stratified graphs. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 337–347. (Ioan Tomescu) **99b:05046** 05C12

— (*with* Dobson, Edward; Morris, Joy; Witte, David Riley) Automorphism groups with cyclic commutator subgroup and Hamilton cycles. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 69–78. (Brian Alspach) **99d:05039** 05C25 (05C45)

Gavoille, Cyril On the dilation of interval routing. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 259–268, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68M10

— (*with* Fraigniaud, Pierre) Interval routing schemes. (English summary) *Algorithmica* **21** (1998), *no.* 2, 155–182. (Neville G. F. Sancho) **99a:68020** 68M10

— (*with* Guévremont, Eric) Worst case bounds for shortest path interval routing. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 1–25. (Summary) **99c:68012** 68M10 (05C85)

Gavosto, Estela A. Hölder estimates for the $\overline{\partial}$-equation in some domains of finite type. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 4, 593–609. (Der-Chen E. Chang) **99m:32020** 32F20 (32H35)

— (*with* Fornæss, John Erik) The Cauchy Riemann equation on singular spaces. *Duke Math. J.* **93** (1998), *no.* 3, 453–477. (Steven George Krantz) **99c:32022** 32F20 (35N15)

Gavrea, Ioan On Gonska's problem concerning approximation by algebraic polynomials. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 53–57. (Z. Rubinstein) **99c:41048** 41A36 (41A10)

— Approximation by positive linear operators. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 109–115. (M. W. Müller) **99c:41049** 41A36 (41A25)

— (*with* Ciupa, Alexandra) On the approximation of the Laplace transform by positive linear operators. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 9–12. (Summary) **99g:41035** 41A36 (44A10)

— (*with* Gonska, Heinz H.; Kacsó, Daniela P.) Variation on Butzer's problem: characterization of the solutions. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 51–64. (Kewal Krishna Mathur) **99c:41050** 41A36 (41A55)

— (*with* Gonska, Heinz H.; Kacsó, Daniela P.) On linear operators with equidistant nodes: negative results. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 445–454. (Sorin Gheorghe Gal) **99h:41033** 41A36 (41A25)

— (*with* Gonska, Heinz H.; Kacsó, Daniela P.) On discretely defined positive linear polynomial operators giving optimal degrees of approximation. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 455–473. (Sorin Gheorghe Gal) **99i:41023** 41A36 (41A25)

Gavril, Fănică (*with* Shmueli, Oded) Intersection graphs of k-acyclic families of subtrees and relational database query processing. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 1, 1–6. (Summary) **99a:68041** 68P15 (05C85, 68R10)

Gavrilă, M. Convex operators on σ-lattice linear spaces. (Romanian. French and Romanian summaries) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 415–421. 47B60

Gavrilakis, Spyros *see* **Computation of three-dimensional complex flows, 99c:76064**

Gavril'chenko, O. P. Asymptotic stability of invariant sets of nonlinear differential inclusions. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 5–15, 151. (Summary) **99d:34099** 34D99 (34A60)

Gavrilescu, Mihai (*with* Georgescu, Adelina; Palese, Lidia) Neutral thermal hydrodynamic and hydromagnetic stability hypersurfaces for a micropolar fluid layer. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 575–582. (Nicolay A. Britov) **99f:76056** 76E25 (76A05)

Gavrilik, A. M. (*with* Iorgov, N. Z.) q-deformed inhomogeneous algebras $U_q(\mathrm{iso}_n)$ and their representations. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2* (*Kyiv*, 1997), 384–392, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:81087** 81R50 (17B37)

— (*with* Iorgov, N. Z.; Klimyk, A. U.) Nonstandard deformation $U'_q(\mathrm{so}_n)$: the imbedding $U'_q(\mathrm{so}_n) \subset U_q(\mathrm{sl}_n)$ and representations. *Symmetries in science, X* (*Bregenz*, 1997), 121–133, *Plenum, New York*, 1998. (Fabio Gavarini) **99j:81071** 81R50 (17B37)

Gavrilov, G. P. *see* **Thayse, André et al., 99m:68190**

Gavrilov, Lubomir Integrable systems and algebraic groups. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 81–91, *Univ. Lleida, Lleida*, 199?. (Iskander A. Taimanov) **99a:58090** 58F07 (14H40)

— Modules of Abelian integrals. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 35–45, *Univ. Rovira Virgili, Tarragona*, 1998. (Jan Stevens) **99e:32064** 32S40 (14K20, 34C05)

— Nonoscillation of elliptic integrals related to cubic polynomials with symmetry of order three. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 267–273. (I. D. Iliev) **99a:34077** 34C05 (34C10, 58F21)

— Petrov modules and zeros of Abelian integrals. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 8, 571–584. (Marcelo José Saia) **99m:32043** 32S10 (34C05)

Gavrilov, S. Non-stationary problems in dynamics of a string on an elastic foundation subjected to a moving load. (English summary) *J. Sound Vibration* **222** (1999), *no.* 3, 345–361. (Summary) **99m:73046** 73K12 (73K03)

Gavrilov, S. P. (*with* Gitman, D. M.; Gonçalves, Antonio E.) QED in external field with space-time uniform invariants: exact solutions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3547–3567. (A. L. Rebenko) **99f:81219** 81V10

Gavrilov, V. I. (*with* Zakharyan, V. S.) Nontangent growth and boundedness of normal holomorphic functions. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 3–14 (1997). (Alexander I. Kheyfits) **99k:30058** 30D45

Gavrilov, V. V. An analogue of the Riesz-Fischer theorem for the Fourier transforms corresponding to a one-dimensional Schrödinger operator with measurable and bounded potential. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1017–1022, 1149; *translation in Differential Equations* **33** (1997), *no.* 8, 1022–1027 (1998). (Sergiy V. Yanchuk) **99g:34160** 34L10 (34L40, 42C15, 47E05)

— On the connection between the generalized Fourier images of a function expanded with respect to a Schrödinger operator with integrable potential, and its order of integrability. (Russian. Russian summary) *Math. Montisnigri* **8** (1997), 59–65. (Summary) **99a:34221** 34L10 (34L40, 47E05)

Gavrilova, Marina (*with* Rokne, Jon G.) Swap conditions for dynamic Voronoi diagrams for circles and line segments. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 89–106. (Summary) **99h:65240** 65Y25 (51N05, 52B55, 65D17)

Gavrilova, T. L. (*with* Artem'eva, I. L.; Kleshchev, A. S.) Systems of logical relations as models of object domains. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 27–28. 68P15

Gavrilyuk, Ivan P. Grid approximations of the pseudospectral type with an improved condition number for second-order differential operators. (English summary) *J. Math. Sci.* (*New York*) **84** (1997), *no.* 4, 1209–1226. (Snezhana Gocheva-Ilieva) **99a:65087** 65L06 (41A65, 65N06)

— (*with* Makarov, Vladimir L.) Exact and approximate solutions of some operator equations based on the Cayley transform. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 97–121. (Xiaojun Chen) **99g:65068** 65J15 (47A62, 65J10)

Gavrilyuk, K. V. (*with* Abakumov, M. V.; Esikova, N. B.; Lukshin, An. V.; Mukhin, S. I.; Sosnin, N. V.; Tishkin, V. F.; Favorskiĭ, A. P.) A mathematical model of the hemodynamics of a cardio-vascular system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 892–898, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 895–901 (1998). (Introduction) **99b:92017** 92C50 (92–08, 92C30)

— (*with* Lukshin, An. V.) On the method of point markers in problems of hemodynamics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 934–940, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 938–944 (1998). (Introduction) **99c:92016** 92C35 (76Z05, 92–08)

Gavrilyuk, S. L. (*with* Gouin, H.; Perepechko, Yu. V.) Hyperbolic models of homogeneous two-fluid mixtures. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 161–175. (Summary) **99b:76089** 76T05 (35Q35, 76M30)

Găvruţă, P. On the Hyers-Ulam-Rassias asymptotic stability of mappings. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **41(55)** (1996), *no.* 2, 48–51. (From the text) **99c:39036** 39B52 (47H99)

— (*with* Cădariu, L.) Inequalities for approximately additive mappings. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 24–30. (Summary) **99k:39074** 39B72 (47H99)

abdel-Gawad, H. I. *see* **Abdel-Gawad, H. I.**

Gawędzki, Krzysztof (*with* Kupiainen, Antti) Universality in turbulence: an exactly solvable model. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 71–105, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Dieter H. Mayer) **99f:76069** 76F05 (76–02, 76M35, 82D15)

— Turbulence under a magnifying glass. *Quantum fields and quantum space time* (*Cargèse*, 1996), 123–150, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Dieter H. Mayer) **99i:76072** 76F99 (35Q35, 76D05, 76M35, 81T17)

— Inverse renormalization group analysis of a model of turbulent advection. Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 123–139. (A. L. Rebenko) **99b:82031** 82B28 (76F99)

— Scaling laws in turbulence. *New developments in quantum field theory* (*Zakopane*, 1997), 23–31, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99g:76071** 76F99 (76M99, 81T99)

— (*with* Tran-Ngoc-Bich, Pascal) Self-duality of the SL_2 Hitchin integrable system at genus 2. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 3, 641–670. (Francesco Bottacin) **99g:14011** 14D20 (14H60, 14K25, 58F07)

— (*with* Bernard, Denis; Kupiainen, Antti) Slow modes in passive advection. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 519–569. (Roland Schiestel) **99e:76065** 76F99 (76M35, 82D15)

— *see also* **Quantum symmetries, 99k:81008**

kołowska-Gawiejnowicz, Mirosława *see* **Kołowska-Gawiejnowicz, Mirosława**

Gawinecki, Jerzy (*with* Kowalski, Lucjan) Mathematical aspects of the boundary initial value problems for thermoelasticity theory of non-simple materials with control for temperature. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 370–381, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 35Q72 (73B30)

Gawlick, Günter *see* **Wolff, Christian, 99d:01042**

Gawlick, Rainer (*with* Segala, Roberto; Søgaard-Andersen, Jørgen; Lynch, Nancy) Liveness in timed and untimed systems. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 119–171. (Julian Padget) **99a:68069** 68Q10 (68Q60)

Gawlick, Thomas ★ Mordell-Weil-Gitter und exotische Deformationen von Viereckssingularitäten der Einbettungsdimension drei. (German) [Mordell-Weil lattices and exotic deformations of quadrilateral singularities of embedding dimension three] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1995. Bonner Mathematische Schriften [Bonn Mathematical Publications], 294. *Universität Bonn, Mathematisches Institut, Bonn*, 1996. 142+*xii pp.* (Jan Stevens) **99b:32055** 32S30 (14B07, 32S25)

Gawron, Jean Mark (*with* Condoravdi, Cleo) The context-dependency of implicit arguments. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 1–32, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

Gawron, Piotr W. (*with* Tomaszewski, Witold) On arrangement of regular cyclic subgroup in symmetric group. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 49–57. (Hiroyoshi Yamaki) **99i:20008** 20B30 (20B35)

Gawroński, Włodzimierz (*with* Lim, K. B.) Balanced actuator and sensor placement for flexible structures. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 131–145. 93C85 (73K50)

Gawronski, Wolfgang (*with* Gröling, Alexander) Oscillating asymptotics for $\sum_0^\infty \log^k(n+1)z^n$. (English summary) *Analysis* **17** (1997), *no.* 2-3, 175–186. (John G. Stalker) **99a:30037** 30E15 (33E20, 40G05, 41A60)

Gawrylczyk, Jarosław The fractional-graded extension of the Virasoro and w_∞ algebras. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 205–212, *PWN, Warsaw*, 1997. (Zoltán Bajnok) **99h:81069** 81R10 (17B68)

— Generalization of the algebra of the matrix pseudodifferential operators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1142–1152. (Josep Herrero) **99j:17039** 17B68 (47G30, 58F07, 81R10)

Gawthrop, P. J. (*with* Ballance, D. J.) Symbolic computation for manipulation of hierarchical bond graphs. *Symbolic methods in control system analysis and design*, 23–51, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93A30)

Gay, David M. (*with* Overton, Michael L.; Wright, Margaret H.) A primal-dual interior method for nonconvex nonlinear programming. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 31–56, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Florian Jarre) **99h:90096** 90C30 (90C26)

Gay, Roger[1] (*with* Charbonniaud, Anne-Laure; Crouzet, Jean-François) Sur l'extrapolation des signaux d'énergie finie à bande limitée. (English and French summaries) [Extrapolating band-limited finite-energy signals] *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *no.* 1-2, 145–182 (1997). (Summary) **99b:94007** 94A12

Gaylord, Thomas K. (*with* Bendickson, Jon M.; Glytsis, Elias N.) Scalar integral diffraction methods: unification, accuracy, and comparison with a rigorous boundary element method with application to diffractive cylindrical lenses. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 7, 1822–1837. 78–08

Gayrard, Véronique (*with* Bovier, Anton) Statistical mechanics of neural networks: the Hopfield model and the Kac-Hopfield model. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 393–422. (Barbara Gentz) **99b:82080** 82C32 (60K35, 82B44)

— (*with* Bovier, Anton) Hopfield models as generalized random mean field models. *Mathematical aspects of spin glasses and neural networks*, 3–89, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Aernout C. D. van Enter) **99a:82049** 82B44 (82–02, 82C32, 92B20)

— (*with* Bovier, Anton; Picco, Pierre) Typical profiles of the Kac-Hopfield model. *Mathematical aspects of spin glasses and neural networks*, 187–241, *Progr. Probab.*, 41, *Birkhäuser Boston, Boston, MA*, 1998. (Peter Eichelsbacher) **99c:82035** 82B44 (60K35)

Gayraud, G. Estimation of functionals of density support. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 1, 26–46. (Summary) **99g:62048** 62G07

Gayte, Inmaculada (*with* Casado-Díaz, Juan) A compactness theorem and its application to two-scale convergence. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 399–404, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 49J45 (35B27, 73B27)

el Gayyar, M. K. *see* **El Gayyar, M. K.**

Gazdik, Igor (*with* Kerre, Etienne E.; Onisawa, Takehisa; Cappelle, Bart) Reliability. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 391–420, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90B25 (04A72)

Gazeau, Jean Pierre (*with* Graffi, S.) Quantum harmonic oscillator: a relativistic and statistical point of view. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 815–839. (J.-P. Antoine) **99f:81044** 81Q10 (81R30, 82C10)

— (*with* Barache, Damien; Champagne, Bernard) Pisot-cyclotomic quasilattices and their symmetry semigroups. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 15–66, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Kenyon) **99g:52028** 52C07 (11R06, 20M20)

— (*with* Patera, Jiří; Pelantová, Edita) Tau-wavelets in the plane. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4201–4212. 42C15

— (*with* Miçkisz, Jacek) A symmetry group of a Thue-Morse quasicrystal. (English summary) *J. Phys. A* **31** (1998), *no.* 23, *L*435–*L*440. (Jean-Paul Allouche) **99j:11023** 11B85 (68R15, 82D25)

— (*with* Klauder, John R.) Coherent states for systems with discrete and continuous spectrum. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 123–132. (Constantin Brif) **99m:81090** 81R30

Gazit, Hillel (*with* Reif, John H.) A randomized parallel algorithm for planar graph isomorphism. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 290–314. (Joseph Ja'Ja') **99i:68056** 68Q22 (05C85, 68Q25, 68R10)

Gazizov, R. K. (*with* Ibragimov, N. Kh.) Lie symmetry analysis of differential equations in finance. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 4, 387–407. (Olena V. Roman) **99m:35015** 35A30 (35Q80, 90A09)

Gazor, Saeed (*with* Karimi, Masoud; Tahani, Valiollah) Matrix interpolation: some control applications. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 174–192. 93B40 (41A30)

Gazzola, Filippo (*with* Conti, Monica) Positive entire solutions of quasilinear elliptic problems via nonsmooth critical point theory. (English summary) *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 275–294 (1997). (C. A. Swanson) **99b:35053** 35J60 (35B05, 35D05, 49J52, 58E05)

— (*with* Arioli, Gianni) Weak solutions of quasilinear elliptic PDE's at resonance. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 573–589. (Igor Bock) **99e:35047** 35J60 (35D05, 58E05)

— (*with* Sardella, Mirko) Attractors for families of processes in weak topologies of Banach spaces. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 455–466. (Igor D. Chueshov) **99b:47098** 47H20 (34G20, 35K55, 35Q30, 58F39)

— (*with* Arioli, Gianni) Quasilinear elliptic equations at critical growth. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 83–97. (Wen Xiong Chen) **99b:35050** 35J60 (58E05)

— Critical growth problems for polyharmonic operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 251–263. (Philip W. Schaefer) **99e:35060** 35J65 (35B05, 35J40)

Gbekha, M. V. (*with* Abdullaev, I. Z.) Lie ideals of real von Neumann algebras. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* **4** (1996), 3–9 (1997). (Cho Ho Chu) **99g:46099** 46L70 (46L10)

G. Cabello, Julia (*with* Bullejos, M.; Faro, E.) On the equivariant 2-type of a G-space. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 215–245. (R. E. Stong) **99c:55013** 55P91 (55N91, 55R91, 55S45)

— (*with* Bullejos, M.) The homotopy type of spaces X with fundamental groupoid $\mathcal{G}$ and an unique non-trivial homotopy $\mathcal{G}$-module $\Pi_n(X)$. *Comm. Algebra* **27** (1999), *no.* 2, 725–753. (Donald M. Davis) **99k:55006** 55P15

Ge, Gennian (*with* Chang, Yanxun) Some new large sets of KTS(v). (English summary) *Ars Combin.* **51** (1999), 306–312. (Summary) **99j:05026** 05B07

Ge, Ji Chuan (*with* Cai, Qi Fu; Gao, Xi Ling; Xiang, Yu Zhang) A second-order finite volume method for the 2D shallow water equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 18–22. 76M20 (76B15)

Ge, Jian-Hua (*with* Frank, P. M.; Lin, Ching-Fang) H_∞ control via output feedback for state delayed systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 1–7. 93B36 (93C30)

Ge, Jian Xin (*with* Yang, Li) Principles and implementation techniques for parametric design from a differential point of view. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 261–269. 65D17 (65N30)

Ge, Jun A proposition related to Yu's conjecture. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 1, 29–32. (Tian Ze Wang) **99e:11129** 11P32

Ge, Liming Applications of free entropy to finite von Neumann algebras. II. *Ann. of Math.* (2) **147** (1998), *no.* 1, 143–157. (A. I. Danilenko) **99c:46068** 46L10 (46L50)

— (*with* Popa, Sorin) On some decomposition properties for factors of type II_1. *Duke Math. J.* **94** (1998), *no.* 1, 79–101. (Marie Choda) **99j:46070** 46L35

— *see also* **Operator algebras and operator theory, 99h:46001**

Ge, Mo Lin (*with* Shen, Yue-lin) Zamolodchikov-Faddeev algebra in 2-component anyons. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 436–441, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81V70

— (*with* Xue, Kang; Wang, Yiwen) Introduction to Yangian in physics. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 87–129, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:81085** 81R50

— (*with* Chen, Jing-Ling; Liu, Yong[2]) Application of nonlinear deformation algebra to a physical system with Pöschl-Teller potential. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6473–6481. (Summary) **99e:81066** 81R05 (81R30)

— (*with* Li, Cheng-Yu; Liu, Jing-Song) U(1) symmetry in Yangian and massless Thirring model. (English summary) *J. Phys. A* **31** (1998), *no.* 40, *L*701–*L*705. (Mathias Pillin) **99h:81132** 81T10 (81R50)

— (*with* Wang, Zhoufei; Xue, Kang) *RTT* relation and long-range spin chain model. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 974–982. (Andrey V. Tsiganov) **99j:82020** 82B20 (81R50)

— (*with* Chen, Jing-Ling; Xue, Kang) The monopole-hydrogen atom system and its connection with a four-dimensional harmonic oscillator. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 945–953. 81V45 (81Q05)

— *see also* **Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications, 99f:82002**

Ge, Nanxiang (*with* Simpson, Douglas G.) Correlation and high-dimensional consistency in pattern recognition. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 995–1006. (Summary) **99e:62112** 62H30

Ge, Qi-Wei (*with* Yanagida, Hidenori) A method of computing minimum firing time for self-cleaning SWITCH-less program nets. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 877–895. (Summary) **99c:68185** 68Q90

Ge, S. S. (*with* Zhu, Ge) A quasi-tracking approach for finite-time control of a mass-beam system. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 881–888. 93C95 (93C20)

— (*with* Hang, Chang Chieh; Woon, L. C.; Chen, Xiao Qi) Impedance control of robot manipulators using adaptive neutral network. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 433–452. 93C85

Ge, Sheng Bo Analytic solutions to a class of functional-differential equations. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 3, 17–19. (Summary) **99i:34088** 34K05

Ge, T. (*with* Leung, A. Y. T.) Construction of invariant torus using Toeplitz Jacobian matrices/fast Fourier transform approach. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 3, 283–305. (Summary) **99a:34134** 34C30 (34C15, 65T20, 73K12)

Ge, Wei Gao (*with* Li, Ji Bin; He, Xue-zhong) Multiple periodic solutions of differential delay equations $x'(t) = \mp\sum_{i=1}^{n-1}\delta_i f(x(t-r_i))$ with $\delta_i = \pm 1$. *Differential equations and applications* (*Hangzhou*, 1996), 176–182, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 34K15 (34C25)

— A transform theorem for differential-iterative equations and its application. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 881–888. (Summary) **99a:34188** 34K15

— (*with* Mo, Yu Ren) Existence of solutions to differential-iterative equation. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 192–200. (Alberto Cabada) **99a:34174** 34K05 (47H15, 47N20)

— Uniqueness of solutions to differential-iterative equation. (English and Chinese summaries) *J. Beijing Inst. Tech.* **6** (1997), *no.* 3, 201–207. (Alberto Cabada) **99a:34175** 34K05 (47H15, 47N20)

— (*with* Mo, Yu Ren) Existence and bifurcation of solutions to differential-iterative equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 113–122. (Summary) **99b:34116** 34K15

— (*with* Liu, Zheng-rong; Yu, Yuan Hong) On the periodic solutions of a type of differential-iterative equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 204–206. (From the text) **99h:34104** 34K15 (34C25)

— (*with* Liu, Xi Ping; Jia, Mei) A class of nonautonomous functional-differential iterative equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 249–256. (Summary) **99g:34132** 34K05

— (*with* Mawhin, Jean) Positive solutions to boundary value problems for second order ordinary differential equations with singular nonlinearities. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 108–119. (P. P. Zabreĭko) **99f:34025** 34B15 (34C25)

— (*with* Peng, Min Shu; Xu, Qian Li; Huang, Li Hong) Asymptotic and oscillatory behavior of solutions of certain second-order nonlinear difference equations. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 9–18. (E. Thandapani) **99k:39034** 39A10

Ge, Xiang-Yu (*with* Gould, Mark D.; Zhang, Yao-Zhong; Zhou, Huan-Qiang) A new two-parameter integrable model of strongly correlated fermions with quantum superalgebra symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5233–5239. (Władysław Marcinek) **99g:82018** 82B23 (17B37, 81R50, 82B20)

— (*with* Bracken, Anthony J.; Zhang, Yao-Zhong; Zhou, Huan-Qiang) Integrable open-boundary conditions for the q-deformed supersymmetric U model of strongly correlated electrons. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 588–602. (Rinat M. Kashaev) **99e:82023** 82B23 (81R50)

— (*with* Bracken, Anthony J.; Zhang, Yao-Zhong; Zhou, Huan-Qiang) An open-boundary integrable model of three coupled XY spin chains. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 603–622. (Rinat M. Kashaev) **99e:82024** 82B23 (81R50)

Ge, Ying Two questions on strongly quasiparacompact spaces. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 16–20. 54D20

Ge, Yu'an (*with* Wang, Xinfeng; Zeng, Qingli) Solutions of two-point BVP in Banach spaces. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1265–1269. (Summary) **99k:34141** 34G20 (34A45, 34B15)

Ge, Yubo Relative extreme values and extremum-times of jump process: upward type. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 347–356. (From the summary) **99e:60189** 60J80 (60J27)

Ge, Yuzhen (*with* Watson, Layne T.; Collins, Emmanuel G., Jr.) Genetic algorithms for optimization on a quantum computer. (English summary) *Unconventional models of computation (Auckland, 1998)*, 218–227, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68T05 (68Q05, 90C27)

Ge, Zheng Ming (*with* Lee, C.-I.; Chen, Heng-Hui; Lee, Sann-Chie) Non-linear dynamics and chaos control of a damped satellite with partially-filled liquid. (English summary) *J. Sound Vibration* **217** (1998), *no.* 5, 807–825. (Summary) **99i:70010** 70E15 (70K20, 70K50, 70M20, 70Q05)

Geandier, Françoise I. C{{b}}-modules et système de Gauss-Manin. II. Valuation sur un (a, b)-module quasi-unipotent et bases de Saïto. [I. C{{b}}-modules and Gauss-Manin system. II. Valuation on a quasi-unipotent (a, b)-module and Saito bases] *Séminaire de Singularités (Vandoeuvre-les-Nancy)*, 30–114, *Inst. Élie Cartan*, 15, *Univ. Nancy I, Vandoeuvre-les-Nancy*, 1997. (Aleksandr G. Aleksandrov) **99a:32056** 32S25 (32C38, 32S40)

Gear, John A. (*with* Polanco, Frank G.) Numerical modelling of axisymmetric two-phase porous media flow. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 639–646, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (76S05)

Geatti, Laura (*with* Fels, Gregor) Geometry of biinvariant subsets of complex semisimple Lie groups. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 329–356. (Karl-Hermann Neeb) **99g:22014** 22E46 (32C16)

el-Gebeily, M. A. *see* **El-Gebeily, M. A.**

richter-Gebert, Jürgen *see* **Richter-Gebert, Jürgen**

Gebert, Reinhold W. (*with* Mizoguchi, Shun'ya) BPS saturation from null reduction. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2165–2171. (Sergey Nikolaevich Roshchupkin) **99h:83048** 83E15 (83E50)

— (*with* Bärwald, Oliver; Nicolai, Hermann) On the imaginary simple roots of the Borcherds algebra $\mathfrak{gl}_{\infty|1}$. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 721–738. (Duncan J. Melville) **99b:17030** 17B67 (17B10, 81R10)

Gebhard, Jens (*with* Schmitz, Norbert) Permutation tests—a revival?! I. Optimum properties. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 75–85. (Arnold Janssen) **99d:62048** 62G10 (62F03)

— (*with* Schmitz, Norbert) Permutation tests—a revival?! II. An efficient algorithm for computing the critical region. (English summary) *Statist. Papers* **39** (1998), *no.* 1, 87–96. (Arnold Janssen) **99d:62049** 62G10

Gebhardt, Jörg (*with* Gil, María Angeles; Kruse, Rudolf) Fuzzy set-theoretic methods in statistics. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 311–347, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 62A99 (04A72, 62C99)

Gebhardt, Rainer Adam-Ries-Rechenbücher in Polen. [Adam Ries arithmetic primers in Poland] *Sudhoffs Arch.* **82** (1998), *no.* 2, 188–202. (Editors) **99m:00004** 00A20 (00A15, 01A40)

Gebizlioglu, O. L. (*with* Baĭramov, I. G.) On the ordering of random vectors in a norm sense. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 1, 77–86. (Summary) **99a:62072** 62G30 (62E20)

Gebru, Habte Some remarks on Krull's conjecture regarding almost integral elements. *Math. J. Ibaraki Univ.* **30** (1998), 15–20. (R. K. Markanda) **99j:13007** 13B22 (13A15, 20M14)

Gebuhrer, Marc-Olivier About some random Fourier series and multipliers theorems on compact commutative hypergroups. (English summary) *Harmonic analysis and hypergroups (Delhi, 1995)*, 33–46, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Walter R. Bloom) **99d:43012** 43A62 (43A22, 43A30)

— Haar measure on locally compact hypergroups. (English summary) *Lie groups and Lie algebras*, 117–131, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00013**) 43A62 (28C10)

— (*with* Szwarc, Ryszard) On symmetry of discrete polynomial hypergroups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1705–1709. (Margit Rösler) **99i:43010** 43A62 (42C05)

Geck, Meinolf (*with* Hiss, Gerhard; Lübeck, Frank; Malle, Gunter; Pfeiffer, Götz) CHEVIE—a system for computing and processing generic character tables. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 175–210. (Summary) **99m:20017** 20C40 (20C33)

— (*with* Bleher, Frauke M.; Kimmerle, Wolfgang) Automorphisms of generic Iwahori-Hecke algebras and integral group rings of finite Coxeter groups. *J. Algebra* **197** (1997), *no.* 2, 615–655. (Hiroshi Naruse) **99f:20010** 20C10 (20B25, 20C15, 20F55)

— Trace functions on Iwahori-Hecke algebras. (English summary) *Knot theory (Warsaw, 1995)*, 87–109, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57018** 57M25

— Kazhdan-Lusztig cells and decomposition numbers. (English summary) *Represent. Theory* **2** (1998), 264–277 (*electronic*). (Andrew P. Mathas) **99e:20015** 20C20 (20G99)

Gécseg, Ferenc (*with* Imreh, Balázs; Pluhár, András) On the existence of finite isomorphically complete systems of automata. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 2, 77–84. (Summary) **99m:68131** 68Q70

— *see also* **Dedicated to Professor Ferenc Gécseg**

Geddes, K. O. (*with* Kavian, Masoud; McLenaghan, R. G.) MapleTensor: a new system for performing indicial and component tensor calculations by computer. *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB, 1995)*, 269–272, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Fernando D. Sasse) **99b:83001** 83–04 (83–08)

Gedeon, I. V. (*with* Galazyuk, V. A.) The method of homogeneous solutions in an axisymmetric problem of statics for a finite cylinder with homogeneous conditions on the ends. (English summary) *J. Math. Sci. (New York)* **86** (1997), *no.* 2, 2637–2641. 73C02

Gedeon, Tomáš (*with* Fiedler, Bernold) A class of convergent neural network dynamics. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 288–294. (Brian D. Sleeman) **99c:92008** 92B20 (34C35, 34D20)

— Structure and dynamics of artificial neural networks. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 217–224, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:92002** 92B20 (34C37, 68T05)

Gediga, Günther (*with* Düntsch, Ivo) Algebraic aspects of attribute dependencies in information systems. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 119–133. (Summary) **99i:68113** 68T30

— (*with* Düntsch, Ivo) Simple data filtering in rough set systems. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 93–106. (Milan Mareš) **99j:68138** 68T30 (04A72)

Gedney, Stephen D. (*with* Roden, J. Alan; Madsen, Niel K.; Mohammadian, Alireza H.; Hall, William F.; Shankar, Vijaya; Rowell, Chris) Explicit time-domain solutions of Maxwell's equations via generalized grids. *Advances in computational electrodynamics*, 163–262, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78002** 78–08 (65M06, 78A45)

— The perfectly matched layer absorbing medium. *Advances in computational electrodynamics*, 263–343, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99h:78004** 78–08 (78A45)

Gedzhadze, I. Yu. (*with* Artyukhin, E. A.) On a method for solving the observation problem for a nonstationary temperature field (the linear case). (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 4, 99–109. 93B07 (93C20)

Gee, Steve *see* **van der Lubbe, Jan C. A., 99c:94032**

van Geel, J. *see* **Van Geel, J.**

Geelen, James F. (*with* Oxley, James; Vertigan, Dirk; Whittle, Geoff) Weak maps and stabilizers of classes of matroids. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 305–341. (Dragan M. Acketa) **99f:05023** 05B35

— (*with* Cunningham, William H.) Integral solutions of linear complementarity problems. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 61–68. (Rainer Burkard) **99b:90134** 90C33 (90C10)

— Maximum rank matrix completion. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 211–217. (Hugo Jan Woerdeman) **99k:15002** 15A03

van Geemen, Bert (*with* van der Kallen, Wilberd; Top, Jaap; Verberkmoes, Alain) Hecke eigenforms in the cohomology of congruence subgroups of SL(3, **Z**). (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 163–174. (Joachim Schwermer) **99a:11059** 11F67 (11F75)

— (*with* de Jong, Aise Johan) On Hitchin's connection. *J. Amer. Math. Soc.* **11** (1998), *no.* 1, 189–228. (Emma Previato) **99c:14015** 14D20 (14H40, 32G13)

Geer, James Exponentially accurate approximations for Dirichlet problems with discontinuous data. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 271–291. (J. W. Neuberger) **99f:65153** 65N12 (42B25, 65D15)

Geers, Thomas L. *see* **IUTAM Symposium: Computational Methods for Unbounded Domains, 99h:65004**

Geetha, J. (*with* Avudainayagam, A.) On the image system of certain line singularities in the vicinity of a circular cylinder. *Mech. Res. Comm.* **25** (1998), *no.* 1, 25–32. (Adrian Carabineanu) **99a:76039** 76D07

Geetha, K. *see* **Geetha, K. V.**

Geetha, K. G. (*with* Ramachandran Nair, V. K.) A class of bivariate distributions with specified conditionals. (English summary) *Far East J. Theor. Stat.* **1** (1997), 63–68. (Summary) **99j:62012** 62E15

Geetha, K. V. The semigroup of singular endomorphisms. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 207–221. (P. M. Higgins) **99j:20070** 20M20

Gefeller, Olaf (*with* Land, Matthias) A game-theoretic approach to partitioning attributable risks in epidemiology. (English summary) *Biometrical J.* **39** (1997), *no.* 7,

777–792. (Summary) **99c:92054** 92D30 (90D40)
— (*with* Land, Matthias) A multiplicative approach to partitioning the risk of disease. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 73–80, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62P10 (92D30)
Geffert, Viliam Bridging across the log(n) space frontier. (English summary) *Inform. and Comput.* **142** (1998), *no.* 2, 127–158. (Marius Zimand) **99e:68050** 68Q15
— (*with* Mereghetti, Carlo; Pighizzini, Giovanni) Sublogarithmic bounds on space and reversals. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 325–340 (*electronic*). (Summary) **99c:68092** 68Q15 (68Q05)
Geffner, Hector (*with* Bonet, Blai) Arguing for decisions: a qualitative model of decision making. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 98–105, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 90C05 (68T99)
Gegelia, Tengiz (*with* Buchukuri, Tengiz) Some dynamic problems of the theory of electroelasticity. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **10** (1997), 1–53. (From the introduction) **99e:73029** 73C02 (35Q72, 73D30, 73R05)
— *see also* **Buchukuri, Tengiz**, **99m:01044**
Gegenberg, J. (*with* Kunstatter, G.; Strobl, Thomas) Statistical mechanical entropy of two-dimensional black holes. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 254–257, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57
— (*with* Kunstatter, G.; Strobl, Thomas) Edge states and entropy of two-dimensional black holes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7651–7665. (Summary) **99c:83052** 83C57
— (*with* Braham, S. P.) Yang-Mills flow and uniformization theorems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2242–2253. (Summary) **99k:58041** 58E15 (53C07)
— (*with* Kunstatter, G.) Geometrodynamics of sine-Gordon solitons. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124010, 11 *pp.* (Summary) **99m:83172** 83E05 (83C57)
Gegout-Petit, A. Approximate filter for the conditional law of a partially observed process in nonlinear filtering. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1423–1447 (*electronic*). (George Yin) **99d:93068** 93E11 (60F99, 60G35)
Gehle, R. W. (*with* Masri, S. F.) Active control of shallow, slack cable using the parametric control of end tension. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 77–94. 93C85 (93C95)
von Gehlen, G. Integrable Z_n-chiral Potts model: the missing rapidity-momentum relation. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 102–109, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20
Gehlen, W. On measures induced by extremal signatures in best real polynomial approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 79–96. (Carlos Benítez) **99a:41041** 41A50 (41A10)
Gehlot, Kuldeep Singh (*with* Banerji, P. K.) Products of Stieltjes transform and fractional integrals on spaces of generalized functions. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 375–384. (Hans-Jürgen Glaeske) **99m:44005** 44A15 (26A33, 46F12)
Gehring, F. W. (*with* Cao, Chun; Martin, G. J.) Lattice constants and a lemma of Zagier. (English summary) *Lipa's legacy* (*New York*, 1995), 107–120, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (C. Maclachlan) **99a:30040** 30F40 (11H06, 20H10, 57S30)
— (*with* Maclachlan, C.; Martin, G. J.) Two-generator arithmetic Kleinian groups. II. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 3, 258–266. (R. Michael Porter) **99j:30050** 30F40 (20H10, 57M25)
— (*with* Iwaniec, Tadeusz) The limit of mappings with finite distortion. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 253–264. (Vasily A. Chernecky) **99m:30041** 30C65 (46E35)
Gehring, Hermann (*with* Bortfeldt, Andreas) Ein Tabu Search-Verfahren für Containerbeladeprobleme mit schwach heterogenem Kistenvorrat. (English and German summaries) [A tabu search algorithm for weakly heterogeneous container loading problems] *OR Spektrum* **20** (1998), *no.* 4, 237–250. 90C27 (90C90)
Gehrke, Mai (*with* Walker, Carol; Walker, Elbert) A mathematical setting for fuzzy logics. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 223–238. (James Franklin) **99e:03023** 03B52
Gehrke, Ralf The higher geometric invariants for groups with sufficient commutativity. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1097–1115. (Gilbert Levitt) **99b:20072** 20F99
Gehrlein, William V. The probability of a Condorcet winner with a small number of voters. (English summary) *Econom. Lett.* **59** (1998), *no.* 3, 317–321. (Summary) **99d:90031** 90A28
— (*with* Lepelley, Dominique) The Condorcet efficiency of approval voting and the probability of electing the Condorcet loser. (English summary) *J. Math. Econom.* **29** (1998), *no.* 3, 271–283. (Summary) **99c:90034** 90A28
— The sensitivity of weight selection on the Condorcet efficiency of weighted scoring rules. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 351–358. (Summary) **99a:90069** 90A28
Gehrmann, Christian (*with* van Dijk, Marten; Smeets, Bernard J. M.) Unconditionally secure group authentication. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 281–296. (Andrea Sgarro) **99k:94032** 94A60 (94B05)
— Multiround unconditionally secure authentication. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 67–86. (Summary) **99i:94044** 94A60
Geib, J-M. (*with* Talbi, E. G.; Hafidi, Z.) A parallel adaptive tabu search approach. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 2003–2019. 90C27 (65Y05)
Geibel, Peter (*with* Wysotzki, Fritz) A logical framework for graph theoretical decision tree learning. (English summary) *Inductive logic programming* (*Prague*, 1997), 173–180, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)
Geidmanis, Dainis (*with* Kaņeps, Jānis; Larfeldt, Tomas) Single-letter languages accepted by alternating and probabilistic pushdown automata. (English summary) *Randomized algorithms* (*Brno*, 1998), 12 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q45 (68Q68)
Geigant, Edith (*with* Ladizhansky, Karina; Mogilner, Alexander) An integrodifferential model for orientational distributions of F-actin in cells. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 787–809 (*electronic*). (Summary) **99j:92005** 92C40 (45K05, 92C15)
Geiger, Dan (*with* Heckerman, David) A characterization of the Dirichlet distribution with application to learning Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 196–207, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68157** 68T05 (68T30)
— (*with* Heckerman, David) Learning Bayesian networks: a unification for discrete and Gaussian domains. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 274–284, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T05 (68T30)
— (*with* Becker, Ann) A sufficiently fast algorithm for finding close to optimal junction trees. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 81–89, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30
— (*with* Heckerman, David; Meek, Christopher) Asymptotic model selection for directed networks with hidden variables. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 283–290, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T05 (68T30)
— (*with* Bar-Yehuda, Reuven; Naor, Joseph; Roth, Ron M.) Approximation algorithms for the feedback vertex set problem with applications to constraint satisfaction and Bayesian inference. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 942–959 (*electronic*). (Summary) **99c:68117** 68Q25 (05C85, 68R10, 68T20)
Geiges, Hansjörg (*with* Thomas, Charles B.) Contact structures on 7-manifolds. *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 53–67, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Rostislav Matveyev) **99e:57039** 57R15 (53C15)
Geĭler, V. A. (*with* Margulis, Viktor Aleksandrovich) Point-perturbation-invariant solutions of the Schrödinger equation with a magnetic field. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 768–773; *translation in Math. Notes* **60** (1996), *no.* 5-6, 575–580 (1997). (Mihai Pascu) **99d:35033** 35J10 (47N50)
— (*with* Popov, I. Yu.; Popova, S. L.) Transmission coefficient for ballistic transport through quantum resonator. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 531–538. (Vitor R. Vieira) **99k:82068** 82C70 (81U99)
— (*with* Chudaev, I. V.) The spectrum of a quasi-two-dimensional system in a parallel magnetic field. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 2, 214–222; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 2, 210–218. (Summary) **99e:81040** 81Q05 (34L40)
— (*with* Pavlov, Boris S.; Popov, I. Yu.) One-particle spectral problem for superlattice with a constant magnetic field. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 79–124. (Mihai Pascu) **99e:81046** 81Q10 (47B25, 47N50)
— (*with* Popov, I. Yu.) Solvable model of a double quantum electron layer in a magnetic field. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 697–705. (Summary) **99d:81185** 81V70 (47N50)
— (*with* Chudaev, I. V.) Schrödinger operators with moving point perturbations and related solvable models of quantum mechanical systems. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 37–55. (Tuncay Aktosun) **99c:81039** 81Q15 (34L40, 35J10, 47E05, 81Q10)
Geirsson, Heimir Justification and relative apriority. (English summary) *Ratio* (*N.S.*) **12** (1999), *no.* 2, 148–161. 03A05
Geisel, T. (*with* Ernst, U.; Pawelzik, K.) Delay-induced multistable synchronization of biological oscillators. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part B*, 2150–2162. (Boris G. Zaslavskiĭ) **99b:92008** 92C05
Geiselmann, Willi (*with* Gollmann, Dieter) Correlation attacks on cascades of clock controlled shift registers. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 346–359, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94032** 94A60
Geisler, Reinhard (*with* Ohl, Claus-Dieter; Kurz, Thomas; Lindau, Olgert; Lauterborn, Werner) Bubble dynamics, shock waves and sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 269–294. (*see* **99k:76002**) 76D99 (76L05, 76Q05, 78A99)
Geiß, Christof (*with* Dräxler, Peter) A note on the $\mathbf{D}_n$-pattern. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 145–152, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Simson) **99i:16030** 16G20 (16G60)
— On components of type $\mathbf{Z}A_\infty^\infty$ for string algebras. *Comm. Algebra* **26** (1998), *no.* 3, 749–758. (Sverre O. Smalø) **99a:16008** 16G20 (16G60, 16G70)
Geiss, Stefan Operators on martingales, Φ-summing operators, and the contraction principle. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 149–171 (19*N*). (Pawel Hitczenko) **99i:60039** 60E15 (47B10, 47N30, 60B11)
— A counterexample concerning the relation between decoupling constants and UMD-constants. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1355–1375. (Pawel Hitczenko) **99f:60011** 60B11 (46B20, 60G42)
Geisser, Seymour (*with* Papandonatos, George D.) Laplace approximations for censored linear regression models. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 337–358. (Richard A. Johnson) **99b:62019** 62E17 (62F11, 62F15, 62N05)
— Comparing two tests used for diagnostic or screening purposes. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 113–119. (Summary) **99f:62042** 62F15
Geisser, Thomas On K_3 of Witt vectors of length two over finite fields. (English summary) *K-Theory* **12** (1997), *no.* 3, 193–226. (V. P. Snaith) **99a:19001** 19D50 (13K05, 19D55)
— Tate's conjecture, algebraic cycles and rational K-theory in characteristic p. (English summary) *K-Theory* **13** (1998), *no.* 2, 109–122. (Dipendra Prasad) **99c:19003** 19E08 (11G09, 14C35, 19E15)
Geißmann, Barbara *see* **Research contributions of the Natural Sciences Section**, **99k:00025**
Geist, Bruce (*with* Brennan, J. J.) Analysis of iterated modular exponentiation: the orbits of $x^a \bmod N$. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 229–245. (Robert F. Tichy) **99b:11086** 11K45 (65C10, 68P25, 94A60)
Gelt, V. È. The generalized Lorentz theorem on Fourier series with monotone coefficients and its converse. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 15–17; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 12–14. (Tatjana Ostrogorski) **99h:42011** 42A32 (41A25)

— On functions that are the second modulus of continuity. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 38–41. (G. S. Smirnov) **99j:41011** 41A10 (41A30)

Geitner, A. (*with* Hanauske, M.; Hitzer, E.) New Higgs field ansatz for effective gravity in flat space time. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 971–980. (Summary) **99k:83024** 83C25 (81T13)

Gekeler, Ernst-Ulrich (*with* Snyder, Brian A.) Drinfeld modules over finite fields. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 66–87, *World Sci. Publishing, River Edge, NJ*, 1997. (Bruno Anglès) **99i:11044** 11G09 (11G20)

— Jacquet-Langlands theory over K and relations with elliptic curves. *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 224–257, *World Sci. Publishing, River Edge, NJ*, 1997. (Yoshinori Hamahata) **99e:11078** 11G18 (11G09)

— Highly ramified pencils of elliptic curves in characteristic 2. *Duke Math. J.* **89** (1997), *no.* 1, 95–107. (M. Reversat (Zbl 886.11031)) **99d:11063** 11G07 (11G05)

— Local and global ramification properties of elliptic curves in characteristics two and three. *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 49–64, *Springer, Berlin*, 1999. (Joseph H. Silverman) **99k:11081** 11G07 (14G20, 14H25)

— Some new results on modular forms for $\mathrm{GL}(2, \mathbf{F}_q[T])$. *Recent progress in algebra* (*Taejon/Seoul*, 1997), 111–141, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (Yoshinori Hamahata) **99j:11067** 11G09 (11F11, 11R58)

— (*with* Leitl, Rita; Wack, Bodo) Zeta functions of a class of elliptic curves over a rational function field of characteristic two. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 823–833. (John W. Jones) **99i:11049** 11G40 (11G05, 14G10)

— *see also* **Drinfeld modules, modular schemes and applications**, **99b:11002**

Gekhtman, M. M. *see* **Gekhtman, Moiseĭ Meerovich**

Gekhtman, Michael I. (*with* Shapiro, Mikhail) Completeness of real Toda flows and totally positive matrices. *Math. Z.* **226** (1997), *no.* 1, 51–66. (Giulio Soliani) **99h:58085** 58F07 (15A99, 35Q58, 39A10)

— (*with* Bloch, Anthony M.) Hamiltonian and gradient structures in the Toda flows. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 230–248. (Marco Pedroni) **99i:58070** 58F07 (58F05)

— (*with* Shapiro, Mikhail) Noncommutative and commutative integrability of generic Toda flows in simple Lie algebras. *Comm. Pure Appl. Math.* **52** (1999), *no.* 1, 53–84. (Stephanie F. Singer) **99i:58074** 58F07 (58F05)

Gekhtman, Moiseĭ Meerovich (*with* Aĭgunov, G. A.) On sharp estimates for normalized eigenfunctions of the Sturm-Liouville operator on a finite interval with a continuous positive weight function. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 4, 3–10, 101. (Summary) **99e:34122** 34L20

Gelaki, Shlomo (*with* Etingof, Pavel) On finite-dimensional semisimple and cosemisimple Hopf algebras in positive characteristic. *Internat. Math. Res. Notices* **1998**, *no.* 16, 851–864. (Akira Masuoka) **99i:16068** 16W30

— Addendum: "On pointed ribbon Hopf algebras" [J. Algebra **181** (1996), no. 3, 760–786; MR 97d:16044]. *J. Algebra* **204** (1998), *no.* 1, 347–352. (From the text) **99c:16038** 16W30 (57M25)

— Pointed Hopf algebras and Kaplansky's 10th conjecture. *J. Algebra* **209** (1998), *no.* 2, 635–657. (Stefaan Caenepeel) **99j:16024** 16W30

— (*with* Etingof, Pavel) Semisimple Hopf algebras of dimension pq are trivial. *J. Algebra* **210** (1998), *no.* 2, 664–669. (Akira Masuoka) **99k:16079** 16W30

— (*with* Westreich, Sara) On the quasitriangularity of $U_q(\mathrm{sl}_n)'$. *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 105–125. (Rita Fioresi) **99e:16051** 16W30

— (*with* Etingof, Pavel) Some properties of finite-dimensional semisimple Hopf algebras. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 191–197. (E. J. Taft) **99e:16050** 16W30

— (*with* Etingof, Pavel) A method of construction of finite-dimensional triangular semisimple Hopf algebras. *Math. Res. Lett.* **5** (1998), *no.* 4, 551–561. (E. J. Taft) **99i:16069** 16W30

Gelashvili, D. M. On the symmetry principle in the generalized theory of thermomoment elasticity. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 45–50. 73C02 (73B30)

Gelashvili, Koba (*with* Gogodze, Ioseb) Representation of C_0-semigroups of operators by a chronological integral. (English and Georgian summaries) Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 47–66. (Alexander Isaakovich Shtern) **99e:47046** 47D06 (28B10)

— Convergence criterion for $C^\infty(\mathbf{R}^n)$ in the topology of compact convergence of all derivatives. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 129–130. 46E10 (26B05)

Gelashvili, T. M. Coset lattices and their geometry. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 184–188 (1996). 06A23 (16B99)

— (*with* Lashkhi, A. A.) The fundamental theorem for affine geometry in Lie algebras. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 189–193 (1996). 17B30

Gelbart, Stephen Three lectures on the modularity of $\overline{\rho}_{E,3}$ and the Langlands reciprocity conjecture. (English summary) *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 155–207, *Springer, New York*, 1997. (*see* **99k:11004**) 11R39 (11F80)

Gelbrich, Götz Fractal Penrose tiles. II. Tiles with fractal boundary as duals of Penrose triangles. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 108–116. (Marjorie Senechal) **99b:52050** 52C20 (28A80)

Gelca, Răzvan The quantum invariant of the complement of a regular neighborhood of a link. (English summary) *Topology Appl.* **81** (1997), *no.* 2, 147–157. (Rostislav Matveyev) **99e:57011** 57M25

Gelfand, Alan E. (*with* Vlachos, Pantelis K.) Nonparametric Bayesian group sequential design. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 115–132, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99b:62117** 62L05 (62G05)

— (*with* Ghosh, Sujit K.) Model choice: a minimum posterior predictive loss approach. (English summary) *Biometrika* **85** (1998), *no.* 1, 1–11. (Summary) **99d:62021** 62F15

Gel'fand, Izrail' Moiseevich (*with* Graev, Mark I.; Postnikov, A. E.) Combinatorics of hypergeometric functions associated with positive roots. (English summary) *The Arnold-Gelfand mathematical seminars*, 205–221, *Birkhäuser Boston, Boston, MA*, 1997. (A. Klimyk (Zbl 876.33011)) **99k:33046** 33C80 (32G34)

— (*with* Borovik, A. V.; White, Neil) Coxeter matroid polytopes. (English summary) *Ann. Comb.* **1** (1997), *no.* 2, 123–134. (Summary) **99d:05016** 05B35 (05E15, 52B40)

— (*with* Graev, Mark I.) GG-functions and their connection with general hypergeometric functions. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 3–48; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 639–684. (Alexander A. Kalyuzhnyĭ) **99b:33031** 33C70

— (*with* Retakh, Vladimir; Shubin, Mikhail) Fedosov manifolds. *Adv. Math.* **136** (1998), *no.* 1, 104–140. (Markus J. Pflaum) **99d:53023** 53C05 (53C15, 58F06)

— (*with* Alekseevskaya, T. V.) Incidence matrices, geometrical bases, combinatorial prebases and matroids. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 23–44. (Charles A. Semple) **99m:05043** 05B35

— (*with* Etingof, Pavel; Retakh, Vladimir) Nonabelian integrable systems, quasideterminants, and Marchenko lemma. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 1–12. (Nicolás Andruskiewitsch) **99h:58083** 58F07 (16W25)

— *see also* **Kantorovich, L. V.**, **99f:01030**

Gelfond, Michael (*with* Gabaldon, Alfredo) From functional specifications to logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 355–369, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17

— (*with* Son, Tran Cao) Reasoning with prioritized defaults. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 164–223, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99k:68179** 68T27 (68N17)

— (*with* Baral, Chitta; Kosheleva, Olga M.) Expanding queries to incomplete databases by interpolating general logic programs. (English summary) *J. Logic Programming* **35** (1998), *no.* 3, 195–230. (Summary) **99b:68028** 68N17 (68P15)

— LP-functions as a means for the representation of knowledge. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 2, 10–26; *translation in Program. Comput. Software* **24** (1998), *no.* 2, 52–62. (Summary) **99i:68019** 68N17 (68T30)

Gelig, Arkadii Kh. (*with* Churilov, A. N.) On stability in the large of systems with impulse action. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 748–753, 861; *translation in Differential Equations* **33** (1997), *no.* 6, 752–756 (1998). (O. S. Chernikova) **99f:34012** 34A37 (34D99)

— (*with* Churilov, A. N.) ★ Stability and oscillations of nonlinear pulse-modulated systems. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xvi*+362 *pp. ISBN* 0-8176-3987-X (A. A. Martynyuk) **99k:34180** 34K35 (34C15, 34C25, 34D99, 34K20, 93D05)

Gélinas, J. (*with* Bensebah, A.; Dubeau, François) Projection methods and approximations for ordinary differential equations. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 78–90. (Reinhard Scholz) **99m:65149** 65L70 (34A45)

Gélinas, Sylvie (*with* Ioachim, Irina; Soumis, François; Desrosiers, Jacques) A dynamic programming algorithm for the shortest path problem with time windows and linear node costs. (English summary) *Networks* **31** (1998), *no.* 3, 193–204. (Summary) **99b:90154** 90C39 (93B35)

Geller, Susan C. (*with* Cortiñas, Guillermo; Weibel, Charles A.) The Artinian Berger conjecture. *Math. Z.* **228** (1998), *no.* 3, 569–588. (Reinhold Hübl) **99g:13035** 13N05 (13D03, 14F10)

Geller, William (*with* Pollicott, Mark) An entropy for $\mathbf{Z}^2$-actions with finite entropy generators. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 209–220. (Oliver Knill) **99h:58105** 58F11 (28D20)

— (*with* Zhang, Zhenhua) Maximal entropy permutations of even size. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3709–3713. (Louis Block) **99b:58078** 58F03 (54H20)

— (*with* Misiurewicz, Michał) Rotation and entropy. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2927–2948. (P. Mendes) **99j:58125** 58F11 (54H20, 58F03)

Gell-Mann, Murray (*with* Hartle, James B.) Strong decoherence. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 3–35, *Internat. Press, Cambridge, MA*, 1997. (S. Gudder) **99a:81009** 81P05

Gelman, Andrew (*with* Brooks, Stephen P.) General methods for monitoring convergence of iterative simulations. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 4, 434–455. (Summary) **99k:62055** 62F15

Gel'man, B. D. Topological properties of the set of fixed points of multivalued mappings. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 12, 33–56; *translation in Sb. Math.* **188** (1997), *no.* 12, 1761–1782. (L. Górniewicz) **99a:54028** 54H25 (47H04, 47H10, 54C60)

— (*with* Augustynowicz, Antoni; Dzedzej, Z.) The solution set to BVP for some functional-differential inclusions. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 3, 257–263. (Tzanko D. Donchev) **99m:34152** 34K10 (34A60)

Gelsema, Tjalling (*with* Engelfriet, Joost) Axioms for generalized graphs, illustrated by a Cantor-Bernstein proposition. (English summary) *Acta Inform.* **35** (1998), *no.* 12, 1075–1096. (Summary) **99m:68150** 68R10 (05C60)

Geman, Hélyette De Bachelier à Black-Scholes-Merton. [From Bachelier to Black-Scholes-Merton] *Gaz. Math. No.* 75 (1998), 17–30. (Lorenzo Peccati) **99d:01023** 01A60 (90A09)

Geman, Stuart (*with* Chi, Zhiyi) On the consistency of minimum complexity nonparametric estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1968–1973. (Summary) **99k:62072** 62G05 (62G20)

Gemelli, Gianluca Dynamical effects of gravitational shock waves. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 9, 1163–1180. (Patrick Dolan) **99d:83038** 83C35

— Gravitational discontinuity waves in general relativity. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 163–166. 83C35 (53C80)

— Superenergy of gravitational waves in the exact theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 1037–1053. (J. B. Griffiths) **99d:83040** 83C40 (83C35)

Gemes, Ken Hypothetico-deductivism: the current state of play; the criterion of empirical significance: endgame. *Erkenntnis* **49** (1998), *no.* 1, 1–20. 03B48

Gemignani, Luca Fast and stable computation of the barycentric representation of rational interpolants. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 371–388 (1998). (Luis Verde-Star) **99m:65018** 65D05 (15A23, 65F30)

— (*with* Bini, Dario Andrea) Fast fraction-free triangularization of Bezoutians with applications to sub-resultant chain computation. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 19–39. (Wen Yu Sun) **99m:65053** 65F05 (65F30)

— Computing a factor of a polynomial by means of multishift LR algorithms. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 161–181 (*electronic*). (Ljiljana Petković) **99d:65155** 65H05 (65F15)

Gemis, M. (*with* Paredaens, Jan; Peelman, P.; Van den Bussche, Jan) Expressiveness and complexity of generic graph machines. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 231–249. (Marc Gyssens) **99m:68051** 68Q05 (68P15, 68R10)

van Gemmeren, Martin Tightness of manifolds with H-spherical ends. (English summary) *Compositio Math.* **112** (1998), *no.* 1, 17–32. (Thomas E. Cecil) **99m:53113** 53C42 (57R70)

Gemmi, M. (*with* Todesco, E.; Giovannozzi, Massimo) Evaluation of nonlinear resonances in 4D symplectic mappings. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 485–496. (Summary) **99b:70017** 70H05 (34C20, 70-02, 70-08, 70K30)

Gen, Mitsuo (*with* Li, Yinzhen; Ida, Kenichi) Improved genetic algorithm for solving multiobjective solid transportation problem with fuzzy numbers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 2, 197–211 (1998). (Summary) **99a:90089** 90B06 (90C70)

Gen, Uchida (*with* Shiromizu, Tetsuya) Timelike infinity and asymptotic symmetry. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6573–6592. (Richard Hansen) **99k:83028** 83C30

el Genaidy, M. M. *see* **El Genaidy, M. M.**

Gencer, C. (*with* Rybakov, V. V.; Terziler, M.) Description of self-admissible quasi-characterizing inference rules. (English summary) *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 4, 164–171. 03B55 (03B45)

el-Gendi, B. A. *see* **El-Gendi, B. A.**

Gendreau, Michel (*with* Laporte, Gilbert; Semet, Frédéric) The covering tour problem. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 568–576. (Rainer Burkard) **99j:90104** 90C35 (90C10, 90C27)

— (*with* Laporte, Gilbert; Hertz, Alain) An approximation algorithm for the traveling salesman problem with backhauls. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 639–641. (Summary) **99h:90083** 90C27 (90C35)

— (*with* Laporte, Gilbert; Semet, Frédéric) A branch-and-cut algorithm for the undirected selective traveling salesman problem. (English summary) *Networks* **32** (1998), *no.* 4, 263–273. (P. F. Körner) **99j:90064** 90C27 (90B10, 90C35)

Gendron, Bernard (*with* Crainic, Teodor Gabriel) A parallel branch-and-bound algorithm for multicommodity location with balancing requirements. (English summary) *Comput. Oper. Res.* **24** (1997), *no.* 9, 829–847. (Horst W. Hamacher) **99d:90066** 90B80 (90B10, 90C09)

Genebashvili, I. Z. (*with* Gogatishvili, A. S.; Kokilashvili, Vakhtang) Criteria for two-weight inequalities for integral transforms with a positive kernel and for maximal functions. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 448–451. (Vladimir B. Vasilyev) **99c:42030** 42B20 (42B25, 47G10)

el Geneidy, M. *see* **El Geneidy, M.**

Generalov, A. I. (*with* Zheludev, M. V.) Compatible decompositions of modules over Dedekind prime rings. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 47–62; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 695–708. (Juliusz Brzeziński) **99b:13014** 13C10 (13F05, 16D40)

Genest, C. (*with* Capéraà, P.; Fougères, Anne-Laure) A nonparametric estimation procedure for bivariate extreme value copulas. (English summary) *Biometrika* **84** (1997), *no.* 3, 567–577. (Summary) **99c:62078** 62G05

— (*with* M'lan, C.-É.) Deriving priorities from the Bradley-Terry model. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 87–102. (Summary) **99m:90027** 90A09 (90A06)

Genet, Thomas Decidable approximations of sets of descendants and sets of normal forms. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 151–165, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q45

Genevaux, J.-M. (*with* Brancher, J. P.; Chai, X.-J.) Gravity effects on the coupled frequencies of a 2D fluid-structure problem with a free surface. (English summary) *J. Sound Vibration* **215** (1998), *no.* 2, 331–342. (Summary) **99c:73059** 73K70 (73K12, 76-05, 76B99)

Geng, Di (*with* Xue, Ya Fen) Radial symmetry of positive solutions to nonlinear basic equations containing the biharmonic operator. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 3, 271–275. (Summary) **99h:35056** 35J60 (35B05)

Geng, Gangyong (*with* Li, Ruisheng) Weighted adaptive minimum variance controller with unknown input coefficient. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1043–1066. 93C40 (93E35)

Geng, Wei (*with* Hu, Jian Wei) The partial upwind finite element method and the discrete maximum principle for solving the Burgers equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 365–374. (Summary) **99a:65125** 65M60

Geng, Xian-Guo (*with* Wu, Yong-Tang) A new hierarchy of integrable differential-difference equations and Darboux transformation. (English summary) *J. Phys. A* **31** (1998), *no.* 38, *L*677–*L*684. (Summary) **99e:35230** 35Q99 (35R10, 58F37)

— (*with* Hu, Xing-Biao; Wu, Yong-Tang; Zhu, Si-Ming) Some new results on the triple-humped soliton equation: Bäcklund transformation, superposition principle and new explicit solutions. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8859–8868. 35Q51 (35C99, 58F37)

— (*with* Wu, Yong-Tang; Cao, Cewen) Quasi-periodic solutions of the modified Kadomtsev-Petviashvili equation. (English summary) *J. Phys. A* **32** (1999), *no.* 20, 3733–3742. 35Q53 (35B15, 58F39)

Geng, Xiang Yi (*with* Jia, Bao Guo) The Hausdorff dimension of chaos sets of a finite sub-shift system. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 2, 5–7. 58F13 (28A78, 28D99)

Geng, Zhi Yong (*with* Wang, En Ping) Robust stabilization for a family of multilinear polytopic plants. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 382–386. 93D21

— (*with* Wang, En Ping) D-stability testing for the interval matrix family. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 218–226. (Jacek Kabziński) **99i:93047** 93D09

Génieys, Stéphane Energy-transport model for a nondegenerate semiconductor: convergence of the Hilbert expansion in the linearized case. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 4, 279–308. (Carlo Cercignani) **99j:82058** 82C31 (35Q99, 47N55, 78A55, 82C40)

— (*with* Degond, Pierre; Jüngel, Ansgar) A steady-state system in non-equilibrium thermodynamics including thermal and electrical effects. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1399–1413. (G. Albinus) **99i:35163** 35Q99 (76R99, 78A99, 80A10)

Genik, Lynne (*with* van den Driessche, P.) A model for diseases without immunity in a variable size population. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 1, 5–16. (Summary) **99d:92039** 92D30

— (*with* van den Driessche, P.) An epidemic model with recruitment-death demographics and discrete delays. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 237–249, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:92037** 92D30 (34K20)

Genna, Francesco (*with* Carini, Angelo) Some variational formulations for continuum nonlinear dynamics. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 7, 1253–1277. (Petr Procházka) **99h:73091** 73V25 (49J10, 73E50)

di Gennaro, Fernando *see* **Di Gennaro, Fernando**

di Gennaro, S. *see* **Di Gennaro, S.**

di Gennaro, Vincenzo *see* **Di Gennaro, Vincenzo**

de Gennes, Pierre-Gilles (*with* Boutreux, Thomas; Raphaël, Elie) Surface flows of granular materials: a modified picture for thick avalanches. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4692–4700. (Summary) **99h:73035** 73E99 (73N20, 76A99, 86A99)

Genon-Catalot, Valentine (*with* Picard, Dominique) ★ Éléments de statistique asymptotique. (French. French summary) [Elements of asymptotic statistics] Mathématiques & Applications [Mathematics & Applications], 11. *Springer-Verlag, Paris*, 1993. x+131 *pp. ISBN* 2-287-00409-2 (Philippe Barbe) **99i:62029** 62E20 (62F05, 62F12)

Genova, K. (*with* Vasil'ev, Vasil S.; Kirilov, L.) A method for solving a class of multiple-criteria analysis problems. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 245–254. (*see* **99k:49002**) 90C29

Genova, S. N. (*with* Belolipetskii, V. M.) Numerical modelling of heat and pollutants transfer in river flows. (English summary) *Russian J. Numer. Anal. Math. Modelling* **14** (1999), *no.* 1, 1–13. (Summary) **99k:86001** 86A05 (76M25, 76R99, 86-08)

Gens, G. V. (*with* Levner, E. V.) An approximate binary search algorithm for the multiple-choice knapsack problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 261–265. (Summary) **99e:68068** 68Q25 (68P10)

Gensane, Th. Rational interpolation of the unit circle. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 127–134, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:41021** 41A20 (65D15)

Gensemer, Susan H. (*with* Hong, Lu; Kelly, Jerry S.) Migration disequilibrium and specific division rules. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 201–209. (Summary) **99a:90078** 90A53

Gensler, Marek (*with* Jung-Palczewska, Elżbieta) Scotism in Poland. (Polish. English summary) *Acta Univ. Lodz. Folia Philos. No.* 12 (1998), 17–27. 03-03 (01A35, 01A40, 03A05)

Gent, Ian P. (*with* Walsh, Toby) Analysis of heuristics for number partitioning. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 430–451. (Summary) **99d:68105** 68Q25 (68T20)

Gent, Peter R. (*with* McWilliams, James C.; Yavneh, Irad; Cullen, Michael J. P.) The breakdown of large-scale flows in rotating, stratified fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3178–3184. (Summary) **99h:86012** 86A10 (73V05, 76U05)

márquez Gentil, Antonio *see* **Márquez Gentil, Antonio**

Gentile, G. *see* **Gentile, Guido**

Gentile, Giovanni A class of 3-dimensional manifolds with bounded first eigenvalue on 1-forms. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2755–2758. (Friedbert Prüfer) **99m:58194** 58G25

Gentile, Guido (*with* Benfatto, G.; Mastropietro, Vieri) Electrons in a lattice with an incommensurate potential. (English summary) *J. Statist. Phys.* **89** (1997), *no.* 3-4, 655–708. (Summary) **99g:82025** 82B28 (82B10)

— (*with* Bonetto, Federico; Gallavotti, Giovanni M.; Mastropietro, Vieri) Lindstedt series, ultraviolet divergences and Moser's theorem. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 545–593. (Luigi Chierchia) **99i:58132** 58F27 (34C30, 70H05)

— (*with* Bonetto, Federico; Gallavotti, Giovanni M.; Mastropietro, Vieri) Quasi-linear flows on tori: regularity of their linearization. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 707–736. (O. Christov) **99e:58148** 58F27 (34C27, 58F30, 70H05)

— (*with* Benfatto, G.; Mastropietro, Vieri) Peierls instability for the Holstein model with rational density. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1071–1113. (Summary) **99h:82074** 82D20 (82B05)

Gentili, G. *see* **Gentili, Graziano**

Gentili, Giorgio (*with* Fabrizio, Mauro) On thermodynamics of some phase change models. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 43–62 (1998). (Summary) **99d:80006** 80A22 (80A10)

— (*with* Fabrizio, Mauro; Reynolds, D. W.) On rigid linear heat conductors with memory. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 7-8, 765–782. (Renuka Datta) **99i:80006** 80A20 (80A97)

Gentili, Graziano *see* **Quaternionic structures in mathematics and physics, 99d:53002**

Gentilini, Paolo (*with* Forcheri, Paola; Molfino, Maria Teresa) Informational logic as a tool for automated reasoning. (English summary) Logics for artificial intelligence (Évora, 1996). *J. Automat. Reason.* **20** (1998), *no.* 1-2, 167–190. (Editors) **99h:68172** 68T27 (03B35, 68T15)

Gentle, Adrian P. (*with* Miller, Warner A.) A fully $(3+1)$-dimensional Regge calculus model of the Kasner cosmology. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 389–405. (José A. Zapata) **99a:83026** 83C27 (83–08)

Gentle, James E. ★ Numerical linear algebra for applications in statistics. (English summary) Statistics and Computing. *Springer-Verlag, New York*, 1998. *xiv*+221 *pp. ISBN* 0-387-98542-5 (C. Ilioi) **99g:65053** 65F30 (62–04, 65U05)

— ★ Random number generation and Monte Carlo methods. (English summary) Statistics and Computing. *Springer-Verlag, New York*, 1998. *xiv*+247 *pp. ISBN* 0-387-98522-0 (Henri Faure) **99j:65009** 65C10 (11K45, 65C05, 68U20)

Genton, Marc G. Variogram fitting by generalized least squares using an explicit formula for the covariance structure. (English summary) *Math. Geol.* **30** (1998), *no.* 4, 323–345. (Summary) **99c:86007** 86A32

— Spatial breakdown point of variogram estimators. (English summary) *Math. Geol.* **30** (1998), *no.* 7, 853–871. (Summary) **99e:86012** 86A32

— Asymptotic variance of M-estimators for dependent Gaussian random variables. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 255–261. (Summary) **99b:62043** 62F35

Genyuk, Julia A typical measure typically has no local dimension. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 525–537. (Norbert Patzschke) **99g:28009** 28A75 (28A80)

Genz, Alan Stochastic methods for multiple integrals over unbounded regions. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 287–298. (Summary) **99d:65014** 65C05 (65D30)

— (*with* Monahan, John) Stochastic integration rules for infinite regions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 426–439 (*electronic*). (Summary) **99a:65014** 65C05 (65D30)

Geoghegan, Ross (*with* Lagarias, Jeffrey C.; Melville, Robert C.) Threading homotopies and dc operating points of nonlinear circuits. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 159–178 (*electronic*). (T. Y. Li) **99j:65098** 65H20 (94C05)

Georg, Kurt (*with* Allgower, Eugene L.) Numerical exploitation of symmetry in integral equations. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 1–20. (Javad Abdalkhani) **99m:65243** 65R20 (45L05, 65F30)

— (*with* Allgower, Eugene L.; Miranda, Rick; Tausch, Johannes) Numerical exploitation of equivariance. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 12, 795–806. (Summary) **99h:65226** 65T20 (47H15, 58E40)

Georgakis, Constantine The convergence of the Fourier integral of a unimodal distribution. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3239–3241. (Summary) **99a:42003** 42A38 (60E10)

Georgalas, B. C. (*with* Diamandis, G. A.; Mavromatos, Nick E.; Ellis, Jonathan Richard; Nanopoulos, Dimitri V.; Papantonopoulos, E.) Irreversible time flow in a two-dimensional dilaton black hole with matter. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4265–4279. (Summary) **99d:83046** 83C45

— (*with* Diamandis, G. A.; Mavromatos, Nick E.) $N=1$ supersymmetric spin-charge separation in effective gauge theories of planar magnetic superconductors. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 387–404. 82D55

Georgatos, Konstantinos *see* **Festschrift: Parikh, Rohit J., 99i:03003**

George, Alan On finding and analyzing the structure of the Cholesky factor. (English summary) *Algorithms for large scale linear algebraic systems* (*Gran Canaria*, 1996), 73–105, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 508, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jin Xi Zhao) **99d:65140** 65F50 (65F05, 65F30)

— (*with* Chu, Eleanor) FFT algorithms and their adaptation to parallel processing. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 95–124. (Summary) **99g:65129** 65T20

— (*with* Ikramov, Khakim D.) Common invariant subspaces of two matrices. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 171–179. (John P. Daughtry) **99k:15014** 15A18

George, John C. (*with* Sanders, Robin Sue) Basic results concerning the automorphism group of the tensor product of two graphs. (English summary) *Util. Math.* **51** (1997), 55–63. (Peter Rowlinson) **99d:05041** 05C25 (20B25)

George, Kochurani (*with* Mohanty, R. K.; Jain, Mahinder Kumar) Fourth-order approximations at first time level, linear stability analysis and the numerical solution of multidimensional second-order nonlinear hyperbolic equations in polar coordinates. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 1, 1–12. (Guan Quan Zhang) **99f:65129** 65M06 (65M12)

George, Paul-Louis (*with* Frey, Pascal J.; Borouchaki, Houman) 3D Delaunay mesh generation coupled with an advancing-front approach. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 115–131. (Summary) **99b:65162** 65N50 (65M50)

George, Santhosh (*with* Nair, M. Thamban) Error bounds and parameter choice strategies for simplified regularization in Hilbert scales. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 2, 231–242. (Markus Hegland) **99b:65075** 65J20 (47A50, 65J10)

— (*with* Nair, M. Thamban) On a generalized Arcangeli's method for Tikhonov regularization with inexact data. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 773–787. (V. V. Vasin) **99g:65071** 65J20

George, Thomas F. (*with* Yeon, Kyu Hwang; Walls, Dan F.; Um, Chung In; Pandey, Lakshmi N.) Quantum correspondence for linear canonical transformations on general Hamiltonian systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1765–1774. (Summary) **99e:81123** 81S30 (81S40)

Georgeff, Michael P. (*with* Rao, Anand S.) Decision procedures for BDI logics. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 293–343. (Petr Jirků) **99h:03007** 03B45 (03B25, 03B35, 68T27)

Georgelin, Y. (*with* Madore, J.; Masson, T.; Mourad, J.) On the noncommutative Riemannian geometry of $GL_q(n)$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3263–3277. (Axel Schüler) **99d:58025** 58B30 (81R50)

Georgeot, B. (*with* Prange, R. E.) Fredholm solution of quantum chaos. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 429–444, *Internat. Press, Cambridge, MA*, 1997. (Jens Marklof) **99a:81044** 81Q50

— (*with* Bogomol'nyĭ, E. B.; Giannoni, M.-J.; Schmit, C.) Arithmetical chaos. (English summary) *Phys. Rep.* **291** (1997), *no.* 5-6, 219–324. (Jens Bolte) **99c:11062** 11F72 (11F25, 81Q50)

cioczek-Georges, Renata *see* **Cioczek-Georges, Renata**

Georgescu, A. *see* **Vasilescu, Anca**

Georgescu, Adelina 90th anniversary of the birth of Nicolae Ciorănescu (1903–1957). (Romanian) *Stud. Cerc. Mat.* **45** (1993), *no.* 5, 377–382. 01A70

— (*with* Vamoş, C.; Suciu, N.) Balance equations for a finite number of particles. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 115–127. (Carlo Cercignani) **99m:82037** 82C31 (76P05)

— (*with* Palese, Lidia) Stability spectrum estimates for confined fluids. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 1-2, 37–51. (Mariarosaria Padula) **99i:76064** 76E99 (35Q30, 76D05)

— (*with* Gavrilesu, Mihai; Palese, Lidia) Neutral thermal hydrodynamic and hydromagnetic stability hypersurfaces for a micropolar fluid layer. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 575–582. (Nicolay A. Britov) **99f:76056** 76E25 (76A05)

Georgescu, George (*with* Leuştean, Ioana) Probabilities on Łukasiewicz-Moisil algebras. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 201–215. (Summary) **99g:03066** 03G20

Georgescu, Gianina The generative power of small grammar systems. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 152–165, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50

— The syntactic complexity of internal contextual grammars and languages. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 17–28, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68098** 68S05 (03D05, 03D35, 68Q45)

Georgescu, Horia (*with* Popescu, Ileana) Parallel algorithms for simulating arcsin random variables. (English summary) *Found. Comput. Decision Sci.* **23** (1998), *no.* 2, 109–117. 65U05 (65Y05)

Georgiadis, H. G. (*with* Vardoulakis, I.) SH surface waves in a homogeneous gradient-elastic half-space with surface energy. (English summary) *J. Elasticity* **47** (1997), *no.* 2, 147–165. (Summary) **99m:73027** 73D20 (73C99)

— (*with* Vardoulakis, I.) Anti-plane shear Lamb's problem treated by gradient elasticity with surface energy. (English summary) *Wave Motion* **28** (1998), *no.* 4, 353–366. (Summary) **99g:73040** 73D20 (73D25)

Georgiev, L. S. (*with* Todorov, Ivan T.) Rational conformal field theory extensions of $W_{1+\infty}$ in terms of bilocal fields. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5762–5771. (Stanislav Z. Pakuliak) **99j:81165** 81T40 (17B68, 81R10)

Georgiev, Lubomir P. (*with* Angelov, Vasil G.) An extension of Kirk-Schöneberg theorem to uniform spaces. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 89–96. (S. A. Naimpally) **99g:54021** 54E15 (47H09)

Georgiev, Svetlin Georgiev (*with* Tsvetkov, Dimiter Petkov) A time-dependent biochemical system. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 115–122. (Summary) **99f:92007** 92C45 (34C99, 34D99, 92C40, 92E20)

Georgiev, Vladimir (*with* Lindblad, Hans; Sogge, Christopher D.) Weighted Strichartz estimates and global existence for semilinear wave equations. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1291–1319. (Sergio Spagnolo) **99f:35134** 35L70

— (*with* Arnaudov, Ya. N.; Venkov, Georgy P.) Atkinson-Wilcox decomposition for small permutation of the sphere. *Applications of mathematics in engineering* (*Sozopol*, 1998), 55–58, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 35J05 (35C10)

Georgieva, A. (*with* Kostadinov, St. I.) $\mathfrak{L}_p$-equivalence of impulse differential equations. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 291–301. (O. S. Chernikova) **99b:34024** 34A37 (47H15, 47N20)

Georgieva, A. I. (*with* Goleminov, J. D.; Ginin, R. D.) Mapping method for generating a q-deformed version of the algebraic $su(3) \supset so(3)$ chain. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1830–1836. (Roberto Casalbuoni) **99k:81112** 81R50

Georgii, Hans-Otto Mixing properties of induced random transformations. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 4, 839–847. (Thomas Bogenschütz) **99c:28045** 28D05 (60J15)

— (*with* Küneth, Torsten) Stochastic comparison of point random fields. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 868–881. (Olle Häggström) **99c:60101** 60G55 (82B31)

— (*with* Zagrebnov, V. A.) On the interplay of magnetic and molecular forces in Curie-Weiss ferrofluid models. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 79–107. (Barbara Gentz) **99k:82029** 82B26 (60K35, 82B21)

Georgijević, Dušan R. Interpolation problems of Loewner type with finitely many nodes. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 81–96. (Joaquim Ortega Cerdà) **99i:30055** 30E05 (41A30, 46E22, 47A57)

— Solvability condition for a boundary value interpolation problem of Loewner type. *J. Anal. Math.* **74** (1998), 213–234. (Joseph A. Ball) **99g:47026** 47A57 (30E05)

— Radial limits in some analytic spaces. (English summary) *Math. Montisnigri* **9** (1998), 65–80. (Ke He Zhu) **99k:46038** 46E22 (30C40, 30D40, 47A56)

— Perturbed interpolation problems. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 55–65. (Daniel Alpay) **99g:47027** 47A57 (30E05)

Georgiou, D. N. (*with* Papadopoulos, B. K.) Boundedness and fuzzy sets. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 941–955. 54A40

— (*with* Papadopoulos, B. K.) Convergences in fuzzy topological spaces. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 495–504. 54A40 (54A20)

— (*with* Papadopoulos, B. K.) On fuzzy compactness. (English summary) *J. Math. Anal. Appl.* **233** (1999), *no.* 1, 86–101. 54A40 (54D30)

Georgiou, Georgios C. (*with* Poullikkas, Andreas; Karageorghis, Andreas; Ascough, John) The method of fundamental solutions for Stokes flows with a free surface. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 667–678. (Summary) **99f:76044** 76D07 (65N99, 76M25)

— (*with* Boudouvis, Andreas G.) Converged solutions of the Newtonian extrudate-swell problem. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 363–371. 76M10

Georgiou, Ioannis T. (*with* Bajaj, A. K.; Corless, Martin) Invariant manifolds and chaotic vibrations in singularly perturbed nonlinear oscillators. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 431–458. (Summary) **99a:70036** 70K50 (58F13)
— On the global geometric structure of the dynamics of the elastic pendulum. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 1, 51–68. 73K99 (58F13, 73K50)
Georgiou, Tryphon T. (*with* Tannenbaum, Allen R.) Switching surfaces and Groebner bases. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 81–89, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 49K15 (13P10, 93B17, 93B40)
— The interpolation problem with a degree constraint. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 631–635. 93C80 (93B25, 93B30)
Georgy, N. (*with* Cardaliaguet, P.; Dacorogna, Bernard; Gangbo, Wilfrid) Geometric restrictions for the existence of viscosity solutions. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **16** (1999), *no.* 2, 189–220. (Summary) **99k:35023** 35D05 (35F30, 49L25)
Ger, Joanna (*with* Sablik, Maciej) The law of large numbers and a functional equation. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 165–175. (Summary) **99b:39026** 39B22
Ger, Roman Delta-exponential mappings in Banach algebras. (English summary) *General inequalities*, 7 (*Oberwolfach*, 1995), 285–296, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Nicole Brillouët-Belluot) **99c:39040** 39B72 (39B52, 46J05, 47H99)
— Indexed families of bijections and iterable functions. (English summary) *Iteration theory* (*ECIT* 94) (*Opava*), 97–104, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12
— (*with* Volkmann, Peter) On sums of linear and bounded mappings. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 103–108. (Summary) **99k:39075** 39B72
— On an equation of ring homomorphisms. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 397–417. (B. Crstici) **99g:39033** 39B52 (39B62)
Gera, Amos E. The relationship between the Z-transform and the discrete-time Fourier transform. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 370–371. 44A05 (42A38)
Gera, M. (*with* Graef, John R.; Greguš, Michal) On oscillatory and asymptotic properties of solutions of certain nonlinear third order differential equations. *Nonlinear Anal.* **32** (1998), *no.* 3, 417–425. (M. Cecchi) **99c:34057** 34C10 (34C15)
Gerace, Ivan (*with* Codenotti, Bruno; Vigna, Sebastiano) Hardness results and spectral techniques for combinatorial problems on circulant graphs. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 123–142. (Mirosław Truszczyński) **99k:05107** 05C50 (05C15, 05C85, 15A18)
Géradin, M. (*with* Petrov, E.) Finite element theory for curved and twisted beams based on exact solutions for three-dimensional solids. I. Beam concept and geometrically exact nonlinear formulation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 43–92. (Summary) **99j:73098a** 73V05 (65N30, 73C50, 73K05)
— (*with* Petrov, E.) Finite element theory for curved and twisted beams based on exact solutions for three-dimensional solids. II. Anisotropic and advanced beam models. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 93–127. (Summary) **99j:73098b** 73V05 (65N30, 73C50, 73K05)
Gerami, A. (*with* Lewis, Susan Margaret; Majumdar, Dibyen; Notz, W. I.) Efficient block designs for comparing dual with single treatments. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 247–263. (Summary) **99j:62111** 62K10
Geramita, Anthony V. (*with* Ko, Hyoung June; Shin, Yong Su) The Hilbert function and the minimal free resolution of some Gorenstein ideals of codimension 4. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4285–4307. (Juan C. Migliore) **99m:13032** 13D40 (13D02, 14M10)
— (*with* Schenck, Henry K.) Fat points, inverse systems, and piecewise polynomial functions. (English summary) *J. Algebra* **204** (1998), *no.* 1, 116–128. (Martin Kreuzer) **99d:13019** 13D40 (13C13, 65D07)
— *see also* **Seminar: Curves, 99m:13001**
Gérard, A. (*with* Überall, H.; Guran, Ardéshir) Generalized Debye series for acoustic scattering from objects of separable geometric shape. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 147–176. (Summary) **99i:73035** 73D25 (73K70, 76Q05)
Gerard, Brian (*with* Roberts, Lawrence) Graphical discovery of a new identity for Jacobi polynomials. *Amer. Math. Monthly* **105** (1998), *no.* 2, 163–166. (R. K. Raina) **99c:33016** 33C45
Gérard, Christian (*with* Dereziński, Jan) ★ Scattering theory of classical and quantum N-particle systems. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1997. xii+444 *pp. ISBN* 3-540-62066-4 (Hiroshi Isozaki) **99d:81172** 81U10 (35P25, 47A40, 47N50)
— Pseudodifferential and Fourier integral operators in scattering theory. *New trends in microlocal analysis* (*Tokyo*, 1995), 113–115, *Springer, Tokyo*, 1997. (*see* **99d:00024**) 35Sxx (35P25)
— Théorie de la diffusion pour un atome couplé à un champ quantique. [Scattering theory for an atom coupled to a quantum field] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* XXII, 14 *pp.*, *École Polytech., Palaiseau*, 1997. (Vladimir Georgescu) **99b:81258** 81U05 (47A40, 47N50)
— (*with* Nier, Francis) The Mourre theory for analytically fibered operators. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 202–219. (Vladimir Georgescu) **99b:47030** 47B25 (47A40, 47N50, 81Q10, 81U05)
Gérard, Patrick (*with* Bahouri, Hajer) Optique géométrique généralisée pour les ondes non linéaires critiques. [Generalized geometric optics for critical nonlinear waves] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* VIII, 17 *pp.*, *École Polytech., Palaiseau*, 1997. (Linda M. Holt) **99e:35145** 35L70 (35B05, 35D99)
— (*with* Bahouri, Hajer; Xu, Chao-Jiang) Estimations de Strichartz généralisées sur le groupe de Heisenberg. [Generalized Strichartz estimates on the Heisenberg group] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. X*, 13 *pp.*, *École Polytech., Palaiseau*, 1998. (Keisuke Uchikoshi) **99k:35026** 35H05 (35B45, 35L05, 46N20)
— (*with* Brezzi, Franco; Sanchez-Palencia, Évariste) Remarks on ellipticity and regularity for non-inhibited shells and other constrained systems. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1155–1162. (Peter R. Popivanov) **99i:73046** 73K15 (35J99, 73C99, 73K10)
— Description du défaut de compacité de l'injection de Sobolev. (French summary) [Description of the lack of compactness of a Sobolev embedding] *ESAIM Control Optim. Calc. Var.* **3** (1998), 213–233 (*electronic*). (W. P. Ziemer) **99h:46051** 46E35 (49K10)
Gerard, Patrick D. (*with* Givaruangsawat, Sumalee; Weerakkody, Govinda J.) Hypothesis testing in two-stage cluster sampling. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 335–344. 62J05 (62F03)
Gérard, Raymond (*with* Tahara, Hidetoshi) Holomorphic and singular solutions of non-linear singular partial differential equations. II. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 135–150, *World Sci. Publishing, River Edge, NJ*, 1996. (Gunter Bengel) **99a:35006** 35A20 (35G20)
— (*with* Tahara, Hidetoshi) Formal power series solutions of nonlinear first order partial differential equations. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 133–166. (Masatake Miyake) **99d:35009** 35A20 (35C10, 35F20)
Gerardi, Anna (*with* Ceci, Claudia) Optimal control and filtering of the reproduction law of a branching process. (English summary) *Acta Appl. Math.* **55** (1999), *no.* 1, 27–50. (Ł. Stettner) **99m:93106** 93E20 (60J80, 93E11)
lamèche-Gérardin, Khyra *see* **Lamèche-Gérardin, Khyra**
Gérardin, Paul Représentations du groupe SL_2 d'un corps local (d'après Gel'fand, Graev et Tanaka). [Representations of the group SL_2 of a local field (after Gel'fand, Graev and Tanaka)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 332, 309–343, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 22E50 (11F85)
Gerards, A. M. H. (*with* Shepherd, F. B.) Strong orientations without even directed circuits. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 111–125. (J. Richard Lundgren) **99i:05091** 05C20 (05C38)
Gérard-Varet, Louis-André (*with* d'Aspremont, Claude; Bhattacharya, Sudipto) Knowledge as a public good: efficient sharing and incentives for development effort. (English summary) *J. Math. Econom.* **30** (1998), *no.* 4, 389–404. 90A27
— *see also* **Epistemic logic and the theory of games and decisions, 99k:00028**
Gérardy, Sophie Le système de Hénon-Heiles. (English and French summaries) [The Hénon-Heiles system] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 633–652. (Luis A. Piovan) **99e:58098** 58F07 (14H40, 70H05)
Gerasimchuk, Yu. N. Results of the modeling of algorithms for a self-organizing forecasting controller. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 4, 157–160. 93B50 (93B40)
Gerasimenko, V. I. (*with* Cercignani, Carlo; Petrina, D. Ya.) ★ Many-particle dynamics and kinetic equations. (English summary) Translated from the Russian manuscript by K. Petrina and V. Gredzhuk. Mathematics and its Applications, 420. *Kluwer Academic Publishers Group, Dordrecht*, 1997. viii+244 *pp. ISBN* 0-7923-4696-3 (Reinhard Illner) **99c:82057** 82C40 (35Q99, 45K05, 76P05)
— (*with* Petrina, D. Ya.) On the generalized kinetic equation. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 7–12. (Rossana Marra) **99c:82059** 82C40 (45K05)
— (*with* Borgioli, G.; Lauro, Giuliana; Monaco, Roberto) A discrete velocity model of a gas: global in time solutions of the BBGKY hierarchy. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 431–442. (Carlo Cercignani) **99e:82078** 82C40 (76P05)
Gerasimov, I. A. (*with* Vinnikov, E. L.; Gorbatko, N. P.) On the possibility of comets and asteroids colliding with the Moon. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 6, 60–62. (Summary) **99b:70012** 70F15
— (*with* Mushailov, B. R.) On the existence of objects in the Kuiper belt that are connected by orbital resonances with Neptune. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1999**, *no.* 1, 53–59. 70F15 (70F07)
Gerasimov, V. N. Semi-splittings of groups and actions on cubings. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 91–109, 190, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Igor Belegradek) **99c:20049** 20F32 (57M07)
— Fixed-point-free actions on cubings [translation of *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 91–109, 190, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1997; MR 99c:20049]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 36–58. 20F32 (57M07)
Gerasimov, Yu. K. Generalization of the Hörmander inequality and the uniqueness of the solution of the Cauchy problem for linear partial differential equations with multiple characteristics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1429–1431, 1440; *translation in Differential Equations* **33** (1997), *no.* 10, 1436–1439 (1998). (Summary) **99j:35022** 35G10 (35A05, 35B45)
Gerasimova, I. A. Combined semantics for the logic of absolute norms with nonclassical negation. (Russian) *Logical investigations, No.* 4 (*Russian*), 163–171, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B45
Geratz, Karl Josef (*with* Klein, Rupert; Terhoeven, Peter; Munz, Claus-Dieter; Roller, Sabine; Denet, Bruno; Searby, Geoffrey) Numerical techniques for multi-scale weakly compressible reactive flows. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 242–259, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99j:76091** 76M25 (76N10, 80–08, 80A25)
Geray, Okan (*with* Looze, Douglas P.) Linear quadratic regulator loop shaping for high frequency compensation. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1055–1068. 93B52 (49N10)
Gerber, Anke (*with* Ortuno-Ortin, Ignacio) Political compromise and endogenous formation of coalitions. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 445–454. (Summary) **99d:92058** 92K10 (90A28)
Gerchak, Yigal (*with* Tripathy, Ashish; Süral, Haldun) Multidimensional assortment problem with an application. (English summary) *Networks* **33** (1999), *no.* 3, 239–245. 90B10 (90C35)
Gerdes, Klaus (*with* Schötzau, Dominik; Schwab, Christoph) Galerkin least squares *hp*-finite element method for the Stokes problem. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 249–254. (Summary) **99f:65174** 65N30 (76D07, 76M10)

— The conjugated vs. the unconjugated infinite element method for the Helmholtz equation in exterior domains. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 125–145. (Roger Pierre) **99j:65185** 65N12 (65N30)

— A summary of infinite element formulations for exterior Helmholtz problems. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 95–105. (Summary) **99h:65190** 65N30 (73D25, 73V05, 76M10, 76Q05)

— Solution of the 3D-Helmholtz equation in exterior domains of arbitrary shape using *hp*-finite–infinite elements. (English summary) *Finite Elem. Anal. Des.* **29** (1998), *no.* 1, 1–20. (Summary) **99b:76050** 76M10 (76Q05)

— (*with* Schwab, Christoph) Hierarchic models of Helmholtz problems on thin domains. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 1–35. (Rolf Rannacher) **99d:73041** 73D30 (35J05, 73K12, 73V05)

— (*with* Matache, A. M.; Schwab, Christoph) Analysis of membrane locking in *hp* FEM for a cylindrical shell. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 663–686. (Manil Suri) **99h:73077** 73V05 (65N30, 73K15)

— (*with* Ihlenburg, Frank) On the pollution effect in FE solutions of the 3D-Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 155–172. (Summary) **99k:65108** 65N30

Gerdes, Paulus On ethnomathematics and the transmission of mathematical knowledge in and outside schools in Africa south of the Sahara. *Sciences et développement (Paris, 1994)*, 229–246, *Sci. Occident XXe Siècle*, 5, *Inst. Fr. Rech. Sci. Dév. Coop. Orstom, Paris*, 1996. (Marcia Ascher) **99i:01007** 01A07 (01A13)

— Molecular modeling of fullerenes with hexastrips. *Math. Intelligencer* **21** (1999), *no.* 1, 6–12, 27. 00A71 (00A69, 92E10)

Gerdjikov, V. S. *see* **Gerdzhikov, V. S.**

Gerdt, Vladimir P. (*with* Kornyak, Vladimir V.) An implementation in C of an algorithm for construction of finitely presented Lie superalgebras. (English summary) *Comput. Sci. J. Moldova* **4** (1996), *no.* 3, 399–427. (Aleksandr A. Mikhalev) **99m:17001** 17–04 (16W55, 17B01, 68Q40)

— (*with* Kornyak, Vladimir V.) An algorithm for analysis of the structure of finitely presented Lie algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 217–228. (Hartmut Schlosser) **99e:17003** 17B01 (17–08, 17B65)

— (*with* Kornyak, Vladimir V.) A program for constructing a complete system of relations, basis elements and tables of commutators of finitely presented Lie algebras and superalgebras. (Russian. Russian summary) *Programmirovanie* **1997,** *no.* 3, 58–71; *translation in Program. Comput. Software* **23** (1997), *no.* 3, 164–172. (Andrej A. Zolotykh) **99g:17001** 17–04 (17B01)

— (*with* Blinkov, Yu. A.) Involutive bases of polynomial ideals. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 519–541. (Joachim Apel) **99e:13033** 13P99 (68Q40)

— (*with* Blinkov, Yu. A.) Minimal involutive bases. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 543–560. (Joachim Apel) **99e:13034** 13P99 (68Q40)

Gerdzhikov, V. S. (*with* Evstatiev, E. G.; Kaup, D. J.; Diankov, G. L.; Uzunov, I. M.) Stability and quasi-equidistant propagation of NLS soliton trains. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 323–328. (Summary) **99a:81198** 81V10

Gerencsér, László Fixed gain off-line estimators of ARMA parameters. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 2, 26 *pp.* (*electronic*). (Jia Gang Wang) **99f:62107** 62M10 (93E12)

— On fixed gain recursive estimation processes. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 31 *pp.* (*electronic*). (Summary) **99h:93102** 93E10 (60H25, 62L20)

— Rate of convergence of moments of Spall's SPSA method. *Stochastic differential and difference equations (Győr, 1996)*, 67–75, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 60F05 (62L20)

Gergel, V. P. (*with* Sergeev, Yaroslav D.) Sequential and parallel algorithms for global minimizing functions with Lipschitzian derivatives. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 163–179. (*see* **99i:90003**) 90C30 (65K05, 65Y05)

Gergely, László Á. Spherically symmetric static solution for colliding null dust. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084030, 9 *pp.* (Summary) **99k:83011** 83C15

Gerhardt, Claus Closed hypersurfaces of prescribed mean curvature in locally conformally flat Riemannian manifolds. (English summary) *J. Differential Geom.* **48** (1998), *no.* 3, 587–613. (John Urbas) **99f:53037** 53C21 (35J60, 53A10)

Gericke, H. (*with* Dörr, J.; Görtler, H.; Hämmerlin, G.; Mettler, Eberhard) 50 Jahre GAMM. [50 years of GAMM] Reprint of the 1972 original. 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 1–36. (*see* **99f:01027**) 01A74

Gerisch, T. (*with* Rieckers, Alfred) Limiting dynamics, KMS-states, and macroscopic phase angle for weakly inhomogeneous BCS-models. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 5, 727–750. (Summary) **99f:82007** 82B10 (46L55, 46L60, 82D55)

— (*with* Rieckers, Alfred) Limiting Gibbs states and phase transitions of a bipartite mean-field Hubbard model. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 759–785. (Summary) **99c:82007** 82B10 (82B26, 82D55)

Gerke, Horst H. (*with* Hornung, Ulrich; Kelanemer, Youcef; Slodička, Marián; Schumacher, Stephan) ★ Optimal control of soil venting: mathematical modeling and applications. (English summary) International Series of Numerical Mathematics, 127. *Birkhäuser Verlag, Basel*, 1999. *xvi*+152 *pp. ISBN* 3-7643-6041-0 (Publisher's description) **99m:49061** 49N55 (76S05, 86A99, 93C95)

Gerko, A. I. Asymptotic recurrence in correspondences with memory. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997,** *no.* 2, 55–68, 127–128, 130. (Krzysztof Ciesielski) **99d:54009** 54C35 (34C28, 34C35, 54H15, 54H20)

— Minimax method and synchronous points in linear correspondences. *Mathematica* **39(62)** (1997), *no.* 2, 221–231. (A. Pelczar) **99h:54058** 54H20 (34C35)

— Poisson stability of mappings with respect to a semigroup. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998,** *no.* 1, 95–102, 151, 154. (Summary) **99i:54053** 54H20 (34C35, 34D99)

Gerla, G. (*with* Scarpati, L.) Extension principles for fuzzy set theory. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 49–69. (Summary) **99e:04002** 04A72

Gerlach, C. (*with* Belytschko, Ted; Krongauz, Y.; Dolbow, J.) On the completeness of meshfree particle methods. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 5, 785–819. (Summary) **99h:73084** 73V20 (76M25)

Gerlach, Ulrich H. Quantum-mechanical carrier of the imprints of gravitation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4718–4723. (Summary) **99m:81159** 81T20 (83C47)

Gerlinger, P. (*with* Stoll, P.; Brüggemann, D.) An implicit multigrid method for the simulation of chemically reacting flows. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 322–345. (Summary) **99e:80001** 80–08 (76J20, 76M25, 80A32)

Germa, Anne (*with* Heydemann, Marie-Claude; Sotteau, Dominique) Cycles in the cube-connected cycles graph. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 135–155. (Joseph B. Klerlein) **99d:05049** 05C38 (68R10)

Germain, Paul Les équations du type mixte et le problème de Tricomi. [Equations of mixed type and the Tricomi problem] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 124, 261–272, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 35M10

— Functional concepts in continuum mechanics. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 433–444. (Summary) **99j:73003** 73B05 (73A05, 73B99, 76A02, 80A22)

— *see also* **Nguyen Quoc Son, 99e:73063**

Germano, Bruna (*with* Noschese, Silvia; Ricci, Paolo Emilio) General sets of relativistic Laguerre polynomials. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 109–116. (Summary) **99h:33038** 33C45

— (*with* Belingeri, Carlo) On the three-term recurrence relations for polynomials orthogonal with respect to varying weights and their derivatives. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 447–458. (Leonid B. Golinskiĭ) **99h:42042** 42C05

Germinario, Anna (*with* Giannoni, Fabio) Morse theory for Riemannian geodesics without nondegeneracy assumptions. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 295–325. (Paolo Piccione) **99e:58043** 58E10

Germinet, François (*with* de Bièvre, Stephan) Localisation dynamique et opérateurs de Schrödinger aléatoires. (English and French summaries) [Dynamical localization for random Schrödinger operators] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 261–264. (Summary) **99j:82047** 82B44 (47B39, 47B80, 60H25)

— (*with* de Bièvre, Stephan) Dynamical localization for discrete and continuous random Schrödinger operators. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 323–341. (Frédéric Klopp) **99d:82033** 82B44 (35J10, 35R60, 47B39, 47B80, 47F05, 60H25)

Germoni, Jérôme Indecomposable representations of special linear Lie superalgebras. (English summary) *J. Algebra* **209** (1998), *no.* 2, 367–401. (Hartmut Schlosser) **99k:17015** 17B10

Gernert, Dieter A survey of the strong perfect graph conjecture and some recent results. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 25–29. (Summary) **99i:05080** 05C15

— Properties of minimally imperfect graphs. Addendum to: "A survey of the strong perfect graph conjecture and some recent results" [Graph Theory Notes N. Y. **31** (1996), 25–29; MR 99i:05080]. Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 53. (*see* **99k:05003**) 05C15

Geromel, José C. (*with* Costa, O. L. V.; do Val, J. B. R.) A convex programming approach to H_2 control of discrete-time Markovian jump linear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 557–579. 93E20 (90C25, 93B36)

— (*with* do Val, J. B. R.; Costa, O. L. V.) Uncoupled Riccati iterations for the linear quadratic control problem of discrete-time Markov jump linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1727–1733. (Summary) **99g:93031** 93B40 (49N10, 90C40, 93E20)

— (*with* de Oliveira, Maurício C.; Hsu, Liu) LMI characterization of structural and robust stability. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 69–80. (B. T. Polyak) **99m:93074** 93D09 (15A45)

Geronimi, C. (*with* Feix, Marc R.; Cairó, Laurent; Leach, P. G. L.; Lemmer, R. L.; Bouquet, S.) On the singularity analysis of ordinary differential equations invariant under time translation and rescaling. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7437–7461. (Summary) **99i:34015** 34A34 (34A20)

Gerônimo, João Roberto (*with* Rodrigues Costa, Sueli I.; Palazzo, Reginaldo, Jr.; Interlando, J. Carmelo; Alves, Marcelo Muniz Silva) The symmetry group of $\mathbf{Z}_q^n$ in the Lee space and the $\mathbf{Z}_{q^e}$-linear codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 66–77, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94035** 94B05

Gerostathis, T. P. (*with* Koras, G. D.; Kaklis, Panagiotis D.) Numerical experimentation with the Roulier-Rando fairness metrics. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 195–209. (*see* **99i:65004**) 65Y25 (65D17)

Gerritsma, M. I. (*with* Phillips, T. N.) Discontinuous spectral element approximations for the velocity-pressure-stress formulation of the Stokes problem. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 8, 1401–1419. (Summary) **99g:76082** 76M10

Gerritzen, L. (*with* Holtkamp, R.) On quantum general linear groups. *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 43–54. (Nicolás Andruskiewitsch) **99e:17019** 17B37 (16W30)

— Taylor expansion of noncommutative polynomials. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 279–290. (François Dumas) **99j:16017** 16S36 (16W25)

Gerry, Christopher C. Generation of optical macroscopic quantum superposition states via state reduction with a Mach-Zehnder interferometer containing a Kerr medium. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 5, 4095–4098. 81V80 (81P10)

Gersch, Will (*with* Kitagawa, Genshiro) General state space modeling. *Statistical methods in control and signal processing*, 37–81, *Elec. Engrg. Electron.*, 103, *Dekker, New York*,

1997. (*see* **99b:93004**) 93A30 (93E03)
Gerschgorin, S. A. *see* **Fujino, Seiji**
Gershenfeld, Neil ★ The nature of mathematical modeling. (English summary) *Cambridge University Press, Cambridge*, 1999. *xii+344 pp. ISBN* 0-521-57095-6 (Editors) **99i:00010** 00A71 (65–02, 65C20)
Gershkovich, V. (*with* Rubinstein, Joachim H.) Morse theory for Min-type functions. *Asian J. Math.* **1** (1997), *no.* 4, 696–715. (Vitaly B. Moroz) **99i:58027** 58E05 (53C20, 53C23, 57R70)
Gersho, Allen (*with* Ramakrishnan, Sangeeta; Rose, Kenneth) Constrained-storage vector quantization with a universal codebook. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 785–793. 94A12
Gershteĭn, S. S. (*with* Logunov, A. A.; Mestvirishvili, M. A.) On an upper limit for graviton mass. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 332–334; *translation in Dokl. Phys.* **43** (1998), *no.* 5, 293–296. 83F05
— (*with* Logunov, A. A.) J. S. Bell's problem. *Phys. Particles Nuclei* **29** (1998), *no.* 5, 463–468; *translated from Fiz. Èlementar. Chastits i Atom. Yadra* **29** (1998), *no.* 5, 1119–1132, 1319 (*Russian. English and Russian summaries*). (Mary L. Boas) **99g:83007** 83A05
Gershun, V. D. σ-models on the quantum group manifolds $SL_q(2,\mathbf{R})$, $SL_q(2,\mathbf{R})/U_h(1)$, $C_q(2|0)$ and infinitesimal transformations. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 324–331, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81113** 81R50 (81R40, 81T40)
Gershwin, S. B. (*with* Tolio, T.) Throughput estimation in cyclic queueing networks with blocking. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 207–229. (Summary) **99b:90063** 90B22 (60K25)
ben Gerson, Levi *see* **Mancha, J. L., 99i:01014**
Gerstel, Ornan Minimizing the cost of an optical network. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 27–31, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 90B12 (05C90, 68M10, 90C35)
— (*with* Crochat, O.; Le Boudec, J.-Y.) Protection interoperability for WDM optical networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 129–142, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M15 (78A55, 90B12)
— (*with* Wool, Avishai; Zaks, Shmuel) Optimal layouts on a chain ATM network. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 157–178. (Sudhangshu B. Karmakar) **99e:90035** 90B12 (05C10, 68M10)
Gersten, Alexander Dirac's representation theory as a framework for signal theory. I. Discrete finite signals. (English summary) *Ann. Physics* **262** (1998), *no.* 1, 47–72. (Summary) **99a:81089a** 81S99 (94A12)
— Dirac's representation theory as a framework for signal theory. II. Infinite duration and continuous signals. (English summary) *Ann. Physics* **262** (1998), *no.* 1, 73–104. (Summary) **99a:81089b** 81S99 (94A12)
— Incomplete delta functions. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 2, 165–178. (Charles-Antoine Guérin) **99m:46099** 46F10 (47B99, 81S99)
— Orthogonality and boundary conditions in quantum mechanics. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 251–264. (R. L. Ingraham) **99d:81032** 81Q05 (81P99)
Gersten, K. Introduction to boundary-layer theory. (English summary) *Recent advances in boundary layer theory* (*Udine*, 1997), 1–8, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (*see* **99h:76004**) 76D10
— Turbulent boundary layers. I. Fundamentals. *Recent advances in boundary layer theory* (*Udine*, 1997), 107–144, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (A. D. Khon′kin) **99k:76070** 76F10 (76D10)
Gersten, S. M. (*with* Allcock, Daniel) A homological characterization of hyperbolic groups. (English summary) *Invent. Math.* **135** (1999), *no.* 3, 723–742. (Igor Belegradek) **99m:20078** 20F32 (20F05, 57M07)
Gerstenhaber, Murray Deformation of towers of algebras and quantized intersection cardinality functions. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 87–103. (Mary Schaps) **99a:16007** 16E40 (46L37)
— (*with* Giaquinto, Anthony) Boundary solutions of the quantum Yang-Baxter equation and solutions in three dimensions. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 2, 131–141. (Mitsuhiro Takeuchi) **99d:17020** 17B37 (81R50)
bunse-Gerstner, Angelika *see* **Bunse-Gerstner, Angelika**
Gerstner, Manfred (*with* Buchner, Klaus) The topology of differential spaces. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *suppl.*, 101–111. (From the introduction) **99e:58008** 58A40
Gerstner, Thomas (*with* Griebel, Michael) Numerical integration using sparse grids. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 209–232. (C. Dagnino) **99m:65042** 65D30
Gerth, Frank, III On 2-class field towers for quadratic number fields with 2-class group of type (2, 2). *Glasgow Math. J.* **40** (1998), *no.* 1, 63–69. (Peter Stevenhagen) **99a:11130** 11R37 (11R11)
Gertsbakh, Ilya (*with* Kagan, Abram) Characterization of the Weibull distribution by properties of the Fisher information under type-I censoring. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 99–105. (Summary) **99i:62019** 62E10
Gertsenshtein, M. E. The time machine and general relativity. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 19–22; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 104–106. (Eugen Paal) **99d:83076** 83C75
Gertsenshteĭn, S. Ya. (*with* Zhukova, A. V.) On the "rigid" three-dimensional instability of a mixing layer. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 47–50; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 573–576. 76E05
Gervais, Jean-Loup The new physics of strongly coupled 2D gravity. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 200–208, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81213** 81T40
— Quantum group approach to strongly coupled two-dimensional gravity. *Symétries quantiques* (*Les Houches*, 1995), 581–602, *North-Holland, Amsterdam*, 1998. (Isabel P. Ennes) **99m:81220** 81T40 (81R50)
Gervais, Sylvain The p_1-central extension of the mapping class group of orientable surfaces. (English summary) *Knot theory* (*Warsaw*, 1995), 111–117, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57019** 57M25 (57N10)
Gervasi, P. (*with* Zsombor-Murray, P. J.; Husty, Manfred L.) Geometry in mechanics. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 267–276, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15 (51M99)
— (*with* Karakusevic, V.; Zsombor-Murray, P. J.) An algorithm for solving the inverse kinematics of a 6R serial manipulator using dual quaternions and Grassmannians. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 383–392, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:70006** 70B15
Gervasio, P. (*with* Saleri, Fausto) Stabilized spectral element approximation for the Navier-Stokes equations. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 115–141. (Tomás Chacón Rebollo) **99c:65183** 65M60 (65M12, 65M15, 76D05, 76M10)
Gerver, M. L. (*with* Kudryavtseva, E. A.) A new proof of theorems on a universal sequence and extremal properties of discrete measures. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 153–154; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1298–1299. (V. Totik) **99g:44014** 44A99 (73D50)
— In memory of E. M. Landis [1921–1997]. *Appl. Anal.* **71** (1999), *no.* 1-4, 1–8. 01A70
— (*with* Ibragimov, A. I.; Il′yashenko, Yu. S.; Kondrat′ev, Vladimir) Evgenii Mikhailovich Landis [1921–1997]. *Appl. Anal.* **71** (1999), *no.* 1-4, 9–23. 01A70
Gerville-Reache, Leo (*with* Nikulina, V. N.) Analysis of reliability characteristics estimators in accelerated life testing. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 91–99, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 62N05
Gervini, Daniel (*with* Yohai, Victor J.) Robust estimation of variance components. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 3, 419–430. 62F35
Gervois, A. (*with* Richard, P.; Oger, L.; Troadec, J. P.) Tessellation of binary assemblies of spheres. (English summary) *Phys. A* **259** (1998), *no.* 1-2, 205–221. (Summary) **99e:82095** 82D20
Gerwinski, Peter (*with* Haake, Fritz) Semiclassical Floquet spectra without periodic orbits from $\hbar$-expansion of Floquet matrix. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 112–121, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20
Geser, Alfons (*with* Gorlach, S. P.) Parallelizing functional programs by generalization. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 46–60, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (68Q10)
— On essential premises for the transformation order. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 65 (1998), 139–142. 68Q42
Geske, Ulrich *see* **Proceedings: Workshop on Deductive Databases and Logic Programming, 99g:68052**
Geskus, R. B. (*with* Groeneboom, Piet) Asymptotically optimal estimation of smooth functionals for interval censoring. II. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 2, 201–219. (Ulrich Stadtmüller) **99d:62015** 62F10 (62F12, 62G05)
Gessel, Ira M. Wolstenholme revisited. *Amer. Math. Monthly* **105** (1998), *no.* 7, 657–658. (Laurentiu Panaitopol) **99e:11009** 11A41
— *see also* **Selected papers in honor of Adriano Garsia, 99f:00030**
Gessing, Ryszard Causal and non-causal discrete-time transfer functions and their applications. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 195–204. 93C80 (93C55)
Gessinger, Andreas Connections between the approximation and ergodic behaviour of cosine operators and semigroups. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 475–489. (Sen-Yen Shaw) **99k:47091** 47D06 (47A35, 47D09)
Geßner, Thomas (*with* Wierse, Monika; Kröner, Dietmar) Numerical methods, simulations and visualization for compressible flows. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 347–356, *Springer, Berlin*, 1997. (*see* **99g:68212**) 76M25
Gesztesy, Fritz (*with* Renger, W.) New classes of Toda soliton solutions. (English summary) *Comm. Math. Phys.* **184** (1997), *no.* 1, 27–50. (Luigi Martina) **99f:58097** 58F07 (47B25, 47N20, 70F10, 70K99)
— (*with* del Rio, Rafael; Simon, Barry) Inverse spectral analysis with partial information on the potential. III. Updating boundary conditions. *Internat. Math. Res. Notices* **1997**, *no.* 15, 751–758. (Vjacheslav A. Yurko) **99a:34032** 34A55 (34B24, 34L05, 47E05, 81U40)
— (*with* Simon, Barry) *m*-functions and inverse spectral analysis for finite and semi-infinite Jacobi matrices. (English summary) *J. Anal. Math.* **73** (1997), 267–297. (M. Krishna) **99c:47039** 47B39 (47A10, 81Q10)
— (*with* Weikard, Rudi) A characterization of all elliptic algebro-geometric solutions of the AKNS hierarchy. *Acta Math.* **181** (1998), *no.* 1, 63–108. (Emma Previato) **99k:14052** 14H52 (34L05, 34L40, 35Q53, 58F07)
— (*with* Weikard, Rudi) Elliptic algebro-geometric solutions of the KdV and AKNS hierarchies—an analytic approach. (English summary) *Bull. Amer. Math. Soc.* (*N.S.*) **35** (1998), *no.* 4, 271–317. (Francisco J. Plaza Martín) **99i:58075** 58F07 (14H52, 33E05, 34A55, 34L40, 35Q53)
— (*with* Makarov, Konstantin A.; Tsekanovskiĭ, Eduard) An addendum to Krein's formula. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 594–606. (M. M. Malamud) **99g:47047** 47B25 (47A20)
— (*with* Ünal, M.) Perturbative oscillation criteria and Hardy-type inequalities. (English summary) *Math. Nachr.* **189** (1998), 121–144. (Günter Stolz) **99a:34069** 34B24 (34C10, 34L20, 47E05)
— (*with* Bulla, W.; Holden, Helge; Teschl, Gerald) Algebro-geometric quasi-periodic finite-gap solutions of the Toda and Kac-van Moerbeke hierarchies. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 641, *x+79 pp.* (Mihai Pascu) **99b:58109** 58F07 (35Q55, 39A12)
— (*with* Ratnaseelan, R.) An alternative approach to algebro-geometric solutions of the AKNS hierarchy. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 3, 345–391. (Peter L. Christiansen) **99d:58079** 58F07 (34L40, 35Q51)

— (*with* Weikard, Rudi) Toward a characterization of elliptic solutions of hierarchies of soliton equations. (English summary) *Applied analysis (Baton Rouge, LA, 1996)*, 133–161, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Iskander A. Taimanov) **99k:58090** 58F07 (14H55, 34L05, 34L40, 35Q53)

— (*with* Dickson, Ronnie; Unterkofler, Karl) A new approach to the Boussinesq hierarchy. (English summary) *Math. Nachr.* **198** (1999), 51–108. (Victor V. Zharinov) **99m:35204** 35Q53 (34L40, 58F07, 76B25)

Gethner, Ellen (*with* Wagon, Stan; Wick, Brian) A stroll through the Gaussian primes. *Amer. Math. Monthly* **105** (1998), *no.* 4, 327–337. (Jeffrey O. Shallit) **99b:11006** 11A41 (11R11, 11R44)

— On the exact location of the zeros of certain families of rational period functions and other related rational functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 1–10. (YoungJu Choie) **99c:11055** 11F67 (11F11)

Getino, Juan (*with* González, Ana-Belén; Farto, José-Miguel) An algorithm for an eigenvalues problem in the Earth rotation theory. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 243–254. (Summary) **99i:86002** 86–08 (86–04, 86A99)

Getling, A. V. ★ Rayleigh-Bénard convection. Structures and dynamics. Advanced Series in Nonlinear Dynamics, 11. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *x*+245 *pp. ISBN* 981-02-2657-8 (Mikhail Zaks) **99g:76138** 76R10 (76E15, 76E30)

Getu, Seyoum (*with* Shapiro, Louis) Catalan and Motzkin probabilities. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 65–72. (Introduction) **99k:05008** 05A15

Getzler, Ezra The semi-classical approximation for modular operads. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 481–492. (Andreas Gathmann) **99d:14017** 14H10 (14H15, 14H52)

— (*with* Kapranov, Mikhail) Modular operads. (English summary) *Compositio Math.* **110** (1998), *no.* 1, 65–126. (Alexandre I. Kabanov) **99f:18009** 18C15 (08A02, 14H10, 57M50)

— *see also* **Higher category theory, 99h:18002**

Geubelle, P. H. (*with* Danyluk, M. J.; Hilton, H. H.) Two-dimensional dynamic and three-dimensional fracture in viscoelastic materials. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3831–3853. 73M25 (73F99)

Geurts, Bernard J. (*with* Heeg, Ruerd S.) Spatial instabilities of the incompressible attachment-line flow using sparse matrix Jacobi-Davidson techniques. (English summary) *Appl. Sci. Res.* **59** (1998), *no.* 4, 315–329. (Summary) **99g:76043** 76D10 (76E99, 76M20)

— *see also* **Floating, flowing, flying**

Geurts, Frédéric (*with* Flocchini, Paola) Searching for chaos in cellular automata: compositional approach. (English summary) *Complex. Int.* **2** (1995), 15 *HTML documents* (*electronic*). (Summary) **99k:58103** 58F08 (58F13, 68Q80)

Geuvers, Herman (*with* Bloo, Roel) Explicit substitution. On the edge of strong normalization. (English summary) *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 375–395. (From the summary) **99k:68025** 68N15 (03B40)

Geuvers, J. H. (*with* Bunder, Martin; Dekkers, W. J. M.) Equivalences between illative combinatory logics and pure type systems. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 119–135. (*see* **99d:03003**) 03B40

Gevers, Louis (*with* Michel, Philippe Gaston) Economic dynasties with intermissions. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 251–271. (Summary) **99g:92047** 92H10 (90A99, 90D20)

Gevorgyan, O. V. (*with* Akopyan, A. A.; Sahakian, Artur A.) Numerical curves and their applications to algebraic curves. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 97–111, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D17)

Gevorkyan, Gegham On the uniqueness of additive functions of dyadic cubes and series in the Haar system. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 5, 7–21; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 5, 2–13 (1996). (Alexander Alipkanovich Zhensykbaev) **99h:41035** 41A52 (41A50, 42C25)

— Franklin and Haar series in Lorentz spaces $L_{p,q}[0,1]$, $0 < q \le p < 1$. (English summary) *East J. Approx.* **3** (1997), *no.* 4, 419–444. (P. Simon) **99g:42033** 42C10 (46E30)

— (*with* Engibaryan, N. B.) New theorems for the integral renewal equation. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 5–20; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 2–16. (Summary) **99e:45002** 45E10 (60K05)

— (*with* Wolnik, Barbara) Square functions for wavelet type systems. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 155–172. (I. Ya. Novikov) **99d:46042** 46E30 (42C15)

— (*with* Kamont, Anna) On general Franklin systems. (English summary) *Dissertationes Math.* (*Rozprawy Mat.*) **374** (1998), 59 *pp.* (P. Simon) **99d:42048** 42C10

— An inequality for harmonic functions and uniqueness of Abel summable trigonometric series. *East J. Approx.* **4** (1998), *no.* 3, 433–434. 42A63

— (*with* Talalyan, Aleksandr Andraniki; Karagulyan, G. A.) On some linear methods for the summation of Fourier series. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 129–152; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 771–795. (J. Németh) **99i:42006** 42A24

Gevorkyan, L. Z. On a Kreĭn-Lax theorem. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 89–92 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 72–75. (Michal Zajac) **99f:47013** 47A20 (47A10, 47B20)

— Local spectral theory of equiparanormal operators. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 4, 11–16 (1998). (F.-H. Vasilescu) **99k:47008** 47A11 (47B20)

Gewali, Laxmi P. (*with* Ntafos, Simeon) Watchman routes in the presence of a pair of convex polygons. (English summary) *Inform. Sci.* **105** (1998), *no.* 1-4, 123–149. (Summary) **99c:68247** 68U05 (52B55)

Geweke, John (*with* Petrella, Lea) Prior density-ratio class robustness in econometrics. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 469–478. 62P20 (62F15, 62F35)

— *see also* **Decison making under risk and uncertainty, 99a:90003**

Geyer, Bodo (*with* Falkenberg, Sven; Lavrov, Petr M.; Moshin, P.) On the structure of quantum gauge theories with external fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4077–4089. (Mohamed Kachkachi) **99g:81130** 81T13 (81T08, 81T70)

— (*with* Falkenberg, Sven) Effective average action in $N = 1$ super-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085004, 8 *pp.* 81T60 (81T13)

Geyer, Charles J. (*with* Meeden, Glen; Lang, Joseph; Funo, Eiichiro) The admissibility of the maximum likelihood estimator for decomposable log-linear interaction models for contingency tables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 473–493. (Summary) **99c:62021** 62C15 (62F10, 62H17)

— (*with* Hobert, James P.) Geometric ergodicity of Gibbs and block Gibbs samplers for a hierarchical random effects model. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 414–430. (Christian P. Robert) **99k:62134** 62J10 (62C05)

Geyer, Lukas Linearization of structurally stable polynomials. *Progress in holomorphic dynamics*, 27–30, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (From the text) **99m:58154** 58F23 (30D05)

Geyer, Wulf-Dieter (*with* Jarden, Moshe) Bounded realization of l-groups over global fields. The method of Scholz and Reichardt. (English summary) *Nagoya Math. J.* **150** (1998), 13–62. (Helmut Völklein) **99d:12001** 12F12 (11R32, 11S31, 12F10)

Geyler, V. A. *see* **Geĭler, V. A.**

Geymonat, Giuseppe (*with* Gilardi, Gianni) Contre-exemples à l'inégalité de Korn et au lemme de Lions dans des domaines irréguliers. (French summary) [Counterexamples to the Korn inequality and the Lions lemma in irregular domains] *Équations aux dérivées partielles et applications*, 541–548, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Alain Brillard) **99i:73017** 73C02 (35Q72)

— (*with* Lions, Jacques-Louis) The role of mathematical and numerical tools in modelling. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *no.* 1, 7–24. 00A71 (01A99)

— (*with* Krasucki, F.; Marini, Donatella; Vidrascu, Marina) A domain decomposition method for a bonded structure. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1387–1402. (Alain Brillard) **99m:73012** 73C02 (65N55, 73T05, 73V05)

Gezada, R. B. *see* **Quezada Batalla, Roberto**

Gfrerrer, Anton (*with* Lang, Johann) Equiform bundle motions in E_3 with spherical trajectories. I, II. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 307–316, 317–328. (Hellmuth Stachel) **99m:53024** 53A17

Ghabbar, Y. Exponential dichotomies, invariant splitting and the existence of wave-front like solutions for a model of population genetics. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 59–73. (Summary) **99j:92007** 92D10 (34C35, 34C37, 34D99, 35Q80, 58F40, 92D25)

Ghadi, F. (*with* Ruas, V.; Wakrim, M.) A mixed finite element method to solve the Stokes problem in the stream function and vorticity formulation. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 381–398. (Lutz Tobiska) **99m:76078** 76M10 (65M60, 76D07)

Ghafarnejad, H. (*with* Salehi, Hadi) Erratum: "Hadamard renormalization, conformal anomaly, and cosmological event horizons" [Phys. Rev. D (3) **56** (1997), no. 8, 4633–4639; MR 98g:81143]. *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5311. 81T20 (81T15, 83C47, 83C57)

abd el-Ghaffar, F. S. *see* **Abd El-Ghaffar, F. S.**

abdel-Ghaffar, Khaled A. S. *see* **Abdel-Ghaffar, Khaled A. S.**

Ghahramani, Fereidoun (*with* Lau, Anthony To-Ming) Multipliers and modulus on Banach algebras related to locally compact groups. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 478–497. (V. Losert) **99h:43003** 43A10 (46H25, 46J99, 47B38)

— (*with* Selivanov, Yurĭĭ V.) The global dimension theorem for weighted convolution algebras. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 393–406. (Niels Grønbæk) **99h:46096** 46J05 (18G20, 43A20, 46M20)

— (*with* Dales, H. Garth; Grønbæk, Niels) Derivations into iterated duals of Banach algebras. (English summary) *Studia Math.* **128** (1998), *no.* 1, 19–54. (T. W. Palmer) **99g:46064** 46H20 (43A20, 46J40, 47D30)

Ghaleb, A. F. (*with* Rawy, E. K.; Iskandar, Labib) Numerical solution for a nonlinear, one-dimensional problem of thermoelasticity. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 53–76. 73V15 (73B30)

ben Ghalia, Mounir *see* **Ben Ghalia, Mounir**

Ghalieh, Khuloud (*with* Benz, Walter) Groupoids associated with the ternary ring of a projective plane. *J. Geom.* **61** (1998), *no.* 1-2, 17–31. (Hubert Kiechle) **99b:51001** 51A35 (20N02)

Ghalim, Rachid Une involution sur la variété des 2-instantons. [An involution on the manifold of 2-instantons] *Math. Z.* **228** (1998), *no.* 2, 309–335. (Tohru Nakashima) **99f:14057** 14J60 (14D20)

Ghamsari, Manouchehr (*with* Herron, David A.) Higher dimensional Ahlfors regular sets and chordarc curves in $\mathbf{R}^n$. *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 191–222. (Jeremy T. Tyson) **99m:28016** 28A78 (42B20)

— (*with* Herron, David A.) Bi-Lipschitz homogeneous Jordan curves. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3197–3216. (Jouni Luukkainen) **99m:30042** 30C65 (28A80)

Ghanaat, Patrick Diskrete Gruppen und die Geometrie der Repèrebündel. [Discrete groups and the geometry of frame bundles] *J. Reine Angew. Math.* **492** (1997), 135–178. (Author's review (Zbl 883.53040)) **99f:53035** 53C20

Ghandehari, Mostafa (*with* O'Neill, E. J.) Self-circumference of rotors. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 179–190. (B. Klotzek) **99c:52009** 52A38 (51M25)

— Ray optics on surfaces. (English summary) *Libertas Math.* **18** (1998), 49–52. (Summary) **99i:78009** 78A05 (49S05)

ben Ghanem, Riadh *see* **Ben Ghanem, Riadh**

Ghanem, Roger Ingredients for a general purpose stochastic finite elements implementation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **168** (1999), *no.* 1-4, 19–34. 65N30 (65U05)

Ghani, Bashar Abdul Asymptotic representations for solutions of one fourth-order nonlinear differential equation. I, II. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 345–368, 369–387. (J. S. W. Wong) **99d:34082** 34C99 (34E99)

Ghani, Neil (*with* Lüth, Christoph) Monads and modular term rewriting. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 69–86, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q42

— (*with* de Paiva, V. C. V.; Ritter, Eike) Explicit substitutions for constructive necessity. *Automata, languages and programming* (*Aalborg*, 1998), 743–754, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 03B40 (03B70, 68N15)

Ghannadan, Saied (*with* Hoàng Tụy) A new branch and bound method for bilevel linear programs. (English summary) *Multilevel optimization: algorithms and applications*, 231–249, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:90122** 90C05 (90C08)

el Ghaoui, Laurent *see* **El Ghaoui, Laurent**

Gharaati, A. R. (*with* Riazi, N.) Dynamics of sine-Gordon solitons. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 1081–1120. (Summary) **99a:81101** 81T10

Gharib, Mohamed Some estimates for the rate of convergence in the multidimensional central limit theorem for homogeneous Markov chains. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 95–102. (Sophia Kalpazidou) **99c:60141** 60J10 (60F05)

— A uniform estimate for the convergence rate in the central limit theorem of the weighted sum of random vectors forming a homogeneous Markov chain. (English summary) *Kobe J. Math.* **15** (1998), *no.* 1, 1–15. (Sophia Kalpazidou) **99i:60050** 60F05 (60J05)

— A local limit theorem for homogeneous Markov chains. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 351–357. (M. Iosifescu) **99m:60103** 60J05 (60F05)

Gharib, Morteza (*with* Rosenfeld, Moshe; Rambod, Edmond) Circulation and formation number of laminar vortex rings. (English summary) *J. Fluid Mech.* **376** (1998), 297–318. 76C05

Gharzeddine, Fadi (*with* Ibrahimbegovic, Adnan) Finite deformation plasticity in principal axes: from a manifold to the Euclidean setting. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 3-4, 341–369. 73G20 (73E99, 73V05)

Ghassib, H. B. (*with* Rabei, E. M.; Nawafleh, K. I.) Some physical applications of the canonical method. (English summary) *Hadronic J.* **22** (1999), *no.* 2, 241–255. 78A35

Ghatage, P. (*with* Cao, Guang Fu; Elias, N.; Yu, Da Hai) Composition operators on a Banach space of analytic functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 235–240. (Ke He Zhu) **99j:47042** 47B38 (46E15)

Ghazali, Ali (*with* Shakir, Syed) Modification of Jessen's method 3. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 179–187. 62D05

Ghazali, Syed Shakir Ali (*with* Masood Gilani, Ghosia) A formal algorithm of a sampling procedure for a 3-way stratified population. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 149–156. 62D05

el-Ghazaly, Samir M. *see* **El-Ghazaly, Samir M.**

Ghazanfari, A. (*with* Niknam, A.) A remark on amenability of A^*-algebras. (English summary) *J. Anal.* **6** (1998), 163–166. (Summary) **99j:46061** 46K05 (46L05)

Gheiner, Jaques Codimension n flips. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1115–1137. (Robert Roussarie) **99j:58148** 58F14 (58F09)

Ghelli, Franco Caroti Application of Markov chains to the analysis of interzonal flows in a network. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 4, 415–424. (Summary) **99g:90045** 90B10 (60J20)

Ghelli, Giorgio Termination of system F-bounded: a complete proof. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 39–56. (Henri Volken) **99a:68024** 68N15 (03B40)

— (*with* Pierce, Benjamin C.) Bounded existentials and minimal typing. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 75–96. (Martin W. Bunder) **99f:03014** 03B40 (68N15)

Ghendrih, Ph. (*with* Sarazin, Y.) Intermittent particle transport in two-dimensional edge turbulence. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4214–4228. 76X05 (76F99)

Gheondea, Aurelian (*with* Ober, Raimund J.) Spectral minimality of J-positive linear systems of finite order. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 70–80, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Daniel Alpay) **99f:93026** 93B25 (47B50, 47N70, 93B30)

— (*with* Constantinescu, Tiberiu) Representations of Hermitian kernels by means of Kreĭn spaces. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 6, 917–951. (J. Rovnyak) **99c:47013** 47A57 (46C20, 46E22, 47B50)

— On generalized interpolation and shift invariant maximal semidefinite subspaces. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 121–136, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Joseph A. Ball) **99g:47028** 47A57 (30E05, 47B50)

— (*with* Constantinescu, Tiberiu) On the Carathéodory type problem of M. G. Kreĭn and H. Langer. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 243–247. (Daniel Alpay) **99i:47025** 47A57 (30E05, 47A20, 47B50)

— (*with* Ober, Raimund J.) A trace formula for Hankel operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2007–2012. (V. S. Pilidi) **99j:47035** 47B35 (47B10)

Gheorghiev, Gheorghe *see* **Oproiu, Vasile**

Gheorghiu, C. I. On the behaviour of a thin liquid layer flowing due to gravity and a surface tension gradient. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 47–54. 76D08 (76D45)

Gherardelli, Francesco Observations about a class of determinantal varieties. (Italian. English summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 163–170 (1997). (Summary) **99b:14052** 14M12

Gherghe, Cătălin (*with* Calinov, Irina-Ana) Pluriharmonic maps on tangent bundles of a Riemannian or Hermitian manifold. (English summary) *An. Univ. Bucureşti Mat.* **46** (1997), 3–8. (Anne-Joëlle Vanderwinden) **99f:58047** 58E20 (53C55)

Gherghetta, Tony (*with* Dienes, Keith R.; Dudas, Emilian) Extra spacetime dimensions and unification. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 55–65. (Summary) **99e:81258** 81V22 (81T30)

— (*with* Dienes, Keith R.; Dudas, Emilian) Grand unification at intermediate mass scales through extra dimensions. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 47–108. (Summary) **99h:81228** 81V22 (81T30)

— (*with* Dienes, Keith R.; Dudas, Emilian; Riotto, A.) Cosmological phase transitions and radius stabilization in higher dimensions. (English summary) *Nuclear Phys. B* **543** (1999), *no.* 1-2, 387–422. (Summary) **99m:81162** 81T25 (81V25)

Ghergut, I. (*with* Marinoschi, Gabriela; Homentcovschi, D.; Jaekel, U.; Vereecken, H.) Determination of the macrodispersive parameters of a motion in a two-layer porous medium. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 117–126. (Summary) **99a:76150** 76S05 (76R50)

— (*with* Homentcovschi, D.; Marinoschi, Gabriela; Vereecken, H.; Jaekel, U.) Asymptotic solutions for two-site non-equilibrium transport. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 127–132. (Summary) **99a:76151** 76S05 (76R50)

Gherman, Rodica (*with* Kessler, Peter) A note on uniform fuzzy lattices. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 11–15 (1995). 54A40 (54H12)

Ghezelbash, Amir M. Periods and prepotential in $N = 2$ supersymmetric E_6 Yang-Mills theory. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 87–96. (Mohamed Kachkachi) **99c:81238** 81T60 (14H45, 14K20, 81T13)

— (*with* Kaviani, Kamran; Parvizi, Shahrokh; Fatollahi, Amir H.) Interacting spinors-scalars and AdS/CFT correspondence. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 291–298. (From the text) **99m:81187** 81T30 (81T40, 83E30)

— (*with* Khorrami, Mohammad; Aghamohammadi, A.) Logarithmic $N = 1$ superconformal field theories. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 283–288. (Summary) **99g:81200** 81T40

Ghidaglia, Jean-Michel (*with* Kumbaro, Anela; Le Coq, Gérard; Tajchman, Marc) A finite volume implicit method based on characteristic flux for solving hyperbolic systems of conservation laws. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 50–65, *World Sci. Publishing, River Edge, NJ*, 1997. (Miloslav Feistauer) **99m:65184** 65M60 (35L65)

— (*with* Bardos, Claude) Sur les équations d'Euler bidimensionnelles en écoulement ouvert et conditions aux limites en pression. (French summary) [Two-dimensional Euler equations of open flow and boundary conditions for pressure] *Équations aux dérivées partielles et applications*, 107–126, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Raphaël Danchin) **99g:76030** 76C99 (35Q30, 76D05)

Ghilani, Mustapha (*with* Eymard, R.; Gallouët, Thierry; Herbin, R.) Error estimate for the finite volume approximate of the solution to a nonlinear convective equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 13–24, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K99, 76M25)

— An error estimate for the approximate solution of a porous media diphasic flow equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 25–30, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 76M25 (65M15, 76S05, 76T05)

— (*with* Laydi, Mohamed Rachid) A general finite volume scheme for an elliptic-hyperbolic system using a variational approach. (English and French summaries) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 630–643. (So-Hsiang Chou) **99f:65155** 65N12

Ghilencea, Dumitru (*with* Ross, Graham G.) Unification and extra space-time dimensions. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 165–172. (Summary) **99h:81229** 81V22 (81T60)

Ghilezan, Silvia (*with* Dezani-Ciancaglini, Mariangiola; Venneri, Betti) The "relevance" of intersection and union types. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 246–269. (J. P. Seldin) **99e:03015** 03B40 (03B46, 03B55, 68N15)

Ghirardi, GianCarlo Realism and quantum mechanics. *Realism and quantum physics*, 216–233, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 81P05

— (*with* Deotto, E.) Bohmian mechanics revisited. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 1–30. (S. Gudder) **99e:81008** 81P05 (81P15)

Ghirlanda, Stefano (*with* Guerra, Francesco) General properties of overlap probability distributions in disordered spin systems. Towards Parisi ultrametricity. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9149–9155. (Summary) **99h:82045** 82B44

Ghişa, D. (*with* Bârză, Ilie) Lie groups acting on the Möbius strip. (English summary) *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 62–72, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99f:30068** 30F50 (22E99, 57S25, 57S30)

— (*with* Bârză, Ilie; Ianuş, Stere) Some remarks on the nonorientable surfaces. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 47–54. (Antonio F. Costa) **99i:30065** 30F50

— (*with* Bârză, Ilie) Boundary value problems on nonorientable surfaces. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 67–79. (Vasily A. Chernecky) **99j:30047** 30F15 (30F50, 31A25)

Ghisi, Marina The Cauchy-Kovalevsky theorem and noncompactness measures. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 627–647. (Masatake Miyake) **99h:34084** 34G20 (35A10, 35R20, 47H15, 47N20)

— (*with* Spagnolo, Sergio) Global analytic solutions to hyperbolic systems. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 245–264. (Alan Jeffrey) **99c:35159** 35L70

Ghiţă, Constantin ★ Metalurgie matematică. (Romanian. English summary) [Mathematical metallurgy] Analiza nestandard a proceselor metalurgice. [Nonstandard analysis of metallurgical processes] *Editura Academiei Române, Bucharest*, 1995. 375 *pp. ISBN* 973-27-0406-3 (Mircea Sofonea) **99c:73028** 73E50 (35Q72, 47N20, 73B30, 73E99, 73V25)

Ghitany, M. E. On a recent generalization of gamma distribution. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 223–233. (Summary) **99d:62009** 62E15 (62N05)

— Properties of the mean, variance, and covariance of order statistics from discrete arc sine distributions. (English summary) *Far East J. Theor. Stat.* **2** (1998), *no.* 1, 43–57. (Summary) **99j:62072** 62G30

— Maximum likelihood estimation for a compound Rayleigh distribution under type II censored samples. (English summary) *Far East J. Theor. Stat.* **2** (1998), *no.* 1, 85–93. (Summary) **99j:62026** 62F10 (62N05)

Ghizzo, Alain (*with* Sonnendrücker, Eric; Roche, Jean R.; Bertrand, Pierre) The semi-Lagrangian method for the numerical resolution of the Vlasov equation. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 201–220. (Summary) **99j:76100** 76M25 (76X05)

Ghoderao, Sudesh Bhaskar (*with* Yamana, Shukichi; Kelkar, Vikram Dwarkanath) Regular polygons easily made from a business envelope. (English and Japanese summaries) *Bull. Kyoto Univ. Ed. Ser. B No.* 90 (1997), 9–26. (Summary) **99f:51031** 51M15 (51M20)

Ghodosi, Hossein (*with* Pieprzyk, Josef; Safavi-Naini, Reihaneh) Secret sharing in multilevel and compartmented groups. (English summary) *Information security and privacy (Brisbane, 1998)*, 367–378, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94044** 94A60

— (*with* Pieprzyk, Josef; Safavi-Naini, Reihaneh; Wang, Huaxiong) On construction of cumulative secret sharing schemes. (English summary) *Information security and privacy (Brisbane, 1998)*, 379–398, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

— (*with* Chaudhry, Ghulam-Rasool; Seberry, Jennifer) Perfect secret sharing schemes from Room squares. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 55–61. (Summary) **99j:94040** 94A60 (05B15)

al-Ghonaim, S. S. *see* **Al-Ghonaim, S. S.**

Ghorai, J. K. (*with* Schmitter, J.) The asymptotic distribution of the suprema of the standardized empirical processes under the Koziol-Green model. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 303–313. (Summary) **99k:62188** 62N05 (62G15)

Ghorbani Koutanaee, A. Distribution of a continuous random variable with several known characteristics based on maximum entropy. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 195–199, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 62E10 (62B10)

Ghorbanzadeh, D. ★ Probabilités. (French. French summary) [Probability theory] Exercices corrigés. [Exercises with answers] With a preface by Gilbert Saporta. *Éditions Technip, Paris*, 1998. *xii+275 pp. ISBN* 2-7108-0747-5 (Miguel A. Arcones) **99m:60001** 60–01 (00A07)

Ghoreishi, F. (*with* Darvishi, M. T.) Error reduction for higher derivatives of Chebyshev collocation method using preconditioning and domain decomposition. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 2, 421–435. 65N55 (65F30)

Ghosal, Subhashis (*with* Chandra, Tapas K.) On extensions of an inequality of Kolmogorov. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 1–9. (S. M. Samuels) **99f:60030** 60E15 (60G42)

— (*with* Chandra, Tapas K.) Some elementary strong laws of large numbers: a review. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 61–81, *Narosa, New Delhi*, 1998. (Przemysław Matuła) **99m:60051** 60F15 (60F25)

— (*with* Chandra, Tapas K.) Complete convergence of martingale arrays. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 621–631. (K. F. Yu) **99f:60043** 60F05 (60E15, 60G42)

Ghose, Aditya K. (*with* Padmanabhuni, Srinivas) Inductive constraint logic programming: an overview. (English summary) *Learning and reasoning with complex representations (Cairns, 1996)*, 1–8, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05)

— (*with* Padmanabhuni, Srinivas; Goebel, Randy) The role of default representations in incremental learning. *Learning and reasoning with complex representations (Cairns, 1996)*, 92–105, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T05 (68N17, 68T27)

— *see also* **Learning and reasoning with complex representations, 99f:68003**

Ghose, Debasish (*with* Anand, Lakshmanan; Mani, V.) Probabilistic load scheduling with priorities in distributed computing systems. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 10, 839–856. (Summary) **99g:68022** 68M20 (90C35)

Ghose, Partha Spontaneous collapse vs decoherence. (English summary) *Proc. Indian Nat. Sci. Acad. Part A* **64** (1998), *no.* 2, 193–210. (Summary) **99b:81010** 81P05

Ghose, Suranjan (*with* Mandal, C. A.; Chakrabarti, P. P.) Some new results in the complexity of allocation and binding in data path synthesis. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 93–105. (Summary) **99b:68098** 68Q25 (68M07)

— (*with* Mandal, C. A.; Chakrabarti, P. P.) Complexity of fragmentable object bin packing and an application. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 91–97. (Summary) **99a:90166** 90C27 (90C60)

Ghosh, A. *see* **Ghosh, Amit[2]**

Ghosh, Amalendu (*with* Sharma, Ramesh) Some results on contact metric manifolds. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 497–507. (Themis Koufogiorgos) **99d:53029** 53C15 (53C25)

Ghosh, Amit[1] (*with* Conrey, J. B.) A conjecture for the sixth power moment of the Riemann zeta-function. *Internat. Math. Res. Notices* **1998**, *no.* 15, 775–780. (Matti Jutila) **99h:11096** 11M06

— (*with* Conrey, J. B.; Gonek, S. M.) Simple zeros of the Riemann zeta-function. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 497–522. (Daniel A. Goldston) **99i:11074** 11M26

Ghosh, Amit[2] Effectiveness of one-dimensional gas models for black holes. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 269–276. (From the introduction) **99f:83046** 83C57

Ghosh, Angsula (*with* Bhattacharya, A.; Talukdar, B.; Roy, U.) Quantal information entropies for atoms. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1667–1680. (Summary) **99d:81022** 81P99 (94A17)

Ghosh, Bhaskar (*with* Muthukrishnan, S.; Schultz, Martin H.) First- and second-order diffusive methods for rapid, coarse, distributed load balancing. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 331–354. (Summary) **99c:68029** 68M20 (05C85)

Ghosh, Diptesh (*with* Chakravarti, Nilotpal) A competitive local search heuristic for the subset sum problem. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 3, 271–279. 90C10 (90C27)

Ghosh, Gautam Generalized annihilation operator coherent states. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1366–1372. (Constantin Brif) **99a:81067** 81R30 (81S05)

Ghosh, Himadri (*with* Mukherjee, Indranil; Chatterjee, Aditya) A numerical Bayesian approach to spatial data analysis. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 181–197. (Summary) **99j:62036** 62F15 (62M30)

Ghosh, Jay B. (*with* De, Prabuddha; Dunne, James E.; Wells, Charles E.) Complexity of the discrete time-cost tradeoff problem for project networks. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 302–306. (Summary) **99f:90183** 90C60 (68Q25, 90C35)

— (*with* Gupta, Jatinder N. D.) Batch scheduling to minimize maximum lateness. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 77–80. (Jacek Błażewicz) **99d:90059** 90B35 (90C39)

Ghosh, Jayanta K. (*with* Bhanja, J.) Corrigendum: "Efficient estimation with many nuisance parameters. I" [Sankhyā Ser. A **54** (1992), no. 1, 1–39; MR 94i:62050]. *Sankhyā Ser. A* **58** (1996), *no.* 2, 344. 62G05 (62G20)

— (*with* Dharmadhikari, A. D.; Kuber, M. M.) On NBUE property of one component system supported by an inactive standby and a repair facility. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 1–8. (Fabio L. Spizzichino) **99f:62119** 62N05

— Bayesian density estimation. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 237–243 (*electronic*). (Summary) **99e:62044** 62G05

Ghosh, Kaushik (*with* Jammalamadaka, Sreenivasa Rao) Small sample approximations for spacing statistics. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 245–261. (Nancy Reid) **99f:62026** 62E20 (62G10, 62G20)

Ghosh, M. *see* **Ghosh, Malay**

Ghosh, M. K. *see* **Ghosh, Mrinal K.**

Ghosh, M. L. (*with* Pramanik, R. K.; Pal, S. C.) Transient response due to a pair of antiplane point impact loading on the faces of a finite Griffith crack at the bimaterial interface of anisotropic solids. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 11, 1197–1213. 73D25 (73D05, 73M25)

Ghosh, Malay (*with* Mukerjee, Rahul) Second-order probability matching priors. (English summary) *Biometrika* **84** (1997), *no.* 4, 970–975. (Nancy Reid) **99h:62024** 62F15

— (*with* Garvan, Cynthia Wilson) Noninformative priors for dispersion models. (English summary) *Biometrika* **84** (1997), *no.* 4, 976–982. (Rahul Mukerjee) **99g:62033** 62F15

— (*with* Yin, Ming) A note on the probability difference between matching priors based on posterior quantiles and on inversion of conditional likelihood ratio statistics. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 57–65. (Gary Nan Tie) **99i:62055** 62F15

— (*with* Kim, Dal Ho) Robust Bayes competitors of the ratio estimator. (English summary) *Statist. Decisions* **15** (1997), *no.* 1, 17–36. (Summary) **99d:62007** 62D05 (62F15)

— (*with* Mukerjee, Rahul) Recent developments on probability matching priors. (English summary) *Applied statistical science, III*, 227–252, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62057** 62F15

— (*with* Sun, Dongchu; Basu, Asit P.) Bayesian analysis for a stress-strength system under noninformative priors. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 323–332. 62N05 (62F15)

— (*with* Natarajan, Kannan; Maiti, Tapabrata) Hierarchical Bayes quality measurement plan. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 199–214. (Summary) **99c:62281** 62N10 (62F15)

— (*with* Chan, Schultz) Orthogonal projections and the geometry of estimating functions. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 227–245. (Goetz Trenkler) **99i:62037** 62F10

Ghosh, Mrinal K. (*with* Bagchi, Arunabha) Stochastic games with average payoff criterion. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 283–301. (Summary) **99k:90223** 90D15 (90D25, 93E05)

Ghosh, Partha Pratim (*with* Acharyya, S. K.) Locally Hausdorff spaces. (English summary) *J. Pure Math.* **13** (1996), 40–45. 54D10 (54B10)

Ghosh, Pijush Kanti (*with* Khare, Avinash; Sivakumar, M.) Supersymmetry, shape invariance, and solvability of A_{N-1} and BC_N Calogero-Sutherland model. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 821–825. (Kazuhiro Hikami) **99g:81238** 81V70 (81Q60)

Ghosh, Ranjan Kumar (*with* Rao, Sumathi) Fractional quantum Hall effect states as exact ground states. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 11, 1125–1134. (Summary) **99a:81206** 81V70

— (*with* Rao, Sumathi) Exactly solvable models in arbitrary dimensions. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 213–218. (Tuncay Aktosun) **99c:81025** 81Q05

Ghosh, S. (*with* Leonard, A.; Wiggins, Stephen) Diffusion of a passive scalar from a no-slip boundary into a two-dimensional chaotic advection field. (English summary) *J. Fluid Mech.* **372** (1998), 119–163. (Athanasios Yannacopoulos) **99k:76041** 76D05 (58F13, 58F40, 76F20, 76M35)

Ghosh, S. (*with* Kumar, Anil[1]) On duality with pseudoinvexity. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 149–150. 49N15 (90C29)

Ghosh, S. G. *see* **Ghosh, Sushant**

Ghosh, Sanjoy (*with* Oughton, Sean; Matthaeus, William H.) Scaling of spectral anisotropy with magnetic field strength in decaying magnetohydrodynamic turbulence. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4235–4242. (Summary) **99g:76150** 76W05 (76F99)

Ghosh, Satyajit (*with* Hunt, J. C. R.) Spray jets in a cross-flow. (English summary) *J. Fluid Mech.* **365** (1998), 109–136. (Summary) **99e:76038** 76D25 (76T05)

Ghosh, Shamik (*with* Mukherjee, T. K.; Sen, Mridul Kanti) Additively cancellative congruences on hemirings. (English summary) *Southeast Asian Bull. Math.* **21** (1997), *no.* 3, 297–301. 16Y99

Ghosh, Sibasish (*with* Kar, G.; Sarkar, Debasis) Hardy's nonlocality for entangled states of three spin-$\frac{1}{2}$ particles. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 249–255. (Summary) **99b:81011** 81P05

Ghosh, Subhradip (*with* Das, Nityananda; Mookerjee, Abhijit) A geometrical approach to Feenberg multiple-scattering series. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2837–2852. (Introduction) **99e:82094** 82D20 (81U99)

Ghosh, Subir Sequential assembly of fractions in factorial experiments. *Design and analysis of experiments*, 407–435, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K15

— (*with* Banerjee, R. S.) The chiral oscillator and its applications in quantum theory. (English summary) *J. Phys. A* **31** (1998), *no.* 36, *L*603–*L*608. (M. Znojil) **99h:81038** 81Q10 (81V45)

— *see also* **Design and analysis of experiments, 99f:62002**

Ghosh, Sujit K. (*with* Dey, Dipak K.; Chang, Hong) Measuring the effect of observations using the posterior and the intrinsic Bayes factors with vague prior information. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 376–391. (Summary) **99j:62034** 62F15

— (*with* Gelfand, Alan E.) Model choice: a minimum posterior predictive loss approach. (English summary) *Biometrika* **85** (1998), *no.* 1, 1–11. (Summary) **99d:62021** 62F15

Ghosh, Sushant (*with* Singh, Gyan Prakash; Beesham, Aroonkumar) Cosmological models in generalized scalar-tensor theory with causal viscous fluid. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 6, 849–856. 83D05 (83F05)

Ghosh, Tanwi (*with* Banerjee, Asit Kumar) Static domain walls in Brans-Dicke theory. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 581–585. 83D05

— (*with* Chatterjee, Sujit; Beesham, Aroonkumar; Bhui, B.) Inhomogeneous cosmological models in $D = 6$, $N = 2$ Kaluza-Klein supergravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6544–6546. (Summary) **99k:83111** 83E15 (83E30)

Ghosh, Tapan Kumar (*with* Chakraborty, Subenoy) String cosmology with Brans-Dicke theory in higher-dimensional space-time. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 9, 2409–2413. 83D05 (83E30)

Ghoshal, Debashis (*with* Förste, Stefan) Strings from orientifolds. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 95–120. (Marco Spaans) **99g:81161** 81T30

Ghoshal, J. (*with* Jacobs, David P.; Laskar, Renu C.; Pillone, D.) Partitions in tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 145–155. (Summary) **99j:05081** 05C20 (05C85)

Ghoshal, T. K. (*with* Das, Mili; Chakraborty, Mihir K.) Fuzzy tolerance relation, fuzzy tolerance space and basis. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 361–369. (Summary) **99d:04006** 04A72

Ghosh Roy, D. N. (*with* Warner, Jeremy A.; Couchman, L. S.; Shirron, Joseph J.) Inverse obstacle transmission problem in acoustics. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 903–929. (Summary) **99f:76119** 76Q05 (35R30, 65N99, 76M25)

Ghoudi, Kilani (*with* Remillard, Bruno) Empirical processes based on pseudo-observations. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 171–197, *North-Holland, Amsterdam*, 1998. (Miguel A. Arcones) **99k:60097** 60F17 (60B12)

— (*with* Khoudraji, Abdelhaq; Rivest, Louis-Paul) Propriétés statistiques des copules de valeurs extrêmes bidimensionnelles. (English and French summaries) [Statistical properties of copulas of two-dimensional extrema] *Canad. J. Statist.* **26** (1998), *no.* 1, 187–197. (Summary) **99b:62091** 62H05 (62E10)

el-Ghoul, M. *see* **El-Ghoul, M.**

al-Ghoul, Mazen *see* **Al-Ghoul, Mazen**

Ghoussoub, N. (*with* Ekeland, Ivar) Z_2-equivariant Ljusternik-Schnirelman theory for non-even functionals. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 3, 341–370. (Vitaly B. Moroz) **99f:58034** 58E05 (35J60, 49J52, 58E40)

— (*with* Feldman, Joel S.; Froese, Richard; Gui, Changfeng) An improved Moser-Aubin-Onofri inequality for axially symmetric functions on S^2. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 95–104. (Thierry Coulhon) **99c:58048** 58E35 (35J85, 53A05)

— (*with* Gui, Changfeng) On a conjecture of De Giorgi and some related problems. *Math. Ann.* **311** (1998), *no.* 3, 481–491. (Alan V. Lair) **99j:35049** 35J60 (35B05)

Ghrist, Robert W. Accumulations of infinite links. (English summary) *Topology Appl.* **81** (1997), *no.* 2, 171–184. (Summary) **99k:57014** 57M25 (58F25)

— Chaotic knots and wild dynamics. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 583–598. (Josefina Casasayas) **99e:58139** 58F22 (57M25)

— (*with* Young, Todd R.) From Morse-Smale to all knots and links. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1111–1125. (Josefina Casasayas) **99e:58114** 58F09 (57M25, 58F22)

Ghys, E. (*with* Rebelo, J.-C.) Singularités des flots holomorphes. II. (English and French summaries) [Singularities of holomorphic flows. II] *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1117–1174. (M. G. Soares) **99a:32059** 32S65

Ghysels, Eric (*with* Harvey, Andrew C.; Renault, Eric) Stochastic volatility. *Statistical methods in finance*, 119–191, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62138** 62P20 (62M10, 90A09)

— (*with* Gouriéroux, Christian; Jasiak, Joanna) Kernel autocorrelogram for time-deformed processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 167–191. (Summary) **99c:62250** 62M10 (62G05)

pham-Gia, T. *see* **Pham-Gia, T.**

Giacardi, Livia *see* **Beltrami, Eugenio, 99j:01011**

Giaccio, Roberto (*with* Ausiello, Giorgio; Franciosa, Paolo Giulio; Frigioni, Daniele) Decremental maintenance of reachability in hypergraphs and minimum models of Horn formulae. (English summary) *Algorithms and computation* (*Singapore*, 1997), 122–131, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05107** 05C85 (05C65, 68R10)

Giachetta, Giovanni (*with* Mangiarotti, L.) Constrained Hamiltonian systems and gauge theories. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 313–320, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:58077** 58F05 (58E30)

— Nonlinear realizations of the diffeomorphism group in metric-affine gauge theory of gravity. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 939–954. (Hans P. Künzle) **99m:83146** 83C60 (58D05, 83C99)

Giachetti, Daniela (*with* Leonetti, Francesco; Schianchi, Rosanna) Boundary regularity and uniqueness for very weak $\mathcal{A}$-harmonic functions. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 765–769. (Summary) **99g:35042** 35J65 (31B25, 35D05)

Giachetti, Riccardo (*with* Bonechi, F.; Sorace, E.; Tarlini, M.) Homogeneous spaces and special functions from the 2-dim Euclidean quantum groups. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 13–25, *PWN, Warsaw*, 1997. (From the introduction) **99i:33026** 33D80 (17B37)

— (*with* Sorace, E.; Tarlini, M.; Bonechi, F.) The quantum Galilei group and its representations. *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 65–78, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99f:81092** 81R50 (17B81)

— (*with* Cuccoli, A.; Tognetti, V.; Vaia, R.) Effective potential, Mori product and quantum dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 22, *L*419–*L*424. (M. Lawrence Glasser) **99f:82045** 82C10

— (*with* Bonechi, F.; Sorace, E.; Tarlini, M.) Induced representations of the one-dimensional quantum Galilei group. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 309–318. (Vladimir S. Mazorchuk) **99c:17023** 17B37 (17B10, 81R50)

Giacobazzi, Roberto (*with* Ranzato, Francesco) On the least complete extension of complete subsemilattices. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 235–237. (Marcel Erné) **99g:06006** 06A12 (06A15, 06A23, 68Q55)

— (*with* Ranzato, Francesco; Scozzari, Francesca) Complete abstract interpretations made constructive. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 366–377, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q55

— (*with* Ranzato, Francesco; Scozzari, Francesca) Building complete abstract interpretations in a linear logic-based setting. (English summary) *Static analysis* (*Pisa*, 1998), 215–229, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68Q55 (68N20)

— (*with* Ranzato, Francesco) Uniform closures: order-theoretically reconstructing logic program semantics and abstract domain refinements. (English summary) *Inform. and Comput.* **145** (1998), *no.* 2, 153–190. (Summary) **99f:68028** 68N17

— (*with* Ranzato, Francesco) Optimal domains for disjunctive abstract interpretation. (English summary) 6th European Symposium on Programming (Linköping, 1996). *Sci. Comput. Programming* **32** (1998), *no.* 1-3, 177–210. (Guo-Qiang Zhang) **99m:68113** 68Q55 (06A23, 68N15, 68Q60)

Giacobino, E. *see* **Quantum fluctuations, 99k:81356**

Giacomin, Giambattista (*with* Bertini, Lorenzo) Stochastic Burgers and KPZ equations from particle systems. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 571–607. (Ellen Saada) **99e:60212** 60K35 (60H15, 82C22, 82C24)

— (*with* Asselah, Amine) Metastability for the exclusion process with mean-field interaction. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 5-6, 1051–1110. (Timo Seppäläinen) **99k:60242** 60K35 (60F10, 82C22)

— (*with* Lebowitz, Joel L.) Phase segregation dynamics in particle systems with long range interactions. II. Interface motion. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1707–1729 (*electronic*). (Rossana Marra) **99m:35249** 35Q99 (35B40, 35K55, 45K05, 82C22, 82C24)

— (*with* Comets, Francis; Lebowitz, Joel L.) The Sherrington-Kirkpatrick model with short range ferromagnetic interactions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 57–62. (Barbara Gentz) **99k:82040** 82B44

Giacomini, Hector (*with* Neukirch, Sébastien) On the number of limit cycles of the Liénard equations. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 93–102, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:34078** 34C05

— On the existence, uniqueness, and bifurcations of limit cycles. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 117–126, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (A. P. Sadovskiĭ) **99c:34049** 34C05 (34C23, 58F21)

— (*with* Neukirch, Sébastien) Algebraic approximations to bifurcation curves of limit cycles for the Liénard equation. (English summary) *Phys. Lett. A* **244** (1998), *no.* 1-3, 53–58. (Summary) **99c:34050** 34C05 (34C23)

— *see also* **Llibre, Jaume et al., 99h:34048**

Giacomini, L. (*with* Bartolini, Giorgio; Ferrara, Antonella) A robust control design for a class of uncertain non-linear systems featuring a second-order sliding mode. (English summary) *Internat. J. Control* **72** (1999), *no.* 4, 321–331. (Summary) **99k:93031** 93B12 (93B36)

di Giacomo, Adriano *see* **Di Giacomo, Adriano**

de Giacomo, Giuseppe *see* **De Giacomo, Giuseppe**

Giacomoni, Jacques Global bifurcation results for semilinear elliptic problems in $\mathbf{R}^N$. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 11-12, 1875–1927. (Yong Qing Li) **99m:35059** 35J60 (35B32, 58E07)

— Some results about blow-up and global existence to a semilinear degenerate heat equation. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 325–351. (Summary) **99j:35114** 35K60 (35B40)

Giacone, R. E. (*with* McKinstrie, C. J.; Startsev, E. A.) Accurate formulas for the Landau damping rates of electrostatic waves. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 463–466. (Summary) **99j:76147** 76X05

Giakoumakis, Vassilis On the closure of graphs under substitution. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 83–97. (Summary) **99g:05170** 05C99 (05C15)

— (*with* Roussel, F.; Thuillier, H.) On P_4-tidy graphs. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 17–41 (*electronic*). (Chinh T. Hoang) **99c:05162** 05C75 (05C15, 05C35)

Giambruno, Antonio (*with* Zaĭtsev, M. V.) On codimension growth of finitely generated associative algebras. (English summary) *Adv. Math.* **140** (1998), *no.* 2, 145–155. (Amitai Regev) **99k:16049** 16R10 (16P90)

— (*with* Jespers, Eric) Central idempotents and units in rational group algebras of alternating groups. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 4, 467–477. (Alexander Zimmermann) **99m:16048** 16U60 (16S34)

— (*with* Bakhturin, Yu. A.; Riley, David Michael) Group-graded algebras with polynomial identity. (English summary) *Israel J. Math.* **104** (1998), 145–155. (E. Formanek) **99c:16041** 16W50 (16R99, 16W30)

— (*with* Sehgal, Sudarshan K.; Valenti, Angela) Symmetric units and group identities. (English summary) *Manuscripta Math.* **96** (1998), *no.* 4, 443–461. (E. Jespers) **99k:16067** 16U60 (16S34, 16W10)

— (*with* Bakhturin, Yu. A.; Zaĭtsev, M. V.) G-identities on associative algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 63–69. (E. Formanek) **99b:16053** 16W20

Giammarresi, Dora (*with* Mantaci, Sabrina; Mignosi, Filippo; Restivo, Antonio) Periodicities on trees. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 145–181. (Summary) **99d:68205** 68R15 (68R05)

Giampieri, G. (*with* Ciotti, L.) Motion of a rigid body in a tidal field: an application to elliptical galaxies in clusters. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997/98), *no.* 4, 313–334. (Summary) **99b:70010** 70F15 (70E15, 85A05)

Gianazza, Ugo (*with* Vespri, Vincenzo) Analytic semigroups generated by square Hörmander operators. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 201–220 (1997). (Paolo Acquistapace) **99d:35064** 35J70 (46E35, 46M35, 47D06, 47F05)

— Existence for a nonlinear problem relative to Dirichlet forms. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 209–234. (Zhongmin Qian) **99k:35049** 35J60 (31C25, 35D05)

— (*with* Vespri, Vincenzo) Analysis on the Heisenberg group: a survey. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 491–512. (Chu Li Fu) **99m:35033** 35H05 (35A27, 43A99, 58G11)

Giancarlo, Raffaele (*with* Guaiana, Daniela) On-line construction of two-dimensional suffix trees. (English summary) *Algorithms—ESA '97* (*Graz*), 217–231, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q20 (68P05)

— (*with* Buchsbaum, Adam L.) Algorithmic aspects in speech recognition: an introduction. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 44 *pp.* (*electronic*). (Summary) **99f:68168** 68S05 (68T10)

— (*with* Baker, Brenda S.) Longest common subsequence from fragments via sparse dynamic programming. (English summary) *Algorithms—ESA '98* (*Venice*), 79–90, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68Q25)

— (*with* Buchsbaum, Adam L.; Westbrook, Jeffery R.) On the determinization of weighted finite automata. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 482–493, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q45 (68T99)

— (*with* Apostolico, Alberto) Sequence alignment in molecular biology. (English summary) *Mathematical support for molecular biology*, 85–115, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92018** 92D20 (68Q25, 92C40)

Gianella, Gian Mario (*with* Čerin, Zvonko) Characterisations of hyperbolas by orthology and radial enlargement. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 499–511. (Summary) **99i:51016** 51M04

— (*with* Čerin, Zvonko) Triangles from sums of sides and altitudes. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 195–204. (Summary) **99g:51017** 51N20 (51M04)

dăng vũ Giang *see* **Dăng Vũ Giang**

Giang, Dang Vu *see* **Dăng Vũ Giang**

Giang, P. H. (*with* Dubois, Didier; Prade, Henri) A probabilistic approach to ordering formulas in a possibilistic knowledge base. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 3, 241–256. (Maria-Teresa Lamata) **99i:68114** 68T30 (68T27)

Giangi, M. (*with* Funaro, D.; Mansutti, D.) A splitting method for unsteady incompressible viscous fluids imposing no boundary conditions on pressure. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 95–104. (Summary) **99b:76064** 76M25 (65M70, 76D05, 76M20)

Giannakis, Elias Yaḥyā ibn 'Adī against John Philoponus on place and void. Annotated English translation and Arabic text of Yaḥyā ibn 'Adī's detailed critique of John Philoponus' *Treatise on place and void. Z. Gesch. Arab.-Islam. Wiss.* **12** (1998), 245–302. 01A30 (00A79, 01A20)

Giannakis, Georgios B. (*with* Scaglione, Anna; Barbarossa, Sergio) Filterbank transceivers optimizing information rate in block transmissions over dispersive channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 1019–1032. 94A05 (94A40)

Giannakis, Ioannis (*with* Nair, V. P.) Symplectic structures and self-dual fields in $(4k+2)$ dimensions. (English summary) *Phys. Lett. B* **409** (1997), *no.* 1-4, 145–152. (Hamid Kachkachi) **99e:81140** 81T10 (53C80)

— (*with* Kleidis, K.; Kuiroukidis, A.; Papadopoulos, D. B.) Anisotropic null string cosmologies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3169–3177. (Summary) **99i:83090** 83E30

— (*with* Liu, James T.) $N = 2$ supersymmetry and dipole moments. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025009, 7 *pp.* (Summary) **99k:81307** 81T60

Giannakopoulos, Fotios (*with* Oster, Oliver) Bifurcation properties of a planar system modelling neural activity. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 229–242. (Summary) **99m:92003** 92C05 (34C23, 58F14, 92C20)

Giannakopoulos, P. K. (*with* Lainiotis, D. G.; Katsikas, S. K.) Estimation for linear systems with non-Gaussian initial state: centralized and decentralized partitioning algorithms. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 4, 479–499. 93E10 (93E11)

Giannakos, A. (*with* Bampis, E.; Karzanov, A. V.; Manoussakis, Y.; Milis, I.) A parallel algorithm for finding a perfect matching in a planar graph. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 399–405. (Summary) **99g:68079** 68Q22 (05C70, 05C85, 68Q25)

Giannessi, Franco (*with* Antoni, Carla) On the equivalence, via relaxation-penalization, between vector generalized systems. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 567–588. (Gérard Lebourg) **99e:90078** 90C29 (49M30, 65K10, 90C27)

— On connections among separation, penalization and regularization for variational inequalities with point-to-set operators. (English summary) Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 137–145. (Paolo Cubiotti) **99d:49022** 49J40 (47H19)

— (*with* Tardella, Fabio) Connections between nonlinear programming and discrete optimization. *Handbook of combinatorial optimization, Vol.* 1, 149–188, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90001**) 90C27 (90–02, 90C30)

— On Minty variational principle. (English summary) *New trends in mathematical programming*, 93–99, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Gérard Lebourg) **99g:90109** 90C29 (49J40, 90C33)

— (*with* Uderzo, Amos) A multifunction approach to extremum problems having infinite-dimensional image. I. Composition and selection. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 771–785. (Alberto Seeger) **99i:49001** 49J05 (49K05)

— (*with* Dem'yanov, V. F.; Karelin, V. V.) Optimal control problems via exact penalty functions. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 215–223. (Marlies Borchardt) **99g:49031** 49M30 (65K10, 90C48)

— *see also* **Equilibrium problems with side constraints. Lagrangean theory and duality, 99a:49002** *and* **New trends in mathematical programming, 99c:90004**

Giannetti, Flavia Elliptic equations with right hand side in logarithmic Orlicz spaces. (English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 71–81 (1998). (Vitali A. Liskevich) **99h:35037** 35J25 (35D10)

Gianni, Patrizia (*with* Seppälä, Mika; Silhol, Robert; Trager, Barry) Riemann surfaces, plane algebraic curves and their period matrices. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 789–803. (Gabino González Díez) **99m:14055** 14H40 (14H55, 30F10, 30F30, 30F35)

Gianni, Roberto A free boundary problem arising in the study of the viscoplastic impact of a rod. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 529–539. (Meir Shillor) **99j:73055** 73E60 (35Q72, 35R35, 73D05)

Giannitrapani, R. Quantum coordinates of an event in local quantum physics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5180–5182. (Christian D. Jäkel) **99j:81098** 81T05

Giannoni, Fabio (*with* Piccione, Paolo; Verderesi, José A.) An approach to the relativistic brachistochrone problem by sub-Riemannian geometry. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6367–6381. (Fernand Pelletier) **99a:58038** 58E10 (49J10)

— (*with* Germinario, Anna) Morse theory for Riemannian geodesics without nondegeneracy assumptions. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 295–325. (Paolo Piccione) **99e:58043** 58E10

— (*with* Masiello, Antonio; Piccione, Paolo) A Morse theory for light rays on stably causal Lorentzian manifolds. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 4, 359–412. (Author's review (P.P.)) **99i:58034** 58E10

— (*with* Masiello, Antonio; Piccione, Paolo) A timelike extension of Fermat's principle in general relativity and applications. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 3, 263–283. (Anna Germinario) **99c:58033** 58E10 (58E05)

— (*with* Benci, Vieri; Masiello, Antonio) Some properties of the spectral flow in semi-Riemannian geometry. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 267–280. (Paolo Piccione) **99f:58039** 58E10

— (*with* Piccione, Paolo) An existence theory for relativistic brachistochrones in stationary space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6137–6152. (Anna Germinario) **99j:58046** 58E10

— (*with* Piccione, Paolo) An intrinsic approach to the geodesical connectedness of stationary Lorentzian manifolds. (English summary) *Comm. Anal. Geom.* **7** (1999), *no.* 1, 157–197. (Anna Germinario) **99m:58051** 58E10 (53C50, 58E05)

Giannoni, M.-J. (*with* Bogomol'nyĭ, E. B.; Georgeot, B.; Schmit, C.) Arithmetical chaos. (English summary) *Phys. Rep.* **291** (1997), *no.* 5-6, 219–324. (Jens Bolte) **99c:11062** 11F72 (11F25, 81Q50)

Giannopoulos, A. A. (*with* Milman, Vitali D.) Mean width and diameter of proportional sections of a symmetric convex body. *J. Reine Angew. Math.* **497** (1998), 113–139. (G. Schechtman) **99c:52006** 52A22 (46B07)

Giannotti, Fosca (*with* Pedreschi, Dino) Datalog with non-deterministic choice computes NDB-PTIME. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 79–101. (Summary) **99b:68029** 68N17 (68P15)

Gianone, László (*with* Bokor, József; Schipp, Ferenc) Approximate $\mathscr{H}_\infty$ identification using partial sum operators in a disc algebra basis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1117–1122. 93B30 (93B36)

Giaquinta, M. Nonlinear elliptic systems. *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 3, 238–252. (P. Lindqvist) **99i:35029** 35J45 (35J60, 49J10, 49Q20, 58E20)

— *see also* **Differential equations: La Pietra, 99g:35004**

Giaquinto, Anthony (*with* Hodges, Timothy J.) Nonstandard solutions of the Yang-Baxter equation. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 67–75. (Tomasz Brzeziński) **99h:81086** 81R50 (16W30, 17B37)

— (*with* Gerstenhaber, Murray) Boundary solutions of the quantum Yang-Baxter equation and solutions in three dimensions. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 2, 131–141. (Mitsuhiro Takeuchi) **99d:17020** 17B37 (81R50)

Giardinà, Cristian (*with* Livi, Roberto) Ergodic properties of microcanonical observables. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 1027–1045. (Summary) **99c:82030** 82B30

Giarré, L. (*with* Milanese, M.) SM identification of approximating models for H_∞ robust control. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 6, 319–332. 93B36 (93B30)

Giaume, Henri (*with* Mineur, Yves; Lichah, Tony; Castelain, Jean Marie) A shape controlled fitting method for Bézier curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 879–891. (Summary) **99d:65051** 65D17

Giavedoni, María D. (*with* Saita, Fernando A.) The rear meniscus of a long bubble steadily displacing a Newtonian liquid in a capillary tube. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 786–794. (Summary) **99k:76050** 76D45 (76M25)

Gibaru, Olivier (*with* Fiorot, Jean-Charles) The smooth G^2 filling of a rectangular patch hole joining four heterogeneous surfaces. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 175–182, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65039** 65D17 (65Y25)

— (*with* Fiorot, Jean-Charles) Surface de remplissage G^2-continu à n côtés. (English and French summaries) [A G^2-continuous n-sided filling patch] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 307–312. (Summary) **99j:65024** 65D17 (65Y25)

Gibbins, Daniel (*with* Chojnacki, Wojciech; Brooks, Michael J.) On the feasibility of determining light-source direction from an image. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 289–307. (Menachem Dishon) **99g:68178** 68T10 (35R30, 68U10, 78A10)

Gibbon, J. D. (*with* Doering, Charles R.) Corrigendum: "On the shape and dimension of the Lorenz attractor" [Dynam. Stability Systems **10** (1995), no. 3, 255–268; MR 96f:58091]. *Dynam. Stability Systems* **13** (1998), *no.* 3, 299–301. (From the text) **99h:58118** 58F12 (34C99, 34D45)

Gibbons, Alan (*with* Amos, Martyn; Wilson, Steve D.; Hodgson, David A.; Owenson, Gerald) Practical implementation of DNA computations. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 1–18, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05

— (*with* Amos, Martyn; Dunne, Paul E.) Toward feasible and efficient DNA computation. (English summary) *Complexity* **4** (1998), *no.* 1, 20–24. (Robert M. Baer) **99m:68047** 68Q05 (92D20)

— (*with* Amos, Martyn; Hodgson, David A.) Error-resistant implementation of DNA computations. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 151–161, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)

Gibbons, Gary W. (*with* Cornish, Neil J.) A tale of two centres. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 7, 1865–1881. (Summary) **99g:83020** 83C22 (83C10)

— (*with* Ferrara, Sergio; Kallosh, Renata) Black holes and critical points in moduli space. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 75–93. (Summary) **99d:83057** 83C57 (83E50)

— (*with* Papadopoulos, George J.; Stelle, K. S.) HKT and OKT geometries on soliton black hole moduli spaces. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 623–658. (Summary) **99c:83053** 83C57 (53C25, 53C80, 83E30)

— The Sen conjecture for distinct fundamental monopoles. (English summary) *The geometric universe (Oxford, 1996)*, 307–316, *Oxford Univ. Press, Oxford*, 1998. (Antony Maciocia) **99k:53090** 53C25 (58D27)

— (*with* Deser, Stanley) Born-Infeld-Einstein actions? (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, L35–L39. (Summary) **99b:83059** 83C99

— Real tunnelling geometries. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2605–2612. (Christopher C. Bernido) **99i:83038** 83C45 (58D30)

— Born-Infeld particles and Dirichlet p-branes. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 603–639. (Paul Nelson Watts) **99b:81192** 81T30 (81T13)

— Hyper-Kähler manifolds & multiply-intersecting branes. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 422–427. (Summary) **99f:53074** 53C80 (53C25, 81T30)

— (*with* Rychenkova, P.) Cones, tri-Sasakian structures and superconformal invariance. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 138–142. (Roger Bielawski) **99m:53089** 53C25 (83C99)

— (*with* Chamblin, Andrew; Emparan, Roberto) Superconducting p-branes and extremal black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084009, 11 *pp.* (Summary) **99m:83183** 83E30 (83C57, 83E15)

Gibbons, Jeremy *see* **Combinatorics, complexity, & logic, 99d:68003**

Gibbons, P. B. *see* **Gibbons, Phillip B.**

Gibbons, Peter B. (*with* Colbourn, Charles J.) Uniform orthogonal group divisible designs with block size three. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 15–33. (Krystyna Katulska) **99g:05027** 05B07 (51E05)

Gibbons, Phillip B. (*with* Matias, Yossi; Ramachandran, Vijaya) The queue-read queue-write asynchronous PRAM model. (English summary) *Theoret. Comput. Sci.* **196** (1998), *no.* 1-2, 3–29. (Wojciech Rytter) **99f:68053** 68Q05 (68Q10, 68Q22)

— (*with* Matias, Yossi; Ramachandran, Vijaya) The queue-read queue-write PRAM model: accounting for contention in parallel algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 734–770 (*electronic*). (Summary) **99g:68057** 68Q05 (68Q22)

— *see also* **ACM Symposium: Parallel Algorithms and Architectures, 99a:68002**

Gibbs, Josiah Willard *see* **Navarro Veguillas, Luis, 99f:01018** *and* **Mehra, Jagdish, 99m:01021**

Gibbs, Philip E. Event-symmetry for superstrings. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1243–1252. (Summary) **99a:81138** 81T30

Gibel, P. Étude numérique des oscillations des systèmes semi-linéaires 3 × 3. (English and French summaries) [Numerical study of semilinear 3 × 3 systems] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 7, 789–815. (Srinivasan Kesavan) **99k:65084** 65M25

Gibiansky, L. V. (*with* Torquato, Salvatore) New method to generate three-point bounds on effective properties of composites: application to viscoelasticity. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 749–783. (David J. Bergman) **99f:73006** 73B27 (73F99, 73K20)

Gibilisco, Paolo Bundle-connection pairs and representations of the loop group. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 503–518; *translation in Math. Notes* **61** (1997), *no.* 3-4, 417–429. (Vladimir V. Kisil) **99e:22036** 22E67 (58B25)

Giblin, Peter J. (*with* Sapiro, Guillermo) Affine-invariant symmetry sets. (English summary) *Foundations of computational mathematics (Rio de Janeiro, 1997)*, 152–168, *Springer, Berlin*, 1997. (Allen Tannenbaum) **99k:53007** 53A15 (65Y25, 68U05)

— (*with* Sapiro, Guillermo) Affine-invariant distances, envelopes and symmetry sets. (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 237–261. (Farid Tari) **99e:53002** 53A04 (53A15, 58C27, 68U10)

— (*with* Bruce, J. W.; Tari, F.) Families of surfaces: height functions and projections to planes. *Math. Scand.* **82** (1998), *no.* 2, 165–185. (Maria Carmen Romero-Fuster) **99j:53001** 53A05 (57R45, 58C27)

— Apparent contours: an outline. (English summary) New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1087–1102. (D. R. J. Chillingworth) **99m:53010** 53A05 (58C27, 68U05, 92J10)

— (*with* Bruce, J. W.; Tari, F.) Families of surfaces: focal sets, ridges and umbilics. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 243–268. (Maria Carmen Romero-Fuster) **99h:58018** 58C27 (53A05, 57R45)

Gibson, A. G. (*with* Chandler, C.) N-body quantum scattering theory in two Hilbert spaces: N-body integral equations. (English summary) *Few-Body Systems* **23** (1998), *no.* 3-4, 223–258. (V. S. Ol'khovskiĭ) **99e:81252** 81U10

Gibson, Gavin J. (*with* Hassell Sweatman, Catherine Z. W.; Mulgrew, Bernard) Exact classification with two-layer neural nets in n dimensions. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 19–39. (Summary) **99k:68157** 68T05 (92B20)

— (*with* Renshaw, Eric) Can Markov chain Monte Carlo be usefully applied to stochastic processes with hidden birth times? (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1581–1606. (Summary) **99h:65013** 65C05 (92D25)

Gibson, Glenn A. (*with* Kosheleva, Olga M.; Cabrera, Sergio D.; Koshelev, Misha) Fast implementations of morphological operations using fast Fourier transform (FFT). (English summary) *Geombinatorics* **8** (1999), *no.* 3, 86–92. 65T20 (68U10)

Gibson, J. S. (*with* Meng, C. L.) Fast identification of parameters in optical systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 73–101. (Jin Yun Yuan) **99g:93022** 93B30 (78–08)

Gibson, Jerry D. (*with* Berger, Toby) Lossy source coding. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2693–2723. (Summary) **99i:94031** 94A34 (94–02, 94A29)

Gibson, Peter (*with* Maltby, Roy) Posets in which every cutset meets every fibre. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 107–127. (Douglas B. West) **99m:06006** 06A07

Gibson, Peter M. (*with* Zhang, Guo-Hui) Combinatorially orthogonal matrices and related graphs. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 83–95. (Cyriel Van Nuffelen) **99i:05138** 05C50

Gibson, Richard G. (*with* Ciesielski, Krzysztof[2]; Natkaniec, Tomasz) κ-to-1 Darboux-like functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 671–687. (Ryszard J. Pawlak) **99f:26004** 26A15

Gidas, B. (*with* Murúa, Alejandro E.) Optimal transformations for prediction in continuous-time stochastic processes. (English summary) *Stochastic processes and related topics*, 167–183, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (M. P. Moklyachuk) **99k:60111** 60G25 (62M20)

Gîdea, Marian Stability of the topological entropy for a class of iterations of rational functions with perturbations. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 23–30. 58F11 (30D05)

— The discrete Conley index for non-invariant sets. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 107–114. (James F. Reineck) **99m:58131** 58F13 (54H20)

Gielerak, R. (*with* Albeverio, Sergio; Russo, Francesco) Constructive approach to the global Markov property in Euclidean quantum field theory. I. Construction of transition kernels. (English summary) *Markov Process. Related Fields* **3** (1997), *no.* 3, 275–322. (A. L. Rebenko) **99c:60105** 60G60 (60H15, 81T08)

— (*with* Jakóbczyk, L.; Olkiewicz, Robert) Stochastically positive structures on Weyl algebras. The case of quasi-free states. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6291–6328. (Shigeaki Nagamachi) **99m:81124** 81T05 (46N50, 81T20, 82B31)

— (*with* Becker, Claas; Ługiewicz, P.) Covariant SPDEs and quantum field structures. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 231–258. (Jiang Lun Wu and Hanno Gottschalk) **99d:81072** 81T08 (35R60, 60H15, 81T05)

Gielis, G. (*with* Koukkous, A.; Landim, C.) Equilibrium fluctuations for zero range processes in random environment. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 187–205. (Timo Seppäläinen) **99g:60187** 60K35 (82C22)

de Gier, Jan (*with* Nienhuis, Bernard) Bethe ansatz solution of a decagonal rectangle-triangle random tiling. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2141–2154. (Richard Kenyon) **99g:82036** 82B44 (82B23)

Gieres, François (*with* Gourmelen, Stéphane) $d = 2$, $N = 2$ superconformally covariant operators and super W-algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3453–3475. (Paul Nelson Watts) **99e:81076** 81R10 (17B68)

Giering, Oswald Affine and projective generalization of Wallace lines. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 119–133. (E. J. F. Primrose) **99c:51025** 51M04 (51N10, 51N15)

— Perlen der Geometrie. [Pearls of geometry] *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 1, 15–21. (Detlef Laugwitz) **99c:01003** 01A05 (00A05, 51–03)

Giesbrecht, Mark Factoring in skew-polynomial rings over finite fields. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 463–486. (Victoria Powers) **99i:16053** 16S36 (68Q40)

Gieseker, David Geometric invariant theory and the moduli of bundles. *Gauge theory and the topology of four-manifolds (Park City, UT, 1994)*, 5–21, *IAS/Park City Math. Ser.*, 4, *Amer. Math. Soc., Providence, RI*, 1998. (P. E. Newstead) **99c:14017** 14D25 (14D20)

Giesemann, Jens (*with* Greiner, Martin; Jouault, Bruno; Schmiegel, Jürgen; Lipa, Peter; Eggers, Hans) Wavelets: from signal analysis to the analysis of complex processes. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 11–14. (*see* **99g:81002**) 42C15 (94A12)

Giesl, Jürgen (*with* Arts, Thomas) Modularity of termination using dependency pairs. (English summary) *Rewriting techniques and applications (Tsukuba, 1998)*, 226–240, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (*see* **99d:68012**) 68Q42

van der Giessen, Erik (*with* Kollmann, F. G.) On mathematical aspects of dual variables in continuum mechanics. II. Applications in nonlinear solid mechanics. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 497–504. (Nicolae Boja) **99e:53014** 53A45 (70G99, 73B99, 73C50)

— (*with* Onck, Patrick) Growth of an initially sharp crack by grain boundary cavitation. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 1, 99–139. 73M25 (73V05)

Giga, Mi-Ho (*with* Giga, Yoshikazu) Motion driven by nonlocal curvature in the plane. *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 75–83, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 58E10 (53A04)

— (*with* Giga, Yoshikazu) Remarks on convergence of evolving graphs by nonlocal curvature. *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson, 1997)*, 99–116, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Ben Andrews) **99h:35086** 35K55 (35B20, 35D05)

— (*with* Giga, Yoshikazu) Evolving graphs by singular weighted curvature. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 2, 117–198. (Vladimir Grebenev) **99j:35118** 35K65 (35D05, 35K55, 58E12)

Giga, Yoshikazu (*with* Giga, Mi-Ho) Motion driven by nonlocal curvature in the plane. *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 75–83, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 58E10 (53A04)

— (*with* Giga, Mi-Ho) Remarks on convergence of evolving graphs by nonlocal curvature. *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson, 1997)*, 99–116, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Ben Andrews) **99h:35086** 35K55 (35B20, 35D05)

— (*with* Giga, Mi-Ho) Evolving graphs by singular weighted curvature. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 2, 117–198. (Vladimir Grebenev) **99j:35118** 35K65 (35D05, 35K55, 58E12)

— (*with* Gurtin, Morton E.; Matias, José) On the dynamics of crystalline motions. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 7–50. (Karsten

Grosse-Brauckmann) **99h:73008** 73B30 (35K65, 49J99, 58E50)
Gigante, Giuliana A remark on Brody's theorem on homogeneous complex manifolds. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 103–109 (1998). (Dennis Snow) **99f:32040** 32H20 (32H15, 32M10)
Gijbels, Irène (*with* Antoniadis, Anestis; Grégoire, Gérard) Model selection using wavelet decomposition and applications. (English summary) *Biometrika* **84** (1997), *no.* 4, 751–763. (Summary) **99a:62038** 62G05
— (*with* Fan, Jianqing; Farmen, Mark) Local maximum likelihood estimation and inference. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 591–608. (Summary) **99a:62046** 62G05
— (*with* Mammen, Enno) Local adaptivity of kernel estimates with plug-in local bandwidth selectors. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 503–520. (Michael Falk) **99i:62091** 62G07
— (*with* Pope, Alun Lloyd; Wand, M. P.) Understanding exponential smoothing via kernel regression. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 39–50. (Summary) **99i:62065** 62G05
Gil, A. *see* **Gil, Amparo**
Gil, A. S. *see* **Sanz, Ana M.**
Gil, Amparo (*with* Segura, Javier) Parabolic cylinder functions of integer and half-integer orders for nonnegative arguments. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 69–86. (Summary) **99h:65035** 65D20
— (*with* Segura, Javier) ELF and GNOME: two tiny codes to evaluate the real zeros of the Bessel functions of the first kind for real orders. (English summary) *Comput. Phys. Comm.* **117** (1999), *no.* 3, 250–262. 65H05
alegre Gil, Carmen *see* **Alegre Gil, Carmen**
sanz Gil, Javier *see* **Sanz Gil, Javier**
Gil, Joseph (*with* Matias, Yossi) Simple fast parallel hashing by oblivious execution. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1348–1375 (*electronic*). (Friedhelm Meyer auf der Heide) **99f:68041** 68P10 (68Q10, 68Q22)
Gil', M. I. On the "freezing" method for differential equations with delay. (English summary) *Analysis* **17** (1997), *no.* 1, 25–33. (L. A. V. Carvalho) **99a:34189** 34K15
— (*with* Ailon, Amit) On global feedback stabilization of nonlinear non-autonomous systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 935–941. 93D15
— Explicit stability conditions for nonlinear systems with delay. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2629–2639. (Yoshihiro Hamaya) **99a:34211** 34K20
— ★ Stability of finite- and infinite-dimensional systems. The Kluwer International Series in Engineering and Computer Science, 455. *Kluwer Academic Publishers, Boston, MA*, 1998. *xviii*+358 *pp. ISBN* 0-7923-8221-8 (Vasile Drăgan) **99m:34110** 34Dxx (34Gxx, 34H05, 34K20, 34K30, 93D10)
— (*with* Ailon, Amit) On global feedback stabilization of nonlinear retarded systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 195–202. (Jacob Hammer) **99e:93065** 93D15 (34K35)
— (*with* Ailon, Amit) The input-output version of Aizerman's conjecture. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 14, 1219–1226. (Sauro Longhi) **99k:93085** 93D25 (93C10)
— On the generalized Wazewski inequality for retarded systems. *Methods Appl. Anal.* **5** (1998), *no.* 2, 217–222. (Stephan A. van Gils) **99g:34151** 34K20 (34K30)
— On positive invertibility of matrices. (English summary) *Positivity* **2** (1998), *no.* 2, 165–170. (R. Kala) **99k:15004** 15A09
— (*with* Ailon, Amit) On exponential stabilization of non-linear non-autonomous systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 430–434. (Rabah Rabah) **99m:93083** 93D15
— (*with* Ailon, Amit; Choi, Eun-Seok) A simple linear stabilizing controller for a RLED robot with uncertain parameters and some related applications. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 546–559. 93D15 (70Q05, 93C20)
Gil, María Angeles (*with* Gebhardt, Jörg; Kruse, Rudolf) Fuzzy set-theoretic methods in statistics. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 311–347, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 62A99 (04A72, 62C99)
— (*with* López-Díaz, Miguel) The λ-average value and the fuzzy expectation of a fuzzy random variable. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 347–352. (Summary) **99g:60023** 60D05 (60A99)
— (*with* López-Díaz, Miguel) An extension of Fubini's theorem for fuzzy random variables. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 29–41. (Summary) **99k:28027** 28E10 (60A99)
Gil, Michael I. *see* **Gil', M. I.**
pardo san Gil, Rosa *see* **Pardo San Gil, Rosa**
Giladi, Eldar (*with* Golub, Gene H.; Keller, Joseph B.) Inner and outer iterations for the Chebyshev algorithm. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 300–319 (*electronic*). (Cs. J. Hegedűs) **99d:65106** 65F10
Gil Aluja, Jaime Concept and importance of order in the new paradigm of the theory of decision. *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 47–60, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 90A05 (90C29)
masood Gilani, Ghosia *see* **Masood Gilani, Ghosia**
Gilányi, Attila A characterization of monomial functions. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 289–307. (Peter Schroth) **99g:39027** 39B22 (26A24)
— (*with* Miya, Kenzo) Application of wavelet technique to electromagnetic boundary value problems. (English summary) *J. Grad. Sch. Fac. Eng. Univ. Tokyo Ser. B* **44** (1997), *no.* 1, 37–53. (Summary) **99a:78004** 78–08 (65N99, 78A25)
— On locally monomial functions. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 343–361. (Harkrishan Vasudeva) **99c:39028** 39B22
— On Hyers-Ulam stability of monomial functional equations. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 321–328. (Michail G. Blizorukov) **99k:39063** 39B22 (39A11)
— Solving linear functional equations with computer. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 57–70. (From the text) **99b:39033** 39B52 (68Q40)
— On the stability of the square-norm equation. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 419–427. (Roland Girgensohn) **99e:39082** 39B22 (26A24)
Gilardi, Gianni (*with* Colli, Pierluigi; Grasselli, Maurizio) Convergence of phase field to phase relaxation models with memory. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 1–14 (1997). (Nobuyuki Kenmochi) **99a:35258** 35Q99 (35R35, 80A22)
— (*with* Geymonat, Giuseppe) Contre-exemples à l'inégalité de Korn et au lemme de Lions dans des domaines irréguliers. (French summary) [Counterexamples to the Korn inequality and the Lions lemma in irregular domains] *Équations aux dérivées partielles et applications*, 541–548, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Alain Brillard) **99i:73017** 73C02 (35Q72)
— (*with* Colli, Pierluigi; Laurençot, Philippe; Novick-Cohen, Amy) Uniqueness and long-time behavior for the conserved phase-field system with memory. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 375–390. (Nobuyuki Kenmochi) **99k:73020** 73B30 (35Q72, 45K05, 80A22)
Gilat, T. (*with* Halevi, Yoram; Zlochevsky, A.) Parameter-dependent model order reduction. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 463–485. (Summary) **99j:93017** 93B11
Gilbert, A. C. *see* **Gilbert, Anna Catherine**
Gilbert, Andrew D. (*with* Bassom, Andrew P.) The spiral wind-up of vorticity in an inviscid planar vortex. (English summary) *J. Fluid Mech.* **371** (1998), 109–140. (Summary) **99g:76020** 76C05
Gilbert, Anna Catherine A comparison of multiresolution and classical one-dimensional homogenization schemes. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 1, 1–35. (From the introduction) **99i:34076** 34E15 (34A45, 35B27, 65M55)
— (*with* Beylkin, Gregory; Brewster, M. E.) A multiresolution method for numerical reduction and homogenization of nonlinear ODEs. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 450–486. (Iulian Coroian) **99i:65080** 65L99 (34A45)
— (*with* Daubechies, Ingrid C.) Harmonic analysis, wavelets and applications. *Hyperbolic equations and frequency interactions* (*Park City, UT*, 1995), 159–226, *IAS/Park City Math. Ser.*, 5, *Amer. Math. Soc., Providence, RI*, 1999. (Charles K. Chui) **99m:42047** 42C15 (65J99)
— (*with* Willinger, Walter; Feldmann, Anja) Scaling analysis of conservative cascades, with applications to network traffic. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 971–991. 94A05 (90B12)
Gilbert, D. J. On subordinacy and spectral multiplicity for a class of singular differential operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 549–584. (Robert M. Kauffman) **99m:34192** 34L10 (34B20, 47E05)
Gilbert, E. N. (*with* Coffman, E. G., Jr.; Kogan, Yakov A.) Redialing policies: optimality and success probabilities. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 37–53. (Volker Schmidt) **99m:60143** 60K25
Gilbert, George T. (*with* Berenbom, Jonathan; Fendel, Joe; Hatcher, Rhonda L.) Sliding piece puzzles with oriented tiles. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 23–33. (Summary) **99g:05016** 05A99
Gilbert, Jean Charles (*with* Bonnans, J. Frédéric; Lemaréchal, Claude; Sagastizábal, Claudia) ★ Optimisation numérique. (French. French summary) [Numerical optimization] Aspects théoriques et pratiques. [Theoretical and applied aspects] Mathématiques & Applications [Mathematics & Applications], 27. *Springer-Verlag, Berlin*, 1997. *xii*+324 *pp. ISBN* 3-540-63183-6 (Marlies Borchardt) **99f:90001** 90–01 (49M37, 65–01, 65K05, 90C30)
— Piecewise line-search techniques for constrained minimization by quasi-Newton algorithms. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 73–103, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (M. Teboulle) **99h:90097** 90C30 (65K05)
Gilbert, John E. (*with* Nahmod, Andrea R.) Hardy spaces and a Walsh model for bilinear cone operators. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3267–3300. (Cristian E. Gutiérrez) **99m:42022** 42B15 (42B30, 46E15)
Gilbert, John R. Combinatorial preconditioning for sparse linear systems. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 1–4, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F50
— (*with* Miller, Gary L.; Teng, Shang-Hua) Geometric mesh partitioning: implementation and experiments. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2091–2110 (*electronic*). (Summary) **99d:65391** 65Y25
— (*with* Demmel, James W.; Eisenstat, Stanley C.; Li, Xiaoye S.; Liu, Joseph W. H.) A supernodal approach to sparse partial pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 3, 720–755 (*electronic*). (Summary) **99m:65094** 65F50 (65F05)
Gilbert, N. D. Monoid presentations and associated groupoids. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 141–152. (Graham J. Ellis) **99d:20092** 20L10 (20L15, 57M07)
Gilbert, Robert Pertsch (*with* Ricci, Paolo Emilio) A short biography of Gaetano Fichera [1922–1996]. *Appl. Anal.* **65** (1997), *no.* 1-2, 1–2. 01A70
— (*with* Buchanan, James L.; Xu, Yongzhi) Green's function representation for acoustic pressure over a poroelastic seabed. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 57–68. (Summary) **99j:76111** 76Q05 (86A05)
— (*with* Dzhaiani, G. V.; Mandzhavidze, G. F.) Ilia Vekua's 90th birthday anniversary. International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 1–10. (Editors) **99m:01058** 01A70
— Applications of reproducing kernels to partial differential systems. (English summary) *Generalized analytic functions* (*Graz*, 1997), 41–54, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99j:46093** 46N20 (30C40, 35C99, 46E22)
— (*with* Lin, Zhongyan) Underwater acoustics. (English summary) *Generalized analytic functions* (*Graz*, 1997), 215–228, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76135** 76Q05 (76M25, 86A05)
— (*with* Buchanan, James L.) Comparison of the parabolic approximation with residue calculus in ocean acoustics. (English summary) *Generalized analytic functions* (*Graz*, 1997), 241–253, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:76103** 76Q05 (86A05)
— (*with* Hackl, Klaus) Inverse acoustic problems in shallow oceans. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 244–248,

SIAM, Philadelphia, PA, 1998. (*see* **99d:00023**) 76Q05
— (*with* Buchanan, James L.) Determination of the coefficients of an elastic seabed. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 75–86. (Summary) **99a:73057** 73D50 (86A22)
— (*with* Lin, Zhongyan) The fundamental singularity in a shallow ocean with an elastic seabed. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 87–107. (Summary) **99b:76080** 76Q05 (86A05)
— *see also* **Generalized analytic functions, 99d:00020; Partial differential and integral equations, 99k:00034** *and* **Habetha, Klaus et al.,** (**99d:00020**)
Gilbert, Thomas (*with* Tasaki, S.; Dorfman, J. R.) An analytical construction of the SRB measures for baker-type maps. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 424–443. (Esa A. Järvenpää) **99f:58133** 58F11
Gilbey, Julian D. (*with* Kalikow, Louis H.) Parking functions, valet functions and priority queues. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 351–373. (Summary) **99m:05011** 05A19 (05C05)
Gilboa, Itzhak A comment on the absent-minded driver paradox. Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 25–30. (*see* **99b:90162**) 90A05 (90D40)
— (*with* Chopra, Sunil; Sastry, S. Trilochan) Source sink flows with capacity installation in batches. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 165–192. (Summary) **99d:90134** 90C35 (90B10)
Gilding, Brian H. *see* **Russo, Giovanni, 99j:76126**
Giles, John R. (*with* Bartlett, Michael O.; Vanderwerff, Jon D.) Structural implications of norms with Hölder right-hand derivatives. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 415–425. (Marián Fabian) **99b:46011** 46B20 (46G05)
— Comparable characterisations of two classes of Banach spaces by subdifferentials. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 155–158. (Warren B. Moors) **99h:46013** 46B20 (49J52, 58C20)
Giles, M. J. Is the renormalisation group useless in turbulence? (English summary) Dynamics and statistics of concentrated vortices in turbulent flow (Carry-le-Rouet, 1997). *Eur. J. Mech. B Fluids* **17** (1998), *no.* 4, 519–533. (Summary) **99g:76072** 76F99 (76M35, 82B28)
Gileva, L. V. (*with* Shaĭdurov, V. V.) A cascadic multigrid algorithm in the finite element method for the plane elasticity problem. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 1, 23–34. (Summary) **99b:65142** 65N30 (73V05)
Gilewicz, Jacek (*with* Leopold, Elie) Location of the zeros of polynomials satisfying three-term recurrence relations with complex coefficients. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 4, 267–278. (M. E. Muldoon) **99c:30007** 30C15 (33C45)
— (*with* Dzyubenko, G. A.; Shevchuk, I. A.) Piecewise monotone pointwise approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 311–348. (Hong Kun Xu) **99f:41008** 41A10 (41A29)
— (*with* Pindor, Maciej) Padé-type approximants and errors of Padé approximants. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 155–165. (Ralitza Kovacheva) **99k:41017** 41A21 (41A55)
— Continued fractions as the best tool to estimate the Padé approximant errors. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2393–2397. 41A21
Gilio, Angelo (*with* Ingrassia, Salvatore) Totally coherent set-valued probability assessments. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 3–15. (Giulianella Coletti) **99e:60009** 60A05 (03B48, 68T30, 68T35)
san Gil Jutuca, L. P. *see* **San Gil Jutuca, L. P.**
Gilkey, Peter B. (*with* Bokan, Neda; Simon, Udo) Asymptotic spectra for Weyl geometries. Proceedings of the 25th National Conference on Geometry and Topology (Iaşi, 1995). *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat. (N.S.)* **42** (1996), *suppl.*, 83–90. (M. Puta (Zbl 882.58055)) **99f:58206** 58G18 (53C25, 58G11)
— The Gromov-Lawson-Rosenberg conjecture: When do manifolds admit metrics of positive scalar curvature? *Geometry from the Pacific Rim (Singapore*, 1994), 149–158, *de Gruyter, Berlin*, 1997. (H.-B. Rademacher (Zbl 888.53032)) **99f:53038** 53C21 (58G10)
— The eta invariant, manifolds of positive scalar curvature, and equivariant bordism. (English summary) *Geometry, topology and physics (Campinas*, 1996), 157–171, *de Gruyter, Berlin*, 1997. (Jonathan M. Rosenberg) **99k:58175** 58G12 (53C21, 55N22, 57R85)
— (*with* Blažić, Novica; Bokan, Neda; Rakić, Zoran) Pseudo-Riemannian Osserman manifolds. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 1–12. (Eric Boeckx) **99i:53067** 53C50
— (*with* Park, Jeong Hyeong) A note on the eigenfunctions of the Laplacian for a twisted holomorphic product. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 325–332. (Bernd Ammann) **99k:58187** 58G25
— (*with* Botvinnik, B. I.) The eta invariant and the Gromov-Lawson conjecture for elementary abelian groups of odd order. (English summary) *Topology Appl.* **80** (1997), *no.* 1-2, 43–53. (Andrew J. Baker) **99f:58194** 58G12 (53C21, 57R19, 57R20)
— (*with* Leahy, John V.; Park, Jeong Hyeong) The spectral geometry of Riemannian submersions. (English summary) 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Zb. Rad. Mat. Inst. Beograd. (N.S.)* **6(14)** (1997), 36–54. (Summary) **99j:58214** 58G25
— (*with* Leahy, John V.; Park, Jeong Hyeong) ★ Spinors, spectral geometry, and Riemannian submersions. (English summary) Lecture Notes Series, 40. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *iv*+142 *pp.* (Uwe Semmelmann) **99a:58158** 58G25 (53A50, 53C21, 58G30)
— Generalized Osserman manifolds. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 125–127. (María Elena Vázquez-Abal) **99j:53063** 53C25
— (*with* van den Berg, M.) A comparison estimate for the heat equation with an application to the heat content of the S-adic von Koch snowflake. *Bull. London Math. Soc.* **30** (1998), *no.* 4, 404–412. (Zhongmin Qian) **99d:35067** 35K05 (28A80, 60H30, 60J65)
— (*with* Grubb, Gerd) Logarithmic terms in asymptotic expansions of heat operator traces. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 777–792. (Rafe Mazzeo) **99m:58184** 58G11 (35C20, 35P05, 35S05, 58G18)
— (*with* Stanilov, G.; Videv, V.) Pseudo-Riemannian manifolds whose generalized Jacobi operator has constant characteristic polynomial. *J. Geom.* **62** (1998), *no.* 1-2, 144–153. (María Elena Vázquez-Abal) **99f:53069** 53C50
— (*with* Blažić, Novica; Bokan, Neda) Pontrjagin forms, Chern Simons classes, Codazzi transformations, and affine hypersurfaces. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 333–349. (Man Chun Leung) **99m:53039** 53C05 (53A15, 58G10)
— (*with* Leahy, John V.; Park, Jeong Hyeong) Eigenforms of the spin Laplacian and projectable spinors for principal bundles. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 740–752. (Hans-Bert Rademacher) **99b:58231** 58G25
— (*with* Bokan, Neda; Simon, Udo) Spectral invariants of affine hypersurfaces. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math. (Beograd) (N.S.)* **64(78)** (1998), 133–145. (Haruo Kitahara) **99j:58197** 58G11 (53A15, 58G18)
Gill, Andrew (*with* Read, W. W.; Sneddon, G. E.) On series solutions to Laplacian free boundary problems. *Computational techniques and applications: CTAC95 (Melbourne*, 1995), 343–350, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N35
Gill, David M. (*with* Vatansever, Bilal) Almost efficient presentations of the groups $\mathrm{PSL}(2,p)\times A_4$ for all primes p, $p\geq 5$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 17–20. (Martin Edjvet) **99h:20055** 20F05
Gill, Philip E. (*with* Forsgren, Anders) Primal-dual interior methods for nonconvex nonlinear programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1132–1152 (*electronic*). (Yin Zhang) **99k:90121** 90C26 (90C30)
Gill, R. D. Nonparametric estimation under censoring and passive registration. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 1, 35–54. (Summary) **99b:62056** 62G05 (62N05)
hans-Gill, R. J. *see* **Hans-Gill, R. J.**
Gill, Robert The number of elements in a generalized partition semilattice. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 125–134. (Hari Pulapaka) **99e:52014** 52B05 (05A15)
Gillard, J. Sasakian space forms and geodesic spheres and tubes. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 295–309. (Vicente Miquel) **99c:53045** 53C25 (53C22)
Gille, Philippe La R-équivalence sur les groupes algébriques réductifs définis sur un corps global. [R-equivalence on reductive algebraic groups defined over a global field] *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 199–235 (1998). (B. Sury) **99c:20066** 20G30 (14G05)
Gilleron, Rémi (*with* Tison, Sophie; Tommasi, Marc) Set constraints and automata. (English summary) *Inform. and Comput.* **149** (1999), *no.* 1, 1–41. (Sauro Tulipani) **99m:68120** 68Q60 (68N17, 68Q68)
Gilles, Robert P. (*with* Haller, Hans H.; Ruys, Pieter H. M.) Semi-core equivalence. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 101–127. (G. van der Laan) **99c:90029** 90A14 (90A80, 90D12)
— (*with* Diamantaras, Dimitrios) Linear cost sharing in economies with non-Samuelsonian public goods: core equivalence. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 121–139. (Hiroaki Osana) **99d:90015** 90A08 (90A14, 90A27)
Gillespie, Daniel T. Reply to: "Comment on: 'Why quantum mechanics cannot be formulated as a Markov process'" [Phys. Rev. A (3) **56** (1997), no. 4, 3301–3303; MR 99g:81006] by L. Hardy, D. Home, E. J. Squires and M. A. B. Whitaker. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 4, 3304–3306. (Gennady Berman) **99g:81007** 81P05
— *see also* **Hardy, Lucien et al., 99g:81006**
Gillespie, T. A. (*with* Berkson, Earl) Multipliers for weighted L^p-spaces, transference, and the q-variation of functions. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 6, 427–454. (Oscar Blasco) **99h:46042** 46E30 (42C15)
Gillett, Shelley (*with* Barnette, D. W.) Paths and circuits in partially directed graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 239–243. (Summary) **99h:05072** 05C38 (05C20)
Gilli, Manfred H. Graphs and macroeconometric modelling. (English summary) *Matrices and graphs (Brescia*, 1993/1995), 120–136, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:90041** 90A58 (05C50, 05C90, 65F30)
— (*with* Pauletto, Giorgio) Krylov methods for solving models with forward-looking variables. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1275–1289. (Summary) **99c:90038** 90A58 (62P20, 65F05)
Gilliam, David S. (*with* Byrnes, Christopher I.; Shubov, V. I.) On the global dynamics of a controlled viscous Burgers' equation. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 4, 457–519. (Grzegorz Karch) **99k:35154** 35Q53 (76D99, 93C20)
— (*with* Burns, John A.; Balogh, A.; Shubov, V. I.) Numerical stationary solutions for a viscous Burgers' equation. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 16 *pp. (electronic)*. (Summary) **99i:76045** 76D99 (35Q53, 65M99, 76M25)
— *see also* **Dynamical systems, control, coding, computer vision, 99k:93006**
Gillies, E. A. Low-dimensional control of the circular cylinder wake. (English summary) *J. Fluid Mech.* **371** (1998), 157–178. (Summary) **99f:76049** 76D25
Gilligan, Bruce Homology invariants of homogeneous complex manifolds. (English summary) *Lie groups and Lie algebras*, 163–179, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Peter Heinzner) **99e:32059** 32M05
Gillio Berta Mauri, Anna (*with* Bianchi, Mariagrazia; Heineken, Hermann; Verardi, Libero) Groups with big centralizers. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 25–42 (1997). (I. M. Isaacs) **99b:20041** 20D60
— (*with* Adami, S.; Bianchi, Mariagrazia; Herzog, Marcel) On graph-complete groups. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 295–307 (1997). (David Chillag) **99b:20040** 20D60
— (*with* Bianchi, Mariagrazia; Verardi, Libero) Groups in which elements with the same p-power permute [commute]. (English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 53–61 (1997). (David B. Surowski) **99c:20021** 20D20 (20D15, 20D40)
Gillman, David W. A Chernoff bound for random walks on expander graphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1203–1220 (*electronic*). (Mark R. Jerrum) **99e:60076** 60F10 (60J10, 68Q25)
Gillman, Leonard *see* **Ross, Kenneth Allen**
Gil-Luezas, A. (*with* Almendros-Jiménez, J. M.) Lazy narrowing with parametric order sorted types. (English summary) *Algebraic and logic programming (Southampton*, 1997),

159–173, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15

Gilman, Jane Algorithms, complexity and discreteness criteria in PSL(2, **C**). *J. Anal. Math.* **73** (1997), 91–114. (Klaus Meer) **99c:20062** 20G15 (68Q25)

Gil′man, O. A. (*with* Mindlin, I. M.) Waves in a heavy two-layer liquid excited by an oscillating sphere. *Fluid Dynam.* **33** (1998), *no.* 2, 252–263; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 120–133 (*Russian. Russian summary*). (Summary) **99i:76033** 76C10 (76B15, 76V05)

Gilmer, Patrick M. Turaev-Viro modules of satellite knots. (English summary) *KNOTS '96 (Tokyo)*, 337–363, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57015** 57M25

— A TQFT for wormhole cobordisms over the field of rational functions. (English summary) *Knot theory (Warsaw*, 1995), 119–127, *Banach Center Publ.*, **42**, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57020** 57M25 (57N10)

— On the Witten-Reshetikhin-Turaev representations of mapping class groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2483–2488. (Gretchen Wright) **99j:57017** 57N10 (57M99)

Gilmer, Robert (*with* Heinzer, William J.) On the embedding of a commutative ring in a local ring. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 192–210. (L. J. Ratliff, Jr.) **99i:13009** 13B02 (13F30)

— The ideal of polynomials vanishing on a commutative ring. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1265–1267. (Summary) **99h:13028** 13F20

Gilmore, Robert Topological analysis of chaotic dynamical systems. (English summary) *Rev. Modern Phys.* **70** (1998), *no.* 4, *part* 2, 1455–1529. (Remo Badii) **99i:58097** 58F12 (58–02, 58F13)

Gilotti, Anna Luisa (*with* Tiberio, Umberto) On the intersection of a certain class of maximal subgroups of a finite group. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 89–94. (Mohammad-Reza Darafsheh) **99e:20026** 20D15 (20D25)

van Gils, S. A. (*with* Tchistiakov, V.) About convergence of numerical approximations to homoclinic twist bifurcation points in Z_2-symmetric systems in $\mathbf{R}^4$. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 107–116. (Summary) **99d:65238** 65L99 (34C23)

Gilson, Claire R. (*with* Ratter, Mark C.) Three-dimensional three-wave interactions: a bilinear approach. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 349–367. (C. Rogers) **99c:35203** 35Q51

— (*with* Willox, Ralph; Ohta, Yasuhiro; Tokihiro, Tetsuji; Satsuma, Junkichi) Quadrilateral lattices and eigenfunction potentials for N-component KP hierarchies. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 163–172. (Reda A. Zait) **99m:58118** 58F07 (35Q53)

Gilyazov, Sergei F. Regularization of ill-posed constrained minimization problems by iteration methods. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 309–327. (Mihail Yu. Kokurin) **99c:49034** 49M30 (47A50, 65J20, 90C48)

Gilyova, L. V. *see* **Gileva, L. V.**

Gimadi, È. Kh. Exact algorithms for some multi-level location problems on a chain and a tree. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 72–77, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35 (90B80)

— (*with* Zalyubovskiĭ, V. V.) The problem of bin-packing: an asymptotically exact approach. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 25–33; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 23–31 (1998). (Simon N. Litsyn) **99f:90093** 90C27 (05B40)

— (*with* Zalyubovskiĭ, V. V.; Sharygin, P. I.) The problem of packing into a strip: an asymptotically exact approach. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 34–44; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 32–42 (1998). (Simon N. Litsyn) **99f:90094** 90C27 (05B40)

— (*with* Glebov, N. I.; Zalyubovskiĭ, V. V.) On problems of efficient barter. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **5** (1998), *no.* 1, 3–11. 90A11 (90C90)

— (*with* Glebov, N. I.; Serdyukov, A. I.) On a problem of the choice of a cyclic route and loading of transport vehicles. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **5** (1998), *no.* 1, 12–18. 90C35 (90C08)

Gimbel, John (*with* de Figueiredo, Celina Miraglia Herrera; de Mello, Célia Picinin; Szwarcfiter, Jayme L.) Sources and sinks in comparability graphs. (English summary) *Order* **14** (1997), *no.* 1, 75–83. (H. A. Jung) **99b:05138** 05C99 (06A07)

— (*with* de Figueiredo, Celina Miraglia Herrera; de Mello, Célia Picinin; Szwarcfiter, Jayme L.) Even and odd pairs in comparability and in P_4-comparability graphs. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 293–297. (Summary) **99i:05188** 05C85 (68Q25)

Gimbert, Joan On the existence of (d, k)-digraphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 375–391. (Summary) **99i:05092** 05C20

Giménez, Domingo (*with* Cámara, María T.; Cuenca, Javier) Acceleration of convergence in Jacobi methods for the symmetric eigenvalue problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 31 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65F30 (15A18)

— (*with* Cuenca, Javier; Zapata, Javier) Using computational nuclei in the Jacobi method to calculate eigenvalues in multiprocessors. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 33 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65Y05 (15A18, 68Q22)

torrano Giménez, E. *see* **Torrano Giménez, E.**

Giménez, Eduardo Structural recursive definitions in type theory. (English summary) *Automata, languages and programming (Aalborg*, 1998), 397–408, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 03B70 (03B40, 68N15)

Giménez, Isabel (*with* Corral, Cristina; Marín, José; Mas, José) Parallel m-step preconditioners for the conjugate gradient method. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 265–281. (Summary) **99m:65090** 65F35 (65F50)

Gimenez, Philippe (*with* Brumatti, Paulo; Simis, Aron) On the Gauss algebra associated to a rational map $\mathbf{P}^d \to \mathbf{P}^n$. (English summary) *J. Algebra* **207** (1998), *no.* 2, 557–571. (Santiago Zarzuela Armengou) **99h:14053** 14M25 (13F20, 14E05)

floría Gimeno, Luis *see* **Floría Gimeno, Luis**

Gimon, Eric G. (*with* Gremm, Martin) A note on brane boxes at finite string coupling. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 318–322. (Summary) **99e:81234** 81T60 (81T30)

muratore-Ginanneschi, Paolo *see* **Muratore-Ginanneschi, Paolo**

Ginanneschi, Paolo Muratore *see* **Muratore-Ginanneschi, Paolo**

Ginchev, I. (*with* Hoffmann, Armin) The Hausdorff nearest circle to a convex compact set in the plane. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 479–499. (Marek Lassak) **99e:52003** 52A10 (52A27)

Gindikin, S. G. (*with* Barchini, L.; Wong, Hon-Wai) The geometry of flag manifold and holomorphic extension of Szegő kernels for SU(p, q). (English summary) *Pacific J. Math.* **179** (1997), *no.* 2, 201–220. (John W. Rice) **99d:22020** 22E45 (22E30, 32M10)

— (*with* Berenstein, Carlos A.; Ebenfelt, Peter; Helgason, Sigurdur; Tumanov, Alexander) ★ Integral geometry, Radon transforms and complex analysis. Lectures given at the 1st C.I.M.E. Session held in Venice, June 3–12, 1996. Edited by E. Casadio Tarabusi, M. A. Picardello and G. Zampieri. Lecture Notes in Mathematics, 1684. *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo (C.I.M.E.), Florence*, 1998. *viii*+160 *pp. ISBN* 3-540-64207-2 (Editors) **99c:00011** 00B25 (32–06)

— Real integral geometry and complex analysis. *Integral geometry, Radon transforms and complex analysis (Venice*, 1996), 70–98, *Lecture Notes in Math.*, 1684, *Springer, Berlin*, 1998. (Michael G. Eastwood) **99h:53101** 53C65 (32L25)

— Tube domains in Stein symmetric spaces. *Positivity in Lie theory: open problems*, 81–97, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Ralph J. Bremigan) **99i:32041** 32M15 (22E30, 32E10, 43A85)

— Penrose transform for flag domains. *The geometric universe (Oxford*, 1996), 383–393, *Oxford Univ. Press, Oxford*, 1998. (A. Rod Gover) **99h:32036** 32L25 (32M10)

— (*with* Kaneyuki, Soji) On the automorphism group of the generalized conformal structure of a symmetric R-space. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 21–33. (O. Kowalski) **99a:53068** 53C35 (53C15)

— The century of the cycloid. *Quantum* **9** (1999), *no.* 4, 36–42. 51–03 (00A08, 01A45, 26–03)

Giné, Evarist Lectures on some aspects of the bootstrap. *Lectures on probability theory and statistics (Saint-Flour*, 1996), 37–151, *Lecture Notes in Math.*, 1665, *Springer, Berlin*, 1997. (Miguel A. Arcones) **99b:62073** 62G09 (60B12, 60F17, 62G20, 62G30)

— (*with* Wellner, Jon A.) Uniform convergence in some limit theorems for multiple particle systems. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 47–72. (Luis G. Gorostiza) **99c:60042** 60F05 (60F17, 60J65, 60J70, 60K35)

— A consequence for random polynomials of a result of de la Peña and Montgomery-Smith. *High dimensional probability (Oberwolfach*, 1996), 103–110, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60030** 60E15 (60G15)

— (*with* Mason, David M.) On the LIL for self-normalized sums of IID random variables. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 351–370. (Erich Haeusler) **99e:60082** 60F15

— (*with* de la Peña, Víctor H.) ★ Decoupling. (English summary) From dependence to independence. Randomly stopped processes. U-statistics and processes. Martingales and beyond. Probability and its Applications. *Springer-Verlag, New York*, 1999. *xvi*+392 *pp. ISBN* 0-387-98616-2 (Miguel A. Arcones) **99k:60044** 60E15 (60B12, 60F05, 60F15, 60F17, 60G40)

Giné, Jaume (*with* Chavarriga, Javier; García, I. A.) Isochronous centers of a linear center perturbed by homogeneous polynomials. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida*, 1996), 65–80, *Univ. Lleida, Lleida*, 199?. (I. D. Iliev) **99a:34075** 34C05 (34C20)

— (*with* Chavarriga, Javier; García, I. A.) Integrability of quasihomogeneous vector fields in the plane. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 11 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:34043** 34C05 (34A34, 58F21)

— (*with* Chavarriga, Javier) Integrability of cubic systems with degenerate infinity. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 12 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:34044** 34C05 (34A05, 34A34, 58F21)

— (*with* Chavarriga, Javier; García, I. A.) Quadratic integrable chordal systems. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 225–230, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Henryk Żołądek) **99d:34042** 34C05 (34A05)

— (*with* Chavarriga, Javier) Integrability of a linear center perturbed by cubic polynomials. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 231–236, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Henryk Żołądek) **99d:34043** 34C05 (34A05)

— (*with* Chavarriga, Javier) Integrable systems via inverse integrating factor. *Extracta Math.* **13** (1998), *no.* 1, 41–60. (Henryk Żołądek) **99h:34042** 34C05

— (*with* Chavarriga, Javier; García, I. A.) Isochronous centers of a linear center perturbed by fourth degree homogeneous polynomial. (English summary) *Bull. Sci. Math.* **123** (1999), *no.* 2, 77–96. (I. D. Iliev) **99m:34058** 34C05 (34–04, 34C20, 34C25)

mora Giné, Xavier *see* **Mora Giné, Xavier**

Ginebra, Josep (*with* Clayton, Murray K.) On a theorem of Kelley. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 191–201. (John C. Gittins) **99c:62215** 62L05 (62C10)

Giner, E. On the Clarke subdifferential of an integral functional on L_p, $1 \le p < \infty$. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 41–48. (Anna Salvadori) **99f:49017** 49J52 (28A25, 46E30, 49J10)

Gines, D. (*with* Beylkin, Gregory; Dunn, John) LU factorization of non-standard forms and direct multiresolution solvers. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 2, 156–201. (Heike Faßbender) **99c:65087** 65F50 (65N22)

vernet Ginés, Juan *see* **Vernet Ginés, Juan**

Ginés, M. (*with* Marhuenda, F.) Efficiency, monotonicity and rationality in public goods economies. (English summary) *Econom. Theory* **12** (1998), *no.* 2, 423–432. (Summary) **99h:90029** 90A27

Ginestar, D. (*with* Vidal, V.; Verdú Martín, Gumersindo; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Modal nodal method for the integration of the neutron diffusion equation. (Spanish) *XIV CEDYA/IV Congress of Applied Mathe-*

matics (Spanish) (*Vic*, 1995), 15 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (82–08, 82C70)

— (*with* Navarro-Esbrí, J.; Verdú Martín, Gumersindo; Bovea, M. D.; Jiménez Olivo, Pedro José; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Complex Lyapunov exponents of a system with Hopf bifurcation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 977–982, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C23

Gingerich, Owen The discovery of multiple annotated copies of *De revolutionibus. Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century (Italian)* (*Ferrara*, 1993), 29–37, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A40

— *see also* **Ptolemy of Alexandria, 99g:01004**

Gingold, Harry (*with* Tovbis, Alexander) Solutions of finitely smooth nonlinear singular differential equations and problems of diagonalization and triangularization. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 757–778 (*electronic*). (Donald A. Lutz) **99g:34114** 34E05 (34C99)

— (*with* Elias, Uri) More on asymptotic approximation for matrix differential equations. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 97–111. (A. D. Wood) **99m:34120** 34E05 (34A30)

Gingras, Yves (*with* Foisy, Martine) Émergence et évolution de la recherche en mathématiques au Québec, 1945–1984. [Emergence and evolution of mathematical research in Quebec, 1945–1984] *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 191–209, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A80

Ginibre, J. An introduction to nonlinear Schrödinger equations. (English summary) *Nonlinear waves (Sapporo*, 1995), 85–133, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Xian Guo Geng) **99a:35235** 35Q55

— (*with* Velo, G.) Generalized Strichartz inequalities for the wave equation in homogeneous Besov spaces. (English summary) *Nonlinear waves (Sapporo*, 1995), 135–144, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Vasiliy I. Sedenko) **99e:35125** 35L05 (35B45, 46N20)

Ginin, R. D. (*with* Georgieva, A. I.; Goleminov, J. D.) Mapping method for generating a q-deformed version of the algebraic su(3) ⊃ so(3) chain. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1830–1836. (Roberto Casalbuoni) **99k:81112** 81R50

Ginn, Mark Forbidden ordered subgraph vs. forbidden subgraph characterizations of graph classes. (English summary) *J. Graph Theory* **30** (1999), *no.* 2, 71–76. (Peter Damaschke) **99k:05136** 05C75 (05C65)

Ginnis, Alexandros (*with* Kaklis, Panagiotis D.; Gabrielides, N. C.) Sectional-curvature preserving skinning surfaces with a 3D spine curve. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme*, 1995), 113–123, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (41A29)

— Fair fillet between curves and its extension to surfaces. (English summary) *Creating fair and shape-preserving curves and surfaces (Kleinmachnow*, 1997), 261–269, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (65D15)

Ginocchio, Maurice On the bialgebra of functional graphs and differential algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 229–238. (K. Chandrasekhara Rao) **99f:05114** 05C99 (12H05)

Ginovyan, M. S. Asymptotic properties of estimates for the spectrum of a homogeneous Gaussian field. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **94** (1993), *no.* 5, 264–269 (1994). (Vladimir Zaiats) **99i:62230** 62M40 (60G15, 62M15)

Ginsberg, Matthew L. (*with* Parkes, Andrew J.; Roy, Amitabha) Supermodels and robustness. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 334–339, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20

Ginsburg, Anna I. (*with* Karapetyants, Nikolai K.) Lebesgue points for fractional integral. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 201–210. (E. R. Love) **99d:26008** 26A33

Ginsburg, Seymour (*with* Wang, X. Sean) Regular sequence operations and their use in database queries. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 1–26. (Summary) **99d:68064** 68P15

Gintides, D. (*with* Charalambopoulos, A.) On the analyticity of the solution of the equation of elasticity in the exterior region of the cavity with respect to the wave number. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 627–634. (Akira Tsutsumi) **99j:73019** 73C02 (73D25, 76Q05)

Ginzbourg, I. (*with* Wittum, Gabriel) Multigrid methods for two phase flows. (English summary) *Numerical flow simulation, I (Marseille*, 1997), 144–167, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76111** 76M25 (76T05)

Ginzburg, David (*with* Rallis, Stephen; Soudry, David) A tower of theta correspondences for G_2. *Duke Math. J.* **88** (1997), *no.* 3, 537–624. (Gordan Savin) **99c:11059** 11F70 (22E45)

— (*with* Rallis, Stephen; Soudry, David) On the automorphic theta representation for simply laced groups. (English summary) *Israel J. Math.* **100** (1997), 61–116. (Gordan Savin) **99c:11058** 11F70 (22E45)

— (*with* Rudnick, Zeév) Stable multiplicities in the length spectrum of Riemann surfaces. (English summary) *Israel J. Math.* **104** (1998), 129–144. (Jens Marklof) **99g:58125** 58G25 (30F10)

— (*with* Bump, Daniel) The adjoint L-function of GL(4). (English summary) *J. Reine Angew. Math.* **505** (1998), 119–172. (Dihua Jiang) **99h:11051** 11F70 (22E46)

Ginzburg, Jonathan *see* **Symposium: Logic, Language and Computation, 99m:03006**

Ginzburg, V. L. ★ О науке, о себе и о других. (Russian. Russian summary) [About science, myself and others] *Fizmatlit "Nauka", Moscow*, 1997. 272 *pp. ISBN* 5-02-015077-0 (Editors) **99h:00013** 00A79 (00B60, 01A70, 01A75)

Ginzburg, Victor (*with* Schechtman, Vadim) Screenings and a universal Lie-de Rham cocycle. *Kirillov's seminar on representation theory*, 1–34, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Alberto Medina) **99e:17031** 17B55 (17B68)

— Geometric methods in the representation theory of Hecke algebras and quantum groups. (English summary) Notes by Vladimir Baranovsky [V. Yu. Baranovskiĭ]. *Representation theories and algebraic geometry (Montreal, PQ*, 1997), 127–183, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (William M. McGovern) **99j:17020** 17B37 (22E47)

Giona, M. (*with* Schwalm, W. A.; Schwalm, M. K.) Lie groups and solution of dynamical problems on fractal lattices. (English summary) *Fractal frontiers (Denver, CO*, 1997), 179–188, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99f:58181** 58F40 (34C99, 39A10, 82C99)

— (*with* Schwalm, W. A.; Moritz, B.; Schwalm, M. K.) Vector difference calculus for physical lattice models. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 1217–1233. (Summary) **99j:58008** 58A10 (73V99, 76M99, 78A25)

Gionti, Gabriele Simplicial quantum gravity in the elongated phase. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6593–6602. (José A. Zapata) **99i:83025** 83C27 (57Q15, 83C45)

Giordani, Stefano (*with* Dell'Olmo, Paolo; Speranza, Maria Grazia) Graph models for a duo-processor task scheduling problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 186–191, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35 (90C35)

— (*with* Bianco, Lucio; Dell'Olmo, Paolo) Models and algorithms for real-time control of aircraft landings. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 289–294, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C90 (93C95)

— (*with* Confessore, Giuseppe; Dell'Olmo, Paolo) An approximation result for a bandwidth allocation problem. *Operations Research Proceedings* 1997 (*Jena*), 126–131, *Springer, Berlin*, 1998. (From the introduction) **99f:90034** 90B12

— (*with* Bianco, Lucio; Dell'Olmo, Paolo) Minimizing total completion time subject to release dates and sequence-dependent processing times. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 393–415. (*see* **99k:90002**) 90B35 (60K30, 90C48)

Giordano, C. *see* **Giordano, Carla**

Giordano, C. M. (*with* Plastino, Angel Ricardo; Plastino, Angel Luis) Noether's theorem and the "extended", conservative approach to time driven systems. (English and Spanish summaries) *Rev. Mexicana Fis.* **45** (1999), *no.* 3, 303–307. 70H33

Giordano, Carla (*with* Palumbo, Biagio; Pečarić, Josip) Remarks on the Hankel determinantal inequalities. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 279–286. (J. Matkowski) **99d:26016** 26A48 (26A51, 26D07)

— (*with* Laforgia, Andrea; Pečarić, Josip) Unified treatment of Gautschi-Kershaw type inequalities for the gamma function. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 167–175. (P. Anandani) **99k:33004** 33B15

— (*with* Elezović, N.; Pečarić, Josip) A geometric mean inequality and some monotonicity results for the q-gamma function. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 253–258. (Andrea Laforgia) **99c:33027** 33D05

Giordano, Laura (*with* Baldoni, Matteo; Martelli, Alberto) A tableau calculus for multimodal logics and some (un)decidability results. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk*, 1998), 44–59, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B25, 03B45, 03D35)

— (*with* Baldoni, Matteo; Martelli, Alberto) A modal extension of logic programming: modularity, beliefs and hypothetical reasoning. (English summary) *J. Logic Comput.* **8** (1998), *no.* 5, 597–635. (Summary) **99h:68029** 68N17 (03B45, 03B70, 03F05)

— (*with* Olivetti, Nicola) Combining negation as failure and embedded implications in logic programs. (English summary) *J. Logic Programming* **36** (1998), *no.* 2, 91–147. (M. I. Dekhtyar) **99g:68034** 68N17 (03B70, 68Q55)

Giorgadze, G. On oscillatory properties of an nth order system of linear differential equations with deviating arguments. *Mem. Differential Equations Math. Phys.* **13** (1998), 132–135. 34C10

Giorgi, Claudio (*with* Pata, Vittorino; Marzocchi, Alfredo) Asymptotic behavior of a semilinear problem in heat conduction with memory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 333–354. (Sergei A. Vakulenko) **99h:35081** 35K20 (35B40, 45K05)

de Giorgi, Ennio *see* **De Giorgi, Ennio**

Giorgi, Giorgio (*with* De Giuli, Maria Elena; Magnani, Umberto) A general linear theorem of the alternative: how to get its special cases quickly. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 215–232. (Sophie Tarbouriech) **99k:15003** 15A06 (15A39, 90A09)

— (*with* Guerraggio, Angelo) The notion of invexity in vector optimization: smooth and nonsmooth case. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 389–405, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:90107** 90C29 (90C26)

Giorgilli, Antonio (*with* Steichen, Daniel) Long time stability for the main problem of artificial satellites. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 317–330. (Summary) **99e:70067** 70M20 (70K20)

— (*with* Locatelli, Ugo) On classical series expansions for quasi-periodic motions. (English summary) *Math. Phys. Electron. J.* **3** (1997), *Paper* 5, 25 *pp.* (*electronic*). (C. Eugene Wayne) **99e:58154** 58F27 (34C20, 34C27, 70H05, 70K99)

— On the problem of stability for near to integrable Hamiltonian systems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 143–152 (*electronic*). (Mikhail B. Sevryuk) **99h:58098** 58F10 (58F05, 58F27, 58F30, 70F07, 70H05, 82C40)

de Giosa, M. *see* **De Giosa, M.**

Giovanardi, Andrea (*with* Cadoli, Marco; Schaerf, Marco) An algorithm to evaluate quantified Boolean formulae. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 262–267, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68Q25 (03B05, 03B70, 03D15)

Giovanetti, F. (*with* Ballico, Edoardo; Russo, Barbara) On the projective geometry of strange plane curves invariant by a finite group. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 107–114. (Victor Zvonilov) **99e:14034** 14H45 (14H20)

Giovangigli, Vincent Flammes planes avec transport multi-espèce et chimie complexe. (English and French summaries) [Plane flames with multicomponent transport and complex chemistry] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 775–780. (Summary) **99e:80005** 80A25 (82C70)

— (*with* Massot, Marc) The local Cauchy problem for multicomponent reactive flows in full vibrational non-equilibrium. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1415–1439. (Vitaly A. Volpert) **99g:80011** 80A32 (35Q80, 76N10)

— (*with* Massot, Marc) Asymptotic stability of equilibrium states for multicomponent reactive flows. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 2, 251–297. (Thierry Goudon) **99c:35197** 35Q35 (35L65, 76E99, 80A32)

de Giovanni, Francesco (*with* Franciosi, Silvana; Sysak, Yaroslav P.) On subnormal subgroups of factorized groups. *J. Algebra* **198** (1997), *no.* 2, 469–480. (L. A. Kurdachenko) **99f:20045** 20E15 (20D40)

— (*with* Franciosi, Silvana; Kurdachenko, Leonid A.) Groups with finite conjugacy classes of non-subnormal subgroups. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 3, 169–181. (H. Heineken) **99b:20061** 20F24 (20E15)

— (*with* Franciosi, Silvana; Sysak, Yaroslav P.) On ascendant subgroups of infinite groups. *Comm. Algebra* **26** (1998), *no.* 10, 3313–3333. (D. J. S. Robinson) **99f:20046** 20E15

Giovannini, M. (*with* Gasperini, Maurizio; Meissner, K. A.; Veneziano, Gabriele) Evolution of a string network in backgrounds with rolling horizons. (English summary) *String theory in curved space times (Paris, 1996)*, 49–67, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83F05)

— (*with* Gasperini, Maurizio) Von Neumann and Shannon-Wehrl entropy for squeezed states and cosmological particle production. (English summary) *String theory in curved space times (Paris, 1996)*, 249–259, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 82B10 (83F05)

Giovannozzi, Massimo Stability domain and invariant manifolds of 2D area-preserving diffeomorphisms. (English summary) *Celestial Mech. Dynam. Astronom.* **68** (1997), *no.* 2, 177–192. (Vassili G. Gelfreich) **99d:58135** 58F20 (70H05, 70K20)

— (*with* Todesco, E.; Gemmi, M.) Evaluation of nonlinear resonances in 4D symplectic mappings. (English summary) Simplification of systems of algebraic and differential equations with applications. *Math. Comput. Simulation* **45** (1998), *no.* 5-6, 485–496. (Summary) **99b:70017** 70H05 (34C20, 70–02, 70–08, 70K30)

Giraitis, Liudas (*with* Koul, Hira L.) Estimation of the dependence parameter in linear regression with long-range-dependent errors. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 207–224. (Peter M. Robinson) **99b:62145** 62M15

— (*with* Taqqu, Murad S.) Central limit theorems for quadratic forms with time-domain conditions. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 377–398. (Miguel A. Arcones) **99c:60043** 60F05 (62M10)

— (*with* Taqqu, Murad S.; Terrin, Norma) Limit theorems for bivariate Appell polynomials. II. Non-central limit theorems. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 3, 333–367. (Vladimir Zaiats) **99g:60046** 60F05 (62M10)

Giral, J. M. *see* **Giral Silió, José María**

sánchez-Giralda, T. *see* **Sánchez-Giralda, T.**

Giraldo, Antonio Discrete maps and movability. *Acta Math. Hungar.* **77** (1997), *no.* 3, 215–221. (Yuri V. Lubenets) **99c:54022** 54C56 (55P55)

— Shape fibrations, multivalued maps and shape groups. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 342–355. (José M. R. Sanjurjo) **99d:55004** 55P55 (55Q07, 55R65)

Giraldo, Francis X. The Lagrange-Galerkin spectral element method on unstructured quadrilateral grids. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 114–146. (P. K. Mahanti) **99j:65177** 65M70 (76M10, 76M25)

Giraldo, Luis (*with* Sols Lucía, Ignacio) The irregularity of ruled surfaces in $\mathbf{P}^3$. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 325–334. (Luciana Picco Botta) **99m:14067** 14J26 (14H25, 14H45)

Giral Silió, José María *see* **Six lectures on commutative algebra**, **99e:13001**

Giralt, Francesc (*with* Herrero, Joan; Humphrey, Joseph A. C.) Influence of the geometry on the structure of the flow between a pair of corotating disks. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 88–96. 76U05 (76E10)

martins Girão, Pedro *see* **Martins Girão, Pedro**

Girard, Didier A. Asymptotic comparison of (partial) cross-validation, GCV and randomized GCV in nonparametric regression. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 315–334. (Alexander G. Kukush) **99c:62089** 62G05 (62G09, 62G20, 62J07)

Girard, Frédéric Une propriété de Chebychev pour certaines intégrales abéliennes généralisées. (English and French summaries) [A Chebyshev property for generalized Abelian integrals] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 471–476. (Sergeĭ Yu. Yakovenko) **99j:34033** 34C05 (34C23, 58F21)

Girard, Stéphane (*with* Chalmond, Bernard; Dinten, Jean-Marc) Designing nonlinear models for flexible curves. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 135–142, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Chalmond, Bernard; Dinten, Jean-Marc) Position of principal component analysis among auto-associative composite models. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 763–768. (Yutaka Kano) **99k:62121** 62H25

Girardello, Luciano (*with* Giveon, Amit; Porrati, Massimo; Zaffaroni, Alberto[1]) S-duality in $N = 4$ Yang-Mills theories. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 209–219, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **99j:81184** 81T60 (81T13)

— (*with* Porrati, Massimo; Zaffaroni, Alberto[1]) Spontaneously broken $N = 2$ supergravity without light mirror fermions. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 272–290. (Piet Termonia) **99b:83074** 83E50 (81R40, 81T30, 83E30)

Giraud, Jean Résolution des singularités (d'après Heisuke Hironaka). [Resolution of singularities (after Heisuke Hironaka)] *Séminaire Bourbaki, Vol. 10, Exp. No. 320*, 101–113, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 14E15

— Groupe de Picard, anneaux factoriels (d'après A. Grothendieck). [Picard group, unique factorization domains (after A. Grothendieck)] *Séminaire Bourbaki, Vol. 8, Exp. No. 248*, 105–117, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 14C22 (13F15)

— Analysis situs [MR **33** #1343]. (French) *Séminaire Bourbaki, Vol. 8, Exp. No. 256*, 189–199, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 18F10 (14A15)

Giraud, Luc (*with* Alléon, Guillaume; Benzi, Michele) Sparse approximate inverse preconditioning for dense linear systems arising in computational electromagnetics. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 1–15 (1998). (*see* **99a:65006**) 65F35 (65F50)

— (*with* Tuminaro, Ray S.) Schur complement preconditioners for anisotropic problems. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 1–18. 65N55 (65F30)

Giraudet, Michele (*with* Droste, Manfred; Macpherson, Dugald) Set-homogeneous graphs and embeddings of total orders. (English summary) *Order* **14** (1997), *no.* 1, 9–20. (Summary) **99f:05029** 05C10 (05C25, 06A06)

Girault, Vivette (*with* Scott, L. Ridgway) Solutions of a two-dimensional grade-two fluid model with a tangential boundary condition on non-smooth domains. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 105–109. (Summary) **99g:76003** 76A05 (35Q35, 76D07)

— (*with* Amrouche, C.; Bernardi, Christine; Dauge, Monique) Vector potentials in three-dimensional non-smooth domains. (English and French summaries) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 823–864. (Juha H. Videman) **99e:35037** 35J25 (35Q30, 65N30, 76D07)

— (*with* Bernardi, Christine) A local regularization operator for triangular and quadrilateral finite elements. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1893–1916 (*electronic*). (Summary) **99g:65107** 65N30 (65D05)

Girault-Beauquier, Danièle Pumping lemmas for timed automata. (English summary) *Foundations of software science and computation structures (Lisbon, 1998)*, 81–94, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (Summary) **99d:68145** 68Q45 (68Q10, 68Q68)

— (*with* Slissenko, A. O.) Polytime model checking for timed probabilistic computation tree logic. (English summary) *Acta Inform.* **35** (1998), *no.* 8, 645–664. (Summary) **99f:68133** 68Q60

Gire, F. (*with* Hoang, H. K.) An extension of fixpoint logic with a symmetry-based choice construct. (English summary) *Inform. and Comput.* **144** (1998), *no.* 1, 40–65. (Feodor Alexandrovich Murzin) **99m:68061** 68Q15 (03C80, 68P15)

Gire, S. (*with* Dulucq, S.; Guibert, O.) A combinatorial proof of J. West's conjecture. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 71–96. (W. G. Brown) **99f:05053** 05C30 (05A05, 68R05)

Girela, Daniel (*with* Blasco, Oscar; Márquez, M. Auxiliadora) Mean growth of the derivative of analytic functions, bounded mean oscillation, and normal functions. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 893–912. (Albert Baernstein, II) **99m:30068** 30D45 (30D50, 30D55)

Girg, Petr Existence of periodic solutions for a semilinear ordinary differential equation. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 31, 10 *pp.* (*electronic*). (Alessandro Fonda) **99k:34043** 34B15 (34C25)

Girgensohn, R. (*with* Borwein, Jonathan M.; Wang, Xianfu) On the construction of Hölder and proximal subderivatives. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 497–507. (Lionel Thibault) **99k:49032** 49J52 (26A16, 26A24)

Giri, B. C. (*with* Chaudhuri, K. S.) Heuristic models for replenishment of an inventory of a deteriorating item with shortages and time-dependent demand and holding costs. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 167–183. (Summary) **99h:90035** 90B05

Giri, F. (*with* Chaoui, F. Z.; Dugard, Luc; Dion, Jean-Michel; M'saad, M.) Adaptive tracking with saturating input and controller integral action. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1638–1643. (Summary) **99h:93092** 93D21 (93C40)

Giri, Narayan C. ★ Group invariance in statistical inference. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. $x+167$ *pp. ISBN* 981-02-1875-3 (Yasuko Chikuse) **99h:62002** 62A05 (62–02, 62H15)

Giri, R. D. (*with* Tiwari, Shraddha) On the commutativity of s-unital rings and periodic rings. (English summary) *Math. Today (Ahmedabad)* **14** (1996), 45–56. 16U80

Girko, Vyacheslav L. Canonical spectral equation for the eigenvalues of empirical covariance matrices. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 313–336, *TEV, Vilnius*, 1994. (Summary) **99e:60098** 60F99 (62H10)

— ★ Statistical analysis of observations of increasing dimension. (English summary) Translated from the Russian. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 28. *Kluwer Academic Publishers, Dordrecht*, 1995. xxii+287 *pp. ISBN* 0-7923-2886-8 (V. I. Serdobol'skiĭ) **99a:62081** 62H99 (60F99)

— The V-density of eigenvalues of nonsymmetric random matrices and rigorous proof of the strong circular law. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 371–406. (Alexei Khorunzhy) **99b:15029** 15A52 (60F99)

— Strong law for the singular values and eigenvectors of random matrices. II. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 3, 291–310. (Tõnu Kollo) **99h:60061** 60F15 (15A52, 62H99)

Girlich, Eberhard (*with* Emelichev, V. A.; Podkopaev, D. P.) On the stability of effective solutions of a vector trajectory problem of discrete optimization. I. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 5–16, 120, 122. (N. I. Yanev) **99b:90107** 90C29 (90C27, 90C31)

— (*with* Berdysheva, R. A.; Emelichev, V. A.) Stability, pseudostability and quasistability of vector trajectorial lexicographic optimization problem. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 35–56. (Yuri Nazarovich Sotskov) **99j:90089** 90C31 (90C27, 90C29)

Girón González-Torre, Fco. Javier (*with* Martínez García, Ma. Lina; Morcillo Aixelá, Carmen) Outlier detection in Poisson and exponential samples. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **91** (1997), *no.* 1, 1–7. (Summary) **99i:62049** 62F15

— (*with* Moreno, Elías) Estimating with incomplete count data: a Bayesian approach. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 147–159. (Summary) **99a:62032** 62F15

— (*with* Moreno, Elías) A note on an assertion by E. Gutiérrez-Peña and A. F. M. Smith: "Exponential and Bayesian conjugate families: review and extensions" [Test **6** (1997), no. 1, 1–90; MR 98d:62047]. (English summary) *Test* **7** (1998), *no.* 2, 427–429. (Summary) **99k:62058** 62F15

di Gironimo, Patrizia *see* **Di Gironimo, Patrizia**

Giroud, Patrick Analyse asymptotique de coques inhomogènes en élasticité linéarisée anisotrope. (English and French summaries) [Asymptotic analysis of heterogeneous shells in linearized anisotropic elasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 1011–1014. (Summary) **99i:73049** 73K15 (35Q72, 73B40)

Girstmair, Kurt Class number factors and distribution of residues. (English summary) *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 65–104. (Sergeĭ V. Konyagin) **99e:11141** 11R29 (11R47)

— On quadratic relations between roots of polynomials. *J. Algebra* **188** (1997), *no.* 2, 692–700. (Editors) **99i:12002** 12F10

Girya, T. V. (*with* Chueshov, Igor D.) Inertial manifolds and stationary measures for stochastically perturbed dissipative dynamical systems. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 29–46; *translation in Sb. Math.* **186** (1995), *no.* 1, 29–45. (Varga Kalantarov) **99k:34134** 34G20 (34C45, 34F05, 35B99, 35R20, 60H99)

Gisiger, T. (*with* Paranjape, M. B.) Recent mathematical developments in the Skyrme model. (English summary) *Phys. Rep.* **306** (1998), *no.* 3, 109–211. (Summary) **99h:81129** 81T10 (58E50, 81V35)

Gisin, Nicolas (*with* Diósi, Lajos; Halliwell, Jonathan J.; Percival, Ian C.) On the equivalence of quantum state diffusion and decoherent histories for open quantum systems. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 87–97, *Internat. Press, Cambridge, MA*, 1997. (Robert Alicki) **99b:82064** 82C10 (81P05)

— Quantum cloning without signaling. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 1–3. (Summary) **99a:81020** 81P99

— (*with* Bechmann-Pasquinucci, H.; Huttner, Bruno) Non-linear quantum state transformation of spin-1/2. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 198–204. (Summary) **99b:81028** 81P99

— (*with* Bechmann-Pasquinucci, H.) Bell inequality, Bell states and maximally entangled states for n qubits. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 1–6. (Summary) **99f:81013** 81P05 (81P99)

— (*with* Diósi, Lajos; Strunz, Walter T.) Non-Markovian quantum state diffusion. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1699–1712. (Constantin Syros) **99h:81103** 81S20 (60J25, 60J60)

— (*with* Strunz, Walter T.; Diósi, Lajos) Open system dynamics with non-Markovian quantum trajectories. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 9, 1801–1805. (Summary) **99k:82054** 82C10 (82C31)

Gismondi, S. J. Dueling cubes. (English summary) *Util. Math.* **54** (1998), 241–251. (Summary) **99j:52011** 52B11

Gisolfi, Antonio (*with* Sangüesa, Ramón; Cortés, Ulises) A parallel algorithm for building possibilistic causal networks. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 251–270. (Summary) **99h:68165** 68T30

— *see also* **Using fuzzy algebraic structures in intelligent systems, 99d:68015**

Gispert-Chambaz, Hélène Le milieu mathématique Français et ses journaux en France et en Europe (1870–1914). [The French mathematical milieu and its journals in France and in Europe (1870–1914)] *Messengers of mathematics: European mathematical journals* (1800–1946), 133–158, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— Le Bulletin de la Société mathématique de France, le journal de recherche d'une communauté (1873–1914). (English summary) [The Bulletin de la Société Mathématique de France, research journal of a community (1873–1914)] *Riv. Stor. Sci.* (2) **4** (1996), *no.* 2, 1–21 (1998). (Summary) **99k:01082** 01A74 (01A55, 01A60)

Git, Y. Almost sure path properties of branching diffusion processes. (English summary) *Séminaire de Probabilités, XXXII*, 108–127, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Götz Kersting) **99m:60132** 60J80 (60F10, 60F15, 60G17, 60J65)

Githinji, F. (*with* Jacroux, Mike) On the determination and construction of optimal designs for comparing a set of test treatments with a set of controls in the presence of a linear trend. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 161–174. (Rahul Mukerjee) **99c:62207** 62K05 (05B05)

Gitman, D. M. (*with* Tyutin, I. V.) Pseudoclassical description of higher spins in $(2+1)$ dimensions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 428–434, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81132** 81S99

— (*with* Gavrilov, S. P.; Gonçalves, Antonio E.) QED in external field with space-time uniform invariants: exact solutions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3547–3567. (A. L. Rebenko) **99f:81219** 81V10

— (*with* Zlatev, Stoyan I.; Barros, Paulo B.) Application of path integration to operator calculus. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7791–7799. (Summary) **99m:58041** 58D30 (81S40)

— (*with* Deriglazov, A. A.) Examples of $D = 11$ S-supersymmetric actions for point-like dynamical systems. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 32, 2559–2570. (Ilya Shapiro) **99i:81230** 81T60 (81T30)

— (*with* Galazhinskiĭ, A. V.) Siegel superparticle, higher-order fermionic constraints, and path integrals. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 435–453. (Ilya Shapiro) **99k:81323** 81T70 (81T60)

— (*with* Galazhinskiĭ, A. V.) On minimal coupling of the ABC superparticle to supergravity background. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 047504, 4 *pp.* 83E50 (81T60)

Gitman, Michael B. (*with* Trusov, P. V.; Fedoseev, Sergei A.) On the stochastic optimization problems of plastic metal working processes under stochastic initial conditions. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 111–125. (Summary) **99j:90052** 90C15 (90C70, 90C90)

Gittenberger, Bernhard (*with* Drmota, Michael) On the profile of random trees. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 421–451. (A. Meir) **99c:05176** 05C80 (60J80)

— Convergence of branching processes to the local time of a Bessel process. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 423–438. (Boualem Djehiche) **99k:60213** 60J80 (33C10, 33C15, 60F17)

Gittleman, Arthur Predicting string search speed. (English summary) *ACM J. Exp. Algorithmics* **1** (1996), *approx.* 11 *pp.* (*electronic*). 68Q20 (68Q25)

Giudici, Paolo Smoothing sparse contingency tables: a graphical Bayesian approach. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 171–187. 62F15

— (*with* Mezzetti, Maura) Nonparametric estimation of survival functions by means of partial exchangeability structures. (English summary) *Test* **7** (1998), *no.* 1, 111–132. 62G05

Giuffrè, Sofia The nonlinear oblique derivative problem in the plane. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1081–1086. (Long-Yi Tsai) **99e:35061** 35J65 (35R05)

— Existence and uniqueness theorem for an oblique derivative problem for nonlinear elliptic discontinuous operators in the plane. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 187–193, *VSP, Utrecht*, 1998. (Summary) **99e:35062** 35J65

— Oblique derivative problem for nonlinear elliptic discontinuous operators in the plane. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 585–594. (Xin Kang Guo) **99g:35043** 35J65

de Giuli, Maria Elena *see* **De Giuli, Maria Elena**

Giuli, Massimiliano (*with* Colombo, Fabrizio; Vespri, Vincenzo) Generation of smoothing semigroups by degenerate elliptic operators arising in financial mathematics. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 283–302. (Michael A. Perel'muter) **99k:47085** 47D06 (35J70, 90A09)

Giuliani, P. (*with* Boffetta, G.; Paladin, Giovanni; Vulpiani, Angelo) An extension of the Lyapunov analysis for the predictability problem. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 23, 3409–3416. (Summary) **99h:76046** 76F20 (34D08, 34D45, 86A10)

Giuliani, Stéphane (*with* Ploix, Stéphane; Ragot, José) A unifying approach of LTI discrete-time state observers by means of complementary matrices. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 422–426. 93B07 (93C55)

Giuliano Antonini, Rita Remarks on maxima of real random sequences. *Note Mat.* **15** (1995), *no.* 2, 143–145 (1997). (R. J. Tomkins) **99e:60083** 60F15 (60G70)

— Comparaison de densités sur certains ensembles d'entiers. (French and Italian summaries) [Comparison of densities on certain sets of integers] *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 147–155. (Georges Grekos) **99c:11011** 11B05

— Sub-Gaussian random variables in Hilbert spaces. *Rend. Sem. Mat. Univ. Padova* **98** (1997), 89–99. (Nickolai A. Denis'evskiĭ) **99e:60017** 60B11 (28C20)

— On the asymptotic behaviour of sub-Gaussian processes. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 339–347. (Rimas Norvaiša) **99k:60103** 60G10 (60F15)

Giulini, Domenico Is there a general area theorem for black holes? (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6603–6606. (Gil De Oliveira-Neto) **99i:83058** 83C57 (83C75)

Giunashvili, Z. A multidimensional variational problem with constraints. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 202–207 (1996). (J. S. Joel) **99f:58043** 58E15 (58E30)

— The geometry of variational problems with restrictions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 4, *Suppl.*, 697–703 (1996). 58E30

— Several cohomology algebras connected with the Poisson structure. (English summary) *Georgian Math. J.* **5** (1998), *no.* 6, 513–520. (Jeffrey K. Lawson) **99k:58200** 58H10 (17B56)

Giunchiglia, Fausto (*with* Bundy, Alan; Villafiorita, Adolfo; Walsh, Toby) Abstract proof checking: an example motivated by an incompleteness theorem. (English summary) *J. Automat. Reason.* **19** (1997), *no.* 3, 319–346. (Bernd Dahn) **99b:03022** 03B35 (68T15)

— (*with* Benerecetti, Massimo; Serafini, Luciano) Model checking multiagent systems. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 401–423. (Summary) **99f:68132** 68Q60 (68T27)

Giuntini, Roberto Quantum MV-algebras and commutativity. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 65–74. (M. J. Mączyński) **99f:81019** 81P10 (03G12)

— (*with* Cattaneo, Gianpiero; Dalla Chiara, Maria Luisa) Some algebraic structures for many-valued logics. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 173–195. (Summary) **99h:03010** 03B50 (03G12)

bătineţu-Giurgiu, Maria *see* **Bătineţu-Giurgiu, Maria**

Giusti, Enrico At the origins of medieval kinematics: the *Liber de motu* of Gerard of Brussels. (Italian) *Boll. Storia Sci. Mat.* **16** (1996), *no.* 2, 199–240. (Julio Samsó-Moya) **99b:01009** 01A35

— The writings "de motu" of Giovanni Battista Benedetti. (Italian) *Boll. Storia Sci. Mat.* **17** (1997), *no.* 1, 51–104. (William R. Shea) **99j:01005** 01A40

Giusti, M. (*with* Bank, Bernd; Heintz, Joos; Mandel, R.; Mbakop, G. M.) Polar varieties and efficient real equation solving: the hypersurface case. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 65H10 (68Q40)

— (*with* Heintz, Joos; Hägele, K.; Morais, J. E.; Pardo, Luis Miguel; Montaña, José Luis) Lower bounds for Diophantine approximations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 277–317. (Summary) **99d:68106** 68Q25 (14Q15)

— (*with* Heintz, Joos; Morais, J. E.; Morgenstern, Jacques; Pardo, Luis Miguel) Straight-line programs in geometric elimination theory. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 101–146. (Jean Moulin Ollagnier) **99d:68128** 68Q40 (14Q99, 68Q25)

Giusto, S. (*with* Becchi, C.; Imbimbo, C.) On the identification of observables in topological gauge models. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 138–141. (Noriaki Ano) **99c:81252** 81T70 (83C45)

Givant, Steven (*with* Andréka, Hajnal; Németi, István; Simon, András) Persistent properties and an application to algebras of logic. *Algebra Universalis* **38** (1997), *no.* 2, 141–149. (Ivo Düntsch) **99g:03065** 03G15

— (*with* Halmos, Paul R.) ★ Logic as algebra. (English summary) The Dolciani Mathematical Expositions, 21. *Mathematical Association of America, Washington, DC*, 1998. $x+141$ *pp. ISBN* 0-88385-327-2 (Marcel Guillaume) **99m:03001** 03–01

— (*with* Andréka, Hajnal; Mikulás, Szabolcs; Németi, István; Simon, András) Notions of density that imply representability in algebraic logic. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 2-3, 93–190. (Ivo Düntsch) **99f:03089** 03G15 (03C05, 06E25, 08B05)

— Unifying threads in Alfred Tarski's work. *Math. Intelligencer* **21** (1999), *no.* 1, 47–58. (Roman Murawski) **99m:01059** 01A70 (01A60, 03–03)

Givaruangsawat, Sumalee (*with* Weerakkody, Govinda J.; Gerard, Patrick D.) Hypothesis testing in two-stage cluster sampling. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 335–344. 62J05 (62F03)

Giveon, Amit (*with* Girardello, Luciano; Porrati, Massimo; Zaffaroni, Alberto[1]) S-duality in $N = 4$ Yang-Mills theories. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 209–219, *World Sci. Publishing, River Edge, NJ*, 1996. (From the text) **99j:81184** 81T60 (81T13)

— (*with* Pelc, Oskar; Rabinovici, Eliezer) The Coulomb phase in $N = 1$ gauge theories with an LG-type superpotential. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 100–124. (Gustavo Dotti) **99c:81239** 81T60 (81T13)
— (*with* Pelc, Oskar) M theory, type IIA string and 4D $N = 1$ SUSY $SU(N_L) \otimes SU(N_R)$ gauge theory. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 103–147. (Douglas J. Smith) **99e:81191** 81T30 (81T13, 81T60)
— (*with* Elitzur, Shmuel; Kutasov, David; Tsabar, David) Branes, orientifolds and chiral gauge theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 251–268. (David S. Berman) **99f:81196** 81T60 (81T13)
Givoli, Dan (*with* Patlashenko, Igor) Optimal local non-reflecting boundary conditions. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 367–384. (Summary) **99f:65154** 65N12
— (*with* Yaacobson, Fiana S.) An adaptive finite element procedure for the image segmentation problem. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 621–632. 68U10
— (*with* Patlashenko, Igor; Keller, Joseph B.) Discrete Dirichlet-to-Neumann maps for unbounded domains. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 173–185. (Summary) **99i:65125** 65N30 (65N55)
— (*with* Harari, Isaac; Patlashenko, Igor) Dirichlet-to-Neumann maps for unbounded wave guides. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 200–223. (Summary) **99a:76137** 76Q05
— (*with* Patlashenko, Igor) Finite-element solution of nonlinear time-dependent exterior wave problems. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 241–258. (Summary) **99d:65283** 65M60 (76M10)
— (*with* Patlashenko, Igor) A numerical method for problems in infinite strips with irregularities extending to infinity. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 2, 233–249. (Josef Dalík) **99a:65157** 65N30 (65N12)
— *see also* **Exterior problems of wave propagation, 99g:76001**
Gizunov, S. A. (*with* Nosov, V. A.) Complexity of recognition of Schaefer classes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 7–12, 110; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 6–9. (Summary) **99f:68096** 68Q25
Gjerde, Jon (*with* Benth, Fred Espen) Numerical solution of the pressure equation for fluid flow in a stochastic medium. *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 175–186, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (From the introduction) **99j:65231** 65N99 (60H30, 65U05, 76M25, 76S05)
— (*with* Benth, Fred Espen) A remark on the equivalence between Poisson and Gaussian stochastic partial differential equations. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 179–193. (Isamu Dôku) **99d:60069** 60H15 (35R60, 60G20, 60H30)
— Existence and uniqueness theorems for some stochastic parabolic partial differential equations. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 261–289. (Ya. Ī. Bīlopol′s′ka) **99b:60089** 60H15 (35K99, 35R60)
— (*with* Benth, Fred Espen) Convergence rates for finite element approximations of stochastic partial differential equations. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 313–326. (From the introduction) **99i:60120** 60H15 (65U05)
— *see also* **Stochastic analysis and related topics, 99e:60006**
Gjesdal, Thor (*with* Teigland, Rune) Accuracy and stability of semi-implicit finite difference advection schemes. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 647–655. 76M20 (65N06)
Gjessing, Håkon K. (*with* Paulsen, Jostein) Ruin theory with stochastic return on investments. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 965–985. (J. A. M. van der Weide) **99h:90022** 90A09 (60H10)
— (*with* Paulsen, Jostein) Present value distributions with applications to ruin theory and stochastic equations. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 123–144. (Aleksandras Baltrūnas) **99b:60068** 60H05 (60J30, 62P05)
— A variation of parameters solution of a quasilinear Skorohod SDE using the Wick product. (English summary) *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 245–249, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99h:60118** 60H10
van Glabbeek, R. J. Notes on the methodology of CCS and CSP. (English summary) *Theoret. Comput. Sci.* **177** (1997), *no.* 2, 329–349. (Ferucio Laurentiu Tiplea) **99b:68070** 68Q10
Glabisz, Wojciech Global analysis of discrete nonconservative nonlinear systems with dynamic follower parameters. (English summary) *Comput. & Structures* **69** (1998), *no.* 1, 105–115. (Summary) **99d:70031** 70K20 (70–08, 73K12)
Glad, Ingrid K. (*with* Chu, Chih Kang; Godtliebsen, F.; Marron, J. Stephen) Edge-preserving smoothers for image processing. (English summary) With comments and a rejoinder by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 526–556. (Summary) **99b:94009** 94A12 (62G99, 62M40, 68U10)
— A note on unconditional properties of a parametrically guided Nadaraya-Watson estimator. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 101–108. (Summary) **99c:62090** 62G05
Glad, S. T. (*with* Jirstrand, M.) Using differential and real algebra in control. *Symbolic methods in control system analysis and design*, 115–134, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93B51)
Gladdines, Helma (*with* Comfort, W. W.; van Mill, Jan) Proper pseudocompact subgroups of pseudocompact abelian groups. (English summary) *Papers on general topology and applications* (*Flushing, NY*, 1992), 237–247, *Ann. New York Acad. Sci.*, 728, *New York Acad. Sci., New York*, 1994. (Dieter Remus) **99g:22005** 22C05 (54H11)
Gladkaya, Yu. A. (*with* Skopetskiĭ, V. V.) Investigation of discrete models with a nonselfadjoint operator. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 103–106. (Summary) **99m:35196** 35Q40 (65N12, 76Q05)
Gladkov, B. V. Estimates of the deviation of the distribution of r-independent random variables from the normal distribution. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 199–210, *VSP, Utrecht*, 1997. (Summary) **99g:60047** 60F05 (60E15)
Gladwell, Ian (*with* Brankin, R. W.) Algorithm 771: rksuite.90: Fortran 90 software for ordinary differential equation initial-value problems. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 402–415. 65Y15
— *see also* **Proceedings: Conference on Numerical Analysis of Hamiltonian Differential Equations, 99g:65008**
Gladyshev, M. T. On the theory of the Khokhlov-Zabolotskaya equation. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 62–67, 140. (Summary) **99e:35185** 35Q35 (76N15)
Glaeser, Georg (*with* Gröller, Eduard) Efficient volume-generation during the simulation of NC-milling. (English summary) *Mathematical visualization* (*Berlin*, 1997), 89–106, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65Y25
Glaeske, Hans-Jürgen On Zernicke [Zernike] transforms in spaces of distributions. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 3, 221–234. (Om P. Singh) **99c:33021** 33C50 (44A15)
— On Zernicke polynomials. (English summary) *Transform methods & special functions, Varna '96*, 121–131, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:33007** 33C45 (44A30, 46F12)
— (*with* Kilbas, A. A.) Bessel-type integral transforms on $\mathcal{S}_{\nu,\mu}$-spaces. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 320–329. (N. Hayek Calil) **99m:44006** 44A15 (33C10, 42B10, 44A20, 47G10)
Glaister, P. An analysis of averaging procedures in a Riemann solver for the two-dimensional Euler equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 63–77. (Introduction) **99b:76053** 76M20
— Riemann solvers with primitive parameter vectors for two-dimensional compressible flows of a real gas. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 75–92. (Introduction) **99j:76082** 76M20 (76N15)
— Stationary and equilibrium points—a critical connection. *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 2, 294–306. 34C05 (26B10)
Glandais, N. (*with* Boyer, F.; Khalil, Wisama) Jacobian of a flexible manipulator undergoing large elastic displacements. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 501–510, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15
Glas, C. A. W. Detection of differential item functioning using Lagrange multiplier tests. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 647–667. 62P15
Glas, W. (*with* Hausen, Jürgen) $\mathbf{C}^*$-surfaces with one-dimensional holomorphic hull. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 255–271. (Peter Heinzner) **99j:32038** 32M05 (32J15)
Glaser, Elton (*with* Bach, Eric; Condon, Anne E.; Tanguay, Celena) DNA models and algorithms for NP-complete problems. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 172–186. (Robert M. Baer) **99m:68048** 68Q05 (68Q25, 92D20)
Glasner, Eli (*with* Weiss, Benjamin) Kazhdan's property T and the geometry of the collection of invariant measures. (English summary) *Geom. Funct. Anal.* **7** (1997), *no.* 5, 917–935. (Alain Valette) **99f:28029** 28D15 (22D40, 47A35, 54H15)
— (*with* Furstenberg, H.) Robert Ellis and the algebra of dynamical systems. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 3–12, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Krzysztof Ciesielski) **99f:54053** 54H20 (01A70, 54–03)
— (*with* Furstenberg, H.) Subset dynamics and van der Waerden's theorem. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 197–203, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (François Blanchard) **99d:11010** 11B25 (54H20)
— (*with* King, Jonathan L.) A zero-one law for dynamical properties. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 231–242, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (B. Kamiński) **99d:28039** 28D15 (54E52, 54H05, 60F20)
— On minimal actions of Polish groups. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 119–125. (Manuel Sanchis) **99c:54057** 54H20 (54D35)
Glass, Celia A. (*with* Potts, Chris N.) Structural properties of lot streaming in a flow shop. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 624–639. (Jean B. Lasserre) **99h:90049** 90B35
— (*with* Anily, Shoshana; Hassin, Refael) Scheduling maintenance services to three machines. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 375–391. (*see* **99k:90002**) 90B35 (90C90)
Glass, Edward N. Taub numbers and asymptotic invariants. (English summary) *On Einstein's path* (*New York*, 1996), 241–250, *Springer, New York*, 1999. (Richard Hansen) **99j:83025** 83C30 (83C40)
Glass, John W. (*with* Franchek, Matthew A.) NARMAX modelling and robust control of internal combustion engines. (English summary) *Internat. J. Control* **72** (1999), *no.* 4, 289–304. 93A30 (93C95)
Glass, Leon Dynamical disease—the impact of nonlinear dynamics and chaos on cardiology and medicine. (English summary) *The impact of chaos on science and society* (*Tokyo*, 1991), 219–231, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92C50 (58F13)
Glass, Olivier Contrôlabilité exacte frontière de l'équation d'Euler des fluides parfaits incompressibles en dimension 3. (English and French summaries) [Exact boundary controllability of the 3D Euler equations of incompressible perfect fluids] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 987–992. (Rodolfo Salvi) **99a:35200** 35Q30 (76C99, 93B05, 93C20)
— Contrôlabilité de l'équation d'Euler tridimensionnelle pour les fluides parfaits incompressibles. [Controllability of the three-dimensional Euler equation for incompressible perfect fluids] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XV*, 11 *pp., École Polytech., Palaiseau*, 1998. (Mircea Lupu) **99k:93020** 93B05 (35Q30, 76C99, 93C20)
Glassbrenner, Donna (*with* Smith, Karen E.) Sparse systems of parameters for determinantal varieties. *Adv. in Appl. Math.* **19** (1997), *no.* 4, 529–558. (Miriam Pisonero) **99b:13019** 13C40 (14M12)
Glasser, M. Lawrence (*with* Kowalenko, Victor) A method for evaluating Laplace transforms and other integrals. (English summary) *Integral Transform. Spec. Funct.* **5**

(1997), *no.* 3-4, 161–184. (R. S. Dahiya) **99k:44002** 44A10 (44A20)
— (*with* Al-Jarrah, Ali A.) Some Sonine-Gegenbauer integrals. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 271–278. (Harold Exton) **99k:33012** 33C20 (33C10)
— (*with* Fernández C., David J.; Nieto, Luis Miguel) New isospectral oscillator potentials. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 15–20. (Jiu Qing Liang) **99b:81065** 81Q60 (34L99, 81Q10)
Glasserman, Paul (*with* Broadie, Mark; Kou, Shing-Gang) A continuity correction for discrete barrier options. (English summary) *Math. Finance* **7** (1997), *no.* 4, 325–349. (Summary) **99k:90023** 90A09 (60K40)
— (*with* Acworth, Peter; Broadie, Mark) A comparison of some Monte Carlo and quasi-Monte Carlo techniques for option pricing. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 1–18, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:90010** 90A09 (65C05)
— (*with* Heidelberger, Philip; Shahabuddin, Perwez; Zajic, Tim) A look at multilevel splitting. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 98–108, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (*see* **99d:65005**) 65U05
— (*with* Heidelberger, Philip; Shahabuddin, Perwez; Zajic, Tim) A large deviations perspective on the efficiency of multilevel splitting. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1666–1679. (Luisa Gargano) **99m:68016** 68M10 (65C05, 90B12)
Glassey, C. Roger (*with* Seshadri, Sridhar; Shanthikumar, J. George) Using information about machine failures to control flowlines. (English summary) Stochastic models of reliability. *Math. Methods Oper. Res.* **45** (1997), *no.* 3, 455–481. (S. N. Alam) **99a:90096** 90B25
Glassey, Robert T. (*with* Hunter, John K.; Zheng, Yuxi) Singularities and oscillations in a nonlinear variational wave equation. (English summary) *Singularities and oscillations* (*Minneapolis, MN*, 1994/1995), 37–60, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Linda M. Holt) **99a:35181** 35L70 (35A20, 35B05)
— (*with* Schaeffer, Jack) The relativistic Vlasov-Maxwell system in two space dimensions. I, II. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 4, 331–354, 355–374. (Gerhard Rein) **99d:82071** 82D10 (35Q99, 76X05)
Glässner, Uwe (*with* Frommer, Andreas) Restarted GMRES for shifted linear systems. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 15–26 (*electronic*). (Summary) **99b:65033** 65F10
Glatz, L. (*with* Osipov, G. V.; Troger, H.) Suppressing chaos in the Duffing oscillator by impulsive actions. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 307–321. (Introduction) **99b:58163** 58F13 (34D45, 70K50, 93C15)
Glatzmaier, Gary A. (*with* Roberts, Paul H.) Dynamo theory then and now. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1325–1338. (Summary) **99i:86017** 86A25 (76W05)
Glauberman, G. (*with* Alperin, J. L.) Limits of abelian subgroups of finite p-groups. *J. Algebra* **203** (1998), *no.* 2, 533–566. (Avinoam Mann) **99m:20033** 20D15
Glauert, John (*with* Khasidashvili, Zurab) Minimal relative normalization in orthogonal expression reduction systems. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 238–249, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **99a:68098** 68Q42 (03B40)
— (*with* Khasidashvili, Zurab) Relating conflict-free stable transition and event models (extended abstract). (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 269–278, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q42
Glavan, V. A. (*with* Hâncu, V. I.) On partial recurrent solutions of completely integrable systems. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 103–112, 151, 155. (L. Górniewicz) **99k:34095** 34C28 (34C25)
Glaz, Sarah (*with* Vasconcelos, Wolmer V.) The content of Gaussian polynomials. *J. Algebra* **202** (1998), *no.* 1, 1–9. (Daniel D. Anderson) **99c:13003** 13A15 (13B25)
Glazatov, S. N. A problem with data on a characteristic for a linearized equation of transonic gas dynamics. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1019–1029, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 898–906. (Yu. G. Rykov) **99e:35186** 35Q35 (76H05)
Glazebrook, James (*with* Bradlow, Steven; Kamber, Franz) A new look at the vortex equations and dimensional reduction. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 83–106, *de Gruyter, Berlin*, 1997. (Manfred Lehn) **99a:32040** 32L07 (53C07, 53C55)
Glazebrook, Kevin D. (*with* Niño-Mora, José) Scheduling multiclass queueing networks on parallel servers: approximate and heavy-traffic optimality of Klimov's priority rule. (English summary) *Algorithms—ESA '97* (*Graz*), 232–245, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 60K25 (90B15)
— (*with* Birge, John R.) Bounds on optimal values in stochastic scheduling. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 3, 107–114. (Jean B. Lasserre) **99a:90106** 90B35
— (*with* Garbe, R.) Stochastic scheduling with priority classes. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 1, 119–144. (Summary) **99b:90069** 90B35
Głazek, Kazimierz A certain Galois connection and weak automorphisms. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 15–26. (I. Strazdiņš) **99m:08008** 08A35 (03B50, 03G20, 06D25, 08A40)
Głazek, Włodzimierz (*with* Kubale, Marek; Manuszewski, K.) The quest for small benchmarks for the chromatic sum problem. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 249–260. (Michael O. Albertson) **99j:05069** 05C15 (68R10)
— (*with* Drozdowski, Maciej) Scheduling divisible loads in a three-dimensional mesh of processors. (English summary) *Parallel Comput.* **25** (1999), *no.* 4, 381–404. 68M20
Glazman Nowalski, Mary Weierstrass the teacher. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 91–96. (I. Grattan-Guinness) **99m:01035** 01A70
Glazos, Michael P. (*with* Hui, Stefen; Żak, Stanisław H.) Sliding modes in solving convex programming problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 680–697 (*electronic*). (L. E. Faybusovich) **99d:90113** 90C30 (93B12, 93D05)
Gleba, A. V. (*with* Tulupova, L. A.) Symmetry properties of a generalized system of Burgers equations. (English summary) *Symmetry in nonlinear mathematical physics*, *Vol.* 1, 2 (*Kyiv*, 1997), 463–466, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35Q30)
Glebov, N. I. (*with* Kostochka, A. V.) On the independent domination number of graphs with given minimum degree. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 261–266. (Summary) **99c:05103** 05C35
— (*with* Gimadi, È. Kh.; Zalyubovskiĭ, V. V.) On problems of efficient barter. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **5** (1998), *no.* 1, 3–11. 90A11 (90C90)
— (*with* Gimadi, È. Kh.; Serdyukov, A. I.) On a problem of the choice of a cyclic route and loading of transport vehicles. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **5** (1998), *no.* 1, 12–18. 90C35 (90C08)
Gleiser, Marcelo Two lectures on phase mixing: nucleation and symmetry restoration. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 155–172, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82C26
Gleiser, Reinaldo J. (*with* Nicasio, Carlos O.; Price, Richard H.; Pullin, Jorge) Evolving the Bowen-York initial data for spinning black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3401–3407. (Summary) **99m:83112** 83C57
Gleĭzer, G. D. On the number π in the Old Testament. (Russian. English summary) *Voprosy Istor. Estestvoznan. i Tekhn.* **1998**, *no.* 2, 45–48, 204. (H. W. Guggenheimer) **99h:01008** 01A17
Glendinning, Paul (*with* Perry, Louise P.) Melnikov analysis of chaos in a simple epidemiological model. (English summary) *J. Math. Biol.* **35** (1997), *no.* 3, 359–373. (Hal Leslie Smith) **99e:92031** 92D30 (34C99, 58F13, 58F40)
— Intermittency and strange nonchaotic attractors in quasi-periodically forced circle maps. (English summary) *Phys. Lett. A* **244** (1998), *no.* 6, 545–550. (Summary) **99c:58106** 58F13 (58F27)
— (*with* Banaji, Murad) Towards a quasi-periodic mean field theory for globally coupled oscillators. (English summary) *Phys. Lett. A* **251** (1999), *no.* 5, 297–302. 58F40 (34C15, 35Q55, 58F13, 76E30)
Glenn, Laura Ann (*with* Boggess, Al; Nagel, Alexander) Model rigid CR submanifolds of CR dimension 1. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 43–74. (Elisabetta Barletta) **99g:32011** 32C16 (32E20, 32F40)
Gleser, Leon Jay Assessing uncertainty in measurement. (English summary) *Statist. Sci.* **13** (1998), *no.* 3, 277–290. (Summary) **99k:62010** 62A99
Gleska, Alina (*with* Werbowski, Jarosław) Comparison theorems for the asymptotic behavior of solutions of nonlinear difference equations. *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 456–465. (Allan C. Peterson) **99k:39009** 39A10
Glesner, Sabine (*with* Kolbe, Thomas) Many-sorted logic in a learning theorem prover. (English summary) *KI-97: advances in artificial intelligence* (*Freiburg*, 1997), 75–86, *Lecture Notes in Comput. Sci.*, 1303, *Springer, Berlin*, 1997. (*see* **99d:68006**) 68T15 (03B35)
Glezer, Ari (*with* Wiltse, John M.) Direct excitation of small-scale motions in free shear flows. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2026–2036. 76-05 (76F10)
— (*with* Smith, Barton L.) The formation and evolution of synthetic jets. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2281–2297. 76D25 (76F10)
Glick, John (*with* Rosen, J. B.; Park, Haesun) Structured total least norm for nonlinear problems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 14–30 (*electronic*). (Hongyuan Zha) **99g:65056** 65F30 (65M99)
Glielmo, Luigi (*with* Corless, Martin) New converse Lyapunov theorems and related results on exponential stability. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 1, 79–100. (P. Seibert) **99j:34070** 34D20 (93D05)
kowalski-Glikman, Jerzy *see* **Kowalski-Glikman, Jerzy**
Glimm, James (*with* Chen, Yupin; Saltz, David; Sharp, David H.; Zhang, Qiang[1]) A two-phase flow formulation for the Rayleigh-Taylor mixing zone and its renormalization group solution. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 23–32, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76144** 76T05 (76E99, 76M35)
— (*with* Grove, John W.; Li, Xiao Lin; Shyue, Keh-Ming; Zeng, Yanni; Zhang, Qiang[1]) Three-dimensional front tracking. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 703–727 (*electronic*). (Alexander Doktor) **99c:35153** 35L67 (65M99)
— (*with* Sharp, David H.) Stochastic partial differential equations: selected applications in continuum physics. *Stochastic partial differential equations: six perspectives*, 3–44, *Math. Surveys Monogr.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Giambattista Giacomin) **99k:60162** 60H15 (35R60, 73B99, 73V30, 76M35, 76S05)
— (*with* Saltz, David; Sharp, David H.) Two-phase modelling of a fluid mixing layer. (English summary) *J. Fluid Mech.* **378** (1999), 119–143. (Summary) **99j:76060** 76F99 (76E99, 76T05)
— *see also* **Proceedings: Workshop on Compressible Turbulent Mixing, 99g:76002**
Glitzky, A. (*with* Gröger, Konrad; Hünlich, R.) Free energy and dissipation rate for reaction diffusion processes of electrically charged species. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 201–217. 35K57 (78A35)
Gliviak, Ferdinand Two classes of graphs related to extremal eccentricities. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 231–241. (Summary) **99k:05071** 05C12 (05C35)
Glizer, Valery Y. Asymptotic solution of the singularly perturbed infinite-dimensional Riccati equation. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 63–88. (Tzanko D. Donchev) **99f:49038** 49K40 (34E15, 34G20, 34H05, 49N10)
— Asymptotic solution of a singularly perturbed set of functional-differential equations of Riccati type encountered in the optimal control theory. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 4, 491–515. (Iordan I. Slavov) **99k:49022** 49J40 (34K10, 34K35, 93C70)
Globevnik, Josip Perturbing analytic discs attached to maximal real submanifolds of $\mathbf{C}^N$. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 1, 37–46. (Alexander V. Isaev) **99b:32023** 32F25
— A bounded domain in $\mathbf{C}^N$ which embeds holomorphically into $\mathbf{C}^{N+1}$. *Ark. Mat.* **35** (1997), *no.* 2, 313–325. (Herbert Alexander) **99b:32034** 32H02
— On Fatou-Bieberbach domains. *Math. Z.* **229** (1998), *no.* 1, 91–106. (Eric Bedford) **99g:32050** 32H99

Glocker, Ch. The principles of d'Alembert, Jourdain, and Gauss in nonsmooth dynamics. I. Scleronomic multibody systems. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 1, 21–37. (Manuel D. P. Monteiro Marques) **99b:70019** 70H30 (49S05, 70E15, 70F10)

— (*with* Panagiotopoulos, Panagiotis D.) Analytical mechanics. Addendum I: inequality constraints with elastic impacts. The convex case. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 4, 219–229. (Manuel D. P. Monteiro Marques) **99d:70022** 70F99 (70F35, 70H30, 73D05, 73V25)

— Displacement potentials in non-smooth dynamics. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 323–330, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99i:70011** 70E15 (70F25, 70H30)

Glöckner, Helge Scale functions on linear groups over local skew fields. (English summary) *J. Algebra* **205** (1998), *no.* 2, 525–541. (George A. Willis) **99h:20078** 20G25 (22A05)

Glogovac, B. (*with* Kolenko, T.; Jaklič, T.) An analysis of a heat transfer model for situations involving gas and surface radiative heat transfer. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 5, 349–365. 80A20

mcGloin Knoll, C. *see* **McGloin Knoll, C.**

Glonek, G. F. V. On identifiability in models for incomplete binary data. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 191–197. (Summary) **99i:62015** 62D05

Glonti, O. (*with* Khechinashvili, Z.) Financial (B, S)-market with Gaussian martingale. Mean square optimal hedging strategies. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **115** (1997), 33–43. (Summary) **99j:90010** 90A09 (60G44)

Gloor, Oliver (*with* Wolff, Manfred P. H.; Richard, Christoph) ★ Analysis alive. (German. German summary) Ein interaktiver Mathematik-Kurs. [An interactive course in mathematics] With 1 CD-ROM (Windows, Macintosh and UNIX). *Birkhäuser Verlag, Basel*, 1998. *xiv+372 pp. ISBN* 3-7643-5966-8 00A05 (26–01)

Gloor, Philip J. The behavior, on $\hat{B}^{0,1}_1$, of an oscillatory integral with polynomial phase function. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 658–671. (Dashan Fan) **99d:42023** 42B20 (46E99, 47G10)

Gloth, O. (*with* Hänel, D.; Dervieux, Alain; Vilsmeier, R.; Viozat, Cécile; Fournier, L.) Development of Navier-Stokes solvers on hybrid grids. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 89–111, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76117** 76M25 (76D05)

— (*with* Elmahi, I.; Benkhaldoun, F.; Vilsmeier, R.; Patschull, A.; Hänel, D.) Finite volume simulation of a droplet flame ignition on unstructured meshes. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 187–205. (Summary) **99k:80003** 80–08 (80A25)

Glotov, P. E. An algorithm for searching for the minimum of unimodal functions of several variables. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 4, 28–30, 51. (Summary) **99k:90154** 90C30 (65K05)

Glover, B. M. (*with* Rubinov, Aleksandr M.) Quasiconvexity via two step functions. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 159–183, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Diethard Pallaschke) **99m:49029** 49J52 (90C26, 90C48)

— (*with* Rubinov, Aleksandr M.) Duality for increasing positively homogeneous functions and normal sets. (English and French summaries) *RAIRO Rech. Opér.* **32** (1998), *no.* 2, 105–123. (Jean-Pierre Crouzeix) **99g:90090** 90C26 (49N15, 90A10)

— (*with* Xu, Hui Fu; Rubinov, Aleksandr M.) Strict lower subdifferentiability and applications. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 379–391. (Zsolt Páles) **99m:49031** 49J52 (58C20, 90C26)

Glover, Fred (*with* Magee, Timothy M.) Integer programming. *Mathematical programming for industrial engineers*, 123–269, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C10 (90–02)

— (*with* Laguna, Manuel) Tabu search. *Handbook of combinatorial optimization, Vol.* 3, 621–757, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90–02, 90C10)

Glover, H. H. (*with* Dicks, Warren) An algorithm for cellular maps of closed surfaces. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 207–252. (Allan Edmonds) **99e:57001** 57M05 (20F05, 57M07, 57M12)

Glover, Keith (*with* Goddard, Philip John) Controller approximation: approaches for preserving $\mathscr{H}_\infty$ performance. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 858–871. (K. B. Datta) **99g:93026** 93B36 (93B40)

— (*with* Goddard, Philip John; Chu, Y.-C.) Model reduction for classes of uncertain, multi-dimensional, parameter varying and non-linear systems. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 269–280, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B17 (93C10)

Główczyński, Wiesław (*with* Balcar, Bohuslav; Jech, Thomas) The sequential topology on complete Boolean algebras. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 59–78. (Klaas Pieter Hart) **99b:28006** 28A60 (06E10, 54A20, 54A25)

Glowinski, Roland (*with* He, Jiwen) On shape optimization and related issues. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 151–179, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Sergey V. Nikitin) **99i:49049** 49Q10 (49N10)

— (*with* Pan, Tsorng-Whay; Hesla, Todd I.; Joseph, Daniel D.; Périaux, Jacques) A fictitious domain method with distributed Lagrange multipliers for the numerical simulation of particulate flow. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 121–137, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99i:76112** 76M25 (65M60, 76T05)

— (*with* He, Jiwen; Gorman, Michael; Périaux, Jacques) Some results on the controllability and the stabilization of the Kuramoto-Sivashinsky equation. (English summary) *Équations aux dérivées partielles et applications*, 571–590, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 35Q30 (93B05)

— (*with* Dean, E. J.; Pan, Tsorng-Whay) A wave equation approach to the numerical simulation of incompressible viscous fluid flow modelled by the Navier-Stokes equations. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 65–74, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76D05 (65M06, 76M25)

— (*with* Pan, Tsorng-Whay; Périaux, Jacques) Domain embedding methods for incompressible viscous flow around moving rigid bodies. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 34–51, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:76113** 76M25 (65M55, 76D05)

— (*with* Kuznetsov, Yurīĭ Alekseevich[1]) On the solution of the Dirichlet problem for linear elliptic operators by a distributed Lagrange multiplier method. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 693–698. (Summary) **99f:65165** 65N30 (65F35)

— (*with* Pan, Tsorng-Whay; Périaux, Jacques) Distributed Lagrange multiplier methods for incompressible viscous flow around moving rigid bodies. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 181–194. (Summary) **99d:76075** 76M25

— (*with* He, Jiwen; Metcalfe, Ralph W.; Périaux, Jacques) A numerical approach to the control and stabilization of advection-diffusion systems: application to viscous drag reduction. Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 131–156. (Summary) **99m:93053** 93C20 (76M10, 76Rxx, 93B40)

— (*with* Bristeau, M. O.; Périaux, Jacques) Controllability methods for the computation of time-periodic solutions; application to scattering. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 265–292. (Narahari Parhi) **99k:65093** 65M60 (35P25, 93B05)

— (*with* He, Jiwen) Neumann control of unstable parabolic systems: numerical approach. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 1–55. (Muthusamy Vanninathan) **99b:49031** 49M25 (49K20, 65M06)

Glozman, Alex (*with* Kedem, Klara; Shpitalnik, Gregory) On some geometric selection and optimization problems via sorted matrices. (English summary) *Comput. Geom.* **11** (1998), *no.* 1, 17–28. (Summary) **99c:65261** 65Y25 (65K10)

Glozman, D. (*with* Brodsky, V.; Shoham, M.) Double circular-triangular six-degrees-of-freedom parallel robot. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 155–164, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Glozman, Leonid Ya. Baryon structure and the chiral symmetry of QCD. (English summary) *Perturbative and nonperturbative aspects of quantum field theory (Schladming, 1996)*, 363–385, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81V05

Gluchoff, Alan (*with* Hartmann, Frederick) Univalent polynomials and non-negative trigonometric sums. *Amer. Math. Monthly* **105** (1998), *no.* 6, 508–522. (T. H. MacGregor) **99i:30008** 30C10 (30C50, 42A05)

Gluck, David (*with* Seress, Ákos; Shalev, Aner) Bases for primitive permutation groups and a conjecture of Babai. (English summary) *J. Algebra* **199** (1998), *no.* 2, 367–378. (Robert M. Guralnick) **99b:20004** 20B15 (20B40, 20P05)

— (*with* Magaard, Kay) Cross-characteristic character and fixed point space ratios for groups of Lie type. *J. Algebra* **204** (1998), *no.* 1, 188–201. (Peter Fleischmann) **99j:20019** 20C33 (20C20)

Glück, M. (*with* Kolovskiĭ, A. R.; Korsch, H. Jürgen) A truncated shift-operator technique for the calculation of resonances in Stark systems. (English summary) *J. Phys. A* **32** (1999), *no.* 4, *L49–L55*. 81Q05

Glück, Robert (*with* Abramov, S. M.) Semantics modifiers: an approach to non-standard semantics of programming languages. (English summary) *Third Fuji International Symposium on Functional and Logic Programming (Kyoto, 1998)*, 247–270, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68Q55 (68N15)

Glueck, Deborah H. (*with* Muller, Keith E.) On the trace of a Wishart. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2137–2141. 62H10

Glüer, Kathrin (*with* Pagin, Peter) Rules of meaning and practical reasoning. (English summary) *Synthese* **117** (1998/99), *no.* 2, 207–227. 03B65

Gluhovsky, Alexander *see* **Glukhovskiĭ, A. B.**

Glukhov, M. (*with* Özbudak, Ferruh) Codes on superelliptic curves. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 223–234. (Simon N. Litsyn) **99j:11071** 11G20 (11T71, 94B27)

Glukhovskiĭ, A. B. (*with* Agee, Ernest) LES model sensitivities to domains, grids, and large-eddy timescales. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 599–604. 76F99 (76M25)

— (*with* Tong, Christopher) The structure of energy conserving low-order models. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 334–343. (Summary) **99k:76008** 76A02 (76F99)

Glushak, A. V. (*with* Orsingher, Enzo) General solution of a hyperbolic equation that arises in the study of motion with random acceleration. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 50–54; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 49–53 (1998). (Vyacheslav V. Chistyakov) **99f:35235** 35R60 (35L99, 60J99)

— On the asymptotic proximity of solutions of the Cauchy problem for first-order differential equations in a Banach space. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 14–17; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 7, 12–15. (M. Švec) **99e:34080** 34G10 (34C99)

Glushakov, A. N. Two questions in the exterior geometry of Plücker embeddings of Grassmann manifolds. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **246** (1997), *Geom. i Topol.* 2, 5–12, 196. (Andrew Bucki) **99d:53050** 53C35 (53C40)

Glushko, A. V. On the unique solvability of the initial-boundary value problem of the dynamics of an exponentially stratified fluid. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 141–149. (Yuri N. Skiba) **99a:76158** 76V05 (35Q35, 76D05, 86A05)

Glushkov, E. V. (*with* Glushkova, Natalya; Lapina, O. N.) Diffraction of normal modes in composite and stepped elastic waveguides. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 297–303; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 275–280. 73D25

— (*with* Kirillova, E. V.) A dynamic mixed problem for a packet of elastic layers. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 455–461; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 419–425. 73C35 (73D99)

— (*with* Glushkova, Natalya; Lapina, O. N.) 3-D elastic stress singularity at polyhedral corner points. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 8, 1105–1128. (Summary) **99j:73083** 73M25 (73B50, 73V20)

Glushkova, Natalya (*with* Glushkov, E. V.; Lapina, O. N.) Diffraction of normal modes in composite and stepped elastic waveguides. (Russian. Russian summary) *Prikl. Mat.*

Mekh. **62** (1998), *no.* 2, 297–303; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 275–280. 73D25
— (*with* Glushkov, E. V.; Lapina, O. N.) 3-D elastic stress singularity at polyhedral corner points. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 8, 1105–1128. (Summary) **99j:73083** 73M25 (73B50, 73V20)
Glüsing-Lüerßen, Heide (*with* De Mari, Filippo) The spaces of improper rational matrices and ARMA-systems of fixed McMillan degree. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 19 *pp.* (*electronic*). (Summary) **99f:93032** 93B27 (93C35)
— Realization of rational matrices by singular systems. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 32 *pp.* (*electronic*). (Summary) **99g:93019** 93B15 (93C35)
— Realization of rational matrices by singular systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 289–320. (Vimal Singh) **99e:93022** 93B27
Gluskin, Efim D. On the stability of the volume radius. (English summary) *Convex geometric analysis* (*Berkeley, CA*, 1996), 81–87, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Franck Barthe) **99m:52007** 52A38 (52A20, 52A21, 60G15)
Glutsyuk, A. A. Hyperbolicity of the leaves of a generic one-dimensional holomorphic foliation on a nonsingular projective algebraic variety. (Russian) *Tr. Mat. Inst. Steklova* **213** (1997), *Differ. Uravn. s Veshchestv. i Kompleks. Vrem.*, 90–111. (Vasily A. Chernecky) **99m:32041** 32L30
Glymour, Bruce Contrastive, non-probabilistic statistical explanations. (English summary) *Philos. Sci.* **65** (1998), *no.* 3, 448–471. 03B48
Glynn, David G. The classification of projective planes of order q^3 with cone-representations in PG$(6, q)$. (English summary) *Geom. Dedicata* **66** (1997), *no.* 3, 343–355. (Norman L. Johnson) **99d:51006** 51E15
— On cubic curves in projective planes of characteristic two. (English summary) *Australas. J. Combin.* **17** (1998), 1–20. (J. W. P. Hirschfeld) **99f:51014** 51E20 (51E14)
— The modular counterparts of Cayley's hyperdeterminants. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 479–492. (Gang Song Leng) **99d:15004** 15A15 (51E20)
— Plane representations of ovoids. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 275–286. (Christine M. O'Keefe) **99g:51006** 51E20 (51B10, 51E12, 51E21)
— A survey of cone representations. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 265–277. (Vikram Jha) **99k:51008** 51E20 (51A15, 51A40, 51A45)
— A 126-cap of PG$(5, 4)$ and its corresponding [126, 6, 88]-code. (English summary) *Util. Math.* **55** (1999), 201–210. (Summary) **99m:05036** 05B25 (94B60)
Glynn, Peter W. Strong approximations in queueing theory. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 135–150, *North-Holland, Amsterdam*, 1998. (J. Steinebach) **99j:60140** 60K25 (60F15)
— (*with* Sigman, Karl) Independent sampling of a stochastic process. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 151–164. (Mikhail Sverchkov) **99g:60086** 60G55 (60G10, 60K99)
Glytsis, Elias N. (*with* Bendickson, Jon M.; Gaylord, Thomas K.) Scalar integral diffraction methods: unification, accuracy, and comparison with a rigorous boundary element method with application to diffractive cylindrical lenses. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 7, 1822–1837. 78–08
Gmira, B. (*with* Verstraelen, Leopold) Une inégalité optimale pour des sous-variétés riemanniennes dans des espaces pseudo-riemanniens. (English summary) [An optimal inequality for Riemannian submanifolds in pseudo-Riemannian spaces] *Proyecciones* **16** (1997), *no.* 2, 181–194. (Francisco J. M. Estudillo) **99i:53069** 53C50 (53C40)
Gnacadja, Gilles Ph. Phantom maps in the stable module category. (English summary) *J. Algebra* **201** (1998), *no.* 2, 686–702. (Jeremy Rickard) **99k:20020** 20C20 (16D10, 18E30)
Gnanadesikan, R. (*with* Harvey, J. W.; Kettenring, J. R.) Corrigenda: "Mahalanobis metrics for cluster analysis" [Sankhyā Ser. A **55** (1993), no. 3, 494–505; MR 96b:62101]. *Sankhyā Ser. A* **56** (1994), *no.* 2, 387. 62H30
Gnanaseelan, C. (*with* Srivastava, P. D.) A generalized product on some sequences and matrix transformations. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 7, 943–949. (Y. Sitaraman) **99b:40004** 40H05
Gnatek, Adam On some bilinear inequalities in the class of similarly ordered n-tuples. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 22–33. (Natalia Bebiano) **99b:15023** 15A45
Gnedbaye, Allahtan Victor Leibniz homology of extended Lie algebras. (English summary) *K-Theory* **13** (1998), *no.* 2, 169–178. (Teimuraz Pirashvili) **99a:17025** 17B56 (17A30)
Gnedenko, B. V. Development of probability theory. (Russian) *Outlines of the history of mathematics* (*Russian*), 247–338, *Izdat. Moskov. Univ., Moscow*, 1997. (Werner Linde) **99m:60003** 60-03 (01A05)
— *see also* **Outlines of the history of mathematics, 99h:01004**
Gneiting, Tilmann On α-symmetric multivariate characteristic functions. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 131–147. (Jolanta K. Misiewicz) **99h:60025** 60E07 (42A61)
— Closed form solutions of the two-dimensional turning bands equation. (English summary) *Math. Geol.* **30** (1998), *no.* 4, 379–390. (Summary) **99a:86006** 86A32
— Simple tests for the validity of correlation function models on the circle. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 119–122. (Summary) **99i:62191** 62M07 (62M30)
— On the uncertainty relation for positive definite probability densities. (English summary) *Statistics* **31** (1998), *no.* 1, 83–88. (Summary) **99b:60019** 60E05 (42A82, 60E10)
— (*with* Sasvári, Zoltán) The characterization problem for isotropic covariance functions. (English summary) *Math. Geol.* **31** (1999), *no.* 1, 105–111. (Summary) **99j:86016** 86A32
Gnoenskiĭ, L. S. Formulas for the maximum deviation of linear control systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 83–96. (Summary) **99k:93062** 93C41 (93B30)
Gnot, Stanisław (*with* Urbańska-Motyka, Agnieszka; Zmyślony, Roman) Nonnegative maximum likelihood estimation in a linear model of variance components. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 215–224. (Summary) **99b:62102** 62J05 (62J10)
Gnutzmann, Sven (*with* Kuś, Marek) Coherent states and the classical limit on irreducible SU_3 representations. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9871–9896. (Apostolos Vourdas) **99m:81091** 81R30 (22E70, 81R05)
Goard, Joanna M. (*with* Broadbridge, Philip) Nonlinear superposition principles obtained by Lie symmetry methods. *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 633–657. (Irina Yehorchenko) **99j:35009** 35A30 (58G35, 58G37)
— (*with* Broadbridge, Philip; Lavrent'ev, M. M., Jr.) Degenerate nonlinear diffusion with an initially sharp front. *Stud. Appl. Math.* **99** (1997), *no.* 4, 377–391. (Zhuo Qun Wu) **99a:35149** 35K65 (35B99, 35Q35, 76R50, 76S05)
Gobbert, Matthias K. (*with* Ringhofer, Christian A.) An asymptotic analysis for a model of chemical vapor deposition on a microstructured surface. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 737–752 (*electronic*). (Summary) **99a:76043** 76D30 (73B27, 80A32)
Gobbino, Massimo Gradient flow for the one-dimensional Mumford-Shah functional. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 1, 145–193 (1999). (Sisto Baldo) **99j:49003** 49J20 (34G20, 58E50)
— Quasilinear degenerate parabolic equations of Kirchhoff type. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 5, 375–388. (Summary) **99m:34136** 34G20 (35K65)
Göbel, F. (*with* Hoede, Cornelis) Magic labelings of graphs. (English summary) *Ars Combin.* **51** (1999), 3–19. (Hung-Lin Fu) **99m:05142** 05C78
Göbel, Manfred On the reduction of G-invariant polynomials for arbitrary permutation groups G. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 71–92, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Joachim Apel) **99e:13005** 13A50 (13P99, 68Q40)
— A constructive description of SAGBI bases for polynomial invariants of permutation groups. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 261–272. (Aldo Conca) **99f:13002** 13A50 (13P10)
— (*with* Walter, Jochen) Bases for polynomial invariants of conjugates of permutation groups. Appendix to: "Computing bases for rings of permutation-invariant polynomials" [J. Symbolic Comput. **19** (1995), no. 4, 285–291; MR 96f:13006] by Göbel. *J. Algorithms* **32** (1999), *no.* 1, 58–61. 13A50
Göbel, Rüdiger (*with* Bhaskara Rao, K. P. S.; Shortt, Rae Michael) Extensions of group-valued set functions. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 35–44. (Przemo Kranz) **99c:28032** 28B10 (20K30)
— (*with* Corner, A. L. S.) Essentially rigid floppy subgroups of the Baer-Specker group. (English summary) *Manuscripta Math.* **94** (1997), *no.* 3, 319–326. (Ulrich Albrecht) **99a:20058** 20K20
— (*with* Corner, A. L. S.) Subgroups of the Baer-Specker group with prescribed endomorphism ring and large dual. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 113–123, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (John D. O'Neill) **99i:20075** 20K25 (16S60, 20K30)
— (*with* Shelah, Saharon) Endomorphism rings of modules whose cardinality is cofinal to omega. *Abelian groups, module theory, and topology* (*Padua*, 1997), 235–248, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Manfred Dugas) **99i:13021** 13C99 (20K30)
— (*with* Corner, A. L. S.) Radicals commuting with Cartesian products. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 341–348. (B. Goldsmith) **99j:20062** 20K25 (03E50, 20K20)
— (*with* Shelah, Saharon) Indecomposable almost free modules—the local case. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 719–738. (Luigi Salce) **99i:13014** 13C13 (20K20)
— (*with* Simson, Daniel) Embeddings of Kronecker modules into the category of prinjective modules and the endomorphism ring problem. *Colloq. Math.* **75** (1998), *no.* 2, 213–244. (Peter Dräxler) **99g:16021** 16G60 (16G20, 16S50)
— (*with* Pabst, Simone) Endomorphism algebras over large domains. (English summary) *Fund. Math.* **156** (1998), *no.* 3, 211–240. (Manfred Dugas) **99b:16046** 16S50 (13C13, 20K30)
— (*with* Paras, Agnes T.) Automorphisms of metabelian groups with trivial center. *Illinois J. Math.* **42** (1998), *no.* 2, 333–346. (Martin R. Pettet) **99d:20057** 20F28
— (*with* Files, Steve T.) Gauss' theorem for two submodules. *Math. Z.* **228** (1998), *no.* 3, 511–536. (Manfred Dugas) **99d:13012** 13C13 (13F10, 20K20)
— *see also* **Advances in algebra and model theory, 99k:00026**
Goberna, D. (*with* Jódar, Lucas; Almenar, P.) Exact and approximate solutions with a priori error bounds for systems of time-dependent wave equations. *Math. Comput. Modelling* **26** (1997), *no.* 7, 11–28. (A. O. Oganesyan) **99a:65106** 65M15 (35A35, 35L05, 65N15)
— (*with* Jódar, Lucas) Uniqueness of solutions for systems of separated variable coefficient partial differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 109–113. 35K10
— (*with* Jódar, Lucas) A matrix d'Alembert formula for coupled wave initial value problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 1–15. (Summary) **99b:35018** 35C05 (35L05)
— (*with* Jódar, Lucas) Correction to: "Mixed problems for the time-dependent telegraph equation: continuous numerical solutions with a priori error bounds" [Math. Comput. Modelling **25** (1997), no. 11, 31–44; MR 98d:65128] by P. Almenar, Jódar and J. A. Martin. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 113–116. (Summary) **99g:65101** 65M99
— (*with* Almenar, P.; Jódar, Lucas) Constructive approximations of mixed variable coefficient diffusion problems. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 6, 33–44. (Summary) **99m:35093** 35K10 (35C10)
Goberna, Miguel A. (*with* López, Marco Antonio) ★ Linear semi-infinite optimization. (English summary) Wiley Series in Mathematical Methods in Practice, 2. *John Wiley & Sons, Ltd., Chichester*, 1998. *xii*+343 *pp. ISBN* 0-471-97040-9 (Hubertus Th. Jongen) **99f:90155** 90C34 (90-02)
— (*with* López, Marco Antonio) A comprehensive survey of linear semi-infinite optimization theory. (English summary) *Semi-infinite programming*, 3–27, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90140** 90C34 (90-02)
— (*with* Mira López, Juan A.; Torregrosa, G.) Redundancy in linear inequality systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 529–548. (Jan Rückmann) **99i:90062** 90C08 (65F30, 90C31, 90C34)
Gobet, Emmanuel Schéma d'Euler continu pour des diffusions tuées et options barrière. (English and French summaries) [Continuous Euler scheme for killed diffusions and

barrier options] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1411–1414. (Summary) **99i:60149** 60J60 (65U05)

Gochet, Willy (*with* Stam, Antonie; Srinivasan, Venkataraman; Chen, Shaoxiang) Multigroup discriminant analysis using linear programming. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 213–225. (Summary) **99d:90142** 90C90 (90C05)

Gocka, E. (*with* Kirchherr, W.; Schmeichel, Edward) A note on the road-coloring conjecture. (English summary) *Ars Combin.* **49** (1998), 265–270. (Summary) **99c:05062** 05C15

Göckeler, Meinulf (*with* Schücker, Thomas) Does noncommutative geometry encompass lattice gauge theory? (English summary) *Phys. Lett. B* **434** (1998), *no.* 1-2, 80–82. (Bruno Iochum) **99f:58015** 58B30 (46L87, 81T25)

Godart, C. (*with* Canals, G.; Molli, P.; Munier, Manuel) A criterion to enforce correctness of indirectly cooperating applications. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 279–302. 68Q10

Godbole, Anant P. (*with* Hitczenko, Paweł) Beyond the method of bounded differences. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 43–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (J. Glaz) **99i:60040** 60E15 (60E15, 60G46)

— (*with* Potter, Laura K.; Sandquist, Erik J.) Sign-balanced covering matrices. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 79–93. (Charles J. Colbourn) **99g:05038** 05B20 (05B40)

— (*with* Potter, Laura K.; Sklar, Jessica K.) Improved upper bounds for the reliability of d-dimensional consecutive-k-out-of-n:F systems. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 2, 219–230. (Summary) **99a:90097** 90B25

— (*with* Herzog, Jonathan; McLaren, Christopher) Generalized k-matches. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 167–175. (Lars Holst) **99f:60018** 60C05 (60F05)

Godbole, Datta N. (*with* Lygeros, John; Sastry, S. Shankar) Verified hybrid controllers for automated vehicles. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 522–539. (*see* **99a:93006**) 93C95 (93C10)

Goddard, A. J. H. (*with* Xu, Xiao; Pain, C. C.; de Oliveira, C. R. E.) An automatic adaptive meshing technique for Delaunay triangulations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 297–303. 65N55

Goddard, B. (*with* Mollin, R. A.) Quadratic prime-producing polynomials. (English summary) *J. Math. Sci.* (*Calcutta*) **9** (1998), *no.* 1, 1–8. (F. Diaz y Diaz) **99g:11126** 11R09 (11A41, 11R11)

— (*with* Mollin, R. A.) Richaud-Degert prime-producers. (English summary) *Util. Math.* **54** (1998), 273–286. (Stéphane Louboutin) **99i:11098** 11R11 (11R29)

Goddard, Joe D. Continuum modeling of granular assemblies: quasi-static dilatancy and yield. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 1–24, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:73050** 73E05 (73B99, 73S10, 76A99)

— (*with* Cantelaube, F.; Didwania, A. K.) Elastoplastic arching in two-dimensional granular heaps. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 123–127, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E99

— (*with* Didwania, A. K.) Computations of dilatancy and yield surfaces for assemblies of rigid frictional spheres. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 1, 15–43. (Summary) **99a:73068** 73E99 (73E05, 76A99)

Goddard, Peter The work of [Fields medalist] Richard Ewen Borcherds. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 3, 33–38. 17-00 (01A70, 17B69)

— *see also* **Pais, Abraham et al., 99d:01033**

Goddard, Philip John (*with* Glover, Keith) Controller approximation: approaches for preserving $\mathscr{H}_\infty$ performance. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 858–871. (K. B. Datta) **99g:93026** 93B36 (93B40)

— (*with* Glover, Keith; Chu, Y.-C.) Model reduction for classes of uncertain, multi-dimensional, parameter varying and non-linear systems. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 269–280, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B17 (93C10)

Goddard, Wayne (*with* Brandt, Stephan; Faudree, Ralph J.) Weakly pancyclic graphs. (English summary) *J. Graph Theory* **27** (1998), *no.* 3, 141–176. (Feng Tian) **99a:05082** 05C38

Goddyn, Luis A. (*with* van den Heuvel, Jan; McGuinness, Sean) Removable circuits in multigraphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 130–143. (Bradley W. Jackson) **99c:05113** 05C38 (05C40)

— (*with* Bienia, Wojciech; Gvozdjak, Pavol; Sebő, András; Tarsi, Michael) Flows, view obstructions, and the lonely runner. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 1–9. (Prabir Das) **99c:90043** 90B10 (05C99)

— (*with* Tarsi, Michael; Zhang, Cun Quan) On (k, d)-colorings and fractional nowhere-zero flows. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 155–161. (Prabir Das) **99c:05063** 05C15

Godeferd, Fabien S. (*with* Staquet, C.) Statistical modelling and direct numerical simulations of decaying stably stratified turbulence. I. Flow energetics. *J. Fluid Mech.* **360** (1998), 295–340. (Summary) **99a:76074** 76F99 (76M35)

— (*with* Leblanc, Stéphane) An illustration of the link between ribs and hyperbolic instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 497–499. (Summary) **99k:76064** 76E99

dé Godefroy, Akmel *see* **Dé Godefroy, Akmel**

Godefroy, Gilles (*with* Li, Daniel) Strictly convex functions on compact convex sets and applications. *Functional analysis*, 182–192, *Narosa, New Delhi*, 1998. (Wolfgang Lusky) **99m:46013** 46A55 (43A05, 46A50, 52A41)

— (*with* Kalton, Nigel J.; Lancien, Gilles) L'espace de Banach c_0 est déterminé par sa métrique. (English and French summaries) [The Banach space c_0 is determined by its metric] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 817–822. (Summary) **99h:46007** 46B04 (46B20)

— (*with* Cascales, B.) Angelicity and the boundary problem. (English summary) *Mathematika* **45** (1998), *no.* 1, 105–112. (Y. Benyamini) **99f:46019** 46B20 (46E15)

Godehardt, D. (*with* Godehardt, Erhard; Jaworski, Jerzy) The application of random coincidence graphs for testing the homogeneity of data. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 35–45, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62H30 (05C80)

Godehardt, Erhard (*with* Harris, Bernard; Horsch, Armin) Random multigraphs, classification and clustering. (English summary) *New trends in probability and statistics, Vol. 3* (*Tartu/Pühajärve*, 1994), 279–286, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 60C05 (05C80, 62H30)

— (*with* Jaworski, Jerzy) On the connectivity of a random interval graph. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 137–161. (Andrzej Ruciński) **99e:05107** 05C80

— (*with* Harris, Bernard) Asymptotic properties of random interval graphs and their use in cluster analysis. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 19–30, *VSP, Utrecht*, 1997. (Summary) **99g:60016** 60C05 (60F05)

— (*with* Jaworski, Jerzy; Godehardt, D.) The application of random coincidence graphs for testing the homogeneity of data. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 35–45, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62H30 (05C80)

— (*with* Harris, Bernard) Probability models and limit theorems for random interval graphs with applications to cluster analysis. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 54–61, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62H30 (05C80)

Gödel, Kurt Friedrich *see* **Calude, Cristian S., 99a:01019**; **Read, Stephen, 99a:03001**; **Gödel, 99d:00032**; **Parsons, Charles, 99d:01026**; **Tieszen, Richard, 99f:01023**; **Dawson, J. W., Jr., 99i:01025**; **Kreisel, G., 99k:01037** *and* **Murawski, Roman, 99k:01038**

Godement, Roger I. Les représentations unitaires irréductibles du groupe complexe unimodulaire (d'après Gelfand et Neumark). [I. The irreducible unitary representations of the unimodular complex group (after Gel′fand and Naĭmark)] *Séminaire Bourbaki, Vol. 1, Exp. No. 4*, 21–27, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 22E46 (22E43)

— II. La transformation de Fourier dans le groupe complexe unimodulaire à deux variables (d'après Gelfand et Neumark). [II. The Fourier transform in the bivariate unimodular complex group (after Gel′fand and Naĭmark)] *Séminaire Bourbaki, Vol. 1, Exp. No. 13*, 75–81, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 22E46 (22E43)

— Sommes continues d'espaces de Hilbert. I. [Continuous sums of Hilbert spaces. I] *Séminaire Bourbaki, Vol. 1, Exp. No. 19*, 117–122, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 46M20 (46L45)

— Sommes continues d'espaces de Hilbert. II. [Continuous sums of Hilbert spaces. II] *Séminaire Bourbaki, Vol. 1, Exp. No. 25*, 169–176, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 46M20 (46L45)

— Théorie des caractères dans les groupes unimodulaires. [Theory of characters in unimodular groups] *Séminaire Bourbaki, Vol. 1, Exp. No. 41*, 337–347, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 22D10 (22D05)

— Introduction à la théorie de Langlands. [Introduction to the theory of Langlands] *Séminaire Bourbaki, Vol. 10, Exp. No. 321*, 115–144, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 11F70 (11F72, 22E50)

— Les travaux de E. Hecke. I. [The works of E. Hecke. I] *Séminaire Bourbaki, Vol. 2, Exp. No. 51*, 13–19, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 11R42

— Les travaux de Hecke. II. [The works of Hecke. II] *Séminaire Bourbaki, Vol. 2, Exp. No. 59*, 83–90, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 11R42

— Travaux de Hecke. III. [Works of Hecke. III] *Séminaire Bourbaki, Vol. 2, Exp. No. 74*, 237–246, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 11F11

— Travaux de Hecke. IV. [Works of Hecke. IV] *Séminaire Bourbaki, Vol. 2, Exp. No. 80*, 287–293, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 11F11

— Cohomologie des groupes discontinus. [Cohomology of discontinuous groups] *Séminaire Bourbaki, Vol. 2, Exp. No. 90*, 365–375, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 20J05 (20H10)

— Représentations induites des groupes de Lie. [Induced representations of Lie groups] *Séminaire Bourbaki, Vol. 3, Exp. No. 126*, 287–294, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 22E30 (22D30)

— Représentations induites des groupes semi-simples. [Induced representations of semisimple groups] *Séminaire Bourbaki, Vol. 3, Exp. No. 131*, 333–339, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 22E46 (22D30)

— Introduction aux travaux de A. Selberg. [Introduction to the works of A. Selberg] *Séminaire Bourbaki, Vol. 4, Exp. No. 144*, 95–110, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 22D10 (22E46)

— Les fonctions ζ des algèbres simples. I. [The ζ-functions of simple algebras. I] *Séminaire Bourbaki, Vol. 5, Exp. No. 171*, 27–49, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 11R54 (16K20)

— Les fonctions ζ des algèbres simples. II. [The ζ-functions of simple algebras. II] *Séminaire Bourbaki, Vol. 5, Exp. No. 176*, 109–128, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 11R54 (16K20)

— Groupes linéaires algébriques sur un corps parfait. [Algebraic linear groups over a perfect field] *Séminaire Bourbaki, Vol. 6, Exp. No. 206*, 11–32, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 20G30

— La formule des traces de Selberg considérée comme source de problèmes mathématiques [MR **32** #164]. [The Selberg trace formula considered as a source of mathematical problems] *Séminaire Bourbaki, Vol. 8, Exp. No. 244*, 53–62, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 11F72 (22D10)

— Domaines fondamentaux des groupes arithmétiques [MR **33** #126]. [Fundamental domains of arithmetical groups] *Séminaire Bourbaki, Vol. 8, Exp. No. 257*, 201–225, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 22E55

— Quelques résultats nouveaux de Kostant sur les groupes semi-simples. [Some new results of Kostant on semisimple groups] *Séminaire Bourbaki, Vol. 8, Exp. No. 260*, 251–258, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 17B20 (22E60)

— Analyse spectrale des fonctions modulaires. [Spectral analysis of modular functions] *Séminaire Bourbaki, Vol. 9, Exp. No. 278*, 15–40, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 11F72 (22E55)

Gödert, Günter (*with* Hutter, Kolumban) Induced anisotropy in large ice shields: theory and its homogenization. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 5, 293–318. (Summary) **99i:86018** 86A40 (73N20)

Godfrey, Andrew G. Using sensitivities for flow analysis. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 181–196, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:76075** 76K05 (49Q12, 80A32)

Godin, Oleg A. Reciprocity and energy conservation within the parabolic approximation. (English summary) *Wave Motion* **29** (1999), *no.* 2, 175–194. (Summary) **99j:76113** 76Q05 (86A05)

Godin, Paul Ondes de choc globales dans certains domaines pour des écoulements isentropiques irrotationnels d'un fluide compressible. [Global shock waves in certain domains for irrotational isentropic flows of a compressible fluid] *Séminaire sur les Équations aux Dérivées Partielles*, 1996–1997, *Exp. No.* XXI, 12 *pp.*, *École Polytech., Palaiseau*, 1997. (Roberto Natalini) **99a:35175** 35L67 (35Q35, 76L05, 76N10)

— Global shock waves in some domains for the isentropic irrotational potential flow equations. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1929–1997. (Roberto Natalini) **99i:35097** 35L67 (76L05, 76N10)

Godina, M. (*with* Fatibene, Lorenzo; Ferraris, Marco; Francaviglia, Mauro) Gauge formalism for general relativity and fermionic matter. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 9, 1371–1389. (Hans P. Künzle) **99h:83038** 83C60 (58E30)

Godinho, Cresus F. L. (*with* Abreu, Everton M. C.; Braga, Nelson R. F.) Canonical transformations and gauge fixing in the triplectic quantization. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 779–790. (Summary) **99g:81217** 81T70 (58Z05)

Godinho, Hemar On p-adic zeros of additive forms of even degree. (English summary) *J. Number Theory* **68** (1998), *no.* 1, 1–20. (R. J. Cook) **99a:11042** 11D88

Godlewski, Edwige (*with* Olazabal, Marina; Raviart, Pierre-Arnaud) On the linearization of hyperbolic systems of conservation laws. Application to stability. (English summary) *Équations aux dérivées partielles et applications*, 549–570, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Christophe Cheverry) **99h:35125** 35L65

Godlewski, Piotr Generally-covariant and GL(n, **R**)-invariant model of field of linear frames interacting with a multiplet of complex scalar fields. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 71–90. (Hans P. Künzle) **99a:58042** 58E15 (53C07, 53C80)

Godo, Lluís (*with* Hájek, Petr[1]; Esteva, Francesc) Fuzzy logic and probability. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ, 1995)*, 237–244, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:03042** 03B52 (68T27)

— (*with* Rodriguez, Ricardo O.; Garcia-Calvés, Pere) Using fuzzy similarity relations to revise and update a knowledge base. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 357–370. (Jonathan Lawry) **99b:68176** 68T27 (03B52, 03B60, 04A72)

— (*with* Plaza, E.; Esteva, Francesc; Garcia-Calvés, Pere; López de Màntaras, R.) A logical approach to case-based reasoning using fuzzy similarity relations. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 105–122. (Summary) **99f:68191** 68T27 (03B52)

— (*with* Puyol-Gruart, Josep; Sierra, Carles) Specialisation calculus and communication. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 107–130. (Summary) **99i:68112** 68T27

Godoy, E. (*with* Ronveaux, André; Zarzo, A.; Area, I.) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: continuous case. (English summary) *J. Comput. Appl. Math.* **84** (1997), *no.* 2, 257–275. (Nicholay G. Tomin) **99g:33023** 33C45 (42C05)

— (*with* Area, I.; Ronveaux, André; Zarzo, A.) Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 321–337. (Summary) **99a:33004a** 33C45 (42C05, 65Q05)

— (*with* Ronveaux, André; Area, I.; Zarzo, A.) Recursive approach to connection and linearization coefficients between polynomials. (English summary) *Special functions and differential equations (Madras, 1997)*, 83–101, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33011** 33C45 (39A10)

— (*with* Ronveaux, André; Zarzo, A.; Area, I.) Bernstein bases and Hahn-Eberlein orthogonal polynomials. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 87–96. (Summary) **99g:33032** 33C45

— (*with* Area, I.; Ronveaux, André; Zarzo, A.) Corrigendum: "Minimal recurrence relations for connection coefficients between classical orthogonal polynomials: discrete case". (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 309–325. (Summary) **99a:33004b** 33C45 (42C05, 68Q05)

— (*with* Ronveaux, André; Zarzo, A.; Area, I.) Fourth-order difference equation for the first associated of classical discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 45–50. (Peter Schroth) **99h:33048** 33C45 (39A10)

— (*with* Ronveaux, André; Zarzo, A.; Area, I.) On the limit relations between classical continuous and discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 97–105. (Summary) **99g:33024** 33C45

— (*with* Ronveaux, André; Zarzo, A.; Area, I.) Transverse limits in the Askey tableau. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 327–335. (Summary) **99k:33033** 33C45 (39A10)

Godoy, Salvador (*with* Fujita, Shigeji) Quantum derivation of Ginzburg-Landau equation. New formula for penetration depth. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 287–294. (Guang Shan Tian) **99g:82082** 82D55 (82B21)

Godoy, T. (*with* Ferreyra, E.; Urciuolo, M.) L^p-L^q estimates for convolution operators with n-dimensional singular measures. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 4, 475–484. (Javier Duoandikoetxea) **99c:42020b** 42B15 (47B38)

— (*with* Ferreyra, E.; Urciuolo, M.) Boundedness properties of some convolution operators with singular measures. *Math. Z.* **225** (1997), *no.* 4, 611–624. (Javier Duoandikoetxea) **99c:42020a** 42B15 (47B38)

— (*with* Ferreyra, E.; Urciuolo, M.) Endpoint bounds for convolution operators with singular measures. (English summary) *Colloq. Math.* **76** (1998), *no.* 1, 35–47. (Andreas Seeger) **99f:42033** 42B20

Godrèche, Claude (*with* Howard, Martin J.) Persistence in the voter model: continuum reaction-diffusion approach. (English summary) *J. Phys. A* **31** (1998), *no.* 11, *L*209–*L*215. (Summary) **99a:82063** 82C22 (60K35, 82C80)

— (*with* Dornic, I.) Large deviations and nontrivial exponents in coarsening systems. (English summary) *J. Phys. A* **31** (1998), *no.* 24, 5413–5429. (Summary) **99c:82041** 82C05

— *see also* **Hydrodynamics and nonlinear instabilities, 99i:76001**

Godsil, Chris D. Eigenpolytopes of distance regular graphs. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 739–755. (Jack H. Koolen) **99h:05128** 05E30 (05C50)

— (*with* Liebler, Robert A.; Praeger, Cheryl E.) Antipodal distance transitive covers of complete graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 455–478. (Robert Beezer) **99e:05130** 05E30 (05C70, 05C75)

Godtliebsen, F. (*with* Spjøtvoll, E.; Marron, J. Stephen) A nonlinear Gaussian filter applied to images with discontinuities. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 21–43. (Summary) **99g:94003** 94A12

— (*with* Chu, Chih Kang; Glad, Ingrid K.; Marron, J. Stephen) Edge-preserving smoothers for image processing. (English summary) With comments and a rejoinder by the authors. *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 526–556. (Summary) **99b:94009** 94A12 (62G99, 62M40, 68U10)

Godula, Janusz (*with* Starkov, V. V.) Univalence of integrals of $(f')^\lambda$, and Bloch functions [MR 98c:30043]. (Russian. English and Russian summaries) Translated from the English. *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 28–36. 30C55 (30D45)

— (*with* Starkov, V. V.) Linear-invariant families of harmonic locally quasiconformal mappings. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 50–61. (Alexander Vasil'ev) **99h:30022** 30C62 (30C45)

Godunov, S. K. ★ Обыкновенные дифференциальные уравнения с постоянными коэффициентами. Том 1. (Russian. Russian summary) [Ordinary differential equations with constant coefficients. Vol. 1] Краевые задачи. [Boundary value problems] *Izdatel'stvo Novosibirskogo Universiteta, Novosibirsk*, 1994. 264 *pp. ISBN* 5-7615-0014-0 (R. C. Gilbert) **99a:34017a** 34A30 (34A34, 34B05, 34B27, 34D20)

— (*with* Mikhaĭlova, T. Yu.; Romenskiĭ, E. I.) Systems of thermodynamically consistent conservation laws that are invariant under rotations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 790–806, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 690–705. (Victor V. Zharinov) **99g:35078** 35L65 (35Q99)

— ★ Ordinary differential equations with constant coefficient. (English summary) Translated from the 1994 Russian original by Tamara Rozhkovskaya. Translations of Mathematical Monographs, 169. *American Mathematical Society, Providence, RI*, 1997. x+282 *pp. ISBN* 0-8218-0656-4 (R. C. Gilbert) **99a:34017b** 34A30 (34A34, 34B05, 34B27, 34D20)

— (*with* Sadkane, Miloud) Computation of pseudospectra via spectral projectors. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 163–175. (J. Segethová) **99i:65046** 65F20 (65F15)

Godyak, Valery A. (*with* Sternberg, Natalia) Transition region between the plasma and the sheath for intermediate gas pressures. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 525–529, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 76X05

Goebel, Kazimierz (*with* Kaczor, Wiesława) Remarks on failure of Schauder's theorem in noncompact settings. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 99–108. (Summary) **99j:47086** 47H10

Goebel, Rafał Sufficient condition for stability of an L^2-angle. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 227–232. (Wolfgang Lusky) **99a:46040** 46E20 (30C40, 46C05)

Goebel, Randy (*with* Padmanabhuni, Srinivas; Furukawa, Koichi) Curried least general generalization: a framework for higher order concept learning. (English summary) *Learning and reasoning with complex representations (Cairns, 1996)*, 45–60, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68N17 (68T05)

— (*with* Ghose, Aditya K.; Padmanabhuni, Srinivas) The role of default representations in incremental learning. *Learning and reasoning with complex representations (Cairns, 1996)*, 92–105, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 68T05 (68N17, 68T27)

— (*with* Yuan, Li Yan; You, Jia-Huai) Disjunctive logic programming and autoepistemic logic. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 85–101, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99k:68031** 68N17 (03B70)

— (*with* You, Jia-Huai; Yuan, Li Yan) Regular extension semantics and disjunctive Eshghi-Kowalski procedure. (English summary) *Logic programming (Manchester, 1998)*, 175–189, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q55)

Goedbloed, J. P. Once more: the continuous spectrum of ideal magnetohydrodynamics. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3143–3154. (Nicolay A. Britov) **99h:76090** 76W05

Goedecker, Stefan ★ Wavelets and their application. (English summary) For the solution of partial differential equations in physics. Cahiers de Physique [Physics Texts], 4. *Presses Polytechniques et Universitaires Romandes, Lausanne*, 1998. *vi*+72 *pp. ISBN* 2-88074-398-2 (Peter A. McCoy) **99m:00014** 00A69 (35C10, 42C15, 65-01)

Goedert, J. (*with* Haas, Fernando) On the Lie symmetries of a class of generalized Ermakov systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 6, 348–352. (Stanislav V. Spichak) **99h:58172** 58F37 (34A34, 58F05)

Goel, Asha (*with* Garg, G. L.) Conditions implying closedness (openness) and perfectness of maps. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 327–332. (Summary) **99a:54009** 54C10

— (*with* Garg, G. L.) Some conditions implying continuity of maps. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 271–274. (Summary) **99h:54020** 54C05 (54A20)

Goel, Ashish (*with* Henzinger, Monika R.; Plotkin, Serge) Online throughput-competitive algorithm for multicast routing and admission control. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 97–106, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (90C90)

— (*with* Charikar, Moses; Chekuri, Chandra; Cheung, To-yat; Dai, Zuo; Guha, Sudipto; Li, Ming[1]) Approximation algorithms for directed Steiner problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 192–200, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

Goel, C. K. Hypernumbers, quaternions, and vectors. (English summary) *Math. Ed.* **10** (1993), *no.* 2, 112–120. 01A55

Goel, Prem K. (*with* Bartoszyński, Robert) On probability of evens. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 1–9. (S. M. Samuels) **99a:60016** 60E99 (62E99)

Goel, Savita (*with* Katti, C. P.) A parallel mesh chopping algorithm for a class of two-point boundary value problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 121–128. (Summary) **99g:65084** 65L10 (65L12, 65Y05)

Goel, Sudhir (*with* Kicey, Charles) A series for $\ln k$. *Amer. Math. Monthly* **105** (1998), *no.* 6, 552–554. (From the text) **99f:33001** 33B10

Goel, Vivek (*with* Arora, Virendra; Chand, Ramesh) A critical study of fractions in *Ganitatilaka*. (English summary) *Math. Ed. (Siwan)* **31** (1997), *no.* 4, 192–202. (A. I. Volodarskiĭ) **99e:01006** 01A32

— (*with* Arora, Virendra) Life and works of Śrīpati. (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 105–110. (Summary) **99h:01014** 01A32

Goeleven, D. (*with* Motreanu, Dumitru; Panagiotopoulos, Panagiotis D.) Semicoercive variational-hemivariational inequalities. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 119–134. (Summary) **99j:49014** 49J40 (47H19)

— (*with* Motreanu, Dumitru) Minimax methods of Szulkin's type in unilateral problems. *Functional analysis*, 158–172, *Narosa, New Delhi*, 1998. (Joakim Petersson) **99m:49016** 49J40 (73T05, 73V25)

— (*with* Adly, Samir; Motreanu, Dumitru) Unilateral Hamiltonian systems: a survey on the inequality approach. *Adv. Nonlinear Var. Inequal.* **1** (1998), *no.* 1, 11–26. (Maria Letizia Bertotti) **99b:58048** 58E05 (47H19, 49J40, 49J52)

— (*with* Motreanu, Dumitru) Asymptotic eigenvalues and spectral analysis of variational inequalities. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 343–372. (D. Pascali) **99g:47148** 47H19 (35P05, 47H12, 47H15, 49J40)

— (*with* Motreanu, Dumitru; Panagiotopoulos, Panagiotis D.) Eigenvalue problems for variational-hemivariational inequalities at resonance. *Nonlinear Anal.* **33** (1998), *no.* 2, 161–180. (Benedetta Pellacci) **99b:47094** 47H19 (47H12, 49J40)

Goemans, Michel X. Semidefinite programming and combinatorial optimization. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 657–666 (*electronic*). (Jos F. Sturm) **99k:90132** 90C27 (05C50, 68R10, 90–02)

— (*with* Gabow, Harold N.; Williamson, David P.) An efficient approximation algorithm for the survivable network design problem. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 13–40. (Summary) **99f:90'60** 90C35 (68M10, 68R10, 90B10)

— (*with* Kleinberg, Jon M.) An improved approximation ratio for the minimum latency problem. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 111–124. (Alexander I. Barvinok) **99j:90065** 90C27 (90C35)

— (*with* Chudak, Fabián A.; Hochbaum, Dorit S.; Williamson, David P.) A primal-dual interpretation of two 2-approximation algorithms for the feedback vertex set problem in undirected graphs. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 111–118. (Xue Liang Li) **99i:90107** 90C35 (90C27)

— (*with* Kleinberg, Jon M.) The Lovász theta function and a semidefinite programming relaxation of vertex cover. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 196–204 (*electronic*). (Summary) **99b:90104** 90C27 (05C85, 68Q25, 90C25)

Goenka, Aditya (*with* Shell, Karl) Robustness of sunspot equilibria. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 79–98. (Summary) **99b:90030** 90A14

— (*with* Kelly, David L.; Spear, Stephen E.) Endogenous strategic business cycles. (English summary) *J. Econom. Theory* **81** (1998), *no.* 1, 97–125. (Summary) **99m:90053** 90A60 (90D40)

Goerdt, Andreas The giant component threshold for random regular graphs with edge faults. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 279–288, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68R10 (68M10)

Goerss, P. G. Comparing completions of a space at a prime. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 65–102, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (J. Aguadé) **99j:55008** 55P60

— (*with* Jardine, J. F.) Localization theories for simplicial presheaves. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 1048–1089. (Haynes R. Miller) **99j:55009** 55P60 (18F20, 19E08)

— (*with* Turner, James M.) Homotopy theory of simplicial abelian Hopf algebras. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 2, 167–206. (Donald M. Davis) **99k:18017** 18G30 (16E40, 18G55, 55U99)

Goes, Günther Corrigenda to: "Generalizations of theorems of Fejér and Zygmund on convergence and boundedness of conjugate series" [Studia Math. **57** (1976), no. 3, 241–249; MR **55#** 963]. (English summary) *Studia Math.* **130** (1998), *no.* 1, 99–100. (Summary) **99c:42004** 42A20 (46A45)

Goes, Paulo B. (*with* Gopal, Ram D.; Garfinkel, Robert S.) Interval protection of confidential information in a database. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 309–322. 68P15

Goeters, H. Pat (*with* Ullery, William) Critical typesets of bracket groups. *Comm. Algebra* **26** (1998), *no.* 11, 3541–3551. (Otto Mutzbauer) **99h:20088** 20K15

— (*with* Albrecht, Ulrich F.) Butler theory over Murley groups. *J. Algebra* **200** (1998), *no.* 1, 118–133. (C. Vinsonhaler) **99c:20074** 20K15 (20K26)

— Noetherian stable domains. *J. Algebra* **202** (1998), *no.* 1, 343–356. (Ulrich Albrecht) **99f:13020** 13E05 (13G05, 20K20)

— (*with* Wickless, W. J.) Qqpi groups and quasi-equivalence. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3145–3150. (K. M. Rangaswamy) **99d:20084** 20K15 (20K30)

Goetgheluck, P. Two polynomial division inequalities in L^p. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 3, 285–296. (D. K. Ugulava) **99k:41013** 41A17 (26D05)

— Infinite families of solutions of the equation $\binom{n}{k} = 2\binom{a}{b}$. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1727–1733. (Neville Robbins) **99a:11019** 11B65 (11Y50)

Goetschel, Roy H., Jr. Fuzzy colorings of fuzzy hypergraphs. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 185–204. (T. Thrivikraman) **99c:05145** 05C65 (05C15)

— (*with* Voxman, William) Intersecting fuzzy hypergraphs. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 81–96. (T. Thrivikraman) **99i:05152** 05C65

Goffaux, Olivier Moyennisation pour des opérateurs à symboles complexes. (English and French summaries) [Averaging for operators with complex symbols] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 923–926. (Summary) **99j:35012** 35B27 (35S05, 47G30)

Goffin, Jean-Louis (*with* Vial, Jean-Philippe) Interior point methods for nondifferentiable optimization. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 35–49, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30 (49J52)

— (*with* du Merle, Olivier; Vial, Jean-Philippe) On improvements to the analytic center cutting plane method. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 37–52. (Pham Trong Quat) **99g:90129** 90C30

— (*with* Mokhtarian, F. Sharifi) Long-step interior-point algorithms for a class of variational inequalities with monotone operators. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 181–210. (Igor′ V. Konnov) **99e:49038** 49M10 (47H17, 47H19, 49J40, 65K10)

— (*with* Mokhtarian, F. Sharifi) A nonlinear analytic center cutting plane method for a class of convex programming problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1108–1131 (*electronic*). (Summary) **99f:90081** 90C25

— (*with* Vial, Jean-Philippe) A two-cut approach in the analytic center cutting plane method. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 149–169. (E. G. Gol′shteĭn) **99m:90130** 90C30 (65K05)

Goffman, Casper (*with* Nishiura, Togo; Waterman, Daniel) ★ Homeomorphisms in analysis. (English summary) Mathematical Surveys and Monographs, 54. *American Mathematical Society, Providence, RI*, 1997. xiv+216 *pp. ISBN* 0-8218-0614-9 (Krzysztof Ciesielski) **99b:26002** 26–02 (28–02, 42–02)

Gogaev, K. A. (*with* Panteleyev, A. D.) Mathematical simulation and identification of the material forming process under extrusion. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 70–77. (Introduction) **99k:73069** 73E99 (76A99)

Gogatishvili, A. S. (*with* Genebashvili, I. Z.; Kokilashvili, Vakhtang) Criteria for two-weight inequalities for integral transforms with a positive kernel and for maximal functions. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 448–451. (Vladimir B. Vasilyev) **99c:42030** 42B20 (42B25, 47G10)

— Maximal functions and singular integrals on $L^{p,\varphi}$-spaces. *Proc. A. Razmadze Math. Inst.* **114** (1997), 112–115. (Jiří Rákosník) **99i:46017** 46E30 (42B25, 47B38)

Gogberashvili, M. Ya. Tensor-tensor model of gravity. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 3, 448–460; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 3, 1572–1581 (1998). (Yu. N. Obukhov) **99i:83078** 83D05

Gogel, Bev (*with* Cullis, Brian; Verbyla, Arūnas; Thompson, Robin) Spatial analysis of multi-environment early generation variety trials. (English and French summaries) *Biometrics* **54** (1998), *no.* 1, 1–18. (Summary) **99a:62149** 62P10

Goggans, P. M. (*with* Pursel, J. D.) A finite-difference time-domain method for solving electromagnetic problems with bandpass-limited sources. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 9–15. 78–08

Gogic, Goran (*with* Papadimitriou, Christos H.; Sideri, Martha) Incremental recompilation of knowledge. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 23–37 (*electronic*). (Summary) **99e:68149** 68T27 (68T30)

Gogilidze, S. A. (*with* Khvedelidze, A. M.; Mladenov, D. M.; Pervushin, V. N.) On Hamiltonian framework for Bianchi IX cosmology. Abelianization of constraints. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 299–303, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83C05 (83C20)

— (*with* Khvedelidze, A. M.; Mladenov, D. M.; Pavel, H.-P.) Hamiltonian reduction of SU(2) Dirac-Yang-Mills mechanics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7488–7500. (Summary) **99k:81132** 81S10 (58F05, 81T13)

— (*with* Pervushin, V. N.; Khvedelidze, A. M.) Reduction in systems with local symmetry. *Phys. Particles Nuclei* **30** (1999), *no.* 1, 66–86; *translated from Fiz. Èlementar. Chastits i Atom. Yadra* **30** (1999), *no.* 1, 160–209 (*Russian. English and Russian summaries*). (Frans Cantrijn) **99m:58088** 58F05 (70G50, 70H05, 70H35, 81T13)

Gogin, N. D. An identity for coefficients of weight spectra of dual codes. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 3–7. 94B25

Goginava, U. K. On the convergence of Fourier-Walsh-Paley series. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 218–219 (1995). 42C10

— On the multiple Riemann-Stieltjes integral. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 411–412 (1996). 26B15

— About uniform convergence and summability of Fourier-Walsh-Paley series. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 174–176. 42A20

— About uniform convergence and divergence of Fourier-Walsh multiple series. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 357–360. 42C10

— On the uniform Cezaro [Cesàro] summability of trigonometric Fourier series. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 2, 183–185. 42A24

— Convergence and summability of multiple Fourier-Walsh series in $L^p([0,1]^N)$, $P \in [1, +\infty]$ metrics. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 11–13. 42C10

Gogishvili, G. On the general unimprovable estimates of the singular series of positive quadratic forms. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 35–43, *VSP, Utrecht*, 1997. (Rainer Schulze-Pillot) **99k:11055** 11E12 (11D85, 11E20)

Goglione, Roberta (*with* Fierro, Francesca; Paolini, Maurizio) Numerical simulations of mean curvature flow in the presence of a nonconvex anisotropy. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 573–601. (Maura Ughi) **99k:58040** 58E12 (53A10, 65C20)

— (*with* Fierro, Francesca) Error estimates and numerical simulations of mean curvature flow through a modified reaction-diffusion equation. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 513–528. (Zhangxin Chen) **99d:65262** 65M15 (35K57, 65M99, 76R99)

Gogodze, Ioseb (*with* Gelashvili, Koba) Representation of C_0-semigroups of operators by a chronological integral. (English and Georgian summaries) Dedicated to Revaz

Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 47–66. (Alexander Isaakovich Shtern) **99e:47046** 47D06 (28B10)

Gogoladze, D. On the Carleman singularity. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 27–28. 42A10

Gogolauri, L. The contact problem for an elastic orthotropic plate supported by periodically located bars of equal resistance. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 243–250. (Summary) **99a:73112** 73T05 (73C02, 73K10, 73V35)

Gogolin, Alexander O. (*with* Nersesyan, Aleksandr Artëmovich; Tsvelik, Alexei M.; Yu, Lu) Zero-modes and thermodynamics of disordered spin-$\frac{1}{2}$ ladders. (English summary) *Nuclear Phys. B* **540** (1999), *no.* 3, 705–730. (Summary) **99j:82048** 82B44

Gogosov, V. V. (*with* Grishanina, O. A.; Kiryushin, V. V.; Simonovskii, A. Ya.) Theoretical description of the free surface shapes of a magnetic fluid, surrounding a magnetizable plate in an external magnetic field. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 1, 43–49. 76W05

Goguadze, D. F. On an interrelation between Kolmogorov and Henstock integrals. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 832–844, 958; *translation in Math. Notes* **60** (1996), *no.* 5-6, 629–637 (1997). (V. A. Skvortsov) **99e:26008** 26A39 (26A42)

Gogus, Ozerk (*with* Boucher, Thomas O.) Strong transitivity, rationality and weak monotonicity in fuzzy pairwise comparisons. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 133–144. (Summary) **99b:92066** 92G05 (90A05, 90A10)

Goh, C. J. (*with* Yang, Xiao Qi) On a model for multiple criteria linear cost network programs. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 815–822, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C29 (90C35)

— (*with* Dragomir, Sever Silvestru) A counterpart of Hölder's inequality. (English summary) *Mitt. Math. Ges. Hamburg* **16** (1997), 99–106. (D. C. Russell) **99j:26018** 26D15

— (*with* Yang, Xiao Qi) Convexification of a noninferior frontier. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 759–768. (Ferenc Forgó) **99k:90144** 90C29

Goh, Cheng Hian (*with* Bressan, Stephane F.; Lee, Thomas Y.; Madnick, S.; Siegel, Michael) A procedure for mediation of queries to sources in disparate contexts. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 213–227, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68P15)

Goh, Derek (*with* Street, Deborah J.) Projective properties of small Hadamard matrices and fractional factorial designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 141–148. (Summary) **99i:05045** 05B20

Goh, Say Song (*with* Lee, Seng Luan; Tan, Hwee Huat) Orthogonal expansions and multilevel algorithms. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 88–96, *Springer, Singapore*, 1997. (Summary) **99h:42059** 42C15 (41A15, 65D07)

— (*with* Lee, Seng Luan; Shen, Zuowei; Tang, Wai-Shing) Multilevel projections on spaces of periodic functions. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 22–29, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 41A65 (46E30)

— Functionals of higher derivative type. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 111–126. (L. A. Aksent'ev) **99k:30035** 30C70 (30C50)

— (*with* Yap, Von Bing) Matrix extension and biorthogonal multiwavelet construction. (English summary) *Linear Algebra Appl.* **269** (1998), 139–157. (David F. Walnut) **99d:42059** 42C15 (15A54)

— (*with* Lee, Seng Luan; Shen, Zuowei; Tang, Wai-Shing) Construction of Schauder decomposition on Banach spaces of periodic functions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 61–91. (Kazaros Kazarian) **99b:46033** 46E30 (41A65, 42C15, 46B15, 47A58)

Goh, T. N. (*with* Tang, L. C.; Sun, Y. S.; Ong, H. L.) Planning accelerated life tests for censored two-parameter exponential distributions. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 169–186. (Summary) **99i:62239** 62N05

Goh, W. M. Y. (*with* Wimp, Jet) The zero distribution of the Tricomi-Carlitz polynomials. (English summary) Approximation theory and applications. *Comput. Math. Appl.* **33** (1997), *no.* 1-2, 119–127. (M. E. Muldoon) **99e:33006** 33C45 (42C05)

el-Gohary, Awad *see* **El-Gohary, Awad**

Gohberg, Israel (*with* Alpay, Daniel) Potentials associated to rational weights. (English summary) *New results in operator theory and its applications*, 23–40, *Oper. Theory Adv. Appl.*, 98, *Birkhäuser, Basel*, 1997. (M. M. Malamud) **99a:34218** 34L05 (15A18, 34A55, 34L25, 93B25)

— (*with* Foias, Ciprian; Frazho, A. E.; Kaashoek, M. A.) ★ Metric constrained interpolation, commutant lifting and systems. (English summary) Operator Theory: Advances and Applications, 100. *Birkhäuser Verlag, Basel*, 1998. *xii*+587 *pp. ISBN* 3-7643-5889-0 (Joseph A. Ball) **99i:47027** 47A57 (30E05, 47A20, 47N70, 93B36)

— (*with* Ēĭdel'man, Yu. S.) A look-ahead block Schur algorithm for diagonal plus semiseparable matrices. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 25–34. (Summary) **99b:65056** 65F30 (15A23)

— Mark Grigorievich Krein: recollections. Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 2, 123–134. (Editors) **99m:01060** 01A70

— (*with* Alpay, Daniel) Inverse problem for Sturm-Liouville operators with rational reflection coefficient. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 317–325. (Hendrik S. V. de Snoo) **99m:34022** 34A55 (34L25)

— (*with* Kaashoek, M. A.; Sakhnovich, A. L.) Sturm-Liouville systems with rational Weyl functions: explicit formulas and applications. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 338–377. (Hendrik S. V. de Snoo) **99m:34195** 34L30 (34A55, 35Q53, 93B15)

— (*with* Ellis, Robert Lee) Inversion formulas for infinite generalized Toeplitz matrices. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 1, 29–64. (Introduction) **99f:47034** 47B35 (15A57, 45E05, 47A05, 47G10)

— (*with* Kaashoek, M. A.; Sakhnovich, A. L.) Canonical systems with rational spectral densities: explicit formulas and applications. (English summary) *Math. Nachr.* **194** (1998), 93–125. (Aad Dijksma) **99j:34118** 34L05 (34A55, 35Q55, 47A99)

— (*with* Ben-Artzi, Asher) Singular numbers of contractions in spaces with an indefinite metric and Yamamoto's theorem. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 31–48. (L. Rodman) **99m:15029** 15A63 (47B50)

— *see also* **Differential and integral operators, 99d:47001** *and* **Recent progress in operator theory, 99d:47002**

Göhmann, Frank (*with* Murakami, Shuichi) Algebraic and analytic properties of the one-dimensional Hubbard model. (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5269–5287. (Summary) **99b:82026** 82B23 (81U40)

— (*with* Murakami, Shuichi) Fermionic representations of integrable lattice systems. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7729–7749. (Andrey V. Tsiganov) **99h:82024** 82B23 (82B20)

— (*with* Murakami, Shuichi) Algebraic solution of the Hubbard model on the infinite interval. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 637–677. (Deng Feng Wang) **99a:82035** 82B23 (81U40)

Göhring, Wolf Minimal initializing word: a contribution to Černý's conjecture. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 4, 209–226. (Summary) **99d:68146** 68Q45

Goĭko, V. I. On $\mathfrak{F}$-quasi-Frattini subgroups of finite groups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 33–46, *Gomel. Gos. Univ., Gomel'*, 1996. (Phạm Anh Minh) **99h:20042** 20D25 (20D30, 20D50)

Gojtka, E. (*with* Bogalska, K.; Gurdek, M.; Rempulska, L.) The Picard and the Gauss-Weierstrass singular integrals of functions of two variables. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 71–85 (1998). (Ambikeswar Sharma) **99d:41030** 41A25 (42A10)

Gök, Ömer Characterization of the dual center of barrelled spaces. *Demonstratio Math.* **31** (1998), *no.* 2, 285–288. (Jan H. Fourie) **99k:46085** 46H25 (46A08)

Gokh, Dzh. *see* **Gough, John Edward**

Gokhale, D. V. (*with* Arnold, Barry C.) Distributions most nearly compatible with given families of conditional distributions. (English summary) *Test* **7** (1998), *no.* 2, 377–390. (Summary) **99j:62006** 62E10

Gokhale, Dhananjay A note on resolutions mod I. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3581–3586. (José F. Andrade) **99h:13014** 13D02 (13H99)

Gokhman, A. O. On the representation of smooth invariants of Coxeter groups in terms of anisotropic spaces. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 4, 597–600; *translation in Ukrainian Math. J.* **49** (1997), *no.* 4, 661–664 (1998). (V. L. Popov) **99a:20039** 20F55 (15A72)

Göktaş, Ünal (*with* Hereman, Willy) Invariants and symmetries for partial differential equations and lattices. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 403–407, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q53 (35A30)

— (*with* Hereman, Willy) Computation of conservation laws for nonlinear lattices. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 425–436. (*see* **99h:00031**) 35A25 (34K99, 35L65, 39A12)

kamyabi-Gol, R. A. *see* **Kamyabi-Gol, R. A.**

Golan, A. Maximum entropy, likelihood and uncertainty: a comparison. (English summary) *Maximum entropy and Bayesian methods* (*Boise, ID*, 1997), 35–56, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 62A10 (94A17)

Golany, Boaz *see* **Mathematical programming for industrial engineers, 99g:90006**

Golasiński, Marek Injective models of G-disconnected simplicial sets. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 5, 1491–1522. (Paul G. Goerss) **99b:55020** 55P62 (18G55, 55P91)

— (*with* Brown, Ronald; Porter, Timothy; Tonks, A.) Spaces of maps into classifying spaces for equivariant crossed complexes. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 2, 157–172. (Pilar C. Carrasco) **99j:18015** 18G55 (18D20, 55P91)

— Equivariant cohomology with local coefficients. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 575–586. (Edgar H. Brown, Jr.) **99e:55009** 55N25 (55N91, 55S35, 57S10)

— (*with* Gonçalves, Daciberg Lima) Comultiplications of the wedge of two Moore spaces. *Colloq. Math.* **76** (1998), *no.* 2, 229–242. (Donald M. Davis) **99b:55014** 55P45 (55Q20)

— (*with* Klein, John R.) On maps into a co-H-space. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 321–327. (Richard John Steiner) **99e:55014** 55P45 (18C15)

— (*with* Gonçalves, Daciberg Lima) On co-Moore spaces. (English summary) *Math. Scand.* **83** (1998), *no.* 1, 42–52. (Michael Eggar) **99m:55007** 55P15

— (*with* Fritsch, Rudolf) Simplicial and categorical diagrams, and their equivariant applications. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 4, 73–81 (*electronic*). (Stanisław Betley) **99d:55013** 55U10 (18G30, 55P15, 55P91, 55U35)

Golbabai, A. Interval analysis on linear equations, with interval coefficients. (English summary) *Proc. Pakistan Acad. Sci.* **33** (1996), *no.* 3-4, 151–154. 65G10 (65F30)

Golberg, Michael (*with* Bowman, Harold) Optimal convergence rates for some discrete projection methods. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 237–271. (Ivan K. Lifanov) **99j:65238** 65R20

— (*with* Chen, Ching Shyang; Bowman, Harold; Power, Henry) Some comments on the use of radial basis functions in the dual reciprocity method. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 61–69. (Summary) **99d:65296** 65M99

— *see also* **Boundary integral methods: numerical and mathematical aspects, 99m:65004**

Golda, Zdzisław (*with* Szydłowski, Marek) The generalized local instability criterion and approximation method. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 105–113. (Summary) **99c:53038** 53C22 (53C80, 83C15)

Goldbach, Christian *see* **Yushkevich, A. P., 99f:01024**

Goldbach, R. Some randomized algorithms for convex quadratic programming. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 1, 121–142. (E. G. Gol'shteĭn) **99k:90111** 90C20 (90C15)

Goldbach, R. W. (*with* Claasen, H. L.) Checkered Hadamard matrices of order 16. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 935–941. (W. D. Wallis) **99i:05046** 05B20

— (*with* Claasen, H. L.) 3-class association schemes and Hadamard matrices of a certain block form. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 943–951. (A. A. Makhnev) **99j:05196** 05E30 (05B20)

Gol'dberg, Anatoliĭ Asirovich Existence and some properties of meromorphic functions for which the Yang Le deficiency relation reaches equality. (Ukrainian. English and Russian

summaries) *Mat. Stud.* **3** (1994), 53–60, 121. 30D35

— Some asymptotic properties of meromorphic functions. Translated from the 1956 Russian original by A. Eremenko. *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 225–241. 30D30

Goldberg, Andrew V. Recent developments in maximum flow algorithms (invited lecture). *Algorithm theory—SWAT'98* (*Stockholm*), 1–10, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 90C35 (68R10, 90B10)

— (*with* Rao, Satish) Beyond the flow decomposition barrier. (English summary) *J. ACM* **45** (1998), *no.* 5, 783–797. (Maretsugu Yamasaki) **99m:90114** 90C27 (68Q25)

— (*with* Rao, Satish) Flows in undirected unit capacity networks. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 1–5 (*electronic*). (Summary) **99j:05177** 05C85 (68R10)

Goldberg, David (*with* Shahidi, Freydoon) On the tempered spectrum of quasi-split classical groups. *Duke Math. J.* **92** (1998), *no.* 2, 255–294. (Rebecca Herb) **99c:22024** 22E50 (11F70)

Goldberg, Helmuth (*with* Tröltzsch, Fredi) On a SQP-multigrid technique for nonlinear parabolic boundary control problems. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 154–177, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Walter Alt) **99e:49039** 49M15 (49J20, 49M25, 65M55)

— (*with* Tröltzsch, Fredi) On a Lagrange-Newton method for a nonlinear parabolic boundary control problem. (English summary) *Optim. Methods Softw.* **8** (1998), *no.* 3-4, 225–247. (Summary) **99a:49040** 49M29 (49J20, 93C20)

Goldberg, Joshua N. Null hypersurface canonical formalism. (English summary) *Quantum gravity* (*Erice*, 1995), 135–147, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Simonetta Frittelli) **99m:83013** 83C05

— (*with* Robinson, David Clyde) Null surface canonical formalism. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 849–858. (Summary) **99m:83014** 83C05

— Second-class constraints. (English summary) *On Einstein's path* (*New York*, 1996), 251–256, *Springer, New York*, 1999. (Jörg Frauendiener) **99k:81133** 81S10

Goldberg, Ken (*with* Berretty, Robert-Paul; Overmars, Mark H.; van der Stappen, A. Frank) Computing fence designs for orienting parts. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 249–262. (Summary) **99g:68206** 68U05

Goldberg, Leslie Ann (*with* Goldberg, Paul W.; Phillips, Cynthia A.; Sweedyk, Elizabeth; Warnow, Tandy) Minimizing phylogenetic number to find good evolutionary trees. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 102–127, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **99g:92023** 92D20 (68Q25)

— (*with* Goldberg, Paul W.; Phillips, Cynthia A.; Sorkin, Gregory B.) Constructing computer virus phylogenies. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 188–208. (Juraj Hromkovič) **99c:68124** 68Q25 (68N99, 92D15)

— (*with* Jerrum, Mark; MacKenzie, Philip D.) An $\Omega(\sqrt{\log \log n})$ lower bound for routing in optical networks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1083–1098 (*electronic*). (Neville G. F. Sancho) **99d:68022** 68M10 (90B12)

Goldberg, Mark K. (*with* Berry, Jonathan W.) Path optimization for graph partitioning problems. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 27–50. (Summary) **99k:68128** 68R10 (05C85)

Goldberg, Moshe Stable norms—examples and remarks. *General inequalities*, 7 (*Oberwolfach*, 1995), 61–64, *Internat. Ser. Numer. Math.*, 123, *Birkhäuser, Basel*, 1997. (Wen Yu Sun) **99b:15035** 15A60

— (*with* Arens, Richard) Multilinear operators and weighted l_1 norms. (English summary) *Linear Algebra Appl.* **267** (1997), 1–10. (Sivaram K. Narayan) **99b:15033** 15A60 (47A30)

— (*with* Arens, Richard; Luxemburg, W. A. J.) Stable seminorms revisited. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 31–40. (Makoto Takaguchi) **99c:15047** 15A60 (47A30)

— Stable difference schemes for parabolic systems—a numerical radius approach. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 478–493 (*electronic*). (Summary) **99b:65099** 65M06 (65M12)

— Stable difference schemes for parabolic systems—a numerical radius approach. II. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1995–2003 (*electronic*). (Summary) **99e:65115** 65M06 (65M12)

Goldberg, Paul W. (*with* Goldberg, Leslie Ann; Phillips, Cynthia A.; Sweedyk, Elizabeth; Warnow, Tandy) Minimizing phylogenetic number to find good evolutionary trees. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 102–127, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Summary) **99g:92023** 92D20 (68Q25)

— (*with* Goldberg, Leslie Ann; Phillips, Cynthia A.; Sorkin, Gregory B.) Constructing computer virus phylogenies. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 188–208. (Juraj Hromkovič) **99c:68124** 68Q25 (68N99, 92D15)

— (*with* Bshouty, Nader H.; Goldman, Sally A.; Mathias, H. David) Exact learning of discretized geometric concepts. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 675–700 (*electronic*). (Summary) **99e:68065** 68Q25 (68T05)

Goldberg, Robert R. (*with* Shapiro, Jacob; Waxman, Jerry) Analysis of partition variance for the number partition problem. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 29–46. (Summary) **99k:05014** 05A18 (68Q25)

Goldberg, Samuel I. ★ Curvature and homology. (English summary) Revised reprint of the 1970 edition. *Dover Publications, Inc., Mineola, NY*, 1998. *xviii*+395 *pp. ISBN* 0-486-40207-X (Editors) **99c:53001** 53-01 (53Cxx)

Goldberg, Vladislav V. (*with* Akivis, Maks A.) The Darboux mapping of canal hypersurfaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 395–411. (Hans Sachs) **99g:53008** 53A07 (51N30)

— (*with* Akivis, Maks A.) Conformal and Grassmann structures. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 2, 177–203. (A. Rod Gover) **99f:53012** 53A30 (53A40, 53A60)

— (*with* Akivis, Maks A.) On geometry of hypersurfaces of a pseudoconformal space of Lorentzian signature. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 112–126. (Marek Kossowski) **99e:53095** 53C50

— (*with* Akivis, Maks A.) Singular points of lightlike hypersurfaces of the de Sitter space. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 81–101. (Marek Kossowski) **99e:53096** 53C50

Goldberger, Arthur S. ★ Introductory econometrics. (English summary) With 1 IBM-PC floppy disk (3.5 inch; HD). *Harvard University Press, Cambridge, MA*, 1998. *xiv*+241 *pp. ISBN* 0-674-46107-X (Publisher's description) **99d:62097** 62P20 (62-01)

Goldblatt, Robert (*with* Andréka, Hajnal; Németi, István) Relativised quantification: some canonical varieties of sequence-set algebras. *J. Symbolic Logic* **63** (1998), *no.* 1, 163–184. (Ivo Düntsch) **99j:03054** 03G25

— Enlargements of functional algebras for the lambda calculus. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 177–200. (M. Yasuhara) **99b:03027** 03B40 (03C65, 03H05)

Golden, Kenneth M. (*with* Cherkaeva, Elena) Inverse bounds for microstructural parameters of composite media derived from complex permittivity measurements. (English summary) *Waves Random Media* **8** (1998), *no.* 4, 437–450. (Summary) **99j:78024** 78A99 (73B27, 73S10, 86A05)

— *see also* **Mathematics of multiscale materials, 99c:73001**

Golden, Stuart (*with* Friedlander, Benjamin) A modification of the discrete polynomial transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1452–1455. (N. C. Mohanty) **99m:94002** 94A11 (94A12)

Goldenberg, Andrew A. (*with* Lin, Tian) Adaptive and robust control of flexible joint robots in constrained motion. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 253–272. (*see* **99b:70004**) 93C85 (70B15, 70Q05)

— (*with* Luo, Jian-san; van den Bosch, P. P. J.; Weiland, Siep) Design of performance robustness for uncertain linear systems with state and control delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1593–1596. (Summary) **99h:93061** 93C41 (93D09, 93D21)

Goldenberg, Lior (*with* Vaidman, Lev; Wiesner, Stephen) Quantum gambling. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 16, 3356–3359. (Summary) **99m:81031** 81P99

Goldenberge, A. *see* **Goldenberg, Andrew A.**

Goldenfeld, Nigel (*with* McKane, Alan; Hou, Qing) Block spins for partial differential equations. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 699–714. (Summary) **99i:82029** 82C28 (65M99)

— (*with* Provatas, Nicholas; Dantzig, Jonathan) Adaptive mesh refinement computation of solidification microstructures using dynamic data structures. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 265–290. (Summary) **99h:80012** 80A22 (80–08)

Goldenshluger, Alexander (*with* Nemirovskii, Arkadii) On spatially adaptive estimation of nonparametric regression. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 135–170. (Sidney J. Yakowitz) **99c:62091** 62G05 (62C20)

— Nonparametric estimation of transfer functions: rates of convergence and adaptation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 644–658. (Summary) **99c:94003** 94A05 (94A12)

Goldfarb, Donald (*with* Armstrong, Ronald D.; Chen, Wei[4]; Jin, Zhiying) Strongly polynomial dual simplex methods for the maximum flow problem. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 17–33. (Dimiter T. Ivanchev) **99b:90143** 90C35

— (*with* Scheinberg, Katya) Interior point trajectories in semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 871–886 (*electronic*). (Alexander Shapiro) **99g:90119** 90C30 (90C25)

Goldfarb, Warren (*with* Ricketts, Thomas) Carnap and the philosophy of mathematics. *Logical empiricism at its peak*, 337–354, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006a**) 00A30

Goldfeld, Dorian (*with* Anshel, Michael) Zeta functions, one-way functions, and pseudo-random number generators. *Duke Math. J.* **88** (1997), *no.* 2, 371–390. (Introduction) **99c:11109** 11M41 (11K45, 94A60)

Goldhirsch, Isaac Kinetics and dynamics of rapid granular flows. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 371–400, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:73057** 73E99 (73B99, 73Q05, 76A99, 82D99)

— (*with* Sela, N.) Hydrodynamic equations for rapid flows of smooth inelastic spheres, to Burnett order. (English summary) *J. Fluid Mech.* **361** (1998), 41–74. (Summary) **99b:76078** 76P05 (76A99, 76D99, 82C40)

Goldie, Charles M. (*with* Klüppelberg, Claudia) Subexponential distributions. (English summary) *A practical guide to heavy tails* (*Santa Barbara, CA*, 1995), 435–459, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 60E05 (60G70, 60J15, 60J30, 60K25, 62P05)

Goldin, Dina Q. (*with* Kanellakis, Paris C.) On similarity queries for time-series data: constraint specification and implementation. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 137–153, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **99f:68049** 68P20

— (*with* Kanellakis, Paris C.) Constraint query algebras. (English summary) *Constraints* **1** (1996), *no.* 1-2, 45–83. (Summary) **99a:68153** 68T20 (68N15, 68P15)

Goldin, Gerald A. Unitary representations of diffeomorphism groups from random fractal configurations. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 82–88, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99e:81077** 81R10 (22E65)

Gol'din, V. Ya. (*with* Aristova, E. N.) The method of consideration of a strong scattering anisotropy in transport equation. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 77–81, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 82C70

— (*with* Samarskiĭ, Aleksandr Andreevich; Chetverushkin, B. N.; Tishkin, V. F.; Kalitkin, N. N.; Sobol', I. M.) Boris Leonidovich Rozhdestvenskiĭ (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **10** (1998), *no.* 9, 123–124. 01A70

Goldman, André Sur une conjecture de D. G. Kendall concernant la cellule de Crofton du plan et sur sa contrepartie brownienne. (English and French summaries) [On a conjecture of D. G. Kendall concerning the planar Crofton cell, and on its Brownian counterpart] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 233–237. (Jan Rataj) **99j:60017** 60D05 (60G17, 60J65)

Goldman, Jay R. The Cambridge School of Combinatorics 1967–1971. *Gian-Carlo Rota on combinatorics*, xvi–xviii, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*,

1995. (*see* **99b:01027**) 01A72 (05–03)

Goldman, K. J. (*with* Swaminathan, B.) An incremental distributed algorithm for computing biconnected components in dynamic graphs. (English summary) *Algorithmica* **22** (1998), *no.* 3, 305–329. (Marek Kubale) **99i:05192** 05C85 (05C40, 68Q22)

Goldman, Ron N. (*with* Habib, Ayman W.) Theories of contact specified by connection matrices. (English summary) In memory of John Gregory. *Comput. Aided Geom. Design* **13** (1996), *no.* 9, 905–929. (Marshall Walker) **99d:65043** 65D17 (65Y25)

— (*with* Lodha, Suresh Kumar) Lattices and algorithms for bivariate Bernstein, Lagrange, Newton, and other related polynomial bases based on duality between L-bases and B-bases. (English summary) *J. Approx. Theory* **93** (1998), *no.* 1, 59–99. (Ying Guang Shi) **99c:41067** 41A65 (41A10)

Goldman, Sally A. (*with* Bshouty, Nader H.; Mathias, H. David; Suri, Subhash; Tamaki, Hisao) Noise-tolerant distribution-free learning of general geometric concepts. (English summary) *J. ACM* **45** (1998), *no.* 5, 863–890. (Summary) **99m:68159** 68T05 (68Q99)

— (*with* Blum, Avrim L.; Chalasani, Prasad; Slonim, Donna K.) Learning with unreliable boundary queries. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 209–222. (Sanjay Jain) **99e:68135** 68T05 (68Q99)

— (*with* Bshouty, Nader H.; Goldberg, Paul W.; Mathias, H. David) Exact learning of discretized geometric concepts. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 675–700 (*electronic*). (Summary) **99e:68065** 68Q25 (68T05)

Goldman, William M. Ergodic theory on moduli spaces. (English summary) *Ann. of Math.* (2) **146** (1997), *no.* 3, 475–507. (Ambar Sengupta) **99a:58024** 58D29 (57M99, 58F11)

— (*with* Drumm, Todd A.) The geometry of crooked planes. (English summary) *Topology* **38** (1999), *no.* 2, 323–351. (Allan Edmonds) **99m:57034** 57S30 (22E40, 57M60)

Goldmann, Helmut (*with* Fragoulopoulou, Maria) Commutative lmc algebras with discrete spectrum. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 371–389. (Summary) **99a:46099** 46J40 (46H20)

Goldmann, Mikael (*with* Näslund, Mats) The complexity of computing hard core predicates. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 1–15, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99e:94036** 94A60 (68Q15, 68Q25)

— (*with* Karpinski, Marek) Simulating threshold circuits by majority circuits. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 230–246 (*electronic*). (Christoph Meinel) **99a:68056** 68Q05 (68Q25)

— (*with* Håstad, Johan) Monotone circuits for connectivity have depth $(\log n)^{2-o(1)}$. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1283–1294 (*electronic*). (Juraj Hromkovič) **99j:68052** 68Q25 (05C40, 05C85, 68Q15, 94C10)

Goldreich, Oded (*with* Rubinfeld, Ronitt; Sudan, Madhu) Learning polynomials with queries: the highly noisy case. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 294–303, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05

— (*with* Bellare, Mihir; Sudan, Madhu) Free bits, PCPs and non-approximability—towards tight results. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 422–431, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— (*with* Even, Shimon; Micali, Silvio) On-line/off-line digital signatures. (English summary) *J. Cryptology* **9** (1996), *no.* 1, 35–67. (Summary) **99a:94029** 94A60

— On the foundations of modern cryptography. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 46–74, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94032** 94A60

— (*with* Goldwasser, Shafi; Halevi, Shai) Eliminating decryption errors in the Ajtai-Dwork cryptosystem. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 105–111, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94030** 94A60

— (*with* Goldwasser, Shafi; Halevi, Shai) Public-key cryptosystems from lattice reduction problems. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 112–131, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94031** 94A60

— A taxonomy of proof systems. (English summary) *Complexity theory retrospective, II*, 109–134, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15, 03F20)

— (*with* Safra, Shmuel) A combinatorial consistency lemma with application to proving the PCP theorem. (English summary) *Randomization and approximation techniques in computer science* (*Bologna*, 1997), 67–84, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **99a:68073** 68Q15

— (*with* Wigderson, Avi) Tiny families of functions with random properties: a quality-size trade-off for hashing. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 315–343. (Friedhelm Meyer auf der Heide) **99f:68042** 68P10 (68Q25)

— (*with* Sudan, Madhu) Computational indistinguishability: a sample hierarchy. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 24–33, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68046** 68Q15

— (*with* Håstad, Johan) On the complexity of interactive proofs with bounded communication. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 205–214. (Summary) **99f:68070** 68Q15 (68Q05, 68Q25)

— (*with* Even, Guy; Luby, Michael G.; Nisan, Noam; Veličković, Boban) Efficient approximation of product distributions. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 1–16. (Gheorghe Barbu) **99g:68077** 68Q20 (68Q25)

— (*with* Goldwasser, Shafi; Linial, Nathan) Fault-tolerant computation in the full information model. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 506–544 (*electronic*). (Summary) **99m:68056** 68Q10 (68Q22, 68Q75)

— (*with* Ostrovsky, Rafail; Petrank, Erez) Computational complexity and knowledge complexity. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1116–1141 (*electronic*). (Johan Håstad) **99f:68097** 68Q25 (68Q15)

— Combinatorial property testing (a survey). (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 45–59, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **43**, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68083** 68Q22 (68Q25)

Goldring, Noa The entire NS ideal on $\mathcal{P}_\gamma\mu$ can be precipitous. *J. Symbolic Logic* **62** (1997), *no.* 4, 1161–1172. (Andrzej Szymański) **99h:03030** 03E55 (03E05, 03E35)

Goldschmidt, Olivier (*with* Yu, Gang[2]) Local optimality and its application on independent sets for k-claw free graphs. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 151–164. (Summary) **99b:90152** 90C35 (05C85)

— (*with* Burlet, Michel) A new and improved algorithm for the 3-cut problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 225–227. (Summary) **99b:90145** 90C35 (05C85)

Goldschmidt, Yadin Y. Directed polymers on a Cayley tree with spatially correlated disorder. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9157–9169. (Summary) **99h:82037** 82B41 (82D60)

Gol'dshtein, Vladimir (*with* Troyanov, Marc) Sur la non-résolubilité du p-laplacien sur $\mathbf{R}^n$. (English and French summaries) [On the nonsolvability of the p-Laplacian on $\mathbf{R}^n$] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1185–1187. (Summary) **99g:35037** 35J60

Goldshtik, M. (*with* Hussain, Fazle) Analysis of inviscid vortex breakdown in a semi-infinite pipe. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 4, 189–234. (Summary) **99f:76035** 76C05

— (*with* Hussain, Fazle) Inviscid separation in steady planar flows. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 4, 235–266. (Summary) **99f:76038** 76C99 (76C05)

Goldsmith, Brendan (*with* Burns, John M.) The trace of an abelian group—an application to digraphs. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 75–79. (Summary) **99f:20006** 20B25 (05C20)

— (*with* Carroll, Daniel) On transitive and fully transitive abelian p-groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 33–41. (Patrick Keef) **99f:20090** 20K10 (20K12, 20K30)

— (*with* Pabst, Simone) Describing ideals of endomorphism rings. *Irish Math. Soc. Bull. No.* 39 (1997), 14–25. (Luigi Salce) **99c:13017** 13C10 (13F30, 16S50)

— (*with* Corner, A. L. S.) Isomorphic automorphism groups of torsion-free p-adic modules. *Abelian groups, module theory, and topology* (*Padua*, 1997), 125–130, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Paolo Zanardo) **99g:13012** 13C13 (13C05, 13F30)

— (*with* Zanardo, Paolo) Endomorphism rings and automorphism groups of separable torsion-free modules over valuation domains. *Abelian groups, module theory, and topology* (*Padua*, 1997), 249–260, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Manfred Dugas) **99i:13011** 13B10 (13C99, 13F30)

— (*with* Pabst, Simone; Scott, Audrey) Unit sum numbers of rings and modules. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 331–344. (Michael Dokuchaev) **99i:16060** 16U99 (16S50, 20K30)

— *see also* **Mathematical heritage of Sir William Rowan Hamilton, 99e:00020**

Goldsmith, Judy (*with* Bloch, Stephen A.; Buss, Jonathan F.) Sharply bounded alternation within P (extended abstract). (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 131–146, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 68Q15

— (*with* Mundhenk, Martin; Allender, Eric) The complexity of policy evaluation for finite-horizon partially-observable Markov decision processes. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 129–138, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99f:90179** 90C40 (68Q25)

— (*with* Ogihara, Mitsunori; Rothe, Jörg) Tally NP sets and easy census functions. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 483–492, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15

— (*with* Mundhenk, Martin) Complexity issues in Markov decision processes. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 272–280, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q25, 90C40)

— (*with* Littman, Michael L.; Mundhenk, Martin) The computational complexity of probabilistic planning. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 1–36 (*electronic*). (Summary) **99h:68156** 68T20 (68Q15, 68Q25)

— (*with* Beigel, Richard) Downward separation fails catastrophically for limited nondeterminism classes. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1420–1429 (*electronic*). (Lane Hemaspaandra) **99d:68078** 68Q15

— (*with* Fortnow, Lance; Levy, Matthew A.; Mahaney, Stephen R.) L-printable sets. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 137–151 (*electronic*). (Marius Zimand) **99f:68068** 68Q15 (03D05, 03D15, 03D30, 68Q30, 68Q45)

Goldstein, Bernard R. (*with* Chabás, José) Computational astronomy: five centuries of finding true syzygy. *J. Hist. Astronom.* **28** (1997), *no.* 2, 93–105. (Owen Gingerich) **99b:01008** 01A35 (01A40)

Goldstein, D. B. (*with* Tuan, Tai-Chang) Secondary flow induced by riblets. (English summary) *J. Fluid Mech.* **363** (1998), 115–151. (Summary) **99b:76042** 76F99

Goldstein, Daniel J. Do we do mathematics with our visual brain? *Math. Intelligencer* **20** (1998), *no.* 4, 5–10. 00A35

Goldstein, Dmitry Inverse closedness of C^*-algebras in Banach algebras. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 172–174. (Summary) **99k:46083** 46H10 (46L05)

Goldstein, Gisèle Ruiz *see* **Applied analysis, 99e:00016**

Goldstein, Harvey (*with* Pfeffermann, Danny; Skinner, C. J.; Holmes, D. J.; Rasbash, J.) Weighting for unequal selection probabilities in multilevel models. (English summary) With discussion. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 23–56. (Summary) **99a:62013** 62D05

Goldstein, J. Scott (*with* Reed, Irving S.; Scharf, Louis L.) A multistage representation of the Wiener filter based on orthogonal projections. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2943–2959. 94A12

Goldstein, Jerome A. *see* **Applied analysis, 99e:00016**

Goldstein, Larry Mark (*with* Reinert, Gesine) Stein's method and the zero bias transformation with application to simple random sampling. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 935–952. (Andrew D. Barbour) **99e:60059** 60F05 (62D05)

— (*with* Assaf, David; Samuel-Cahn, Ester) A statistical version of prophet inequalities. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1190–1197. (Frans Boshuizen) **99h:62105** 62L15 (60G40)

Goldstein, Raymond E. (*with* Powers, Thomas R.; Zhang, Dengfu; Stone, Howard A.) Propagation of a topological transition: the Rayleigh instability. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1052–1057. (Summary) **99a:76064** 76E99 (76D45)

— (*with* Pesci, Adriana I.; Shelley, Michael J.) Instabilities and singularities in Hele-Shaw flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2701–2723. (Summary) **99g:76064** 76E99 (76D99, 76S05)

Goldstein, Sheldon (*with* Lebowitz, Joel L.; Sinaĭ, Yakov Grigor′evich) Remark on the (non)convergence of ensemble densities in dynamical systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 393–395. (Nikolai Chernov) **99e:58120** 58F11 (82C05)

Goldstein, Stanisław (*with* Lindsay, J. Martin) L^p-spaces and quantum dynamical semigroups. *Quantum probability* (*Gdańsk*, 1997), 211–216, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (*see* **99d:00029**) 46L50 (47D07, 47N50)

— (*with* Phan Viet Thu) L^p-spaces for UHF algebras. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 593–598. (Fyodor A. Sukochev) **99m:46151** 46L50

Goldstein, Zvi (*with* Mehrez, Abraham) A concave cost stochastic replacement problem. (English summary) *Opsearch* **35** (1998), *no.* 1, 13–31. (Summary) **99a:90098** 90B25

Goldstern, Martin Most algebras have the interpolation property. (English summary) *Algebra Universalis* **38** (1997), *no.* 2, 97–114. (Andreĭ A. Krokhin) **99g:08002** 08A40 (54H99)

— A taste of proper forcing. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 71–82, *Kluwer Acad. Publ., Dordrecht*, 1998. (Miroslav Repický) **99f:03069** 03E40

— (*with* Shelah, Saharon) Order polynomially complete lattices must be large. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 197–209. (A. Kanamori) **99g:06010** 06A07 (03E35, 03E55, 06B05, 08A40)

— (*with* Kojman, Menachem) Rules and reals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1517–1524. (W. W. Comfort) **99h:03029** 03E35 (03E50, 04A20, 20B27)

Goldston, D. A. (*with* Vaughan, R. C.) On the Montgomery-Hooley asymptotic formula. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 117–142, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (D. R. Heath-Brown) **99d:11099** 11N13 (11P05)

— (*with* Gonek, S. M.) Mean value theorems for long Dirichlet polynomials and tails of Dirichlet series. (English summary) *Acta Arith.* **84** (1998), *no.* 2, 155–192. (D. R. Heath-Brown) **99a:11103** 11M41 (11M26)

— (*with* Yıldırım, Cem Y.) Primes in short segments of arithmetic progressions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 563–580. (John B. Friedlander) **99f:11118** 11N13

Goldstone, Richard A note on isomorphic survivor graphs. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 22–25. (Summary) **99i:05146** 05C60

Goldszmidt, Moisés Fast belief update using order-of-magnitude probabilities. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 208–216, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30 (68T27)

— (*with* Boutilier, Craig; Friedman, Nir; Koller, Daphne) Context-specific independence in Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 115–123, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

Goldwasser, John L. (*with* Zhang, Cun Quan) Permutation graphs and Petersen graph. (English summary) *Ars Combin.* **51** (1999), 240–248. (Summary) **99k:05130** 05C70 (05C15)

Goldwasser, Shafi (*with* Goldreich, Oded; Halevi, Shai) Eliminating decryption errors in the Ajtai-Dwork cryptosystem. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 105–111, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94030** 94A60

— (*with* Goldreich, Oded; Halevi, Shai) Public-key cryptosystems from lattice reduction problems. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 112–131, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94031** 94A60

— (*with* Goldreich, Oded; Linial, Nathan) Fault-tolerant computation in the full information model. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 506–544 (*electronic*). (Summary) **99m:68056** 68Q10 (68Q22, 68Q75)

Goldwurm, Massimiliano (*with* Avellone, A.) Analysis of algorithms for the recognition of rational and context-free trace languages. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 4-6, 141–152. (Yves Metivier) **99k:68090** 68Q45 (68Q25)

— (*with* Choffrut, Christian) Determinants and Möbius functions in trace monoids. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 239–247. (Summary) **99h:68102** 68Q45 (15A15, 68Q10)

Goleminov, J. D. (*with* Georgieva, A. I.; Ginin, R. D.) Mapping method for generating a q-deformed version of the algebraic su(3) $\supset$ so(3) chain. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1830–1836. (Roberto Casalbuoni) **99k:81112** 81R50

Golenishcheva-Kutuzova, Maria I. (*with* Kac, Victor G.) Γ-conformal algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2290–2305. (Mirko Primc) **99d:81048** 81R10 (17B65)

Goleţ, Ioan A between relation in 2-metric spaces. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 56–62. 54E35 (54E40, 54E55)

Goliath, Martin (*with* Nilsson, Ulf S.; Uggla, Claes) Spatially self-similar spherically symmetric perfect-fluid models. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 167–186. (Nora Bretón Báez) **99b:83018** 83C20 (83C15)

— (*with* Rosquist, Kjell) Lax pair tensors and integrable spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1521–1534. (Dmitri Korotkin) **99i:83018** 83C15 (58F07)

Golić, Jovan D. (*with* Menicocci, Renato) Correlation attacks on up/down cascades. (English summary) *Information security and privacy* (*Brisbane*, 1998), 123–134, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60 (94A55)

— Random correlation matrices. (English summary) *Australas. J. Combin.* **17** (1998), 147–156. (Edward A. Bender) **99h:94046** 94A60 (05A16)

— Periods of interleaved and nonuniformly decimated sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1257–1260. (Summary) **99c:94020** 94A55 (94A60)

— Recent advances in stream cipher cryptanalysis. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **64(78)** (1998), 183–204. (*see* **99h:00021**) 94A60

— Period of certain pseudorandom sequences. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 61–70. (Summary) **99j:94045** 94A60 (65C10, 94A55)

— (*with* Menicocci, Renato) Correlation attacks on up/down and stop/go cascades. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 486–498. (Zhao Zhi Zhang) **99m:94035** 94A60 (94A55)

— Stream cipher encryption of random access files. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 145–148. (Summary) **99k:94035** 94A60

Golightly, W. L. (*with* Haynsworth, W. H.; Sarvate, Dinesh G.) A symmetric difference construction of strongly regular graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 51–56. (Summary) **99g:05189** 05E30

— (*with* Haynsworth, W. H.; Sarvate, Dinesh G.; Logan, Roger) Nontransitive semi-standard orthogonal Latin squares. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 88–94. (Summary) **99i:05040** 05B15

Golikov, A. I. (*with* Evtushenko, Yuriĭ Gavrilovich) A modified Lagrange function for linear programming problems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 45–48; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 12, 43–46 (1998). (C. Bergthaller) **99c:90072** 90C05

— *see also* **Errata: "A modified Lagrange function for linear programming problems"**

Golin, Mordecai J. (*with* Bradford, Phillip G.; Larmore, Lawrence L.; Rytter, Wojciech) Optimal prefix-free codes for unequal letter costs: dynamic programming with the Monge property. (English summary) *Algorithms—ESA '98* (*Venice*), 43–54, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 94A45 (68P10, 68Q25)

— (*with* Devillers, Olivier) Dog bites postman: point location in the moving Voronoi diagram and related problems. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 321–342. (Summary) **99c:68246** 68U05 (52B55)

— (*with* Raman, Rajeev; Schwarz, Christian; Smid, Michiel H. M.) Randomized data structures for the dynamic closest-pair problem. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1036–1072 (*electronic*). (Hans-Dietrich Hecker) **99e:68159** 68U05

— (*with* Zaks, Shmuel) Labelled trees and pairs of input-output permutations in priority queues. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 99–114. (Ranjan Chaudhuri) **99f:68036** 68P05

Golinelli, O. (*with* Di Francesco, Philippe; Guitter, E.) Meanders and the Temperley-Lieb algebra. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 1–59. (Francois Vanderseypen) **99f:82028** 82B41 (05A15)

— (*with* Di Francesco, Philippe; Guitter, E.) Meander, folding, and arch statistics. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 97–147. (Sergei K. Lando) **99f:82029** 82B41 (05A15)

Golinskiĭ, Leonid On Schur functions and Szegő orthogonal polynomials. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 195–203, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Walter Van Assche) **99b:42029** 42C05

— Uniform asymptotics for second-kind ultraspherical polynomials on the unit circle. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 599–608. (Ying Guang Shi) **99j:42034** 42C05 (33C55)

— Akhiezer's orthogonal polynomials and Bernstein-Szegő method for a circular arc. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 229–263. (Paolo Emilio Ricci) **99m:42040** 42C05 (33C45)

Gollan, Holger W. ★ A contribution to the revision project of the sporadic groups: Lyons' simple group Ly. Vorlesungen aus dem Fachbereich Mathematik der Universität GH Essen [Lecture Notes in Mathematics at the University of Essen], 26. *Universität Essen, Fachbereich Mathematik, Essen*, 1998. *ii*+161 *pp.* (Hiroyoshi Yamaki) **99g:20029** 20D08 (20D05)

Gollee, H. (*with* Hunt, K. J.) Nonlinear modelling and control of electrically stimulated muscle: a local model network approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1259–1288. 93C95 (92C05, 93A30)

Gollier, Christian (*with* Lindsey, John; Zeckhauser, Richard J.) Investment flexibility and the acceptance of risk. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 219–241. (V. V. Kolbin) **99a:90039** 90A09 (90A46)

Gollmann, Dieter (*with* Geiselmann, Willi) Correlation attacks on cascades of clock controlled shift registers. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 346–359, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94032** 94A60

Göllü, Aleks (*with* Deshpande, Akash; Semenzato, Luigi) The SHIFT programming language for dynamic networks of hybrid automata. Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 584–587. (*see* **99a:93006**) 93C83 (93–04)

Gollub, J. P. (*with* Liu, Jun[3]) Nonlinear dynamics of film flows: solitary wave interactions. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 58–70, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76D33 (76–05)

— (*with* Kudrolli, A.; Pier, Benoît) Superlattice patterns in surface waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 99–111. (Summary) **99i:76015** 76B15 (76–05, 76E99)

Golod, P. I. (*with* Pakulyak, S. Z.) The dressing techniques for intermediate hierarchies. (English and Russian summaries) *Teoret. Mat. Fiz.* **103** (1995), *no.* 3, 422–436; *reprinted in Theoret. and Math. Phys.* **103** (1995), *no.* 3, 668–680. (Introduction) **99d:58080** 58F07 (35Q53)

— (*with* Kisilevich, A.; Kondratyuk, S.) An orbit structure for integrable equations of homogeneous and principal hierarchies. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 343–352, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Stanislav Z. Pakuliak) **99c:58068** 58F07

Golodets, Valentin Ya. (*with* Neshveev, S. V.) Non-Bernoullian quantum K-systems. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 213–232. (Matthew J. Donald) **99j:46081** 46L55 (46N50, 82B10)

— (*with* Størmer, Erling) Entropy of C^*-dynamical systems defined by bitstreams. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 859–874. (Geoffrey Price) **99m:46157** 46L55 (28D20, 46L40)

Gologan, Radu-Nicolae On the subadditive ergodic theorem. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 405–408. (Summary) **99m:28036** 28D05

Gololobova, S. P. (*with* Il'in, Valeriĭ Pavlovich; Itskovich, E. A.) ★ ФАКТОР: библиотека программ для решения сеточных уравнений. (Russian. English and Russian summaries) [FAKTOR: a library of programs for solving difference equations] Препринт. Вычислительный Центр. Российская Академия Наук. Сибирское Отделение [Preprint. Computing Center. Russian Academy of Sciences. Siberian Branch], 1079. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1996. 34 *pp.* 65–04

Golomb, Solomon W. (*with* Gaal, P.) On the number of permutations of n objects with greatest cycle length k. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 211–218, *VSP, Utrecht*, 1997. (Don P. Rawlings) **99j:05001** 05A05 (05A15, 60C05)

— (*with* Yovanof, G. S.) The polynomial model in the study of counterexamples to S. Piccard's theorem. (English summary) *Ars Combin.* **48** (1998), 43–63. (Joseph Max Rosenblatt) **99g:05017** 05A99

— (*with* Win, Moe Z.) Recent results on polyphase sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 817–824. (Summary) **99e:94029** 94A55

— (*with* Gong, Guang) Binary sequences with two-level autocorrelation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 692–693. (Summary) **99j:94032** 94A55

Golov, V. I. (*with* Belolipetskiĭ, Aleksandr A.) On an inverse kinematic seismic problem on a plane. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 46–47; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 66–68. (Editors) **99i:86015** 86A15 (86A22)

Golovach, P. A. (*with* Fomin, F. V.; Petrov, Nikolaĭ Nikolaevich) Search problems on 1-skeletons of regular polyhedrons. *Game theory and applications, III*, 27–37, *Nova Sci. Publ., Commack, NY*, 1997. (Miroslav D. Ašić) **99b:90178** 90D46 (90B40, 90D26)

— The total vertex separation number of a graph. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 86–91; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 631–636. (Alexandra Kireeva) **99d:05046** 05C35 (05C05)

— (*with* Fomin, F. V.; Petrov, Nikolaĭ Nikolaevich) Search problems on 1-skeletons of regular polyhedrons. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 101–111. (Bernhard von Stengel) **99h:90129** 90D43 (05C99, 90B40)

Golovachëv, Yu. P. (*with* Leont'eva, N. V.) Numerical investigation of a supersonic flow around sharp-nosed elliptic cones. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 3, 534–542. 76M20 (76J20)

Golovachtchuk, N. *see* **Golovashchuk, N. S.**

Golovan, A. A. (*with* Parusnikov, N. A.) On a relationship between the concept of stochastic measure of estimability and singular decompositions of matrices. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 45–49; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 190–193. (Summary) **99j:93096** 93E10

Golovanov, M. I. (*with* Alekseev, P. A.) On admissible rules for the polymodal logic $S5_nC$. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 5, 483–493, 599; *translation in Algebra and Logic* **36** (1997), *no.* 5, 281–287. (Branislav Boričić) **99b:03028** 03B45

Golovashchuk, N. S. (*with* Dräxler, Peter; Ovsienko, S.; de la Peña, José Antonio) Coordinates of maximal roots of weakly non-negative unit forms. *Colloq. Math.* **78** (1998), *no.* 2, 163–193. (Daniel Simson) **99m:16017** 16G20 (11E12, 15A63, 16G60)

Golovashkin, A. V. (*with* Maksimov, V. M.) Skew Ore polynomials of higher orders generated by homogeneous quadratic relations. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 145–146; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 384–386. 16S36

Golovchanskiĭ, V. V. (*with* Smotrov, M. N.) On the multiplicity of the discrete spectrum of an automorphic Laplacian. (Russian. Russian summary) *Automorphic functions and number theory, Part I, II (Russian)*, 130–139, 254, *Akad. Nauk SSSR, Dal'nevostochn. Otdel., Vladivostok*, 1989. (*see* **99k:11003**) 11F72

— Asymptotics of the spectral function of the Laplace-Beltrami operator for the co-compact discrete subgroups $SL_2(\mathbf{R})$. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 7, 23–36. (Werner Hoffmann) **99m:58188** 58G18 (11F72, 58G25)

Golovin, A. A. (*with* Davis, S. H.) Effect of anisotropy on morphological instability in the freezing of a hypercooled melt. (English summary) *Phys. D* **116** (1998), *no.* 3-4, 363–391. (Summary) **99c:73009** 73B30 (35Q72, 80A22)

Golovin, A. M. The influence of blowing into or suction from a spherical particle surface on mass exchange in an overrunning viscous flow. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 74–79, 113. (Summary) **99e:76114** 76R99

Golovin, V. D. Criteria for the finite-dimensionality of the cohomology of sheaves. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 408–410 (1996). (Summary) **99g:55009** 55N30

Golovin, Yu. O. Conditions for the spatial flatness and spatial injectivity of an indecomposable CSL-algebra of finite width. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 9–20; *translation in Math. Notes* **63** (1998), *no.* 1-2, 9–18. (Miron E. Shpigel) **99f:47055** 47D25

Golovina, E. Yu. (*with* Averkin, A. N.; Sergievskiĭ, A. E.) Design of fuzzy controllers based on triangular norms. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 112–118. 93C42

Golse, François Anomalous diffusion limit for the Knudsen gas. *Asymptot. Anal.* **17** (1998), *no.* 1, 1–12. (Lorenzo Pareschi) **99m:82040** 82C40 (76P05)

— (*with* Bardos, Claude; Levermore, C. David) Acoustic and Stokes limits for the Boltzmann equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 323–328. (Alexei Heintz) **99k:76128** 76P05 (35Q99, 45K05, 82C40)

— (*with* Sone, Yoshio; Ohwada, Taku; Doi, Toshiyuki) Analytical study of transonic flows of a gas condensing onto its plane condensed phase on the basis of kinetic theory. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 3, 277–306. (Summary) **99f:76116** 76P05 (76H05, 82C40)

Golse, G. (*with* Jirari, H.; Kröger, Helmut; Moriarty, K. J. M.) Generalized Aharonov-Bohm effect. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 67–74, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

Golshani, Mehdi (*with* Shojai, Fatimah) On the geometrization of Bohmian mechanics: a new approach to quantum gravity. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 4, 677–693. (Viqar Husain) **99e:83029** 83C45

— (*with* Shojai, Fatimah) On the general covariance in Bohmian quantum gravity. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2135–2144. (Summary) **99a:83033** 83C45 (83D05)

— (*with* Shojai, Fatimah; Shojai, Ali) Conformal transformations and quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 34, 2725–2729. 83C45

— (*with* Shojai, Fatimah; Shojai, Ali) Scalar-tensor theories and quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 36, 2915–2922. 83D05 (83C45)

— (*with* Shojai, Ali; Shojai, Fatimah) Nonlocal effects in quantum gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2965–2969. (Viqar Husain) **99m:83081** 83C45

Gol'shteĭn, E. G. The direct-dual method of linear programming. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 3–9; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1531–1536 (1997). (Summary) **99b:90076** 90C05

Goltser, Ya. M. Neutral mappings stability in the vicinity of resonance 1:1:1. (English summary) *Funct. Differ. Equ.* **3** (1996), *no.* 3-4, 321–344 (1997). (Bruce B. Peckham) **99e:39061** 39A11 (58F10)

Gol'tsov, A. S. Estimation of the state of nonlinear dynamical systems by an asymptotic method. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 33–37. (Summary) **99m:93099** 93E10

Golub, Gene H. Matrices, moments and quadrature. *Iterative methods in scientific computing (Hong Kong, 1995)*, 45–57, *Springer, Singapore*, 1997. (*see* **99g:65001**) 65F30 (15A45, 65D32)

— (*with* Van der Vorst, Henk A.) Closer to the solution: iterative linear solvers. (English summary) *The state of the art in numerical analysis (York, 1996)*, 63–92, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99b:65034** 65F10 (15A06)

— (*with* Van der Vorst, Henk A.) 150 years old and still alive: eigenproblems. (English summary) *The state of the art in numerical analysis (York, 1996)*, 93–119, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99b:65051** 65F15 (15A18)

— (*with* Meurant, Gérard) Matrices, moments and quadrature. II. How to compute the norm of the error in iterative methods. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 687–705. (Stephen W. Brady) **99d:65090** 65F05 (15A99, 65D32)

— (*with* Zhang, Tong^2; Law, K. H.) Eigenvalue perturbation and generalized Krylov subspace method. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 185–202. (J. Segethová) **99i:65044** 65F15 (65F30)

— (*with* Chandrasekaran, S.; Gu, Ming; Sayed, Ali H.) Parameter estimation in the presence of bounded data uncertainties. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 235–252 (*electronic*). (George Yin) **99a:93094** 93E10 (65U05, 93E24)

— (*with* Giladi, Eldar; Keller, Joseph B.) Inner and outer iterations for the Chebyshev algorithm. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 300–319 (*electronic*). (Cs. J. Hegedűs) **99d:65106** 65F10

— (*with* Wathen, Andrew J.) An iteration for indefinite systems and its application to the Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 530–539 (*electronic*). (Tsorng-Whay Pan) **99d:65107** 65F10 (65N22, 76M25)

— (*with* Huang, Lan Jie; Simon, Horst D.; Tang, Wei-Pai) A fast Poisson solver for the finite difference solution of the incompressible Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1606–1624 (*electronic*). (Jean-Luc Guermond) **99e:65116** 65M06 (65F30, 76D05, 76M20)

— (*with* Zhang, Tong^2; Law, K. H.) On the homotopy method for perturbed symmetric generalized eigenvalue problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1625–1645 (*electronic*). (Heike Faßbender) **99e:65065** 65F15 (15A18, 65F50)

— (*with* Chu, Moody T.; Funderlic, R. E.) Rank modifications of semidefinite matrices associated with a secant update formula. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 428–436 (*electronic*). (Henry Wolkowicz) **99g:90117** 90C30 (65F30)

— (*with* Baglama, J.; Calvetti, D.; Reichel, L.) Adaptively preconditioned GMRES algorithms. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 243–269 (*electronic*). (Summary) **99d:65097** 65F10

— *see also* **Iterative methods in scientific computing, 99g:65001**

Golubentsev, A. F. (*with* Anikin, V. M.) The explicit solutions of Frobenius-Perron equation for the chaotic infinite maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 5, 1049–1051. (Makoto Mori) **99f:58124** 58F11

Golubev, G. *see* **Golubev, G. K.**

Golubev, G. A. Parametric decomposition (factorization) of the matrix spectral density and the matrix transfer function in problems of the optimization of linear systems with discrete time. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 9, 29–42; *translation in Automat. Remote Control* **57** (1996), *no.* 9, *part* 1, 1242–1253 (1997). 93E20 (93C55)

Golubev, G. K. (*with* Khasminskii, Rafail Z.) Asymptotically optimal filtering for a hidden Markov model. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 192–209. (Mamikon S. Ginovian) **99m:62146** 62M20 (60G35)

Golubeva, V. A. (*with* Pokazeev, V. V.) Clifford analysis and its applications. I. Representations of Laplace operators. Regularity criteria. Integral representations of Cauchy-Green type. Analysis, 10. *J. Math. Sci. (New York)* **91** (1998), *no.* 5, 3258–3292. (John Ryan) **99k:30076** 30G35 (81R25)

— *see also* **Analysis, 99f:00032**

Golubitsky, Martin (*with* Stewart, Ian N.; Buono, Pietro-Luciano; Collins, James J.) A modular network for legged locomotion. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 56–72. (Summary) **99d:92051** 92D50 (34C99)

— (*with* Jensen, Carsten Nordstrøm; True, Hans) Symmetry, generic bifurcations, and mode interaction in nonlinear railway dynamics. *IUTAM Symposium on New*

Applications of Nonlinear and Chaotic Dynamics in Mechanics (*Ithaca, NY*, 1997), 387–396, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K99 (34C23)

Golubkin, V. N. (*with* Emelin, D. S.) Optimization of the shape of a short-span wing in a hypersonic gas flow taking into account laminar-turbulent transition in the boundary layer. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1592–1601. (Summary) **99k:76089** 76K05 (76M25)

Golubov, B. I. Hardy and Hardy-Littlewood operators in the spaces $\mathbf{H}^1$ and BMO. (Russian. Russian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 9–11, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 42B30 (47G10)

— An analogue of a theorem of Titchmarsh for Walsh transformations. (Russian. Russian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 12–14, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 42C10

— An analogue of a theorem of Titchmarsh for the Fourier-Walsh transform. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 69–86; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 707–725. (W. R. Wade) **99e:42044** 42C10

— On Hardy and Bellman transformations of H^1 and BMO spaces. (Russian) *Mat. Zametki* **63** (1998), *no.* 3, 475–478; *translation in Math. Notes* **63** (1998), *no.* 3-4, 418–421. 42A32 (30D55, 46E15, 47B38)

Golubyatnikov, V. P. (*with* Ayupova, N. B.) Formal solutions of an inverse problem for a class of evolution equations. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 21–29, 189, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Peter G. Danilaev) **99g:35141** 35R30 (34G10, 35K99)

— (*with* Ayupova, N. B.) On formal solutions to multidimensional evolution equations. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 4, 21–40. (Dang Dinh Ang) **99m:35028** 35C99 (35K99, 35R30)

Golumbic, Martin Charles Reasoning about time. *Mathematical aspects of artificial intelligence* (*Orlando, FL*, 1996), 19–54, *Proc. Sympos. Appl. Math.*, 55, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68162**) 68T27 (03B45, 03B70)

— (*with* Kaplan, Haim) Cell flipping in permutation diagrams. (English summary) *STACS* 98 (*Paris*, 1998), 577–586, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68R10 (68Q25)

— (*with* Wassermann, Amir) Complexity and algorithms for graph and hypergraph sandwich problems. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 223–239. (Stanisław P. Radziszowski) **99g:05164** 05C85 (05C65, 68Q25)

— Matrix sandwich problems. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 239–251. (Shu An Hu) **99c:15026** 15A36

— *see also* **Artificial intelligence and mathematics**, **99m:68006**

Goluzin, Gennadiĭ Mikhaĭlovich *see* **Kuz'mina, G. V.**

Gomaa, A. M. (*with* Ibrahim, A. G.) Strong and weak solutions for differential inclusions with moving constraints in Banach spaces. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 53–65. (Manuel D. P. Monteiro Marques) **99a:34167** 34G20 (34A60, 49J24)

Goman, M. G. (*with* Khramtsovsky, A. V.) Application of continuation and bifurcation methods to the design of control systems. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2277–2295. 93C85 (70Q05, 93B51)

Gomatam, Jagannathan (*with* Borodich, F. M.) An exact solution for the first stage of frictional collision of a die and an elastic half-space. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 563–576. (Summary) **99h:73068** 73T05

— (*with* McFarlane, Isobel) Generalisation of the Mandelbrot set to integral functions of quaternions. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 107–116. (Summary) **99k:30041** 30D05 (15A33, 30G35)

Gombani, Andrea (*with* Björk, Tomas; Christensen, Bent Jesper) Some system theoretic aspects of interest rate theory. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 17–23. (Summary) **99b:90019** 90A09

Gombay, Edit The likelihood ratio under noncontiguous alternatives. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 417–423. (Summary) **99c:62047** 62F05

— (*with* Hušková, Marie) Rank based estimators of the change-point. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 137–154. (Lajos Horváth) **99g:62056** 62G10 (62G05)

Gomberoff, A. (*with* Deser, Stanley; Henneaux, Marc; Teitelboim, C.) p-brane dyons and electric-magnetic duality. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 179–204. (Summary) **99i:81147** 81T13

Gomero, G. I. (*with* Bernui, A.; Rebouças, M. J.; Teixeira, A. F. F.) Radiation damping in FRW space-times with different topologies. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4699–4706. 83F05 (83C15)

Gomes, Abel (*with* Middleditch, Alan) Synthesis of a unified approach to shape modeling. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 226–246, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65194** 65Y25 (52–04, 65D17, 68U05)

Gomes, Diogo Luís Aguiar Chaotic motions in vortices dynamics. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 373–379, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 76C05 (58F13, 58F40)

— Integrability/non-integrability in vortices dynamics. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 215–217. (*see* **99f:58002**) 58F27 (76C05)

Gomes, Gracinda M. S. (*with* Howie, John M.) Semigroups with zero whose idempotents form a subsemigroup. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 265–281. (Boris M. Schein) **99e:20076** 20M17

— (*with* Fountain, John B.; Gould, Victoria) Enlargements, semiabundancy and unipotent monoids. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 595–614. (Mária B. Szendrei) **99k:20110** 20M10 (20M07)

Gomes, J. F. (*with* Chaichian, Masud; González Felipe, R.) Mass spectrum of q-deformed dual string theory. (English summary) *Quantum groups* (*Karpacz*, 1994), 443–450, *PWN, Warsaw*, 1995. (Summary) **99f:81153** 81T30 (81R50)

— (*with* Batista, E.; Lautenschleguer, I. J.) Hamiltonian reduction and the construction of q-deformed extensions of the Virasoro algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 29, *L*537–*L*542. (Zoltán Bajnok) **99g:81067** 81R10 (17B68, 81R50, 81T40)

— (*with* Aratyn, Henrik; Ferreira, Luiz A.; Zimerman, A. H.) Solitons from dressing in an algebraic approach to the constrained KP hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9483–9492. (Alexander V. Shapovalov) **99k:58080** 58F07

— (*with* Blas Achic, H. S.; Ferreira, Luiz A.; Zimerman, A. H.) Some comments on the bi(tri)-Hamiltonian structure of generalized AKNS and DNLS hierarchies. (English summary) *Phys. Lett. A* **237** (1998), *no.* 4-5, 225–233. (Roman G. Smirnov) **99a:58083** 58F07

— (*with* Sotkov, G. M.; Zimerman, A. H.) $SU(2, \mathbf{R})_q$ symmetries of non-abelian Toda theories. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 49–60. (Mathias Pillin) **99g:81199** 81T40 (81R50, 81T10)

Gomes, M. Gabriela M. Nearest neighbour pulse-coupled oscillators. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 380–385, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 92C05 (34C15, 92B05)

Gomes, Sônia M. (*with* Kushpel', A. K.; Levesley, Jeremy; Ragozin, David L.) sk-spline interpolation on the torus using number-theoretic knots. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 143–149, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:41017** 41A15 (65D07)

— (*with* Cortina, Elsa) Fourier analysis of Petrov-Galerkin methods based on biorthogonal multiresolution analyses. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 119–140, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Ruud van Damme) **99d:65284** 65M60 (42C15)

Gomes-Ruggiero, Márcia A. (*with* Lopes, Vera Lúcia Rocha; Martínez, José Mario) On the global convergence of Newton-like methods for nonsmooth systems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 959–969. (Bernd Luderer) **99b:90120** 90C30 (49J52, 65H10)

guzmán Gómez, Ana Margarita *see* **Guzmán Gómez, Ana Margarita**

garcía Gómez, Carles *see* **García Gómez, Carles**

munuera Gómez, Carlos *see* **Munuera Gómez, Carlos**

Gómez, César Elliptic singularities, θ-puzzle and domain walls. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 344–362. (Angel Maria Uranga) **99h:81164** 81T30 (14J32, 32J81, 81T60)

Gómez, Delfina (*with* Lobo-Hidalgo, Miguel; Pérez, Eugenia) On vibrations of a system with concentrated mass. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 453–458, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73D30 (35B25, 35J60, 73B27)

Gómez, Guillermo I. (*with* Goodwin, Graham C.) Generalization of integral constraints on sensitivity to time-delay systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 1008–1012. (Summary) **99c:93033** 93B35 (93C30)

Gómez, I. (*with* Franco, J. M.) Two three-parallel and three-processor SDIRK methods for stiff initial-value problems. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 119–134. (F. Milinazzo) **99d:65205** 65L05 (65L06, 65L20)

— (*with* Franco, J. M.; Rández, L.) Canonical DIRK methods versus SDIRK methods for nondissipative stiff problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 737–742, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L99

— (*with* Franco, J. M.) A parallel diagonally iterated RK method for convection-diffusion and stiff problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 821–837. (Summary) **99d:65212** 65L06

Gómez, J. *see* **Gómez Martí, José**

Gómez, J. A. *see* **Gómez Fernández, Juan Alfredo**

sanabria-Gómez, J. D. *see* **Sanabria-Gómez, J. D.**

Gómez, J. R. *see* **Gómez Martín, José Ramón**

ruiz Gómez, José María *see* **Ruiz Gómez, José María**

lópez-Gómez, Julián *see* **López-Gómez, Julián**

orozco Gómez, María M. *see* **Orozco Gómez, María M.**

olmos Gómez, Miguel Angel *see* **Olmos Gómez, Miguel Angel**

Gómez, Patricia (*with* Castillo, Enrique F.; Solares, Cristina) Tail sensitivity analysis in Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 133–140, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30

Gómez, Pedro (*with* Mendoza, Ramón; Moraes, Fernando) Fluctuating metrics in one-dimensional manifolds. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5293–5300. (Helmut Rumpf) **99a:81111** 81T16 (58D30, 58G26, 81S40)

osuna-Gómez, R. *see* **Osuna-Gómez, R.**

Gómez, Roberto (*with* Lehner, Luis; Marsa, R. L.; Winicour, Jeffrey) Moving black holes in 3D. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4778–4788. (Summary) **99k:83069** 83C57

— (*with* Bishop, Nigel T.; Holvorcem, Paulo R.; Matzner, Richard A.; Papadopoulos, Philippos; Winicour, Jeffrey) Erratum: "Cauchy-characteristic evolution and waveforms" [J. Comput. Phys. **136** (1997), no. 1, 140–167; MR 98e:76084]. *J. Comput. Phys.* **148** (1999), *no.* 1, 299–301. 76M25 (76Q05)

Gómez, Trinidad (*with* Ruiz, Francisco; Caballero Fernández, Rafael E.; González, Mercedes; Rey, Lourdes) The static approach to quadratic dynamic goal programming. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 138–148, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C20 (90C39)

Gómez, Víctor Three equivalent methods for filtering finite nonstationary time series. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 109–116. (Summary) **99i:62203** 62M10

— (*with* Maravall, Agustín; Peña, Daniel) Missing observations in ARIMA models: skipping approach versus additive outlier approach. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 341–363. (Summary) **99i:62204** 62M10 (62P20)

Gómez-Ambrosi, Carlos (*with* Shestakov, Ivan P.) On the Lie structure of the skew elements of a simple superalgebra with superinvolution. (English summary) *J. Algebra* **208** (1998), *no.* 1, 43–71. (Darin R. Stephenson) **99j:17032** 17B60 (16W10, 16W55)

Gómez Bofill, Walter (*with* Gómez Fernández, Juan Alfredo) On multi-directional search in optimization. (English summary) *Proceedings of the 3rd International Conference on*

Approximation and Optimization in the Caribbean (*Puebla*, 1995), 23 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:90098** 90C30 (65K05)

— Vector optimization: singularities, regularizations. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 473–497. (Hubertus Th. Jongen) **99f:90108** 90C29

Gomez-Calderon, Javier The third-order factorable core of polynomials over finite fields. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 16–19. (S. D. Cohen) **99c:11147** 11T06

Gómez Castillo, Nicolas Periodic solutions of the Mathieu equation. (Spanish) *Miscelánea Mat. No.* 22 (1995), 65–68. 34C25 (34C15)

Gómez-Chacón, Inés María Does mathematical activity involve emotion? (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 3, 415–423. 00A35

Gómez-Corral, A. (*with* Ramalhoto, M. F.) Some decomposition formulae for $M/M/r/r + d$ queues with constant retrial rate. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 123–145. (Summary) **99b:60161** 60K25

— (*with* Artalejo, J. R.) Analysis of a stochastic clearing system with repeated attempts. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 623–645. (C. E. M. Pearce) **99g:60167** 60K25 (90B22)

Gómez Fernández, Juan Alfredo (*with* Gómez Bofill, Walter) On multi-directional search in optimization. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 23 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:90098** 90C30 (65K05)

— (*with* Bosch, P.) Karush-Kuhn-Tucker theorem for operator constraints and the local Pontryagin maximum principle. (English summary) *Rev. Mat. Apl.* **18** (1997), *no.* 2, 79–106. (Wiesław Kotarski) **99a:49035** 49K27 (90C48)

— (*with* Romero, Mauricio) Global convergence of a multidirectional algorithm for unconstrained optimal control problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 995–1023. (Michael E. Fisher) **99i:49036** 49M25 (65K10, 90C48)

Gómez Gil, Javier (*with* Azagra, D.; Jaramillo, Jesús Angel) Rolle's theorem and negligibility of points in infinite-dimensional Banach spaces. *Extracta Math.* **11** (1996), *no.* 3, 480–484. (Li Xin Cheng) **99b:46064** 46G05 (46B20)

Gómez Lozano, Miguel (*with* Fernández López, Antonio[1]; García Rus, Eulalia; Siles Molina, Mercedes) Goldie theorems for associative pairs. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2987–3020. (L. Márki) **99h:17003** 17A40 (16U20)

— (*with* Ara, Pere; Siles Molina, Mercedes) Local rings of exchange rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4191–4205. (Andrei Kelarev) **99h:16036** 16L30

Gómez Mármol, Macarena (*with* Ortegón Gallego, Francisco) The Stokes and Navier-Stokes equations coupled to two nonlinear parabolic equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 459–464, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35Q30

— (*with* Ortegón Gallego, Francisco) Some results on the Kolmogorov equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 465–470, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76F99 (35Q35)

Gómez Martí, José (*with* Escudero, M.) Edge-colorings of some large graphs on alphabets. (English summary) *Ars Combin.* **49** (1998), 49–55. (Summary) **99c:05064** 05C15 (05C90)

— (*with* Muñoz, X.) Asymptotically optimal (Δ, D', s)-digraphs. (English summary) *Ars Combin.* **49** (1998), 97–111. (Summary) **99c:05082** 05C20

— (*with* Padró, Carles; Pérennes, Stéphane) Large generalized cycles. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 107–123. (Joseph B. Klerlein) **99j:05121** 05C38 (05C20)

Gómez Martin, José Ramón (*with* Echarte Reula, Francisco Javier; Núñez Valdés, J.) Les algèbres de Lie filiformes complexes dérivées d'autres algèbres de Lie. [Complex filiform Lie algebras derived from other Lie algebras] *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 45–55, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (José María Ancochea Bermúdez) **99a:17013** 17B30

— (*with* Cabezas, J. M.; Jiménez-Merchán, A.) Family of p-filiform Lie algebras. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 93–102, *Kluwer Acad. Publ., Dordrecht*, 1998. (Duncan J. Melville) **99j:17013** 17B30

— (*with* Jiménez-Merchán, A.; Khakimdzhanov, Yu. B.) Low-dimensional filiform Lie algebras. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 2, 133–158. (Dietrich Burde) **99f:17011** 17B30

— (*with* Jiménez-Merchán, A.; Núñez Valdés, J.) An algorithm to obtain laws of families of filiform Lie algebras. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 1–12. (Dietrich Burde) **99e:17012** 17B30

Gómez-Mont, Xavier Integration of algebraic functions and the Riemann-Kempf singularity theorem. *Algebraic geometry* (*Ankara*, 1995), 89–134, *Lecture Notes in Pure and Appl. Math.*, 193, *Dekker, New York*, 1997. (D. Sundararaman) **99f:14037** 14H55 (30F10)

— (*with* Mardešić, Pavao) The index of a vector field tangent to a hypersurface and the signature of the relative Jacobian determinant. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 5, 1523–1539. (Aleksandr G. Aleksandrov) **99g:32062** 32S65 (32S25, 58C27, 58F14)

— An algebraic formula for the index of a vector field on a hypersurface with an isolated singularity. *J. Algebraic Geom.* **7** (1998), *no.* 4, 731–752. (Pavao Mardešić) **99f:32061** 32S65

Gómez Nicola, A. (*with* Steer, D. A.) Thermal bosonisation in the sine-Gordon and massive Thirring models. (English summary) *Nuclear Phys. B* **549** (1999), *no.* 1-2, 409–449. 81T10

Gómez Pardo, José L. (*with* Guil Asensio, Pedro A.) When are all the finitely generated modules embeddable in free modules? *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 209–217, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (V. A. Artamonov) **99d:16005** 16D40

— (*with* Guil Asensio, Pedro A.) On the Goldie dimension of injective modules. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 265–275. (John Dauns) **99e:16027** 16P60 (16D50)

Gómez Torrecillas, José (*with* Bueso, José L.; Lobillo, F. J.; Castro-Jiménez, Francisco Jesús) An introduction to effective calculus in quantum groups. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 55–83, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Şerban Raianu) **99g:16046** 16W30 (16P90)

— (*with* Castaño Iglesias, Florencio; Năstăsescu, C.) Separable functors in graded rings. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 219–230. (Summary) **99b:18001** 18A22 (16W50, 18E15)

— (*with* Castaño Iglesias, Florencio) Wide Morita contexts and equivalences of comodule categories. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 3, 213–225. (W. K. Nicholson) **99d:16042** 16W30 (16D90, 18E30)

Gómez-Villegas, Miguel A. (*with* Sanz, Luis) Reconciling Bayesian and frequentist evidence in the point null testing problem. (English summary) *Test* **7** (1998), *no.* 1, 207–216. (Christian P. Robert) **99k:62039** 62F03 (62F15)

Gomi, Hiroshi (*with* Oyamaguchi, Michio; Ohta, Yoshikatsu) On the Church-Rosser property of root-E-overlapping and strongly depth-preserving term rewriting systems. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 992–1005. (Summary) **99b:68108** 68Q42

Gomi, Yasushi Semisimplicity of parabolic Hecke algebras. (English summary) *J. Algebra* **203** (1998), *no.* 1, 270–284. (Götz Pfeiffer) **99e:20016** 20C20 (20F55)

Gomide, Anamaria (*with* Stolfi, Jorge) Bases for non-homogeneous polynomial C_k splines on the sphere. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 133–140, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:68160** 68U05 (41A15, 65D17)

Gomide, Fernando Antonio (*with* Pedrycz, Witold) ★ An introduction to fuzzy sets. (English summary) Analysis and design. With a foreword by Lotfi A. Zadeh. Complex Adaptive Systems. A Bradford Book. *MIT Press, Cambridge, MA*, 1998. *xxiv*+465 *pp.* *ISBN* 0-262-16171-0 (Claudi Alsina) **99h:03033** 03E72 (03B52)

Gomilko, A. M. (*with* Radzievskiĭ, G. V.) On numerical ranges of a family of commuting operators. (Russian) *Mat. Zametki* **62** (1997), *no.* 5, 787–791; *translation in Math. Notes* **62** (1997), *no.* 5-6, 659–663 (1998). (Vladimir Müller) **99e:47009** 47A12 (47A13)

— The classical Dirichlet problem for the biharmonic equation in a half-strip. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 228–237, 287; *translation in Differential Equations* **34** (1998), *no.* 2, 231–241. (Summary) **99k:35037** 35J40

Gomis, Jaume (*with* Diaconescu, Duiliu-Emanuel; Douglas, Michael R.) Fractional branes and wrapped branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 13, 9 *pp.* (*electronic*). (Daniel N. Kabat) **99e:81183** 81T30 (81T60)

— (*with* Diaconescu, Duiliu-Emanuel) Duality in Matrix theory and three-dimensional mirror symmetry. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 53–68. (Richard A. Corrado) **99h:81161** 81T30 (81T60)

— (*with* Diaconescu, Duiliu-Emanuel) Neveu-Schwarz five-branes and Matrix string theory on $K3$. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 287–293. (Jihad Mourad) **99j:81135** 81T30

— (*with* Diaconescu, Duiliu-Emanuel) Matrix description of heterotic theory on $K3$. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 35–42. (Sergey A. Cherkis) **99g:81156** 81T30

— Anti de Sitter geometry and strongly coupled gauge theories. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 299–302. (Gianguido Dall'Agata) **99k:83119** 83E30 (81T30, 81T40, 81T60)

— (*with* Entin, Rami) Spectrum of chiral operators in strongly coupled gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105008, 7 *pp.* (Summary) **99k:81196** 81T17 (81T40, 83E50)

Gomis, Joaquim (*with* Brandt, Friedemann; Simón, Joan) Cohomological analysis of bosonic D-strings and 2d sigma models coupled to abelian gauge fields. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 623–662. (Jan Sładkowski) **99e:81249** 81T70 (81T13, 81T30, 81T50)

— (*with* Bergshoeff, E. A.; Townsend, Paul K.) M-brane intersections from worldvolume superalgebras. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 109–118. (Mario Trigiante) **99d:81106** 81T30 (83E30)

— (*with* Mateos, David; Simón, Joan; Townsend, Paul K.) Brane-intersection dynamics from branes in brane backgrounds. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 231–236. (Summary) **99c:81182** 81T30

— (*with* Brandt, Friedemann; Mateos, David; Simón, Joan) Infinitely many rigid symmetries of kappa-invariant D-string actions. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 147–152. (Summary) **99h:81156** 81T30

— (*with* Brandt, Friedemann; Simón, Joan) D-string on near horizon geometries and infinite conformal symmetry. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1770–1773. (Summary) **99d:83090** 83E30 (81T30)

segura Gomis, S. *see* **Segura Gomis, S.**

Gomolińska, Anna On the logic of acceptance and rejection. (English summary) *Studia Logica* **60** (1998), *no.* 2, 233–251. (Giovanni Criscuolo) **99k:03023** 03B60 (68T27)

Gompa, Raghu R. Harmonic oscillator with a time-dependent perturbation. (English summary) *Bull. Calcutta Math. Soc.* **91** (1999), *no.* 1, 41–48. (Summary) **99k:81062** 81Q15 (81Q05)

Gompf, Robert E. Kirby calculus for Stein surfaces. *Topics in symplectic 4-manifolds* (*Irvine, CA*, 1996), 9–46, *First Int. Press Lect. Ser., I, Internat. Press, Cambridge, MA*, 1998. (Dave Auckly) **99i:57045** 57R15 (57N13)

— Symplectically aspherical manifolds with nontrivial π_2. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 5, 599–603. (Vicente Muñoz) **99k:57068** 57R57 (57R15, 57R55)

Gomulkiewicz, Richard (*with* Beder, Jay H.) Computing the selection gradient and evolutionary response of an infinite-dimensional trait. (English summary) *J. Math. Biol.* **36** (1998), *no.* 3, 299–319. (Immanuel M. Bomze) **99f:92009** 92D10 (46E22, 46N60, 60G15, 92D15)

Gomyo, Satoshi Realization of maximal subgroups of rank 8 of the simply connected compact simple Lie group of type E_8. *Tsukuba J. Math.* **21** (1997), *no.* 3, 595–616. (J. Dorfmeister) **99f:22024** 22E46

Gonçalves, Antonio E. (*with* Bytsenko, Andrei A.; Nojiri, Shin'ichi; Odintsov, Sergei D.) Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1103–1110. (Sergey Nikolaevich Roshchupkin) **99d:81111a** 81T30 (81T60)

— (*with* Bytsenko, Andrei A.; Nojiri, Shin'ichi; Odintsov, Sergei D.) Corrigendum: "Vacuum energy for the supersymmetric twisted D-brane in a constant electromagnetic field". *Classical Quantum Gravity* **15** (1998), *no.* 7, 2039. (Sergey Nikolaevich Roshchupkin) **99d:81111b** 81T30 (81T60)
— (*with* Gavrilov, S. P.; Gitman, D. M.) QED in external field with space-time uniform invariants: exact solutions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3547–3567. (A. L. Rebenko) **99f:81219** 81V10
— (*with* Brevik, I.; Bytsenko, Andrei A.; Williams, Floyd L.) Zeta-function regularization and the thermodynamic potential for quantum fields in symmetric spaces. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4437–4448. (Emili Elizalde) **99e:81159** 81T16 (58G26, 81T20)
— (*with* Bytsenko, Andrei A.; Williams, Floyd L.) The conformal anomaly in general rank 1 symmetric spaces and associated operator product. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 99–108. (Thomas Ackermann) **99g:81206** 81T50 (58G26, 81T20)
— (*with* Bytsenko, Andrei A.; da Cruz, W.) Torsion on hyperbolic manifolds and the semiclassical limit for Chern-Simons theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2453–2461. (David H. Adams) **99j:58219** 58G26 (11M36, 58D30, 81T13)
— (*with* Bytsenko, Andrei A.; Williams, Floyd L.) The conformal anomaly associated with an operator product acting in rank 1 symmetric spaces. *JETP Lett.* **67** (1998), *no.* 3, 176–181; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 3, 166–171 (*Russian*). (Thomas Ackermann) **99b:81221** 81T50 (58G26)
— (*with* Brevik, I.; Bytsenko, Andrei A.) Mass and decay spectra of the piecewise uniform string. (English summary) *Phys. Lett. B* **453** (1999), *no.* 3-4, 217–221. 81T30
Gonçalves, Daciberg Lima (*with* Brito, Fabiano Gustavo Braga) Real and complex homogeneous polynomial ordinary differential equations in n-space and m-ary real and complex non-associative algebras in n-space. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 327–333 (1997). (Michael K. Kinyon) **99a:34024** 34A34 (17A01)
— (*with* Wong, Peter N.-S.) Homogeneous spaces in coincidence theory. (English and Portuguese summaries) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 143–158. (Edward Charles Keppelmann) **99h:55001** 55M20 (54H25)
— (*with* Golasiński, Marek) Comultiplications of the wedge of two Moore spaces. *Colloq. Math.* **76** (1998), *no.* 2, 229–242. (Donald M. Davis) **99b:55014** 55P45 (55Q20)
— (*with* Golasiński, Marek) On co-Moore spaces. (English summary) *Math. Scand.* **83** (1998), *no.* 1, 42–52. (Michael Eggar) **99m:55007** 55P15
— Coincidence theory for maps from a complex into a manifold. (English summary) *Topology Appl.* **92** (1999), *no.* 1, 63–77. (R. E. Stong) **99j:55001** 55M20 (55S35)
Gonçalves, Esmeralda (*with* Mendes Lopes, Nazaré) Some statistical results on autoregressive conditionally heteroscedastic models. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 193–202. (Summary) **99b:62085** 62G20 (62M10)
basto-Gonçalves, J. *see* **Basto-Gonçalves, J.**
Goncalves, J. V. *see* **Gonçalves, José Valdo Abreu**
Gonçalves, J. Z. (*with* Shirvani, Mazi) On the codimension of the image of a derivation in a commutative field. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2273–2281. (Andrzej Nowicki) **99e:12008** 12H05
— (*with* Shirvani, Mazi) Free group algebras in the field of fractions of differential polynomial rings and enveloping algebras. (English summary) *J. Algebra* **204** (1998), *no.* 2, 372–385. (Nikolaus Vonessen) **99g:16033** 16S34 (16K40, 16S30)
Gonçalves, Jorge M. (*with* Dahleh, Munther A.) Necessary conditions for robust stability of a class of nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 705–714. (B. T. Polyak) **99g:93063** 93D09 (93C10)
Gonçalves, José Valdo Abreu (*with* Meira, S.) On a class of semilinear elliptic problems near critical growth. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 321–330. (Yong Qing Li) **99b:35067** 35J65 (58E05)
— (*with* Miyagaki, Olimpio H.) Multiple positive solutions for semilinear elliptic equations in $\mathbf{R}^N$ involving subcritical exponents. *Nonlinear Anal.* **32** (1998), *no.* 1, 41–51. (Xin Kang Guo) **99a:35066** 35J60 (35B05, 58E05)
— (*with* Alves, C. O.) Existence of positive solutions for m-Laplacian equations in $\mathbf{R}^N$ involving critical Sobolev exponents. *Nonlinear Anal.* **32** (1998), *no.* 1, 53–70. (Xin Kang Guo) **99a:35067** 35J60 (35B05, 58E05)
— (*with* Carrião, Paulo C.; Miyagaki, Olimpio H.) Existence and λ-behavior of positive solutions of the equation $-\Delta u + a(x)u = \lambda u^q + u^p$ in $\mathbf{R}^N$. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 19–37. (Summary) **99j:35044** 35J60 (35B05, 58E05)
Gonçalvès, Paulo (*with* Baraniuk, Richard G.) Pseudo-affine Wigner distributions: definition and kernel formulation. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1505–1516. (Summary) **99i:94010** 94A12
Gonchar, N. S. (*with* Gaĭduk, Ī. G.) Incommensurate phases in the ANNNI model in the presence of an external magnetic field. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 29–34. (Summary) **99j:82030** 82B26 (82B20)
Gonchar, V. Yu. (*with* Bolotin, Yu. L.; Granovskiĭ, M. Ya.; Chechkin, A. V.) Dynamics of an anharmonic oscillator with a periodic perturbation. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 1, 196–205; *translated from Zh. Èksper. Teoret. Fiz.* **115** (1999), *no.* 1, 361–377 (*Russian*). 81Q15
Goncharenko, V. M. (*with* Veselov, A. P.) Monodromy of the matrix Schrödinger equations and Darboux transformations. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5315–5326. (Claire R. Gilson) **99g:34016** 34A20 (32G34, 34L40)
Goncharov, A. *see* **Goncharov, A. P.**
Goncharov, A. B. The double logarithm and Manin's complex for modular curves. *Math. Res. Lett.* **4** (1997), *no.* 5, 617–636. (Jan Nekovář) **99e:11086** 11G40 (11F67, 14G10, 19F27)
— (*with* Levin, Andreĭ Mikhailovich) Zagier's conjecture on $L(E, 2)$. (English summary) *Invent. Math.* **132** (1998), *no.* 2, 393–432. (Jan Nekovář) **99h:19006** 19F27 (11G40, 14C35, 14G10)
— Volumes of hyperbolic manifolds and mixed Tate motives. *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 569–618. (Burt Totaro) **99i:19004** 19F27 (11G99, 11R70, 57M50)
Goncharov, A. P. (*with* Kocatepe, Mefharet) Isomorphic classification of the spaces of Whitney functions. *Michigan Math. J.* **44** (1997), *no.* 3, 555–577. (José Bonet) **99a:46038** 46E10 (46F05, 58C25)
— Perfect sets of finite class without the extension property. (English summary) *Studia Math.* **126** (1997), *no.* 2, 161–170. (Takahide Kurokawa) **99b:46026** 46E10
Goncharov, Alexander *see* **Goncharov, A. B.**
Goncharov, Alexander P. *see* **Goncharov, A. P.**
Goncharov, E. N. The branch and bound method for the simplest two-level problem of facility location. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **5** (1998), *no.* 1, 19–39. 90A11 (90B30, 90C90)
Goncharov, S. S. Decidable Boolean algebras of low level. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 75–95. (Thanases Pheidas) **99i:03037** 03C60 (03B25, 03C57, 03D45, 03G05, 06E05)
— *see also* **Handbook: Recursive mathematics, 99k:03003** *and* **99k:03004**
Goncharov, V. P. (*with* Pavlov, Vadim Ivanovich) Some remarks on the physical foundation of the Hamiltonian description of fluid motions. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 4, 509–555. (Summary) **99a:76002** 76A02 (58F05, 58F40, 76M30)
— (*with* Pavlov, Vadim Ivanovich) Two-dimensional vortex motions of fluid in harbor-like basins at large Reynolds numbers. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2384–2395. (Summary) **99c:76018** 76C05
Goncharov, Vladimir V. Co-density and other properties of the solution set of differential inclusions with noncompact right-hand side. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 103–120. (Markus Kunze) **99k:34033** 34A60 (49J24)
— (*with* Ornelas, António) Surfaces changing continuously with affine boundary data and having gradients on a prescribed set. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 386–391, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 49Q05 (65D17)
Goncharov, Yu. P. U(N)-monopoles on Kerr black hole and its entropy. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1495–1507. (Marco Spaans) **99j:83043** 83C57 (14H60)
— U(N) monopoles on Kerr black holes. *JETP Lett.* **67** (1998), *no.* 12, 1082–1089; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 12, 1021–1026 (*Russian*). (Marco Spaans) **99i:83059** 83C57 (32G81, 83C47)
Goncharuk, Nataliya Yu. (*with* Kotelenez, Peter) Fractional step method for stochastic evolution equations. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 1–45. (Ya. Ī. Bīlopol's'ka) **99b:60090** 60H15
Gonciulea, N. (*with* Lakshmibai, Venkatramani) Schubert varieties, toric varieties, and ladder determinantal varieties. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 4, 1013–1064. (E. Akyıldız) **99a:14078** 14M25 (14M12, 14M15)
arzi-Gonczarowski, Z. *see* **Arzi-Gonczarowski, Z.**
Gondran, M. (*with* Minoux, Michel) Eigenvalues and eigen-functionals of diagonally dominant endomorphisms in Min-Max analysis. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 47–61. (Hongyuan Zha) **99f:15010** 15A18 (65F15)
Gondret, P. (*with* Gauthier, Georges; Rabaud, M.) Axisymmetric propagating vortices in the flow between a stationary and a rotating disk enclosed by a cylinder. (English summary) *J. Fluid Mech.* **386** (1999), 105–126. 76–05 (76E10, 76U05)
Gondzio, Jacek (*with* Andersen, Erling D.; Mészáros, Csaba; Xu, Xiaojie) Implementation of interior-point methods for large scale linear programs. (English summary) *Interior point methods of mathematical programming*, 189–252, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05 (90C06)
— Presolve analysis of linear programs prior to applying an interior point method. (English summary) *INFORMS J. Comput.* **9** (1997), *no.* 1, 73–91. (Michael L. Dowling) **99a:90120** 90C05
— Warm start of the primal-dual method applied in the cutting-plane scheme. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 125–143. (Summary) **99f:90055** 90C05 (90–04)
Gonek, S. M. (*with* Goldston, D. A.) Mean value theorems for long Dirichlet polynomials and tails of Dirichlet series. (English summary) *Acta Arith.* **84** (1998), *no.* 2, 155–192. (D. R. Heath-Brown) **99a:11103** 11M41 (11M26)
— (*with* Conrey, J. B.; Ghosh, Amit[1]) Simple zeros of the Riemann zeta-function. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 497–522. (Daniel A. Goldston) **99i:11074** 11M26
Gonera, Cezary Direct proof of integrability of Calogero-Moser model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4759–4765. (Kazuhiro Hikami) **99g:81239** 81V70
— On the superintegrability of Calogero-Moser-Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4465–4472. (Kazuhiro Hikami) **99g:81240** 81V70
— (*with* Kosiński, Piotr; Maślanka, Paweł; Tarlini, M.) Projective representations of κ-Galilei group. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8473–8482. (Roberto Casalbuoni) **99h:81087** 81R50
— A note on superintegrability of the quantum Calogero model. (English summary) *Phys. Lett. A* **237** (1998), *no.* 6, 365–368. (Kazuhiro Hikami) **99a:81207** 81V70 (82B20)
Gong, De En The inverse problem of the optimum regulator for a time-invariant linear system. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **18** (1997), *no.* 3, 324–328. 49N10 (93B52)
Gong, Donggeng Equivariant Novikov conjecture for groups acting on Euclidean buildings. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 6, 2141–2183. (Evgeniĭ V. Troitskiĭ) **99c:58151** 58G12 (19K35, 19K56, 19L47, 46L80, 57R55)
Gong, Fu-Zhou (*with* Dong, Zhao) A necessary and sufficient condition for quasiregularity of Dirichlet forms corresponding to resolvent kernels. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 378–385. (Summary) **99b:31007** 31C25
— (*with* Ma, Zhi-Ming) Martingale representation and log-Sobolev inequality on loop space. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 749–753. (Jean Picard) **99h:58202** 58G32 (60H07)
— (*with* Ma, Zhi-Ming) The log-Sobolev inequality on loop space over a compact Riemannian manifold. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 599–623. (Ana Bela Cruzeiro) **99f:58222** 58G32 (60H30)
Gong, Guang (*with* Dai, Zongduo) Construction of SAC permutations. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 2, 120–128. (Winfried Müller) **99a:11137** 11T06 (94A60)
— (*with* Golomb, Solomon W.) Binary sequences with two-level autocorrelation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 692–693. (Summary)

99j:94032 94A55

Gong, Guang Lu (*with* Fang, Haitao; Qian, Min Ping) An improved annealing method and its large-time behavior. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 55–74. (Laurent Miclo) **99g:60137** 60J60 (49R05, 60F05, 65C05)

— (*with* Liu, Yong[1]) Approximation of homogeneous Lévy processes by compound Poisson processes on complete separable metric groups. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 221–227. (Summary) **99f:60014** 60B15 (60F17, 60J30)

— (*with* Qian, Min Ping) Computational intelligence from a mathematical viewpoint. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 16, 1681–1695. 68T01

Gong, Liu Tang (*with* Fei, Pusheng) Local and global stability of infinite-horizon variational problem. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 3, 278–284. (Alexander J. Zaslavski) **99m:49008** 49J24 (49K40)

— Existence of a Lagrange multiplier and subdifferentiability of the value function for nonsmooth convex programming problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 285–289. 49K40 (49J52)

Gong, Renshan The two-variable coherent states of the quantum algebra $su_q(1,1)$. (English summary) *Commun. Theor. Phys. (Beijing)* **28** (1997), *no.* 2, 231–236. (Apostolos Vourdas) **99d:81051** 81R30 (81R50)

— A (p,q)-deformation of quantum mechanics. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 2, 303–308. (Summary) **99c:81088** 81R50

Gong, Sheng (*with* Yu, Qihuang; Zheng, Xuean) The Schwarzian derivative in several complex variables. II. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 1–8. (T. J. Suffridge) **99b:32035** 32H02 (30C55, 32A30)

— (*with* Zheng, Xuean; Yu, Qihuang) The Schwarzian derivative in several complex variables. III. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 158–171. (T. J. Suffridge) **99g:32039** 32H02

Gong, Shi Hua (*with* Deng, Yong; Zhu, Guo Li; Duan, Zheng Cheng) Implementation of an algorithm for the no-fit-polygon problem in computer automated nesting. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 29–31. 68U07

Gong, W. *see* **Gong, Weizhong**

Gong, Wei-Bo (*with* Yang, Howard) Calculating the normalization constants in queueing networks. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 87–91. 90B22 (90B12)

Gong, Wei Ming On a problem of Littlewood. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 5, 15–16. 26D15

— A generalization of the Hardy-Littlewood and Love inequality. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 35–38. 26D15

Gong, Weizhong (*with* Qu, Rui Bin) A generalization of cubic curves and their Bézier representations. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 77–89. (Yu Yu Feng) **99i:65017** 65D17 (65Y25, 68U07)

Gong, Xianghong On totally real spheres in complex space. *Math. Ann.* **309** (1997), *no.* 4, 611–623. (Vasily A. Chernecky) **99c:32023** 32F25

Gong, Xiangyang (*with* Chen, Wanyi; Tu, Feng Sheng) The stability and design of nonlinear neural networks. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 1–7. (Summary) **99b:92003** 92B20

Gong, Xin Bo (*with* Wang, Xiang Rong; Zhang, Gang[3]) Partial practical stability of discontinuous systems with respect to continuous time-varying sets. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **16** (1997), *no.* 4, 452–456, 394. (Xin-Zhi Liu) **99f:34080** 34D20

Gong, Yu Bin (*with* Wei, Yan Li; Wang, Wen Xiang) Numerical calculation of Bessel functions of arbitrary orders with complex arguments. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 171–176. 65D20

Gong, Z. *see* **Gong, Zhiming**

Gong, Zhenghu (*with* Luo, Tiegeng; Chen, Huo Wang; Wang, Bingshan; Wang, Ji; Qi, Zhichang) Verifying automata specification of distributed probabilistic real-time systems. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 588–596. (Summary) **99m:68123** 68Q60

Gong, Zhimin (*with* Wang, Jian[1]; Ren, Fu yao) On computation for the multipliers of periodic orbits of polynomial maps. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 51–58. (Franco Vivaldi) **99h:58146** 58F20 (12E05)

Gong, Zhiming (*with* Su, Weizhou; Xie, Lihua) Robust input to state stabilization for minimum-phase nonlinear systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 825–842. 93D21

— (*with* Aldeen, Mohammad) Stabilization of decentralized control systems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 1, 16 *pp.* (*electronic*). (Summary) **99h:93083** 93D15 (93A14)

— (*with* Chen, Yangquan; Wen, Changyun) Analysis of a high-order iterative learning control algorithm for uncertain nonlinear systems with state delays. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 345–353. (Summary) **99a:93034** 93B40 (93C40)

— (*with* Chen, Yangquan; Wen, Changyun; Sun, Mingxuan) An iterative learning controller with initial state learning. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 371–376. 93E35 (93C41)

venero Goñi, P. *see* **Venero Goñi, P.**

von der Gönna, U. (*with* Kramer, Dietrich) A rotating pure radiation field of Kerr-Schild type. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 2017–2023. (Enric Verdaguer) **99k:83012** 83C15 (83C30)

— (*with* Kramer, Dietrich) Two counter-moving light beams. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 349–356. (W. B. Bonnor) **99k:83013** 83C15

Gonnella, G. (*with* Cirillo, E. N. M.; Troccoli, M.; Maritan, A.) Correlation functions by cluster variation method for Ising model with NN, NNN, and plaquette interactions. (English summary) *J. Statist. Phys.* **94** (1999), *no.* 1-2, 67–89. (Summary) **99m:82008** 82B20 (82B80)

Gonorazky, S. (*with* Schaposnik, Fidel A.; Silva, Guillermo) Supersymmetric non-abelian Born-Infeld theory. (English summary) *Phys. Lett. B* **449** (1999), *no.* 3-4, 187–193. (Summary) **99k:81308** 81T60

rosales Gonsales, Èrnesto *see* **Rosales Gonsales, Èrnesto**

Gonseth, Ferdinand *see* **Panza, Marco, (99g:01038)**

Gonska, Heinz H. (*with* Badea, Cătălin; Badea, Ion) Improved estimates on simultaneous approximation by Bernstein operators. *Rev. Anal. Numér. Théor. Approx.* **22** (1993), *no.* 1, 1–21. (Shun Sheng Guo) **99c:41046** 41A36 (41A28)

— (*with* Cao, Jia-Ding; Kacsó, Daniela P.) Simultaneous approximation by discretized convolution-type operators. *Approximation and optimization, Vol. I (Cluj-Napoca,* 1996), 203–218, *Transilvania, Cluj-Napoca,* 1997. (Octavian Agratini) **99a:41022** 41A28 (41A10, 41A36)

— (*with* Gavrea, Ioan; Kacsó, Daniela P.) Variation on Butzer's problem: characterization of the solutions. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 51–64. (Kewal Krishna Mathur) **99c:41050** 41A36 (41A55)

— (*with* Gavrea, Ioan; Kacsó, Daniela P.) On linear operators with equidistant nodes: negative results. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 445–454. (Sorin Gheorghe Gal) **99h:41033** 41A36 (41A25)

— (*with* Gavrea, Ioan; Kacsó, Daniela P.) On discretely defined positive linear polynomial operators giving optimal degrees of approximation. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 455–473. (Sorin Gheorghe Gal) **99i:41023** 41A36 (41A25)

— (*with* Kacsó, Daniela P.) Simultaneous approximation by Birkhoff interpolators. *Rocky Mountain J. Math.* **28** (1998), *no.* 4, 1303–1320. (Joseph M. Lambert) **99m:41029** 41A28 (41A65)

Gonthier, Georges (*with* Abadi, Martín; Fournet, Cédric) Secure implementation of channel abstractions. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN,* 1998), 105–116, *IEEE Computer Soc., Los Alamitos, CA,* 1998. (*see* **99h:68008**) 68Q10 (94A60)

Gontier, C. (*with* Toulemonde, C.) Sticking motions of impact oscillators. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 2, 339–366. (Summary) **99a:70035** 70K40 (70–08)

Gontmakher, I. M. (*with* Rabinovich, V. S.) Exponential estimates of solutions of partial differential equations near singularities of coefficients. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 65–79. (Leonid Friedlander) **99f:35014** 35B40 (35J10, 35S99, 47G30)

Gonzales, Christophe Additive utility without solvability on all components. (English summary) *Constructing scalar-valued objective functions (Hagen,* 1995), 64–90, *Lecture Notes in Econom. and Math. Systems,* 453, *Springer, Berlin,* 1997. (Yew-Kwang Ng) **99a:90051** 90A10

— (*with* Jaffray, Jean-Yves) Imprecise sampling and direct decision making. (English summary) *Ann. Oper. Res.* **80** (1998), 207–235. (Summary) **99g:90016** 90A05 (90A10, 90A43)

González, Agustín *see* **González-Tuchmann, Agustín**

González, Ana-Belén (*with* Martín Ordóñez, Pablo) One-step methods for the numerical integration of perturbed oscillators. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo,* 1997), 787–792, *Colecc. Congr.,* 9, *Univ. Vigo, Vigo,* 1998. (*see* **99d:00018**) 65L99 (70–08, 70K99)

— (*with* Farto, José-Miguel; Martín Ordóñez, Pablo) An algorithm for the systematic construction of solutions to perturbed problems. (English summary) *Comput. Phys. Comm.* **111** (1998), *no.* 1-3, 110–132. (Summary) **99a:34157** 34E10 (34–04, 65L99, 70–04, 70–08, 70M20)

— (*with* Getino, Juan; Farto, José-Miguel) An algorithm for an eigenvalues problem in the Earth rotation theory. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 243–254. (Summary) **99i:86002** 86–08 (86–04, 86A99)

Gonzalez, Antonio *see* **González Muñoz, Antonio**

González, B. *see* **González Matos, Beatríz**

González, B. J. *see* **González Rodríguez, Benito**

González, Beatriz *see* **González Matos, Beatríz**

González, Benito J. *see* **González Rodríguez, Benito**

González, C. *see* **González, Cesáreo Jesús**

González, C. Martín *see* **Martín González, Cándido**

martín González, Cándido *see* **Martín González, Cándido**

González, Cesáreo Jesús (*with* Palencia de Lara, C.) Stability of Runge-Kutta methods for quasilinear parabolic problems in Banach spaces. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic,* 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona,* 199?. (*see* **99g:00036**) 65L06 (65J15)

— (*with* Palencia de Lara, C.) Stability of time-stepping methods for abstract time-dependent parabolic problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 973–989 (*electronic*). (Summary) **99b:65072** 65J10 (34G10, 47D06, 65M12)

— (*with* Palencia de Lara, C.) Stability of Runge-Kutta methods for abstract time-dependent parabolic problems: the Hölder case. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 73–89. (W. C. Rheinboldt) **99c:65108** 65J10 (65M12, 65M15)

Gonzalez, Eduardo H. A. (*with* Massari, U.; Miranda, Mario) On minimal cones. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 135–143. (Summary) **99m:35012** 35A25 (35B50, 49Q20)

pérez-González, Fernando[1] *see* **Pérez-González, Fernando[1]**

pérez-González, Fernando[2] *see* **Pérez-González, Fernando[2]**

guillén González, Francisco M. *see* **Guillén González, Francisco M.**

González, Genaro Locally generated semigroups. (English and Spanish summaries) *Divulg. Mat.* **4** (1996), *no.* 1-2, 5–20 (1998). (P. R. Jones) **99i:22005** 22A15

— Fourier series, Fourier transforms and applications. (English and Spanish summaries) *Divulg. Mat.* **5** (1997), *no.* 1-2, 43–60 (1998). 42–XX

González, J. *see* **González Estévez, Javier**

borlaf González, Javier *see* **Borlaf González, Javier**

bustamante González, Jorge *see* **Bustamante González, Jorge**

Gonzalez, Jorge A. (*with* de Carvalho, Lindomar B.) Analytical solutions to multivalued maps. (English summary) *Modern Phys. Lett. B* **11** (1997), *no.* 12, 521–530. (A. Reinfelds) **99h:39022** 39B12 (58F08)

muñoz-cobo González, José Luis *see* **Muñoz-Cobo González, José Luis**

González, Josep *see* **Gonzàlez Rovira, Josep**

salazar González, Juan José *see* **Salazar González, Juan José**

González, León A note on the infinitary action of triangular norms and conorms. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 177–180. (Summary) **99g:03057** 03E72 (03B52)

bernal-González, Luis *see* **Bernal-González, Luis**

González, M. *see* **Gonzalez-Velasco, Miguel**

González, Manuel Remarks on Q-reflexive Banach spaces. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 195–201. (José Bonet) **99f:46024** 46B20 (46B28, 46G20)

— (*with* Castillo, Jesús M. F.) ★ Three-space problems in Banach space theory. Lecture Notes in Mathematics, 1667. *Springer-Verlag, Berlin*, 1997. xii+267 *pp. ISBN* 3-540-63344-8 (Guy Noël) **99a:46034** 46B99 (46–02, 46M15)

— (*with* Martínez-Abejón, Antonio) Ultrapowers and semi-Fredholm operators. (Italian summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 2, 415–433. (Introduction) **99e:47019** 47A53 (03H05, 46B08, 47S20)

— (*with* Gutiérrez del Alamo, Joaquín M.) Gantmacher type theorems for holomorphic mappings. (English summary) *Math. Nachr.* **186** (1997), 131–145. (Luiza Amália de Moraes) **99b:46068** 46G20 (46B28, 58B12)

— (*with* Martínez-Abejón, Antonio) Tauberian operators on $L_1(\mu)$ spaces. (English summary) *Studia Math.* **125** (1997), *no.* 3, 289–303. (Summary) **99f:47039** 47B38 (46E99, 47A53)

— (*with* Martínez-Abejón, Antonio) Lifting unconditionally converging series and semigroups of operators. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 135–145. (Hans-Olav Tylli) **99g:47021** 47A53 (46B28)

— (*with* Bermúdez, Teresa) On the boundedness of the local resolvent function. *Extracta Math.* **13** (1998), *no.* 1, 131–134. 47A11

— (*with* Bermúdez, Teresa; Mbekhta, Mostafa) Local ergodic theorems. *Extracta Math.* **13** (1998), *no.* 2, 243–248. (Vladimir Müller) **99k:47018** 47A35 (28D99, 47A11)

— (*with* Bermúdez, Teresa; Martinón, Antonio) On the poles of the local resolvent. (English summary) *Math. Nachr.* **193** (1998), 19–26. (George R. Exner) **99f:47006** 47A11

— (*with* Aiena, Pietro) On inessential and improjective operators. (English summary) *Studia Math.* **131** (1998), *no.* 3, 271–287. (Hans-Olav Tylli) **99i:47021** 47A53 (47D50)

— (*with* Gutiérrez del Alamo, Joaquín M.) Injective factorization of holomorphic mappings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1715–1721. (Richard M. Aron) **99i:46033** 46G20 (47D50, 58B12, 58C10)

González, María *see* **González Taboada, María**

González, María J. (*with* Nicolau, Artur) Quasiconformal mappings preserving interpolating sequences. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 283–290. (J. G. Krzyż) **99g:30023** 30C62

González, Mercedes (*with* Ruiz, Francisco; Caballero Fernández, Rafael E.; Gómez, Trinidad; Rey, Lourdes) The static approach to quadratic dynamic goal programming. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 138–148, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C20 (90C39)

González, Miguel *see* **Gonzalez-Velasco, Miguel**

Gonzalez, Nicolas (*with* Dittrich, J.; Duclos, Pierre[1]) d'Alembert field driven by a periodically moving wall. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 166–169, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 35L05 (58F39)

— An example of pure stability for the wave equation with moving boundary. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 51–59. (Summary) **99f:35115** 35L05 (35B35)

González, Oscar (*with* Stuart, Andrew M.) On the qualitative properties of modified equations. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 169–179, *Springer, Berlin*, 1997. (Ram Krishan Sharma) **99m:65154** 65L99

González, P. *see* **González Rodelas, Pedro**

González, Patricio (*with* Pinto, Manuel) Asymptotic behavior of the solutions of certain complex differential equations. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 13–23. (Éric Delabaere) **99j:34007** 34A20 (34E05)

trujillo-González, R. *see* **Trujillo-González, R.**

Gonzalez, Raul Ernesto (*with* Hartfiel, D. J.) Manifolds of idempotent matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 187–193. (Summary) **99j:15019** 15A21

Gonzalez, Roberto L. V. (*with* Di Marco, Silvia C.) Supersolutions and subsolutions techniques in a minimax optimal control problem with infinite horizon. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1083–1098. (A. M. Tarasyev) **99i:49033** 49L25 (49K15, 49K35, 90D25)

González, S. *see* **González, Santos**

González, Samuel (*with* Cammaroto, Agatina; Durán, Mirelli) Zero sum and barycentric problems. (Spanish. English and Spanish summaries) *Divulg. Mat.* **4** (1996), *no.* 1-2, 33–47 (1998). (Summary) **99c:05138** 05C55

González, Santos (*with* Bernad, J.; Martínez López, Consuelo; Iltyakov, A. V.) On identities of baric algebras and superalgebras. *J. Algebra* **197** (1997), *no.* 2, 385–408. (Irvin Roy Hentzel) **99a:17034** 17D92 (17A30, 17A70)

— (*with* García-Muñiz, M. A.) Baric, Bernstein and Jordan algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 913–930. (Sebastian Walcher) **99b:17045; EA 99m** 17D92

— (*with* Martínez López, Consuelo; Grishkov, A. N.) A radical splitting theorem for Bernstein algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2529–2542. (Moussa Ouattara) **99e:17045** 17D92

— (*with* Bernad, J.; Martínez López, Consuelo; Iltyakov, A. V.) Polynomial identities of Bernstein algebras of small dimension. (English summary) *J. Algebra* **207** (1998), *no.* 2, 664–681. (Irvin Roy Hentzel) **99g:17056** 17D92 (17A30)

— (*with* López-Díaz, Miguel; Martínez López, Consuelo; Shestakov, Ivan P.) Bernstein superalgebras and supermodules. (English summary) *J. Algebra* **212** (1999), *no.* 1, 119–131. (Henrique Guzzo, Jr.) **99m:17045** 17D92 (17A70)

Gonzalez, Teofilo F. Multi-message multicasting. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 217–228, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 68M10

— Improved approximation algorithms for embedding hyperedges in a cycle. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 267–271. 68R10 (05C85, 68M10)

— Bounded fan-out multimessage multicasting. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 3, 196–213. (Summary) **99g:68095** 68Q25 (68M10, 90C35)

— (*with* Datta, Ajoy K.; Thiagarajan, Visalakshi) Self-stabilizing algorithms for tree metrics. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 121–133. (Summary) **99c:68010** 68M10 (68Q10)

ramírez González, Victoriano *see* **Ramírez González, Victoriano**

González-Barrios, José María The connectivity of the random k-nearest neighbors graph. (English summary) *Fourth Symposium on Probability Theory and Stochastic Processes* (*Spanish*) (*Guanajuato*, 1996), 107–118, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:05185** 05C80 (05C40, 62H30)

— (*with* Dudley, Richard M.) Conditions for integral and other operators to be of trace class. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 1, 105–114. (Hermann König) **99c:47074** 47G10 (45P05, 47B10)

González-Burgos, Manuel L^2-regularity of the Stokes problem with Neumann boundary conditions. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:35159** 35Q30 (76D05, 76D07)

— (*with* Dubova, Anna; Fernández-Cara, Enrique) Controllability of semilinear parabolic PDEs with discontinuities. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 1075–1080, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 93B05 (35K55)

— (*with* Dubova, Anna; Fernández-Cara, Enrique) Controllability results for discontinuous semilinear parabolic partial differential equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1391–1395. (Summary) **99h:93012** 93B05 (35K55, 93C20)

González-Casanova, Pedro (*with* Benbourhim, M. N.) Local interpolation of nonsmooth functions. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 5 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99e:65150** 65N30 (41A30)

— (*with* Benbourhim, M. N.) Generalized variational quasi interpolants in $(H_0^m(\Omega))^n$. (English summary) *Bol. Soc. Mat. Mexicana* (3) **3** (1997), *no.* 2, 347–354. (Summary) **99m:65016** 65D05 (65N99)

González-Castaño, Francisco J. (*with* García-Palomares, Ubaldo M.) Incomplete projection algorithms for solving the convex feasibility problem. (English summary) *Numer. Algorithms* **18** (1998), *no.* 2, 177–193. (Alfredo N. Iusem) **99k:90115** 90C25 (65H10)

González Chang, María Elena *see* **Symposium: Artificial Intelligence, 99m:68013**

González-Concepción, Concepción (*with* Pestano-Gabino, Celina) Rationality, minimality and uniqueness of representation of matrix formal power series. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 23–38. (Summary) **99d:41050** 41A58

González-Dávila, J. C. (*with* González-Dávila, M. C.; Vanhecke, Lieven) Transversally symmetric immersions. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 273–294. (Paolo Piccinni) **99b:53027** 53B25 (53C40)

— (*with* Vanhecke, Lieven) D'Atri spaces and C-spaces in flow geometry. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 487–499. (Jürgen Berndt) **99c:53046** 53C25 (53C30)

— (*with* Vanhecke, Lieven) New examples of weakly symmetric spaces. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 309–314. (Jürgen Berndt) **99e:53073** 53C35 (53C30)

González-Dávila, M. C. (*with* González-Dávila, J. C.; Vanhecke, Lieven) Transversally symmetric immersions. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 273–294. (Paolo Piccinni) **99b:53027** 53B25 (53C40)

González-Díaz, Pedro F. Anti-de Sitter wormhole kink. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 587–602. (Summary) **99c:83029** 83C45 (83E05)

— Inflationary cosmology of the extreme cosmic string. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 793–813. 83F05

— Quantum gravity and the problem of measurement. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 249–256. (*see* **99e:81004**) 83C45 (81P15)

— Quantum time machine. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124011, 7 *pp.* (Summary) **99m:83149** 83C75 (81P99)

— Nonsingular instantons for the creation of open universes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043509, 7 *pp.* (Summary) **99k:83041** 83C45 (83F05)

González-Diez, Gabino (*with* Fuertes, Yolanda) On the Lefschetz number of quasiconformal self-mappings of compact Riemann surfaces. *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 567–578. (José M. Muñoz Porras) **99b:32028** 32G15 (30F10)

González Estévez, Javier (*with* Cosenza, M. G.) Synchronization and collective behavior in globally coupled logarithmic maps. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 21–38. (Volker Matthias Gundlach) **99i:58049** 58F03 (34C35, 58F13)

González-Farías, Graciela (*with* Hughes-Oliver, Jacqueline M.) Parametric covariance models for shock-induced stochastic processes. (English summary) *J. Statist. Plann. Inference* **77** (1999), *no.* 1, 51–72. (Summary) **99k:62179** 62M30

González Felipe, R. (*with* Chaichian, Masud; Gomes, J. F.) Mass spectrum of q-deformed dual string theory. (English summary) *Quantum groups* (*Karpacz*, 1994), 443–450, *PWN, Warsaw*, 1995. (Summary) **99f:81153** 81T30 (81R50)

— (*with* Delépine, D.; Weyers, J.) Equivalence of the sine-Gordon and massive Thirring models at finite temperature. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 296–302. (Summary) **99a:81097** 81T10

Gonzalez-Gascon, F. Non-wandering points of vector fields and invariant sets of functions. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 147–150. (Oscar Sergio Zandron) **99c:58131** 58F22 (58F25)

González-Hernández, Juan (*with* Hernández-Lerma, Onésimo) Infinite linear programming and multichain Markov control processes in uncountable spaces. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 313–335 (*electronic*). (Summary) **99h:90113** 90C40 (93E20)

González Hidalgo, Manuel (*with* Ballester, Coloma) Affine invariant texture segmentation and shape from texture by variational methods. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 2, 141–171. (Summary) **99h:68172** 68U10 (65Y25)

González León, M. A. (*with* Alonso Izquierdo, A.; Mateos Guilarte, Juan) Kink manifolds in $(1+1)$-dimensional scalar field theory. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 209–229. (Luigi Martina) **99e:81141** 81T10 (35Q51, 70G50)

González-Lima, María D. (*with* Tapia, Richard A.; Potra, Florian A.) On effectively computing the analytic center of the solution set by primal-dual interior-point methods. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 1–25 (*electronic*). (Florian Jarre) **99d:90069** 90C05

González-López, Artemio (*with* Kamran, Niky; Olver, Peter J.) Quasi-exact solvability in the real domain. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 58–70, *Univ. Montréal, Montreal, QC*, 1997. (Anjan Kundu) **99b:17029** 17B66 (15A21, 31A99, 35A30)

— (*with* Kamran, Niky) The multidimensional Darboux transformation. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 202–226. (Irina Yehorchenko) **99j:58227** 58G35 (35A30)

Gonzalez-Lopez, Maria-Jose (*with* González-Vega, Laureano) The Birkhoff interpolation problem. *Some tapas of computer algebra*, 297–304, *Algorithms Comput. Math.*, 4, *Springer, Berlin*, 1999. (*see* **99k:00038**) 65D15 (41A15)

Gonzalez-Lorca, Jorge Structure des algèbres de Hecke de type A: un isomorphisme explicite. (English and French summaries) [Structure of the Hecke algebra of type A: an explicit isomorphism] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 147–152. (Robert Bédard) **99k:20026** 20C30 (20C05, 20F36)

González-Manteiga, Wenceslao (*with* García-Soidán, Pilar H.; Prada-Sánchez, José M.) Edgeworth expansions for nonparametric distribution estimation with applications. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 213–231. (Arup Bose) **99e:62042** 62G05 (62E20)

— (*with* Ramil Novo, L. A.) χ^2 goodness-of-fit tests for polynomial regression. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 229–258. (Summary) **99a:62070** 62G10

— (*with* Stute, Winfried; Presedo Quindimil, M.) Bootstrap approximations in model checks for regression. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 141–149. (Arup Bose) **99e:62070** 62G09 (62J05)

— (*with* Rodríguez-Campos, M. Celia; Cao-Abad, R.) Testing the hypothesis of a generalized linear regression model using nonparametric regression estimation. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 99–122. (Andrzej S. Kozek) **99j:62069** 62G10

— (*with* Alcalá, J. T.; Cristóbal Cristóbal, José Antonio) Goodness-of-fit test for linear models based on local polynomials. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 39–46. (Summary) **99i:62101** 62G10

González Matos, Beatríz (*with* Matera, Josefina) Some results involving generalized Hermite polynomials. (Spanish. English and Spanish summaries) *Rev. Acad. Canaria Cienc.* **9** (1997), *no.* 1, 33–45. (Summary) **99h:33044** 33C45

— (*with* Matera, Josefina) The Saigo operator applied to some special functions. (English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 146–150. (Summary) **99i:33009** 33C45

González Muñoz, Antonio (*with* Perez, Raúl) A fuzzy theory refinement algorithm. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 193–220. 68T05 (03B52)

González-Pachón, Jacinto (*with* Rodríguez-Galiano, Ma. Isabel) An algorithm for solving intransitivities without repeating trials. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 61–67, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A07)

Gonzalez-Pinto, S. (*with* Calvo Pinilla, Manuel; Montijano, J. I.) On the convergence of Runge-Kutta methods for stiff non-linear differential equations. (English summary) *Numer. Math.* **81** (1998), *no.* 1, 31–51. (T. E. Simos) **99j:65121** 65L06

Gonzalez-Rey, Francisco (*with* Roček, Martin; Wiles, S.; Lindström, Ulf; von Unge, Rikard) Feynman rules in $N=2$ projective superspace. I. Massless hypermultiplets. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 426–448. (Ilya Shapiro) **99f:81198** 81T60 (81T18)

— (*with* von Unge, Rikard) Feynman rules in $N=2$ projective superspace. II. Massive hypermultiplets. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 449–466. (Ilya Shapiro) **99f:81199** 81T60 (81T18)

— (*with* Roček, Martin) Nonholomorphic $N=2$ terms in $N=4$ super Yang-Mills theory: 1-loop calculation in $N=2$ superspace. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 303–311. (Summary) **99d:81156** 81T60 (81T13, 81T15, 81T18)

— (*with* Park, Inyong; Schalm, Koenraad) A note on four-point functions of conformal operators in $N=4$ super-Yang Mills. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 37–40. (Summary) **99k:81309** 81T60 (81T13, 81T15)

González Rodelas, Pedro (*with* Forestier, A.) Implicit schemes in fluid dynamics. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 781–786, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M20 (35L65, 65M99)

González Rodríguez, Benito (*with* Negrin, Emilio R.) Some analytic features concerning the Neumann second series of Bessel functions. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 185–190. (Summary) **99b:33006** 33C10

— (*with* Hayek Calil, Nácere) A convolution theorem for the distributional index ${}_2F_1$-transform. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 567–578. (G. L. N. Rao) **99k:44007** 44A15 (46F12)

— (*with* Negrin, Emilio R.) Gradient estimates versus Liouville theorems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 392–396, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99e:58205** 58G30 (53C21)

— (*with* Negrin, Emilio R.) Gradient estimates for positive solutions of the Laplacian with drift. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 619–625. (Ming Liao) **99c:58150** 58G11 (58G32)

González Rodríguez, R. (*with* Alonso Alvárez, J. N.; Fernández Vilaboa, J. M.; López López, M. P.; Villanueva Novoa, E.) A Picard-Brauer five term exact sequence for braided categories. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 11–41, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Summary) **99b:18011** 18D10

— (*with* Fernández Vilaboa, J. M.; Villanueva Novoa, E.) The exact sequence $\mathrm{Pic}(\mathscr{C}) \to \mathrm{Pic}(\mathscr{C}') \to K_1A(F) \to B(\mathscr{C}) \to B(\mathscr{C}')$ for a monoidal functor between closed categories. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2727–2743. (Summary) **99f:18014** 18D15

González Rovira, Josep (*with* Lario, Joan-C.) Rational and elliptic parametrizations of Q-curves. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 13–31. (Ivica Gusić) **99f:11070** 11G05 (11F11, 11G18, 14G35)

— On the p-rank of an abelian variety and its endomorphism algebra. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 119–130. (Antoine Chambert-Loir) **99i:14049** 14K15 (11G10, 14K02)

— (*with* Cardona, G.; Lario, Joan-C.; Rio, Anna) On curves of genus 2 with Jacobian of GL_2-type. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 37–54. (Dino J. Lorenzini) **99j:11068** 11G10 (14H40)

González-Sprinberg, Gérard (*with* Lejeune-Jalabert, Monique) Families of smooth curves on surface singularities and wedges. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 179–190. (Tomás Sánchez-Giralda) **99c:14002** 14B05 (14E15, 32S45)

— (*with* Lejeune-Jalabert, Monique) Courbes lisses, cycle maximal et points infiniment voisins des singularités de surfaces. [Smooth curves, maximal cycle and infinitely near points of surface singularities] *Publ. Mat. Urug.* **7** (1997), 1–27 (1998). (A. Sinan Sertöz) **99h:14038** 14J17 (14B05)

— (*with* Campillo, Antonio) On characteristic cones, clusters and chains of infinitely near points. *Singularities* (*Oberwolfach*, 1996), 251–261, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Georgy Khristov Georgiev) **99i:14019** 14E15 (14B10, 14C10, 14E05)

González Taboada, María (*with* Meddahi, Salim; Pérez, Pablo) Numerical analysis of a monotonic nonlinear problem in an exterior domain. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 793–798, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N99

girón González-Torre, Fco. Javier *see* **Girón González-Torre, Fco. Javier**

González-Tuchmann, Agustin (*with* Brisaboa, Nieves R.; Hernández, Héctor J.; Paramá, José R.) Chasing programs in Datalog. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98)* (*Manchester*, 1998), 13–23, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68N17)

González-Vega, Laureano (*with* Trujillo, Guadalupe) Multivariate Sturm-Habicht sequences: real root counting on n-rectangles and triangles. (English summary) Real algebraic and analytic geometry (Segovia, 1995). *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *Special Issue, suppl.*, 119–130. (Francisco Jesús Castro-Jiménez) **99h:12001** 12D10 (13P05)

— (*with* Recio, Tomas; Lombardi, Henri; Roy, Marie-Françoise) Sturm-Habicht sequences, determinants and real roots of univariate polynomials. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 300–316, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 12D15 (13P99, 68Q40)

— A combinatorial algorithm solving some quantifier elimination problems. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 365–375, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (03C10, 12D10)

— (*with* Gonzalez-Lopez, Maria-Jose) The Birkhoff interpolation problem. *Some tapas of computer algebra*, 297–304, *Algorithms Comput. Math.*, 4, *Springer, Berlin*, 1999. (*see* **99k:00038**) 65D15 (41A15)

Gonzalez-Velasco, Miguel (*with* Molina Fernández, Manuel) On the partial and total progeny of a bisexual Galton-Watson branching process. (English summary) *Appl. Stochastic Models Data Anal.* **13** (1997), *no.* 3-4, 225–232. (Summary) **99b:60143** 60J80 (62G05, 62M05)

— (*with* Molina Fernández, Manuel; Mota, M.) Bayesian inference for bisexual Galton-Watson processes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1055–1070. (Summary) **99d:62079** 62M05

— (*with* Molina Fernández, Manuel) A note on the L^1-convergence of a superadditive bisexual Galton-Watson process. *Extracta Math.* **13** (1998), *no.* 1, 69–72. (Fima Klebaner) **99j:60128** 60J80 (60F25)

González-Vera, Pablo (*with* Bultheel, Adhemar; Hendriksen, Erik; Njåstad, Olav) A rational moment problem on the unit circle. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 283–310. (Jia Rong Yu) **99b:30056** 30E05 (42C10, 44A60, 47A57)

— (*with* Bultheel, Adhemar; Hendriksen, Erik; Njåstad, Olav) Interpolation of Nevanlinna functions by rationals with poles on the real line. (English summary) *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 101–110, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Summary) **99h:41020** 41A20 (30E05)

— (*with* Bultheel, Adhemar; Hendriksen, Erik; Njåstad, Olav) Orthogonal rational functions and interpolatory product rules on the unit circle. I. Recurrence and interpolation. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 2, 167–183. (A. G. Law) **99i:30053** 30E05 (33C45, 41A20)

— (*with* Bultheel, Adhemar; Hendriksen, Erik; Njåstad, Olav) Orthogonal rational functions and interpolatory product rules on the unit circle. II. Quadrature and convergence. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 2, 185–200. (A. G. Law) **99i:30054** 30E05 (33C45, 33E05, 41A20)

González Vieli, Francisco Javier Pointwise Fourier inversion with Cesàro means. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 541–553. (S. Baron) **99m:42019** 42B10 (40A10, 40G05, 43A25)

Gonzalo, Jesús (*with* Pitarakis, Jean-Yves) Specification via model selection in vector error correction models. (English summary) *Econom. Lett.* **60** (1998), *no.* 3, 321–328. (Summary) **99g:62135** 62M10

— (*with* Lee, Tae-Hwy) Pitfalls in testing for long run relationships. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 129–154. (Peter M. Robinson) **99k:62160** 62M10 (62P20)

Gonzalo, Raquel (*with* Jaramillo, Jesús Angel) Compact polynomials between Banach spaces. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 213–226. (Luiza Amália de Moraes) **99m:46112** 46G20 (47H99)

Gonziez-Casanova, P. *see* **González-Casanova, Pedro**

Goo, Yoon Hoe (*with* Ryu, Hyun Sook) A note on the existence of a Lyapunov function. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 143–147. (Richard C. Churchill) **99k:34096** 34C35 (34D05, 54H20, 58F25)

Good, I. J. The self-consistency of the kinematics of special relativity. IV. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 248–263. (Abraham A. Ungar)

99g:83008 83A05

Good, Paul *see* **Carroll, Lewis, 99g:01042**

Good, R. H., Jr. Particle spectrum implied by the Dirac equation. (English summary) *Found. Phys.* **28** (1998), *no.* 7, 1137–1156. (Summary) **99f:81229** 81V25 (81Q05)

Goodall, Colin (*with* Mardia, Kanti V.; Kent, John T.; Little, John Andrew) Corrections: "Kriging and splines with derivative information" [Biometrika **83** (1996), no. 1, 207–221; MR 98d:65017]. *Biometrika* **85** (1998), *no.* 2, 505. (From the text) **99f:65022** 65D10 (65D07)

— (*with* Mardia, Kanti V.; Redfern, Edwin J.; Alonso, Francisco J.) The Kriged Kalman filter. (English summary) With comments and a rejoinder by the authors. *Test* **7** (1998), *no.* 2, 217–285. (Summary) **99i:62227** 62M20

Goodall, David P. (*with* Binning, Kh. S.) Output control of an uncertain singularly perturbed nonlinear system. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 81–97; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 1, 1132–1145. (T. R. Gichev) **99a:93067** 93C70

— (*with* Clarkson, I. D.) Memoryless feedback controllers for imperfectly known nonlinear systems with time-varying delay. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 59–73 (1998). (Summary) **99f:93116** 93D15 (93B52)

— Stability criteria for feedback-controlled, imperfectly known, bilinear systems with time-varying delay. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 279–289. (Summary) **99c:93086** 93D15 (34K20, 93D21)

quiroga-Goode, G. *see* **Quiroga-Goode, G.**

Goode, John B. *see* **Poizat, Bruno**

Goodearl, K. R. (*with* Brown, Kenneth A.) Homological aspects of Noetherian PI Hopf algebras of irreducible modules and maximal dimension. (English summary) *J. Algebra* **198** (1997), *no.* 1, 240–265. (Edward S. Letzter) **99c:16036** 16W30 (17B37)

— (*with* Zimmermann-Huisgen, Birge) Repetitive resolutions over classical orders and finite-dimensional algebras. *Algebras and modules, II* (*Geiranger*, 1996), 205–225, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Héctor A. Merklen) **99m:16007** 16E10 (16H05)

— (*with* Letzter, E. S.) Prime and primitive spectra of multiparameter quantum affine spaces. (English summary) *Trends in ring theory* (*Miskolc*, 1996), 39–58, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (D. A. Jordan) **99h:16045** 16S99 (16D30, 16D60, 16S36, 17B37)

— (*with* Ara, Pere; O'Meara, K. C.; Pardo, E.) Separative cancellation for projective modules over exchange rings. (English summary) *Israel J. Math.* **105** (1998), 105–137. (Hua-Ping Yu) **99g:16006** 16D70 (16E50)

Goodey, Paul Applications of representation theory to convex bodies. II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 179–187. (Uwe Schnell) **99b:52013** 52A38

— (*with* Zhang, Gaoyong) Inequalities between projection functions of convex bodies. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 345–367. (Robert J. McCann) **99h:52010** 52A40 (44A12, 52Axx)

— (*with* Kiderlen, Markus; Weil, Wolfgang) Section and projection means of convex bodies. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 37–54. (Ilya S. Molchanov) **99d:52004** 52A20 (52A22, 52A39, 60D05)

Goodman, E. D. (*with* Ligun, A. A.; Shumeĭko, A. A.; Radzevich, S. P.) Asymptotically optimum recovery of smooth contours by [a] Bézier curve. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 495–506. (Summary) **99b:65017** 65D17 (68U05)

Goodman, Jacob E. (*with* Pollack, Richard M.) Lifting lines to hyperplanes. (English summary) *Intuitive geometry* (*Budapest*, 1995), 335–338, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Béla Uhrin) **99b:52025** 52B30

— *see also* **Advances in discrete and computational geometry, 99f:52003**

Goodman, Jonathan (*with* Kurganov, Alexander; Rosenau, Philip) Breakdown in Burgers-type equations with saturating dissipation fluxes. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 247–268. (Summary) **99j:35185** 35Q53 (65M99)

Goodman, Leo A. Statistical methods, graphical displays, and Tukey's ladder of re-expression in the analysis of nonindependence in contingency tables: correspondence analysis, association analysis, and the midway view of nonindependence. (English summary) *The practice of data analysis* (*Princeton, NJ*, 1995), 101–132, *Princeton Univ. Press, Princeton, NJ*, 1997. (*see* **99b:62003**) 62H17 (62H20, 62H25)

Goodman, Myron F. (*with* Roweis, Sam; Winfree, Erik; Burgoyne, Richard; Chelyapov, Nickolas V.; Rothemund, Paul W. K.; Adleman, Leonard M.) A sticker based model for DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 1–29, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68059** 68Q05 (92D20)

Goodman, Roe (*with* Wallach, Nolan R.) ★ Representations and invariants of the classical groups. (English summary) Encyclopedia of Mathematics and its Applications, 68. *Cambridge University Press, Cambridge*, 1998. xvi+685 *pp. ISBN* 0-521-58273-3 (James E. Humphreys) **99b:20073** 20G05 (14L35, 14M17, 17B10, 20C30, 20G20, 22E46)

Goodman, Sue Dehn surgery on Anosov flows. *Geometric dynamics* (*Rio de Janeiro*, 1981), 300–307, *Lecture Notes in Math.*, 1007, *Springer, Berlin*, 1983. (*see* **84m:58003**) 58F15 (57R65)

Goodman, Tim N. T. Pairs of refinable bivariate splines. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 125–138, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41009** 41A15 (41A63, 42A05)

— (*with* Ong, B. H.) Shape preserving interpolation by G^2 curves in three dimensions. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 151–158, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99k:41026** 41A29 (65D17)

— Properties of bivariate refinable spline pairs. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 63–82, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Zygmunt Wronicz) **99d:41015** 41A15 (41A63)

— Constructing pairs of refinable bivariate spline functions. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 145–162, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:41007** 41A15 (65D07)

— (*with* Ong, B. H.) Shape preserving interpolation by space curves. (English summary) *Comput. Aided Geom. Design* **15** (1997), *no.* 1, 1–17. (Manfred Tasche) **99c:65032** 65D17 (68U05)

— Characterising pairs of refinable splines. (English summary) *J. Approx. Theory* **91** (1997), *no.* 3, 368–385. (Petru P. Blaga) **99a:41007** 41A15

— Total positivity and total variation. (English summary) *Approximation theory*, 243–253, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (I. Gavrea) **99f:15030** 15A48 (41A99)

— (*with* Lee, Seng Luan) Convergence of cascade algorithms. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 191–212, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99g:65131** 65T99

— (*with* Lee, Seng Luan) Refinable vectors of spline functions. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 213–220, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:41008** 41A15 (42C15, 65D07)

— (*with* Micchelli, Charles A.; Rodriguez, Giuseppe; Seatzu, Sebastiano) On the limiting profile arising from orthonormalizing shifts of exponentially decaying functions. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 331–354. (Summary) **99d:15011** 15A23 (41A15, 65D07)

— (*with* Lee, Seng Luan) Nonstationary matrix cascade algorithms. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 97–111, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99j:65247** 65T99 (42C15)

— (*with* Unsworth, Keith) Convexity-preserving B-spline modification. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 155–164. (Summary) **99k:65018** 65D07 (41A29)

Goodman-Strauss, Chaim Matching rules and substitution tilings. (English summary) *Ann. of Math.* (2) **147** (1998), *no.* 1, 181–223. (E. Hertel) **99m:52027** 52C22

Goodrich, John (*with* Hagstrom, Thomas) Experiments with approximate radiation boundary conditions for computational aeroacoustics. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 385–402. (Summary) **99f:76104** 76M25 (76Q05)

Goodrich, Michael T. An improved ray shooting method for constructive solid geometry models via tree contraction. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 1, 1–23. (Jesús A. de Loera) **99b:68199** 68U05 (52B55)

— (*with* Tamassia, Roberto) Dynamic trees and dynamic point location. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 613–637 (*electronic*). (Hans-Dietrich Hecker) **99j:68143** 68U05 (68P05, 68P10, 68Q25)

— *see also* **ACM Symposium: Computational Geometry, 99k:68001**

Goodridge, Christopher L. (*with* Hogrefe, J. Errett; Peffley, Nicholas L.; Shi, William T.; Hentschel, H. George E.; Lathrop, Daniel P.) Power-law singularities in gravity-capillary waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 183–205. (*see* **99h:00031**) 76D33 (76–05, 76D45)

Goodson, David Z. (*with* Elout, Melchior O.; Elliston, Carl D.; Huang, Shi-Wei; Sergeev, A. V.; Watson, Deborah K.) Improving the convergence and estimating the accuracy of summation approximants of $1/D$ expansions for Coulombic systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5112–5122. (Peter N. Zhevandrov) **99g:81045** 81Q15

Goodson, Geoffrey R. (*with* Ryzhikov, V. V.) Conjugations, joinings, and direct products of locally rank one dynamical systems. (English summary) *J. Dynam. Control Systems* **3** (1997), *no.* 3, 321–341. (Cesar E. Silva) **99b:28016** 28D05

— Inverse conjugacies and reversing symmetry groups. *Amer. Math. Monthly* **106** (1999), *no.* 1, 19–26. 20A99

Goodwillie, Thomas G. A remark on the homology of cosimplicial spaces. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 167–175. (Kathryn P. Hess) **99e:55034** 55T20 (55U10)

Goodwin, Graham C. (*with* Weller, Steven R.) Controller design for partial decoupling of linear multivariable systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 535–556. 93B51

— (*with* Gómez, Guillermo I.) Generalization of integral constraints on sensitivity to time-delay systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 1008–1012. (Summary) **99c:93033** 93B35 (93C30)

— (*with* Feuer, Arie; Lee, Sang Jeong) On the reconstruction of a finite sum of sinusoids from non-uniform periodic samples. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 615–629. (Summary) **99h:93109** 93E12 (93B07, 94A12)

Goodwin, M. S. (*with* Fletcher, L. R.) Exact pole assignment with regularity by output feedback in descriptor systems. I. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 379–411. (Summary) **99b:93030a** 93B55 (93B52)

— Exact pole assignment with regularity by output feedback in descriptor systems. II. (English summary) *Internat. J. Control* **62** (1995), *no.* 2, 413–441. (Summary) **99b:93030b** 93B55 (93B52)

Goodwin, Scott (*with* Neufeld, Eric) The 6-49 lottery paradox. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 273–286. (Summary) **99d:03018** 03B48 (03B60)

de Gooijer, Jan G. *see* **De Gooijer, Jan G.**

van Gool, Luc J. *see* **Van Gool, Luc J.**

Goorskey, David (*with* Simoson, Andrew) Antimagic pickup sticks. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 43–52. (From the text) **99d:90155** 90D40 (90D46)

Goossens, Serge (*with* Cai, Xiao-Chuan; Roose, Dirk) Overlapping nonmatching grids method: some preliminary studies. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 254–261, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65F10, 65N22)

Goovaerts, Marc J. (*with* De Schepper, Ann) IBNR reserves under stochastic interest rates. (English summary) *Insurance Math. Econom.* **21** (1997), *no.* 3, 225–244. (Hartmut Milbrodt) **99h:62128** 62P05 (60E10, 90A09)

— (*with* Ribas, Carmen; Dhaene, Jan) A note on the stop-loss preserving property of Wang's premium principle. *Schweiz. Aktuarver. Mitt.* **1998**, *no.* 2, 237–241. 62P05

Goovaerts, P. Accounting for estimation optimality criteria in simulated annealing. (English summary) *Math. Geol.* **30** (1998), *no.* 5, 511–534. (Summary) **99c:86008** 86A32

Gopakumar, Rajesh (*with* Vafa, Cumrun) Branes and fundamental groups. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 399–411. (Angel Maria Uranga) **99e:81192** 81T30 (83E30)

— (*with* Balasubramanian, Vijay; Larsen, Finn) Gauge theory, geometry and the large-N limit. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 415–431. (Marco Spaans) **99h:81149** 81T30 (83E30)

— (*with* Ganor, Ori J.; Ramgoolam, Sanjaye) Higher loop effects in M(atrix) orbifolds. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 268–273. (Summary) **99e:81190** 81T30 (81T15)

Gopal, Ram D. (*with* Goes, Paulo B.; Garfinkel, Robert S.) Interval protection of confidential information in a database. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 309–322. 68P15

Gopal, Vipin (*with* Biegler, Lorenz T.) A successive linear programming approach for initialization and reinitialization after discontinuities of differential-algebraic equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 447–467 (*electronic*). (A. M. Galperin) **99f:65100** 65L05 (34A09, 90C05)

Gopalakrishnamoorthy, G. (*with* Chandrasekhara Rao, K.) Certain near-rings are commutative rings. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 39–45. 16Y30 (16U80)

Gopalakrishnan, K. (*with* Bierbrauer, Jürgen; Stinson, Douglas R.) A note on the duality of linear programming bounds for orthogonal arrays and codes. (English summary) *Bull. Inst. Combin. Appl.* **22** (1998), 17–24. (Summary) **99a:94065** 94B65 (05B15, 90C05, 94B05)

— (*with* Deogun, Jitender S.) Consecutive retrieval property—revisited. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 15–20. (Summary) **99i:68029** 68P20

Gopalan, M. N. (*with* Dinesh Kumar, U.) On the utilization of a merge production system under "make-to-order" policy—semi-regenerative modelling. (English summary) *Opsearch* **36** (1999), *no.* 1, 10–25. 90B30 (90C35)

Gopalan, Ramanan (*with* Berry, Donald A.) Bayesian multiple comparisons using Dirichlet process priors. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1130–1139. 62F15 (62J15)

Gopala Rao, A. V. (*with* Mallesh, K. S.; Sudha, T. G.) On the algebraic characterization of a Mueller matrix in polarization optics. I. Identifying a Mueller matrix from its N matrix. (English summary) *J. Modern Opt.* **45** (1998), *no.* 5, 955–987. (Summary) **99c:78006a** 78A10

— (*with* Mallesh, K. S.; Sudha, T. G.) On the algebraic characterization of a Mueller matrix in polarization optics. II. Necessary and sufficient conditions for Jones-derived Mueller matrices. (English summary) *J. Modern Opt.* **45** (1998), *no.* 5, 989–999. (Summary) **99c:78006b** 78A10

Gopalsamy, K. (*with* Liu, Pingzhou) Global stability in a hyperbolic logistic map with eventually fading memory. *Advances in nonlinear dynamics*, 41–50, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Shu Nian Zhang) **99b:39015** 39A11 (34K20, 39A12, 45J05)

— (*with* Liu, Pingzhou) Dynamics of social populations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2595–2604. (S. K. Chatterjea) **99c:92036** 92D25 (34C99, 34K15)

— (*with* Leung, Issic K. C.; Liu, Pingzhou) Global Hopf-bifurcation in a neural netlet. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 171–192. (Ovide Arino) **99h:34105** 34K15 (34C23, 58F14, 92B20)

— (*with* Li, Ji Bin; Christie, John Robert) Perturbed generalised Hamiltonian systems and some advection models. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 1–24. (Darryl D. Holm) **99m:76038** 76C05 (34C99, 58F30, 76D99, 76E99)

Góra, Paweł (*with* Boyarsky, Abraham) ★ Laws of chaos. (English summary) Invariant measures and dynamical systems in one dimension. Probability and its Applications. *Birkhäuser Boston, Inc., Boston, MA*, 1997. xvi+399 *pp. ISBN* 0-8176-4003-7 (Feliks Przytycki) **99a:58102** 58F11 (28D05, 47B38, 58F03, 58F13)

— (*with* Boyarsky, Abraham; Lioubimov, Vadim) Dynamics on spaces of compact subsets with application to brain modeling. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 569–580. (Joseph So) **99k:92008** 92C20 (28C99, 58F11)

— (*with* Jabłoński, Marian) Invariant measures and the compactness of the domain. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 13–24. (Ryszard Rudnicki) **99i:28022** 28D05 (35B40, 35R10, 58F11)

Gorain, Ganesh Chandra (*with* Bose, Sujit Kumar) Stability of the boundary stabilised internally damped wave equation $y'' + \lambda y'''' = c^2(\Delta y + \mu \Delta y')$ in a bounded domain in $\mathbf{R}^n$. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 1–15. (Summary) **99i:35106** 35L75 (73F15, 73K12, 93C20, 93D15)

— (*with* Bose, Sujit Kumar) Exact controllability and boundary stabilization of torsional vibrations of an internally damped flexible space structure. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 423–442. (Vadim Komkov) **99i:93032** 93C20 (73K50, 93B05)

— (*with* Bose, Sujit Kumar) Exact controllability of a linear Euler-Bernoulli panel. (English summary) *J. Sound Vibration* **217** (1998), *no.* 4, 637–652. (Summary) **99h:93014** 93B05 (73K50, 93C20)

Goralcik, P. (*with* Makanin, G. S.; Abdulrab, H.) Functions for the general solution of parametric word equations. (English summary) *Logical foundations of computer science (Yaroslavl, 1997)*, 189–202, *Lecture Notes in Comput. Sci.*, 1234, *Springer, Berlin*, 1997. (Friedrich Otto) **99c:20078** 20M05 (03D40, 68R15)

— (*with* Koubek, V.) On the disjunctive set problem. (English and French summaries) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 99–118. (G. J. Lallement) **99e:20080** 20M35 (68Q25)

Goranko, Valentin (*with* Vakarelov, Dimit″r) Modal logics of structures. *Bull. Sect. Logic Univ. Łódź* **28** (1999), *no.* 1, 1–10. 03B45

Gorbachëv, D. V. Construction of an extremal function for a functional on the class $H_w^{(n)}$. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 519–529; *translation in Math. Notes* **61** (1997), *no.* 3-4, 430–439. (V. I. Polovinkin) **99e:42019** 42B05 (42A10)

— On an extremal problem in the class of differentiable functions of several variables. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 192–205; *translation in Math. Notes* **62** (1997), *no.* 1-2, 160–171 (1998). (Summary) **99b:41005** 41A17 (26B05, 46E35)

Gorbachev, V. I. (*with* Duka, N. G.) Finite groups with trivial intersections of some subgroups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 47–54, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20D10

— (*with* Pobedrya, B. E.) Effective characteristics of inhomogeneous media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 149–156; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 145–151. (Leonid V. Gibiansky) **99d:73007** 73B27 (73K20)

Gorbachuk, M. L. (*with* Gorbachuk, V. I.) ★ M. G. Krein's lectures on entire operators. (English summary) Operator Theory: Advances and Applications, 97. *Birkhäuser Verlag, Basel*, 1997. x+220 *pp. ISBN* 3-7643-5704-5 (Damir Z. Arov and Harry Dym) **99f:47001** 47–02 (42A82, 46E22, 47A45, 47A57, 47B25, 47E05, 47F05)

— (*with* Gorbachuk, V. I.) Operator approach to approximation problems. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 90–108; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1097–1110. (Alexei V. Rybkin) **99f:47020** 47A58 (41A65, 47B25, 47N40)

— (*with* Gorbachuk, V. I.) Realization of entire operators by differential ones. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 2, 200–230. (Vladimir Derkach) **99c:47025** 47B25 (47A10, 47E05)

Gorbachuk, O. L. (*with* Bab'yak, L. S.) Existence of a Cesàro limit for bounded solutions of an evolution equation with a varying operator. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 2, 199–202. (Summary) **99m:34125** 34G10 (34C99)

Gorbachuk, V. I. (*with* Gorbachuk, M. L.) ★ M. G. Krein's lectures on entire operators. (English summary) Operator Theory: Advances and Applications, 97. *Birkhäuser Verlag, Basel*, 1997. x+220 *pp. ISBN* 3-7643-5704-5 (Damir Z. Arov and Harry Dym) **99f:47001** 47–02 (42A82, 46E22, 47A45, 47A57, 47B25, 47E05, 47F05)

— (*with* Gorbachuk, M. L.) Operator approach to approximation problems. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 90–108; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1097–1110. (Alexei V. Rybkin) **99f:47020** 47A58 (41A65, 47B25, 47N40)

— (*with* Gorbachuk, M. L.) Realization of entire operators by differential ones. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 2, 200–230. (Vladimir Derkach) **99c:47025** 47B25 (47A10, 47E05)

Gorban', A. N. A generalized approximation theorem and an exact representation of polynomials of several variables by superpositions of polynomials of one variable. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 6–9; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 5, 4–7. (Doru Ştefănescu) **99h:41008** 41A10 (26B40, 46E25, 68T05)

Gorbatenko, M. V. On a unified treatment of interactions by the Einstein-Infeld-Hoffmann method. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 258–261, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C99

Gorbatko, N. P. (*with* Vinnikov, E. L.; Gerasimov, I. A.) On the possibility of comets and asteroids colliding with the Moon. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 6, 60–62. (Summary) **99b:70012** 70F15

Gorbatsevich, V. V. (*with* Onishchik, A. L.; Vinberg, Ernest B.) ★ Foundations of Lie theory and Lie transformation groups. Translated from the Russian by A. Kozlowski. Reprint of the 1993 translation [*Lie groups and Lie algebras. I*, Encyclopaedia Math. Sci., 20, Springer, Berlin, 1993; MR 95f:22001]. *Springer-Verlag, Berlin*, 1997. vi+235 *pp. ISBN* 3-540-61222-X (Editors) **99c:22009** 22Exx (22–01, 57Sxx)

— On the level of some solvable Lie algebras. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1013–1027, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 872–883. (Vesselin Drensky) **99j:17014** 17B30

Gorbet, R. B. (*with* Morris, K. A.; Wang, D. W. L.) Control of hysteretic systems: a state-space approach. *Learning, control and hybrid systems (Bangalore, 1998)*, 432–451, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C10 (93B51)

Gorbounov, V. *see* **Gorbunov, V. G.**

Gorbunov, I. V. (*with* Lyakhovich, S. L.) Geometric quantization of $N = 2$, $D = 3$ superanyon. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 293–300. (Summary) **99b:81114** 81S10

Gorbunov, K. Yu. On a complexity of the formula $(A \vee B) \Rightarrow C$. (English summary) *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 383–386. (Summary) **99f:68110** 68Q30

Gorbunov, V. A. (*with* Adaricheva, K. V.; Dziobiak, Wiesław) Algebraic point lattices of quasivarieties. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 4, 363–386, 478; *translation in Algebra and Logic* **36** (1997), *no.* 4, 213–225. (A. A. Iskander) **99c:08013** 08C15

— (*with* Adaricheva, K. V.; Dziobiak, Wiesław) Algebraic point lattices of quasivarieties. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 295–297. 08C15

Gorbunov, V. G. (*with* Mahowald, Mark E.; Symonds, Peter) Infinite subgroups of the Morava stabilizer groups. (English summary) *Topology* **37** (1998), *no.* 6, 1371–1380. (Jan van Geel) **99m:16032** 16K20 (16U60, 55N22, 55P42)

Gorbuzov, V. N. An estimate for the number of compact leaves of foliations defined by differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1307–1311, 1437; *translation in Differential Equations* **33** (1997), *no.* 10, 1313–1317 (1998). (J. S. Joel) **99m:58012** 58A17 (34A99)

— On the rectification of multidimensional dynamical systems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 3, 36–38, 124. (Summary) **99i:34025** 34A99 (34C35)

— (*with* Pavlyuchik, P. B.) On the stability of the equilibrium state of a multidimensional differential equation. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 37–39, 76. 34D99

Gorchakov, A. B. Explicit bounds for probabilities of large deviations of sums of random vectors with a given graph of dependencies. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 219–230, *VSP, Utrecht*, 1997. (Summary) **99f:60058** 60F10

Gordadze, E. Factorization of some measurable functions for the piecewise smooth curve. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3,

371–373. 30F25 (30E20)

— On the boundary value problem of the linear conjugation for a piecewise smooth curve and for certain measurable coefficient. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 363–366 (1999). 30E25 (45E05)

Gordaliza, A. (*with* Cuesta-Albertos, J. A.; Matrán, C.) Trimmed k-means and the Cauchy mean-value property. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 247–265, *VSP, Utrecht*, 1995. (Summary) **99h:62033** 62G05 (62F35)

— (*with* Cuesta-Albertos, J. A.; Matrán, C.) On the geometric behaviour of multidimensional location measures. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 191–208. (Summary) **99f:62069** 62H05

— (*with* Cuesta-Albertos, J. A.; Matrán, C.) Trimmed best k-nets: a robustified version of an L_∞-based clustering method. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 401–413. (P. Laurie Davies) **99m:62087** 62H30 (60F15)

Gordeev, È. N. The Voronoĭ diagram: a survey. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 41–67, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68U05

Gordeev, Nikolai (*with* Ellers, Erich W.) A generalization of Sourour's theorem. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 187–196. (Thomas H. Foregger) **99i:15021** 15A23

etayo Gordejuela, Fernando *see* **Etayo Gordejuela, Fernando**

Gordevskiĭ, V. D. Trimodal approximate solutions of the non-linear Boltzmann equation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 16, 1479–1494. (Giuliana Lauro) **99i:82033** 82C40 (35Q99, 45K05, 45L05, 76P05)

Gordeziani, D. (*with* Gordeziani, N.; Avalishvili, G.) Non-local boundary value problems for some partial differential equations. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 365–368. (Summary) **99f:35019** 35G15

Gordeziani, N. (*with* Gordeziani, D.; Avalishvili, G.) Non-local boundary value problems for some partial differential equations. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 3, 365–368. (Summary) **99f:35019** 35G15

Gordienko, Evgueni I. (*with* Minjárez-Sosa, J. Adolfo) Adaptive control for discrete-time Markov processes with unbounded costs: discounted criterion. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 217–234. (Andrew James Heunis) **99g:93090** 93E35 (60J05, 93C40)

— (*with* Minjárez-Sosa, J. Adolfo) Adaptive control for discrete-time Markov processes with unbounded costs: average criterion. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 37–55. (Aleksey B. Piunovskiĭ) **99i:93071** 93E20 (60K25, 90C40)

— (*with* Ruiz de Chávez, Juan) New estimates of continuity in $M/GI/1/\infty$ queues. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 175–188. (Vladimir V. Kalashnikov) **99j:60141** 60K25

Gordienko, I. Yu. (*with* Arkhangel'skiĭ, A. V.) Relative symmetrizability and metrizability. (English summary) *Comment. Math. Univ. Carolin.* **37** (1996), *no.* 4, 757–774. (From the introduction) **99i:54003** 54A05 (54A25, 54E35)

Gordienko, V. G. The set of values of initial coefficients of bounded univalent functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 14–21; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 8, 12–19 (1999). (Alexander Vasil'ev) **99k:30028** 30C50 (30C70)

Gordin, Mikhail (*with* Denker, Manfred) The central limit theorem for random perturbations of rotations. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 1, 1–16. (Idris Assani) **99f:28024** 28D05 (58F11, 60F17)

Gordin, V. A. Optimization of an eigenvalue of a Schrödinger equation with respect to the potential. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 521–526 (1998). (Summary) **99a:35042** 35J10

— First integrals of evolution systems and nonlinear stability of stationary solutions for the ideal atmospheric, oceanic, hydrodynamical and plasma models. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 2, 213–219. (Summary) **99i:76057** 76E25 (76E20, 76W05, 86A05, 86A10)

Gordoa, Pilar R. (*with* Clarkson, Peter A.; Pickering, Andrew) Multicomponent equations associated to non-isospectral scattering problems. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1463–1476. (R. G. Airapetyan) **99d:35136** 35Q53 (34A55, 34L25, 35Q58, 58F07)

— (*with* Estévez, P. G.; Conde, Esther) Unified approach to Miura, Bäcklund and Darboux transformations for nonlinear partial differential equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 1, 82–114. (Elena Medina Reus) **99c:58143** 58F37 (35Q58)

— (*with* Estévez, P. G.) Non-classical symmetries and the singular manifold method: a further two examples. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7511–7519. (Yun Bo Zeng) **99k:35009** 35A30 (34A34, 35Q99, 58F35)

Gordon, A. D. *see* **Gordon, Allan D.**

Gordon, A. Ya. Purely continuous spectrum for generic almost-periodic potential. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 183–189, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Nariyuki Minami) **99b:82050** 82B44 (34L40, 47B38, 47E05)

Gordon, Allan D. Cluster validation. (English summary) *Data science, classification, and related methods* (*Kobe*, 1996), 22–39, *Stud. Classification Data Anal. Knowledge Organ., Springer, Tokyo*, 1998. (*see* **99b:62002**) 62H30

Gordon, Andrew D. (*with* Abadi, Martín) Reasoning about cryptographic protocols in the spi calculus. (English summary) *CONCUR '97: concurrency theory* (*Warsaw*), 59–73, *Lecture Notes in Comput. Sci.*, 1243, *Springer, Berlin*, 1997. (Summary) **99d:94020** 94A60 (68Q60)

— (*with* Hankin, Paul D.) A concurrent object calculus: reduction and typing. (English summary) *HLCL '98 3rd International Workshop on High-level Concurrent Languages* (*Nice*), 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68N15 (68Q55)

— *see also* **Workshop: Higher-order Operational Techniques in Semantics, 99e:68003**

Gordon, Basil (*with* Ono, Ken) Divisibility of certain partition functions by powers of primes. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 25–34. (Richard P. Lewis) **99c:11128** 11P82 (11F11)

— (*with* McIntosh, Richard J.) Algebraic dilogarithm identities. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 431–448. (John H. Loxton) **99b:11010** 11B65 (33D15, 41A60)

— *see also* **Alladi, Krishnaswami, 99d:11112** *and* **Topics in number theory, 99m:11004**

Gordon, C. McA. Dehn filling: a survey. *Knot theory* (*Warsaw*, 1995), 129–144, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (From the introduction) **99e:57028** 57N10 (57M25, 57M50)

— Toroidal Dehn surgeries on knots in lens spaces. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 433–440. (Ying Qing Wu) **99h:57006** 57M25 (57N10)

Gordon, Carolyn S. (*with* Wilson, Edward N.) Continuous families of isospectral Riemannian metrics which are not locally isometric. *J. Differential Geom.* **47** (1997), *no.* 3, 504–529. (Dorothee Schueth) **99a:58159** 58G25

— (*with* Gornet, Ruth; Schueth, D.; Webb, D. L.; Wilson, Edward N.) Isospectral deformations of closed Riemannian manifolds with different scalar curvature. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 593–607. (Robert Brooks) **99b:53049** 53C20 (58G25)

— (*with* Mao, Yiping) Geodesic conjugacies of two-step nilmanifolds. *Michigan Math. J.* **45** (1998), *no.* 3, 451–481. (Maura B. Mast) **99m:53081** 53C22 (58F17)

Gordon, Daniel M. A survey of fast exponentiation methods. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 129–146. (Summary) **99g:94014** 94A60 (11T71, 11Y16)

— Some restrictions on orders of abelian planar difference sets. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 241–246. (Summary) **99j:05030** 05B10

Gordon, Iain *see* **Jantzen, Jens Carsten, 99h:17026**

Gordon, Louis (*with* Pollak, Moshe) Average run length to false alarm for surveillance schemes designed with partially specified pre-change distribution. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1284–1310. (Summary) **99d:62076** 62L10 (62G05)

Gordon, Michael K. (*with* Garaizar, Xabier; Shearer, Michael) An elastoplasticity model for antiplane shearing with a non-associative flow rule: genuine nonlinearity of plastic waves. *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 344–363. (Anne Nouri) **99a:73064** 73E50 (35Q72, 73E05, 73E70)

Gordon, Neil A. (*with* Lunardon, Guglielmo; Shaw, Ronald) Linear sections of GL(4, 2). (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 287–311. (J. W. P. Hirschfeld) **99g:51008** 51E23 (20G40)

Gordon, P. V. (*with* Vakulenko, S. A.) Propagation and scattering of kinks in a nonhomogeneous nonlinear medium. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 384–394; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1104–1112 (1998). (Piotr P. Goldstein) **99f:35182** 35Q53 (35B99, 76B25)

— (*with* Vakulenko, S. A.) Periodic kinks in reaction-diffusion systems. (English summary) *J. Phys. A* **31** (1998), *no.* 3, *L67–L70*. (Yoshio Yamada) **99c:35109** 35K57 (35B10, 35Q55)

— (*with* Vakulenko, S. A.) Neural networks with prescribed large time behaviour. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9555–9570. (Summary) **99h:92004** 92B20

Gordon, Russell A. Some comments on the McShane and Henstock integrals. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 329–341. (Yôto Kubota) **99d:26013** 26A39

Gordon, V. S. (*with* Kubiak, Wieslaw) Single machine scheduling with release and due date assignment to minimize the weighted number of late jobs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 153–159. (Summary) **99g:90056** 90B35

— (*with* Potapneva, E. V.) Construction of schedules for embedded job processing intervals. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 111–116, 143. 90B22 (90B35)

— (*with* Strusevich, V. A.) Earliness penalties on a single machine subject to precedence constraints: SLK due date assignment. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 157–177. 90B35 (90C90)

Gordon, Yehoram (*with* Reisner, Shlomo; Schütt, Carsten) Umbrellas and polytopal approximation of the Euclidean ball. (English summary) *J. Approx. Theory* **90** (1997), *no.* 1, 9–22. (Peter M. Gruber) **99k:52009a** 52A27 (41A30, 52A20)

— (*with* Junge, Marius) Volume formulas in L_p-spaces. (English summary) *Positivity* **1** (1997), *no.* 1, 7–43. (Mikhail Ostrovskiĭ) **99m:46018** 46B07 (47B10, 52A21, 52A38)

— (*with* Junge, Marius; Nielsen, N. J.) The relations between volume ratios and new concepts of GL constants. (English summary) *Positivity* **1** (1997), *no.* 4, 359–379. (Mikhail Ostrovskiĭ) **99m:46019** 46B07 (47B10, 52A21)

— (*with* Reisner, Shlomo; Schütt, Carsten) Erratum: "Umbrellas and polytopal approximation of the Euclidean ball". *J. Approx. Theory* **95** (1998), *no.* 2, 331. (Peter M. Gruber) **99k:52009b** 52A27 (41A30, 52A20)

— (*with* Guédon, Olivier; Meyer, Mathieu) An isomorphic Dvoretzky's theorem for convex bodies. (English summary) *Studia Math.* **127** (1998), *no.* 2, 191–200. (Apostolos A. Giannopoulos) **99d:46011** 46B20 (52A21, 60G15)

Gore, Henry (*with* Sambandham, M.; Farahmand, K.) The average number of point [points] of inflection of random algebraic polynomials. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 721–731. (V. Thangaraj) **99g:60094** 60G99

Gorechko, A. N. Construction of the solutions of linear hyperbolic systems using Laguerre geometric-optic expansions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1936–1940. (Summary) **99h:35121** 35L40 (35C10, 73B30, 73D99, 76Q05)

Gorelnov, S. A. (*with* Tyrtyshnikov, E. E.) Conjugate gradients for indefinite symmetric matrices. (Russian. Russian summary) *Matrix methods and algorithms* (*Russian*), 47–66, *Ross. Akad. Nauk, Inst. Vychisl. Mat., Moscow*, 1993. (M. Znojil) **99a:65043** 65F10

— (*with* Tyrtyshnikov, E. E.; Zamarashkin, N. L.) A theory of pseudoskeleton approximations. (English summary) *Linear Algebra Appl.* **261** (1997), 1–21. (Summary) **99d:15015** 15A42

— (*with* Zamarashkin, N. L.; Tyrtyshnikov, E. E.) Pseudoskeleton approximations by submatrices of greatest size. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 619–623; *translation in Math. Notes* **62** (1997), *no.* 3-4, 515–519 (1998). (Weiyi Su) **99e:41017** 41A30

Gorelik, G. E. The fundamental politics of fundamental physics (*Thoughts* by A. D. Sakharov—30 years). (Russian) *Priroda* **1998**, *no.* 5, 3–15. 01A80 (01A70)

Gorelik, Maria (*with* Lanzmann, Emmanuel) The annihilation theorem for the Lie superalgebra osp(1, 2*l*). (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 237–242. (Hedi Benamor) **99h:17007** 17B10

— *see also* **Joseph, Anthony, 99k:17022**

Gorelikova, S. (*with* Boltyanskii, Vladimir Grigor'evich) Optimal synthesis for nonoscillatory controlled objects. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 1–21. (Kjell Holmåker) **99f:49025** 49K15 (93C15)

Goren, C. (*with* Ashkenazy, Y.; Horwitz, Lawrence P.) Chaos of the relativistic parametrically forced van der Pol oscillator. (English summary) *Phys. Lett. A* **243** (1998), *no.* 4, 195–204. (Summary) **99b:70023** 70K50 (58F13, 70H40)

Gorenflo, Norbert Transformation of an axialsymmetric disk problem for the Helmholtz equation into an ordinary differential equation. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 180–198. (Summary) **99g:45008** 45H05 (34B30, 35J05, 45E10)

Gorenflo, Rudolf (*with* Mainardi, Francesco) Fractional calculus: integral and differential equations of fractional order. (English summary) *Fractals and fractional calculus in continuum mechanics* (*Udine*, 1996), 223–276, *CISM Courses and Lectures*, 378, *Springer, Vienna*, 1997. (Philip Heywood) **99g:26015** 26A33 (45E10, 45J05)

— Fractional calculus: some numerical methods. (English summary) *Fractals and fractional calculus in continuum mechanics* (*Udine*, 1996), 277–290, *CISM Courses and Lectures*, 378, *Springer, Vienna*, 1997. (K. C. Gupta) **99d:26007** 26A33 (45E10, 65R20)

— (*with* Samko, Stefan G.) On the dependence of asymptotics of S-numbers of fractional integration operators on weight functions. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 191–212. (B. S. Rubin) **99b:47073** 47G10 (26A33, 44A35, 45E10, 47B06)

— (*with* Medvedeva, T.; Rubin, Boris) Locally controllable regularization of Abel integral equations via operator complementation. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 5, 427–436. (Anatoly Kilbas) **99b:45002** 45E10 (45L05, 65J10)

— (*with* Mainardi, Francesco; Srivastava, Hari M.) Special functions in fractional relaxation-oscillation and fractional diffusion-wave phenomena. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 195–202, *VSP, Utrecht*, 1998. (Summary) **99g:33057** 33E20 (26A33, 35L99)

— The tomato salad problem in spherical stereology. (English summary) *Transform methods & special functions, Varna '96*, 132–149, *Bulgarian Acad. Sci., Sofia*, 1998. (Hui Ling Le) **99k:45011** 45E10 (26A33, 60D05, 65F20)

— (*with* Luchko, Yurii F.) Scale-invariant solutions of a partial differential equation of fractional order. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 1, 63–78. (Summary) **99i:35006** 35A30 (26A33, 33E30, 35C99)

— (*with* Mainardi, Francesco) Random walk models for space-fractional diffusion processes. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 2, 167–191. (Niels Jacob) **99m:60117** 60J60 (26A33)

— (*with* Mainardi, Francesco) Signalling problem and Dirichlet-Neumann map for time-fractional diffusion-wave equations. (English summary) Proceedings of the International Conference on Inverse Problems and Applications (Quezon City, 1998). *Matimyás Mat.* **21** (1998), *Special Issue*, 109–118. (Summary) **99m:45017** 45K05 (26A33, 35K99)

— *see also* **Proceedings: Conference on Inverse Problems and Applications, 99i:00026**

Goresky, Mark (*with* Kottwitz, Robert E.; MacPherson, Robert D.) Discrete series characters and the Lefschetz formula for Hecke operators. *Duke Math. J.* **89** (1997), *no.* 3, 477–554. (Ernst-Wilhelm Zink) **99e:11064a** 11F75 (20G30, 20G35, 22E47)

— (*with* Kottwitz, Robert E.; MacPherson, Robert D.) Correction to: "Discrete series characters and the Lefschetz formula for Hecke operators". *Duke Math. J.* **92** (1998), *no.* 3, 665–666. (Ernst-Wilhelm Zink) **99e:11064b** 11F75 (20G30, 20G35, 22E47)

— (*with* Kottwitz, Robert E.; MacPherson, Robert D.) Equivariant cohomology, Koszul duality, and the localization theorem. *Invent. Math.* **131** (1998), *no.* 1, 25–83. (Roy Joshua) **99c:55009** 55N91 (14F25, 14F32, 16E99, 18G10, 55N33)

Gorez, R. Fuzzy control versus conventional control. (English summary) Fuzzy sets and applications. *Belg. J. Oper. Res. Statist. Comput. Sci.* **37** (1997), *no.* 1-2, 47–60. (*see* **99a:90004**) 93C42 (93–02)

— (*with* Calcev, G.; De Neyer, M.) Passivity approach to fuzzy control systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 339–344. (Summary) **99a:93063** 93C42

Gorgo, Yu. N. (*with* Kapustyan, V. E.) Asymptotic locally bounded control in a bisingular elliptic problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 5–14, 155. (Summary) **99f:49031** 49K20 (49M30)

Gorgodze, N. Continuous dependence of the solution of a class of neutral differential equations on the intial data and on the right-hand side. *Mem. Differential Equations Math. Phys.* **11** (1997), 168–169. 34K40

Gori, Franco[1] (*with* Vicalvi, S.; Santarsiero, M.; Frezza, F.; Schettini, G.; Ambrosini, S.; Borghi, Riccardo) An elementary approach to spinors. (English summary) *European J. Phys.* **18** (1997), *no.* 4, 256–262. (Summary) **99c:81073** 81R25 (15A66, 53A50)

Gori, L. *see* **Gori Nicolò-Amati, Laura**

Gori, Roberta (*with* Fages, François) Analysis of normal logic programs. (English summary) *Static analysis* (*Pisa*, 1998), 82–98, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (Summary) **99j:68012** 68N17 (68N20)

Gori Cocchieri, Candida (*with* Ragni, Marcello) Differential equations with functional argument in Banach spaces. (Italian) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 787–802. (Radu Precup) **99h:34117** 34K30 (47H15, 47N20)

Goriely, A. (*with* Tabor, M.) Nonlinear dynamics of filaments. III. Instabilities of helical rods. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1967, 2583–2601. (J. E. Marsden) **99e:73079** 73K99 (73C50, 73H10)

Gorin, E. A. (*with* Bobylev, N. A.; Ishlinskiĭ, A. Yu.; Novikov, Sergeĭ Petrovich; Tikhomirov, Vladimir) Mark Aleksandrovich Krasnosel'skiĭ. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 199–201; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 195–198. (Editors) **99m:01042** 01A70

Gori Nicolò-Amati, Laura (*with* Santi, Elisabetta; Cimoroni, M. G.) Projector-splines in the numerical solution of integro-differential equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 107–116. (Wojciech Mydlarczyk) **99f:65202** 65R20 (45E05, 45L05, 65D07, 65D30)

Goritskiĭ, A. Yu. (*with* Vishik, Mark I.) Integral manifolds for nonautonomous equations. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 109–146. (Igor D. Chueshov) **99c:34133** 34G20 (35K55, 47H20)

Gorjanc, Sonja Quartic inversion in space and some of its products. (English and Croatian summaries) *Rad Hrvatske Akad. Znan. Umjet. No.* 470 (1995), 187–197. (Sergey N. Astrakov) **99f:51034** 51N15 (51A05, 51E99, 51F20)

— The pedal surfaces of $(1,2)$-congruences with a one-parameter set of ellipses. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 135–149. (L. Bitay) **99c:51031** 51N20 (53A05)

Gor'kavyĭ, Vasiliĭ Volumes of Schubert cells of Grassmann manifolds. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 34–45. (V. L. Popov) **99c:53065** 53C42

— A reduction theorem in the problem of reconstructing submanifolds in a Euclidean space from a given Grassmannian image. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **4** (1997), *no.* 3, 309–333. (Valery Marenich) **99d:53008** 53A07 (53B25)

— Reconstruction of three-dimensional submanifolds of a Euclidean space of large codimension from the Grassmann image. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 694–699; *translation in Math. Notes* **62** (1997), *no.* 5-6, 581–585 (1998). (Hillel Gauchman) **99f:53057** 53C40

Gorkin, Pamela Hankel-type operators, Bourgain algebras, and uniform algebras. (English summary) *Holomorphic spaces* (*Berkeley, CA*, 1995), 121–134, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Takahiko Nakazi) **99g:47052** 47B35 (46J10)

— (*with* Zheng, De Chao) Harmonic extensions and the Böttcher-Silbermann conjecture. (English summary) *Studia Math.* **127** (1998), *no.* 3, 201–222. (Raymond Mortini) **99b:46075** 46J15 (30H05, 47B35, 47B38)

Gorla, R. S. R. (*with* Hassanien, I. A.; Abdullah, A. A.) Flow and heat transfer in a power-law fluid over a nonisothermal stretching sheet. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 105–116. 76D10 (80A20)

Gorlach, S. P. (*with* Geser, Alfons) Parallelizing functional programs by generalization. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 46–60, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (68Q10)

— Extracting and implementing list homomorphisms in parallel program development. (English summary) *Sci. Comput. Programming* **33** (1999), *no.* 1, 1–27. (Summary) **99f:68024** 68N05 (68Q10)

Görlich, E. (*with* Rohs, A. P.) Bounds for relative projection constants in $L^1(-1,1)$. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 589–597. (Manfred Sommer) **99h:41009** 41A10 (41A35, 46E30)

— (*with* Krieg, Aloys; Nessel, R. J.; Stens, R. L.) Paul L. Butzer—five years as Professor Emeritus. Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 20–31. (Editors) **99m:01069b** 01A70 (47D06)

Gorlov, S. I. A linear problem of the motion of a contour under the free surface of a fluid of finite depth. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 6, 85–90. (Summary) **99m:76008** 76B10 (76M25)

Gorlov, V. V. (*with* Tittmann, Peter) A unified approach to the reliability of recurrent structures. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 261–273, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 90B25 (05C85, 68M15, 90C35)

— (*with* Pöschel, R.) Clones closed with respect to permutation groups or transformation semigroups. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 181–204. (Kazimierz Głazek) **99k:08005** 08A40 (03B50, 06A15, 08A35, 20B25, 20M20)

— (*with* Sadovnichiĭ, V. I.; Tittmann, Peter) On the reliability polynomials of some communication systems. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 3, 3–9, 78. 94C12 (90B25)

Gorman, Arthur D. (*with* Ivanova, Petya N.) On caustics associated with the linearized vorticity equation. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 255–262. (Peter N. Zhevandrov) **99d:76022** 76C20 (34E20, 35Q35, 86A05)

Gorman, Michael (*with* He, Jiwen; Glowinski, Roland; Périaux, Jacques) Some results on the controllability and the stabilization of the Kuramoto-Sivashinsky equation. (English summary) *Équations aux dérivées partielles et applications*, 571–590, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 35Q30 (93B05)

Gormaz, Raúl Polar cone splines. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 83–94, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Summary) **99a:41008** 41A15 (41A63)

— A class of multivariate de Boor-Fix formulae. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 829–842. (Summary) **99d:41055** 41A63 (65D15)

ramazani Gornami, M. A. *see* **Ramazani Gornami, M. A.**

Görner, Stephan (*with* Reemtsen, Rembert) Numerical methods for semi-infinite programming: a survey. (English summary) *Semi-infinite programming*, 195–275, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90142** 90C34 (65K05, 90–02)

Gornet, Ruth (*with* Brooks, Robert Wolfe; Gustafson, William H.) Mutually isospectral Riemann surfaces. *Adv. Math.* **138** (1998), *no.* 2, 306–322. (Carolyn Gordon) **99k:58184** 58G25 (11F72, 11R42)

— (*with* Gordon, Carolyn S.; Schueth, D.; Webb, D. L.; Wilson, Edward N.) Isospectral deformations of closed Riemannian manifolds with different scalar curvature. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 593–607. (Robert Brooks) **99b:53049** 53C20 (58G25)

Gorni, Gianluca (*with* Zampieri, Gaetano) On cubic-linear polynomial mappings. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 4, 471–492. (Kamil Rusek) **99e:14016** 14E09 (32A15)

Górnicki, Jarosław ★ Okruchy matematyki. (Polish. Polish summary) [Mathematical miscellanea] With a preface by Marek Kordos. *Wydawnictwo Naukowe PWN, Warsaw*, 1995. 248 *pp. ISBN* 83-01-11794-X 00A05

— On some generalization of Lipschitzian mappings in a Hilbert space. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 109–118. (Roman Mańka) **99k:47139** 47H10

— Lipschitzian semigroups in Hilbert space. Proceedings of the Second World Congress of Nonlinear Analysts, Part 4 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 4, 2309–2315. (Behzad Djafari-Rouhani) **99a:47082** 47H10 (47H09, 47H20)

— (*with* Singh, Thakur B.) On some generalization of uniformly Lipschitzian mappings and its fixed points. *Demonstratio Math.* **31** (1998), *no.* 2, 305–311. (V. V. Obukhovskiĭ) **99g:47131** 47H10 (47H09, 54H25)

Górniewicz, Lech Present state of the Brouwer fixed point theorem for multivalued mappings. (English and French summaries) Dedicated to the memory of Gilles

Fournier (Sherbrooke, PQ, 1997). *Ann. Sci. Math. Québec* **22** (1998), *no.* 2, 169–179. (*see* **99i:00033**) 54H25 (47H05, 47H10, 54C60)

— Periodic problems for ODE's via multivalued Poincaré operators. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 93–104. (Summary) **99e:34047** 34C25 (34B15, 34F05, 47H15)

— (*with* de Blasi, Francesco S.; Pianigiani, Giulio) Topological degree and periodic solutions of differential inclusions. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 197–199. (*see* **99f:58002**) 34A60 (34C25, 47H11, 47N20)

Goro, Oumarou (*with* Song, Yong Zhong) Méthodes itératives de type SOR pour résoudre les problèmes des moindres carrés. (English and French summaries) [SOR-type iterative methods for solving least squares problems] *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 99–118. 65K10 (90C20)

Gorodnīĭ, M. F. Bounded and periodic solutions of a linear difference equation in a Banach space. (Ukrainian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 114–132, "*Vishcha Shkola*", *Kiev*, 1993. (Michael I. Gil′) **99e:39062** 39A11 (47A99, 47N20)

— Boundedness of solutions of a difference equation in an infinite-dimensional space. (Ukrainian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 128–135, "*Vishcha Shkola*", *Kiev*, 1995. (Michael I. Gil′) **99e:39018** 39A10 (47A99)

Gorodtsov, V. A. (*with* Entov, V. M.) Instability of displacement fronts of non-Newtonian fluids in a Hele-Shaw cell. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 115–131; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 111–126. (Summary) **99b:76085** 76S05 (76A05, 76A10, 76E15)

Gorokhov, A. V. (*with* Birman, Joseph L.) Hubbard-Stratonovich tricks, dynamical (super)algebras and related path integrals for many-body problems. (English summary) *Path integrals: Dubna* '96, 259–263, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81V70 (81S40)

Gorokhov, Alexei Y. (*with* Abramovich, Yuri I.; Gray, Douglas A.; Spencer, Nicholas K.) Positive-definite Toeplitz completion in DOA estimation for nonuniform linear antenna arrays. I. Fully augmentable arrays. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2458–2471. 78–08 (78A50)

Gorokhov, Yu. A. Approximation by harmonic functions in the C^m-norm, and the harmonic C^m-capacity of compact sets in $\mathbf{R}^n$. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 372–382; *translation in Math. Notes* **62** (1997), *no.* 3-4, 314–322 (1998). (Ognyan Kounchev) **99g:41029** 41A30 (30E10, 31B05)

Gorokhova, S. G. A remark on projection properties of vector lattices. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 96–98. (Summary) **99f:46011** 46A40

Gorokhovik, V. V. (*with* Semenkova, E. A.) Step-linear functions in finite-dimensional vector spaces. Definition, properties and their relation to half-spaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 10–14, 122. (Summary) **99j:90111** 90C48 (15A03, 90C29)

Gorokhovsky, Alexander Chern classes in Alexander-Spanier cohomology. *K-Theory* **15** (1998), *no.* 3, 253–268. (Stanisław Betley) **99k:55017** 55R50 (19L10)

Goroshko, O. O. (*with* Puchko, N. P.) Lagrangian equations for the multibodies hereditary systems. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1997), *no.* 7, 209–222. (Arun Banerjee) **99c:70005** 70D10 (70H35, 73F99)

Gorostiza, Luis G. Fluctuation theorem for a superprocess with small branching rate. (English summary) *Fourth Symposium on Probability Theory and Stochastic Processes (Spanish) (Guanajuato*, 1996), 119–127, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (Ingemar Kaj) **99m:60058** 60F17 (60G57)

— (*with* Aguilar-Ortiz, Jaime) A nuclear space of distributions on a space of incomplete continuous functions. *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 357–382. (Zhiyuan Huang) **99j:60074** 60H07 (46F25)

— *see also* **Symposium: Probability Theory and Stochastic Processes, 99e:60008**

Gorr, G. V. On a linear invariant relation in the problem of the motion of a gyrostat in a magnetic field. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 566–569; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 549–552. (Summary) **99c:70008** 70E15

— (*with* Suvorova, N. G.) On a class of polynomial solutions in the problem of the motion of a gyrostat in a magnetic field. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 781–787; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 757–763 (1998). (A. E. Zakrzhevskiĭ) **99e:70024** 70E15

Gorre, Anne The "Montagnes Russes" algorithm for global optimization in metric spaces. (English summary) *Parametric optimization and related topics, IV (Enschede*, 1995), 123–133, *Approx. Optim.*, 9, *Lang, Frankfurt am Main*, 1997. (Summary) **99b:90121** 90C30 (90C48)

Gorrieri, Roberto (*with* Bravetti, Mario; Bernardo, Marco) Towards performance evaluation with general distributions in process algebras. (English summary) *CONCUR'98: concurrency theory (Nice)*, 405–422, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68M20, 68Q60)

— (*with* Corradini, Flavio; Marchignoli, D.) Towards parallelization of concurrent systems. (English and French summaries) *RAIRO Inform. Théor. Appl.* **32** (1998), *no.* 4-6, 99–125. (Summary) **99m:68054** 68Q10

Gorshkov, A. G. (*with* Tarlakovskiĭ, D. V.) Resulting reactions in a nonstationary contact problem for an elastic anisotropic half-space. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 799–809; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 789–797. (Summary) **99c:73073** 73T05 (73B40)

Górski, Andrzej Z. (*with* Szmigielski, Jacek) On pairs of difference operators satisfying $[D, X] = \mathrm{Id}$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 545–568. (Summary) **99b:81113** 81S05 (39A12, 47N50)

Gorskiĭ, A. S. Peierls model and vacuum structure in the $N = 2$ supersymmetric field theories. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow*, 1996), 420–427, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81236** 81T60

— Peierls model and vacuum structure in the $N = 2$ supersymmetric field theories. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 10, 719–727. (George K. Savvidy) **99b:81236** 81T60 (81T10, 82B23)

— Branes and integrability in the $N = 2$ SUSY YM theory. (English summary) *Phys. Lett. B* **410** (1997), *no.* 1, 22–26. (Michael Murray) **99b:81237** 81T60 (81T13)

— (*with* Marshakov, A.; Mironov, A. D.; Morozov, A. Yu.) RG equations from Whitham hierarchy. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 690–716. (Henrik Aratyn) **99h:58086** 58F07 (14K25, 81T13, 81T17, 81T60)

Görtler, H. (*with* Dörr, J.; Hämmerlin, G.; Mettler, Eberhard; Gericke, H.) 50 Jahre GAMM. [50 years of GAMM] Reprint of the 1972 original. 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 1–36. (*see* **99f:01027**) 01A74

Görtz, Ulrich (*with* Bosch, Siegfried) Coherent modules and their descent on relative rigid spaces. *J. Reine Angew. Math.* **495** (1998), 119–134. (Reinhold Hübl) **99b:14022** 14G20 (13J10, 14A20, 32P05)

Gorunescu, Florin (*with* Gorunescu, Marina) Notes on integral equations with stochastic kernel. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 71–75. 60H25 (45B05)

— (*with* Gorunescu, Marina) Notes on the compactness properties for bounded operators. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 46–50 (1994). 47B07 (46N20)

— (*with* Gorunescu, Marina; Sterpu, M.) Hit or miss Monte Carlo simulation for improper integrals. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 22–26 (1995). 65C10

— (*with* Gorunescu, Marina; Sterpu, M.) Note on a test involving repeated trials for the hit or miss Monte Carlo integration. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 42–50 (1995). 65C10 (65D30)

— (*with* Cosulschi, Mirel) A Bernoulli counting process for the Monte Carlo solution of the Dirichlet problem. The case of free boundary domains. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **23** (1996), 81–91 (1998). (Joseph Kreimer) **99j:65007** 65C05 (68N99)

Gorunescu, Marina (*with* Gorunescu, Florin) Notes on integral equations with stochastic kernel. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 71–75. 60H25 (45B05)

— (*with* Gorunescu, Florin) Notes on the compactness properties for bounded operators. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 46–50 (1994). 47B07 (46N20)

— (*with* Sterpu, M.; Gorunescu, Florin) Hit or miss Monte Carlo simulation for improper integrals. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 22–26 (1995). 65C10

— (*with* Gorunescu, Florin; Sterpu, M.) Note on a test involving repeated trials for the hit or miss Monte Carlo integration. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 42–50 (1995). 65C10 (65D30)

Gory, Gerard (*with* Viallefont, Anne; Lebreton, Jean-Dominique; Reboulet, Anne-Marie) Parameter identifiability and model selection in capture-recapture models: a numerical approach. (English and French summaries) *Biom. J.* **40** (1998), *no.* 3, 313–325. (Summary) **99f:62036** 62F10 (62P10)

Goryacheva, I. G. A periodic contact problem for an elastic half-space. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 1036–1044. 73T05

Goryunov, V. V. Finite order invariants of framed knots in a solid torus and in Arnold's J^+-theory of plane curves. *Geometry and physics (Aarhus*, 1995), 549–556, *Lecture Notes in Pure and Appl. Math.*, 184, *Dekker, New York*, 1997. (Thang T. Q. Le) **99h:57007** 57M25

— (*with* Chmutov, S.) Polynomial invariants of Legendrian links and their fronts. (English summary) *KNOTS* '96 (*Tokyo*), 239–256, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57010** 57M25

— (*with* Arnol′d, Vladimir Igorevich; Lyashko, O. V.; Vassiliev, V. A.) ★ Singularity theory. I. Translated from the 1988 Russian original by A. Iacob. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Dynamical systems. VI*, Encyclopaedia Math. Sci., 6, Springer, Berlin, 1993; MR 94b:58018]. *Springer-Verlag, Berlin*, 1998. *iv*+245 *pp. ISBN* 3-540-63711-7 (Editors) **99f:58024** 58C27 (32Sxx)

Goryunov, Yu. Yu. A generalization of Dressler's theorem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 18–20; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 7, 16–18. (Aleksander Grytczuk) **99a:11108** 11N37

Goryushkin, V. A. The nonfiniteness of the fundamental groups of a series of 3-manifolds. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 30–33, 80; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 31–34. (Rostislav Matveyev) **99c:57004** 57M05 (20F34, 57N10)

Gorzelańczyk, Marek Equilibrium classical statistical mechanics of continuous systems in the Kirkwood-Salsburg approach. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 1–7. (Daniel Ueltschi) **99a:82006** 82B05 (47N55, 82B21, 82B26)

Gorzka, Cezary On Russell's definition of moments of time. (English summary) *Logic Log. Philos. No.* 5 (1997), 61–74. 03B45 (03A05)

Gösi-Greguss, Anna C. *see* **Mérő, László, 99g:90177**

Gosse, Laurent A priori error estimate for a well-balanced scheme designed for inhomogeneous scalar conservation laws. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 467–472. (Summary) **99h:35126** 35L65 (65M15)

Gosselin, Clément M. (*with* Merlet, Jean-Pierre; Mouly, Nicolas) Workspaces of planar parallel manipulators. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 1-2, 7–20. (Summary) **99f:70010** 70B15 (70–08)

— (*with* Wang, Jiegao) A new approach for the dynamic analysis of parallel manipulators. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 3, 317–334. (Summary) **99g:70012** 70B15 (70E15)

Gosselin, Pierre (*with* Wurzbacher, Tilmann) A stochastic approach to the Virasoro anomaly in quantization of strings in flat space. (English summary) *Tr. Mat. Inst. Steklova* **217** (1997), *Prostran. Petel′ i Gruppy Diffeomorf.*, 235–257. (Edwin Langmann) **99h:81198** 81T50 (17B66, 58B25, 58F06, 81R10)

— (*with* Polonyi, Janos) Path integral for relativistic equations of motion. (English summary) *Ann. Physics* **268** (1998), *no.* 2, 207–224. (Julio Espinoza Ortiz) **99h:81118** 81S40

— (*with* Wurzbacher, Tilmann) Letter to the editors: "A stochastic approach to the Virasoro anomaly in quantization of strings in flat space" [Tr. Mat. Inst. Steklova **217** (1997), Prostran. Petel′ i Gruppy Diffeomorf., 235–257; MR 99h:81198]. (Russian) *Tr. Mat. Inst. Steklova* **221** (1998), 320. 81T50 (17B66, 58B25, 58F06, 81R10)

Gossez, Jean-Pierre (*with* Fleckinger, Jacqueline; Takáč, Peter; de Thélin, François) Nonexistence of solutions and an anti-maximum principle for cooperative systems with

the p-Laplacian. (English summary) *Math. Nachr.* **194** (1998), 49–78. (P. Lindqvist) **99j:35078** 35J70 (35B50, 35J45)

Gossner, J. R. (*with* Kouvaritakis, B.; Rossiter, J. A.) Cautious stable predictive control: a guaranteed stable predictive control algorithm with low input activity and good robustness. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 675–697. 93D15 (93B30)

Gossner, Olivier Secure protocols or how communication generates correlation. (English summary) *J. Econom. Theory* **83** (1998), *no.* 1, 69–89. (Françoise Forges) **99m:90166** 90D10

de Gosson, Maurice The quantum motion of half-densities and the derivation of Schrödinger's equation. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4239–4247. (Charles-Michel Marle) **99k:81066** 81Q20 (81S30)

Gostev, V. I. (*with* Zhukovskiĭ, V. E.) Application of numerical optimization methods for reducing the order of the transfer function of a controlled plant. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 266–270, 301. 93B40 (90C90)

Goswami, G. (*with* Bandyopadhyay, Pratul) Fermion doubling on a lattice and topological aspects of chiral anomaly. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4451–4461. (Gustavo Dotti) **99b:81166** 81T25 (81T50)

Goswami, K. C. Some application of density topology in analysis and topology. (English summary) *Res. Bull. Panjab Univ. Sci.* **46** (1996), *no.* 1-4, 147–163. 54H99 (54C08, 54E52)

Goswami, V. (*with* Dutta, K.) Multidimensional first order efficient sampling plans and their properties. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 178–188, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

— (*with* Gupta, U. C.) Analyzing the discrete-time multiserver queue *Geom/Geom/m* queue with late and early arrivals. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 2, 55–66. 60K25 (90B22)

Goswamy, K. C. Blumberg's property on density topological spaces. *An. Ştiinţ. Univ. Al. I. Cuza Iaşi. Mat.* (*N.S.*) **42** (1996), *no.* 2, 301–309 (1998). (Marek Balcerzak) **99j:54017** 54C08 (26A15)

Gotay, Mark J. *see* **Symplectic geometry**, **99b:58007**

Got'e, P. M. *see* **Gauthier, Paul M.**

Gotlieb, Arnaud (*with* Lhomme, Olivier; Rueher, Michel) Dynamic optimization of interval narrowing algorithms. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 165–183. (Summary) **99d:68042** 68N17 (68T20)

Goto, Keiji² A twisted adjoint L-value of an elliptic modular form. (English summary) *J. Number Theory* **73** (1998), *no.* 1, 34–46. (B. Ramakrishnan) **99j:11052** 11F67 (11F41, 11F60)

Goto, Masataka Inverse scattering problem for Dirac operators with magnetic potentials at a fixed energy. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 1–14. (*see* **99a:00049**) 35R30 (35J10, 35P25, 47A40, 47N50, 81V10)

Goto, Shun'ichi Numerical analysis of mean curvature flow equations—the BMO algorithm. (Japanese) Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 53–56. (*see* **99h:35003**) 65M99

Goto, Susumu (*with* Kida, Shigeo) Direct-interaction approximation and Reynolds-number reversed expansion for a dynamical system. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 191–214. (Summary) **99b:76043** 76F99

— (*with* Kida, Shigeo) Conditions for the validity of the direct interaction approximation and its relationship to the Reynolds-number reversed expansion. (Japanese. Japanese summary) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 59–69. (*see* **99k:76004**) 76F99

Gotoh, Kayoko (*with* Yanagihara, Niro) Iteration of the function $c \exp[az + b/z]$. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 341–348. (Peter M. Makienko) **99k:30042** 30D05 (58F23)

Gotoh, Toshiyuki (*with* Kraichnan, Robert H.) Steady-state Burgers turbulence with large-scale forcing. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2859–2866. (Summary) **99i:76073** 76F99 (76M35)

— (*with* Nakano, Tohru; Takahashi, Naoya; Kambe, Tsutomu; Yamamoto, Kıyoshi) Conditional expectations and probability density distributions in turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 130–136. (*see* **99k:76004**) 76F99 (60E99, 76M35)

Gotoh, Yasuhiro Global integrability of BMO functions on general domains and its application to superharmonic functions. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 30–41. (*see* **99a:00036**) 31B05 (42B99)

— On global integrability of BMO functions on general domains. (English summary) *J. Anal. Math.* **75** (1998), 67–84. (Bi Yun Yao) **99k:42033** 42B20

— Integrability of BMO functions on general domains and their application. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 11–20. (*see* **99i:00018**) 42B25

— Integrability of superharmonic functions, uniform domains, and Hölder domains. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1443–1451. (P. Lindqvist) **99h:46036** 46E15 (31A20)

Gotoh, Yoshinori (*with* Okouchi, Ikuo) Super five-branes in $D = 10$, $N = 1$ super-Yang-Mills theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 22, 1819–1826. (From the introduction) **99e:81235** 81T60 (81T13, 81T30)

Gotsis, C. P. (*with* Deriziotis, D. I.) The cuspidal modules of the finite general linear groups. (English summary) *LMS J. Comput. Math.* **1** (1998), 75–108 (*electronic*). (R. W. Carter) **99i:20017** 20C33 (20G40)

Gotsman, Craig (*with* Floater, Michael S.) How to morph tilings injectively. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 117–129. (S. Stein) **99k:52032** 52C22 (05B45)

Gott, J. Richard, III Topology and the universe. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2719–2731. (Marco Spaans) **99g:83084** 83F05 (83C55)

— (*with* Li, Li-Xin) Can the Universe create itself? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 023501, 43 *pp.* (Summary) **99k:83137** 83F05

Gottardi, Piero (*with* Hens, Thorsten) Disaggregation of excess demand and comparative statics with incomplete markets and nominal assets. (English summary) *Econom. Theory* **13** (1999), *no.* 2, 287–308. (Summary) **99k:90062** 90A60 (90A09)

Gotti, C. (*with* Beckers, Jules; Debergh, Nathalie) On generalized Darboux transformations and symmetries of Schrödinger equations. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 214–232. (Tuncay Aktosun) **99d:81042** 81Q60 (35J10, 81Q05)

Gottlieb, Christian Modules covered by finite unions of submodules. *Comm. Algebra* **26** (1998), *no.* 7, 2351–2359. (Pascual Jara) **99i:13015** 13C13

Gottlieb, D. *see* **Gottlieb, David**

Gottlieb, Daniel Henry Skew symmetric bundle maps. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 117–141, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (R. A. Piccinini) **99m:57025** 57R22 (58D15)

— (*with* Becker, James C.) Spaces of local vector fields. (English summary) *Higher homotopy structures in topology and mathematical physics* (*Poughkeepsie, NY*, 1996), 21–28, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:57046** 57R25 (55P47, 55R12)

Gottlieb, David (*with* Abarbanel, Saul) On the construction and analysis of absorbing layers in CEM. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 331–340. (Summary) **99g:78016** 78A40

— (*with* Chang, Han-Chieh; Marion, Martine; Sheldon, B. W.) Mathematical analysis and optimization of infiltration processes. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 303–321. (Elena Comparini) **99k:76137** 76S05 (76R99)

— (*with* Don, Wai Sun) Spectral simulation of supersonic reactive flows. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2370–2384 (*electronic*). (Long An Ying) **99i:65110** 65M70

— (*with* Carpenter, Mark H.; Nordström, Jan) A stable and conservative interface treatment of arbitrary spatial accuracy. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 341–365. (Summary) **99i:76093** 76M20

Gottlieb, H. B. *see* **Menger, Karl**, (**99a:00006a**)

Gottlieb, H. P. W. Properties of some generalised logistic maps with fractional exponents. (English summary) *Complex. Int.* **2** (1995), 12 *HTML documents* (*electronic*). (John G. Milton) **99g:58043** 58F03 (58F12, 58F13)

— Thresholds in a class of iterative maps. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 93–101. (Frederick R. Marotto) **99m:58080** 58F03 (58F13)

Gottlieb, Ioan (*with* Dariescu, Marina-Aura; Dariescu, Ciprian) Lie algebras methods in unified theories—gauge theory of spin $\frac{3}{2}$ field in $S^3 \times \mathbf{R}$ spacetime. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1994), 41–46, *BSG Proc.*, 2, *Geom. Balkan Press, Bucharest*, 1998. (Summary) **99g:53071** 53C80 (83C60)

Gottlieb, Johannes (*with* Eisenbiegler, J.; Löwe, Welf; Schlaeger, S.; Thül, M.; Zimmermann, Wolf D.) Parallel CG-methods—automatically optimized for PC- and workstation-clusters. (English summary) *High performance algorithms for structured matrix problems*, 181–197, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65Y05

— (*with* Romanov, Vladimir Gavrilovich) Joint inversion of transient electromagnetic and proton resonance surface data by coupled Maxwell's and Bloch's equations. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 263–279. (Summary) **99g:78032** 78A99 (35Q60, 35R30, 86A20, 86A22)

Gottlieb, Sigal (*with* Fischer, Paul F.) Modified conjugate gradient method for the solution of $A\underline{x} = \underline{b}$. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 173–183. (Summary) **99g:65039** 65F10

Gottlob, Georg (*with* Leone, Nicola; Scarcello, Francesco) On the complexity of some inductive logic programming problems. (English summary) *Inductive logic programming* (*Prague*, 1997), 17–32, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (Summary) **99e:68019** 68N17 (68Q25)

— (*with* Eiter, Thomas; Veith, Helmut) Modular logic programming and generalized quantifiers. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 289–308, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68N17

— (*with* Brewka, Gerhard) Well-founded semantics for default logic. (English summary) *Fund. Inform.* **31** (1997), *no.* 3-4, 221–236. (G. Mirkowska) **99m:03053** 03B60 (03B70, 68T27)

— Relativized logspace and generalized quantifiers over finite ordered structures. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 545–574. (Damian Niwiński) **99a:03039** 03C13 (03C80, 03D15, 68Q15)

— (*with* Eiter, Thomas; Leone, Nicola) Abduction from logic programs: semantics and complexity. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 129–177. (Summary) **99a:68028** 68N17 (68Q25)

— (*with* Eiter, Thomas; Gurevich, Yuri) Existential second-order logic over strings (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 16–27, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 03C85 (03C13, 68Q45, 68Q60)

— (*with* Eiter, Thomas) On the expressiveness of frame satisfiability and fragments of second-order logic. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 73–82. (Feodor Alexandrovich Murzin) **99a:03038** 03C13 (03B15)

— *see also* **Database theory—ICDT '95**, **99a:68006**

Gottschalk, Hanno (*with* Albeverio, Sergio; Wu, Jiang Lun) Remarks on some new models of interacting quantum fields with indefinite metric. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 385–394. (Giovanni Morchio) **99d:81071** 81T08 (46N50)

Gottschalk, Harald (*with* Leemans, Dimitri) The residually weakly primitive geometries of the Janko group J_1. (English summary) *Groups and geometries* (*Siena*, 1996), 65–79, *Trends Math., Birkhäuser, Basel*, 1998. (Antonio Pasini) **99h:51014** 51E24 (20D08, 20D30)

Göttsche, Lothar Orbifold-Hodge numbers of Hilbert schemes. *Parameter spaces* (*Warsaw*, 1994), 83–87, *Banach Center Publ.*, 36, *Polish Acad. Sci., Warsaw*, 1996. (Dimitrios I. Dais) **99c:14022** 14E15 (14C05)

— (*with* Hirschowitz, André) Weak Brill-Noether for vector bundles on the projective plane. *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 63–74, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Jean-Marc Drezet) **99i:14015** 14D20 (14J60)

— (*with* Pandharipande, Rahul) The quantum cohomology of blow-ups of $\mathbf{P}^2$ and enumerative geometry. *J. Differential Geom.* **48** (1998), *no.* 1, 61–90. (Andreas Gathmann) **99d:14057** 14N10 (14D20)

— (*with* Ellingsrud, Geir) Wall-crossing formulas, the Bott residue formula and the Donaldson invariants of rational surfaces. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 195, 307–329. (Zhenbo Qin) **99g:57034** 57R57 (14D20, 14J26)

— (*with* Zagier, Don) Jacobi forms and the structure of Donaldson invariants for 4-manifolds with $b_+ = 1$. *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 69–115. (Zhenbo Qin) **99d:57022** 57R57 (11F55, 14J26, 57R55)

— (*with* Fantechi, Barbara; van Straten, Duco) Euler number of the compactified Jacobian and multiplicity of rational curves. (English summary) *J. Algebraic Geom.* **8** (1999), *no.* 1, 115–133. (Jim A. Bryan) **99i:14065** 14N10 (14H40, 14J28)

Gottschlich-Müller, Birgit (*with* Müller, Siegfried) Application of multiscale techniques to hyperbolic conservation laws. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 113–138, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Louise A. Raphael) **99j:65181** 65M99 (35L65)

Gotusso, Laura (*with* Veneziani, A.) Linear and nonlinear models for the vibrating string and the vibrating rod. (English summary) *Advances in difference equations (Veszprém, 1995)*, 245–252, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 73D99 (39A10, 73K03)

— (*with* Frontini, Marco) A conservative nonlinear model for a discrete vibrating string fixed at the end points. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 329–343. (Summary) **99g:73067** 73K03 (35Q72, 65M06, 73V15)

Götz, Ivan G. (*with* Anderssen, Robert S.; Hoffmann, Karl-Heinz[1]) The global behavior of elastoplastic and viscoelastic materials with hysteresis-type state equations. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 703–723 (*electronic*). (Martin Brokate) **99a:73062** 73E50 (35Q72, 47H20, 47H30, 73F15)

Götze, Friedrich (*with* Bentkus, V.) Uniform rates of convergence in the CLT for quadratic forms in multidimensional spaces. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 3, 367–416. (Petr Lachout) **99e:60056** 60F05 (11P21, 60B12, 62E20)

— (*with* Bentkus, V.; Bloznelis, M.) A Berry-Esséen bound for M-estimators. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 485–502. (R. A. Maller) **99c:62057** 62F12 (60F05, 62E20, 62F35)

— (*with* Bentkus, V.; Zaĭtsev, A. Yu.[1]) Approximation of quadratic forms of independent random vectors by accompanying laws. (Russian) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 308–335; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 189–212 (1998). (V. J. Paulauskas) **99b:60010** 60B12 (60F99, 60G42)

— (*with* Bobkov, S. G.) On moments of polynomials. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 638–640; *reprinted in Theory Probab. Appl.* **42** (1997), *no.* 3, 518–520 (1998). (S. G. Maloshevskiĭ) **99c:60028** 60E15

— Lattice point problems and the central limit theorem in Euclidean spaces. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 245–255 (*electronic*). (Summary) **99g:62016a** 62E20

— Errata: "Lattice point problems and the central limit theorem in Euclidean spaces". Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 648 (*electronic*). (Editors) **99g:62016b** 62E20

— (*with* Zaĭtsev, A. Yu.[1]) Estimates for the rapid decay of concentration functions of n-fold convolutions. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 715–731. (R. Theodorescu) **99f:60032** 60E15 (60F99)

Götze, Heinz ★ Springer-Verlag. History of a scientific publishing house. Part 2. 1945–1992. Rebuilding. Opening frontiers. Securing the future. Translated from the 1994 German original by Mary Schäfer. *Springer-Verlag, Berlin*, 1996. *xxvi*+417 *pp. ISBN* 3-540-61561-X 01A99 (01A74, 01A80)

— ★ Castel del Monte. Geometric marvel of the Middle Ages. Translated from the third German (1991) edition by Mary Schäfer. *Prestel-Verlag, Munich*, 1998. 237 *pp. ISBN* 3-7913-1930-2 (Editors) **99k:01009** 01A35 (00A69, 51–03, 51F15, 51M20)

Gouachi, Idir (*with* Bennaceur, Hachemi; Plateau, Gérard) An incremental branch-and-bound method for the satisfiability problem. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 301–308. (*see* **99e:90002**) 90C10 (90C27)

Goubault, Eric (*with* Fajstrup, Lisbeth; Raußen, Martin) Detecting deadlocks in concurrent systems. (English summary) *CONCUR'98: concurrency theory (Nice)*, 332–347, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

Goubet, Olivier Regularity of the attractor for a weakly damped nonlinear Schrödinger equation. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 99–119. (Summary) **99a:35236** 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* Moise, Ioana) Attractor for dissipative Zakharov system. *Nonlinear Anal.* **31** (1998), *no.* 7, 823–847. (Igor D. Chueshov) **99a:35259** 35Q99 (34G20, 35B40, 35L70, 47H20, 58F39)

Goubet-Bartholoméüs, A. (*with* Richard, Jean-Pierre; Tchangani, A. P.; Dambrine, M.) Nonlinear delay systems: tools for a quantitative approach to stabilization. (English summary) *Stability and control of time-delay systems*, 218–240, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

— (*with* Dambrine, M.; Richard, Jean-Pierre) Delay-dependent stability domains of nonlinear delay systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 245–256. (Summary) **99c:93078** 93D05 (34K20)

Gouda, Norio The theorem of E. Hopf under uniform magnetic fields. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 767–779. (Edoh Amiran) **99f:53041** 53C22 (58F25, 78A25)

Gouda, Y. Gh. Quaternion homology of Banach space. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 36–43. (Niels Grønbæk) **99m:46117** 46H05 (16E99, 46M20)

— On the cyclic and dihedral cohomology of Banach spaces. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 67–80. (G. A. Noskov) **99a:46132** 46M20 (46B99, 46H25)

— Adams and Steenrod operators in dihedral homology. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 341–346. (Jerry Lodder) **99b:55007** 55N91 (19D55, 19L20, 55P91, 55Q91, 55S05)

Goudjil, Amar (*with* Devroye, Luc) A study of random Weyl trees. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 3, 271–295. (Robert P. Dobrow) **99h:68034** 68P05 (11K06, 60C05)

Goudon, T. Generalized invariant sets for the Boltzmann equation. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 4, 457–476. (Giuseppe Toscani) **99e:82080** 82C40 (35Q99, 45K05, 76P05)

Goudreau, Kim A multiplicity result for a nonlinear boundary value problem. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 395–408. (From the introduction) **99m:34033** 34B15

Gough, John Edward Noncommutative Itô and Stratonovich noise, and stochastic evolutions. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 276–284; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1431–1437 (1998). (Kalyanapuram R. Parthasarathy) **99b:81118** 81S25 (60H05)

— A new approach to non-commutative white noise analysis. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 981–985. (Kalyanapuram R. Parthasarathy) **99m:81116** 81S25 (46F25)

— The free stochastic limit of interacting quantum fields. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 439–454. (Kalyanapuram R. Parthasarathy) **99g:81114** 81S25 (81T18)

— Quantum stochastic Feynman rules and extended Wigner statistics. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 2021–2030. (Summary) **99b:81119** 81S25 (81T18)

Gouin, H. (*with* Kosiński, W.) Boundary conditions for a capillary fluid in contact with a wall. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 5, 907–916. (R. Finn) **99k:76051** 76D45

— (*with* Gavrilyuk, S. L.; Perepechko, Yu. V.) Hyperbolic models of homogeneous two-fluid mixtures. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 161–175. (Summary) **99b:76089** 76T05 (35Q35, 76M30)

Goulard, Michel (*with* Chadœuf, Joël; Moran, Chris) A note on extension variances in $\mathbf{R}^2$. (English summary) *Math. Geol.* **30** (1998), *no.* 6, 575–587. (Summary) **99c:86005** 86A32

Gould, H. W. (*with* Shonhiwa, Temba) A generalization of Cesàro's function and other results. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 183–194. (Armel Mercier) **99f:11010** 11A25 (11N56)

Gould, Jeffrey (*with* Doksum, Kjell; Hammarstrand, Robert; Mathur, Ashwini; Vittinghoff, Eric) An analysis of nonparametric smoothers. (English summary) *Applied statistical science, III*, 13–40, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62044** 62G05

Gould, Mark D. (*with* Delius, Gustav W.) Quantum Lie algebras, their existence, uniqueness and q-antisymmetry. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 3, 709–722. (Patrick Meessen) **99b:17009** 17B37 (81R50)

— (*with* Delius, Gustav W.; Gardner, Christopher) The structure of quantum Lie algebras for the classical series B_l, C_l and D_l. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1995–2019. (Mariano A. del Olmo) **99k:81109** 81R50 (17B37)

— (*with* Ge, Xiang-Yu; Zhang, Yao-Zhong; Zhou, Huan-Qiang) A new two-parameter integrable model of strongly correlated fermions with quantum superalgebra symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5233–5239. (Władysław Marcinek) **99g:82018** 82B23 (17B37, 81R50, 82B20)

— (*with* Zhang, Yao-Zhong) On super-RS algebra and Drinfeld realization of quantum affine superalgebras. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 291–308. (Jintai Ding) **99h:17020** 17B37 (81R10, 81R50)

Gould, Matthew (*with* Boyd, Sheri J.; Nelson, Amy) Interassociativity of semigroups. (English summary) *Proceedings of the Tennessee Topology Conference (Nashville, TN, 1996)*, 33–51, *World Sci. Publishing, River Edge, NJ*, 1997. (M. Yamada) **99c:20083** 20M10

Gould, Nicholas I. M. (*with* Conn, Andrew R.; Toint, Philippe L.) Methods for nonlinear constraints in optimization calculations. (English summary) *The state of the art in numerical analysis (York, 1996)*, 363–390, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:90116** 90C30 (65K05)

Gould, Ronald J. (*with* Harris, John M.) Traceability in graphs with forbidden triples of subgraphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 123–132. (Ralph Faudree) **99f:05072** 05C45 (05C35)

— (*with* Chen, Guantao; Faudree, Ralph J.) Intersections of longest cycles in k-connected graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 143–149. (Andreas Huck) **99a:05083** 05C38 (05C40)

— (*with* Hynds, Emily A.) A note on cycles in 2-factors of line graphs. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 46–48. (Summary) **99m:05085** 05C38 (05C70)

— (*with* Chen, Guantao; Jacobson, Michael S.) On 2-factors containing 1-factors in bipartite graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 185–194. (Summary) **99i:05161** 05C70

Gould, Victoria (*with* Fountain, John B.; Smith, Paula) Maximal orders in semigroups. *Comm. Algebra* **27** (1999), *no.* 1, 173–187. (L. Márki) **99k:20109** 20M10

— (*with* Fountain, John B.; Gomes, Gracinda M. S.) Enlargements, semiabundancy and unipotent monoids. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 595–614. (Mária B. Szendrei) **99k:20110** 20M10 (20M07)

Goulden, I. P. (*with* Jackson, D. M.) Maps in locally orientable surfaces and integrals over real symmetric surfaces. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 865–882. (A. N. Philippou) **99d:05042** 05C30 (05A15)

Goulianas, K. (*with* Adamopoulos, M.; Margaritis, Konstantinos G.) Structured artificial neural networks for fast batch LMS algorithms. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 549–563. (Summary) **99c:65053** 65F10

Gouli-Andreou, Florence (*with* Xenos, Philippos J.) Some remarks on 3-dimensional contact Riemannian manifolds. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras (Thessaloniki, 1995)*, 151–154, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (*see* **99e:53001**) 53C15

— (*with* Xenos, Philippos J.) On 3-dimensional contact metric manifolds with $\nabla_\xi \tau = 0$. (English summary) *J. Geom.* **62** (1998), *no.* 1-2, 154–165. (Fernando Etayo Gordejuela) **99e:53035** 53C15

— (*with* Xenos, Philippos J.) On a class of 3-dimensional contact metric manifolds. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 64–75. (David Blair) **99k:53091** 53C25 (53C15)

— (*with* Xenos, Philippos J.) Two classes of conformally flat contact metric 3-manifolds. (English summary) *J. Geom.* **64** (1999), *no.* 1-2, 80–88. (Angela Farinola) **99m:53054** 53C15 (53C25)

Gouma, Tomomi Ahlfors functions on non-planar Riemann surfaces whose double are hyperelliptic. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 685–695. (Helmut Köditz) **99f:30065** 30F10 (30C25)

Goupil, Alain (*with* Schaeffer, Gilles) Factoring n-cycles and counting maps of given genus. (English and French summaries) *European J. Combin.* **19** (1998), *no.* 7, 819–834. (K. S. Sarkaria) **99m:05071** 05C30 (05C10, 05C38, 57M99)

Gourdin, Daniel (*with* Mechab, Mustapha) Solutions globales du problème de Goursat non linéaire dans les classes de Gevrey. (French summary) [Global solutions of the nonlinear Goursat problem in Gevrey classes] *Bull. Sci. Math.* **121** (1997), *no.* 4, 323–344. (Summary) **99c:35171** 35L75 (35B60, 35Q72)

— (*with* Mechab, Mustapha) Problème de Cauchy global pour des équations de Kirchhoff. (English and French summaries) [Global Cauchy problem for Kirchhoff equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 941–944. (Summary) **99g:35085** 35L70 (35Q99)

— (*with* Mechab, Mustapha) Problème de Cauchy pour des équations de Kirchhoff généralisées. (English summary) [Cauchy problem for generalized Kirchhoff equations] *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 761–776. (Summary) **99c:35160** 35L70 (35B60, 35Q99)

Gourdon, Xavier Largest component in random combinatorial structures. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 185–209. (Summary) **99c:60013** 60C05 (05A99)

Gouriéroux, Christian (*with* Dhaene, Geert; Scaillet, Olivier) Instrumental models and indirect encompassing. (English summary) *Econometrica* **66** (1998), *no.* 3, 673–688. (Kajal Lahiri) **99h:62136** 62P20

— (*with* Broze, Laurence) Pseudo-maximum likelihood method, adjusted pseudo-maximum likelihood method and covariance estimators. (English summary) *J. Econometrics* **85** (1998), *no.* 1, 75–98. (Summary) **99b:62159** 62P20 (62F10)

— (*with* Ghysels, Eric; Jasiak, Joanna) Kernel autocorrelogram for time-deformed processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 167–191. (Summary) **99c:62250** 62M10 (62G05)

Gourlay, T. P. (*with* Tuck, E. O.) One-dimensional theory for flow past a ship in a channel of variable depth. (English summary) *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 206–211. 76B99

Gourley, S. A. (*with* Bartuccelli, M. V.) Parameter domains for instability of uniform states in systems with many delays. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 843–867. (Sui Yang Chen) **99d:92002** 92–08 (35K57, 35Q80, 35R10)

— (*with* Bartuccelli, M. V.; Woolcock, C. J.) Conditions for positivity of solutions of a class of dissipative partial differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 71–74. 35K57 (35B05)

Gourmelen, Stéphane (*with* Gieres, François) $d = 2, N = 2$ superconformally covariant operators and super W-algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3453–3475. (Paul Nelson Watts) **99e:81076** 81R10 (17B68)

Goussard, Yves (*with* Champagnat, Frédéric; Idier, Jérôme) Stationary Markov random fields on a finite rectangular lattice. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2901–2916. (Summary) **99i:60104** 60G60 (60J10)

Goussarov, M. N. *see* **Gusarov, M. N.**

Goussis, D. A. (*with* Hadjinicolaou, Maria) Asymptotic solution of stiff PDEs with the CSP method: the reaction diffusion equation. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 781–810 (*electronic*). (Pieter W. Hemker) **99i:65091** 65M12 (76M25)

Gouthier, Daniele Lie-CR-structures on a real Lie algebra. (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 4, 365–376. (Ernest Stitzinger) **99c:17009** 17B05 (17B40)

Goutis, Constantinos (*with* Robert, Christian P.) Choice among hypotheses using estimation criteria. (English and French summaries) *Ann. Économ. Statist.* **1997**, *no.* 46, 1–22. (Ram Shanmugam) **99j:62021** 62F03

— (*with* Robert, Christian P.) Model choice in generalised linear models: a Bayesian approach via Kullback-Leibler projections. (English summary) *Biometrika* **85** (1998), *no.* 1, 29–37. (Mohan Delampady) **99m:62109** 62J12 (62F15)

Goutsias, J. (*with* Sivakumar, Krishnamoorthy) Morphologically constrained discrete random sets. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 49–66, *World Sci. Publishing, River Edge, NJ*, 1997. (Ilya S. Molchanov) **99j:60161** 60K35 (68U10)

— (*with* Sivakumar, Krishnamoorthy) A multiresolution morphological approach to stochastic image modeling. (English summary) *CWI Quarterly* **11** (1998), *no.* 4, 347–369. (Ilya S. Molchanov) **99m:68221** 68U10 (60D05, 94A12)

Gouvêa, Fernando Q. Non-ordinary primes: a story. (English summary) *Experiment. Math.* **6** (1997), *no.* 3, 195–205. (Wendell Culp-Ressler) **99a:11052** 11F11 (11F25, 11F30, 11Y35)

— (*with* Mazur, Barry) On the density of modular representations. (English summary) *Computational perspectives on number theory* (*Chicago, IL*, 1995), 127–142, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Andrea Mori) **99a:11056** 11F33 (11F80)

— (*with* Yui, Noriko) Observations on Fermat motives of $K3$-type. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 203–226. (Caterina Consani) **99f:11076** 11G25 (11G09, 14G15, 14J28)

Gouveia, Luis Using variable redefinition for computing lower bounds for minimum spanning and Steiner trees with hop constraints. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 180–188. 90C27

— (*with* Martins Girão, Pedro) The capacitated minimal spanning tree problem: an experiment with a hop-indexed model. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 271–294. (*see* **99k:90002**) 90C35 (90C27)

Gouweleeuw, Frank N. (*with* Tijms, Henk C.) Computing loss probabilities in discrete-time queues. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 149–154. 90B12

Govaert, E. A combinatorial characterization of some finite classical generalized hexagons. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 339–346. (Summary) **99j:05042** 05B25

Govaerts, Jan Projection operator approach to constrained systems. (English summary) *J. Phys. A* **30** (1997), *no.* 2, 603–617. (Summary) **99a:81087** 81S40 (81R30, 81T50)

Govaerts, René (*with* Radu, Cristian; Vandewalle, Joos) Witness hiding restrictive blind signature scheme. (English summary) *Cryptography and coding* (*Cirencester*, 1997), 283–294, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99h:94054** 94A60

Govaerts, Willy Computation of singularities in large nonlinear systems. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 867–880. (Michael Dellnitz) **99b:65070** 65H17

— (*with* Böhmer, Klaus; Janovský, Vladimír) Numerical detection of symmetry breaking bifurcation points with nonlinear degeneracies. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1097–1108. (Philip J. Aston) **99k:58125** 58F14 (34C23)

Govda, Yu. Ī. On energy spaces of a positive-definite operator. (Ukrainian. English and Russian summaries) *Mat. Stud.* **10** (1998), *no.* 1, 79–84. 35J45 (35A25, 35G05, 47F05)

Govedarica, V. (*with* Jovanovic, M. V.) Some remarks on the Bernoulli inequality. (English summary) *Bull. Soc. Math. Banja Luka* **4** (1997), 33–35. 26D20

Govender, M. (*with* Maartens, Roy; Maharaj, S. D.) Inflation driven by causal heat flux. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 815–819. 83F05

Gover, A. Rod (*with* Bailey, Toby N.; Eastwood, Michael G.; Mason, Lionel J.) The Funk transform as a Penrose transform. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 67–81. (Peter R. Law) **99i:32037** 32L25

Govil, Narendra K. Some inequalities concerning derivatives of a polynomial and related entire functions. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 91–99, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 26D07 (30D15)

— An L^p inequality for self-inversive polynomials. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 213–215. (George L. Csordas) **99b:30002** 30A10 (30C10, 30E10)

— (*with* Mohapatra, Ram Narayan) Inequalities for maximum modulus of rational functions with prescribed poles. (English summary) *Approximation theory*, 255–263, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Lai Yi Zhu) **99f:30002** 30A10 (30C10)

— (*with* Mohapatra, Ram Narayan) Bernstein type inequalities for rational functions with prescribed poles. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 249–270, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ralitza Kovacheva) **99c:41028** 41A17 (26D07, 30C10)

— *see also* **Approximation theory, 99a:00051** *and* **Fourier analysis, approximation theory and applications, 99d:00019**

Govin, M. (*with* Jauslin, H. R.; Cibils, M.) Julia sets in iterative KAM methods for eigenvalue problems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1835–1846. 58F27

— (*with* Chandre, C.; Jauslin, H. R.) Kolmogorov-Arnold-Moser renormalization-group approach to the breakup of invariant tori in Hamiltonian systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1536–1543. (Luigi Chierchia) **99e:58150** 58F27 (34C27, 70H05)

— (*with* Chandre, C.; Jauslin, H. R.; Koch, Hans) Universality for the breakup of invariant tori in Hamiltonian flows. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6612–6617. (Summary) **99b:58206** 58F27 (70H05)

Govindan, Rajeev (*with* Langston, Michael A.; Yan, Xudong) Approximating the pathwidth of outerplanar graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 17–23. (Summary) **99f:68156** 68R10 (05C85, 68Q25)

— (*with* Booth, Heather D.; Langston, Michael A.; Ramachandramurthi, Siddharthan) Fast algorithms for K_4 immersion testing. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 344–378. (Hans L. Bodlaender) **99m:68147** 68R10 (05C10, 05C85, 68Q25)

Govindan, Srihari (*with* Wilson, Robert B.) Equivalence and invariance of the index and degree of Nash equilibria. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 56–61. (Yeneng Sun) **99d:90144** 90D05 (90A14, 90C29)

Govindan Potti, P. K. (*with* Sarma, M. S.; Nageswara Rao, B.) On the exact periodic solution for $\ddot{x} + \text{sign}(x) = 0$. *J. Sound Vibration* **220** (1999), *no.* 2, 378–381. 34C15 (34C25)

Govindarajan, Suresh Heterotic M(atrix) theory at generic points in Narain moduli space. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 589–608. (Summary) **99c:81183** 81T30 (32J81)

Govindarajan, T. R. Knot solitons. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3179–3184. (Summary) **99i:81144** 81T10 (57M25)

— (*with* Balachandran, A. P.; Vaidya, Sachindeo; Bimonte, G.; Gupta, K. S.; John, Varghese) Current oscillations, interacting Hall discs and boundary CFTs. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1061–1085. (Summary) **99k:81276** 81T40 (81R10, 81V10)

— (*with* Suneeta, V.; Kaul, Romesh K.) BTZ black hole entropy from Ponzano-Regge gravity. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 5, 349–358. (Summary) **99k:83084** 83C57 (83C27)

Govindarajulu, Z. A note on two-stage fixed-width interval estimation procedure for normal variance. II. (English summary) *Indian J. Math.* **39** (1997), *no.* 3, 221–234. (Summary) **99e:62138** 62L12 (62L10)

— A note on two-stage and sequential fixed-width intervals for the parameter in the uniform density. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 179–188. (Sharaschandra R. Adke) **99b:62121** 62L12 (62G15)

— (*with* Shetty, I. D.; Bhat, Sharada V.) A class of distribution-free tests for testing homogeneity against ordered location alternatives. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 747–760. (Summary) **99c:62145** 62G20

— (*with* Dmitrienko, A. A.) The "demon" problem of Youden: exponential case. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 4, 517–523. (Summary) **99e:62089** 62G30 (62G10)

— Erratum: "A note on two-stage and sequential fixed-width intervals for the parameter in the uniform density" [Statist. Probab. Lett. **36** (1997), no. 2, 179–188; MR 99b:62121]. *Statist. Probab. Lett.* **42** (1999), *no.* 2, 213–215. 62L12 (62G15)

Govinda Rao, H. S. (*with* Rathod, H. T.) Integration of trivariate polynomials over linear polyhedra in Euclidean three-dimensional space. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 355–385. (Summary) **99a:52018** 52B55 (68U07)

Govinder, K. S. (*with* Flessas, George P.; Leach, P. G. L.) Remarks on the symmetry Lie algebras of first integrals of scalar third order ordinary differential equation with maximal symmetry. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 63–79. (Qingjiu Qiu) **99g:34026** 34A26 (58F35)

— (*with* Heil, T. G.; Uzer, T.) Approximate Noether symmetries. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 127–131. (Mircea Crasmareanu) **99a:70027** 70H33 (58F35, 70F05)

— (*with* Leach, P. G. L.) An elementary demonstration of the existence of sl(3, **R**) symmetry for all second-order linear ordinary differential equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 945–946 (*electronic*). (Summary) **99g:34028** 34A30

Gow, Rod George Salmon 1819–1904: his mathematical work and influence. *Irish Math. Soc. Bull. No.* 39 (1997), 26–76. (Jeremy Gray) **99b:01020** 01A70 (01A55)

— (*with* Willems, Wolfgang) On the quadratic type of some simple self-dual modules over fields of characteristic two. *J. Algebra* **195** (1997), *no.* 2, 634–649. (Gerhard Hiss) **99f:20019** 20C33 (20C20)

Gowda, M. Seetharama (*with* Sznajder, Roman) Weak univalence and connectedness of inverse images of continuous functions. (English summary) *Math. Oper. Res.* **24** (1999), *no.* 1, 255–261. (Romesh Saigal) **99m:90143** 90C33

Gower, B. S. Henri Poincaré and Bruno de Finetti: conventions and scientific reasoning. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 4, 657–679. (Umberto Bottazzini) **99k:01035** 01A60 (00A30, 01A55)

Gower, J. C. (*with* Zeilman, B.) Orthogonality and its approximation in the analysis of asymmetry. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 183–193. (Ilse C. F. Ipsen) **99d:15005** 15A18 (15A23, 65F99)

Gowers, William Timothy Banach spaces with few operators. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 191–201, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Paolo Terenzi) **99m:46034** 46B20 (46–02)

— A remark about the scalar-plus-compact problem. (English summary) *Convex geometric analysis* (*Berkeley, CA*, 1996), 111–115, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Mikhail Ostrovskiĭ) **99m:46015** 46B03 (47B06, 47B07)

— *see also* **Bollobás, Béla, 99k:01048**; **Lepowsky, James et al., 99k:01066**; **Jackson, Allyn**; **Bollobás, Béla**; **Rajan, C. S. et al.** *and* **Quirós, Adolfo**

Gowrisankaran, Kohur (*with* Singman, David) Thin sets and boundary behavior of solutions of the Helmholtz equation. (English summary) *Potential Anal.* **9** (1998), *no.* 4, 383–398. (Neil A. Watson) **99k:31007** 31B25 (35J05)

Goy, F. Clack synchronization in inertial frames and gravitational fields. (English summary) *Hadronic J.* **20** (1997), *no.* 2, 213–218. 83A05

Goyal, Abha (*with* Chandra, Suresh; Husain, I.) On symmetric duality in mathematical programming with F-convexity. (English summary) *Optimization* **43** (1998), *no.* 1, 1–18. (Summary) **99a:90157** 90C26 (49N15)

Goyal, Anil (*with* Shrivastava, Rajeev P.; Agrawal, R. D.) Some finite integrals involving the I-function of two variables. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 1, 87–92. 33C60

— (*with* Shrivastava, Rajeev P.; Agrawal, R. D.) Application of I-function of two variables in problem of vibration in a string. *J. Indian Acad. Math.* **20** (1998), *no.* 2, 163–168. 73D30

Goyal, S. P. (*with* Saxena, Sunil) On a general fractional integral operator, generalized polynomials and the H-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 180–187. (Summary) **99e:33015** 33C60

— (*with* Saigo, Megumi; Saxena, Sunil) A theorem relating a generalized Weyl fractional integral, Laplace and Varma transforms with applications. (English summary) *J. Fract. Calc.* **13** (1998), 43–56. (Summary) **99a:44001** 44A10 (26A33, 44A15)

— (*with* Salim, Tariq O.) A class of convolution integral equations involving a generalized polynomial set. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 55–62. (Summary) **99b:45003** 45E10 (33C60)

Goyal, Vivek K. (*with* Vetterli, Martin; Thao, Nguyen T.) Quantized overcomplete expansions in $\mathbf{R}^N$: analysis, synthesis, and algorithms. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 16–31. (Summary) **99a:94004** 94A12

Göz, Manfred F. (*with* Munz, Claus-Dieter) Approximate Riemann solvers for fluid flow with material interfaces. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 211–235, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76106** 76M25 (65M60)

Goździewski, Krzysztof (*with* Maciejewski, Andrzej J.) Nonlinear stability of the Lagrangian libration points in the Chermnykh problem. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 1, 41–58. (Simos Ichtiaroglou) **99i:70014** 70F05 (70F15, 70K20)

Goze, Michel (*with* Makhlouf, Abdenacer) Classification of rigid associative algebras in low dimensions. *Lois d'algèbres et variétés algébriques* (*Colmar*, 1991), 5–22, *Travaux en Cours*, 50, *Hermann, Paris*, 1996. (From the introduction) **99a:16002** 16B99 (16W20)

— (*with* Khakimdzhanov, Yu. B.) Some nilpotent Lie algebras and its applications. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 49–64, *Kluwer Acad. Publ., Dordrecht*, 1998. (Xanthippi S. Agrafiotou) **99g:17021** 17B30

— (*with* Ancochea Bermudez, J. M.) On the nonrationality of rigid Lie algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2611–2618. (Roger Carles) **99m:17036** 17B99

— *see also* **Algebra and operator theory, 99d:00012**

Gozzi, E. Cartan calculus and its generalizations via a path-integral approach to classical mechanics. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 269–277. (Summary) **99c:58030** 58D30 (58F05, 70H05)

— Universal hidden supersymmetry in classical mechanics and its local extension. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 166–172, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81151** 81S40 (70G50)

Gozzi, Fausto (*with* Tessitore, Maria Elisabetta) Optimality conditions for Dirichlet boundary control problems of parabolic type. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 34 *pp.* (*electronic*). (Fredi Tröltzsch) **99j:49049** 49K20 (34G20, 35K55, 47N10, 49K27, 49N35)

de Graaf, Jan (*with* Dorofeev, S. V.) Some maximality results for effect-valued measures. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 3, 349–369. (S. Gudder) **99c:81011** 81P10 (46L50)

— (*with* van Berkel, C. A. M.) The Fourier-Jacobi transform of analytic functions which are (almost) periodic in the imaginary direction. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 2, 125–133. (A. K. Agarwal) **99k:33001** 33B10 (30D15, 33B15, 42A38)

de Graaf, Jeannette M. (*with* Bäck, Thomas; Kok, Joost N.; Kosters, Walter A.) Theory of genetic algorithms. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 161–192. (R. Shonkwiler) **99g:68166** 68T05

de Graaf, W. A. (*with* Ivanyos, Gábor; Küronya, A.; Rónyai, Lajos) Computing Levi decompositions in Lie algebras. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 291–303. (Andrej A. Zolotykh) **99a:17001** 17–04 (16–04, 17B05)

— (*with* Cohen, Arjeh Marcel; Rónyai, Lajos) Computations in finite-dimensional Lie algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 129–138. (Hartmut Schlosser) **99g:17002** 17–08 (17B01, 68Q40)

Gräbe, H.-G. (*with* Vlasov, A. T.) On a formula of Coll-Gerstenhaber-Giaquinto. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 129–142. (Thierry Dana-Picard) **99k:16062** 16S80 (16E40, 16W30)

Grabiner, Sandy Generalizations of Fredholm operators. (English summary) *Banach algebras '97* (*Blaubeuren*), 169–187, *de Gruyter, Berlin*, 1998. (Vladimir Müller) **99i:47022** 47A53 (47A05)

Grabinsky, Guillermo How can one (painlessly) prove the regularity of stochastic matrices? (Spanish) *Miscelánea Mat. No.* 20 (1994), 51–55. 15A51

Grabisch, Michel Fuzzy integral as a flexible and interpretable tool of aggregation. (English summary) *Aggregation and fusion of imperfect information*, 51–72, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 28E10 (90C70)

— (*with* Orlovskiĭ, S. A.; Yager, Ronald R.) Fuzzy aggregation of numerical preferences. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 31–68, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C29 (04A72, 90A07, 90A08, 90C70)

Grable, David A. (*with* Panconesi, Alessandro) Fast distributed algorithms for Brooks-Vizing colourings. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 473–480, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C15, 05C85, 68Q10, 68Q25)

— A large deviation inequality for functions of independent, multi-way choices. *Combin. Probab. Comput.* **7** (1998), *no.* 1, 57–63. (Colin J. H. McDiarmid) **99j:60037** 60F10 (05C15, 05C80, 68R10)

— (*with* Dubhashi, Devdatt; Panconesi, Alessandro) Near-optimal, distributed edge colouring via the nibble method. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 225–251. (Summary) **99f:68154** 68R10 (05C15, 05C85, 68Q10)

Grabmeier, Johannes *see* **Symbolic rewriting techniques, 99a:68014**

Grabmüller, Hans (*with* Arango, Jaime) Wrinkle-free deformations of curved circular elastic membranes with an unloaded apex. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 539–564. (Summary) **99d:73054** 73K10 (34B15, 73C50)

— (*with* Arango, Jaime; Meisner, Andreas) Curved annular elastic membranes under partially vanishing surface load. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 5, 683–709. (Summary) **99j:73027** 73C50 (73K10)

Grabner, Peter J. (*with* Barbolosi, Dominique) Distribution des coefficients multinomiaux et q-binomiaux modulo p. (English summary) [Distribution of multinomial and q-binomial coefficients modulo p] *Indag. Math.* (*N.S.*) **7** (1996), *no.* 2, 129–135. (Jean-Loup Mauclaire) **99h:11013** 11B65

— (*with* Klinger, B.; Tichy, Robert F.) Discrepancies of point sequences on the sphere and numerical integration. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 95–112, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Gheorghe Coman) **99d:65069** 65D30 (65D15)

— (*with* Herendi, Tamás; Tichy, Robert F.) Fractal digital sums and codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 1, 33–39. (Michael Drmota) **99c:11150** 11T23 (11A63, 11T71, 94B99)

— (*with* Strauch, Oto; Tichy, Robert F.) Maldistribution in higher dimensions. (English summary) *Math. Pannon.* **8** (1997), *no.* 2, 215–223. (Gerhard Larcher) **99a:11094** 11K38 (11K31)

— Functional iterations and stopping times for Brownian motion on the Sierpiński gasket. (English summary) *Mathematika* **44** (1997), *no.* 2, 374–400. (Ben Hambly) **99b:60128** 60J60 (30D05)

— (*with* Kirschenhofer, Peter; Prodinger, Helmut) The sum-of-digits function for complex bases. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 20–40. (M. Mendès France) **99e:11010** 11A63

— (*with* Knopfmacher, Arnold) Metric properties of Engel series expansions of Laurent series. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 233–243. (V. Drobot) **99m:11089** 11K55 (11T06)

— (*with* Tichy, Robert F.) Equidistribution and Brownian motion on the Sierpiński gasket. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 147–164. (Jörg-Uwe Löbus) **99g:60007** 60B05 (11K41, 60J65)

guillamon i Grabolosa, Toni *see* **Guillamon i Grabolosa, Toni**

Grabovsky, Yury (*with* Milton, Graeme W.) Exact relations for composites: towards a complete solution. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 623–632 (*electronic*). (David J. Bergman) **99j:73008** 73B27 (35B27, 49J45)

— (*with* Cherkaev, Andrej V.; Movchan, A. B.; Serkov, S. K.) The cavity of the optimal shape under the shear stresses. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 33, 4391–4410. (Summary) **99e:73040** 73C99 (73B27, 73K20, 73K40, 73V35)

— (*with* Milton, Graeme W.) Rank one plus a null-Lagrangian is an inherited property of two-dimensional compliance tensors under homogenisation. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 283–299. (Leonid V. Gibiansky) **99b:73005** 73B27 (73C02, 73K20)

Grabowski, J. *see* **Grabowski, Janusz**

Grabowski, J.-U. Binary operations suffice to test collapsing of monoidal intervals. (English summary) *Algebra Universalis* **38** (1997), *no.* 1, 92–95. (Kazimierz Głazek)

99c:08004 08A40 (08A60, 20M20)

Grabowski, Janusz (*with* Marmo, Giuseppe) Deformed Tulczyjew triples and Legendre transform. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 279–294. (Frans Cantrijn) **99d:58062** 58F05

— (*with* Urbański, Paweł) Tangent and cotangent lifts and graded Lie algebras associated with Lie algebroids. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 5, 447–486. (Summary) **99k:58199** 58H05 (17B70, 58F05)

— (*with* Alekseevskiĭ, D. V.; Marmo, Giuseppe; Michor, Peter W.) Completely integrable systems—a generalization. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 22, 1637–1648. (Charles-Michel Marle) **99f:58089** 58F07 (22E70, 58F05, 70H05)

— (*with* Urbański, Paweł) Lie algebroids and Poisson-Nijenhuis structures. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 195–208. (Raúl Ibáñez) **99c:58180** 58H05 (17B66, 58F05)

— (*with* Alekseevskiĭ, D. V.; Marmo, Giuseppe; Michor, Peter W.) Poisson structures on double Lie groups. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 340–379. (Johannes Huebschmann) **99g:58048** 58F05 (17B45, 53C15, 58F07)

— (*with* Marmo, Giuseppe) Generalized n-Poisson brackets on a symplectic manifold. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3185–3192. (David Martín de Diego) **99m:53055** 53C15 (58F05)

Grabowski, Józef (*with* Pempera, Jarosław; Smutnicki, Czesław) Scheduling in production of concrete wares. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 192–196, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35

Grabowski, M. P. (*with* Mathieu, Pierre[1]) The structure of the conservation laws in integrable spin chains. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 71–78, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:82027** 82B23 (82B20)

Grabowski, Piotr Admissibility of observation functionals. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1161–1173. 93B07 (93C25)

— Spectral approach to well-posedness and stability analysis of hybrid feedback systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 40 *pp.* (*electronic*). (Summary) **99h:93072** 93D05 (47D06, 47N70, 93C30, 93C70)

— The LQ controller synthesis problem: an operator case. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 313–319. (Hartmut Logemann) **99h:49045** 49N10 (93C25, 93D15)

Grace, S. R. (*with* El-Morshedy, H. A.) Oscillation and nonoscillation theorems for certain second-order difference equations with forcing term. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 614–625. (T. J. Mahar) **99d:39005** 39A10 (34C10)

— (*with* Abadeer, A. A.; El-Morshedy, H. A.) On the oscillation of certain second order difference equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 447–455. (I. P. Stavroulakis) **99k:39010** 39A10 (39A12)

— Oscillation of certain neutral difference equations of mixed type. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 241–254. (I. P. Stavroulakis) **99k:39011** 39A10 (39A12)

— (*with* Agarwal, Ravi P.) Oscillation of certain systems of functional-differential equations. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 45–52. (M. K. Grammatikopoulos) **99m:34154** 34K15

Gracey, J. A. (*with* Ferreira, P. M.) Non-zeta knots in the renormalization of the Wess-Zumino model? (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 85–92. (Summary) **99b:81151** 81T15 (81T18)

Grach, German (*with* Fried, Eliot) An order-parameter-based theory as a regularization of a sharp-interface theory for solid-solid phase transitions. *Arch. Rational Mech. Anal.* **138** (1997), *no.* 4, 355–404. (Matthias Wilhelm Winter) **99i:73009** 73B30 (35Q72, 73B40, 80A22)

clavero Gracia, Carmelo *see* **Clavero Gracia, Carmelo**

Gracia, J. L. (*with* Clavero Gracia, Carmelo) Uniform convergence of a classical scheme on Shishkin meshes for a convection-diffusion problem. (Spanish. English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 237–242, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N50 (76M25)

Gracia, Juan M. (*with* Velasco, Francisco E.) Global analytic block similarity to a Brunovsky form. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 233–247. (Feng-Sheng Tu) **99j:93050** 93C10 (15A21)

Gràcia, Xavier The fibre derivative and some of its applications. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 43–58. (Narciso Román-Roy) **99k:58069** 58F05 (58E30)

Gracia-Bondía, J. M. (*with* Estrada, Ricardo; Várilly, J. C.) On summability of distributions and spectral geometry. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 1, 219–248. (Éric Leichtnam) **99a:58153** 58G18 (46F99, 58B30, 58G11, 58G26)

— (*with* Figueroa, Héctor; Lizzi, Fedele; Várilly, J. C.) A nonperturbative form of the spectral action principle in noncommutative geometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 329–339. (Daniela Bigatti) **99e:58179** 58G15 (46L87, 58B30, 58G40, 81V22)

Gracia Melero, Juan Miguel *see* **de Olazábal, Juan Manuel, 99g:15001**

Graczyk, Jacek (*with* Świątek, Grzegorz) Polynomial-like property for real quadratic polynomials. (English summary) *Topology Proc.* **21** (1996), 33–112. (Feliks Przytycki) **99k:58156** 58F23 (30C62, 54H20, 58F03)

— (*with* Świątek, Grzegorz) Generic hyperbolicity in the logistic family. *Ann. of Math.* (2) **146** (1997), *no.* 1, 1–52. (Feliks Przytycki) **99b:58079** 58F03 (30C10, 30C62, 58F23)

Graczyk, Piotr Function c on an ordered symmetric space. (English summary) *Bull. Sci. Math.* **121** (1997), *no.* 7, 561–572. (Summary) **99i:43013** 43A85

Graczyńska, Ewa Regular identities. *Semigroups* (*Luino*, 1992), 60–85, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 08B05

— G. Birkhoff's theorems for M-solid varieties. (English summary) *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 3, 105–116. 08B05

el Gradechi, Amine M. *see* **El Gradechi, Amine M.**

Grädel, Erich (*with* Börger, Egon; Gurevich, Yuri) ★ The classical decision problem. With an appendix by Cyril Allauzen and Bruno Durand. Perspectives in Mathematical Logic. *Springer-Verlag, Berlin*, 1997. xii+482 *pp. ISBN* 3-540-57073-X (Roman Murawski) **99b:03004** 03–02 (03B10, 03B25, 03C13, 03D15, 03D35, 68Q15, 68Q68)

Gradinaru, Mihai (*with* Ben Arous, Gerard) Singularities of hypoelliptic Green functions. (English summary) *Potential Anal.* **8** (1998), *no.* 3, 217–258. (Kazuaki Taira) **99e:35025** 35H05 (60H10, 60J60)

Gradl, H. (*with* Dorfmeister, J.; Szmigielski, Jacek) Systems of PDEs obtained from factorization in loop groups. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 1, 1–58. (Henrik Aratyn) **99k:58088** 58F07 (17B67, 22E67)

Grady, Michael (*with* Bevis, Jean) Toroidal maps of modular quotient groups. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 25–38. (Marston Conder) **99f:20053** 20F05 (05C25, 57M50)

Graef, John R. (*with* Bartušek, Miroslav; Došlá, Zuzana) On L^2 and limit-point type solutions of fourth order differential equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 175–187. (Summary) **99a:34048** 34B15 (34B20, 34C10)

— (*with* Karsai, János) On irregular growth and impulses in oscillator equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 253–262, *Gordon and Breach, Amsterdam*, 1997. (Ch. G. Philos) **99e:34036** 34C10 (34C15)

— (*with* Miciano-Cariño, Agnes; Qian, Chuanxi) A Sturm type comparison theorem for higher order nonlinear difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 263–270, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:39005** 39A10

— (*with* Bartušek, Miroslav; Došlá, Zuzana) Nonlinear limit-point type solutions of nth order differential equations. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 122–139. (Anton Zettl) **99c:34042** 34B20 (34C99)

— (*with* Thandapani, E.; Sundaram, Pon.; Spikes, Paul W.) Asymptotic behaviour and oscillation of solutions of neutral delay difference equations of arbitrary order. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 539–551. (Narahari Parhi) **99j:39011** 39A10 (39A11)

— (*with* Miciano-Cariño, Agnes; Qian, Chuanxi) A comparison result for nonlinear difference equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1547–1553. (*see* **98i:00029**) 39A10

— (*with* Karsai, János) Intermittant and impulsive effects in second order systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1561–1571. (O. S. Chernikova) **99m:34011** 34A37 (34C10, 34D99)

— (*with* Karsai, János) On properties of nonlinear second order systems under nonlinear impulse perturbations. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations* (*Mississippi State, MS*, 1997), 97–108 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Yuri V. Rogovchenko) **99k:34110** 34D20 (34A37, 34D05)

— (*with* Bartušek, Miroslav; Došlá, Zuzana) The nonlinear limit-point/limit-circle problem for higher order equations. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 13–22. (Summary) **99c:34055** 34C10 (34B15)

— (*with* Qian, Chuanxi) Asymptotic behavior of forced delay equations with periodic coefficients. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 551–564. (Vera V. Malygina) **99g:34155** 34K25

— (*with* Thandapani, E.; Manuel, M. Maria Susai; Spikes, Paul W.) Monotone properties of certain classes of solutions of second-order difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 291–297. (Binggen Zhang) **99k:39037** 39A10 (39A12)

— (*with* Farkas, Miklos; Qian, Chuanxi) Asymptotic periodicity of delay differential equations. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 150–165. (Ovide Arino) **99i:34098** 34K15

— (*with* Gera, M.; Greguš, Michal) On oscillatory and asymptotic properties of solutions of certain nonlinear third order differential equations. *Nonlinear Anal.* **32** (1998), *no.* 3, 417–425. (M. Cecchi) **99c:34057** 34C10 (34C15)

— *see also* **Proceedings: Conference on Difference Equations and Computational Simulations, 99h:00032**

Graev, Mark I. (*with* Gel′fand, Izrail′ Moiseevich; Postnikov, A. E.) Combinatorics of hypergeometric functions associated with positive roots. (English summary) *The Arnold-Gelfand mathematical seminars*, 205–221, *Birkhäuser Boston, Boston, MA*, 1997. (A. Klimyk (Zbl 876.33011)) **99k:33046** 33C80 (32G34)

— (*with* Gel′fand, Izrail′ Moiseevich) GG-functions and their connection with general hypergeometric functions. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 3–48; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 639–684. (Alexander A. Kalyuzhnyĭ) **99b:33031** 33C70

Gräf, Albert (*with* Stumpf, M.; Weißenfels, Gerhard) On coloring unit disk graphs. (English summary) *Algorithmica* **20** (1998), *no.* 3, 277–293. (Summary) **99a:68134** 68R10 (05C15, 05C85, 68Q25)

— Distance graphs and the T-coloring problem. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 153–166. (Ioan Tomescu) **99j:05062** 05C12 (05C15, 05C85, 68Q25)

Graf, B. (*with* Garloff, Jürgen) Solving strict polynomial inequalities by Bernstein expansion. *Symbolic methods in control system analysis and design*, 339–352, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (65H10)

Graf, Gian Michele (*with* Fefferman, Charles L.; Fröhlich, Jürg) Stability of nonrelativistic quantum mechanical matter coupled to the (ultraviolet cutoff) radiation field. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **93** (1996), *no.* 26, 15009–15011 (*electronic*). (Summary) **99b:81278** 81V35 (81Q10)

— (*with* Schenker, Daniel) Classical action and quantum N-body asymptotic completeness. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 103–119, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Fumio Hiroshima) **99c:81035** 81Q10 (47N50, 81U10)

— (*with* Schenker, Daniel) 2-magnon scattering in the Heisenberg model. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 91–107. (Hiroshi Isozaki) **99a:82018** 82B20 (47A40, 47N55, 81U99)

— Stability of matter in classical and quantized fields. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 153–162 (*electronic*). (Giorgio Cattapan) **99h:81231** 81V45

Graf, Thorsten (*with* Veezhinathan, Kamakoti) An optimal algorithm for computing visible nearest foreign neighbors among colored line segments. (English summary)

Algorithm theory—SWAT'98 (Stockholm), 59–70, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05
— (*with* Kamakoti, V.; Janaki Latha, N. S.; Pandu Rangan, C.) The colored sector search tree: a dynamic data structure for efficient high-dimensional nearest-foreign-neighbor queries. (English summary) *Computing and combinatorics (Taipei, 1998)*, 35–44, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68P05 (68U05)
Grafakos, Loukas (*with* Stefanov, Atanas) L^p bounds for singular integrals and maximal singular integrals with rough kernels. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 455–469. (Donald Krug) **99i:42019** 42B20 (42B30)
— (*with* Kinnunen, Juha) Sharp inequalities for maximal functions associated with general measures. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 717–723. (Kenneth F. Andersen) **99g:42020** 42B25 (26D15)
Grafe, F. (*with* Inarra, Elena; Zarzuelo Zarzosa, José Manuel) Population monotonic allocation schemes on externality games. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 71–80. (Summary) **99j:90123** 90D12
Graffi, S. (*with* Gazeau, Jean Pierre) Quantum harmonic oscillator: a relativistic and statistical point of view. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 815–839. (J.-P. Antoine) **99f:81044** 81Q10 (81R30, 82C10)
— (*with* Borsari, I.; Camia, F.; Unguendoli, Francesco) Absence of glassy behaviour in the deterministic spherical and *XY* models. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1127–1139. (Summary) **99c:82011** 82B20
Graftieaux, Philippe Paramètres algébriques de groupes formels et critères d'isogénie. (English and French summaries) [Algebraic parameters for formal groups and isogeny criteria] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 7–12. (Antoine Chambert-Loir) **99i:14047** 14K02 (14L05)
Gragg, William B. Stabilization of the uhqr-algorithm. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 139–154, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 65F10 (94A12)
Gragnani, Alessandra Bifurcation analysis of two predator-prey models. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 97–108. (Si Ming Zhu) **99c:92056** 92D40 (34C23)
— (*with* Milik, Alexandra; Prskawetz, Alexia; Sanderson, Warren C.) Persistent unstable equilibria and the grace period in dynamic models of environmental change. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 1, 3–25. (Bing Hong Wang) **99g:92043** 92D40 (34C23, 34E15, 90A30, 92D25)
Graham, Carl (*with* Méléard, Sylvie) A large deviation principle for a large star-shaped loss network with links of capacity one. (English summary) Statistical mechanics of large networks (Rocquencourt, 1996). *Markov Process. Related Fields* **3** (1997), *no.* 4, 475–492. (Anatolii A. Pukhal'skiĭ) **99h:60054** 60F10 (60K20, 60K25)
Graham, Edward (*with* Forsyth, P. A.) Preconditioning methods for very ill-conditioned three-dimensional linear elasticity problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 1, 77–99. (Summary) **99j:73096** 73V05
Graham, Gerald *see* **Sarkowski, Heinz**
Graham, I. G. (*with* Ganesh, Mahadevan; Sivaloganathan, J.) A new spectral boundary integral collocation method for three-dimensional potential problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 778–805 (*electronic*). (Summary) **99b:65173** 65R20 (45L05)
Graham, J. J. (*with* Lehrer, G. I.) The representation theory of affine Temperley-Lieb algebras. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 3-4, 173–218. (Richard M. Green) **99i:20019** 20C99 (16G99, 57M25)
Graham, Michael D. Effect of axial flow on viscoelastic Taylor-Couette instability. (English summary) *J. Fluid Mech.* **360** (1998), 341–374. (Summary) **99a:76061** 76E99 (76A10)
— (*with* Baier, Gretchen) Two-fluid Taylor-Couette flow: experiments and linear theory for immiscible liquids between corotating cylinders. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3045–3055. (Summary) **99g:76052** 76E10 (76-05, 76U05)
— (*with* Black, William B.) Effect of wall slip on the stability of viscoelastic plane shear flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1749–1756. 76A10 (76E99)
Graham, N. *see* **Graham, Noah**
howgrave-Graham, Nicholas *see* **Howgrave-Graham, Nicholas**
Graham, Noah (*with* Jaffe, R. L.) Energy, central charge, and the BPS bound for 1 + 1-dimensional supersymmetric solitons. (English summary) *Nuclear Phys. B* **544** (1999), *no.* 1-2, 432–447. 81T15 (81T60)
Graham, Robert (*with* Paternoga, Robert) Chern-Simons state for the nondiagonal Bianchi type IX model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 083501, 22 *pp.* (Summary) **99k:83044** 83C45
Graham, Ronald L. (*with* Knuth, Donald E.; Patashnik, Oren) ★ Matematyka konkretna. (Polish. Polish summary) [Concrete mathematics] Translated from the 1994 English original by P. Chrząstowski [Piotr Chrząstowski-Wachtel], A. Czumaj, L. Gąsieniec and M. Raczunas. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 719 *pp. ISBN* 83-01-12124-6 (Editors) **99c:68001** 68–01 (00–01, 00A05, 05–01, 68Rxx)
— (*with* Chung, F. R. K.; Yau, Shing-Tung) On sampling with Markov chains. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 55–77. (Uriel G. Rothblum) **99c:15010** 15A18 (60J15, 60J20, 62D05)
— (*with* Chung, F. R. K.) Stratified random walks on the *n*-cube. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 199–222. (David J. Aldous) **99d:60077** 60J10 (60J15)
— (*with* Chung, F. R. K.) ★ Erdős on graphs. (English summary) His legacy of unsolved problems. *A K Peters, Ltd., Wellesley, MA*, 1998. xiv+142 *pp. ISBN* 1-56881-079-2; 1-56881-111-X (R. H. Schelp) **99b:05031** 05Cxx
— (*with* Knuth, Donald E.; Patashnik, Oren) ★ Matematyka konkretna. (Polish. Polish summary) [Concrete mathematics] Translated from the second English (1994) edition by P. Chrząstowski, A. Czumaj, L. Gąsieniec and M. Raczunas. Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 719 *pp. ISBN* 83-01-12124-6 (Editors) **99m:68002** 68–01 (00–01, 00A05, 68Rxx)
— (*with* Chung, F. R. K.) Forced convex *n*-gons in the plane. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 367–371. (Summary) **99e:52020** 52C10
— (*with* Lubachevsky, B. D.; Nurmela, Kari J.; Östergård, Patric R. J.) Dense packings of congruent circles in a circle. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 139–154. (A. Florian) **99b:52040** 52C15 (05B40)
— The work of [Nevanlinna Prize winner] Peter W. Shor. *Mitt. Disch. Math.-Ver.* **1998**, *no.* 3, 52–56. 01A70
Graham, W. R. (*with* Peraire, Jaime; Tang, K. Y.) Optimal control of vortex shedding using low-order models. I. Open-loop model development. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 945–972. 49N55 (76D05)
— (*with* Peraire, Jaime; Tang, K. Y.) Optimal control of vortex shedding using low-order models. II. Model-based control. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 973–990. 49N55 (76D05)
Graham, William A. (*with* Edidin, Dan) Localization in equivariant intersection theory and the Bott residue formula. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 619–636. (Michel Brion) **99g:14005** 14C17 (14L30, 55N91, 57R20)
— (*with* Edidin, Dan) Equivariant intersection theory. *Invent. Math.* **131** (1998), *no.* 3, 595–634. (Burt Totaro) **99j:14003a** 14C17 (14F99)
— *see also* **Vistoli, Angelo, 99j:14003b**
Graham-Eagle, James Lower and upper solutions for functional equations of elliptic type. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 41–48. (Xin Kang Guo) **99h:35064** 35J65
Grahne, Gösta (*with* Spyratos, Nicolas; Stamate, Daniel) Semantics and containment of queries with internal and external conjunctions. (English summary) *Database theory—ICDT '97 (Delphi)*, 71–82, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
— Updates and counterfactuals. (English summary) *J. Logic Comput.* **8** (1998), *no.* 1, 87–117. (David Makinson) **99d:68220** 68T27 (03B60, 03B70)
Grama, Ananth (*with* Kumar, Vipin; Sameh, Ahmed H.) Parallel hierarchical solvers and preconditioners for boundary element methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 337–358 (*electronic*). (Summary) **99e:65165** 65N38 (65F35, 65Y05)
Grama, Ion (*with* Nussbaum, Michael) Asymptotic equivalence for nonparametric generalized linear models. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 2, 167–214. (M. P. Moklyachuk) **99m:62059** 62G07 (62G20)
Gramaglia, Hector (*with* Vaggione, Diego) A note on distributive double *p*-algebras. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 321–327. (Vlad Boicescu) **99m:06021** 06D15
Gramain, André Éléments de $\pi_{2n-1}(S^n)$ d'invariant de Hopf un (d'après J. Adams et M. Atiyah). [Elements of $\pi_{2n-1}(S^n)$ of Hopf invariant one (after J. Adams and M. Atiyah)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 322, 145–151, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 55Q25 (55Q40)
— L'invariance topologique des classes de Pontrjagin rationnelles (d'après S. P. Novikov et L. C. Siebenmann). [Topological invariance of rational Pontryagin classes (after S. P. Novikov and L. C. Siebenmann)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 304, 391–406, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 57R20 (57Q50)
Gramain, François Quelques résultats d'indépendance algébrique. (English summary) [Some results of algebraic independence] Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 173–182 (*electronic*). (Damien Roy) **99h:11079** 11J85
Gramatovici, Radu An efficient parser for a class of contextual languages. (English summary) *Fund. Inform.* **33** (1998), *no.* 3, 211–238. (Summary) **99g:68160** 68S05 (68Q45)
Gramchev, Todor (*with* Biagioni, Hebe A.) Evolution PDE with elliptic dissipative terms: critical index for singular initial data, self-similar solutions and analytic regularity. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 41–46. (Thomas Wanner) **99k:35081** 35K55 (35B65, 35Q99)
— (*with* Biagioni, Hebe A.) Multidimensional Kuramoto-Sivashinsky type equations: singular initial data and analytic regularity. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 21–42. (Bruno Scheurer) **99m:35200** 35Q53 (35B65, 35L75)
— (*with* Cadeddu, L.) Singular asymptotic expansions and delta waves for Burgers' equation. (English summary) *Monatsh. Math.* **126** (1998), *no.* 2, 91–107. (Grzegorz Karch) **99h:35182** 35Q53 (35C20, 35D99)
— (*with* Rodino, Luigi) Gevrey solvability for semilinear partial differential equations. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 1–13. (Summary) **99i:35003** 35A07 (35A27)
Gramlich, Bernhard Modular aspects of rewrite-based specifications. (English summary) *Recent trends in algebraic development techniques (Tarquinia, 1997)*, 253–268, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q42
Grammaticos, B. (*with* Takahashi, Daisuke; Tokihiro, Tetsuji; Ohta, Yasuhiro; Ramani, A.) Constructing solutions to the ultradiscrete Painlevé equations. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7953–7966. (Summary) **99a:39049** 39A12 (82C20)
— (*with* Ramani, A.) Retracing the Painlevé-Gambier classification for discrete systems. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 196–211. (L. A. V. Carvalho) **99f:39006** 39A10 (34A34)
— (*with* Ramani, A.; Ohta, Yasuhiro; Satsuma, Junkichi) Self-duality and Schlesinger chains for the asymmetric d-P_{II} and q-P_{III} equations. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 67–76. (I. P. Stavroulakis) **99f:39029** 39A12
— (*with* Ohta, Yasuhiro; Ramani, A.; Sakai, Hidetaka) Degeneration through coalescence of the *q*-Painlevé VI equation. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3545–3558. (Kuppuswamy Porsezian) **99g:39007** 39A10 (39A12, 58F07)
— (*with* Ramani, A.) From continuous Painlevé IV to the asymmetric discrete Painlevé I. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5787–5798. (Summary) **99e:39070** 39A12 (34A34, 58F07)
— (*with* Tamizhmani, K. M.; Ramani, A.; Kajiwara, Kenji) Coalescence cascades and special-function solutions for the continuous and discrete Painlevé equations. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5799–5810. (Summary) **99e:34013** 34A34 (33C99, 39A12)
— (*with* Ramani, A.; Lafortune, Stéphane) Schlesinger transformations for linearizable equations. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 131–145. (Alexey V. Samokhin) **99k:34015** 34A34 (34A25, 39A10, 58F37)
— (*with* Ramani, A.; Takahashi, Daisuke; Ohta, Yasuhiro) The ultimate discretisation of the Painlevé equations. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 185–196.

(Kuppuswamy Porsezian) **99g:39013** 39A10 (39A12, 58F37)
— (*with* Ramani, A.; Winternitz, Pavel) Discretizing families of linearizable equations. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 382–388. (Summary) **99c:58138** 58F35 (39A12)
— (*with* Joshi, Nalini; Ramani, A.) A bilinear approach to discrete Miura transformations. (English summary) *Phys. Lett. A* **249** (1998), *no.* 1-2, 59–62. (Summary) **99h:58174** 58F37
— (*with* Tamizhmani, K. M.; Satsuma, Junkichi; Ramani, A.) Nonlinear integrodifferential equations as discrete systems. (English summary) *Inverse Problems* **15** (1999), *no.* 3, 787–791. 35Q99 (45K05)
— *see also* **Integrability of nonlinear systems, 99b:58006**
Grammatikopoulos, Myron K. (*with* Tsvetkov, Dimiter Petkov) An extension of the characterization of oscillations to arbitrary functional-differential equations via the Laplace transform. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 418–428. (Vladimir Sh. Burd) **99d:34131** 34K15 (34K40)
— (*with* Philipoff, Philip; Shopolov, Nikolai) An algorithm for inverting the polynomial matrix in the structural solution of the 3D Schrödinger boundary equation problem. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 77–82, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F35 (65N30)
Grammel, G. Estimate of periodic suboptimal controls. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 681–689. (Tzanko D. Donchev) **99k:49044** 49K15 (34H05, 93B05)
Gramsch, Bernhard Lifting of idempotent operator functions. (English summary) *Banach algebras '97* (*Blaubeuren*), 527–533, *de Gruyter, Berlin*, 1998. (H. G. Dales) **99m:46119** 46H10 (47A53)
Gran, M. (*with* Vitale, Enrico M.) On the exact completion of the homotopy category. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 4, 287–297. (Summary) **99i:18006** 18B25 (18A35, 55U99)
Gran, Ulf (*with* Adawi, Tom; Cederwall, Martin; Holm, Magnus; Nilsson, Bengt E. W.) Superembeddings, nonlinear supersymmetry and five-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4691–4715. (Sergey Nikolaevich Roshchupkin) **99j:81129** 81T30
— (*with* Adawi, Tom; Cederwall, Martin; Nilsson, Bengt E. W.; Razaznejad, Behrooz) Goldstone tensor modes. (English summary) *J. High Energy Phys.* **1999**, *no.* 2, *Paper* 1, 21 *pp.* (*electronic*). (Summary) **99k:81210** 81T30 (83E50)
Grandcolas, Michel Weighted diameters of complete sets of conjugate algebraic integers. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 25–36. (Maurice Mignotte) **99c:11130** 11R09 (11Y40)
Grande, R. (*with* Santucci, P.) Anisotropic Sobolev-Besicovitch spaces and a semielliptic differential equation. (English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **21** (1997), 53–67. (Da Chun Yang) **99a:46059** 46E35 (35H05, 35P20, 46N20, 47F05)
— Fourier multipliers for Besicovitch spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 917–935. (Tian-Xiao He) **99k:42023** 42B15 (46F05)
Grande, Zbigniew (*with* Ponomarev, Stanislaw P.) On differentiability of functions of two variables. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 601–610. (F. Mirosław Filipczak) **99g:26030** 26B05 (26A24, 26A46, 26B30)
de Grande-De Kimpe, N. *see* **De Grande-De Kimpe, N.**
Grandell, Jan ★ Mixed Poisson processes. (English summary) Monographs on Statistics and Applied Probability, 77. *Chapman & Hall, London*, 1997. xii+268 *pp. ISBN* 0-412-78700-8 (Volker Schmidt) **99g:60087** 60G55 (60G55, 60K99, 62P05, 90A46)
Grandits, Peter (*with* Krawczyk, Leszek) Closedness of some spaces of stochastic integrals. (English summary) *Séminaire de Probabilités, XXXII*, 73–85, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Martin Schweizer) **99j:60070** 60H05 (90A09)
Grandjean, Étienne (*with* Olive, Frédéric) Monadic logical definability of nondeterministic linear time. (English summary) *Comput. Complexity* **7** (1998), *no.* 1, 54–97. (Christine Charretton) **99d:68081** 68Q15 (03C13, 03D15)
Grandjean, Françoise (*with* Borceux, Francis) Descent theory and Morita theory for ultrametric Banach modules. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 105–116. (L. Narici) **99e:46058** 46H25 (12J25, 46S10)
— (*with* Vitale, Enrico M.) Morita equivalence for regular algebras. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 2, 137–153. (Stefaan Caenepeel) **99h:16007** 16D90
Grandjean, Olivier (*with* Fröhlich, Jürg; Recknagel, Andreas) Supersymmetry and non-commutative geometry. *Quantum fields and quantum space time* (*Cargèse*, 1996), 93–121, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Yuri A. Kordyukov) **99d:58024** 58B30 (46L60, 46L87, 81T60)
— (*with* Fröhlich, Jürg; Recknagel, Andreas) Supersymmetric quantum theory, non-commutative geometry, and gravitation. *Symétries quantiques* (*Les Houches*, 1995), 221–385, *North-Holland, Amsterdam*, 1998. (Alan L. Carey) **99k:58015a** 58B30 (53C55, 58G30, 81Q60, 83C99)
— (*with* Fröhlich, Jürg; Recknagel, Andreas) Supersymmetric quantum theory and differential geometry. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 527–594. (Alan L. Carey) **99k:58015b** 58B30 (53C55, 58G30, 81Q60, 83C99)
r.-Grandjeán L.-Valcárcel, Alfredo *see* **R.-Grandjeán L.-Valcárcel, Alfredo**
Grandmont, Céline (*with* Maday, Yvon) Analyse et méthodes numériques pour la simulation de phénomènes d'interaction fluide-structure. (French summary) [Numerical analysis and methods for the simulation of fluid-structure interaction phenomena] *Actes du 29ème Congrès d'Analyse Numérique: CANum'97* (*Larnas*, 1997), 101–117 (*electronic*), *ESAIM Proc.*, 3, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99e:76040** 76D99 (65C20, 73K70, 76M25)
— (*with* Maday, Yvon) Nonconforming grids for the simulation of fluid-structure interaction. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 262–270, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (G. W. Hedstrom) **99h:76058** 76M10 (65M55, 65M60)
— (*with* Maday, Yvon) Existence de solutions d'un problème de couplage fluide-structure bidimensionnel instationnarie. (English and French summaries) [Existence of solutions for a two-dimensional unsteady fluid-structure interaction problem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 525–530. (Summary) **99g:76034** 76D05 (35Q30, 73K70)
— Existence et unicité de solutions d'un problème de couplage fluide-structure bidimensionnel stationnaire. (English and French summaries) [Existence and uniqueness for a two-dimensional steady-state fluid-structure interaction problem] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 651–656. (Summary) **99e:73077** 73K70 (35Q35, 76D07)
Grandmont, Jean-Michel Expectations formation and stability of large socioeconomic systems. (English summary) *Econometrica* **66** (1998), *no.* 4, 741–781. (Summary) **99h:90027** 90A14 (90A53)
Grando, J. (*with* Ferrieres, X.; Alliot, J. C.) Using time domain methods (FDTD, MOT) for radar cross section (RCS) predictions on perfectly conducting objects. *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 375–390, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08
Grandy, Jeffrey Conservative remapping and region overlays by intersecting arbitrary polyhedra. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 433–466. (Summary) **99i:76114** 76M25 (65Y25)
Graneri, Jorge A χ^2 test of fit based on transformed empirical processes. (Spanish. Spanish summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 49–57, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (*see* **99a:00040**) 62G10
Granero, A. S. *see* **Suárez Granero, Antonio**
suárez Granero, Antonio *see* **Suárez Granero, Antonio**
Granero, Antonio S. *see* **Suárez Granero, Antonio**
Grangé, P. (*with* Baseilhac, P.; Fateev, V. A.) Exact duality between integrable deformations of BC_n and $C_n^{(1)}$ affine Toda theories. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 937–951. (Luigi Martina) **99g:81194** 81T40 (58F07, 81R10, 81T10)
— (*with* Baseilhac, P.; Rausch de Traubenberg, M.) Extension of sine-Gordon field theory from generalized Clifford algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2531–2539. (Summary) **99j:81106** 81T10
Granger, Clive W. J. (*with* Teräsvirta, Timo) A simple nonlinear time series model with misleading linear properties. (English summary) *Econom. Lett.* **62** (1999), *no.* 2, 161–165. (Summary) **99k:62161** 62M10 (62P20)
Granger, Michel (*with* Maisonobe, Philippe) A basic course on differential modules. *Éléments de la théorie des systèmes différentiels. $\mathcal{D}$-modules cohérents et holonomes* (*Nice*, 1990), 103–168, *Travaux en Cours*, 45, *Hermann, Paris*, 1993. (Andrea D'Agnolo) **99c:32008** 32C38
Granirer, Edmond E. The Schur property and the WRNP for submodules of the dual of the Fourier algebra $A(G)$. (English and French summaries) *C. R. Math. Rep. Acad. Sci. Canada* **19** (1997), *no.* 1, 15–20. (Mohammed E. B. Bekka) **99a:43003** 43A15 (22D15, 42B15, 46B22)
— Amenability and semisimplicity for second duals of quotients of the Fourier algebra $A(G)$. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 3, 289–296. (Fereidoun Ghahramani) **99e:43006** 43A30 (22D15, 43A20, 46H20)
— When quotients of the Fourier algebra $A(G)$ are ideals in their bidual and when $A(G)$ has WCHP. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 69–72. (From the introduction) **99h:22006** 22D15 (43A07, 43A30)
Granja Barón, Angel (*with* Martinez, M. C.) Zariski's equisingularity for families of plane curves in positive characteristic. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2241–2263. (Victor Zvonilov) **99g:14034** 14H20 (14G27, 14H10)
Grannan, Eric (*with* Ahn, Hyungsok; Dayal, Mohit; Swindle, Glen) Option replication with transaction costs: general diffusion limits. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 676–707. (Rüdiger Kiesel) **99j:90007** 90A09 (60G44, 60H99)
Grannell, M. J. (*with* Danziger, P.; Griggs, Terry; Rosa, Alexander) On the 2-parallel chromatic index of Steiner triple systems. (English summary) *Australas. J. Combin.* **17** (1998), 109–131. (K. T. Phelps) **99e:05022** 05B07
— (*with* Griggs, Terry; Širáň, Jozef) Surface embeddings of Steiner triple systems. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 325–336. (Ian Anderson) **99g:05028** 05B07 (05C10)
— (*with* Griggs, Terry; Širáň, Jozef) Face 2-colourable triangular embeddings of complete graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 8–19. (Arthur T. White) **99g:05061** 05C10 (05B07, 05C15)
— (*with* Rosa, Alexander) Cycles in 2-factorizations. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 41–64. (Italo José Dejter) **99m:05086** 05C38 (05C70)
Granot, D. (*with* Granot, Frieda; Zhu, W. R.) Characterization sets for the nucleolus. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 359–374. (Kensaku Kikuta) **99m:90171** 90D12 (68Q25, 90D06)
Granot, Frieda (*with* Granot, D.; Zhu, W. R.) Characterization sets for the nucleolus. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 359–374. (Kensaku Kikuta) **99m:90171** 90D12 (68Q25, 90D06)
— (*with* Gautier, Antoine; Zheng, Harry) Qualitative sensitivity analysis in monotropic programming. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 695–707. (Victor P. Il'ev) **99j:90063** 90C27 (90C31)
Granovskiĭ, M. Ya. (*with* Bolotin, Yu. L.; Gonchar, V. Yu.; Chechkin, A. V.) Dynamics of an anharmonic oscillator with a periodic perturbation. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 1, 196–205; *translated from Zh. Èksper. Teoret. Fiz.* **115** (1999), *no.* 1, 361–377 (*Russian*). 81Q15
Grant, Alex J. (*with* Alexander, Paul D.) Random sequence multisets for synchronous code-division multiple-access channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2832–2836. 94A40
Grant, Christopher P. Interior blowup in a convection-diffusion equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1447–1458 (*electronic*). (Lubomira G. Softova) **99h:35109** 35K60 (35B30, 35B40)
Grant, Gregory R. (*with* Manduchi, Elisabetta) Root numbers and algebraic points on elliptic surfaces with base $\mathbf{P}^1$. *Duke Math. J.* **89** (1997), *no.* 3, 413–422. (Dan Abramovich) **99a:14028** 14G05 (11G35, 11G40, 14G27)
— (*with* Manduchi, Elisabetta) Root numbers and algebraic points on elliptic surfaces with elliptic base. *Duke Math. J.* **93** (1998), *no.* 3, 479–486. (Massimo Bertolini) **99m:11071** 11G40 (11G35, 14G05)
Grant, Hardy *see* **Laugwitz, Detlef, 99c:01016**
Grant, James D. E. (*with* Moss, Ian G.) New Hamiltonians for gravity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6284–6292. (Jürgen Tolksdorf) **99a:83006**

83C05 (83C45)

Grant, Thomas (*with* Hahn, Peter) Lower bounds for the quadratic assignment problem based upon a dual formulation. (English summary) *Oper. Res.* **46** (1998), *no.* 6, 912–922. (Summary) **99j:90066** 90C27 (90C08, 90C20)

Grantcharov, G. (*with* Apostolov, V.; Ivanov, Stefan P.) Hermitian structures on twistor spaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 291–308. (Massimiliano Pontecorvo) **99h:53054** 53C25 (32L25, 53C56)

— (*with* Alexandrov, B.; Ivanov, Stefan P.) An estimate for the first eigenvalue of the Dirac operator on compact Riemannian spin manifold admitting parallel one-form. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 263–270. (Jean-Louis Milhorat) **99k:58182** 58G25 (53C25)

Grantham, W. J. *see* **Cohen, Yosef, 99g:92019**

Granville, Andrew Arithmetic properties of binomial coefficients. I. Binomial coefficients modulo prime powers. *Organic mathematics* (*Burnaby, BC*, 1995), 253–276, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Ronald J. Evans) **99h:11016** 11B65 (11A07)

— (*with* Agoh, Takashi; Erdős, Paul[1]) Primes at a (somewhat lengthy) glance. *Amer. Math. Monthly* **104** (1997), *no.* 10, 943–945. (S. W. Graham) **99g:11012** 11A41

— *ABC* allows us to count squarefrees. *Internat. Math. Res. Notices* **1998**, *no.* 19, 991–1009. (G. Greaves) **99j:11104** 11N32 (11D75)

— (*with* Brüdern, Jörg; Perelli, A.; Vaughan, R. C.; Wooley, Trevor D.) On the exponential sum over k-free numbers. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 739–761. (D. R. Heath-Brown) **99c:11125** 11P55 (11L99)

— (*with* Soundararajan, K.) A binary additive problem of Erdős and the order of 2 mod p^2. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 283–298. (Nigel Watt) **99i:11081** 11N25 (11A15, 11N36, 11N69)

Granville, V. Estimation of the intensity of a Poisson point process by means of nearest neighbor distances. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 112–124. (Martin Jacobsen) **99g:62144** 62M30 (60G55)

Granvilliers, Laurent (*with* Benhamou, Frédéric) Automatic generation of numerical redundancies for non-linear constraint solving. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 335–344. (Summary) **99b:65062** 65G10 (68T20)

— A symbolic-numerical branch and prune algorithm for solving non-linear polynomial systems. (English summary) SCAN-97 (Lyon). *J.UCS* **4** (1998), *no.* 2, 125–146 (*electronic*). (Alkiviadis G. Akritas) **99m:68095** 68Q40 (65H10)

Granzow, Glen D. (*with* Riecke, Hermann) Double phase slips and spatiotemporal chaos in a model for parametrically excited standing waves. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 900–919 (*electronic*). (Summary) **99i:35146** 35Q55 (58F13, 58F39, 65M99, 76E30)

Grappone, Arturo Graziano Many-valued sentence logics: representation problems in standard sentence logic. *Metalogicon* **8** (1995), *no.* 2, 65–72. (Lei Qian) **99c:03033** 03B50

Grapsa, T. N. (*with* Vrahatis, M. N.; Ragos, O.; Zafiropoulos, F. A.) On the localization and computation of zeros of Bessel functions. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 6, 467–475. (Summary) **99d:65064** 65D20 (33C10, 34B30)

Grasman, Johan Stochastic epidemics: the expected duration of the endemic period in higher-dimensional models. (English summary) *Math. Biosci.* **152** (1998), *no.* 1, 13–27. (Summary) **99f:92033** 92D30

Grassberger, P. (*with* Barkema, G. T.; Bastolla, U.) Two-dimensional oriented self-avoiding walks with parallel contacts. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1311–1324. (Summary) **99b:82033** 82B41

Grasse, Kevin A. (*with* Bar-on, Jonathan R.) Regularity of the value function for constrained optimization problems. (English summary) *Applied analysis* (*Baton Rouge, LA*, 1996), 163–203, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Peter R. Wolenski) **99i:49026** 49K40 (49L20, 90C31)

Grasselli, Luigi (*with* Piccarreta, Salvina) Tetrahedron manifolds via coloured graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 125–137. (Seiya Negami) **99b:57004** 57M15 (05C10, 57N10)

Grasselli, Maurizio (*with* Colli, Pierluigi; Gilardi, Gianni) Convergence of phase field to phase relaxation models with memory. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII (N.S.)* **41** (1996), *suppl.*, 1–14 (1997). (Nobuyuki Kenmochi) **99a:35258** 35Q99 (35R35, 80A22)

— (*with* Cavaterra, Cecilia) On an inverse problem for a model of linear viscoelastic Kirchhoff plate. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 179–218. (Kenneth B. Hannsgen) **99a:45017** 45K05 (35Q72, 35R30, 73F15, 73K10)

— (*with* Pata, Vittorino) Longtime behavior of a homogenized model in viscoelastodynamics. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 339–358. (Jaime E. Muñoz Rivera) **99e:73060** 73F15 (35B27, 35Q72, 45K05, 73B27)

— (*with* Bonfanti, Giovanna; Colli, Pierluigi; Luterotti, Fabio) Nonsmooth kernels in a phase relaxation problem with memory. *Nonlinear Anal.* **32** (1998), *no.* 4, 455–465. (Igor Bock) **99c:35128** 35K85 (35Q72, 45K05, 73B30, 80A22)

— (*with* Yamamoto, Masahiro) Identifying a spatial body force in linear elastodynamics via traction measurements. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1190–1206 (*electronic*). (Hideo Soga) **99g:35127** 35Q72 (35R30, 73C02, 93C20)

— (*with* Colli, Pierluigi; Sprekels, Jürgen) Automatic control via thermostats of a hyperbolic Stefan problem with memory. (English summary) *Appl. Math. Optim.* **39** (1999), *no.* 2, 229–255. (Mircea Lupu) **99k:93055** 93C20 (35R35, 73B30, 80A20)

Grasselli, Osvaldo Maria (*with* Valigi, Paolo) Decoupling with stability for linear periodic systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 751–766. 93D15

Grassi, Antonella Divisors on elliptic Calabi-Yau 4-folds and the superpotential in F-theory. I. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 289–319. (Bruce Hunt) **99k:14065** 14J32 (14J35, 32J81, 81T30)

Grassi, V. (*with* Alfinito, E.; Leo, R. A.; Profilo, Gabriella; Soliani, Giulio) Equations of the reaction-diffusion type with a loop algebra structure. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1387–1401. (Oktay K. Pashaev) **99m:58106** 58F07 (35K57, 58F35)

Grassini, Renato (*with* Barone, Fiorella) On the second-order Euler-Lagrange equation in implicit form. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 221–233. (Manuel de León) **99b:58087** 58F05 (70H35)

Grassl, Markus (*with* Rötteler, Martin; Beth, Thomas) Computing local invariants of quantum-bit systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, 1833–1839. (Summary) **99d:81026** 81P99

Grassmann, Hermann Günther ★ A new branch of mathematics. The *Ausdehnungslehre* of 1844 and other works. Translated from the German and with a note by Lloyd C. Kannenberg. With a foreword by Albert C. Lewis. *Open Court Publishing Co., Chicago, IL*, 1995. *xvi*+555 *pp. ISBN* 0-8126-9276-4 (Victor V. Pambuccian) **99e:01015** 01A55 (01A75)

Grasso, F. (*with* Pirozzoli, S.; Gatski, T. B.) Analysis and simulation of a turbulent, compressible starting vortex. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 356–367. (Summary) **99k:76122** 76N10 (76F99, 76M25)

Gratie, Liliana Unilateral eigenvalue problems for nonlinearly elastic plates and pseudo-monotone operators. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 11, 959–964. (Vy Khoi Le) **99k:47169** 47H19 (35J85, 49J40, 73C50, 73H05, 73K10)

Grats, Yu. V. (*with* Bezerra de Mello, E. R.; Bezerra, Valdir B.) Self-forces in the spacetime of multiple cosmic strings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1915–1925. (Summary) **99c:83102** 83F05

— (*with* Bezerra de Mello, E. R.; Bezerra, Valdir B.) Self-action on a current with internal structure in cosmic string space-times. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1427–1434. (Summary) **99c:83008** 83C15 (83F05)

Grattan-Guinness, Ivor European mathematical education in the 1900s and 1910s: some published and unpublished surveys. (English summary) *Messengers of mathematics: European mathematical journals* (1800–1946), 117–130, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— Benjamin Peirce's *Linear associative algebra* (1870): new light on its preparation and "publication". *Ann. of Sci.* **54** (1997), *no.* 6, 597–606. (Karl-Heinz Schlote) **99d:01018** 01A55

— *see also* **Bradley, Margaret, 99i:01031**

Gratton, Julio (*with* Vigo, Claudio) Evolution of self-similarity, and other properties of waiting-time solutions of the porous medium equation: the case of viscous gravity currents. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 327–350. (Summary) **99f:76125** 76S05 (35K55, 35Q35)

Gratus, J. Noncommutative differential geometry, and the matrix representations of generalised algebras. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 227–244. (Jihad Mourad) **99b:58027** 58B30 (16W25)

— A natural basis for spinor and vector fields on the noncommutative sphere. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2306–2324. (Albert Jeu-Liang Sheu) **99j:58019** 58B30 (46L87, 81S05)

Grätzer, G. (*with* Lakser, H.; Schmidt, E. T.) Congruence representations of join-homomorphisms of distributive lattices: a short proof. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 363–369. (Thanjavur V. Swaminathan) **99e:06005** 06B10 (06D05)

— (*with* Hajnal, András) On isotone maps on a countable lattice. *Algebra Universalis* **41** (1999), *no.* 1, 85–86. (Summary) **99k:06005** 06B05

— (*with* Schmidt, E. T.) Congruence-preserving extensions of finite lattices to sectionally complemented lattices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1903–1915. (N. Prabhakara Rao) **99j:06004** 06B10 (08A05)

Grau, Miquel Dynamics of asteroids near the 4:1 resonance. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 14 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 70F15 (70H05)

Graubard, Barry I. (*with* Korn, Edward L.) Variance estimation for superpopulation parameters. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1131–1151. 62D05

Graubner, S. On the optimization of the set of definition of operators in applications of the contraction-mapping principle to differential equations. (English summary) *Generalized analytic functions* (*Graz*, 1997), 73–76, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 47N20 (30G20, 47H99)

Grauel, A. (*with* Ludwig, L. A.) Construction of differentiable membership functions. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 219–225. (*see* **99k:93004**) 65D15 (93C42)

— *see also* **Analytical and structural considerations in fuzzy modeling, 99k:93004**

Grauer, Rainer (*with* Marliani, Christiane) Structure functions in magnetohydrodynamic turbulence. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 239–247, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76F99 (76W05)

— (*with* Marliani, Christiane) Geometry of singular structures in magnetohydrodynamic flows. (English summary) *Phys. Plasmas* **5** (1998), *no.* 7, 2544–2552. (Summary) **99c:76115** 76W05 (76M25)

Grava, T. Bound to the number of oscillatory phases in the solution of the Whitham-KdV equations. (English summary) *Phys. Lett. A* **254** (1999), *no.* 5, 263–268. 35Q53

Gravel, Nicolas Ranking opportunity sets on the basis of their freedom of choice and their ability to satisfy preferences: a difficulty. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 371–382. (Summary) **99a:90021** 90A06

Gravel, Pierre Static stringlike solutions in five-dimensional relativity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5421–5426. (Mark D. Roberts) **99g:83073** 83E15

Gravel, Sylvie (*with* Côté, Jean; Roch, Michel; Méthot, André; Patoine, Alain; Caveen, James; Valin, Michel; Thomas, Steve; Staniforth, Andrew) Forecasting with a variable-resolution global model. (English summary) *Numerical methods in fluid mechanics*, 23–32, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (86A10)

— The semi-Lagrangian method. (English summary) *Numerical methods in fluid mechanics*, 109–118, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 86–08 (65D30, 86A10)

Graversen, S. E. (*with* Peškir, Goran) On the Russian option: the expected waiting time. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 564–575; *reprinted*

in Theory Probab. Appl. **42** (1997), *no.* 3, 416–425 (1998). (Christian Hipp) **99i:90015** 90A09 (60J60)
— (*with* Peškir, Goran) Optimal stopping in the $L \log L$-inequality of Hardy and Littlewood. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 2, 171–181. (H.-J. Engelbert) **99c:60089** 60G40 (60E15, 60J65)
Gravesen, Jens De Casteljau's algorithm revisited. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 221–228, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65041** 65D17 (65Y25)
Graves-Morris, P. R. (*with* Van Iseghem, J.) Row convergence theorems for vector-valued Padé approximants. (English summary) *J. Approx. Theory* **90** (1997), *no.* 2, 153–173. (Summary) **99c:41032** 41A21 (65D15)
Gravier, Sylvain (*with* Aït Haddadène, Hacène; Maffray, Frédéric) An algorithm for coloring some perfect graphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 1–16. (Olivia M. Carducci) **99b:05051** 05C15 (05C85)
— (*with* Mollard, Michel; Payan, Charles) On the non-existence of 3-dimensional tiling in the Lee metric. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 567–572. (Oded Schramm) **99e:52030** 52C22 (05B45)
— (*with* Maffray, Frédéric) Graphs whose choice number is equal to their chromatic number. (English summary) *J. Graph Theory* **27** (1998), *no.* 2, 87–97. (Summary) **99i:05081** 05C15
— (*with* Dror, Moshe; Finke, Gerd; Kubiak, Wieslaw) On the complexity of a restricted list-coloring problem. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 103–109. (Summary) **99h:05109** 05C85 (05C15, 68Q25)
Gravner, Janko (*with* Griffeath, David) Cellular automaton growth on $\mathbf{Z}^2$: theorems, examples, and problems. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 241–304. (Henning Fernau) **99g:68141** 68Q80 (60K35, 68Q05)
Gravvanis, George A. An approximate inverse matrix technique for arrowhead matrices. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 35–45. (Summary) **99i:65032** 65F10
Gray, Alfred (*with* Cordero, Luis A.; Fernández, Marisa; Ugarte, Luis) Nilpotent complex structures on compact nilmanifolds. (English summary) Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 83–100. (Francisco M. Cabrera) **99b:53091** 53C56
Gray, Brayton The periodic lambda algebra. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 93–101, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Paul G. Goerss) **99c:55014** 55Q40 (55S99, 55T15)
Gray, Brenton D. (*with* Delaney, Cathy; Gray, Ken; Maenhaut, Barbara M.; Sharry, Martin J.; Street, Anne Penfold) Pointwise defining sets and trade cores. (English summary) *Australas. J. Combin.* **16** (1997), 51–76. (Dinesh G. Sarvate) **99b:05017** 05B05
— (*with* Ramsay, Colin) On the number of Pasch configurations in a Steiner triple system. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 105–112. (Summary) **99c:05030** 05B07
— (*with* Ramsay, Colin) On the spectrum of $[v, k, t]$ trades. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 1–19. (Esther R. Lamken) **99e:05019** 05B05
Gray, Brian F. (*with* Forbes, Lawrence K.) Burning down the house: the time to ignition of an irradiated solid. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2667–2688. (Summary) **99f:80007** 80A25
Gray, D. J. On relative injectivity. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 569–585. (Jonathan Golan) **99e:16004** 16D50 (16S90, 18E40)
Gray, Douglas A. (*with* Abramovich, Yuri I.; Gorokhov, Alexei Y.; Spencer, Nicholas K.) Positive-definite Toeplitz completion in DOA estimation for nonuniform linear antenna arrays. I. Fully augmentable arrays. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2458–2471. 78–08 (78A50)
Gray, Gary J. (*with* Li, Yun; Ng, Kim Chwee; Murray-Smith, David J.; Sharman, Ken C.) Genetic algorithm automated approach to the design of sliding mode control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 721–739. 93B12 (90C90)
Gray, Jeremy J. Algebraic geometry between Noether and Noether—a forgotten chapter in the history of algebraic geometry. (English and French summaries) *Rev. Histoire Math.* **3** (1997), *no.* 1, 1–48. (Dilip P. Patil) **99f:01012** 01A55 (01A60, 14–03)
— The Riemann-Roch theorem and geometry, 1854–1914. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 811–822 (*electronic*). (Dimitrios I. Dais) **99k:14001** 14–03 (01A55, 01A60, 14C40)
— The foundations of geometry and the history of geometry. *Math. Intelligencer* **20** (1998), *no.* 2, 54–59. (Victor V. Pambuccian) **99f:01013** 01A55 (01A60, 51–03)
Gray, Joshua P. (*with* Dine, Michael; Echols, Robert) Renormalization of higher derivative operators in the Matrix model. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 103–110. (Summary) **99h:81162** 81T30 (81T15)
Gray, Ken (*with* Delaney, Cathy; Gray, Brenton D.; Maenhaut, Barbara M.; Sharry, Martin J.; Street, Anne Penfold) Pointwise defining sets and trade cores. (English summary) *Australas. J. Combin.* **16** (1997), 51–76. (Dinesh G. Sarvate) **99b:05017** 05B05
Gray, L. *see* **Gray, Lawrence F.**
Gray, L. J. (*with* Morris, M. D.) Application of the symmetric-Galerkin boundary integral method for elastic wave scattering. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 181–185, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73D25 (65M30, 65M60, 73V10)
— (*with* Paulino, Glaucio H.) Crack tip interpolation, revisited. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 428–455 (*electronic*). (Paul Andrew Martin) **99d:73071** 73M25 (73V10)
Gray, Lawrence F. (*with* Beguin, M.; Ycart, Bernard) The load transfer model. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 337–353. (Pablo A. Ferrari) **99h:60163** 60K35 (68M20)
Gray, Robert M. (*with* Neuhoff, David L.) Quantization. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2325–2383. (Summary) **99i:94029** 94A29 (94A34)
Gray, Sarah M. (*with* Brookmeyer, Ron) Estimating a treatment effect from multidimensional longitudinal data. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 976–988. (Summary) **99f:62123** 62P10
Gray, Stephen K. (*with* McLachlan, Robert I.) Optimal stability polynomials for splitting methods, with application to the time-dependent Schrödinger equation. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 275–286. (George W. Reddien) **99b:65082** 65L05 (65L20, 65M12)
Grayson, Daniel R. *see* **Vasconcelos, Wolmer V., 99c:13048**
Graziano, Maria Gabriella (*with* Basile, Achille; De Simone, Anna) On the Aubin-like characterization of competitive equilibria in infinite-dimensional economies. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **19** (1996), *no.* 1-2, 187–203. (Milan Mareš) **99i:90026** 90A14 (90D12)
— Ideals of minimal clans. *Demonstratio Math.* **30** (1997), *no.* 4, 859–868. (Judita Lihová) **99h:06001** 06A06 (06B10)
Greated, C. A. (*with* Buick, J. M.) Lattice Boltzmann modeling of interfacial gravity waves. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1490–1511. (Summary) **99c:76081** 76M25 (76B15)
Greaves, G. R. H. (*with* Browkin, Jerzy; Filaseta, Michael; Schinzel, Andrzej) Squarefree values of polynomials and the *abc*-conjecture. *Sieve methods, exponential sums, and their applications in number theory (Cardiff, 1995)*, 65–85, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (D. R. Heath-Brown) **99d:11101** 11N32 (11D99)
— The sieve method. *Number theory and its applications (Ankara, 1996)*, 65–107, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (R. C. Baker) **99i:11085** 11N35
— *see also* **Sieve methods, exponential sums, and their applications in number theory, 99b:11004**
Grebenchuk, H. The Fourier analysis and disclosing of the indefiniteness by decomposition on prolate spheroidal wave functions. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 37–40. 42A15
Grebenev, Vladimir N. Some geometric properties of the solutions to the porous medium equation. *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 333–342, *World Sci. Publishing, River Edge, NJ*, 1998. (Lubomira G. Softova) **99k:35083** 35K55 (35Q35, 76S05)
Grébert, Benoît (*with* Kappeler, Thomas) Théorème de type KAM pour l'équation de Schrödinger non linéaire. (English and French summaries) [KAM theorem for the nonlinear Schrödinger equation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 473–478. (Dario Bambusi) **99j:58186** 58F27 (35Q55, 58F39)
Grebinski, Vladimir (*with* Kucherov, G. A.) Optimal reconstruction of graphs under the additive model. (English summary) *Algorithms—ESA '97 (Graz)*, 246–258, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (Summary) **99g:68146** 68R05 (05C60, 90C35)
— On the power of additive combinatorial search model. (English summary) *Computing and combinatorics (Taipei, 1998)*, 194–203, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q20 (68R05)
— (*with* Kucherov, G. A.) Reconstructing a Hamiltonian cycle by querying the graph: application to DNA physical mapping. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 147–165. (Xue Liang Li) **99j:05130** 05C45 (05C90, 92D20)
Greblicki, Włodzimierz Continuous-time Wiener system identification. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1488–1493. (Summary) **99e:93083** 93E12
Grebogi, Celso (*with* Lai, Ying-Cheng; Yorke, James A.) Intermingled basins and riddling bifurcation in chaotic dynamical systems. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 138–163, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:58108** 58F13 (58F14)
— (*with* Ding, Mingzhou; Yorke, James A.) Chaotic dynamics. (English summary) *The impact of chaos on science and society (Tokyo, 1991)*, 1–17, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 58F13 (82C05)
— (*with* Kostelich, Eric J.; Kan, Ittai; Ott, Edward; Yorke, James A.) Unstable dimension variability: a source of nonhyperbolicity in chaotic systems. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 81–90. (Remo Badii) **99a:58110** 58F12 (58F13, 58F15)
— (*with* Witt, Annette; Braun, Robert; Feudel, Fred; Kurths, Jürgen) Tracer dynamics in a flow of driven vortices. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1605–1614. 76F20 (76D05)
— (*with* Macau, Elbert E. N.) Driving trajectories in complex systems. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4062–4070. 58F13 (93C10)
— *see also* **Impact of chaos on science and society, 99d:00006**
Grebot, Guy The third order ordinary differential equations admitting the Painlevé I and II as first integrals. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 110–124. (Geoffrey Prince) **99i:34016** 34A34 (34A05, 34A26, 58F36)
Grecchi, Vincenzo (*with* Sacchetti, Andrea) Wannier-Bloch oscillators. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 3, 553–569. (Alain Joye) **99h:81041** 81Q10 (34L40, 47E05)
Grecksch, Wilfried (*with* Pohl, Thomas; Blaar, Holger) A parallel modified Lagrangian method for an optimal control problem of a linear distributed stochastic system. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 4, 319–340. (Jean-Pierre Lepeltier) **99j:49073** 49M30 (65Y05, 93E20)
— (*with* Anh, Vo) Approximation of stochastic differential equations with modified fractional Brownian motion. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 715–727. (Eckhard Platen) **99h:60119** 60H10 (93E35)
— (*with* Anh, Vo) A parabolic stochastic differential equation with fractional Brownian motion input. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 337–346. (Nicholas Frangos) **99m:60096** 60H15
Greco, A. *see* **Greco, Antonio**
Greco, Antonio On the existence of large solutions for equations of prescribed mean curvature. *Nonlinear Anal.* **34** (1998), *no.* 4, 571–583. (Catherine Bandle) **99e:35050** 35J60 (35B05, 53A10)
— (*with* Francini, Elisa) Blow-up in exterior domains: existence and star-shapedness. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 431–441. (Yoshihito Tomita) **99g:35041** 35J65 (35B05)
Greco, Antonio M. (*with* Seta, Luciano) High-frequency interacting gravitational and magnetosonic waves. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3655–3668. (Summary) **99g:83027** 83C35
Greco, G. *see* **Greco, Giampaolo**

Greco, Gabriele H. (*with* Moschen, Maria Pia) A minimax inequality for marginally semicontinuous functions. *Minimax theory and applications* (*Erice*, 1996), 41–51, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dỗ Văn Lu'u) **99j:49011** 49J35 (47H10, 49K35)

Greco, Giampaolo Embeddings and the trace of finite sets. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 199–203. (Summary) **99e:68112** 68R05 (05C85)

Greco, Salvatore (*with* Matarazzo, Benedetto; Słowiński, Roman) Rough approximation of a preference relation in a pairwise comparison table. (English summary) *Rough sets in knowledge discovery*, 2, 13–36, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 90C70 (90A05)

— (*with* Matarazzo, Benedetto; Słowiński, Roman; Tsoukiàs, Alexis) Exploitation of a rough approximation of the outranking relation in multicriteria choice and ranking. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 45–60, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90A05)

Greco, Sergio (*with* Saccà, Domenico; Zaniolo, Carlo) DATALOG queries with stratified negation and choice: from P to D^P. (English summary) *Database theory—ICDT '95* (*Prague*), 82–96, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68073** 68P15 (68N17)

— (*with* Saccà, Domenico) NP optimization problems in Datalog. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 181–195, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68020** 68N17 (68P15)

— (*with* Leone, Nicola; Scarcello, Francesco) DATALOG with nested rules. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 52–65, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68031** 68N17 (68P15)

— (*with* Zaniolo, Carlo) Greedy algorithms in Datalog with choice and negation. (English summary) *Logic programming* (*Manchester*, 1998), 294–309, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q25)

Grecos, Alkis P. (*with* Tzanakis, Constantinos) Generalized Moyal structures in phase-space, master equations and their classical limit. I. General formalism. (English summary) *Phys. A* **256** (1998), *no.* 1-2, 87–111. (Akira Yoshioka) **99k:81136** 81S10 (81S30)

— (*with* Tzanakis, Constantinos; Hatjimanolaki, Polyxeni) Generalized Moyal structures in phase-space, master equations and their classical limit. II. Applications to harmonic oscillator models. (English summary) *Phys. A* **256** (1998), *no.* 1-2, 112–128. (Akira Yoshioka) **99k:81137** 81S10 (81S30)

Grecu, D. (*with* Cârstea, A. S.; Vişinescu, Anca) Exact solutions of a mixed KdV + mKdV and Benjamin-Ono equation. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 82–86. 35Q53 (35C05)

Grecu, Eftimie La variété du groupe unitaire dual. (French summary) [The manifold of the dual unitary group] *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 45–51. (V. Oproiu) **99b:53025** 53B21

Gredeskul, S. A. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Gredzhuk, V. *see* **Cercignani, Carlo et al., 99c:82057**

Green, Alwin C. (*with* Carbonara, Joaquin O.) Enumerative questions on rooted weighted necklaces. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 405–423. (Joe Roberts) **99h:05004** 05A15 (05E15)

Green, Barry (*with* Matignon, Michel) Liftings of Galois covers of smooth curves. (English summary) *Compositio Math.* **113** (1998), *no.* 3, 237–272. (Akio Tamagawa) **99k:14045a** 14H30 (11G20, 14D15, 14E22)

— (*with* Matignon, Michel) Order p automorphisms of the open disc of a p-adic field. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 269–303. (Noriko Yui) **99j:13017** 13F25 (11S31, 14L05)

— *see also* **Errata: "Liftings of Galois covers of smooth curves", 99k:14045b**

leedham-Green, Charles *see* **Leedham-Green, Charles**

Green, David G. Towards a mathematics of complexity. (English summary) *Complex. Int.* **3** (1996), 11 *HTML documents* (*electronic*). 68Q99

Green, David John (*with* Phạm Anh Minh) Transfer and Chern classes for extraspecial p-groups. (English summary) *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 245–255, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Graham J. Ellis) **99d:20083** 20J06

— (*with* Leary, Ian J.) The spectrum of the Chern subring. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 406–426. (David Benson) **99i:20070** 20J06 (55R40)

Green, David W. (*with* Johnson, Richard A.; Evans, James W.) Nonparametric Bayesian predictive distributions for future order statistics. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 247–254. (*see* **99i:62003**) 62G30

Green, Edward L.[1] (*with* Martínez-Villa, Roberto) Koszul and Yoneda algebras. II. *Algebras and modules, II* (*Geiranger*, 1996), 227–244, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Alexander E. Polishchuk) **99k:16091** 16W50 (16G20)

— (*with* Mora, Teo; Ufnarovskiĭ, V. A.) The non-commutative Gröbner freaks. *Symbolic rewriting techniques* (*Ascona*, 1995), 93–104, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Vesselin Drensky) **99i:16050** 16S15 (13P10, 68Q40, 68Q42)

— (*with* Martínez-Villa, Roberto; Reiten, Idun; Solberg, Øyvind; Zacharia, D.) On modules with linear presentations. *J. Algebra* **205** (1998), *no.* 2, 578–604. (Sverre O. Smalø) **99i:16075** 16W50 (16E10, 16G20, 16G70)

— *see also* **Trends in the representation theory of finite-dimensional algebras, 99i:16003**

Green, George *see* **Hall, George G., 99c:01021**

Green, H. S. (*with* Triffet, T.) ★ Sources of consciousness. The biophysical and computational basis of thought. Advanced Series in Neuroscience, 5. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. viii+358 *pp. ISBN* 981-02-2921-6 (A. Rapoport) **99b:92068** 92J10 (92J30)

— Quantum theory of gravitation. (English summary) *Austral. J. Phys.* **51** (1998), *no.* 3, 459–475. (Summary) **99h:83020** 83C45

— Quantal information theory. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 11, 2735–2750. (Frank Antonsen) **99m:81032** 81P99

— (*with* Triffet, T.) Modelling the brain processes of conscious states. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 8, 27–38. 92J10

Green, J. A. ★ Classical groups. Textos de Matemática. Série B [Texts in Mathematics. Series B], 3. *Universidade de Coimbra, Departamento de Matemática, Coimbra*, 1995. *vi*+33 *pp.* (Toshiaki Shoji) **99j:20053** 20G15 (17B45)

Green, J. J. Injective semigroup-algebras. (English summary) *Studia Math.* **131** (1998), *no.* 3, 215–224. (R. J. Loy) **99k:46082** 46H05 (43A20, 46J40)

Green, John Stephen (*with* Horne, Neil; Orłowska, Ewa; Siemens, Paul) A rough set model of information retrieval. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 273–296. (Summary) **99c:68237** 68T30 (68P20)

Green, Judy (*with* LaDuke, Jeanne; Mac Lane, Saunders; Merzbach, Uta C.) Mina Spiegel Rees (1902–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 7, 866–873. (Michael A. B. Deakin) **99h:01036** 01A70

Green, M. R. (*with* Leppington, F. G.) The inner and outer flow fields due to a pair of spheres moving unsteadily through a compressible fluid: rectilinear motion. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 43–69. (F. Ursell) **99c:76101** 76Q05 (76N99)

— Instabilities arising due to the interaction of a circular jet with a bounding rigid circular shell. (English summary) *Quart. J. Mech. Appl. Math.* **52** (1999), *no.* 1, 141–160. (Summary) **99m:76009** 76B10 (76E99)

Green, Mark L. Generic initial ideals. *Six lectures on commutative algebra* (*Bellaterra*, 1996), 119–186, *Progr. Math.*, 166, *Birkhäuser, Basel*, 1998. (J. M. Landsberg) **99m:13040** 13F20 (13P10)

— Higher Abel-Jacobi maps. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 267–276 (*electronic*). (Burt Totaro) **99k:14012** 14C25 (14C30, 14D07, 14K30, 32G13)

Green, Michael B. Boundary effects in string theory. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 220–229, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81182** 81T30

— (*with* Bachas, Constantin P.; Douglas, Michael R.) Anomalous creation of branes. (English summary) *J. High Energy Phys.* **1997**, *no.* 7, *Paper* 2, 7 *pp.* (*electronic*). (Jihad Mourad) **99c:81161** 81T30 (81T50)

— (*with* Gutperle, Michael) Effects of D-instantons. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 195–227. (Summary) **99e:81193** 81T30 (83E30)

— (*with* Gutperle, Michael) D-particle bound states and the D-instanton measure. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 5, 12 *pp.* (*electronic*). (Claudio A. Scrucca) **99f:81161** 81T30

— (*with* Bachas, Constantin P.) A classical manifestation of the Pauli exclusion principle. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 15, 4 *pp.* (*electronic*). (Jihad Mourad) **99b:81172** 81T30 (83E30)

— (*with* Banks, Tom) Non-perturbative effects in $AdS_5 \times S^5$ string theory and $d = 4$ SUSY Yang-Mills. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 2, 16 *pp.* (*electronic*). (Christophe Grojean) **99f:81144** 81T30 (81T60, 83E30)

— (*with* Bianchi, Massimo; Kovacs, Stefano; Rossi, Giancarlo) Instantons in supersymmetric Yang-Mills and D-instantons in IIB superstring theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 13, 35 *pp.* (*electronic*). (Daniel N. Kabat) **99m:81241** 81T60 (81T13, 81T30)

— Connections between eleven-dimensional supergravity and type II superstrings. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 242–251. (Ilya Shapiro) **99g:83077** 83E30 (81T30, 83E50)

— (*with* Gutperle, Michael; Kwon, Hwang-hyun) Sixteen-fermion and related terms in M-theory on T^2. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 149–161. (Summary) **99a:81139** 81T30

— (*with* Gutperle, Michael) D-instanton partition functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046007, 9 *pp.* (Summary) **99k:81239** 81T30 (81T13, 81T60)

Green, Michael Lawson Inequalities for random fields. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 463–500. (Yu. S. Mishura) **99g:60039** 60E15 (60G44, 60G48, 60G60)

Green, Mitchell S. Direct reference and implicature. *Philos. Stud.* **91** (1998), *no.* 1, 61–90. 03B45 (03A05)

Green, Peter J. (*with* Pievatolo, A.) Boundary detection through dynamic polygons. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 609–626. (Summary) **99a:62125** 62M05 (62M30)

— (*with* Ganesh, Ayalvadi; O'Connell, Neil; Pitts, Susan M.) Bayesian network management. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 267–282. (Hanspeter Schmidli) **99c:90045** 90B12 (60F10, 62C10)

— (*with* Murdoch, D. J.) Exact sampling from a continuous state space. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 483–502. 65C20 (60J27, 62F15)

Green, R. M. A diagram calculus for certain canonical bases. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 521–532. (Summary) **99c:17019** 17B35 (17B37)

— (*with* Marsh, Robert) Quantized symmetric powers. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 479–492. (Kailash C. Misra) **99k:17030** 17B37 (17B10)

— Generalized Temperley-Lieb algebras and decorated tangles. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 155–171. (Lowell Abrams) **99e:57013** 57M25

— A matrix setting for the q-Schur algebra. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 289–308. (Stuart Martin) **99g:20084** 20G20

— Cellular algebras arising from Hecke algebras of type H_n. (English summary) *Math. Z.* **229** (1998), *no.* 2, 365–383. (Himmet Can) **99j:20020** 20C33 (16G99)

cuninghame-Green, Raymond *see* **Cuninghame-Green, Raymond**

Greenbaum, A. (*with* Rozložník, Miroslav; Strakoš, Zdeněk) Numerical behaviour of the modified Gram-Schmidt GMRES implementation. (English summary) Direct methods, linear algebra in optimization, iterative methods (Toulouse, 1995/1996). *BIT* **37** (1997), *no.* 3, 706–719. (From the summary) **99a:65036** 65F05

— On the role of the left starting vector in the two-sided Lanczos algorithm and nonsymmetric linear system solvers. (English summary) *Numerical analysis* 1997 (*Dundee*), 124–132, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65054** 65F10

— (*with* Mayo, Anita A.) Rapid parallel evaluation of integrals in potential theory on general three-dimensional regions. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 731–742. (Summary) **99e:65038** 65D30 (31B10)

— (*with* Druskin, Vladimir; Knizhnerman, Leonid) Using nonorthogonal Lanczos vectors in the computation of matrix functions. (English summary) Special issue on iterative

methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 38–54 (*electronic*). (Zhenyue Zhang) **99e:65053** 65F10 (65F15)

Greenberg, Harvey J. Linear programming. I. Basic principles. (English summary) *Advances in sensitivity analysis and parametric programming*, 3.1–3.44, *Internat. Ser. Oper. Res. Management Sci.*, 6, *Kluwer Acad. Publ., Boston, MA*, 1997. (Summary) **99i:90059** 90C05 (90C31)

— (*with* Holder, Allen G.; Roos, Cornelis; Terlaky, Tamás) On the dimension of the set of Rim perturbations for optimal partition invariance. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 207–216 (*electronic*). (Shu Zhong Zhang) **99m:90095** 90C05 (90C31)

— *see also* **Dubois, Didier**

Greenberg, James M. Elastic phase transitions: a new model. (English summary) *Phys. D* **108** (1997), *no.* 3, 209–235. (Stanislaus Maier-Paape) **99h:73009** 73B30 (35Q72, 73B05, 73S10)

— (*with* Owen, David Ross) Antiplane shear flows in viscoplastic solids exhibiting isotropic and kinematic hardening. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1996–2023 (*electronic*). (Anne Nouri) **99h:73033** 73E60 (35Q72)

Greenberg, Leon (*with* Marletta, Marco) Algorithm 775: the code SLEUTH for solving fourth-order Sturm-Liouville problems. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 453–493. 65Y15

— (*with* Brown, Malcolm; Marletta, Marco) Convergence of regular approximations to the spectra of singular fourth-order Sturm-Liouville problems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 907–944. (Anton Zettl) **99h:34122** 34L40 (34B24, 47E05)

Greenberg, O. W. Variational principle in the algebra of asymptotic fields. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 065004, 7 *pp.* (Summary) **99m:81274** 81T99 (81T10)

Greenberg, Peter Area preserving pl homeomorphisms and relations in K_2. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 133–148. (V. P. Snaith) **99d:19001** 19C20 (52B45)

Greenberg, William R. (*with* Klein, Abraham; Zlatev, Ivaylo; Li, Ching-Teh) From Heisenberg matrix mechanics to semiclassical quantization: theory and first applications. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1820–1837. (Summary) **99c:81042** 81Q20

Greene, Brian R. (*with* Chiang, Ti-Ming) Phases of mirror symmetry. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 97–119, *World Sci. Publishing, River Edge, NJ*, 1996. (Charles F. Doran) **99m:32022** 32G81 (14J32, 32J81, 81T30)

— (*with* Douglas, Michael R.) Metrics on D-brane orbifolds. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 184–196. (Gonzalo Violero) **99b:81186** 81T30 (53C80, 83E30)

— Lectures on the quantum geometry of string theory. *Symétries quantiques* (*Les Houches*, 1995), 387–471, *North-Holland, Amsterdam*, 1998. (Editors) **99m:81188** 81T30 (14J32, 32G81, 32J81, 83E30)

— D-brane topology changing transitions. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 284–296. (Harald Skarke) **99e:81194** 81T30 (14M25, 32J81)

— (*with* Bershadsky, Michael; Chiang, Ti-Ming; Johansen, Andrei; Lazaroiu, C. I.) F-theory and linear sigma models. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 531–570. (Harald Skarke) **99g:81150** 81T30 (14J32, 32J81)

— (*with* Morrison, David R.; Polchinski, Joseph) String theory. *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 19, 11039–11040 (*electronic*). (Christophe Grojean) **99g:81164** 81T30 (81–02)

— *see also* **String theory, gauge theory and quantum gravity, 99a:81005**

Greene, Michael T. (*with* Wiest, Bert) A natural framing of knots. (English summary) *Geom. Topol.* **2** (1998), 31–64 (*electronic*). (Summary) **99i:57014** 57M25

Greenfield, Lawrence E. (*with* Greenfield, Stephen J.) Some problems of combinatorial number theory related to Bertrand's postulate. *J. Integer Seq.* **1** (1998), *Article* 98.1.2 (1 *HTML document*). (Vsevolod F. Lev) **99k:11012** 11A41 (11B75)

Greenfield, Stephen J. (*with* Greenfield, Lawrence E.) Some problems of combinatorial number theory related to Bertrand's postulate. *J. Integer Seq.* **1** (1998), *Article* 98.1.2 (1 *HTML document*). (Vsevolod F. Lev) **99k:11012** 11A41 (11B75)

— (*with* Duke, William; Speer, Eugene R.) Properties of a quadratic Fibonacci recurrence. (English summary) *J. Integer Seq.* **1** (1998), *Article* 98.1.8 (1 *HTML document*). (Neville Robbins) **99k:11024** 11B39

Greengard, Leslie (*with* Rokhlin, Vladimir V.) A new version of the fast multipole method for the Laplace equation in three dimensions. (English summary) *Acta numerica*, 1997, 229–269, *Acta Numer.*, 6, *Cambridge Univ. Press, Cambridge*, 1997. (G. A. Evans) **99c:65012** 65C20

— (*with* Beatson, R. K.) A short course on fast multipole methods. (English summary) *Wavelets, multilevel methods and elliptic PDEs* (*Leicester*, 1996), 1–37, *Numer. Math. Sci. Comput., Oxford Univ. Press, New York*, 1997. (Summary) **99a:65142** 65N30 (65N55, 70–08, 78–08)

— (*with* Sun, Xiaobai) A new version of the fast Gauss transform. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 575–584 (*electronic*). (Manfred Tasche) **99i:65146** 65R10 (44A35)

— (*with* Helsing, Johan) On the numerical evaluation of elastostatic fields in locally isotropic two-dimensional composites. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1441–1462. (Summary) **99e:73102** 73V20 (73B27, 73K20)

— (*with* Kropinski, Mary Catherine) An integral equation approach to the incompressible Navier-Stokes equations in two dimensions. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 318–336 (*electronic*). (Summary) **99f:76101** 76M25 (65M99, 65R20, 76D05)

Greenhill, Catherine (*with* Bubley, Russ; Dyer, Martin E.) Beating the 2Δ bound for approximately counting colourings: a computer-assisted proof of rapid mixing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 355–363, *ACM, New York*, 1998. (*see* **99d:68011**) 05C15 (05C85, 68Q25, 90C35)

Greenlaw, Raymond (*with* Machta, Jonathan) The parallel complexity of randomized fractals. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 351–356, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68075** 68Q25 (28A80, 68Q15)

Greenleaf, Allan (*with* Seeger, Andreas) Fourier integral operators with cusp singularities. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 1077–1119. (Andrew W. Hassell) **99g:58120** 58G15 (35S30, 47G30)

Greenlees, J. P. C. (*with* Pérez, Juan Antonio) Connected Lie groups acting freely on a product of linear spheres. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 197–203, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 22E45

— (*with* May, J. P.) Localization and completion theorems for MU-module spectra. (English summary) *Ann. of Math.* (2) **146** (1997), *no.* 3, 509–544. (Kathryn P. Hess) **99i:55012** 55P42 (19L47, 55N22, 55P60, 55P91, 57R77, 57R85)

— Rational O(2)-equivariant cohomology theories. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 103–110, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Steven R. Costenoble) **99f:55012** 55N91 (55P42, 55P62, 55P91)

— Rational Mackey functors for compact Lie groups. I. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 549–578. (Steven R. Costenoble) **99f:55011** 55N91 (19A22, 22E15, 55P42)

— Augmentation ideals of equivariant cohomology rings. (English summary) *Topology* **37** (1998), *no.* 6, 1313–1323. (R. M. Vogt) **99h:55005** 55N91 (55P60)

— Rational S^1-equivariant stable homotopy theory. (English summary) *Mem. Amer. Math. Soc.* **138** (1999), *no.* 661, *xii*+289 *pp.* (V. P. Snaith) **99i:55019** 55P62 (18E30, 19D55, 19L47, 55N91, 55P42)

Greenshtein, Eitan An independent sequentially equivalent presentation of dependent experiments. (English summary) *Sequential Anal.* **16** (1997), *no.* 2, 205–211. (Chandra M. Gulati) **99c:62011** 62B15 (62C10)

— (*with* Dor, Avner; Korach, Ephraim) Optimal and myopic search in a binary random vector. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 463–472. (Andor Dobó) **99f:90052** 90B40 (60E15)

— (*with* Torgersen, Erik) Ordering of sequentially sampled exponential experiments. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 325–329. (Peter Watts Jones) **99i:62185** 62L15

— Time sequential testing with fixed study time. (English summary) *Sequential Anal.* **17** (1998), *no.* 1, 109–114. (Norbert Schmitz) **99c:62219** 62L10

— Imperfect surveillance schemes for detecting a change in the distribution of a stationary process. The Markovian case. (English summary) *Sequential Anal.* **17** (1998), *no.* 2, 185–193. (Summary) **99b:62120** 62L10 (62M05)

Greenside, Henry S. (*with* Epureanu, Bogdan I.) Fractal basins of attraction associated with a damped Newton's method. (English summary) *SIAM Rev.* **40** (1998), *no.* 1, 102–109 (*electronic*). (R. P. Tewarson) **99d:65153** 65H05 (58F12, 65H10)

Greensite, Fred Second-order approximation of the pseudoinverse for operator deconvolutions and families of ill-posed problems. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 1–16 (*electronic*). (Summary) **99h:65222** 65R30 (65J10)

Greensite, J. (*with* Carlini, Alberto) Parametrized theories and the problem of time. (English summary) 11*th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 369–374, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99e:83002**) 83C45

— (*with* Carlini, Alberto) Field theory as free fall. A "proper-time" approach to classical and quantum gravity. *New developments in quantum field theory* (*Zakopane*, 1997), 33–45, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Christopher C. Bernido) **99i:83033** 83C45

— (*with* Del Debbio, L.; Faber, M.; Olejník, Š.) Center dominance, center vortices, and confinement. *New developments in quantum field theory* (*Zakopane*, 1997), 47–64, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 81V05

Greenspan, Donald Dynamical difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 49–58. (T. J. Mahar) **99k:39012** 39A10 (65N06, 70–08, 70D99)

— Conservative motion of a discrete, hexahedral gyroscope. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 3-4, 305–313. 70–08 (70E99)

Greenstadt, John Solution of wave propagation problems by the cell discretization method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 1-2, 1–21. 76M25

Greenstein, Jacob Extension of a theorem of Kostant for affine algebras. *J. Algebra* **199** (1998), *no.* 1, 290–301. (Stefano Capparelli) **99b:17031** 17B67

Greenwood, Matt (*with* Lin, Xiao Song[2]) On Vassiliev knot invariants induced from finite type 3-manifold invariants. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3659–3672. (Carlo Petronio) **99m:57004** 57M25 (57N10)

Greenwood, Priscilla E. (*with* Hooghiemstra, Gerard) The domain of attraction of the α-sun [α-sum] operator for type II and type III distributions. (English summary) *Bernoulli* **3** (1997), *no.* 4, 479–489. (Makoto Maejima) **99e:60060** 60F05 (60G70, 60J05)

— (*with* Wefelmeyer, Wolfgang) Cox's factoring of regression model likelihoods for continuous-time processes. (English summary) *Bernoulli* **4** (1998), *no.* 1, 65–80. (Eric V. Slud) **99i:62232** 62M99 (62N05)

Greenwood, Sina (*with* Gauld, David) Microbundles revisited. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 114–119 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 57N55 (55R60)

Greferath, Marcus (*with* Vellbinger, Ute) Efficient decoding of Z_{p^k}-linear codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1288–1291. (Summary) **99a:94056** 94B35 (94B05)

— (*with* Vellbinger, Ute) On the extended error-correcting capabilities of the quaternary Preparata codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 2018–2019. 94B60

Greger, Birte (*with* Kemnitz, Arnfried) A forbidden subdigraph condition implying an oriented graph to be Hamiltonian. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 127–131. (Summary) **99m:05101** 05C45 (05C20)

Grégoire, Éric (*with* Mazure, Bertrand; Saïs, Lakhdar) Boosting complete techniques thanks to local search methods. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 319–331. (Summary) **99g:68183** 68T15 (03B05, 03B35, 03B70, 68N17)

Grégoire, Gérard (*with* Antoniadis, Anestis; Gijbels, Irène) Model selection using wavelet decomposition and applications. (English summary) *Biometrika* **84** (1997), *no.* 4, 751–763. (Summary) **99a:62038** 62G05

— (*with* Antoniadis, Anestis; Nason, Guy) Density and hazard rate estimation for right-censored data by using wavelet methods. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 63–84. (Summary) **99i:62081** 62G07

Gregoire, J. P. (*with* Rose, Christian Joseph; Pernaud-Thomas, Bernadette) Direct and iterative solvers for finite-element problems. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 39–53 (1998). (*see* **99a:65006**) 76M10 (65N30)

Grégoire, Michèle La correspondance entre Descartes et Fermat. [The correspondence between Descartes and Fermat] "Pour Descartes": mathématiques et physique cartésiennes (Paris, 1996). *Rev. Histoire Sci.* **51** (1998), *no.* 2-3, 355–362. (*see* **99h:01003**) 01A45

Grégoire, O. (*with* Souffland, D.; Gauthier, S.; Schiestel, R.) A multi-scale turbulence model for compressible mixing flows. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 78–82, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76078** 76F99 (76L05)

Gregor, Jiří A formal approach to discrete systems theory. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 775–794. (Summary) **99c:93002** 93A30 (93C55)

— The Cauchy problem for partial difference equations. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 3, 247–263. (I. P. Stavroulakis) **99k:39013** 39A10

— (*with* Tišer, Jaroslav) On Hadamard powers of polynomials. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 372–378. (R. Wallisser) **99k:26016** 26C10 (12D10, 30C15, 34K20, 93D20)

Gregori, Giovanni Sobolev spaces and harmonic maps between singular spaces. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 1–18. (Martin Fuchs) **99e:58048** 58E20 (46E35, 58D15)

Gregori, Valentin (*with* Alegre Gil, Carmen; Ferrer, Jesús) On a class of real normed lattices. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 785–792. (Summary) **99i:54042** 54F05 (54E15, 54E52, 54E55)

— (*with* Romaguera, Salvador) Common fixed point theorems for pairs of fuzzy mappings. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 43–54. 54A40 (54H25)

di Gregorio, G. *see* **Di Gregorio, G.**

di Gregorio, S. *see* **Di Gregorio, S.**

Gregory, David A. (*with* Vander Meulen, Kevin N.) Decompositions of complete multigraphs related to Hadamard matrices. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 158–167. (Jaroslav Ivančo) **99d:05070** 05C70 (05B20, 05C50)

— (*with* Kirkland, Stephen J.) Singular values of tournament matrices. (English summary) *Electron. J. Linear Algebra* **5** (1999), 39–52 (*electronic*). (Wayne M. Dymacek) **99m:05106** 05C50 (05C20, 15A18)

Gregory, John[1] (*with* Agrawal, Om Prakash) The complete solution for constrained delay problems in the calculus of variations by unconstrained methods. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 127–135. (O. V. Vasil'ev) **99d:49016** 49J25 (49K25, 49M05)

— (*with* Lin, Cantian) Numerical solutions of nonlinear programming problems with inequality constraints by reformulation. (English summary) *Util. Math.* **54** (1998), 252–256. 90C30 (65K05)

Gregory, P. W. (*with* England, A. H.) Finite lateral compression of an elastic-plastic fibre-reinforced tube: loading solutions. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 371–395. (Summary) **99j:73028** 73C50 (73G20, 73K20)

Gregory, R. Douglas Uniform bounds for $P_n^m(\cos\theta)$ and the absolute convergence of series expansions in spherical surface harmonics. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 3, 467–479. (Ahmed I. Zayed) **99c:33022** 33C55 (35C10, 41A58)

— (*with* Milac, Thomas I.; Wan, Frederic Y. M.) A thick hollow sphere compressed by equal and opposite concentrated axial loads: an asymptotic solution. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1080–1097 (*electronic*). (Summary) **99k:73034** 73C02 (73K15)

Gregory, Ruth (*with* Dando, Owen) Dilatonic global strings. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 023502, 8 *pp.* (Summary) **99k:83116** 83E30 (81T30)

Gregory, Thomas (*with* Benkart, Georgia; Kuznetsov, M. I.) On graded Lie algebras of characteristic three with classical reductive null component. (English summary) *The Monster and Lie algebras* (*Columbus, OH*, 1996), 149–164, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Saeid Azam) **99i:17033** 17B70 (17B10, 17B20)

Greguš, Michal Oscillation results on nonlinear third order differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1573–1581. (Gary D. Jones) **99a:34095** 34C10

— (*with* Gera, M.; Graef, John R.) On oscillatory and asymptotic properties of solutions of certain nonlinear third order differential equations. *Nonlinear Anal.* **32** (1998), *no.* 3, 417–425. (M. Cecchi) **99c:34057** 34C10 (34C15)

gõsi-Greguss, Anna C. *see* **Gõsi-Greguss, Anna C.**

Greif, Chen (*with* Levin, David) The d_2-transformation for infinite double series and the D_2-transformation for infinite double integrals. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 695–714. (Summary) **99m:65256** 65T99 (40B05)

Greig, Malcolm (*with* Abel, R. Julian R.) Balanced incomplete block designs with block size 7. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 1, 5–30. (Frank E. Bennett) **99b:05015** 05B05

— Some group divisible design constructions. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 33–52. (E. Seiden) **99e:05020** 05B05 (62K10)

— (*with* Sarvate, Dinesh G.) Some constructions of block designs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 149–159. (Summary) **99i:05029** 05B05

Greiner, Günther (*with* Hormann, Kai) Interpolating and approximating scattered 3D data with hierarchical tensor product B-splines. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 163–172, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 65D05 (41A63, 65D07)

— Modeling of curves and surfaces based on optimization techniques. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 11–27, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (65–02)

Greiner, Martin (*with* Ludu, A.; Draayer, J. P.) Wavelets and quantum algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2346–2361. (Fabio Bagarello) **99b:81106** 81R50 (42C15)

— (*with* Jouault, Bruno; Schmiegel, Jürgen; Giesemann, Jens; Lipa, Peter; Eggers, Hans) Wavelets: from signal analysis to the analysis of complex processes. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fís.* **44** (1998), *suppl.* 2, 11–14. (*see* **99g:81002**) 42C15 (94A12)

Greiner, Peter C. (*with* Beals, Richard William; Jiang, Yaping; Seco, Luis A.) A functional calculus on the Heisenberg group and the boundary layer potential $\Box_+^{-1}$ for the $\overline{\partial}$-Neumann problem. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 205–228. (Jorge Lauret) **99f:22013** 22E30 (22E25, 35P05, 47F05)

— (*with* Beals, Richard William; Gaveau, Bernard) Uniforms hypoelliptic Green's functions. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 3, 209–248. (Gerald B. Folland) **99e:35024; EA 99m** 35H05 (35A08, 35C99)

Greiner, Russell *see* **Artificial intelligence and mathematics, 99m:68006**

Greiner, Walter ★ Quantum mechanics. (English summary) Special chapters. With a foreword by D. A. Bromley. Translated from the 1989 German original and revised by the author. *Springer-Verlag, Berlin*, 1998. *xviii*+378 *pp. ISBN* 3-540-60073-6 (Lewis H. Ryder) **99g:81001** 81–01

— ★ Classical electrodynamics. Translated from the 1991 German original. With a foreword by D. Allan Bromley. Classical Theoretical Physics. *Springer-Verlag, New York*, 1998. *x*+555 *pp. ISBN* 0-387-94799-X (From the preface) **99h:78001** 78–01

— (*with* Ludu, A.; Draayer, J. P.) Hamiltonian system and symmetries for scale invariant wavefunctions. (English summary) *Internat. J. Modern Phys. E* **7** (1998), *no.* 6, 765–775. (Summary) **99i:81057** 81Q99

Greither, Cornelius An equivariant version of an index formula of Fröhlich and McCulloh. (English summary) *J. Number Theory* **69** (1998), *no.* 1, 1–15. (Werner Bley) **99c:11135** 11R23 (11R65)

— (*with* Cornacchia, Pietro) Fitting ideals of class groups of real fields with prime power conductor. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 459–471. (Werner Bley) **99j:11137** 11R65 (11R23)

— The structure of some minus class groups, and Chinburg's third conjecture for abelian fields. *Math. Z.* **229** (1998), *no.* 1, 107–136. (Gabriel D. Villa-Salvador) **99f:11143** 11R20 (11R18, 11R23, 11R33, 11R80)

Grekas, S. (*with* Mercourakis, S.) On the measure-theoretic structure of compact groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2779–2796. (W. W. Comfort) **99b:22007** 22C05 (28A25, 28A35, 54H11)

— (*with* Gryllakis, C.) On products of Radon measures. (English summary) *Fund. Math.* **159** (1999), *no.* 1, 71–84. (R. B. Burckel) **99m:28012** 28A35 (28C10)

Grekos, Georges On the order of a minimal additive basis. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 307–311. (Norbert Hegyvári) **99f:11016** 11B13

Grellier, Sandrine (*with* Bonami, Aline; Bruna, Joaquim) On Hardy, BMO and Lipschitz spaces of invariantly harmonic functions in the unit ball. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 665–696. (Steven George Krantz) **99g:31008** 31B05 (31B20, 32A37, 46E15)

Grémaud, Benoît (*with* Jain, Sudhir R.) Spacing distributions for rhombus billiards. (English summary) *J. Phys. A* **31** (1998), *no.* 37, *L*637–*L*643. (Summary) **99g:81054** 81Q50

Gremaud, Pierre-Alain (*with* Cockburn, Bernardo; Yang, Jimmy Xiangrong) A priori error estimates for numerical methods for scalar conservation laws. III. Multidimensional flux-splitting monotone schemes on non-Cartesian grids. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1775–1803 (*electronic*). (Anne Nouri) **99g:65097** 65M60 (35L65, 65M15, 65N30)

Gremban, Keith D. (*with* Miller, Gary L.; Teng, Shang-Hua) Moments of inertia and graph separators. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 1, 79–104. (Summary) **99j:05126** 05C40

Gremm, Martin (*with* Gimon, Eric G.) A note on brane boxes at finite string coupling. (English summary) *Phys. Lett. B* **433** (1998), *no.* 3-4, 318–322. (Summary) **99e:81234** 81T60 (81T30)

Grenander, Ulf Strategies for seeing. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 585–592 (*electronic*). (*see* **99e:00025**) 62P99 (68T10)

— (*with* Dupuis, Paul; Miller, Michael I.) Variational problems on flows of diffeomorphisms for image matching. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 587–600. (Naoyuki Ishimura) **99f:49006** 49J20 (58E25)

Grenier, Emmanuel (*with* Desjardins, Benoît) Derivation of quasi-geostrophic potential vorticity equations. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 5, 715–752. (J. Thomas Beale) **99k:76146** 76U05 (35Q35, 76C99, 76V05, 86A10)

— (*with* Brenier, Yann) Sticky particles and scalar conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2317–2328 (*electronic*). (Christophe Cheverry) **99j:35129** 35L65 (76P05)

Grennan, Wayne ★ Informal logic. (English summary) Issues and techniques. *McGill-Queen's University Press, Montreal, QC*, 1997. *xiv*+309 *pp. ISBN* 0-7735-1542-9 03–01

Grenon-Isselkou, Nathalie (*with* Moutoussamy, Isabelle; Chaljub-Simon, Alice; Volkmann, Peter) Parabolic differential equations in ordered Banach spaces of bounded functions. (English summary) *Positivity* **1** (1997), *no.* 1, 45–54. (Summary) **99h:35224** 35R20

Grensing, G. Modified real structures for quantum groups and applications. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6153–6161. (Fabio Gavarini) **99h:81088** 81R50 (17B37)

— Abelian Chern-Simons theory and quantum symmetry. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 258–262. (Mathias Pillin) **99a:81073** 81R50 (81T13)

Grešák, Pavol (*with* Kaštieľ, Matej; Kateřiňák, Josef; Šedivý, Ondrej) A remark to the dimension equation for the intersection and union of two subspaces of an incidence space. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 19–23. 51A05

— (*with* Bálint, Vojtech; Kaštieľ, Matej; Kateřiňák, Josef) The proof of the isomorphism of the n-dimensional projective spaces defined axiomatically. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 4, 477–482. (Summary) **99m:51003** 51A35

Greshnov, A. V. (*with* Vodop'yanov, S. K.) Quasiconformal mappings and BMO spaces on metric structures. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 77–90, 190, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Alexander D. Ukhlov) **99e:46034** 46E15 (30C65)

— On sphere geometry in the Carnot-Carathéodory metric in Carnot groups. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics (Russian)* (*Novosibirsk*, 1996), 170–173, 191, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Valery Marenich) **99e:53039** 53C20 (53C60)

— Extension of differentiable functions beyond the boundary of the domain on Carnot groups [translation of *Proceedings of the Institute of Mathematics, 31* (Russian), 1–26, Izdat. Ross. Akad. Nauk, Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1996]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 20–62. (Da Chun Yang) **99c:46027** 46E35 (22E25, 43A15, 43A80, 53C30)

— (*with* Vodop′yanov, S. K.) Quasiconformal mappings and BMO spaces on metric structures [translation of *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 77–90, 190, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1997; MR 99e:46034]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 132–150. 46E15 (30C65, 46E35)

Gresho, P. M. (*with* Chan, S. T.) Projection 2 goes turbulent—and fully implicit. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 249–272. (*see* **99f:76004**) 76M10 (76F99)

Grest, Gary S. (*with* Dünweg, Burkhard; Kremer, Kurt) Molecular dynamics simulations of polymer systems. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 159–195, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60

Greuel, Bernd Sums of products of some arithmetic functions on the semigroup G_K. (English summary) *Analysis* **17** (1997), *no.* 4, 335–343. (Aleksander Grytczuk) **99c:11121** 11N37

Greuel, Gert-Martin (*with* Hertling, Claus; Pfister, Gerhard) Moduli spaces of semiquasi-homogeneous singularities with fixed principal part. *J. Algebraic Geom.* **6** (1997), *no.* 1, 169–199. (Piotr Jaworski) **99a:32057** 32S30 (14J15, 32S05)

— Some aspects of Brieskorn's mathematical work. *Singularities* (*Oberwolfach*, 1996), *xv–xxii*, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Editors) **99m:01061a** 01A70 (14–03, 32–03)

— (*with* Drozd, Yu. A.) On Schappert's characterization of strictly unimodal plane curve singularities. *Singularities* (*Oberwolfach*, 1996), 3–26, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Tohsuke Urabe) **99m:14052** 14H20 (14B05)

— (*with* Pfister, Gerhard) Geometric quotients of unipotent group actions. II. *Singularities* (*Oberwolfach*, 1996), 27–36, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Frank D. Grosshans) **99k:14078** 14L30 (13A50, 14D25)

— (*with* Lossen, Christoph; Shustin, Evgenii) Plane curves of minimal degree with prescribed singularities. (English summary) *Invent. Math.* **133** (1998), *no.* 3, 539–580. (Sherwood Washburn) **99g:14035** 14H20 (14B05)

— (*with* Decker, Wolfram; Pfister, Gerhard) Primary decomposition: algorithms and comparisons. *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 187–220, *Springer, Berlin*, 1999. (Thomas Garrity) **99m:13049** 13P10

— *see also* **Singularities, 99e:00031** *and* **Algorithmic algebra and number theory, 99h:00020**

Greve, R. (*with* Weis, Magnus; Hutter, Kolumban) Theory of shallow ice shelves. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 1, 15–50. (Summary) **99m:86017** 86A40 (73N20)

Greven, Andreas (*with* Cox, J. Theodore; Shiga, Tokuzo) Finite and infinite systems of interacting diffusions: cluster formation and universality properties. (English summary) *Math. Nachr.* **192** (1998), 105–124. (Wan Ding Ding) **99e:60213** 60K35 (60J60)

Grever, W. A nonlinear parabolic initial-boundary value problem modelling the continuous casting of steel. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 109–119. (Vitaly A. Volpert) **99b:80006** 80A20 (35K60)

Grgin, Emile Relativistic ring extension of the field of complex numbers. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 15–18. (Bertfried Fauser) **99h:81024** 81P99 (83E99)

Grib, A. A. Comment on the paper: "Does the Unruh effect exist?" [Pis′ma Zh. Èksper. Teoret. Fiz. **65** (1997), no. 12, 861–866; translated as JETP Lett. **65** (1997), no. 12, 902–908; MR 99d:81097] by V. A. Belinskiĭ, B. M. Karnakov, V. D. Mur and N. B. Narozhnyĭ]. *JETP Lett.* **67** (1998), *no.* 1, 95; *translated from Pis′ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 1, 86 (*Russian. Russian summary*). (Guido Cognola) **99d:81098** 81T20 (83C47)

— *see also* **Belinskiĭ, V. A. et al., 99d:81099**

Gribachev, K. (*with* Nakova, G.) Submanifolds of some almost contact manifolds with B-metric with codimension two. I. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 255–267. (José A. Oubiña) **99m:53061** 53C15 (53C40, 53C50)

— (*with* Nakova, G.) Submanifolds of some almost contact manifolds with B-metric with codimension two. II. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 93–108. (José A. Oubiña) **99m:53062** 53C15 (53C40, 53C50)

Gribkovskaya, I. V. (*with* Kalinin, A. I.) An asymptotically optimal controller for a linear dynamical system that contains parameters of variable orders of smallness at the derivatives. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997,** *no.* 4, 78–82. 49K40 (93C70)

Gribomont, E. Pascal (*with* Thayse, André; Hulin, G.; et al.) ★ Логический подход к искусственному интеллекту. (Russian. Russian summary) [A logical approach to artificial intelligence] От модальной логики к логике баз данных. [From modal logic to the logic of databases] Translated from the 1989 French original by G. P. Gavrilov, P. P. Permyakov and A. A. Ivanova. Translation edited and with a preface by Gavrilov. "*Mir*", *Moscow*, 1998. 494 *pp. ISBN* 5-03-002519-7 (Olga M. Kosheleva) **99m:68190** 68T27 (03B45, 03B70, 68–01, 68P15)

Griebel, Michael (*with* Dornseifer, Thomas; Neunhoeffer, Tilman) ★ Numerical simulation in fluid dynamics. A practical introduction. Translated from the German by Oliver Ernst. SIAM Monographs on Mathematical Modeling and Computation. *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1998. xvi+217 *pp. ISBN* 0-89871-398-6 (Tomás Chacón Rebollo) **99a:76078** 76Mxx (65–02)

— (*with* Zumbusch, Gerhard) Hash-storage techniques for adaptive multilevel solvers and their domain decomposition parallelization. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 271–278, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65Y05 (65N06, 65N50, 65N55)

— (*with* Koster, F.; Kevlahan, N. K.-R.; Farge, M.; Schneider, Kai) Towards an adaptive wavelet-based 3D Navier-Stokes solver. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 339–364, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76123** 76M25 (76F99)

— Adaptive sparse grid multilevel methods for elliptic PDEs based on finite differences. (English summary) *Computing* **61** (1998), *no.* 2, 151–179. (J. D. P. Donnelly) **99j:65184** 65N06 (65N50)

— (*with* Gerstner, Thomas) Numerical integration using sparse grids. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 209–232. (C. Dagnino) **99m:65042** 65D30

— *see also* **Large-scale scientific computations of engineering and environmental problems, 99m:65006**

Griego, Jorge (*with* Gambini, Rodolfo; Pullin, Jorge) Vassiliev invariants: a new framework for quantum gravity. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 3, 675–696. (Stephen F. Sawin) **99m:83069** 83C45 (57M25)

Grieme, Ulrich (*with* Dorschfeldt, Christoph; Schulze, Bert-Wolfgang) Pseudo-differential calculus in the Fourier-edge approach on non-compact manifolds. (English summary) *Spectral theory, microlocal analysis, singular manifolds*, 249–299, *Math. Top.*, 14, *Akademie Verlag, Berlin*, 1997. (Yu. V. Egorov) **99b:58226** 58G15 (35S05, 47G30)

Griepentrog, J. A. An application of the implicit function theorem to an energy model of the semiconductor theory. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 43–51. (Summary) **99i:35164** 35Q99 (82D99)

Grier, David Alan The Math Tables Project of the Work Projects Administration: the reluctant start of the computing era. (English summary) *IEEE Ann. Hist. Comput.* **20** (1998), *no.* 3, 33–50. (A. D. Booth) **99d:01024** 01A60 (68–03)

Gries, David (*with* Schneider, Fred B.) Adding the everywhere operator to propositional logic. (English summary) *J. Logic Comput.* **8** (1998), *no.* 1, 119–130. (A. Yu. Muravitsky) **99c:03019** 03B45

Griesemer, Marcel N-body quantum systems with singular potentials. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 2, 135–187. (Hiroshi Isozaki) **99e:81047** 81Q10 (47N50, 81U10)

Grieser, Gunter (*with* Jantke, Klaus P.; Lange, Steffen) Towards the validation of inductive learning systems. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 409–423, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05

— (*with* Jantke, Klaus P.; Lange, Steffen) Towards TCS concepts for characterizing expertise in learning systems validation. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 103–110. (Summary) **99i:68103** 68T05 (68Q99)

Grieskamp, Wolfgang (*with* Büssow, Robert) Combining Z and temporal interval logics for the formalization of properties and behaviors of embedded systems. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 46–56, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (03B45)

Griess, Robert L., Jr. A vertex operator algebra related to E_8 with automorphism group $O^+(10,2)$. (English summary) *The Monster and Lie algebras* (*Columbus, OH*, 1996), 43–58, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Koichiro Harada) **99i:17030** 17B69 (20D08)

— (*with* Dong, Chongying; Höhn, Gerald) Framed vertex operator algebras, codes and the Moonshine module. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 407–448. (Dražen Adamović) **99g:17050** 17B69 (11F22)

— (*with* Dong, Chongying) Rank one lattice type vertex operator algebras and their automorphism groups. (English summary) *J. Algebra* **208** (1998), *no.* 1, 262–275. (Hai Sheng Li) **99h:17029** 17B69

— (*with* Ryba, A. J. E.) Finite simple groups which projectively embed in an exceptional Lie group are classified! (English summary) *Bull. Amer. Math. Soc.* (*N.S.*) **36** (1999), *no.* 1, 75–93. (D. Wales) **99g:20085** 20G20 (20C15, 20E32, 20G05)

Griewank, Andreas (*with* Walther, Andrea; Best, André) Multiple vector-Jacobian products are cheap. (English summary) Iterative methods and preconditioners (Berlin, 1997). *Appl. Numer. Math.* **30** (1999), *no.* 2-3, 367–377. (*see* **99m:65005**) 65H10

Griffeath, David (*with* Moore, Cristopher) Life without death is P-complete. (English summary) *Complex Systems* **10** (1996), *no.* 6, 437–447. (Summary) **99d:68168** 68Q80 (68Q15)

— (*with* Gravner, Janko) Cellular automaton growth on $\mathbf{Z}^2$: theorems, examples, and problems. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 241–304. (Henning Fernau) **99g:68141** 68Q80 (60K35, 68Q05)

Griffin, P. S. (*with* Maller, R. A.) On the rate of growth of the overshoot and the maximum partial sum. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 181–196. (Charles M. Goldie) **99c:60149** 60J15 (60F15, 60G40, 60K05, 62L10)

Griffin, Paul M. (*with* Bhadury, Joyendu; Griffin, Susan O.; Narasimhan, Lakshmi S.) Finding the majority-rule equilibrium under lexicographic comparison of candidates. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 489–508. (Summary) **99k:90052** 90A28

Griffin, Susan O. (*with* Bhadury, Joyendu; Griffin, Paul M.; Narasimhan, Lakshmi S.) Finding the majority-rule equilibrium under lexicographic comparison of candidates. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 489–508. (Summary) **99k:90052** 90A28

Griffin, Timothy (*with* Benedikt, Michael A.; Libkin, Leonid) Verifiable properties of database transactions. (English summary) *Inform. and Comput.* **147** (1998), *no.* 1, 57–88. (Summary) **99i:68027** 68P15

Griffing, Gary An algebraic derivation of the closed form expression for the q-binomial coefficients. *Exposition. Math.* **15** (1997), *no.* 4, 379–382. (William Y. C. Chen) **99e:05014** 05A30 (05A10)

Griffith, Daniel A. (*with* Lagona, Francesco) On the quality of likelihood-based estimators in spatial autoregressive models when the data dependence structure is misspecified. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 153–174. (Stephen L. Rathbun) **99k:62178** 62M30

Griffith, Phillip A relative filtration index and fibers of normal primes in extensions of finite type. (English summary) *Compositio Math.* **110** (1998), *no.* 3, 251–262. (D.-M. Popescu) **99f:13008** 13B15 (13B40, 13C20, 13F15)

— On the splitting of big Cohen-Macaulay modules. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 251–279. (Ian M. Aberbach) **99i:13017** 13C14 (13B40, 13H10)

Griffiths, Alena A semantics for recursive operations in Object-Z. (English summary) *Formal Methods Pacific '97* (*Wellington*), 81–102, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99a:68008**) 68N15 (68Q55)

Griffiths, D. F. *see* **Numerical analysis, 99d:65006**

Griffiths, David J. (*with* Walborn, Stephen) Dirac deltas and discontinuous functions. *Amer. J. Phys.* **67** (1999), *no.* 5, 446–447. 46F10

Griffiths, J. B. (*with* Podolský, Jiří) Impulsive waves in de Sitter and anti-de Sitter spacetimes generated by null particles with an arbitrary multipole structure. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 453–463. (Alicia M. Sintes) **99a:83021** 83C20 (83C15)

— (*with* Podolský, Jiří) Interpreting a conformally flat pure radiation spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3863–3871. (Brian Edgar) **99k:83018** 83C20 (83C15)

— (*with* Alekseev, G. A.) Some unpolarized Gowdy cosmologies and noncolinear colliding plane wave spacetimes. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 237–247. (Nora Bretón Báez) **99m:83041** 83C20 (83C15)

— (*with* Podolský, Jiří) Boosted static multipole particles as sources of impulsive gravitational waves. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124024, 5 *pp.* (Summary) **99m:83056** 83C35

Griffiths, Robert B. Consistent histories and quantum delayed choice. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 741–748. (Summary) **99k:81033** 81P15 (81P99)

— (*with* Banerjee, Shubho; Widom, Michael) Thermodynamic limit for dipolar media. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 1-2, 109–141. (Summary) **99h:82003** 82B05

— (*with* Niu, Chi-Sheng) Optimal copying of one quantum bit. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4377–4393. (Summary) **99k:81047** 81P99

— (*with* Hartle, James B.) Comment on: "Consistent sets yield contrary inferences in quantum theory" [Phys. Rev. Lett. **78** (1997), no. 15, 2874–2877; MR 97k:81010] by A. Kent. *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1981. 81P05

— *see also* **Kent, Adrian**

Griffiths, Robert C. (*with* Marjoram, Paul) An ancestral recombination graph. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 257–270, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D20 (60K99, 92D15)

— (*with* Tavaré, Simon) The age of a mutation in a general coalescent tree. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 273–295. (Summary) **99b:92023** 92D10 (92D15)

Grifoni, Milena (*with* Hänggi, Peter) Driven quantum tunneling. (English summary) *Phys. Rep.* **304** (1998), *no.* 5-6, 229–354. (Summary) **99g:81251** 81V80 (81Q20)

Grigelionis, B. Conditionally exponential families and Lundberg exponents of Markov additive processes. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 337–350, *TEV, Vilnius*, 1994. (Summary) **99e:60197** 60K15 (62P05)

— Evolution equations in the theory of statistical manifolds. (English summary) *Stochastic analysis and applications* (*Powys*, 1995), 236–248, *World Sci. Publishing, River Edge, NJ*, 1996. (P. E. Jupp) **99c:62007** 62B10 (62F12, 62M09)

— On mixed exponential processes and martingales. (Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 59–74; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 1, 46–58. (Dominique Lépingle) **99j:60110** 60J25 (60G44)

— *see also* **Probability theory and mathematical statistics, 99e:60004**

Grigentch, I. P. (*with* Alexandrov, Sergei; Vasilevich, D. V.) SU(2)-invariant reduction of (3 + 1)-dimensional Ashtekar gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 573–580. (Jorge A. Pullin) **99g:83030** 83C45

Griggs, Jerrold R. Rota's impact on matching theory and cubical lattices. *Gian-Carlo Rota on combinatorics*, 572–580, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05D15

— (*with* Ho, Chih-Chang) The cycling of partitions and compositions under repeated shifts. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 205–227. (Dennis A. Eichhorn) **99j:05013** 05A17 (11P81)

— (*with* Simonovits, Miklós; Thomas, George Rubin) Extremal graphs with bounded densities of small subgraphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 185–207. (W. G. Brown) **99m:05076** 05C35 (05C15)

Griggs, Terry (*with* Danziger, P.; Grannell, M. J.; Rosa, Alexander) On the 2-parallel chromatic index of Steiner triple systems. (English summary) *Australas. J. Combin.* **17** (1998), 109–131. (K. T. Phelps) **99e:05022** 05B07

— (*with* Grannell, M. J.; Širáň, Jozef) Surface embeddings of Steiner triple systems. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 325–336. (Ian Anderson) **99g:05028** 05B07 (05C10)

— (*with* Grannell, M. J.; Širáň, Jozef) Face 2-colourable triangular embeddings of complete graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 8–19. (Arthur T. White) **99g:05061** 05C10 (05B07, 05C15)

— (*with* Anderson, Ian) Anstice and Kirkman: mathematical clerics. (English summary) *Math. Intelligencer* **21** (1999), *no.* 2, 44–46. 01A70 (01A55)

Grigis, Alain Points tournants et résonances de Stark-Wannier. [Turning points and Stark-Wannier resonances] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. XI*, 10 *pp., École Polytech., Palaiseau*, 1998. (Editors) **99h:34123** 34L40 (34E20, 34L05, 81Q20)

— Triangulation du tore de dimension 4. (English and French summaries) [Triangulation of a torus of dimension 4] *Geom. Dedicata* **69** (1998), *no.* 2, 121–139. (Wolfgang Kühnel) **99b:52033** 52B70 (52B11, 52B20, 57Q15)

— (*with* Buslaev, Vladimir) Imaginary parts of Stark-Wannier resonances. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2520–2550. (Philippe Briet) **99d:34164** 34L40 (34L05, 81Q20, 81U05)

Grigni, Michelangelo (*with* Koutsoupias, Elias; Papadimitriou, Christos H.) An approximation scheme for planar graph TSP. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 640–645, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— (*with* Arora, Sanjeev; Karger, David R.; Klein, Philip N.; Woloszyn, Andrzej) A polynomial-time approximation scheme for weighted planar graph TSP. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 33–41, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Chen, Zhi-Zhong; Papadimitriou, Christos H.) Planar topological inference. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 1–8. (*see* **99i:65003**) 68R10 (05C10, 05C85)

Grigolia, M. On the existence and uniqueness of solutions of the Goursat problem for systems of functional partial differential equations of hyperbolic type. *Mem. Differential Equations Math. Phys.* **16** (1999), 154–158. 35R10 (35L70)

Grigolyuk, È. I. Ivan Grigor'evich Bubnov (on the 125th anniversary of his birth (January 6 (18), 1872–March 13, 1919)). (Russian) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 179–183; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 173–176. 01A70

Grigorchuk, Rostislav I. (*with* Ceccherini-Silberstein, Tullio G.) Amenability and growth of one-relator groups. (English summary) *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 337–354. (Michael Anshel) **99b:20057** 20F10 (20E06, 20F12, 20F38)

— (*with* Ceccherini-Silberstein, Tullio G.; de la Harpe, Pierre) Décompositions paradoxales des groupes de Burnside. (English and French summaries) [Paradoxical decompositions of free Burnside groups] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 127–132. (Javier Otal) **99i:20043** 20F05 (20E99, 20F50)

— An example of a finitely presented amenable group that does not belong to the class EG. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 79–100; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 75–95. (Victor M. Petrogradsky) **99b:20055** 20F05 (20E06, 43A07)

— (*with* Machì, A.) An example of an indexed language of intermediate growth. (English summary) *Theoret. Comput. Sci.* **215** (1999), *no.* 1-2, 325–327. (Summary) **99k:68092** 68Q45

Grigorchuk, S. E. (*with* Shevelev, V. S.) Another algorithm for computing the cyclic indicator of permutations with restricted positions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997,** *no.* 2, 11–13, 88. 05A05

— (*with* Shevelev, V. S.) An algorithm for computing the cyclic indicator of discordant permutation pairs with restricted positions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997,** *no.* 3, 5–13, 98. 05A05

Grigore, Dan Radu Variational equations and symmetries in the Lagrangian formalism: arbitrary vector fields. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 8, 727–751. (Juha Pohjanpelto) **99b:58070** 58E30 (49N45)

— (*with* Krupka, Demeter) Invariants of velocities and higher-order Grassmann bundles. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 3, 244–264. (Jan Slovák) **99d:58014** 58A20 (53A55)

— The variational sequence on finite jet bundle extensions and the Lagrangian formalism. (English summary) *Differential Geom. Appl.* **10** (1999), *no.* 1, 43–77. (Juha Pohjanpelto) **99m:58069** 58E30 (58A20, 58H10)

— Variationally trivial Lagrangians and locally variational differential equations of arbitrary order. (English summary) *Differential Geom. Appl.* **10** (1999), *no.* 1, 79–105. (Juha Pohjanpelto) **99m:58070** 58E30 (58A20)

Grigorenko, N. L. On the theory of nonstationary dynamic games. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998,** *no.* 3, 17–20, 52. (Summary) **99k:90226** 90D25 (90D06)

Grigorescu, M. Decoherence and dissipation in quantum two-state systems. (English summary) *Phys. A* **256** (1998), *no.* 1-2, 149–162. (Summary) **99e:81116** 81S20

Grigor'ev, D. Yu. (*with* Karpinski, Marek; Vorob'ev, N. N., Jr.) Improved lower bound on testing membership to a polyhedron by algebraic decision trees. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 258–265, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q40)

— (*with* Karpinski, Marek; Meyer auf der Heide, Friedhelm; Smolensky, Roman) A lower bound for randomized algebraic decision trees. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 357–375. (Claus-Peter Schnorr) **99d:68107** 68Q25 (68Q15, 68Q40)

— (*with* Karpinski, Marek; Smolensky, Roman) Randomization and the computational power of analytic and algebraic decision trees. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 376–388. (Claus-Peter Schnorr) **99d:68108** 68Q25 (68Q15, 68Q40)

— (*with* Karpinski, Marek; Odlyzko, Andrew M.) Short proofs for nondivisibility of sparse polynomials under the extended Riemann hypothesis. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 297–301. (Joos Heintz) **99a:68087** 68Q25 (68Q40)

— (*with* Slissenko, A. O.) Computing minimum-link path in a homotopy class amidst semi-algebraic obstacles in the plane. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 114–129, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (*see* **99b:94002**) 68U05 (68Q40)

— Nearly sharp complexity bounds for multiprocessor algebraic computations. (English summary) *J. Complexity* **13** (1997), *no.* 1, 50–64. (Summary) **99f:68098** 68Q25 (65Y20, 68Q40)

— (*with* Slisenko, A.) Computation of a path with a minimal number of links in a given homotopy class between semi-algebraic obstacles in the plane. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 124–147. (Ivan V. Arzhantsev) **99e:52018** 52B55 (14P10)

— (*with* Karpinski, Marek; Yao, Andrew Chi-Chih) An exponential lower bound on the size of algebraic decision trees for MAX. (English summary) *Comput. Complexity* **7** (1998), *no.* 3, 193–203. (Alexander I. Barvinok) **99m:68062** 68Q15 (68Q25, 68Q40)

— (*with* Karpinski, Marek) Computing the additive complexity of algebraic circuits with root extracting. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 694–701 (*electronic*). (Joseph Ja'Ja') **99d:68129** 68Q40 (68Q15, 68Q25)

Grigor'ev, P. G. On a sequence of trigonometric polynomials. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 935–938; *translation in Math. Notes* **61** (1997), *no.* 5-6, 780–783. (Z. Rubinstein) **99f:42004** 42A05

Grigor'ev, Yu. A. Some inequalities for gradients of harmonic functions. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1135–1136; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1276–1278 (1998). (Summary) **99c:31001** 31A05

Grigor'ev, Yu. M. (*with* Naumov, V. V.) On mean value theorems for Helmholtz and Lamé equations. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 51–52; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 577–578. 35J05 (35B05, 73C02)

Grigor'eva, E. V. (*with* Kashchenko, S. A.; Mosekilde, E.) Parametric transverse patterns in broad aperture lasers. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 319–339. 78A60

Grigoriadis, Karolos M. L_2 and $L_2 - L_\infty$ model reduction via linear matrix inequalities. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 485–498. 93B11 (93B36)

— (*with* Watson, James T., Jr.) Optimal unbiased filtering via linear matrix inequalities. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 111–118. (Pham Tran Nhu) **99j:93109** 93E11 (93C05)

Grigorian, Armen (*with* Szapiel, Wojciech) Extreme points in some sets of complex measures. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **23** (1997), 65–75. (Summary) **99c:28007** 28A12

Grigorieff, R. D. (*with* Sloan, Ian H.) Galerkin approximation with quadrature for the screen problem in $\mathbf{R}^3$. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 4, 293–319. (Jose Cuminato) **99e:65183** 65R20 (45L05)

— (*with* Ferreira, José Augusto Mendes) On the supraconvergence of elliptic finite difference schemes. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 275–292. (Summary) **99f:65152** 65N12 (65N06)

— (*with* Sloan, Ian H.) Stability of discrete orthogonal projections for continuous splines. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 307–332. (Charles K. Chui) **99f:41010** 41A15 (42C05)

— (*with* Ainsworth, Mark; Sloan, Ian H.) Semi-discrete Galerkin approximation of the single layer equation by general splines. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 157–174. (Juhani Pitkäranta) **99d:65308** 65N30 (65R20)

Grigoriev, A. (*with* Yakovenko, S.) Topology of generic multijet preimages and blow-up via Newton interpolation. (English summary) *J. Differential Equations* **150** (1998), *no.* 2, 349–362. (Enrique Outerelo Domínguez) **99m:58028** 58C15 (34C23, 58A20, 58A35)

Grigoriev, D. *see* **Grigor'ev, D. Yu.**

Grigoriev, Dima *see* **Grigor'ev, D. Yu.**

Grigoriev, M. A. (*with* Semikhatov, A. M.) Canonical form of a pair of compatible antibrackets. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 259–268. (Frans Cantrijn) **99b:58094** 58F05 (58A50)

Grigoriev, R. O. Optimal control of spatiotemporal chaos in coupled map lattices. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 543–550, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 58F13 (49N55)

Grigorieva, E. V. *see* **Grigor'eva, E. V.**

Grigoriu, Mircea Solution of some elasticity problems by the random walk method. (English summary) *Acta Mech.* **125** (1997), *no.* 1-4, 197–209. (Roger G. Ghanem) **99g:73117** 73V35 (60J70, 65N99, 73V20)

— A local solution of the Schrödinger equation. (English summary) *J. Phys. A* **31** (1998), *no.* 43, 8669–8676. 81Q05

— Moment closure by Monte Carlo simulation and moment sensitivity factors. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 4, 739–748. 70L05

Grigorkiv, V. S. Modeling of net macroproduction functions of several variables. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 14–17. 90A11

Grigoroudis, E. (*with* Siskos, Yannis; Zopounidis, C.; Saurais, O.) Measuring customer satisfaction using a collective preference disaggregation model. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 175–195. (*see* **99a:90011**) 90C29 (90A05)

Grigoryan, A. *see* **Grigor'yan, Alexander**

Grigoryan, A. A. *see* **Grigoryan, Aleksandr Arkad'evich**

Grigoryan, A. M. Vector algorithms for computing the two-dimensional discrete Hartley transform. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **95** (1995), *no.* 1, 6–9. 65T20

— Quasilinear spaces. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 1, 3–8. 15A03

Grigor'yan, A. T. Academician Mstislav Vsevolodovich Keldysh and his contribution to the development of his native-land science. (Russian) *Studies in the history of physics and mechanics*, 1991–1992 (*Russian*), 249–257, "*Nauka*", *Moscow*, 1997. (*see* **99g:01002**) 01A70

— *see also* **Studies in the history of physics and mechanics, 99g:01002**

Grigoryan, Aleksandr Arkad'evich (*with* Tutubalin, V. N.; Barabasheva, Yu. M.; Devyatkova, G. N.; Uger, E. G.) Differential equations in ecology: historical-methodological reflection. (Russian. English and Russian summaries) *Voprosy Istor. Estestvoznan. i Tekhn.* **1997**, *no.* 3, 141–151, 173. (Summary) **99g:92001** 92–03 (92D40)

Grigor'yan, Alexander (*with* Kel'bert, M. Ya.) Range of fluctuation of Brownian motion on a complete Riemannian manifold. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 78–111. (Thierry Coulhon) **99c:58170** 58G32 (58G11, 60F15, 60G17)

— (*with* Noguchi, Masakazu) The heat kernel on hyperbolic space. *Bull. London Math. Soc.* **30** (1998), *no.* 6, 643–650. (Józef Dodziuk) **99h:58183** 58G11 (35K05)

— (*with* Coulhon, Thierry) Random walks on graphs with regular volume growth. *Geom. Funct. Anal.* **8** (1998), *no.* 4, 656–701. (Gilles Carron) **99e:60153** 60J15 (58G32, 60J10)

— Analytic and geometric background of recurrence and non-explosion of the Brownian motion on Riemannian manifolds. *Bull. Amer. Math. Soc. (N.S.)* **36** (1999), *no.* 2, 135–249. (Thierry Coulhon) **99k:58195** 58G32 (31C12, 58G11, 60J65)

Grigoryan, È. Kh. On the coefficients of singularity of contact stresses in problems for elastic bodies reinforced by piecewise-homogeneous stiffeners. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **49** (1996), *no.* 4, 43–57 (1997). (Summary) **99i:73063** 73T05

Grigoryan, G. A. Solvability problems for a class of Wiener-Hopf integral equations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **31** (1996), *no.* 2, 27–39 (1998); *translation in J. Contemp. Math. Anal.* **31** (1996), *no.* 2, 21–32. (A. Böttcher) **99m:45004** 45E10 (47B35, 47G10)

— The Wiener-Hopf equation in the supercritical case. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 60–74; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 55–68. (V. S. Pilidi) **99g:45004** 45E10 (47B35, 47G10)

Grigoryan, S. A. *see* **Grigoryan, Shushanik Akopovna**

Grigoryan, S. S. (*with* Khaĭretdinov, È. F.) Unsteady spreading of a thin layer of viscous fluid over a curved surface. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 151–161; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 145–154. (Summary) **99c:76042** 76D99

Grigoryan, Shushanik Akopovna The divisor of a generalized analytic function. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 655–661; *translation in Math. Notes* **61** (1997), *no.* 5-6, 547–552. (T. Tonev) **99e:30033** 30G35 (43A77)

Grigoryan, Suren Arshakovich (*with* Zaslavskaya, M. I.) Uniform algebras of operator fields with an AF-fiber. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 17–26 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 13–20. (A. G. Myasnikov) **99h:46108** 46L05 (46J10, 47D25)

Grigor'yants, A. A. On an interpretation of the torsion tensor of a connection. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 22–28; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 8, 20–26 (1999). (V. Cruceanu) **99i:53010** 53B05

Griguolo, L. (*with* Deser, Stanley; Seminara, D.) Definition of Chern-Simons terms in thermal QED_3 revisited. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 443–450. (José Luis López) **99j:81110** 81T10 (81T13, 81V10)

— (*with* Seminara, D.) Chiral solitons from dimensional reduction of Chern-Simons gauged non-linear Schrödinger equation: classical and quantum aspects. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 467–498. (Summary) **99b:81147** 81T13 (81T17)

Grilhé, J. (*with* Colin, Jérôme; Junqua, N.) Localized surface instabilities of stressed solids. (English summary) *Computational and mathematical models of microstructural evolution (San Francisco, CA, 1998)*, 27–32, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73B30

Grill, Karl Strassen-type laws for independent random walks. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 1–10. (Lajos Horváth) **99a:60035** 60F17 (60G50)

— A random walk on a random walk path. (English summary) *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 235–242, *North-Holland, Amsterdam*, 1998. (Martin I. Goldstein) **99j:60105** 60J15

— A limit law related to the law of the iterated logarithm. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 183–189. (Zdzisław Rychlik) **99g:60065** 60F15 (60J65)

Grillakis, Manoussos G. Energy estimates and the wave map problem. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 887–911. (Thierry Cazenave) **99f:58205** 58G16 (35B45, 35L70)

Grillet, Pierre Antoine On Birget's regular embedding. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 3, 293–311. (S. Sribala) **99k:20115** 20M17

Grillo, Gabriele A quadratic form inequality for classes of degenerate elliptic operators. *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson, 1997)*, 128–137, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (*see* **99d:35003**) 35J70 (35B45)

— (*with* Cipriani, Fabio) L^p-exponential decay for solutions to functional equations in local Dirichlet spaces. (English summary) *J. Reine Angew. Math.* **496** (1998), 163–179. (Alexander I. Kheyfits) **99a:35057** 35J40 (31C25, 35B40)

— (*with* Cipriani, Fabio) Pointwise properties of eigenfunctions and heat kernels of Dirichlet-Schrödinger operators. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 101–126. (Summary) **99e:35031** 35J10 (35P05, 47D06, 60H30)

— On Persson's theorem in local Dirichlet spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 329–338. (Fabio Cipriani) **99m:31017** 31C25 (35J25, 35P05, 58G25)

Grillo, S. (*with* Montani, H.) q-deformed anisotropic superexchange interaction, frustration and $GL_{pq}(2)$. (English summary) *Modern Phys. Lett. B* **12** (1998), *no.* 21, 859–866. (Roberto Casalbuoni) **99i:81100** 81R50 (82D40)

Grillot, Michèle Solutions of some nonlinear elliptic problems, which are singular on a submanifold. (English summary) *J. Math. Pures Appl.* (9) **76** (1997), *no.* 9, 757–776. (Robert McOwen) **99a:58139** 58G03 (35J60)

Grilo, Isabel (*with* Amir, Rabah) Stackelberg versus Cournot equilibrium. (English summary) *Games Econom. Behav.* **26** (1999), *no.* 1, 1–21. (Summary) **99k:90204** 90D05 (90A14)

Grim, Jiří (*with* Pudil, Pavel) On virtually binary nature of probabilistic neural networks. (English summary) *Advances in pattern recognition (Sydney, 1998)*, 765–774, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T05 (62C99)

coupet-Grimal, Solange *see* **Coupet-Grimal, Solange**

Grimaldi, Anna *see* **Grimaldi Piro, Anna**

Grimaldi, P. Global methods in classical mechanics. The Euler-Lagrange equation. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 71–78. (Paulo R. Rodrigues) **99i:70022** 70H35 (58E30, 58F05, 70H25)

Grimaldi, R. *see* **Grimaldi, Renata**

Grimaldi, Ralph P. The Catalan numbers as compositions of squares. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 173–181. (F. T. Howard) **99m:11016** 11B65 (05A10)

Grimaldi, Renata (*with* Dragomir, Sorin) On Rund's connection. (English summary) *Note Mat.* **15** (1995), *no.* 1, 85–98 (1997). (Marco Abate) **99a:53084** 53C60 (53B40)

— (*with* Funar, Louis) La topologie à l'infini des variétés à géométrie bornée et croissance linéaire. (English summary) [The topology at infinity of manifolds with bounded geometry and linear growth] *J. Math. Pures Appl.* (9) **76** (1997), *no.* 10, 851–858. (Ronaldo Alves Garcia) **99b:53048** 53C20

Grimaldi Piro, Anna (*with* Ragnedda, Francesco) Area integral estimates for solutions of parabolic equations. *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson, 1997)*, 138–148, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Minoru Murata) **99f:35071** 35K20 (35B05, 42B25)

Grimalt Ivars, Pedro *see* **Cherruault, Yves, 99e:92001**

Grimble, M. J. (*with* Casavola, Alessandro; Mosca, Edoardo) Extensions to generalized LQG and H_∞ multivariable controllers. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 507–517. 93B36

— H_∞ optimal multichannel linear deconvolution filters, predictors and smoothers. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 519–533. 93E11 (93B36)

— (*with* Casavola, Alessandro; Fragopoulos, D.) A polynomial solution to the scalar 4-block H_∞ general distance problem. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 33–52. 93B36 (93D21)
— Time-invariant 2 DOF multivariable LQG predictive controllers. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 1–30. 93B51 (93C40)
— Multi-step H_∞ generalized predictive control. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 303–339. (Cheng Wu Yang) **99g:93027** 93B36
Grimes, Roger G. (*with* Ashcraft, Cleve; Lewis, John G.) Accurate symmetric indefinite linear equation solvers. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 513–561 (*electronic*). (Summary) **99i:65026** 65F05 (15A06, 65F50)
Grimm, Richard (*with* Hasler, Maximilian F.; Herrmann, Carl) The $N = 2$ vector-tensor multiplet, central charge superspace, and Chern-Simons couplings. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1805–1816. (Summary) **99a:81171** 81T60 (81T13)
Grimm, Stefan (*with* de Montigny, M.; Patera, Jiří) The signatures of finite-dimensional representations of the de Sitter groups SO(4, 1) and SO(3, 2). (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7463–7471. (J. F. Cornwell) **99a:22022** 22E46 (22E70, 81R05)
— On orbit sum values of elements of finite order. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 17–22. (Karl-Hermann Neeb) **99k:22024** 22E46
Grimm, Uwe Dilute algebras and solvable lattice models. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 110–117, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23
— (*with* Nienhuis, Bernard) Scaling properties of the Ising model in a field. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 384–393, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20
— (*with* Baake, Michael) Aperiodic Ising models. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 199–237, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jacobus Verbaarschot) **99b:82022** 82B20 (82B23)
— (*with* Baake, Michael; Elser, V.) The entropy of square-free words. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 13–26. (Valérie Berthé) **99d:68202** 68R15 (05A15)
— (*with* Römer, R. A.; Schliecker, G.) Electronic states in topologically disordered systems. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 389–393. 82B44 (82D30)
Grimmett, Geoffrey R. Percolation and disordered systems. *Lectures on probability theory and statistics* (*Saint-Flour*, 1996), 153–300, *Lecture Notes in Math.*, 1665, *Springer, Berlin*, 1997. (Yu Zhang) **99c:60216** 60K35 (82B43)
— (*with* Piza, M. S. T.) Decay of correlations in random-cluster models. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 465–480. (H. Kesten) **99a:60115** 60K35 (82B20, 82B43)
— (*with* van den Berg, Jacob; Schinazi, Rinaldo B.) Dependent random graphs and spatial epidemics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 2, 317–336. (Olle Häggström) **99c:60212** 60K35
— *see also* **Mathematics of multiscale materials, 99c:73001**
Grimshaw, R. H. J. Solitary waves with oscillatory tails. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 248–258, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:76027** 76B25 (35Q53, 76C10)
— (*with* Malomed, Boris A.; Tian, Xin) Gap solitons in a coupled Korteweg-de Vries system. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 324–334, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:35211** 35Q53 (65M99, 76B25)
— (*with* Tian, Xin) k-soliton structures, period-doubling and spatial chaos in the periodically forced Korteweg-de Vries equation. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 225–251. (Summary) **99f:35176** 35Q53 (58F39)
— (*with* He, Jianming; Ostrovskiĭ, L. A.) Terminal damping of a solitary wave due to radiation in rotational systems. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 2, 197–210. (Summary) **99d:76015** 76B25 (35Q53, 76B15, 76U05)
— (*with* Pavlov, M. V.) Exact periodic steady solutions for nonlinear wave equations: a new approach. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 25–30. 35Q35 (35B10, 76B25)
— (*with* Akhmediev, N. N.; Ankiewicz, Adrian) Hamiltonian-versus-energy diagrams in soliton theory. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part B*, 6088–6096. 35Q55
Grin′, A. A. (*with* Cherkas, L. A.) A second-degree polynomial Dulac function for a cubic system on the plane. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1435–1436, 1440; *translation in Differential Equations* **33** (1997), *no.* 10, 1443–1445 (1998). (I. D. Iliev) **99k:34055** 34C05
Grinberg, Eric (*with* Zhang, Gaoyong) Convolutions, transforms, and convex bodies. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 77–115. (P. McMullen) **99m:52009** 52A39 (52B12)
Grinenko, M. M. Birational automorphisms of a three-dimensional dual quadric with the simplest singularity. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 101–118; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 97–114. (Yuri G. Prokhorov) **99a:14021** 14E05 (14E35, 14J30, 14J45)
— Birational automorphisms of a three-dimensional double cone. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 7, 37–52. (M. Kh. Gizatullin) **99i:14018** 14E07 (14E05, 14E35)
Grines, V. Z. (*with* Anosov, D. V.; Aranson, S. Kh.; Arnol′d, Vladimir Igorevich; Bronshteĭn, I. U.; Il′yashenko, Yu. S.) ★ Ordinary differential equations and smooth dynamical systems. Translated from the 1985 Russian original by E. R. Dawson and D. O'Shea. Third printing of the 1988 translation [*Dynamical systems. I*, Encyclopaedia Math. Sci., 1, Springer, Berlin, 1988; MR 89g:58060]. *Springer-Verlag, Berlin*, 1997. *vi*+233 *pp. ISBN* 3-540-61220-3 (Robert Roussarie) **99h:58053** 58Fxx (34Axx, 34Cxx, 54H20)
— Representation of one-dimensional attractors of A-diffeomorphisms of surfaces by hyperbolic homeomorphisms. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 76–87; *translation in Math. Notes* **62** (1997), *no.* 1-2, 64–73 (1998). (A. Morimoto) **99d:58116** 58F12
Grinevich, P. G. (*with* Schmidt, Martin U.) Conformal invariant functionals of immersions of tori into $\mathbf{R}^3$. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 51–78. (Iskander A. Taimanov) **99k:53112** 53C42 (35Q51, 58E12)
Grinfeld, Michael (*with* Knight, Philip A.; Lamba, Harbir) On the periodically perturbed logistic equation. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8035–8040. (Summary) **99a:39014** 39A10 (58F13)
— (*with* Merino, Sandro; McKee, Sean) A degenerate reaction diffusion system modelling an optical biosensor. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 46–85. (Arnaldo do Nascimento) **99b:35095** 35K57 (34G20, 35B40, 92J30)
— (*with* Novick-Cohen, Amy) The viscous Cahn-Hilliard equation: Morse decomposition and structure of the global attractor. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2375–2406. (Achilles Tertikas) **99m:35224** 35Q55 (35B40, 58F39)
Griniv, O. O. (*with* Dobrushin, R. L.) Fluctuations of the phase boundary in the 2D Ising ferromagnet. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 395–445. (Marek Biskup) **99a:82037** 82B24 (60F05, 60K35, 82B20, 82B41)
— On local behaviour of the phase separation line in the 2D Ising model. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 1, 91–107. (Agoston Pisztora) **99m:60152** 60K35 (60F17, 82B20, 82B24)
Grinshpan, A. Z. On some formal and regular identities. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 35–41. (S. K. Chatterjea) **99m:30050** 30C99 (33C99)
Grinshpon, S. Ya. Fully transitive uniformly separable abelian groups. (Russian) *Mat. Zametki* **62** (1997), *no.* 3, 471–474; *translation in Math. Notes* **62** (1997), *no.* 3-4, 393–395 (1998). (A. I. Moskalenko) **99d:20085** 20K15
— On the equality to zero of the homomorphism group of abelian groups. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 42–46. (L. Bican) **99j:20063** 20K30
Grinshpun, V. Z. Exponential localization for an infinite-order finite-difference operator with random potential. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 3-4, 424–449. (From the text) **99f:47040** 47B39 (39A70, 47B80, 82B44)
Grinstein, Louise S. ★ Mathematical book review index. 1800–1940. Garland Reference Library of Social Science, 527. *Garland Publishing, Inc., New York*, 1992. *xxxvi*+448 *pp. ISBN* 0-8240-4114-3 (From the preface) **99f:00004** 00A15 (00A20, 01–00)
Grioli, Giuseppe Comparison between finite and linear elasticity. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 145–151. (From the text) **99k:73043** 73C50 (73C02)
— In memoriam Professor Gaetano Fichera (1922–1996). *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 1, 7–8. 01A70
Grisaru, Marcus T. (*with* Massar, M.; Sevrin, Alexander; Troost, Jan) The quantum geometry of $N = (2, 2)$ non-linear σ-models. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 53–58. (Summary) **99a:81172** 81T60 (81T15, 81T30, 81T40)
— (*with* Knutt-Wehlau, Marcia E.; Siegel, Warren) A superspace normal coordinate derivation of the density formula. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 663–679. (Ilya Shapiro) **99f:83075** 83E50 (81T60)
— (*with* Anselmi, Damiano; Freedman, D. Z.; Johansen, Andrei) Non-perturbative formulas for central functions of supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 543–571. (Ilya Shapiro) **99i:81155** 81T17 (81T13, 81T60)
— (*with* Gates, S. James, Jr.; Knutt-Wehlau, Marcia E.; Siegel, Warren) Component actions from curved superspace: normal coordinates and ectoplasm. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 203–210. (Ilya Shapiro) **99c:83099** 83E50 (81T30, 83E30)
Grisel, Guillaume Length of continued fractions in principal quadratic fields. (English summary) *Acta Arith.* **85** (1998), *no.* 1, 35–49. (Edward B. Burger) **99g:11015** 11A55 (11J70, 11R11)
Grishanina, O. A. (*with* Gogosov, V. V.; Kiryushin, V. V.; Simonovskii, A. Ya.) Theoretical description of the free surface shapes of a magnetic fluid, surrounding a magnetizable plate in an external magnetic field. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 1, 43–49. 76W05
Grishin, Stanislav (*with* Carmona, René A.; Xu, Lin; Molchanov, Stanislav Alekseevich) Surface stretching for Ornstein Uhlenbeck velocity fields. (English summary) *Electron. Comm. Probab.* **2** (1997), *no.* 1, 1–11 (*electronic*). (Nariyuki Minami) **99c:60132** 60H25 (60H30)
Grishina, G. V. On the compactness of the support of solutions of second-order nonlinear elliptic and parabolic equations in a semicylinder. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 5, 700–711; *translation in Math. Notes* **62** (1997), *no.* 5-6, 586–595 (1998). (Summary) **99c:35071** 35J65 (35B40, 35K60)
Grishkov, A. N. (*with* Futornyĭ, V. M.; Melville, Duncan J.) Quantum imaginary Verma modules for affine Lie algebras. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 119–123. (Stefano Capparelli) **99k:17029** 17B37 (17B10)
— (*with* González, Santos; Martínez López, Consuelo) A radical splitting theorem for Bernstein algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2529–2542. (Moussa Ouattara) **99e:17045** 17D92
Grishukhin, V. P. (*with* Deza, Michel-Marie) A zoo of l_1-embeddable polytopal graphs. (English summary) *Bull. Inst. Math. Acad. Sinica* **25** (1997), *no.* 3, 181–231. (Summary) **99b:05036** 05C10 (05C12)
— (*with* Deza, Michel-Marie) Odd systems of vectors and related lattices. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 31–47. (Martin Henk) **99k:11101** 11H06 (52C07)
— (*with* Deza, Antoine; Deza, Michel-Marie) Fullerenes and coordination polyhedra versus half-cube embeddings. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 41–80. (E. Keith Lloyd) **99k:92049** 92E10 (05C90, 51M20)
— (*with* Deza, Michel-Marie) Once more about 80 Steiner triple systems on 15 points. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 165–184. (Luc Teirlinck) **99k:05033** 05B07

— (*with* Deza, Michel-Marie) Erratum to: "Bounds on the covering radius of a lattice" [Mathematika **43** (1996), no. 1, 159–164; MR 98b:11074]. *Mathematika* **45** (1998), *no.* 1, 209. (From the text) **99h:11073** 11H31 (52C07)

Grisoni, Pascal (*with* Demange, Marc; Paschos, Vangelis Th.) Differential approximation algorithms for some combinatorial optimization problems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 107–122. (Summary) **99g:90154** 90C35 (05C85, 68Q25, 90C27)

Grispolakis, Joachim (*with* Mayer, John C.; Oversteegen, Lex G.) Building blocks for quadratic Julia sets. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1171–1201. (Summary) **99g:30030** 30D05 (30C35, 58F23)

Grispos, E. (*with* Kalogeropoulos, Gr.) On the spectral representation of solutions for G. A. linear systems. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 397–402, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34A09 (15A06, 15A22, 34A30)

— (*with* Kalogeropoulos, Gr.) The causality for generalised linear discrete-time dynamical systems. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 145–154. (Maria Letizia Corradini) **99k:93064** 93C55 (93B25, 93C35)

Gristede, George Diedrich (*with* Ruehli, Albert E.; Zukowski, Charles Albert) Convergence properties of waveform relaxation circuit simulation methods. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 7, 726–738. (Summary) **99c:94067** 94C05

Grisval, Jean-Pierre (*with* Rifai, Steven M.; Johan, Zdeněk; Wang, Wen-Ping; Hughes, Thomas J. R.; Ferencz, Robert M.) Multiphysics simulation of flow-induced vibrations and aeroelasticity on parallel computing platforms. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 3-4, 393–417. 73K70 (73V20, 76M25)

Grisvard, Pierre Méthodes opérationnelles dans l'étude des problèmes aux limites. [Operator methods in the study of boundary value problems] *Séminaire Bourbaki, Vol. 9, Exp. No.* 289, 187–197, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 35G15 (35J40, 35K35, 46N20, 47N20)

— Problèmes aux limites dans des domaines avec points de rebroussement. [Boundary value problems in domains with cusps] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 561–578. (Serge Nicaise) **99c:35034** 35J05 (35J25)

Gritsenko, S. A. On zeros of a special form of functions associated with Dirichlet series in the Selberg class. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 601–605; *translation in Math. Notes* **60** (1996), *no.* 3-4, 449–453 (1997). (Matti Jutila) **99c:11112** 11M41

— On zeros of linear combinations of analogues of the Riemann function. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 134–150. (Michel Balazard) **99h:11102** 11M41

Gritsenko, V. A. Exponential lifting and Hecke correspondence. (English summary) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 119–136. (Rainer Schulze-Pillot) **99k:11072** 11F55 (11F32, 11F46)

— Precious Siegel modular forms of genus two. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 177–203, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (I. Dolgachev) **99j:11070** 11G15 (11F22, 11F46, 14G35, 14J28, 14K10, 81R10)

— (*with* Hulek, Klaus) Commutator coverings of Siegel threefolds. *Duke Math. J.* **94** (1998), *no.* 3, 509–542. (I. Dolgachev) **99e:11075** 11G15 (11F46, 14G35, 14J28, 14K10)

— (*with* Nikulin, Vyacheslav Valentinovich) Automorphic forms and Lorentzian Kac-Moody algebras. I. (English summary) *Internat. J. Math.* **9** (1998), *no.* 2, 153–199. (I. Dolgachev) **99b:11040** 11F22 (11F46, 11F55, 14J28, 17B67, 81R10)

— (*with* Nikulin, Vyacheslav Valentinovich) Automorphic forms and Lorentzian Kac-Moody algebras. II. (English summary) *Internat. J. Math.* **9** (1998), *no.* 2, 201–275. (I. Dolgachev) **99b:11041** 11F22 (11F46, 11F55, 14J28, 17B67, 81R10)

— (*with* Hulek, Klaus) Minimal Siegel modular threefolds. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 461–485. (Kazuyuki Hatada) **99c:14048** 14J15 (11F46, 14G35, 14J10, 14J30)

Gritsyk, V. V. (*with* Gurevich, I. B.; Palenichka, R. M.; Kitsmeĭ, T. P.) Adaptive binary segmentation of images. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 145–181, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68U10

Gritzmann, Peter (*with* Klee, Victor) Separation by hyperplanes in finite-dimensional vector spaces over Archimedean ordered fields. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 279–301. (J. Borwein) **99k:46012** 46A55 (12J15, 46A22, 90C25)

— (*with* Dyer, Martin E.; Hufnagel, Alexander) On the complexity of computing mixed volumes. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 356–400 (*electronic*). (Hans-Dietrich Hecker) **99f:68092** 68Q25 (52A39, 52B55, 65Y25, 68U05)

Grivas, Apostolos (*with* Kiriakidis, Kiriakos; Tzes, Anthony) Quadratic stability analysis of the Takagi-Sugeno fuzzy model. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 1–14. (Summary) **99j:90115** 90D05 (90C70)

Grmela, Miroslav (*with* Baléo, Jean-Noël; Carreau, Pierre J.) Stability analysis of stratified tube flows of viscoelastic fluids. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 1, 72–89. (Summary) **99a:76008** 76A10 (76E99, 76V05)

G″rnevska, L. V. (*with* Vel′misov, Petr A.; Milusheva, Svetla D.) Investigation of the asymptotic stability of a pipeline with time delay. (Russian. Russian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 57–59, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 34K30 (35B35, 35Q99, 73D30)

— (*with* Vel′misov, Petr A.; Milusheva, Svetla D.) Investigation of the stability of the solution of the equation of oscillations of an axis or a plate with a delay in time of the reaction and friction forces. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 83–88, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73H10 (35Q72, 73D30, 73K10)

— (*with* Vel′misov, Petr A.; Milusheva, Svetla D.) On the dynamical stability of nonlinear oscillations of axes and plates. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 89–95, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73H10 (35Q72, 73D35, 73K05, 73K10)

Groah, Jeffrey M. Time-independent bounds on solutions with shocks to the relativistic Euler equations on conformally flat space-times with curvature singularities. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6607–6630. (Norbert Noutchegueme) **99m:83015** 83C05 (35L67, 35Q75)

Grober, O. V. (*with* Grober, V. M.) On a relation between bases in the spaces C^0_ω and AC^0_ω. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 13–16, 88. 46E15 (46B15)

— Bases in spaces of functions connected with the strengthened integral Hölder condition. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 1, 9–14, 93. (Yu. I. Petunin) **99i:46013** 46E15 (46B15)

Grober, V. M. (*with* Bychkov, B. M.) A Schauder basis in the space C^0_ω. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Severo-Kavkaz. Reg. Estestv. Nauk.* **1994**, *no.* 4, 10–13, 85 (1995). (Yu. I. Petunin) **99m:46066** 46E15 (46B15)

— (*with* Grober, O. V.) On a relation between bases in the spaces C^0_ω and AC^0_ω. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 13–16, 88. 46E15 (46B15)

Grobler, J. J. (*with* Huijsmans, C. B.) Disjointness preserving operators on complex Riesz spaces. (English summary) *Positivity* **1** (1997), *no.* 2, 155–164. (Gerard Buskes) **99k:47079** 47B65

— Positive solutions of linear equations. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 513–522. (Gerard Buskes) **99h:47017** 47A50 (47B65)

Grobov, I. D. (*with* Spathopoulos, M. P.) A state-set estimation algorithm for linear systems in the presence of bounded disturbances. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 799–811. 93E12

— (*with* Spathopoulos, M. P.) Parameter bounding identification for state-space systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 745–765. 93B30

— (*with* Spathopoulos, M. P.) Input disturbance estimation in the bounded noise context. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 505–516. (Summary) **99e:93078** 93E10 (93B40)

cirino Groccia, Maria Cristina *see* **Cirino Groccia, Maria Cristina**

Gröchenig, Karlheinz (*with* Dahlke, Stephan; Latour, Vera) Biorthogonal box spline wavelet bases. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 83–92, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:42056** 42C15 (41A15)

— Irregular sampling, Toeplitz matrices, and the approximation of entire functions of exponential type. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 749–765. (Kristian Seip) **99i:42003** 42A10 (30E10, 94A05)

Grodal, Jesper The transcendence degree of the mod p cohomology of finite Postnikov systems. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 111–130, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Hans-Werner Henn) **99g:55023** 55S45 (55M30, 55P60, 55S10)

Grodzinsky, A. J. (*with* Levenston, M. E.; Frank, E. H.) Variationally derived 3-field finite element formulations for quasistatic poroelastic analysis of hydrated biological tissues. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 231–246. (Summary) **99a:73126** 73V05 (73P20)

Grodzki, Z. (*with* Wroński, A.) Generalized de Bruijn multigraphs of rank $\vec{k}$. (English summary) *Ars Combin.* **50** (1998), 161–176. (Summary) **99i:05178** 05C75 (05C45, 05C85)

müller-Groeling, Axel *see* **Müller-Groeling, Axel**

Groemer, H. On a spherical integral transformation and sections of star bodies. (English summary) *Monatsh. Math.* **126** (1998), *no.* 2, 117–124. (Matthieu Fradelizi) **99k:52005** 52A20 (52A22)

Groeneboom, Piet Lectures on inverse problems. *Lectures on probability theory and statistics* (*Saint-Flour*, 1994), 67–164, *Lecture Notes in Math.*, 1648, *Springer, Berlin*, 1996. (Lajos Horváth) **99c:62092** 62G05 (62G20, 62G30)

— (*with* Geskus, R. B.) Asymptotically optimal estimation of smooth functionals for interval censoring. II. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 2, 201–219. (Ulrich Stadtmüller) **99d:62015** 62F10 (62F12, 62G05)

Groeneveld, Richard A. A class of quantile measures for kurtosis. (English summary) *Amer. Statist.* **52** (1998), *no.* 4, 325–329. 62E15

Groenewald, N. J. (*with* Birkenmeier, Gary F.) Prime ideals in rings with involution. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 591–603. (Geoffrey L. Booth) **99i:16061** 16W10 (16D30)

Groes, Ebbe (*with* Jacobsen, Hans Jørgen; Sloth, Birgitte; Tranæs, Torben) Nash equilibrium with lower probabilities. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 37–66. (Peter Borm) **99f:90195** 90D10

van Groesen, E. *see* **Van Groesen, E.**

Groetsch, C. W. (*with* Hanke, Martin) Nonstationary iterated Tikhonov regularization. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 37–53. (Otmar Scherzer) **99e:65100** 65J20 (47A50, 65J10)

Groff, Sarah (*with* Chodos, Alan) Modeling sonoluminescence. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 3001–3007. (Summary) **99m:78003** 78A25 (76Q05)

Grofman, Bernard (*with* Merrill, Samuel, III) Modeling large electorates with Fourier series, with applications to Nash equilibria in proximity and directional models of spatial competition. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 4, 545–562. (Fouad T. Aleskerov) **99a:90070** 90A28

— (*with* Regenwetter, Michel) Choosing subsets: a size-independent probabilistic model and the quest for a social welfare ordering. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 423–443. (Maurice Salles) **99f:90014** 90A08 (90A28)

Gröger, Konrad (*with* Glitzky, A.; Hünlich, R.) Free energy and dissipation rate for reaction diffusion processes of electrically charged species. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 201–217. 35K57 (78A35)

— *see also* **Schmidt, Vasco Alexander, 99b:01022**

Grohe, Martin Fixed-point logics on planar graphs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 6–15, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03043** 03C80 (03C13, 68Q15)

Groisser, David (*with* Murray, Michael K.) Instantons and the information metric. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 519–537. (Xiao Wei Peng) **99b:58042** 58D27 (53C07, 57R57, 58E15)

— (*with* Parker, Thomas H.) Sharp decay estimates for Yang-Mills fields. *Comm. Anal. Geom.* **5** (1997), *no.* 3, 439–474. (Antony Maciocia) **99b:53035** 53C07 (58D27, 58E15)

Grojean, Christophe (*with* Dudas, Emilian) Four-dimensional M-theory and supersymmetry breaking. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 3, 553–570. (André J. Van Tonder) **99a:81135** 81T30 (81R40)

— (*with* Mourad, J.) Superconformal six-dimensional (2, 0) theories in superspace. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3397–3409. (Sergey Nikolaevich Roshchupkin) **99j:81185** 81T60

— (*with* Dudas, Emilian) Compactification of M-theory and consequences on supersymmetry breaking. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 321–330. (Gianguido Dall'Agata) **99m:81181** 81T30 (81R40, 83E30)

— Compactification of M-theory and SUSY breaking. *Strings, branes and dualities* (*Cargèse*, 1997), 455–458, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81T30 (81R40)

Gröling, Alexander (*with* Gawronski, Wolfgang) Oscillating asymptotics for $\sum_0^\infty \log^k(n+1)z^n$. (English summary) *Analysis* **17** (1997), *no.* 2-3, 175–186. (John G. Stalker) **99a:30037** 30E15 (33E20, 40G05, 41A60)

Gröller, Eduard (*with* Glaeser, Georg) Efficient volume-generation during the simulation of NC-milling. (English summary) *Mathematical visualization* (*Berlin*, 1997), 89–106, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65Y25

Grolmusz, Vince Circuits and multi-party protocols. (English summary) *Comput. Complexity* **7** (1998), *no.* 1, 1–18. (Juraj Hromkovič) **99j:68053** 68Q25 (68Q15, 94C10)

— A lower bound for depth-3 circuits with MOD m gates. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 87–90. (Summary) **99d:68082** 68Q15 (68Q25)

Gromadzki, G. (*with* Izquierdo Barrios, Milagros) Real forms of a Riemann surface of even genus. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3475–3479. (David Singerman) **99b:30062** 30F50 (14P25, 20H10)

— (*with* Broughton, S. A.; Bujalance, Emilio; Costa, Antonio F.; Gamboa, J. M.) Symmetries of Accola-Maclachlan and Kulkarni surfaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 637–646. (Víctor González-Aguilera) **99f:14036** 14H55 (30F10, 30F35)

Gromicho, J. *see* **dos Santos Gromicho, Jaoquim António**

dos santos Gromicho, Jaoquim António *see* **dos Santos Gromicho, Jaoquim António**

Gromoll, Detlef (*with* Dajczer, Marcos) Complete minimal Kähler surfaces in $\mathbf{R}^6$. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 539–541. (Sorin Dragomir) **99d:53066** 53C42

— (*with* Walschap, Gerard) Metric fibrations in Euclidean space. *Asian J. Math.* **1** (1997), *no.* 4, 716–728. (James J. Hebda) **99b:53041** 53C12 (53C20, 57R30)

Gromov, E. M. (*with* Tyutin, V. V.) Stationary waves in a third-order nonlinear Schrödinger equation. (English summary) *Wave Motion* **28** (1998), *no.* 1, 13–24. (Summary) **99b:35192** 35Q55

Gromov, Mikhael Systoles and intersystolic inequalities. (English and French summaries) *Actes de la Table Ronde de Géométrie Différentielle* (*Luminy*, 1992), 291–362, *Sémin. Congr.*, 1, *Soc. Math. France, Paris*, 1996. (Andrea Sambusetti) **99a:53051** 53C22 (53-02, 53C20, 53C23)

Gromov, N. A. (*with* Ballesteros, Angel; Herranz, Francisco J.; del Olmo, Mariano A.; Santander, Mariano) Quantum algebras for non-semisimple quasi-orthogonal groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 325–335, *PWN, Warsaw*, 1995. (Summary) **99h:81082** 81R50 (17B37)

Gromyko, G. F. (*with* Veremeenko, T. V.; Zayats, G. M.) Mathematical modeling of heat transfer under the interaction of a molten particle with the surface. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 923–926, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 927–930 (1998). 80A20 (80–08)

Gronau, Detlef An asymptotic formula for the iterates of a function and related functional equations. (English summary) *Iteration theory* (*Batschuns*, 1992), 136–151, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:39023** 39B12

— Gottlob Frege, a pioneer in iteration theory. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 105–119, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12 (01A70)

müller-Gronbach, Thomas *see* **Müller-Gronbach, Thomas**

Grønbæk, Niels Various notions of amenability, a survey of problems. (English summary) *Banach algebras '97* (*Blaubeuren*), 535–547, *de Gruyter, Berlin*, 1998. (From the introduction) **99g:46107** 46M20 (43A07, 43A20, 46J40)

— An imprimitivity theorem for representations of locally compact groups on arbitrary Banach spaces. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 121–148. (Michael Frank) **99d:22010** 22D30 (22D20, 46H25)

— (*with* Dales, H. Garth; Ghahramani, Fereidoun) Derivations into iterated duals of Banach algebras. (English summary) *Studia Math.* **128** (1998), *no.* 1, 19–54. (T. W. Palmer) **99g:46064** 46H20 (43A20, 46J40, 47D30)

Gronchi, G. F. (*with* Milani, Andrea) Averaging on Earth-crossing orbits. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 2, 109–136. (Summary) **99j:70016** 70F15

Gronchi, Paolo Bodies of constant brightness. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 489–498. (G. D. Chakerian) **99c:52012** 52A40

— Volumes and projections of convex bodies. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 121–124. 52A38

— (*with* Campi, Stefano; Colesanti, Andrea) Blaschke-decomposable convex bodies. (English summary) *Israel J. Math.* **105** (1998), 185–195. (P. R. Goodey) **99g:52001** 52A20 (52A38, 52B12)

Gronwald, Frank A note on gauge covariant translations in the gauge approach to gravity. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1121–1129. (Summary) **99k:83106** 83D05 (81T13)

— (*with* Muench, Uwe; Hehl, Friedrich W.) A brief guide to variations in teleparallel gauge theories of gravity and the Kaniel-Itin model. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 933–961. (Summary) **99a:83058** 83D05

— (*with* Muench, Uwe; Macías, Alfredo; Hehl, Friedrich W.) Volume elements of spacetime and a quartet of scalar fields. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084021, 4 *pp.* (Summary) **99k:83101** 83C99 (83D05)

Groote, Jan Friso (*with* Monin, François; van de Pol, Jaco) Checking verifications of protocols and distributed systems by computer. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 629–655, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68T15)

de Groote, Philippe (*with* Bechet, Denis) Constructing different phonological bracketings from a proof net. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 118–133, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (Summary) **99e:68132** 68S05 (03B65, 03F50)

— (*with* Bechet, Denis; Retoré, Christian) A complete axiomatisation for the inclusion of series-parallel partial orders. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 230–240, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Václav Koubek) **99b:06001** 06A06 (68Q42, 68R10)

— An environment machine for the $\lambda\mu$-calculus. (English summary) Logic and models of computation (Marseille, 1996). *Math. Structures Comput. Sci.* **8** (1998), *no.* 6, 637–669. (Summary) **99m:03026** 03B40 (03B70, 68N15)

Groote, S. (*with* Körner, J. G.; Pivovarov, A. A.) On the evaluation of sunset-type Feynman diagrams. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 515–547. (Summary) **99j:81125** 81T18

Groot Nibbelink, S. (*with* van Holten, J. W.) Matter coupling and anomaly cancellation in supersymmetric σ-models. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 185–191. (Summary) **99j:81175** 81T50 (81T60)

Gropp, Harald On combinatorial papers of König and Steinitz. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 271–276. (E. Keith Lloyd) **99j:01012** 01A55 (01A60, 05B30, 05C70)

Gropp, William D. (*with* Cai, Xiao-Chuan; Keyes, David E.; Melvin, Robin G.; Young, David P.) Parallel Newton-Krylov-Schwarz algorithms for the transonic full potential equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 246–265 (*electronic*). (Summary) **99b:65138** 65N30 (65H20, 65Y05, 76H05, 76M10)

Grosberg, A. Yu. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Grosche, Christian On propagators in pseudo-Euclidean spaces. (English summary) *Path integrals: Dubna* '96, 155–160, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:81090** 81S40

— Path integral solution for Natanzon potentials. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 235–244, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81S40

— (*with* Pogosyan, G. S.; Sisakyan, A. N.) Interbasis expansion for the Kaluza-Klein monopole system. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 245–254, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81Q05

— Integrability, coordinate systems, and separation of variables in path integrals. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1726–1731. (Summary) **99i:81130** 81S40

— Alternative solution of the path integral for the radial Coulomb problem. (English summary) *Phys. Scripta* **57** (1998), *no.* 6, 609–611. (Summary) **99c:81120** 81S40

— Boundary conditions in path integrals from point interactions for the path integral of the one-dimensional Dirac particle. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1675–1690. 81S40 (81Q15)

Grošek, Otokar (*with* Nemoga, Karol; Satko, Ladislav) Remarks to short RSA public exponents. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 65–74. (Summary) **99m:94031** 94A60 (68P25)

— (*with* Satko, Ladislav) Professor Robert Šulka is 70. *Math. Slovaca* **48** (1998), *no.* 1, 101–104. (Editors) **99m:01062** 01A70

Grosfeld-Nir, Abraham A two-state partially observable Markov decision process with uniformly distributed observations. (English summary) *Oper. Res.* **44** (1996), *no.* 3, 458–463. (Summary) **99k:90195** 90C40 (90B30)

Grosof, Benjamin N. Transforming prioritized defaults and specificity into parallel defaults. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 217–228, *Morgan Kaufmann, San Francisco, CA*, 1995. (From the summary) **99c:68231** 68T27

— Prioritized conflict handling for logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 197–211, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17

Gross, Ari (*with* Latecki, Longin Jan; Conrad, Christopher) Preserving topology by a digitization process. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 2, 131–159. (Gilbert Crombez) **99a:68178** 68U10

Gross, Benedict H. On the motive of G and the principal homomorphism $\mathrm{SL}_2 \to \widehat{G}$. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 208–213. (Ernst-Wilhelm Zink) **99d:20077** 20G25 (11S37, 20G15, 22E50)

— (*with* Elkies, Noam D.) Embeddings into the integral octonions. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997,** *Special Issue*, 147–158. (Rainer Schulze-Pillot) **99g:11138** 11R54 (11E25, 17A35)

— Modular forms (mod p) and Galois representations. *Internat. Math. Res. Notices* **1998**, *no.* 16, 865–875. (Ian Kiming) **99j:11058** 11F80 (11R39)

— (*with* Kostant, Bertram; Ramond, Pierre; Sternberg, Shlomo) The Weyl character formula, the half-spin representations, and equal rank subgroups. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 15, 8441–8442 (*electronic*). (Summary) **99f:17007** 17B10

— (*with* Gan, Wee Teck) Haar measure and the Artin conductor. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1691–1704. (Stefan Kühnlein) **99f:20078** 20G30 (11G99)

Groß, C. (*with* Strempel, T.-K.) Topologie verallgemeinerter Kegelschnitte. (German summary) [Topology of generalized conics] *Math. Semesterber.* **44** (1997), *no.* 2, 139–151. (Hellmuth Stachel) **99f:51035** 51N20

— (*with* Strempel, T.-K.) On generalizations of conics and on a generalization of the Fermat-Torricelli problem. *Amer. Math. Monthly* **105** (1998), *no.* 8, 732–743. (V. Volenec) **99k:51018** 51F99

Gross, D. *see* **Gross, Dietmar**

Gross, Daniel (*with* Boesch, F.; Suffel, C.) Component order connectivity. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 145–155. (*see* **99i:00021**) 05C40

— (*with* Saccoman, J. T.) Uniformly optimally reliable graphs. (English summary) *Networks* **31** (1998), *no.* 4, 217–225. (A. A. Chernyak) **99h:68131** 68R10 (05C90, 90C35, 94C15)

Gross, David J. The future of particle physics. *Physics in the 21st century (Nishinomiya, 1996)*, 97–115, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81004**) 81–02 (81T30, 81V22)

Gross, Dietmar (*with* Zhang, Chuanzeng) ★ On wave propagation in elastic solids with cracks. (English summary) International Series on Advances in Fracture Mechanics, 2. *Computational Mechanics Publications, Southampton*, 1998. *xviii+248 pp. ISBN* 1-85312-535-0 (Publisher's description) **99g:73039** 73D15 (73M25)

Groß, Jürgen (*with* Trenkler, Götz) On the equality of usual and Amemiya's partially generalized least squares estimator. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2075–2086. (I. S. Alalouf) **99c:62178** 62J05

— Some remarks concerning the reverse order law. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 135–141. (R. Kala) **99g:15004** 15A09

— (*with* Hauke, Jan; Markiewicz, Augustyn) Some comments on matrix partial orderings. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 203–214. (Ko-Wei Lih) **99i:15026** 15A45

— (*with* Trenkler, Götz) When do linear transforms of ordinary least squares and Gauss-Markov estimator coincide? (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 2, 175–178. (Summary) **99i:62144** 62J05

— (*with* Trenkler, Götz) On the equality of linear statistics in general Gauss-Markov model. *Frontiers in probability and statistics (Calcutta, 1994/1995)*, 189–194, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62J05

— A "classical inequality" for positive semidefinite matrices. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 785–788. (B. Crstici) **99i:15027** 15A45 (26D15)

— A note on the concepts of linear and quadratic sufficiency. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 69–76. (Goetz Trenkler) **99i:62145** 62J05

— (*with* Trenkler, Götz; Liski, Erkki P.) Necessary and sufficient conditions for superiority of misspecified restricted least squares regression estimator. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 109–116. (R. Kala) **99m:62100** 62J05

— (*with* Trenkler, Götz) On the product of oblique projectors. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 247–259. (Summary) **99j:15023** 15A27 (15A09)

— Statistical estimation by a linear combination of two given statistics. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 379–384. (Summary) **99e:62103** 62H12

— Solution to a rank equation. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 127–130. (Summary) **99m:15011** 15A24 (15A03)

— Explicit solutions to the matrix inverse problem $AX = B$. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 131–134. (Summary) **99m:15012** 15A24

— On the product of orthogonal projectors. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 141–150. (R. Kala) **99k:15023** 15A21 (15A57)

— A note on the rank-subtractivity ordering. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 151–160. (George D. Poole) **99k:15029** 15A30 (62H10)

— (*with* Trenkler, Götz; Troschke, Sven-Oliver) On semi-orthogonality and a special class of matrices. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 169–182. (R. Kala) **99m:15013** 15A24 (15A03, 15A63, 62J05)

Gross, Kenneth I. (*with* Richards, Donald St. P.) Algebraic methods toward higher-order probability inequalities. *Stochastic processes and related topics*, 185–206, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Pawel Hitczenko) **99k:60040** 60E15 (60G09, 62H20)

Gross, Lee Michael (*with* Farin, Gerald E.) A transfinite form of Sibson's interpolant. (English summary) 13th European Workshop on Computational Geometry CG'97 (Würzburg, 1997). *Discrete Appl. Math.* **93** (1999), *no.* 1, 33–50. (*see* **99k:00039**) 65Y25 (52C15, 65D15)

Gross, Leonard The mathematical ramifications of Wiener's program in statistical physics. *Proceedings of the Norbert Wiener Centenary Congress, 1994 (East Lansing, MI, 1994)*, 53–61, *Proc. Sympos. Appl. Math., 52, Amer. Math. Soc., Providence, RI*, 1997. (Zdzisław Brzeźniak) **99d:43015** 43A77 (22E30, 82B05)

— (*with* Rothaus, Oscar S.) Herbst inequalities for supercontractive semigroups. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 295–318. (Thierry Coulhon) **99i:47074** 47D07 (31C25, 60J25)

Gross, Mark (*with* Wilson, P. M. H.) Mirror symmetry via 3-tori for a class of Calabi-Yau threefolds. *Math. Ann.* **309** (1997), *no.* 3, 505–531. (Dag E. Sommervoll) **99k:14066** 14J32 (32J17)

— (*with* Popescu, Sorin) Equations of $(1, d)$-polarized abelian surfaces. *Math. Ann.* **310** (1998), *no.* 2, 333–377. (Kristian Ranestad) **99d:14046** 14K25 (14K05, 14K10, 14N05)

Grossberg, Rami (*with* Shelah, Saharon) On cardinalities in quotients of inverse limits of groups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 189–197. (O. V. Belegradek) **99d:20039** 20E18

Grosse, Harald (*with* Chaichian, Masud; Prešnajder, P.) Representations and some applications of q-oscillators. (English summary) *Quantum groups (Karpacz, 1994)*, 183–191, *PWN, Warsaw*, 1995. (Roberto Casalbuoni) **99f:81090** 81R50

— (*with* Martin, André) ★ Particle physics and the Schrödinger equation. (English summary) Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology, 6. *Cambridge University Press, Cambridge*, 1997. xii+167 *pp. ISBN* 0-521-39225-X (Allina A. Suzko) **99c:81001** 81–02 (81U05, 81U40, 81V35, 81V45)

— (*with* Langmann, Edwin; Raschhofer, Ernst) Introduction to simple integrable models of quantum field theory. (English summary) *Conformal field theories and integrable models (Budapest, 1996)*, 126–150, *Lecture Notes in Phys.*, 498, *Springer, Berlin*, 1997. (Summary) **99i:82005** 82B05 (81T10, 82B23)

— (*with* Klimčík, C.; Prešnajder, P.) $N = 2$ superalgebra and non-commutative geometry. *Symétries quantiques (Les Houches, 1995)*, 603–612, *North-Holland, Amsterdam*, 1998. (Jihad Mourad) **99m:58021** 58B30 (17B81, 81T99)

— (*with* Prešnajder, P.) A noncommutative regularization of the Schwinger model. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 1, 61–69. (Edwin Langmann) **99m:81149** 81T15 (46L60, 46L87, 58B30, 58G40, 81T10, 81T50)

Große, Ivo (*with* Holste, D.; Herzel, H.) Bayes' estimators of generalized entropies. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2551–2566. (Summary) **99d:94012** 94A17

Große-Brauckmann, Karsten (*with* Polthier, Konrad) Constant mean curvature surfaces derived from Delaunay's and Wente's examples. (English summary) *Visualization and mathematics (Berlin-Dahlem, 1995)*, 119–134, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53A10

— (*with* Kusner, Robert B.; Sullivan, John M.) Constant mean curvature surfaces with cylindrical ends. (English summary) *Mathematical visualization (Berlin, 1997)*, 107–116, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A10 (53–04)

Grosse-Erdmann, Karl-Goswin ★ The blocking technique, weighted mean operators and Hardy's inequality. Lecture Notes in Mathematics, 1679. *Springer-Verlag, Berlin*, 1998. x+114 *pp. ISBN* 3-540-63902-0 (Kenneth F. Andersen) **99d:26024** 26D15 (40A05, 40A10, 46A45, 46B25, 47B37)

Große-Rhode, Martin Transition specifications for dynamic abstract data types. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 3, 265–308. (Summary) **99c:68174** 68Q65 (03B70, 68Q60)

— (*with* Corradini, Andrea; Heckel, Reiko) Structured transition systems as lax coalgebras. (English summary) *First Workshop on Coalgebraic Methods in Computer Science (CMCS '98) (Lisbon)*, 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (*see* **99e:68002**) 68Q10 (68Q55)

— (*with* Parisi-Presicce, Francesco; Simeoni, Marta) Spatial and temporal refinement of typed graph transformation systems. (English summary) *Mathematical foundations of computer science, 1998 (Brno)*, 553–561, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q10, 68Q50)

— From algebra transformation to labelled transition systems. (English summary) *Recent trends in algebraic development techniques (Tarquinia, 1997)*, 269–284, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65 (68Q10, 68Q60)

— (*with* Ehrig, Hartmut; Wolter, Uwe) Applications of category theory to the area of algebraic specification in computer science. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 1–35. (Horst Reichel) **99a:68122** 68Q65 (03G30, 18C10)

— First steps towards an institution of algebra replacement systems. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 4, 403–426. (Horst Reichel) **99j:68080** 68Q60 (03B70, 68Q65)

Grosshans, Frank D. ★ Algebraic homogeneous spaces and invariant theory. Lecture Notes in Mathematics, 1673. *Springer-Verlag, Berlin*, 1997. vi+148 *pp. ISBN* 3-540-63628-5 (Michel Brion) **99b:13005** 13A50 (14L30, 14L35, 20G05)

— Invariant theory, orbits and non-decomposable quadruples of subspaces having non-zero defect. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 63–81. (George F. Seelinger) **99h:14047** 14L30 (14D25, 15A75, 16G20)

Grossi, Marie (*with* Link, Montgomery; Makkai, Katalin; Parsons, Charles) A bibliography of Hao Wang. (English summary) *Philos. Math.* (3) **6** (1998), *no.* 1, 25–38. (John W. Dawson, Jr.) **99d:01030** 01A70

Grossi, R. O. (*with* Scotto, Roberto; Canterle, E.) On the existence of weak solutions in the study of beams. *J. Sound Vibration* **212** (1998), *no.* 3, 559–563. (L. P. Lebedev) **99c:73039** 73K05 (34B05, 73K12, 73V25)

Grossi, Roberto (*with* Pietracaprina, Andrea; Pucci, Geppino) Optimal deterministic protocols for mobile robots on a grid. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 181–192, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68Q20 (68T99)

— (*with* Lodi, Elena) Simple planar graph partition into three forests. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 121–132. (Summary) **99d:05071** 05C70 (05C05)

— (*with* Ferragina, Paolo) Optimal on-line search and sublinear time update in string matching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 713–736 (*electronic*). (Maxime Crochemore) **99f:68079** 68Q20 (68P05, 68P20, 68Q25)

— (*with* Ferragina, Paolo; Montangero, Manuela) On updating suffix tree labels. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 249–262. (Summary) **99b:68042** 68P05

Grossinho, Maria do Rosário Periodic solutions of some second order differential equations at resonance. (English summary) *Advances in difference equations (Veszprém, 1995)*, 271–280, *Gordon and Breach, Amsterdam*, 1997. (Ana Paula S. Dias) **99i:34060** 34C25 (34B15, 58E05, 58F22)

— (*with* Omari, Pierpaolo) A Hammerstein-type result for a semilinear parabolic problem. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 403–408, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35K55

— (*with* Nkashama, M. N.) Periodic solutions of parabolic and telegraph equations with asymmetric nonlinearities. *Nonlinear Anal.* **33** (1998), *no.* 2, 187–210. (Norman Dancer) **99g:35054** 35K55 (35B10, 35L70, 47H15, 47N20)

Grossman, George W. (*with* Fleming, Richard J.; Lenker, Terry; Narayan, Sivaram K.; Ong, S.-C.) On Schur D-stable matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 39–50. (Pauline van den Driessche) **99i:15012** 15A18

— (*with* Angelos, James; Kaufman, Edwin; Lenker, Terry; Rakesh, Leela) Limit cycles for successive projections onto hyperplanes in $\mathbf{R}^n$. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 201–228. (E. G. D'yakonov) **99k:65041** 65F99

Grossman, Nathaniel Newton's quiescence of the apsides and radially-symmetric attractions to a center. *Arch. Hist. Exact Sci.* **52** (1998), *no.* 2, 109–117. (Niccolò Guicciardini) **99d:70019** 70F15 (01A45, 70–03)

Grossmann, Alex (*with* Frik, P. G.; Tchamitchian, Philippe) Wavelet analysis of signals with gaps. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4091–4107. (Summary) **99d:94007** 94A12 (42C15)

Grossmann, Frank (*with* Xavier, Ademir Luis, Jr.) From the coherent state path integral to a semiclassical initial value representation of the quantum mechanical propagator. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 243–248. (Summary) **99b:81091** 81R30 (81Q20, 81S40)

Grossmann, Ignacio E. (*with* Pinto, Jose M.) Assignment and sequencing models for the scheduling of process systems. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 433–466. (*see* **99b:90006**) 90B35 (90B30)

Grossmann, Siegfried (*with* Nicodemus, Rolf; Holthaus, Martin) The background flow method. I. Constructive approach to bounds on energy dissipation. (English summary) *J. Fluid Mech.* **363** (1998), 281–300. (Summary) **99f:76071a** 76F10 (76M10, 76M25)
— (*with* Nicodemus, Rolf; Holthaus, Martin) The background flow method. II. Asymptotic theory of dissipation bounds. (English summary) *J. Fluid Mech.* **363** (1998), 301–323. (Summary) **99f:76071b** 76F10 (76M10, 76M25)
— (*with* Lohse, Detlef; Reeh, Achim) Scaling of the irreducible SO(3)-invariants of velocity correlations in turbulence. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 715–724. (Summary) **99i:76074** 76F99
Grosu, Corina (*with* Grosu, Marta) Metric structures on odd-dimensional total spaces over product manifolds. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 481–486. (V. Cruceanu) **99j:53037** 53C20
— (*with* Grosu, Marta) The study of odd-dimensional total spaces over product manifolds. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 635–641. (V. Oproiu) **99f:53020** 53B40 (53B50)
Grosu, Marta (*with* Grosu, Corina) Metric structures on odd-dimensional total spaces over product manifolds. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 481–486. (V. Cruceanu) **99j:53037** 53C20
— (*with* Grosu, Corina) The study of odd-dimensional total spaces over product manifolds. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 635–641. (V. Oproiu) **99f:53020** 53B40 (53B50)
— The study of spacetime configurations endowed with unorthogonal metric tensor. *Stud. Cerc. Mat.* **48** (1996), *no.* 3-4, 263–272. 83C15
Groszek, Marcia J. (*with* Slaman, Theodore A.) Π^0_1 classes and minimal degrees. (English summary) Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 117–144. (C. G. Jockusch, Jr.) **99f:03058** 03D30 (03F35)
— (*with* Hummel, Tamara) Σ_2-constructions and $\mathrm{I}\Sigma_1$. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 83–101. (Peter Cholak) **99f:03054** 03D25
— (*with* Slaman, Theodore A.) A basis theorem for perfect sets. (English summary) *Bull. Symbolic Logic* **4** (1998), *no.* 2, 204–209. (Summary) **99c:03072** 03E45
Grot, Norbert *see* **Kijowski, Jerzy, 99m:81023**
Grote, K. (*with* Meyer-Spasche, Rita) Euler-like discrete models of the logistic differential equation. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 211–225. (Summary) **99j:65131** 65L12
Grote, Marcus J. (*with* Keller, Joseph B.) Nonreflecting boundary conditions for Maxwell's equations. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 2, 327–342. (Summary) **99a:78026** 78A45 (78–08)
— (*with* Majda, Andrew J.; Grotta Ragazzo, C.) Dynamic mean flow and small-scale interaction through topographic stress. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 89–130. (Stefan G. Llewellyn Smith) **99m:76114** 76U05 (34C35, 58F40, 86A10)
Grothaus, Martin (*with* Khandekar, Dinkar C.; da Silva, José L.; Streit, Ludwig) The Feynman integral for time-dependent anharmonic oscillators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3278–3299. (T. Hida) **99c:46083** 46N50 (46G12, 60H99, 81S40)
— (*with* Kondrat'ev, Yu. G.; Streit, Ludwig) Complex Gaussian analysis and the Bargmann-Segal space. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 46–64. (Habib Ouerdiane) **99h:46073** 46F25 (46E50, 46G20, 60H99)
Grothendieck, Alexander Produits tensoriels topologiques et espaces nucléaires. [Topological tensor products and nuclear spaces] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 69, 193–200, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 46M05 (46A11)
— La théorie de Fredholm. [Fredholm's theory] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 91, 377–384, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 47A53 (15A75)
— Réarrangements de fonctions et inégalités de convexité dans les algèbres de von Neumann munies d'une trace. [Rearrangements of functions and convexity inequalities in von Neumann algebras equipped with a trace] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 113, 127–139, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 46L10
— Sur le mémoire de Weil: généralisation des fonctions abéliennes. [On Weil's memoir: generalization of abelian functions] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 141, 57–71, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 32J99 (32C35)
— Théorèmes de dualité pour les faisceaux algébriques cohérents. [Duality theorems for coherent algebraic sheaves] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 149, 169–193, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14F20 (14C25)
— Géométrie formelle et géométrie algébrique. [Formal geometry and algebraic geometry] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 182, 193–220, *errata p.* 390, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 14A15
— Technique de descente et théorèmes d'existence en géometrie algébrique. I. Généralités. Descente par morphismes fidèlement plats. [Descent technique and existence theorems in algebraic geometry. I. Generalities. Descent by faithfully flat morphisms] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 190, 299–327, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 14A15
— Technique de descente et théorèmes d'existence en géométrie algébrique. II. Le théorème d'existence en théorie formelle des modules. [Descent technique and existence theorems in algebraic geometry. II. Existence theorem in the formal theory of modules] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 195, 369–390, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 14A15
— Techniques de construction et théorèmes d'existence en géométrie algébrique. III. Préschemas quotients. [Construction techniques and existence theorems in algebraic geometry. III. Quotient preschemes] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 212, 99–118, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 14A15
— Techniques de construction et théorèmes d'existence en géométrie algébrique. IV. Les schémas de Hilbert. [Construction techniques and existence theorems in algebraic geometry. IV. Hilbert schemes] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 221, 249–276, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 14C05
— Technique de descente et théorèmes d'existence en géométrie algébrique. V. Les schémas de Picard: théorèmes d'existence. [Descent technique and existence theorems in algebraic geometry. V. Picard schemes: existence theorems] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 232, 143–161, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 14C22
— Technique de descente et théorèmes d'existence en géométrie algébrique. VI. Les schémas de Picard: propriétés générales. [Descent technique and existence theorems in algebraic geometry. VI. Picard schemes: general properties] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 236, 221–243, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 14C22
— Fondements de la géométrie algébrique. Commentaires [MR **26** #3566]. [Foundations of algebraic geometry. Commentary] *Séminaire Bourbaki, Vol.* 7, 297–307, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 14A15
— Formule de Lefschetz et rationalité des fonctions L. [Lefschetz formula and rationality of L-functions] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 279, 41–55, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 14G10
— Le groupe de Brauer. I. Algèbres d'Azumaya et interprétations diverses [MR **39** #5586a]. [The Brauer group. I. Azumaya algebras and diverse interpretations] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 290, 199–219, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 14F99
— Le groupe de Brauer. II. Théorie cohomologique [MR **39** #5586b]. [The Brauer group. II. Cohomological theory] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 297, 287–307, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 14F99
— Esquisse d'un programme. (French summary) [Sketch of a program] With an English translation on pp. 243–283. *Geometric Galois actions*, 1, 5–48, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Hiroaki Nakamura and Yasutaka Ihara) **99c:14034** 14H10 (14F20, 14H30)
— Brief an G. Faltings. [Letter to G. Faltings] With an English translation on pp. 285–293. *Geometric Galois actions*, 1, 49–58, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Helmut Völklein) **99c:14023** 14E20 (14A15)
— *see also* **Schneps, Leila, 99b:14017** *and* **Deligne, Pierre, 99k:01034**
Grotowsky, I. M. G. (*with* Ballmann, Josef) Efficient time integration of Navier-Stokes equations. (English summary) *Comput. & Fluids* **28** (1999), *no.* 2, 243–263. (From the summary) **99j:76083** 76M20 (76K05)
Grötschel, Martin (*with* Monma, C. L.; Stoer, Mechthild) Polyhedral and computational investigations for designing communication networks with high survivability requirements. (English summary) *Oper. Res.* **43** (1995), *no.* 6, 1012–1024. (Rainer Burkard) **99b:90050** 90B12 (90C05)
— (*with* Martin, Alexander; Weismantel, Robert) The Steiner tree packing problem in VLSI design. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 265–281. (Ulrich Faigle) **99c:90093** 90C27 (68Q35)
— (*with* Borndörfer, Ralf; Löbel, Andreas) Alcuin's transportation problems and integer programming. (English summary) *Charlemagne and his heritage.* 1200 *years of civilization and science in Europe, Vol.* 2 (*Aachen*, 1995), 379–409, *Brepols, Turnhout*, 1998. (*see* **99i:00015**) 90C10 (01A35, 90C08)
Grotta Ragazzo, C. Homoclinic orbits for $u^{iv} + au'' - u + f(u, b) = 0$. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 475–479, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34C37 (58F15)
— (*with* Bastos de Figueiredo, J. C.; Malta, C. P.) Two important numbers in the Hénon-Heiles dynamics. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 35–40. (Summary) **99b:58089** 58F05 (70H05, 70K50)
— (*with* Grote, Marcus J.; Majda, Andrew J.) Dynamic mean flow and small-scale interaction through topographic stress. (English summary) *J. Nonlinear Sci.* **9** (1999), *no.* 1, 89–130. (Stefan G. Llewellyn Smith) **99m:76114** 76U05 (34C35, 58F40, 86A10)
Grou, Maria Alice (*with* Rodrigues Costa, Sueli I.; Figueiredo, Vera) Mechanical curves—a kinematic Greek look through the computer. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 3, 459–468. 70B99 (53A17)
max-plus working Group *see* **Max-Plus Working Group**
Grousouzakou, Evangelia (*with* Contopoulos, George) Distribution of periodic orbits in 2-D dynamical systems. (English summary) *Analysis and modelling of discrete dynamical systems* (*Aussois*, 1996), 107–131, *Adv. Discrete Math. Appl.*, 1, *Gordon and Breach, Amsterdam*, 1998. (Summary) **99m:58151** 58F22
latiri-Grouz, C. *see* **Latiri-Grouz, C.**
Grove, Adam J. (*with* Bacchus, Fahiem) Graphical models for preference and utility. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 3–10, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30
— (*with* Halpern, Joseph Y.) On the expected value of games with absentmindedness. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 51–65. (*see* **99b:90162**) 90A05 (90D40)
Grove, E. A. (*with* Kent, C. M.; Ladas, G.) Lyness equations with variable coefficients. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 281–288, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:39007** 39A10
— (*with* Kocic, V. L.; Ladas, G.) Classification of invariants for certain difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 289–294, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39019** 39A10
— (*with* Amleh, A. M.; Kent, C. M.; Ladas, G.) On some difference equations with eventually periodic solutions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 196–215. (Saber Elaydi) **99f:39002** 39A10
Grove, Edward F. (*with* Barve, Rakesh D.; Vitter, Jeffrey Scott) Simple randomized mergesort on parallel disks. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 1–20, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:68036** 68P10 (68Q22, 68Q25, 68R05)
Grove, John W. (*with* Glimm, James; Li, Xiao Lin; Shyue, Keh-Ming; Zeng, Yanni; Zhang, Qiang[1]) Three-dimensional front tracking. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 703–727 (*electronic*). (Alexander Doktor) **99c:35153** 35L67 (65M99)
Grove, Karsten (*with* Searle, Catherine) Differential topological restrictions curvature and symmetry. *J. Differential Geom.* **47** (1997), *no.* 3, 530–559. (McKenzie Y. Wang) **99h:53043a** 53C21 (53C20, 53C23, 53C30)
— (*with* Searle, Catherine) A correction on: "Differential topological restrictions by curvature and symmetry". *J. Differential Geom.* **49** (1998), *no.* 1, 205. (McKenzie Y. Wang) **99h:53043b** 53C21 (53C20, 53C23, 53C30)
Groves, Christopher N. (*with* Dutton, Ken) Self-tuning control of a cold mill automatic gauge control system. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 573–588. 93D21 (93C95)
Groves, Lindsay *see* **Formal Methods Pacific, 99a:68008**

Groves, Mark D. Examples of embedded eigenvalues for problems in acoustic waveguides. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 479–488. (Vadim D. Kryakvin) **99b:35025** 35J05 (35P05, 76Q05)
— Trapped-mode solutions for gravity-capillary water waves in channels of arbitrary cross-section. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 701–718. (Nikolay G. Kuznetsov) **99b:76009** 76B15 (35Q35, 76B45)
— Corrigenda: "Hamiltonian long-wave theory for water waves in a channel" [Quart. J. Math. Appl. Math. **47** (1994), no. 3, 367–404; MR 95h:76009]. *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 493. 76B15 (35Q35, 58F05, 58F40, 76M99)
— (*with* Tritton, D. J.) Lyapunov exponents for the Miles' spherical pendulum equations. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 83–98. (Summary) **99m:70018** 70K50
Grow, David E. (*with* Insall, Matt) Further properties of an extremal set of uniqueness. *Colloq. Math.* **77** (1998), *no.* 1, 33–39. (C. McGehee) **99g:43007** 43A46 (42A63)
Groza, A. A. *see* **Vilenkin, N. Ya., 99f:33019**
Groza, V. A. *see* **Vilenkin, N. Ya., 99f:33019**
Grozdanov, V. On the quadratic discrepancy of one class of two-dimensional nets. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 313–325. (Henri Faure) **99k:11120** 11K38
Grozdev, S. Examination of a nonstability. (English and Bulgarian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 2, 3, 21–25. (Vilmos Komornik) **99f:93077** 93C20 (35K60, 93D05)
— On the appearance of the fractional calculus. (English and Russian summaries) *J. Theoret. Appl. Mech.* **27** (1997), *no.* 3, 3, 11–20. (M. E. Muldoon) **99j:26001** 26-03 (01A45, 26A33)
Grozev, Georgi R. (*with* Rahman, Qazi I.) Lagrange interpolation by entire functions of exponential type and mean convergence. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 63–80. (P. Vértesi) **99h:41026** 41A28 (30E05)
Grozman, P. (*with* Leites, D.) The highest weight representations of the contact Lie superalgebra on 1|6-dimensional supercircle. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1133–1138. (Shun-Jen Cheng) **99e:17006** 17B10
Gruais, Isabelle (*with* Dauge, Monique) Asymptotics of arbitrary order for a thin elastic clamped plate. II. Analysis of the boundary layer terms. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 2, 99–124. (Tomasz Lewiński) **99d:73055** 73K10 (35C20, 73C99)
— (*with* Dauge, Monique) Edge layers in thin elastic plates. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 335–347. (Summary) **99e:73041** 73C99 (73K10)
puyol-Gruart, Josep *see* **Puyol-Gruart, Josep**
Grubb, Anthea A lattice, a projective space and complex coordinates in special relativity. (English summary) *J. Natur. Geom.* **14** (1998), *no.* 1, 69–80. (Abraham A. Ungar) **99f:83005** 83A05
Grubb, D. J. (*with* LaBerge, Tim) Additivity of quasi-measures. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3007–3012. (Robert F. Wheeler) **99a:28011** 28C15 (03E35, 54D30)
Grubb, Gerd Pseudodifferential evolution problems. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 149–166, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Summary) **99e:35250** 35S15 (35J40, 35K35)
— Nonhomogeneous Navier-Stokes problems in L_p Sobolev spaces over exterior and interior domains. (English summary) *Theory of the Navier-Stokes equations*, 46–63, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Rodolfo Salvi) **99j:35163** 35Q30 (76D05)
— (*with* Gilkey, Peter B.) Logarithmic terms in asymptotic expansions of heat operator traces. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 777–792. (Rafe Mazzeo) **99m:58184** 58G11 (35C20, 35P05, 35S05, 58G18)
Grübel, Rudolf (*with* Baringhaus, Ludwig) On a class of characterization problems for random convex combinations. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 555–567. (Ramesh C. Gupta) **99c:62029** 62E10
— Hoare's selection algorithm: a Markov chain approach. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 36–45. (Uwe Rösler) **99f:60133** 60J20 (68P10)
Gruber, Boris Classification of lattices: a new step. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 4, 505–521. (Martin Henk) **99c:52025** 52C07 (82D25)
— Alternative formulae for the number of sublattices. (English summary) *Acta Cryst. Sect. A* **53** (1997), *no.* 6, 807–808. (Christine Bachoc) **99b:11074** 11H06 (05A15)
Gruber, Bruno *see* **Symmetries in science, 99f:81004**
Gruber, Ch. (*with* Ueltschi, D.) Falicov-Kimball model: ground states and flux phase problem. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 118–125, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (82D35)
— (*with* Wang, Deng Feng) One-dimensional lattice models of electrons with r^{-2} hopping and exchange. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 394–401, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20
Gruber, Jochen (*with* Hiss, Gerhard) Decomposition numbers of finite classical groups for linear primes. (English summary) *J. Reine Angew. Math.* **485** (1997), 55–91. (Marc Cabanes) **99d:20073** 20G05 (20G40)
Gruber, Marvin H. J. ★ Improving efficiency by shrinkage. (English summary) The James-Stein and ridge regression estimators. Statistics: Textbooks and Monographs, 156. *Marcel Dekker, Inc., New York*, 1998. xiv+632 *pp. ISBN* 0-8247-0156-9 (Christian P. Robert) **99c:62196** 62J07 (62C12, 62C15, 62C20, 62F10, 62H12, 62J05)
Gruber, Peter M. Asymptotic estimates for best and stepwise approximation of convex bodies. IV. (English summary) *Forum Math.* **10** (1998), *no.* 6, 665–686. (Marek Lassak) **99j:52006** 52A27 (41A60, 52B60, 52C15)
Grudnitskiĭ, V. G. A sufficient condition for stability in the explicit construction of discontinuous solutions of a system of Euler equations. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 298–299. 65M12 (76M20)
Grudo, Éduard Iosifovich (*with* Demenchuk, A. K.) Formulas for solving linear algebraic systems in a critical case. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 5–6, 139. 15A06
— *see also* **Gaĭshun, I. V., 99k:01057**
Grudskiĭ, Sergeĭ M. (*with* Böttcher, Albrecht) On the composition of Muckenhoupt weights and inner functions. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 172–184. (Alberto Fiorenza) **99j:47033** 47B35 (42B30, 47B38, 47G10)
— (*with* Böttcher, Albrecht) On the condition numbers of large semi-definite Toeplitz matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 285–301. (A. Bultheel) **99e:65076** 65F35 (15A12, 47B35)
Grudzień, Zofia (*with* Szynal, Dominik) Characterizations of continuous distributions via moments of the kth record values with random indices. (English summary) *J. Appl. Statist. Sci.* **5** (1997), *no.* 4, 259–266. (D. N. Shanbhag) **99f:62022** 62E10 (60E05, 60G70, 62G30)
— (*with* Szynal, Dominik) On characterizations of continuous distributions in terms of moments of order statistics when the sample size is random. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4017–4022. (Summary) **99j:62007** 62E10 (62G30)
Grue, John (*with* Palm, Enok) On the wave field due to a moving body performing oscillations in the vicinity of the critical frequency. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 219–232. (Summary) **99m:76023** 76B15 (86A05)
— (*with* Jensen, Atle; Rusås, Per-Olav; Sveen, J. Kristian) Properties of large-amplitude internal waves. (English summary) *J. Fluid Mech.* **380** (1999), 257–278. 76C10 (76-05)
Grue, Klaus (*with* Berline, Chantal) A κ-denotational semantics for map theory in ZFC + SI. (English summary) *Theoret. Comput. Sci.* **179** (1997), *no.* 1-2, 137–202. (Antonius J. C. Hurkens) **99a:03018** 03B40 (03E70, 68Q05, 68Q55)
— (*with* Berline, Chantal) Addendum: "A κ-denotational semantics for map theory in ZFC + SI" [Theoret. Comput. Sci. **179** (1997), no. 1-2, 137–202; MR 99a:03018]. *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 397–398. 03B40 (03E70, 68Q05, 68Q55)
Gruenberg, Karl W. (*with* Baumslag, Gilbert; Bridson, Martin R.) On the absence of cohomological finiteness in wreath products. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 222–230. (J. R. J. Groves) **99f:20050** 20E22 (20J05)
— (*with* Ritter, Jürgen; Weiss, Alfred R.) On Chinburg's root number conjecture. *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 1, 36–44. (Nigel Byott) **99a:11128** 11R33 (11R42, 19A31)
Gruendler, Joseph Homoclinic solutions and chaos in ordinary differential equations with singular perturbations. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3797–3814. (Ana Nunes) **99a:34137** 34C37 (34C23, 34E15, 58F13)
Gruenhage, Gary (*with* Chaber, J.; Pol, Roman) On Souslin sets and embeddings in integer-valued function spaces on ω_1. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 37–67 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54B10 (54D20, 54F45, 54H05)
— (*with* Hattori, Yasunao; Ohta, Haruto) Dugundji extenders and retracts on generalized ordered spaces. (English summary) *Fund. Math.* **158** (1998), *no.* 2, 147–164. (Richard A. Alò) **99i:54016** 54C20 (46E25, 54B10, 54F05)
— (*with* Chaber, J.; Pol, Roman) On Souslin sets and embeddings in integer-valued function spaces on ω_1. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 71–104. (Klaas Pieter Hart) **99f:54046** 54H05 (28A05, 54B10, 54D20, 54F45)
— (*with* Kulesza, John S.; Le Donne, Attilio) Connectifications of metrizable spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 171–179. (A. H. Stone) **99a:54014** 54D05 (54D35, 54E35, 54G20)
— (*with* Balogh, Zoltán T.; Tkachuk, Vladimir V.) Additivity of metrizability and related properties. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 91–103. (Summary) **99b:54039** 54E35 (54A25, 54B05, 54B10)
— Irreducible restrictions of closed mappings. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 127–135. (J. J. Charatonik) **99e:54010** 54C10
Gruet, Jean-Claude Jacobi radial stable processes. (English summary) *Ann. Math. Blaise Pascal* **5** (1998), *no.* 2, 39–48. (Michael Voit) **99m:60015** 60B15 (43A62, 60E07)
Gruet, Marie-Anne (*with* Philippe, Anne; Robert, Christian P.) Estimation of exponential mixtures. *Discretization and MCMC convergence assessment*, 161–173, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 62F15
Grujić, Ljubomir T. Exponential quality of time-varying dynamical systems: stability and tracking. *Advances in nonlinear dynamics*, 51–61, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Sophie Tarbouriech) **99a:93073** 93D05 (34H05, 93D99)
— A consistent Lyapunov methodology for stationary nonlinear systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 35–73. (János Karsai) **99c:34104** 34D20
— Consistent Lyapunov methodology for Hopfield fuzzy neural networks. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 195–210. 93C30 (93C41, 93D05)
— (*with* Bouyekhf, R.) Lyapunov-like solutions to stability problems for discrete-time systems on asymptotically contractive sets. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 2, 107–127. (Olusola Akinyele) **99m:93068** 93D05 (34D20, 39A12)
Grujić, Zoran (*with* Kukavica, Igor) Space analyticity for the Navier-Stokes and related equations with initial data in L^p. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 2, 447–466. (Rodolfo Salvi) **99b:35168** 35Q30 (35B65, 76D05)
Grulović, Milan Z. (*with* Ignjatović, Aleksandar) A comment on the joint embedding property. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 45–50. (Fuxing Shen) **99c:03050** 03C25 (03C52, 03C62)
Grumbach, Stéphane (*with* Milo, Tova) An algebra for pomsets (extended abstract). (English summary) *Database theory—ICDT '95* (*Prague*), 191–207, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68Q15)
Grün, Günther (*with* Dal Passo, Roberta; Garcke, Harald) On a fourth-order degenerate parabolic equation: global entropy estimates, existence, and qualitative behavior of solutions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 321–342 (*electronic*). (Qing Fang) **99c:35118** 35K60 (35B05, 35B40)
Grunau, Hans-Christoph (*with* von Wahl, Wolf) Regularity considerations for semilinear parabolic systems. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 221–233 (1997). (Elias Tuma) **99c:35100** 35K55 (35B65, 35K60)

— L^p-decay rates for strong solutions of a perturbed Navier-Stokes system in $\mathbf{R}^3$. *Theory of the Navier-Stokes equations*, 64–71, *Ser. Adv. Math. Appl. Sci.*, **47**, *World Sci. Publishing, River Edge, NJ*, 1998. (José Luiz Boldrini) **99j:35164** 35Q30 (76D05)

— (*with* Sweers, Guido) The role of positive boundary data in generalized clamped plate equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 420–435. (Cornelius O. Horgan) **99e:35044** 35J40 (35B05, 35B50)

Grünbaum, Branko (*with* Artés, Joan C.; Llibre, Jaume) On the invariant straight lines of polynomial differential systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 317–327. (Editors) **99j:34029** 34C05 (58F21)

— (*with* Coxeter, H. S. M.) Face-transitive polyhedra with rectangular faces. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 1, 16–21. (P. McMullen) **99f:51033** 51M20

— Realizations of symmetric maps by symmetric polyhedra. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 19–33. (P. McMullen) **99g:52024** 52B70 (51M20)

— (*with* Shephard, G. C.) Some new transversality properties. (English summary) *Geom. Dedicata* **71** (1998), *no.* 2, 179–208. (O. Giering) **99i:51017** 51M04 (51A20)

— On quadrangles derived from quadrangles. III. *Geombinatorics* **7** (1998), *no.* 3, 88–94. (Maria Scafati Tallini) **99e:51018** 51M04

— How many triangles? (English summary) *Geombinatorics* **8** (1998), *no.* 1, 154–159. (Béla Uhrin) **99h:52012** 52B30

— Selfintersections of polygons. *Geombinatorics* **8** (1998), *no.* 2, 37–45. (G. Ewald) **99j:52009** 52A40 (51M16)

— (*with* Shephard, G. C.) Isohedra with nonconvex faces. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 76–96. (J. M. Wills) **99i:52013** 52B15

— (*with* Artés, Joan C.; Llibre, Jaume) On the number of invariant straight lines for polynomial differential systems. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 207–230. (Alexandru Şubă) **99f:34035** 34C05 (34A34, 54H20)

— Acoptic polyhedra. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 163–199, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:52010** 52B10 (52B15)

— Selfintersections of polyarcs. *Geombinatorics* **8** (1999), *no.* 3, 78–85. 51N20

Grunbaum, Daniel (*with* Edelstein-Keshet, Leah; Watmough, James) Do travelling band solutions describe cohesive swarms? An investigation for migratory locusts. (English summary) *J. Math. Biol.* **36** (1998), *no.* 6, 515–549. (Summary) **99f:92036** 92D50

Grünbaum, F. Alberto (*with* Patch, S. K.) How many parameters can one solve for in diffuse tomography? (English summary) *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 219–235, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Alexander S. Denisjuk) **99a:65188** 65R20 (44A12, 92C55)

— (*with* Haine, Luc) On a q-analogue of Gauss equation and some q-Riccati equations. *Special functions, q-series and related topics* (*Toronto, ON*, 1995), 77–81, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **97k:33001**) 39A10 (33D15)

— (*with* Haine, Luc; Horozov, Emil) On the Krall-Hermite and the Krall-Bessel polynomials. *Internat. Math. Res. Notices* **1997**, *no.* 19, 953–966. (Kenji Taniguchi) **99e:33007** 33C45 (58F19)

— Some bispectral musings. *The bispectral problem* (*Montreal, PQ*, 1997), 31–45, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Emma Previato) **99d:34159** 34L05 (33C45, 35Q53, 58F07, 92C55)

— Variations on a theme of Heine and Stieltjes: an electrostatic interpretation of the zeros of certain polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 189–194. (M. E. Muldoon) **99j:33012** 33C45 (78A30)

Grunberg, Renata (*with* Junqueira, Lúcia R.; Tall, Franklin D.) Forcing and normality. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 145–174. (Klaas Pieter Hart) **99e:54016** 54D15 (03E40, 03E55, 54D30)

Gruncharov, Lyuben (*with* Popenda, Jerzy; Radicheva, Elena; Zvetkov, Zoran) Growth estimates for solution of difference equation. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 200–202, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 39A10

Grundhöfer, T. Flag-homogeneous generalized polygons. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 55–67. (Summary) **99f:51009** 51E12 (51E24)

Grundland, A. M. (*with* Levi, D.) On higher-order Riccati equations as Bäcklund transformations. (English summary) *J. Phys. A* **32** (1999), *no.* 21, 3931–3937. 35Q53 (34A34, 58F37)

Grundling, Hendrik (*with* Hurst, C. A.) Constrained dynamics for quantum mechanics. I. Restricting a particle to a surface. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3091–3119. (Kanji Fujii) **99j:81094** 81S99 (81Q99)

Grundmann, M. (*with* Azaïez, Mejdi; Ben Belgacem, Faker; Khallouf, H.) Staggered grids hybrid-dual spectral element method for second-order elliptic problems. Application to high-order time splitting methods for Navier-Stokes equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 183–199. (Summary) **99j:76070** 76M10 (76D05)

— (*with* Ben Belgacem, Faker) Approximation of the wave and electromagnetic diffusion equations by spectral methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 13–32 (*electronic*). (Timothy Nigel Phillips) **99h:65200** 65N35 (65Y20, 78–08)

Grundy, Jim *see* **Theorem proving in higher order logics, 99k:68014**

Grüne, Lars On the relation between discounted and average optimal value functions. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 65–99. (Katsuyuki Ishii) **99e:49004** 49J15 (49K15)

— Asymptotic controllability and exponential stabilization of nonlinear control systems at singular points. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1485–1503 (*electronic*). (M. Krastanov) **99e:93066** 93D15 (93B05)

Grünenfelder, L. (*with* Bulacu, D.; Dăscălescu, Sorin) Modules graded by G-sets: duality and finiteness conditions. *J. Algebra* **195** (1997), *no.* 2, 624–633. (Piotr Grzeszczuk) **99d:16049** 16W50 (16S35, 16W20)

— (*with* Beattie, Margaret; Dăscălescu, Sorin; Năstăsescu, C.) Finiteness conditions, co-Frobenius Hopf algebras, and quantum groups. (English summary) *J. Algebra* **200** (1998), *no.* 1, 312–333. (Mitsuhiro Takeuchi) **99c:16035** 16W30

Grunewald, Fritz (*with* Platonov, Vladimir Petrovich) On finite extensions of arithmetic groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 11, 1153–1158. (B. Sury) **99a:20045** 20G30 (11F06, 20F24)

— (*with* Platonov, Vladimir Petrovich) Non-arithmetic polycyclic groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1359–1364. (B. Sury) **99i:20064** 20G30 (20F16)

— (*with* Platonov, Vladimir Petrovich) Rigidity and automorphism groups of solvable arithmetic groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 427–432. (B. Sury) **99i:20065** 20G30 (20F16, 20F28)

— (*with* Kühnlein, Stefan) On the proof of Humbert's volume formula. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 431–436. (Kerry N. Jones) **99h:11044** 11F06 (11H06, 11M41, 11R42)

Grünewald, Stefan (*with* Steffen, Eckhard) Chromatic-index-critical graphs of even order. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 27–36. (Sheshayya A. Choudum) **99m:05060** 05C15

Grunfeld, A. G. (*with* Rocca, M. C.) The Klein-Gordon oscillator and the proper-time formalism in a rigged Hilbert space. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 11, 1351–1359. (Summary) **99j:81029** 81Q05 (47N50)

Grünfeld, C. P. (*with* Marinescu-Mazilu, Dorin) On the numerical simulation of a class of reactive Boltzmann type equations. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 3, 287–318. (Hans Babovsky) **99a:82078** 82C40 (45K05, 76P05, 82–08)

— (*with* Bundaru, M.) On a phase transition in a one-dimensional non-homogeneous model. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 875–884. 82B26

Grunwald, Malte (*with* Eichelsbacher, Peter) Exponential tightness can fail in the strong topology. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 83–86. (Dominique Lépingle) **99k:60073** 60F10

Grusho, A. A. Composition of a trusted computer security system on the base of untrusted elements. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 231–236, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 68P99

Grushup, A. I. (*with* Kiyashchenko, L. A.) Synthesis of regulators from required transient processes in dynamic systems of one class. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2541–2546. (*see* **99e:00033**) 93B51 (93C05)

Gruska, Jozef (*with* Guessarian, Irène) Fixpoint semantics of synchronized systems and correctness of their basic transformations. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 2, 93–133. (Horst Reichel) **99b:68071** 68Q10 (68Q55)

— *see also* **Mathematical foundations of computer science, 99m:68010**

Grüter, Michael Regularity at the free boundary of two-dimensional stationary harmonic maps. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 2, 151–167. (Jia Yu Li) **99b:58060** 58E20 (35J15, 35R35)

Gruttmann, F. (*with* Sauer, R.; Wagner, Werner) A geometrical nonlinear eccentric 3D-beam element with arbitrary cross-sections. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 383–400. 73V05 (73K05)

Gruver, J. L. (*with* Plastino, Angel Ricardo; Proto, A. N.) Exact dynamics for a class of nonlinear Hamiltonians and the classification of its associated Alhassid-Levine Lie algebras. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 61–65. (Summary) **99e:81063** 81Q99 (17B81, 81R05)

Gruver, William A. (*with* Gao, Feng; Liu, Xinjun) Performance evaluation of two-degree-of-freedom planar parallel robots. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 661–668. (Summary) **99f:70008** 70B15

le Gruyer, E. *see* **Le Gruyer, E.**

Gruyitch, Ly. T. *see* **Grujić, Ljubomir T.**

Gruyitch, Lyubomir T. *see* **Grujić, Ljubomir T.**

Gruzinov, F. A. (*with* Kolotilina, L. Yu.; Erëmin, A. Yu.) Block SSOR preconditionings for high-order 3D FE systems. III. Incomplete BSSOR preconditionings based on p-partitionings. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 393–423. (Beny Neta) **99b:65059** 65F35 (15A12, 65N30)

Gryanik, N. V. (*with* Klyatskin, V. I.; Gurarie, D.) Propagation and localization of Rossby waves over random topography (two-layer model). (English summary) *Wave Motion* **28** (1998), *no.* 4, 333–352. (From the text) **99g:76028** 76C20 (35Q35, 76M35, 76V05, 86A05)

Grycko, E. (*with* Moeschlin, O.) A criterion for the occurrence or non-occurrence of a traffic collapse at a bottleneck. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 571–584. (Jian-Min Li) **99g:90042** 90B06 (90C35)

— (*with* Moeschlin, O.) A concept of optimal control at a bottleneck with symmetric volume of traffic. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 585–600. (Jian-Min Li) **99g:90043** 90B06 (90C35)

— (*with* Moeschlin, O.) Controlling traffic lights at a bottleneck: the objective function and its properties. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 727–740. (Summary) **99j:90030** 90B20 (60K30)

Grygarová, L. On a calculation of an arbitrary separating hyperplane of convex polyhedral sets. (English summary) *Optimization* **43** (1998), *no.* 2, 93–112. (Summary) **99d:90082** 90C25 (65Y25)

— Separating support hyperplanes for a pair of convex polyhedral sets. (English summary) *Optimization* **43** (1998), *no.* 2, 113–143. (Summary) **99d:90083** 90C25 (65Y25)

Gryllakis, C. (*with* Grekas, S.) On products of Radon measures. (English summary) *Fund. Math.* **159** (1999), *no.* 1, 71–84. (R. B. Burckel) **99m:28012** 28A35 (28C10)

Grynberg, M. D. (*with* Stinchcombe, R. B.; Santos, Jaime Eduardo) Non-universal dynamics of staggered non-equilibrium particle systems and Ising chains. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 541–549. (Summary) **99b:82070** 82C20 (82C26)

Grynberg, S. (*with* Piacquadio Losada, María) Cantor staircases in physics and Diophantine approximations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1095–1106. (Henk P. Bruin) **99k:58121** 58F13 (11J70, 28A80)

Grytczuk, Aleksander Note on Fermat's type equation in the set of $n \times n$ matrices. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 19–23. (Mao Hua Le) **99f:11033** 11C20 (11D61, 15A24)

— Monoids connected with Euler's Diophantine equation. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 91–94. (Andrew Bremner) **99c:11033** 11D41

— (*with* Cao, Zhen Fu) Fermat's type equations in the set of 2×2 integral matrices. *Tsukuba J. Math.* **22** (1998), *no.* 3, 637–643. (Péter Kiss) **99m:11025** 11C20 (11D41)

Grząślewicz, Andrzej (*with* Ciepliński, Krzysztof) On a problem related to the generalized Schilling equation. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 1–10. (B. Crstici) **99i:39036** 39B12

Grząślewicz, Ryszard Vertices in $\mathscr{L}(H)$. (English summary) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 2, 5–11. (Nina M. Roy) **99a:47068** 47D20 (46B20, 46C05, 47B10)

— (*with* Khalil, Roshdi) Compact exposed l^p-operators. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 617–619. (Nina M. Roy) **99f:47052** 47D20

Grzegorczyk, Andrzej ★ Logic—a human affair. *Wydawnictwo Naukowe "Scholar", Warsaw*, 1997. 147 *pp.* (A. A. Mullin) **99d:03006** 03A05 (00A30, 03B65, 03B80)

Grzegorzewski, Przemysław Metrics and orders in space of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 83–94. (Summary) **99a:03054** 03E72

Grzeszczuk, Piotr (*with* Puczyłowski, Edmund R.) On finiteness conditions of modular lattices. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 2949–2957. (C. S. Sharma) **99i:06007** 06C05 (16D10)

— (*with* Bergen, Jeffrey) Invariants of $U_q(\mathrm{sl}(2))$ and q-skew derivations. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 27–38. (Timothy J. Hodges) **99h:16053** 16W25 (17B37)

Grzymala-Busse, Jerzy W. (*with* Chan, Chien-Chung) On the lower boundaries in learning rules from examples. (English summary) *Incomplete information: rough set analysis*, 58–74, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T05 (04A72)

— (*with* Werbrouck, Paolo) On the best search method in the LEM1 and LEM2 algorithms. (English summary) *Incomplete information: rough set analysis*, 75–91, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68T05 (04A72)

Gschwend, Th. (*with* Kegel, Otto H.) On the group of weak automorphisms of a family of equivalence relations. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 237–248, *Kluwer Acad. Publ., Dordrecht*, 1998. (Franco Migliorini) **99i:20005** 20B27

Gu, Ben Yuan (*with* Cong, Wenxiang; Chen, Nanxian) A recursive method for phase retrieval in Fourier transform domain. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 1, 40–44. (Markus Hegland) **99h:65227** 65T20 (65D15)

— (*with* Zhang, Yan[6]; Yang, Guo-Zhen) Generation of self-fractional Hankel functions. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9769–9772. (Summary) **99j:44013** 44A15 (33C10)

Gu, Caixing (*with* Zheng, De Chao) Products of block Toeplitz operators. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 115–148. (Miroslav Engliš) **99h:47032** 47B35

Gu, Chao-Hao *see* **Collection of papers on geometry, analysis and mathematical physics, 99b:00025**; **Yang, Chen Ning**, (**99b:00025**); **Li, Da Qian**, (**99b:00025**) *and* **Bibliography: Gu, Chao Hao**, (**99b:00025**)

Gu, Chong Penalized likelihood estimation: convergence under incorrect model. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 359–364. (Summary) **99c:62093** 62G05

— Structural multivariate function estimation: some automatic density and hazard estimates. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 317–335. (Summary) **99a:62047** 62G05

— Model indexing and smoothing parameter selection in nonparametric function estimation. (English summary) With comments by M. C. Jones, David W. Scott, Grace Wahba and a rejoinder by the author. *Statist. Sinica* **8** (1998), *no.* 3, 607–646. (Summary) **99e:62045** 62G05

Gu, Chuan Qing Multivariate matrix rational interpolation based on generalized inverses. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 241–250. 41A63 (65D15)

— A Pfaffian computational formula for generalized inverse matrix Padé approximation and its application. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 283–289. 41A21 (65D15)

Gu, Da-Wei (*with* Konstantinov, M. M.; Petkov, Petko Khr.; Postlethwaite, Ian) Two-dimensional measures of reachability for linear time-invariant systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 195–215. 93B05 (93B40)

— (*with* Murad, Ghassan; Postlethwaite, Ian) On the design of robust internal model-based controllers. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 513–537. 93D21 (93B50)

Gu, Dao Xiu (*with* Dai, Lin Xun) Qualitative analysis of a class of bioecological systems. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 5, 115–117. 34C05 (92D40)

Gu, De Ren (*with* Xie, Mei) An image edge detection algorithm based on the wavelet transform. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 353–356. 42C15

Gu, Gui Ding A generalized block Broyden method for solving overdetermined systems of equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 375–384. (Summary) **99b:65053** 65F20

— (*with* Wang, De Ren) A family of nonstationary inner/outer iterative methods for the solution of large systems of linear equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 346–356. (Summary) **99h:65054** 65F10

— (*with* Wang, De Ren) A compact representation of multiple Broyden updating matrices and a multiple memory updating algorithm. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 130–140. 65H10 (90C30)

Gu, Guo Hua (*with* Wang, Wei; Wang, Fu Min) A traffic assignment model for an urban network with link goal targets. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 3, 40–46. 90C08 (90B06)

Gu, Guo Qing (*with* Chen, Ge; Che, Hong An) A matrix representation and entropy formula for additive cellular automata. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **16** (1996), *no.* 4, 409–414. (Summary) **99d:68169** 68Q80

Gu, Guoxiang (*with* Misra, Pradeep; Patel, Rajnikant V.) Computation of simple and group factors of multivariate polynomials. (English summary) *Circuits Systems Signal Process.* **16** (1997), *no.* 4, 455–473. (Summary) **99f:93061** 93B40 (65H05, 93C80)

— (*with* Sparks, Andrew G.; Banda, Siva S.) Bifurcation based nonlinear feedback control for rotating stall in axial flow compressors. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1241–1257. 93B52 (93C10)

— (*with* Chen, Jie[4]; Lee, E. Bruce) Parametric $\mathscr{H}_\infty$ loopshaping and weighted mixed sensitivity minimization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 846–852. (Summary) **99m:93027** 93B36

Gu, Hai Ming (*with* Xie, Shu-sen) Explicitly solvable characteristic method for convection diffusion problems. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 14–24. (Summary) **99e:65128** 65M25 (35Q99, 76M25, 76Rxx)

— A mixed element method for second-order fully nonlinear parabolic equations. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 2, 155–160. (Jiuhua Chen) **99k:65095** 65M60

— Characteristic finite element methods for nonlinear Sobolev equations. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 1, 51–62. (Summary) **99m:65015** 65C20 (65N30)

Gu, Hanyu (*with* Xi, Yu Geng) Sensitivity analysis based objective coordination of constrained multi-objective multi-degree-of-freedom optimization. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 592–599. (Stephan Dempe) **99m:90139** 90C31 (90C20)

Gu, Jin Sheng (*with* Hu, Xian-cheng) Some estimates with nonconforming elements in domain decomposition analysis. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 63–80. (Włodzimierz Proskurowski) **99c:65231** 65N55 (65N15, 65N30)

— (*with* Jiu, Quan Sen; Shi, Hong Ting) A substructuring algorithm for solving fourth order elliptic problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **19** (1999), *no.* 1, 61–65. 65N06 (65N30)

Gu, Juan (*with* You, Jin Hong) A biased root power estimator for regression coefficients. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 34–38, 9. (Hanfeng Chen) **99k:62132** 62J05

Gu, Jun (*with* Du, Bin[2]; Tsang, Danny H. K.; Wang, Wei) Multispace search for quorumcast routing. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 295–314, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68013** 68M10 (05C05, 05C85, 90B12)

— Multispace search for combinatorial optimization. *Handbook of combinatorial optimization, Vol.* 3, 457–541, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90-02, 90C10)

— Randomized and deterministic local search for SAT and scheduling problems. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 61–108, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:90064** 90C15 (03B05, 68Q25, 90B35)

Gu, Keqin Discretized LMI set in the stability problem of linear uncertain time-delay systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 923–934. 93D09 (93C30)

— A generalized discretization scheme of Lyapunov functional in the stability problem of linear uncertain time-delay systems. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 1, 1–14. (Vimal Singh) **99m:93070** 93D05 (34K20, 93B40)

Gu, Ming (*with* Chandrasekaran, S.; Golub, Gene H.; Sayed, Ali H.) Parameter estimation in the presence of bounded data uncertainties. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 235–252 (*electronic*). (George Yin) **99a:93094** 93E10 (65U05, 93E24)

— Stable and efficient algorithms for structured systems of linear equations. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 279–306 (*electronic*). (J. Segethová) **99d:65128** 65F30 (15A06)

— (*with* Chen, Su Qin; Jiang, Cun Li; Huang, Zi-ping) A fast iterative procedure for the Stokes equation using nonconforming finite element approximations. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 94–100. (Summary) **99d:76057** 76M10 (65M60, 76D07)

— New fast algorithms for structured linear least squares problems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 244–269 (*electronic*). (Jin Yun Yuan) **99f:65043** 65F05 (15A06, 65G05)

— (*with* Chandrasekaran, S.; Sayed, Ali H.) A stable and efficient algorithm for the indefinite linear least-squares problem. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 354–362 (*electronic*). (Jin Yun Yuan) **99f:65064** 65F30 (15A06, 65G05)

— Backward perturbation bounds for linear least squares problems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 363–372 (*electronic*). (Hongyuan Zha) **99g:65054** 65F30 (15A06)

Gu, Ming Gao[2] (*with* Ren, Jian-Jian) Regression M-estimators with doubly censored data. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2638–2664. (Winfried Stute) **99b:62067** 62G05 (62E20, 62J05)

— (*with* Kong, Fan Hui[1]) A stochastic approximation algorithm with Markov chain Monte-Carlo method for incomplete data estimation problems. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 13, 7270–7274 (*electronic*). (Summary) **99c:62232** 62L20

Gu, Pei Liang (*with* Wang, Ren Chao; Sun, Hui) Imprecise preference and nontransitive preference. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 31–38. 90A05 (90C29)

Gu, Qian-Ping (*with* Tamaki, Hisao) Multi-color routing in the undirected hypercube. (English summary) *Algorithms and computation* (*Singapore*, 1997), 72–81, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68016** 68M10 (68R10)

— (*with* Peng, Shietung) An efficient algorithm for k-pairwise disjoint paths in star graphs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 283–287. (Summary) **99e:68124** 68R10 (05C38, 05C85)

— (*with* Peng, Shietung) Node-to-set and set-to-set cluster fault tolerant routing in hypercubes. (English summary) *Parallel Comput.* **24** (1998), *no.* 8, 1245–1261. (Summary) **99e:68005** 68M10

— (*with* Peng, Shietung; Sudborough, Ivan Hal) A 2-approximation algorithm for genome rearrangements by reversals and transpositions. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 327–339. (Michael A. Steel) **99k:92017** 92D20 (05C90, 68Q25)

Gu, Qing Ming (*with* Song, Wen Zhong) A flexible scheduling method based on group technology. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 908–913. 90B35

Gu, Rong Bao Uniform pseudo-orbit tracing property and orbit stability. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 350–359. (Jerzy Ombach) **99d:58098** 58F10 (58F15)

— (*with* Mai, Jie Hua) Conditions of C^0 flows on closed surfaces having the pseudo-orbit tracing property. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1166–1175. (Jerzy Ombach) **99d:58099** 58F10 (58F15)

— The topological structure of nonwandering sets of continuous tree maps. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 577–582. (Zhen Xi Dong) **99k:54033** 54H20 (58F12)

Gu, Shiliang (*with* Hui, Dafeng; Bian, Aihua) The contraction-expansion algorithm and its use in fitting nonlinear equation. (English summary) *J. Biomath.* **13** (1998), *no.* 4, 426–434. 65H10 (90C30)

Gu, Tong Xiang (*with* Wang, Neng Chao) Nonstationary two-stage multisplitting iterative methods for the parallel solution of systems of linear equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 25–32. (Summary) **99d:65108** 65F10 (65Y05)

— (*with* Liu, Xing Ping) Parallel two-stage multisplitting iterative methods. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 153–166. (Summary) **99e:65055** 65F10

Gu, Wei (*with* Xu, Qin; Gao, Jidong) Generalized adjoint for physical processes with parameterized dicontinuities. V. Coarse-grain adjoint and problems in gradient check. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 11, 2130–2135. (Summary) **99c:86002** 86A10

— (*with* Xu, Qin; Wu, Rongsheng) Three-dimensional instability of nonlinear viscous symmetric circulations. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 20, 3148–3158. (Summary) **99f:76054** 76E20 (86A10)

— (*with* Xu, Qin; Gao, Jidong) Baroclinic Eady wave and fronts. I. Viscous semigeostrophy and the impact of boundary condition. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 24, 3598–3615. (Summary) **99h:86015** 86A10

Gu, Weiqing The stable 4-dimensional geometry of the real Grassmann manifolds. *Duke Math. J.* **93** (1998), *no.* 1, 155–178. (Knut Smoczyk) **99e:53091** 53C42 (53C40)

Gu, Wen Xiang (*with* Wang, Gui Jun) The product of T_H-type interval-valued fuzzy normal subgroups and the homomorphic image theorem. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 1, 11–15. 20N25

— (*with* Chen, De Gang) The structure of fuzzy subgroups of cyclic groups. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 20–22. 20N25

Gu, Xing Yuan (*with* Zhang, Guo Shan; Chai, Tian You) Reliable stabilization using multicontroller configurations. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 552–556. 93D15

Gu, Yan (*with* Bai, Zai-Qiao; Yuan, Jian-Min) Classical dynamics of collinear e^-Ze^- Coulomb three-body systems. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 17–39. (Roberto Artuso) **99c:70015** 70F07 (70K50, 81V35)

Gu, Yi (*with* Gu, Yuan) A parallel tridiagonalization algorithm for sparse symmetric matrices. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 1, 14–18. (Summary) **99d:65141** 65F50

— (*with* Gu, Yuan) Similarity reductions of the generalized Fisher equation, and a Fisher-type equation with variable confficients. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 4, 14–18. 35Q99 (35K55)

— (*with* Gu, Yuan; Chen, Deng Yuan) Similarity reductions of the generalized Fisher-type equation with variable coefficients. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 4, 460–462. 35K57 (35A30)

— (*with* Gu, Yuan) Similarity reduction of a Fisher-type equation with variable coefficients. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 41–42. 35K55

Gu, Ying-Qiu A canonical form for relativistic dynamic equation. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 1, 13–24. (Summary) **99g:15037** 15A66 (30G35, 81R25)

— Some properties of the spinor soliton. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 17–29. (Stefano De Leo) **99j:81030** 81Q05 (81R25)

Gu, Yong Geng (*with* Shi, Xiao Ding; Chen, Jing^2) Symmetry and monotonicity of positive solutions of systems of semilinear elliptic equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 1–9. (Henghui Zou) **99e:35074** 35J65 (35B05)

— (*with* Shi, Xiao Ding) Weak solutions for a class of Navier-Stokes equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 733–744. (Chang Hao Lin) **99g:35105** 35Q30 (35D05, 76D05)

— (*with* Dai, Qiu Yi) Asymptotic analysis of the global solution to a semilinear parabolic equation with a singular term. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 57–65. (Zhuo Qun Wu) **99f:35096** 35K60 (35A35, 35C99)

— (*with* Miao, Changxing) Space-time estimates for parabolic type operator and application to nonlinear parabolic equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 4, 301–312. (Atsushi Yagi) **99m:35107** 35K55 (35B45, 42B15)

Gu, Yong Xing (*with* Qiao, Jin) On factorization of meromorphic functions. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 509–512. (Yu Zan He) **99d:30032** 30D35

— The minimum modulus and maximum terms of gap power series. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 3, 264–268. (L. R. Sons) **99b:30040** 30D35

— (*with* Wang, Wen Chang) The angular distributions of meromorphic functions and their growth. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 277–282. (Summary) **99m:30064** 30D35

Gu, Yoon Hoe (*with* Ryu, Hyun Sook) Attractivity and asymptotic stability in dynamical polysystems. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 2, 117–122. 54H20

Gu, Yuan (*with* Gu, Yi) A parallel tridiagonalization algorithm for sparse symmetric matrices. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 1, 14–18. (Summary) **99d:65141** 65F50

— (*with* Gu, Yi) Similarity reductions of the generalized Fisher equation, and a Fisher-type equation with variable confficients. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 4, 14–18. 35Q99 (35K55)

— (*with* Gu, Yi; Chen, Deng Yuan) Similarity reductions of the generalized Fisher-type equation with variable coefficients. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 4, 460–462. 35K57 (35A30)

— (*with* Gu, Yi) Similarity reduction of a Fisher-type equation with variable coefficients. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 41–42. 35K55

Gu, Yuan Xian (*with* Sha, Desong; Guo, Xing Lin) An implicit solution of bi-penalty approximation with orthogonality projection for the numerical simulation of Bingham fluid flow. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 8, 725–734; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 679–688 (*Chinese. English and Chinese summaries*). (Summary) **99m:76084** 76M10 (65M60, 76A05)

Gu, Zheng Yu (*with* Li, Cai Heng) The Cayley graphs of prime-square order which are Cayley invariant. (English summary) *Australas. J. Combin.* **17** (1998), 169–174. (Summary) **99a:05062** 05C25

Gu, Zhi Ping (*with* Zhi, Xi Zhe; Meng, Guang) A construction of Lyapunov functions by computer and its applications. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 59–63, *V.* 34D20 (70K15)

Gu, Zhi-Yu (*with* Qian, Shang-Wu; Xie, Guo-Qiang) Separation of variables treatment of the invariant quadratic in momentum for any admissible potential. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 497–502. (M. Znojil) **99d:81033** 81Q05 (35Q40)

Gu, Zonghao (*with* Nemhauser, George L.; Savelsbergh, Martin W. P.) Lifted cover inequalities for 0 – 1 integer programs: computation. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 4, 427–437. 90C09 (90–04)

Guadagnini, Enore Topological invariants and geometries of three-manifolds. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste,* 1994), 201–212, *World Sci. Publishing, River Edge, NJ,* 1996. (Răzvan Gelca) **99i:57051** 57R57 (57M25, 57N10, 83C45)

— (*with* Pilo, L.) Three-manifold invariants and their relation with the fundamental group. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 47–65. (Răzvan Gelca) **99g:57019** 57N10 (57M05)

— (*with* Benedetti, Riccardo) Classical Teichmüller theory and (2 + 1) gravity. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 60–68. (Summary) **99k:32037** 32G15 (32G81, 81T40)

Guadalupe, Irwen (*with* Gutierrez, Carlos; Tribuzy, Renato; Guiñez, Víctor) Lines of curvature on surfaces immersed in $\mathbf{R}^4$. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 233–251. (Ronaldo Alves Garcia) **99b:53011** 53A07

Guadalupe Hernández, José Javier (*with* Pérez, Mario) Perturbation of orthogonal Fourier expansions. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 294–307. (V. Totik) **99f:42049** 42C05 (33C45)

— (*with* Bello Hernández, M.; Cala Rodríguez, F.; López Lagomasino, G.) Convergence rate of Padé-type approximants for Stieltjes functions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 47–53. (Summary) **99i:41013** 41A20

Guaiana, Daniela (*with* Giancarlo, Raffaele) On-line construction of two-dimensional suffix trees. (English summary) *Algorithms—ESA '97 (Graz),* 217–231, *Lecture Notes in Comput. Sci.,* 1284, *Springer, Berlin,* 1997. (*see* **99d:68002**) 68Q20 (68P05)

Guaiana, G. (*with* Meyer, Raphaël; Petit, Antoine; Weil, Pascal) An extension of the wreath product principle for finite Mazurkiewicz traces. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 6, 277–282. (Summary) **99e:68042** 68Q10 (68Q45, 68Q70)

Guajardo, Jorge (*with* Paar, Christof) Efficient algorithms for elliptic curve cryptosystems. (English summary) *Advances in cryptology—CRYPTO '97 (Santa Barbara, CA,* 1997), 342–356, *Lecture Notes in Comput. Sci.,* 1294, *Springer, Berlin,* 1997. (Summary) **99b:94033** 94A60

Gual-Arnau, X. Stereological implications of the geometry of cones. (English summary) *Biometrical J.* **39** (1997), *no.* 5, 627–635. (Summary) **99b:53093** 53C65 (52A22, 60D05, 92B15)

Gualtieri, M. I. (*with* Costabile, F.; Serra, Stefano) An extrapolation technique for general exponential type operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 345–355. (Mariano Gasca) **99h:41025** 41A25 (41A60, 65B05)

Guan, Bo The Dirichlet problem for Monge-Ampère equations in non-convex domains and spacelike hypersurfaces of constant Gauss curvature. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4955–4971. (John Urbas) **99b:53055** 53C21 (35J65)

— Gradient estimates for solutions of nonparametric curvature evolution with prescribed contact angle condition. *Monge Ampère equation: applications to geometry and optimization (Deerfield Beach, FL,* 1997), 105–112, *Contemp. Math.,* 226, *Amer. Math. Soc., Providence, RI,* 1999. (John Urbas) **99m:35101** 35K55

— The Dirichlet problem for Hessian equations on Riemannian manifolds. *Calc. Var. Partial Differential Equations* **8** (1999), *no.* 1, 45–69. (John Urbas) **99k:58191** 58G30 (35J65, 53C21)

Guan, Dah-Jyh An optimal message routing algorithm for double-loop networks. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 5, 255–260. (Summary) **99a:68021** 68M10 (68M15, 68R10)

— (*with* Zhu, Xuding) Multiple capacity vehicle routing on paths. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 590–602 (*electronic*). (Summary) **99d:68191** 68R10 (05C85, 68Q25)

— (*with* Zhu, Xuding) Game chromatic number of outerplanar graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 67–70. (Summary) **99g:05076** 05C15

Guan, Daniel *see* **Guan, Zhuang Dan**

Guan, Di Hua (*with* Du, Yong Chang) A study of the multiple input multiple output frequency domain parameter estimation method. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 11, 61–64. 93E12 (93E10)

Guan, Ji Wen (*with* Bell, David Andrew; Shapcott, C. M.) Using the Dempster-Shafer orthogonal sum for reasoning which involves space. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 467, 511–526. 68T30

Guan, Kai Chaos in two types of perturbed Hamiltonian systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 55–58. 70K50 (58F13, 70H05)

Guan, Ke Ying The fractal structure of limit set of solution space of a doubly periodic Riccati equation. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 707–712. (Yun Ping Jiang) **99a:34136** 34C35 (30F40, 34A20)

— The KAM theory of double pendulum. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 120–130. (Summary) **99d:34075** 34C27 (58F27, 70K99)
— (*with* Liu, Sheng[1]; Lei, Jinzhi) The Lie algebra admitted by an ordinary differential equation system. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 131–142. (Summary) **99e:34012** 34A34 (34A05, 34A26)
— (*with* Ma, Ling[1]) Integrability of doubly-periodic Riccati equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 785–790. (V. V. Chueshev) **99h:34007** 34A26 (34C25, 65L06)
Guan, Lü Tai Wavelets on a bounded interval with scattered knots. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 439–443, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 42C15
— Spline wavelets on the interval [0, 1] with free knots. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 1–6. 42C15 (41A15)
— Multivariate polynomial natural spline smoothing of scattered data and generalized cross-validation for choosing a good parameter. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 383–392. 65D07 (41A15)
— (*with* Luo, Xiaonan; Gao, Chengying; Wang, Jianmin) Representation of practical recurrent curves. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 413–422, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65030** 65D17
Guan, Pengfei (*with* Sawyer, Eric) The oblique derivative problem. *Partial differential equations and their applications* (*Toronto, ON*, 1995), 145–158, *CRM Proc. Lecture Notes*, 12, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **99g:35031** 35J25
— Regularity of a class of quasilinear degenerate elliptic equations. *Adv. Math.* **132** (1997), *no.* 1, 24–45. (Xi Ping Zhu) **99a:35068** 35J60 (35B65, 35J70)
— (*with* Wang, Xu-Jia) On a Monge-Ampère equation arising in geometric optics. (English summary) *J. Differential Geom.* **48** (1998), *no.* 2, 205–223. (John Urbas) **99e:35051** 35J60 (53C45, 78A05)
Guan, Sichong (*with* Fang, Shu Cherng) A global-filtering algorithm for linear programming problems with stochastic elements. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 3, 287–316. (E. G. Gol'shteĭn) **99m:90104** 90C15 (90C05)
Guan, Weiguang (*with* Xie, Lin; Ma, Song De) Deformable registration of digital images. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 246–260. (Summary) **99a:68176** 68U10
Guan, Xi-Wen (*with* Tong, Dian Min; Zhou, Huan-Qiang) The Lax pair and its boundary K-matrix for an XYZ open spin chain. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 4, 796–801. (Deng Feng Wang) **99a:82032** 82B23 (82B20)
— (*with* Wang, Mei Shan; Tong, Dian Min; Yang, Shan-De) Hidden local gauge invariance for an OSp(1, 2) spin chain. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1826–1833. (Summary) **99e:82031** 82B23 (81U40)
— (*with* Yang, Shan-De; Zhou, Huan-Qiang) A new quasitriangular Hopf superalgebra and its universal R-matrix. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 174–176. (Summary) **99e:16052** 16W30
— (*with* Yang, Shan-De) Algebraic Bethe ansatz for the one-dimensional Hubbard model with chemical potential. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 601–615. (Marek Biskup) **99f:82019** 82B23 (82B20)
Guan, Xin Ping (*with* Yang, Jun; Rong, Qinghao) Asymptotic and oscillatory behavior of nth order neutral difference equation with forced term. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 143–149. (From the introduction) **99j:39005** 39A10
— (*with* Yang, Jun) Oscillation of systems of nonlinear hyperbolic systems of partial functional-differential equations of neutral type. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 239–246. 35R10 (35B05, 35L70)
Guan, Yan Zhu (*with* Wang, Xu Dong; Wang, Yi) A class of nonlinear integrodifferential equations. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1996,** *no.* 2, 6–10. (Summary) **99f:45010** 45J05 (34K05, 47H15, 47N20)
Guan, Ying-Nan (*with* Chan, Ling-Yau; Meng, J. H.; Jiang, Yong Cai) D-optimal axial designs for quadratic and cubic additive mixture models. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 359–371. (Summary) **99e:62127** 62K05
— (*with* Chan, Ling-Yau; Zhang, Chong-Qi) A-optimal designs for an additive quadratic mixture model. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 979–990. (William I. Notz) **99i:62164** 62K05
Guan, Zhi (*with* Tang, Wei-jun; Han, Hou De) Boundary element approximation of Steklov eigenvalue problem for Helmholtz equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 165–178. (Mark Ainsworth) **99b:65160** 65N38 (65N25)
Guan, Zhi Hong (*with* Zhou, Yun-Cai; He, Xian-Ping) The equivalence of exponential stability for impulsive time-delay differential systems. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 47–56, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99c:34175** 34K20 (34A37)
— (*with* Qin, Yi) Exponential stability in the large of impulsive Hopfield neural networks with delays. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 959–964. 93D20 (93C83)
Guan, Zhicheng Some mathematical results from the model of freezing soil. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 96–100, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 86A60 (76S05, 86A40)
— (*with* Wang, Xu-Jia) Existence for a free boundary problem in ground freezing. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 142. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 97–112. (Weiqing Xie) **99f:35230** 35R35 (35K99, 80A22, 86A99)
Guan, Zhuang Dan Classification of compact homogeneous spaces with invariant symplectic structures. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 52–54 (*electronic*). (Keizo Hasegawa) **99a:53065** 53C30 (53C15)
Guangcheng, Xi *see* **Xi, Guang Cheng**
Guaraldo, Francesco (*with* Flondor, Paul) Some results on real Nash groups. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 137–145. (Karl Heinz Dovermann) **99j:58005** 58A07
Guardabassi, Guido O. (*with* Savaresi, Sergio M.) System linearization via feedback: a control engineering perspective. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 391–431 (1998). 93B18 (93B52)
— (*with* Savaresi, Sergio M.) Invertible nonlinear parametric functions for systems identification and control. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 741–762. (Summary) **99e:93084** 93E12 (93B30)
durán Guardeño, Antonio J. *see* **Durán Guardeño, Antonio J.**
Guarneri, Italo On the dynamical meaning of spectral dimensions. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 491–506. (Jens Marklof) **99g:81055** 81Q50 (58F19)
Guaschi, John (*with* Alsedà, Lluís; Los, Jérôme; Mañosas, Francesc; Mumbrú, Pere) Canonical representatives for patterns of tree maps. (English summary) *Topology* **36** (1997), *no.* 5, 1123–1153. (Francisco Balibrea) **99f:58062** 58F03 (58F08)
Guasoni, Paolo (*with* Buttazzo, Giuseppe) Shape optimization problems over classes of convex domains. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 343–351. (Maïtine Bergounioux) **99b:49039** 49Q10 (49J10)
Guastalla, Guglielmo (*with* Brunetta, Lorenzo; Navazio, Lisa) Solving the multi-airport ground holding problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 271–287. (*see* **99b:90006**) 90C90 (90C27)
Guattery, Stephen (*with* Miller, Gary L.) On the quality of spectral separators. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 701–719 (*electronic*). (Koduvayur R. Parthasarathy) **99e:68125** 68R10 (05C50, 05C85, 68Q25)
Guay, Martin (*with* McLellan, P. J.; Bacon, D. W.) A condition for dynamic feedback linearization of control-affine nonlinear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 87–106. 93B11 (93C10)
Guba, V. S. On groups with free transitive action on the set of flags of a projective plane. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1030–1049, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 907–922. (Ilya Kapovich) **99h:20066** 20F99
— On a relation between the word problem and the word divisibility problem for semigroups with one defining relation. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 27–58; *translation in Izv. Math.* **61** (1997), *no.* 6, 1137–1169. (Siniša Crvenković) **99k:03036** 03D40 (08A50, 20M05)
— Associative algebras with one Engel-type relation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1240–1250, *i*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1074–1083. (Andrei Kelarev) **99e:16039** 16S99
— (*with* Pride, Stephen J.) On the left and right cohomological dimension of monoids. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 391–396. (J. K. Luedeman) **99d:20107** 20M50 (16E10, 20M25)
— Polynomial upper bounds for the Dehn function of R. Thompson's group F. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 203–211. (Ian M. Chiswell) **99j:20037** 20F05 (20F06, 20F32)
— (*with* Sapir, Mark V.) On Dehn functions of free products of groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1885–1891. (Stephen G. Brick) **99j:20044** 20F32
Gubarev, V. F. Estimation of the state vector of dynamical systems under uncertainty conditions. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996,** *no.* 1-2, 91–100, 297. 93E12
— (*with* Aksenov, N. N.) On an approach to the identification of dynamical systems under uncertainty conditions. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 6, 41–51, 149–150. (Summary) **99k:93039** 93B30 (93C41)
Gubeladze, Joseph (*with* Bruns, Winfried; Ngô Viêt Trung) Normal polytopes, triangulations, and Koszul algebras. *J. Reine Angew. Math.* **485** (1997), 123–160. (G. Ewald) **99c:52016** 52B20 (13F99, 13P10, 14M25, 16S36)
— The isomorphism problem for commutative monoid rings. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 35–65. (Ngô Viêt Trung) **99h:20094** 20M14 (13F50, 14M25, 20M25)
Gubina, N. I. (*with* Ogorodnikov, V. A.) Some problems of the statistical simulation of conditional processes and fields. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 345–358. (Summary) **99i:86013** 86A10 (60G10, 65U05, 86A32)
Gubler, Walter Local heights of subvarieties over non-Archimedean fields. *J. Reine Angew. Math.* **498** (1998), 61–113. (Jörg Jahnel) **99j:14022** 14G20 (11G25, 14D15, 14G40)
Gubser, Steven S. (*with* Hashimoto, Akikazu; Klebanov, Igor R.; Krasnitz, Michael) Scalar absorption and the breaking of the world-volume conformal invariance. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 393–414. (Summary) **99f:81200** 81T60 (81R40, 81T30, 83E30)
— (*with* Klebanov, Igor R.; Tseytlin, Arkady A.) Coupling constant dependence in the thermodynamics of $\mathcal{N} = 4$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 202–222. (Summary) **99m:81249** 81T60 (81T13, 81T15, 81T30, 83C57)
— (*with* Klebanov, Igor R.; Polyakov, A. M.) Gauge theory correlators from non-critical string theory. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 105–114. (Douglas J. Smith) **99e:81204b** 81T30 (81T60, 83E30)
— (*with* Klebanov, Igor R.) Baryons and domain walls in an $\mathcal{N} = 1$ superconformal gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125025, 7 *pp.* (Summary) **99m:81189** 81T30 (81T60)
Guccione, Jorge A. (*with* Guccione, Juan J.) Hochschild homology of some quantum algebras. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 129–147. (Thierry Lambre) **99h:16017** 16E40 (16S99)
Guccione, Juan J. (*with* Guccione, Jorge A.) Hochschild homology of some quantum algebras. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 129–147. (Thierry Lambre) **99h:16017** 16E40 (16S99)
van Gucht, Dirk *see* **Van Gucht, Dirk**
Guddat, Jürgen (*with* Guerra, Francisco; Nowack, Dieter) New embeddings for nonlinear multiobjective optimization problems. I. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 45–73. (Summary) **99a:90170** 90C29 (90C31)
— *see also* **Proceedings: Conference on Approximation and Optimization in the Caribbean, 99e:00022**
Guddati, Murthy N. (*with* Tassoulas, John L.) Characteristics methods for transient analysis of wave propagation in unbounded media. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput.*

Methods Appl. Mech. Engrg. **164** (1998), *no.* 1-2, 187–206. (Summary) **99j:65152** 65M25 (65M70, 73D15, 73V20, 76M25, 76Q05)

Gudder, Stanley Effect test spaces. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2681–2705. (D. J. Foulis) **99c:81013** 81P10 (03G12)

— Fuzzy probability theory. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 235–254. (Anatolij Dvurečenskij) **99e:60010** 60A05 (03B48, 03E72, 28E10, 81P10)

— A survey of E-test spaces. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 75–83. (D. J. Foulis) **99h:81017** 81P10

— *S*-dominating effect algebras. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 915–923. (Anatolij Dvurečenskij) **99c:81014** 81P10 (03G12)

— A histories approach to quantum mechanics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5772–5788. (Oliver Rudolph) **99h:81011** 81P05 (81P10)

— (*with* Moreland, T.) Infima of Hilbert space effects. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 1–17. (M. J. Mączyński) **99j:81015** 81P10 (47N50)

Gudèll, D. P. *see* **Goodall, David P.**

wolff von Gudenberg, Jürgen *see* **Wolff von Gudenberg, Jürgen**

Güder, Faruk (*with* Zydiak, James L.) Ordering policies for multi-item inventory systems subject to multiple resource constraints. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 6, 583–597. (Peter Köchel) **99m:90056** 90B05

Guder, Rabbijah (*with* Kreuzer, Edwin) Using generalized cell mapping to approximate invariant measures on compact manifolds. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2487–2499. (Jérôme Buzzi) **99g:58075** 58F11 (41A35, 65D99)

— (*with* Kreuzer, Edwin) On the generalized cell mapping. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 41–50, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 58F12

Gudinas, P. *see* **Gudynas, Pranas P.**

Gudkov, V. V. An analytic approach to the description of combustion waves that propagate at a constant velocity. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 12, 1482–1488; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 12, 1437–1443. (Reinhard Redlinger) **99a:35117** 35K55 (35C05, 35Q51, 80A25, 80A32)

Gudkova, E. S. (*with* Bormisov, A. A.; Mukminov, F. Kh.) On the integrability of hyperbolic systems of the Riccati equation type. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 2, 261–275; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 2, 1418–1430 (1998). (Piotr G. Grinevich) **99c:58065** 58F07 (17B70, 35L70)

Gudowska-Nowak, Ewa (*with* Papp, Gábor; Brickmann, J.) Characteristics of quantum open systems: free random variables approach. (English summary) Marian Smoluchowski Symposium on Statistical Physics (Zakopane, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 6, 1803–1814. (Summary) **99g:82053** 82C10

Gudynas, Pranas P. On the nonuniform approximation by means of distributions of sums of conditionally independent random variables. (English summary) *Probability theory and mathematical statistics (Vilnius*, 1993), 351–359, *TEV, Vilnius*, 1994. (Summary) **99f:60044** 60F05

— Large deviations for sums of random variables connected in a chain in approximation by the Poisson law. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 1, 26–37; *translation in Lithuanian Math. J.* **37** (1997), *no.* 1, 20–28. (Vadim R. Fatalov) **99a:60024** 60F10

Guedda, M. (*with* Kirane, Mokhtar) Diffusion terms in systems of reaction diffusion equations can lead to blow up. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 325–327. (Shuichi Jimbo) **99c:35110** 35K57 (35B05)

Guédénon, Thomas Localisation dans les anneaux munis d'une action d'algèbre de Lie résoluble. [Localization in rings equipped with a solvable Lie algebra action] *J. Algebra* **197** (1997), *no.* 2, 372–384. (K. A. Brown (Zbl 892.16015)) **99k:16054** 16S30 (16P50, 16S32)

Guediri, Mohammed On the geodesic connectedness of simply connected Lorentz surfaces. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 499–510. (Luis J. Alías) **99a:53078** 53C50 (53C22)

Guédon, Jean-Pierre (*with* Normand, Nicolas) La transformée Mojette: une représentation redondante pour l'image. (English and French summaries) [The Mojette transform: a redundant image representation] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 123–126. (Summary) **99g:68215** 68U10

Guédon, Olivier Gaussian version of a theorem of Milman and Schechtman. (English summary) *Positivity* **1** (1997), *no.* 1, 1–5. (Summary) **99i:46008** 46B20 (60G15)

— (*with* Gordon, Yehoram; Meyer, Mathieu) An isomorphic Dvoretzky's theorem for convex bodies. (English summary) *Studia Math.* **127** (1998), *no.* 2, 191–200. (Apostolos A. Giannopoulos) **99d:46011** 46B20 (52A21, 60G15)

Guély, Francois (*with* La, Rémy; Siarry, Patrick) Fuzzy rule base learning through simulated annealing. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 353–363. 68T05

Guenais, Mélanie Une majoration de la multiplicité spectrale d'opérateurs associés à des cocycles réguliers. (English summary) [Upper bound for the spectral multiplicity of operators associated with regular cocycles] *Israel J. Math.* **105** (1998), 263–283. (Mariusz Lemańczyk) **99i:28021** 28D05 (47A35)

Guendelman, E. I. (*with* Nudelman, Aleksey) On some local properties of Yang-Mills vacuum. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 1995–2000. (Summary) **99a:81102** 81T13 (81T16)

— *see also* **Proceedings: Conference on Modern Modified Theories of Gravitation and Cosmology**, **99m:83001**; **99m:83002** *and* **99m:83003**

Guenin, Bertrand Perfect and ideal 0, ±1 matrices. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 322–338. (Anna Rycerz) **99e:15023** 15A36 (05C50, 90C10, 90C27)

Guénoche, A. Order distances in tree reconstruction. (English summary) *Mathematical hierarchies and biology (Piscataway, NJ*, 1996), 171–182, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 37, *Amer. Math. Soc., Providence, RI*, 1997. (Michael A. Steel) **99a:05031** 05C05 (92D15)

Guentner, Erik Boundary calculations in relative *E*-theory. *Michigan Math. J.* **45** (1998), *no.* 1, 159–188. (Carla Farsi) **99g:19005** 19K56 (46L80, 58G12)

Guérin, Charles-Antoine (*with* Saillard, Marc; Holschneider, Matthias) Characterization of multi-scale rough surfaces. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO*, 1998), 174–178, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A45

— (*with* Holschneider, Matthias) Time-dependent scattering on fractal measures. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4165–4194. (Hiroshi Isozaki) **99g:81223** 81U05 (28A80)

Guérin, J. P. (*with* Boussaïd, S.) Feedback representation of precompensators: the general case. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 195–206. 93B52 (93C05)

— (*with* Boussaïd, S.) Feedback representation of precompensators: application to decoupling linear multi-input multi-output plants. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 207–221. 93B52 (93C05)

Guerin, Marianne (*with* Auslander, Joseph) Regional proximality and the prolongation. (English summary) *Forum Math.* **9** (1997), *no.* 6, 761–774. (Summary) **99f:54051** 54H20

Guermond, Jean-Luc Un résultat de convergence d'ordre deux pour l'approximation des équations de Navier-Stokes par projection incrémentale. (English and French summaries) [A second-order convergence result for the approximation of the Navier-Stokes equations by an incremental projection method] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 12, 1329–1332. (Vitoriano Ruas) **99b:65104** 65M12 (65N30, 76D05, 76M25)

— (*with* Quartapelle, L.) On stability and convergence of projection methods based on pressure Poisson equation. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 9, 1039–1053. (Summary) **99a:76084** 76M10

— (*with* Quartapelle, L.) On the approximation of the unsteady Navier-Stokes equations by finite element projection methods. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 207–238. (Marko A. Rojas-Medar) **99i:65105** 65M60 (65M12, 76D05, 76M10)

— Stabilisation par viscosité de sous-maille pour l'approximation de Galerkin des opérateurs linéaires monotones. (English and French summaries) [Subgrid viscosity stabilization of Galerkin approximations of monotone linear operators] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 617–622. (Summary) **99k:65049** 65J10 (47A50, 76M25)

Gueron, Shay The steady-state distributions of coagulation-fragmentation processes. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 1–27. (John M. Ball) **99g:82055** 82C21 (82C26, 92D25)

— Controlling one-dimensional unimodal population maps by harvesting at a constant rate. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part B*, 3645–3648. (Summary) **99c:92037** 92D25 (58F40)

Guerra, A. (*with* Brandt, F. T.; Frenkel, Josif) The Boltzmann equation in scalar field theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4281–4288. (Summary) **99d:81074** 81T10 (82C40)

Guerra, E. S. (*with* Retamal, J. C.) Realization of atomic Greenberger-Horne-Zeilinger states via cavity quantum electrodynamics. (English summary) *J. Modern Opt.* **46** (1999), *no.* 2, 295–302. 81V10

Guerra, Francesco (*with* Ghirlanda, Stefano) General properties of overlap probability distributions in disordered spin systems. Towards Parisi ultrametricity. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9149–9155. (Summary) **99h:82045** 82B44

Guerra, Francisco (*with* Aleksandrov, Vladimir Vasil'evich; Salazar Ibargüen, Humberto; Aguilar Andrade, Filadelfo) Stability and stabilization of a active surface. *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean (Puebla*, 1995), 10 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 93D15 (93C95)

— (*with* Jiménez Pozo, Miguel A.) On feasible sets defined through Chebyshev approximation. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 255–264. (Jan Rückmann) **99i:90101** 90C34 (41A10, 41A30)

— (*with* Guddat, Jürgen; Nowack, Dieter) New embeddings for nonlinear multiobjective optimization problems. I. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 45–73. (Summary) **99a:90170** 90C29 (90C31)

Guerra, P. Jiménez *see* **Jiménez Guerra, Pedro**

jiménez Guerra, Pedro *see* **Jiménez Guerra, Pedro**

Guerraggio, Angelo Italian mathematicians and the theory of integration. (Italian) *Geometry Seminars*, 1994–1995 (*Italian*) (*Bologna*), 233–252, *Univ. Stud. Bologna, Bologna*, 1996. (A. Precupanu) **99f:01026** 01A72 (01A60, 01A72)

— (*with* Giorgi, Giorgio) The notion of invexity in vector optimization: smooth and nonsmooth case. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy*, 1996), 389–405, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:90107** 90C29 (90C26)

— Mathematical economics. (Italian) *Italian mathematics after Unity (Italian)*, 735–764, *Mat. Ital. Unità*, 1, *Marcos y Marcos, Milan*, 1998. (*see* **99i:01001**) 01A60 (90-03, 90Axx)

— *see also* **Italian mathematics after Unity**, **99i:01001**

Guerra Ones, Valia (*with* López Estrada, Jesús; Madrid de la Vega, Humberto) Numerical calculation of the Moore-Penrose pseudoinverse of a matrix. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 117–132. (Summary) **99e:65067** 65F20

— (*with* López Estrada, Jesús) Numerical calculation of the pseudoinverse using Leonov's minimal method. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 139–147. (Summary) **99e:65068** 65F20

— (*with* López Estrada, Jesús) Stable calculation via regularization of the Moore-Penrose generalized inverse matrix. II. Revision. (Spanish. English and Spanish summaries) *Cienc. Mat. (Havana)* **16** (1998), *no.* 2, 169–172. 65F20

Guerra Vázquez, Francisco *see* **Guerra, Francisco**

Guerre, Emmanuel (*with* Jouneau, F.) Geometric versus arithmetic random walk: the case of trended variables. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 203–220. (Sung K. Ahn) **99h:62112** 62M10

— (*with* Tsybakov, A. B.) Exact asymptotic minimax constants for the estimation of analytical functions in L_p. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 33–51. (Philippe Barbe) **99m:62060** 62G07 (62G20)

Guerre-Delabrière, Sylvie (*with* Bu, Shangquan) Imaginary powers and interpolation spaces of unbounded operators. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 91–100 (1997). (Alberto Venni) **99c:47018** 47A60 (46M35, 47D06)

— (*with* Bu, Shangquan; Clément, Philippe) Regularity of pairs of positive operators. *Illinois J. Math.* **42** (1998), *no.* 3, 357–370. (Alberto Venni) **99i:47019** 47A50 (34G10,

46B99, 46M35, 47A05, 47N20)

Guerrero, Berenice Nonstandard quantization of the triangular group ST(2). (Spanish. English and Spanish summaries) *Lect. Mat.* **18** (1997), *no.* 1, 23–41. (Juan Ramon García Rozas) **99i:16070** 16W30

Guerrero, D. (*with* Hernández, Vicente G.; Román, J. E.; Vidal Macía, Antonio M.) Parallel solution of the generalized Lyapunov equation using the Hammarling method. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 799–804, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65F30

Guerrero, J. *see* **Becerra Guerrero, Julio**

becerra Guerrero, Julio *see* **Becerra Guerrero, Julio**

Guerrero-Cusumano, José-Luis Measures of dependence for the multivariate t distribution with applications to the stock market. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2985–3006. (Summary) **99j:62003** 62B10

— Multivariate exponential families and the Taguchi loss function. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 187–199. (Summary) **99i:90053** 90B25

Guerrieri, Anna (*with* Boffi, G.; Bruns, Winfried) On the Jacobian ideal of a trilinear form. *J. Algebra* **197** (1997), *no.* 2, 521–534. (Aldo Conca) **99c:13027** 13C40

— (*with* Bruns, Winfried) The Dedekind-Mertens formula and determinantal rings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 657–663. (Alberto Corso) **99f:13013** 13C40 (13C14, 13D40, 13P10)

Guerrieri, Roberto (*with* Rovatti, Riccardo; Borgatti, Michele) A geometric approach to maximum-speed n-dimensional continuous linear interpolation in rectangular grids. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 894–899. (Summary) **99f:65014** 65D05

Guerrini, Carla (*with* Bacchelli Montefusco, Laura) Wavelet decomposition for Toeplitz matrices. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 173–182, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65224** 65T10 (15A57)

— (*with* Barnabei, Marilena; Bacchelli Montefusco, Laura) Some algebraic aspects of signal processing. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 3–17. (Summary) **99k:94004** 94A12 (65F30)

Guerrini, Luca Formal and analytic deformations of the Witt algebra. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 121–129. (Martin Schlichenmaier) **99m:17031** 17B66 (17B68, 81R10)

Guesmia, Aissa Observability, controllability and boundary stabilization of some linear elasticity systems. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 109–119. (Vadim Komkov) **99e:93036** 93C20 (35Q72, 73K50, 93B05, 93D15)

— On the nonlinear stabilization of the wave equation. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 191–198. (A. V. Perzhan) **99c:35161** 35L70 (35B35)

— Existence globale et stabilisation interne non linéaire d'un système de Petrovsky. (English summary) [Global existence and nonlinear internal stabilization of a Petrovskiĭ system] *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 583–594. (Hideo Yamagata) **99i:35107** 35L75 (35B35, 35Q72)

— (*with* Aassila, Mohammed) Strong asymptotic stability of a nonlinear nonisotropic elastodynamic system. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 2, 103–110. (Summary) **99b:93042** 93D20 (35Q72, 73H10, 73K50)

— Existence globale et stabilisation interne non linéaire d'un système d'élasticité. (French summary) [Global existence and nonlinear internal stabilization for a system of elasticity] *Portugal. Math.* **55** (1998), *no.* 3, 333–347. (Enrique Zuazua) **99i:73018** 73C02 (35Q72, 73K50, 93C20, 93D15)

Guess, Frank (*with* Nam, Kyung H.; Park, Dong Ho) Failure rate and mean residual life with trend changes. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 2, 239–244. 60K10 (90B25)

Guessab, Allal (*with* Boyanov, Borislav D.) Gaussian quadrature formula of Birkhoff's type. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 41–50 (1998). (V. I. Polovinkin) **99j:65033** 65D32 (41A55)

— (*with* Ezzirani, Abdelkrim) A fast algorithm for Gaussian type quadrature formulae with mixed boundary conditions and some lumped mass spectral approximations. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 217–248. (Stephen W. Brady) **99c:65044** 65D30 (65D32, 65N35)

Guessarian, Irène (*with* Afrati, Foto N.; de Rougemont, Michel) The expressiveness of Datalog circuits (DAC). (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 119–128, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68060** 68P15 (68N17)

— (*with* Gruska, Jozef) Fixpoint semantics of synchronized systems and correctness of their basic transformations. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 2, 93–133. (Horst Reichel) **99b:68071** 68Q10 (68Q55)

— (*with* Bensaou, N.) Transforming constraint logic programs. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 81–125. (Neculai Curteanu) **99i:68015** 68N17 (03B70, 68Q55)

— *see also* **Gentzen, 99h:68005**

Guessous, Mohamed An elementary proof of Komlós-Révész theorem in Hilbert spaces. *J. Convex Anal.* **4** (1997), *no.* 2, 321–332. (Alexander Mekler) **99b:46052** 46E40

Guest, Martin A. ★ Harmonic maps, loop groups, and integrable systems. (English summary) London Mathematical Society Student Texts, 38. *Cambridge University Press, Cambridge*, 1997. *xiv*+194 *pp. ISBN* 0-521-58932-0 (John C. Wood) **99g:58036** 58E20 (22E67, 58F07)

— (*with* Burstall, F. E.) Harmonic two-spheres in compact symmetric spaces, revisited. *Math. Ann.* **309** (1997), *no.* 4, 541–572. (Anne-Joëlle Vanderwinden) **99f:58046** 58E20 (53C35)

— (*with* Kozlowski, Andrzej[2]; Yamaguchi, Kohhei) Stable splitting of the space of polynomials with roots of bounded multiplicity. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 351–366. (R. E. Stong) **99k:55009** 55P42

Guévremont, Eric (*with* Gavoille, Cyril) Worst case bounds for shortest path interval routing. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 1–25. (Summary) **99c:68012** 68M10 (05C85)

— (*with* Avis, David; Beresford-Smith, Bryan; Devroye, Luc; ElGindy, Hossam; Hurtado, Ferran; Zhu, Binhai) Unoriented Θ-maxima in the plane: complexity and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 278–296 (*electronic*). (Menachem Dishon) **99g:68088** 68Q25 (60D05, 68U10)

Guey, Jiann-Ching (*with* Bell, Mark R.) Diversity waveform sets for delay-Doppler imaging. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1504–1522. 94A12

Gueye, C. T. (*with* Barry, Mamadou; Sanghare, M.) On commutative FGI-rings. *Extracta Math.* **12** (1997), *no.* 3, 255–259. (Daniel D. Anderson) **99g:13011** 13C13

Guez, A. (*with* Peterfreund, N.) Structure-based neural network learning. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **44** (1997), *no.* 12, 1143–1149. (Summary) **99m:94070** 94C05 (68T05)

Guezane-Lakoud, Assia (*with* Rebbani, Faouzia; Yurchuk, Nikolai I.) Problème aux limites pour une équation différentielle opérationnelle de second ordre. (English, French and Arabic summaries) [Boundary value problem for a second-order operator-differential equation] *Maghreb Math. Rev.* **6** (1997), *no.* 1, 39–48. (Angelo Favini) **99c:35257** 35R20 (34G10, 35L20)

Gugat, Martin Parametric convex optimization: one-sided derivatives of the value function in singular parameters. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 471–483, *Brepols, Turnhout*, 1998. (Hubertus Th. Jongen) **99k:90170** 90C31 (90C20)

Guglielmi, Alessandra Results on the distributions of means of a Dirichlet process. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 125–128. 60J45

— (*with* Melilli, Eugenio) Non-informative invariant priors yield peculiar marginals. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2293–2306. (S. K. Chatterjee) **99m:62008** 62A15 (62F15)

— A simple procedure calculating the generalized Stieltjes transform of the mean of a Dirichlet process. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 299–303. (Summary) **99e:60049** 60E10 (60G57, 62G99)

Guglielmi, Nicola Delay dependent stability regions of Θ-methods for delay differential equations. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 399–418. (J. Švejda) **99g:65088** 65L99 (34K05)

Gugulashvili, E. On the uniqueness of the solution of the Cauchy problem for differential equations of Sobolev type. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 377–379 (1995). 35K30 (35M20)

Guh, Yuh-Yuan Fuzzy weighted average linear programming approach by Charnes and Cooper's rule. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 3, 69–83. 90C70 (90C08)

Guha, Partha (*with* Takasaki, Kanehisa) Dispersionless hierarchies, Hamilton-Jacobi theory and twistor correspondences. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 326–340. (Ian A. B. Strachan) **99e:58099** 58F07 (32L25)

Guha, Sudipto (*with* Charikar, Moses; Chekuri, Chandra; Cheung, To-yat; Dai, Zuo; Goel, Ashish; Li, Ming[1]) Approximation algorithms for directed Steiner problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 192–200, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

— (*with* Khuller, Samir) Greedy strikes back: improved facility location algorithms. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 649–657, *ACM, New York*, 1998. (*see* **99d:68011**) 90B80 (68Q25)

— (*with* Bhatia, Randeep; Khuller, Samir; Sussmann, Yoram J.) Facility location with dynamic distance functions. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 199–217. (Horst W. Hamacher) **99k:90094** 90B80 (90C27)

Guha, Sumanta (*with* Dey, Tamal K.) Computing homology groups of simplicial complexes in $\mathbf{R}^3$. (English summary) *J. ACM* **45** (1998), *no.* 2, 266–287. (Rade Živaljević) **99c:52021** 52B55 (55-04, 68Q25, 92C40)

— Optimal mesh algorithms for proximity and visibility problems in simple polygons. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 167–185. 65Y25 (65Y05)

Guhr, Thomas (*with* Wettig, Tilo) Universal spectral correlations of the Dirac operator at finite temperature. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 3, 589–611. (Jacobus Verbaarschot) **99d:82034** 82B44 (81Q10, 81T25)

— (*with* Frahm, Klaus M.; Müller-Groeling, Axel) Between Poisson and GUE statistics: role of the Breit-Wigner width. (English summary) *Ann. Physics* **270** (1998), *no.* 2, 292–327. (Summary) **99j:82041** 82B41

— (*with* Müller-Groeling, Axel; Weidenmüller, Hans A.) Random-matrix theories in quantum physics: common concepts. (English summary) *Phys. Rep.* **299** (1998), *no.* 4-6, 189–425. (Summary) **99b:82037** 82B41 (81V05, 81V70)

Gui, Changfeng Three layered solutions and other related problems in multiple phase transition. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 101–107, *Internat. Press, Cambridge, MA*, 1997. (*see* **99b:00013**) 35J65 (35J55)

— (*with* Feldman, Joel S.; Froese, Richard; Ghoussoub, N.) An improved Moser-Aubin-Onofri inequality for axially symmetric functions on S^2. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 2, 95–104. (Thierry Coulhon) **99c:58048** 58E35 (35J85, 53A05)

— (*with* Ghoussoub, N.) On a conjecture of De Giorgi and some related problems. *Math. Ann.* **311** (1998), *no.* 3, 481–491. (Alan V. Lair) **99j:35049** 35J60 (35B05)

Gui, Xiao Sheng (*with* Chen, Guo Liang[2]; Yang, Bo[3]) A truncation method for the Walsh transformation and its parallel implementation. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 270–276. 65T20 (65D15)

Gui, Yuan-Xing (*with* Gao, Ya-Jun; Zhong, Zai-Zhe) Extended double Riemann-Hilbert problem and multiple representations of the infinite-dimensional symmetric group for the stationary axisymmetric vacuum field equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3155–3165. (Summary) **99f:83016** 83C20 (22E65, 22E67)

— (*with* Gao, Ya-Jun) Quantized braided linear algebras relating to quantized braided groups. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5960–5967. (Abed-El-Farid Djemai) **99b:16057** 16W30

— (*with* Zuo, Jian) Why no analytic continuation connects real-time and imaginary-time thermal propagators. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 537–543. (Dmitri V. Vassilevich) **99m:81276** 81T99 (83C47)

Gui, Zhi Bo (*with* Zheng, Ying Ping; Yang, Cheng Wu) Qualitative analysis of transition timed Petri nets with two-phase firing semantics under the weak firing rule. (Chinese.

English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 16–22. 68Q90

Guiard, V. (*with* Langemann, B.) Generalization of a lemma of Kiefer and Weiss for the case of sequentially planned decision problems with more than two hypotheses. (English summary) *Sequential Anal.* **16** (1997), *no.* 2, 189–204. (Albrecht Irle) **99c:62220** 62L10

Guiasu, Radu Cornel (*with* Guiasu, Silviu) Comparison between some probabilistic indicators useful in the behavioural classification. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 39–59. (Summary) **99g:62084** 62H30

Guiasu, Silviu (*with* Guiasu, Radu Cornel) Comparison between some probabilistic indicators useful in the behavioural classification. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 39–59. (Summary) **99g:62084** 62H30

— Quantum mechanics based on probability wave functions induced by the minimum mean deviation from statistical equilibrium. I. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 957–994. (Michael B. Mensky) **99f:81065** 81Q99 (82B10)

— Quantum mechanics based on probability wave functions induced by the minimum mean deviation from statistical equilibrium. II. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 3, 1019–1050. (Michael B. Mensky) **99f:81066** 81Q99 (82B10)

Guibas, Leonidas J. (*with* Agarwal, Pankaj K.; Erickson, Jeff) Kinetic binary space partitions for intersecting segments and disjoint triangles (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 107–116, *ACM, New York*, 1998. (*see* **99d:68011**) 68U05

— (*with* de Berg, Mark; Everett, Hazel) The union of moving polygonal pseudodiscs—combinatorial bounds and applications. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 69–81. (H. W. Guggenheimer) **99m:68205** 68U05 (05B40, 52B55)

— (*with* Marimont, David H.) Rounding arrangements dynamically. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 157–178. (Hans-Dietrich Hecker) **99b:68200** 68U05

— (*with* Halperin, Dan; Hirukawa, Hirohisa; Latombe, Jean-Claude; Wilson, Randall H.) Polyhedral assembly partitioning using maximally covered cells in arrangements of convex polytopes. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 179–199. (Rephael Wenger) **99d:68229** 68U05 (52B55, 70B15)

— (*with* Albers, Gerhard; Mitchell, Joseph S. B.; Roos, Thomas) Voronoi diagrams of moving points. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 365–379. (Summary) **99b:68192** 68U05 (52B55)

Guibé, Olivier (*with* Blanchard, Dominique) Existence d'une solution pour un système non linéaire en thermoviscoélasticité. (English and French summaries) [Existence of a solution for a nonlinear system in thermoviscoelasticity] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1125–1130. (Alain Brillard) **99a:73016** 73B30 (35Q72, 73F15)

— Solutions entropiques et renormalisées pour un système non linéaire couplé. (English and French summaries) [Entropy and renormalized solutions for a nonlinear coupled system] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 685–690. 35Q72 (73B30, 73F99)

Guibert, O. (*with* Dulucq, S.) Baxter permutations. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 143–156. (Wayne M. Dymacek) **99c:05004** 05A05 (05A10)

— (*with* Dulucq, S.; Gire, S.) A combinatorial proof of J. West's conjecture. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 71–96. (W. G. Brown) **99f:05053** 05C30 (05A05, 68R05)

Guicciardini, Niccolò Stars and gravitation in eighteenth century Newtonian astronomy: the hypotheses of Benjamin Worster, Nicholas Saunderson, Gowin Knight, Roger Boscovich and William Herschel. *Copernicus and the Copernican question in Italy from the sixteenth to the nineteenth century (Italian) (Ferrara, 1993)*, 263–280, *Pubbl. Univ. Ferrara, IV, Olschki, Florence*, 1996. (*see* **99g:01014**) 01A50

— Did Newton use his calculus in the *Principia*? (English summary) *Centaurus* **40** (1998), *no.* 3-4, 303–344. (Massimo Galuzzi) **99m:01012** 01A45 (01A50)

Guichard, David R. Competition graphs of Hamiltonian digraphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 128–134 (*electronic*). (Kathryn Fraughnaugh) **99b:05072** 05C20

Guichard, Frédéric (*with* Morel, Jean-Michel) Images and movies scale-spaces. *Hyperbolic problems: theory, numerics, applications (Stony Brook, NY, 1994)*, 137–147, *World Sci. Publishing, River Edge, NJ*, 1996. (Inge Troch) **99a:68177** 68U10 (35K99, 49Q99)

— (*with* Morel, Jean-Michel) Partial differential equations and image iterative filtering. (English summary) *The state of the art in numerical analysis (York, 1996)*, 525–562, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Summary) **99c:65239** 65N99 (68U10, 94A12)

— (*with* Morel, Jean-Michel) Geometric partial differential equations and iterative filtering. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam, 1998)*, 127–138, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (35R99)

Guichardet, Alain Facteurs de type III (d'après R. T. Powers). [Factors of type III (after R. T. Powers)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 333, 345–354, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 46L35

— Représentations des algèbres involutives (d'après James Glimm). [Representations of algebras with involution (after James Glimm)] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 207, 33–40, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 46K10 (46L05)

— Représentations des groups de Lie nilpotents (d'après Kirillov). [Nilpotent Lie group representations (after Kirillov)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 249, 119–127, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 22E27 (17B10, 22E60)

— Homologie de Hochschild des déformations quadratiques d'algèbres de polynômes. (English and French summaries) [Hochschild homology of quadratic deformations of algebras of polynomials] *Comm. Algebra* **26** (1998), *no.* 12, 4309–4330. (Sue Geller) **99m:16010** 16E40 (19D55, 58F05)

— On the representations of a q-oscillator algebra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4965–4969. (Władysław Marcinek) **99g:81089** 81R50 (46L60, 46N50, 47N50, 81S05)

Guicheteau, Philippe Bifurcation theory: a tool for nonlinear flight dynamics. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2181–2201. (Summary) **99f:70030** 70K99 (34C23, 70Q05, 93C95)

Guida, R. (*with* Zinn-Justin, J.) Critical exponents of the N-vector model. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8103–8121. (Summary) **99e:82039** 82B27

Guidetti, Davide (*with* Piskarëv, S. I.) Stability of Rothe's scheme and maximal regularity for parabolic equations in $C^\theta(\bar{\Omega})$. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 167–180, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (Reinhard Redlinger) **99i:35056** 35K10 (35B45, 65M12)

— Optimal regularity for mixed parabolic problems in spaces of functions which are Hölder continuous with respect to space variables. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 763–790. (Vladimir P. Burskiĭ) **99j:35088** 35K35 (35B65)

Guido, Cosimo The subspace problem in the traditional point-set context of fuzzy topology. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 351–372. (Summary) **99e:54003** 54A40

Guido, Daniele (*with* Isola, Tommaso) Singular traces and their applications to geometry. *Operator algebras and quantum field theory (Rome, 1996)*, 440–456, *Internat. Press, Cambridge, MA*, 199?. (Andrzej Sitarz) **99k:46125** 46L87

— (*with* Longo, Roberto; Wiesbrock, Hans-Werner) Extensions of conformal nets and superselection structures. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 217–244. (Stephen J. Summers) **99b:81136** 81T05 (22E70, 46L60, 81R10, 81T40)

Guidone, Mario (*with* Bergia, Silvio) Time on a rotating platform and the one-way speed of light. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 6, 549–559. (Abraham A. Ungar) **99k:83003** 83A05

Guidone Peroli, Giovanna (*with* Biscari, Paolo) A hierarchy of defects in biaxial nematics. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 2, 381–392. (Summary) **99j:76003** 76A15 (55Q52, 73B99, 82D30)

— (*with* Virga, Epifanio G.) Modelling the capillary locking of point defects in nematic liquid crystals. (English summary) *IMA J. Appl. Math.* **58** (1997), *no.* 3, 211–236. (Summary) **99i:76009** 76A15 (76D45, 76M30, 82D30)

— (*with* Virga, Epifanio G.) Dynamics of point defects in nematic liquid crystals. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 356–372. (Ralph Saxton) **99g:76009** 76A15 (82D30)

Guidotti, Patrick (*with* Merino, Sandro) Hopf bifurcation in a scalar reaction diffusion equation. (English summary) *J. Differential Equations* **140** (1997), *no.* 1, 209–222. (Gunter Bengel) **99a:35130** 35K57 (35B32, 58F39)

podio-Guidugli, Paolo *see* **Podio-Guidugli, Paolo**

Guiduli, Barry (*with* Gyárfás, András; Thomassé, Stéphan; Weidl, Peter) 2-partition-transitive tournaments. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 181–196. (J. W. Moon) **99c:05079** 05C20

Guieu, Olivier (*with* Chinneck, John W.) Analyzing infeasible mixed-integer and integer linear programs. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 63–77. 90C11 (90C10)

Guignard, Monique (*with* Chen, Bintong) Polyhedral analysis and decompositions for capacitated plant location-type problems. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 79–91. (Summary) **99b:90086** 90C11 (90B80)

Guiheneuf, Bertrand (*with* Jaffard, Stéphane; Lévy Véhel, Jacques) Two results concerning chirps and 2-microlocal exponents prescription. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 487–492. (Summary) **99e:42047** 42C15 (94A11)

Guihenneuc-Jouyaux, Chantal (*with* Robert, Christian P.) Valid discretization via renewal theory. *Discretization and MCMC convergence assessment*, 67–97, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J27 (60J05, 60K05)

— (*with* Richardson, Sylvia; Lasserre, Virginie) Convergence assessment in latent variable models: application to the longitudinal modelling of a marker of HIV progression. *Discretization and MCMC convergence assessment*, 147–160, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J20 (62P10)

— (*with* Robert, Christian P.) Discretization of continuous Markov chains and Markov chain Monte Carlo convergence assessment. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1055–1067. (Summary) **99f:60124** 60J10 (60J27, 62F15, 65C05)

Guijarro, David (*with* Castro, Jorge; Lavín, Víctor) Learning nearly monotone k-term DNF. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 75–79. (Summary) **99c:68209** 68T05 (68Q99)

Guijarro Carranza, Piedad (*with* Alsina, Claudi; Tomás, Maria Santos) Some remarkable lines of triangles in real normed spaces and characterizations of inner product structures. (English summary) *Aequationes Math.* **54** (1997), *no.* 3, 234–241. (Nicole Brillouët-Belluot) **99b:39031** 39B52 (39B05, 46B20, 46C15)

— (*with* Tomás, Maria Santos) Perpendicular bisectors and orthogonality. (English summary) *Arch. Math. (Basel)* **69** (1997), *no.* 6, 491–496. (Themistocles M. Rassias) **99a:39059** 39B52 (46C15)

Güijosa, Alberto Is physics in the infinite momentum frame independent of the compactification radius? (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 406–426. (Summary) **99k:81240** 81T30

mateos Guilarte, Juan *see* **Mateos Guilarte, Juan**

Guilarte, Juan Mateos *see* **Mateos Guilarte, Juan**

Guil Asensio, Pedro A. (*with* Gómez Pardo, José L.) When are all the finitely generated modules embeddable in free modules? *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 209–217, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (V. A. Artamonov) **99d:16005** 16D40

— (*with* Gómez Pardo, José L.) On the Goldie dimension of injective modules. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 265–275. (John Dauns) **99e:16027** 16P60 (16D50)

Guilfoyle, Brendan S. (*with* Nolan, Brien C.) Yang's gravitational theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 3, 473–495. (Alberto Saa Vazquez) **99a:83054** 83D05

Guilfoyle, Sean (*with* Stöhr, Ralph) Invariant bases for free Lie algebras. *J. Algebra* **204** (1998), *no.* 1, 337–346. (Hartmut Laue) **99g:17012** 17B01 (20C15)

Guillamon, A. *see* **Guillamon i Grabolosa, Toni**

Guillamón, Antonio (*with* Navarro, Jorge; Ruiz Gómez, José María) Kernel density estimation using weighted data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2123–2135. (Summary) **99g:62040** 62G05

Guillamon i Grabolosa, Toni (*with* Gasull, Armengol) A theorem of global asymptotical stability. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 34D05 (58F10)
— (*with* Gasull, Armengol; Mañosa, V.) Centre and isochronicity conditions for systems with homogeneous nonlinearities. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics (Odeillo, 1995)*, 105–116, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (A. P. Sadovskiĭ) **99c:34048** 34C05 (58F21)
Guillard, Hervé (*with* Viozat, Cécile) On the behaviour of upwind schemes in the low Mach number limit. (English summary) *Comput. & Fluids* **28** (1999), *no.* 1, 63–86. (Summary) **99g:76090** 76M20 (76G25)
Guillaume, Marcel Les tableaux sémantiques de calcul des prédicats restreint (d'après E. W. Beth) [MR **21** #4902]. [The semantic tableaux of restricted predicate calculus (after E. W. Beth)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 153, 231–243, *errata pp.* 215–216, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 03B10
— Regard en arrière sur quinze années de coopération douce avec l'école brésilienne de logique paraconsistante. [A look back on fifteen years of congenial cooperation with the Brazilian school of paraconsistent logic] Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 5–14. (Décio Krause) **99m:03047** 03B53 (01A65, 03–03, 68T27)
Guillaume, Patrick (*with* Pintelon, Rik; Vandersteen, Gerd; Rolain, Yves) Analyses, development, and applications of TLS algorithms in frequency domain system identification. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 983–1004 (*electronic*). (Kurt Marti) **99e:93077** 93E10 (93E12)
— (*with* Schoukens, Johan; Vandersteen, Gerd; Pintelon, Rik) Frequency-domain identification of linear systems using arbitrary excitations and a nonparametric noise model. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 343–347. 93B30 (93C80)
Guillaume, Philippe Convergence of the nested multivariate Padé approximants. (English summary) *J. Approx. Theory* **94** (1998), *no.* 3, 455–466. (A. J. Rodrigues) **99f:41016** 41A21 (41A63)
— (*with* Huard, Alain; Robin, Vincent) Generalized multivariate Padé approximants. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 203–214. (Ralitza Kovacheva) **99k:41018** 41A21
— (*with* Bendali, Abderrahmane) Non-reflecting boundary conditions for waveguides. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 123–144. (Jin Yun Yuan) **99c:78017** 78A50 (65N30, 78–08)
Guillemeau, Michel Quelques résultats de convergence en loi vers des processus de Lévy α-stables. [Some results of convergence in law to α-stable Lévy processes] *Fascicule de probabilités*, 19 *pp., Publ. Inst. Rech. Math. Rennes*, 1996/1997, *Univ. Rennes I, Rennes*, 199?. (N. H. Bingham) **99m:60073** 60G50 (60E07, 60F17)
Guillemin, Fabrice (*with* Pinchon, Didier) Continued fraction analysis of the duration of an excursion in an $M/M/\infty$ system. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 165–183. (Summary) **99b:60157** 60K25 (30E15, 33C45, 68M20)
— (*with* Pinchon, Didier) On the area swept under the occupation process of an $M/M/1$ queue in a busy period. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 383–398. (Vladimir V. Kalashnikov) **99j:60142** 60K25
Guillemin, V. *see* **Laptev, A. et al., 99g:58126**
lafuerza Guillén, Bernardo *see* **Lafuerza Guillén, Bernardo**
Guillén, Francisco *see* **Guillén González, Francisco M.**
Guillén, J. Sánchez *see* **Sánchez Guillén, Joaquín**
sánchez Guillén, Joaquín *see* **Sánchez Guillén, Joaquín**
Guillén González, Francisco M. An asymptotic mass diffusion model for nonhomogeneous incompressible viscous fluids. (Spanish. Spanish summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics (Lleida*, 1996), 103–113, *Univ. Lleida, Lleida*, 199?. (Summary) **99a:76146** 76S05 (35Q35, 76R50)
— (*with* Azérad, Pascal; Besson, Olivier) Fluid flow in shallow domains: mathematical analysis and numerical simulation. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona*, 1998), 9–16, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 76D05 (76M10)
— Existence and regularity of weak solutions for pseudoplastic or dilatant fluids with variable density. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo*, 1997), 935–940, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76A99 (35Q35)
Guillet, Xavier Interpolation by new families of B-splines on uniform meshes of the plane. (English summary) *Surface fitting and multiresolution methods (Chamonix–Mont-Blanc*, 1996), 183–190, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:41018** 41A15 (41A63)
Guillory, Carroll (*with* Li, Kin Y.) Algebras of Blaschke products unimodular on trivial parts. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 307–318. (Summary) **99e:46064** 46J15 (30D50)
Guillot, J.-C. (*with* Amour, Laurent) Examples of discrete operators with a pure point spectrum of finite multiplicity. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 170–183. (Frédéric Klopp) **99k:47071** 47B39 (58F27)
— (*with* Ralston, James V.) Inverse scattering at fixed energy for layered media. (English and French summaries) *J. Math. Pures Appl.* (9) **78** (1999), *no.* 1, 27–48. (Summary) **99m:35262** 35R30 (35L05)
Guillot, Philippe (*with* Carlet, Claude) A characterization of binary bent functions. (English summary) *J. Combin. Theory Ser. A* **76** (1996), *no.* 2, 328–335. (Summary) **99b:94054** 94B60 (94A60)
— (*with* Carlet, Claude) An alternate characterization of the bentness of binary functions, with uniqueness. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 133–140. (Summary) **99e:94027** 94A55
villain-Guillot, Simon *see* **Villain-Guillot, Simon**
le Guillou, J. C. *see* **Le Guillou, J. C.**
Guillou, S. (*with* Nguyen, K. D.) An improved technique for solving two-dimensional shallow water problems. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 4, 465–483. (Summary) **99j:76089** 76M25 (86–08, 86A05)
Guimarães, Katia (*with* Myers, Eugene W.; Oliva, Paulo) Reporting exact and approximate regular expression matches. (English summary) *Combinatorial pattern matching (Piscataway, NJ*, 1998), 91–103, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q20 (68U15)
Guin, D. (*with* Bendiffalah, B.) Cohomologie des morphismes. (French summary) [Cohomology of morphisms] *Comm. Algebra* **26** (1998), *no.* 12, 3939–3951. (Summary) **99i:18017** 18G60
Guíñez, Víctor (*with* Gutierrez, Carlos; Guadalupe, Irwen; Tribuzy, Renato) Lines of curvature on surfaces immersed in $\mathbf{R}^4$. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 233–251. (Ronaldo Alves Garcia) **99b:53011** 53A07
grattan-Guinness, Ivor *see* **Grattan-Guinness, Ivor**
Guinot, J. C. (*with* Ouezdou, F. B.; Bruneau, O.) Dynamic analysis tool for legged robots. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 369–391. (Summary) **99h:70006** 70B15 (70E99)
Guionnet, A. (*with* Ben Arous, Gerard) Symmetric Langevin spin glass dynamics. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1367–1422. (Barbara Gentz) **99g:82074** 82C44 (60F10, 60H10, 60K35, 82C22, 82C31)
— Averaged and quenched propagation of chaos for spin glass dynamics. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 2, 183–215. (Francis Comets) **99j:60038** 60F10 (60H10, 60K35, 82C22, 82C44)
— (*with* Del Moral, Pierre) Large deviations for interacting particle systems: applications to non-linear filtering. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 1, 69–95. (Ingemar Kaj) **99k:60071** 60F10 (60G35, 60K35, 93E11)
Guirardel, Vincent Approximations of stable actions on $\mathbf{R}$-trees. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 89–121. (Frédéric Paulin) **99e:20037** 20E08 (05C05, 20E06, 20F32, 57M07)
de Guise, Hubert (*with* Rowe, David J.) Clebsch-Gordan coefficients in the asymptotic limit. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1087–1106. (J. F. Cornwell) **99a:17012** 17B15 (81R05)
Guitter, E. (*with* Di Francesco, Philippe; Golinelli, O.) Meanders and the Temperley-Lieb algebra. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 1–59. (Francois Vanderseypen) **99f:82028** 82B41 (05A15)
— (*with* Di Francesco, Philippe; Golinelli, O.) Meander, folding, and arch statistics. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 97–147. (Sergei K. Lando) **99f:82029** 82B41 (05A15)
— (*with* Eynard, Bertrand; Kristjansen, Charlotte F.) Hamiltonian cycles on a random three-coordinate lattice. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 523–532. (Saburo Higuchi) **99j:82040** 82B41 (05C45)
— (*with* Orlandini, Enzo) Monte Carlo results for projected self-avoiding polygons: a two-dimensional model for knotted polymers. (English summary) *J. Phys. A* **32** (1999), *no.* 8, 1359–1385. (Summary) **99k:82081** 82D60 (82B41, 82B80)
Guiying, Yan *see* **Yan, Gui Ying**
Guizal, B. (*with* Felbacq, D.; Zolla, F.) Limit analysis of the diffraction of a plane wave by a one-dimensional periodic medium. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4604–4607. (Summary) **99g:78021** 78A45 (78A05)
Guj, G. (*with* Camussi, R.) Statistical analysis of local turbulent energy fluctuations. (English summary) *J. Fluid Mech.* **382** (1999), 1–26. 76F05 (76M35)
Gukasyan, A. A. On the controlled motion of a flexible spacecraft. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 1, 55–63. 73K50 (70Q05)
— (*with* Kazaryan, V. S.) The problem of guaranteed control of a robot under incomplete information about the location of the target point. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **49** (1996), *no.* 2, 42–51. 70B15 (70Q05, 93C85)
Gukov, Sergei (*with* Diaconescu, Duiliu-Emanuel) Three-dimensional $N = 2$ gauge theories and degenerations of Calabi-Yau four-folds. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 171–196. (Bruce Hunt) **99m:81246** 81T60 (14J32, 32J81, 81T13, 81T30)
— Comments on $\mathcal{N} = 2$ AdS orbifolds. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 23–28. (Summary) **99g:81165** 81T30 (83E30)
Gul, Faruk (*with* Dekel, Eddie) Rationality and knowledge in game theory. *Advances in economics and econometrics: theory and applications, Vol. I, II, III (Tokyo*, 1995), 87–172, *Econom. Soc. Monogr.*, 26, 27, 28, *Cambridge Univ. Press, Cambridge*, 1997. (A. Rapoport) **99k:90009** 90A05 (90D35)
— A comment on Aumann's Bayesian view: "Correlated equilibrium as an expression of Bayesian rationality" [Econometrica **55** (1987), no. 1, 1–18; MR 88a:90005] by R. Aumann. With a reply by Aumann. *Econometrica* **66** (1998), *no.* 4, 923–927, 929–938. 90A05
Gulati, T. R. (*with* Ahmad, Izhar) Multiobjective duality using Fritz John conditions. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 63–74. (Dorel Duca) **99g:90110** 90C29 (49N15)
— (*with* Ahmad, Izhar; Husain, I.) Symmetric duality for minimax variational problems. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 81–95. (Fuan Zhao) **99i:49025** 49K35 (49N15)
Gul'chak, A. M. A generalized H^∞-optimal control problem with a quadratic functional of general form. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 4, 467–471. (Alexander M. Kovalev) **99m:93028** 93B36
Guldner, Jürgen (*with* Utkin, Vadim I.) Tracking the gradient of artificial potential fields: sliding mode control for mobile robots. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 417–432. 93B12 (93C85)
Güler, Osman (*with* Tunçel, Levent) Characterization of the barrier parameter of homogeneous convex cones. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 55–76. (Guillermo L. Hansen) **99f:90124** 90C30 (49M30)
Güler, Y. Classical fields as constrained systems. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 7, 893–904. (Hans P. Künzle) **99j:58058** 58E30
Guletskiĭ, V. I. (*with* Yanchevskiĭ, V. I.) Reciprocity laws in Brauer groups of function fields of numerical curves with special Jacobians. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 2, 14–17, 121. (Takeshi Ooe) **99f:11077** 11G30 (14G25, 14H25)
— (*with* Margolin, G. L.; Yanchevskiĭ, V. I.) Representation of 2-torsion in Brauer groups of curves by quaternion algebras. (Russian. English and Russian summaries) *Dokl.*

Akad. Nauk Belarusi **41** (1997), *no.* 6, 8–12, 122. (Summary) **99k:14046** 14H40 (12G05, 13A20)

Guliev, V. S. On the theory of multipliers of Fourier integrals for Banach-space-valued functions. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 164–181. (B. S. Rubin) **99e:46048** 46E40 (42B15)

— (*with* Mustafaev, R. Ch.) Fractional integrals in spaces of functions defined on spaces of homogeneous type. (Russian. English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 3, 181–200. (Anatoly Kilbas) **99m:26007** 26A33 (43A15, 47B38)

— Sobolev's theorem for Riesz B-potentials. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 4, 450–451. (J. Musielak) **99d:46048** 46E35 (42B25, 47B38)

Gulin, A. V. (*with* Degtyarev, S. L.) A criterion for the stability of a two-dimensional difference scheme. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 943–950, 1006; *translation in Differential Equations* **32** (1996), *no.* 7, 950–957 (1997). (V. D. Glushenkov) **99c:65155** 65M06 (65M12)

Guljaš, Boris (*with* Pearce, C. E. M.; Pečarić, Josip) Some inequalities related to Hölder's inequality. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 273–279. (Summary) **99f:26029** 26D15

— (*with* Bakić, Damir) Which operators approximately annihilate orthonormal bases? (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 601–607. (Pei Yuan Wu) **99m:47023** 47B07 (47A10, 47A12)

— (*with* Pearce, C. E. M.; Pečarić, Josip) An inequality for probability density functions arising from a distinguishability problem. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 350–354. (Iosif Pinelis) **99d:60016** 60E15

Gul'ko, S. P. (*with* Sokolov, G. A.) P-points in $\mathbf{N}^*$ and the spaces of continuous functions. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 137–142. (Maria Scafati Tallini) **99c:54021** 54C35 (54A20, 54E52)

Gull, Stephen (*with* Challinor, Anthony; Lasenby, Anthony N.; Doran, C. J. L.) Massive, non-ghost solutions for the Dirac field coupled self-consistently to gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1527–1544. (Seth A. Major) **99d:83011** 83C15

— (*with* Ashdown, M. A. J.; Somaroo, Shyamal S.; Doran, C. J. L.; Lasenby, Anthony N.) Multilinear representations of rotation groups within geometric algebra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1566–1588. (Stefano De Leo) **99c:81069** 81R20 (15A66, 20G05)

— (*with* Doran, C. J. L.; Lasenby, Anthony N.; Challinor, Anthony) Effects of spin-torsion in gauge theory gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3303–3321. (Yu. N. Obukhov) **99i:83077** 83D05 (83C10, 83C60)

Gulliksson, M. KKT conditions for rank-deficient nonlinear least-square problems with rank-deficient nonlinear constraints. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 145–160. (Christian Zillober) **99m:93057** 93C30 (65J20, 65K05)

Gulliver, T. Aaron (*with* Esmaeili, Morteza; Secord, Norman P.) Trellis complexity of linear block codes via atomic codewords. (English summary) *Information theory and applications, II (Lac Delage, PQ,* 1995), 130–148, *Lecture Notes in Comput. Sci.*, 1133, *Springer, Berlin*, 1996. (N. L. Manev) **99b:94060** 94B75 (11H31)

— (*with* Harada, Masaaki) Certain self-dual codes over Z_4 and the odd Leech lattice. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse*, 1997), 130–137, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94042** 94B60

— (*with* Östergård, Patric R. J.) Improved bounds for quaternary linear codes of dimension 6. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 2, 153–159. (Summary) **99h:94060** 94B05 (94B15)

— (*with* Bhargava, Vijay K.) Projective spaces and quasi-cyclic codes. (English summary) *Ars Combin.* **48** (1998), 147–160. (Summary) **99c:94054** 94B15

— (*with* Harada, Masaaki; Kaneta, Hitoshi) Classification of extremal double-circulant self-dual codes of length up to 62. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 127–136. (Summary) **99c:94045** 94B05

— (*with* Esmaeili, Morteza; Secord, Norman P.; Mahmoud, Samy A.) A link between quasi-cyclic codes and convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 431–435. (Summary) **99a:94050** 94B15

— (*with* Moher, Michael) Cross-entropy and iterative decoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3097–3104. (Summary) **99i:94072** 94B35

— (*with* Harada, Masaaki) Double circulant self-dual codes over Z_{2k}. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3105–3123. (Jay A. Wood) **99m:94043** 94B05

— (*with* Harada, Masaaki) Extremal double circulant type II codes over Z_4 and construction of 5-(24, 10, 36) designs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 129–137. (Summary) **99h:94074** 94B60 (05B05)

— (*with* Senkevitch, Nikolai) On a class of self-dual codes derived from quadratic residues. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 701–702. (Summary) **99m:94065** 94B60

— (*with* Harada, Masaaki) Codes of lengths 120 and 136 meeting the Grey-Rankin bound and quasi-symmetric designs. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 703–706. (Summary) **99j:94071** 94B15 (05B30)

Gulo, I. N. (*with* Yanovich, L. A.) Some asymptotic formulas for functional integrals. (English summary) *Path integrals: Dubna* '96, 364–368, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Güloğlu, İsmail Ş. (*with* Akyıldız, Ersan; Ikeda, Masatoshi G.) Weight equations for binary linear codes and their applications. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 1–14. (Raymond Hill) **99f:94014** 94B05

Gülpınar, Nalân (*with* Mitra, Gautam; Maros, István) Detecting embedded pure network structures in LP problems. (English summary) *Top* **6** (1998), *no.* 1, 67–95. 90C08 (90C35)

Gulua, D. V. On a method for constructing basis functions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 214–217 (1995). 65D15 (65J15)

Gulyaev, V. I. (*with* Zavrazhina, T. V.; Koshkin, V. L.) Similarity rules for periodic motions of a satellite in an elliptic orbit in the transition to chaos. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 54–71. (Summary) **99e:70048** 70H05 (34C25, 58F13, 70K50, 70M20)

— (*with* Vasil'eva, A. L.; Koshkin, V. L.) Chaotization of the oscillations of a double mathematical pendulum. (Russian. English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 87–103. (Jacek A. Tuszyński) **99e:70058** 70K50 (34C15, 58F13, 70K40)

Gülyaz, S. (*with* Amirov, R. Kh.) Inverse spectral problem for the differential equation of the second order with singularity. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv*, 1997), 17–24, *VSP, Utrecht*, 1998. (Summary) **99g:34037** 34A55 (34B24, 34L40)

Gumbataliev, M. A. (*with* Agalarov, D. G.; Nabiev, I. M.) Quasisteady motion of a filament in a space. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 178–183. 73K03

Gumenchuk, A. I. (*with* Akulov, Vladimir P.) About differential calculi on $GL_q(1|1)$. *Problems of quantum field theory (Alushta*, 1996), 95–99, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81R50 (58B30)

Gumirov, V. Sh. An object-oriented variant of the language of Σ-specifications. (Russian. Russian summary) *Vychisl. Sistemy No.* 152, *Teor. Vychisl. i Yazyki Spets.* (1995), 3–19, 214. (Victor N. Kas'yanov) **99c:68171** 68Q60 (03B70)

Gumm, H. Peter (*with* Schröder, Tobias) Covarieties and complete covarieties. (English summary) *First Workshop on Coalgebraic Methods in Computer Science (CMCS* '98) (*Lisbon*), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (Summary) **99f:08003** 08B99 (68Q10)

— Generating algebraic laws from imperative programs. (English summary) ORDAL '96 (Ottawa, ON). *Theoret. Comput. Sci.* **217** (1999), *no.* 2, 385–405. (*see* **99m:68011**) 68Q60

Gummelt, P. (*with* Bandt, Christoph) Fractal Penrose tilings. I. Construction and matching rules. (English summary) *Aequationes Math.* **53** (1997), *no.* 3, 295–307. (Marjorie Senechal) **99b:52049** 52C20 (28A80)

Günaltılı, İ. (*with* Olgun, Ş.) On some configurational propositions connected with the minor forms of Desargues. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 153–163 (1998). (Summary) **99d:51002** 51A30 (51A20)

Gunaratne, H. Sunil μ and λ invariants of a p-adic measure. (English summary) *J. Natur. Phys. Sci.* **9/10** (1995/96), 53–60. (T. Metsänkylä) **99e:11146** 11S80 (11B68, 11R23, 11S40)

Gunatilake, L. (*with* Shepherd, J. J.; Connell, H. J.) Transitions in a non-linear second-order system. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 231–245. (James A. Murdock) **99k:34084** 34C23 (34C15, 34E20)

Gunawan, Erry (*with* Dong, Xue-dong; Soh, Cheong Boon) Matrix characterization of MDS linear codes over modules. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 57–61. (Summary) **99d:94029** 94B05

— (*with* Dong, Xue-dong; Soh, Cheong Boon) Linear block codes for four-dimensional signals. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 57–75. (Harold N. Ward) **99m:94042** 94B05 (94A12)

Gunawardena, Athula (*with* Fuelberth, John) 4-caps in orthogonal spaces. (English summary) *Mostly finite geometries (Iowa City, IA*, 1996), 207–212, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (Christine M. O'Keefe) **99b:51002** 51A50 (51E22)

Gunawardena, Jeremy An introduction to idempotency. *Idempotency (Bristol*, 1994), 1–49, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Udo Hebisch) **99b:16072** 16Y60 (35A99, 46S99)

— (*with* Gaubert, Stéphane) The duality theorem for min-max functions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 43–48. (Summary) **99g:49026** 49K35

Günaydin, Murat (*with* Ferrara, Sergio) Orbits of exceptional groups, duality and BPS states in string theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2075–2088. (Mario Trigiante) **99g:81160** 81T30 (17B81, 83E30, 83E50)

— (*with* Minic, Djordje) Singletons, doubletons and M-theory. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 145–157. (Christian Fronsdal) **99k:81079** 81R05 (22E10, 81T30)

Gündem, T. I. Near optimal multiple choice index selection for relational databases. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 111–120. (Summary) **99k:68042** 68P15 (90C27)

Gundersen, Gary G. Meromorphic solutions of $f^6 + g^6 + h^6 \equiv 1$. (English summary) *Analysis (Munich)* **18** (1998), *no.* 3, 285–290. (Summary) **99g:30040** 30D35

— (*with* Steinbart, Enid M.; Wang, Shupei) Solutions of nonhomogeneous linear differential equations with exceptionally few zeros. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 429–452. (Ilpo Laine) **99g:34017** 34A20 (30D35)

Gundersen, Lars The master argument and branching time. (English summary) *Logic Log. Philos. No.* 5 (1997), 49–60. (Torben Braüner) **99h:03006** 03B45

Gunderson, David S. (*with* Rödl, Vojtěch) Extremal problems for affine cubes of integers. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 65–79. (Georges Grekos) **99a:11015** 11B25 (05D10, 11P99)

Gündeş, A. N. (*with* Yousefpor, M.; Palazoglu, Ahmet) A test for stabilizability by constant output-feedback. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1239–1246. 93D15

— Stabilizing controllers for interconnected systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 45–68. 93D15 (93A14)

— (*with* Kabuli, M. G.) A general boundedness result for interconnected nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1107–1110. 93D15 (93C10)

— Reliable decentralized stabilization of linear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1733–1739. (Rabah Rabah) **99j:93091** 93D21 (93A14)

— (*with* Kabuli, M. G.) Parameterization of stabilizing controllers with integral action. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 116–119. 93D15

Gundewar, G. V. Expression for factorials as the product of some power of distinct prime numbers. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 149–150. 11A51

Gundlach, Carsten Critical phenomena in gravitational collapse. (English summary) *Mathematics of gravitation, Part I (Warsaw*, 1996), 143–152, *Banach Center Publ.*, 41, *Part I, Polish Acad. Sci., Warsaw*, 1997. (Seth A. Major) **99c:83069** 83C75 (83C57)

— Critical phenomena in gravitational collapse. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 1–49. (Viqar Husain) **99g:83052** 83C57 (83C20, 83C75)

— Angular momentum at the black hole threshold. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, *R*7080–*R*7083. (Summary) **99k:83070** 83C57

— (*with* Martín-García, José M.) All nonspherical perturbations of the Choptuik spacetime decay. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064031, 19 *pp.* 83C15 (83C25)

Gundlach, Matthias (*with* Demetrius, Lloyd) Evolutionary dynamics in random environments. (English summary) *Stochastic dynamics (Bremen, 1997)*, 371–394, *Springer, New York*, 1999. (M. L. Blank) **99m:58176** 58F40 (92D25)

— *see also* **Stochastic dynamics, 99k:60003**

Gündüzhan, Emre (*with* Oruç, A. Yavuz) Structure and density of sparse crossbar concentrators. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 169–180, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, **42**, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94068** 94C15 (05C90)

Güner, Erdal On the generalized Whitney sum of the sheaves of higher homotopy groups. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 59–66. 55Q99

Güngör, F. Nonlinear equations invariant under Poincaré, similitude and conformal group in three-dimensional spacetime. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 697–706. (Zoya I. Symenoh) **99i:58159** 58G35 (35A30)

Güngöroglu, Gonca Coatomic modules. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 153–162. (Zhong Kui Liu) **99i:16013** 16D80

Gunji, Yukio-Pegio (*with* Ito, Keisuke; Kusunoki, Yoshiyuki) Formal model of internal measurement: alternate changing between recursive definition and domain equation. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 289–312. (Summary) **99b:03082** 03G30 (18B25)

Günlük, Oktay (*with* Bienstock, Daniel; Chopra, Sunil; Tsai, Chih-Yang) Minimum cost capacity installation for multicommodity network flows. (English summary) *Math. Programming* **81** (1998), *no.* 2, *Ser. B*, 177–199. (Summary) **99c:90044** 90B10 (90C35)

Gunn, Roger N. (*with* Chappell, Michael J.) A procedure for generating locally identifiable reparameterisations of unidentifiable non-linear systems by the similarity transformation approach. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 21–41. (Alexander M. Kovalev) **99f:93035** 93B30 (34H05)

Gunopulos, Dimitris (*with* Mannila, Heikki; Saluja, Sanjeev) Discovering all most specific sentences by randomized algorithms (extended abstract). (English summary) *Database theory—ICDT '97 (Delphi)*, 215–229, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68T05)

Gunston, Tor (*with* Doering, Luisa Rodrigues; Vasconcelos, Wolmer V.) Cohomological degrees and Hilbert functions of graded modules. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 493–504. (Claudia Polini) **99h:13019** 13D40 (13H10)

Günther, Bernd (*with* Mdzinarishvili, L.) Continuous Alexander-Spanier cohomology classifies principal bundles with abelian structure group. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 120–127 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 55N05 (55R15, 55U10)

Günther, Frank C. (*with* Liu, Wing Kam) Implementation of boundary conditions for meshless methods. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 205–230. (Summary) **99f:76102** 76M25

Günther, Marco (*with* Le Tallec, Patrick; Perlat, J. P.; Struckmeier, Jens) Numerical modeling of gas flows in the transition between rarefied and continuum regimes. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 222–241, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76115** 76M25 (76P05)

Günther, Matthias (*with* Beyer, Klaus) On the Cauchy problem for a capillary drop. I. Irrotational motion. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1149–1183. (Renuka Ravindran) **99i:35180** 35R35 (35Q35, 76D45)

Günther, Michael Simulating digital circuits numerically—a charge-oriented ROW approach. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 203–212. (Summary) **99c:94068** 94C05 (34A09, 65L05)

Günther, Paul (*with* Prüfer, Friedbert) Mean value operators, differential operators and D'Atri spaces. (English summary) *Ann. Global Anal. Geom.* **17** (1999), *no.* 2, 113–127. (Jürgen Berndt) **99k:53092** 53C25

Günther, Roland (*with* Arnold, Matthias) Adaptive parameter estimation in self-exciting threshold autoregressive models. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 921–936. (Summary) **99h:62110** 62M10

Günther, U. (*with* Zhuk, A. I.) Multidimensional perfect-fluid cosmology with stable compactified internal dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 2025–2035. (Summary) **99c:83077** 83E15 (83F05)

Günther, Ulrich Data compression and serial communication with generalized T-codes. (English summary) *J.UCS* **2** (1996), *no.* 11, 769–795 (*electronic*). (Summary) **99e:94025** 94A45 (94A29)

Gunzburger, Max D. Sensitivities in computational methods for optimal flow control. *Computational methods for optimal design and control (Arlington, VA, 1997)*, 197–236, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Marko A. Rojas-Medar) **99h:76065** 76M20 (49K20, 49Q12, 76D05, 93C20)

— (*with* Fursikov, Andrei V.; Hou, LiSheng) Optimal Dirichlet control and inhomogeneous boundary value problems for the unsteady Navier-Stokes equations. (English summary) *Control and partial differential equations (Marseille-Luminy, 1997)*, 97–116 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Ruxandra Stavre) **99k:49013** 49J20 (35Q30, 49K20, 76D05)

— (*with* Cao, Yanzhao; Turner, James C., Jr.) On exact controllability and convergence of optimal controls to exact controls of parabolic equations. (English summary) *Optimal control (Gainesville, FL, 1997)*, 67–83, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sergei A. Ivanov) **99e:93006** 93B05 (35K10, 49J20, 93C20)

— (*with* Hou, LiSheng; Svobodny, Thomas P.) Optimal control problems for a class of nonlinear equations with an application to control of fluids. *Optimal control of viscous flow*, 43–62, *SIAM, Philadelphia, PA*, 1998. (Qin Xu) **99f:49008** 49J20 (35Q35, 49J27, 76D05)

— (*with* Hou, LiSheng; Manservisi, S.; Yan, Yin) Computations of optimal controls for incompressible flows. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 181–191. (Summary) **99m:49047** 49M25 (65M06, 76D99, 76M99)

— (*with* Fursikov, Andrei V.; Hou, LiSheng) Boundary value problems and optimal boundary control for the Navier-Stokes system: the two-dimensional case. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 852–894 (*electronic*). (Sergey V. Nikitin) **99c:76030** 76D05 (35Q30, 49J20)

— (*with* Kim, Hongchul) Existence of an optimal solution of a shape control problem for the stationary Navier-Stokes equations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 895–909 (*electronic*). (Qin Xu) **99d:49011** 49J20 (35Q30, 49Q10, 76D05)

— (*with* Bochev, Pavel B.) Finite element methods of least-squares type. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 789–837 (*electronic*). (N. Gass) **99k:65104** 65N30 (76M10)

— (*with* Lee, Hyung-Chun) Analysis and approximation of optimal control problems for first-order elliptic systems in three dimensions. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 49–70. (Bing-Yu Zhang) **99k:49054** 49K20 (35J45, 49M25, 65N30)

— (*with* Du, Qiang; Lee, Hyesuk Kwon) Analysis and computation of a mean-field model for superconductivity. (English summary) *Numer. Math.* **81** (1999), *no.* 4, 539–560. (Jacob Rubinstein) **99m:82047** 82D55 (65N30)

— (*with* Deang, Jennifer M.) Issues related to least-squares finite element methods for the Stokes equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 878–906 (*electronic*). (Summary) **99e:65152** 65N30 (76D05, 76M10)

— *see also* **Flow control and optimization, 99k:76005**

Günzel, H. On the universal partition theorem for 4-polytopes. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 521–551. (Margaret M. Bayer) **99b:52019** 52B05 (14P10, 52B55)

Gunzig, Edgard (*with* Castagnino, Mario A.) A landscape of time asymmetry. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2545–2581. (Markku Lehto) **99a:83072** 83F05 (81P99)

— (*with* Maartens, Roy; Nesteruk, A. V.) Inflationary cosmology and thermodynamics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 923–932. (Summary) **99a:83073** 83F05

— (*with* Faraoni, Valerio) Cosmic entropy from the bosonic string? (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 199–203. (*see* **99k:00032**) 83F05 (83E15, 83E30)

— (*with* Gangui, Alejandro; Peter, Patrick) Fermionic currents in cosmic strings. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 205–216. (*see* **99k:00032**) 83F05 (83E30)

— (*with* Faraoni, Valerio) Einstein frame or Jordan frame? (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 217–225. (*see* **99k:00032**) 83D05

Günzler, Hans (*with* Díaz Carrillo, M.) Daniell-Loomis integrals. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1075–1087. (Brian Jefferies) **99g:28026** 28C05 (26A39)

— (*with* Basit, Bolis) Asymptotic behavior of solutions of systems of neutral and convolution equations. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 115–142. (George Seifert) **99f:34117** 34K40 (34C27, 34K15, 34K25, 34K30, 45E10, 47B39, 47N20)

— (*with* Basit, Bolis) Generalized Esclangon-Landau conditions for differential-difference equations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 595–624. (F. Vogl) **99c:34155** 34K15 (34K30)

Guo, Aike (*with* Sun, Haijian; Liu, Lin[1]) Iteration logistic map dynamics in the polar coordinates. (English summary) *Fractals* **6** (1998), *no.* 1, 11–22. (Frederick R. Marotto) **99d:58125** 58F13 (00A69, 28A80)

Guo, Baining (*with* Menon, Jai) Free-form modeling in bilateral Brep and CSG representation schemes. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 537–575. (Luiz Henrique de Figueiredo) **99j:68147** 68U07

Guo, Bao-Lin (*with* Yamamoto, Yoshitsugu) A note on a theorem of continuum of zero points. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 398–403. (Summary) **99i:90063** 90C08 (54H25, 90A14, 90D05)

Guo, Ben Yu (*with* Hou, Jing-yu) Chebyshev pseudospectral-hybrid finite element method for three-dimensional vorticity equation. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 2, 161–196. (D. M. Sloan) **99c:76066** 76M10 (65M60, 76C05, 76M25)

— (*with* Ma, Heping; He, Song Nian) Chebyshev spectral-finite element method for three-dimensional vorticity equation. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 140–151. (Gert Lube) **99h:65174** 65M70 (65M60, 76C99, 76M10)

— (*with* Wang, Yuan Ming[2]) An almost monotone approximation for a nonlinear two-point boundary value problem. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 65–96. (T. Feagin) **99b:65089** 65L10 (65L60)

— (*with* Wang, Yuan Ming[2]) Almost monotone approximation to a nonlinear system. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 2, 227–247. (Siegfried Carl) **99b:34027** 34A45 (34B15, 65L10, 65L60)

— (*with* Wang, Yuan Ming[2]) On Numerov scheme for nonlinear two-points boundary value problem. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 345–356. (K. N. Murty) **99j:65129** 65L10 (34B15)

— (*with* Li, Jian[3]; Cao, Wei-ming) Fourier-Chebyshev pseudospectral method for three-dimensional vorticity equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 417–436. (Timothy Nigel Phillips) **99j:76093** 76M25 (65N35, 76D05)

— Gegenbauer approximation and its applications to differential equations on the whole line. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 180–206. (Adam Marlewski) **99h:65175** 65M70 (33C45, 35Q53, 41A30)

— (*with* He, Li-Ping) The fully discrete Legendre spectral approximation of two-dimensional unsteady incompressible fluid flow in stream function form. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 146–176 (*electronic*). (Anthony Randriamampianina) **99f:76103** 76M25 (65M99, 76D05)

— (*with* Wang, Yuan Ming[2]) A new monotone approximation for nonlinear systems. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 155–171, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Seppo Heikkilä) **99j:34023** 34B15 (34A45)

— (*with* Yang, Zhong Hua[1]; Wu, Yu Jiang) Computation of nonlinear Galerkin methods with variable modes for 2-D K-S equations. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 545–563, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65178** 65M99
— (*with* Cho, Chung-Ki; Kwon, Yong Hoon) A new approach for numerical identification of conductivity. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 265–283. (Summary) **99k:34025** 34A55 (34B05, 65L99, 76M25, 76S05)
— (*with* Hou, Jing-yu) Chebyshev pseudospectral-finite element method for the three-dimensional unsteady Navier-Stokes equation. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 209–244. (Markku Lindroos) **99m:65187** 65M60 (76D05, 76M10)
— Error estimation of Hermite spectral method for nonlinear partial differential equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1067–1078. (Summary) **99i:65111** 65M70 (76M25)
Guo, Benqi (*with* Cao, Wei-ming) Inexact solvers on element interfaces for the p and h-p finite element method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 173–189. (Mark Ainsworth) **99a:73122** 73V05 (65N30)
— (*with* Cao, Wei-ming) Domain decomposition method for the h-p version finite element method. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 425–440. (Summary) **99e:65171** 65N55
— (*with* Stephan, Ernst P.) The h-p version of the coupling of finite element and boundary element methods for transmission problems in polyhedral domains. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 87–107. (Rolf Rannacher) **99g:65113** 65N30 (35J99, 45B05, 45L05, 65N38)
— (*with* Cao, Wei-ming) An additive Schwarz method for the h-p version of the finite element method in three dimensions. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 632–654 (*electronic*). (Zheng Hui Xie) **99f:65166** 65N30 (65F10, 65N55)
Guo, Bo Ling (*with* Zhou, Yu Lin[1]) The large time behavior of Cauchy problems for a dissipative Benjamin-Ono type equation. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 91–105, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel B. Dix) **99b:35189** 35Q53 (35B40, 58F39, 76D99, 76F99)
— (*with* Hong, Min-Chun; Su, Fengqiu) The global attractors for the Landau-Lifshitz equation of the ferromagnetic spin chain on compact manifolds. *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 213–227, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Ševčovič) **99b:58217** 58F39 (35B40, 35Q60, 58F12, 82D40)
— (*with* Han, Yongqian) Cauchy problem of nonlinear Schrödinger-Boussinesq equation in L^2 and H^1. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 66–72, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q55
— (*with* Cao, Zhen Chao; Wang, Bi Xiang) Existence of global solutions to the two-dimensional Ginzburg-Landau equation with derivative terms. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1809–1812. 35K55 (35Q35, 76E30)
— (*with* Yuan, Guangwei) Cauchy problem for the Ginzburg-Landau equation for the superconductivity model. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1181–1192. (Peter L. Christiansen) **99a:35237** 35Q55 (35Q99)
— Long time behavior for the generalized Ginzburg-Landau equations. *Recent advances in differential equations (Kunming, 1997)*, 65–86, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Peter E. Kloeden) **99f:35187** 35Q55 (34G20, 35B40, 76E30)
— (*with* Wu, Yong-Hui) Global attractor and its dimension estimates for the generalized dissipative KdV equation on $\mathbf{R}$. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 252–259. (Piotr Biler) **99h:35186** 35Q53 (35B40, 58F39)
— (*with* Gao, Hong Jun) Global dynamics and control of a nonlinear body equation with strong structural damping. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 673–678. (Summary) **99k:73061** 73D35 (35Q72, 73K12, 73K50, 93C85)
— (*with* Chen, Yun Mei; Ding, Shi Jin) Partial regularity for two-dimensional Landau-Lifshitz equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1043–1046. 35Q55 (35D10)
— (*with* Dai, Zheng De; Lin, Guo Guang) The fractal structure of attractor for the generalized Kuramoto-Sivashinsky equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 3, 263–277; *translated from Appl. Math. Mech.* **19** (1998), *no.* 3, 243–256 (*Chinese. English and Chinese summaries*). (Ming Mei) **99e:35195** 35Q53 (34G20, 35B40, 47H20, 58F39)
— (*with* Wang, Bi Xiang) Gevrey class regularity and approximate inertial manifolds for the Newton-Boussinesq equations. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 179–188. (Summary) **99i:35131** 35Q35 (34G20, 35K55, 47H20, 58F39, 76D99)
— (*with* Cao, Zhen Chao; Wang, Bi Xiang) Global existence theory for the two-dimensional derivative Ginzburg-Landau equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 393–395. (Yisong Yang) **99b:35191** 35Q55 (76E30)
— (*with* Jiang, Murong) Attractors for the Ginzburg-Landau-BBM equations in an unbounded domain. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 78–82. 35Q55 (34G20, 35B40, 47H20, 58F39)
— (*with* Xu, Pengcheng; Chang, Qian-Shun) The homoclinic orbits in nonlinear Schrödinger equation. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 129–134. 35Q55 (34C37, 58F39)
— (*with* Dai, Zheng De) Attractor for the dissipative Hamiltonian amplitude equation governing modulated wave instabilities. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 783–793. (Wen Xiu Ma) **99m:35225** 35Q55 (35B40, 58F39)
— (*with* Lu, Bai-nian; Wan, Guo-hua) The global Dufort-Frankel difference approximation for nonlinear reaction-diffusion equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 275–288. (Gert Lube) **99g:65095** 65M12
— (*with* Miao, Changxing) Well-posedness of Cauchy problem for coupled system of long-short wave equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 83–96. (Tohru Ozawa) **99c:35221** 35Q55 (35L05)
— (*with* Su, Fengqiu) The global smooth solution for Landau-Lifshitz-Maxwell equation without dissipation. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 193–208. (Yan Guo) **99j:35212** 35Q55
— (*with* Li, Yongsheng) Attractor for the dissipative generalized Klein-Gordon-Schrödinger equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 260–272. (Wen Xiu Ma) **99m:35226** 35Q55 (35B40, 58F39)
— (*with* Wang, Bi Xiang) Attractors for the long-short wave equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 4, 361–383. (Marcel Oliver) **99m:35227** 35Q55 (35B40, 47H20)
— (*with* Ding, Shi Jin) Initial-boundary value problem for the Landau-Lifshitz system. II. Uniqueness. (English summary) *Progr. Natur. Sci. (English Ed.)* **8** (1998), *no.* 2, 147–151. (Introduction) **99j:82056** 82C20 (35Q55)
— (*with* Miao, Changxing; Huang, Haiyang) Global flow generated by coupled system of Schrödinger-BBM equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 131–138. (Nakao Hayashi) **99a:35209** 35Q35 (47H20, 76X05)
— (*with* Miao, Changxing) Space-time means and solutions to a class of nonlinear parabolic equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 682–693. (R. Guenther) **99i:35075** 35K60
— (*with* Gao, Hong Jun) Regularity for the solutions of a one-dimensional generalized Ginzburg-Landau equation and convergence of linear and nonlinear Galerkin approximations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 236–239. 35Q55 (65M12)
Guo, Cai Mei (*with* Zhang, De Li; Wu, Cong Xin) Fuzzy-valued fuzzy measures and generalized fuzzy integrals. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 255–260. (Beloslav Riečan) **99h:28041** 28E10
— (*with* Wu, Cong Xin; Zhang, De Li; Wu, Cong) Fuzzy number fuzzy measures and fuzzy integrals. I. Fuzzy integrals of functions with respect to fuzzy number fuzzy measures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 355–360. 28E10
— (*with* Zhang, De Li) Fuzzy-number fuzzy measures and fuzzy integrals. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 17–24. 28E10
— (*with* Wu, Cong Xin; Zhang, De Li; Zhang, Bokan) Fuzzy number fuzzy measures and fuzzy integrals. II. Fuzzy integrals of fuzzy-valued functions with respect to fuzzy number fuzzy measures on fuzzy sets. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 137–141. 28E10
— (*with* Wu, Cong Xin; Zhang, De Li) Representations of generalized fuzzy integrals. I. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 31–35. 26E50
Guo, Chun-Hua (*with* Lancaster, Peter) Iterative solution of two matrix equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1589–1603. (Jin Xi Zhao) **99m:65061** 65F10
— Newton's method for discrete algebraic Riccati equations when the closed-loop matrix has eigenvalues on the unit circle. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 279–294 (*electronic*). (K. N. Murty) **99j:65086** 65H05 (15A24, 93B40)
Guo, Cui Hua (*with* Quan, Shuo) Limit cycles of a class of higher-degree polynomial systems and their application. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 3, 9–13. (Xiang Sheng Xie) **99a:34079** 34C05
Guo, Dajun Initial value problems for second order impulsive integro-differential equations in Banach spaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **18** (1997), no. 5, 665. *Chinese Ann. Math. Ser. B* **18** (1997), *no.* 4, 439–448. (Juan J. Nieto) **99e:45008** 45J05 (34A37, 34K30)
— (*with* Liu, Xinzhi) Periodic boundary value problems for impulsive integro-differential equations of mixed type in Banach spaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 658. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 517–528. (Eduardo Liz) **99k:45022** 45J05 (34A37, 34K30)
— Boundary value problems for impulsive integro-differential equations on unbounded domains in a Banach space. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 1, 1–15. (Juan J. Nieto) **99k:34018** 34A37 (34K10, 34K30, 45J05)
— Second order impulsive integro-differential equations on unbounded domains in Banach spaces. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 413–423. (Juan J. Nieto) **99m:45012** 45J05 (34A37, 34K30)
Guo, Dan (*with* Chen, Shao Ting) The alter-Poincaré-cell-mapping method for global analysis of nonlinear dynamical systems and the stability of a rotor-bearing system. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 4, 8–15, *I.* 70K99
Guo, Fei (*with* Wang, Qi; Wang, Qi Yi) Directed geometry and circular arc spline approximation for fitting plane parametric curves. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 41–48. 65D17 (65D07)
Guo, Fu Kui An NLS-MKdV hierarchy of equations that are integrable and in the Hamiltonian forms. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 801–804. (Yun Bo Zeng) **99c:58069** 58F07 (35Q53, 35Q55)
— A family of integrable Hamiltonian equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 2, 210–216. (Wen Xiu Ma) **99m:58109** 58F07 (35Q58)
Guo, Guang Can (*with* Song, Ke Hui) Preparation of two-mode Schrödinger-cat states via atomic nonresonant interaction with a two-mode field. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 9, 1477–1480. 81V80
— (*with* Duan, Lu-Ming) A probabilistic cloning machine for replicating two non-orthogonal states. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 261–264. (Summary) **99a:81007** 81P05
— (*with* Duan, Lu-Ming) Scheme for reducing collective decoherence in quantum memory. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 265–269. (Summary) **99a:81008** 81P05
Guo, Guanghui (*with* Wu, Jie[5]) Fault tolerance measures for m-ary n-dimensional hypercubes based on forbidden faulty sets. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 888–893. (Summary) **99d:68030** 68M15 (68M10)
Guo, Guoxiao (*with* Lim, Kia Yong; Wang, You Yi[2]; Zhou, Rujing) A new decentralized robust controller design for multi-area load-frequency control via incomplete state feedback. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 345–361. 93B51 (93A14)
Guo, Haitao (*with* Sitton, Gary A.; Burrus, Charles S.) The quick Fourier transform: an FFT based on symmetries. (English summary) *IEEE Trans. Signal Process.* **46** (1998),

no. 2, 335–341. (Summary) **99i:65151** 65T20 (94A12)

Guo, Han-Ying (*with* Ju, Guo-Xing; Cai, Jin-fang; Wu, Ke[1]; Wang, Shi-kun) Super-Yangian $Y(\mathrm{gl}(1|1))$ and its oscillator realization. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6155–6161. (Mariano A. del Olmo) **99a:81074** 81R50 (17B37)

— (*with* Chang, Zhe; Wu, Ke[1]) The quantum Ashkin-Teller model with quantum group symmetry. (English summary) *J. Phys. A* **31** (1998), *no.* 27, *L*495–*L*499. (Summary) **99c:82024** 82B23 (81R50)

Guo, Hao Zhi (*with* He, Yu Xin; Liang, Li Ping) The numerical values of the terms of the Batrachion sequence. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 357–362. (Run Sheng Yang) **99i:28015** 28A80

Guo, Hong[2] (*with* Zhang, Jie Fang) Noether's theorem and its inverse theorem for nonholonomic nonconservative systems in phase space. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 2, 116–120, *X*. 70F25 (70H33)

Guo, Hua Guang A commutativity condition for semiprime rings. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 29–31. 16U80

Guo, Hui (*with* Fang, Ming Liang) On meromorphic functions sharing two values. (English summary) *Analysis* **17** (1997), *no.* 4, 355–366. (Anand Prakash Singh) **99b:30039** 30D35

— Geodesic uniqueness problem in infinite-dimensional Teichmüller spaces. *Chinese Sci. Bull.* **42** (1997), *no.* 15, 1256–1261. (È. Yakubov) **99g:30056** 30F60

Guo, Jianhong (*with* Zhong, Zai-Zhe) Double soliton solutions of Belinsky-Zakharov equation related to the self-dual $\mathrm{SU}(N)$ gauge fields. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 1987–1999. (Woodford W. Zachary) **99j:81198** 81U40 (81T13)

Guo, Jiin-Huarng Developing a weighted sum statistic of z-transformation correlation coefficients with a blocking variable. (English summary) *Biom. J.* **40** (1998), *no.* 7, 791–800. 62H20

— (*with* Billard, Lynne) Some inference results for causal autoregressive processes on a plane. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 681–691. (Summary) **99k:62162** 62M10

Guo, Jin Yun (*with* Peng, Liangang) Universal PBW-basis of Hall-Ringel algebras and Hall polynomials. *J. Algebra* **198** (1997), *no.* 2, 339–351. (Sverre O. Smalø) **99b:16033** 16P10 (16G60, 16P40)

— (*with* Martínez-Villa, Roberto; Takane, Martha) Koszul generalized Auslander regular algebras. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 263–283, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (G. Krause) **99k:16092** 16W50 (16E70, 16G70, 16P90)

— The Hall and composition algebras of a cyclic quiver. *Comm. Algebra* **26** (1998), *no.* 9, 2745–2766. (Lian Gang Peng) **99e:16020** 16G20

Guo, Jinji (*with* Liu, Guo Qing) An adaptive Kalman filtering algorithm. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 337–345. 93E11 (93B40)

Guo, Jinli (*with* Shi, Dinghua) The point process of state transitions in a regular Markov chain. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 374–380. (M. Iosifescu) **99k:60126** 60G55 (60J27, 60K25)

Guo, Jong-Shenq (*with* Hu, Bei) Quenching problem for a singular semilinear heat equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 905–910. (Xiao Qiang Zhao) **99a:35118** 35K55 (35B05, 35K05)

— (*with* Chen, Go-Jien) Critical length for a quenching problem with nonlocal singularity. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 185–194. (Georgy A. Sviridyuk) **99i:35073** 35K60 (34B15)

Guo, Jun Yi (*with* Wu, Rong[1]) Super Brownian motion on the Sierpinski gasket with point catalytic medium. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 159–166, *World Sci. Publishing, River Edge, NJ*, 1997. (Ben Hambly) **99c:60188** 60J80 (60G57, 60J65)

— (*with* Wu, Rong[1]) The behavior of super-Brownian motion near extinction. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 467–470. (Summary) **99e:60190** 60J80 (60G17, 60J65)

— (*with* Yang, Xiang Qun) The problem of changing to honesty for a stopped generalized family of standard tripoint transition functions. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 2, 1–4. (Summary) **99j:60104** 60J10

— Local extinction of super-Brownian motion on Sierpinski gasket. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 260–266. (Summary) **99b:60139** 60J65 (60J25)

Guo, Kanghui A uniform L^∞ estimate of the smoothing operators related to plane curves. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 433–442. (G. I. Gaudry) **99h:43011** 43A45 (42B20)

— (*with* Pan, Yi Biao) L^p properties of the solutions of differential equations with constant coefficients. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 559–565. (Michael Langenbruch) **99j:35017** 35E20 (35B05)

— (*with* Fan, Da Shan; Pan, Yi Biao) Singular integrals along submanifolds of finite type. *Michigan Math. J.* **45** (1998), *no.* 1, 135–142. (Javier Duoandikoetxea) **99g:42016** 42B20

— (*with* Fan, Da Shan; Pan, Yi Biao) Singular integrals with rough kernels along real-analytic submanifolds in $\mathbf{R}^n$. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 1, 8–19. (Gerald B. Folland) **99k:42031** 42B20 (42B15, 42B25)

— (*with* Fan, Da Shan; Pan, Yi Biao) A note of a rough singular integral operator. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 73–81. (Marta Urciuolo) **99k:42032** 42B20 (42B25)

Guo, Kun Yu (*with* Jiang, Chun Lan) The strong irreducibility of hyponormal operators and Berezin perturbation. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 231–248. (Miroslav Engliš) **99f:47029** 47B20 (47A55, 47B35)

— (*with* Yan, Shaozong; Chen, Xiao Man) Hankel operators and Hankel algebras. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 65–76. (Vladimir M. Deundyak) **99c:47028** 47B35 (45E10, 46L05, 47D25)

— (*with* Liu, Jin Shan; Zhang, Yun Xin) A new C^*-algebra and its essential commutators. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 5, 474–479. 47B35 (46L05)

Guo, L. *see* **Guo, Limin**

Guo, Lei[1] (*with* Xin, Xin; Feng, Chun Bo) An LMI-based unified approach to reduced-order controller design. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 612–622. (Peng Shi) **99b:93028** 93B51 (93B11)

— (*with* Xin, Xin; Feng, Chun Bo) LMI-based reduced-order controllers for mixed H^2/H^∞ control problems: the continuous-time case. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 294–300. 93B36

— (*with* Xin, Xin; Feng, Chun Bo) LMI-based reduced-order controllers for mixed H^2/H^∞ control problems: the discrete-time case. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 355–358. 93B36

— (*with* Xin, Xin; Feng, Chun Bo) A matrix inequality approach to stabilization and L_2-gain control problems for multiple nonlinear Lur'e systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 630–635. 93D21

— (*with* Xie, Liang Liang) Stability of adaptive control of a class of affine nonlinear systems. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 9, 925–929. 93D10 (93C10)

— (*with* Feng, Chun Bo) Robust H^∞ controller design for a class of uncertain systems. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 2, 208–214. (Andrzej Świerniak) **99j:93092** 93D21 (93B36, 93B51)

Guo, Limin (*with* Ding, Xianchun; Jeinsch, T.) A characterization of parity space and its application to robust fault detection. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 337–343. 93E12 (93D09)

Guo, Lingzhong (*with* Fan, Fusheng) Group graded Gamma rings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 177–186. (Andrew Borisovich Verëvkin) **99g:16061** 16Y99

Guo, Mao Zheng (*with* Wang, Xiao Ping[1]) Transport equations for a general class of evolution equations. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 189–197, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99f:35113** 35K99 (35Q99, 45K05, 85A25)

Guo, Mao Zu (*with* Hong, Jia Rong) The extension graph approach to learning from examples. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 65–67, 72. 68T05

Guo, Mube (*with* Sun, Fuchun; Sun, Zeng Qi; Zhang, Rongjun) A stable neural network-based adaptive controller for robot manipulators. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 413–432. 93C85 (93C40)

Guo, Peijun (*with* Tanaka, Hideo) Possibility analysis and its applications. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 10–18. (*see* **99h:90006**) 90A05

Guo, Peng Jiang (*with* Xu, Da Chuan) Global convergence of the preconvex part of Broyden's family. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 57–60. 90C30 (65K05)

Guo, Qi[2] (*with* Wen, Shuangchun; Xu, Wencheng; Liu, Songhao) Evolution of solitons of nonlinear Schrödinger equation with variable parameters. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1300–1304. (Nakao Hayashi) **99a:35244** 35Q55 (35Q60, 78A60)

Guo, Qing (*with* Narendran, Paliath; Shukla, Sandeep K.) Unification and matching in process algebras. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 91–105, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68075** 68Q10 (68Q40, 68T15)

Guo, Qing Ting (*with* Zhao, Jie[2]) Eigenstates of the third power of the q-deformed boson annihilation operator and their properties. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **10** (1997), *no.* 4, 10–17. (Jiu Qing Liang) **99b:81092** 81R30 (81R50)

Guo, Qing Yi (*with* Li, Huan Yin) Stability of a class of neutral linear control systems. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 42–46. (Summary) **99b:34130** 34K35 (34K20, 93D20)

— Stability of a neutral feedback system with multiple time delays. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 10–14. (Daoyi Xu) **99d:93055** 93D15 (34K20, 34K35)

Guo, Quanlin (*with* Chu, Moody T.) On the least squares approximation of symmetric-definite pencils subject to generalized spectral constraints. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 1–20 (*electronic*). (Alan L. Andrew) **99d:65116** 65F15 (15A04, 15A22, 65F30)

— (*with* Chu, Moody T.) A numerical method for the inverse stochastic spectrum problem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1027–1039 (*electronic*). (Summary) **99d:65126** 65F30 (65H99)

Guo, Rui Zhi The Riemannian structure on complex projective space and its volume element. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 4, 6–9. (Yi Bing Shen) **99e:53101** 53C55 (53C40)

Guo, S. *see* **Guo, Shun Sheng**

Guo, San Gang (*with* Ma, Zhi En) Persistence and extinction of species in a polluted chemostat. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 2, 176–186. (Summary) **99j:92018** 92D25

— (*with* Ma, Zhi En; Fergola, P.; Tenneriello, C.) The threshold of population survival in a polluted chemostat model. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 117–127. (Summary) **99h:92026** 92D25

— (*with* Ma, Zhi En; Fergola, P.; Tenneriello, C.) Effects of toxicants on chemostat model with time variable nutrient input and washout. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 342–350. (Summary) **99j:92019** 92D25 (34C99)

Guo, Sen-Lin (*with* Qi, Feng) Inequalities for the incomplete gamma and related functions. (English summary) *Math. Inequal. Appl.* **2** (1999), *no.* 1, 47–53. (Summary) **99j:33003** 33B15 (26D07)

Guo, Shu Guang A theorem on the construction of an internal simplex of a hypersphere in a hyperbolic space. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **13** (1996), *no.* 5, 16–19. 51M10

— Some properties of middle sections of a simplex and their applications. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 413–416. 51K05

— A necessary and sufficient condition for embeddability in $\mathbf{R}^d$ of a convex polytope with m faces and prescribed dihedral angles. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 235–238. 51K05 (52B11)

— A generalization of Bartoš's volume formulas for high-dimensional simplexes. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 597–600.

52A38

— Two geometric inequalities for the polar set of a simplex and their applications. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 355–360. 51M16

Guo, Shu Li (*with* Si, Li Geng) Generalizations of a class of integral inequalities. (Chinese. English and Chinese summaries) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 2, 95–98. 26D10 (34A40)

Guo, Shu Yan (*with* Huang, Quan Sheng; Han, Zeng Jin) Adaptive flow control of a manufacturing system with one machine producing many part types. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 25–29. 90B30 (90C90)

Guo, Shun Sheng (*with* Yue, Shujie; Li, Cuixiang; Yang, Ge; Sun, Yiguo) A pointwise approximation theorem for linear combinations of Bernstein polynomials. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 397–406. (Z. Ditzian) **99a:41028** 41A35 (41A25)

— (*with* Li, Cuixiang) The L_p-saturation results weighted simultaneous approximation by the method of Bernstein-Durrmeyer operators. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 78–89. (Kirill A. Kopotun) **99k:41023** 41A28 (41A35)

— (*with* Li, Cuixiang; Sun, Yiguo; Yang, Ge; Yue, Shujie) Pointwise estimate for Szasz-type operators. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 160–171. (N. S. Kambo) **99f:41027** 41A35 (41A36)

— (*with* Qi, Qiu Lan) On the simultaneous approximation of functions and their derivatives by the gamma operators. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 4, 475–486. (Joseph M. Lambert) **99g:41025** 41A29 (41A25, 41A65)

Guo, Suo Gang Two families of Cartesian authentication codes constructed from pseudosymplectic geometries over finite fields. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 67–78. (Summary) **99c:94030** 94A60 (51E22)

Guo, Tiande (*with* Wu, Shi Quan[1]) An extension of predictor-corrector algorithm to a class of convex separable program. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 362–370. (Aurél Galántai) **99e:90067** 90C25

Guo, Tie-Xin (*with* You, Zhao Yong) A note on pointwise best approximation. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 344–347. (Summary) **99c:41055** 41A50

— (*with* Liu, Mingxue) Probabilistic quasi-metric family spaces. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 252–258. 54E70 (46S50)

— (*with* Liu, Mingxue) On the isometrical isomorphism of probabilistic quasi-metric family spaces. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 4, 381–387. 54E70

Guo, Tuo Ying p-semisimple BCI-algebras of n-type. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 241–245. (James G. Raftery) **99j:06011** 06F35

Guo, W. H. (*with* Hafez, M. M.) Some anomalies of numerical simulation of shock waves. I. Inviscid flows. (English summary) *Comput. & Fluids* **28** (1999), *no.* 4-5, 701–719. (Summary) **99m:76075** 76L05

Guo, Wei Juan (*with* Ying, Li Yi) A matrix algorithm for bivariate matrix-valued rational interpolants. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 3, 328–332. 65D15 (15A09, 41A05)

Guo, Wen Ge (*with* Chen, Ting[1]) Combined arbitration with incomplete information. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 56–63. 90D10 (90D15)

— (*with* Jin, Wu; Wang, Huan Chen) Incentive strategy in the Stackelberg game with multi-followers. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 3, 6–9. 90D06 (90A05)

Guo, Wen Ying (*with* Lai, Yan Lian; Zhu, Jian Qing) A superlinearly convergent algorithm for generalized gradient projection. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 55–63. (Summary) **99c:65115** 65K05

Guo, X.-Z. *see* **Guo, Xian Zhong**

Guo, Xi Juan (*with* Chang, Fu Qing; Gao, Yi Ming) Criteria for a matrix to be generalized diagonally dominant or an M-matrix. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 59–63. 65F35

Guo, Xian Ping (*with* Hou, Zhen Ting) Homogenization of nonhomogeneous Markov decision processes. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 432–438. (Summary) **99e:90110** 90C40

— (*with* Hou, Zhen Ting) The expected average criterion for nonstationary Markov decision processes. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 123–128. 90C40

Guo, Xian Zhong (*with* Katz, I. Norman) Performance enhancement of the multi-p preconditioner. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 1–8. (Summary) **99c:65054** 65F10 (65N22, 65N30)

— (*with* Hu, Ning[3]; Katz, I. Norman) Bounds for eigenvalues and condition numbers in the p-version of the finite element method. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1423–1450. (K. Najzar) **99a:65149** 65N30 (65F10, 65N22)

Guo, Xiao Jiang (*with* Xie, Xiang-Yun) C-left ideals in ordered semigroups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 861–866. (Summary) **99k:06010** 06F05 (20M99)

— (*with* Xie, Xiang-Yun) On Kehayopulu's problems. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **33** (1997), *no.* 4, 20–24. (Editors) **99g:06022** 06F05 (20M99)

— (*with* Xie, Xiang-Yun) A note on left type A semigroups. *Semigroup Forum* **58** (1999), *no.* 2, 313–316. (Alessandra Cherubini) **99m:20140** 20M10 (20M18, 20M30)

Guo, Xiaofeng (*with* Meng, Ji-Xiang) Cartesian product decomposition of circulant digraphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 33–36. (*see* **99i:05002**) 05C70

Guo, Xing Lin (*with* Sha, Desong; Gu, Yuan Xian) An implicit solution of bi-penalty approximation with orthogonality projection for the numerical simulation of Bingham fluid flow. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 8, 725–734; *translated from Appl. Math. Mech.* **19** (1998), *no.* 8, 679–688 (*Chinese. English and Chinese summaries*). (Summary) **99m:76084** 76M10 (65M60, 76A05)

Guo, Xing Ming Proximal subdifferentials of lower semicontinuous functions and generalized mean value theorems. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 324–329. (Zhen Yu Huang) **99m:49026** 49J52 (46N10)

— On solutions of a differential inclusion. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 1, 24–26. (Summary) **99c:34025** 34A60

Guo, Xiu E The relation between the coefficients and the radial growth of functions in the class $\mathrm{st}(\alpha)$. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 127–130. 30C45

Guo, Xiu Lan Blow-up for solutions of a nonlinear IMBq equation. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 13–16. 35L70 (35B05)

— (*with* Xing, Jia Sheng) Asymptotic behavior of time-dependent solutions to semiconductor equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 339–345. (G. Albinus) **99i:35170** 35Q99 (78A99, 82D99)

Guo, Xiuyun On Deskins's conjecture. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 167–171. (È. M. Pal'chik) **99b:20059b** 20F16 (20D99, 20E28)

— (*with* Zhang, Yueming; Ballester-Bolinches, A.) On the Deskins index complex of a maximal subgroup of a finite group. (English summary) *J. Pure Appl. Algebra* **136** (1999), *no.* 3, 211–216. (Alberto Delgado) **99m:20032** 20D10 (20E28)

Guo, Y. Q. *see* **Guo, Yu Qi**

Guo, Yao Huang (*with* Zhao, Dong Mei; Tao, Zhang Hua) A noninferior matrix method for solving multi-objective dynamic programming problems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 204–208. 90C29 (90C39)

— (*with* Xu, Fei[2]; Wang, Huan Chen) Optimality conditions for multiobjective nonsmooth hierarchical optimization problems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 1–7. 90C29 (90D65)

Guo, Yi (*with* Chen, Ben M.; Lin, Zongli) Non-iterative computation of infimum in discrete-time H_∞-optimization and solvability conditions for the discrete-time disturbance decoupling problem. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 433–454. 93B36 (93B40)

— (*with* Jiang, Zhong-Ping; Hill, David J.) Stabilization and tracking via output feedback for the nonlinear benchmark system. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 907–915. 93D15 (93C95)

Guo, Yong Xin (*with* Yang, Ming Yan; Mei, Feng Xiang) Diffusion motions and quantization of mechanical systems. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 2, 203–212. (Summary) **99e:81027** 81P20

Guo, Yu Qi The right dual of left C-rpp semigroups. *Chinese Sci. Bull.* **42** (1997), *no.* 19, 1599–1603. (Uno Kaljulaid) **99k:20121** 20M99

— (*with* Sen, Mridul Kanti; Yang, Haixuan) A note on $\mathscr{H}$ relation on an inverse semigroup. (English summary) *J. Pure Math.* **14** (1997), 1–3. 20M18

— (*with* Ren, Xueming; Shum, Kar Ping) Congruences on ideal nil-extension of completely regular semigroups. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 5, 379–381. (A. R. Rajan) **99b:20094** 20M17

Guo, Yuan Yu (*with* Hu, Tie Song; Shen, Pei Jun; Wan, Yi) A goal programming method for improving the generalization performance of feedforward neural networks. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 34–39. 90C08 (90B10)

— (*with* Cheng, Ji Lin; Jin, Zhaosen; Tao, Changsheng; Chen, Baohua) Optimal experimental methods of the large-scale mathematical programming and applications. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 465–470. 90C30 (90C06)

Guo, Yun (*with* Wang, Xian Tao) An inequality for symmetric matrices. (Chinese. Chinese summary) *Hunan Ann. Math.* **18** (1998), *no.* 2, 108–109. 15A45

Guo, Yuxia Positive solutions of nonlinear integro-differential equations with impulse in Banach space. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 38–42. (Eduardo Liz) **99m:45013** 45J05 (34A37, 45N05)

Guo, Zhao Hui (*with* Wu, Tie Jun) A frequency domain approach to nonlinear H_∞ control. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 333–340. 93B36 (93C80)

Guo, Zhao Li (*with* Shi, Bao Chang; Wang, Neng Chao) Evolutionary generation and fast algorithms for Haar-type transforms. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 1–6. 65T20

Guo, Zhen *see* **Guo, Zhen[2]**

Guo, Zhen[1] (*with* Ros, Antonio) An important vector field on a surface in 3-space and related results. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 645–650. (Yi Bing Shen) **99m:53103** 53C40

— (*with* Cabrerizo, J. L.; Fernández, L. M.; Fernández Andrés, Manuel) The structure of a class of K-contact manifolds. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 4, 331–340. (David Blair) **99m:53051** 53C15 (53C25)

Guo, Zhen[2] (*with* Liu, Qinghua; Fei, Zhengdong; Condon, Anne E.; Corn, Robert M.; Lagally, Max G.; Smith, Lloyd M.) A surface-based approach to DNA computation. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 123–132, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)

Guo, Zhi (*with* Xiang, Zheng Rong; Hu, Wei Li) Feedback linearization of discrete-time nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 746–749. 93B18 (93C55)

Guo, Zhong (*with* Wang, Xian Tao) Extremal quaternion matrices. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 6, 15–17. (Summary) **99f:15022** 15A33 (15A45)

Guo, Zi Jun (*with* Wu, Rang Quan) A nonexplosion condition for solutions of stochastic differential equations with respect to semimartingales. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 123–125. 60H10 (60G48)

Guo, Zong Ming (*with* Yang, Zuo Dong) Some uniqueness results for a class of quasilinear elliptic eigenvalue problems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 487–496. (Summary) **99e:35063** 35J65 (35B05)

— (*with* Yang, Zuo Dong) Boundary value problems for a class of quasilinear differential systems with singular nonlinearities. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 239. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 123–134. (Patricio L. Felmer) **99f:34026** 34B15 (34C25, 35J55)

— (*with* Yang, Zuo Dong) The structure of positive solutions to a class of quasilinear elliptic equations with a small parameter. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 385–392. (Juncheng Wei) **99j:35064** 35J65 (35B25)

— Infinitely many radially symmetric solutions to superlinear boundary value problems in annular domains. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998),

no. 2, 191–196. (Andrea Colesanti) **99f:35035** 35J25 (34B15, 35B05)

Gupalo, Yu. P. (*with* Bobkov, N. N.) Flow pattern in a fluid layer and the spectrum of a boundary value problem when surface tension depends nonlinearly on the temperature. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 1021–1028; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 999–1005. (Summary) **99b:76023** 76D05 (76D45, 76R10)

Gupta, A. *see* **Gupta, Arvind**

Gupta, A. K. *see* **Gupta, Arjun K.**

Gupta, A. S. Thermoconvective waves. (English summary) *Math. Student* **65** (1996), *no.* 1-4, 57–69. (Summary) **99b:76094** 76V05 (76E25, 76R10, 85A30)

— (*with* Misra, J. C.; Pal, Biswajit) Hydromagnetic flow of a second-grade fluid in a channel—some applications to physiological systems. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1323–1342. (Summary) **99h:76092** 76W05 (76Z05, 92C05, 92C30)

Gupta, Ajay (*with* de Doncker-Kapenga, Elise) Multivariate integration on hypercubic and mesh networks. (English summary) *Parallel Comput.* **24** (1998), *no.* 8, 1223–1244. (Summary) **99f:65034** 65D30

Gupta, Anshu (*with* Mishra, Amruta; Mishra, Hiranmaya; Prasanna, A. R.) Rotating compact objects with magnetic fields. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3131–3145. (Summary) **99g:83046** 83C55

— (*with* Mohanty, Subhendra; Samal, Manoj K.) Čerenkov radiation emitted by charged particles in a gravitational field. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 291–298. 83C30

Gupta, Arjun K. (*with* Nguyen, Truc T.; Zeng, Wei-Bin) Characterization of multivariate distributions through a functional equation of their characteristic functions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 187–201. (P. Laurie Davies) **99f:62070** 62H05 (60E10, 62E10)

— (*with* Kabe, D. G.) A note on the characteristic functions of spherical matrix distributions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 17–19. (Summary) **99c:62154** 62H10 (60E10)

— (*with* Székely, Gábor) On a paper of V. B. Nevzorov: "A characterization of exponential distributions by correlations between records" [Math. Methods Statist. **1** (1992), 49–54; MR 93m:62036]. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 122. (Summary) **99c:62032** 62E10

— Multivariate elliptically contoured and θ-generalized normal models. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 3, 281–290. (Tonghui T. Wang) **99m:62080** 62H10 (62J05)

— (*with* Kabe, D. G.) A note on a result for two SUR models. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 417–421. 62J05

— (*with* Nagar, Daya K.) Quadratic forms in disguised matrix T-variate. (English summary) *Statistics* **30** (1998), *no.* 4, 357–374. (Summary) **99k:62109** 62H10

— (*with* Rempała, Grzegorz) Weak limits of U-statistics of infinite order. (English summary) *Random Oper. Stochastic Equations* **7** (1999), *no.* 1, 39–52. (Miguel A. Arcones) **99k:60065** 60F05

Gupta, Arobinda (*with* Kortright, M. Eduardo; Borie, Richard B.) Fast parallel algorithms for the balanced decomposition of series-parallel graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 193–218. (Summary) **99k:68142** 68R10 (05C85)

Gupta, Arvind (*with* Nishimura, Naomi) Finding largest subtrees and smallest supertrees. (English summary) *Algorithmica* **21** (1998), *no.* 2, 183–210. (Summary) **99c:68193** 68R10 (05C05, 05C85)

Gupta, Ashish[1] (*with* Harinarayan, Venky) Optimization using tuple subsumption. (English summary) *Database theory—ICDT '95 (Prague)*, 338–352, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

Gupta, C. K. *see* **Gupta, Chander Kanta**

Gupta, Chaitan P. (*with* Trofimchuk, Sergei I.) Solvability of a multi-point boundary value problem and related a priori estimates. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 1, 45–60. (Johnny Henderson) **99f:34020** 34B10 (34B15)

— (*with* Trofimchuk, Sergei I.) Existence of a solution of a three-point boundary value problem and the spectral radius of a related linear operator. *Nonlinear Anal.* **34** (1998), *no.* 4, 489–507. (S. K. Ntouyas) **99d:34029** 34B10 (34B15, 47A99, 47N20)

— (*with* Trofimchuk, Sergei I.) A Wirtinger type inequality and a three point boundary value problem. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 127–132. (Summary) **99m:26025** 26D10

Gupta, Chander Kanta (*with* Noskov, G. A.) Splitting epimorphisms of free metabelian groups. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 697–711. (Martin Edjvet) **99d:20068** 20F99 (20E05, 57M40)

— (*with* Umirbaev, U. U.) Systems of linear equations over associative algebras and the occurrence problem for Lie algebras. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 411–427. (Vesselin Drensky) **99m:16039** 16R10 (16R40, 16S15, 17B30, 17B60)

Gupta, D. K. (*with* Kaul, C. N.) A modification of Krawczyk's algorithm. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 67–77. (Summary) **99c:65092** 65G10

Gupta, Dharma P. (*with* Masson, David R.) Contiguous relations, continued fractions and orthogonality. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 769–808. (Mayumi Ohmiya) **99c:33028** 33D45 (39A10, 40A15)

Gupta, Diwakar (*with* Duenyas, Izak; Olsen, Tava Lennon) Control of a single-server tandem queueing system with setups. (English summary) *Oper. Res.* **46** (1998), *no.* 2, 218–230. (Carl M. Harris) **99j:90033** 90B22 (60K30, 90C40)

Gupta, Gopal (*with* Ranjan, Desh; Pontelli, Enrico) Efficient algorithms for the temporal precedence problem. *Inform. Process. Lett.* **68** (1998), *no.* 2, 71–78. (From the text) **99j:68020** 68P05 (68N17)

Gupta, Himanshu Selection of views to materialize in a data warehouse. (English summary) *Database theory—ICDT '97 (Delphi)*, 98–112, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Gupta, Jatinder N. D. (*with* Ghosh, Jay B.) Batch scheduling to minimize maximum lateness. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 2, 77–80. (Jacek Błażewicz) **99d:90059** 90B35 (90C39)

Gupta, K. S. (*with* Balachandran, A. P.; Vaidya, Sachindeo; Bimonte, G.; Govindarajan, T. R.; John, Varghese) Current oscillations, interacting Hall discs and boundary CFTs. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1061–1085. (Summary) **99k:81276** 81T40 (81R10, 81V10)

das Gupta, Madhumita *see* **Das Gupta, Madhumita**

Gupta, Mahesh Kumar (*with* Garg, Mridula) Application of convolution for distribution of sum of two independent random variables. (English summary) *Gaṇita Sandesh* **11** (1997), *no.* 1, 37–44. 62E15

— (*with* Garg, Mridula) Fractional integral operator and statistical distribution. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 245–252. (Summary) **99d:33016** 33C60 (26A33)

Gupta, Manjul (*with* Kaushal, Kalika) o-similarity. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 45–52. (R. Cristescu) **99e:46005** 46A40

— (*with* Kaushal, Kalika) Order decompositions. *Functional analysis*, 193–202, *Narosa, New Delhi*, 1998. (Gerard Buskes) **99k:46010** 46A40

Gupta, Murli M. (*with* Altas, Irfan) Iterative methods for fixed point problems on high performance computing environment. (English summary) *Complex. Int.* **3** (1996), 9 *HTML documents (electronic)*. 65Y20 (65F30)

— (*with* Kouatchou, Jules) Symbolic derivation of finite difference approximations for the three-dimensional Poisson equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 593–606. (N. L. Vulchanov) **99h:65180** 65N06 (35–04, 68Q40)

Gupta, N. *see* **Gupta, Ram Naresh**

Gupta, Narain Lectures on dimension subgroups. Group rings and related topics (Portuguese) (São Paulo, 1995). *Resenhas* **2** (1996), *no.* 3, 263–273. (From the text) **99c:20004** 20C12

Gupta, Neelima (*with* Sen, Sandeep) Distribution-sensitive algorithms. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 335–346, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05 (68Q25)

Gupta, Neelmani (*with* Saxena, Ram Kishore) On the asymptotic expansion of generalized Stieltjes transform. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 51–56 (1996). (Summary) **99b:44008** 44A15

— (*with* Saxena, Ram Kishore) On distributional generalized H-transformation. (English summary) *Math. Student* **66** (1997), *no.* 1-4, 249–259. (Dmitriy Karp) **99k:33043** 33C60 (44A15, 46F12)

Gupta, Neeti (*with* Chaurasia, V. B. L.) Finite integrals associated with Fox's H-function, two general class of polynomials and the H-function of several complex variables. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 215–224. 33C60

— (*with* Chaurasia, V. B. L.) Some finite integrals involving a product of general polynomials, Fox's H-function with the multivariable H-function. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 173–178. 33C60

Gupta, Pankaj (*with* Kaul, R. N.; Bhatia, Davinder) Tolerance approach to sensitivity analysis in quadratic programming problems. (English summary) *Opsearch* **36** (1999), *no.* 1, 1–9. 90C20 (90C31)

Gupta, Piyush (*with* Borkar, Vivek S.) Learning decentralized goal-based vector quantization. (English summary) *Complex Systems* **11** (1997), *no.* 2, 73–106. (Summary) **99m:94023** 94A29 (68T05, 90A80, 94A34, 94A40)

Gupta, Prosenjit (*with* Janardan, Ravi; Smid, Michiel H. M.) Efficient algorithms for counting and reporting pairwise intersections between convex polygons. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 7–13. (Summary) **99i:68121** 68U05 (68P05)

Gupta, Purnima (*with* Acharya, Belmannu Devadas) A direct inductive proof of a conjecture due to E. Sampathkumar and L. Pushpa Latha on the weak domination number of a tree. (English summary) *Nat. Acad. Sci. Lett.* **21** (1998), *no.* 3-4, 84–90. 05C35

Gupta, Pushpa L. (*with* Gupta, Ramesh C.; Tripathi, Ram C.) On the monotonic properties of discrete failure rates. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 255–268. (A. M. Abouammoh) **99d:62010** 62E15 (60K10, 62N05)

— (*with* Gupta, Ramesh C.) A general approach of studying random environmental models. (English summary) *Quality improvement through statistical methods (Cochin, 1996)*, 351–362, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62N05

— (*with* Gupta, Ramesh C.; Gupta, Rameshwar D.) Modeling failure time data by Lehman alternatives. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 887–904. (B. R. Handa) **99c:62278** 62N05

— (*with* Gupta, Ramesh C.; L'vin, S. Ya.) Numerical methods for the maximum likelihood estimation of Weibull parameters. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 1–7. (Summary) **99k:62041** 62F10

Gupta, R. C. *see* **Gupta, Radha Charan**

Gupta, R. N. (*with* Freedman, Allen R.; Guralnick, Robert M.) Shirshov's theorem and representations of semigroups. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 159–176. (Jan Okniński) **99b:20098** 20M20 (16S36)

Gupta, Radha Charan False mathematical eponyms and other miscredits in mathematics. *Gaṇita-Bhāratī* **19** (1997), *no.* 1-4, 11–34. (Pietro Nastasi) **99b:01004** 01A05 (01A80, 01A99)

— Primitive area of quadrilateral and averaging. *Gaṇita-Bhāratī* **19** (1997), *no.* 1-4, 52–59. (A. I. Volodarskiĭ) **99c:01002** 01A05

— On Sungka approximation to pi. *Gaṇita-Bhāratī* **19** (1997), *no.* 1-4, 101–106. (Takao Hayashi) **99b:01005** 01A13

Gupta, Raj K. (*with* Johal, Ramandeep S.) Two parameter quantum deformation of $U(2) \supset U(1)$ dynamical symmetry and the vibrational spectra of diatomic molecules. (English summary) *Internat. J. Modern Phys. E* **7** (1998), *no.* 5, 553–557. (Summary) **99h:81233** 81V55 (81R50)

— (*with* Johal, Ramandeep S.; Sahai, Vivek) On the classical limit of the generalized q-deformed $SU_q(2)$ and $SU_q(1,1)$ algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 91–98. (Marcelo R. Ubriaco) **99g:81090** 81R50 (17B37)

— (*with* Sahai, Vivek; Johal, Ramandeep S.) Squeezed states and two-parameter quantum groups. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 887–891. (Summary) **99d:81056** 81R50 (81R30)

Gupta, Rajiv[1] *see* **Number theory, 99k:11005**

Gupta, Ram Naresh (*with* Bose, Subir Kumar) Exact solution of nonrelativistic Schrödinger equation for certain central physical potentials. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 3, 299–328. (Peter N. Zhevandrov) **99d:81030** 81Q05

Gupta, Ramesh C. (*with* Gupta, Pushpa L.; Tripathi, Ram C.) On the monotonic properties of discrete failure rates. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 255–268. (A. M. Abouammoh) **99d:62010** 62E15 (60K10, 62N05)

— (*with* Gupta, Pushpa L.) A general approach of studying random environmental models. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 351–362, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62N05

— (*with* Gupta, Pushpa L.; Gupta, Rameshwar D.) Modeling failure time data by Lehman alternatives. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 887–904. (B. R. Handa) **99c:62278** 62N05

— (*with* Gupta, Pushpa L.; L′vin, S. Ya.) Numerical methods for the maximum likelihood estimation of Weibull parameters. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 1–7. (Summary) **99k:62041** 62F10

— On particular solutions of linear difference equations with constant coefficients. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 680–684 (*electronic*). (Abdurrahman Karamancioglu) **99i:39007** 39A10

Gupta, Rameshwar D. (*with* Richards, Donald St. P.) Multivariate Liouville distributions. V. (English summary) *Advances in the theory and practice of statistics*, 377–396, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Summary) **99c:60022** 60E05 (43A05, 62E15, 62H05)

— (*with* Richards, Donald St. P.) Invariance properties of some classical tests for exponentiality. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 203–213. (D. N. Shanbhag) **99f:62023** 62E10 (62F03)

— (*with* Gupta, Ramesh C.; Gupta, Pushpa L.) Modeling failure time data by Lehman alternatives. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 4, 887–904. (B. R. Handa) **99c:62278** 62N05

Gupta, Renu (*with* Puri, M. C.) Bicriteria integer nonlinear fractional programming problem. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 1–16. 90C29 (90C10)

Gupta, Ritu (*with* Sen, Kanwar) Transient solution of $M^b/M/1$ system under threshold control policies. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 109–120. 60K25

— (*with* Sen, Kanwar) Time dependent analysis of T-policy $M/M/1$ queues—a new approach. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 4, 453–473. (K. M. Ramachandran) **99k:60235** 60K25 (90B22)

Gupta, S. *see* **Gupta, Sanjay**

Gupta, S. C. (*with* Agrawal, B. M.) Transformations of hypergeometric series. I. *J. Indian Acad. Math.* **18** (1996), *no.* 1, 13–23. (Dharma P. Gupta) **99c:33011** 33C20 (39A70)

Gupta, Sailesh Dash Hindu saṁkhya paddhati. *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 1–14. 01A32

Gupta, Sandipan (*with* Chakraborty, Monotosh) Stochastic fuzzy mathematical programming and decision. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 637–647. (Róbert Fullér) **99g:90160** 90C70 (90A05, 90C15)

— (*with* Chakraborty, Monotosh) Linear fractional programming problem: a fuzzy programming approach. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 873–880. 90C70 (90C34)

— (*with* Chakraborty, Monotosh) Fuzzy programming approach for a class of multiple objective linear fractional programming problem. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 29–34. 90C70 (90C08)

Gupta, Sanjay Isolating an odd number of elements and applications in complexity theory. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 27–39. (Mukkai S. Krishnamoorthy) **99a:68074** 68Q15 (68R05)

Gupta, Sanjeev (*with* Singh, R. Karan) Estimation of population mean using coefficient of variation and auxiliary information. (English summary) *Rebrape* **12** (1998), *no.* 1, 35–40. 62F10

Gupta, Shally (*with* Komal, B. S.; Raj, Kuldip) Isometric and Fredholm weighted substitution operators on the generalized spaces of entire functions. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 25–35. (Shamil Makhmutov) **99g:47067** 47B38 (30D20)

dutta Gupta, Shamita *see* **Dutta Gupta, Shamita**

Gupta, Shanti S. (*with* Panchapakesan, S.) Design of experiments with selection and ranking goals. *Design and analysis of experiments*, 555–585, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62F07

Gupta, Shyam Sunder Systematic computations of rare numbers. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 172–174. 11Y99

Gupta, Smita (*with* Chaudhari, N. S.) Study and implementation of a primal-dual infeasible-interior-point algorithm. (English summary) *Proc. Math. Soc.* **12** (1996), 41–46 (1997). (Summary) **99b:90077** 90C05

— (*with* Chaudhari, N. S.) A primal-dual formulation of general linear programming problem for Karmarkar's approach. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 2, 223–230. (Summary) **99a:90121** 90C05

Gupta, Sudhir (*with* Mukerjee, Rahul) Developments in incomplete block designs for parallel line bioassays. *Design and analysis of experiments*, 875–901, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10 (62P10)

— (*with* Choi, Kuey Chung) Optimal row-column designs for complete diallel crosses. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2827–2835. 62K05

— A class of multi-factor designs for test versus control comparisons. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 291–302. (Summary) **99g:62113** 62K10

Gupta, Sunil (*with* Komal, B. S.) On operators of composition on generalised spaces of entire functions. (English summary) *Math. Today* (*Ahmedabad*) **14** (1996), 3–8. (John N. McDonald) **99g:47065** 47B38 (46E10)

Gupta, U. C. (*with* Goswami, V.) Analyzing the discrete-time multiserver queue *Geom/Geom/m* queue with late and early arrivals. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 2, 55–66. 60K25 (90B22)

— (*with* Rao, T. S. S. Srinivasa) On the analysis of single server finite queue with state dependent arrival and service processes: $M(n)/G(n)/1/K$. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 2, 83–89. (Summary) **99b:90055** 90B22 (60K25)

Gupta, Vijay (*with* Ahmad, Aquil) Simultaneous approximation by modified beta operators. (English and Turkish summaries) *İstanbul Üniv. Fen Fak. Mat. Derg.* **54** (1995), 11–22 (1997). (Mircea Ivan) **99a:41026** 41A30 (41A36)

— (*with* Srivastava, G. S.) On convergence of derivative by Szász-Mirakyan Baskakov type operators. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 195–205 (1996). (Summary) **99a:41033** 41A36 (41A35)

— (*with* Srivastava, G. S.) Saturation theorem in L_p-approximation by modified Szász-Mirakyan operators. *Demonstratio Math.* **30** (1997), *no.* 3, 573–578. (Shun Sheng Guo) **99a:41029** 41A35 (41A40)

— (*with* Agrawal, Purshottam Narain) Inverse theorem in simultaneous approximation by Szász-Durrmeyer operators. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 99–113. (Radu Păltănea) **99d:41042** 41A36 (41A10, 41A25)

— (*with* Gaur, Minakshi) Rate of convergence of modified Baskakov type operators for functions of bounded variation. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 93–108. (Summary) **99k:41035** 41A35

— (*with* Arya, Karm Veer) On the rate of pointwise convergence of modified Baskakov type operators for functions of bounded variation. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 283–291. (Octavian Agratini) **99m:41039** 41A36

Guralnick, Robert M. Invertible preservers and algebraic groups. II. Preservers of similarity invariants and overgroups of $\mathrm{PSL}_n(F)$. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 221–255. (Summary) **99m:20108** 20G20 (15A72)

— (*with* Li, Chi-Kwong) Invertible preservers and algebraic groups. III. Preservers of unitary similarity (congruence) invariants and overgroups of some unitary subgroups. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 257–282. (Summary) **99m:20109** 20G20 (15A30, 15A60)

— (*with* Freedman, Allen R.; Gupta, R. N.) Shirshov's theorem and representations of semigroups. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 159–176. (Jan Okniński) **99b:20098** 20M20 (16S36)

— (*with* Hoffman, Corneliu) The first cohomology group and generation of simple groups. (English summary) *Groups and geometries* (*Siena*, 1996), 81–89, *Trends Math., Birkhäuser, Basel*, 1998. (Andrea Lucchini) **99h:20087** 20J06 (20D08)

— (*with* Magaard, Kay) On the minimal degree of a primitive permutation group. (English summary) *J. Algebra* **207** (1998), *no.* 1, 127–145. (Donald L. White) **99g:20014** 20B15 (30F99)

— (*with* Penttila, Tim; Praeger, Cheryl E.; Saxl, Jan) Linear groups with orders having certain large prime divisors. (English summary) *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 167–214. (Jean Michel) **99m:20113** 20G40 (20C33, 20E28, 20E34)

Guralnik, Z. (*with* Ramgoolam, Sanjaye) From 0-branes to torons. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 129–138. (Summary) **99d:81157** 81T60 (81T13, 81T30)

Guran, Ardéshir (*with* Gérard, A.; Überall, H.) Generalized Debye series for acoustic scattering from objects of separable geometric shape. (English summary) *Acta Mech.* **132** (1999), *no.* 1-4, 147–176. (Summary) **99i:73035** 73D25 (73K70, 76Q05)

Guran, I. (*with* Bokalo, B.) Sequentially compact Hausdorff cancellative semigroup is a topological group. (English and Russian summaries) *Mat. Stud.* **6** (1996), 39–40, 160. 54H11 (54D20)

Gurappa, N. (*with* Panigrahi, Prasanta K.; Srinivasan, Venkatraman) Degeneracy structure of the Calogero-Sutherland model: an algebraic approach. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 5, 339–346. (Summary) **99d:81186** 81V70

Gurarie, D. (*with* Klyatskin, V. I.; Gryanik, N. V.) Propagation and localization of Rossby waves over random topography (two-layer model). (English summary) *Wave Motion* **28** (1998), *no.* 4, 333–352. (From the text) **99g:76028** 76C20 (35Q35, 76M35, 76V05, 86A05)

Gurariĭ, V. P. Group methods in commutative harmonic analysis [MR 90f:43001]. *Commutative harmonic analysis, II*, 1–325, *Encyclopaedia Math. Sci.*, 25, *Springer, Berlin*, 1998. (*see* **99h:43002**) 43–02 (43A25, 43A35, 47A15, 47B38)

— (*with* et al.) Leonid Andreevich Pastur (on the occasion of his sixtieth birthday). (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 181–182; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 427–429. 01A70

Gurdek, M. (*with* Bogalska, K.; Gojtka, E.; Rempulska, L.) The Picard and the Gauss-Weierstrass singular integrals of functions of two variables. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 71–85 (1998). (Ambikeswar Sharma) **99d:41030** 41A25 (42A10)

Gureev, Andrei G. Bounds of ruin probabilities. (English summary) *Scand. Actuar. J.* **1998**, *no.* 2, 181–187. (Summary) **99i:62243** 62P05

Gureev, T. E. (*with* Evans, Robert) Tomography of objects with a priori known internal geometry. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1469–1480. (Summary) **99i:44002** 44A12 (65R99, 92C55)

Gur′eva, Ya. L. (*with* Il′in, Valeriĭ Pavlovich) On second-order finite volume approximations for 3D mixed boundary value problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 6, 481–500. (Adélia Sequeira) **99h:65203** 65N38 (65N06, 76R50)

— (*with* Il′in, Valeriĭ Pavlovich) Computational aspects of finite volume methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1860–1876; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1783–1800. (Summary) **99i:65120** 65N22 (65N15)

Gurevich, Aleksandr Viktor (*with* Zybkin, K. P.; Él′, G. A.) Development of stochastic oscillations in a one-dimensional dynamical system described by the Korteweg-de Vries equation. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 1, 182–195; *translated from Zh. Éksper. Teoret. Fiz.* **115** (1999), *no.* 1, 333–360 (*Russian*). (Summary) **99k:35155** 35Q53 (35R60, 60H15)

Gurevich, Alex Boundary regularity for free boundary problems. *Comm. Pure Appl. Math.* **52** (1999), *no.* 3, 363–403. (Mahdi Boukrouche) **99m:35272** 35R35 (35B65, 35J60)

Gurevich, B. M. Dynamical aspects of statistical physics in the works of R. L. Dobrushin. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 2(314), 18–25; *translation in Russian Math. Surveys* **52** (1997), *no.* 2, 257–264. (B. S. Nahapetian) **99c:82003** 82–03 (01A70)

Gurevich, Dmitriĭ I. (*with* Donin, J.; Rubtsov, Vladimir) Quantum hyperboloid and braided modules. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 103–118, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (Summary) **99i:17016** 17B37 (81R50)

— Braided modules and reflection equations. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 99–110, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Bodo Pareigis) **99g:17029** 17B37 (17B45, 81R50)

— (*with* Akueson, P.) Dual quasitriangular structures related to the Temperley-Lieb algebra. (English summary) *Lie groups and Lie algebras*, 1–16, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Richard M. Green) **99g:17024** 17B37 (81R50)

— (*with* Donin, J.; Rubtsov, Vladimir) Two types of Poisson pencils and related quantum objects. (English summary) *Lie groups and Lie algebras*, 27–46, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tomasz Brzeziński) **99h:81089** 81R50 (17B37)

— (*with* Donin, J.; Khoroshkin, Sergei) Double quantization of $\mathbf{CP}^n$ type orbits by generalized Verma modules. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 384–406. (Andrei G. Bytsko) **99m:17016** 17B37 (58F06)

— (*with* Vainerman, Leonid) Non-commutative analogues of q-special polynomials and a q-integral on a quantum sphere. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1771–1780. (T. Tuong Truong) **99g:33051** 33D80 (33C45)

Gurevich, I. B. (*with* Gritsyk, V. V.; Palenichka, R. M.; Kitsmeĭ, T. P.) Adaptive binary segmentation of images. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 145–181, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68U10

Gurevich, Yu. G. (*with* Kucherenko, V. V.) New formulas for magnetoresistance. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 181–183; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 534–536. 78A30

Gurevich, Yuri (*with* Börger, Egon; Grädel, Erich) ★ The classical decision problem. With an appendix by Cyril Allauzen and Bruno Durand. Perspectives in Mathematical Logic. *Springer-Verlag, Berlin*, 1997. xii+482 *pp. ISBN* 3-540-57073-X (Roman Murawski) **99b:03004** 03–02 (03B10, 03B25, 03C13, 03D15, 03D35, 68Q15, 68Q68)

— From invariants to canonization. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 115–119. (Summary) **99a:68042** 68P15 (03B70, 68Q15)

— (*with* Spielmann, Marc) Recursive abstract state machines. (English summary) Ten years of Gurevich's abstract state machines, Part I. *J.UCS* **3** (1997), *no.* 4, 233–246 (*electronic*). (Summary) **99k:68052** 68Q05

— (*with* Dexter, Scott; Doyle, Patrick Owen) Gurevich abstract state machines and Schönhage storage modification machines. (English summary) Ten years of Gurevich's abstract state machines, Part I. *J.UCS* **3** (1997), *no.* 4, 279–303 (*electronic*). (Summary) **99k:68050** 68Q05

— (*with* Degtyarëv, A. I.; Narendran, Paliath; Veanes, Margus; Voronkov, Andrei) The decidability of simultaneous rigid E-unification with one variable. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 181–195, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99f:03009** 03B25 (68Q25, 68Q40, 68T15)

— (*with* Eiter, Thomas; Gottlob, Georg) Existential second-order logic over strings (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 16–27, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 03C85 (03C13, 68Q45, 68Q60)

— (*with* Blass, Andreas; Kreinovich, Vladik; Longpré, Luc) A variation on the zero-one law. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 29–30. (Summary) **99f:68066** 68Q15 (03D15, 68Q25)

— *see also* **Ten years of Gurevich's abstract state machines**

Gureyev, T. E. *see* **Gureev, T. E.**

Gürgöze, İhsan T. (*with* Dokuz, M. Salih) An equilibrium solution for the Boussinesq problem for a mixture of an elastic solid and a fluid in an infinite half-space. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 645–653. (From the introduction) **99d:73019** 73B99 (76D99)

— (*with* Dokuz, M. Salih) Papkovich-Neuber solution for a mixture of two elastic solids and Kelvin problem. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 4, 497–507. (Summary) **99i:73019** 73C02 (73B40)

Gurieva, Ya. L. *see* **Gur'eva, Ya. L.**

Gurin, A. M. Rigid packings of balls. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 194–196. (Robert M. Erdahl) **99e:52025** 52C17

Guritno, Suryo Simultaneous estimation of location parameter procedures: the negative exponential case. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 505–508, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 62F25

Gurjar, R. V. (*with* Pradeep, C. R.; Shastri, Anant. R.) On rationality of logarithmic Q-homology planes. II. *Osaka J. Math.* **34** (1997), *no.* 3, 725–743. (N. Mohan Kumar) **99i:14038** 14J26

Gurka, Petr (*with* Opic, Bohumír) Global limiting embeddings of logarithmic Bessel potential spaces. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 565–584. (Lanzhe Liu) **99h:46052** 46E35 (26D15)

Gürkanlı, A. Turan Some convolution algebras and their multipliers. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 119–134 (1998). (U. B. Tewari) **99g:43003** 43A15 (43A22)

Gürlebeck, Klaus On some applications of the biharmonic equation. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 109–128, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michael V. Shapiro) **99e:35045** 35J40 (30G35)

— On some operators in Clifford analysis. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 95–107, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Wolfgang Sprössig) **99a:30044** 30G35 (45P05, 47B38, 47G10)

Gürler, Ülkü (*with* Siddiqui, M. M.) On the consistency of a two-sample matching test. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 69–73. (Summary) **99d:62050** 62G10 (62G20)

— (*with* Siddiqui, M. M.) Limiting behavior of a matching test for two samples. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 189–200. (Summary) **99m:62072** 62G10 (62G30)

Gurov, S. V. (*with* Utkin, Lev V.) Steady-state reliability of repairable systems by combined probability and possibility assumptions. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 193–202. 90B25 (90C70)

Gurov, T. V. (*with* Dimov, Ivan T.; Dimov, T. T.) A new iterative Monte Carlo approach for inverse matrix problem. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 15–35. (Summary) **99c:65006** 65C05 (65F10, 65U05)

— (*with* Dimov, Ivan T.) Estimates of the computational complexity of iterative Monte Carlo algorithm based on Green's function approach. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 183–199. (Michael Mascagni) **99h:65009** 65C05 (65N99, 65Y20)

Gurovich, V. Ts. (*with* Tokareva, I. V.) The quantum evolution of the closed Friedman [Friedmann] universe with "bouncing off". (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 21–30. (Luis J. Garay) **99m:83071** 83C45

Gürses, Metin (*with* Karasu, Atalay) Integrable coupled KdV systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2103–2111. (Sen Yue Lou) **99c:58070** 58F07 (35Q53)

— Sigma models and minimal surfaces. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 1–8. (J. Dorfmeister) **99j:58091** 58F07 (35Q58, 53A10, 81T10)

— Motion of curves on two-dimensional surfaces and soliton equations. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 329–334. (Jan Cieśliński) **99g:53002** 53A04 (35Q53, 58F07)

— Sources for the Majumdar-Papapetrou space-times. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044001, 3 *pp.* (Summary) **99k:83014** 83C15

Gürsey, Feza (*with* Tze, Chia-Hsiung) ★ On the role of division, Jordan and related algebras in particle physics. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. xvi+461 *pp. ISBN* 981-02-2863-5 (Stefano De Leo) **99g:81061** 81R05 (16K20, 17A35, 17C60, 81V22)

Gursky, Matthew J. The Weyl functional, de Rham cohomology, and Kähler-Einstein metrics. *Ann. of Math.* (2) **148** (1998), *no.* 1, 315–337. (Thalia D. Jeffres) **99i:58036** 58E11 (53C25, 53C55)

— (*with* LeBrun, Claude R.) Yamabe invariants and Spin^c structures. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 6, 965–977. (Jimmy Petean) **99k:53078** 53C21 (58E11)

Gurtin, Morton E. (*with* Polignone Warne, Debra; Viñals, Jorge) Two-phase binary fluids and immiscible fluids described by an order parameter. (English summary) *Math. Models Methods Appl. Sci.* **6** (1996), *no.* 6, 815–831. (Summary) **99e:76123** 76T05 (76A05, 80A22)

— (*with* Podio-Guidugli, Paolo) Configurational forces and a constitutive theory for crack propagation that allows for kinking and curving. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1343–1378. (Gérard A. Maugin) **99j:73084** 73M25 (73B27, 73S10)

— (*with* Giga, Yoshikazu; Matias, José) On the dynamics of crystalline motions. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 7–50. (Karsten Grosse-Brauckmann) **99h:73008** 73B30 (35K65, 49J99, 58E50)

— (*with* Cermelli, Paolo; Shvartsman, Mikhail M.) A note on the thermomechanics of curvature flows in $\mathbf{R}^3$ and on surfaces in $\mathbf{R}^3$. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 587–599. (Matteo Novaga) **99k:73018** 73B30 (35Q72, 80A22)

Gurtug, O. (*with* Halilsoy, M.) New colliding wave solutions in the Einstein-abelian gauge and Einstein-Maxwell-dilaton theories. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 1, 69–80. (Nora Bretón Báez) **99d:83024** 83C22 (83C15)

Guruprasad, Krishnamurthi (*with* Rajan, C. S.) Group cohomology and the symplectic structure on the moduli space of representations. *Duke Math. J.* **91** (1998), *no.* 1, 137–149. (Valentino Zocca) **99e:58030** 58D27 (57R15, 58F05)

— (*with* Nilakantan, Nandini) Mutually dual presentations of the surface group and symplectic structure on the parabolic moduli space. (English summary) *J. Ramanujan Math. Soc.* **13** (1998), *no.* 1, 73–83. (William Goldman) **99c:58027** 58D29 (14D20, 57M50)

— Some remarks on the symplectic pairing on the moduli space of representations of the fundamental group of surfaces. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 1, 19–25. (Valentino Zocca) **99h:58023** 58D27 (58D29, 58F05)

Guru Prem Prasad, M. (*with* Kapoor, G. P.) Dynamics of $(e^z - 1)/z$: the Julia set and bifurcation. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1363–1383. (Rich L. Stankewitz) **99j:58170** 58F23 (30D05)

Guruswami, Venkatesan (*with* Pandu Rangan, C.) A natural family of optimization problems with arbitrarily small approximation thresholds. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 241–248. (Summary) **99h:68076** 68Q25 (90C60)

Guruswamy, Sathya (*with* Ludwig, Andreas W. W.) Relating $c < 0$ and $c > 0$ conformal field theories. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 661–681. (Isabel P. Ennes) **99h:81192** 81T40

Gurvich, V. A. Criteria for the nonemptiness of dual cores. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 2, 159–162. 90D12

— (*with* Boros, Endre; Vasin, A. A.) Stable families of coalitions and normal hypergraphs. (English summary) *Math. Social Sci.* **34** (1997), *no.* 2, 107–123. (Frank Thuijsman) **99b:90170** 90D12 (05C65, 92H30)

Gurvits, Leonid Trace inequalities and linear programming (with applications to Markov chains). (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 13–24. (Summary) **99g:90072** 90C08 (15A18, 15A51, 60J10)

Gur'yanov, A. E. Reliability of software for control processes. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 33–39, 240–241, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 93B40 (49K15)

Gur'yanov, N. G. Analytic solution of a system of differential equations describing the axisymmetric deformation of an orthotropic hollow spherical segment. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1999**, *no.* 1, 6–9. 73K15

Gusarevich, L. D. (*with* Yakubovich, S. B.) On the non-convolution transformation with the Macdonald type kernel function. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 3, 297–309. (R. G. Buschman) **99k:44011** 44A15 (33C10)

Gusarov, M. N. Interdependent modifications of links and invariants of finite degree. (English summary) *Topology* **37** (1998), *no.* 3, 595–602. (Yongwu Rong) **99e:57012** 57M25

Guseĭnov, F. V. Coverability of functions. (Russian) *Mat. Zametki* **61** (1997), *no.* 4, 623–626; *translation in Math. Notes* **61** (1997), *no.* 3-4, 519–521. (Sándor Komlósi) **99d:90085** 90C26 (49J52)

Guseinov, G. Sh. (*with* Oturanç, Galip) On the theory of a certain class of quadratic pencils of matrices and its applications. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 409–422. (Vyacheslav N. Pivovarchik) **99c:15002** 15A03 (15A22, 34B05, 34L10, 47A56)

— (*with* Yaslan, I.) On Hill's equation with piecewise constant coefficient. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 461–474. (Boris M. Levitan) **99c:34201** 34L40 (34B24)

Guseĭnov, I. M. On a transformation operator. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 206–215; *translation in Math. Notes* **62** (1997), *no.* 1-2, 172–180 (1998). (M. M. Malamud) **99c:34045** 34B24 (34L40)

Guseĭnov, I. N. (*with* Faradzhev, R. G.; Nagiev, A. T.) Criteria for the diagnosability of bilinear sequential machines. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 5, 606–607. 93B30 (68M15)

Guseĭnov, T. G. On some singularities of solutions of an optimal control problem with singular perturbation in integrodifferential systems. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 77–83. (Ĭordan I. Slavov) **99k:49063** 49K40 (49J22)

Gusein-Zade, Sabir M. Invariants of generic plane curves and invariants of singularities. (English summary) *Algebraic geometry—Santa Cruz* 1995, 423–433, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Mihai Tibăr) **99b:32056** 32S30 (32S05)

— (*with* Varchenko, A. N.) Verlinde algebras and the intersection form on vanishing cycles. (English summary) *Selecta Math. (N.S.)* **3** (1997), *no.* 1, 79–97. (Sergei V. Chmutov) **99b:32057** 32S30 (14B05, 81R10, 81T40)

— (*with* Ebeling, Wolfgang) Suspensions of fat points and their intersection forms. *Singularities (Oberwolfach*, 1996), 141–165, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Jan Stevens) **99k:32061** 32S30

— (*with* Luengo, Ignacio; Melle-Hernández, Alejandro) Zeta functions of germs of meromorphic functions, and the Newton diagram. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 26–35, 95; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 93–99. (Aleksandr G. Aleksandrov) **99j:32040** 32S25 (32S40, 32S45, 32S55)

— (*with* Duzhin, F. S.) On the number of topological types of plane curves. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 197–198; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 626–627. (Sergey M. Finashin) **99i:57001** 57–04 (57M15, 57R42)

Gusev, E. L. Qualitative regularities of the structure of optimal solutions in problems of the optimal synthesis of multilayer constructions under the action of elastic waves. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 53–56; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 579–582. 73K40 (73D15)

Gusev, Sergei V. (*with* Byrnes, Christopher I.; Lindquist, Anders) A convex optimization approach to the rational covariance extension problem. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 211–229 (*electronic*). (Sergey V. Lototsky) **99f:93135** 93E12 (93B55)

Gusev, Vitalyi (*with* Bailliet, Hélène; Lotton, Pierrick; Bruneau, Michel[2]) Interaction of counterpropagating acoustic waves in media with nonlinear dissipation and in hysteretic media. (English summary) *Wave Motion* **29** (1999), *no.* 3, 211–221. (Summary) **99k:76131** 76Q05 (73D15)

Gusev, Yu. V. (*with* Zelnikov, A. I.) Finite temperature nonlocal effective action for quantum fields in curved space. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 024002, 14 *pp.* 81T20

Gusevskiĭ, N. A. Nonclassical Schottky groups in four-dimensional space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1050–1056, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 923–928. (Marko Kranjc) **99i:30062** 30F40 (57M60)

Gusfield, Dan ★ Algorithms on strings, trees, and sequences. (English summary) Computer science and computational biology. *Cambridge University Press, Cambridge*, 1997. xviii+534 *pp. ISBN* 0-521-58519-8 (Maxime Crochemore) **99b:68095** 68Q25 (68–01, 68R15, 68U15, 92C40, 92D20)

— (*with* Stoye, Jens) Simple and flexible detection of contiguous repeats using a suffix tree (preliminary version). (English summary) *Combinatorial pattern matching (Piscataway, NJ*, 1998), 140–152, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q20 (68P05)

— (*with* Karp, Richard M.; Wang, Lusheng; Stelling, Paul) Graph traversals, genes and matroids: an efficient case of the travelling salesman problem. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 167–180. (Victor P. Il'ev) **99k:90133** 90C27 (05B35, 05C25, 05C45, 90C35)

Gushchin, A. A. On taking limits under the compensator sign. (English summary) *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 185–192, *Gordon and Breach, Amsterdam*, 1996. (Dominique Lépingle) **99j:60062** 60G48 (60F17)

Gushchin, A. K. Interior estimates for the weak solution of the Dirichlet problem for a second-order elliptic equation. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 6, 731–733. 35J25 (35B45, 35D10)

— Some properties of solutions of the Dirichlet problem for a second-order elliptic equation. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 7, 53–90. (Vadim D. Kryakvin) **99k:35033** 35J25

Gusiew-Czudżak, Magdalena (*with* Keller, Jaime) The twistor bundle: the Casimir operators of the Poincaré Lie algebra and the Dirac operator. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 419–438. (Waldyr Alves Rodrigues, Jr.) **99a:81064** 81R25 (15A66, 53A50)

Gustafson, Karl ★ Lectures on computational fluid dynamics, mathematical physics, and linear algebra. Edited and with a foreword by T. Abe and K. Kuwahara. With comments by Abe, Kuwahara, Izumi Ojima and Mitsuharu Ôtani. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. x+169 *pp. ISBN* 981-02-3213-6 (From the text) **99b:00008** 00A69 (15–02, 65Mxx, 76Mxx)

— Operator spectral states. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 467–508. (Giuseppina Epifanio) **99a:47005** 47A10 (47N50, 81Q10)

— Domain decomposition, operator trigonometry, Robin condition. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 432–437, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (01A65, 47N40)

— (*with* Antoniou, Ioannis; Suchanecki, Z.) From stochastic semigroups to chaotic dynamics. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 110–123, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Władysław Adam Majewski) **99e:82055** 82C05 (46N55, 47A20, 47N55, 60J99)

— Semigroups and antieigenvalues. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 379–384, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Denise Huet) **99h:47018** 47A55 (47A75, 47D06, 47N50, 81Q15)

— Ergodic learning algorithms. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 228–242, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68T05 (68Q05)

— (*with* Abe, Takehisa) The third boundary condition—was it Robin's? *Math. Intelligencer* **20** (1998), *no.* 1, 63–71. (Thomas Archibald) **99e:01016** 01A55 (35–03)

— Antieigenvalues: an extended spectral theory. *Generalized functions, operator theory, and dynamical systems* (*Brussels*, 1997), 144–149, *Chapman & Hall/CRC Res. Notes Math.*, 399, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:00030**) 47A75

Gustafson, Paul (*with* Clarke, Bertrand S.) On the overall sensitivity of the posterior distribution to its inputs. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 137–150. (Summary) **99f:62039** 62F15

Gustafson, Philip E. (*with* Cooper, S. Clement) Interpolating Laurent polynomials. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 143–150, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (*see* **99f:00020**) 44A60 (42C05)

— (*with* Cooper, S. Clement) The strong Chebyshev distribution and orthogonal Laurent polynomials. (English summary) *J. Approx. Theory* **92** (1998), *no.* 3, 361–378. (Olav Njåstad) **99c:42043** 42C05 (40A15, 41A15)

Gustafson, Stephen Symmetric solutions of Ginzburg-Landau equations. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 33–38, *Plenum, New York*, 1998. (*see* **99a:00048**) 35Q55 (82D55)

Gustafson, Sven-Åke (*with* da Silva, Antonio R.) On accurate computation of a class of linear functionals. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 12 *pp.* (*electronic*). (I. Norman Katz) **99i:65020** 65D30 (65D05)

Gustafson, William H. (*with* Brooks, Robert Wolfe; Gornet, Ruth) Mutually isospectral Riemann surfaces. *Adv. Math.* **138** (1998), *no.* 2, 306–322. (Carolyn Gordon) **99k:58184** 58G25 (11F72, 11R42)

Gustafsson, Bertil On the implementation of boundary conditions for the method of lines. (English summary) *BIT* **38** (1998), *no.* 2, 293–314. (Summary) **99d:65265** 65M20

Gustafsson, Björn Direct and inverse balayage—some new developments in classical potential theory. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2557–2565. (Ognyan Kounchev) **99e:31011** 31B20 (31–02, 35Q35, 76B99, 86A20)

— (*with* Sakai, Makoto; Shapiro, Harold S.) On domains in which harmonic functions satisfy generalized mean value properties. (English summary) *Potential Anal.* **7** (1997), *no.* 1, 467–484. (Hiroaki Aikawa) **99b:31002** 31B05 (31A05, 31C35)

— (*with* Putinar, Mihai) An exponential transform and regularity of free boundaries in two dimensions. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 507–543. (John E. McCarthy) **99k:30004** 30B40 (47B38)

— On mother bodies of convex polyhedra. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1106–1117 (*electronic*). (Gottfried Anger) **99m:31008** 31B20 (31A20, 35R30, 52B11)

Gustafsson, Fredrik (*with* Ninness, Brett; Hjalmarsson, Håkan) Generalized Fourier and Toeplitz results for rational orthonormal bases. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 429–460 (*electronic*). (Sergey V. Lototsky) **99i:42052** 42C15 (47B35, 60G35, 93E12, 93E24)

Gustafsson, Henrik (*with* Lindström, Ulf) A picture of D-branes at strong coupling. II. Spinning partons. (English summary) *Phys. Lett. B* **440** (1998), *no.* 1-2, 43–49. (Summary) **99i:81183** 81T30 (83E30)

Gustafsson, Ivar (*with* Lindskog, Gunhild) On parallel solution of linear elasticity problems. I. Theory. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 2, 123–139. (Summary) **99a:73123** 73V05 (65N30, 73B40)

Gustedt, Jens (*with* Bertet, Karell; Morvan, Michel) Weak-order extensions of an order. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 65–77, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:06004** 06A07 (05C85)

— (*with* Bodlaender, Hans L.; Telle, Jan Arne) Linear-time register allocation for a fixed number of registers. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 574–583, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68Q22)

— Minimum spanning trees for minor-closed graph classes in parallel. (English summary) *STACS* 98 (*Paris*, 1998), 421–431, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68R10 (68Q22)

— Efficient Union-Find for planar graphs and other sparse graph classes. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 123–141. (Peter B. Gibbons) **99j:68022** 68P10 (05C85, 68P05, 68Q25)

Gusynin, V. P. (*with* Hong, D. K.; Shovkovy, I. A.) Chiral symmetry breaking by a non-abelian external field in 2 + 1 dimensions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5230–5235. 81T13 (81R40)

Gut, Allan Stopped two-dimensional perturbed random walks and Lévy processes. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 317–325. (Frans Boshuizen) **99c:60044** 60F05 (60F15, 60G40, 60G50, 60J15, 62L10)

Gut, Erich (*with* Brighi, Bernard; Chipot, Michel) Finite differences on triangular grids. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 567–579. (Jiuhua Chen) **99f:65150** 65N06 (65N12)

Guta, Berhanu Ranked k-longest paths in an acyclic network, its algorithm and application. (English summary) *SINET* **21** (1998), *no.* 2, 171–182. 05C38

Guţă, Petrişor Connected k-chromatic graphs with a minimum number of edges. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **45** (1993), *no.* 6,

467–470. 05C15

Gutan, Marin Semigroups which contain magnifying elements are factorizable. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3953–3963. (Franco Migliorini) **99a:20063** 20M10

Gutev, Valentin G. Extending of homotopies via selections and extending of selections via homotopies. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 128–148 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 55P05 (54C60, 54C65, 54F35, 54F45)

— Continuous selections for continuous set-valued mappings and finite-dimensional sets. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 2, 149–170. (Summary) **99f:54024** 54C65

Güth, Werner (*with* Kirchsteiger, Georg; Ritzberger, Klaus) Imperfectly observable commitments in *n*-player games. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 54–74. (Akira Okada) **99f:90191** 90D06 (90A35, 90D10)

Gutiérrez, Amauri On the Wiener index of unicyclic molecular graphs and their line graphs. (English summary) *Match No.* 38 (1998), 33–34. 05C90 (92E10)

Gutierrez, Carlos (*with* Guadalupe, Irwen; Tribuzy, Renato; Guiñez, Víctor) Lines of curvature on surfaces immersed in $\mathbf{R}^4$. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 233–251. (Ronaldo Alves Garcia) **99b:53011** 53A07

— (*with* Camelier, Ricardo) Affine interval exchange transformations with wandering intervals. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1315–1338. (Vadim A. Kaĭmanovich) **99e:58117** 58F11 (26A18, 28D05)

Gutiérrez, Claudio Solving equations in strings: on Makanin's algorithm. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 358–373, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68133** 68Q42 (03D05, 68T15)

Gutiérrez, Cristian E. (*with* Caffarelli, Luis A.) Singular integrals related to the Monge-Ampère equation. *Wavelet theory and harmonic analysis in applied sciences* (*Buenos Aires*, 1995), 3–13, *Appl. Numer. Harmon. Anal., Birkhäuser Boston, Boston, MA*, 1997. (Marco Bramanti) **99f:42030** 42B20 (26B25, 35J60, 43A85)

martín-Gutiérrez, Emma *see* **Martín-Gutiérrez, Emma**

Gutiérrez, J. M. *see* **Gutiérrez, José Manuel**

Gutiérrez, J. N. (*with* Tapia-Recillas, H.) Hamming codes and the Fano plane. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 49–54, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (Summary) **99j:94065** 94B05

— (*with* Tapia-Recillas, H.) A MacWilliams identity for poset-codes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 63–73. (Jaume Pujol) **99m:94044** 94B05

Gutierrez, Jaime (*with* Alonso, Cesar; Recio, Tomas) A note on separated factors of separated polynomials. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 217–222. (Wolfgang Michael Ruppert) **99f:12001** 12E05 (12E10)

— (*with* Recio, Tomas) Advances on the simplification of sine-cosine equations. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 1, 31–70. (Summary) **99f:68112** 68Q40 (13P10, 70B15)

— (*with* San Miguel, Rosario Rubio) Reduced Gröbner bases under composition. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 433–444. (Joachim Apel) **99k:13037** 13P10 (68Q40)

Gutiérrez, Joaquín M. *see* **Gutiérrez del Alamo, Joaquín M.**

Gutiérrez, José M. *see* **Gutiérrez, José Manuel**

Gutiérrez, José Manuel (*with* Hernández Verón, Miguel A.) The Newton method under strong Kantorovich conditions. Application to differential and integral equations. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:65114** 65J10

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.) A construction procedure of iterative methods with cubical convergence. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 181–199. (John B. Kioustelidis) **99a:65076** 65J15

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.; Salanova, M. A.) The super-Halley method and partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 713–718, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (47H17)

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.; Salanova, M. A.) A multipoint method applied to the solution of Hammerstein integral equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 719–724, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (45G10, 47H17, 65R20)

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.) A construction procedure of iterative methods with cubical convergence. II. Another convergence approach. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 59–68. (John B. Kioustelidis) **99g:65067** 65J15

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.; Salanova, M. A.) The application of an inverse-free Jarratt-type approximation to nonlinear integral equations of Hammerstein-type. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 9–20. (V. V. Vasin) **99f:65201** 65R20 (45L05, 65J15)

— (*with* Hernández Verón, Miguel A.) Recurrence relations for the super-Halley method. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 1–8. (Summary) **99f:65087** 65J15

— (*with* Ezquerro, J. A.; Hernández Verón, Miguel A.) Solving a nonlinear equation by a uniparametric family of iterative processes. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 301–308. (Summary) **99m:65106** 65H05

— (*with* Hernández Verón, Miguel A.) Majorizing sequences for Newton's method. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 199–202. (Boro Döring) **99m:65119** 65J15 (47H17)

Gutierrez, Marisa (*with* Meidanis, João) On the clique operator. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 261–272, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99d:68192** 68R10 (05C85, 68Q25)

Gutiérrez, Mauricio (*with* Arkowitz, Martin) Comultiplication on monoids. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 803–811. (Yuji Kobayashi) **99e:20082** 20M99 (16W30)

— (*with* Krstić, Sava) Normal forms for basis-conjugating automorphisms of a free group. *Internat. J. Algebra Comput.* **8** (1998), *no.* 6, 631–669. (Stephen P. Humphries) **99m:20077** 20F28 (20E05, 20F32)

Gutiérrez, R. *see* **Gutiérrez Jáimez, Ramón**

Gutierrez, Roberto G. (*with* Wang, Ching-Yun; Wang, Suojin; Carroll, Raymond J.) Local linear regression for generalized linear models with missing data. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1028–1050. (Thomas A. Severini) **99g:62101** 62J12 (62G07)

muñoz Gutiérrez, Stalin *see* **Muñoz Gutiérrez, Stalin**

Gutiérrez del Alamo, Joaquín M. (*with* González, Manuel) Gantmacher type theorems for holomorphic mappings. (English summary) *Math. Nachr.* **186** (1997), 131–145. (Luiza Amália de Moraes) **99b:46068** 46G20 (46B28, 58B12)

— (*with* González, Manuel) Injective factorization of holomorphic mappings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1715–1721. (Richard M. Aron) **99i:46033** 46G20 (47D50, 58B12, 58C10)

Gutiérrez Díez, José Manuel A generalization of the quasiconvex optimization problem. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 281–287. (Summary) **99a:90187** 90C30 (90C48)

— (*with* Alcantud, J. C. R.) Preference through indifference: a topological approach. (English summary) *J. Math. Econom.* **31** (1999), *no.* 4, 543–551. (Summary) **99m:90012** 90A06

Gutiérrez Fernández, J. Carlos Structure of Bernstein populations of type $(3, n-3)$. (English summary) *Linear Algebra Appl.* **269** (1998), 17–32. (Sebastian Walcher) **99d:17033** 17D92

Gutiérrez García, J. (*with* de Prada Vicente, María Angeles) Super uniform spaces. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 291–309. (*see* **99c:54002**) 54A40 (54E15)

— (*with* de Prada Vicente, María Angeles; Burton, M. H.) Embeddings into the category of super uniform spaces. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 311–326. (Summary) **99h:54006** 54A40 (54E15)

— (*with* de Prada Vicente, María Angeles; Šostak, Alexander P.) Even fuzzy topologies and related structures. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 327–350. (Summary) **99h:54007** 54A40

— (*with* Burton, M. H.; Muraleetharan, M.) Generalised filters. I. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 275–284. 54A40 (18A22, 54A20, 54E15)

— (*with* Mardones Pérez, I.; Burton, M. H.) The relationship between various filter notions on a GL-monoid. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 291–302. (Summary) **99k:54002** 54A40 (04A72, 54E99)

Gutiérrez Jáimez, Ramón (*with* Díaz-García, José A.; Mardia, Kanti V.) Wishart and pseudo-Wishart distributions and some applications to shape theory. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 73–87. (Yasuko Chikuse) **99e:62095** 62H10 (62E15)

— (*with* Rosales Moreno, M. J.) Diffusion approximations for Lotka-Volterra type models. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 809–832. (Summary) **99f:92019** 92D25 (60J70)

Gutiérrez Llorente, José Manuel (*with* Castillo, Enrique F.; Hadi, Ali S.) Modeling probabilistic networks of discrete and continuous variables. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 48–65. (M. Studený) **99j:68137** 68T30 (62H99)

Gutiérrez-Peña, E. (*with* Smith, Adrian F. M.) Aspects of smoothing and model inadequacy in generalized regression. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 273–286. (Summary) **99d:62071** 62J12 (62F15)

— (*with* Efstathiou, M.; Smith, Adrian F. M.) Laplace approximations for natural exponential families with cuts. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 77–92. (Célestin C. Kokonendji) **99b:62017** 62E17

— *see also* **Girón González-Torre, Fco. Javier**, **99k:62058**

Gutiérrez Sánchez, José Luis (*with* Sánchez Garduño, Faustino) ★ Matemáticas para las ciencias naturales. (Spanish. Spanish summary) [Mathematics for the natural sciences] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 11. *Sociedad Matemática Mexicana, México*, 1998. *viii+590 pp. ISBN* 968-36-5769-9 00A06

Gutin, Gregory (*with* Alon, Noga) Properly colored Hamilton cycles in edge-colored complete graphs. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 179–186. (Hari Pulapaka) **99b:05091** 05C45 (05C15)

— A note on the cardinality of certain classes of unlabeled multipartite tournaments. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 277–280. (Summary) **99a:05065** 05C30 (05C20)

— (*with* Bang-Jensen, Jørgen) Alternating cycles and trails in 2-edge-coloured complete multigraphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 61–72. (Prabir Das) **99g:05072** 05C15 (05C38)

— (*with* Zverovich, Vadim E.) Upper domination and upper irredundance perfect graphs. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 95–105. (Gary MacGillivray) **99g:05153** 05C75

— (*with* Sudakov, Benjamin; Yeo, Anders) Note on alternating directed cycles. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 101–107. (Summary) **99d:05050** 05C38 (05C20, 05C85)

— (*with* Bang-Jensen, Jørgen) Generalizations of tournaments: a survey. (English summary) *J. Graph Theory* **28** (1998), *no.* 4, 171–202. (Yubao Guo) **99f:05041** 05C20

— (*with* Bang-Jensen, Jørgen; Yeo, Anders) A polynomial algorithm for the Hamiltonian cycle problem in semicomplete multipartite digraphs. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 111–132. (Cun-Quan Zhang) **99e:05084** 05C45 (05C20)

Gutkin, Eugene Green's functions of free products of operators, with applications to graph spectra and to random walks. (English summary) *Nagoya Math. J.* **149** (1998), 93–116. (Donald I. Cartwright) **99g:60121** 60J15 (05C50, 47A10)

Gutknecht, Martin H. Lanczos-type solvers for nonsymmetric linear systems of equations. (English summary) *Acta numerica*, 1997, 271–397, *Acta Numer.*, 6, *Cambridge Univ. Press, Cambridge*, 1997. (Marc Van Barel) **99c:65088** 65F50 (65F10)

— (*with* Ressel, Klaus J.) QMR smoothing for Lanczos-type product methods based on three-term recurrences. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 55–73 (*electronic*). (Jin Xi Zhao) **99d:65143** 65F50 (65F30)

Gutkowska, Sylwia (*with* Zięba, Wiesław) On a stability in Renyi's sense. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 61–65. (V. K. Rohatgi) **99b:60007** 60B10 (60A10)

Gutkowski, W. *see* **Discrete structural optimization, 99b:90007**

Gutlyanskiĭ, V. Ya. (*with* Vuorinen, Matti K.) On maps almost conformal at the boundary. (English summary) *Complex Variables Theory Appl.* **34** (1997), *no.* 4, 445–464. (Summary) **99c:30039** 30C62 (30C65)

— (*with* Ryazanov, Vladimir I.) On equivalent conditions for asymptotic conformity of quasiconformal curves. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 2, 153–154. (D. M. Israfilov) **99b:30026** 30C62

— (*with* Martio, Olli; Ryazanov, Vladimir I.; Vuorinen, Matti K.) On the asymptotic behavior of quasiconformal mappings in space. (English summary) *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 159–180, *Springer, New York*, 1998. (Summary) **99i:30036** 30C65

— (*with* Martio, Olli; Ryazanov, Vladimir I.; Vuorinen, Matti K.) On convergence theorems for space quasiregular mappings. (English summary) *Forum Math.* **10** (1998), *no.* 3, 353–375. (M. Yu. Vasil'chik) **99f:30035** 30C65

— (*with* Martio, Olli; Ryazanov, Vladimir I.; Vuorinen, Matti K.) On local injectivity and asymptotic linearity of quasiregular mappings. (English summary) *Studia Math.* **128** (1998), *no.* 3, 243–271. (Susan G. Staples) **99c:30044** 30C65

Gutman, A. E. Locally one-dimensional K-spaces. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 5, 590–591. (Yu. A. Abramovich) **99b:46004** 46A40 (54G05, 54G20)

Gutman, Ivan M. (*with* Sciriha, Irene) Graphs with maximum singularity. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 17–20. (Summary) **99i:05139** 05C50

— (*with* Shiu, Wai Chee; Lam, Peter Che Bor) Wiener number of hexagonal parallelograms. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 21–25. (*see* **99g:05001**) 05C12

— Distance of line graphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 49–52. (*see* **99i:05002**) 05C12

— (*with* Shiu, Wai Chee; Lam, Peter Che Bor) Wiener number of hexagonal bitrapeziums and trapeziums. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 9–25. (N. Trinajstić) **99a:05044** 05C12 (05C90)

— (*with* Marjanović, Milosav M.) A distance-based graph invariant related to the Wiener and Szeged numbers. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 99–108. (Ioan Tomescu) **99b:05050** 05C12

— (*with* Dobrynin, A. A.; Ĭovashevich, V.) Bicyclic graphs and their edge graphs with coinciding Wiener index. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 3–9, 63 (1998). (B. Zelinka) **99k:05097** 05C38 (05C35)

— (*with* Cyvin, Sven J.) Elementary edge-cuts in the theory of benzenoid hydrocarbons. (English summary) *Match No.* 36 (1997), 177–184. (Summary) **99a:92039** 92E10 (05C90)

— (*with* Popović, Ljiljana; Pavlović, Ljiljana) Elementary edge-cuts in the theory of benzenoid hydrocarbons—an application. (English summary) *Match No.* 36 (1997), 217–229. (Summary) **99a:92040** 92E10 (05C90)

— A theorem on graphs with maximum singularity. (English and Serbo-Croatian summaries) *Zb. Rad.* (*Kragujevac*) *No.* 19 (1997), 17–20. (Summary) **99a:05099** 05C50

— (*with* Dobrynin, A. A.) The Szeged index—a success story. (English summary) New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 37–44. (*see* **99h:05003**) 05C12 (05C90)

— Distance of thorny graphs. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 31–36. (Douglas J. Klein) **99i:05070** 05C12 (05C90)

— (*with* Sciriha, Irene) Nut graphs: maximally extending cores. (English summary) *Util. Math.* **54** (1998), 257–272. (Summary) **99g:05156** 05C75 (05C50)

Gutman, Per-Olof (*with* Rotstein, Héctor; Galperin, Noam) Set membership approach for reducing value sets in the frequency domain. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1346–1350. 93C30 (93C80)

Gutman, Semion Multidimensional inverse scattering problem with non-reflecting boundary conditions. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 55–72, *Plenum, New York*, 1998. (Summary) **99c:76102** 76Q05 (35P25, 65N30)

Gutmann, Sam (*with* Farhi, Edward) Quantum computation and decision trees. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 915–928. (Emanuel H. Knill) **99h:68074** 68Q25 (68Q05, 81P99)

Gutnic, M. (*with* Eymard, R.; Hilhorst, D.) The finite volume method for an elliptic-parabolic equation. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 181–195. (B. Kellogg) **99j:65167** 65M60 (76M10, 76S05)

Gutowitz, Howard Cellular automata and the sciences of complexity. II. (English summary) *Complexity* **1** (1995/96), *no.* 6, 29–35. 68Q80 (58F08)

Gutowski, J. (*with* Papadopoulos, George J.) The moduli spaces of worldvolume brane solitons. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 97–102. (Summary) **99c:81184** 81T30 (53C25, 53C80)

Gutperle, Michael (*with* Green, Michael B.) Effects of D-instantons. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 195–227. (Summary) **99e:81193** 81T30 (83E30)

— Contact terms, symmetries and D-instantons. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 133–146. (From the text) **99i:81184** 81T30

— (*with* Green, Michael B.) D-particle bound states and the D-instanton measure. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 5, 12 *pp.* (*electronic*). (Claudio A. Scrucca) **99f:81161** 81T30

— (*with* Green, Michael B.; Kwon, Hwang-hyun) Sixteen-fermion and related terms in M-theory on T^2. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 149–161. (Summary) **99a:81139** 81T30

— (*with* Green, Michael B.) D-instanton partition functions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046007, 9 *pp.* (Summary) **99k:81239** 81T30 (81T13, 81T60)

— (*with* Brodie, John H.) String corrections to four point functions in the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **445** (1999), *no.* 3-4, 296–306. (Summary) **99k:81224** 81T30 (81T60)

Gutsch, Sabine (*with* Hackbusch, Wolfgang; Maitre, Jean-François; Musy, François) The appropriate numbering for the multigrid solution of convection dominated problems. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 75–88, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76116** 76M25

Gut·shabash, E. Sh. (*with* Varzugin, G. G.; Lipovskiĭ, V. D.) Errata: "A boundary value problem for a two-dimensional stationary Heisenberg magnet with nontrivial background. II" [Teoret. Mat. Fiz. **104** (1995), no. 3, 513–529; MR 98k:82051]. (Russian) *Teoret. Mat. Fiz.* **106** (1996), *no.* 1, 175. 82B20 (35Q60, 82C31)

— The Pohlmeyer transformation and $(2+0)$-integrable equations of statistical physics. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 149–165, 285. (Andrey V. Tsiganov) **99e:58100** 58F07 (35Q99, 82B23)

Gutt, Simone (*with* Cahen, Michel; Trautman, Andrzej) Pin structures and the Dirac operator on real projective spaces and quadrics. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 391–399, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Hans-Bert Rademacher) **99d:58160** 58G03 (53A50, 58G25)

— (*with* Bertelson, Mélanie; Bieliavsky, Pierre) Parametrizing equivalence classes of invariant star products. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 339–345. (Summary) **99m:58103** 58F06

Güttinger, Werner (*with* Wegelin, Michael; Oppenländer, Jörg; Tomes, Jörg; Dangelmayr, Gerhard) Synchronized patterns in hierarchical networks of neuronal oscillators with $\mathbf{D}_3 \times \mathbf{D}_3$ symmetry. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 213–232. (Summary) **99f:92004** 92C15 (34C23)

Guttman, I. (*with* Philips, Robert) A new criterion for variable selection. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 11–19. (Summary) **99g:62096** 62J05 (62F15)

Guttmann, Anthony J. (*with* Jensen, Iwan; Enting, I. G.) The finite lattice method of series expansions. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 411–416, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 82B20

— (*with* Conway, Andrew R.; Delest, Marie-Pierre) The number of three-choice polygons. (English summary) Combinatorics and physics (Marseilles, 1995). *Math. Comput. Modelling* **26** (1997), *no.* 8-10, 51–58. (Hsien-Kuei Hwang) **99c:82032** 82B41 (05A16)

— (*with* Feldmann, Heiko; Jensen, Iwan; Shrock, Robert; Tsai, Shan-Ho) Study of the Potts model on the honeycomb and triangular lattices: low-temperature series and partition function zeros. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2287–2310. (Summary) **99b:82019** 82B20 (82B26)

— (*with* Bennett-Wood, D.; Enting, I. G.; Gaunt, D. S.; Leask, J. L.; Owczarek, Aleksander L.; Whittington, Stuart G.) Exact enumeration study of free energies of interacting polygons and walks in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4725–4741. (Summary) **99c:82031** 82B41 (82D60)

— (*with* Owczarek, Aleksander L.; Viennot, Xavier G.) Vicious walkers and Young tableaux. I. Without walls. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8123–8135. (E. J. Janse van Rensburg) **99j:82042** 82B41 (05E10, 82B23)

— (*with* Jensen, Iwan) Self-avoiding walks, neighbour-avoiding walks and trails on semiregular lattices. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8137–8145. (E. J. Janse van Rensburg) **99j:82045** 82B41 (82B23)

Guttmann-Beck, Nili (*with* Hassin, Refael) Approximation algorithms for minimum tree partition. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 117–137. (Pranava K. Jha) **99i:05189** 05C85 (68Q25)

— (*with* Hassin, Refael) Approximation algorithms for min-sum p-clustering. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 125–142. (Peter B. Gibbons) **99k:05149** 05C85 (05C35, 68Q20, 68R10)

Gutzmer, Tim (*with* Iske, Armin) Detection of discontinuities in scattered data approximation. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 155–170 (1998). (A. Bultheel) **99d:65042** 65D17

Gutzwiller, Martin C. The origins of the trace formula. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 8–28, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 58D30 (58G25, 81Q20, 81S40)

— *see also* **Emerging applications of number theory, 99m:11003**

Guu, S. M. (*with* Liou, Y. C.) On a quadratic optimization problem with equality constraints. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 733–741. (Summary) **99f:90073** 90C20

Guven, Jemal (*with* Capovilla, Riccardo) Scratching the surface: deformations of relativistic membranes. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics* (*Trieste*, 1994), 87–100, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:83064** 83E30

— (*with* Ó Murchadha, Niall) Geometric bounds in spherically symmetric general relativity. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7650–7657. (Edward Malec) **99e:83040a** 83C75 (83C05)

— (*with* Ó Murchadha, Niall) Sufficient conditions for apparent horizons in spherically symmetric initial data. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7658–7665. (Edward Malec) **99e:83040b** 83C75 (83C05)

— (*with* Ó Murchadha, Niall) Necessary conditions for apparent horizons and singularities in spherically symmetric initial data. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7666–7673. (Edward Malec) **99e:83040c** 83C75 (83C05)

— (*with* Capovilla, Riccardo) Open strings with topologically inspired boundary conditions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1111–1119. (Marco Cavaglià) **99f:81151** 81T30 (83E30)

— (*with* Capovilla, Riccardo) Deformations of extended objects with edges. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5158–5165. (Summary) **99m:83182** 83E30 (83C99)

feza Güvenilir, A. *see* **Feza Güvenilir, A.**

Guy, Richard K. Nothing's new in number theory? *Amer. Math. Monthly* **105** (1998), *no.* 10, 951–954. (Richard T. Bumby) **99k:11002** 11-02 (11A25, 11D85, 11N13)

— Conference problems session conducted by J. L. Selfridge. *Number theory* (*Ottawa, ON*, 1996), 385–390, *CRM Proc. Lecture Notes*, 19, *Amer. Math. Soc., Providence, RI*, 1999.

(*see* **99k:11005**) 11-02
le Guyadec, Yann *see* **Le Guyadec, Yann**
Guyon, X. (*with* Gaetan, C.) Simulation des modèles de Gibbs spatiaux par chaine de Markov. (English summary) [Simulation of spatial Gibbs models by Markov chains] *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 289–318, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:60173** 60J10
Guysinsky, M. (*with* Katok, A.) Normal forms and invariant geometric structures for dynamical systems with invariant contracting foliations. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 149–163. (Nantian Qian) **99b:58215** 58F36 (58F15)
Guza, R. T. (*with* Chen, Yongze) Resonant scattering of edge waves by longshore periodic topography. (English summary) *J. Fluid Mech.* **369** (1998), 91–123. (Summary) **99e:86001** 86A05
Guzdar, Parvez N. (*with* Nam, Keeyeol; Ott, Edward; Gabbay, Michael) Spiral wave dynamics in the complex Ginzburg-Landau equation with broken chiral symmetry. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 69–83. (Summary) **99c:35226** 35Q55
— (*with* Gabbay, Michael; Ott, Edward) The dynamics of scroll wave filaments in the complex Ginzburg-Landau equation. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 371–395. (Yoram Schiffmann) **99h:92006** 92C15 (35Q55, 76E30)
— (*with* Nam, Keeyeol; Ott, Edward; Gabbay, Michael) Stability of spiral wave vortex filaments with phase twists. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2580–2585. 35Q35 (76E30)
— (*with* Kleva, Robert G.) Collisionless nonideal ballooning modes. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 116–121. 76W05
Guzeev, R. N. (*with* Loboda, A. V.) Holomorphic invariants of logarithmic spirals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 16–19; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 13–16. (J. S. Joel) **99h:32020a** 32F25
— (*with* Loboda, A. V.) Errata: "Holomorphic invariants of logarithmic spirals". (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. (J. S. Joel) **99h:32020b** 32F25
Guzev, M. A. (*with* Popov, G. V.) Modeling of a point source field in a randomly stratified medium in the absence of regular refraction. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 46–52, 198. 35Q99
sepko-Guzicka, E. *see* **Sepko-Guzicka, E.**
Guzicki, W. *see* **Ross, Kenneth Allen, 99f:00001**
Guzik, Jacek (*with* Szydłowski, Marek; Maciejewski, Andrzej J.) Dynamical trajectories of simple mechanical systems as geodesics in space with an extra dimension. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1569–1585. (Geoffrey Prince) **99k:58149** 58F17 (58F05, 70H05, 83C10)
Guzmán, Fernando (*with* Brin, Matthew G.) Automorphisms of generalized Thompson groups. *J. Algebra* **203** (1998), *no.* 1, 285–348. (D. E. Cohen) **99d:20056** 20F28
de Guzmán, I. P. (*with* Aguilera, Gabriel; Ojeda Aciego, M.) A reduction-based theorem prover for 3-valued logic. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 99–127. (Henry Africk) **99h:03008** 03B50 (03B35, 68T15)
morales-Guzmán, J. D. *see* **Morales-Guzmán, J. D.**
Guzmán, Juan R. (*with* Rosu, Haret C.) Gegenbauer polynomials and supersymmetric quantum mechanics. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 6, 941–942. (Jiu Qing Liang) **99a:81049** 81Q60 (33C55)
— (*with* Rosu, Haret C.) Supersymmetric techniques applied to the Jacobi equation. (English summary) *European J. Phys.* **19** (1998), *no.* 3, 287–292. (Avinash Khare) **99i:81055** 81Q60 (33C45)
Guzman, Mark G. (*with* Bhattacharya, Joydeep; Shell, Karl) Price level volatility: a simple model of money taxes and sunspots. (English summary) *J. Econom. Theory* **81** (1998), *no.* 2, 401–430. (From the introduction) **99e:90024** 90A53 (90A56)
de Guzmán, Miguel (*with* Hodgson, Bernard R.; Robert, Aline; Villani, Vinicio) Difficulties in the passage from secondary to tertiary education. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 747–762 (*electronic*). (*see* **99e:00025**) 00A35
— Listening to Luis A. Santaló. (Spanish) *Gac. R. Soc. Mat. Esp.* **1** (1998), *no.* 1, 48–55. 01A70
sánchez-Guzmán, R. A. *see* **Sánchez-Guzmán, R. A.**
herrera Guzmán, Rafael *see* **Herrera Guzmán, Rafael**
Guzman, Rolando M. (*with* Ventura, Gustavo) A model of experimentation with information externalities. (English summary) *J. Econom. Dynam. Control* **23** (1998), *no.* 1, 9–34. (Summary) **99g:90176** 90D40 (90A16)
Guzmán Gómez, Ana Margarita Differential equations with impasse points. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 205–208, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 34A09 (34A26)
— Constrained equations with impasse points. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 292–306. (Peter Kunkel) **99g:34086** 34C23 (34A09, 34C20, 58F14)
Guzmán Ovando, Maria E. (*with* Fernández Muñiz, José L.) Riesz lattices and quasipositive operators. (Spanish. Spanish summary) *XXIX National Congress of the Mexican Mathematical Society* (*Spanish*) (*San Luis Potosí*, 1996), 39–42, *Aportaciones Mat. Comun.*, 20, *Soc. Mat. Mexicana, México*, 1997. (*see* **99i:00016**) 47B65
Guzmán-Partida, Martha (*with* Pérez-Esteva, Salvador) Hardy spaces of conjugate systems of temperatures. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 605–619. (Bui Huy Qui) **99i:42032** 42B30 (35K05, 46E15)
Guzzo, H., Jr. (*with* Vicente, P.) On Bernstein and train algebras of rank 3. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2021–2032. (Consuelo Martínez) **99c:17045** 17D92
— (*with* Costa, Roberto C. F.; Vicente, P.) Shape identities in train algebras of rank 3. (English summary) *Results Math.* **35** (1999), *no.* 1-2, 32–43. (Consuelo Martínez) **99m:17044** 17D92
Guzzo, M. *see* **Guzzo, Massimiliano**
Guzzo, M. M. (*with* Bellandi Filho, J.; Fleitas, J. R.; de Aquino, V. M.) On the matricial representations of exponential operators. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 4, 591–597. (Pierre Anglès) **99k:22012** 22E15 (15A90, 81R05)
Guzzo, Massimiliano (*with* Benettin, Giancarlo; Fassò, Francesco) Fast rotations of the rigid body: a study by Hamiltonian perturbation theory. II. Gyroscopic rotations. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1695–1717. (Vassili G. Gelfreich) **99d:70012** 70E15 (58F30, 70E20, 70H05)
— (*with* Fassò, Francesco; Benettin, Giancarlo) Nekhoroshev-stability of elliptic equilibria of Hamiltonian systems. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 347–360. (Dario Bambusi) **99j:58117** 58F10 (34C29, 34D10, 58F05, 58F30, 70H05)
— (*with* Fassò, Francesco; Benettin, Giancarlo) On the stability of elliptic equilibria. (English summary) *Math. Phys. Electron. J.* **4** (1998), *Paper* 1, 16 *pp.* (*electronic*). (Luigi Chierchia) **99e:58157** 58F30 (34C35, 34D99, 70H05, 70K20)
Gvazava, D. K. (*with* Kharibegashvili, Sergo) To the theory of boundary value problems for hyperbolic type equations and systems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 68–75. (Summary) **99d:35093** 35L20 (35L80)
Gvozdić, Dejan M. (*with* Iričanin, Bratislav D.; Mašanović, Goran Z.) On the analytical and numerical treatment of a class of PDE's with the application to some two-valley semiconductor electron devices. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 71–93. 82D99 (65N30)
Gvozdjak, Pavol (*with* Bienia, Wojciech; Goddyn, Luis A.; Sebő, András; Tarsi, Michael) Flows, view obstructions, and the lonely runner. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 1–9. (Prabir Das) **99c:90043** 90B10 (05C99)
Gvozdovskaya, N. I. (*with* Kulikovskiĭ, A. G.) Electromagnetic shock waves and their structure in anisotropic magnets. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 139–148; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 135–143. (From the summary) **99e:78024** 78A40
— (*with* Kulikovskiĭ, A. G.) Investigation of electromagnetic shock-wave structure in anisotropic ferromagnets with easy axis. (English summary) *Wave Motion* **29** (1999), *no.* 1, 23–34. (Summary) **99j:78015** 78A40
al-Gwaiz, M. A. *see* **Al-Gwaiz, M. A.**
Gwiazda, Piotr Existence and uniqueness theorem for the Chan-Bodner-Lindholm model. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 4, 285–300. (R. C. MacCamy) **99k:73073** 73G20 (35Q72, 73E50)
Gwinner, Joachim On variational minimax problems under relaxed coercivity assumptions. (English summary) *Minimax theory and applications* (*Erice*, 1996), 53–69, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Maria J. Esteban) **99g:49007** 49J35 (49K40)
Gwoździewicz, Janusz (*with* Kurdyka, Krzysztof; Parusiński, Adam) On the number of solutions of an algebraic equation on the curve $y = e^x + \sin x$, $x > 0$, and a consequence for o-minimal structures. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1057–1064. (Detlef Laugwitz) **99f:03046** 03C62 (14P15, 26E05)
Gwynllyw, D. Rh. (*with* Li, Xi Kui; Davies, A. R.; Phillips, T. N.) Three-dimensional effects in dynamically loaded journal bearings. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 311–341. (Summary) **99i:76039** 76D08
Gyárfás, András (*with* Erdős, Paul[1]) A variant of the classical Ramsey problem. (English summary) *Combinatorica* **17** (1997), *no.* 4, 459–467. (W. G. Brown) **99h:05090** 05C55 (05C35, 05D10)
— (*with* Király, Zoltán; Lehel, Jenő) On-line 3-chromatic graphs. II. Critical graphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 99–122. (Summary) **99e:05049** 05C15
— (*with* Schelp, Richard H.) A communication problem and directed triple systems. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 2, 139–147. (Pranava K. Jha) **99f:05090** 05C70
— (*with* Chen, Guantao; Schelp, Richard H.) Vertex colorings with a distance restriction. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 65–82. (Mirko Horňák) **99j:05067** 05C15
— (*with* Guiduli, Barry; Thomassé, Stéphan; Weidl, Peter) 2-partition-transitive tournaments. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 181–196. (J. W. Moon) **99c:05079** 05C20
— Nonsymmetric party problems. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 43–47. (Ralph Faudree) **99f:05079** 05C55
— (*with* Faudree, Ralph J.; Lehel, Jenő) Path-pairable graphs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 145–157. (Summary) **99j:05120** 05C38
— *see also* **Graph theory and combinatorial biology, 99k:00031**
Gyiman, Carmen (*with* Tomescu, Marius) Fuzzy integrals defined by T-norm. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 167–171, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 28E10
Gyllenberg, Mats (*with* Diekmann, Odo; Metz, J. A. J.; Thieme, Horst R.) On the formulation and analysis of general deterministic structured population models. I. Linear theory. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 349–388. (V. N. Razzhevaikin) **99k:92025** 92D25
— *see also* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**
Gylys-Colwell, Frederick D. (*with* Karls, Michael A.) Local properties of solutions of a differential equation via normed linear spaces. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 1, 33–48. (Miguel Ramos) **99h:34002** 34A12 (34B15, 35J25, 47H10)
Gyngazov, L. N. (*with* Pawlowski, M.; Pervushin, V. N.; Smirichinskii, V. I.) Proper time dynamics in general relativity and conformal unified theory. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1749–1773. (Alexander N. Petrov) **99j:83010** 83C05 (83C22, 83D05)
Gyoja, Akihiko Character sums and intersection cohomology complexes associated to the space of square matrices. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 3, 371–385. (Adolfo Quirós) **99h:11092** 11L05 (11G25, 11T24, 14F32)
— Theory of prehomogeneous vector spaces. II. A supplement. *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 1, 33–57. (From the text) **99a:32010** 32C38 (14F10, 35A27)
— (*with* Yamashita, Hiroshi[1]) Associated variety, Kostant-Sekiguchi correspondence, and locally free $U(\mathfrak{n})$-action on Harish-Chandra modules. Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 1–20. (William M. McGovern) **99e:17007** 17B10 (22E46)
— Mixed Hodge theory and prehomogeneous vector spaces. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 116–132. (Introduction) **99i:14009** 14C30 (11G99)

— A remark on invariant differential operators on prehomogeneous vector spaces. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 172–173. (*see* **99a:11006**) 14L30
— Groups and differential equations. (Japanese) Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 174–205. (*see* **99a:11006**) 32G34 (33C80)
— (*with* Denef, Jan) Character sums associated to prehomogeneous vector spaces. (English summary) *Compositio Math.* **113** (1998), *no.* 3, 273–346. (Ernst-Wilhelm Zink) **99k:11128** 11L05 (11M41, 11T24, 14G15)
— (*with* Nishiyama, Kyo; Shimura, Hiroyuki) Invariants for representations of Weyl groups and two-sided cells. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 1–34. (Jian Yi Shi) **99m:20006** 20C15 (20F55)
Gyöngy, István On a class of semilinear stochastic partial differential equations. *Stochastic differential and difference equations* (*Győr*, 1996), 91–121, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Ralf Manthey) **99j:60090** 60H15 (35K60, 35R60)
— A note on Euler's approximations. (English summary) *Potential Anal.* **8** (1998), *no.* 3, 205–216. (Shigetoku Kawabata) **99d:60060** 60H10
— Lattice approximations for stochastic quasi-linear parabolic partial differential equations driven by space-time white noise. I. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 1–25. (David Nualart) **99j:60091** 60H15 (35K55, 35R60)
— Existence and uniqueness results for semilinear stochastic partial differential equations. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 2, 271–299. (Marek Capiński) **99b:60091** 60H15 (35R30, 35R60)
Györfi, L. (*with* Beirlant, J.) On the L_1-error in histogram density estimation: the multidimensional case. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 197–216. (Summary) **99d:62028** 62G05
— (*with* Kohler, Michael; Walk, H.) Weak and strong universal consistency of semi-recursive kernel and partitioning regression estimates. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 1–18. (Sidney J. Yakowitz) **99i:62112** 62G20 (62G07)
Győri, Ervin *see* **Recent trends in combinatorics, 99k:00041**
Győri, István (*with* Pituk, Michal) Asymptotic stability in a linear delay difference equation. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 295–299, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39020** 39A10
— (*with* Desch, W.; Pongor, Gábor) Stability of semilinear delay equations with positive solutions. (English summary) *Positivity* **1** (1997), *no.* 4, 319–330. (Ti Jun Xiao) **99j:34112** 34K20 (34K30)
— (*with* Hartung, Ferenc; Turi, Janos) Preservation of stability in delay equations under delay perturbations. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 290–312. (Peter Dormayer) **99a:34212** 34K20
— *see also* **Advances in difference equations, 99d:39001**
Győrvári, J. Approximate solution of differential equations using modified lacunary spline functions of type (0; 2; 4). *Advances in difference equations* (*Veszprém*, 1995), 301–309, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 34A45
Győry, Kálmán Recent bounds for the solutions of decomposable form equations. *Number theory* (*Eger*, 1996), 255–270, *de Gruyter, Berlin*, 1998. (Yann Bugeaud) **99e:11032** 11D57 (11J86)
— On the Diophantine equation $n(n+1)\cdots(n+k-1) = bx^l$. *Acta Arith.* **83** (1998), *no.* 1, 87–92. (T. N. Shorey) **99a:11036** 11D61 (11D41)
— *see also* **Number theory, 99a:11004**
Győry, Máté (*with* Molnár, Lajos) Diameter preserving linear bijections of $C(X)$. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 301–310. (John N. McDonald) **99h:46098** 46J10 (47B38)
Gysin, Marc (*with* Seberry, Jennifer) An experimental search and new combinatorial designs via a generalisation of cyclotomy. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 143–160. (Summary) **99j:05041** 05B20 (05B05, 05B10)
Gyssens, Marc (*with* Jeavons, Peter; Cohen, David A.) Closure properties of constraints. (English summary) *J. ACM* **44** (1997), *no.* 4, 527–548. (Armin Cremers) **99a:68089** 68Q25 (68Q15, 68R05, 68T20)
Gyuris, Viktor (*with* Sain, Ildikó) Finite schematizable algebraic logic. (English summary) *Log. J. IGPL* **5** (1997), *no.* 5, 699–751 (*electronic*). (Mohamed Amer) **99d:03061** 03G15 (03B10, 03B45, 03G25)
Gyurkovics, Éva Receding horizon control for the stabilization of nonlinear uncertain systems described by differential inclusions. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99h:93084** 93D15 (34A60, 34H05, 49J24)
Gzyl, Henryk Maxentropic reconstruction of Fourier and Laplace transforms under nonlinear constraints. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 117–126. (A. J. Rodrigues) **99b:65169** 65R10 (44A10)
— (*with* Chang, Carolina) Parameter estimation in superposition of decaying exponentials. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 101–116. 65U05 (90C90)

–H–

truong xuan duc Ha *see* **Truong Xuan Duc Ha**

Ha, Chung-Wei (*with* Chang, Ching-Hua) Bounds for the singular values of smooth kernels. *Colloq. Math.* **78** (1998), *no.* 2, 319–324. (A. Pietsch) **99k:47116** 47G10 (45P05, 47B06)

— Eigenvalues of a Sturm-Liouville problem and inequalities of Lyapunov type. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3507–3511. (Anton Zettl) **99b:34134** 34L15 (34B24, 34L20)

— (*with* Kuo, Chung-Cheng) On the solvability of a two-point boundary value problem at resonance. II. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 159–168. (From the introduction) **99g:34049** 34B15 (47H15, 47N20)

— (*with* Chang, Ching-Hua) On eigenvalues of differentiable positive definite kernels. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 1, 1–7. (Summary) **99j:47072** 47G10 (45P05)

Ha, In-Joong (*with* Kim, Seung Jean) A state-space approach to analysis of almost periodic nonlinear systems with sector nonlinearities. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 66–70. (Summary) **99j:93043** 93B52 (93D15)

Ha, Jae-Cheol (*with* Moon, Sang-Jae) A common-multiplicand method to the Montgomery algorithm for speeding up exponentiation. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 105–107. (Summary) **99b:94034** 94A60

Ha, Jun-Hong (*with* Park, Jong Yeoul; Han, Hyo-Keun) Identification problem for damping parameters in linear damped second order systems. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 895–909. (N. U. Ahmed) **99a:49010** 49J20 (34G10, 93C20)

— (*with* Vanualailai, Jito; Nakagiri, Shin-ichi) A solution to the two-dimensional findpath problem. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 373–401. (Clementina D. Mladenova) **99j:93068** 93C85 (70B15, 70Q05)

— (*with* Nakagiri, Shin-ichi) Existence and regularity of weak solutions for semilinear second order evolution equations. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 1–24. (Enzo Vitillaro) **99f:34085** 34G10 (35L70, 47N20)

— (*with* Vanualailai, Jito) A collision avoidance control problem for moving objects and a robot arm. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 135–148. (Inge Troch) **99a:70008** 70B15 (70Q05, 90D25, 93C85)

— (*with* Nakagiri, Shin-ichi; Elgamal, Mahmoud) Existence, uniqueness and continuous dependence of weak solutions of damped sine-Gordon equations. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 1–13. (*see* **99f:00019**) 35L70 (35B30, 35Q53)

Ha, Ki Sik (*with* Shin, Ki-yeon) Abstract nonlinear functional integro-differential equations in Banach spaces. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 321–328. (Summary) **99i:45014** 45J05 (34G20, 34K30, 45N05, 47N20)

Ha, M. D. Weighted ergodic averages. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 61–68. (James H. Olsen) **99f:28025** 28D05

Ha, Sung Nam (*with* Choi, Jeongwhan; Hong, Bum Il) Analytic expression of hydraulic fall in the free surface flow of a two-layer fluid over a bump. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 479–490. (Summary) **99f:76023** 76B15

Ha, Vu (*with* Haddawy, Peter) Theoretical foundations for abstraction-based probabilistic planning. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 291–298, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T20

Ha, Zachary N. C. ★ Quantum many-body systems in one dimension. Series on Advances in Statistical Mechanics, 12. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xii*+156 *pp. ISBN* 981-02-2275-0 (Nicolae Angelescu) **99f:82020** 82B23 (81V70, 82B20)

Haack, C. (*with* Mahrenholtz, O.; Schlegel, V.) On the use of a BEM time-stepping procedure for nonlinear and unsteady wave-structure interaction. *Boundary element topics* (*Stuttgart*, 1995), 149–166, *Springer, Berlin*, 1997. (*see* **99e:00017**) 73V10 (65N38, 73K70, 76M15)

Haag, Reinhard ★ Robuste Mehrgitterverfahren für die Euler- und Navier-Stokes-Gleichungen. (German. German summary) [Robust multigrid methods for the Euler- and Navier-Stokes equations] Dissertation, Universität Stuttgart, Stuttgart, 1997. Bericht [Report], 97/2. *Institut für Computeranwendungen der Universität Stuttgart, Stuttgart*, 1997. 107 *pp.* (Dennis C. Jespersen) **99f:76090** 76M20 (65N55)

Haag, Ulrich Some algebraic features of Z_2-graded KK-theory. (English summary) *K-Theory* **13** (1998), *no.* 1, 81–108. (Daniel Kucerovsky) **99f:19003** 19K35 (46L80)

Haagensen, Peter E. Duality and the renormalization group. (English summary) *New developments in quantum field theory* (*Zakopane*, 1997), 65–77, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99f:81133** 81T17

Haager, Gernot (*with* Mars, Marc) A self-similar inhomogeneous dust cosmology. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1567–1580. (Alicia M. Sintes) **99e:83009** 83C15 (83C20)

— Voids within the two-component dust model. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3669–3677. (Summary) **99i:83050** 83C55 (83C15)

Haagerup, Uffe (*with* Dykema, Kenneth J.; Rørdam, Mikael) The stable rank of some free product C^*-algebras. *Duke Math. J.* **90** (1997), *no.* 1, 95–121. (Gustavo Corach) **99g:46077a** 46L05 (19B10, 19K56, 46L35, 46L80)

— (*with* Laustsen, Niels J.) Weak amenability of C^*-algebras and a theorem of Goldstein. (English summary) *Banach algebras '97* (*Blaubeuren*), 223–243, *de Gruyter, Berlin*, 1998. (Vladimir Manuilov) **99k:46096** 46L05 (46L10, 46L57)

— (*with* Størmer, Erling) On maximality of entropy in finite von Neumann algebras. *Operator algebras and operator theory* (*Shanghai*, 1997), 99–109, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (A. I. Danilenko) **99m:46152** 46L50 (46L10)

— (*with* Winsløw, Carl) The Effros-Maréchal topology in the space of von Neumann algebras. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 567–617. (A. I. Danilenko) **99c:46071** 46L35 (46L37, 46M99)

— (*with* Dykema, Kenneth J.; Rørdam, Mikael) Correction to: "The stable rank of some free product C^*-algebras". *Duke Math. J.* **94** (1998), *no.* 1, 213. (Gustavo Corach) **99g:46077b** 46L05 (19B10, 19K56, 46L35, 46L80)

— (*with* Størmer, Erling) Maximality of entropy in finite von Neumann algebras. (English summary) *Invent. Math.* **132** (1998), *no.* 2, 433–455. (Dietmar H. Bisch) **99c:46069** 46L10 (28D20, 46L40, 54C70)

Haak, G. (*with* Dorfmeister, J.) On constant mean curvature surfaces with periodic metric. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 229–287. (Karsten Grosse-Brauckmann) **99f:53007** 53A10

Haake, Fritz (*with* Gerwinski, Peter) Semiclassical Floquet spectra without periodic orbits from $\hbar$-expansion of Floquet matrix. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 112–121, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20

— (*with* Kuś, Marek; Zaitsev, Dmitri; Huckleberry, Alan) Level dynamics for conservative and dissipative quantum systems. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8635–8651. (Alexei Khorunzhy) **99e:82088** 82C41 (15A52)

— (*with* Sommers, Hans-Jürgen; Weber, Joachim) Joint densities of secular coefficients for unitary matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4395–4401. (Summary) **99b:82042** 82B41

de Haan, Laurens (*with* Peng, Liang) Slow convergence to normality: an Edgeworth expansion without third moment. (English summary) *Probab. Math. Statist.* **17** (1997), *no.* 2, 395–406 (19*N*). (Gutti J. Babu) **99a:60018** 60F05 (62E20)

— (*with* Rootzén, Holger; Leadbetter, M. Ross) On the distribution of tail array sums for strongly mixing stationary sequences. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 868–885. (J. Hüsler) **99e:60070** 60F05 (60G10, 60G70)

— (*with* Resnick, Sidney I.) On asymptotic normality of the Hill estimator. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 4, 849–866. (László Viharos) **99e:62046** 62G05 (62G20)

— (*with* de Ronde, John) Sea and wind: multivariate extremes at work. (English summary) *Extremes* **1** (1998), *no.* 1, 7–45. 62G30 (60G70, 62N05)

den Haan, Wouter J. (*with* Levin, Andrew T.) A practitioner's guide to robust covariance matrix estimation. *Robust inference*, 299–342, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62M10 (62G05, 62M15, 62P20)

Haar, Stefan Branching processes of general S/T-systems and their properties. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q90)

ter Haar Romeny, Bart M. (*with* Salden, Alfons H.; Viergever, Max A.) Differential and integral geometry of linear scale-spaces. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 5–27. (Henk J. A. M. Heijmans) **99g:68216** 68U10 (53C65)

— (*with* Salden, Alfons H.; Viergever, Max A.) Linear scale-space theory from physical principles. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 2, 103–139. (Summary) **99h:68177** 68U10 (00A79, 35A30)

— (*with* Kalitzin, Stilyan; Salden, Alfons H.; Nacken, Peter FM; Viergever, Max A.) Topological numbers and singularities in scalar images: scale-space evolution properties. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 3, 253–269. (Jayant M. Shah) **99m:68222** 68U10

Haas, Fernando (*with* Goedert, J.) On the Lie symmetries of a class of generalized Ermakov systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 6, 348–352. (Stanislav V. Spichak) **99h:58172** 58F37 (34A34, 58F05)

de Haas, K. (*with* Craven, B. D.; Wettenhall, J. M.) Computing optimal control. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 601–615. (Summary) **99j:49071** 49M30 (65K10)

Haas, Peter J. (*with* Stokes, Lynne) Estimating the number of classes in a finite population. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1475–1487. 62D05

— On simulation output analysis for generalized semi-Markov processes. (English summary) *Comm. Statist. Stochastic Models* **15** (1999), *no.* 1, 53–80. (Andor Dobó) **99m:60140** 60K15

Haas, Ruth Bases for splines on a subdivided domain. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 2, 113–122. (Summary) **99c:65019** 65D07 (41A15)

Haase, G. (*with* Nepomnyashchikh, Sergeĭ V.) Explicit extension operators on hierarchical grids. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 4, 231–248. (Jan Mandel) **99e:65172** 65N55

— Parallel incomplete Cholesky preconditioners based on the non-overlapping data distribution. (English summary) *Parallel Comput.* **24** (1998), *no.* 11, 1685–1703. (Summary) **99f:65065** 65F30 (65N55)

Haba, Naoyuki (*with* Matsuoka, Takeo) Large lepton flavor mixing and E_6-type unification models. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 831–842. (Summary) **99e:81259** 81V22

Haba, Z. Feynman integral in regularized nonrelativistic quantum electrodynamics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1766–1787. (H. S. Green) **99a:81199** 81V10 (81S40, 81T15)

— Classical limit of quantum dissipative systems. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 2, 121–130. (Vladimir Georgescu) **99h:81111** 81S30 (81Q20)

— (*with* Albeverio, Sergio; Brzeźniak, Zdzisław) On the Schrödinger equation with potentials which are Laplace transforms of measures. (English summary) *Potential Anal.* **9** (1998), *no.* 1, 65–82. (Summary) **99k:35152** 35Q40 (58D30, 81Q05)

Habala, P. (*with* Ferenczi, V.) A uniformly convex Banach space whose subspaces fail Gordon-Lewis property. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 6, 481–492. (Vladimir M. Kadets) **99j:46018** 46B20 (46B70, 46M35)

Habbal, Abderrahmane Direct approach to the minimization of the maximal stress over an arch structure. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 551–578. (Vadim Komkov) **99c:73055** 73K40 (49N55, 73K05)

— Nonsmooth shape optimization applied to linear acoustics. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 989–1006 (*electronic*). (Sergei Pavlovich Ohezin) **99i:49050** 49Q10 (49J52, 65K10, 76Q05)

Habeb, Jebrel M. Zero insertive rings of small orders and zero insertive regular rings. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 51–57. (Summary) **99h:16050** 16U99 (16U80)

Habel, Annegret (*with* Drewes, Frank; Kreowski, Hans-Jörg) Hyperedge replacement graph grammars. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 95–162, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C65, 05C85, 68R10)

— (*with* Andries, Marc; Engels, Gregor; Hoffmann, Berthold; Kreowski, Hans-Jörg; Kuske, Sabine; Plump, Detlef; Schürr, Andy; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Habel, Christopher *see* **KI-97: advances in artificial intelligence, 99d:68006**

Haber, R. B. (*with* Carranza, F. L.; Fang, Biao) An adaptive space-time finite element model for oxidation-driven fracture. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 399–423. (*see* **99b:73001**) 73V05 (73M25)

Haberman, Richard (*with* Brothers, Jerry D.) Slow passage through a homoclinic orbit with subharmonic resonances. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 2, 211–232. (Sergei A. Dovbysh) **99j:34078** 34E10 (34C37, 70H99, 70K99)

— (*with* Brothers, Jerry D.) Accurate phase after slow passage through subharmonic resonance. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 347–364 (*electronic*). (Summary) **99g:34075** 34C15 (34C29, 34E05, 70K30)

Haberman, Steven (*with* Pitacco, E.) ★ Actuarial models for disability insurance. (English summary) *Chapman & Hall/CRC, Boca Raton, FL*, 1999. *xx*+280 *pp. ISBN* 0-8493-0389-3 (From the preface) **99g:62150** 62P05

Habetha, Klaus (*with* Begehr, Heinrich G. W.; Hsiao, George C.) Laudatio for Robert Pertsch Gilbert on the occasion of his 65th anniversary. *Generalized analytic functions* (*Graz*, 1997), *xvii–xxvi, Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 01A70

— *see also* **Clifford algebras and their application in mathematical physics, 99a:00022**

Habets, P. (*with* Gaudenzi, Marcellino) Nonselfadjoint 4th order boundary value problems. *Nonlinear Anal.* **33** (1998), *no.* 3, 303–320. (Salvatore A. Marano) **99c:34029** 34B05 (34L05)

— (*with* Cherpion, M.; De Coster, Colette) Monotone iterative methods for boundary value problems. *Differential Integral Equations* **12** (1999), *no.* 3, 309–338. (Seppo Heikkilä) **99m:34018** 34A45 (34B15, 65L10)

Habib, A. *see* **Habib, Aziz Shafik Mohamed**

Habib, Ayman W. (*with* Goldman, Ron N.) Theories of contact specified by connection matrices. (English summary) In memory of John Gregory. *Comput. Aided Geom. Design* **13** (1996), *no.* 9, 905–929. (Marshall Walker) **99d:65043** 65D17 (65Y25)

Habib, Aziz Shafik Mohamed (*with* Szántai, T.) On the k-out-of-r-from-n:F system with unequal element probabilities. (English summary) *New trends in mathematical programming*, 289–303, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 60K10 (90B25)

Habib, Michel (*with* Nourine, Lhouari; Steiner, George) Gray codes for the ideals of interval orders. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 52–66. (Wolfgang Knapp) **99a:06003** 06A07 (05C45, 06B10)

— (*with* Paul, Christophe; Viennot, Laurent) A synthesis on partition refinement: a useful routine for strings, graphs, Boolean matrices and automata. (English summary) *STACS* 98 (*Paris*, 1998), 25–38, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q20 (68P05, 68Q25)

— *see also* **Probabilistic methods for algorithmic discrete mathematics, 99i:05003**

Habib, Salman (*with* Shizume, Kousuke; Zurek, Wojciech Hubert) Chaos, noise and the quantum-classical correspondence. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 159–169. (*see* **99b:00018**) 81Q50 (58F13)

— (*with* Shizume, Kousuke; Zurek, Wojciech Hubert) Decoherence, chaos, and the correspondence principle. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 20, 4361–4365. (Summary) **99a:81010** 81P05 (58F40, 81Q50, 81S30)

Habsieger, Laurent Binary codes with covering radius one: some new lower bounds. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 115–130. (N. L. Manev) **99a:94042** 94B05 (94B12)

— (*with* Kazaryan, M. È.; Lando, Sergei) On the second number of Plutarch. *Amer. Math. Monthly* **105** (1998), *no.* 5, 446. (Paul Klingsberg) **99g:05012** 05A20 (03B05, 68R05)

Haccou, Patsy (*with* Iwasa, Yoh) Robustness of optimal mixed strategies. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 485–496. (Summary) **99c:92057** 92D40

Hachaj, Jadwiga David Hilbert in the light of his correspondence with Felix Klein. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 263–269, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 01A70

Hachemane, M. (*with* Smida, A.; Hamici, A.-H.) Geometro-differential conception of extended particles and the semigroup of trajectories in Minkowski space-time. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1367–1381. (Michael B. Mensky) **99j:81092** 81S40

Hachenberger, Dirk ★ Finite fields. (English summary) Normal bases and completely free elements. The Kluwer International Series in Engineering and Computer Science, 390. *Kluwer Academic Publishers, Boston, MA*, 1997. xii+171 *pp. ISBN* 0-7923-9851-3 (From the preface) **99c:11146** 11Txx

Hachimori, Yoshitaka (*with* Ichimura, Humio) Semi-local units modulo Gauss sums. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 377–395. (Alan Candiotti) **99h:11120** 11R20 (11R23)

Hachino, Tomohiro (*with* Yang, Zi-Jiang; Tsuji, Teruo) On-line identification of continuous time-delay systems combining least-squares techniques with a genetic algorithm. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 23–42. 93B30 (93C30)

Hącia, Lechosław (*with* Kaczmarek, Lech) On the boundedness of solutions for system of two-dimensional Volterra integral equations. (English summary) *Fasc. Math. No.* 28 (1998), 43–55. (Gustaf Gripenberg) **99f:45002** 45D05 (45F05, 45M99)

Hacibekiroglu, A. K. (*with* Ayala, Victor) Local observability of invariant dynamics on compact Lie groups with square integrable output map functions. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 12, 61–70. (Daizhan Cheng) **99b:93014** 93B07 (22E45)

Hacısaliboğlu, H. Hilmi (*with* Erkekoğlu, Fazilet) Surfaces of parallel mean curvature in arbitrary-dimensional manifolds of constant curvature. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 3, 387–391. 53C40

— (*with* Ekmekçi, N.) On helices of a Lorentzian manifold. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 45–50 (1997). (Pascual Lucas Saorin) **99f:53068** 53C50

— (*with* Turgut, Aysel) Spacelike ruled surfaces in the Minkowski 3-space. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 83–91 (1998). (Alan S. McRae) **99h:53022** 53B30 (53A25, 53A40)

— (*with* Amirov, A. Kh.) Finding a metric in three-dimensional Riemannian space with respect to Ricci and Einstein tensors. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 205–215. (Valery Marenich) **99m:53031** 53B20 (35R30)

— (*with* Amirov, A. Kh.) On the interrelations between the metric and curvature tensor in an n-dimensional Riemannian space. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1005–1012, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 864–871. (Josef Mikeš) **99k:53020** 53B21 (53B20)

— (*with* Turgut, Aysel) Timelike ruled surfaces in the Minkowski 3-space. II. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 33–46. (Jerzy Krawczyk) **99h:53015** 53A25 (53A40)

Hackbusch, Wolfgang (*with* Lage, C.; Sauter, Stefan A.) On the efficient realization of sparse matrix techniques for integral equations with focus on panel clustering, cubature and software design aspects. *Boundary element topics* (*Stuttgart*, 1995), 51–75, *Springer, Berlin*, 1997. (From the introduction) **99h:65204** 65N38

— (*with* Gutsch, Sabine; Maitre, Jean-François; Musy, François) The appropriate numbering for the multigrid solution of convection dominated problems. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 75–88, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76116** 76M25

— (*with* Sauter, Stefan A.) A new finite element approach for problems containing small geometric details. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math.* (*Brno*) **34** (1998), *no.* 1, 105–117. (K. Najzar) **99e:65156** 65N30 (65N50)

— (*with* Wappler, J. U.) Remarks on a posteriori error estimation for inaccurate finite element solutions. (English summary) *Computing* **60** (1998), *no.* 2, 175–191. (Larisa V. Maslovskaya) **99b:65143** 65N30 (65N15)

— (*with* Bastian, P.; Wittum, Gabriel) Additive and multiplicative multi-grid—a comparison. (English summary) *Computing* **60** (1998), *no.* 4, 345–364. (Summary) **99c:65228** 65N55

— From classical numerical mathematics to scientific computing. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 235–254 (*electronic*). (W. C. Rheinboldt) **99j:65001** 65-03 (01A60, 65Y99)

Hackl, Klaus Asymptotic methods in underwater acoustics. (English summary) *Generalized analytic functions* (*Graz*, 1997), 229–240, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:76105** 76Q05 (86A05)

— (*with* Gilbert, Robert Pertsch) Inverse acoustic problems in shallow oceans. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 244–248, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76Q05

— *see also* **Generalized analytic functions, 99d:00020**

Hackl, Peter (*with* Fedorov, Valerii V.) ★ Model-oriented design of experiments. (English summary) Lecture Notes in Statistics, 125. *Springer-Verlag, New York*, 1997. viii+117 *pp. ISBN* 0-387-98215-9 (N. Gaffke) **99f:62089** 62K05

Hacquebord, Feike (*with* Verlinde, Herman) Duality symmetry of $\mathcal{N} = 4$ Yang-Mills theory on T^3. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 609–622. (Marcos Mariño) **99e:81236** 81T60 (81T13)

Hada, Satoshi (*with* Tanaka, Toshiaki) On the existence of 3-round zero-knowledge protocols. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 408–423, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94046** 94A60 (68Q15)

Ha Dang Cao Tung Internal-valued probabilistic logic for a class of Horn clauses. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 3, 241–252. (Summary) **99m:68184** 68T27 (03B48, 68N17)

Hadas, Ofer On a bounded index version of Koethe's conjecture. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 91–94. (Summary) **99d:16003** 16D15 (16D25)

libeskind-Hadas, Ran *see* **Libeskind-Hadas, Ran**

Hadasz, Leszek Ground state energy of the modified Nambu-Goto string. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 8, 605–614. 81T30

Haddad, Abraham H. (*with* Tsai, Ching-Chih) Averaging, aggregation and optimal control of singularly perturbed stochastic hybrid systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 31–50. 93E03 (93C10)

el Haddad, El Mahjoub *see* **El Haddad, El Mahjoub**

Haddad, John N. A simple method for computing the covariance matrix and its inverse of a stationary autoregressive process. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 3, 617–623. 62M10

Haddad, Kamel N. (*with* Johnson, Aimee S. A.) IP cluster points, idempotents, and recurrent sequences. (English summary) *Topology Proc.* **22** (1997), 213–226. (Summary) **99j:54039** 54H20 (28D05)

Haddad, L. *see* **Haddad, Lucien**

Haddad, Labib (*with* Boutabaa, Abdelbaki; Escassut, Alain) On uniqueness of p-adic entire functions. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 145–155. (Daniel Barsky) **99j:30051** 30G06 (11S80, 12J25, 46S10)

— (*with* Escassut, Alain; Vidal, Robert) Urs, ursim, and non-urs for p-adic functions and polynomials. (English summary) *J. Number Theory* **75** (1999), *no.* 1, 133–144. (William A. Cherry) **99m:30093** 30G06 (30D35)

Haddad, Lucien (*with* Bruen, Aiden A.; Wehlau, David L.) Intersection-sets in PG(n, 2). (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 1, 3–11. (György Kiss) **99c:51009** 51E15 (05B25, 51E20, 51E22)

— (*with* Börner, Ferdinand) Generating sets for clones and partial clones. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 363–368, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 08A40

— (*with* Fugère, B. J.) On partial clones containing all idempotent partial operations. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 369–373, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 08A40

— (*with* Hell, Pavol; Mendelsohn, Eric) On the complexity of coloring areflexive h-ary relations with given permutation group. (English summary) *Ars Combin.* **48** (1998), 111–128. (Gary MacGillivray) **99d:05033** 05C15 (05C85, 68Q25)

— (*with* Bruen, Aiden A.; Wehlau, David L.) Binary codes and caps. (English summary) *J. Combin. Des.* **6** (1998), *no.* 4, 275–284. (Italo José Dejter) **99i:94062** 94B05 (05B25, 51E20, 51E25)

Haddad, Osamah M. (*with* Corke, Thomas C.) Boundary layer receptivity to free-stream sound on parabolic bodies. (English summary) *J. Fluid Mech.* **368** (1998), 1–26. 76D10 (76E05, 76Q05)

Haddad, S. (*with* Moreaux, P.; Chiola, G.) Distributions de Cox et phase-type dans les réseaux de Petri stochastiques: une méthode efficace de résolution. (English and French summaries) [Cox and phase-type distributions in stochastic Petri nets: an efficient solution method] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 289–323. (Summary) **99f:68145** 68Q90 (60K99)

Haddad, Wassim M. (*with* Collins, Emmanuel G., Jr.; Moser, Raymond) Structured singular value controller synthesis using constant D-scales without D-K iteration. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 813–830. 93B51 (93D15)

— (*with* Bernstein, Dennis S.; Chellaboina, Vijaya-Sekhar) Generalized mixed-μ bounds for real and complex multiple-block uncertainty with internal matrix structure. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 789–806. 93B36 (93C41)

— (*with* Collins, Emmanuel G., Jr.; Hyland, David C.; Chellaboina, Vijaya-Sekhar) Frequency-domain performance bounds for uncertain structures with sensor and actuator dynamics. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 381–392. 93C80 (93C42)

— (*with* Chellaboina, Vijaya-Sekhar) Robust nonlinear-nonquadratic feedback control via parameter-dependent Lyapunov functions. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 843–861. 93D21 (93D09)

— (*with* Hyland, David C.; Collins, Emmanuel G., Jr.; Hunter, Douglas L.) Neural network system identification for improved noise rejection. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 233–258. 93B30 (93C95)

— (*with* Chellaboina, Vijaya-Sekhar; Fausz, Jerry L.) Optimal nonlinear disturbance rejection control for nonlinear cascade systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 997–1018. 93D15 (93A20)

— (*with* Kapila, Vikram; Abdallah, Chaouki T.) Stabilization of linear and nonlinear systems with time delay. (English summary) *Stability and control of time-delay systems*, 205–217, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

— (*with* Chellaboina, Vijaya-Sekhar) Mixed-norm H_2/L_1 controller synthesis via fixed-order dynamic compensation: a Riccati equation approach. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 35–59. (Vasile Drăgan) **99f:93043** 93B36 (93B52)

— (*with* Chellaboina, Vijaya-Sekhar; Bernstein, Dennis S.) Structured matrix norms for robust stability and performance with block-structured uncertainty. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 535–557. (Takehiro Mori) **99h:93075** 93D09

— (*with* Kapila, Vikram) Robust controller synthesis for systems with input nonlinearities: a trade-off between gain variation and parametric uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 567–583. (Takehiro Mori) **99f:93062** 93B50 (93D21)

— (*with* Fausz, Jerry L.; Chellaboina, Vijaya-Sekhar; Abdallah, Chaouki T.) A unification between nonlinear-nonquadratic optimal control and integrator backstepping. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 10, 879–906. (Emmanuel Delaleau) **99f:93039** 93B35 (93C10, 93D22)

— (*with* Chellaboina, Vijaya-Sekhar; Fausz, Jerry L.; Abdallah, Chaouki T.) Optimal discrete-time control for non-linear cascade systems. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 827–839. (Vũ Ngọc Phát) **99c:93071** 93C55 (93D21)

— (*with* Chellaboina, Vijaya-Sekhar) Optimal nonlinear-nonquadratic feedback control for systems with L_2 and L_∞ disturbances. *Nonlinear Anal.* **34** (1998), *no.* 2, 229–255. (Ian Petersen) **99j:93032** 93B36 (49J15, 93C10, 93D05)

— (*with* Kapila, Vikram) Mixed H_2/L_1 fixed-architecture controller design for multi-input/single-output systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 3, 435–448. (Summary) **99m:93091** 93D21 (93B36)

— (*with* Kapila, Vikram) Robust stabilization for systems with parametric uncertainty and time delay. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 3, 473–480. (Summary) **99m:93092** 93D21

— (*with* Fausz, Jerry L.; Chellaboina, Vijaya-Sekhar) Nonlinear controllers for nonlinear systems with input nonlinearities. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 649–664. (Summary) **99m:49001** 49J15 (49N35, 93C10, 93D99)

— (*with* Razavi, Ali; Hyland, David C.) Active vibration isolation of multi-degree-of-freedom systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 4, 577–589. 93D15 (76Q05)

aït Haddadène, Hacène *see* **Aït Haddadène, Hacène**

Haddar, H. (*with* Joly, Patrick) An asymptotic approach of the scattering of electromagnetic waves by thin ferromagnetic coatings. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 292–296, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A45

Haddawy, Peter (*with* Ngo, Liem; Helwig, James) A theoretical framework for context-sensitive temporal probability model construction with application to plan projection. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 419–426, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T27 (03B70)

— (*with* Ha, Vu) Theoretical foundations for abstraction-based probabilistic planning. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 291–298, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T20

— (*with* Hanks, Steve) Utility models for goal-directed, decision-theoretic planners. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 392–429. 90A05

Hadeler, K. P. Spatial epidemic spread by correlated random walk, with slow infectives. (English summary) *Ordinary and partial differential equations, Vol. V* (*Dundee*, 1996), 18–32, *Pitman Res. Notes Math. Ser.*, 370, *Longman, Harlow*, 1997. (Pauline van den Driessche) **99f:92034** 92D30

— (*with* Arino, Ovide; Hbid, Moulay Lhassan) Existence of periodic solutions for delay differential equations with state dependent delay. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 263–301. (Bernhard Lani-Wayda) **99c:34153** 34K15

— (*with* Bandt, Christoph; Kriese, F.) Particle systems acting on undirected graphs. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 571–586. (T. M. Liggett) **99f:60165** 60K35 (82C22)

— (*with* Lu, Zhiqi) Model of plasmid-bearing, plasmid-free competition in the chemostat with nutrient recycling and an inhibitor. (English summary) *Math. Biosci.* **148** (1998), *no.* 2, 147–159. (Summary) **99d:92028** 92D25 (34K15)

— Nonlinear propagation in reaction transport systems. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 251–257, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Yoshio Yamada) **99m:35118** 35K57 (34C37)

Hadi, Ali S. (*with* Castillo, Enrique F.) Fitting the generalized Pareto distribution to data. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1609–1620. (Summary) **99a:62020** 62F10

— (*with* Castillo, Enrique F.; Sarabia, José María) A method for estimating Lorenz curves. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2037–2063. 62F35

— (*with* Castillo, Enrique F.; Gutiérrez Llorente, José Manuel) Modeling probabilistic networks of discrete and continuous variables. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 48–65. (M. Studený) **99j:68137** 68T30 (62H99)

— (*with* Castillo, Enrique F.; Jubete, Francisco; Solares, Cristina) An expert system for coherent assessment of probabilities in multigraph models. (English summary) *Networks* **33** (1999), *no.* 3, 193–206. 68T35

ben Hadid, H. *see* **Ben Hadid, H.**

Hadiji, Rejeb (*with* Zhou, Feng[2]) A problem of minimization with relaxed energy. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 579–591. (Helmut Kaul) **99d:49006** 49J10 (58E20)

Hadizadeh, M. (*with* Maleknejad, K.) On the decomposition method to the heat equation with non-linear and non-local boundary conditions. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 336, 426–434. 65M55

Hadjar, Amine Sur les structures de contact du tore $\mathbf{T}^5$. (English and French summaries) [On contact structures on the torus $\mathbf{T}^5$] *Enseign. Math.* (2) **44** (1998), *no.* 1-2, 91–93. (Hansjörg Geiges) **99g:58050** 58F05 (53C15, 57R15)

Hadji, L. (*with* Davis, Anthony M. J.) On the interaction of insoluble spherical particles with a solidifying interface in the presence of morphological instabilities. (English summary) *Computational and mathematical models of microstructural evolution* (*San Francisco, CA*, 1998), 33–38, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 76T05 (80A22)

Hadjiantoniou, Aristotle Čech-Stone quotient functions. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 17–24. 54B15 (54D10, 54D35, 54E52)

Hadjiat, Malika Penelope's graph: a hard minimum cost tension instance. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 207–218. (Marek Kubale) **99e:05117** 05C85 (68Q25, 90B10)

Hadjicostas, Petros The asymptotic proportion of subdivisions of a 2×2 table that result in Simpson's paradox. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 4, 387–396. (Summary) **99m:05008** 05A16

— Improper and proper posteriors with improper priors in a hierarchical model with a beta-binomial likelihood. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1905–1914. (Jack C. Lee) **99i:62050** 62F15

Hadjidemetriou, John D. Symplectic maps and their use in celestial mechanics. (English summary) *Analysis and modelling of discrete dynamical systems* (*Aussois*, 1996), 249–282, *Adv. Discrete Math. Appl.*, 1, *Gordon and Breach, Amsterdam*, 1998. (Summary) **99m:70011** 70H05 (58F05, 70F15)

Hadjidimos, Apostolos (*with* Noutsos, D.; Tzoumas, M.) Towards the determination of the optimal p-cyclic SSOR. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 1–14. (Summary) **99c:65055** 65F10

— (*with* Neumann, Michael) Euclidean norm minimization of the SOR operators. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 191–204 (*electronic*). (S. Galanis) **99c:65056** 65F10

— (*with* Galanis, S.; Noutsos, D.) A Young-Edison's type algorithm for complex p-cyclic SOR spectra. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 87–106. (T. Y. Li) **99j:65044** 65F10

Hadjigeorgiou, Rodia I. Absorbent sets in topological algebras. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 101–111. (Summary) **99h:46083** 46H05 (46J05)

— On topological divisors of zero in topological algebras. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 113–129. (Summary) **99h:46084** 46H05 (46J05)

— On the Bishop boundary in topological algebras. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 347–360. (Summary) **99c:46057** 46J05

Hadjiivanov, L. K. (*with* Isaev, A. P.; Ogievetskiĭ, O. V.; Pyatov, P. N.; Todorov, Ivan T.) Hecke algebraic properties of dynamical R-matrices. Application to related quantum matrix algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 427–448. (Andrei G. Bytsko) **99k:81114** 81R50 (17B37)

Hadjinicolaou, Maria (*with* Arnaudov, Ya. N.; Dassios, George) The resistive coated sphere in the presence of a point generated wave field. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 1, 73–90. (Ivan Andronov) **99k:73057** 73D25

— (*with* Goussis, D. A.) Asymptotic solution of stiff PDEs with the CSP method: the reaction diffusion equation. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 781–810 (*electronic*). (Pieter W. Hemker) **99i:65091** 65M12 (76M25)

Hadjisavvas, N. (*with* Schaible, Siegfried) From scalar to vector equilibrium problems in the quasimonotone case. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 297–309. (Julian Revalski) **99d:49023** 49J40 (47H19, 90C29, 90C48)

bel Hadj Rhouma, Nadra *see* **Bel Hadj Rhouma, Nadra**

Hadlock, Charles R. ★ Mathematical modeling in the environment. (English summary) Part 1. An interdisciplinary introduction to selected problems in ground water, air pollution, and hazardous materials. Part 2. Further development of modeling concepts. With 1 IBM-PC floppy disk (3.5 inch; HD). *Mathematical Association of America, Washington, DC*, 1998. *xiv*+302 *pp. ISBN* 0-88385-709-X (Qin Xu) **99m:86003** 86A05 (00A71, 76S05, 86A99)

Hadnagy, Éva Small complete arcs in PG(2, p). (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 1–12. (T. G. Ostrom) **99m:51012** 51E21 (51A30)

Ha-Duong, Tuong Generalizations of Karp's theorem to elastic scattering theory. (English summary) *Inverse problems of wave propagation and diffraction* (*Aix-les-Bains*, 1996), 159–168, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (From the introduction) **99k:73058** 73D25 (35Q72)

— (*with* Alves, Carlos J. S.) On the far field amplitude for elastic waves. (English summary) *Modern mathematical methods in diffraction theory and its applications in engineering* (*Freudenstadt*, 1996), 49–67, *Methoden Verfahren Math. Phys.*, **42**, *Lang, Frankfurt am Main*, 1997. (Summary) **99i:73034** 73D25 (35Q72)

— (*with* Choukroun, Franck; Leca, Pierre; Roux, François-Xavier) Parallel solver for 3D Maxwell integral equations on axisymmetrical geometry. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 171–185, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65R20)

— (*with* El Badia, A.) Some remarks on the problem of source identification from boundary measurements. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 883–891. (Summary) **99e:35241** 35R30 (35J05)

Hadwiger, H. ★ Lo antiguo y lo nuevo acerca de los conjuntos convexos. (Spanish. Spanish summary) [Classical results and new developments concerning convex sets] Translated from the 1955 German original and with a preface by Luis Montejano Peimbert. Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 10. *Sociedad Matemática Mexicana, México*, 1998. *vi*+164 *pp. ISBN* 968-36-4805-3 (Editors) **99e:52001** 52–01

Hadwin, Donald W. (*with* Orhon, Mehmet) Reflexive representations and Banach C^*-modules. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 443–447. (J. D. Maitland Wright) **99h:46109** 46L05 (46H25, 47D30)

— (*with* Larson, David R.) Strong limits of similarities. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 139–146, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Summary) **99e:47040** 47B49 (47A99)

— Free entropy and approximate equivalence in von Neumann algebras. *Operator algebras and operator theory* (*Shanghai*, 1997), 111–131, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (A. I. Danilenko) **99m:46153** 46L50 (46L10)

Hadžić, Olga Fixed point theorems in metrizable H-spaces. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 75–84. (Christian Fenske) **99b:54073** 54H25 (47H10)

— (*with* Žikić, Tatjana) On Caristi's fixed point theorem in F-type topological spaces. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 91–98. 54H25 (47H10)

— On the existence of a maximal element of multivalued mappings in H-spaces. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 21–27. (Ghanshyam Mehta) **99j:47087** 47H10 (47N10, 90C29)

— (*with* Ovcin, Zoran) A coincidence point theorem for multivalued mappings in 2-Menger spaces. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 29–39. (S. L. Singh) **99k:47140** 47H10 (47S50, 54C60, 54H25)

Hadzijski, V. H. *see* **Khadzhiĭski, Vanya Kh.**

Hadzilacos, Vassos (*with* Chaudhri, Vinay K.) Safe locking policies for dynamic databases. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 260–271. (Summary) **99m:68039** 68P15

Hadžiomerspahić, S. (*with* Kulenović, M. R. S.) Existence of nonoscillatory solution of second order linear neutral delay equation. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 436–448. (A. F. Ivanov) **99j:34100** 34K15

Haeberer, Armando M. (*with* Frias, Marcelo F.; Baum, Gabriel A.) Fork algebras in algebra, logic and computer science. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 1–25. (Summary) **99f:03091** 03G25 (03B70, 68Q60)

Haeberly, Jean-Pierre (*with* Dacorogna, Bernard) Some numerical methods for the study of the convexity notions arising in the calculus of variations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 153–175. (Michel Chipot) **99e:49003** 49J10 (49M30, 65D15, 65K10)

Haefliger, André Travaux de Novikov sur les feuilletages. [Works of Novikov on foliations] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 339, 433–444, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 57R30 (57N10)

— Plongements de variétés dans le domaine stable [MR **32** #6476]. [Embeddings of manifolds in the stable domain] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 245, 63–77, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 57R40

— Sphères d'homotopie nouées (d'après Kervaire-Milnor-Levine). [Knotted homotopy spheres (after Kervaire-Milnor-Levine)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 280, 57–68, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 57R80 (55N22, 55Q45)

Haefner, Jeremy Reduction techniques for strongly graded rings and finite representation type. I. Bounded functors and graded equivalence. (English summary) *J. Algebra* **194** (1997), *no.* 2, 567–593. (Michel Van den Bergh) **99a:16038** 16W50 (16H05)

Haegemans, A. (*with* Kravanja, Peter; Cools, Ronald) Computing zeros of analytic mappings: a logarithmic residue approach. (English summary) *BIT* **38** (1998), *no.* 3, 583–596. (Ch'êng Shêng Chien) **99j:65088** 65H05

Haemers, Willem H. Minimum resolvable coverings with small parallel classes. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 393–396. (Summary) **99i:05060** 05B40

— *see also* **Finite geometry and combinatorics, 99a:51001**

Haenel, Arie (*with* Dana-Picard, Thierry) Triangles, polygons and beams of light. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 922–929. 52A10

Haenni, R. (*with* Kohlas, J.; Anrig, Bernhard; Monney, Paul-André) Model-based diagnostics and probabilistic assumption-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 71–106. (Summary) **99h:68024** 68M15 (68T27)

Haesbroeck, G. (*with* Bair, J.) Monotonous stability for neutral fixed points. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 5, 639–646. (Frederick R. Marotto) **99a:58096** 58F08 (26A18)

von Haeseler, Arndt (*with* Weiss, Gunter[2]; Henking, Andreas) Distribution of pairwise differences in growing populations. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 81–95, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15

von Haeseler, Fritz (*with* Allouche, Jean-Paul; Lange, Ehler; Petersen, Antje; Skordev, Gencho S.) Linear cellular automata and automatic sequences. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1577–1592. (Valérie Berthé) **99a:11023** 11B85 (11T06, 12Y05, 68Q80)

— (*with* Petersen, Antje) Automaticity of rational functions. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 219–229. (Jean-Paul Allouche) **99g:11029** 11B85 (03D20, 68Q45)

Haeusler, Edward Hermann (*with* Pereira, Luiz Carlos) Gentzen's second consistency proof and strong cut-elimination. Contemporary Brazilian research in logic. Part I. *Logique et Anal. (N.S.)* **39** (1996), *no.* 153-154, 95–111. (Karim Nour) **99f:03076** 03F05

el Hafeez, S. A. *see* **El Hafeez, S. A.**

Hafez, M. M. (*with* Guo, W. H.) Some anomalies of numerical simulation of shock waves. I. Inviscid flows. (English summary) *Comput. & Fluids* **28** (1999), *no.* 4-5, 701–719. (Summary) **99m:76075** 76L05

Hafidi, Z. (*with* Talbi, E. G.; Geib, J-M.) A parallel adaptive tabu search approach. (English summary) *Parallel Comput.* **24** (1998), *no.* 14, 2003–2019. 90C27 (65Y05)

Häfner, Dietrich Régularité Gevrey pour un système Schrödinger-Poisson dissipatif. (English and French summaries) [Gevrey class regularity for a dissipative Schrödinger-Poisson system] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 829–832. 35Q55 (35B65, 35J10)

Häfner, Hartmut (*with* Weiss, Rüdiger; Schönauer, Willi) Overview on solvers for linear equations. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 154–161. (*see* **99i:00028**) 65F10 (65–02)

el Hafsi, M. *see* **El Hafsi, M.**

Hag, Karl What is a disk? (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 69–72. (From the summary) **99d:30025** 30C62

— *see also* **Women and mathematics, (99e:00019)**

Haga, J. (*with* Kikuchi, Norio) On the existence of the harmonic variational flow subject to the two-sided conditions. (Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 324–337, 343. (Martin Fuchs) **99e:58055** 58E30 (35D05, 35K40)

Haga, Takahiro An application of the (p, q)-logic to the synthesis of the p-valued logical networks and the $s - (p, q)$-logical completeness. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 165–185. 94C10

Hage, Jurriaan (*with* Harju, Tero) Acyclicity of switching classes. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 321–327. (Patrick Solé) **99d:05051** 05C38 (05C10)

Hagedorn, George A. (*with* Joye, Alain) Landau-Zener transitions through small electronic eigenvalue gaps in the Born-Oppenheimer approximation. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 1, 85–134. (Hiroshi Isozaki) **99e:81055** 81Q20

— Raising and lowering operators for semiclassical wave packets. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 77–104. (M. Combescure) **99f:81052** 81Q20

— Classification and normal forms for avoided crossings of quantum-mechanical energy levels. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 369–383. (Peter N. Zhevandrov) **99c:81036** 81Q10 (47A11, 81V55)

— (*with* Robinson, Sam L.) Bohr-Sommerfeld quantization rules in the semiclassical limit. (English summary) *J. Phys. A* **31** (1998), *no.* 50, 10113–10130. (Frédéric Klopp) **99m:81059** 81Q20

— (*with* Joye, Alain) Molecular propagation through small avoided crossings of electron energy levels. (English summary) *Rev. Math. Phys.* **11** (1999), *no.* 1, 41–101. (Hiroshi Isozaki) **99m:81293** 81V55 (81Q15)

Hagedorn, P. (*with* Ravindra, B.) Invariants of chaotic attractor in a nonlinearly damped system. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 4, 875–879. 34D45 (34C99, 58F13, 70K50)

Hagel, Georg Characterizations of the Macaulay matrix and their algorithmic impact. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 317–326, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 13P05

Hagelberg, Marcel (*with* Hidalgo, Rubén A.) Some generalized Coxeter groups and their orbifolds. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 3, 543–566. (Stephen P. Humphries) **99c:57038** 57M50 (20F55, 51F15, 57M05)

Hägele, K. (*with* Giusti, M.; Heintz, Joos; Morais, J. E.; Pardo, Luis Miguel; Montaña, José Luis) Lower bounds for Diophantine approximations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 277–317. (Summary) **99d:68106** 68Q25 (14Q15)

Hagen, C. R. (*with* Bowers, M. E.) Casimir energy of a spherical shell. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 025007, 6 *pp.* 81T20

Hagen, Hans (*with* Heinz, Siegfried; Nawotki, Alexa) Variational design with boundary conditions and parameter optimized surface fitting. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 3–13, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65020** 65D17

— (*with* Scheuermann, Gerik; Krüger, Heinz) An interesting class of polynomial vector fields. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 429–436, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17 (41A63)

— (*with* Franke, Richard) Least squares surface approximation using multiquadrics and parametric domain distortion. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 177–196. 65D17 (65D15)

Hagen, Roar (*with* Hedelin, Per) Robust vector quantization by a linear mapping of a block code. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 200–218. (Summary) **99j:94022** 94A29 (94A34)

Hagen, Thomas (*with* Turi, Janos) A semigroup approach to a class of semilinear parabolic differential equations. *Nonlinear Anal.* **34** (1998), *no.* 1, 17–35. (Paolo Acquistapace) **99h:34085** 34G20 (35K55, 47D06)

Hagenauer, Joachim (*with* Costello, Daniel J., Jr.; Imai, Hideki; Wicker, Stephen B.) Applications of error-control coding. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2531–2560. (Summary) **99i:94027** 94A24 (94A40)

Hagenbach, U. (*with* Upmeier, Harald) Toeplitz C^*-algebras over non-convex cones and their facial representations. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 53–68, *World Sci. Publishing, River Edge, NJ*, 1996. (Raúl E. Curto) **99m:46134** 46L05 (17C20, 22E30, 47B35)

— (*with* Upmeier, Harald) Toeplitz C^*-algebras over non-convex cones and pseudo-symmetric spaces. *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 109–131, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Raúl E. Curto) **99h:47033** 47B35 (17C20, 32M15, 46L99, 47C15)

Hager, Anthony W. α-cut-complete Boolean algebras. (English summary) *Algebra Universalis* **39** (1998), *no.* 1-2, 57–70. (D. Monk) **99m:06025** 06E10 (06E15, 06F20, 54G05)
— (*with* Martinez, Jorge[2]) Pushout-invariant extensions and monoreflections. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 263–295. (Summary) **99e:18002** 18A40 (13B99)
Hager, Patrik (*with* Wiberg, Nils-Erik) Error estimation and adaptivity for *h*-version eigenfrequency analysis. (English summary) *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 461–475, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99e:73099** 73V05 (73K12)
Hager, William W. A discrete model for the lightning discharge. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 137–150. (Summary) **99e:78004** 78–08 (78A99)
— (*with* Dontchev, Asen L.) Lipschitzian stability for state constrained nonlinear optimal control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 698–718 (*electronic*). (J. Frédéric Bonnans) **99b:49024** 49K40 (90C31)
— *see also* **Optimal control, 99d:49002**
Hagerup, Torben Allocating independent tasks to parallel processors: an experimental study. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 1–33, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (*see* **99g:65007**) 68M20
— Simpler and faster dictionaries on the AC^0 RAM. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 79–90, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q20 (68P05, 68Q25)
— Sorting and searching on the word RAM. (English summary) *STACS* 98 (*Paris*, 1998), 366–398, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68043** 68P10
— (*with* Andersson, Arne; Nilsson, Stefan; Raman, Rajeev) Sorting in linear time? (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 74–93. (Friedhelm Meyer auf der Heide) **99k:68034** 68P10 (68Q25)
— (*with* Bodlaender, Hans L.) Parallel algorithms with optimal speedup for bounded treewidth. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1725–1746 (*electronic*). (Summary) **99c:68189** 68R10 (05C85, 68Q22, 68Q25)
— (*with* Diks, Krzysztof) More general parallel tree contraction: register allocation and broadcasting in a tree. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 3–29. (Editors) **99g:68082** 68Q22 (68M10)
Haggard, Gary (*with* Mathies, Thomas R.) The computation of chromatic polynomials. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 227–231. (Summary) **99k:05078** 05C15 (05C85)
Haggard, Paul W. Pythagorean triples and sums of triangular numbers. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **28** (1997), *no.* 1, 109–116. (Jau-Shyong Shiue) **99f:11022** 11B65 (11D09)
Hagger, M. J. Automatic domain decomposition on unstructured grids (DOUG). (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 281–310. (Petr N. Vabishchevich) **99m:65236** 65N55 (65–04, 65F99)
Häggkvist, Roland (*with* Thomason, Andrew) Oriented Hamilton cycles in oriented graphs. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 339–353, *Cambridge Univ. Press, Cambridge*, 1997. (Chinh T. Hoang) **99b:05092** 05C45 (05C20)
— (*with* Asratyan, A. S.; Denley, Tristan M. J.) ★ Bipartite graphs and their applications. (English summary) Cambridge Tracts in Mathematics, 131. *Cambridge University Press, Cambridge*, 1998. *xii*+259 *pp. ISBN* 0-521-59345-X (Charles H. C. Little) **99e:05121** 05C99 (05–01)
— (*with* Jin, Guoping) Graphs with odd girth at least seven and high minimum degree. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 351–362. (Ralph Faudree) **99m:05077** 05C35
Hägglund, T. (*with* Åström, K. J.; Panagopoulos, Hélène) Design of PI controllers based on non-convex optimization. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 585–601. (Dieter Franke) **99f:93064** 93B51 (90C90, 93C85)
Häggström, Olle (*with* Meester, Ronald) Nearest neighbor and hard sphere models in continuum percolation. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 3, 295–315. (Rahul Roy) **99c:60217** 60K35
— Dynamical percolation: early results and open problems. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 59–74, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Ronald Meester) **99g:60188** 60K35 (60J25, 82C43)
— (*with* Mossel, Elchanan) Nearest-neighbor walks with low predictability profile and percolation in $2+\varepsilon$ dimensions. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1212–1231. (Timo Seppäläinen) **99h:60165** 60K35 (60J15, 60J45)
— Random-cluster analysis of a class of binary lattice gases. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 47–74. (Hans-Otto Georgii) **99e:82007** 82B05 (60K35)
— Uniform and minimal essential spanning forests on trees. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 1, 27–50. (Walter M. Böhm) **99i:05186** 05C80 (05C05)
— (*with* Nelander, K.) Exact sampling from anti-monotone systems. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 3, 360–380. (Summary) **99i:62233** 62M99
— (*with* Peres, Yuval) Monotonicity of uniqueness for percolation on Cayley graphs: all infinite clusters are born simultaneously. (English summary) *Probab. Theory Related Fields* **113** (1999), *no.* 2, 273–285. (Ronald Meester) **99k:60253** 60K35
Haghani, A. E. (*with* Chuang, Y.) An algorithm for real-time user equilibrium traffic assignment. (English summary) Transportation. *Sci. Iran.* **2** (1995), *no.* 3, 207–230. (*see* **99g:90011**) 90B06 (90C35)
Haghany, A. Hopficity and co-Hopficity for Morita contexts. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 477–492. (Weimin Xue) **99k:16013** 16D90
Hagihara, Akio A note on the fundamental equation of self-thinning in the logistic theory of plant growth. (English summary) *Bull. College Sci. Univ. Ryukyus No.* 64 (1997), 69–76. (Summary) **99a:92026** 92D25
Hagino, Kojiro (*with* Maki, Midori) Robust control of uncertain linear systems with adaptation mechanisms. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 281–289. 93B35 (93C40)
Hagiwara, Shu (*with* Suzuki, Chisato) The stability of generalized linear multistep methods for Volterra integro-differential equations. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 45–52. (*see* **99i:00028**) 65R20
Hagiwara, Tomomichi (*with* Yamasaki, Toshiyuki; Araki, Mituhiko) Two-degree-of-freedom design method of LQI servo systems: disturbance rejection by constant state feedback. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 703–719. 93B51 (93C85)
— (*with* Furutani, Eiko; Araki, Mituhiko) Two-degree-of-freedom design method of linear-quadratic servo systems with an integral compensator: analysis of the performance deterioration by the introduction of an observer. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 941–958. 93B52 (49N10)
— Comments on: "The effect of sampling period on the behaviour of systems incorporating state feedback" [Internat. J. Control **63** (1996), no. 2, 351–364] by S. M. Karbassi and D. J. Bell. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 303–304. 93B51 (93C57)
— (*with* Kuroda, Go; Araki, Mituhiko) Popov-type criterion for stability of nonlinear sampled-data systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 671–682. (Vasile Drăgan) **99f:93113** 93D10 (93C57)
— (*with* Araki, Mituhiko) Robust stability of sampled-data systems under possibly unstable additive/multiplicative perturbations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1340–1346. 93D09 (93C57)
Hagiya, Masami (*with* Yamamoto, Mitsuharu; Takahashi, Koichi; Nishizaki, Shin-ya; Tamai, Tetsuo) Formalization of graph search algorithms and its applications. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 479–496, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68T15 (68T20)
Hagler, J. N. (*with* Ball, R. N.; Sternfeld, Y.) The structure of atoms (hereditarily indecomposable continua). (English summary) *Fund. Math.* **156** (1998), *no.* 3, 261–278. (J. R. Isbell) **99b:54044** 54F15 (54C35)
Haglund, Frédéric Réseaux de Coxeter-Davis et commensurateurs. (English and French summaries) [Coxeter-Davis lattices and commensurators] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 3, 649–666. (Nadia Benakli) **99j:20049** 20F55 (51E24, 51F15, 57M20)
Haglund, James q-rook polynomials and matrices over finite fields. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 4, 450–487. (Jennifer R. Galovich) **99f:05004** 05A15 (05E10)
— On the nonnegativity of the coefficients of some polynomials occurring in the theory of cubical spheres. (English and French summaries) *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 43–45. (David G. Wagner) **99e:05004** 05A05 (05A15)
— (*with* Ono, Ken; Sze, Lawrence) Rook theory and t-cores. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 9–37. (Summary) **99i:05015** 05A17
Hagness, Susan C. Microcavity resonators. (English summary) *Advances in computational electrodynamics*, 561–612, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78A55 (78A50)
Hagood, John W. (*with* Bell, Wayne C.) Completeness of $\mathscr{L}^p$ spaces and Radon-Nikodym theorems for unbounded finitely additive measures. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 82–96. (K. P. S. Bhaskara Rao) **99f:28002** 28A10 (46E30)
Hagopian, Charles L. The fixed-point property for deformations of tree-like continua. (English summary) *Fund. Math.* **155** (1998), *no.* 2, 161–176. (James T. Rogers, Jr.) **99b:54046** 54F15 (54H25)
Hagstrom, Jane N. (*with* Ball, Michael O.; Provan, J. Scott) Two-path subsets: efficient counting and applications to performability analysis. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 25–45. (H. T. Lau) **99c:90056** 90B25
Hagstrom, Thomas Exact and high-order boundary conditions in the time domain. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 179–186, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 65N30 (65N38)
— (*with* Goodrich, John) Experiments with approximate radiation boundary conditions for computational aeroacoustics. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 385–402. (Summary) **99f:76104** 76M25 (76Q05)
— (*with* Hariharan, S. I.) A formulation of asymptotic and exact boundary conditions using local operators. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 403–416. (Summary) **99g:78018** 78A40 (65N99, 78–08)
— (*with* Lorenz, Jens) All-time existence of classical solutions for slightly compressible flows. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 652–672 (*electronic*). (Roberto Natalini) **99c:76092** 76N10 (35Q30)
Haham, Shmuel (*with* Harari, Isaac) Improved finite element methods for elastic waves. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 143–164. (Summary) **99g:73104** 73V05 (65N30, 73D15)
Hahm, Nahmwoo (*with* Hong, Bum Il) Extension of localised approximation by neural networks. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 121–131. (Andrei Martínez Finkelshtein) **99k:41042** 41A46 (41A63, 93B20)
Hahmann, Stefanie (*with* Konz, Stefan) Fairing bicubic B-spline surfaces using simulated annealing. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 159–168, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65D07)
Hahn, David W. (*with* Miranda, Rick) Quadruple covers of algebraic varieties. (English summary) *J. Algebraic Geom.* **8** (1999), *no.* 1, 1–30. (Andrew J. Sommese) **99k:14028** 14E20 (14E22)
Hahn, Geňa (*with* Tardif, Claude) Graph homomorphisms: structure and symmetry. (English summary) *Graph symmetry* (*Montreal, PQ*, 1996), 107–166, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 497, *Kluwer Acad. Publ., Dordrecht*, 1997. (Pavol Hell) **99c:05091** 05C25 (05C15)
— (*with* Fouquet, Jean-Luc; Tuza, Zsolt; Woodrow, Robert E.) On magnitude networks. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 75–84. (Introduction) **99k:68134** 68R10 (05C85)
Hahn, Guangsug (*with* Yannelis, Nicholas C.) Efficiency and incentive compatibility in differential information economies. (English summary) *Econom. Theory* **10** (1997), *no.* 3, 383–411. (Immanuel M. Bomze) **99d:90032** 90A36 (90A43, 90D12)
Hahn, H. *see* **Hahn, Hubert**

Hahn, Hans Discussion about the foundations of mathematics (Sunday, 7 September 1930). Translated by Erna Putnam and Gerald J. Massey. *Logical empiricism at its peak*, 133–140, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006a**) 00A30

Hahn, Hubert (*with* Sommer, H.-J.) Structural approximate controllability of linear systems: a pure graph theoretical approach. I. Linear systems associated to simple cacti. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 5–31. (Summary) **99h:93015** 93B05 (93C05)

Hahn, Jinyong (*with* Buchinsky, Moshe) An alternative estimator for the censored quantile regression model. (English summary) *Econometrica* **66** (1998), *no.* 3, 653–671. (Summary) **99e:62039** 62G05 (62P20)

Hahn, Kyong Taik (*with* Choi, Ki Seong) Weighted Bloch spaces in $\mathbf{C}^n$. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 177–189. (Richard M. Timoney) **99b:46027** 46E15 (32A37)

Hahn, Marjorie G. (*with* Klass, Michael J.) Approximation of partial sums of arbitrary i.i.d. random variables and the precision of the usual exponential upper bound. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1451–1470. (N. R. Chaganty) **99c:62039** 62E20 (60F05)

— (*with* Klass, Michael J.) Optimal upper and lower bounds for the upper tails of compound Poisson processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 535–559. (Paul Embrechts) **99e:60052** 60E15 (60G50)

— *see also* **High dimensional probability, 99e:60003**

Hahn, Peter (*with* Grant, Thomas) Lower bounds for the quadratic assignment problem based upon a dual formulation. (English summary) *Oper. Res.* **46** (1998), *no.* 6, 912–922. (Summary) **99j:90066** 90C27 (90C08, 90C20)

Hahn, Rebekah D. (*with* Piziak, R.; Odell, P. L.) Constructing projections on sums and intersections. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 67–74. (Summary) **99i:65047** 65F25

Hahn, Sang-Geun (*with* Kim, Dong Geon; Kim, Yong Soo) A decoding algorithm for orthogonal Latin square codes. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1235–1240. (Summary) **99d:94041** 94B35 (05B15)

— (*with* Cheon, J.) The orders of the reductions of a point in the Mordell-Weil group of an elliptic curve. (English summary) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 34–43. (Joseph H. Silverman) **99c:11066** 11G05

— (*with* Kim, Jun Kyo) A new upper bound for binary codes with minimum distance four. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 291–295. (Summary) **99c:94062** 94B65

— (*with* Cheon, J.) Explicit valuations of division polynomials of an elliptic curve. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 319–328. (John W. Jones) **99i:11039** 11G05

— *see also* **Recent progress in algebra, 99e:00027**

Hahn, Ute (*with* Stoyan, Dietrich) Unbiased stereological estimation of the surface area of gradient surface processes. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 4, 904–920. (Hui Ling Le) **99k:60019** 60D05 (62M30)

Hähnle, Reiner (*with* Escalada-Imaz, Gonzalo) Deduction in many-valued logics: a survey. *Mathware Soft Comput.* **4** (1997), *no.* 2, 69–97. (Radim Bělohlávek) **99m:03044** 03B50 (03B35)

— (*with* Murray, Neil V.; Rosenthal, Erik) Some remarks on completeness, connection graph resolution and link deletion. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 172–186, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35

— (*with* Beckert, Bernhard; Escalada-Imaz, Gonzalo) Simplification of many-valued logic formulas using anti-links. (English summary) *J. Logic Comput.* **8** (1998), *no.* 4, 569–587. (Siegfried Gottwald) **99h:03009** 03B50 (94C10, 94D05)

Ha Huy Bang The Paley-Wiener-Schwartz theorem for nonconvex domains. *Functional analysis and global analysis* (*Quezon City*, 1996), 14–30, *Springer, Singapore*, 1997. (Richard D. Carmichael) **99m:46104** 46F12 (32A15, 42B10)

— The study of properties of functions, depending on the geometry of their spectra. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 6, 740–743. (J. Musielak) **99a:46047a** 46E30 (42B10, 46E35)

— (*with* Chowdhury, M. A. Mansur) Generalized deformed para-Bose algebra with complex structure function. (English summary) *Helv. Phys. Acta* **70** (1997), *no.* 5, 703–709. (Summary) **99g:81105** 81S05 (81R50)

— The study of the properties of functions belonging to an Orlicz space depending on the geometry of their spectra. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 2, 163–198; *translation in Izv. Math.* **61** (1997), *no.* 2, 399–434. (J. Musielak) **99a:46047b** 46E30 (42B10, 46E35)

— Nonlinearity of generalized deformed oscillators and nonlinear field equations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 11, 1507–1514. (Marcelo R. Ubriaco) **99a:81080** 81S05 (81R50)

— Theorems of Paley-Wiener-Schwartz type. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 298–319. (Qing Yi Chen) **99g:35025** 35E20 (35A25, 46F12)

Ha Huy Khoai p-adic hyperbolic surfaces. *Acta Math. Vietnam.* **22** (1997), *no.* 2, 501–514. (William A. Cherry) **99c:32051** 32P05 (32H20, 32H25)

Hà Huy Vui (*with* Phạm Tien Son) Invariance of the global monodromies in families of polynomials of two complex variables. (English summary) *Acta Math. Vietnam.* **22** (1997), *no.* 2, 515–526. (Enrique Artal Bartolo) **99f:32060** 32S55

— (*with* Phạm Tien Son) Remark on the equisingularity of families of affine plane curves. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 275–280. (Eugenii Shustin) **99c:32052** 32S15 (32S55)

dang dinh Hai *see* **Dang Dinh Hai**

Hai, D. D. *see* **Dang Dinh Hai**

Hai, Wen Hua Phase transitions between solitons and turbulence. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **13** (1996), *no.* 6, 5–6, 12. (Summary) **99g:35112** 35Q53 (76F99)

— (*with* Xiao, Yi) General soliton solutions in a coupled $(2+1)$-dimensional wave system. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1279–1285. 35Q51 (76B25)

Haidar, Nassar H. S. On a boundary-value problem posed by cancer therapy with neutron beams. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1997), *no.* 1, 46–60. (John Adam) **99c:92022** 92C50 (35F30, 35Q80, 65N99, 82D75)

Haider, Mansoor A. (*with* Holmes, Mark H.) Three-dimensional viscoelasticity in finite strain: formulation of a rate-type constitutive law consistent with dissipation. (English summary) *Particulate flows* (*Minneapolis, MN*, 1996), 67–87, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Summary) **99a:73070** 73F05 (73G25, 73P20)

lê Hai Khôi *see* **Lê Hai Khôi**

Hailperin, Theodore Ontologically neutral logic. (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 4, 185–200. (Michał Krynicki) **99i:03009** 03B20 (03B10)

Haily, Abdelfattah (*with* El Amin, Kaidi) Modules with a "nice" endomorphism ring and a new characterization of semisimple modules and rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2445–2452. (Jeremy Haefner) **99d:16033** 16S50 (16D60)

Haiman, George Upper and lower bounds for the tail of the invariant distribution of some AR(1) processes. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 723–730, *North-Holland, Amsterdam*, 1998. (Patrik Albin) **99k:60132** 60G70 (60G10)

— (*with* Mayeur, Nelly; Nevzorov, V. B.; Puri, Madan L.) Records and 2-block records of 1-dependent stationary sequences under local dependence. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 481–503. (Patrik Albin) **99i:60069** 60F15 (60G70)

Haimerl, Walter A. (*with* Dorsch, Rainer G.; Esser, Gregor K.) Accurate computation of mean power and astigmatism by means of Zernike polynomials. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1686–1688. (Summary) **99b:78004** 78A10

Haimes, Yacov Y. ★ Risk modeling, assessment, and management. (English summary) Wiley Series in Systems Engineering. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xviii+726 pp. ISBN* 0-471-24005-2 (Publisher's description) **99e:90001** 90–02 (90A46)

Hain, Richard M. (*with* Looijenga, Eduard) Mapping class groups and moduli spaces of curves. *Algebraic geometry—Santa Cruz* 1995, 97–142, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Takashi Ichikawa) **99a:14032** 14H10 (14C30, 14H15, 32G15, 32G20)

— (*with* Freedman, Michael Hartley; Teichner, Peter) Betti number estimates for nilpotent groups. (English summary) *Fields Medallists' lectures*, 413–434, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (Karel Dekimpe) **99d:20052** 20F18 (20J05, 57M07, 57N10)

— The Hodge de Rham theory of relative Malcev completion. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 1, 47–92. (Hiroaki Nakamura) **99f:14009** 14C30 (14D07, 14E20)

Haine, Luc (*with* Grünbaum, F. Alberto) On a q-analogue of Gauss equation and some q-Riccati equations. *Special functions, q-series and related topics* (*Toronto, ON*, 1995), 77–81, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (*see* **97k:33001**) 39A10 (33D15)

— (*with* Grünbaum, F. Alberto; Horozov, Emil) On the Krall-Hermite and the Krall-Bessel polynomials. *Internat. Math. Res. Notices* **1997**, *no.* 19, 953–966. (Kenji Taniguchi) **99e:33007** 33C45 (58F19)

— (*with* Iliev, Plamen) The bispectral property of a q-deformation of the Schur polynomials and the q-KdV hierarchy. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7217–7227. (Alexander V. Shapovalov) **99c:58071** 58F07 (17B37, 33D80)

— Beyond the classical orthogonal polynomials. *The bispectral problem* (*Montreal, PQ*, 1997), 47–65, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Alexei Zhedanov) **99d:33008** 33C45 (47B39, 58F07)

Haines, Linda M. (*with* Atkinson, Anthony C.) Designs for nonlinear and generalized linear models. *Design and analysis of experiments*, 437–475, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K05 (62J02, 62J12)

— Interval judgements in the analytic hierarchy process: a statistical perspective. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 87–95, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A07 (93A14)

Hairer, Ernst Variable time step integration with symplectic methods. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 219–227. (Yun Kang Liu) **99a:65083** 65L05 (34A45, 65L06, 70–08)

— (*with* Wanner, Gerhard) Order conditions for general two-step Runge-Kutta methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2087–2089. (Masaharu Nakashima) **99b:65085** 65L06 (65L07)

— (*with* Leone, P.) Order barriers for symplectic multi-value methods. (English summary) *Numerical analysis* 1997 (*Dundee*), 133–149, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65108** 65L06

Haisch, Bernhard (*with* Rueda, Alfonso) Inertia as reaction of the vacuum to accelerated motion. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 115–126. (Summary) **99a:81018** 81P20 (70A05, 70H40)

Haïssinsky, Peter Chirurgie parabolique. (English and French summaries) [Parabolic surgery] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 195–198. (Walter Bergweiler) **99i:58127** 58F23 (30D05)

Hajac, Piotr M. A note on first order differential calculus on quantum principal bundles. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1139–1143. (Andreas Cap) **99i:58014** 58B30 (16W30, 46L87)

— (*with* Masuda, Tetsuya) Quantum double-torus. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 553–558. (Summary) **99h:16060** 16W30 (46L87)

Hajar, M. (*with* Blanc, R. H.) Linear thermoviscoelasticity. I. A functional model. (English summary) *Acta Mech.* **130** (1998), *no.* 3-4, 175–183. (Summary) **99g:73011** 73B30 (73F05)

— (*with* Blanc, R. H.) Linear thermoviscoelasticity. II. Energy balances. (English summary) *Acta Mech.* **130** (1998), *no.* 3-4, 185–197. (Summary) **99g:73012** 73B30 (73F05)

Hajarnavis, C. R. (*with* Chatters, A. W.) ★ An introductory course in commutative algebra. (English summary) Oxford Science Publications. *Oxford University Press, Oxford*, 1998. *viii+144 pp. ISBN* 0-19-853423-X (T. Albu) **99g:13001** 13–01

— (*with* Lissaman, R. M.) Invertible ideals and existence of quotient rings. *Comm. Algebra* **26** (1998), *no.* 6, 1985–1997. (J. C. Robson) **99e:16016** 16E60 (16H05, 16P40)

Hajdu, L. On a Diophantine equation concerning the number of integer points in special domains. II. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 3-4, 331–342. (Yann Bugeaud) **99a:11032** 11D25 (11D41, 11P21)

— (*with* Bérczes, A.) On a problem of P. Turán concerning irreducible polynomials. *Number theory (Eger, 1996)*, 95–100, *de Gruyter, Berlin*, 1998. (Maurice Mignotte) **99f:11032** 11C08

— On a Diophantine equation concerning the number of integer points in special domains. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 1-2, 59–70. (Yann Bugeaud) **99a:11031** 11D25 (11J86, 11P21)

— (*with* Herendi, Tamás) Explicit bounds for the solutions of elliptic equations with rational coefficients. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 361–366. (Yann Bugeaud) **99a:11033** 11D25 (11G05, 14Q05)

— (*with* Bérczes, A.; Brindza, Béla) On the power values of polynomials. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 375–381. (Yann Bugeaud) **99h:11028** 11D41

— (*with* Pintér, Ákos) Square product of three integers in short intervals. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1299–1301. (Nikos Tzanakis) **99j:11027** 11D25 (11Y50)

Hájek, Alan Agnosticism meets Bayesianism. *Analysis (Oxford)* **58** (1998), *no.* 3, 199–206. 03B48

Hajek, Bruce (*with* Alanyali, Murat) On large deviations of Markov processes with discontinuous statistics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 45–66. (R. Sh. Liptser) **99g:60053** 60F10 (60J40)

— (*with* Alanyali, Murat) On large deviations in load sharing networks. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 67–97. (Peter Gerrard Taylor) **99m:60141** 60K25 (60F10, 68M20, 90B22)

— (*with* Ephremides, Anthony) Information theory and communication networks: an unconsummated union. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2416–2434. (Summary) **99h:94004** 94A05 (94A15)

Hajek, Darrell W. (*with* Castillo, Paul) The Wallman compactification and intermediate spaces. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 101–107. (Summary) **99h:54039** 54D35

Hájek, Jaroslav ★ Collected works of Jaroslav Hájek—with commentary. (English summary) Compiled and with a preface by M. Hušková, R. Beran and V. Dupač. Wiley Series in Probability and Statistics: Probability and Statistics. *John Wiley & Sons, Ltd., Chichester*, 1998. *x*+677 *pp. ISBN* 0-471-97586-9 (Eugenio Regazzini) **99k:01086** 01A75 (01A60, 60–03, 62–03)

Hájek, Petr *see* **Hájek, Petr²**

Hájek, Petr¹ (*with* Godo, Lluís; Esteva, Francesc) Fuzzy logic and probability. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 237–244, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:03042** 03B52 (68T27)

— Logics of knowing and believing. *Intelligence and artificial intelligence*, 96–108, *Springer, Berlin*, 1998. (*see* **99d:68211**) 03B45 (03B52)

Hájek, Petr² (*with* Fabian, Marián; Zizler, Václav) Uniform Eberlein compacta and uniformly Gâteaux smooth norms. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 351–362. (John R. Giles) **99m:46014** 46B03 (46B20)

— Smooth functions on c_0. (English summary) *Israel J. Math.* **104** (1998), 17–27. (Li Xin Cheng) **99d:46063** 46G05 (46B20)

— (*with* Deville, Robert; Fonf, Vladimir) Analytic and polyhedral approximation of convex bodies in separable polyhedral Banach spaces. (English summary) *Israel J. Math.* **105** (1998), 139–154. (G. M. Ustinov) **99h:46006** 46B03 (46B20, 46G20, 52A27)

— Polynomial algebras on classical Banach spaces. (English summary) *Israel J. Math.* **106** (1998), 209–220. (Jesús A. Jaramillo) **99k:46079** 46G20 (46E50, 46J15)

— Smooth functions on $C(K)$. (English summary) *Israel J. Math.* **107** (1998), 237–252. (Jesús A. Jaramillo) **99k:46072** 46G05 (46B20)

Hajiabolhassan, H. (*with* Mehrabadi, M. L.) Commutative graph algebras. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz*, 1997), 201–203, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05E99

— (*with* Mehrabadi, M. L.; Tusserkani, R.) Minimal coloring and strength of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz*, 1997), 353–357, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99b:05057** 05C15

— (*with* Mehrabadi, M. L.; Tusserkani, R.; Zaker, M.) Improving Erdős-Kubicka bounds. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz*, 1997), 565–567, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15

— (*with* Mehrabadi, M. L.; Tusserkani, R.; Zaker, M.) Minimal defining sets in vertex coloring of graphs. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz*, 1997), 587–589, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C15

— (*with* Akbari-Feyzaabaadi, S.; Behzad, M.; Mahmoodian, E. S.) Uniquely total colorable graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 305–314. (Mirosław Truszczyński) **99b:05052** 05C15

— (*with* Eslahchi, Ch.; Mehrabadi, M. L.; Tusserkani, R.) A counterexample for Hilton-Johnson's conjecture on list-coloring of graphs. (English summary) *Australas. J. Combin.* **18** (1998), 127–131. (Summary) **99g:05075** 05C15

— (*with* Mehrabadi, M. L.) On clique polynomials. (English summary) *Australas. J. Combin.* **18** (1998), 313–316. (Summary) **99j:05182** 05C99

— (*with* Mehrabadi, M. L.; Tusserkani, R.; Zaker, M.) A characterization of uniquely vertex colorable graphs using minimal defining sets. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 233–236. (Summary) **99k:05137** 05C75 (05C15)

Hajian, Arshag (*with* Eigen, Stanley; Halverson, Kim) Multiple recurrence and infinite measure preserving odometers. (English summary) *Israel J. Math.* **108** (1998), 37–44. (Nathaniel Friedman) **99m:28035** 28D05

— (*with* Eigen, Stanley; Weiss, Benjamin) Borel automorphisms with no finite invariant measure. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3619–3623. (Mahendra G. Nadkarni) **99b:28024** 28D99

Hajian, Mozafar T. (*with* El-Sakkout, Hani; Wallace, Mark Glossop; Lever, Jonathan M.; Richards, Barry) Towards a closer integration of finite domain propagation and simplex-based algorithms. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 421–431. (*see* **99b:90006**) 90C08 (90C90)

— (*with* Rodošek, Robert; Richards, Barry) Introduction of a new class of variables to discrete and integer programming problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 39–51. (*see* **99k:90002**) 90C10 (90C27)

— (*with* Rodošek, Robert; Wallace, Mark Glossop) A new approach to integrating mixed integer programming and constraint logic programming. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 63–87. (*see* **99k:90002**) 90C11 (90C27)

Hájíček, Petr Group-theoretical quantization of 2 + 1 gravity in the metric-torus sector. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4824–4848. (Christopher Kohler) **99g:83033** 83C45

— (*with* Kijowski, Jerzy) Lagrangian and Hamiltonian formalism for discontinuous fluid and gravitational field. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 914–935. (Alexander N. Petrov) **99a:83007** 83C05 (83C55)

— Spherically symmetric gravitating shell as a reparametrization-invariant system. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 936–953. (Alexander N. Petrov) **99a:83008** 83C05 (83C20, 83C55, 83C57)

— Black hole interacting with matter as a simple dynamical system. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 318–339. (Alexander N. Petrov) **99j:83044** 83C57 (83C05)

Hajir, Farshid On the class numbers of Hilbert class fields. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 177–187. (Ken Yamamura) **99b:11121** 11R29 (11R11)

Hajja, Mowaffaq (*with* Ahmad, Hamza; Kang, Ming-chang) Negligibility of projective linear automorphisms. (English summary) *J. Algebra* **199** (1998), *no.* 1, 344–366. (Frank D. Grosshans) **99c:13008** 13A50 (12F99, 15A72)

Hajjam, Mohamed Écoulements cellulaires de Stokes générés par rotation dans un canal coaxial. (English and French summaries) [Cellular Stokes flows generated by rotation in a coaxial channel] *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 934–954. (Summary) **99h:76025** 76D07 (76M25, 76U05)

Hájková, Vladimíra (*with* Kowalski, Oldřich) Intrinsic characterization of completely ruled hypersurfaces. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 55–62. (Andrew Bucki) **99k:53113** 53C42

Hajłasz, Piotr (*with* Koskela, Pekka) Isoperimetric inequalities and imbedding theorems in irregular domains. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 2, 425–450. (W. P. Ziemer) **99m:46079** 46E35

— Pointwise Hardy inequalities. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 417–423. (S. K. Vodop'yanov) **99c:46028** 46E35 (31C15, 42B25)

Hajnal, András (*with* Komjáth, Péter) A strongly non-Ramsey order type. *Combinatorica* **17** (1997), *no.* 3, 363–367. (Carlos A. Di Prisco) **99m:03093** 03E05 (03E35)

— (*with* Juhász, István; Szentmiklóssy, Z.) On CCC Boolean algebras and partial orders. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 537–544. (P. A. Biryukov) **99d:06006** 06A07 (03E05, 06E10)

— (*with* Erdős, Paul†; Pach, János) On a metric generalization of Ramsey's theorem. (English summary) *Israel J. Math.* **102** (1997), 283–295. (Péter Komjáth) **99c:04004** 04A20 (05D10)

— (*with* Dixmier, Jacques; Duflo, Michel; Kadison, Richard V.; Korányi, Adam; Rosenberg, Jonathan M.; Vergne, Michèle) Lajos Pukánszky (1928–1996). (English summary) *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 492–499. (Editors) **99k:01056** 01A70

— (*with* Grätzer, G.) On isotone maps on a countable lattice. *Algebra Universalis* **41** (1999), *no.* 1, 85–86. (Summary) **99k:06005** 06B05

al-Hajri, N. A. *see* **Al-Hajri, N. A.**

abd el-Hakeim, K. M. *see* **Abd El-Hakeim, K. M.**

Haken, Armin Counting bottlenecks to show monotone P ≠ NP. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 36–40, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q15

Hakim, Jeffrey (*with* Mao, Zhengyu) Supercuspidal representations of GL(n) distinguished by a unitary subgroup. (English summary) *Pacific J. Math.* **185** (1998), *no.* 1, 149–162. (Stephen Slebarski) **99j:22023** 22E50

— (*with* Mao, Zhengyu) Cuspidal representations associated to (GL(n), O(n)) over finite fields and p-adic fields. (English summary) *J. Algebra* **213** (1999), *no.* 1, 129–143. (David Manderscheid) **99m:22019** 22E50 (11F70)

Hakim, Monique Analytic transformations of $(\mathbf{C}^p, 0)$ tangent to the identity. *Duke Math. J.* **92** (1998), *no.* 2, 403–428. (Brendan J. Weickert) **99a:32036** 32H50 (32H02)

Hakim, Vincent *see* **Hydrodynamics and nonlinear instabilities, 99i:76001**

Hakimi, S. Louis (*with* Mitchem, John; Schmeichel, Edward) Short proofs of theorems of Nash-Williams and Tutte. (English summary) *Ars Combin.* **50** (1998), 257–266. (Summary) **99i:05165** 05C70

Hakioğlu, T. Finite-dimensional Schwinger basis, deformed symmetries, Wigner function, and an algebraic approach to quantum phase. (English summary) *J. Phys. A* **31** (1998), *no.* 33, 6975–6994. (Günter Braunss) **99i:81126** 81S30 (81R50)

Hakobyan, T. (*with* Avakyan, Avetis K.; Sedrakyan, A. G.) Integrable extensions of Hubbard Hamiltonian. (English summary) Advances in quantum field theory and statistical mechanics: 2nd Italian-Russian collaboration (Como, 1996). *Internat. J. Modern Phys. B* **11** (1997), *no.* 26-27, 3207–3222. (Rodolfo Cuerno) **99a:82030** 82B23 (81R50)

Hakobyan, Ye. M. (*with* Pogosyan, G. S.; Sisakyan, A. N.) Generalized D-dimensional oscillator: interbasis expansions. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1762–1767. (Summary) **99j:81031** 81Q05

— (*with* Kibler, Maurice; Pogosyan, G. S.; Sisakyan, A. N.) Generalized oscillator: invariance algebra and interbasis expansions. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1782–1788. (Summary) **99i:81030** 81Q05 (81R05)

Hakopian, H. *see* **Akopyan, A. A.**

dziechcińska-Halamoda, Z. *see* **Dziechcińska-Halamoda, Z.**

Halanay, A. *see* **Halanay, Aristide**

Halanay, Andrei Sequences of non-weakly compact sets in $A(\mathbf{D})^*$ and Schauder decompositions of l^1. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 331–338. (Summary) **99m:46022** 46B15 (46E15)

Halanay, Aristide (*with* Drăgan, Vasile) General controlled evolutions disturbance attenuation and related topics. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 2, 149–280. 93D15 (93C25)

— (*with* Drăgan, Vasile; Stoica, Adrian) A property of balanced realizations for time-varying systems. *Stud. Cerc. Mat.* **47** (1995), *no.* 5-6, 375–378. 93B15 (93C10)

— (*with* Drăgan, Vasile; Stoica, Adrian) A small gain theorem for linear stochastic systems. (English summary) *Systems Control Lett.* **30** (1997), *no.* 5, 243–251. (Summary) **99c:93098** 93E03 (93B36)

— (*with* Ionescu, Vlad) Time-varying discrete Hamiltonian systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 307–326. (Fozi M. Dannan) **99k:39014** 39A10 (34C10, 39A12)

— (*with* Drăgan, Vasile) A robust controller for time-dependent discrete systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 1–23. (Geir E. Dullerud) **99h:93093** 93D21 (93C55)

— (*with* Drăgan, Vasile; Stoica, Adrian) An alternative computational solution for optimal two-block Nehari and H^∞ problems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 285–301. (Anton A. Stoorvogel) **99g:93025** 93B36 (93B40)

— *see also* **Corduneanu, Constantin, 99m:01051**

Halaš, Radomír (*with* Chajda, Ivan) Ideals in permutable and 0-regular varieties. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 75–83. (Ewa Graczyńska) **99e:08001** 08A30 (08B05)

Halbeisen, Lorenz (*with* Hungerbühler, Norbert) The Josephus problem. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 303–318. (Yuri Bilu) **99c:11022** 11B83 (11B50, 11Y16)

— Symmetries between two Ramsey properties. (English summary) *Arch. Math. Logic* **37** (1998), *no.* 4, 241–260. (Otmar Spinas) **99i:03055** 03E05 (03E40)

Halberstadt, Emmanuel Signes locaux des courbes elliptiques en 2 et 3. (English and French summaries) [Local root numbers of elliptic curves for $p = 2$ or 3] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1047–1052. (Massimo Bertolini) **99k:11082** 11G07 (11G40)

— Sur la courbe modulaire $X_{\text{ndép}}(11)$. (English and French summaries) [On the modular curve $X_{\text{nonsplit}}(11)$] *Experiment. Math.* **7** (1998), *no.* 2, 163–174. (Chandrashekhar Khare) **99m:11062** 11G05 (11G18)

— (*with* Kraus, Alain) Sur les modules de torsion des courbes elliptiques. [On torsion modules of elliptic curves] *Math. Ann.* **310** (1998), *no.* 1, 47–54. (Toshihiro Hadano) **99a:11069** 11G05

— (*with* Kraus, Alain) Une tordue de rang 4 d'une courbe elliptique de conducteur 15. (English summary) [A twist of rank 4 of an elliptic curve of conductor 15] *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 2, 36–38. (Abderrahmane Nitaj) **99b:11060** 11G05

Halberstam, H. (*with* Diamond, Harold George) Some applications of sieves of dimension exceeding 1. (English summary) *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 101–107, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Hiroshi Mikawa) **99d:11102** 11N35 (11N05, 11N25, 11N36)

— (*with* Diamond, Harold George) On the sieve parameters α_κ and β_κ for large κ. (English summary) *J. Number Theory* **67** (1997), *no.* 1, 52–84. (G. Greaves) **99b:11106** 11N35 (34K25)

Halburd, R. (*with* Kruskal, M. D.; Joshi, Nalini) Analytic and asymptotic methods for nonlinear singularity analysis: a review and extensions of tests for the Painlevé property. (English summary) *Integrability of nonlinear systems* (*Pondicherry*, 1996), 171–205, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Summary) **99g:34031** 34A34 (34A20, 34E05, 35Q53, 58F07)

— (*with* Ablowitz, Mark J.; Chakravarty, Sarbarish) The Darboux-Halphen system and the singularity structure of its solutions. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 408–412, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 34A25 (34A34)

Hald, Anders ★ A history of mathematical statistics from 1750 to 1930. (English summary) Wiley Series in Probability and Statistics: Texts and References Section. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xx*+795 *pp.* *ISBN* 0-471-17912-4 (E. Seneta) **99i:01004** 01A05 (01A55, 60–03, 62–03)

Hald, Ole H. (*with* McLaughlin, Joyce R.) Inverse problems: recovery of BV coefficients from nodes. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 245–273. (Vjacheslav A. Yurko) **99b:34028** 34A55 (34B24, 34L40, 73D50)

Haldane, F. D. M. (*with* Pasquier, V.) A dipole interpretation of the $\nu = 1/2$ state. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 719–726. (Summary) **99a:81210** 81V70

Hale, Bob On some arguments for the necessity of necessity. (English summary) *Mind* **108** (1999), *no.* 429, 23–52. 03A05

Hale, Jack K. Synchronization by diffusive coupling. (English summary) Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 17–31. (Tadeusz Dłotko) **99m:34100** 34C35 (34D45, 34K15, 35L70, 58F12)

Hales, A. W. (*with* Arora, Satya R.; Passi, I. B. S.) The multiplicative Jordan decomposition in group rings. *J. Algebra* **209** (1998), *no.* 2, 533–542. (M. M. Parmenter) **99j:16015** 16S34 (20C05)

Halevi, Shai (*with* Goldreich, Oded; Goldwasser, Shafi) Eliminating decryption errors in the Ajtai-Dwork cryptosystem. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 105–111, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94030** 94A60

— (*with* Goldreich, Oded; Goldwasser, Shafi) Public-key cryptosystems from lattice reduction problems. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 112–131, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94031** 94A60

— (*with* Bellare, Mihir; Sahai, Amit; Vadhan, Salil) Many-to-one trapdoor functions and their relation to public-key cryptosystems. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 283–298, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94038** 94A60

Halevi, Yoram Reduced-order models with delay. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 733–744. 93B36 (93B17, 93C30)

— (*with* Zlochevsky, A.; Gilat, T.) Parameter-dependent model order reduction. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 463–485. (Summary) **99j:93017** 93B11

— (*with* Raskin, Natalya) Discrete-time frequency weighted model reduction and application to sampled-data models. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 315–329. 93B11 (93C57)

— (*with* Cohen, Agnès) Reduced-order observer for systems with piecewise constant inputs. (English summary) *Optimal Control Appl. Methods* **20** (1999), *no.* 1, 51–58. 93B07 (93B11, 93E10)

Halford, William Dean *see* **Hendy, Mike**

Hałgas, Stanisław (*with* Tadeusiewicz, Michał) Finding all the DC solutions of a certain class of piecewise-linear circuits. (English summary) *Circuits Systems Signal Process.* **18** (1999), *no.* 2, 89–110. 94C05

Halic, Gheorghe (*with* Kovacs, Edith) Partial H-derivatives. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 71–76, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 26A24

— On the best local approximation of a function. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 67–72, *"Aurel Vlaicu" Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 41A30 (41A65)

— A generalization of the n-th order derivative of a function. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 73–76, *"Aurel Vlaicu" Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 26A24

— (*with* Kovacs, Edith) Remarks on the "H-derivative" concept. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 77–80, *"Aurel Vlaicu" Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 26A24

— *see also* **25 years of high level technical education in Arad, 99i:00014** *and* **Proceedings: Scientific Communications Meeting of "Aurel Vlaicu" University, 99i:00027**

Halici, Ugur (*with* Arpinar, Budak; Dogac, Asuman) Serializability of nested transactions in multidatabases. (English summary) *Database theory—ICDT '97* (*Delphi*), 321–335, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68054** 68P15

Halidias, Nikolaos (*with* Papageorgiou, Nikolaos S.) On a class of discontinuous nonlinear elliptic equations. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 143–154 (1998). (D. Pascali) **99j:35050** 35J60

— (*with* Papageorgiou, Nikolaos S.) Second order multivalued boundary value problems. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 2, 267–284. (Salvatore A. Marano) **99g:34040** 34A60 (34B15, 34C25)

— (*with* Papageorgiou, Nikolaos S.) Existence and relaxation results for nonlinear second-order multivalued boundary value problems in $\mathbf{R}^N$. (English summary) *J. Differential Equations* **147** (1998), *no.* 1, 123–154. (Oleg P. Filatov) **99f:34015** 34A60 (34B15, 49J45)

Halikias, George D. (*with* Jaimoukha, Imad M.) Hierarchical optimization in $\mathscr{H}_\infty$. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1123–1128. 93B36 (93A13)

— (*with* Davies, Raymond) Hierarchical $\mathscr{H}_\infty/\mathscr{H}_2$ optimal control: 2-block problem. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 965–1017. (Qing Zhang) **99f:93042** 93B36 (90C29, 93A13)

— (*with* Wilson, D. A.; Nekoui, M. A.) An LQR weight selection approach to the discrete generalized H_2 control problem. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 93–101. (Summary) **99f:93054** 93B36 (93C55)

— (*with* Jaimoukha, Imad M.) The 2-block superoptimal AAK problem. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 3, 244–264. (Cheng Wu Yang) **99h:93036** 93B35 (93D09)

Halilović, Armin Semi-variation and multilinear Stieltjes integrals. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 1, 17–28. (A. G. Poroshkin) **99g:28022** 28B05 (26A42, 26B05, 46G10)

Halilsoy, M. Test field in a sandwich wave spacetime. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 8, 2231–2237. (Patrick Dolan) **99d:83025** 83C22

— (*with* Gurtug, O.) New colliding wave solutions in the Einstein-abelian gauge and Einstein-Maxwell-dilaton theories. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 1, 69–80. (Nora Bretón Báez) **99d:83024** 83C22 (83C15)

— (*with* Al-Badawi, A.) Modified Reissner-Nordström metric in an external electrostatic field. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 6, 761–766. (Serguey M. Pokas') **99f:83047** 83C57 (83C15, 83C50)

Halin, R. The structure of rayless graphs. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 225–253. (M. E. Watkins) **99k:05138** 05C75 (05C05)

Halkias, C. C. (*with* Papaodysseus, C.; Koukoutsis, E.; Roussopoulos, G.) A parallelizable recursive least squares algorithm for adaptive filtering, with very good tracking properties. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 275–292. (Summary) **99k:94014** 94A12

Hall, A. D. (*with* Pagan, A. R.; Martin, Vance L.) Modeling the term structure. *Statistical methods in finance*, 91–118, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62145** 62P20 (90A09)

Hall, Brian C. Quantum mechanics in phase space. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 47–62, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Ambar Sengupta) **99e:22015** 22E30 (58G40, 81R30, 81S10)

— (*with* Sengupta, Ambar N.) The Segal-Bargmann transform for path-groups. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 220–254. (Philippe Biane) **99a:58020** 58D20 (22E65, 58G32, 60J65)

Hall, C. A. (*with* Porsching, T. A.; Bennett, T. L.) Minimax approximation of optical profiles. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1951–1968 (*electronic*). (Summary) **99d:41036** 41A30 (65Y25)

Hall, Carol K. (*with* Smith, Steven W.; Freeman, Benny D.; McCormick, Julie A.) Self-diffusion coefficients and atomic mean-squared displacements in entangled hard

chain fluids. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 203–215, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60

Hall, Chris *see* **Hall, Christopher J.**

Hall, Christopher D. (*with* Thorne, James D.) Minimum-time continuous-thrust orbit transfers. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 4, 411–432. 70M20 (70Q05)

Hall, Christopher J. (*with* Wagner, David A.; Kelsey, John; Schneier, Bruce) Building PRFs from PRPs. *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 370–389, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94047** 94A60

Hall, Daniel B. (*with* Severini, Thomas A.) Extended generalized estimating equations for clustered data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1365–1375. (Summary) **99h:62095** 62J12

Hall, Frank J. (*with* Eschenbach, Carolyn A.; Li, Zhongshan) From real to complex sign pattern matrices. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 159–172. (Rafael Canto) **99d:15003** 15A15 (15A09, 15A48)

Hall, G. R. (*with* DeStefano, Alisa) A universally observable flow on the two-dimensional torus. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 10 *pp.* (*electronic*). (Andrei V. Sarychev) **99j:58182** 58F25 (34C28, 34C35, 93B07)

— (*with* DeStefano, Alisa) An example of a universally observable flow on the torus. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1207–1224 (*electronic*). (Russell A. Johnson) **99i:93011** 93B07 (34C35, 58F25, 93C10)

Hall, G. S. (*with* Paiva, F. M.; Rebouças, M. J.; MacCallum, Malcolm A. H.) Limits of the energy-momentum tensor in general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1031–1041. (Emil Zakhary) **99f:83028** 83C40

— Some remarks on symmetries and transformation groups in general relativity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 1099–1110. (Alicia M. Sintes) **99e:83013** 83C20 (22E70)

Hall, George (*with* Usman, Anila) Equilibrium states for predictor-corrector methods. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 275–308. (Ming Zhu Liu) **99i:65068** 65L05

Hall, George G. George Green—who? *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 2, 48–50. (Thomas Archibald) **99c:01021** 01A70 (01A55)

Hall, H. Tracy (*with* Fallat, Shaun M.; Johnson, Charles Royal) Characterization of product inequalities for principal minors of M-matrices and inverse M-matrices. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 451–458. (Jeffrey Stuart) **99j:15010** 15A15 (15A45, 15A48)

Hall, J. A. J. (*with* McKinnon, K. I. M.) ASYNPLEX, an asynchronous parallel revised simplex algorithm. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 27–49. (*see* **99b:90006**) 90C05 (65Y05)

Hall, James W. (*with* Blockley, David I.; Davis, John P.) Uncertain inference using interval probability theory. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 247–264. (Summary) **99k:68180** 68T27 (03B48, 68T30)

Hall, Leslie A. (*with* Williamson, David P.; Hoogeveen, Johannes Adzer; Hurkens, C. A. J.; Lenstra, Jan Karel; Sevast'yanov, S. V.; Shmoys, David B.) Short shop schedules. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 288–294. (Jan Węglarz) **99g:90049** 90B25 (68Q25)

— Approximability of flow shop scheduling. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 175–190. (Stanislav Palúch) **99h:90050** 90B35 (68M20, 68Q25)

Hall, Marshall, Jr. ★ Combinatorial theory. Reprint of the 1986 second edition. Wiley Classics Library. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xviii*+440 *pp. ISBN* 0-471-31518-4 05-01

Hall, Michael J. W. Random quantum correlations and density operator distributions. (English summary) *Phys. Lett. A* **242** (1998), *no.* 3, 123–129. (Summary) **99b:82051** 82B44 (81P99)

Hall, Nicholas G. (*with* Sriskandarajah, Chelliah) A survey of machine scheduling problems with blocking and no-wait in process. (English summary) *Oper. Res.* **44** (1996), *no.* 3, 510–525. (Summary) **99k:90088** 90B35 (90–02)

— A comparison of inventory replenishment heuristics for minimizing maximum storage. (English summary) *Amer. J. Math. Management Sci.* **18** (1998), *no.* 3-4, 245–258. 90B05 (90B25)

— (*with* Liu, Wei-Ping; Sidney, Jeffrey B.) Scheduling in broadcast networks. (English summary) *Networks* **32** (1998), *no.* 4, 233–253. (Yuri Nazarovich Sotskov) **99j:90028** 90B12 (68M10, 90B35)

— (*with* Posner, Marc E.; Potts, Chris N.) Scheduling with finite capacity output buffers. (English summary) *Oper. Res.* **46** (1998), *no.* 3, *suppl.*, *S84–S97*. (Yuri Nazarovich Sotskov) **99h:90051** 90B35

Hall, P. *see* **Hall, Philip[2]**

Hall, Peter Gavin (*with* Turlach, Berwin A.) Enhancing convolution and interpolation methods for nonparametric regression. (English summary) *Biometrika* **84** (1997), *no.* 4, 779–790. (Andreas Futschik) **99i:62092** 62G07

— (*with* Marron, J. Stephen) On the role of the shrinkage parameter in local linear smoothing. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 4, 495–516. (Theo Gasser) **99a:62048** 62G05

— (*with* Kerkyacharian, Gérard; Picard, Dominique) Block threshold rules for curve estimation using kernel and wavelet methods. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 922–942. (B. L. S. Prakasa Rao) **99k:62082** 62G07

— (*with* Fisher, Nicholas I.) Geoffrey Stuart Watson: tributes and obituary (3 December 1921–3 January 1998). (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 257–267. (Editors) **99m:01055** 01A70

— (*with* Cheng, Ming-Yen; Titterington, D. Michael) Optimal design for curve estimation by local linear smoothing. (English summary) *Bernoulli* **4** (1998), *no.* 1, 3–14. (Christos P. Kitsos) **99c:62204** 62K05 (62G05, 62J05, 62L05)

— (*with* Choi, Edwin) On bias reduction in local linear smoothing. (English summary) *Biometrika* **85** (1998), *no.* 2, 333–345. (José Rafael León) **99j:62043** 62G05

— (*with* Park, Byeong U.; Turlach, Berwin A.) A note on design transformation and binning in nonparametric curve estimation. (English summary) *Biometrika* **85** (1998), *no.* 2, 469–476. 62G05

— (*with* Presnell, Brett) Applications of intentionally biased bootstrap methods. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 257–266 (*electronic*). (Summary) **99e:62067** 62G09 (62G05)

— (*with* Park, Byeong U.; Stern, Steven E.) On polynomial estimators of frontiers and boundaries. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 71–98. (Summary) **99h:62035** 62G05

— (*with* Cheng, Ming-Yen) Calibrating the excess mass and dip tests of modality. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 579–589. (Summary) **99b:62076** 62G10

— (*with* Gasser, Theo; Presnell, Brett) Nonparametric estimation of the mode of a distribution of random curves. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 681–691. (Summary) **99e:62043** 62G05

— Erratum: "On convergence rates of suprema" [Probab. Theory Related Fields **89** (1991), no. 4, 447–455; MR 92i:60101]. *Probab. Theory Related Fields* **112** (1998), *no.* 2, 297. (Editors) **99f:60095** 60G70

— (*with* Cheng, Ming-Yen) On mode testing and empirical approximations to distributions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 245–254. (Summary) **99e:62040** 62G05 (62G10)

— (*with* Jing, Bing-Yi) Comparison of bootstrap and asymptotic approximations to the distribution of a heavy-tailed mean. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 887–906. (Alan M. Polansky) **99k:62086** 62G09

— (*with* Jing, Bing-Yi; Lahiri, Soumendra Nath) On the sampling window method for long-range dependent data. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1189–1204. (Somnath Datta) **99m:62045** 62G05

— (*with* Davies, Steve) Fractal analysis of surface roughness by using spatial data. (English summary) With discussion and a reply by the authors. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 3–37. (Summary) **99i:62124** 62H11 (62G05)

— (*with* Presnell, Brett) Intentionally biased bootstrap methods. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 143–158. (Li-Xing Zhu) **99m:62067** 62G09 (62G07, 62G10)

Hall, Philip[2] (*with* Hewitt, Richard E.) The evolution of finite-amplitude wavetrains in plane channel flow. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2413–2446. (From the text) **99h:76031** 76D33 (76E30)

— (*with* Shortis, Trudi A.) On the nonlinear stability of the oscillatory viscous flow of an incompressible fluid in a curved pipe. (English summary) *J. Fluid Mech.* **379** (1999), 145–163. (Summary) **99j:76048** 76E30

Hall, R. R. Franel integrals. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 143–159, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (G. Greaves) **99d:11073** 11J71 (11M41)

— Linear Diophantine equations and Franel integrals. *J. Reine Angew. Math.* **496** (1998), 93–105. (G. Greaves) **99a:11100** 11M26 (11D04, 11P21)

— The Gaussian curvature of minimal surfaces and Heinz' constant. *J. Reine Angew. Math.* **502** (1998), 19–28. (Fei-Tsen Liang) **99j:53009** 53A10 (30A10, 35J60)

Hall, Richard Andrew (*with* Mullineux, Glen) The Zheng-Ball construction without twist constraints. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 165–175. (Summary) **99m:65033** 65D17

— (*with* Mullineux, Glen) Continuity between Gregory-like patches. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 197–216. 65D17

Hall, Richard L. (*with* Saad, Nasser; von Keviczky, Attila B.) Matrix elements for a generalized spiked harmonic oscillator. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6345–6352. (Luciano Canton) **99m:81043** 81Q05 (34L40)

— (*with* Saad, Nasser) Eigenvalue bounds for a class of singular potentials in N dimensions. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 133–138. 81Q05

Hall, T. E. (*with* Zhang, Shu Hua[1]) On radical congruence systems. II. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 363–397. (Pascal Weil) **99m:20138** 20M07 (08A30, 08B15)

— (*with* Imaoka, Teruo) Representations and amalgamation of generalized inverse $*$-semigroups. (English summary) *Semigroup Forum* **58** (1999), *no.* 1, 126–141. (Mária B. Szendrei) **99m:20149** 20M18 (20M30)

Hall, W. J. The distribution of Brownian motion on linear stopping boundaries. (English summary) *Sequential Anal.* **16** (1997), *no.* 4, 345–352. (Summary) **99a:62117a** 62L10

— Addendum to: "The distribution of Brownian motion on linear stopping boundaries". *Sequential Anal.* **17** (1998), *no.* 1, 123–124. (Editors) **99a:62117b** 62L10

Hall, W. S. (*with* Mao, Xin Qiang) Eigenvalue and resonance frequencies in electromagnetic scattering. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 199–211, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99c:78003** 78–08 (65N38, 78A45)

Hall, William F. (*with* Gedney, Stephen D.; Roden, J. Alan; Madsen, Niel K.; Mohammadian, Alireza H.; Shankar, Vijaya; Rowell, Chris) Explicit time-domain solutions of Maxwell's equations via generalized grids. *Advances in computational electrodynamics*, 163–262, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78002** 78–08 (65M06, 78A45)

Hallan, P. P. (*with* Bhatnagar, K. B.) Existence and stability of $L_{4,5}$ in the relativistic restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **69** (1997/98), *no.* 3, 271–281. (Summary) **99e:70029** 70F07 (70H40)

al-Hallaq, Abdulraouf Y. *see* **Al-Hallaq, Abdulraouf Y.**

Halldórsson, Magnús M. (*with* Ueno, Shuichi; Nakao, Hiroshi; Kajitani, Yoji) Approximating Steiner trees in graphs with restricted weights. (English summary) *Networks* **31** (1998), *no.* 4, 283–292. (Summary) **99c:05048** 05C05 (90C27)

Hallefjord, Åsa *see* **Modelling: in memory of Åsa Hallefjord, 99e:90003** *and* **Wallace, Stein W., 99m:01095**

duel-Hallen, Alexandra *see* **Duel-Hallen, Alexandra**

Hallenbeck, D. J. Tangential limits of Cauchy-Stieltjes transforms. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 129–136. (Summary) **99b:31001** 31A20 (30E20)

— (*with* Samotij, K.) On properties of Cauchy transforms. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 189–193. (Summary) **99f:30062** 30E20

— (*with* Samotij, K.) On properties of multipliers of Cauchy transforms. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 223–235. (N. V. Rao) **99g:30051** 30E20 (46E15)

Haller, G. *see* **Haller, György**

Haller, Gerd (*with* Dette, Holger) Optimal designs for the identification of the order of a Fourier regression. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1496–1521. (C. R. Rao) **99k:62137** 62K05 (62J02)

Haller, György Multi-dimensional homoclinic jumping and the discretized NLS equation. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 1–46. (C. Eugene Wayne) **99j:58152** 58F15 (34C37, 35Q55, 39A12, 58F30)

— (*with* Mezić, Igor) Reduction of three-dimensional, volume-preserving flows with symmetry. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 319–339. (Yi-Sui Sun) **99a:58135** 58F25 (34A26, 34C35, 58F40, 76C99, 76W05)

— (*with* Poje, A. C.) Finite time transport in aperiodic flows. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 352–380. (From the text) **99m:76071** 76F99 (58F40)

— Homoclinic jumping in the perturbed nonlinear Schrödinger equation. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 1, 1–47. (Alan R. Champneys) **99j:35200** 35Q55 (34C37, 35B32, 58F39)

Haller, Hans H. (*with* Gilles, Robert P.; Ruys, Pieter H. M.) Semi-core equivalence. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 101–127. (G. van der Laan) **99c:90029** 90A14 (90A80, 90D12)

Hallin, Marc (*with* Rifi, Khalid) A Berry-Esseen theorem for serial rank statistics. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 777–799. (M. Hušková) **99g:62064** 62G20

— (*with* Bentarzi, Mohamed) Spectral factorization of periodically correlated MA(1) processes. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 46–54. (Jiří Anděl) **99d:62082** 62M10

— (*with* Dufour, Jean-Marie; Mizera, Ivan) Generalized runs tests for heteroscedastic time series. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 1, 39–86. (Summary) **99a:62128** 62M10 (62G10)

— (*with* Benghabrit, Youssef) Locally asymptotically optimal tests for AR(p) against diagonal bilinear dependence. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 47–63. (Adhir K. Basu) **99f:62104** 62M10

— (*with* Jurečková, Jana; Milhaud, Xavier) Characterization of error distributions in time-series regression models. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 335–345. (Vipul A. Kalamkar) **99i:62205** 62M10 (62E10, 62J05)

Halliwell, Jonathan J. Quantum cosmology and conceptual problems in quantum gravity. *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 515–519, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83C45

— (*with* Diósi, Lajos; Gisin, Nicolas; Percival, Ian C.) On the equivalence of quantum state diffusion and decoherent histories for open quantum systems. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 87–97, *Internat. Press, Cambridge, MA*, 1997. (Robert Alicki) **99b:82064** 82C10 (81P05)

— (*with* Zafiris, Elias) Decoherent histories approach to the arrival time problem. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3351–3364. (Summary) **99m:81033** 81P99 (81S99)

— Decoherent histories and hydrodynamic equations. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105015, 12 *pp.* (Summary) **99m:81034** 81P99

— (*with* Diósi, Lajos) Coupling classical and quantum variables using continuous quantum measurement theory. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2846–2849. (Summary) **99g:81021** 81P15

Hallstrom, Chris (*with* Constantin, Peter; Putkaradze, Vakhtang) Heat transport in rotating convection. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 275–284. (Marie Christine Néel) **99m:76104** 76R10 (35Q35, 76E15, 76U05)

Halm, D. (*with* Dragon, A.) An anisotropic model of damage and frictional sliding for brittle materials. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 3, 439–460. (Summary) **99d:73072** 73M25 (73B40, 73S10)

Halmos, Paul R. ★ Introduction to Hilbert space and the theory of spectral multiplicity. Reprint of the second (1957) edition. *AMS Chelsea Publishing, Providence, RI*, 1998. 114 *pp. ISBN* 0-8218-1378-1 (Editors) **99g:47001** 47–01 (46–01, 47A10)

— (*with* Givant, Steven) ★ Logic as algebra. (English summary) The Dolciani Mathematical Expositions, 21. *Mathematical Association of America, Washington, DC*, 1998. x+141 *pp. ISBN* 0-88385-327-2 (Marcel Guillaume) **99m:03001** 03–01

Halperin, Dan (*with* de Berg, Mark; Overmars, Mark H.; van Kreveld, Marc) Sparse arrangements and the number of views of polyhedral scenes. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 175–195. (Rephael Wenger) **99a:52014** 52B30 (52B55, 68U05)

— (*with* Aronov, Boris; Efrat, Alon; Sharir, Micha) On the number of regular vertices of the union of Jordan regions. (English summary) *Algorithm theory—SWAT'*98 (*Stockholm*), 322–334, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99m:68204** 68U05 (52B55)

— (*with* Charikar, Moses; Motwani, Rajeev) The dynamic servers problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 410–419, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25

— (*with* Shelton, Christian R.) A perturbation scheme for spherical arrangements with application to molecular modeling. (English summary) Applied computational geometry. *Comput. Geom.* **10** (1998), *no.* 4, 273–287. (Summary) **99d:65392** 65Y25 (52B30, 65Y15, 68U05)

— (*with* Overmars, Mark H.) Spheres, molecules, and hidden surface removal. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 83–102. (H. W. Guggenheimer) **99m:68211** 68U05 (52B55)

— (*with* Guibas, Leonidas J.; Hirukawa, Hirohisa; Latombe, Jean-Claude; Wilson, Randall H.) Polyhedral assembly partitioning using maximally covered cells in arrangements of convex polytopes. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 179–199. (Rephael Wenger) **99d:68229** 68U05 (52B55, 70B15)

Halperin, Israel *see* **von Neumann, John, 99k:51001**

Halperin, Steven (*with* Félix, Yves; Lemaire, Jean-Michel) The rational LS category of products and of Poincaré duality complexes. (English summary) *Topology* **37** (1998), *no.* 4, 749–756. (Edgar H. Brown, Jr.) **99a:55003** 55M30 (55P62, 57P10)

— *see also* **Stable and unstable homotopy, 99a:55001**

Halpern, D. (*with* Jensen, O. E.) The stress singularity in surfactant-driven thin-film flows. I. Viscous effects. (English summary) *J. Fluid Mech.* **372** (1998), 273–300. (Summary) **99i:76038a** 76D07 (76D08, 76T05)

Halpern, Joseph Y. (*with* Friedman, Nir) Plausibility measures: a user's guide. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 175–184, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68186** 68T30 (68T27)

— (*with* Friedman, Nir) A qualitative Markov assumption and its implications for belief change. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 263–273, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68187** 68T30 (03B60, 68T27)

— Defining relative likelihood in partially-ordered preferential structures. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 299–306, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:68173** 68T27 (03B45, 68T30)

— (*with* Grove, Adam J.) On the expected value of games with absentmindedness. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 51–65. (*see* **99b:90162**) 90A05 (90D40)

— On ambiguities in the interpretation of game trees. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 66–96. (*see* **99b:90162**) 90A05 (90D40)

— Defining relative likelihood in partially-ordered preferential structures. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 1–24. (Katalin Bimbó) **99c:68232** 68T27 (03B45, 03B70)

— (*with* Boutilier, Craig; Friedman, Nir) Belief revision with unreliable observations. (English summary) *AAAI-*98*/IAAI-*98 *Proceedings* (*Madison, WI*, 1998), 127–134, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 03B70 (68T27)

— (*with* Dwork, Cynthia; Waarts, Orli) Performing work efficiently in the presence of faults. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1457–1491 (*electronic*). (A. A. Chernyak) **99c:68027** 68M20 (68M15, 68Q22, 90B25)

Halpern, M. B. (*with* Clubok, K.) The generic world-sheet action of irrational conformal field theory. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 120–130, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81210** 81T40

— (*with* Obers, Niels A.) Semiclassical blocks and correlators in rational and irrational conformal field theory. (English summary) *Internat. J. Modern Phys. A* **11** (1996), *no.* 27, 4837–4896. (Jürgen Schulze) **99b:81217** 81T40 (81R10)

— (*with* Obers, Niels A.) New semiclassical non-abelian vertex operators for chiral and nonchiral WZW theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4317–4355. (Isabel P. Ennes) **99c:81067** 81R10 (81T40)

— (*with* Borisov, Lev A.; Schweigert, Christoph) Systematic approach to cyclic orbifolds. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 1, 125–168. (Mirko Primc) **99i:81068** 81R10 (17B68, 81T40)

— (*with* Schwartz, Charles Leon) Asymptotic search for ground states of SU(2) Matrix theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4367–4408. (Yolanda Lozano) **99j:81138** 81T30

— (*with* de Boer, Jan) New spin-2 gauged sigma models and general conformal field theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 26, 4487–4512. (Stanislav Z. Pakuliak) **99j:81164** 81T40 (17B68, 81R10)

Halter-Koch, Franz The integral closure of a finitely generated monoid and the Frobenius problem in higher dimensions. (English summary) *Semigroups* (*Luino*, 1992), 86–93, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M05 (52C07)

— (*with* Anderson, D. D.; Chapman, Scott T.; Zafrullah, Muhammad) Criteria for unique factorization in integral domains. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 205–218. (David E. Rush) **99h:13026** 13F15 (13G05, 20M14)

Haluška, Ján Requiem for Ivan Dobrakov. *Math. Slovaca* **47** (1997), *no.* 5, 587–590. (Editors) **99m:01063** 01A70

— Uncertainty and tuning in music. (English summary) Fuzzy sets (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **12** (1997), 113–129. (Summary) **99a:00009** 00A69 (11Z05, 92J30)

— Comma 32805/32768. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 3, 295–305. (J. S. Joel) **99f:00008** 00A69

— On the numbers 256/243, 25/24, 16/15. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 145–151. (Summary) **99j:00004** 00A69 (11D99, 42C15)

— *see also* **Real functions, 99f:00022**

Halušková, Emília On iterated direct limits of a monounary algebra. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 189–195, *Heyn, Klagenfurt*, 1998. (J. Jakubík) **99m:08014** 08A60

Haluszczak, Mariusz (*with* Borowiecki, Piotr) Partitions of some planar graphs into two linear forests. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 95–102. (Summary) **99b:05105** 05C70

Halverson, Kim (*with* Eigen, Stanley; Hajian, Arshag) Multiple recurrence and infinite measure preserving odometers. (English summary) *Israel J. Math.* **108** (1998), 37–44. (Nathaniel Friedman) **99m:28035** 28D05

Halverson, Tom (*with* Ram, Arun) Murnaghan-Nakayama rules for characters of Iwahori-Hecke algebras of the complex reflection groups $G(r, p, n)$. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 167–192. (Andrew P. Mathas) **99e:20007** 20C05 (05E05, 51F15)

Halyo, Edi (*with* Fischler, Willy; Rajaraman, Arvind; Susskind, Leonard) The incredible shrinking torus. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 2, 409–426. (Yolanda Lozano) **99d:81115** 81T30 (81T13, 81T60)

— Supergravity on $AdS_{4/7} \times S^{7/4}$ and M branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 11, 8 *pp.* (*electronic*). (Paulo Moniz) **99d:83094** 83E30 (81T30, 83E50)

— Four-dimensional black holes and strings with rescaled tension. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1521–1530. (Summary) **99c:83090** 83E30 (83C57)

— D-term inflation in type I string theory. (English summary) *Phys. Lett. B* **454** (1999), *no.* 3-4, 223–227. 81T30

Ham, Yoon Mee (*with* Ko, Youngsang) C-infinity interfaces of solutions for one-dimensional parabolic p-Laplacian equations. (English summary) *Electron. J. Differential Equations* **1999**, *No.* 1, 12 *pp.* (*electronic*). (Summary) **99i:35063** 35K55

— Internal layer oscillations in FitzHugh-Nagumo equation. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 287–295. (Summary) **99k:35197** 35R35 (35B32, 35Q80, 58F40, 92C20)

Hamabata, Hiromitsu Nonlinear hydromagnetic waves in a nonideal magnetohydrodynamic plasma: exact translationally symmetric solutions. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 81–85. (Summary) **99h:76091** 76W05

Hamacher, Anja (*with* Moll, Christoph) A new heuristic for vehicle routing with narrow time windows. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 301–306, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B06 (90C90)

Hamacher, Horst W. (*with* Foulds, Leslie R.; Wilson, John Montgomery) Integer programming approaches to facilities layout models with forbidden areas. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 90–95, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C90 (90C10)

— (*with* Labbé, Martine; Nickel, Stefan) Pareto locations on networks. *Operations Research Proceedings* 1997 (*Jena*), 132–137, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B80

— (*with* Foulds, Leslie R.; Wilson, John Montgomery) Integer programming approaches to facilities layout models with forbidden areas. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 405–417. (*see* **99b:90006**) 90C10 (90C90)

— (*with* Labbé, Martine; Nickel, Stefan) Multicriteria network location problems with sum objectives. (English summary) *Networks* **33** (1999), *no.* 2, 79–92. (S.-C. Fang) **99k:90072** 90B10 (90C29, 90C35)

Hamacher, K. (*with* Wenzel, W.) Stochastic tunneling approach for global minimization of complex potential energy landscapes. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 15, 3003–3007. 81S20

Hamachi, T. Suborbits and group extensions of flows. (English summary) *Israel J. Math.* **100** (1997), 249–283. (S. I. Bezuglyĭ) **99f:28028** 28D10 (46L35, 46L55)

— Correction to: "Suborbits and group extensions of flows" [Israel J. Math. **100** (1997), 249–283; MR 99f:28028]. (English summary) *Israel J. Math.* **109** (1999), 379–380. (From the text) **99m:28039** 28D10 (46L35, 46L55)

Hamada, Hidetaka Complex manifolds which are exhausted by complete Kähler domains. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 59–67, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Kwang Ho Shon) **99j:32019** 32F15 (32E10, 32F20, 32L20)

— (*with* Honda, Tatsuhiro) Holomorphic maps into complex ellipsoids which are Kobayashi isometries at one point. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 67–71. (Summary) **99e:32037** 32H15 (32H02)

— (*with* Yasuoka, Takashi) A general Schwarz lemma on complete Kähler manifolds. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 149–163. (Summary) **99i:32012** 32C17 (32H02)

— The growth theorem of convex mappings on the unit ball in $\mathbf{C}^n$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1075–1077. (T. J. Suffridge) **99f:32035** 32H02

Hamada, Mitsuru (*with* Han, Te Sun) Disjointness of random sequence sets with respect to distinct probability measures. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 756–760. (Summary) **99m:60059** 60G05 (60G30, 94A15)

Hamada, Noboru (*with* Maekawa, Tomoko) A characterization of some q-ary linear codes $(q > (h-1)^2,\ h \geq 3)$ meeting the Griesmer bound. II. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 241–252. (Raymond Hill) **99d:94030** 94B05

— The nonexistence of ternary [29, 6, 17] codes. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 253–264. (Summary) **99a:94067** 94B65 (05B25)

— (*with* van Eupen, Marijn) The nonexistence of ternary [38, 6, 23] codes. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 165–172. (Summary) **99a:94043** 94B05 (51E22)

— On the nonexistence of some quaternary linear codes meeting the Griesmer bound. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 303–322. (Ryoh Fuji-Hara) **99k:94046** 94B05

— (*with* Watamori, Yoko) The nonexistence of ternary [79, 6, 51] codes. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 323–332. (Summary) **99i:05050** 05B25 (62K15, 94B65)

Hamada, Toshio Optimal backup strategy for making files by computer. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 614–625. 90B25

— Optimal file backup strategies. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 67–75. (*see* **99h:90006**) 68N99

Hamada, Yûsaku Une remarque sur le domaine d'existence de la solution du problème de Cauchy pour l'opérateur différentiel à coefficients des fonctions entières. (English and French summaries) [A remark on the domain of existence of the solution of the Cauchy problem for a differential operator whose coefficients are entire functions] *Tohoku Math. J.* (2) **50** (1998), *no.* 1, 133–138. (Masatake Miyake) **99a:35007** 35A20 (35A10)

— Sur un prolongement analytique de la solution du problème de Cauchy dont les données de Cauchy ont des singularités polaires. [On an analytic continuation of the solution of the Cauchy problem whose Cauchy data have polar singularities] *Bull. Sci. Math.* **123** (1999), *no.* 1, 1–28. (Jean-Marc Delort) **99m:35010** 35A20 (58G17)

Hamadène, S. Backward-forward SDE's and stochastic differential games. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 1–15. (Fabio Antonelli) **99j:60085** 60H10 (90D15, 93E05)

Hamadouche, D. Weak convergence of smoothed empirical process in Hölder spaces. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 393–400. (Summary) **99a:60003** 60B10 (60F05, 62G30)

— Hölder convergence of smoothed empirical process. Erratum: "Weak convergence of smoothed empirical process in Hölder spaces" [Statist. Probab. Lett. **36** (1998), no. 4, 393–400; MR 99a:60003]. *Statist. Probab. Lett.* **39** (1998), *no.* 4, 385–386. (From the text) **99h:60006** 60B10 (60F05, 62G30)

Hamaguchi, Kiyoharu (*with* Nakanishi, Masaki; Kashiwabara, Toshinobu) Exponential lower bounds on the sizes of division representations by binary moment diagrams. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 63–70. (*see* **99i:65003**) 68Q25 (68Q05, 68Q35)

Hamahata, Yoshinori The spaces of Hilbert cusp forms for totally real cubic fields and representations of $SL_2(\mathbf{F}_q)$. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 2, 367–399. (Min Ho Lee) **99f:11060** 11F41

Hämäläinen, Heikki O. (*with* Brouwer, Andries E.; Östergård, Patric R. J.; Sloane, Neil J. A.) Bounds on mixed binary/ternary codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 140–161. (Summary) **99b:94057** 94B65

Hämäläinen, Jari Spline collocation for the single layer heat equation. *Ann. Acad. Sci. Fenn. Math. Diss. No.* 113 (1998), 67 *pp.* (Mu Sheng Wei) **99i:65112** 65M70 (35K20)

Hamamoto, Kenichi (*with* Sugie, Toshiharu) A method for constructing linear suboptimal controllers from input-output data—LFT approach. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 1, 20–26. 49N35 (93B52)

Hamamoto, Yoshihiko Pattern recognition when the sample size is limited. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 170–179. (*see* **99i:00029**) 62H30

Hamana, Yuji A remark on the multiple point range of two-dimensional random walks. *Kyushu J. Math.* **52** (1998), *no.* 1, 23–80. (Endre Csáki) **99b:60110** 60J15 (60F99)

Hamanaka, Hiroaki Adjoint actions on homology mod 2 of exceptional Lie groups. *Transformation group theory* (*Taejŏn*, 1996), 32–43, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (M. Mimura) **99a:57033** 57T10 (22E67)

— (*with* Hara, Shin-Ichiro; Kono, Akira[1]) Adjoint action of Lie groups on the loop spaces and cohomology of exceptional Lie groups. *Transformation group theory* (*Taejŏn*, 1996), 44–50, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (M. Mimura) **99a:57034** 57T10 (22E67)

Hamann, Bernd (*with* Jordan, Benjamin W.) Triangulations from repeated bisection. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 229–236, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41056** 41A63 (65D07)

— (*with* Jean, Brian A.) An efficient surface-surface intersection algorithm using adaptive surface triangulations and space partitioning trees. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 25–40. 65D17 (65Y25)

Hamano, Masahiro (*with* Okada, Mitsuhiro) A direct independence proof of Buchholz's Hydra game on finite labeled trees. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 2, 67–89. (Anthony M. Ungar) **99m:03115** 03F03 (03F35)

Hamano, Yasuhiro (*with* Murakami, Youichi) A numerical study of selection rules for unstable modes that are due to model equations. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 16–26. (*see* **99f:76003**) 76E99 (76M25)

Hamaya, Yoshihiro Global attractivity in Wazewska-Lasota difference model. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 187–195. (Summary) **99k:39015** 39A10 (39A11, 92C30)

Hamba, Fujihiro Modeling of turbulent compression using statistical theory. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 97–106. (*see* **99e:76056**) 76F99 (76M35)

Hamberg, O. (*with* Adiri, I.) Openshop scheduling under linear resources constraints. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 51–66. (Summary) **99a:90105** 90B35

Hambly, B. M. (*with* Lyons, Terry) Stochastic area for Brownian motion on the Sierpinski gasket. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 132–148. (Volker Metz) **99f:60145** 60J65 (60H10)

— (*with* Kumagai, Takashi) Heat kernel estimates and homogenization for asymptotically lower-dimensional processes on some nested fractals. (English summary) *Potential Anal.* **8** (1998), *no.* 4, 359–397. (Volker Metz) **99g:60139** 60J60 (31C25)

— (*with* Metz, Volker) The homogenization problem for the Vicsek set. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 167–190. (Kiyoshi Kawazu) **99g:60140** 60J60

— (*with* Kumagai, Takashi) Transition density estimates for diffusion processes on post critically finite self-similar fractals. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 2, 431–458. (Owen Jones) **99m:60118** 60J60 (28A80)

Hambrusch, Susanne E. (*with* Lim, Hyeong-Seok) Minimizing broadcast costs under edge reductions in tree networks. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 93–117. (Summary) **99k:68135** 68R10 (05C85, 68M10)

— *see also* **ACM Symposium: Parallel Algorithms and Architectures, 99m:68004**

Hamburg, Peter (*with* Bălan, Virgil C.) Sur l'uniformisabilité de la convergence continue. [On the uniformalizability of continuous convergence] *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 83–88 (1994). 54E15 (54A20)

Hamburger, Peter (*with* Pippert, Raymond E.) Simple, reducible Venn diagrams on five curves and Hamiltonian cycles. (English summary) *Geom. Dedicata* **68** (1997), *no.* 3, 245–262. (Summary) **99f:05030** 05C10 (05C45)

Hamdache, K. (*with* Alabau, Fatiha; Peng, Yue-Jun) Asymptotic analysis of the transient Vlasov-Poisson system for a plane diode. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 1, 25–48. (Olivier Lafitte) **99d:78020** 78A35 (35Q99, 76X05, 78A55)

— Global existence and large time behaviour of solutions for the Vlasov-Stokes equations. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 51–74. (Yoshikazu Giga) **99f:76128** 76T05 (35Q30, 76D07)

Hamdan, D. (*with* Courbage, M.) An ergodic Markov chain is not determined by its two-dimensional marginal laws. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 35–40. (Summary) **99a:60067** 60J10

Hamdan, M. H. An alternative approach to exact solutions of a special class of Navier-Stokes flows. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 83–90. (K. B. Ranger) **99g:76035** 76D05 (35C05, 35Q30)

— (*with* Ford, R. A.) Coupled parallel flow through composite porous layers. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 261–271. (Summary) **99f:76124** 76S05 (76M20)

— (*with* Awartani, Marwan) Some admissible geometries in the study of steady plane flow of a dusty fluid through porous media. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 85–92. (Summary) **99i:76139** 76S05 (76T05)

— (*with* Awartani, Marwan) Non-reactive gas-particulate models of flow through porous media. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 93–102. (Summary) **99i:76140** 76S05 (76T05)

Hamdan, May Positive cases to the branch point problem. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 3, 187–194. (Summary) **99c:30002** 30A99 (30D40)

Hamdouni, Aziz (*with* Elamri, Khalid; Vallée, Claude; Millet, Olivier) Compatibility of large deformations in nonlinear shell theory. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 855–864. (Summary) **99f:73056** 73K15 (73C50)

— (*with* Elamri, Khalid; Vallée, Claude; Millet, Olivier) Intrinsic formulation of compatibility conditions in nonlinear shell theory. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 421–429. (Summary) **99a:73093** 73K15

— (*with* Taibi, Noureddine) Kane's formalism and Lie group theory. *Mech. Res. Comm.* **25** (1998), *no.* 4, 385–393. (Alexander M. Kovalev) **99f:70017** 70E15 (70–04, 70F20, 70F25)

Hamdy, H. I. (*with* Son, M. S.; Haugh, L. D.; Costanza, M. C.) Controlling type II error while constructing triple sampling fixed precision confidence intervals for the normal mean. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 681–692. (Summary) **99c:62230** 62L12

Hamed, E. T. (*with* Al-Bayati, A. Y.) New self-scaling sequential algorithms for the minimization of constrained nonlinear functions. (English and Arabic summaries) *Dirasat Nat. Engrg. Sci.* **25** (1998), *no.* 2, 339–351. 90C30 (65K05)

al-Hamed, M. A. *see* **Al-Hamed, M. A.**

Hamed, M. S. (*with* Floryan, J. M.) Numerical simulation of unsteady nonisothermal capillary interfaces. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 110–140. 76M25 (65M55, 76D45)

arkani-Hamed, Nima *see* **Arkani-Hamed, Nima**

abdel-Hameed, H. F. *see* **Abdel-Hameed, H. F.**

abdel-Hameed, Mohamed S. *see* **Abdel-Hameed, Mohamed S.**

Hameiri, Eliezer (*with* Isichenko, Michael B.) Comment on: "A Lyapunov functional for stability of ideal magnetohydrodynamic systems in arbitrary motion" [Phys. Plasmas **4** (1997), no. 5, 1201–1212; MR 98j:76042] by G. Berge. *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1566–1567. (Adelina Georgescu) **99i:76058** 76E25 (76U05, 76W05)

— Variational principles for equilibrium states with plasma flow. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3270–3281. (Summary) **99e:76126** 76W05 (76E25, 76M30)

— Ballooning modes on open magnetic field lines. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 674–685. (Alexander Lifschitz) **99m:76129** 76X05 (76E25)

— *see also* **Berge, Gerhard, 99i:76059**

Hamel, A. M. (*with* McAven, L. F.; Butler, P. H.) Split bases and multiplicity separations in symmetric group transformation coefficients. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8363–8372. (Himmet Can) **99m:05164** 05E10 (20C30, 81R05)

Hamel, Andreas (*with* Benker, Hans) Remarks on the algorithm of Sakawa for optimal control problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 257–272. (J. Frédéric Bonnans) **99f:49052** 49M30 (49M05)

Hamel, François (*with* Nadirashvili, Nikolai) Existence et propriétés qualitatives de solutions entières de l'équation de KPP. (English and French summaries) [Existence and qualitative properties of entire solutions of the KPP equation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 479–484. (Summary) **99h:35187** 35Q53 (35K55)

— (*with* Monneau, Régis) Solutions d'équations elliptiques semi-linéaires dans $\mathbf{R}^N$ ayant des courbes de niveau de forme conique. (English and French summaries) [Solutions of semilinear elliptic equations in $\mathbf{R}^N$ with conical-shaped level sets] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 645–650. (Summary) **99h:35047** 35J60

— (*with* Blouza, Adel; Coquel, Frédéric) Réduction algorithmique de systèmes cinétiques raides. (English and French summaries) [Algorithmic reduction process for stiff kinetic systems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 979–984. (Summary) **99i:80001** 80–08 (80A30)

van Hamel, Joost (*with* Mangolte, Frédéric) Algebraic cycles and topology of real Enriques surfaces. (English summary) *Compositio Math.* **110** (1998), *no.* 2, 215–237. (Summary) **99k:14015** 14C25 (14J28, 14P25)

Hamelin, Frédéric (*with* Sauter, Dominique) Frequency-domain optimization for robust fault detection and isolation in dynamic systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 878–882. 93D15 (90C90)

Hamelin, Guy Logic as a vehicle of Aristotelean ethics in Peter Abelard. (Portuguese. English and Portuguese summaries) *Cad. Hist. Filos. Ciênc.* (3) **7** (1997), *no.* 2, 179–208. 03–03 (01A35)

Hamenstädt, U. Cocycles, symplectic structures and intersection. *Geom. Funct. Anal.* **9** (1999), *no.* 1, 90–140. (Boris Hasselblatt) **99m:58147** 58F17 (58F11, 58F15)

Hamer, Carol A formula for the traces of the Hecke operators on certain spaces of newforms. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 3, 204–210. (Kazuyuki Hatada) **99b:11045** 11F25 (11F11)

van Hameren, André (*with* Kleiss, Ronald; Hoogland, Jiri) Gaussian limits for discrepancies. I. Asymptotic results. (English summary) *Comput. Phys. Comm.* **107** (1997), *no.* 1-3, 1–20. (Michael Mascagni) **99k:65009** 65C05 (11K36, 11K38)

— (*with* Kleiss, Ronald) Computer-aided analysis of Riemann sheet structures. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 2-3, 311–318. 65E05 (65D99)

Hameroff, Stuart Funda-mental geometry: the Penrose-Hameroff "Orch OR" model of consciousness. *The geometric universe* (*Oxford*, 1996), 135–160, *Oxford Univ. Press, Oxford*, 1998. (*see* **99b:00015**) 92J30

— Quantum computation in brain microtubules? The Penrose-Hameroff "Orch OR" model of consciousness. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1869–1896. (Frank Antonsen) **99i:92037** 92J10 (81P99)

Hamhalter, Jan Statistical independence of operator algebras. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 4, 447–462. (Stephen J. Summers) **99g:46088** 46L50 (46L60, 81T05)

— Determinacy of states and independence of operator algebras. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 599–607. (Khristo N. Boyadzhiev) **99h:46095** 46H70 (46L70, 81T05)

— Restricting pure states on JB algebras to maximal associative subalgebras. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 165–171. (Cho Ho Chu) **99j:46086** 46L70 (46L30)

— Universal state space embeddability of Jordan-Banach algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 131–137. (Khristo N. Boyadzhiev) **99b:46073** 46H70 (17C65, 81P10)

el Hami, Charaf *see* **El Hami, Charaf**

Hamici, A.-H. (*with* Smida, A.; Hachemane, M.) Geometro-differential conception of extended particles and the semigroup of trajectories in Minkowski space-time. (English summary) *Found. Phys.* **28** (1998), *no.* 8, 1367–1381. (Michael B. Mensky) **99j:81092** 81S40

abel-Hamid, A. H. *see* **Abel-Hamid, A. H.**

Hamidoune, Y. O. (*with* Gao, Weidong) Zero sums in abelian groups. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 261–263. (Summary) **99h:05118** 05D10

— On the Diophantine Frobenius problem. (English summary) *Portugal. Math.* **55** (1998), *no.* 4, 425–449. (Georges Grekos) **99m:11027** 11D04

Hamilton, Emily Geometrical finiteness for hyperbolic orbifolds. *Topology* **37** (1998), *no.* 3, 635–657. (Katura Miyazaki) **99h:57027** 57M50 (20H10, 30F40, 57S30)

— (*with* Allman, Elizabeth S.) Abelian subgroups of finitely generated Kleinian groups are separable. *Bull. London Math. Soc.* **31** (1999), *no.* 2, 163–172. (G. M. Lyan) **99m:20118** 20H10 (57M05)

Hamilton, G. M. (*with* Roberts, I. T.; Rogers, D. G.) Regular perfect systems of sets of iterated differences. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 29–44. (K. C. Prasad) **99d:05011** 05B10 (05A17)

Hamilton, G. W. Usage counting analysis for lazy functional languages. (English summary) *Inform. and Comput.* **146** (1998), *no.* 2, 100–137. (Summary) **99g:68026** 68N15

Hamilton, Jeffrey John Hypercomplex numbers and the description of spin states. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4914–4928. (Bertfried Fauser) **99c:81059** 81R05 (20C35, 22E70)

Hamilton, Nicholas (*with* de Resmini, Marialuisa J.) Hyperovals and unitals in Figueroa planes. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 215–220. (William Cherowitzo) **99b:51008** 51E21 (51A35, 51E20)

— (*with* Blokhuis, Aart; Wilbrink, Henny) On the non-existence of Thas maximal arcs in odd order projective planes. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 413–417. (Summary) **99f:51011** 51E15

— (*with* Mathon, Rudolf A.) Baer partitions of small order projective planes. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 87–94. (Summary) **99j:05043** 05B25

Hamilton, Norman T. (*with* Aaboe, Asger) A Babylonian Venus text computed according to System A: ACT No. 1050. *Arch. Hist. Exact Sci.* **53** (1998), *no.* 3-4, 215–221. 01A17

Hamilton, Richard S. (*with* Yau, Shing-Tung) The Harnack estimate for the Ricci flow on a surface—revisited. *Asian J. Math.* **1** (1997), *no.* 3, 418–421. (Emmanuel Hebey) **99c:53027** 53C21 (35B45, 35J60, 58G30)

— Four-manifolds with positive isotropic curvature. *Comm. Anal. Geom.* **5** (1997), *no.* 1, 1–92. (Ben Andrews) **99e:53049** 53C21 (53C20, 57R99, 58G11)

— (*with* Daskalopoulos, P.) Regularity of the free boundary for the porous medium equation. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 899–965. (Giovanni Leoni) **99d:35182** 35R35 (34B15, 35K55, 76S05)

Hamilton, William Rowan *see* **Mathematical heritage of Sir William Rowan Hamilton, 99e:00020** *and* **Spearman, T. D., 99g:01023**

Hamkins, Joel David Destruction or preservation as you like it. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 2-3, 191–229. (Joan Bagaria) **99f:03071** 03E55 (03E35)

— Small forcing makes any cardinal superdestructible. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 51–58. (Jakub Jasiński) **99b:03068** 03E40 (03E55)

— (*with* Shelah, Saharon) Superdestructibility: a dual to Laver's indestructibility. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 549–554. (Douglas R. Burke) **99m:03106** 03E55 (03E40)

Hamkins, Jon (*with* Zeger, Kenneth) Asymptotically dense spherical codes. I. Wrapped spherical codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1774–1785. (Guy Jumarie) **99b:94050** 94B27

— (*with* Zeger, Kenneth) Asymptotically dense spherical codes. II. Laminated spherical codes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1786–1798. (Guy Jumarie) **99b:94051** 94B27

Hamm, Helmut A. Hodge numbers for isolated singularities of non-degenerate complete intersections. *Singularities* (*Oberwolfach*, 1996), 37–60, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Kevin Houston) **99k:32065** 32S35

— (*with* Lê Dũng Tráng) Théorèmes d'annulation pour les faisceaux algébriquement constructibles. (English and French summaries) [Vanishing theorems for algebraically constructible sheaves] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 759–762. (Laurent Manivel) **99m:14035** 14F17 (32L20)

— (*with* Lê Dũng Tráng) Vanishing theorems for constructible sheaves. II. *Kodai Math. J.* **21** (1998), *no.* 2, 208–247. (Laurent Manivel) **99k:32052** 32L20 (14F17, 32S60)

— On stratified Morse theory. *Topology* **38** (1999), *no.* 2, 427–438. (Kevin Houston) **99i:58008** 58A35 (32S60, 57N80, 58E05)

Hammad, A. (*with* Jonckheere, Edmond A.; Cheng, Chih-Yung; Bhajekar, S.; Chien, C.-C.) Stabilization of chaotic dynamics: a modern control approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 663–677. 93D15 (58F10)

al-Hammadi, A. S. A. *see* **Al-Hammadi, A. S. A.**

Hammami, Mokhles (*with* Ben Ayed, Mohamed; Chtioui, Hichem) The scalar-curvature problem on higher-dimensional spheres. *Duke Math. J.* **93** (1998), *no.* 2, 379–424. (David L. Finn) **99e:53045** 53C21 (58G30)

Hammann, Théophile F. (*with* Dekar, Liès; Chetouani, Lyazid) An exactly soluble Schrödinger equation with smooth position-dependent mass. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2551–2563. (Peter N. Zhevandrov) **99f:81038** 81Q05 (33E30, 34L25)

Hammarstrand, Robert (*with* Doksum, Kjell; Gould, Jeffrey; Mathur, Ashwini; Vittinghoff, Eric) An analysis of nonparametric smoothers. (English summary) *Applied statistical science, III*, 13–40, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62044** 62G05

Hammel, Stephen (*with* Barnett, John; Platt, Nathan) Diagnosing intermittency. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 51–56, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 58F13

Hammer, Daniel (*with* Shen′, A. Kh.) A strange application of Kolmogorov complexity. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 1–4. (Summary) **99b:68103** 68Q30

Hammer, Eric (*with* Shin, Sun-Joo) Euler's visual logic. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 1, 1–29. (E. Mendelson) **99g:03008** 03B10 (01A50, 01A55, 03–03)

Hammer, Hanno Topological extensions of Noether charge algebras carried by Dp-branes. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 3, 503–546. (Joan Simón Soler) **99e:81195** 81T30

Hammer, Jacob On the control of incompletely described sequential machines. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1005–1028. 93C83 (93A14)

— On the corrective control of sequential machines. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 249–276. 93C83 (92C40, 93C10)

— On the control of sequential machines with disturbances. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 307–331. 93B52 (93D21)

— Handling disturbances in nonlinear control: the use of state feedback. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 761–787. (Summary) **99d:93030** 93B52 (93C10, 93C41)

Hammer, Peter L. (*with* Boros, Endre; Ibaraki, Toshihide; Kogan, Alexander[1]) Logical analysis of numerical data. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 163–190. (Béla Vizvári) **99c:90079** 90C09 (65Y20, 90C27)

— (*with* Boros, Endre; Minoux, Michel; Rader, David J., Jr.) Optimal cell flipping to minimize channel density in VLSI design and pseudo-Boolean optimization. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 69–88. (Summary) **99k:68123** 68R05 (68Q35)

Hämmerlin, G. (*with* Dörr, J.; Görtler, H.; Mettler, Eberhard; Gericke, H.) 50 Jahre GAMM. [50 years of GAMM] Reprint of the 1972 original. 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 1–36. (*see* **99f:01027**) 01A74

Hamming, Richard Wesley Mathematics on a distant planet. *Amer. Math. Monthly* **105** (1998), *no.* 7, 640–650. (Dennis F. Almeida) **99h:00008** 00A35 (00A05, 00A35)

— *see also* **Morgan, Samuel P.**, **99k:01069**

Hammond, J. K. (*with* Shin, Kihong) The instantaneous Lyapunov exponent and its application to chaotic dynamical systems. (English summary) *J. Sound Vibration* **218** (1998), *no.* 5, 389–403. (Summary) **99h:70030** 70K50 (34D08, 58F13)

Hammond, Richard T. Geometrization of string theory gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1803–1807. (Gheorghe Zet) **99k:83120** 83E30

— Laboratory bounds for the cosmological term gradient. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 889–895. 83F05

Hammond, William F. Special theta relations. *Number theory (New York, 1991–1995)*, 195–199, *Springer, New York*, 1996. (From the introduction) **99a:14070** 14K25 (14G35)

Hammouri, H. (*with* Busawon, K. K.; Farza, M.) Observer design for a special class of nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 405–418. (Summary) **99h:93021** 93B07 (93B50)

Hamoui, Adnan (*with* Ahmad, Khader) Dynamical systems of proper characteristic 0 and Poisson stability. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 241–244. (L. Janos) **99c:58136** 58F25 (54H20)

Hampapuram, Haripriyan (*with* Fredman, Michael L.) Optimal biweighted binary trees and the complexity of maintaining partial sums. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 1–9 (*electronic*). (Ranjan Chaudhuri) **99d:68051** 68P05 (68Q25)

Hampel, Frank Some additional notes on the "Princeton robustness year". (English summary) *The practice of data analysis (Princeton, NJ, 1995)*, 133–153, *Princeton Univ. Press, Princeton, NJ*, 1997. (Summary) **99d:62024** 62F35

Hamza, Alaa E. (*with* Muraz, Gilbert L.) Spectral criteria of abstract functions; integral and difference problems. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 1, 171–184. (A. G. Baskakov) **99j:43004** 43A60 (46E40)

— (*with* El-Sayed, M. A.) Stability problem of some nonlinear difference equations. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 331–340. (Ulrich Krause) **99g:39016** 39A11 (39A10)

Hamza, Kais (*with* Brown, Timothy C.; Xia, Aihua) On the variance to mean ratio for random variables from Markov chains and point processes. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 303–312. (M. Iosifescu) **99f:60134** 60J27 (60E15, 60G55)

le quoc Han *see* **Le Quoc Han**

Han, Bin[2] Symmetric orthonormal scaling functions and wavelets with dilation factor 4. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 3, 221–247. (Charles K. Chui) **99d:42060** 42C15 (41A15)

— (*with* Jia, Rong Qing) Multivariate refinement equations and convergence of subdivision schemes. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1177–1999 (*electronic*). (Don Hong) **99f:41018** 41A25 (42C15, 65D15)

— (*with* Jia, Rong Qing) Optimal interpolatory subdivision schemes in multidimensional spaces. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 105–124 (*electronic*). (Mariano Gasca) **99m:65019** 65D05 (41A25, 65D17)

Han, Chang Woo[2] (*with* Choi, Su Jeong) Direct projective modules with the summand sum property. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 865–868. 16D40

Han, Changhee (*with* Oh, Myoungho; Sinitsyn, I. N.; Shin, Vladimir Ignat'evich) Recurrent filtering in discrete nonlinear systems with unknown parameters. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 44–53; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 36–43. (V. N. Fomin) **99d:93069** 93E11 (60G35)

Han, Changsoo (*with* Jang, Jinhee) Proposition of a modeling method for constrained mechanical systems based on the vector bond graph. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 451–469. (Naseer Ahmed) **99a:70024** 70F99 (70B15)

Han, Chien-Pai Conditional confidence intervals of regression coefficients following rejection of preliminary test. (English summary) *Applied statistical science, III*, 193–202, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62093** 62J05

— (*with* Chang, Kuang-Chao; Liu, Jeng-Fu) Multiple inverse sampling in post-stratification. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 209–227. (David Bellhouse) **99f:62020** 62D05

— (*with* Hawkins, Doyle L.) A central limit theorem for certain nonlinear statistics in repeated sampling of a finite population. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 25–34. (Zuzana Prášková) **99k:62021** 62D05 (60F05, 62E20)

— (*with* Chang, Kuang-Chao; Hawkins, Doyle L.) Truncated multiple inverse sampling in post-stratification. (English summary) *J. Statist. Plann. Inference* **76** (1999), *no.* 1-2, 215–234. 62D05

Han, Chong-Kyu (*with* Yoo, Jae-Nyun) A method of prolongation of tangential Cauchy-Riemann equations. *CR-geometry and overdetermined systems (Osaka, 1994)*, 158–166, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (J. Merker) **99d:32022** 32F40 (32C16)

— (*with* Yoo, Jae-Nyun) A note on É. Cartan's method of equivalence and local invariants for isometric embeddings of Riemannian manifolds. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 771–790. (G. R. Jensen) **99d:53014** 53A55 (53A07, 58A20)

— Complete differential system for the mappings of CR manifolds of nondegenerate Levi forms. *Math. Ann.* **309** (1997), *no.* 3, 401–409. (Elisabetta Barletta) **99b:32024** 32F25 (32C16, 32F40, 32H35)

Han, Chong Zhao (*with* Xu, Li Jian; Wei, Bin[2]; Wan, Bai Wu) An improved method of steady-state optimisation control. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 11–17. 93E10 (93A15)

— (*with* Wang, Xiao; Wan, Bai Wu) Two effective new least squares identification algorithms for nonlinear systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 95–101. 93B40 (93B30)

— (*with* Fang, Yang Wang; Wu, Bao Wei) Robust H^∞ control of bilinear systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 5–8. 93B36 (93C10)

— (*with* Fang, Yang Wang; Cao, Huai Xin) An algorithm for iterative computation of nonlinear transfer functions for discrete nonlinear systems. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 16–20. 93B40 (65D15)

— (*with* Cao, Jian Fu) A frequency stability criterion for a class of nonlinear control systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 3, 24–27. 93D05 (93C80)

— (*with* Wang, Wen Zheng; Ou, Wen) Linear system parameter estimation using an improved convex polyhedral description method. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 5–8. 93E10

— (*with* Fang, Yang Wang) Stability of discrete closed-loop control systems using nonlinear transfer functions. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 11, 8–12. 93D05 (93C55)

Han, D. *see* **Han, Daesoo**

Han, Da Wei (*with* Ding, Zheng Ping) An improved algorithm for the bound search method in multiobjective decision-making. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 5, 586–590. 90C29 (90A05)

Han, Daesoo (*with* Kim, Young Suh; Noz, Marilyn E.) Jones-matrix formalism as a representation of the Lorentz group. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 9, 2290–2298. (Summary) **99m:22012** 22E43 (78A10)

Han, Dan-fu On a modified Newton's method and convergence. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 1, 107–112. (De Ren Wang) **99a:65067** 65H05

— (*with* Wang, Xing Hua) The error estimates of Halley's method. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 231–240. (Otmar Scherzer) **99f:65088** 65J15 (47H17)

— (*with* Wang, Xing Hua) Convergence on a deformed Newton method. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 65–72. (Summary) **99d:65184** 65J15

Han, Dong A limit theorem for nonhomogeneous input-output models. II. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **13** (1996), *no.* 4, 1–10. 90A56

— (*with* Han, Li Xing; Liu, Guang Hui; Jing, Li Li) Convergence of the L-BFGS method with a generalized line search for nonlinear programming. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 2, 249–253. 90C30 (65K05)

Han, Dong-Soong (*with* Lee, Eun Hwi) Harmonic Gauss map and Hopf fibrations. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 55–63. (G. Tóth) **99f:58049** 58E20

— (*with* Yim, Jin-Whan) Unit vector fields on spheres, which are harmonic maps. *Math. Z.* **227** (1998), *no.* 1, 83–92. (Anne-Joëlle Vanderwinden) **99c:58044** 58E20 (57R25)

Han, Feng[1] Bound states of a Klein-Gordon particle in a spherically symmetric gravitational field. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 4, 22–27. 83C20

Han, Guo-Niu (*with* Clarke, Robert John[1]; Zeng, Jiang) A combinatorial interpretation of the Seidel generation of q-derangement numbers. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 313–327. (D. P. Roselle) **99d:05006** 05A30

— (*with* Foata, Dominique) Inverses of words. (English summary) *Sém. Lothar. Combin.* **39** (1997), *Art. B39d*, 8*pp.* (*electronic*). (Jennifer R. Galovich) **99b:05011** 05A99 (68R15)

— (*with* Foata, Dominique) Transformations on words. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 172–191. (Volker Strehl) **99g:68158** 68R15 (05A05, 20M05)

Han, Guo Ping (*with* Xu, Yue Cai) A matrix inversion algorithm for doubly symmetric (r_1, r_2)-cyclic Hankel matrices. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **13** (1998), *no.* 4, 12–16, 35. 65F10 (15A09, 65F30)

Han, Hou De A system of boundary integro-differential equations for harmonic elastic waves in $\mathbf{R}^3$. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 207–221. (Igor Yu. Chudinovich) **99d:73042** 73D30 (45F15, 45K05, 73V10)

— (*with* Reinhardt, H.-J.) Some stability estimates for Cauchy problems for elliptic equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 5, 437–454. (Nicolai N. Tarkhanov) **99c:65193** 65N12 (35J25)

— (*with* Tang, Wei-jun; Guan, Zhi) Boundary element approximation of Steklov eigenvalue problem for Helmholtz equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 2, 165–178. (Mark Ainsworth) **99b:65160** 65N38 (65N25)

Han, Hyo-Keun (*with* Park, Jong Yeoul) Controllability for some second order differential equations. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 411–419. (Vũ Ngoc Phát) **99d:93006** 93B05 (93C55)

— (*with* Park, Jong Yeoul; Ha, Jun-Hong) Identification problem for damping parameters in linear damped second order systems. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 895–909. (N. U. Ahmed) **99a:49010** 49J20 (34G10, 93C20)

— (*with* Park, Jong Yeoul) Asymptotic behaviour of solutions to a functional integrodifferential equations. *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 917–927. (Shu Chun Gao) **99k:45023** 45J05 (34K30)

— (*with* Park, Jong Yeoul; Kwun, Young-Chel) Approximate controllability of second order integrodifferential systems. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 941–950. (Vasile Drăgan) **99k:93025** 93B05 (34K35, 93C25)

— (*with* Park, Jong Yeoul) Boundary controllability of differential equations with nonlocal condition. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 242–250. (Jerzy Klamka) **99k:93021** 93B05 (34H05, 47N70, 93C25)

Han, Hyun-Soo (*with* Ali, Agha Iqbal) Reformulation of the set partitioning problem as a pure network with special order set constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 233–249. (*see* **99b:90006**) 90C35

Han, Ji Ye (*with* Liu, Guang Hui) On the global convergence of conjugate gradient methods with inexact linesearch. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 147–153. (Summary) **99c:65121** 65K10 (49M07, 90C30)

— (*with* Du, Dong Lei) Flow-shop scheduling problems with generalized precedence constraints. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 587–592. (Summary) **99c:90064** 90B35

— (*with* Chen, Zhong-wen) A trust region method for nonlinear programming with simple constraints. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 257–266. (Summary) **99a:90183** 90C30 (65K05)

— (*with* Sun, De Feng) Newton-type methods for variational inequalities. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 105–118, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C33 (49J40)

— (*with* Sun, De Feng; Zhao, Yun Bin) The finite termination of the damped Newton algorithm for linear complementarity problems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 148–154. (Summary) **99c:90137** 90C33 (65K05)

— (*with* Yin, Hong Xia) Some sufficient conditions for the global convergence of the DFP algorithm. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 179–186. (Kang Hoh Phua) **99f:90141** 90C30 (65K05)

— (*with* Liu, Guang Hui; Qi, Hou-Duo; Xu, Zhong Ling[2]) Convergence analysis on a class of conjugate gradient methods without sufficient decrease condition. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 11–16. (Kurt Marti) **99d:90115** 90C30 (65K05)

— (*with* Liu, Guo Shan; Wang, Shou Yang) A trust region algorithm for bilevel programming problems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 820–824. (Jane Juan-Juan Ye) **99i:90087** 90C30 (65K05, 90C31, 90D65)

— (*with* Liu, Guang Hui) Global convergence of a class of Broyden algorithms associated with a new line search technique. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 27–33. (Summary) **99f:90129** 90C30 (65K05)

— (*with* Liu, Guo Shan; Wang, Shou Yang) A trust region algorithm for bilevel optimization problems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 383–387. 90C30 (65K05)

— (*with* Ke, Xiaowu) A class of nonmonotone trust region algorithms for unconstrained optimization problems. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 927–932. 90C30 (65K05)

— (*with* Liu, Guang Hui; Yin, Hong Xia) Convergence properties of conjugate gradient methods with strong Wolfe linesearch. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 112–116. (Summary) **99a:90188** 90C30 (65K05)

Han, Jie-Cai (*with* Zhou, Zhen-Gong; Du, Shan-Yi) Investigation of the scattering of harmonic elastic waves by a finite crack using the non-local theory. *Mech. Res. Comm.* **25** (1998), *no.* 5, 519–528. 73D25

Han, Jie Min (*with* Wang, Shu Zhong; Wang, Ping) A secant iteration method for equations with nondifferentiable terms. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 16–18. 65H10 (49J52)

Han, Jiu Qiang (*with* Re, Xi Ti; Huang, Yong Xuan) An analytical algorithm for Nehari problem and its application in control system identification. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 5, 6–8. 93B30 (93B40)

Han, Jongmin (*with* Chae, Dongho; Imanuvilov, Oleg Yu.) Existence and nonexistence in Chern-Simons-Higgs theory with a constant electric charge density. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 19–34. (Avinash Khare) **99k:58055** 58E50 (53C80, 81T13)

Han, Kuang-Wei (*with* Chao, Gong-Liang; Perng, Jau-Woei) Robust stability analysis of time-delay systems using parameter-plane and parameter-space methods. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1249–1262. 93D09

Han, Kwang-Hee A weak negative orthant dependence. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 755–768. (Summary) **99k:62032** 62E15

Han, L. *see* **Han, Lu**

Han, Li Xing (*with* Liu, Guang Hui; Jing, Li Li; Han, Dong) Convergence of the L-BFGS method with a generalized line search for nonlinear programming. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 2, 249–253. 90C30 (65K05)

— (*with* Liu, Guang Hui) Global analysis of the Dennis-Wolkowicz least-change secant algorithm. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 813–832 (*electronic*). (John J. Dinkel) **99g:90120** 90C30

Han, Liu Shui The uniqueness of the complete norm topology for weakly semisimple Banach algebras. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 112–114. (Cong Xin Wu) **99b:46069** 46H05

Han, Lu (*with* Elsner, Ludwig; Koltracht, Israel; Neumann, Michael; Zippin, M.) On a polygon equality problem. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 67–75. (Michael Felten) **99d:41024** 41A17 (46C99)

Han, Mao An (*with* Wang, Zheng[5]) The differentiability problem for Mel'nikov functions at a center. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 269–274. (Bei Ye Feng) **99d:34062** 34C23 (34C05, 58F14)

— Cyclicity of planar homoclinic loops and quadratic integrable systems. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1247–1258. (I. D. Iliev) **99b:34059** 34C05 (34C23, 34C37, 58F21)

— Resonant bifurcations of periodic solutions of higher-dimensional systems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 1–8. (Bo Hua Yu) **99c:34082** 34C25 (34C23)

— Existence of no or at most two limit cycles surrounding multiple singular points. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 206–214. (Ding Jun Luo) **99h:34045** 34C05 (34C23, 58F21)

— (*with* Zhu, De Ming) Invariant tori and subharmonic bifurcations from periodic manifolds. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 749–756. (Jian Hua Sun) **99m:58141** 58F14 (34C23, 58F15)

— (*with* Jiang, Katie) Normal forms of integrable systems at a resonant saddle. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 150–155. (Henry W. Haslach, Jr.) **99g:34079** 34C20 (34C35, 58F36)

— (*with* Ye, Yanqian) On the coefficients appearing in the expansion of Mel'nikov functions in homoclinic bifurcations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 156–162. (António Pumariño) **99e:34045** 34C23 (34C37, 58F21, 58F30)

— Bifurcations of limit cycles from a heteroclinic cycle of Hamiltonian systems. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 284. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 189–196. (Pavao Mardešić) **99j:58161** 58F21 (34C05, 34C23, 34C37, 58F14)

— (*with* Zhuo, Xiang Lai) Plane polynomial systems with an invariant set. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 77–80. (De Ming Zhu) **99k:34064** 34C05

— Global behavior of limit cycles in rotated vector fields. (English summary) *J. Differential Equations* **151** (1999), *no.* 1, 20–35. (Douglas S. Shafer) **99j:34059** 34C25 (34C05, 58F21, 58F22)

Han, Ming Hierarchical Bayesian estimation of failure rates from exponentially distributed zero-failure data. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 135–138. 62N05

Han, Pu Xian (*with* Wang, Xiang Dong; Liang, Xi Ting) A priori estimate for lower solutions of a class [of] quasilinear elliptic equations. *Appl. Math. Mech. (English Ed.)* **20** (1999), *no.* 2, 231–232; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 217–219 (*Chinese. English and Chinese summaries*). 35J60 (35B45)

Han, Qi Heng (*with* Qu, An Jing; Li, Cai Ping) The meaning of the Mo and Mie algorithms in ancient Chinese calendrics. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 5, 369–373. 01A25

Han, Qiao Ming On some properties of solutions to semidefinite programming. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 208–218. (Jos F. Sturm) **99f:90125** 90C30 (49K15)

— Projection and contraction methods for semidefinite programming. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 275–289. (Summary) **99f:90148** 90C33 (90C26)

— A Levenberg-Marquardt method for semidefinite programming. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 99–106. 90C30 (65K05)

— (*with* He, Bing Sheng) A predictor-corrector method for solving monotone variant variational inequalities. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 9, 921–924. 49J40

— A quadratic perturbation method for semidefinite programming. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 84–90. 90C31 (90C30)

Han, Qing *see* **Han, Qing[3]**

Han, Qing[1] (*with* Hardt, Robert; Lin, Fang Hua) Geometric measure of singular sets of elliptic equations. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1425–1443. (Giovanni Leoni) **99h:35032a** 35J15 (35D99, 49Q20)

— (*with* Hardt, Robert; Lin, Fang Hua) Erratum: "Geometric measure of singular sets of elliptic equations". *Comm. Pure Appl. Math.* **52** (1999), *no.* 2, 271. (Giovanni Leoni) **99h:35032b** 35J15 (35D99, 49Q20)

Han, Qing[3] (*with* Aki, Sigeo) Formulae and recursions for the joint distributions of success runs of several lengths in a two-state Markov chain. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 203–214. (From the summary) **99e:60148** 60J10 (60C05)

Han, R. P. S. (*with* Luo, A. C. J.) Resonant layers in nonlinear dynamics. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 3, 727–736. (Summary) **99h:70028** 70K30 (70H05)

Han, Ren Another cycle structure theorem for Hamiltonian graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 237–243. (Summary) **99k:05099** 05C38 (05C45)

Han, S. S. (*with* Jung, Il Hyo; Kwon, Kil Hyun; Lee, Jeong Keun) A non-standard class of Sobolev orthogonal polynomials. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 935–950. (Leonid B. Golinskiĭ) **99h:42044** 42C05

Han, Sang-Eon (*with* Lee, Sik) On the admittance of a fixed point free deformation of the space which $\pi_1(X)$ is infinite. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 147–152. (John F. Oprea) **99f:55005** 55M20

— On the R-good property of the space satisfying condition (T^{**}). *Kyushu J. Math.* **52** (1998), *no.* 2, 279–286. 55P60 (20F18)

— Wall invariant for the space satisfying condition (T^{**}). (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 157–163. (Manuel Castellet) **99h:55012** 55P60 (19J05, 55R05)

Han, Sang-Su (*with* Lee, Kyo-Won; Ishii, Hiroaki[1]; Miyazaki, Shigeji) Fuzzy scheduling problem on a multiprocessor system with memories. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 139–144. 90B35 (68M20, 90C70)

Han, Shian Classification of positive definite Hermitian forms over $\mathbf{Q}(\sqrt{-43})$. (English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 1, 28–36. (A. G. Earnest) **99k:11057** 11E39

Han, Shu-Ping (*with* Kirfel, Christoph; Nathanson, Melvyn B.) Linear forms in finite sets of integers. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 271–281. (Vsevolod F. Lev) **99h:11011** 11B13 (11B05, 11B75)

Han, Sung-Sil (*with* Kim, Hea-Jung) A Bayesian test for first-order autocorrelations in regression analysis. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 97–111. (Summary) **99e:62116** 62J05 (62F15)

Han, Te Sun (*with* Oisi, Kh.) Strong inversion for source coding with an accuracy criterion. (Russian. Russian summary) *Problemy Peredachi Informatsii* **32** (1996), *no.* 1, 82–90; *translation in Problems Inform. Transmission* **32** (1996), *no.* 1, 69–77. (Summary) **99a:94014** 94A29

— An information-spectrum approach to source coding theorems with a fidelity criterion. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 4, 1145–1164. (Viktor A. Obuljen) **99a:94019** 94A34 (94A15, 94A29)

— (*with* Amari, Shun-ichi) Statistical inference under multiterminal data compression. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2300–2324. (Summary) **99h:94033** 94A29 (62F03, 62F30, 94A15)

— An information-spectrum approach to capacity theorems for the general multiple-access channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2773–2795. (Summary) **99i:94035** 94A40

— (*with* Hamada, Mitsuru) Disjointness of random sequence sets with respect to distinct probability measures. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 756–760. (Summary) **99m:60059** 60G05 (60G30, 94A15)

Han, Weimin (*with* Jensen, Søren S.; Shimanskiĭ, I. V.) The Kačanov method for some nonlinear problems. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 1, 57–79. (Rolf Rannacher) **99d:65316** 65N30 (73V05, 76M10, 78–08, 80–08)

— (*with* Chen, Jiuhua; Huang, Hong-ci) On the Kačanov method for a quasi-Newtonian flow problem. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 961–970. (Marko A. Rojas-Medar) **99m:65118** 65J15 (65M60, 76A05, 76M30)

Han, Wen Xiu (*with* Jin, Rui) A study on non-zero sum multicriteria cooperative games. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 55–62. 90D12

Han, Xi'an (*with* Huang, Xili) The relationship between projective geometric and rational quadratic B-spline curves. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 445–450. 41A15 (65D17)

Han, Xu Li A solution method for the degree of set inclusion in grey linear programming. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 18–22. 90C70

Han, Y. S. *see* **Han, Yong Sheng[1]**

Han, Yijie (*with* Igarashi, Yoshihide) Parallel PROFIT/COST algorithms through fast derandomization. (English summary) *Acta Inform.* **36** (1999), *no.* 3, 215–232. (Summary) **99m:68069** 68Q22

Han, Ying Duo (*with* Si, Jie; Zhou, Gui An; Li, Han) Theory and applications of a supervised learning method based on gradient algorithms. I. The fundamental algorithm. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 7, 71–73. (Summary) **99a:68145a** 68T05

— (*with* Si, Jie; Zhou, Gui An; Li, Han) Theory and applications of a supervised learning method based on gradient algorithms. II. The training mechanism. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 9, 104–107, 117. (Summary) **99a:68145b** 68T05

Han, Yong Sheng[1] Plancherel-Pólya type inequality and its applications. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 104–111. (J. Musielak) **99d:46049** 46E35 (41A65)

— Inhomogeneous Calderón reproducing formula on spaces of homogeneous type. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 259–284. (J. Horváth) **99k:46063** 46E99 (42B25, 46F05, 47B38)

— Plancherel-Pólya type inequality on spaces of homogeneous type and its applications. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3315–3327. (Luboš Pick) **99a:42010** 42B25 (46E35)

Han, Yongfei (*with* Yi, Xun; Lam, Kwok Yan) Differential cryptanalysis of a block cipher. (English summary) *Information security and privacy (Brisbane, 1998)*, 58–67, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60

Han, Yongqian (*with* Guo, Bo Ling) Cauchy problem of nonlinear Schrödinger-Boussinesq equation in L^2 and H^1. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 66–72, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:35005**) 35Q55

Han, Yongsheng *see* **Han, Yong Sheng[1]**

Han, You Fa Incompressible pairwise incompressible surfaces in almost alternating knot complements. (English summary) *Topology Appl.* **80** (1997), *no.* 3, 239–249. (Summary) **99g:57003** 57M15 (57M25)

Han, Yueqiu (*with* Shi, Jinglin; Li, Tao; Yu, Bo; Zhang, Qunying) Improvement of CORDIC algorithm. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 4, 400–405. 65D20 (94A12)

Han, Yunghsiang S. A new decoding algorithm for complete decoding of linear block codes. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 664–671 (*electronic*). (Summary) **99h:94070** 94B35 (94B05)

Han, Yunrui (*with* Hu, Yong[2]) Regional pole assignment robustness for linear VSC system subject to structured perturbations. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1236–1239. 93B55 (93D09)

Han, Zeng Jin (*with* Lu, Jin[2]; Xu, Wen Li) A parallel identification algorithm for neural networks. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 741–745. 93B36 (93C83)

— (*with* Huang, Quan Sheng; Guo, Shu Yan) Adaptive flow control of a manufacturing system with one machine producing many part types. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3. 25–29. 90B30 (90C90)

Han, Zhen (*with* Yu, Jixiong) Derivative instability of some schemes for the Korteweg-de Vries equation. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 113–119. 65M06

Han, Zhen Lai (*with* Sun, Shu Rong) Existence of positive solutions for higher-order neutral delay difference equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 412–419. (Summary) **99c:39003** 39A10 (34K40)

— (*with* Shi, Yu Ming[1]; Zhu, Dongmei) The generalized Airy functions. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 287–294. (Khélifa Trimèche) **99m:33003** 33C10 (34B30)

— (*with* Sun, Shu Rong) Oscillation of solutions to some higher-order neutral delay difference equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 76–80. (Summary) **99j:39006** 39A10

Han, Zhen Xiang (*with* Zhang, Qi; Wen, Fu Shuan) Theory and applications of rough sets. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 37–45. 04A72 (68T27)

Han, Zhengzhi (*with* Chen, Guanrong) Robust right coprime factorization and robust stabilization of nonlinear feedback control systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1505–1510. (Summary) **99e:93072** 93D21 (93B15, 93D15)

Han, Zhi Gang (*with* Wang, Ling) Output tracking for a class of stochastic systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 657–661. 93E03 (93D15)

— (*with* Mu, Yong; Huang, Ti Yun; Li, Ming Xing) A parametrized approach to the identification of systems with randomly varying structure. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 104–107. 93B35 (93E12)

— (*with* Zhao, Jian Hua) Optimal solution of linear programming with simple connections. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 83–87. 90C05

Han, Zhi Qing Relationships between solid cones and cones satisfying the angle property. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 18–22. (Summary) **99g:90083** 90C25 (49J52, 52A20, 90C48)

— Fixed point indices and a multiple fixed point theorem for completely continuous weakly inward maps. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 230–233. (Summary) **99f:47076** 47H10

Hanada, T. (*with* Imai, Hitoshi) A model of a contact angle problem and its numerical simulation. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 181–192, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:80009** 80A22

Hanafy, I. M. (*with* Salman, T. M.) Fuzzy faint continuity and weak forms of fuzzy faint continuity. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 75–83. 54A40 (54C08)

Hanagal, David D. (*with* Ramanathan, T. V.) Tests for bivariate exponentiality against BIFRA alternatives based on censored samples. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1947–1960. 62F03

— Estimation of system reliability in stress-strength models for distributions useful in life testing. (English summary) *IAPQR Trans.* **23** (1998), *no.* 1, 61–65. 62N05

Hanaki, Akihide (*with* Miyamoto, Izumi) Classification of association schemes with 18 and 19 vertices. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 543–551. (Sung-Yell Song) **99m:05170** 05E30 (20B25)

— (*with* Miyamoto, Izumi) Classification of association schemes with 16 and 17 vertices. *Kyushu J. Math.* **52** (1998), *no.* 2, 383–395. (Paul-Hermann Zieschang) **99i:05207** 05E30 (62K10)

Hanany, Amihay (*with* Frishman, Yitzhak; Karliner, Marek) On the stability of quark solitons in QCD. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 265–273, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05

— (*with* Aharony, Ofer; Intriligator, Kenneth; Seiberg, Nathan; Strassler, Matthew J.) Aspects of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 67–99. (Gustavo Dotti) **99b:81227** 81T60 (81T13)

— (*with* Aharony, Ofer) Branes, superpotentials and superconformal fixed points. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 239–271. (Angel Maria Uranga) **99c:81225** 81T60 (81T13, 81T17, 81T30)

— (*with* Brodie, John H.) Type IIA superstrings, chiral symmetry, and $N = 1$ 4D gauge theory dualities. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 157–182. (Angel Maria Uranga) **99b:81232** 81T60 (81T13, 81T30)

— (*with* Zaffaroni, Alberto[1]) On the realization of chiral four-dimensional gauge theories using branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 1, 25 *pp.* (*electronic*). (Douglas J. Smith) **99e:81237** 81T60 (81T13, 81T30)

— (*with* Uranga, Angel M.) Brane boxes and branes on singularities. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 13, 42 *pp.* (*electronic*). (Claudio A. Scrucca) **99e:81196** 81T30 (81T60)

— (*with* Zaffaroni, Alberto[1]) Chiral symmetry from type IIA branes. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 145–168. (Dileep P. Jatkar) **99c:81240** 81T60 (81T13, 81T30)

— (*with* Strassler, Matthew J.; Zaffaroni, Alberto[1]) Confinement and strings in MQCD. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 87–118. (Summary) **99f:81201** 81T60 (81T13, 81T30)

— (*with* Hori, Kentaro) Branes and $N = 2$ theories in two dimensions. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 119–174. (Douglas J. Smith) **99m:81250** 81T60 (81T13, 81T30)

— (*with* Lifschytz, Gilad) M(atrix) theory on T^6 and a M(atrix) theory description of KK monopoles. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 195–213. (Jihad Mourad) **99j:81139** 81T30

— (*with* Zaffaroni, Alberto[1]) Branes and six-dimensional supersymmetric theories. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 180–206. (Douglas J. Smith) **99h:81165** 81T30 (81T60)

Hanauske, M. (*with* Geitner, A.; Hitzer, E.) New Higgs field ansatz for effective gravity in flat space time. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 971–980. (Summary) **99k:83024** 83C25 (81T13)

Hanazaki, Hideshi (*with* Torres, Carlos R.; Ochoa, José; Castillo, José E.) Numerical simulation of flow past a sphere in vertical motion within a stratified fluid. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 67–76. (*see* **99k:65002**) 76M25 (76V05)

el-Hanbaly, A. *see* **El-Hanbaly, A.**

Hancart, Christophe (*with* Crochemore, Maxime) Automata for matching patterns. *Handbook of formal languages, Vol. 2*, 399–462, *Springer, Berlin*, 1997. (Véronique Bruyère) **99a:68080** 68Q20 (03D05, 68Q45, 68Q68)

Hańćkowiak, Michał (*with* Karoński, Michał; Panconesi, Alessandro) On the distributed complexity of computing maximal matchings. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 219–225, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C70, 05C85, 68Q10, 68R10)

Hancock, Matthew J. (*with* Wainwright, J.; Coley, Alan A.; Ellis, George F. R.) On the isotropy of the Universe: do Bianchi VII_h cosmologies isotropize? (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 331–350. (Nora Bretón Báez) **99c:83017** 83C15 (83C20)

Hâncu, V. I. (*with* Glavan, V. A.) On partial recurrent solutions of completely integrable systems. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 103–112, 151, 155. (L. Górniewicz) **99k:34095** 34C28 (34C25)

Hanczyc, Eric M. (*with* Palazoglu, Ahmet) Use of symmetry groups in sliding mode control of nonlinear distributed parameter systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1149–1166. 93B12 (93C20)

Handa, B. R. (*with* Kambo, N. S.; Ravindranath, V.) Estimation of the smaller and larger of truncation parameters of two nonregular distributions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2439–2456. (I. D. Dhariyal) **99c:62052** 62F10

Handa, Keiichi Bipartite graphs with balanced (a, b)-partitions. (English summary) *Ars Combin.* **51** (1999), 113–119. (Summary) **99k:05139** 05C75 (05C10)

Hande, Sayaji A note on order statistics for nonidentically distributed variables. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 365–368. (Jagdish Saran) **99k:62101** 62G30

Händel, Peter (*with* Tichavský, Petr; Savaresi, Sergio M.) Large error recovery for a class of frequency tracking algorithms. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 417–436. 93E35 (93E10)

Handelman, George H. (*with* Koretz, Jane F.) An analytic model of human visual accommodation. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 1, 55–76. 92C10 (92C30, 92J10)

Handke, Dagmar (*with* Brandes, Ulrik) NP-completeness results for minimum planar spanners. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 85–99, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68Q25 (68R10)

— (*with* Brandes, Ulrik) NP-completeness results for minimum planar spanners. (English summary) *Discrete Math. Theor. Comput. Sci.* **3** (1998/99), *no.* 1, 1–10 (*electronic*). (Summary) **99k:68130** 68R10 (05C85, 68Q25, 90B12)

Handrock-Meyer, S. (*with* Bruckner, Gottfried; Langmach, H.) An inverse problem from 2D ground-water modelling. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 835–851. (Summary) **99d:35177** 35R30 (35J25, 76S05)

Handy, Carlos R. (*with* Murenzi, Romain) On the equivalence of moment quantization and continuous wavelet transform analysis. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9897–9924. (Summary) **99k:81158** 81S99 (42C15)

— (*with* Tymczak, C. J.; Japaridze, G. S.; Wang, Xiao-Qian) New perspective on inner product quantization. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 17, 3673–3677. (Summary) **99b:81134** 81S99

Hane, Kevin F. Bulk and thin film microstructures in untwinned martensites. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 9, 1917–1939. 73S10

Hanebaly, E. (*with* Ait Taleb, A.) A fixed point theorem and its application to integral equations in modular function spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2335–2342. (K. Goebel) **99j:47082** 47H10 (45G10, 47N20)

Hänel, D. (*with* Dervieux, Alain; Vilsmeier, R.; Gloth, O.; Viozat, Cécile; Fournier, L.) Development of Navier-Stokes solvers on hybrid grids. (English summary) *Numerical flow simulation, I (Marseille, 1997)*, 89–111, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76117** 76M25 (76D05)

— (*with* Elmahi, I.; Benkhaldoun, F.; Vilsmeier, R.; Gloth, O.; Patschull, A.) Finite volume simulation of a droplet flame ignition on unstructured meshes. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 187–205. (Summary) **99k:80003** 80-08 (80A25)

nguyen minh Hang *see* **Nguyen Minh Hang**

Hang, Chang Chieh (*with* Chai, Joo-Siong; Tan, Shaohua; Chen, Qi) A general fuzzy control scheme for nonlinear processes with stability analysis. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 179–195. 93C42

— (*with* Ge, S. S.; Woon, L. C.; Chen, Xiao Qi) Impedance control of robot manipulators using adaptive neutral network. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 433–452. 93C85

Hangan, Theodor On Cayley's formulas regarding in- and circumscribed polygons. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 217–228. (H. W. Guggenheimer) **99b:14059** 14N05

— Sur un problème d'Élie Cartan. (English summary) [On a problem of Élie Cartan] *Algebra and operator theory (Tashkent, 1997)*, 165–176, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vladislav Goldberg) **99h:53014** 53A20

— On infinitesimal automorphisms of quaternionic manifolds. (English summary) *Quaternionic structures in mathematics and physics (Trieste, 1994)*, 147–150 (*electronic*), *Int. Sch. Adv. Stud. (SISSA), Trieste*, 1998. (Francisco M. Cabrera) **99h:53036** 53C15

Hanges, Nicholas (*with* Francsics, Gábor) Analytic regularity for the Bergman kernel. (English summary) *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts, 1998)*, *Exp. No. V*, 11 *pp.*, *Univ. Nantes, Nantes*, 1998. (Makhlouf Derridj) **99j:32028** 32H10 (35H05, 46E22)

Hänggi, Peter (*with* Grifoni, Milena) Driven quantum tunneling. (English summary) *Phys. Rep.* **304** (1998), *no.* 5-6, 229–354. (Summary) **99g:81251** 81V80 (81Q20)

Hangleiter, R. (*with* Lube, Gert) Boundary layer-adapted grids and domain decomposition in stabilized Galerkin methods for elliptic problems. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 215–238. (Pieter W. Hemker) **99d:65346** 65N55 (65N30, 76M10)

— (*with* Lube, Gert) Stabilized Galerkin methods and layer-adapted grids for elliptic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 165–182. (K. Najzar) **99j:65208** 65N30

Hangos, Katalin M. (*with* Kovács, Gábor Z.) Notes on μ and l_1 robustness tests. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 5, 565–578. (Abdelmoula El Bouhtouri) **99j:93075** 93D09 (93B35, 93C05)

Hanifi, A. (*with* Andersson, Paul; Henningson, Dan S.) On a stabilization procedure for the parabolic stability equations. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 311–332. (Sharon O. Seddougui) **99d:76042** 76E99 (76D05)

Hanin, Leonid G. Closed ideals in algebras of smooth functions. (English summary) *Dissertationes Math. (Rozprawy Mat.)* **371** (1998), 67 *pp.* (James Bell Cooper) **99e:46065** 46J15 (26A16, 46E35)

— (*with* Schreiber, Bertram M.) Discrete spectrum of nonstationary stochastic processes on groups. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 4, 1111–1133. (Michael Voit) **99i:60013** 60B15 (60G10)

— An extension of the Kantorovich norm. *Monge Ampère equation: applications to geometry and optimization (Deerfield Beach, FL, 1997)*, 113–130, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Pedro Jiménez Guerra) **99m:46173** 46N10 (46E27, 46N30, 60B05)

Hanisch, Herman (*with* Hirsch, Warren M.) The mathematical epidemiology of hermaphroditic helminthic infections. I. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1311–1336. (Curtis C. Travis) **99j:92024** 92D30 (34K15)

Hanke, Martin Regularizing properties of a truncated Newton-CG algorithm for nonlinear inverse problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 971–993. (Otmar Scherzer) **99a:65077** 65J20 (47H17, 65J15)

— (*with* Groetsch, C. W.) Nonstationary iterated Tikhonov regularization. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 37–53. (Otmar Scherzer) **99e:65100** 65J20 (47A50, 65J10)

— (*with* Nagy, James G.) Inverse Toeplitz preconditioners for ill-posed problems. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 137–156. (L. W. Ehrlich) **99j:65045** 65F10 (65F35)

— (*with* Scherzer, Otmar) Error analysis of an equation error method for the identification of the diffusion coefficient in a quasi-linear parabolic differential equation. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1012–1027 (*electronic*). (Ulrich Tautenhahn) **99m:65176** 65M30 (35K55, 35R30)

Hanke, Michael (*with* Izquierdo Macana, Ebroul; März, Roswitha) On asymptotics in case of linear index-2 differential-algebraic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1326–1346 (*electronic*). (Viktor F. Chistyakov) **99d:34002** 34A09 (34A45, 34D05, 65L06)

Hanke, Sabine (*with* Ottmann, Thomas; Schuierer, Sven) The edge-flipping distance of triangulations. (English summary) *J.UCS* **2** (1996), *no.* 8, 570–579 (*electronic*). (Summary) **99d:68230** 68U05

Hankin, Paul D. (*with* Gordon, Andrew D.) A concurrent object calculus: reduction and typing. (English summary) *HLCL '98 3rd International Workshop on High-level Concurrent Languages (Nice)*, 17 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68N15 (68Q55)

Hanks, Steve (*with* Haddawy, Peter) Utility models for goal-directed, decision-theoretic planners. (English summary) *Comput. Intelligence* **14** (1998), *no.* 3, 392–429. 90A05

— *see also* **Uncertainty in artificial intelligence, 99a:68017**

Hänler, M. (*with* Frischmuth, Kurt) On the inverse problem for the Ekman equation. (English summary) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 541–544. (Summary) **99a:35268** 35R30 (35J25, 35Q35, 76B10)

Hanlon, Philip J. (*with* Denham, Graham) On the Smith normal form of the Varchenko bilinear form of a hyperplane arrangement. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 123–146. (Hiroaki Terao) **99g:52016** 52B30

— To the Latimer-Macduffee theorem and beyond! (English summary) Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 21–37. (*see* **99c:01028**) 01A70 (15–03)

— (*with* Stanley, Richard P.) A q-deformation of a trivial symmetric group action. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4445–4459. (Frédéric Patras) **99a:20008** 20C30 (05E10)

— (*with* Doran, William F., IV; Wales, David B.) On the semisimplicity of the Brauer centralizer algebras. *J. Algebra* **211** (1999), *no.* 2, 647–685. (Fabio Gavarini) **99k:16034** 16G99 (20G05)

Hanly, Stephen V. (*with* Tse, David N. C.) Linear multiuser receivers: effective interference, effective bandwidth and user capacity. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 641–657. 94A05

Hanna, L. A-M. On the matrix representation of Lie algebras for quantized Hamiltonians and their central extensions. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 5–11 (1998). (Violeta V. Tretynyk) **99h:81065** 81R05 (17B10)

Hanna, Magdy Tawfik On the generalized eigenvectors of a class of moment matrices. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 8, 2236–2238. (Summary) **99i:15013** 15A18

Hannabuss, K. C. (*with* Carey, Alan L.; Mathai, Varghese; McCann, P.) Quantum Hall effect on the hyperbolic plane. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 629–673. (Albert Jeu-Liang Sheu) **99f:58195** 58G12 (19K35, 19K56, 46L60, 81V70)

— A quantum Witt construction. (English summary) *J. Algebra* **205** (1998), *no.* 1, 141–167. (Mitsuhiro Takeuchi) **99e:17020** 17B37 (16W30)

— Commutation relations for linear fields: a coordinate-free approach. (English summary) *J. Phys. A* **32** (1999), *no.* 5, L71–L75. (Osman T. Turgut) **99m:81106** 81S05 (81P99)

Hannan, James (*with* Fabian, Václav) On Blackwell's minimax theorem and the compound decision method. (English summary) Empirical Bayes, sequential analysis and related topics in statistics and probability (New Brunswick, NJ, 1995). *Statist. Sinica* **7** (1997), *no.* 1, 195–209. (Summary) **99f:62019** 62C20 (62C10)

Hannan, John A type-based escape analysis for functional languages. (English summary) *J. Funct. Programming* **8** (1998), *no.* 3, 239–273. (Summary) **99f:68026** 68N15 (68Q55)

Hannay, J. H. The Majorana representation of polarization, and the Berry phase of light. (English summary) *J. Modern Opt.* **45** (1998), *no.* 5, 1001–1008. (Summary) **99a:78007** 78A10 (81V10)

— The Berry phase for spin in the Majorana representation. (English summary) *J. Phys. A* **31** (1998), *no.* 2, L53–L59. (Péter Pál Lévay) **99f:81067** 81Q99 (81S99)

— Cyclic rotations, contractibility and Gauss-Bonnet. (English summary) *J. Phys. A* **31** (1998), *no.* 17, L321–L324. (Summary) **99b:53004** 53A04 (70G99, 81Q99)

— The chaotic analytic function. (English summary) *J. Phys. A* **31** (1998), *no.* 49, L755–L761. (Gunther Karner) **99m:81064** 81Q50 (81S30)

Hanne, Thomas (*with* Gal, Tomas) On the development and future aspects of vector optimization and MCDM. A tutorial. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 130–145, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29

müller-Hannemann, Matthias *see* **Müller-Hannemann, Matthias**

Hannenhalli, Sridhar (*with* Pevzner, Pavel A.) Transforming men into mice (polynomial algorithm for genomic distance problem). (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 581–592, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 92D15 (92D10)

Hannigan, P. (*with* Farahmand, K.) The expected number of local maxima of a random algebraic polynomial. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 991–1002. (G. Samal) **99a:60053** 60G99

Hannon, Robert J. A simple algebraic analysis and its relation to the Einstein-Lorentz transformations. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 3, 353–356. 83A05

Hanouzet, Bernard (*with* Natalini, Roberto; Tesei, Alberto) On the Chapman-Jouguet limit for a combustion model. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 619–636 (*electronic*). (Denis Serre) **99b:76046** 76L05 (35L60, 80A25)

— (*with* Barucq, H.; Delaurens, F.) Method of absorbing boundary conditions: phenomena of error stabilization. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3,

1113–1129 (*electronic*). (Summary) **99a:65141** 65N30 (35Q60, 78A45)

Hanrot, Guillaume (*with* Bilu, Yuri F.) Solving superelliptic Diophantine equations by Baker's method. (English summary) *Compositio Math.* **112** (1998), *no.* 3, 273–312. (Paul M. Voutier) **99d:11028** 11D41 (11D25, 11Y50)

Hansbo, Peter A new approach to quadrature for finite elements incorporating hourglass control as a special case. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 301–309. (Summary) **99b:73040** 73V05

— Moving finite element methods by use of space-time elements. I. Scalar problems. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 2, 251–262. (Summary) **99b:65116** 65M60

Hanschke, Thomas Ein verallgemeinerter Jacobi-Perron-Algorithmus zur Reduktion linearer Differenzengleichungssysteme. (English summary) [A generalized Jacobi-Perron algorithm for the reduction of systems of linear difference equations] *Monatsh. Math.* **126** (1998), *no.* 4, 287–311. (Vladimir Sh. Burd) **99m:39006** 39A10

Hansel, Georges Systèmes de numération indépendants et syndéticité. [Independent numeration systems and syndeticity] *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 119–130. (Frédérique Bassino) **99g:68112** 68Q45 (11B75)

Hansell, R. W. Nonseparable analytic metric spaces and quotient maps. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 143–152. (Oleksandr V. Sobchuk) **99b:54058** 54H05 (54C10, 54E52, 54F65)

Hansen, A. E. (*with* Tabeling, P.; Paret, J.) Forced and decaying 2D turbulence: experimental study. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 145–169, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 76–05 (76F99, 76M35)

Hansen, Eldon R. Sharpness in interval computations. (English summary) *Reliab. Comput.* **3** (1997), *no.* 1, 17–29. (H. Ratschek) **99b:65063** 65G10

Hansen, Eric A. (*with* Zilberstein, Shlomo) Heuristic search in cyclic AND/OR graphs. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 412–418, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20

Hansen, Frank Operator convex functions of several variables. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 3, 443–463. (Jörg Eschmeier) **99b:47022a** 47A60 (15A45, 26B25, 46G05, 47A13, 47A63)

— A correction to: "Operator convex functions of several variables". *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 4, 711. (Jörg Eschmeier) **99b:47022b** 47A60 (15A45, 26B25, 46G05, 47A13, 47A63)

Hansen, Frank-Peter ★ G. W. F. Hegel: *Wissenschaft der Logik*. (German) [G. W. F. Hegel: *Science of logic*] Ein Kommentar. [A commentary] *Königshausen & Neumann, Würzburg*, 1997. 192 *pp. ISBN* 3-8260-1252-6 (Roman Murawski) **99i:01017** 01A55 (00A30, 03–03, 03A05)

Hansen, Hans V. (*with* Woods, John Hayden) Hintikka on Aristotle's fallacies. Comment on: "The fallacy of fallacies" [Argumentation **1** (1987), 211–238] by J. Hintikka. With a reply by Hintikka. *Synthese* **113** (1997), *no.* 2, 217–249. (Alex Blum) **99g:03007** 03A05 (01A20, 03–03)

Hansen, Jennie C. Limit laws for the optimal directed tree with random costs. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 3, 315–335. (Colin J. H. McDiarmid) **99b:05126** 05C80 (60C05)

Hansen, Johan P. (*with* Jensen, Helge Elbrønd; Kötter, Ralf) Determination of error values for algebraic-geometry codes and the Forney formula. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1881–1886. (Summary) **99h:94066** 94B27

Hansen, K. D. (*with* Althoen, S. C.; Kugler, L. D.) Four-dimensional real algebras satisfying left or right **C**-associativity. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 565–587. (Sebastian Walcher) **99c:17002** 17A35

Hansen, Kai T. (*with* Cvitanović, Predrag) Bifurcation structures in maps of Hénon type. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1233–1261. (Michael Hurley) **99f:58146** 58F14

Hansen, Kim (*with* Cvitanović, Predrag; Rolf, Juri; Vattay, Gábor) Beyond the periodic orbit theory. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1209–1232. (Roberto Artuso) **99g:58102** 58F20 (58F19)

Hansen, Lars H. (*with* Sadegh, Payman; Madsen, Henrik; Holst, Jan) Input design for linear dynamic systems using maxmin criteria. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 223–240. 93B51 (93B30)

Hansen, Lars Peter (*with* Scheinkman, José Alexandre; Touzi, Nizar) Spectral methods for identifying scalar diffusions. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 1–32. (Yuzo Hosoya) **99m:62136** 62M10 (62P20)

Hansen, Mark H. (*with* Stone, Charles J.; Kooperberg, Charles; Truong, Young K.) Polynomial splines and their tensor products in extended linear modeling. (English summary) With discussion and a rejoinder by the authors and Jianhua Z. Huang. *Ann. Statist.* **25** (1997), *no.* 4, 1371–1470. (Summary) **99e:62060** 62G05 (62G07, 62J12)

Hansen, Per Christian ★ Rank-deficient and discrete ill-posed problems. (English summary) Numerical aspects of linear inversion. SIAM Monographs on Mathematical Modeling and Computation. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. xvi+247 *pp. ISBN* 0-89871-403-6 (Jin Xi Zhao) **99a:65037** 65F05 (65F10, 65F20)

— Rank-deficient prewhitening with quotient SVD and ULV decompositions. (English summary) *BIT* **38** (1998), *no.* 1, 34–43. (F. Szidarovszky) **99c:65076** 65F20 (65F30)

— (*with* Ostromsky, Tz.; Zlatev, Z.) A coarse-grained parallel *QR*-factorization algorithm for sparse least squares problems. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 937–964. (Summary) **99d:65380** 65Y05 (65F50)

Hansen, Pierre (*with* Storchi, Giovanni; Vovor, Tsevi) Paths with minimum range and ratio of arc lengths. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 89–102. (R. C. Entringer) **99a:05133** 05C85 (68R10)

— (*with* Chen, Pey-Chun; Jaumard, Brigitte; Hoàng Tụy) Solution of the multisource Weber and conditional Weber problems by d.-c. programming. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 548–562. (Zeng Kun Xu) **99g:90088** 90C26 (90C08)

— (*with* Mladenović, Nenad; Taillard, Éric) Heuristic solution of the multisource Weber problem as a *p*-median problem. (English and French summaries) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 55–62. 90C25 (90B80)

— (*with* Jaumard, Brigitte; Xiong, Junjie) An interval arithmetic algorithm for multivariate constrained global optimization using cord-slope forms of Taylor's expansion. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 189–202. (Summary) **99h:90099** 90C30 (65G10)

— (*with* du Merle, Olivier; Villeneuve, Daniel; Desrosiers, Jacques) Stabilized column generation. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 229–237. (Summary) **99g:90066** 90C05 (90C06)

Hansen, Scott W. Modeling and analysis of multilayer laminated plates. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 117–135 (*electronic*), *ESAIM Proc.*, **4**, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:73068** 73K10 (73D30, 73K20)

Hansen, Søren Kold Measure homology. (English summary) *Math. Scand.* **83** (1998), *no.* 2, 205–219. (Bruno Zimmermann) **99k:55005** 55N35

Hansen, Vagn Lundsgaard ★ Shadows of the circle. Conic sections, optimal figures and non-Euclidean geometry. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *viii*+111 *pp. ISBN* 981-02-3418-X (Ulrich Dempwolff) **99e:00001** 00A05 (51–01)

— Weierstrass polynomials for links. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 359–365. (Neal Brand) **99m:57001** 57M12 (57M25)

— *see also* **Education: challenges for mathematics**, (**99e:00019**)

stoltenberg-Hansen, Viggo *see* **Stoltenberg-Hansen, Viggo**

Hansen-Matyssek, Katja *see* **Lavrinovich, K. K., 99d:01032**

Hansford, Dianne (*with* Farin, Gerald E.) ★ The geometry toolbox. (English summary) For graphics and modeling. *A K Peters, Ltd., Natick, MA*, 1998. *xvi*+288 *pp. ISBN* 1-56881-074-1 (From the preface) **99d:65389** 65Y25 (15–01, 51–01)

Hans-Gill, R. J. (*with* Bambah, R. P.; Dumir, V. C.) Diophantine inequalities. (English summary) *Proc. Nat. Acad. Sci. India Sect. A* **68** (1998), *no.* 2, 101–114. (Thomas W. Cusick) **99e:11095** 11J25 (11D75)

Hansmann, U. H. E. (*with* Berg, Bernd A.) Configuration space for random walk dynamics. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **6** (1998), *no.* 3, 395–398. (Summary) **99i:82018** 82B41

Hanson, D. *see* **Hanson, Denis**

Hanson, David Lee Limiting sigma-algebras—some counterexamples. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 383–385, *North-Holland, Amsterdam*, 1998. (Jun Kawabe) **99h:60005** 60A10

Hanson, Denis (*with* Ao, Suqin) Score vectors and tournaments with cyclic chromatic number 1 or 2. (English summary) *Ars Combin.* **49** (1998), 185–191. (Summary) **99e:05059** 05C20 (05C15)

— (*with* Loten, C. O. M.; Toft, B.) On interval colourings of bi-regular bipartite graphs. (English summary) *Ars Combin.* **50** (1998), 23–32. (Summary) **99i:05082** 05C15

Hanson, K. M. (*with* Cunningham, G. S.; Saquib, S. S.) Inversion based on computational simulations. (English summary) *Maximum entropy and Bayesian methods* (*Boise, ID*, 1997), 121–135, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 65C20 (65–02)

Hanson, Mark T. Some observations on the potential functions for transverse isotropy in the presence of body forces. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3793–3813. (Summary) **99c:73011** 73B40

Hanson, Robin D. Consensus by identifying extremists. (English summary) *Theory and Decision* **44** (1998), *no.* 3, 293–301. (Summary) **99c:90007** 90A05 (62A15, 62B10)

Hanßmann, Heinz The reversible umbilic bifurcation. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 81–94. (Mikhail B. Sevryuk) **99b:58171** 58F14 (34C23, 58C27, 58F36, 70E05, 70H05, 70H33)

Hantler, S. L. (*with* Gail, H. Richard; Taylor, B. A.) Non-skip-free $M/G/1$ and $G/M/1$ type Markov chains. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 3, 733–758. (John P. Lehoczky) **99f:60156** 60K25 (60J10, 90B22)

— (*with* Gail, H. Richard; Taylor, B. A.) Matrix-geometric invariant measures for $G/M/1$ type Markov chains. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 537–569. (Peter Gerrard Taylor) **99f:60157** 60K25

Hanus, Michael (*with* Lucas, Salvador; Middeldorp, Aart) Strongly sequential and inductively sequential term rewriting systems. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 1–8. (Summary) **99c:68142** 68Q42

— *see also* **Algebraic and logic programming**, **99b:68002**

Hanus, Paweł (*with* Urbański, Mariusz) Complex continued fractions with restricted entries. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 27, 9 *pp.* (*electronic*). (Thomas Ward) **99i:58128** 58F23 (58F03)

Han Vinck, A. J. *see* **Vinck, Adrianus J.**

Hanyga, Andrzej (*with* Fabrizio, Mauro) An inverse problem in viscoelasticity. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 697–708. (Maurizio Grasselli) **99g:73064** 73F99 (35Q72, 35R30, 45K05, 73F05)

Hanying, Liang *see* **Liang, Han Ying**

Hanzon, Bernard (*with* Brigo, Damiano; LeGland, François) A differential geometric approach to nonlinear filtering: the projection filter. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 247–252. (Pham Tran Nhu) **99a:93095** 93E11

— (*with* Brigo, Damiano) On some filtering problems arising in mathematical finance. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 53–64. (Summary) **99e:90011** 90A09 (93E11)

— (*with* Ober, Raimund J.) Overlapping block-balanced canonical forms for various classes of linear systems. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 171–225. (Valeriu Prepeliță) **99i:93012** 93B10 (93C05)

nguyen van Hao *see* **Nguyen Van Hao**

Hao, Bai-Lin Chaos and physics. *The impact of chaos on science and society* (*Tokyo*, 1991), 133–145, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 00A79

— A guided tour to applied symbolic dynamics. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 196–199, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 58F03

— (*with* Liu, Jun-Xian; Zheng, Wei-Mou) Symbolic dynamics analysis of the Lorenz equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5378–5396. (Summary) **99b:58080** 58F03

Hao, Cuixia (*with* Tian, Shen; Wang, Ting Fu; Yao, Hui Li) On the points of uniform rotundity in directions of weakly compact sets in Orlicz spaces. (English summary)

Comment. Math. Prace Mat. **37** (1997), 109–133. (Marian Nowak) **99a:46048** 46E30 (46B20)

— (*with* Ji, Dong Hai; Wang, Ting Fu) On S points of Orlicz spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 75–80. (Stephen J. Dilworth) **99j:46034** 46E30 (46B20)

Hao, Fred H. (*with* Chang, Gerard J.) The ratio of degree sums on graph decompositions. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 247–255. (Jaroslav Ivančo) **99m:05074** 05C35

Hao, Gang (*with* Wang, Lian Fen; Li, Jian Qiang) A convex cone model for interval judgments in the analytic hierarchy process. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 39–48. 90A05 (93A13)

Hao, Jianxiu (*with* Aggarwal, Charu C.; Ahuja, Ravindra K.; Orlin, James B.) Diagnosing infeasibilities in network flow problems. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 263–280. (Summary) **99b:90043** 90B10 (90C35)

Hao, Y. *see* **Hao, Yue[1]**

Hao, Yue *see* **Hao, Yue[2]**

Hao, Yue[1] (*with* Prosperetti, A.) The effect of viscosity on the spherical stability of oscillating gas bubbles. (English summary) *Phys. Fluids* **11** (1999), *no.* 6, 1309–1317. 76D99 (76T05)

— (*with* Prosperetti, A.) Modelling of spherical gas bubble oscillations and sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 203–223. (Summary) **99m:76103** 76Q05 (78A99)

Hao, Yue[2] (*with* Zhao, Tian Xu; Li, Hong Tao) Some approximation results in stochastic programming. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 39–43. 90C15

Hao, Zhi Feng (*with* Tong, Wen Ting) Free quadratic bialgebra. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 158. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 244–248. (Horia Pop) **99a:16031** 16W30

— (*with* Chen, Huan Yin) Local characterizations of projective modules. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 522–526. 13C10

— (*with* Lu, Ke Wei) Essential subgroups of finite groups. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 222–226. (Ji Ping Zhang) **99f:20027** 20D10

— Coalgebraic K-theory. I. K_0 groups. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 1, 47–52. (Summary) **99c:19001** 19A49

Hao, Zhong Xiao (*with* Liu, Guo Hua; Chen, Zi Jun) A quick replacement algorithm for finding all candidate keys of a relation scheme. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 890–895. 68P15

Haojiang, Ding *see* **Ding, Hao Jiang**

Haouat, Youssef (*with* Cahen, Paul-Jean) Spectre des anneaux de polynômes à valeurs entières à plusieurs indéterminées. [Spectrum of rings of integer-valued polynomials with several indeterminates] *Anneaux et modules (Colmar, 1991)*, 27–54, *Travaux en Cours*, 51, *Hermann, Paris*, 1996. (David E. Rush) **99c:13013** 13B25 (13F20)

Haoxun, Chen *see* **Chen, Hao Xun**

Happel, Dieter Quasitilted algebras. (English summary) *Algebras and modules, I (Trondheim, 1996)*, 55–82, *CMS Conf. Proc.*, 23, *Amer. Math. Soc., Providence, RI*, 1998. (Lidia Angeleri Hügel) **99k:16023** 16G10 (16E30, 18E30, 18G20)

— (*with* Slungård, Inger Heidi) One-point extensions of hereditary algebras. (English summary) *Algebras and modules, II (Geiranger, 1996)*, 285–291, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Steffen König) **99i:16023** 16G10 (16E70, 16G60)

— (*with* Unger, Luise) Complements and the generalized Nakayama conjecture. (English summary) *Algebras and modules, II (Geiranger, 1996)*, 293–310, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Riccardo Colpi) **99i:16024** 16G10 (16E10, 16G70)

— Hochschild cohomology of piecewise hereditary algebras. *Colloq. Math.* **78** (1998), *no.* 2, 261–266. (Teimuraz Pirashvili) **99j:16002** 16E40 (16G10, 16G60)

— (*with* Zimmermann-Huisgen, Birge) Viewing finite-dimensional representations through infinite-dimensional ones. (English summary) *Pacific J. Math.* **187** (1999), *no.* 1, 65–89. (Sverre O. Smalø) **99m:16006** 16D90 (16E10, 16E30, 16G99)

Haq, M. Safiul (*with* Saleh, A. K. Md. Ehsanes) Donald A. S. Fraser. *J. Statist. Res.* **30** (1996), *no.* 2, 121–123. 01A70

— (*with* Kibria, B. M. Golam) Predictive inference for the elliptical linear model. (English summary) *J. Multivariate Anal.* **68** (1999), *no.* 2, 235–249. 62J05

Hara, Masaaki (*with* Furuta, Katsuhisa; Pan, Yaodong; Hoshino, Tasuku) Evaluation of discrete-time VSC on an inverted pendulum apparatus with additional dynamics. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 159–181. (*see* **99a:93003**) 93C95

Hara, Masaru Corona theorem for sequences of functions of 2-sheeted unlimited covering surfaces. (Japanese. English summary) *Rep. Fac. Sci. Technol. Meijo Univ. No.* 39 (1999), 48–52. 30F99

Hara, Nobuo Classification of two-dimensional F-regular and F-pure singularities. *Adv. Math.* **133** (1998), *no.* 1, 33–53. (Karen E. Smith) **99a:14048** 14J17 (14B05)

— A characterization of rational singularities in terms of injectivity of Frobenius maps. (English summary) *Amer. J. Math.* **120** (1998), *no.* 5, 981–996. (Karen E. Smith) **99h:13005** 13A99 (14B05, 14E05)

Hara, S. *see* **Hara, Shinji**

Hara, Shin-Ichiro (*with* Hamanaka, Hiroaki; Kono, Akira[1]) Adjoint action of Lie groups on the loop spaces and cohomology of exceptional Lie groups. *Transformation group theory (Taejŏn, 1996)*, 44–50, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (M. Mimura) **99a:57034** 57T10 (22E67)

Hara, Shinji (*with* Hozumi, Jin; Fujioka, Hisaya) Robust servo problem with $\mathscr{H}_\infty$ norm constraint. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 803–823. 93B36

— (*with* Yamada, Yuji[2]) An LMI approach to local optimization for constantly scaled $\mathscr{H}_\infty$ control problems. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 233–250. 93B36 (93B40)

— (*with* Kojima, Masakazu; Kojima, Sadayoshi) Linear algebra for semidefinite programming. Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 1–23. (Florian Jarre) **99d:90131** 90C33 (90C25)

— (*with* Iwasaki, Tetsuya) LMI based control design: solutions to nonconvex problems. Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 24–39. (Petko Petkov) **99d:93025** 93B40 (93–02, 93B51)

— (*with* Iwasaki, Tetsuya) Well-posedness of feedback systems: insights into exact robustness analysis and approximate computations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 619–630. (Summary) **99a:93078** 93D09

— (*with* Yamada, Yuji[2]) Computational complexity in robust controller synthesis. (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 59–80, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (65Y20, 68Q25, 93B40)

— (*with* Anderson, Brian D. O.; Chongsrid, K.; Limebeer, D. J. N.) Direct reduced order discretization of continuous-time controller. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 143–155. (*see* **99k:93005**) 93B11 (93C57)

— *see also* **Learning, control and hybrid systems, 99g:93003**

Hara, Takashi (*with* Slade, Gordon) The incipient infinite cluster in high-dimensional percolation. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 48–55 (*electronic*). (H. Kesten) **99j:60154** 60K35 (60G57, 82B43)

Hara, Yasuhiro Special generic maps and L^2-Betti numbers. *Osaka J. Math.* **34** (1997), *no.* 1, 151–167. (F. Gomez (Zbl 872.57035)) **99c:57058** 57R20 (57R45)

— Singularities of equivariant maps. (Japanese) Research on local and global singularity theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1050 (1998), 93–99. (*see* **99j:58003**) 58C27

Harabetian, Eduard (*with* Osher, Stanley) Regularization of ill-posed problems via the level set approach. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1689–1706 (*electronic*). (Summary) **99d:65268** 65M30

Harada, Kōichirō The achievements of Fields medalist R. E. Borcherds. I. (Japanese) *Sūgaku* **51** (1999), *no.* 1, 56–57. 01A70 (17–02)

— *see also* **Monster and Lie algebras, 99e:00021**

Harada, Masaaki (*with* Gulliver, T. Aaron) Certain self-dual codes over Z_4 and the odd Leech lattice. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 130–137, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94042** 94B60

— The existence of a self-dual [70, 35, 12] code and formally self-dual codes. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 2, 131–139. (Summary) **99a:94044** 94B05

— New extremal ternary self-dual codes. (English summary) *Australas. J. Combin.* **17** (1998), 133–145. (Summary) **99c:94043** 94B05

— New extremal type II codes over $\mathbf{Z}_4$. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 271–284. (Ivan Landgev) **99c:94044** 94B05 (05B20)

— (*with* Gulliver, T. Aaron; Kaneta, Hitoshi) Classification of extremal double-circulant self-dual codes of length up to 62. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 127–136. (Summary) **99c:94045** 94B05

— (*with* Gulliver, T. Aaron) Double circulant self-dual codes over Z_{2k}. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3105–3123. (Jay A. Wood) **99m:94043** 94B05

— (*with* Gulliver, T. Aaron) Extremal double circulant type II codes over Z_4 and construction of 5-(24, 10, 36) designs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 129–137. (Summary) **99h:94074** 94B60 (05B05)

— (*with* Oura, Manabu) On the Hamming weight enumerators of self-dual codes over Z_k. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 26–34. (Jay A. Wood) **99m:94045** 94B05

— (*with* Gulliver, T. Aaron) Codes of lengths 120 and 136 meeting the Grey-Rankin bound and quasi-symmetric designs. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 703–706. (Summary) **99j:94071** 94B15 (05B30)

Harada, Minoru[2] (*with* Sachs, Mendel) Reinterpretation of the Fitzgerald-Lorentz contraction. (English summary) *Phys. Essays* **11** (1998), *no.* 4, 521–523. 83A05

Harada, Takashi (*with* Yamashita, Masafumi) Graph-nondominatedness of k-coteries. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 39–43. (*see* **99i:65003**) 68R10 (68Q10)

Harada, Tatsunori (*with* Taniguchi, Masahiko) On Teichmüller space of complex dynamics by entire functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 257–266. (Summary) **99b:58197** 58F23 (30D05)

Harada, Tomohiro Neutron stars in scalar-tensor theories of gravity and catastrophe theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4802–4811. 83D05 (58C28)

— (*with* Iguchi, Hideo; Nakao, Ken-ichi) Gravitational waves around a naked singularity: odd-parity perturbation of Lemaître-Tolman-Bondi space-time. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7262–7273. 83C35 (83C75)

Haraguchi, Makoto (*with* Okubo, Yoshiaki) Constructing predicate mappings for goal-dependent abstraction. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 169–197. (Summary) **99j:68125** 68T15

Hărăguş, Dumitru Weak solutions for some systems of fluid dynamics. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 47–71. (Jürgen Socolowsky) **99k:34135** 34G20 (35Q35, 76D99)

Hărăguş-Courcelle, Mariana Nonlocal dimension-breaking in turning points. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 149–154. (Summary) **99i:35173** 35R15 (35K55, 35R20)

— (*with* Il'ichev, A. T.) Three-dimensional solitary waves in the presence of additional surface effects. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 5, 739–768. (Summary) **99f:76030** 76B25 (76B15, 76B45, 86A05)

— Reduction of PDEs on unbounded domains. Application: unsteady water-waves problem. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 4, 353–374. (Alexey V. Samokhin) **99d:35140** 35Q53 (35Q35, 47H15, 47N20, 76B15)

— (*with* Sattinger, David H.) Inversion of the linearized Korteweg-de Vries equation at the multi-soliton solutions. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 436–469. (Vladislav G. Dubrovsky) **99e:35198** 35Q53 (35R30)

— (*with* Pego, Robert L.) Travelling waves of the KP equations with transverse modulations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 227–232. (Summary) **99j:35186** 35Q53 (35B32)

Haralambides, James (*with* Tragoudas, Spyros) Bipartitioning into overlapping sets. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 296–310 (*electronic*). (*see* **99f:68006**) 68R10 (68Q25)

Haralampidou, Marina Structure theorems for Ambrose algebras. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 2, 139–154. (Peter Dixon) **99a:46092** 46H20 (46K05)

Haran, Dan (*with* Jarden, Moshe) Regular split embedding problems over complete valued fields. (English summary) *Forum Math.* **10** (1998), *no.* 3, 329–351. (Akito Nomura) **99e:12007** 12F12 (12J10)

— (*with* Jarden, Moshe) Regular split embedding problems over function fields of one variable over ample fields. *J. Algebra* **208** (1998), *no.* 1, 147–164. (Helmut Völklein) **99h:12005** 12F12 (11S20, 12F10)

Harant, Jochen A lower bound on the independence number of a graph. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 239–243. (Summary) **99a:05074** 05C35

— (*with* Böhme, Thomas) On Hamiltonian cycles in 4- and 5-connected plane triangulations. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 25–30. (Summary) **99d:05056** 05C45

— (*with* Böhme, Thomas; Pruchnewski, A.; Schiermeyer, Ingo) A planarity criterion for cubic bipartite graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 31–43. (Xiaoya Zha) **99h:05027** 05C10 (05C85)

Harao, Masateru Proof discovery in LK system by analogy. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 197–211, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68T15 (03B35)

— Simplification and unification in order-sorted lambda-calculus. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 219–226. (*see* **99i:65003**) 03B40

— (*with* Yamada, Keizo; Hirata, Kouichi) On decidable higher-order unification problems. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 227–234. (*see* **99i:65003**) 68Q40 (03D40, 03D80)

Haraoka, Yoshishige Monodromy of an Okubo system with non-semisimple exponents. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 435–457. (Andreĭ Bolibrukh) **99b:34007** 34A20 (33C15)

Harari, David Principe de Hasse et approximation faible sur certaines hypersurfaces. (English and French summaries) [The Hasse principle and weak approximation on certain hypersurfaces] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, 731–762. (Tamás Szamuely) **99c:11080** 11G35 (14G05)

— Obstructions de Manin transcendantes. [Transcendental Manin obstructions] *Number theory* (*Paris*, 1993–1994), 75–87, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Tamás Szamuely) **99e:14025** 14G05 (11G35, 14G25)

Harari, Isaac A variational formulation for partitioned exterior problems. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 187–196, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 76M10 (76–05)

— A unified variational approach to domain-based computation of exterior problems of time-harmonic acoustics. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 417–441. (Summary) **99g:76107** 76M25 (65N55, 76Q05)

— (*with* Shohet, Zion) On non-reflecting boundary conditions in unbounded elastic solids. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 123–139. (Summary) **99f:73086** 73V20 (73D15)

— (*with* Shalom, Rami; Barbone, Paul E.) Higher-order boundary infinite elements. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 107–119. (Summary) **99i:76118** 76M25 (65N30, 76Q05)

— (*with* Barbone, Paul E.; Montgomery, Joshua M.; Michael, Ofer) Scattering by a hybrid asymptotic/finite element method. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 141–156. (Summary) **99h:76054** 76M10 (65M60, 76Q05)

— (*with* Haham, Shmuel) Improved finite element methods for elastic waves. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 143–164. (Summary) **99g:73104** 73V05 (65N30, 73D15)

— (*with* Patlashenko, Igor; Givoli, Dan) Dirichlet-to-Neumann maps for unbounded wave guides. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 200–223. (Summary) **99a:76137** 76Q05

— (*with* Shohet, Zion) Erratum: "Open non-reflecting boundary conditions in unbounded elastic solids" [Comput. Methods Appl. Mech. Engrg. **163** (1998), no. 1-4, 123–139; MR 99f:73086]. *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 191. 73V20 (73D15)

— *see also* **Exterior problems of wave propagation, 99g:76001**

Harary, Frank Embedding Platonic graphs in meshes. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 26–29. (*see* **99g:05001**) 05C10

— (*with* Gagliardi, Daniel; Lewinter, Martin) A lower bound for the number of irregular multigraphs. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 6–8. (*see* **99i:05002**) 05C30

— The unique 2-edge-colouring of K_6 which produces exactly two monochromatic quadrilaterals. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 6, 27–28. 05C15

— (*with* Oellermann, Ortrud R.) The irregularity cost of a graph. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 59–63. (Michael Jacobson) **99a:05127** 05C78

— (*with* Chartrand, Gary; Zhang, Ping[6]) Extremal problems in geodetic graph theory. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 55–66. (Summary) **99j:05100** 05C35 (05C12)

— (*with* Ranjan, Desh) Breaking symmetry in complete graphs by orienting edges: asymptotic bounds. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 227–230. (Summary) **99g:05109** 05C35 (05C85, 68R10)

— (*with* Aingworth, Donald; Motwani, Rajeev) The difference between a graph and its square. (English summary) *Util. Math.* **54** (1998), 223–228. (Summary) **99f:05056** 05C35

— (*with* Chartrand, Gary; Yue, Bill Quan) On the out-domination and in-domination numbers of a digraph. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 179–183. (Summary) **99i:05106** 05C35 (05C20)

Harary, Howard H. (*with* Gass, Saul I.; Witzgall, Christoph) Fitting circles and spheres to coordinate measuring machine data. (English summary) *New trends in mathematical programming*, 65–91, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99f:65021** 65D10 (90C90)

Haraux, A. (*with* Jendoubi, Mohamed Ali) Convergence of solutions of second-order gradient-like systems with analytic nonlinearities. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 313–320. (Summary) **99a:35182** 35L70 (35G20)

Harbane, Rabah (*with* Tvrdík, Pavel; Heydemann, Marie-Claude) Uniform homomorphisms of de Bruijn and Kautz networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 279–301. (Neville G. F. Sancho) **99d:68025** 68M10 (05C20, 68R10)

Harbater, David (*with* Schneps, Leila) Approximating Galois orbits of dessins. *Geometric Galois actions*, 1, 205–230, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Yasutaka Ihara) **99f:14031** 14H30 (12F12, 14F35, 14G25)

— (*with* Dèbes, Pierre) Fields of definition of p-adic covers. (English summary) *J. Reine Angew. Math.* **498** (1998), 223–236. (Helmut Völklein) **99e:12006** 12F12 (14H30)

al-Harbey, A. H. *see* **Al-Harbey, A. H.**

Harbi, H. (*with* Ahmed, N. U.) Mathematical analysis of dynamic models of suspension bridges. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 853–874 (*electronic*). (Kirsten Anna Morris) **99d:73050** 73K05 (73D30, 73K12, 93C95)

Harbo, Ingrid (*with* Johansen, Søren; Nielsen, Bent; Rahbek, Anders) Asymptotic inference on cointegrating rank in partial systems. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 388–399. (Summary) **99e:62178** 62P20 (62M10)

Harborth, Heiko (*with* Bialostocki, Arie) Ramsey colorings for diagonals of convex polygons. *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 159–163 (1997). (C. C. Rousseau) **99a:05102** 05C55

— Integral distances in point sets. (English summary) *Charlemagne and his heritage*. 1200 *years of civilization and science in Europe, Vol.* 2 (*Aachen*, 1995), 213–224, *Brepols, Turnhout*, 1998. (*see* **99i:00015**) 52C07 (05A99, 51K99)

— (*with* Bode, Jens-P.) Achievement games on Platonic solids. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 23–32. (A. Pultr) **99d:05020** 05B50 (90D42)

— (*with* Dochkowa, Juliana; Mengersen, Ingrid) Cut set Catalan numbers. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 133–139. (*see* **99i:00020**) 05A10

— (*with* Thürmann, Christian) Limited snakes of polyominoes. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 211–218. (*see* **99i:00023**) 05B50

— Empty triangles in drawings of the complete graph. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 109–111. (Summary) **99d:05024** 05C10

— (*with* Maasberg, Silke) All two-color Rado numbers for $a(x + y) = bz$. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 397–407. (Summary) **99j:05186** 05D10

Harboure, Eleonor (*with* Segovia, Carlos; Torrea Hernández, José Luis) Boundedness of commutators of fractional and singular integrals for the extreme values of p. *Illinois J. Math.* **41** (1997), *no.* 4, 676–700. (Andreas Seeger) **99j:42025** 42B25 (42B30)

— (*with* Macías, Roberto; Segovia, Carlos) An extrapolation theorem for pairs of weights. (English summary) *Rev. Un. Mat. Argentina* **40** (1997), *no.* 3-4, 37–48. (María Cristina Pereyra) **99m:42031** 42B25 (47B38)

Harbourne, Brian Free resolutions of fat point ideals on $\mathbf{P}^2$. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 213–234. (Juan C. Migliore) **99d:13016** 13D02 (13D40, 14C20, 14J26)

Harcharras, Asma Analyse de Fourier, multiplicateurs de Schur sur S^p et ensembles $\Lambda(p)_{cb}$ non commutatifs. (English and French summaries) [Fourier analysis, Schur multipliers on S^p, and noncommutative $\Lambda(p)_{cb}$-sets] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 845–850. (A. G. Myasnikov) **99h:46135** 46L99 (43A45)

Harcos, Gergely (*with* Ruzsa, Imre Z.) A problem on zero subsums in abelian groups. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 31–34. (Vsevolod F. Lev) **99f:11025** 11B75 (11P99, 20K99)

Harder, Eric J. (*with* Choi, Hyeong-Ah) Gossiping in WDM all-optical square mesh networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 75–84, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:68010** 68M10 (68R10, 90B12)

Harder, Günter *see* **Witt, Ernst, 99i:01038**

Hardin, Douglas P. (*with* Dinsenbacher, Thomas B.) Nonhomogeneous refinement equations. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 117–127, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:39055** 39B22 (42C15)

Hardin, Jay *see* **Current topics in nonstationary analysis, 99g:60003**

Hardin, Jill (*with* Lee, Jon[2]; Leung, Janny) On the Boolean-quadric packing uncapacitated facility-location polytope. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 77–94. (Summary) **99h:90061** 90B80 (90C10, 90C27)

Hardin, Thérèse (*with* Maranget, Luc; Pagano, Bruno) Functional runtime systems within the lambda-sigma calculus. (English summary) *J. Funct. Programming* **8** (1998), *no.* 2, 131–176. (Summary) **99c:68034** 68N15 (03B40)

Harding, John (*with* Bruns, Gunter) Amalgamation of ortholattices. (English summary) *Order* **14** (1997/98), *no.* 3, 193–209. (Jānis Cīrulis) **99f:06014** 06C15 (03G12, 08B25)

— Regularity in quantum logic. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1173–1212. (Sylvia Pulmannová) **99e:81017** 81P10 (03G12, 06C15)

Härdle, Wolfgang (*with* Linton, Oliver B.; Chen, Rong[1]; Wang, Naisyin) An analysis of transformations for additive nonparametric regression. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1512–1521. (Ewaryst Rafajłowicz) **99e:62052** 62G05
— (*with* Kerkyacharian, Gérard; Picard, Dominique; Tsybakov, A. B.) ★ Wavelets, approximation, and statistical applications. (English summary) Lecture Notes in Statistics, 129. *Springer-Verlag, New York*, 1998. *xviii+265 pp. ISBN* 0-387-98453-4 (José Rafael León) **99f:42065** 42C15 (41A30, 42–02, 62G07)
— (*with* Fan, Jianqing; Mammen, Enno) Direct estimation of low-dimensional components in additive models. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 943–971. (Theo Gasser) **99i:62064** 62G05
— (*with* Mammen, Enno; Müller, Marlene) Testing parametric versus semiparametric modeling in generalized linear models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1461–1474. (Summary) **99j:62102** 62J12 (62G05)
— (*with* Tsybakov, A. B.; Yang, Lijian) Nonparametric vector autoregression. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 221–245. (Jean Diebolt) **99f:62108** 62M10 (62G07)

Hardouin, Laurent (*with* Cottenceau, Bertrand; Boimond, Jean-Louis; Ferrier, Jean-Louis) Synthesis of greatest linear feedback for timed-event graphs in dioid. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1258–1262. 93B51 (93C83)

Hardt, Robert (*with* Lin, Fang Hua; Wang, Changyou) The p-energy minimality of $x/|x|$. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 141–152. (Martin Fuchs) **99c:58045** 58E20
— (*with* Han, Qing[1]; Lin, Fang Hua) Geometric measure of singular sets of elliptic equations. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1425–1443. (Giovanni Leoni) **99h:35032a** 35J15 (35D99, 49Q20)
— (*with* Han, Qing[1]; Lin, Fang Hua) Erratum: "Geometric measure of singular sets of elliptic equations". *Comm. Pure Appl. Math.* **52** (1999), *no.* 2, 271. (Giovanni Leoni) **99h:35032b** 35J15 (35D99, 49Q20)

Hardwick, Janis (*with* Page, Connie; Stout, Quentin F.) Sequentially deciding between two experiments for estimating a common success probability. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1502–1511. (Summary) **99i:62182** 62L10

Hardy, David J. (*with* Okunbor, Daniel I.; Skeel, Robert D.) Symplectic variable step size integration for N-body problems. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 19–30. (Werner M. Seiler) **99j:70005** 70–08 (65L99, 70F10)

Hardy, Godfrey Harold *see* **Rankin, Robert A., 99e:01028**; **Neumann, B. H.** *and* **Tiwari, Suresh Chandra**

Hardy, Lucien The EPR argument and nonlocality without inequalities for a single photon. *Fundamental problems in quantum theory* (*Baltimore, MD*, 1994), 600–615, *Ann. New York Acad. Sci.*, 755, *New York Acad. Sci., New York*, 1995. (S. Gudder) **99b:81012** 81P05 (81P10)
— (*with* Home, D.; Squires, E. J.; Whitaker, M. A. B.) Comment on: "Why quantum mechanics cannot be formulated as a Markov process" [Phys. Rev. A (3) **49** (1994), no. 3, 1607–1612; MR 95a:81009] by D. T. Gillespie. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 4, 3301–3303. (Gennady Berman) **99g:81006** 81P05
— (*with* Popescu, Sandu; Żukowski, Marek) Revisiting Bell's theorem for a class of down-conversion experiments. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 6, *R*4353–*R*4356. (Summary) **99f:81030** 81P15
— (*with* Boschi, D.; Branca, S.; De Martini, Francesco; Popescu, Sandu) Experimental realization of teleporting an unknown pure quantum state via dual classical and Einstein-Podolsky-Rosen channels. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 6, 1121–1125. (Summary) **99b:81029** 81P99
— *see also* **Gillespie, Daniel T., 99g:81007**

Hardy, Peter (*with* Stitzinger, Ernest L.) On characterizing nilpotent Lie algebras by their multipliers, $t(L) = 3, 4, 5, 6$. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3527–3539. (Duncan J. Melville) **99h:17014** 17B30

Hare, D. E. G. Computing the principal branch of log-Gamma. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 221–236. (Walter Gautschi) **99c:33002** 33B15
— (*with* Jeffrey, D. J.; Corless, Robert M.) Exact rational solutions of a transcendental equation. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 71–76. (Summary) **99d:65157** 65H05 (33E99)

Hare, Donovan R. (*with* Abbott, H. L.) Square critically 3-chromatic hypergraphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 3–13. (Summary) **99i:05150** 05C65 (05C15)

Hare, Kathryn E. (*with* Ward, Jo) Finite-dimensional H-invariant spaces. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 353–361. (A. T.-M. Lau) **99d:43001** 43A10 (43A15)
— A general approach to Littlewood-Paley theorems for orthogonal families. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 3, 296–308. (A. Schwartz) **99d:42029** 42B25 (42C10, 43A80)
— Sidonicity in compact, abelian hypergroups. *Colloq. Math.* **76** (1998), *no.* 2, 171–180. (Richard C. Vrem) **99d:43008** 43A46 (43A62)
— The size of characters of compact Lie groups. (English summary) *Studia Math.* **129** (1998), *no.* 1, 1–18. (A. H. Dooley) **99c:43013** 43A80 (22E46, 43A46)

Harel, Arie (*with* Cheng, Hilary) Order statistics applications to queueing and scheduling problems. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 325–350 (1998). (Summary) **99c:60202** 60K25 (90B22, 90B35)
— (*with* Namn, Su; Sturm, Jacob) Migration of zeros for successive derivatives of entire functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 563–567. (Wayne Stewart Smith) **99c:30055** 30D15

Harel, Michel (*with* Puri, Madan L.) Autoregression quantiles and related rank score processes for generalized random coefficient autoregressive processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 271–294. (Pham Dinh Tuan) **99g:62136** 62M10 (62G10)

Hargé, Gilles Une inégalité de décorrélation pour la mesure gaussienne. (English and French summaries) [A decorrelation inequality for the Gaussian measure] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1325–1328. (Akio Noda) **99h:60081** 60G15 (52A20, 60E15)

chandra Hari, K. *see* **Chandra Hari, K.**

Hari, V. (*with* Matejaš, J.) Scaled almost diagonal matrices with multiple singular values. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 2, 121–131. (Zhenyue Zhang) **99c:15012** 15A18 (65F30)

Hari Dass, N. D. Quantum gravity on computers. *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 201–226, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83–04 (83C45)
— (*with* Sathiapalan, B.) Interaction of F- and D-strings in the Matrix model. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 12, 921–936. (Summary) **99c:81185** 81T30

Hariga, Moncer A single-period, multi-echelon stochastic model under a mix of assemble to order and assemble in advance policies. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 599–614. 90B30

Harihar, Ajay K. (*with* Shankhapal, R. M.; Thakur, L. B.; Patel, S. R.) On modified algorithm for primal-dual linear programming. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 7–18. (Summary) **99a:90126** 90C05

Hariharan, Ramesh (*with* Cole, Richard) Approximate string matching: a simpler faster algorithm. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 463–472, *ACM, New York*, 1998. (Summary) **99d:68091** 68Q20
— (*with* Crochemore, Maxime; Gąsieniec, Leszek; Muthukrishnan, S.; Rytter, Wojciech) A constant time optimal parallel algorithm for two-dimensional pattern matching. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 668–681 (*electronic*). (Katsushi Inoue) **99g:68092** 68Q25 (68Q22)

Hariharan, S. I. (*with* Hagstrom, Thomas) A formulation of asymptotic and exact boundary conditions using local operators. (English summary) Absorbing boundary conditions. *Appl. Numer. Math.* **27** (1998), *no.* 4, 403–416. (Summary) **99g:78018** 78A40 (65N99, 78–08)

Harikumar, E. (*with* Sivakumar, M.) Duality and massive gauge-invariant theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3794–3797. (Summary) **99k:81181** 81T13

Harinarayan, Venky (*with* Gupta, Ashish[1]) Optimization using tuple subsumption. (English summary) *Database theory—ICDT '95* (*Prague*), 338–352, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

Harinck, Pascale Base de la série la plus continue de fonctions généralisées sphériques sur G_C/G_R. (English and French summaries) [Basis of the most continuous series of spherical generalized functions on G_C/G_R] *J. Funct. Anal.* **153** (1998), *no.* 1, 1–51. (Rebecca Herb) **99f:22016** 22E30 (46F99)
— Fonctions orbitales sur G_C/G_R. Formule d'inversion des intégrales orbitales et formule de Plancherel. (English and French summaries) [Orbital functions on G_C/G_R. Inversion formula for orbital integrals and Plancherel formula] *J. Funct. Anal.* **153** (1998), *no.* 1, 52–107. (Rebecca Herb) **99f:22017** 22E30 (43A85, 46F99)

Häring-Oldenburg, Reinhard The Potts model with a reflecting boundary. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 809–816. (Yuanan Diao) **99c:57021** 57M25 (82B20)
— (*with* tom Dieck, Tammo) Quantum groups and cylinder braiding. (English summary) *Forum Math.* **10** (1998), *no.* 5, 619–639. (Mitsuhiro Takeuchi) **99g:20071** 20F36 (16W30, 17B37, 18D10)

Hariot, Thomas *see* **Alexander, Amir**

sree Hari Rao, V. *see* **Sree Hari Rao, V.**

Harish-Chandra Some applications of invariant differential operators on a semisimple Lie algebra. *Séminaire Bourbaki, Vol. 4, Exp. No.* 160, 319–326, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 17B20 (22E46)

Hariz, S. (*with* Collet, J. F.) A modified version of the Lifshitz-Slyozov model. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 81–85. (Summary) **99h:80010** 80A22

ben Hariz, Samir *see* **Ben Hariz, Samir**

Harizanov, Valentina S. Turing degrees of certain isomorphic images of computable relations. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 103–113. (Marat M. Arslanov) **99m:03066** 03C57 (03D30, 03D45)

Harju, Tero (*with* Karhumäki, Juhani; Krob, Daniel) Remarks on generalized Post correspondence problem. (English summary) *STACS* 96 (*Grenoble*, 1996), 39–48, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (P. Turakainen) **99a:03045** 03D35 (03B25, 03D03, 20M05, 68Q45)
— (*with* Ehrenfeucht, Andrzej; Rozenberg, Grzegorz) 2-structures—a framework for decomposition and transformation of graphs. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol.* 1, 401–478, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68R10 (05C99, 68Q99)
— (*with* Ehrenfeucht, Andrzej; ten Pas, P.; Rozenberg, Grzegorz) Permutations, parenthesis words, and Schröder numbers. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 259–264. (Summary) **99d:05003** 05A15
— (*with* Hage, Jurriaan) Acyclicity of switching classes. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 321–327. (Patrick Solé) **99d:05051** 05C38 (05C10)
— (*with* Ilie, Lucian) On quasi orders of words and the confluence property. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 205–224. (Pascal Weil) **99e:68091** 68Q45 (68Q42)

Harkin, Anthony (*with* Nadim, Ali; Kaper, Tasso J.) On acoustic cavitation of slightly subcritical bubbles. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 274–287. (Summary) **99k:76017** 76B10

Harko, T. (*with* Mak, M. K.) Exact causal viscous cosmologies. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1171–1186. (Gagik T. Ter-Kazarian) **99f:83013** 83C15 (83F05)
— (*with* Mak, M. K.) Full causal bulk-viscous cosmological models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5458–5476. (Salvatore Capozziello) **99h:83010** 83C15 (83C55, 83F05)
— (*with* Mak, M. K.) Addendum to: "Exact causal viscous cosmologies" [Gen. Relativity Gravitation **30** (1998), no. 8, 1171–1186; MR 99f:83013]. *Gen. Relativity Gravitation* **31** (1999), *no.* 2, 273–274. 83C15 (83F05)
— (*with* Mak, M. K.) Particle creation in cosmological models with varying gravitational and cosmological "constants". (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 6, 849–862. 83F05

Harlamov, B. P. *see* **Kharlamov, B. P.**

Harleston L., Hugh (*with* Rosenbaum, Marcos; Luehr, C. P.) Spinors from a differential geometric point of view. (English summary) *Clifford algebras and spinor structures*, 205–240, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Bertfried Fauser) **99b:53019** 53A50 (15A66)

Harman, Glyn (*with* Baker, R. C.; Pintz, J.) The exceptional set for Goldbach's problem in short intervals. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 1–54, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Giovanni Coppola) **99g:11121** 11P32 (11N36, 11P55)

— Eratosthenes, Legendre, Vinogradov and beyond: the hidden power of the simplest sieve. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 161–173, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (R. C. Baker) **99e:11123** 11N36 (11N05, 11N35)

— ★ Metric number theory. London Mathematical Society Monographs. New Series, 18. *The Clarendon Press, Oxford University Press, New York*, 1998. *xviii+297 pp. ISBN* 0-19-850083-1 (R. C. Baker) **99k:11112** 11J83 (11K38, 11K50, 11K55)

— (*with* Baker, R. C.) Shifted primes without large prime factors. *Acta Arith.* **83** (1998), *no.* 4, 331–361. (John B. Friedlander) **99b:11104** 11N25 (11N13, 11N36)

— On the Erdős-Turán inequality for balls. *Acta Arith.* **85** (1998), *no.* 4, 389–396. (Peter J. Grabner) **99h:11086** 11K38 (42B30)

— (*with* Baker, R. C.) The three primes theorem with almost equal summands. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 763–780. (D. R. Heath-Brown) **99c:11124** 11P32 (11N36, 11P55)

— *see also* **Sieve methods, exponential sums, and their applications in number theory, 99b:11004**

Harman, Julie (*with* Hertzler, Greg; Lindner, Robert K.) Estimating a stochastic model of population dynamics with an application to kangaroos. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 4, 303–343. (Summary) **99c:92039** 92D25

Harman, P. M. ★ The natural philosophy of James Clerk Maxwell. (English summary) *Cambridge University Press, Cambridge*, 1998. *xiv+232 pp. ISBN* 0-521-56102-7 (Ll. G. Chambers) **99g:01021** 01A55 (00A79, 01A70)

Harmanec, David Toward a characterization of uncertainty measure for the Dempster-Shafer theory. (English summary) *Uncertainty in artificial intelligence* (*Montreal, PQ*, 1995), 255–261, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30

— (*with* Klir, George J.) On information-preserving transformations. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 265–290. (Summary) **99k:68186** 68T30 (90A05, 94A12)

Harms, Benjamin (*with* Casadio, Roberto) Poincaré coset models $\mathrm{ISO}(d-1,1)/\mathbf{R}^n$ and T duality. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7507–7520. (Summary) **99k:81226** 81T30

— (*with* Casadio, Roberto) Microfield dynamics of black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044014, 10 *pp.* (Summary) **99k:83060** 83C57 (83C47)

— (*with* Casadio, Roberto) Perturbations in the Kerr-Newman dilatonic black hole background: Maxwell waves, the dilaton background, and gravitational lensing. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044015, 7 *pp.* (Summary) **99k:83061** 83C57 (81V25, 83C22)

Harms, Janelle J. A simple optimal algorithm for scheduling variable-sized requests. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 291–293. 68M20

Harms, William F. The use of information theory in epistemology. (English summary) *Philos. Sci.* **65** (1998), *no.* 3, 472–501. 94A15

Harmse, Jørgen E. (*with* Berend, Daniel) On some arithmetical properties of middle binomial coefficients. *Acta Arith.* **84** (1998), *no.* 1, 31–41. (Peter J. Grabner) **99a:11018** 11B65 (05A10, 11K41)

Harmsen, Betty Jean (*with* Ahlbrandt, Calvin D.) Discrete versions of continuous isoperimetric problems. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 449–462. (Summary) **99c:49003** 49J10 (39A12, 49M30, 65L12, 65N06)

van Harn, K. (*with* Steutel, Fred W.) A generalization of the lifetime pairs of renewal theory. (English summary) *Advances in the theory and practice of statistics*, 89–105, *Wiley Ser. Probab. Statist. Appl. Probab. Statist., Wiley, New York*, 1997. (Rudolf Grübel) **99a:60096** 60K05 (60E05, 62E10)

Harnad, John Bispectral operators, dual isomonodromic deformations and the Riemann-Hilbert dressing method. (English summary) *The bispectral problem* (*Montreal, PQ*, 1997), 67–79, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Yun Bo Zeng) **99b:58111** 58F07 (34L05, 35Q58)

Harne, Sanjay K. Waiting for the k-th consecutive success and the Lucas sequence of order k. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 49–54. 60C05 (11B39)

— (*with* Parihar, C. L.) Generalized Fibonacci numbers use in determinants. (English summary) *Ganita Sandesh* **10** (1996), *no.* 1, 55–56. 11B39

— (*with* Parihar, C. L.) On a new class of polynomials. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 31–35. (Summary) **99g:33031** 33C45

— Congruence relations for kth-order linear recursive sequences. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 17–23. 11B37

Haro, A. (*with* Simó, Carles) A numerical study of the breakdown of invariant tori in 4D symplectic maps. *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (O. Christov) **99h:58164** 58F27 (34C35)

candeal-Haro, Juan Carlos *see* **Candeal-Haro, Juan Carlos**

de Haro, Sebastian Planckian scattering and black holes. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 23, 32 *pp.* (*electronic*). (Roland Steinbauer) **99j:83045** 83C57

Haroldsen, David J. (*with* Meiron, Daniel I.) Numerical calculation of three-dimensional interfacial potential flows using the point vortex method. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 648–683 (*electronic*). (Summary) **99c:76010** 76B15 (65M06, 65N06, 76M25)

Haroske, Dorothee D. Embeddings of some weighted function spaces on $\mathbf{R}^n$; entropy and approximation numbers—a survey of some recent results. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **24** (1997), 1–44 (1998). (Georgi E. Karadzhov) **99m:46080** 46E35 (41A46, 47B06)

Haroutunian, Evgueni A. *see* **Arutyunyan, E. A.**

Harpaz, Amos (*with* Soker, Noam) Radiation from a uniformly accelerated charge. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 8, 1217–1227. (Summary) **99c:83022** 83C30

de la Harpe, Pierre (*with* Bacher, Roland; Nagnibeda, Tatiana) The lattice of integral flows and the lattice of integral cuts on a finite graph. (English and French summaries) *Bull. Soc. Math. France* **125** (1997), *no.* 2, 167–198. (Valentin E. Brimkov) **99c:05111** 05C38 (11H06)

— (*with* Ceccherini-Silberstein, Tullio G.; Grigorchuk, Rostislav I.) Décompositions paradoxales des groupes de Burnside. (English and French summaries) [Paradoxical decompositions of free Burnside groups] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 127–132. (Javier Otal) **99i:20043** 20F05 (20E99, 20F50)

Har-Peled, Sariel (*with* Agarwal, Pankaj K.; Sharir, Micha; Varadarajan, Kasturi R.) Approximating shortest paths on a convex polytope in three dimensions. (English summary) *J. ACM* **44** (1997), *no.* 4, 567–584. (Ruth Silverman) **99c:68241** 68U05

— An output sensitive algorithm for discrete convex hulls. (English summary) *Comput. Geom.* **10** (1998), *no.* 2, 125–138. (Summary) **99a:52017** 52B55 (68U05)

— Approximate shortest paths and geodesic diameter on a convex polytope in three dimensions. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 217–231. (Andrew Vince) **99m:68083** 68Q25 (52B10, 68U05)

Harper, J. F. *see* **Harper, John F.**[1]

Harper, John *see* **Harper, John R.**

Harper, John F.[1] The axisymmetric Prandtl-Batchelor eddy behind a circular disc in a uniform stream. (English summary) *J. Fluid Mech.* **377** (1998), 253–266. (Summary) **99j:76021** 76C05 (76D10)

Harper, John R. Cogroups which are not suspensions. II. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 131–135, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Donald M. Davis) **99e:55015** 55P45 (55P40)

Harper, L. H. (*with* Bezrukov, Sergei; Chavez, J. D.; Röttger, Markus; Schroeder, Ulf-Peter) Embedding of hypercubes into grids. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 693–701, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68M10)

Harper, William Papier mâché problems in epistemology: a defense of strong internalism. (English summary) *Synthese* **116** (1998), *no.* 1, 27–49. 03B45 (03A05)

baba Harra, M'hammed *see* **Baba Harra, M'hammed**

Harrabi, A. (*with* Rebhi, S.; Selmi, A.) Solutions of superlinear elliptic equations and their Morse indices. I, II. *Duke Math. J.* **94** (1998), *no.* 1, 141–157, 159–179. (Vitaly B. Moroz) **99i:35037** 35J60 (58E05)

Harrabi, A. Pseudospectre d'une suite d'opérateurs bornés. (English and French summaries) [Pseudospectrum of a sequence of bounded operators] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 671–680. (Alan L. Andrew) **99i:47005** 47A10 (47A55, 65F15)

Harrell, Evans M., II (*with* Loss, Michael) On the Laplace operator penalized by mean curvature. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 643–650. (Zhiqin Lu) **99f:58213** 58G25 (35J05, 58G03)

Harrington, David P. (*with* Troxel, Andrea B.; Lipsitz, Stuart R.) Marginal models for the analysis of longitudinal measurements with nonignorable non-monotone missing data. (English summary) *Biometrika* **85** (1998), *no.* 3, 661–672. (Summary) **99i:62045** 62F10

Harrington, Leo (*with* Nies, André) Coding in the partial order of enumerable sets. (English summary) *Adv. Math.* **133** (1998), *no.* 1, 133–162. (Marat M. Arslanov) **99c:03063** 03D25 (03D15)

— (*with* Soare, Robert I.) Definable properties of the computably enumerable sets. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 97–125. (Peter Cholak) **99f:03055** 03D25

— (*with* Soare, Robert I.) Codable sets and orbits of computably enumerable sets. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 1–28. (C. G. Jockusch, Jr.) **99j:03031** 03D25

Harris, Adam Singular loci in holomorphic families. (English summary) *Internat. J. Math.* **9** (1998), *no.* 3, 277–293. (Kimio Miyajima) **99e:32027a** 32G05 (32G13, 32J15)

— Remark on the article: "Singular loci in holomorphic families". *Internat. J. Math.* **9** (1998), *no.* 7, 921. (Kimio Miyajima) **99e:32027b** 32G05 (32G13, 32J15)

— A uniformity criterion for vector bundles on complex projective spaces. *Math. Z.* **228** (1998), *no.* 2, 379–386. (Jean-Marc Drezet) **99e:14048** 14J60 (14M15)

— Analytic continuation of complex gauge fields. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 309–319. (J. T. Davidov) **99j:32013** 32D15 (32L81, 53C07)

Harris, B. *see* **Harris, Bernard**

Harris, B. J. The form of the spectral functions associated with Sturm-Liouville equations with large negative potential. *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 569–584. (L. V. Kritskov) **99f:34122** 34L40 (34B24, 47E05)

Harris, Bennette (*with* Krueger, Robert; Trench, William F.) Trench's canonical form for a disconjugate nth-order linear difference equation. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 55–71. (I. P. Stavroulakis) **99k:39016** 39A10 (39A12)

Harris, Bernard (*with* Godehardt, Erhard; Horsch, Armin) Random multigraphs, classification and clustering. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 279–286, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 60C05 (05C80, 62H30)

— (*with* Godehardt, Erhard) Asymptotic properties of random interval graphs and their use in cluster analysis. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 19–30, *VSP, Utrecht*, 1997. (Summary) **99g:60016** 60C05 (60F05)

— (*with* Godehardt, Erhard) Probability models and limit theorems for random interval graphs with applications to cluster analysis. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 54–61, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62H30 (05C80)

Harris, Carl M. (*with* Fischer, Martin J.) Approximating by enhanced interpolation in queueing analyses. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 9, 707–717. 90B22

— (*with* Marchal, William G.) Distribution estimation using Laplace transforms. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 4, 448–458. 65T20 (65U05)

Harris, Christopher On the rate of convergence of continuous-time fictitious play. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 238–259. (Françoise Forges) **99d:90147** 90D10 (90D20)

Harris, D. J. (*with* Evans, William Desmond; Lang, Jan) Two-sided estimates for the approximation numbers of Hardy-type operators in L^∞ and L^1. (English summary) *Studia Math.* **130** (1998), *no.* 2, 171–192. (Luboš Pick) **99b:47072** 47G10 (47B06)

Harris, Frederick C., Jr. Steiner minimal trees: an introduction, parallel computation, and future work. *Handbook of combinatorial optimization, Vol.* 2, 105–157, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

Harris, Ian R. (*with* Basu, Ayanendranath; Basu, Srabashi) Minimum distance estimation: the approach using density-based distances. *Robust inference*, 21–48, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62F10)

Harris, Joe *see* **Harris, Joseph Daniel**

Harris, John M. (*with* Gould, Ronald J.) Traceability in graphs with forbidden triples of subgraphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 123–132. (Ralph Faudree) **99f:05072** 05C45 (05C35)

Harris, John W. (*with* Stocker, Horst) ★ Handbook of mathematics and computational science. (English summary) *Springer-Verlag, New York*, 1998. *xxviii*+1028 *pp. ISBN* 0-387-94746-9 (Editors) **99e:00004** 00A20 (00A05, 68–00)

Harris, Joseph Daniel (*with* Morrison, Ian) ★ Moduli of curves. (English summary) Graduate Texts in Mathematics, 187. *Springer-Verlag, New York*, 1998. *xiv*+366 *pp. ISBN* 0-387-98438-0 (R. F. Lax) **99g:14031** 14H10 (14–02, 14D20, 14D22)

— (*with* Caporaso, Lucia) Parameter spaces for curves on surfaces and enumeration of rational curves. (English summary) *Compositio Math.* **113** (1998), *no.* 2, 155–208. (Ravi D. Vakil) **99e:14061a** 14N10 (14H10, 14J26, 14M25)

— (*with* Caporaso, Lucia) Enumerating rational curves: the rational fibration method. (English summary) *Compositio Math.* **113** (1998), *no.* 2, 209–236. (Ravi D. Vakil) **99e:14061b** 14N10 (14H10, 14J26, 14M25)

— (*with* Mazur, Barry; Pandharipande, Rahul) Hypersurfaces of low degree. *Duke Math. J.* **95** (1998), *no.* 1, 125–160. (Fyodor L. Zak) **99j:14043** 14J70 (14M20, 14N05)

— (*with* Caporaso, Lucia) Counting plane curves of any genus. *Invent. Math.* **131** (1998), *no.* 2, 345–392. (Susan J. Colley) **99i:14064** 14N10 (14B07, 14H10, 14J10)

Harris, Lawrence A. Coefficients of polynomials of restricted growth on the real line. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 293–312. (Summary) **99c:41056** 41A50 (26C05, 41A10)

Harris, Martin Guy (*with* Ambjørn, Jan; Weis, M.) On the connection between 2d topological gravity and the reduced Hermitian matrix model. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 482–510. (Francois Vanderseypen) **99d:81137** 81T40

Harris, Matthew (*with* Keane, Michael S.) Random coin tossing. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 27–37. (Alexandre S. Gajrat) **99c:60086** 60G30 (60G42, 60K35)

Harris, Michael The local Langlands conjecture for GL(n) over a p-adic field, $n < p$. *Invent. Math.* **134** (1998), *no.* 1, 177–210. (Stephen Gelbart) **99j:22024** 22E50 (22E35)

— (*with* Li, Jian-Shu) A Lefschetz property for subvarieties of Shimura varieties. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 1, 77–122. (Conjeeveram S. Rajan) **99e:14027** 14G35 (11G18, 14F25)

Harris, William A., Jr. (*with* Elaydi, Saber N.) On the computation of A^n. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 965–971 (*electronic*). (Summary) **99f:15002** 15–04 (15A21, 39A10)

Harrison, B. Kent Differential form symmetry analysis of two equations cited by Fushchych. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 21–33, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (J. Chrastina) **99c:58175** 58G35 (35A30, 58–01)

Harrison, David K. (*with* Brown, Ronald Paul) Abelian Frobenius kernels and modules over number rings. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 51–86. (Gary L. Walls) **99h:20026** 20D10 (11R04, 20J99)

Harrison, F. E. (*with* Wan, K. Kong; Bradshaw, Jason; Trueman, Colin) Classical systems, standard quantum systems, and mixed quantum systems in Hilbert space. (English summary) *Found. Phys.* **28** (1998), *no.* 12, 1739–1783. (S. Gudder) **99k:81027** 81P05 (81P15, 81S05)

Harrison, J. Michael Heavy traffic analysis of a system with parallel servers: asymptotic optimality of discrete-review policies. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 822–848. (Summary) **99c:60203** 60K25 (90B22)

Harrison, Jenny rth order conditionally convergent series of fractal domains. (English summary) *Geometry and nature* (*Madeira*, 1995), 257–267, *Contemp. Math.*, 203, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99h:28014** 28A78 (28A75, 28A80)

Harrison, John *see* **Harrison, John Watkins**

Harrison, John Robert ★ Theorem proving with the real numbers. (English summary) CPHC/BCS Distinguished Dissertations. *Springer-Verlag London, Ltd., London*, 1998. *xii*+186 *pp. ISBN* 3-540-76256-6 (Sauro Tulipani) **99m:68179** 68T15 (03B35, 68–02, 68Q40)

— Formalizing basic first order model theory. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 153–170, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 03B35 (03C07, 68T15)

— Formalizing Dijkstra. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 171–188, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (68Q55)

— (*with* Théry, L.) A skeptic's approach to combining HOL and Maple. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 279–294. 68T15 (68Q40)

Harrison, John Watkins Morphic refinements of nonregular languages. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 181–190. (Summary) **99g:68138** 68Q70 (68Q45)

— (*with* Brennan, Thomas; Gapinski, Steven) The Gergonne p-pile problem and the dynamics of the function $x \mapsto \lfloor (x + r)/p \rfloor$. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 103–113. (Christian Radoux) **99m:05001** 05A05 (11B37)

Harrison, K. J. (*with* Partington, Jonathan R.; Ward, Jo) Complexity of identification of linear systems with rational transfer functions. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 265–288. (Jan Bialasiewicz) **99k:93040** 93B30 (65Y20, 93B40)

Harrison, S. A. (*with* Rayward-Smith, V. J.) Minimal cost linkages in graphs. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 295–319. (Summary) **99m:90150** 90C35 (05C90)

Harsanyi, John C. Utilities, preferences, and substantive goods. (English summary) *Soc. Choice Welf.* **14** (1997), *no.* 1, 129–145. (Joseph D. Cole) **99a:90052** 90A10 (90A05, 90A08)

Harshman, N. L. (*with* Bohm, Arno) Quantum theory in the rigged Hilbert space—irreversibility from causality. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 181–237, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Lech Jakóbczyk) **99j:81093** 81S99 (47N50, 81P99)

Hart, Bradd (*with* Laskowski, Michael C.) A survey of the uncountable spectra of countable theories. *Algebraic model theory* (*Toronto, ON*, 1996), 107–118, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (Bruno Poizat) **99c:03053** 03C45

— (*with* Chowdhury, Ambar) An unclassifiable unidimensional theory without OTOP. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 1, 93–103. (Mike Prest) **99c:03052** 03C45

Hart, Evelyn L. (*with* Filipponi, Piero) The Zeckendorf decomposition of certain Fibonacci-Lucas products. *Fibonacci Quart.* **36** (1998), *no.* 3, 240–247. (Peter J. Grabner) **99d:11006** 11A63 (11B39)

— On using patterns in beta-expansions to study Fibonacci-Lucas products. *Fibonacci Quart.* **36** (1998), *no.* 5, 396–406. (Peter J. Grabner) **99k:11025** 11B39 (11A63)

— (*with* Sanchis, Laura) On the occurrence of F_n in the Zeckendorf decomposition of nF_n. *Fibonacci Quart.* **37** (1999), *no.* 1, 21–33. (Peter J. Grabner) **99k:11016** 11A63 (11B39)

Hart, Jeffrey D. (*with* Kuchibhatla, Maragatha) Smoothing-based lack-of-fit tests: variations on a theme. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 1–22. (Summary) **99a:62068** 62G10

— ★ Nonparametric smoothing and lack-of-fit tests. (English summary) Springer Series in Statistics. *Springer-Verlag, New York*, 1997. xii+287 *pp. ISBN* 0-387-94980-1 (Theo Gasser) **99h:62056** 62G10 (62G07)

— (*with* Kim, Jaehee H.) Tests for change in a mean function when the data are dependent. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 4, 399–424. (Yanhong Wu) **99k:62168** 62M10 (62G10, 62M15)

— (*with* Lee, GeungHee) An L_2 error test with order selection and thresholding. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 61–72. 62J02

Hart, John C. Morse theory for implicit surface modeling. (English summary) *Mathematical visualization* (*Berlin*, 1997), 257–268, *Springer, Berlin*, 1998. (*see* **99k:65005**) 58E05 (65Y25)

Hart, Sergiu (*with* Aumann, Robert J.; Perry, Motty) The absent-minded driver. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 102–116. (*see* **99b:90162**) 90A05 (90D40)

— (*with* Aumann, Robert J.; Perry, Motty) The forgetful passenger. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 117–120. (*see* **99b:90162**) 90A05 (90D40)

— (*with* Monderer, Dov) Potentials and weighted values of nonatomic games. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 619–630. (Summary) **99f:90203** 90D13 (90A14)

Harte, Robin Exactness plus skew exactness equals non-singularity. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 15–18. (Vladimir Müller) **99h:46085** 46H05 (47A05)

Harten, Amiram Multiresolution representation of cell-averaged data: a promotional review. (English summary) *Signal and image representation in combined spaces*, 361–391, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Fritz Keinert) **99c:94013** 94A29

— (*with* Lax, Peter D.; Levermore, C. David; Morokoff, William J.) Convex entropies and hyperbolicity for general Euler equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2117–2127 (*electronic*). (Denis Serre) **99j:76107** 76N15 (35L65, 65M12)

— (*with* Abgrall, Rémi) Multiresolution representation in unstructured meshes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2128–2146 (*electronic*). (Fritz Keinert) **99k:94022** 94A29 (41A05, 65D99)

— *see also* **Roe, Philip L.**, (**99f:65006**)

Härterich, Martin Murphy bases of generalized Temperley-Lieb algebras. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 5, 337–345. (Richard M. Green) **99m:20014** 20C30 (16G30)

Hartfiel, D. J. (*with* Rothblum, Uriel G.) Convergence of inhomogenous products of matrices and coefficients of ergodicity. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 1–9. (Adolf Rhodius) **99g:15041** 15A99 (15A18)

— (*with* Gonzalez, Raul Ernesto) Manifolds of idempotent matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 3, 187–193. (Summary) **99j:15019** 15A21

— Eigenvector slicing of the nonnegative matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 182–190 (*electronic*). (Jacques Dubois) **99c:15039** 15A48 (15A12, 15A18)

Hartkorn, K. (*with* Buchner, Klaus) On causality in the exterior Schwarzschild space-time. Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 767–773. (Volker Perlick) **99i:83060** 83C57 (83C15, 83C75)

Hartl, Manfred (*with* Baues, Hans-Joachim; Pirashvili, Teimuraz) Quadratic categories and square rings. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 1-2, 1–40. (Roland Schwänzl) **99f:18017** 18G50 (18G55, 55P15, 55Q25)

Hartl, Philipp (*with* Bamler, Richard) Synthetic aperture radar interferometry. (English summary) *Inverse Problems* **14** (1998), *no.* 4, *R*1–*R*54. 78A55 (78A50)

Hartl, Richard F. (*with* Kort, Peter M.; Feichtinger, Gustav; Haunschmied, Josef L.) Optimal enforcement policies (crackdowns) on an illicit drug market. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 169–184. 90A60 (49K15)

Hartle, James B. (*with* Gell-Mann, Murray) Strong decoherence. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 3–35, *Internat. Press, Cambridge, MA*, 1997. (S. Gudder) **99a:81009** 81P05

— (*with* Marolf, Donald) Comparing formulations of generalized quantum mechanics for reparametrization-invariant systems. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 10, 6247–6257. (Jürgen Tolksdorf) **99a:81079** 81R99 (81P99, 83C99)

— Generalized quantum theory in evaporating black hole spacetimes. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 195–219, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C47 (83C57)

— (*with* Griffiths, Robert B.) Comment on: "Consistent sets yield contrary inferences in quantum theory" [Phys. Rev. Lett. **78** (1997), no. 15, 2874–2877; MR 97k:81010] by A. Kent. *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1981. 81P05
— *see also* **Kent, Adrian**
Hartley, Brian On locally finite groups with a Chernikov maximal subgroup. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 1, 101–106, 123; *translation in Algebra and Logic* **37** (1998), *no.* 1, 56–58. (Alexander A. Baranov) **99m:20084** 20F50 (20E28)
Hartley, Michael I. How to build a leaning tower. *Austral. Math. Soc. Gaz.* **26** (1999), *no.* 1, 9–18. 26A06
Hartley, Richard I. Minimizing algebraic error. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1175–1192. (Summary) **99b:68203** 68U10
Hartlieb, Silke (*with* von zur Gathen, Joachim) Factoring modular polynomials. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 5, 583–606. (Igor E. Shparlinski) **99g:11148** 11Y16 (13P05)
Hartman, Alan Algorithmic aspects of integral designs. (English summary) *Australas. J. Combin.* **18** (1998), 173–182. (J. E. Graver) **99h:05010** 05B05
Hartman, Bruce C. (*with* Dror, Moshe) Stopping rules for utility functions and the St. Petersburg gamble. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 279–291. (Summary) **99k:90038** 90A10 (90D60)
Hartman, Chris (*with* Francis, George K.; Sullivan, John M.; Kusner, Robert B.; Brakke, Ken A.; Chappell, Glenn) The minimax sphere eversion. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 3–20, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— (*with* Francis, George K.; Sullivan, John M.) Computing sphere eversions. (English summary) *Mathematical visualization* (*Berlin*, 1997), 237–255, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A05 (53–04)
Hartmann, Andreas The generalized Carleson condition in certain spaces of analytic functions. (English summary) *Banach algebras '97* (*Blaubeuren*), 245–260, *de Gruyter, Berlin*, 1998. (D. Sarason) **99m:47017** 47A57 (30E05, 46E15)
Hartmann, Betti (*with* Brihaye, Yves; Kunz, Jutta) Gravitating dyons and dyonic black holes. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 77–82. (Summary) **99h:83033** 83C57 (83C15)
Hartmann, Carlos R. P. (*with* Shih, Ching-Cheng; Wulff, Christopher R.; Mohan, Chilukuri K.) Efficient heuristic search algorithms for soft-decision decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3023–3038. (Summary) **99i:94067** 94B05 (94B35)
Hartmann, Erich The normal form of a planar curve and its application to curve design. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 237–244, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65393** 65Y25 (65D17)
— Numerical implicitization for intersection and G^n-continuous blending of surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 4, 377–397. (Summary) **99a:65024** 65D17 (65Y25)
Hartmann, Frederick (*with* Gluchoff, Alan) Univalent polynomials and non-negative trigonometric sums. *Amer. Math. Monthly* **105** (1998), *no.* 6, 508–522. (T. H. MacGregor) **99i:30008** 30C10 (30C50, 42A05)
Hartmann, Friedel (*with* Maucher, Roland) Corner singularities of Kirchhoff plates and the boundary element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **173** (1999), *no.* 3-4, 273–285. (Summary) **99m:73074** 73V10 (73K10)
Hartmann, Sönke A competitive genetic algorithm for resource-constrained project scheduling. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 7, 733–750. 90B35 (90C27)
— (*with* Drexl, Andreas) Project scheduling with multiple modes: a comparison of exact algorithms. (English summary) *Networks* **32** (1998), *no.* 4, 283–297. 90B35
Hartmann, Stephan (*with* Schäffter, Markus W.; Schulz, Andreas S.) Switchbox routing in VLSI design: closing the complexity gap. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 31–49. (Summary) **99d:68126** 68Q35
Hartmann, Thomas Joachim (*with* Stephan, Ernst P.) Error analysis for the BEM on nonsmooth curves. *Boundary element topics* (*Stuttgart*, 1995), 339–350, *Springer, Berlin*, 1997. (*see* **99c:00017**) 65R20 (65N15, 65N38)
Hartmer, Ulrike (*with* Beckert, Bernhard) A tableau calculus for quantifier-free set-theoretic formulae. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 93–107, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35
Hartnell, Bert L. (*with* Rall, Douglas F.; Whitehead, C. A.) The watchman's walk problem: an introduction. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 149–155. (Summary) **99j:05131** 05C45
— (*with* Barbosa, Rommel) Some problems based on the relative sizes of the maximal independent sets in a graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 115–121. (Summary) **99j:05096** 05C35
— (*with* Fitzpatrick, Shannon) Paired-domination. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 63–72. (Douglas F. Rall) **99i:05177** 05C75 (05C70)
— (*with* Barbosa, Rommel) Almost parity graphs and claw-free parity graphs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 117–122. (Summary) **99a:05118** 05C75 (05C70)
— (*with* Rall, Douglas F.) A bound on the size of a graph with given order and bondage number. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 409–413. (Summary) **99i:05110** 05C35
— Well-covered graphs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 107–115. (Summary) **99m:05134** 05C75 (05C70)
den Hartog, Jerry (*with* Todoran, Eneia; de Vink, E. P.) Comparative metric semantics for commit in or-parallel logic programming. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 101–115, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q55)
Hartogs, Friedrich *see* **Bauer, Friedrich L., 99g:01031**
Hartonas, Chrysafis Duality for lattice-ordered algebras and for normal algebraizable logics. (English summary) *Studia Logica* **58** (1997), *no.* 3, 403–450. (S. Comer) **99c:03104** 03G25 (03B20, 06B15, 06F99)
— (*with* Hennessy, Matthew) Full abstractness for a functional/concurrent language with higher-order value-passing. (English summary) *Inform. and Comput.* **145** (1998), *no.* 1, 64–106. (Ugo de'Liguoro) **99g:68027** 68N15 (03B40, 03B70)
— A fixpoint approach to finite delay and fairness. (English summary) *Theoret. Comput. Sci.* **198** (1998), *no.* 1-2, 131–158. (Summary) **99e:68043** 68Q10 (03B70, 68Q55, 68Q60)
van Hartskamp, Michael (*with* van Mill, Jan) Normal spaces and fixed points of Čech-Stone extensions. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 21–27. (Oleksandr V. Sobchuk) **99c:54062** 54H25 (54A10, 54C20, 54D35, 54G20)
Hartung, Ferenc (*with* Herdman, Terry L.; Turi, Janos) Parameter identification in classes of hereditary systems of neutral type. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 147–160. (Shin-ichi Nakagiri) **99m:34188** 34K40 (34K35, 93B30)
— (*with* Györi, István; Turi, Janos) Preservation of stability in delay equations under delay perturbations. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 290–312. (Peter Dormayer) **99a:34212** 34K20
Hartung, Volker (*with* Burr, Wolfgang) A characterization of the Σ_1-definable functions of $K P\omega +$ (uniform AC). (English summary) *Arch. Math. Logic* **37** (1997), *no.* 3, 199–214. (Cristian Calude) **99j:03032** 03D60
Hartvigsen, David The planar multiterminal cut problem. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 203–222. (L. W. Beineke) **99h:05110** 05C85 (05C40, 68R10)
— A submodular optimization problem with side constraints. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 661–679. (Paulo Barcia) **99k:90187** 90C35
Hartwig, Robert E. EP perturbations. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 347–357. (Alexei A. Mailybaev) **99j:15033** 15A57 (15A09)
— (*with* Šemrl, Peter) Power additivity and orthogonality. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 1–13 (*electronic*). (Summary) **99f:15016** 15A21 (15A24)
Haruki, Atsushi Explicit formulae of Siegel Eisenstein series. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 169–179. (Hidenori Katsurada) **99d:11048** 11F46 (11F30)
Haruki, Hiroshi (*with* Rassias, Themistocles M.) A new characteristic of Möbius transformations by use of Apollonius quadrilaterals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2857–2861. (Summary) **99a:30012** 30C35
Haruta, Mako E. Newton's method on the complex exponential function. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2499–2513. (Hartje Kriete) **99i:30041** 30D05 (30C15, 30D15, 58F23)
Harutiunian, L. L. *see* **Arutyunyan, L. L.**
Harutyunyan, Hovhannes A. (*with* Liestman, Arthur L.) Messy broadcasting. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 149–159. (Summary) **99f:68157** 68R10 (68M10)
Harvey, Alex Preface [A symposium in honor of Prof. Engelbert Schucking]. *On Einstein's path* (*New York*, 1996), *v–viii, Springer, New York*, 1999. (Editors) **99m:01064a** 01A70
— *see also* **On Einstein's path, 99h:83002**
Harvey, Andrew C. (*with* Ghysels, Eric; Renault, Eric) Stochastic volatility. *Statistical methods in finance*, 119–191, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62138** 62P20 (62M10, 90A09)
— (*with* Streibel, Mariane) Tests for deterministic versus indeterministic cycles. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 5, 505–529. (Summary) **99e:62156** 62M10
Harvey, Campbell R. (*with* Kirby, Chris) Instrumental variables estimation of conditional beta pricing models. (English summary) *Statistical methods in finance*, 35–60, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62140** 62P20 (90A09)
Harvey, Charles M. Aggregation of individuals' preference intensities into social preference intensity. (English summary) *Soc. Choice Welf.* **16** (1999), *no.* 1, 65–79. (Summary) **99i:90009** 90A07 (90A08)
Harvey, J. W. (*with* Gnanadesikan, R.; Kettenring, J. R.) Corrigenda: "Mahalanobis metrics for cluster analysis" [Sankhyā Ser. A **55** (1993), no. 3, 494–505; MR 96b:62101]. *Sankhyā Ser. A* **56** (1994), *no.* 2, 387. 62H30
Harvey, James F. (*with* Katehi, Linda P. B.; Tentzeris, Emmanouil) Time-domain analysis using multiresolution expansions. *Advances in computational electrodynamics*, 111–162, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78003** 78–08 (65M06, 78A45)
Harvey, Jeffrey A. Magnetic monopoles, duality and supersymmetry. (English summary) *Fields, strings and duality* (*Boulder, CO*, 1996), 157–216, *World Sci. Publishing, River Edge, NJ*, 1997. (Claus Montonen) **99e:81238** 81T60 (81T13)
— Spin dependence of D0-brane interactions. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 113–118. (Summary) **99d:81117** 81T30
Harvey, R. J. (*with* Cowgill, M. C.; Watson, Layne T.) A genetic algorithm approach to cluster analysis. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 7, 99–108. 62H30
Harvill, Jane L. Testing time series linearity via goodness-of-fit methods. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 331–341. (*see* **99k:62004**) 62M10
Harville, David A. (*with* Kempthorne, Oscar) An alternative way to establish the necessity part of the classical result on the statistical independence of quadratic forms. (English summary) *Linear Algebra Appl.* **264** (1997), 205–215. (Goro Nagase) **99c:62155** 62H10
— Use of the Gibbs sampler to invert large, possibly sparse, positive definite matrices. (English summary) Linear algebra and statistics (Istanbul, 1997). *Linear Algebra Appl.* **289** (1999), *no.* 1-3, 203–224. (Zeng Rong Chen) **99m:65083** 65F30 (15A09, 65C05)
al-Hasan, Abdelnaser J. *see* **Al-Hasan, Abdelnaser J.**
Hasan, Ali A. *see* **Fu, Minyue, 99h:93047**
Hasan, Husna (*with* Rakhimov, I. U.) Limit theorems for exceedances of sequence of branching processes. (English summary) *Bull. Malaysian Math. Soc.* (2) **21** (1998), *no.* 1, 37–46. (Boualem Djehiche) **99m:60135** 60J80 (33C10, 33C15, 60F17)
Hasan, M. Anwarul (*with* Wu, Huapeng) Low complexity bit-parallel multipliers for a class of finite fields. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 883–887.

(Summary) **99d:65381** 65Y05

— Double-basis multiplicative inversion over GF(2^m). (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 9, 960–970. (Summary) **99h:68016** 68M07 (68P25)

— (*with* Wu, Huapeng; Blake, Ian F.) New low-complexity bit-parallel finite field multipliers using weakly dual bases. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1223–1234. (Summary) **99i:68008** 68M07 (68P25, 94A60)

Hasan, Mohammed A. *see* **Fu, Minyue**, **99h:93047**

Hasankhani, A. (*with* Bolurian, M.) Hyper BCK-algebra. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 87–94, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (A. B. Thaheem) **99m:06038** 06F35 (03G25)

— (*with* Zahedi, M. M.; Talaie, M.) Fuzzy congruence relations on a BCK-algebra. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 83–96. (Summary) **99b:06020** 06F35 (03E72, 08A30)

— (*with* Zahedi, M. M.) On F-polygroups and fuzzy sub-F-polygroups. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 97–110. (John Mordeson) **99b:20106** 20N20

Hasanov, A. *see* **Gasanov, A. I.**

Hasanov, Alemdar *see* **Gasanov, A. I.**

Hasanov, Mahir On the spectral properties of some classes of two parametric operator pencils. *Math. Balkanica (N.S.)* **10** (1996), *no.* 2-3, 237–248. (Vyacheslav N. Pivovarchik) **99a:47022** 47A56 (47A75, 47F05)

— A class of unbounded Fourier integral operators. *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 641–651. (Qingjiu Qiu) **99g:35149** 35S30 (47G30)

Hasanov, V. I. (*with* Ivanov, Ivan Ganchev; Minchev, B. V.) Positive definite solutions of the equation $X - A^*\sqrt{X^{-1}}A = I$. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 113–116, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F30

Hasbrouck, Joel Modeling market microstructure time series. *Statistical methods in finance*, 647–692, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62113** 62M10 (62P20, 90A09)

Hasegawa, Aki (*with* Uemura, Yasuo; Kobayashi, Satoshi[2]; Yokomori, Takashi) Tree adjoining grammars for RNA structure prediction. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 277–303. (Itsuo Takanami) **99j:68076** 68Q50 (68Q45, 92D20)

Hasegawa, Hikaru Risk comparison of inequality constrained estimators in the heteroscedastic linear model. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 171–180. (Summary) **99c:62179** 62J05

Hasegawa, Hiroshi (*with* Yamada, Isao; Kurosawa, Kaoru; Sakaniwa, Kohichi) Algebraic multidimensional phase unwrapping and zero distribution of complex polynomials—characterization of multivariate stable polynomials. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1639–1664. (Summary) **99m:93045** 93B60 (93D09, 94A12)

Hasegawa, Hiroshi H. Exponential and mixture families in quantum statistics: dual structure and unbiased parameter estimation. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 1, 49–68. (D. Petz) **99e:82011** 82B10 (62B10, 62F99)

— Complete-integrable Calogero dynamics for random matrix theories. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 211–218, *VSP, Utrecht*, 1998. (Alexei Khorunzhy) **99j:58092** 58F07 (82B44)

— (*with* Ma, Jian-Zhong) Intermediate level statistics with one-parameter random matrix ensembles. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2564–2583. (Summary) **99e:82047** 82B41 (82B44)

Hasegawa, Izumi On totally umbilical CR-submanifolds in pth Sasakian manifolds. (English summary) *J. Hokkaido Univ. Ed. Sect. II A* **48** (1998), *no.* 2, 47–55. (Aurel Bejancu) **99b:53082** 53C40 (53C25)

Hasegawa, K. *see* **Hasegawa, Kenji**

Hasegawa, Kazuyuki Certain metrics on a principal fiber bundle and variational problems. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 239–255. (Olga Gil-Medrano) **99e:58056** 58E30 (53C07, 58E11)

Hasegawa, Kenji Wavelets and pseudodifferential operators. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 37–47. (Summary) **99f:35238** 35S05 (42C15)

Hasegawa, Koji Ruijsenaars' commuting difference operators as commuting transfer matrices. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 2, 289–325. (Rinat Kedem) **99d:82023** 82B23 (17B37, 39A70, 81R10, 81R50)

Hasegawa, Manabu Hierarchical dynamics in triangular billiards. *J. Phys. Soc. Japan* **67** (1998), *no.* 8, 2948–2949. (Roberto Artuso) **99h:58106** 58F11

Hasegawa, Ryu An analysis of divisibility orderings and recursive path orderings. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 283–296, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (Summary) **99c:68143** 68Q42 (68Q40)

— The generating functions of lambda terms (extended abstract). (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 253–263, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 03B40

Hasegawa, Shigeru (*with* Sato, Ryotaro) On a d-parameter ergodic theorem for continuous semigroups of operators satisfying norm conditions. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 453–462. (Sen-Yen Shaw) **99h:47014** 47A35 (47D06)

Hasegawa, Takemitsu Numerical integration of functions with poles near the interval of integration. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 339–357. (Dimitar Kolev Dimitrov) **99f:65035** 65D30 (65D32)

Hasegawa, Toshiharu (*with* Kasahara, Shoji) Approximation of loss probability for multiplexing system with large number of on-off sources regulated by leaky bucket. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 21–34. (Summary) **99c:90047** 90B12

— (*with* Sakai, Yutaka; Takahashi, Yoshitaka; Takahashi, Yutaka[3]) A composite queue with vacation/set-up/close-down times for SVCC in IP over ATM networks. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 68–80. (*see* **99a:90008**) 90B22 (60K25)

— (*with* Lu, Ting-jie; Yue, Wuyi) A mutual overflow system with simultaneous occupation of resources. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 81–90. (*see* **99a:90008**) 90B12 (68M10)

— (*with* Sakai, Yutaka; Takahashi, Yutaka[3]) Discrete time multi-class feedback queue with vacations and close time under random order of service discipline. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 589–613. (Jian-Min Li) **99k:90079** 90B22 (60K25)

Hasegawa, Yuji Hyperelliptic modular curves $X_0^*(N)$. *Acta Arith.* **81** (1997), *no.* 4, 369–385. (Chandrashekhar Khare) **99a:11075** 11G18 (11F25)

— Q-curves over quadratic fields. *Manuscripta Math.* **94** (1997), *no.* 3, 347–364. (John W. Jones) **99a:11070** 11G05 (11G18)

Hasenfuss, Sven (*with* Baccelli, François; Schmidt, Volker[1]) Transient and stationary waiting times in (max, +)-linear systems with Poisson input. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 301–342. (John P. Lehoczky) **99d:60099** 60K25 (90B22)

— (*with* Baccelli, François; Schmidt, Volker[1]) Expansions for steady-state characteristics of (max, +)-linear systems. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 1–24. (Ravi Mazumdar) **99f:60154** 60K20 (60K25, 90B15)

Hashemi, M. (*with* Doostie, H.) Identification properties in semigroups. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 213–218, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 20M99

Hashemi, S. N. (*with* Heunis, A. J.) Averaging principle for diffusion processes. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 201–216. (Summary) **99a:60029** 60F15 (60H10)

Hashiguchi, Hiroki (*with* Nakagawa, Shigekazu; Niki, Naoto) Computer algebra application to the distribution of sample correlation coefficient. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 23–32. (Summary) **99a:62080** 62H20

Hashimoto, A. *see* **Hashimoto, Akihiro[1]**

Hashimoto, Akihiro *see* **Hashimoto, Akihiro[2]**

Hashimoto, Akihiro[1] (*with* Matsuda, Hirotsugu; Ishihara, Tatsuya) Classifying molecular sequences using a linkage graph with their pairwise similarities. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 305–325. (Michael A. Steel) **99k:92019** 92D20 (05C90, 68Q25)

Hashimoto, Akihiro[2] Using the exclusion model for DEA computation. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 531–537. 90C08

Hashimoto, Akikazu (*with* Gubser, Steven S.; Klebanov, Igor R.; Krasnitz, Michael) Scalar absorption and the breaking of the world-volume conformal invariance. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 393–414. (Summary) **99f:81200** 81T60 (81R40, 81T30, 83E30)

— Shape of branes pulled by strings. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6441–6451. (Summary) **99m:81190** 81T30

Hashimoto, Hideya (*with* Mashimo, Katsuya; Sekigawa, Kouei) 4-dimensional CR submanifolds in the 6-dimensional sphere. (Japanese. Japanese summary) Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 4–12. (*see* **99i:53001**) 53C40 (53C15)

Hashimoto, Kazuo[1] (*with* Kato, Mikio; Takahashi, Yasuji) On n-th von Neumann-Jordan constants for Banach spaces. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 25–33. (Wolfgang Lusky) **99m:46044** 46B20 (46B10)

Hashimoto, Ki-ichiro (*with* Tsunogai, Hiroshi) On the Sato-Tate conjecture for QM-curves of genus two. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1649–1662. (Ben Moonen) **99m:11072** 11G40 (11G15, 14G10, 14K15)

Hashimoto, Masatomo (*with* Ohori, Atsushi) A typed context calculus. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 76–91. (Summary) **99g:68028** 68N15 (03B40, 68Q55)

Hashimoto, Mitsuyasu Modules over commutative rings that act on groups. (Japanese) Research into the homological characteristics of graded commutative rings (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 964 (1996), 72–105. (Yuji Yoshino) **99e:13014** 13C14 (16G50, 20G05)

— Homological aspects of equivariant modules: Matijevic-Roberts and Buchsbaum-Rim. (English summary) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 66–108. (Rafael H. Villarreal) **99i:13025** 13D03 (13H10)

Hashimoto, Ronaldo F. (*with* Barrera, Junior; Ferreira, Carlos E.) Finding optimal sequential decompositions of erosions and dilations. (English summary) *Mathematical morphology and its applications to image and signal processing* (*Amsterdam*, 1998), 299–306, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10 (68U05)

Hashimoto, Satoshi Semilinear elliptic equations with singular nonlinearity on the boundary. *Functional analysis and global analysis* (*Quezon City*, 1996), 97–101, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J65 (58E05)

— (*with* Chan, E. B.; Ôtani, Mitsuharu; Sy, Polly Wee) Approximation for the first eigenvalues of some nonlinear elliptic operators in Banach spaces. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 273–283. (Summary) **99a:35060** 35J60 (35P15, 47H12)

— (*with* Ôtani, Mitsuharu) Elliptic equations with singularity on the boundary. (English summary) *Differential Integral Equations* **12** (1999), *no.* 3, 339–349. (Summary) **99k:35063** 35J65

Hashimoto, Takahiro Nonexistence of positive solutions of $-\Delta_p u = a|u|^{q-2}u$ in strip-like domains. *Functional analysis and global analysis* (*Quezon City*, 1996), 102–106, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J65 (35B05)

Hashimoto, Takashi Integrability of one-parameter groups generated by the Virasoro operators. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 178–199. (C. J. Atkin) **99b:81076** 81R10 (17B68, 22E65)

Hashimoto, Takeshi Composite scheme LR + Th for decoding with erasures and its effective equivalence to Forney's rule. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 78–93. (Summary) **99k:94059** 94B35 (94B10)

Hashimoto, Yoshitake On Macdonald's formula for the volume of a compact Lie group. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 660–662. (V. P. Snaith) **99c:22010** 22E15

— (*with* Yasui, Yukinori; Miyagi, Sayuri; Ootsuka, Takayoshi) Applications of the Ashtekar gravity to four-dimensional hyper-Kähler geometry and Yang-Mills instantons. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5833–5839. (Andrew Swann) **99b:53067** 53C25 (53C07, 83C05)

— (*with* Ohba, Kiyoshi) The moduli space of once punctured elliptic curves with Lagrangian sublattices. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 22–46. (Vasily A. Chernecky) **99k:14043** 14H15 (14H52, 30F10, 30F30, 30F60)

— (*with* Ohba, Kiyoshi) Construction of Riemann surfaces by parallel transformations. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 43–52. (V. V. Chueshev) **99h:14035** 14H55 (30F30, 32G15)

— (*with* Ohba, Kiyoshi) Abelian differentials and polygons of Riemannian surfaces. (Japanese) Research on local and global singularity theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1050 (1998), 85–92. (*see* **99j:58003**) 30F30

Hashimoto, Yuki (*with* Wu, Hansheng; Mizukami, Koichi) Robust output tracking of nonlinear systems with mismatched uncertainties. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 411–417. (Summary) **99k:93084** 93D21 (93C41)

Hashimoto, Yukihiro Random walks over groups and a noncommutative central limit theorem. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 51–59. (*see* **99b:00018**) 46L50

— (*with* Accardi, Luigi; Obata, Nobuaki) Singleton independence. (English summary) *Quantum probability* (*Gdańsk*, 1997), 9–24, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (S. Gudder) **99k:46111** 46L50 (46K99, 46N50, 81S25)

— (*with* Accardi, Luigi; Obata, Nobuaki) Notions of independence related to the free group. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 201–220. (Dietmar H. Bisch) **99g:46087** 46L50 (60F99, 81S25)

— (*with* Accardi, Luigi; Obata, Nobuaki) A role of singletons in quantum central limit theorems. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 675–690. (John E. Gough) **99m:81110** 81S25 (46N50, 60F99)

Hashizume, Kan-ichi *see* **Yamaguti, Kiyosi, 99i:01019**

Hashizume, Susumu (*with* Nishimura, Yoshiyuki; Onogi, Katsuaki) Developments in the theory of discrete event systems based on partial languages. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 421–427. (*see* **99g:93006**) 93C83

Hashtrudi Zaad, K. (*with* Khorasani, K.) Control of non-minimum phase singularly perturbed systems with application to flexible-link manipulators. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 679–701. 93C85 (70B15, 70Q05)

Hashtrudi Zad, S. (*with* Kwong, R. H.; Wonham, W. M.) Supremum operators and computation of supremal elements in system theory. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 3, 695–709 (*electronic*). (Bart De Schutter) **99m:93046** 93B99 (47A99, 68Q20)

Hasiewicz, Zbigniew (*with* Siemion, P.) Non-commutative group manifolds. (English summary) *Quantum groups* (*Karpacz*, 1994), 253–257, *PWN, Warsaw*, 1995. (Summary) **99f:58016** 58B30 (58F05)

— (*with* Daszkiewicz, Marcin; Jaskólski, Zbigniew) Free strings in non-critical dimensions. *New developments in quantum field theory* (*Zakopane*, 1997), 269–277, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Pavlos I. Porfyriadis) **99i:81178** 81T30

— (*with* Daszkiewicz, Marcin; Jaskólski, Zbigniew) Light-cone formulation and spin spectrum of non-critical fermionic string. (English summary) *Phys. Lett. B* **454** (1999), *no.* 3-4, 249–258. 81T30

Hasiewicz, Zygmunt (*with* Pawlak, Miroslaw) Nonlinear system identification by the Haar multiresolution analysis. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 9, 945–961. (Jan Bialasiewicz) **99k:93042** 93B30 (42C15, 65T20)

Haskara, İbrahim (*with* Özgüner, Ümit; Utkin, Vadim I.) On sliding mode observers via equivalent control approach. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1051–1067. (Summary) **99h:93025** 93B12 (93B07)

Haskell, Deirdre (*with* Macpherson, Dugald) A version of o-minimality for the p-adics. *J. Symbolic Logic* **62** (1997), *no.* 4, 1075–1092. (Fuxing Shen) **99j:03028** 03C60 (03C50)

— (*with* Macpherson, Dugald) A note on valuation definable expansions of fields. *J. Symbolic Logic* **63** (1998), *no.* 2, 739–743. (Max A. Dickmann) **99m:03069** 03C60 (12J20)

Haskell, Peter (*with* Fox, Jeffrey) K homology and regular singular Dirac-Schrödinger operators on even-dimensional manifolds. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 251–272. (Jonathan M. Rosenberg) **99e:58177** 58G12 (19K35, 19K56)

Haskins, M. (*with* Speight, J. M.) Breathers in the weakly coupled topological discrete sine-Gordon system. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1651–1671. (Jochen Denzler) **99k:34089** 34C25 (34G20, 35Q53, 70K99)

Haslach, Henry W., Jr. (*with* Zeng, Nianning) Maximum dissipation evolution equations for non-linear thermoviscoelasticity. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 361–385. (Summary) **99j:73060** 73F15 (73B30)

Hasler, Maximilian F. The three-form multiplet in $N = 2$ superspace. (English summary) *Eur. Phys. J. C Part. Fields* **1** (1998), *no.* 3-4, 729–734. (Summary) **99e:81239** 81T60 (83E50)

— (*with* Grimm, Richard; Herrmann, Carl) The $N = 2$ vector-tensor multiplet, central charge superspace, and Chern-Simons couplings. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1805–1816. (Summary) **99a:81171** 81T60 (81T13)

Haslinger, Friedrich Bergman and Hardy spaces on model domains. *Illinois J. Math.* **42** (1998), *no.* 3, 458–469. (Emil Straube) **99f:32004** 32A35 (30D55, 32F40, 32H10)

Haslinger, Jaroslav (*with* Dvořák, Jan[1]) Shape optimization and homogenization based approach in material optimization. (English summary) *Homogenization and applications to material sciences* (*Nice*, 1995), 171–180, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 9, *Gakkōtosho, Tokyo*, 1995. (Summary) **99g:49039** 49Q10 (73B27, 73K40)

— Fictitious domain approaches in shape optimization. *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 237–248, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (From the introduction) **99g:49040** 49Q10 (65K10, 65N30)

— (*with* Miettinen, Markku) Finite element approximation of parabolic hemivariational inequalities. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 565–585. (Daniel Goeleven) **99d:65289** 65M60 (35K85, 49J40)

Hasofer, Abraham M. (*with* Wang, Julian Zijun) Estimation of quantiles for a Fréchet-type distribution. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 3, 291–298. (Sh. A. Khashimov) **99a:62049** 62G05

— (*with* Lloyd, Christopher J.) Estimation for partially observed birth-death processes. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1073–1089. (George P. Yanev) **99j:60129** 60J80 (62P10)

Hass, Joel (*with* Thompson, Abigail) Neon bulbs and the unknotting of arcs in manifolds. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 235–242. (Katura Miyazaki) **99c:57043** 57M99 (57N10, 57N37)

— (*with* Adams, Colin C.; Scott, Peter) Simple closed geodesics in hyperbolic 3-manifolds. *Bull. London Math. Soc.* **31** (1999), *no.* 1, 81–86. (Sadayoshi Kojima) **99h:57031** 57N10 (53C22)

Hassaïne, M. (*with* Horváthy, P. A.; Yéra, J.-C.) Non-relativistic Maxwell-Chern-Simons vortices. (English summary) *Ann. Physics* **263** (1998), *no.* 2, 276–294. (Giulio Soliani) **99f:81129** 81T13 (58E50)

Hassan, A. A. M. (*with* Dib, K. A.) The fuzzy normal subgroup. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 393–402. (John Mordeson) **99f:20112** 20N25

Hassan, Hassan A. (*with* Annaby, Mahmoud H.) A sampling theorem associated with boundary-value problems with not necessarily simple eigenvalues. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 571–580. (P. L. Butzer) **99f:34016** 34B05 (94A24)

Hassan, Mouna (*with* Alghoussein, Ahmad) A note on modular spaces over a field with valuation. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 6, 23–28. (Summary) **99d:46101** 46S10 (46A80)

el Hassan, N. *see* **El Hassan, N.**

Hassan, Nabila Mohamed (*with* Horváth, Erzsébet) Some remarks on Dade's conjecture. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 181–194. (J. L. Alperin) **99h:20010** 20C20 (20C15)

Hassan, O. (*with* Morgan, Kenneth; Peraire, Jaime) A finite element procedure for electromagnetic scattering simulations. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 313–327, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78007** 78–08 (65N30, 78A45)

Hassan, S. F. (*with* Álvarez-Gaumé, Luis) Introduction to S-duality in $N = 2$ supersymmetric gauge theories (a pedagogical review of the work of Seiberg and Witten). (English summary) *Fortschr. Phys.* **45** (1997), *no.* 3-4, 159–236. (Claus Montonen) **99f:81190** 81T60 (81T13)

— (*with* Wadia, Spenta R.) Gauge theory description of D-brane black holes: emergence of the effective SCFT and Hawking radiation. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 311–333. (Marco Spaans) **99g:83078** 83E30 (81T30, 83C57)

— (*with* Wadia, Spenta R.) Microscopic description of D-brane black holes. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 93–105. (Summary) **99c:83054** 83C57 (83E30)

Hassan, S. Z. (*with* Ahmed, Elsayed Mohamed; Agiza, H. N.) On modelling advertisement in Cournot duopoly. (English summary) *Chaos Solitons Fractals* **10** (1999), *no.* 7, 1179–1184. (Summary) **99m:90051** 90A53 (58F13, 58F40)

aly Hassan, Soad *see* **Aly Hassan, Soad**

mohammadi Hassanabadi, A. *see* **Mohammadi Hassanabadi, A.**

Hassanein, Khatab M. (*with* Brown, Edward F.) Estimation of reliability when times to failure follow the Rayleigh distribution. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 65–84. 62N05

— (*with* Brown, Edward F.) Jackknife and robust estimation for the parameters in pharmacokinetics. (English summary) *Applied statistical science, III*, 401–409, *Nova Sci. Publ., Commack, NY*, 1998. (*see* **99j:62001**) 62G09

Hassani, A. (*with* Khayaty, M.) Transitive permutation groups which have bounded movement. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 309–310, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Cheryl E. Praeger) **99k:20005** 20B05

— (*with* Sedghi, S.) Movement and separation and quasi-invariant subsets for group action. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 477–479, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 20B99

Hassani, S. *see* **Hassani, Seddiq**

Hassani, Sadri ★ Mathematical physics. (English summary) A modern introduction to its foundations. *Springer-Verlag, New York*, 1999. *xxii*+1025 *pp. ISBN* 0-387-98579-4 (Editors) **99i:00004** 00A06 (00–01)

Hassani, Seddiq (*with* Alaoui Soulimani, A.; Ehrlacher, A.) A nonlinear viscoelastic model: the pseudo-linear model. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 567–598. (Summary) **99c:73032** 73F99 (73F05)

améziane Hassani, Souad *see* **Améziane Hassani, Souad**

Hassanien, I. A. (*with* Abdullah, A. A.; Gorla, R. S. R.) Flow and heat transfer in a power-law fluid over a nonisothermal stretching sheet. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 9, 105–116. 76D10 (80A20)

Hassanien, S. F. On special line congruences and their Klein images on the absolutum of the 5-dimensional elliptic space S_5^5. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 2-3, 141–147. (Josef Vala) **99k:53010** 53A25 (53A35)

Hassard, Brian (*with* Jeng, Jyh-horng) The critical wave number for the planar Bénard problem is unique. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 221–229. (Mariarosaria Padula) **99j:76040** 76E15

Hasse, Helmut Mathematik als Wissenschaft, Kunst und Macht. (German summary) [Mathematics as science, art and power] *Mitt. Dtsch. Math.-Ver.* **1997**, *no.* 4, 28–38. (Editors) **99a:01025** 01A75

— *see also* **Rohrbach, Hans**, **99g:01040**; **Frei, Günther**, **99m:01056** *and* **Jehne, Wolfram**, **(99k:01080)**

Hassell Sweatman, Catherine Z. W. (*with* Gibson, Gavin J.; Mulgrew, Bernard) Exact classification with two-layer neural nets in n dimensions. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 19–39. (Summary) **99k:68157** 68T05 (92B20)

Hassenpflug, W. C. Free-streamlines. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 69–129. (Adrian Carabineanu) **99f:76105** 76M25 (65E05, 76B10)

Hassi, Seppo (*with* Kaltenbäck, Michael; de Snoo, Hendrik S. V.) The sum of matrix Nevanlinna functions and self-adjoint extensions in exit spaces. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 137–154, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Vladimir Derkach) **99i:47043** 47B25 (47A45, 47E05)

— (*with* Kaltenbäck, Michael; de Snoo, Hendrik S. V.) Generalized Kreĭn-von Neumann extensions and associated operator models. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 627–655. (Abraham V. Strauss) **99m:47026** 47B15 (47A55, 47A57, 47A70, 47B25)

— (*with* de Snoo, Hendrik S. V.) Nevanlinna functions, perturbation formulas, and triplets of Hilbert spaces. (English summary) *Math. Nachr.* **195** (1998), 115–138. (Vladimir Derkach) **99j:47014** 47A55 (47A70, 47B15, 47B25)

Hassin, Refael (*with* Arkin, Esther M.) On local search for weighted k-set packing. (English summary) *Algorithms—ESA '97* (*Graz*), 13–22, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q25

— (*with* Guttmann-Beck, Nili) Approximation algorithms for minimum tree partition. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 117–137. (Pranava K. Jha) **99i:05189** 05C85 (68Q25)

— (*with* Guttmann-Beck, Nili) Approximation algorithms for min-sum p-clustering. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 125–142. (Peter B. Gibbons) **99k:05149** 05C85 (05C35, 68Q20, 68R10)

— (*with* Arkin, Esther M.) Graph partitions with minimum degree constraints. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 55–65. (Summary) **99d:05077** 05C85

— (*with* Rubinstein, Shlomi) An approximation algorithm for the maximum traveling salesman problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 125–130. (Summary) **99c:90094** 90C27 (68Q25)

— (*with* Arkin, Esther M.) On local search for weighted k-set packing. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 640–648. (András Faragó) **99i:90076** 90C27 (68Q25)

— (*with* Anily, Shoshana; Glass, Celia A.) Scheduling maintenance services to three machines. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 375–391. (*see* **99k:90002**) 90B35 (90C90)

Hassler, Uwe (*with* Krämer, Walter) Limiting efficiency of OLS vs. GLS when regressors are fractionally integrated. (English summary) *Econom. Lett.* **60** (1998), *no.* 3, 285–290. (Summary) **99g:62092** 62J05 (62P20)

Hasson, Maurice Expansion of analytic functions of an operator in series of Faber polynomials. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 303–318. (Inna Boricheva) **99b:47023** 47A60 (30E10, 41A58, 47A56)

— (*with* Walsh, Bertram) Singular points of analytic functions expanded in series of Faber polynomials. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 817–825. (Summary) **99k:30005** 30B40

— Weighted integrals of n-convex functions. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 15–21. (Xin Min Yang) **99m:26018** 26A51

el Hassouni, A. *see* **El Hassouni, A.**

Hassouni, Y. (*with* Daoud, M.) On the generalized statistics through the deformation of the exterior algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 7, 457–464. (Peter Prešnajder) **99g:81104** 81S05 (81R50)

— (*with* Daoud, M.; Kibler, Maurice) The k-fermions as objects interpolating between fermions and bosons. *Symmetries in science, X* (*Bregenz*, 1997), 63–77, *Plenum, New York*, 1998. (Choo Hiap Oh) **99k:81107** 81R50

— (*with* Daoud, M.) q-deformed Fock space and statistical properties of quons. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 6, 599–609. (Roberto Casalbuoni) **99k:81108** 81R50 (82B10)

— (*with* Daoud, M.) Generalization of supersymmetric quantum mechanics. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 2021–2026. (Avinash Khare) **99k:81075** 81Q60

— (*with* Daoud, M.; Kibler, Maurice) Generalized supercoherent states. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1821–1824. (Summary) **99i:81079** 81R30

Håstad, Johan (*with* Bellare, Mihir; Coppersmith, Don; Kiwi, Marcos A.; Sudan, Madhu) Linearity testing in characteristic two. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 432–441, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— Some recent strong inapproximability results. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 205–209, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68Q15 (68Q25)

— (*with* Ivansson, Lars; Lagergren, Jens) Fitting points on the real line and its application to RH mapping. (English summary) *Algorithms—ESA '98* (*Venice*), 465–476, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68084** 68Q25 (92D20)

— On approximating NP-hard optimization problems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 441–450 (*electronic*). (Summary) **99k:68077** 68Q25 (90C60)

— (*with* Goldreich, Oded) On the complexity of interactive proofs with bounded communication. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 205–214. (Summary) **99f:68070** 68Q15 (68Q05, 68Q25)

— The shrinkage exponent of De Morgan formulas is 2. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 48–64 (*electronic*). (Juraj Hromkovič) **99a:68088** 68Q25 (94C10)

— (*with* Goldmann, Mikael) Monotone circuits for connectivity have depth $(\log n)^{2-o(1)}$. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1283–1294 (*electronic*). (Juraj Hromkovič) **99j:68052** 68Q25 (05C40, 05C85, 68Q15, 94C10)

Hastie, Trevor (*with* Tibshirani, Robert J.) Classification by pairwise coupling. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 451–471. (A. D. Gordon) **99e:62113** 62H30 (62J15)

— (*with* James, Gareth) The error coding method and PICTs. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 3, 377–387. 62H30

Hastings, M. B. Non-Hermitian fermion mapping for one-component plasma. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 311–326. (Zensho Yoshida) **99c:82066** 82D10 (82B05, 82B26)

Hastings, Rachel (*with* Rand, Richard H.; Zounes, Randolph S.) Dynamics of a quasiperiodically-forced Mathieu oscillator. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 61–70, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K40 (34C15, 58F27, 70K50)

Hastings, Stuart P. (*with* Peletier, L. A.) On self-similar solutions of the thin film equation when $n = 3$. *Differential Integral Equations* **11** (1998), *no.* 1, 1–22. (Peter L. Christiansen) **99b:35201** 35Q99 (34B15, 34E05, 76D99)

— (*with* Troy, William C.) There are asymmetric minimizers for the one-dimensional Ginzburg-Landau model of superconductivity. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 1–18 (*electronic*). (Summary) **99h:35197** 35Q55 (35B99)

Hasumi, Morisuke *see* **Hiai, Fumio**, **99m:01068**

Hata, Hiroki (*with* Inoue, Masayoshi; Kawazoe, Takashi) Appearance of an invariant manifold and on-off intermittency in coupled-maps—application to a 3-valued neuron. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 387–398. (Bruce B. Peckham) **99g:58082** 58F13 (39A10, 58F40)

Hata, Yutaka (*with* Hozumi, Takahiro; Kakusho, Osamu) On low cost realization of multiple-valued logic functions. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 233–238, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

— (*with* Kamiura, Naotake; Yamato, Kazuharu) On concurrent tests of fuzzy controllers. (English summary) 28*th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 356–361, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 93C42

Hatada, Kazuyuki A note on modular forms (mod p). *Sci. Rep. Fac. Ed. Gifu Univ. Natur. Sci.* **22** (1998), *no.* 2, 7–12. (Andrea Mori) **99f:11058** 11F33

Hatakeyama, Nozomu (*with* Kambe, Tsutomu) Statistical laws of random strained-vortices in turbulence. (English summary) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 131–139. (*see* **99e:76056**) 76F99 (76C05, 76M35)

— (*with* Kambe, Tsutomu) Statistical rules that impart a random distribution to strain vortices. (Japanese. Japanese summary) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 146–155. (*see* **99k:76004**) 76F99 (76M35)

Hatano, Kaoru Is a net measure an outer measure? (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **31** (1998), 9–10. (Vladimir Eiderman) **99c:28008** 28A12

Hatano, Kazuo Calculation of the coefficients of symmetric good wavelet filters. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 220–227. (*see* **99i:00028**) 65T20 (42C15)

Hatano, Naomichi (*with* Kobayashi, Hiroto; Suzuki, Masuo) Goldberg's theorem and the Baker-Campbell-Hausdorff formula. (English summary) *Phys. A* **250** (1998), *no.* 1-4, 535–548. (Karl-Hermann Neeb) **99d:22011** 22E15

Hataue, Itaru Mathematical and numerical analyses of dynamical structure of numerical solutions of two-dimensional fluid equations. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1895–1911. (Summary) **99e:76041** 76D99 (58F40, 76E30, 76F20, 76M20)

Hatcher, Allen (*with* McCullough, Darryl) Finiteness of classifying spaces of relative diffeomorphism groups of 3-manifolds. (English summary) *Geom. Topol.* **1** (1997), 91–109 (*electronic*). (Summary) **99j:57018** 57N10 (55R35)

— (*with* Vogtmann, Karen) Rational homology of $\mathrm{Aut}(F_n)$. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 6, 759–780. (S. Andreadakis) **99m:20127** 20J05 (20E05, 20F28)

— (*with* Vogtmann, Karen) The complex of free factors of a free group. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 459–468. (Michel Coornaert) **99i:20038** 20E05 (20E42, 57M07)

Hatcher, Rhonda L. (*with* Berenbom, Jonathan; Fendel, Joe; Gilbert, George T.) Sliding piece puzzles with oriented tiles. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 23–33. (Summary) **99g:05016** 05A99

Hatcliff, John (*with* Barthe, Gilles; Thiemann, Peter) Monadic type systems: pure type systems for impure settings (preliminary report). *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 67 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68N15 (03B70, 68Q55)

Ha Tien Ngoan Hopf's formula for Lipschitz solutions of Hamilton-Jacobi equations with concave-convex Hamiltonian. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 269–293. (Paola Loreti) **99k:35024** 35F20 (49L25)

Hatır, Eşref (*with* Noiri, Takashi; Yüksel, Ş.) Semi θ-continuous functions. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 231–239. 54C08

— On P_3 and R_3 separation axioms. (English and Turkish summaries) *Ege Univ. J. Fac. Sci.* **21** (1998), *no.* 2, 79–83. 54D15 (54D10)

Hatjimanolaki, Polyxeni (*with* Tzanakis, Constantinos; Grecos, Alkis P.) Generalized Moyal structures in phase-space, master equations and their classical limit. II. Applications to harmonic oscillator models. (English summary) *Phys. A* **256** (1998), *no.* 1-2, 112–128. (Akira Yoshioka) **99k:81137** 81S10 (81S30)

Hatori, Osamu (*with* Izuchi, Keiji) Apostol algebras and decomposition in Douglas algebras. *Michigan Math. J.* **44** (1997), *no.* 3, 435–449. (S. J. Sidney) **99c:46058** 46J10 (46E25, 46J30, 47B48)

— On the greatest regular closed subalgebras and the Apostol algebras of L^p-multipliers whose Fourier transforms are continuous and vanish at infinity. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 453–462. (S. J. Sidney) **99c:46059** 46J10 (46E25, 46J30, 47B48)

— The Shapiro-Shields theorem on finite connected domains. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 21–29. (*see* **99i:00018**) 30E05

— (*with* Takahasi, Sin-Ei) A structure of ring homomorphisms on commutative Banach algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2283–2288. (Volker Runde) **99j:46058** 46J05

el Hatri, M. *see* **El Hatri, M.**

Hatsuda, Machiko (*with* Kamimura, Kiyoshi) Covariant quantization of the super-D-string. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 493–512. (Summary) **99b:81193** 81T30 (81T70)

— (*with* Kamimura, Kiyoshi) Canonical formulation of IIB D-branes. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 381–401. (C. Gauthier) **99f:81166** 81T30

— (*with* Kamimura, Kiyoshi) Wess-Zumino actions for IIA D-branes and their supersymmetries. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 499–511. (Summary) **99i:81185** 81T30

Hatsugai, Yasuhiro (*with* Kohmoto, Mahito; Koma, Tohru; Wu, Yong Shi[1]) Mutual exclusion statistics in the exactly solvable model of the Mott metal-insulator transition. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 126–133, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82D35 (81V70)

— (*with* Kohmoto, Mahito; Wu, Yong Shi[1]) Quantum group and the Hofstadter problem—explicit solutions of the Bethe ansatz equations for Bloch electrons in a magnetic field. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 134–141, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (81R50)

el Hattab, Hanae *see* **El Hattab, Hanae**

Hattiangadi, Jagdish On interacting systems of space: or, co-efficient fields. *Causality and locality in modern physics* (*Toronto, ON*, 1997), 345–352, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 00A79 (00A30)

Hattingh, Johannes H. (*with* Ungerer, Elna) Minus k-subdomination in graphs. II. (English summary) *Discrete Math.* **171** (1997), *no.* 1-3, 141–151. (Summary) **99f:05060** 05C35

— (*with* Dunbar, Jean E.; McRae, Alice A.; Slater, Peter J.) Efficient coverage of edge sets in graphs. (English summary) *Util. Math.* **51** (1997), 183–192. (László Pyber) **99b:05109** 05C70

— (*with* Ungerer, Elna; Henning, Michael A.) Partial signed domination in graphs. (English summary) *Ars Combin.* **48** (1998), 33–42. (Summary) **99a:05075** 05C35

— (*with* Laskar, Renu C.) On weak domination in graphs. (English summary) *Ars Combin.* **49** (1998), 205–216. (Summary) **99c:05104** 05C35

— (*with* Henning, Michael A.; Walters, Jakobus L.) Distance irredundance in graphs: complexity issues. (English summary) *Ars Combin.* **50** (1998), 3–22. (Richard C. Brewster) **99m:05150** 05C85 (05C35, 68Q25)

— (*with* Broere, Izak; Dunbar, Jean E.) Minus k-subdomination in graphs. (English summary) *Ars Combin.* **50** (1998), 177–186. (Summary) **99j:05098** 05C35

— (*with* McRae, Alice A.; Ungerer, Elna) Minus k-subdomination in graphs. III. (English summary) *Australas. J. Combin.* **17** (1998), 69–76. (Summary) **99f:05061** 05C35

— (*with* Henning, Michael A.) Bipartite Ramsey theory. (English summary) *Util. Math.* **53** (1998), 217–230. (Summary) **99c:05139** 05C55

Hattori, Harumi (*with* Zhu, Chen) Asymptotic behavior of the solution to a nonisentropic hydrodynamic model of semiconductors. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 353–389. (Yuanming Wang) **99e:35235** 35Q99 (35B40, 76X05, 78A35, 82D99)

— The Riemann problem and the existence of weak solutions to a system of mixed-type in dynamic phase transition. (English summary) *J. Differential Equations* **146** (1998), *no.* 2, 287–319. (Pavel Dubovskiĭ) **99e:35137** 35L65 (35M10, 73B30, 80A22)

Hattori, Tetsuya *see* **Hattori, Tetsuya[2]**

Hattori, Tetsuya[1] (*with* Watanabe, Hiroshi[2]) Anisotropic random walks and asymptotically one-dimensional diffusion on *abc*-gaskets. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 105–128. (Ben Hambly) **99d:60089** 60J60 (60J25, 82C31)

Hattori, Tetsuya[2] Discrete spectrum of many-body Schrödinger operators with non-constant magnetic fields. I, II. *Nagoya Math. J.* **145** (1997), 29–68, 69–98. (Author's review (Zbl 877.47039, 877.47040)) **99f:81045** 81Q10 (35J10, 35P05, 47F05, 47N50, 81V45)

Hattori, Yasunao (*with* Gruenhage, Gary; Ohta, Haruto) Dugundji extenders and retracts on generalized ordered spaces. (English summary) *Fund. Math.* **158** (1998), *no.* 2, 147–164. (Richard A. Alò) **99i:54016** 54C20 (46E25, 54B10, 54F05)

— π-embeddings and Dugundji extension theorems for generalized ordered spaces. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 43–54. (J. R. Isbell) **99b:54043** 54F05 (54C20, 54E35)

Hattori, Yoshinori Existence of traveling front solutions of the nerve equation. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 211–216, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99c:92013** 92C20 (35Q80)

Hattori, Yuji (*with* Inoue, Osamu) Sound generation by shock-vortex interactions. (English summary) *J. Fluid Mech.* **380** (1999), 81–116. (Summary) **99k:76088** 76J20 (76L05, 76M20, 76N10, 76Q05)

Hatvani, László On the Armellini-Tonelli-Sansone theorem. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 76–81. (Summary) **99d:34095** 34D20 (34C99)

— (*with* Stachó, László) On small solutions of second order differential equations with random coefficients. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math.* (*Brno*) **34** (1998), *no.* 1, 119–126. (Summary) **99c:34123** 34F05 (34D20, 60H10)

— On the existence of a small solution to linear second order differential equations with step function coefficients. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 321–330. (P. Talpalaru) **99e:34059** 34D05 (34E99)

Hatzaras, Y. Hermitian and quadratic forms over crossed-product orders. Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 53–67. (Jean-Pierre Tignol) **99h:11040** 11E39 (11S45, 16H05)

Hatziadoniu, Constantine (*with* Kasztenny, Bogdan; Wiszniewski, Andrzej) A numerically simplified fuzzy logic controller. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 139–154. 93C42 (93C95)

Hatziafratis, Telemachos On a class of $\overline{\partial}$-equations without solutions. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 503–509. (Alexandr M. Kytmanov) **99k:32003** 32A25 (32F20)

Hatzinikitas, Agapitos (*with* Schalm, Koenraad; van Nieuwenhuizen, Peter) Trace and chiral anomalies in string and ordinary field theory from Feynman diagrams for non-linear sigma models. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 424–454. (Summary) **99b:81223** 81T50 (81T18, 81T30)

Hauber, R. Numerical treatment of retarded differential-algebraic equations by collocation methods. (English summary) *Adv. Comput. Math.* **7** (1997), *no.* 4, 573–592. (J. Švejda) **99b:65080** 65L05 (34A09, 34K05)

Haubrich, Ralf Frobenius, Schur, and the Berlin algebraic tradition. *Mathematics in Berlin*, 83–96, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70 (01A55, 01A60)

Hauchecorne, Bertrand (*with* Suratteau, Daniel) ★ Des mathématiciens de A à Z. (French) [Mathematicians from A to Z] Edited by Jean-Pierre Bénézet. *Ellipses, Édition Marketing, Paris*, 1996. 383 *pp. ISBN* 2-7298-4683-2 (Editors) **99f:01001** 01–00 (01A70)

Hauck, Peter (*with* Brewster, Ben) Sylow intersections in finite groups. *J. Algebra* **206** (1998), *no.* 1, 261–292. (Gernot Stroth) **99k:20045a** 20D20

— (*with* Brewster, Ben) Erratum: "Sylow intersections in finite groups". *J. Algebra* **213** (1999), *no.* 1, 379. (Gernot Stroth) **99k:20045b** 20D20

Hauer, Tamás (*with* Gaberdiel, Matthias R.; Zwiebach, Barton) Open string-string junction transitions. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 117–145. (Summary) **99i:81181** 81T30

— (*with* DeWolfe, Oliver; Iqbal, Amer; Zwiebach, Barton) Constraints on the BPS spectrum of $\mathcal{N} = 2$, $D = 4$ theories with ADE flavor symmetry. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 261–274. (Summary) **99i:81229** 81T60 (81T13, 81T30)

— Equivalent string networks and uniqueness of BPS states. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 117–136. (Summary) **99k:81241** 81T30

Hauesler, Edward Hermann *see* **Haeusler, Edward Hermann**

Haug, E. J. (*with* Pan, Weidong) Optimal inertia lumping from modal mass matrices for structural dynamics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 171–191. (Summary) **99h:73045** 73K12 (73K40, 73V05)

Hauge, Erik R. (*with* Mykkeltveit, Johannes) The analysis of de Bruijn sequences of non-extremal weight. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 133–147. (Qing De Kang) **99j:94033** 94A55

Haugh, L. D. (*with* Son, M. S.; Hamdy, H. I.; Costanza, M. C.) Controlling type II error while constructing triple sampling fixed precision confidence intervals for the normal mean. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 681–692. (Summary) **99c:62230** 62L12

Haugh, M. (*with* MacHale, Desmond) The subgroup generated by the squares. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 123–129. (Hugo S. Sun) **99j:20027** 20D25 (20E25)

Haughton, David M. Exact solutions for elastic membrane disks. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 4, 393–410. (Summary) **99h:73020** 73C50 (73K10)

Haughton, Dominique M. A. (*with* Dudley, Richard M.) Information criteria for multiple data sets and restricted parameters. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 265–284. (I. Vajda) **99c:62074** 62F99 (62C99)

— (*with* Bozdogan, Hamparsum) Informational complexity criteria for regression models. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 1, 51–76. 62J05 (62B10)

Haugland, D. (*with* Heber, J. G.; Husøy, J. H.) Compressing data by shortest path methods. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 145–150, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35 (90B12)

Haugse, V. (*with* Lie, Knut-Andreas; Karlsen, Kenneth Hvistendahl) Dimensional splitting with front tracking and adaptive grid refinement. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 627–648. (Svetozar D. Margenov) **99h:65159** 65M15 (65M12)

Hauke, Alf (*with* Riedler, Jürgen; Beirl, Wolfgang; Bittner, Elmar; Homolka, Peter; Markum, Harald) Phase structure and graviton propagators in lattice formulations of four-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1163–1173. 83C27 (83–08, 83C45)

Hauke, Jan (*with* Markiewicz, Augustyn) On statistical applications of matrix majorization. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 335–342, *VSP, Utrecht*, 1995. (Summary) **99h:62006** 62B15 (62K05)

— (*with* Groß, Jürgen; Markiewicz, Augustyn) Some comments on matrix partial orderings. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 203–214. (Ko-Wei Lih) **99i:15026** 15A45

Hauke, Wolfgang Applications of the extension principle in connection with Yager's t-norms. *Operations Research Proceedings* 1997 (*Jena*), 288–293, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90A05 (04A72)

— Using Yager's t-norms for aggregation of fuzzy intervals. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 59–65. (Summary) **99h:04004** 04A72

Haukkanen, Pentti On the cusp form $\Delta_8(z)$. *Math. Student* **64** (1995), *no.* 1-4, 120–124 (1996). (Michael C. Berg) **99c:11045** 11F11

— Binomial formulas for specially multiplicative functions. *Math. Student* **64** (1995), *no.* 1-4, 155–161 (1996). (Jean-Marie De Koninck) **99e:11005** 11A25 (11B65)

— On characterizations of a partial ordering of regular arithmetical convolutions. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 2, 1–4. (Armel Mercier) **99m:11006** 11A25

— (*with* Wang, Jun[1]) Euler's totient function and Ramanujan's sum in a poset-theoretic setting. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 79–87. (Katalin Kovács) **99e:11006** 11A25 (05A30, 06A07, 06F05)

— On some set-reduced arithmetical sums. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 147–158. (Matti Jutila) **99g:11009** 11A25

— A further combinatorial number-theoretic extension of Euler's totient. (English summary) *J. Math. Res. Exposition* **17** (1997), *no.* 4, 519–523. (Jean-Marie De Koninck) **99e:11007** 11A25

— (*with* Ruokonen, P.) On an analogue of completely multiplicative functions. (English summary) *Portugal. Math.* **54** (1997), *no.* 4, 407–420. (Jean-Marie De Koninck) **99h:11007** 11A25

Hauksson, Höskuldur Ari (*with* Birnir, Björn) A finite-dimensional attractor of the Moore-Greitzer PDE model. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 636–650 (*electronic*). (Daniel Ševčovič) **99k:35090** 35K57 (34D45, 34G20, 35B40, 76N10)

Haunschmied, Josef L. (*with* Kort, Peter M.; Feichtinger, Gustav; Hartl, Richard F.) Optimal enforcement policies (crackdowns) on an illicit drug market. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 169–184. 90A60 (49K15)

Hausdorff, Felix *see* **Preuß, Gerhard, 99e:01027**

Hausen, Jürgen (*with* Glas, W.) **C***-surfaces with one-dimensional holomorphic hull. (English summary) *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 255–271. (Peter Heinzner) **99j:32038** 32M05 (32J15)

— (*with* A'Campo-Neuen, Annette) Quotients of toric varieties by the action of a subtorus. (English summary) *Tohoku Math. J.* (2) **51** (1999), *no.* 1, 1–12. (Dmitrii A. Timashëv) **99m:14088** 14L30 (14M25)

Hausenblas, Erika A numerical scheme using Itô excursions for simulating local time resp. stochastic differential equations with reflection. *Osaka J. Math.* **36** (1999), *no.* 1, 105–137. (Denis Talay) **99m:60087** 60H10 (65C05, 65U05)

Hauser, Herwig Seventeen obstacles for resolution of singularities. *Singularities* (*Oberwolfach*, 1996), 289–313, *Progr. Math.*, 162, *Birkhäuser, Basel*, 1998. (Ricardo García López) **99g:14016** 14E15 (14B05, 32S45)

— (*with* Müller, Gerd) The Lie algebra of polynomial vector fields and the Jacobian conjecture. (English summary) *Monatsh. Math.* **126** (1998), *no.* 3, 211–213. (Summary) **99g:17045** 17B66 (14E09)

Hauskrecht, Milos (*with* Meuleau, Nicolas; Kim, Kee-Eung; Peshkin, Leonid; Kaelbling, Leslie Pack; Dean, Thomas; Boutilier, Craig) Solving very large weakly coupled Markov decision processes. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 165–172, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C40

Hausladen, Paul (*with* Jozsa, Richard; Schumacher, Benjamin; Westmoreland, Michael; Wootters, William K.) Classical information capacity of a quantum channel. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1869–1876. (Summary) **99c:94017** 94A40 (81P99, 94A15)

Hausman, Daniel M. ★ Causal asymmetries. (English summary) Cambridge Studies in Probability, Induction, and Decision Theory. *Cambridge University Press, Cambridge*, 1998. *xvi*+300 *pp. ISBN* 0-521-62289-1 (Philip L. Quinn) **99i:03023** 03B48

Hausman, J. A. (*with* Abrevaya, Jason; Scott-Morton, F. M.) Misclassification of the dependent variable in a discrete-response setting. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 239–269. (Summary) **99h:62141** 62P20

Hausmann, Barbara (*with* Slopianka, Britta; Seidel, Hans-Peter) Exploring plane hyperbolic geometry. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 21–36, *Springer, Berlin*, 1997. (*see* **99g:68212**) 51M10

Hausmann, J.-C. (*with* Knutson, A.) The cohomology ring of polygon spaces. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 281–321. (Michel Brion) **99a:58027** 58D99 (57N65, 58F05)

Hausner, Melvin ★ A vector space approach to geometry. (English summary) Reprint of the 1965 original. *Dover Publications, Inc., Mineola, NY*, 1998. *xii*+397 *pp. ISBN* 0-486-40452-8 (Editors) **99f:51002** 51-01 (15-01)

Hauss, Michael A Boole-type formula involving conjugate Euler polynomials. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 361–375, *Brepols, Turnhout*, 1998. (Bruce C. Berndt) **99k:11030** 11B68 (11Y60)

Haussler, David (*with* Opper, Manfred) Metric entropy and minimax risk in classification. (English summary) *Structures in logic and computer science*, 212–235, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99d:68217** 68T10 (62G99, 62H30)

— (*with* Opper, Manfred) Mutual information, metric entropy and cumulative relative entropy risk. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2451–2492. (J. A. Melamed) **99b:62006** 62B10 (62G05)

— (*with* Alon, Noga; Ben-David, Shai; Cesa-Bianchi, Nicolò) Scale-sensitive dimensions, uniform convergence, and learnability. (English summary) *J. ACM* **44** (1997), *no.* 4, 615–631. (Mark R. Jerrum) **99b:68154** 68T05 (05B40, 54E35, 60F15, 62G05)

— (*with* Cesa-Bianchi, Nicolò) A graph-theoretic generalization of the Sauer-Shelah lemma. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 27–35. (Ákos Seress) **99f:05087** 05C70 (05D05)

Häussler-Combe, U. (*with* Korn, Carsten) An adaptive approach with the element-free-Galerkin method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 203–222. (Summary) **99g:73113** 73V20 (65N30)

Haussmann, Ulrich G. (*with* Chiarolla, Maria B.) Optimal control of inflation: a central bank problem. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1099–1132 (*electronic*). (Jakša Cvitanić) **99d:90039** 90A70 (49J40, 93E20)

Haußmann, Werner (*with* Armitage, David H.; Zeller, Karl) Best harmonic and polyharmonic approximation. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 17–34, *Transilvania, Cluj-Napoca*, 1997. (Stephen J. Gardiner) **99c:31008** 31B05 (41A50)

— (*with* Kounchev, Ognyan I.) Variational property of the Peano kernel for harmonicity differences of order p. *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 185–199, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (L. L. Schumaker) **99i:41031** 41A63 (41A15, 46E99, 46N20)

— (*with* Armitage, David H.; Gardiner, Stephen J.; Rogge, L.) Best one-sided L^1-approximation by harmonic functions. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 181–194. (Antonio Bonilla-Ramirez) **99e:31005** 31B05 (41A30)

— *see also* **Multivariate approximation, 99a:41001**

Haussy, Jacques (*with* Siarry, Patrick; Berthiau, Gérard; Durbin, François) Enhanced simulated annealing for globally minimizing functions of many-continuous variables. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 2, 209–228. 65Y15

Hautus, M. L. J. State feedback in general discrete-time systems. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 81–95, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Xiao Yun Lu) **99f:93027** 93B25 (93A10, 93B52)

Havas, George (*with* Campbell, Colin Matthew; Linton, Stephen; Robertson, Edmund) Symmetric presentations and orthogonal groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 1–10, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Saïd N. Sidki) **99m:20112** 20G40 (20F05)

— (*with* Cooperman, Gene) Elementary algebra revisited: randomized algorithms. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 37–44, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68091** 68Q25 (11Y16, 15A06, 20P05)

Havel, Ivan Domination in n-cubes with diagonals. (English summary) *Math. Slovaca* **48** (1998), *no.* 2, 105–115. (B. Zelinka) **99k:05091** 05C35

Havel, Timothy F. (*with* Najfeld, Igor) Embedding with a rigid substructure. (English summary) *J. Math. Chem.* **21** (1997), *no.* 3, 223–260. (T. W. Barrett) **99j:92029** 92E10 (81V45)

— (*with* Somaroo, Shyamal S.; Cory, David G.) Expressing the operations of quantum computing in multiparticle geometric algebra. (English summary) *Phys. Lett. A* **240** (1998), *no.* 1-2, 1–7. (Jayme Vaz, Jr.) **99e:81036** 81P99 (15A66)

Haverkort, Boudewijn R. Approximate analysis of networks of $PH/PH/1/K$ queues with customer losses: test results. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 271–291. (*see* **99a:90010**) 90B22 (60K25)

Haviar, Alfonz (*with* Hrnčiar, Pavel; Monoszová, Gabriela) Minimal eccentric sequences with least eccentricity three. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 27–50. (Summary) **99i:05071** 05C12

Haviar, Miroslav (*with* Zlatoš, Pavol) Jubilee: the sixtieth birthday of Professor Tibor Katriňák. *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 91–98. (Editors) **99m:01067** 01A70

— (*with* Kaarli, Kalle; Ploščica, Miroslav) Affine completeness of Kleene algebras. (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 477–490. (Brian A. Davey) **99c:06013** 06D15 (08A40)

— (*with* Konôpka, P.; Priestley, H. A.; Wegener, C. B.) Finitely generated free modular ortholattices. I. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2639–2660. (M. J. Mączyński) **99g:06012** 06C15 (06C20, 81P10)

— (*with* Konôpka, P.; Wegener, C. B.) Finitely generated free modular ortholattices. II. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2661–2679. (M. J. Mączyński) **99g:06013** 06C15 (06C20, 81P10)

— (*with* Ploščica, Miroslav) On order-polynomial completeness of lattices. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 217–219. (A. Kanamori) **99g:06011** 06B15 (08A40)

Haviland, Julie (*with* Firby, Peter) Independence and average distance in graphs. (English summary) *Discrete Appl. Math.* **75** (1997), *no.* 1, 27–37. (Summary) **99c:05101** 05C35 (05C12)

Havin, V. P. *see* **Khavin, Viktor Petrovich**

Haviv, Moshe (*with* Puterman, Martin L.) Bias optimality in controlled queueing systems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 136–150. (Summary) **99a:60104** 60K25 (90C40)

Havlena, Vladimír (*with* Štecha, Jan) Smoothing in simultaneous state and parameter estimation in a linear system. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 153–168, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99c:93108** 93E11

Havlicek, Hans The Veronese surface in PG(5, 3) and Witt's 5-(12, 6, 1) design. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 87–94. (Dieter Jungnickel) **99m:51009** 51E20 (05B05)

Havlíček, Miloslav (*with* Pošta, S.; Klimyk, A. U.) Representations of the cyclically symmetric q-deformed algebra $U_q(\mathrm{so}_3)$. (English summary) Quantum groups and integrable systems (Prague, 1998). *Czechoslovak J. Phys.* **48** (1998), *no.* 11, 1347–1353. (Michèle Irac-Astaud) **99m:81095** 81R50 (16W30, 17B37)

— (*with* Patera, Jiří; Pelantová, Edita) On Lie gradings. II. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 97–125. (Vesselin Drensky) **99d:17032** 17B70 (17B40)

Havlin, S. (*with* Berkolaĭko, G. M.; Rabinovich, Savely) Analysis of Carleman representation of analytical recursions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 81–90. (Katarina Jankova) **99g:58080** 58F13

Hawat, R. N. (*with* Piegl, Les A.) Genetic algorithm approach to curve-curve intersection. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 269–282. (*see* **99i:65004**) 65Y25

Hawkes, John Exact capacity results for stable processes. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 1–11. (Jörg-Uwe Löbus) **99h:60145** 60J30 (60J45)

Hawking, Stephen W. (*with* Bousso, Raphael) Trace anomaly of dilaton-coupled scalars in two dimensions. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7788–7791. (Summary) **99c:83047** 83C57 (81T20, 83C47)

— Is information lost in black holes? (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 221–240, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57 (83E30)

— (*with* Turok, Neil G.) Open inflation without false vacua. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 25–32. (Viqar Husain) **99f:83084** 83F05 (83C45)

— (*with* Turok, Neil G.) Open inflation, the four form and the cosmological constant. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 271–278. (Marco Spaans) **99e:83063** 83F05 (83C47)

— (*with* Cassidy, M. J.) Models for chronology selection. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2372–2380. (Viqar Husain) **99a:83050** 83C75 (83C45, 83C57)

— (*with* Bousso, Raphael) (Anti-)evaporation of Schwarzschild-de Sitter black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2436–2442. (Gil De Oliveira-Neto) **99b:83047** 83C57 (83C47)

— (*with* Taylor-Robinson, M. M.) Bulk charges in eleven dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025006, 15 *pp.* (Summary) **99m:83202** 83E50 (83C57)

— *see also* **Penrose, Roger, 99e:81006**

Hawkins, Douglas M. (*with* Olwell, David H.) ★ Cumulative sum charts and charting for quality improvement. (English summary) Statistics for Engineering and Physical Science. *Springer-Verlag, New York*, 1998. xvi+247 *pp. ISBN* 0-387-98365-1 (Publisher's description) **99a:62142** 62N10

— (*with* Olive, David J.) Improved feasible solution algorithms for high breakdown estimation. (English summary) *Comput. Statist. Data Anal.* **30** (1999), *no.* 1, 1–11. 62F35 (62H99)

Hawkins, Doyle L. (*with* Kochar, Subhash) Inference about the transition-point in NBUE-NWUE or NWUE-NBUE models. (English summary) *Sankhyā Ser. A* **59**

(1997), *no.* 1, 117–132. (Summary) **99k:62189** 62N05 (62G05)
— (*with* Han, Chien-Pai) A central limit theorem for certain nonlinear statistics in repeated sampling of a finite population. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 25–34. (Zuzana Prášková) **99k:62021** 62D05 (60F05, 62E20)
— (*with* Chang, Kuang-Chao; Han, Chien-Pai) Truncated multiple inverse sampling in post-stratification. (English summary) *J. Statist. Plann. Inference* **76** (1999), *no.* 1-2, 215–234. 62D05
Hawkins, Jane (*with* Silva, Cesar E.) Characterizing mildly mixing actions by orbit equivalence of products. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 99–115 (*electronic*). (Scot Adams) **99b:28019** 28D15
Hawkins, Thomas From general relativity to group representations: the background to Weyl's papers of 1925–26. (English and French summaries) *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 69–100, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Hans P. Künzle) **99i:01026** 01A60 (17B10, 22E46, 83-03)
Haxell, P. E. (*with* Loebl, M.) On defect sets in bipartite graphs (extended abstract). (English summary) *Algorithms and computation* (*Singapore*, 1997), 334–343, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 05C85 (68R10)
— (*with* Kohayakawa, Y.) Packing and covering triangles in tripartite graphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 1–10. (Michael E. Raines) **99e:05095** 05C70
— Packing and covering triangles in graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 251–254. (Summary) **99h:05091** 05C70
Haxthausen, Anne Elisabeth Order-sorted algebraic specifications with higher-order functions. (English summary) Algebraic methodology and software technology (Montreal, PQ, 1995). *Theoret. Comput. Sci.* **183** (1997), *no.* 2, 157–185. (Horst Reichel) **99a:68123** 68Q65
Hayaishi, Norifumi (*with* Miki, Kei) *L* operators and Drinfeld's generators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1623–1636. (Andrei G. Bytsko) **99e:17021** 17B37 (17B67)
Hayakawa, Kisaburo (*with* Matsumoto, Kenichiro; Yamashita, Masashi; Suzuki, Yoshiaki; Fujimori, Kazuo; Kimura, Hidenori) Robust H^∞-output feedback control of decoupled automobile active suspension systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 392–396. 93B36 (93C95)
Hayakawa, Yu A Bayesian positive dependence of survival times based on the multivariate arrangement increasing property. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 225–240. (I. Guttman) **99i:62051** 62F15 (62N05)
Hayama, Satoshi A new type of qualitative change in chaotic dynamics caused by riddled basins. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 81–97. (Summary) **99b:58159** 58F13
Hayami, Ken (*with* Sauter, Stefan A.) Cost estimation of the panel clustering method applied to 3-D elastostatics. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 33–42, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73V10 (73C02)
Hayase, Kazuyoshi (*with* Imai, Hiroshi) OBDDs of a monotone function and of its prime implicants. *Algorithms and computation* (*Osaka*, 1996), 136–145, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **99b:94064** 94C10 (68Q99)
— (*with* Imai, Hiroshi) OBDDs of a monotone function and its prime implicants. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 579–591. (Editors) **99h:94089** 94C10 (68Q25, 68Q35)
Hayashi, Chikio (*with* Yamaoka, Kazue) Beyond Simpson's paradox: one problem in data science. (English summary) *Advances in data science and classification* (*Rome*, 1998), 65–72, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H17
— *see also* **Data science, classification, and related methods, 99b:62002**
Hayashi, Chuichiro (*with* Shimokawa, Koya) Heegaard splittings of the trivial knot. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 8, 1073–1085. (Summary) **99i:57034** 57N10 (57M25)
— (*with* Shimokawa, Koya) Symmetric knots satisfy the cabling conjecture. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 501–529. (Ying Qing Wu) **99c:57022** 57M25 (57N10)
— (*with* Motegi, Kimihiko) Applications of graph theory to cut-and-paste arguments [translation of Sūgaku **47** (1995), no. 4, 377–393; MR 97d:57005]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 123–143. (*see* **99h:00040**) 57M25 (05C10, 57M15, 57N10)
— Genus one 1-bridge positions for the trivial knot and cabled knots. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 53–65. (Wilbur Whitten) **99j:57005** 57M25
Hayashi, Hiroshi[2] (*with* Enright, W. H.) Convergence analysis of the solution of retarded and neutral delay differential equations by continuous numerical methods. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 572–585 (*electronic*). (Ming Zhu Liu) **99h:65127** 65L06 (34K99)
Hayashi, Kenichiro (*with* Otsubo, Akifumi; Murakami, Shuta; Maeda, Mikio) Realization of nonlinear and linear PID controls using simplified indirect fuzzy inference method. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 409–414. 93C99 (93A99)
Hayashi, Makoto *see* **Hayashi, Makoto[2]**
Hayashi, Makoto[1] (*with* Tanaka, Yasuhiko) On the finite simple groups all of whose 2-local subgroups are solvable. *J. Algebra* **210** (1998), *no.* 2, 365–384. (Jian Hua Huang) **99k:20033** 20D05 (20D08, 20E32)
Hayashi, Makoto[2] On some polynomial system of Uno-Yokomi. (English summary) *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ. No.* 62 (1997), 1–7. (From the introduction) **99i:34042** 34C05
— On the Liénard system with three equilibrium points. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 2, 143–156. (Robert Roussarie) **99a:34080** 34C05 (34C23, 58F14)
— On the Liénard system with a non-hyperbolic equilibrium point. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **6** (1999), *no.* 1, 39–51. (Noel G. Lloyd) **99m:34062** 34C05
Hayashi, Masahito Asymptotic attainment for quantum relative entropy. (English summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 60–64. (Summary) **99i:94021** 94A17 (81P99)
— (*with* Masamoto, Keiji) Statistical model with measurement degrees of freedom and quantum physics. (Japanese) Large deviation and statistical inference (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1055 (1998), 96–110. (*see* **99m:62007**) 81P15
Hayashi, Masato The moduli space of SU(3)-flat connections and the fusion rules. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1545–1555. (Hans U. Boden) **99h:58028** 58D29 (17B81, 57M05)
Hayashi, Mikihiro (*with* Kato, Takao) Point separation of a two-sheeted disc by bounded analytic functions. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 553–565. (W. C. Royster) **99k:30060** 30D50
— Riemann surfaces that have bounded nonconstant meromorphic functions at infinity. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 39–46. (*see* **99i:00018**) 30F20
Hayashi, Nakao (*with* Hirata, Hitoshi) Global existence of small solutions to nonlinear Schrödinger equations. *Functional analysis and global analysis* (*Quezon City*, 1996), 107–112, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35Q55
— Local existence in time of solutions to the elliptic-hyperbolic Davey-Stewartson system without smallness condition on the data. (English summary) *J. Anal. Math.* **73** (1997), 133–164. (Elaine Machtyngier) **99f:35188** 35Q55 (35M10, 76B15)
— (*with* Hirata, Hitoshi) Local and global existence in time of small solutions to the elliptic-hyperbolic Davey-Stewartson system. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 105–120. (Peter L. Christiansen) **99e:35210** 35Q55 (76D33)
— (*with* Naumkin, Pavel I.) Asymptotics for large time of solutions to the nonlinear Schrödinger and Hartree equations. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 369–389. (Tohru Ozawa) **99f:35190** 35Q55 (35B40, 81Q05)
— (*with* Naumkin, Pavel I.) Asymptotic behavior in time of solutions to the derivative nonlinear Schrödinger equation. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 2, 159–177. (Tohru Ozawa) **99f:35189** 35Q55 (35B40, 81Q05)
— (*with* Kaikina, Elena I.; Naumkin, Pavel I.) On the scattering theory for the cubic nonlinear Schrödinger and Hartree type equations in one space dimension. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 651–667. (Tohru Ozawa) **99m:35228** 35Q55 (81U05)
— (*with* Naumkin, Pavel I.) Large time asymptotics of solutions to the generalized Korteweg-de Vries equation. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 110–136. (Summary) **99i:35139** 35Q53 (35B40, 47N20)
— (*with* Naumkin, Pavel I.; Ozawa, Tohru) Scattering theory for the Hartree equation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1256–1267 (*electronic*). (Summary) **99c:35222** 35Q55 (35B45, 35P25)
— (*with* Naumkin, Pavel I.) Remarks on scattering theory and large time asymptotics of solutions to Hartree type equations with a long range potential. (English summary) *SUT J. Math.* **34** (1998), *no.* 1, 13–24. (Elaine Machtyngier) **99i:35147** 35Q55 (35P30)
— (*with* Kaikina, Elena I.) Local existence of solutions to the Cauchy problem for nonlinear Schrödinger equations. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 111–137. (Thierry Cazenave) **99k:35165** 35Q55
— (*with* Matos, Tonatiuh; Naumkin, Pavel I.) Large time behavior of solutions of higher order nonlinear dispersive equations of KdV type with weak nonlinearity. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 23–40. (Yvan Martel) **99m:35206** 35Q53 (35B40)
— (*with* Kaikina, Elena I.; Naumkin, Pavel I.) Large time behavior of solutions to the generalized derivative nonlinear Schrödinger equation. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 93–106. (Elaine Machtyngier) **99m:35229** 35Q55 (35B40)
— (*with* Naumkin, Pavel I.) Large time asymptotics of solutions to the generalized Benjamin-Ono equation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 109–130. (Yun Bo Zeng) **99i:35148** 35Q55 (35B40, 35P25, 35Q53, 76B15)
Hayashi, Shuhei Hyperbolicity, stability, and the creation of homoclinic points. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 789–796 (*electronic*). (Michael Hurley) **99f:58115** 58F10 (58F09, 58F15)
— Stability theory of dynamical systems. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 149–162. (Masato Tsujii) **99j:58115** 58F10
Hayashi, T. *see* **Hayashi, Tatsuya**
Hayashi, Takahiro Face models of quantum invariants of 3-manifolds. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 166–173. (*see* **99a:00029**) 82B23 (57N10)
— Quantum groups and quantum semigroups. (English summary) *J. Algebra* **204** (1998), *no.* 1, 225–254. (Summary) **99m:16059** 16W30
— Face algebras. I. A generalization of quantum group theory. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 293–315. (Shlomo Gelaki) **99d:16043** 16W30 (18D10)
Hayashi, Takao (*with* Kusuba, Takanori) Twenty-one algebraic normal forms of Citrabhānu. (English, Chinese and Japanese summaries) *Historia Math.* **25** (1998), *no.* 1, 1–21. (Victor J. Katz) **99d:01012** 01A32
Hayashi, Tatsuya (*with* Nakano, Koji; Olariu, Stephan) Weighted and unweighted selection algorithms for k sorted sequences. (English summary) *Algorithms and computation* (*Singapore*, 1997), 52–61, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68045** 68P10 (68Q22)
— (*with* Nakano, Koji; Olariu, Stephan) Efficient list ranking on the reconfigurable mesh, with applications. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 593–611. (Summary) **99e:68059** 68Q22 (68M10, 68Q25)
Hayashi, Yoichi (*with* Buckley, James J.) Applications of fuzzy chaos to fuzzy simulation. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 151–157. 90C70
— (*with* Buckley, James J.) Can neural nets be universal approximators for fuzzy functions? (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 323–330. (Summary) **99j:68115** 68T05 (03E72)
— (*with* Buckley, James J.; Feuring, Thomas) Neural net solutions to fuzzy linear programming. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 99–111. 90C70 (68T05)

Hayashi, Yoshiki Singuläre Moduln an den Heegner-Punkten für allgemeine Diskriminanten. (English summary) [Singular moduli at the Heegner points for general discriminants] *Mem. Inst. Sci. Engrg. Ritsumeikan Univ. No.* 56 (1997), 119–125 (1998). (Andrea Mori) **99h:11054** 11G05 (11F03)

Hayashi, Yukihiko (*with* Tanaka, Kiyoshi; Sugimura, Tatsuo) Data hiding under fractal image generation via random midpoint displacement method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3221–3231. 68U05

Hayashi, Yukio Estimation of the viewpoint parameter for a mathematical model of database and extension of the model in function space. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1839–1849. 68P15 (68P20)

Hayashimoto, Atsushi On the classification theorem for CR mappings. (English summary) *Nagoya Math. J.* **150** (1998), 95–104. (Mario Landucci) **99g:32051** 32H99 (32C16)

— On the relations between the holomorphic extendability theorems and the finiteness properties. *Complex geometric analysis in Pohang* (1997), 219–226, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Yi Fei Pan) **99j:32014** 32D15 (32F25)

Hayat, Tasawar (*with* Asghar, Saleem) Scattering of a spherical sound wave by a rigid screen with an absorbent edge in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 105–129. (Summary) **99d:76088** 76Q05

— (*with* Asghar, Saleem; Ayub, M.) Aerodynamic sound due to a Gaussian pulse near an absorbing half-plane in a moving fluid. (English summary) *Canad. Appl. Math. Quart.* **5** (1997), *no.* 2, 131–144. (Summary) **99d:76089** 76Q05 (76G25)

— (*with* Asghar, Saleem; Siddiqui, A. M.) Periodic unsteady flows of a non-Newtonian fluid. (English summary) *Acta Mech.* **131** (1998), *no.* 3-4, 169–175. (Summary) **99e:76004** 76A05

— (*with* Asghar, Saleem) Diffraction of a spherical electromagnetic wave by a perfectly conducting strip in a biisotropic medium. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 5-6, 669–681. (Summary) **99b:78009** 78A45

— (*with* Asghar, Saleem; Ayub, M.) Scattering of sound near an absorbing strip. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 331–343. (Summary) **99f:76118** 76Q05

Hayata, Takahiro Differential equations for principal series Whittaker functions on SU(2, 2). (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 4, 493–528. (Kenji Taniguchi) **99e:22030** 22E46 (33C80)

— Some real Shintani functions over SU(2, 2). (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 160–168. (*see* **99a:11005**) 22E30

Hayat-Legrand, Claude (*with* Zieschang, Heiner) On the cup product on Seifert manifolds. 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 159–180. (A. R. Shastri) **99h:57053** 57R19 (55R25, 57N10)

Haydock, Roger Calculating the mechanical properties of materials from interatomic forces. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 101–108, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (*see* **99c:73001**) 82D20 (73B99)

la Haye, Roberta *see* **La Haye, Roberta**

Hayek Calil, Nácere (*with* Hernández Suárez, Víctor; Cabrera Suárez, Francisco S.) On the third-order Bessel-Clifford differential operator. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)* (*Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 44A40

— (*with* González Rodríguez, Benito) A convolution theorem for the distributional index ${}_2F_1$-transform. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 7-8, 567–578. (G. L. N. Rao) **99k:44007** 44A15 (46F12)

— (*with* Trujillo, Juan J.; Rivero, Margarita; Bonilla, B.; Moreno Piquero, Juan Carlos) On existence of solutions of ordinary differential equations of fractional order. (English summary) *Transform methods & special functions, Varna* '96, 150–158, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:26006** 26A33 (34A12)

— (*with* Hernández Suárez, Víctor; Cabrera Suárez, Francisco S.) Asymptotic solutions of the nth-order Bessel-Clifford differential equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 285–290, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 33C10 (34B30)

Hayes, Brian T. Binary and ternary oscillations in a cubic numerical scheme. (English summary) *Phys. D* **120** (1998), *no.* 3-4, 287–314. (Summary) **99d:65285** 65M60 (35L65, 65L60)

— (*with* Schaeffer, David G.) Plane shear waves under a periodic boundary disturbance in a saturated granular medium. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 193–212. (Anne Nouri) **99g:73052** 73E50 (35Q72, 73E60, 76A99)

— (*with* LeFloch, Philippe G.) Nonclassical shocks and kinetic relations: finite difference schemes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2169–2194 (*electronic*). (Anne Nouri) **99k:65073** 65M06 (35L67)

Hayes, David R. Base change for the conjecture of Brumer-Stark. (English summary) *J. Reine Angew. Math.* **497** (1998), 83–89. (Alexey A. Panchishkin) **99h:11131** 11R42

Hayes, Ian (*with* Bancroft, Peter) Type extension and refinement. (English summary) *Formal Methods Pacific* '97 (*Wellington*), 23–39, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99a:68008**) 68Q60

Hayes, Leslie (*with* Schultz, Kelly; Yates, Julie) Universal dominating sequences of graphs. (English summary) *Util. Math.* **54** (1998), 193–209. (Summary) **99g:05110** 05C35

Hayes, M. *see* **Hayes, M. R.**

Hayes, M. J. D. (*with* Zsombor-Murray, P. J.) Inverse kinematics of a planar manipulator with holonomic higher pairs. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 59–68, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70008** 70B15

Hayes, M. R. (*with* Bowcock, Peter; Taormina, A.) Characters of admissible representations of the affine superalgebra $\widehat{sl}(2|1;\mathbf{C})_k$. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 739–763. (Jun'ichi Shiraishi) **99f:81074** 81R10 (11F22, 17B67)

Hayes, Michael *see* **Hayes, Michael G.**

Hayes, Michael A. Central circular sections of the strain ellipsoids. (English summary) *J. Elasticity* **49** (1997/98), *no.* 3, 285–288. (Summary) **99d:73028** 73C50 (73G05)

— (*with* Boulanger, Ph.) Bounds on elastic wave speeds in crystals: theory and applications. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1977, 2289–2322. (Summary) **99h:73027** 73D15 (73B40)

— (*with* Boulanger, Ph.) Acoustic axes for elastic waves in crystals: theory and applications. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1977, 2323–2346. (Summary) **99h:73028** 73D15 (73B40)

— (*with* Shuvalov, A. L.) On the extreme values of Young's modulus, the shear modulus, and Poisson's ratio for cubic materials. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 3, 786–787. (Summary) **99g:73015** 73B40

Hayes, Michael G. (*with* Kaper, Tasso J.; Kopell, Nancy; Ono, Kinya) On the application of geometric singular perturbation theory to some classical two-point boundary value problems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 189–209. (Summary) **99c:34119** 34E15 (34B05, 34B15)

Hayman, W. K. (*with* Everitt, W. N.; Nasri-Roudsari, G.) On the representation of holomorphic functions by integrals. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 95–102. (Summary) **99j:30041** 30E20 (30D20)

— Identity theorems for functions of bounded characteristic. *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 127–140. (D. Protas) **99m:30073** 30D50

— (*with* Danikas, N.) Domination on sets and in H^p. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 85–90. (E. G. Kwon) **99f:30054** 30D55 (31A05)

Hayn, R. (*with* Mertsching, J.) Exact solution for the disordered Peierls-Fröhlich chain. (English summary) *Path integrals: Dubna* '96, 240–244, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 82B44 (82D30)

Haynes, Peter H. (*with* Scinocca, J. F.) Dynamical forcing of stratospheric planetary waves by tropospheric baroclinic eddies. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 14, 2361–2392. (From the summary) **99d:86003** 86A10

— (*with* Magnusdottir, Gudrun) Reflection of planetary waves in three-dimensional tropospheric flows. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 652–670. (Summary) **99j:86011** 86A10 (76C15, 76C20)

— (*with* Bühler, Oliver) Constraints on the mean mass transport across potential vorticity contours. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 7, 942–947. (Summary) **99k:86004** 86A10 (76C15)

Haynes, Teresa W. (*with* Henning, Michael A.) Domination critical graphs with respect to relative complements. (English summary) *Australas. J. Combin.* **18** (1998), 115–126. (Summary) **99g:05143** 05C70 (05C35)

— (*with* van der Merwe, Lucas C.; Mynhardt, Christina M.) Criticality index of total domination. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 67–73. (Summary) **99j:05113** 05C35

— (*with* Slater, Peter J.) Paired-domination in graphs. (English summary) *Networks* **32** (1998), *no.* 3, 199–206. (Summary) **99f:05062** 05C35 (05C70)

— (*with* Knisley, Debra) Generalized maximum degree and totally regular graphs. (English summary) *Util. Math.* **54** (1998), 211–221. (Summary) **99g:05111** 05C35

— (*with* van der Merwe, Lucas C.; Mynhardt, Christina M.) Total domination edge critical graphs. (English summary) *Util. Math.* **54** (1998), 229–240. (Summary) **99g:05112** 05C35

— (*with* Fricke, Gerd H.; Hedetniemi, Sandra M.; Hedetniemi, Stephen T.; Henning, Michael A.) On perfect neighborhood sets in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 221–225. (Summary) **99k:05090** 05C35 (05C70)

Haynsworth, W. H. (*with* Golightly, W. L.; Sarvate, Dinesh G.) A symmetric difference construction of strongly regular graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 51–56. (Summary) **99g:05189** 05E30

— (*with* Golightly, W. L.; Sarvate, Dinesh G.; Logan, Roger) Nontransitive semi-standard orthogonal Latin squares. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 88–94. (Summary) **99i:05040** 05B15

Hayter, Anthony J. (*with* Miwa, Tetsuhisa) Combining the advantages of one-sided and two-sided test procedures for comparing several treatment effects. (English summary) *J. Amer. Statist. Assoc.* **94** (1999), *no.* 445, 302–307. 62J10

Hayton, G. E. (*with* Hou, Ming; Pugh, A. C.) Generalized transfer functions and input-output equivalence. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1163–1178. 93A30 (93C30)

— (*with* Karampetakis, N. P.; Pugh, A. C.) Notes on a hierarchical theory of systems and applications. (English summary) *Kybernetika (Prague)* **33** (1997), *no.* 2, 185–201. (Introduction) **99c:93001** 93A13 (93A30)

— (*with* Pugh, A. C.; McInerney, S. J.; Boudellioua, M. S.; Johnson, Dean Spencer) A transformation for 2-D linear systems and a generalization of a theorem of Rosenbrock. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 491–503. (Summary) **99h:93059** 93C30 (93B25)

— (*with* Pugh, A. C.; McInerney, S. J.; Boudellioua, M. S.) Matrix pencil equivalents of a general 2-D polynomial matrix. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1027–1050. (T. Kaczorek) **99j:93023** 93B25 (15A22, 93C55)

Hayward, Ryan B. Meyniel weakly triangulated graphs. II. A theorem of Dirac. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 283–289. (Chinh T. Hoang) **99b:05037** 05C10 (05C35)

Hayward, Sean A. (*with* Ida, Daisuke; Nakao, Ken-ichi; Siino, Masaru) Hoop conjecture for colliding black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 121501, 4 *pp.* (Summary) **99m:83113** 83C57

— Inequalities relating area, energy, surface gravity, and charge of black holes. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 21, 4557–4559. (Summary) **99g:83053** 83C57

Haywood, Joel D. A partial characterization of universal images of graphs using decompositions of trees. (English summary) *Topology Proc.* **22** (1997), 227–238. (N. Hindman) **99j:54034** 54F50 (05C10, 54C99)

Hazama, Fumio Pell equations for polynomials. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 387–397. (Joseph H. Silverman) **99d:11068** 11G30 (11D41, 14G25)

— Determinantal formula for the cuspidal class number of the modular curve $X_1(m)$. (English summary) *J. Number Theory* **68** (1998), *no.* 2, 229–242. (Joseph H. Silverman) **99e:11079a** 11G18 (11G30)

— Corrigendum: "Determinantal formula for the cuspidal class number of the modular curve $X_1(m)$". *J. Number Theory* **72** (1998), *no.* 1, 151–152. (Joseph H. Silverman)

99e:11079b 11G18 (11G30)
— A generating function for rational curves on rational surfaces. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 6, 101–103. 14H45 (14J26)
Hazanov, S. On apparent properties of nonlinear heterogeneous bodies smaller than the representative volume. (English summary) *Acta Mech.* **134** (1999), *no.* 3-4, 123–134. 73B27
Hazard, Christophe (*with* Lohrengel, Stephanie) The solution of Maxwell's equations in a non-convex polyhedron. II. A singular field method. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 369–373, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (65N30, 78–08, 78A25)
— (*with* Ciarlet, Patrick, Jr.; Lohrengel, Stephanie) Les équations de Maxwell dans un polyèdre: un résultat de densité. (English and French summaries) [Maxwell's equations in a polyhedron: a density result] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1305–1310. (Summary) **99h:35208** 35Q60 (65M60, 78A25)
— (*with* Cutzach, Pierre-Marie) Existence, uniqueness and analyticity properties for electromagnetic scattering in a two-layered medium. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 5, 433–461. (B. Belinskiy) **99a:78024** 78A45
Hazeltine, R. D. Transport theory in the collisionless limit. (English summary) *Phys. Plasmas* **5** (1998), *no.* 9, 3282–3286. (Summary) **99d:76106** 76X05 (82C70)
— Collisionless transport parallel to the magnetic field in a toroidal plasma. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 550–555. (Summary) **99j:76146** 76X05
Hazelton, Martin L. Optimal rates for local bandwidth selection. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 57–66. (Summary) **99a:62050** 62G05
— Bias annihilating bandwidths for kernel density estimation at a point. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 305–309. (Summary) **99b:62057** 62G05
Hazen, A. P. Relations in Lewis's framework without atoms. *Analysis* (*Oxford*) **57** (1997), *no.* 4, 243–248. (M. Randall Holmes) **99i:03065** 03E70 (03B15, 03C80)
— Relations in monadic third-order logic. (English summary) *J. Philos. Logic* **26** (1997), *no.* 6, 619–628. (Alex Blum) **99b:03016** 03B15 (03A05)
Hazewinkel, M. *see* **Algebra and combinatorics: interactions and applications, 99e:00015**
Hazod, W. (*with* Hofmann, Karl H.; Scheffler, Hans-Peter; Wüstner, Michael; Zeuner, Hansmartin) Normalizers of compact subgroups, the existence of commuting automorphisms, and applications to operator semistable measures. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 189–209. (Aleksy Tralle) **99j:22008** 22E15 (22E30, 60B15)
Hazony, Dov Stress wave propagation when the elastic coefficients vary with depth. (English summary) *Circuits Systems Signal Process.* **18** (1999), *no.* 1, 27–42. (Summary) **99k:73055** 73D20 (73D15)
Hbid, Moulay Lhassan (*with* Arino, Ovide) Existence of periodic solutions for a delay differential equation via the Poincaré procedure. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 125–148. (Peter Dormayer) **99f:34099** 34K15
— (*with* Arino, Ovide; Hadeler, K. P.) Existence of periodic solutions for delay differential equations with state dependent delay. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 263–301. (Bernhard Lani-Wayda) **99c:34153** 34K15
— (*with* Arino, Ovide; Bravo de la Parra, Rafael) A mathematical model of growth of population of fish in the larval stage: density-dependence effects. (English summary) *Math. Biosci.* **150** (1998), *no.* 1, 1–20. (Summary) **99b:92034** 92D25
He, B. *see* **He, Bingjin**
He, Bai He (*with* Liao, Gongfu; Huang, Guifeng) Likely limit sets of Feigenbaum's maps and their Hausdorff dimensions. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 349–356. (Remo Badii) **99b:58153** 58F12 (28A80)
He, Bao Peng (*with* Chen, Yuan[2]; Chen, Hao[3]) An improved soliton solution in a one-dimensional ferromagnetic chain. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 1–4. (Summary) **99a:82014** 82B20
He, Bing Sheng (*with* Han, Qiao Ming) A predictor-corrector method for solving monotone variant variational inequalities. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 9, 921–924. 49J40
— A projective method of the approximate center for semidefinite programming. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 175–186. (Summary) **99f:90126** 90C30 (65K05, 90C05)
— A class of implicit methods for monotone variational inequalities. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 337–344. 49J40 (47H17, 65K10)
He, Bingjin (*with* Zhang, Zhen Yue; Miller, Webb Colby) Local multiple alignment via subgraph enumeration. (English summary) *Discrete Appl. Math.* **71** (1996), *no.* 1-3, 337–365. (Summary) **99a:92009** 92C40 (05C30, 92D20)
He, Bo Qing (*with* Zhang, Ling Mi; Yuan, Xiang Rong) Comparisons and evolution of modal methods for calculating derivatives of eigenvectors. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 68–74, *VI–VII.* 65F15 (65N25)
He, Bohe *see* **He, Bai He**
He, C. *see* **He, Chun Yang**
He, C.-Y. *see* **He, Chun Yang**
He, Cai Ying (*with* Zhang, Jing Hui) The convex response sets of a class of vibrating systems with multiple degrees of freedom. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 5, 530–539. (Summary) **99a:70039** 70L05 (73K12)
He, Can Zhi (*with* Feng, Jian Qiang) Clustering principal component estimation of linear model parameters. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 3, 1–4, 63. 62H25 (62H30)
— (*with* Yu, Sheng Hua) The BLU estimator of the parameter matrix in a general growth curve model. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 439–444. (Summary) **99k:62115** 62H12
— (*with* Yu, Sheng Hua) Comparison of linear models with constraint conditions and remainder parameters. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 56–62. 62J05
He, Cheng Boundary layer estimation of the quasilinear Stokes equations. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 4, 413–428. (Sergey Nikolaevich Alekseenko) **99k:76049** 76D30 (35Q30, 76D10)
— Weighted estimates for nonstationary Navier-Stokes equations. *J. Differential Equations* **148** (1998), *no.* 2, 422–444. (José Luiz Boldrini) **99j:35165** 35Q30 (76D05)
He, Cheng Qi (*with* Chen, Zhi Guo; Chen, Ji Xiu) Functions with unbounded $\overline{\partial}$-derivative and their boundary functions. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 1, 100–109. (Summary) **99c:30038** 30C62
— (*with* Chen, Zhi Guo; Chen, Ji Xiu) Teichmüller extremal mappings on hyperbolic domains. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 333–338. (Shan Shuang Yang) **99i:30033** 30C62
He, Cheng Yuan A necessary and sufficient condition for a matrix to be a symmetric skew circulant matrix. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 15–19. 15A57
— (*with* Hu, Ming) A fast algorithm for computing the inverses of two classes of circulant matrices. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 258–264. 65F30
— A note on symmetric R-block circulant matrices. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 519–523. 15A57
— Necessary and sufficient conditions for a block matrix to be R-block circulant, and the computational complexity of related algorithms. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 395–398. 65F30 (65Y20)
He, Chong You Vector subvariant functionals and the existence of almost periodic solutions. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 76–86. (Jialin Hong) **99h:34066** 34C27 (34D20)
He, Chu Ning Necessary and sufficient conditions for two classes of matrix equations to have semipositive subdefinite solutions. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 5, 95–100. 15A24
He, Chun Xiong (*with* Yu, Jian Ning) Explicit fundamental solutions for a class of nonhomogeneous invariant differential operators on the Heisenberg group H_{2n+1}. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 2, 7–15. (Summary) **99j:35002** 35A08 (35H05)
He, Chun Yang (*with* Hench, J. J.; Kučera, Vladimír; Mehrmann, Volker) Dampening controllers via a Riccati equation approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1280–1284. (Summary) **99d:93056** 93D15 (93C40)
— (*with* Hench, J. J.; Mehrmann, Volker) On damped algebraic Riccati equations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1634–1637. (Vladimir B. Larin) **99m:93021** 93B25 (93D15)
— (*with* Byers, Ralph; Mehrmann, Volker) Where is the nearest non-regular pencil? (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 81–105. (Bo Kågström) **99k:15026** 15A22 (15A18, 65F15, 65F35)
— (*with* Watson, G. Alistair) Some matrix approximation problems in control theory. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 173–182, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (M. M. Konstantinov) **99m:93035** 93B40 (93B36)
— (*with* Watson, G. Alistair) An algorithm for computing the distance to instability. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 101–116 (*electronic*). (M. M. Konstantinov) **99j:65134** 65L99 (65F30)
He, Fu Bao (*with* Yang, Feng[2]) Solution of the end problem for a transversely isotropic circular cylinder by means of three-dimensional elasticity theory. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 2, 57–63, *V–VI.* 73B40 (73K05)
He, Guang Zong (*with* Chen, Hua Fu) A general gradient projection method with arbitrary initial point for optimization problems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 3, 330–334. 90C30 (65K05)
He, Guo Guang (*with* Feng, Wei Dong; Liu, Bao) A review of traffic flow theory. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 71–82. 90B20 (90–02)
He, Guo Liang (*with* Deng, Han Yuan; Hu, Guo Quan) Hopf-algebraic structure of families of binary trees. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 1–3. (Summary) **99i:15041** 15A63 (05C05, 16W30)
He, Guoping (*with* Gao, Ziyou; Wu, Fang) An algorithm of sequential systems of linear equations for nonlinear optimization problems with arbitrary initial point. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 6, 561–571. (Eugenia Duca) **99g:90118** 90C30 (65K05)
— (*with* Zeng, Qingguang; Wu, Fang) A robust superlinearly convergent algorithm for linearly constrained optimization problems under degeneracy. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 363–373. (G. M. Ostrovsky) **99i:90094** 90C30
— (*with* Lai, Yan Lian; Gao, Ziyou) A generalized projection quasi-Newton method for nonlinear optimization problems. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 353–362. (*see* **99m:90004**) 90C30
He, Hua (*with* Keirstead, William P.; Rebholz, Joachim) Double lookbacks. (English summary) *Math. Finance* **8** (1998), *no.* 3, 201–228. (Summary) **99c:90020** 90A09
He, J.-M. *see* **He, Jianming**
He, J. W. *see* **He, Jiwen**
He, Ji Cheng (*with* Zheng, Lian Cun; Xu, Wan Da) Existence and nonuniqueness of positive solutions to a class of singular nonlinear boundary value problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 71–77. (Ching-An Wang) **99c:34041** 34B15 (76A05, 76D10)
— (*with* Zheng, Lian Cun) A class of singular nonlinear boundary value problems in the theory of pseudoplastic fluids. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 2, 208–211. 34B15 (76A05)
— (*with* Zheng, Lian Cun) Existence and non-uniqueness of positive solutions to a nonlinear boundary value problems in the theory of viscous fluids. (English summary) *Dynam. Systems Appl.* **8** (1999), *no.* 1, 133–145. (Summary) **99m:34052** 34B15 (35Q35, 76D10)
He, Ji Huan Modified Lagrange multiplier method and generalized variational principle in fluid mechanics. (English summary) *J. Shanghai Univ.* **1** (1997), *no.* 2, 117–122. (Oleg Limarchenko) **99b:76068** 76M30
— An approximate solution technique depending on an artificial parameter: a special example. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 92–97. 65L06 (34A45)
— Newton-like iteration method for solving algebraic equations. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 106–109. 65H05

— A variational model for an asymptotic magnetohydrodynamic system. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 176–179. 76W05 (76M30)

— Variational approach to a strictly hyperbolic system of conservation laws with singularity. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 179–183. 35L65 (35A15)

— (*with* Liu, Gaolian; Feng, Weibing) A generalized variational principle for coupled thermoelasticity with finite displacement. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 4, 215–218. 73B30 (73C50, 73V25)

— Approximate analytical solution for seepage flow with fractional derivatives in porous media. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 1-2, 57–68. (Summary) **99h:76085** 76S05 (76M25)

— Open boundary conditions. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 2, 213–217. 76M99 (35R35)

— A new approach to solving perturbation problems. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 3, 323–327. 34C99 (34E05)

He, Jian-Bo (*with* Wang, Qing-Guo; Lee, Tong-Heng) Internal stability of interconnected systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 593–596. 93D05 (93A14)

He, Jian Xun[3] (*with* Liu, He Ping) Admissible wavelets associated with the classical domain of type one. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 89–105. (Fabio Bagarello) **99k:42057** 42C15

— (*with* Peng, Lizhong) Admissible wavelets on the unit disk. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 2, 109–119. (Summary) **99b:22008** 22D10 (42C15, 43A55, 81R30)

He, Jian Yong (*with* Chen, Bao Lin) A new explanation of the tableau working method for transportation problems. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 12, 40–43. 90C08

He, Jianming (*with* Grimshaw, R. H. J.; Ostrovskiĭ, L. A.) Terminal damping of a solitary wave due to radiation in rotational systems. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 2, 197–210. (Summary) **99d:76015** 76B25 (35Q53, 76B15, 76U05)

He, Jianxun *see* **He, Jian Xun**[3]

He, Jie (*with* Schuster, Eugene F.) On mode(s) and shape of the PDFs of the number of runs and of the maximum of runs by type. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 1, 115–126. (Summary) **99a:62017** 62E15

He, Jing Song (*with* Li, Yi Shen) Exact solution of the Schrödinger equation for the time-dependent harmonic oscillator. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 13, 1066–1071. (Alexei Zhedanov) **99j:81034** 81Q05 (35Q40)

— (*with* Li, Yi Shen) Exact solutions to the Schrödinger equation for a time-dependent harmonic oscillator. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 7, 697–700. 81Q05 (35C05, 35J10)

He, Jingmin (*with* Dawson, Edward) Shared secret reconstruction. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 221–237. (Summary) **99d:94025** 94A60

He, Jingsong *see* **He, Jing Song**

He, Jiwen (*with* Glowinski, Roland) On shape optimization and related issues. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 151–179, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Sergey V. Nikitin) **99i:49049** 49Q10 (49N10)

— (*with* Glowinski, Roland; Gorman, Michael; Périaux, Jacques) Some results on the controllability and the stabilization of the Kuramoto-Sivashinsky equation. (English summary) *Équations aux dérivées partielles et applications*, 571–590, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 35Q30 (93B05)

— (*with* Glowinski, Roland; Metcalfe, Ralph W.; Périaux, Jacques) A numerical approach to the control and stabilization of advection-diffusion systems: application to viscous drag reduction. Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 131–156. (Summary) **99m:93053** 93C20 (76M10, 76Rxx, 93B40)

— (*with* Glowinski, Roland) Neumann control of unstable parabolic systems: numerical approach. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 1–55. (Muthusamy Vanninathan) **99b:49031** 49M25 (49K20, 65M06)

He, Li-Ping (*with* Guo, Ben Yu) The fully discrete Legendre spectral approximation of two-dimensional unsteady incompressible fluid flow in stream function form. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 146–176 (*electronic*). (Anthony Randriamampianina) **99f:76103** 76M25 (65M99, 76D05)

He, Lian Jian Matrices represented in product form and their use in limited memory quasi-Newton methods. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 112–120. 90C30 (65K05)

He, Lifeng (*with* Nakamura, Tsuyoshi; Itoh, Hidenori) SRAMCs: skeleton revision algorithm using maximal circles. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 768–771. 68U05

He, Matthew X. (*with* Ricci, Paolo Emilio; Simon, David S.) Numerical results on the zeros of generalized Fibonacci polynomials. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 25–40 (1998). (Summary) **99j:33013** 33C45 (05A10)

— (*with* Pan, K. C.; Ricci, Paolo Emilio) Asymptotics of the zeros of relativistic Hermite polynomials. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1248–1257. (Gradimir V. Milovanović) **99b:33017** 33C45 (31A15, 42C05)

— (*with* Natalini, Pierpaolo; Ricci, Paolo Emilio) Zero's asymptotic distribution of polynomials orthogonal with respect to varying weights. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 183–190, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99j:33014** 33C45 (34E20, 42C05)

— (*with* Pan, Victor) Distribution of the zeros of Jacobi polynomials associated with varying weights. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 191–201, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (M. K. Jain) **99m:33005** 33C45 (34E20)

He, Min *see* **He, Min**[3]

He, Min[1] Integrated semigroups and vibrating string problem. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 109–120. (Summary) **99b:34100** 34G10 (47D06)

He, Min[3] Espaces de modules de systèmes cohérents. [Moduli spaces of coherent systems] *Internat. J. Math.* **9** (1998), *no.* 5, 545–598. (Jean-Marc Drezet) **99i:14016** 14D20

He, Ming[2] (*with* Huang, Huai Zhi; Wang, Huan Chen) The optimal mechanism of a multi-object auction. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 12, 101–106. 90A09

He, Ming Feng (*with* Wang, Yi; Ma, Yi Hua) A renumbering problem for two sequences. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **38** (1998), *no.* 1, 6–9. (Summary) **99c:20003** 20B30

He, Qi-Chang (*with* Telega, Józef Joachim; Curnier, Alain) Unilateral contact of two solids subject to large deformations: formulation and existence results. (English summary) *Proc. Roy. Soc. London Ser. A* **452** (1996), *no.* 1955, 2691–2717. (P. D. Panagiotopoulos) **99c:73074** 73T05 (49N55, 58E35)

He, Qi Min Criteria for the nonexistence of closed orbits for a generalized Liénard system with several singularities. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 763–770. (Summary) **99a:34081** 34C05 (34C25)

— On the uniqueness of limit cycle for a generalized Liénard system. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 163–175. (Lev Lerman) **99j:34034** 34C05

He, Qi Ming[2] (*with* Kang, Li Shan; Evans, David John[1]) Convergence and stability of the finite difference scheme for nonlinear parabolic systems with time delay. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 129–153 (1998). (Petr N. Vabishchevich) **99d:65248** 65M06 (65M12)

He, Qing[1] Advances in fuzzy clustering theory and its applications. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 89–94. (Summary) **99h:04005** 04A72

He, R. *see* **He, Rong**

He, Ren Yi The dual space of a locally k-uniformly rotund space. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 1, 87–90. (Li Xin Cheng) **99d:46012** 46B20

He, Rong (*with* Vaidya, Prabhakar G.) An analysis of the trans-spectral-coherence for Duffing oscillators undergoing chaos. (English summary) *J. Sound Vibration* **212** (1998), *no.* 3, 435–454. (Summary) **99b:70026** 70K50

He, Sailing (*with* Romanov, Vladimir Gavrilovich) Identification of dipole sources in a bounded domain for Maxwell's equations. (English summary) *Wave Motion* **28** (1998), *no.* 1, 25–40. (Tom Roberts) **99c:78009** 78A25 (31B20, 35J05, 35Q60, 35R30)

He, Sheng Wu (*with* Wang, Jia Gang) The hypercontractivity of Ornstein-Uhlenbeck semigroups with drift, revisited. *Séminaire de Probabilités, XXXI*, 80–84, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Tu Sheng Zhang) **99d:60085** 60J35 (47B25, 47D07)

— (*with* Yao, Rongqin; Wang, Jia Gang) The gradient and divergent operators in white noise analysis. (English and Chinese summaries) *Chinese J. Appl. Probab. Statist.* **13** (1997), *no.* 1, 63–74. (Isamu Dôku) **99c:60135** 60H99 (47B38, 60G20)

— (*with* Wang, Jia Gang) Gaussian measures on white noise spaces. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 1, 19–28. (Yuh-Jia Lee) **99h:60082** 60G15 (60G20)

He, Shi Ben (*with* Li, Gang Chang) Lagrange's theorem for a class of nonholonomic systems and its application. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 135–146; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 127–135 (*Chinese. English and Chinese summaries*). (David Martín de Diego) **99e:70039** 70F25 (58F05)

He, Shuhong (*with* Dai, Zheng De) Approximate inertial manifolds of strongly damped nonlinear wave equations. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 323–330. (Summary) **99j:35141** 35L70 (35B40)

— (*with* Dai, Zheng De) Blow-up of solutions of some nonlinear elastic wave equations. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 58–60. 35L70 (35B05, 35Q72)

He, Shuyuan (*with* Yang, Grace L.) The strong law under random truncation. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 992–1010. (Winfried Stute) **99g:62065** 62G20

He, Song Nian (*with* Yang, Cai Ping) Legendre spectral-finite element method for the three-dimensional unsteady Navier-Stokes equation. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 163–175. (Tsorng-Whay Pan) **99d:65286** 65M60 (65M70, 76D05, 76M10)

— (*with* Guo, Ben Yu; Ma, Heping) Chebyshev spectral-finite element method for three-dimensional vorticity equation. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 140–151. (Gert Lube) **99h:65174** 65M70 (65M60, 76C99, 76M10)

— (*with* Yang, Cai Ping; Zhang, Dan Qing) The moduli of continuity of Bernstein polynomials. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 137–139. 41A35

He, Tai Ping[1] A codimension reducibility theorem for submanifolds of a sphere. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 410–414. (Qing Ming Cheng) **99m:53104** 53C40 (53C20, 53C42)

He, Tao (*with* Jin, Wen Hua; Liu, Xiao Ping; Tang, Wei Qing; Tang, Rong Xi) A fast convex hull algorithm for planar point sets based on sorted simple polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 533–539. (Summary) **99k:68194** 68U05

He, Tian-Xiao Positivity and convexity criteria for Bernstein-Bézier polynomials over simplices. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 169–176, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (41A29)

— Short time Fourier transform, integral wavelet transform, and wavelet functions associated with splines. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 182–200. (Gilbert Walter) **99f:42066** 42C15 (41A15)

He, Wei (*with* Kang, Li Shan) An improved GA for combinational logic expressions. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 17–20. (Summary) **99c:92003** 92B05

— (*with* Wang, Baozhong; Kang, Li Shan) Investigation of CAM-Brain by using EQUnn model. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 2, 139–142. 68T05

He, Wei[1] (*with* Luo, Mao-kang) Zero-dimensionality in the category of locales. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 539–544. 18B30 (54A05, 54B30, 54F45)

— Spectrums of Heyting algebras. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 139–142. (Summary) **99g:06015** 06D20 (06E15)

— Generalized Zadeh function. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 381–386. 54A40

— The relation between sublocales and subspaces. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 7–10. 54B30 (18B30)

— (*with* Liu, Ying Ming) Steenrod's theorem for locales. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 305–307. (J. R. Isbell) **99c:18001** 18A30 (54D30)

— (*with* Gao, Wan Dong) The Alexandorff [Aleksandrov] compactification of an L-fuzzy topological space. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 90–92, 98. 54A40 (54D35)

— (*with* Liu, Ying Ming) Inverse limits in the category of locales. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 476–482. (Summary) **99i:18008** 18B30 (54B30)

He, Weiqing (*with* Marriott, Kim) Constrained graph layout. (English summary) *Constraints* **3** (1998), *no.* 4, 289–314. (Summary) **99h:68167** 68U05

He, Wenjie (*with* Lai, Ming-Jun) Construction of bivariate compactly supported biorthogonal box spline wavelets with arbitrarily high regularities. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 1, 53–74. (Charles K. Chui) **99k:42058** 42C15 (41A15)

He, X. *see* **He, Xinyu**

He, Xian-Ping (*with* Guan, Zhi Hong; Zhou, Yun-Cai) The equivalence of exponential stability for impulsive time-delay differential systems. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 47–56, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99c:34175** 34K20 (34A37)

He, Xiao Guang (*with* Cheng, Ji Lin; Yan, Bi Peng) Optimal orthogonal experimental methods of multidimensional dynamic and large scale linear problems. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 1–7. 90C06 (90C39)

He, Xiaogui (*with* Chen, Yunkai) Nonexistence of small periodic traveling wave solutions to the power Kadomtsev-Petviashvili equation. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 43–50. (Summary) **99h:35183** 35Q53 (34B15, 35B10)

He, Xiaoyi (*with* Chen, Shiyi; Doolen, Gary D.) A novel thermal model for the lattice Boltzmann method in incompressible limit. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 282–300. (Summary) **99g:76108** 76M25 (76M35, 76P05, 82C40)

— (*with* Zhang, Raoyang; Chen, Shiyi; Doolen, Gary D.) On the three-dimensional Rayleigh-Taylor instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1143–1152. (Summary) **99m:76064** 76E99 (76M25, 76T05)

He, Xin[1] (*with* Sunder, Sivaprakasam) Fast approximation algorithms for single machine scheduling. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 111–124 (*electronic*). (*see* **99d:68010**) 90B25 (68Q25)

— (*with* Chuang, Richie Chih-Nan; Garg, Ashim; Kao, Ming-Yang; Lu, Hsueh-I) Compact encodings of planar graphs via canonical orderings and multiple parentheses. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 118–129, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68P99 (68R10)

— (*with* Dasgupta, Bhaskar[1]; Jiang, Tao[1]; Li, Ming[1]; Tromp, John; Wang, Lusheng; Zhang, Louxin) Computing distances between evolutionary trees. *Handbook of combinatorial optimization, Vol.* 2, 35–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

— (*with* Sunder, Sivaprakasam) Scheduling interval ordered tasks in parallel. (English summary) *J. Algorithms* **26** (1998), *no.* 1, 34–47. (Nikolai K. Krivulin) **99f:90051** 90B35 (05C85, 68M20, 68Q22)

He, Xing (*with* Song, Jun; Xu, Xiao Ming) A stability based neural networks controller design method. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 119–133. 93C83 (93B51)

He, Xing Qiang (*with* Xiao, Zheng Chang) Some results on weak epiconvergence of sequences of functions in reflexive Banach spaces. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 35–39. (Kung-fu Ng) **99f:49015** 49J45

He, Xinyu (*with* Nielsen, A. H.; Rasmussen, Jens Juul; Bohr, Tomas) Vortex merging and spectral cascade in two-dimensional flows. (English summary) *Phys. Fluids* **8** (1996), *no.* 9, 2263–2265. 76F99 (76C05, 76M25)

He, Xiu Li (*with* Yong, Xue Rong) A new necessary and sufficient condition for irreducibility of a matrix and a new algorithm for deciding irreducibility. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 2, 15–17. 15A23 (65F30)

He, Xue-zhong (*with* Li, Ji Bin; Ge, Wei Gao) Multiple periodic solutions of differential delay equations $x'(t) = \mp \sum_{i=1}^{n-1} \delta_i f(x(t-r_i))$ with $\delta_i = \pm 1$. *Differential equations and applications* (*Hangzhou*, 1996), 176–182, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 34K15 (34C25)

— (*with* Ruan, Shi Gui) Global stability in chemostat-type plankton models with delayed nutrient recycling. (English summary) *J. Math. Biol.* **37** (1998), *no.* 3, 253–271. (Summary) **99i:92020** 92D25

— (*with* Li, Ji Bin) Multiple periodic solutions of differential delay equations created by asymptotically linear Hamiltonian systems. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 45–54. (Michele Matzeu) **99a:34193** 34K15 (34C25, 58F22)

— (*with* Ruan, Shi Gui) Global stability in chemostat-type competition models with nutrient recycling. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 170–192 (*electronic*). (Hassan El-Owaidy) **99f:92025** 92D25 (34K15, 34K20)

— The Lyapunov functionals for delay Lotka-Volterra-type models. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1222–1236 (*electronic*). (H. I. Freedman) **99f:34109** 34K20 (45J05, 92D25)

— (*with* Ruan, Shi Gui; Xia, Huaxing) Global stability in chemostat-type equations with distributed delays. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 681–696 (*electronic*). (Hassan El-Owaidy) **99d:92027** 92D25 (34K20, 45J05)

— Almost periodic solutions of a competition system with dominated infinite delays. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 1, 71–89. (K. Gopalsamy) **99c:92038** 92D25 (34K15, 45J05)

— (*with* Li, Ji Bin; Liu, Zheng-rong) Hamiltonian symmetric groups and multiple periodic solutions of differential delay equations. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 457–474. (Frederick R. Marotto) **99j:34102** 34K15 (34C25, 58F05)

He, Xuming (*with* Wang, Gang[2]) Qualitative robustness of S^*-estimators of multivariate location and dispersion. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 257–268. (P. Laurie Davies) **99c:62073** 62F35 (62H12)

— (*with* Chen, Ling[1]) Testing normality for censored data. (English summary) *Applied statistical science, III*, 113–125, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62092** 62G10 (62N05)

— (*with* Shi, Peide) Monotone B-spline smoothing. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 643–650. (Alan M. Polansky) **99f:62059** 62G07 (65D07, 94A17)

— (*with* Ng, Pin; Portnoy, Stephen L.) Bivariate quantile smoothing splines. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 537–550. (Girdhar G. Agarwal) **99h:62036** 62G05

He, Y. *see* **He, Yong**[1]

He, Ya Qun (*with* Hu, Shou Song; Cao, Jian) Tracking large-scale interconnected systems with strong stability. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 341–345. 93D10 (93A15)

He, Yi Nong (*with* Chen, Qing Ming) Convergence and fixed points of the iteration process for sequences of multivalued nonexpansive mappings. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 90–93. (Summary) **99j:47084** 47H10 (47H04, 47H09, 47H17)

He, Yi Ran A fixed point theorem in topological linear spaces. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 7–10. (Da Jun Guo) **99e:47074** 47H10

— (*with* Ding, Xie Ping) Best approximation theorem for set-valued mappings without convex values and continuity. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 9, 831–836; *translated from Appl. Math. Mech.* **19** (1998), *no.* 9, 773–778 (*Chinese. English and Chinese summaries*). 41A65 (47H10)

— A KKM theorem, a generalized minimax inequality and an application. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 154–158. (Zhong Tan) **99k:49017** 49J35 (47H10, 47H19, 49J40)

He, Yin Nian (*with* Li, Kai-tai) Stokes coupling method for the exterior flow. II. Well-posedness analysis. (English summary) *Acta Math. Sci.* (*English Ed.*) **16** (1996), *no.* 4, 442–457. (Summary) **99g:35104** 35Q30 (76D05)

— (*with* Huang, Qing Huai) Stability of nonlinear Galerkin methods for the Navier-Stokes equations. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 2, 113–120. 65M60 (76D05, 76M25)

— An optimal nonlinear Galerkin algorithm for the penalized Navier-Stokes equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 3, 251–256. (Summary) **99m:65185** 65M60 (35Q30, 76D05, 76M25)

— (*with* Li, Kai-tai; Huang, Ai Xiang) The stability and convergence of an inertial algorithm. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 239–250. (Summary) **99m:65170** 65M12 (65J15)

— (*with* Li, Kai-tai) Convergence and stability of finite element nonlinear Galerkin method for the Navier-Stokes equations. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 77–106. (Andrei I. Tolstykh) **99c:65165** 65M12 (65M60, 76D05, 76M10)

— (*with* Mattheij, Robert M. M.) The coupling of boundary integral and finite element methods for the exterior steady Oseen problem. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 27–40. (Summary) **99j:76073** 76M10 (35Q35, 65N30, 76D05, 76M15)

— (*with* Li, Kai-tai) Optimum finite element nonlinear Galerkin algorithm for the Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 29–38. (Summary) **99m:65186** 65M60 (76D05, 76M10)

He, Ying Yu (*with* Wang, Guo Jun[1]) Remarks on fuzzy lattices and intuitionistic fuzzy sets. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 1–4. 03E72

— (*with* Wang, Guo Jun[1]) The structure of $\mathscr{L}^*$-Lindenbaum algebras and a simplified system of axioms for $\mathscr{L}^*$. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 1–8. (Summary) **99d:03020** 03B52 (03C75, 03G10)

He, Yong *see* **He, Yong**[3]

He, Yong[1] (*with* Chen, Shi Ping[3]; Yao, En Yu) The computational complexity of a class of scheduling problems with machine release times and a solution algorithm. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 474–476. 90B35 (68Q25)

— Parametric LPT-bound on parallel machine scheduling with nonsimultaneous machine available time. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 29–36. 90B35 (90C90)

— (*with* Burkard, Rainer E.; Kellerer, Hans[2]) A linear compound algorithm for uniform machine scheduling. (English summary) *Computing* **61** (1998), *no.* 1, 1–9. (Frank Werner) **99f:90044** 90B35 (68Q25, 90C27)

— (*with* Burkard, Rainer E.) A note on MULTIFIT scheduling for uniform machines. (English summary) *Computing* **61** (1998), *no.* 3, 277–283. (Summary) **99g:90054** 90B35 (90C27)

— (*with* Lin, Guo-Hui; Yao, En Yu) Parallel machine scheduling to maximize the minimum load with nonsimultaneous machine available times. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 75–81. (Summary) **99h:90052** 90B35

— A dual approximate approach for $Q_2 \| C_{\max}$ scheduling problems. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 123–129. 90B35

— The multifit algorithm for set partitioning containing kernels. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 2, 246. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 2, 227–232. 90B35 (68M20, 68Q25)

He, Yong[2] S-regular semigroups. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 2, 14–16. 20M17

— (*with* Li, Yong Hua[2]) On Yamada's conjecture. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 17–20. (R. J. Warne) **99i:20084** 20M17

He, Yong[3] (*with* Lu, Baoqun; Ni, Guangjiong) A method for obtaining Darboux transformations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 140–148. (Xian Guo Geng) **99d:35144** 35Q53 (35A30, 58F37)

He, Yu Xin (*with* Liang, Li Ping; Guo, Hao Zhi) The numerical values of the terms of the Batrachion sequence. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 357–362. (Run Sheng Yang) **99i:28015** 28A80

He, Yu Zan (*with* Yang, Chung-Chun) Meromorphic functions that do not satisfy algebraic differential equations. (Chinese. Chinese summary) *Acta Math. Sci. (Chinese)* **11** (1991), *no.* 3, 343–348. (Hong Xun Yi) **99g:34018** 34A20 (30D35, 33B15)

— Factorization of meromorphic solutions of ordinary differential equations. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 379–385. (Summary) **99b:34008** 34A20 (30D35)

— (*with* Yuan, Wen Jun) On factorizable solution of the differential equation $(f')^2 = a_0(z)(f - a_1(z))^2 f$. *Chinese Sci. Bull.* **42** (1997), *no.* 21, 1779–1782. (Ilpo Laine) **99d:34013** 34A20

— (*with* Aulaskari, Rauno; Ristioja, Juha; Zhao, Ruhan) Q_p spaces on Riemann surfaces. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 449–464. (P. Lappan) **99g:30045** 30D45

He, Yuanping (*with* Hui, Wai How) Hyperbolicity and optimal coordinates for the three-dimensional supersonic Euler equations. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 893–928. (Dietmar Kröner) **99c:76060** 76J20 (35L99, 35Q30, 76N15)

He, Yue (*with* Li, Cheng Zhi[1]) On the number of limit cycles arising from perturbations of homoclinic loops of quadratic integrable systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 303–316. (I. D. Iliev) **99k:34058** 34C05 (34C37, 58F21)

He, Zheng-Xu (*with* Schramm, Oded) On the distortion of relative circle domain isomorphisms. (English summary) *J. Anal. Math.* **73** (1997), 115–131. (Kenneth Stephenson) **99k:30007** 30C20 (52C15)

— (*with* Schramm, Oded) The C^∞-convergence of hexagonal disk packings to the Riemann map. *Acta Math.* **180** (1998), *no.* 2, 219–245. (Frédéric Mathéus) **99j:52021** 52C15 (30C20, 30E10, 39A12)

— On the crossing number of high degree satellites of hyperbolic knots. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 235–245. (Colin C. Adams) **99c:57023** 57M25 (57M50)

He, Zhenting (*with* Luo, Jiao Wan; Chen, Haibo) Oscillation criteria for second order neutral difference equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 262–266. (Summary) **99i:39010** 39A10

He, Zhenya (*with* Wang, Jun) Blind identification and signal separation of two-input two-output FIR systems. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 3, 307–320. (Summary) **99b:94012** 94A12

— (*with* Wang, Zhishun; Li, Wenhua) A fast algorithm for n-D discrete cosine transform. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 45–54. (Summary) **99f:94007** 94A29 (65T20)

He, Zhi Fang A new method for solving nonlinear oscillatory equations. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 9–11. 34A45

He, Ziqiang Another definition of order-sorted algebra. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 547–551. (Summary) **99k:68113** 68Q65

Head, D. A. (*with* Rodgers, G. J.) The anisotropic Bak-Sneppen model. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 3977–3988. (Summary) **99a:82064** 82C26 (82C27, 92D15)

Head, Tom (*with* Kobayashi, Satoshi[2]; Yokomori, Takashi) Locality, reversibility, and beyond: learning languages from positive data. (English summary) *Algorithmic learning theory (Otzenhausen, 1998)*, 191–204, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q45)

— Splicing representations of strictly locally testable languages. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 139–147. (Hendrik Jan Hoogeboom) **99k:68093** 68Q45 (68Q50, 92D20)

Heagerty, Patrick J. (*with* Lele, Subhash R.) A composite likelihood approach to binary spatial data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1099–1111. (Summary) **99e:62100** 62H11

Healey, Jonathan James Characterizing boundary-layer instability at finite Reynolds numbers. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 2, 219–237. (Summary) **99a:76052** 76E05 (76B99, 76D10, 76E30)

Healey, Richard *see* **van Fraassen, Bas C., 99c:81019** *and* **Maudlin, Tim**

Healey, Timothy J. (*with* Rosakis, Phoebus) Unbounded branches of classical injective solutions to the forced displacement problem in nonlinear elastostatics. (English summary) *J. Elasticity* **49** (1997), *no.* 1, 65–78. (Massimo Lanza de Cristoforis) **99c:73018** 73C50 (35J55, 35Q72)

— (*with* Simpson, Henry C.) Global continuation in nonlinear elasticity. *Arch. Rational Mech. Anal.* **143** (1998), *no.* 1, 1–28. (Massimo Lanza de Cristoforis) **99h:73021** 73C50 (35Q72, 47H15, 47N20)

— (*with* Vainchtein, A.; Rosakis, Phoebus; Truskinovsky, Lev) The role of the spinodal region in one-dimensional martensitic phase transitions. (English summary) *Phys. D* **115** (1998), *no.* 1-2, 29–48. (Summary) **99a:73030** 73B30 (73C50, 73V25)

— *see also* **Computational methods and bifurcation theory with applications, 99k:34001**

Heard, G. W. (*with* Yoon, K. T.; Moon, S. Y.; Garcia, S. A.; Chung, T. J.) Flowfield-dependent mixed explicit-implicit (FDMEI) methods for high and low speed and compressible and incompressible flows. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 75–104. (*see* **99b:76003**) 76M25

Hearnes, Warren E., II (*with* Esogbue, Augustine O.) Maintenance and replacement models under a fuzzy framework. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 421–447, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99b:90001**) 90B25

Heath, Daniel J. On classification of Heegaard splittings. *Osaka J. Math.* **34** (1997), *no.* 2, 497–523. (Rachel Roberts) **99a:57014** 57N10

Heath, Lenwood S. (*with* Pemmaraju, Sriram V.) Stack and queue layouts of posets. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 599–625. (Ulrich Faigle) **99a:68132** 68R05 (06A07, 90C27, 94C15)

— (*with* Vergara, John Paul C.) Edge-packing planar graphs by cyclic graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 169–180. (Gerard J. Chang) **99a:05112** 05C70 (05C85)

— (*with* Vergara, John Paul C.) Sorting by bounded block-moves. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 181–206. (Summary) **99j:68023** 68P10 (92D20)

— (*with* Vergara, John Paul C.) Edge-packing in planar graphs. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 6, 629–662. (Charles J. Colbourn) **99j:68107** 68R10 (05C70, 68Q25)

Heath, M. (*with* Reeve, J. S.) An efficient parallel version of the Householder-QL matrix diagonalisation algorithm. (English summary) *Parallel Comput.* **25** (1999), *no.* 3, 311–319. (Summary) **99m:65081** 65F25 (15A21)

Heath-Brown, D. R. Almost-prime k-tuples. *Mathematika* **44** (1997), *no.* 2, 245–266. (G. Greaves) **99a:11106** 11N36 (11N35)

— (*with* Jia, Chaohua) The largest prime factor of the integers in an interval. II. *J. Reine Angew. Math.* **498** (1998), 35–59. (G. Greaves) **99d:11103** 11N36 (11N25)

— The circle method and diagonal cubic forms. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1738, 673–699. (R. C. Baker) **99d:11109** 11P55 (11L07)

Heatherly, Henry E. (*with* Lee, Enoch K. S.; Wiegandt, Richárd) Involutions on universal algebras. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 269–282, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Helmut Länger) **99c:08005** 08A40

— (*with* Birkenmeier, Gary F.) Self-distributively generated algebras. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 79–87, *Heyn, Klagenfurt*, 1998. (C. J. Maxson) **99i:16059** 16U99 (16W99)

Hebeker, F. K. (*with* Kuznetsov, Yuriĭ Alekseevich[1]) Unsteady convection and convection-diffusion problems via direct overlapping domain decomposition methods. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 387–406. (Lutz Tobiska) **99j:65155** 65M55 (76M25, 76Rxx)

hefendehl-Hebeker, Lisa *see* **Hefendehl-Hebeker, Lisa**

Heber, Gerd (*with* Lindemann, Christoph) Parallel numerical solution of a class of Volterra integro-differential equations. *Stochastic differential and difference equations (Győr, 1996)*, 123–132, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 65R20 (65U05)

Heber, J. G. (*with* Haugland, D.; Husøy, J. H.) Compressing data by shortest path methods. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 145–150, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35 (90B12)

Heber, Jens Noncompact homogeneous Einstein spaces. *Invent. Math.* **133** (1998), *no.* 2, 279–352. (McKenzie Y. Wang) **99d:53046** 53C30 (53C25, 53C35)

Hebert, D. J. Cyclic interlaced quadtree algorithms for quincunx multiresolution. (English summary) *J. Algorithms* **27** (1998), *no.* 1, 97–128. (Luiz Henrique de Figueiredo) **99b:68201** 68U05 (65Y25)

Hébert, Michel Injectivity classes of abelian groups. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 9–15. (R. Göbel) **99b:20089** 20K40

— On generation and implicit partial operations in locally presentable categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 4, 473–488. (J. R. Isbell) **99i:18002** 18A20 (03C60, 08A55, 18C10)

— Purity and injectivity in accessible categories. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 2, 143–147. (Temple H. Fay) **99c:18004** 18C99 (20K99)

Hebey, Emmanuel Meilleures constantes et inégalités de Sobolev optimales sur les variétés riemanniennes compactes. (French summary) [Best constants and optimal Sobolev inequalities on compact Riemannian manifolds] *Séminaire de Théorie Spectrale et Géométrie, Vol. 16, Année 1997–1998*, 175–210, *Sémin. Théor. Spectr. Géom.*, 16, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (David L. Finn) **99m:53077** 53C21 (35J60, 58G03)

— (*with* Vaugon, Michel) Effective L_p pinching for the concircular curvature. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 4, 531–553 (1997). (Author's review (E.H.) (Zbl 902.53031)) **99j:53038** 53C20

— (*with* Herzlich, Marc) Harmonic coordinates, harmonic radius and convergence of Riemannian manifolds. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 569–605 (1998). (Andrea Sambusetti) **99f:53039** 53C21 (53C20)

— (*with* Aubin, Thierry; Druet, Olivier) Best constants in Sobolev inequalities for compact manifolds of nonpositive curvature. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1117–1121. (Gilles Carron) **99j:53042** 53C21 (46E35)

— Fonctions extrémales pour une inégalité de Sobolev optimale dans la classe conforme de la sphère. (English summary) [Extremal functions for an optimal Sobolev inequality in the conformal class of the sphere] *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 721–733. (Athanase Cotsiolis) **99j:58223** 58G30 (46E35, 53C21)

Hebisch, Waldemar On operators satisfying the Rockland condition. (English summary) *Studia Math.* **131** (1998), *no.* 1, 63–71. (Gerald B. Folland) **99e:22016** 22E30 (22E25, 35H05, 43A30)

Heburn, George (*with* Orlin, Peter A.; Perkins, A. Louise) A frequency accurate spatial derivative finite difference approximation. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 5, 549–560. (Stanisław Burys) **99b:65127** 65N06

Hébuterne, Gérard Systèmes à temps discret et réseaux ATM. (English and French summaries) [Discrete-time systems and ATM networks] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 211–225. (*see* **99e:90004**) 90B25

— (*with* Rosenberg, Catherine) Arrival and departure state distributions in the general bulk-service queue. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 107–118. (P. R. Parthasarathy) **99k:90075** 90B22 (60K25)

Hêche, Jean-François (*with* Liebling, Thomas M.) Finding minimum area simple pentagons. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 229–233. (Summary) **99e:68161** 68U05 (52A40)

Hecht, Frédéric (*with* Castro-Díaz, M. J.) Anisotropic mesh generation. Minimization of interpolation error. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 647–653, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65N50 (76M10)

— (*with* Borouchaki, Houman; Frey, Pascal J.) Mesh gradation control. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 1143–1165. (Summary) **99g:76102** 76M25 (65M55)

Heck, Bonnie S. (*with* Sadegh, Nader; Finney, John D.) An explicit method for computing the positive real lemma matrices. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1057–1069. (Frank Uhlig) **99b:93019** 93B25 (65F30, 93–01)

Heck, Matthias K. Homogeneous diffusions on the Sierpinski gasket. (English summary) *Séminaire de Probabilités, XXXII*, 86–107, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Ben Hambly) **99k:60200** 60J60 (60J80)

— The principle of large deviations for the almost everywhere central limit theorem. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 61–75. (Summary) **99f:60059** 60F10 (60F15, 60F17)

Heck, S. (*with* Hunter, Geoffrey[2]; Ecimovic, P.; Schlifer, I.; Walker, I. M.; Beamish, D.; Donev, S.; Kowalski, Marian; Arslan, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

van Hecke, T. *see* **Van Hecke, T.**

Heckel, Reiko (*with* Corradini, Andrea; Montanari, Ugo; Rossi, Francesca; Ehrig, Hartmut; Löwe, Michael) Algebraic approaches to graph transformation. Basic concepts and double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 163–245, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Ehrig, Hartmut; Korff, Martin; Löwe, Michael; Korff, Leila Ribeiro; Wagner, Annika; Corradini, Andrea) Algebraic approaches to graph transformation. II. Single pushout approach and comparison with double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 247–312, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Ehrig, Hartmut; Wolter, Uwe; Corradini, Andrea) Integrating the specification techniques of graph transformation and temporal logic. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 219–228, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (03B45, 03B70, 68Q50, 68R10)

— (*with* Corradini, Andrea; Große-Rhode, Martin) Structured transition systems as lax coalgebras. (English summary) *First Workshop on Coalgebraic Methods in Computer Science (CMCS '98) (Lisbon)*, 20 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 11, *Elsevier, Amsterdam*, 1998. (*see* **99e:68002**) 68Q10 (68Q55)

— (*with* Gadducci, Fabio) An inductive view of graph transformation. (English summary) *Recent trends in algebraic development techniques (Tarquinia*, 1997), 223–237, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q42 (68R10)

Heckenberger, I. (*with* Schmüdgen, Konrad) Classification of bicovariant differential calculi on the quantum groups $\mathrm{SL}_q(n+1)$ and $\mathrm{Sp}_q(2n)$. (English summary) *J. Reine Angew. Math.* **502** (1998), 141–162. (Tomasz Brzeziński) **99m:58022** 58B30 (16W30)

Heckendorn, Robert B. (*with* Rana, Soraya; Whitley, Darrell) A tractable Walsh analysis of SAT and its implications for genetic algorithms. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 392–397, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68108** 68Q25 (68T05)

Heckerman, David (*with* Geiger, Dan) A characterization of the Dirichlet distribution with application to learning Bayesian networks. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 196–207, *Morgan Kaufmann, San Francisco, CA*, 1995. (Summary) **99b:68157** 68T05 (68T30)

— (*with* Shachter, Ross) A definition and graphical representation for causality. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 262–273, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T30

— (*with* Geiger, Dan) Learning Bayesian networks: a unification for discrete and Gaussian domains. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 274–284, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T05 (68T30)

— (*with* Geiger, Dan; Meek, Christopher) Asymptotic model selection for directed networks with hidden variables. (English summary) *Uncertainty in artificial intelligence (Portland, OR*, 1996), 283–290, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T05 (68T30)

Heckers, Erik (*with* Knoop, Hans-Bernd; Zhou, Xinlong) Approximation by convolution operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 523–536. (Summary) **99g:41033** 41A35

Heckler, C. *see* **Heckler, Christian**

Heckler, Charles E. (*with* Rao, Poduri S. R. S.) Multivariate one-way random effects model. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 109–128. (Summary) **99g:62077** 62H12

— (*with* Miller, Paige; Swanson, Ronald E.) Contribution plots: a missing link in multivariate quality control. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 775–792. (*see* **99h:93003**) 90B25 (93E35)

Heckler, Christian (*with* Thiele, L.) Complexity analysis of a parallel lattice basis reduction algorithm. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1295–1302 (*electronic*). (Claus-Peter Schnorr) **99f:11159** 11Y16 (11H06, 68Q22, 68Q25)

Heckman, G. J. (*with* Opdam, E. M.) Yang's system of particles and Hecke algebras. (English summary) *Ann. of Math.* (2) **145** (1997), *no.* 1, 139–173. (Summary) **99g:33052a** 33D80 (20C99, 39A70)

— (*with* Opdam, E. M.) Erratum: "Yang's system of particles and Hecke algebras". *Ann. of Math.* (2) **146** (1997), *no.* 3, 749–750. (From the text) **99g:33052b** 33D80 (20C99, 39A70)

Heckman, James (*with* Ichimura, Hidehiko; Smith, Jeffrey Andrew; Todd, Petra) Characterizing selection bias using experimental data. (English summary) *Econometrica* **66** (1998), *no.* 5, 1017–1098. (Summary) **99d:62098** 62P20 (62G05)

Heckman, Nancy (*with* Rice, John A.) Line transects of two-dimensional random fields: estimation and design. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 4, 481–501. (R. J. Martin) **99k:62180** 62M40 (60G60)

— (*with* Ramsay, J. O.) Some theory for L-spline smoothing. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ*, 1996), 371–380, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:41015** 41A15 (46N30, 62G07)

Heckmann, Reinhold The appearance of big integers in exact real arithmetic based on linear fractional transformations. (English summary) *Foundations of software science and computation structures (Lisbon*, 1998), 172–188, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68N15 (68Q25)

— (*with* Edalat, Abbas) A computational model for metric spaces. (English summary) *Theoret. Comput. Sci.* **193** (1998), *no.* 1-2, 53–73. (W. J. Kotzé) **99b:06009** 06B35 (28C15, 54E40)

Hedar, A. (*with* Rashwan, R. A.) On common fixed point theorems of compatible mappings in Menger spaces. *Demonstratio Math.* **31** (1998), *no.* 3, 537–546. 54H25 (54E70)

Hedayat, A. S. (*with* Pesotan, H.) Designs for two-level factorial experiments with linear models containing main effects and selected two-factor interactions. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 109–124. (Summary) **99c:62214** 62K15

— (*with* Stufken, John) Sampling designs to control selection probabilities of contiguous units. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 333–345. (Summary) **99g:62011** 62D05

— (*with* Stufken, John) Compound orthogonal arrays. (English summary) *Technometrics* **41** (1999), *no.* 1, 57–61. (Summary) **99i:62179** 62K99

Hedelin, Per (*with* Hagen, Roar) Robust vector quantization by a linear mapping of a block code. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 200–218. (Summary) **99j:94022** 94A29 (94A34)

— (*with* Skoglund, Mikael) Hadamard-based soft decoding for vector quantization over noisy channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 515–532. 94A29 (94A24)

Hedenfalk, Joakim (*with* Brander, Olle) A new formulation of the general solution to Burgers' equation. (English summary) *Wave Motion* **28** (1998), *no.* 4, 319–332. (Summary) **99g:76048** 76D99 (35Q35)

Hedenmalm, Håkan (*with* Lindqvist, Peter; Seip, Kristian) A Hilbert space of Dirichlet series and systems of dilated functions in $L^2(0,1)$. *Duke Math. J.* **86** (1997), *no.* 1, 1–37. (From the introduction) **99i:42033** 42B30 (30H05, 46E20)

— Recent developments in the function theory of the Bergman space. (English summary) *European Congress of Mathematics, Vol. I (Budapest*, 1996), 202–217, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Shûichi Ohno) **99i:30070** 30H05 (46E20, 46N20)

— Recent progress in the function theory of the Bergman space. (English summary) *Holomorphic spaces (Berkeley, CA*, 1995), 35–50, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Shûichi Ohno) **99e:46035** 46E20 (30H05, 47A15)

— Maximal invariant subspaces in the Bergman space. *Ark. Mat.* **36** (1998), *no.* 1, 97–101. (D. Sarason) **99b:47011** 47A15 (46E20)

Hedetniemi, Sandra M. (*with* Hedetniemi, Stephen T.; Henning, Michael A.) The algorithmic complexity of perfect neighborhoods in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 183–192. (Fabrizio Luccio) **99c:05184** 05C85 (68Q25, 68R10)

— (*with* Abdelbar, Ashraf M.) Approximating MAPs for belief networks is NP-hard and other theorems. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 21–38. (Summary) **99i:68057** 68Q25 (68T30)

— (*with* Cockayne, E. J.; Hedetniemi, Stephen T.; Mynhardt, Christina M.) Irredundant and perfect neighbourhood sets in trees. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 253–260. (Summary) **99a:05030** 05C05 (05C35)

— (*with* Fricke, Gerd H.; Haynes, Teresa W.; Hedetniemi, Stephen T.; Henning, Michael A.) On perfect neighborhood sets in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 221–225. (Summary) **99k:05090** 05C35 (05C70)

Hedetniemi, Stephen T. (*with* Hedetniemi, Sandra M.; Henning, Michael A.) The algorithmic complexity of perfect neighborhoods in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 183–192. (Fabrizio Luccio) **99c:05184** 05C85 (68Q25, 68R10)

— (*with* Fricke, Gerd H.; Jacobs, David P.) Independence and irredundance in k-regular graphs. (English summary) *Ars Combin.* **49** (1998), 271–279. (Summary) **99c:05183** 05C85

— (*with* Cockayne, E. J.; Hedetniemi, Sandra M.; Mynhardt, Christina M.) Irredundant and perfect neighbourhood sets in trees. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 253–260. (Summary) **99a:05030** 05C05 (05C35)

— (*with* Dunbar, Jean E.; Henning, Michael A.; McRae, Alice A.) Minus domination in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 35–47. (Summary) **99j:05104** 05C35

— (*with* Fricke, Gerd H.; Haynes, Teresa W.; Hedetniemi, Sandra M.; Henning, Michael A.) On perfect neighborhood sets in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 221–225. (Summary) **99k:05090** 05C35 (05C70)

Hedley, Mark (*with* Trajković, Miroslav) Recursive formulae for piecewise polynomial approximation of discrete functions. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 1, 31–35. (Summary) **99g:65018** 65D15 (41A10)

Hedrick, J. Karl (*with* Won, Mooncheol) Multiple-surface sliding control of a class of uncertain nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 693–706. 93B12 (93C41)

— (*with* Stotskiĭ, A. A.; Yip, P. Patrick) The use of sliding modes to simplify the backstepping control method. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 123–133. (Summary) **99c:93020** 93B12

— (*with* Stotskiĭ, A. A.; Yip, P. Patrick) A universal stabilizing controller for a cascade dynamical system. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 315–318. 93D15 (93A20)

— (*with* Yip, P. Patrick) Adaptive dynamic surface control: a simplified algorithm for adaptive backstepping control of nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 959–979. (Hua Lin Tan) **99h:93060** 93C40 (93B40, 93B51, 93C10)

— *see also* **Tarbouriech, Sophie**

Heeg, Ruerd S. (*with* Geurts, Bernard J.) Spatial instabilities of the incompressible attachment-line flow using sparse matrix Jacobi-Davidson techniques. (English summary) *Appl. Sci. Res.* **59** (1998), *no.* 4, 315–329. (Summary) **99g:76043** 76D10 (76E99, 76M20)

— (*with* Dijkstra, D.; Zandbergen, Pieter J.) The stability of Falkner-Skan flows with several inflection points. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 82–93. (Summary) **99k:76053** 76E05 (76D10)

Heegard, Chris (*with* Little, John B.; Saints, Keith) On the structure of Hermitian codes. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 293–314. (Shojiro Sakata) **99a:94054** 94B27 (94B15)
— (*with* Blake, Ian F.; Høholdt, Tom; Wei, Victor) Algebraic-geometry codes. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2596–2618. (Summary) **99i:94070** 94B27 (14G15, 94–02)
Heemels, W. P. M. H. (*with* van Eijndhoven, S. J. L.; Stoorvogel, Anton A.) Linear quadratic regulator problem with positive controls. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 551–578. (Patrizio Colaneri) **99f:49053** 49N10 (49K15, 93C15)
Heen, Olivier Linear speed-up for cellular automata synchronizers and applications. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 45–57. (Summary) **99f:68143** 68Q80
Heering, Jan *see* **Algebraic and logic programming, 99b:68002**
van Hees, Martin *see* **Van Hees, Martin**
Heesterbeek, H. *see* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**
Heesterbeek, J. A. P. (*with* Roberts, M. G.) A simple parasite model with complicated dynamics. (English summary) *J. Math. Biol.* **37** (1998), *no.* 3, 272–290. (Summary) **99i:92029** 92D30
Hefendehl-Hebeker, Lisa Aspekte eines didaktisch sensiblen Mathematikverständnisses. (German summary) [Aspects of a didactically sensitive comprehension of mathematics] *Math. Semesterber.* **45** (1998), *no.* 2, 189–206. 00A35
Hefer, Torsten ★ Optimale Regularitätssätze für die $\overline{\partial}$-Gleichung auf gewissen konkaven und konvexen Modellgebieten. (German) [Optimal regularity theorems for the $\overline{\partial}$-equation in certain concave and convex model domains] Bonner Mathematische Schriften [Bonn Mathematical Publications], 301. *Universität Bonn, Mathematisches Institut, Bonn*, 1997. *iv*+74 *pp.* (Emil Straube) **99g:32027** 32F20 (35B65, 35N15)
Hefez, Abramo (*with* Ballico, Edoardo) Algebraic morphisms into Grassmannians: differential geometry and Frobenius. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2623–2639. (Raquel Mallavibarrena) **99g:14063** 14M15 (14J60)
— (*with* Kakuta, Neuza) Tangent envelopes of higher order duals of projective curves. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 47–56. (Fyodor L. Zak) **99f:14066** 14N05 (14H99)
Heffernan, Peter M. Acknowledgement of priority: "Unbiased estimation of central moments by using *U*-statistics" [J. Roy. Statist. Soc. Ser. B **59** (1997), no. 4, 861–863; MR 98f:62096]. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 4, 813. (From the text) **99g:62041** 62G05
Hegarty, Alan F. (*with* Miller, John J. H.; O'Riordan, Eugene; Shishkin, G. I.) Numerical solution of elliptic convection-diffusion problems on fitted meshes. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 239–251. (*see* **99a:65009**) 65N50 (76M20, 76Rxx)
Hegarty, Peter V. Automorphism groups of order P^2Q^2. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 149–152. (N. K. Dickson) **99i:20034** 20D45
— (*with* MacHale, Desmond) Two-groups in which an automorphism inverts precisely half the elements. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 2, 129–135. (Alberto Espuelas) **99b:20034** 20D15
Hegazi, Ahmad S. On two-sided cofinite superideals. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 85–98. (Hedi Benamor) **99e:17014** 17B35
Hege, Hans-Christian (*with* Battke, Henrik; Stalling, Detlev) Fast line integral convolution for arbitrary surfaces in 3D. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 181–195, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— (*with* Beck, Rudolf; Deuflhard, Peter; Seebaß, Martin; Stalling, Detlev) Numerical algorithms and visualization in medical treatment planning. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 303–328, *Springer, Berlin*, 1997. (*see* **99g:68212**) 92C50
— (*with* Stalling, Detlev) Fast LIC with piecewise polynomial filter kernels. (English summary) *Mathematical visualization* (*Berlin*, 1997), 295–314, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65Y25
— *see also* **Visualization and mathematics, 99g:68212** *and* **Mathematical visualization, 99k:65005**
Hegedüs, Pál (*with* Piroska, Gábor; Ruzsa, Imre Z.) On the Schnirelmann densisty of sumsets. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 3-4, 333–345. (Georges Grekos) **99k:11019** 11B05
Hegedüs, Tibor (*with* Aizenstein, Howard; Hellerstein, Lisa; Pitt, Leonard) Complexity-theoretic hardness results for query learning. (English summary) *Comput. Complexity* **7** (1998), *no.* 1, 19–53. (Mark R. Jerrum) **99e:68048** 68Q15 (68Q25, 68T05)
Hegel, G. W. F. *see* **Bonsiepen, Wolfgang, 99e:00008**; **Hansen, Frank-Peter, 99i:01017** *and* **Lacroix, Alain, (99g:01038)**
Hegenbarth, Friedrich (*with* Cavicchioli, Alberto; Spaggiari, Fulvia) A splitting theorem for homotopy equivalent smooth 4-manifolds. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 523–539. (Masayuki Yamasaki) **99a:57019** 57N13 (57R42, 57R67)
— (*with* Cavicchioli, Alberto; Repovš, Dušan D.) On manifold spines and cyclic presentations of groups. (English summary) *Knot theory* (*Warsaw*, 1995), 49–56, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57003** 57M05 (57N10)
— (*with* Cavicchioli, Alberto; Spaggiari, Fulvia) Topological properties of high-dimensional handles. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **39** (1998), *no.* 1, 45–62. (V. P. Snaith) **99e:57036** 57Q37 (57N65, 57R65)
— (*with* Cavicchioli, Alberto) On pseudo-isotopy classes of homeomorphisms of $\#_p(S^1 \times S^n)$. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 145–164. (Sergej V. Matveev) **99f:57025** 57N37 (57R65)
Hegger, Rainer (*with* Muldoon, Mark R.; Broomhead, David S.; Huke, Jeremy P.) Delay embedding in the presence of dynamical noise. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 175–186. (Dieter Beule) **99d:58158** 58F40 (65U05)
— (*with* Olbrich, Eckehard; Kantz, Holger) Analysing local observations of weakly coupled maps. (English summary) *Phys. Lett. A* **244** (1998), *no.* 6, 538–544. (Summary) **99c:58112** 58F13
Heggernes, Pinar (*with* Telle, Jan Arne) Partitioning graphs into generalized dominating sets. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 128–142. (Fabrizio Luccio) **99j:68108** 68R10 (05C85, 68Q25)
Hegland, Markus (*with* Dun, C. R.; Osborne, Michael R.) Parallel stable solution methods for tridiagonal linear systems of equations. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 267–274, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65F10 (65Y05)
— (*with* Wheeler, Wayne W.) Linear bijections and the fast Fourier transform. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 2, 143–163. (Manfred Tasche) **99b:65182** 65T20 (11Y16)
— (*with* Arbenz, Peter) On the stable parallel solution of general narrow banded linear systems. (English summary) *High performance algorithms for structured matrix problems*, 47–73, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65F30 (65Y05)
— (*with* Roberts, Stephen G.; Altas, Irfan) Finite element thin plate splines for data mining applications. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 245–252, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65031** 65D07 (62–07, 65U05, 65Y25)
— (*with* Osborne, Michael R.) Wrap-around partitioning for block bidiagonal linear systems. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 373–383. (Summary) **99c:65049** 65F05
— (*with* Anderssen, Robert S.) A mollification framework for improperly posed problems. *Numer. Math.* **78** (1998), *no.* 4, 549–575. (Charles W. Groetsch) **99d:65190** 65J20 (47A50, 65J10)
— (*with* Anderssen, Robert S.) For numerical differentiation, dimensionality can be a blessing! (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1121–1141. (De Hui Chen) **99i:65019** 65D25
Hegna, C. C. (*with* Nakajima, Noriyoshi) On the stability of Mercier and ballooning modes in stellarator configurations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1336–1344. (Summary) **99a:76056** 76E25 (76W05, 76X05)
— (*with* Kruger, S. E.; Callen, J. D.) Generalized reduced magnetohydrodynamic equations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4169–4182. (Summary) **99i:76149** 76W05
Hegner, Stephen J. A family of decidable feature logics which support HPSG-style set and list constructions. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 208–227, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65 (68S05)
Hehl, Friedrich W. Computer methods in general relativity—algebraic computing. (English summary) *Proceedings of the* 14*th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 469–477, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83–04
— (*with* Socorro, José) Gauge theory of gravity: electrically charged solutions within the metric-affine framework. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1113–1120. (Summary) **99m:83169** 83D05
— (*with* García Díaz, Alberto; Lämmerzahl, Claus; Macías, Alfredo; Socorro, José) Plebański-Demiański-like solutions in metric-affine gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1793–1799. (Serguey M. Pokas′) **99d:83082** 83D05
— (*with* Socorro, José; Macías, Alfredo) Computer algebra in gravity: Reduce-Excalc programs for (non-)Riemannian space-times. I. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 264–283. (Summary) **99h:83001** 83–04
— (*with* Muench, Uwe; Gronwald, Frank) A brief guide to variations in teleparallel gauge theories of gravity and the Kaniel-Itin model. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 933–961. (Summary) **99a:83058** 83D05
— (*with* Gronwald, Frank; Muench, Uwe; Macías, Alfredo) Volume elements of spacetime and a quartet of scalar fields. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084021, 4 *pp.* (Summary) **99k:83101** 83C99 (83D05)
Hehner, Eric C. R. Boolean formalism and explanations. (English summary) *Algebraic methodology and software technology* (*Munich*, 1996), 351–374, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (D. Monk) **99a:00008** 00A35 (01A55, 03G05, 06–03, 06Exx)
Heiberg, Johan Ludvig *see* **Euclid, 99m:01004**
Heibig, Arnaud (*with* Ayad, Setti) Global interaction of fields in a system of conservation laws. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 701–725. (Shu-Xing Chen) **99c:35143** 35L65 (35B27)
— (*with* Sahel, Amina) A method of characteristics for some systems of conservation laws. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1467–1480 (*electronic*). (Zi Ping Li) **99g:35079** 35L65
meyer auf der Heide, Friedhelm *see* **Meyer auf der Heide, Friedhelm**
Heidelberger, Philip (*with* Glasserman, Paul; Shahabuddin, Perwez; Zajic, Tim) A look at multilevel splitting. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 98–108, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (*see* **99d:65005**) 65U05
— (*with* Glasserman, Paul; Shahabuddin, Perwez; Zajic, Tim) A large deviations perspective on the efficiency of multilevel splitting. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1666–1679. (Luisa Gargano) **99m:68016** 68M10 (65C05, 90B12)
an der Heiden, Uwe (*with* Nauroschat, Jürgen) A theoretical approach to *G*-protein modulation of cellular responsiveness. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 609–627. (Frank Gilberg) **99c:92018** 92C45 (92C05, 92C40)
— On the dynamics of nonlinear feedback loops in cell membrane, neural and sensory systems. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 259–268, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92C05 (34C99, 92C40)
Heidler, Harald Some results on essentially algebraic composition operators. (English summary) *Iteration theory* (*ECIT* 94) (*Opava*), 121–137, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 47B38 (47A99)
Heidrich, Wolfgang (*with* Bartels, Richard H.; Labahn, George) Fitting uncertain data with NURBS. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 177–184, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D10 (90C30)

Heifetz, Aviad Infinitary S5-epistemic logic. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 333–342. (Summary) **99c:03020** 03B45 (03C75)
— (*with* Samet, Dov) Knowledge spaces with arbitrarily high rank. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 260–273. (Irving H. LaValle) **99c:90035** 90A35
— (*with* Polemarchakis, Herakles M.) Partial revelation with rational expectations. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 171–181. (Summary) **99b:90031** 90A14
Heij, C. (*with* Scherrer, Wolfgang; Deistler, M.) System identification by dynamic factor models. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 6, 1924–1951. (Bożenna Pasik-Duncan) **99c:93016** 93B11 (93E12)
van der Heijden, G. H. M. (*with* Thompson, J. M. T.) Homoclinic orbits, spatial chaos and localized buckling. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 127–138, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70H05 (34C37, 58F13, 58F40)
— (*with* Champneys, A. R.; Thompson, J. M. T.) Spatially complex localisation in twisted elastic rods constrained to lie in the plane. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 1, 59–79. (Summary) **99h:73040** 73K05 (73H05)
— (*with* Champneys, A. R.; Thompson, J. M. T.) The spatial complexity of localized buckling in rods with noncircular cross section. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 198–221 (*electronic*). (Summary) **99g:73066** 73H05 (34C37, 58F40, 73K05)
van der Heijden, Matthieu C. (*with* de Kok, A. G.) Estimating stock levels in periodic review inventory systems. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 179–182. 90B05
Heijmans, Henk J. A. M. (*with* Tuzikov, A. V.; Roerdink, Jos B. T. M.; Sheĭnin, S. A.) Measures and indices of reflection symmetry for convex polyhedra. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam, 1998)*, 59–65, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (Christian Ronse) **99k:52014** 52A38 (51M16, 52A39, 52B15, 68U05, 68U10)
— (*with* Ronse, Christian) A lattice-theoretical framework for annular filters in morphological image processing. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 1, 45–89. (E. H. Kronheimer) **99c:68260** 68U10 (06C05)
— (*with* Molchanov, Ilya S.) Morphology on convolution lattices with applications to the slope transform and random set theory. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 3, 199–214. (Christian Ronse) **99c:68256** 68U10 (06A15, 06A23, 60D05)
— *see also* **Mathematical morphology and its applications to image and signal processing. 99g:68217**
Heijmans, Risto (*with* Neudecker, Heinz) Estimation of the SURE model. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 423–430. (Summary) **99h:62088** 62J05
Heijnen, Petra (*with* van Tilborg, Henk C. A.) Two observations concerning optimum cyclic burst-correcting codes. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 111–120. (Summary) **99k:94053** 94B15
— (*with* Pellikaan, Ruud) Generalized Hamming weights of q-ary Reed-Muller codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 181–196. (Summary) **99a:94068** 94B65
— (*with* van Tilborg, Henk C. A.; Verhoeff, Tom; Weijs, Sander) Some new binary, quasi-cyclic codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1994–1996. 94B15
van Heijst, GertJan F. (*with* Shivamoggi, Bhimsen K.) Generalized point-vortex model for the motion of a dipole-vortex on the β-plane. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 2, 113–124. (From the introduction) **99c:76021** 76C05 (76U05)
— (*with* Trieling, R. R.) Kinematic properties of monopolar vortices in a strain flow. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 6, 319–341. (Summary) **99g:76023** 76C05 (76–05, 76V05)
— (*with* Trieling, R. R.; Linssen, A. H.) Monopolar vortices in an irrotational annular shear flow. (English summary) *J. Fluid Mech.* **360** (1998), 273–294. (Summary) **99a:76029** 76C05 (76–05, 86A05, 86A10)
— (*with* Schmidt, M. R.; Beckers, Marcel; Nielsen, A. H.; Rasmussen, Jens Juul) On the interaction between two oppositely signed, shielded, monopolar vortices. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3099–3110. (Summary) **99g:76022** 76C05 (76–05, 76D05, 76M25)
— *see also* **In fascination of fluid dynamics**
Heikkilä, Seppo (*with* Cabada, Alberto; Nieto, Juan J.) Rapid convergence of approximate solutions for second order nonlinear boundary value problems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 295–299, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34B15 (34A45)
— (*with* Kumpulainen, M.; Seikkala, S.) Uniqueness and comparison results for implicit differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 237–244. (Alberto Cabada) **99c:34002** 34A09 (34A12)
— (*with* Cabada, Alberto; Nieto, Juan J.) Rapid convergence of approximate solutions for first order nonlinear boundary value problems. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 499–505. (Summary) **99a:34049** 34B15 (34A45)
— (*with* Carl, S.) On discontinuous first order implicit boundary value problems. *J. Differential Equations* **148** (1998), *no.* 1, 100–121. (Peter Kunkel) **99f:34023** 34B15 (34A09, 47H15)
— (*with* Carl, S.) On discontinuous implicit evolution equations. *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 455–471. (Angelo Favini) **99b:34104** 34G20
— (*with* Dhage, B. C.; Jogdand, S. M.) On extension of the method of upper and lower solutions to differential inclusions involving discontinuities. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 33–37. (Alberto Cabada) **99h:34023** 34A60 (34A12, 34A45, 49J24)
— (*with* Carl, S.) On second order discontinuous implicit boundary value problems with discontinuous implicit boundary conditions. *Nonlinear Anal.* **33** (1998), *no.* 3, 261–279. (Salvatore A. Marano) **99c:34032** 34B15 (34A09)
— Fixed point results for mappings in the space of bounded operators. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 7–13. (Da Jun Guo) **99e:47075** 47H10
Heikkinen, Juha Curve and surface estimation using dynamic step functions. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 255–272, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99c:62094** 62G05
— (*with* Arjas, Elja) Non-parametric Bayesian estimation of a spatial Poisson intensity. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 435–450. (Salvatore Ingrassia) **99j:62035** 62F15 (62M30)
Heikkola, Erkki (*with* Kuznetsov, Yurīĭ Alekseevich[1]; Neittaanmäki, Pekka; Toivanen, Jari) Fictitious domain methods for the numerical solution of two-dimensional scattering problems. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 89–109. (Summary) **99d:65347** 65N55
Heil, Christopher (*with* Cabrelli, Carlos A.; Molter, Ursula M.) Accuracy of lattice translates of several multidimensional refinable functions. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 5–52. (Steen Pedersen) **99g:42038** 42C15 (39B62)
— The Wiener transform on the Besicovitch spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2065–2071. (Michael T. Lacey) **99j:42007** 42A38 (42A75)
Heil, Erhard (*with* Fujino, Seiji) Who was Karl Hessenberg? (English summary) *Information* **1** (1998), *no.* 1, 29–36. (Editors) **99m:01057** 01A70
Heil, T. G. (*with* Govinder, K. S.; Uzer, T.) Approximate Noether symmetries. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 127–131. (Mircea Crasmareanu) **99a:70027** 70H33 (58F35, 70F05)
Heilbron, J. L. Thomas Samuel Kuhn. 18 July 1922–17 June 1996. *Isis* **89** (1998), *no.* 3, 505–515. 01A70
Heileman, Gregory L. (*with* Smith, Bradley J.; Abdallah, Chaouki T.) The exponential hash function. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 18 *pp.* (*electronic*). 68P10 (68P25)
Heiler, Siegfried (*with* Feng, Yuanhua) Locally weighted autoregression. (English summary) *Econometrics in theory and practice*, 101–117, *Physica, Heidelberg*, 1998. (Summary) **99g:62134** 62M10 (62P20)
— (*with* Feng, Yuanhua) A simple root n bandwidth selector for nonparametric regression. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 1, 1–21. (Summary) **99c:62095** 62G05
Heiligers, Berthold (*with* Gaffke, Norbert) Approximate designs for polynomial regression: invariance, admissibility, and optimality. *Design and analysis of experiments*, 1149–1199, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62J02 (62K05)
— (*with* Ruf, Jürgen) Stochastic models for the return of used devices. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 113–123, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 90B25 (62N05)
— E-optimal designs for polynomial spline regression. (English summary) *J. Statist. Plann. Inference* **75** (1998), *no.* 1, 159–172. (Summary) **99i:62167** 62K05
Heim, B. E. Über Poincaré Reihen und Restriktionsabbildungen. [On Poincaré series and restriction mappings] *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 79–89. (K.-B. Gundlach) **99k:11068** 11F30 (11F46, 11F67)
Heimann, Justus (*with* Westgaard, Geir) Analysis and visualization of geometric curve properties. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 545–552, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17
Heimbeck, Günter Partitions of three-dimensional Pappian projective spaces by ovoidal quadrics. (English summary) *Geom. Dedicata* **71** (1998), *no.* 2, 119–127. (Leo P. Storme) **99e:51003** 51A30 (51B10)
Heimonen, Ari Solving certain Thue equations with the aid of Mathematica. (English summary) *Innovation in mathematics (Rovaniemi, 1997)*, 215–222, *Comput. Mech., Southampton*, 1997. (Michael A. Bennett) **99a:11148** 11Y50 (11D41, 11J68, 11J82)
Hein, Georg (*with* Ballico, Edoardo) On the stability of the restriction of $T\mathbf{P}^n$ to projective curves. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 80–88. (Rosa M. Miró-Roig) **99c:14046** 14H60 (14H45)
— Duality construction of moduli spaces. (English summary) *Geom. Dedicata* **75** (1999), *no.* 1, 101–113. (Francesco Bottacin) **99m:14027** 14D20 (14D22, 14D25)
Hein, Jotun (*with* Pedersen, Christian N. S.; Lyngsø, Rune) Comparison of coding DNA. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 153–173, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99m:92022** 92D20 (68Q20)
Hein, Wolfgang *see* **Killing, Wilhelm. 99c:01017**
Heindl, Gerhard (*with* Kreinovich, Vladik; Lakeev, A. V.) Solving linear interval systems is NP-hard even if we exclude overflow and underflow. *Reliab. Comput.* **4** (1998), *no.* 4, 383–388. (Pavel S. Pankov) **99j:65082** 65G10 (65F99, 65Y20)
Heineken, Hermann Examples of complete groups of odd order. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 69–77. (Summary) **99b:20045** 20D99
— (*with* Bianchi, Mariagrazia; Gillio Berta Mauri, Anna; Verardi, Libero) Groups with big centralizers. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 25–42 (1997). (I. M. Isaacs) **99b:20041** 20D60
— Groups with neighbourhood conditions for certain lattices. *Note Mat.* **16** (1996), *no.* 1, 131–143 (1998). (Javier Otal) **99k:20056** 20E15 (20F19, 20F24)
— More metanilpotent Fitting classes with bounded chief factor ranks. (English summary) *Rend. Sem. Mat. Univ. Padova* **98** (1997), 241–251. (Alexander N. Skiba) **99f:20026** 20D10
Heinemann, Bernhard A topological generalization of propositional linear time temporal logic. (English summary) *Mathematical foundations of computer science 1997 (Bratislava)*, 289–297, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:03016** 03B45 (68T27)
Heinemann, Stefan-M. Julia sets in $\mathbf{C}^n$. *Progress in holomorphic dynamics*, 159–185, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Marco Abate) **99g:32047** 32H50
— (*with* Denker, Manfred) Jordan tori and polynomial endomorphisms in $\mathbf{C}^2$. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 139–159. (Dan Coman) **99f:32044** 32H50 (58F23)
— Julia sets of skew products in $\mathbf{C}^2$. *Kyushu J. Math.* **52** (1998), *no.* 2, 299–329. (Marco Abate) **99g:32048** 32H50 (58F23)
Heinig, Georg Solving Toeplitz systems after extension and transformation. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 115–129 (1998). (L. W. Ehrlich) **99g:65034** 65F05 (15A57)
— Properties of "derived" Hankel matrices. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 155–170, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Gong Ning Chen) **99g:15030** 15A57

— (*with* Al-Musallam, Fadhel) Lagrange's formula for tangential interpolation with application to structured matrices. (English summary) *Integral Equations Operator Theory* **30** (1998), *no.* 1, 83–100. (Mariano Gasca) **99c:65015** 65D05 (15A09, 41A05, 65F05)

— Generalized Cauchy-Vandermonde matrices. (English summary) *Linear Algebra Appl.* **270** (1998), 45–77. (John Maroulas) **99a:15008** 15A57

— (*with* Rost, Karla) Representations of Toeplitz-plus-Hankel matrices using trigonometric transformations with application to fast matrix-vector multiplication. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 225–248. (Marc Van Barel) **99d:65091** 65F05 (15A57)

— (*with* Bojanczyk, Adam) Transformation techniques for Toeplitz and Toeplitz-plus-Hankel matrices. II. Algorithms. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 11–36. (Israel Koltracht) **99i:15034** 15A57

— Matrices with higher order displacement structure. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 295–301. (Tiberiu Constantinescu) **99g:15016** 15A24 (15A09, 15A23)

— (*with* Rost, Karla) DFT representations of Toeplitz-plus-Hankel Bezoutians with application to fast matrix-vector multiplication. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 157–175. (Ilse C. F. Ipsen) **99j:65037** 65F05 (15A09, 15A23, 65T20)

— (*with* Feldmann, Sven) Parametrization of minimal rank block Hankel matrix extensions and minimal partial realizations. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 153–171. (Dmitriy S. Kalyuzhniy) **99k:47183** 47N70 (15A57, 47A20, 47B35, 93B15)

Heinig, Hans P. (*with* Kufner, Alois; Persson, Lars-Erik) Some generalisations and refinements of the Hardy inequality. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 271–288, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tatjana Ostrogorski) **99e:26018** 26D15 (46E30)

— (*with* Sinnamon, Gord) Mapping properties of integral averaging operators. (English summary) *Studia Math.* **129** (1998), *no.* 2, 157–177. (Summary) **99k:42042** 42B25 (47B38)

— (*with* Wang, Sichun) Maximal function estimates of solutions to general dispersive partial differential equations. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 79–108. (Cristian E. Gutiérrez) **99c:35038** 35J10 (35B45, 35Q55, 42B25)

Heinkel, B. Kolmogorov's strong law of large numbers: the amart point of view. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 361–367, *TEV, Vilnius*, 1994. (Summary) **99f:60067** 60F15 (60B12, 60G48)

Heinkenschloss, Matthias (*with* Cliff, Eugene M.; Shenoy, Ajit R.) Adjoint-based methods in aerodynamic design-optimization. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 91–112, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:90114** 90C90 (49N55, 76G25)

— (*with* Battermann, A.) Preconditioners for Karush-Kuhn-Tucker matrices arising in the optimal control of distributed systems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 15–32, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Claudia A. Sagastizábal) **99e:49042** 49M30 (49N10, 65K10, 90C30)

— Formulation and analysis of a sequential quadratic programming method for the optimal Dirichlet boundary control of Navier-Stokes flow. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 178–203, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Fredi Tröltzsch) **99f:49049** 49M15 (35Q30, 49M40, 90C30, 93C20)

— (*with* Shenoy, Ajit R.; Cliff, Eugene M.) Airfoil design by an all-at-once method. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 3–25. (*see* **99k:76005**) 76M25 (76B05)

— (*with* Dennis, J. E., Jr.; Vicente, Luís N.) Trust-region interior-point SQP algorithms for a class of nonlinear programming problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1750–1794 (*electronic*). (K. Schittkowski) **99e:90087** 90C30 (65K05)

— A trust region method for norm constrained problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1594–1620 (*electronic*). (G. M. Ostrovsky) **99f:90127** 90C30 (65K05, 90C48)

Heinonen, Juha (*with* Semmes, Stephen) Thirty-three yes or no questions about mappings, measures, and metrics. *Conform. Geom. Dyn.* **1** (1997), 1–12 (electronic). (Introduction) **99h:28012** 28A75 (57M12)

— (*with* Holopainen, Ilkka) Quasiregular maps on Carnot groups. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 109–148. (Tero Kilpeläinen) **99i:30037** 30C65 (31C45, 58G03)

— (*with* Koskela, Pekka) Quasiconformal maps in metric spaces with controlled geometry. *Acta Math.* **181** (1998), *no.* 1, 1–61. (M. Yu. Vasil'chik) **99j:30025** 30C65 (46E99)

— (*with* Rickman, Seppo) Quasiregular maps $S^3 \to S^3$ with wild branch sets. (English summary) *Topology* **37** (1998), *no.* 1, 1–24. (Allan Edmonds) **99e:57005** 57M12 (57M30)

Heinrich, Katherine (*with* Liu, Jiping; Zhang, Cun Quan) Triangle-free circuit decompositions and Petersen minor. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 197–207. (David A. Pike) **99g:05123** 05C45 (05C70)

Heinrich, Lothar (*with* Liebscher, Eckhard) Strong convergence of kernel estimators for product densities of absolutely regular point processes. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 65–96. (Summary) **99h:60095** 60G55 (62G20)

— Poisson approximation for the number of large digits of inhomogeneous f-expansions. (English summary) *Monatsh. Math.* **124** (1997), *no.* 3, 237–253. (Jorge Donato Samur) **99f:60045** 60F05 (11K55)

— Contact and chord length distribution of a stationary Voronoĭ tessellation. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 603–618. (Dietrich Stoyan) **99j:60018** 60D05 (60G55)

Heinrich, Reinhart (*with* Wilhelm, Thomas; Schuster, Stefan) Kinetic and thermodynamic analyses of the reversible version of the smallest chemical reaction system with Hopf bifurcation. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 295–321. (Summary) **99b:80011** 80A30 (34C23, 58F40, 92E20)

Heinrich, Stefan (*with* Frank, Karin[2]) Computing discrepancies related to spaces of smooth periodic functions. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 238–250, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Pierre Hillion) **99g:65026** 65D30 (65C05)

— Monte Carlo complexity of global solution of integral equations. (English summary) *J. Complexity* **14** (1998), *no.* 2, 151–175. (Erich Novak) **99g:65135** 65Y20 (45L05, 65C05, 65R20)

Heinrichs, Wilhelm Spectral collocation on triangular elements. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 743–757. (Summary) **99d:65332** 65N35

— Splitting techniques for the unsteady Stokes equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1646–1662 (*electronic*). (Summary) **99d:65292** 65M70 (76D07, 76M25)

Heintz, A. On the initial boundary value problems for the Enskog equation in irregular domains. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 663–695. (Giuliana Lauro) **99a:82062** 82C21 (45K05, 45N05, 76P05)

Heintz, Joos (*with* Bank, Bernd; Giusti, M.; Mandel, R.; Mbakop, G. M.) Polar varieties and efficient real equation solving: the hypersurface case. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 65H10 (68Q40)

— (*with* Giusti, M.; Hägele, K.; Morais, J. E.; Pardo, Luis Miguel; Montaña, José Luis) Lower bounds for Diophantine approximations. (English summary) Algorithms for algebra (Eindhoven, 1996). *J. Pure Appl. Algebra* **117/118** (1997), 277–317. (Summary) **99d:68106** 68Q25 (14Q15)

— (*with* Aldaz, Mikel; Matera, Guillermo; Montaña, José Luis; Pardo, Luis Miguel) Combinatorial hardness proofs for polynomial evaluation (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 167–175, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q40 (68Q25)

— (*with* Aldaz, Mikel; Matera, Guillermo; Montaña, José Luis; Pardo, Luis Miguel) Time-space tradeoffs for polynomial evaluation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 907–912. (Summary) **99j:68047** 68Q25 (68Q40)

— (*with* Giusti, M.; Morais, J. E.; Morgenstern, Jacques; Pardo, Luis Miguel) Straight-line programs in geometric elimination theory. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 101–146. (Jean Moulin Ollagnier) **99d:68128** 68Q40 (14Q99, 68Q25)

Heintze, Ernst (*with* Eschenburg, J.-H.) Unique decomposition of Riemannian manifolds. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3075–3078. (Joseph E. Borzellino) **99a:53030** 53C20

Heinz, Hans-Peter Solutions of semilinear eigenvalue problems with corresponding eigenvalues in spectral gaps. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 329–338. (Summary) **99h:35153** 35P30 (35Q55, 47H15, 47N20)

Heinz, Siegfried (*with* Hagen, Hans; Nawotki, Alexa) Variational design with boundary conditions and parameter optimized surface fitting. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 3–13, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65020** 65D17

Heinz, Ulrich (*with* Ochs, Stefan) Wigner functions in covariant and single-time formulations. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 351–416. (Julio Espinoza Ortiz) **99h:81113** 81S30

Heinzel, Thomas (*with* Arndt, Peter F.; Rittenberg, Vladimir) Stochastic models on a ring and quadratic algebras. The three-species diffusion problem. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 833–843. (Summary) **99h:82033** 82B31 (82B20)

Heinzer, William J. (*with* Rotthaus, Christel; Wiegand, Sylvia M.) Noetherian rings between a semilocal domain and its completion. (English summary) *J. Algebra* **198** (1997), *no.* 2, 627–655. (Daniel D. Anderson) **99a:13008** 13E05 (13J10)

— (*with* Rotthaus, Christel; Wiegand, Sylvia M.) Building Noetherian domains inside an ideal-adic completion. (English summary) *Abelian groups, module theory, and topology* (*Padua*, 1997), 279–287, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (David E. Rush) **99m:13035** 13E05 (13C15, 13J10)

— (*with* Huckaba, James A.; Papick, Ira J.) m-canonical ideals in integral domains. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 3021–3043. (Muhammad Zafrullah) **99h:13024** 13F05 (13A15)

— (*with* Lantz, David; Wiegand, Roger) The residue fields of a zero-dimensional ring. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 67–85. (Marco Fontana) **99g:13009** 13B30 (14A05)

— (*with* Corso, Alberto; Huneke, Craig) A generalized Dedekind-Mertens lemma and its converse. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5095–5109. (Rafael H. Villarreal) **99b:13012** 13B25 (13A15)

— (*with* Rotthaus, Christel; Wiegand, Sylvia M.) Intermediate rings between a local domain and its completion. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 19–46. (D.-M. Popescu) **99m:13047** 13J10 (13F25, 13J05)

— (*with* Gilmer, Robert) On the embedding of a commutative ring in a local ring. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 192–210. (L. J. Ratliff, Jr.) **99i:13009** 13B02 (13F30)

Heinzl, T. (*with* Pause, T.) The configuration space of low-dimensional Yang-Mills theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 695–741. (Gagik T. Ter-Kazarian) **99i:58023** 58D19 (81T13)

Heinzner, Peter The minimum principle from a Hamiltonian point of view. (English summary) *Doc. Math.* **3** (1998), 1–14 (*electronic*). (Michel Brion) **99c:32044** 32M05 (32F05, 58F05)

Heise, Bodo (*with* Jung, Michael[1]) Efficiency, scalability, and robustness of parallel multilevel methods for nonlinear partial differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 553–567 (*electronic*). (Dao Qi Yang) **99h:65209** 65N55 (65N30, 78–08)

Heise, Werner R. (*with* Constantinescu, Ioana) A metric for codes over residue class rings of integers. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 22–28; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 208–213 (1998). (Boris D. Kudryashov) **99a:94058** 94B40

— (*with* Solov'eva, Faina I.; Avgustinovich, Sergei V.; Honold, Thomas) On the extendability of code isometries. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 3–16. (Italo José

Dejter) **99a:94053** 94B25 (51E99)

Heisig, Gerald Planning stability under (s, S) inventory control rules. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 4, 215–228. (L. C. Thomas) **99m:90057** 90B05 (90B30)

Heisler, M. (*with* Fabian, Marián; Matoušková, Eva) Remarks on continuous images of Radon-Nikodým compacta. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 59–69. (Jesús M. F. Castillo) **99g:46014** 46B22

schroeder-Heister, Peter *see* **Schroeder-Heister, Peter**

Heitmann, Katrin (*with* Baacke, Jürgen; Pätzold, Carsten) Choice of initial states in nonequilibrium dynamics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6398–6405. 81T20

Hejazian, S. (*with* Niknam, A.) A remark on discontinuous homomorphisms. (English summary) *J. Anal.* **5** (1997), 29–31. 46L05 (46H05)

Hejduk, Jacek On the Peano derivatives of functions having the Baire property. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 663–668. (S. N. Mukhopadhyay) **99k:26002** 26A24

— Some properties of the density topology with respect to an extension of the Lebesgue measure. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 173–180. (George Bachman) **99j:28002** 28A12 (28C15, 54A10)

Hejhal, Dennis A. *see* **Emerging applications of number theory, 99m:11003**

Hek, Geertje (*with* Doelman, Arjen; Holmes, Philip J.) Homoclinic saddle-node bifurcations and subshifts in a three-dimensional flow. (English summary) *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 291–329. (Jörg M. Härterich) **99m:58138** 58F14 (34C23, 34C37, 35B32, 58F15)

Helal, M. A. (*with* Doha, E. H.) An accurate double Chebyshev spectral approximation for parabolic partial differential equations. (English summary) 2nd National Conference of Mathematics on Algebra and its Applications (Cairo, 1996). *J. Egyptian Math. Soc.* **5** (1997), *no.* 1, 83–101. (Summary) **99j:65176** 65M70

— (*with* Abou-Dina, M. S.) Reduction for the nonlinear problem of fluid waves to a system of integro-differential equations with an oceanographical application. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 65–81. (Summary) **99g:76097** 76M25 (65R20, 76B15, 86A05)

— (*with* Khater, A. H.; El-Kalaawy, O. H.) Bäcklund transformations: exact solutions for the KdV and the Calogero-Degasperis-Fokas mKdV equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 719–731. (Xian Guo Geng) **99d:35142** 35Q53 (35A30, 35C05)

Helary, Jean-Michel (*with* Baldoni, Roberto; Raynal, Michel) Consistent records in asynchronous computations. (English summary) *Acta Inform.* **35** (1998), *no.* 6, 441–455. (Summary) **99c:68083** 68Q10

Helayël-Neto, José A. (*with* Carvalho, Marcelo Ferreira Lima; Vilar, L. C. Q.) Supersymmetric non-linear σ-models and their gauging in the Atiyah-Ward space-time. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 2, 184–199. (Hitoshi Nishino) **99c:81233** 81T60 (53C07, 81T30)

— (*with* Lemes, V. E. R.; Nogueira, A. L. M. A.) Supersymmetric generalization of the tensor matter fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3145–3156. (Ilya Shapiro) **99f:81202** 81T60

— (*with* Del Cima, Oswaldo M.; Franco, Daniel H. T.; Piguet, Olivier) On the non-renormalization properties of gauge theories with a Chern-Simons term. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 2, 25 *pp.* (*electronic*). (Massimo Di Pierro) **99d:81088** 81T15 (81T13)

— (*with* Del Cima, Oswaldo M.; Franco, Daniel H. T.; Piguet, Olivier) Exact scale invariance of the *BF*-Yang-Mills theory in three dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 10, 15 *pp.* (*electronic*). (Summary) **99c:81141** 81T15 (81T13, 81T50)

— (*with* Christiansen, H. R.; Cunha, M. S.; Manssur, L. R. U.; Nogueira, A. L. M. A.) $N = 2$ Maxwell-Chern-Simons model with anomalous magnetic moment coupling via dimensional reduction. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 1, 147–159. 81T60 (81T50)

— (*with* Christiansen, H. R.; Cunha, M. S.; Manssur, L. R. U.; Nogueira, A. L. M. A.) Self-dual vortices in a Maxwell-Chern-Simons model with nonminimal coupling. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 11, 1721–1735. 81T13

Helbig, S. (*with* Todorov, Maxim I.) Unicity results for general linear semi-infinite optimization problems using a new concept of active constraints. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 1, 21–43. (Jan Rückmann) **99i:90102** 90C34 (49M39, 90C29)

Helbing, Dirk From microscopic to macroscopic traffic models. (English summary) *A perspective look at nonlinear media*, 122–139, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (*see* **99d:00025**) 90B20

Held, Isaac M. (*with* Kushner, Paul J.) Potential vorticity thickness fluxes and wave-mean flow interaction. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 7, 948–958. (Summary) **99j:86010** 86A10 (76C15)

Held, Martin (*with* Arkin, Esther M.; Chiang, Yi-Jen; Mitchell, Joseph S. B.; Sacristan, V.; Skiena, Steven S.; Yang, Tae-Cheon) On minimum-area hulls. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 119–136. (Evangelos Kranakis) **99c:68243** 68U05 (52B55)

Hélein, Frédéric Surfaces à courbure moyenne constante et inégalité de Wente. [Surfaces with constant mean curvature and Wente's inequality] *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 43–52, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Introduction) **99c:58036** 58E12 (53A10)

— Phenomena of compensation and estimates for partial differential equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 21–30 (*electronic*). (Summary) **99h:35021** 35B45 (35A30, 35J60, 49J45)

Helemskii, A. Ya. *see* **Khelemskiĭ, A. Ya.**

Hele-Shaw, Henry *see* **Eames, Ian**

Heleyová, Zuzana Tolerances on semilattices. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 111–119. (N. K. Thakare) **99m:06008** 06A12 (06D15)

Helfer, Adam D. "Operational" energy conditions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1169–1183. (Giampiero Esposito) **99d:81100** 81T20

— Negative energies and the limit of classical space-time. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 20, 1637–1643. (Summary) **99e:83032** 83C47 (83C40)

Helffer, Bernard Sur l'équation de Schrödinger. [On the Schrödinger equation] *Mathématiques quantiques*, 31 *pp.*, *SMF Journ. Annu.*, 1992, *Soc. Math. France, Paris*, 1992. (Vladimir Georgescu) **99b:81044** 81Q10 (35J10, 35Q40, 81–02)

— h-pseudodifferential operators and applications: an introduction. (English summary) *Quasiclassical methods* (*Minneapolis, MN*, 1995), 1–49, *IMA Vol. Math. Appl.*, 95, *Springer, New York*, 1997. (Vladimir Tulovsky) **99a:35284** 35S05 (35Q40, 47G30, 81Q20)

— Semi-classical analysis for the transfer operator: formal WKB constructions in large dimension. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 1, 81–113. (H. Hogreve) **99b:81054** 81Q20 (82B20).

— (*with* Mohamed, Abderemane) Asymptotic of the density of states for the Schrödinger operator with periodic electric potential. *Duke Math. J.* **92** (1998), *no.* 1, 1–60. (Timo Weidl) **99e:35166** 35P20 (35J10, 47F05, 47N50, 81Q10)

— (*with* Weissler, Fred B.) On a family of solutions of the second Painlevé equation related to superconductivity. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 3, 223–243. (J. R. Ockendon) **99i:82040** 82D55 (34A34, 34B15)

— Splitting in large dimension and infrared estimates. II. Moment inequalities. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 760–776. (Mihai Pascu) **99c:81037** 81Q10 (35J10, 35P15, 47N50)

— (*with* Bolley, Catherine) Stability of bifurcating solutions for the Ginzburg-Landau equations. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 5, 579–626. (Peter E. Zhidkov) **99f:58058** 58E50 (34B15, 35B32, 35Q55, 82D55)

Helgason, R. V. (*with* Dulá, J. H.; Venugopal, Nandogopal) An algorithm for identifying the frame of a pointed finite conical hull. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 3, 323–330. (Summary) **99f:65213** 65Y25 (90C15)

Helgason, Sigurdur (*with* Berenstein, Carlos A.; Ebenfelt, Peter; Gindikin, S. G.; Tumanov, Alexander) ★ Integral geometry, Radon transforms and complex analysis. Lectures given at the 1st C.I.M.E. Session held in Venice, June 3–12, 1996. Edited by E. Casadio Tarabusi, M. A. Picardello and G. Zampieri. Lecture Notes in Mathematics, 1684. *Springer-Verlag, Berlin*; *Centro Internazionale Matematico Estivo* (*C.I.M.E.*), *Florence*, 1998. *viii*+160 *pp. ISBN* 3-540-64207-2 (Editors) **99c:00011** 00B25 (32–06)

— Radon transforms and wave equations. *Integral geometry, Radon transforms and complex analysis* (*Venice*, 1996), 99–121, *Lecture Notes in Math.*, 1684, *Springer, Berlin*, 1998. (R. Schimming) **99j:58206** 58G16 (53C35, 58G30)

— Integral geometry and multitemporal wave equations. Dedicated to the memory of Fritz John. *Comm. Pure Appl. Math.* **51** (1998), *no.* 9-10, 1035–1071. (R. Schimming) **99j:58207** 58G16 (53C35, 58G30)

— (*with* Schlichtkrull, H.) The Paley-Wiener space for the multitemporal wave equation. *Comm. Pure Appl. Math.* **52** (1999), *no.* 1, 49–52. (R. Schimming) **99j:58208** 58G16 (53C35, 58G30)

Hell, Pavol (*with* Haddad, Lucien; Mendelsohn, Eric) On the complexity of coloring areflexive h-ary relations with given permutation group. (English summary) *Ars Combin.* **48** (1998), 111–128. (Gary MacGillivray) **99d:05033** 05C15 (05C85, 68Q25)

— (*with* Beauquier, Bruno; Pérennes, Stéphane) Optimal wavelength-routed multicasting. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 15–20. (Summary) **99c:94002** 94A05 (90B12)

— (*with* Feder, Tomás) List homomorphisms to reflexive graphs. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 236–250. (Stanisław P. Radziszowski) **99d:68190** 68R10 (05C85)

— (*with* Fellows, Michael R.; Seyffarth, K.) Constructions of large planar networks with given degree and diameter. (English summary) *Networks* **32** (1998), *no.* 4, 275–281. (Summary) **99h:90041** 90B10 (68M10, 90C35)

Hella, Lauri (*with* Dawar, Anuj; Seth, Anil) Ordering finite variable types with generalized quantifiers. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 28–43, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03042** 03C80 (03C13, 68P15, 68Q15)

— (*with* Imhof, Henrik) Enhancing fixed point logic with cardinality quantifiers. (English summary) *J. Logic Comput.* **8** (1998), *no.* 1, 71–86. (Michał Krynicki) **99h:03021** 03C80 (68Q15)

Hellaby, Charles (*with* Mustapha, Nazeem; Bassett, B. A. C. C.; Ellis, George F. R.) The distortion of the area distance-redshift relation in inhomogeneous isotropic universes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2363–2379. (Summary) **99d:83108** 83F05

Hellegouarch, Yves ★ Invitation aux mathématiques de Fermat-Wiles. (French. French summary) [Invitation to Fermat-Wiles mathematics] Enseignement des Mathématiques. [The Teaching of Mathematics] *Masson, Paris*, 1997. viii+401 *pp. ISBN* 2-225-83008-8 (Massimo Bertolini) **99e:11001** 11-01 (11D41, 11F11, 11G05, 11G18)

— À propos du théorème de Fermat. "Fermat vaincu!". [On Fermat's theorem. "Fermat defeated!"] *Actes de l'Université d'Été* 1996: *Recherche Mathématique et Formation* (*Dijon*), 81–106, *Univ. Bourgogne, Dijon*, 1997. (Andrea Mori) **99j:11030** 11D41 (11G05)

— An application of Galois calculus to $\mathbf{F}_q[t]$. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 55–65, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Martha Rzedowski-Calderón) **99j:11144** 11T55 (12E20)

Hellekalek, Peter On correlation analysis of pseudorandom numbers. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 251–265, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65020** 65C10

— (*with* L'Ecuyer, Pierre) Random number generators: selection criteria and testing. *Random and quasi-random point sets*, 223–265, *Lecture Notes in Statist.*, 138, *Springer, New York*, 1998. (Francesco Fabris) **99m:65014** 65C10 (11K45)

— Good random number generators are (not so) easy to find. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 485–505. (*see* **99d:00030**) 65C10

— *see also* **Monte Carlo and quasi-Monte Carlo methods, 1996, 99d:65005** *and* **Random and quasi-random point sets, 99g:11003**

Heller, Alex (*with* Bass, Hyman; Cartan, Henri; Freyd, Peter; Mac Lane, Saunders) Samuel Eilenberg (1913–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1344–1352. (Editors) **99k:01045** 01A70

Heller, Eric J. (*with* Maitra, Neepa T.) Tunneling and the semiclassical propagator: a new perspective. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 94–111, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20
— (*with* Kaplan, Lev) Linear and nonlinear theory of eigenfunction scars. (English summary) *Ann. Physics* **264** (1998), *no.* 2, 171–206. (Julio Espinoza Ortiz) **99f:81058** 81Q50
— (*with* da Luz, M. G. E.; Cheng, Bin Kang) Exact form of Green functions for segmented potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2975–2990. (Christian Grosche) **99b:81036** 81Q05 (81Q20)
— (*with* Kaplan, Lev) Weak quantum ergodicity. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 1–18. (Jens Marklof) **99k:81071** 81Q50 (58F11)
— *see also* **Zelditch, Steven, 99k:81072**
Heller, Michael (*with* Sasin, Wiesław) Rigorous model of classical spacetime foam. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 6, 1441–1455. (Summary) **99c:58002** 58A05 (83C99)
Hellerstein, Lisa (*with* Feigelson, Aaron) The forbidden projections of unate functions. (English summary) *Discrete Appl. Math.* **77** (1997), *no.* 3, 221–236. (J. M. S. Simões-Pereira) **99a:06020** 06E30
— (*with* Aizenstein, Howard; Hegedűs, Tibor; Pitt, Leonard) Complexity-theoretic hardness results for query learning. (English summary) *Comput. Complexity* **7** (1998), *no.* 1, 19–53. (Mark R. Jerrum) **99e:68048** 68Q15 (68Q25, 68T05)
— (*with* Bshouty, Nader H.) Attribute-efficient learning in query and mistake-bound models. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 310–319. (Sanjay Jain) **99g:68169** 68T05 (68Q99)
Hellerstein, N. S. K. ★ DELTA—a paradox logic. Series on Knots and Everything, 16. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. xii+276 *pp. ISBN* 981-02-3243-8 (Otávio Bueno) **99k:03008** 03A05 (00A08, 03B50)
— ★ Diamond—a paradox logic. Series on Knots and Everything, 14. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *xii*+257 *pp. ISBN* 981-02-2850-3 (Jozef Šajda) **99m:03048** 03B53 (03A05)
Helleseth, Tor (*with* Sandberg, Daniel) Some power mappings with low differential uniformity. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 363–370. (Kaisa Nyberg) **99f:11158** 11T71 (94A60)
— (*with* Anderson, Ross; Ding, Cunsheng; Kløve, Torleiv) How to build robust shared control systems. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 111–124. (Summary) **99i:94039** 94A60
— (*with* Kumar, P. Vijay; Yang, Kyeongcheol) An infinite family of 3-designs from Preparata codes over Z_4. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 175–181. (Vladimir D. Tonchev) **99i:05030** 05B05 (94B05)
— (*with* Yang, Kyeongcheol) Two new infinite families of 3-designs from Kerdock codes over Z_4. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 201–214. (Vera Pless) **99m:05026** 05B05 (05B25, 94B25)
— (*with* Ding, Cunsheng) New generalized cyclotomy and its applications. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 2, 140–166. (Robin J. Chapman) **99b:11135** 11T22 (11T71, 94B15)
— (*with* Shanbhag, Abhijit G.; Kumar, P. Vijay) An upper bound for the extended Kloosterman sums over Galois rings. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 218–238. (Charles Helou) **99g:11146** 11T23 (11L07, 94B27)
— (*with* Ding, Cunsheng; Shan, Weijuan) On the linear complexity of Legendre sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1276–1278. (Summary) **99d:94017** 94A55 (94A60)
— (*with* Ding, Cunsheng) On cyclotomic generator of order r. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 1, 21–25. (Summary) **99c:94029** 94A60 (65C10)
— (*with* Rong, Chunming; Yang, Kyeongcheol) New infinite families of 3-designs from Preparata codes over Z_4. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 139–156. (Chester J. Salwach) **99m:05019** 05B05 (94B05)
Helling, H. (*with* Kim, Ann Chi; Mennicke, J. L.) A geometric study of Fibonacci groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 1–23. (Ronnie Lee) **99c:57005** 57M07 (20F34, 57M05, 57N10)
Helling, Robert (*with* Barrio, Miguel; Polhemus, Gavin) Spin-spin interaction in Matrix theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 5, *Paper* 12, 13 *pp.* (*electronic*). (Summary) **99b:81160** 81T18 (81T30)
Hellman, Geoffrey *see* **Kruse, Michael**
Hellmich, Jürgen (*with* Köstler, Claus; Kümmerer, Burkhard) Stationary quantum Markov processes as solutions of stochastic differential equations. (English summary) *Quantum probability* (*Gdańsk*, 1997), 217–229, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99f:46093** 46L50 (60H07, 81S25)
Hellström, Lars (*with* Silvestrov, Sergei D.) On centralisers in q-deformed Heisenberg algebras. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1163–1169. (Marcelo R. Ubriaco) **99i:81101** 81R50 (81S05)
Helluy, Philippe (*with* Maire, Sylvain; Ravel, Patrick) Intégration numérique d'ordre élevé de fonctions régulières ou singulières sur un intervalle. (English and French summaries) [Higher-order numerical integration of regular or singular functions on an interval] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 843–848. (Summary) **99h:65036** 65D30
Hellwarth, Robert W. (*with* Feng, Simin; Winful, Herbert G.) Spatiotemporal evolution of focused single-cycle electromagnetic pulses. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4630–4649. (Summary) **99m:78004** 78A25
Hellwig, Karl-Eberhard (*with* Chumakov, Sergey M.; Klimov, A. B.) The entropy of open finite-level systems. Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 471–479. (Matthew J. Donald) **99g:82052** 82C10 (47N55, 82C03)
— Correspondence and complementarity. Comment on Brigitte Falkenburg: "Bohr's principles of unifying quantum disunities" [Philos. Natur. **35** (1998), no. 1, 95–120]. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 121–125. (*see* **99g:00024**) 81P05 (00A30)
— *see also* **Proceedings: International Quantum Structures Association, 99e:81004**
Helman, David R. (*with* Bader, David A.; Já Já, Joseph) Practical parallel algorithms for personalized communication and integer sorting. (English summary) *ACM J. Exp. Algorithmics* **1** (1996), *approx.* 42 *pp.* (*electronic*). 68Q22 (68P10)
— (*with* Já Já, Joseph; Bader, David A.) A new deterministic parallel sorting algorithm with an experimental evaluation. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), 24 *pp.+software suite* (*electronic*). 68Q22 (68P10)
Helmberg, Christoph Fixing variables in semidefinite relaxations. (English summary) *Algorithms—ESA '97* (*Graz*), 259–270, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 90C31 (49J40, 65K05)
— (*with* Rendl, Franz) Solving quadratic (0, 1)-problems by semidefinite programs and cutting planes. (English summary) *Math. Programming* **82** (1998), *no.* 3, *Ser. A*, 291–315. (Summary) **99f:90063** 90C09 (90C27)
Helmberg, Gilbert (*with* Wagner, Peter[2]) Manipulating Gibbs' phenomenon for Fourier interpolation. (English summary) *J. Approx. Theory* **89** (1997), *no.* 3, 308–320. (Weiyi Su) **99d:42003** 42A15
Helmbold, D. P. (*with* Cesa-Bianchi, Nicolò; Panizza, S.) On Bayes methods for on-line Boolean prediction. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 112–137. (M. Iosifescu) **99g:68170** 68T05 (68Q99)
Helmers, Roelof A note on bootstrapping the local time of the empirical process. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 295–300. (Gutti J. Babu) **99b:62074** 62G09 (60J55)
— (*with* Wegkamp, Marten) Wild bootstrapping in finite populations with auxiliary information. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 383–399. (David Bellhouse) **99m:62014** 62D05 (62G09)
Helmersson, Anders μ synthesis and LFT gain scheduling with real uncertainties. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 631–642. (Abdelmoula El Bouhtouri) **99f:93065** 93B51 (93C42)
Helminck, A. G. (*with* Helminck, G. F.) A class of parabolic k-subgroups associated with symmetric k-varieties. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4669–4691. (Summary) **99g:20082** 20G15
Helminck, G. F. (*with* van den Heuvel, P. C. J.) A multipoint version of the KP-hierarchy. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 69–81, *World Sci. Publishing, River Edge, NJ*, 1996. (Ahmet Satir) **99k:58091** 58F07 (22E65)
— (*with* van de Leur, J. W.) An analytic description of the vector constrained KP hierarchy. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 627–641. (Marco Pedroni) **99e:58101** 58F07 (35Q53)
— (*with* Helminck, A. G.) A class of parabolic k-subgroups associated with symmetric k-varieties. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4669–4691. (Summary) **99g:20082** 20G15
Helmke, Stefan On Fujita's conjecture. *Duke Math. J.* **88** (1997), *no.* 2, 201–216. (From the introduction) **99e:14003** 14C20
Helmke, U. (*with* Mahony, Robert E.) System assignment and pole placement for symmetric realisations. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 32 *pp.* (*electronic*). (Summary) **99g:93036** 93B55 (93B15)
— (*with* Manthey, W.; Hinrichsen, Diederich) Generalized partial realizations. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 138–156, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Xiao Yun Lu) **99e:93018** 93B15 (93C55)
— (*with* Mahony, Robert E.) System assignment and pole placement for symmetric realisations. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 321–352. (Margreet Kuijper) **99d:93033** 93B55 (34H05, 93B15)
— (*with* Dirr, G.) Continuity properties of balanced realizations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 217–224. (Paulo Sérgio Pereira da Silva) **99f:93019** 93B15 (93C25)
Helmke, Volker Die Selbergsche Spurformel für Quaternionengruppen. [The Selberg trace formula for quaternion groups] *Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie, Heft* 21, *iv* + 128 *pp., Schriftenreihe Math. Inst. Univ. Münster 3. Ser.*, 21, *Univ. Münster, Münster*, 1997. (Werner Hoffmann) **99a:11062** 11F72 (11F30)
Helmy, Kamal Anwar A solution of boundary layer equations governing free convective magnetohydrodynamic flow of non-Newtonian fluids. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 15–39. (Summary) **99a:76162** 76W05 (76A05, 76R10)
— MHD unsteady free convection flow past a vertical porous plate. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 4, 255–270. (Summary) **99a:76163** 76W05 (76A05, 76R10, 76S05)
Hel-Or, Yacov (*with* Teo, Patrick C.) Canonical decomposition of steerable functions. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 83–95. (Summary) **99c:68257** 68U10 (22E99)
Helou, Charles Power reciprocity for binomial cyclotomic integers. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 245–256. (Lawrence Washington) **99j:11126** 11R18 (11A15)
armstrong-Hélouvry, Brian *see* **Armstrong-Hélouvry, Brian**
Helsing, Johan (*with* Greengard, Leslie) On the numerical evaluation of elastostatic fields in locally isotropic two-dimensional composites. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1441–1462. (Summary) **99e:73102** 73V20 (73B27, 73K20)
— On the numerical evaluation of stress intensity factors for an interface crack of a general shape. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 729–741. (Summary) **99j:73085** 73M25 (73V20)
— (*with* Peters, Gunnar) Integral equation methods and numerical solutions of crack and inclusion problems in planar elastostatics. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 965–982 (*electronic*). (Summary) **99j:73114** 73V20 (65N99, 65R20, 73C02, 73M25)
Helton, J. William (*with* Ben-Artzi, Asher; Woerdeman, Hugo J.) Non-minimal factorization of nonlinear systems: the observable case. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1069–1104. 93C10 (93B17)
— (*with* Walker, Michael L.; Zhan, Wei) H^∞ control of systems with compensators which read the command signal. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 9–27. 93B36
— (*with* Ball, Joseph A.) Viscosity solutions of Hamilton-Jacobi equations arising in nonlinear H_∞-control. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 22 *pp.* (*electronic*). (Summary) **99h:93037** 93B36 (49L25)
— (*with* Merino, Orlando) ★ Classical control using H^∞ methods. (English summary) An introduction to design. *Society for Industrial and Applied Mathematics* (*SIAM*),

Philadelphia, PA, 1998. *xii*+171 *pp. ISBN* 0-89871-424-9 (N. Harris McClamroch) **99i:93001** 93–01 (93–02, 93B36, 93B50)
— (*with* Merino, Orlando) ★ Classical control using H^∞ methods. (English summary) Theory, optimization, and design. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xvi*+292 *pp. ISBN* 0-89871-419-2 (N. Harris McClamroch) **99i:93002** 93–01 (93–02, 93B36, 93B50)
— (*with* Stankus, Mark; Wavrik, John J.) Computer simplification of formulas in linear systems theory. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 3, 302–314. (Summary) **99a:93020** 93B25 (93–04, 93C05)
— (*with* Merino, Orlando; Walker, Trent E.) H^∞ optimization with plant uncertainty and semidefinite programming. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 9, 763–802. (Long Wang) **99e:93028** 93B36 (90C30)
— (*with* Agler, Jim; Stankus, Mark) Classification of hereditary matrices. (English summary) *Linear Algebra Appl.* **274** (1998), 125–160. (Summary) **99m:15009** 15A24
— (*with* Yuliar, S.; James, Matthew R.) Dissipative control systems synthesis with full state feedback. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 335–356. (Éva Gyurkovics) **99j:93039** 93B50 (49L25, 93B36)
— (*with* Stankus, Mark) Computer assistance for "discovering" formulas in system engineering and operator theory. (English summary) *J. Funct. Anal.* **161** (1999), *no.* 2, 289–363. (Joseph A. Ball) **99m:93029** 93B36 (47A99, 47N70, 68Q40, 93B40)
Helvig, C. S. (*with* Robins, Gabriel; Zelikovsky, Alexander) Moving-target TSP and related problems. (English summary) *Algorithms—ESA '98 (Venice)*, 453–464, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:90151** 90C35 (68Q25, 90C27)
Helwig, James (*with* Ngo, Liem; Haddawy, Peter) A theoretical framework for context-sensitive temporal probability model construction with application to plan projection. (English summary) *Uncertainty in artificial intelligence (Montreal, PQ*, 1995), 419–426, *Morgan Kaufmann, San Francisco, CA*, 1995. (*see* **99a:68017**) 68T27 (03B70)
Hemachandra, N. (*with* Narahari, Y.) On the optimality of exhaustive service policies in multiclass queueing systems with modulated arrivals and switchovers. (English summary) *Sādhanā* **22** (1997), *no.* 1, 69–82. (Summary) **99e:90043** 90B22
Hemaspaandra, Edith (*with* Hemaspaandra, Lane A.; Hempel, Harald) Query order in the polynomial hierarchy. (English summary) *Fundamentals of computation theory (Kraków*, 1997), 222–232, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99c:68093** 68Q15
— (*with* Hemaspaandra, Lane A.; Hempel, Harald) An introduction to query order. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 93–107. (Summary) **99c:68094** 68Q15 (03D15)
— (*with* Rothe, Jörg) Recognizing when greed can approximate maximum independent sets is complete for parallel access to NP. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 151–156. (Summary) **99d:68083** 68Q15
— (*with* Hemaspaandra, Lane A.; Hempel, Harald) Query order and the polynomial hierarchy. (English summary) *J.UCS* **4** (1998), *no.* 6, 574–588 (*electronic*). (Summary) **99i:68047** 68Q15 (03D15)
— (*with* Hemaspaandra, Lane A.; Hempel, Harald) $R^{SN}_{1\text{-tt}}$(NP) distinguishes robust many-one and Turing completeness. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 307–325. (Gerhard Lischke) **99c:68095** 68Q15
— (*with* Hemaspaandra, Lane A.; Hempel, Harald) A downward collapse within the polynomial hierarchy. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 383–393 (*electronic*). (Marius Zimand) **99j:68042** 68Q15 (03D10, 03D15, 03D55, 68Q10)
Hemaspaandra, Lane A. (*with* Jiang, Zhigen) P-selectivity: intersections and indices (extended abstract). (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 66–75 (*electronic*). (*see* **99f:68006**) 68Q15
— (*with* Zaki, Mohammed J.; Zimand, Marius) Polynomial-time semi-rankable sets. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 50–67 (*electronic*). (Summary) **99h:68048** 68Q10
— (*with* Hemaspaandra, Edith; Hempel, Harald) Query order in the polynomial hierarchy. (English summary) *Fundamentals of computation theory (Kraków*, 1997), 222–232, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99c:68093** 68Q15
— (*with* Rothe, Jörg; Wechsung, Gerd) Easy sets and hard certificate schemes. (English summary) *Acta Inform.* **34** (1997), *no.* 11, 859–879. (Eric Bach) **99c:68096** 68Q15 (03D15, 68Q30)
— (*with* Hemaspaandra, Edith; Hempel, Harald) An introduction to query order. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 93–107. (Summary) **99c:68094** 68Q15 (03D15)
— (*with* Ogihara, Mitsunori) Universally serializable computation. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 547–560. (William R. Nico) **99f:68071** 68Q15 (68Q05)
— (*with* Jiang, Zhigen; Rothe, Jörg; Watanabe, Osamu[2]) Polynomial-time multi-selectivity. (English summary) *J.UCS* **3** (1997), *no.* 3, 197–229 (*electronic*). (Summary) **99h:68054** 68Q15 (03D15)
— (*with* Cai, Jin-Yi; Wechsung, Gerd) Robust reductions. (English summary) *Computing and combinatorics (Taipei*, 1998), 174–183, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q15
— (*with* Rajasethupathy, Kulathur S.; Sethupathy, Prasanna; Zimand, Marius) Power balance and apportionment algorithms for the United States Congress. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), *approx.* 16 *pp.* (*electronic*). 68Q25
— (*with* Hemaspaandra, Edith; Hempel, Harald) Query order and the polynomial hierarchy. (English summary) *J.UCS* **4** (1998), *no.* 6, 574–588 (*electronic*). (Summary) **99i:68047** 68Q15 (03D15)
— (*with* Nasipak, Christopher; Parkins, Keith) A note on linear-nondeterminism, linear-sized, Karp-Lipton advice for the P-selective sets. (English summary) *J.UCS* **4** (1998), *no.* 8, 670–677 (*electronic*). (Summary) **99f:68072** 68Q15
— (*with* Jiang, Zhigen; Rothe, Jörg; Watanabe, Osamu[2]) Boolean operations, joins, and the extended low hierarchy. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 317–327. (Marius Zimand) **99h:68055** 68Q15 (03D15)
— (*with* Hemaspaandra, Edith; Hempel, Harald) $R^{SN}_{1\text{-tt}}$(NP) distinguishes robust many-one and Turing completeness. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 307–325. (Gerhard Lischke) **99c:68095** 68Q15
— (*with* Hemaspaandra, Edith; Hempel, Harald) A downward collapse within the polynomial hierarchy. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 383–393 (*electronic*). (Marius Zimand) **99j:68042** 68Q15 (03D10, 03D15, 03D55, 68Q10)
— (*with* Hempel, Harald; Wechsung, Gerd) Query order. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 638–652 (*electronic*). (Gerhard Lischke) **99g:68073** 68Q15 (03D10, 03D15, 03D55, 68Q05)
— *see also* **Complexity theory retrospective**, **99a:68078**
Hemer, David An algorithm for pattern-matching mathematical expressions. (English summary) *Formal Methods Pacific '97 (Wellington)*, 103–123, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99b:68119** 68Q60
Hemker, Bas T. (*with* Sijtsma, Klaas) Nonparametric polytomous IRT models for invariant item ordering, with results for parametric models. (English summary) *Psychometrika* **63** (1998), *no.* 2, 183–200. (Summary) **99d:62096** 62P15
Hemker, P. W. (*with* Shishkin, G. I.; Shishkina, L. P.) A numerical method with floating meshes for singularly perturbed problems with a concentrated disturbance in the initial data. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 317–336. (Martin Stynes) **99d:65254** 65M06 (65M25, 65M50)
van Hemmen, J. Leo (*with* Kistler, Werner M.) An analytically solvable model of collective excitation patterns in cortical tissue. *A perspective look at nonlinear media*, 244–270, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (*see* **99d:00025**) 92C15
— (*with* Sütő, A.) Semiclassical quantization and resonance in spin tunnelling. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 10029–10043. (Summary) **99h:81051** 81Q20
Hemmerling, Armin Computability of string functions over algebraic structures. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 1–44. (Robert E. Byerly) **99j:68030** 68Q05 (03D10, 03D15, 03D75)
Hemmeter, Joe (*with* Ustimenko, V. A.; Woldar, Andrew J.) Orbital schemes of $B_3(q)$ acting on 2-dimensional totally isotropic subspaces. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 487–498. (Paul-Hermann Zieschang) **99f:05123** 05E30 (20G15)
— (*with* Woldar, Andrew J.) The complete list of maximal cliques of Quad(n, q), q even. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 81–85. (Sung-Yell Song) **99m:05135** 05C75 (05C35, 05E30)
Hemmingsson, Lina A semi-circulant preconditioner for the convection-diffusion equation. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 211–248. (Kai Tai Li) **99m:65199** 65N06 (65F35, 76M20, 76Rxx)
Hempel, Harald (*with* Hemaspaandra, Edith; Hemaspaandra, Lane A.) Query order in the polynomial hierarchy. (English summary) *Fundamentals of computation theory (Kraków*, 1997), 222–232, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99c:68093** 68Q15
— (*with* Hemaspaandra, Edith; Hemaspaandra, Lane A.) An introduction to query order. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 93–107. (Summary) **99c:68094** 68Q15 (03D15)
— (*with* Hemaspaandra, Edith; Hemaspaandra, Lane A.) Query order and the polynomial hierarchy. (English summary) *J.UCS* **4** (1998), *no.* 6, 574–588 (*electronic*). (Summary) **99i:68047** 68Q15 (03D15)
— (*with* Hemaspaandra, Edith; Hemaspaandra, Lane A.) $R^{SN}_{1\text{-tt}}$(NP) distinguishes robust many-one and Turing completeness. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 307–325. (Gerhard Lischke) **99c:68095** 68Q15
— (*with* Hemaspaandra, Edith; Hemaspaandra, Lane A.) A downward collapse within the polynomial hierarchy. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 383–393 (*electronic*). (Marius Zimand) **99j:68042** 68Q15 (03D10, 03D15, 03D55, 68Q10)
— (*with* Hemaspaandra, Lane A.; Wechsung, Gerd) Query order. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 638–652 (*electronic*). (Gerhard Lischke) **99g:68073** 68Q15 (03D10, 03D15, 03D55, 68Q05)
Hempel, Lorenz (*with* Kämmerer, Lutz) The Towers of Hanoi and pileproblems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 84–89, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35
— (*with* Vasil'kov, D. M.) On the computational aspects of the pile problem. *Operations Research Proceedings* 1997 (*Jena*), 120–125, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C35 (05C20)
Hempfling, Thomas (*with* Leutwiler, Heinz) Modified quaternionic analysis in $\mathbf{R}^4$. *Clifford algebras and their application in mathematical physics (Aachen*, 1996), 227–237, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vladislav V. Kravchenko) **99e:30034** 30G35
bar-Hen, Avner *see* **Bar-Hen, Avner**
Hénaff, P. Hedging exotic derivatives through stochastic optimization. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1453–1466. (Summary) **99c:90021** 90A09 (90C15)
Hénaut, Alain Sur la linéarisation des tissus. (English summary) [The linearization of webs] *Géométrie complexe (Paris*, 1992), 71–77, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (John B. Little) **99a:32042** 32L30 (14C21, 53A60)
— Sur l'algébrisation des tissus de codimension n de $\mathbf{C}^{2n}$. (English and French summaries) [Algebraization of codimension-n webs in $\mathbf{C}^{2n}$] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 1, 131–143. (John B. Little) **99a:53012** 53A60 (14C21, 32L30)
Hence, Christina R. (*with* Mickens, Ronald E.) Analytic approximations to the solutions of the Michaelis-Menten equation. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 2, 149–155. 65L06
Hench, J. J. (*with* He, Chun Yang; Kučera, Vladimír; Mehrmann, Volker) Dampening controllers via a Riccati equation approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1280–1284. (Summary) **99d:93056** 93D15 (93C40)
— (*with* He, Chun Yang; Mehrmann, Volker) On damped algebraic Riccati equations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1634–1637. (Vladimir B. Larin) **99m:93021** 93B25 (93D15)
Henckell, Karsten Type-I subsemigroups. (English summary) *Semigroups (Luino*, 1992), 94–102, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M07

Henderson, D. M. (*with* Miles, J. W.) A note on interior vs. boundary-layer damping of surface waves in a circular cylinder. (English summary) *J. Fluid Mech.* **364** (1998), 319–323. (Summary) **99c:76038** 76D33

Henderson, Johnny (*with* Agarwal, Ravi P.) Superlinear and sublinear focal boundary value problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 189–200. 34B15

— (*with* Yin, William K. C.) Focal boundary-value problems for singular ordinary differential equations. *Advances in nonlinear dynamics*, 283–295, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Jun Yu Wang) **99b:34043** 34B15 (47N20)

— (*with* Kaufmann, Eric R.) Multiple positive solutions for focal boundary value problems. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 53–60. (Summary) **99a:34055** 34B15 (47H15, 47N20)

— (*with* Eloe, Paul W.) Singular nonlinear $(n-1,1)$ conjugate boundary value problems. (English summary) *Georgian Math. J.* **4** (1997), *no.* 5, 401–412. (Marlène Frigon) **99f:34024** 34B15 (47H10)

— Positive solutions for nonlinear difference equations. (English summary) *Nonlinear Stud.* **4** (1997), *no.* 1, 29–36. (Summary) **99a:39015** 39A10

— (*with* Yin, William K. C.) Positive solutions and nonlinear multipoint conjugate eigenvalue problems for functional-differential equations. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 19–28. (S. G. Deo) **99j:34091** 34K10 (34K15)

— (*with* Eloe, Paul W.) Singular nonlinear multipoint conjugate boundary value problems. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 497–511. (L. J. Grimm) **99g:34048** 34B15 (34B10)

— (*with* Kaufmann, Eric R.) Focal boundary value problems for singular difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 1–10. (Allan C. Peterson) **99k:39017** 39A10

— (*with* Agarwal, Ravi P.) Positive solutions and nonlinear eigenvalue problems for third-order difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 347–355. (Summary) **99j:39001** 39A10

— (*with* Eloe, Paul W.) Positive solutions and nonlinear $(k, n-k)$ conjugate eigenvalue problems. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 309–317. (Anna Capietto) **99k:34042** 34B15 (47H15)

— (*with* Eloe, Paul W.) Positive solutions of boundary value problems for ordinary differential equations with impulse. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 285–294. (Summary) **99a:34052** 34B15 (34A37)

— (*with* Chyan, Chuan Jen; Davis, John M.; Yin, William K. C.) Eigenvalue comparisons for differential equations on a measure chain. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 35, 7 *pp.* (*electronic*). (Allan C. Peterson) **99m:34029** 34B10 (34B15, 39A10)

— (*with* Yin, William K. C.) Singular $(k, n-k)$ boundary value problems between conjugate and right focal. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 57–69. (Alexander Haščák) **99a:34056** 34B15

— (*with* Davis, John M.) Uniqueness implies existence for fourth-order Lidstone boundary value problems. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 23–35. (P. W. Eloe) **99i:34033** 34B15

Henderson, K. L. (*with* Peregrine, D. H.; Dold, J. W.) Unsteady water wave modulations: fully nonlinear solutions and comparison with the nonlinear Schrödinger equation. (English summary) *Wave Motion* **29** (1999), *no.* 4, 341–361. 76B15 (76M25)

Henderson, Le Roy F. (*with* Menikoff, Ralph) Triple-shock entropy theorem and its consequences. (English summary) *J. Fluid Mech.* **366** (1998), 179–210. (Philippe G. LeFloch) **99g:76079** 76L05 (35L67, 35Q35, 76N15)

Henderson, Marie A note on the permutation behaviour of the Dickson polynomials of the second kind. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 3, 499–505. (S. D. Cohen) **99a:11138** 11T06

— Applications of linearised and sub-linearised polynomials to information security. (English summary) *Information security and privacy* (*Brisbane*, 1998), 227–237, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94048** 94A60

— (*with* Matthews, Rex W.) Composition behaviour of sub-linearised polynomials over a finite field. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 67–75, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (S. D. Cohen) **99h:11140** 11T06

Henderson, R. J. (*with* Rajeev, S. G.) Renormalized path integral in quantum mechanics. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2171–2180. (Summary) **99c:81121** 81S40

Henderson, Robin (*with* Oman, Paul John) Effect of frailty on marginal regression estimates in survival analysis. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 367–379. 62N05

Hendi, Awatif A. Properties of certain analytic functions. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 29–37. (Summary) **99b:30014** 30C45

— (*with* Abu-Sulayman, Ibtesam M.) On some classes of analytic functions. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 2, 53–62. (Tom Carroll) **99g:30010** 30C45

— (*with* Noor, Khalida Inayat) On some subclasses of close-to-convex functions of order α type δ. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 17–28. (Wolfram Koepf) **99e:30007** 30C45

Hendi, M. (*with* Al-Nachawati, H. M.; Montasser, M.; Alwasel, I. A.) An exact test for HNBUE class of life distributions. (English summary) *J. Statist. Comput. Simulation* **60** (1998), *no.* 3, 261–275. (Summary) **99i:62104** 62G10 (62N05)

Hendler, James (*with* Manikonda, Vikram; Krishnaprasad, P. S.) Languages, behaviors, hybrid architectures, and motion control. (English summary) *Mathematical control theory*, 199–226, *Springer, New York*, 1999. (Summary) **99i:93036** 93C30 (70Q05, 93C83, 93C85)

Hendrickson, Bruce (*with* Atkins, Jonathan E.; Boman, Erik G.) A spectral algorithm for seriation and the consecutive ones problem. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 297–310 (*electronic*). (Summary) **99j:68049** 68Q25 (05C85, 68R05)

— (*with* Rothberg, Edward) Improving the run time and quality of nested dissection ordering. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 468–489 (*electronic*). (Summary) **99d:65142** 65F50

— (*with* Jessup, Elizabeth; Smith, Christopher) Toward an efficient parallel eigensolver for dense symmetric matrices. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1132–1154 (*electronic*). (Jian-Ping Zhu) **99k:65033** 65F15 (65Y05)

Hendriks, J. A. (*with* van Veldhuizen, M.; Appelo, C. A. J.) Numerical computation in heterovalent chromatography. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 69–89. (Summary) **99e:86015** 86A99 (65M99, 86–08)

Hendriksen, Erik (*with* Bultheel, Adhemar; González-Vera, Pablo; Njåstad, Olav) A rational moment problem on the unit circle. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 283–310. (Jia Rong Yu) **99b:30056** 30E05 (42C10, 44A60, 47A57)

— (*with* Bultheel, Adhemar; González-Vera, Pablo; Njåstad, Olav) Interpolation of Nevanlinna functions by rationals with poles on the real line. (English summary) *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 101–110, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Summary) **99h:41020** 41A20 (30E05)

— (*with* Bultheel, Adhemar; González-Vera, Pablo; Njåstad, Olav) Orthogonal rational functions and interpolatory product rules on the unit circle. I. Recurrence and interpolation. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 2, 167–183. (A. G. Law) **99i:30053** 30E05 (33C45, 41A20)

— (*with* Bultheel, Adhemar; González-Vera, Pablo; Njåstad, Olav) Orthogonal rational functions and interpolatory product rules on the unit circle. II. Quadrature and convergence. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 2, 185–200. (A. G. Law) **99i:30054** 30E05 (33C45, 33E05, 41A20)

Hendry, David Forbes (*with* Clements, Michael P.) ★ Forecasting economic time series. (English summary) *Cambridge University Press, Cambridge*, 1998. *xxii*+368 *pp. ISBN* 0-521-63242-0; 0-521-63480-6 (Alastair R. Hall) **99m:62132** 62M10 (62–02, 90A20)

— (*with* Ericsson, Neil R.; Mizon, Grayham E.) Exogeneity, cointegration, and economic policy analysis. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 370–387. 62P20 (62M10)

Hendry, George R. T. (*with* Knickerbocker, C. J.; Lock, Patti Frazer; Sheard, Michael) Forbidden subgraphs of graphs uniquely Hamiltonian-connected from a vertex. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 281–290. (Summary) **99b:05093** 05C45

Hendry, Robin Findlay Quantum mechanics, experiment and disunity. Comment on Peter Mittelstaedt: "Unifying quantum mechanics and its interpretation" [Philos. Natur. **35** (1998), no. 1, 127–151]. Models, theories and disunity in physics (Berlin, 1996). *Philos. Natur.* **35** (1998), *no.* 1, 153–159. (*see* **99g:00024**) 81P05 (00A30)

Hendy, Mike (*with* Dress, Andreas W. M.; Huber, Katharina; Moulton, Vincent L.) On the number of vertices and edges of the Buneman graph. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 329–337. (Pranava K. Jha) **99h:05114a** 05C99 (05C05, 92B99)

— Editorial: foresight or hindsight? *New Zealand Math. Soc. Newslett. No.* 74 (1998), 3–4. 01A80 (01A67)

— Dean Halford [on the occasion of his retirement]. *New Zealand Math. Soc. Newslett. No.* 74 (1998), 20–21. 01A70

Heng, I. (*with* Cooke, C. H.) Error correcting codes associated with complex Hadamard matrices. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 77–80. (Summary) **99b:94045** 94B05

— (*with* Cooke, C. H.) Polynomial construction of complex Hadamard matrices with cyclic core. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 87–93. (Summary) **99g:05037** 05B20 (15A33, 94B15)

Hengartner, Walter (*with* Abdulhadi, Zayid) Canonical point mappings in $H\overline{H}$. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 239–242. (William Ma) **99a:30011** 30C35

— (*with* Bshouty, Daoud) Boundary values versus dilatations of harmonic mappings. (English summary) *J. Anal. Math.* **72** (1997), 141–164. (Abdallah Lyzzaik) **99c:30061** 30D40 (30C55, 31A05)

— (*with* Duren, Peter) Harmonic mappings of multiply connected domains. (English summary) *Pacific J. Math.* **180** (1997), *no.* 2, 201–220. (Abdallah Lyzzaik) **99f:30051** 30D40 (31A20)

Henglein, Fritz (*with* Brandt, Michael) Coinductive axiomatization of recursive type equality and subtyping. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 63–81, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (From the summary) **99b:03024** 03B40 (68N15, 68Q55)

— (*with* Rehof, Jakob) Constraint automata and the complexity of recursive subtype entailment. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 616–627, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68N15 (68Q25)

Henk, Martin (*with* Weismantel, Robert) Test sets of the knapsack problem and simultaneous Diophantine approximation. (English summary) *Algorithms—ESA '97* (*Graz*), 271–283, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (Summary) **99f:90095** 90C27 (11J13)

— (*with* Weismantel, Robert) The height of minimal Hilbert bases. (English summary) *Results Math.* **32** (1997), *no.* 3-4, 298–303. (Dimitrios I. Dais) **99a:52013** 52B20 (11P21)

— (*with* Betke, U.) Finite packings of spheres. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 197–227. (Robert M. Erdahl) **99e:52023** 52C17

— Kugeln im Computer: ein Beweis der Keplerschen Vermutung? (German summary) [Spheres in the computer: a proof of Kepler's conjecture?] *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 4, 58–60. 52C17

— (*with* Awyong, Poh Wah; Scott, Paul R.) Note on lattice-point-free convex bodies. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 7–12. (I. Bárány) **99e:52019** 52C07

Henkel, Malte Domain walls in the spin-S quantum Ising chain. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 142–149, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B24 (82B20)

— On the phase diagram of the $q \to 1$ extended Potts model and lattice animal collapse. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 402–409, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B26 (82B20)

— (*with* Karevski, Dragi) Lattice two-point functions and conformal invariance. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2503–2507. (Summary) **99b:82029** 82B27

Henkes, Ruud A. W. M. (*with* Bech, Knut H.; Henningson, Dan S.) Linear and non-linear development of localized disturbances in zero and adverse pressure gradient boundary-layers. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1405–1418. (Summary) **99c:76043** 76E05 (76D10, 76E30, 76F99, 76M25)

Henkin, Gennadi (*with* Leiterer, J.) The Oka-Grauert principle without induction over the base dimension. *Math. Ann.* **311** (1998), *no.* 1, 71–93. (J. Kajiwara) **99f:32048** 32L05 (32F30)
— (*with* Passare, Mikael) Abelian differentials on singular varieties and variations on a theorem of Lie-Griffiths. (English summary) *Invent. Math.* **135** (1999), *no.* 2, 297–328. (Reinhold Hübl) **99m:32038** 32J25 (14F10, 32A27, 32C30)
Henking, Andreas (*with* Weiss, Gunter[2]; von Haeseler, Arndt) Distribution of pairwise differences in growing populations. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 81–95, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D15
Henn, Hans-Werner A variant of the proof of the Landweber Stong conjecture. *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 271–275, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Nguyen H. V. Hung) **99e:13006** 13A50 (55S10)
— Unstable modules over the Steenrod algebra and cohomology of groups. *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 277–300, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (Nobuaki Yagita) **99a:20056** 20J05 (20D15, 55S10, 55T99)
— Centralizers of elementary abelian p-subgroups and mod-p cohomology of profinite groups. *Duke Math. J.* **91** (1998), *no.* 3, 561–585. (Norberto Gavioli) **99b:20083** 20J05 (20E18)
Hennart, J. P. (*with* del Valle, E.) Mesh-centered finite differences from nodal finite elements for elliptic problems. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 439–465. (Summary) **99e:65144** 65N06
Hennayake, Kamal P. (*with* Lai, Hong-Jian; Xu, Lei[2]) The strength and the l-edge-connectivity of a graph. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 58–70. (Summary) **99m:05092** 05C40
Henne, Benedikt Classes de Nevanlinna dans certains domaines strictement pseudoconvexes non lisses. (English and French summaries) [Nevanlinna classes in some non-smooth strictly pseudoconvex domains] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 437–441. (Harold P. Boas) **99k:32008** 32A37 (32C30, 32F15)
Henne, Marlow (*with* Kandel, Abraham; Zhang, Yan-Qing) On use of fuzzy logic technology in operating systems. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 241–251. (Summary) **99e:68023** 68N25 (03B52, 03B70)
Henneaux, Marc (*with* Knaepen, Bernard; Schomblond, Christiane) Characteristic cohomology of p-form gauge theories. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 137–165. (Henrik Aratyn) **99c:81255** 81T70 (58Z05, 81T13)
— Anomalies and renormalization of BFYM theory. (English summary) *Phys. Lett. B* **406** (1997), *no.* 1-2, 66–69. (Summary) **99d:81149** 81T50 (81T15, 81T70)
— (*with* Deser, Stanley; Gomberoff, A.; Teitelboim, C.) p-brane dyons and electric-magnetic duality. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 179–204. (Summary) **99i:81147** 81T13
— (*with* Deser, Stanley; Schwimmer, A.) p-brane dyons, θ-terms and dimensional reduction. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 284–288. (David S. Berman) **99d:83092** 83E30 (81T30, 81T60)
— (*with* Wilch, André) Local BRST cohomology of the gauged principal nonlinear sigma model. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025017, 14 *pp.* (Summary) **99k:81182** 81T13 (81T70)
— (*with* Bañados, Máximo; Bautier, Karin; Coussaert, Olivier; Ortiz, Miguel E.) Anti-de Sitter-CFT correspondence in three-dimensional supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085020, 6 *pp.* (Summary) **99k:83131** 83E50 (81T40)
— *see also* **Secondary calculus and cohomological physics, 99d:58007**
Hennebach, Ekkehard (*with* Dilger, Werner) Algebraic operations on a class of Mamdani-controllers. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 253–259. (*see* **99k:93004**) 93C42
Hennecart, François Additive bases and subadditive functions. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 29–40. (Georges Grekos) **99a:11013** 11B13
— (*with* Deshouillers, Jean-Marc; Landreau, Bernard) Sums of powers: an arithmetic refinement to the probabilistic model of Erdős and Rényi. (English summary) *Acta Arith.* **85** (1998), *no.* 1, 13–33. (A. J. Hildebrand) **99h:11114** 11P05 (11K65)
Hennessy, David A. Inequalities for composite functions on a lattice. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 340–346. (From the text) **99d:06012** 06B99 (26D07)
Hennessy, Matthew (*with* Hartonas, Chrysafis) Full abstractness for a functional/concurrent language with higher-order value-passing. (English summary) *Inform. and Comput.* **145** (1998), *no.* 1, 64–106. (Ugo de'Liguoro) **99g:68027** 68N15 (03B40, 03B70)
— (*with* Rathke, J.) Bisimulations for a calculus of broadcasting systems. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 225–260. (Andrea Maggiolo-Schettini) **99e:68044** 68Q10 (68Q55, 68Q60)
— *see also* **Proceedings: Summer School and Workshop on Formal Models of Programming and their Applications, 99i:68004**
Henniart, Guy M. (*with* Bushnell, Colin J.; Kutzko, Philip C.) Correspondance de Langlands locale pour GL_n et conducteurs de paires. (English and French summaries) [Local Langlands correspondence for GL_n and conductors for pairs] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 537–560. (Rebecca Herb) **99h:22011** 22E40 (22E35)
— (*with* Bushnell, Colin J.) Supercuspidal representations of GL_n: explicit Whittaker functions. *J. Algebra* **209** (1998), *no.* 1, 270–287. (Goran Muić) **99j:22022** 22E50
— (*with* Bushnell, Colin J.; Kutzko, Philip C.) Local Rankin-Selberg convolutions for GL_n: explicit conductor formula. *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 703–730. (Roman Bezrukavnikov) **99h:22022** 22E50 (11F70, 11S37)
Hennicker, Rolf (*with* Bidoit, Michel) Modular correctness proofs of behavioural implementations. (English summary) *Acta Inform.* **35** (1998), *no.* 11, 951–1005. (Horst Reichel) **99j:68084** 68Q65 (03B70)
Hennig, Christian Clustering and outlier identification: fixed point cluster analysis. (English summary) *Advances in data science and classification* (*Rome*, 1998), 37–42, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30
Hennig, D. Exponential stability for the energy exchange dynamics of the Holstein model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3568–3576. (Dario Bambusi) **99e:81266** 81V55 (34C29, 58F40)
— (*with* Tsironis, G. P.) Wave transmission in nonlinear lattices. (English summary) *Phys. Rep.* **307** (1999), *no.* 5-6, 333–432. (Summary) **99i:81056** 81Q99 (82D99)
— (*with* Bülow, A.; Gabriel, H.) Soliton interaction for a nonlinear discrete double chain. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part B*, 2380–2392. 35Q55 (70K99)
Henning, Michael A. (*with* Hedetniemi, Sandra M.; Hedetniemi, Stephen T.) The algorithmic complexity of perfect neighborhoods in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **25** (1997), 183–192. (Fabrizio Luccio) **99c:05184** 05C85 (68Q25, 68R10)
— (*with* Chartrand, Gary; Gavlas, Heather; Rashidi, Reza) Stratidistance in stratified graphs. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 337–347. (Ioan Tomescu) **99b:05046** 05C12
— (*with* Hattingh, Johannes H.; Ungerer, Elna) Partial signed domination in graphs. (English summary) *Ars Combin.* **48** (1998), 33–42. (Summary) **99a:05075** 05C35
— (*with* Hattingh, Johannes H.; Walters, Jakobus L.) Distance irredundance in graphs: complexity issues. (English summary) *Ars Combin.* **50** (1998), 3–22. (Richard C. Brewster) **99m:05150** 05C85 (05C35, 68Q25)
— (*with* Slater, Peter J.) Closed neighborhood order dominating functions. (English summary) *Australas. J. Combin.* **17** (1998), 77–88. (Summary) **99a:05076** 05C35 (05C85)
— (*with* Haynes, Teresa W.) Domination critical graphs with respect to relative complements. (English summary) *Australas. J. Combin.* **18** (1998), 115–126. (Summary) **99g:05143** 05C70 (05C35)
— (*with* Maharaj, Hiren) Some general aspects of the framing number of a digraph. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 115–133. (Brian Alspach) **99e:05062** 05C20 (05C10)
— Packing in trees. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 145–155. (Stanislav Jendrol') **99e:05096** 05C70
— (*with* Kubicki, Grzegorz) Real domination in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 147–160. (Anthony E. Barkauskas) **99c:05105** 05C35
— (*with* Hind, Hugh R.) Strict majority functions on graphs. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 49–56. (Bert L. Hartnell) **99f:05063** 05C35
— (*with* Hattingh, Johannes H.) Bipartite Ramsey theory. (English summary) *Util. Math.* **53** (1998), 217–230. (Summary) **99c:05139** 05C55
— (*with* Oellermann, Ortrud R.) Bipartite Ramsey theorems for multiple copies of $K_{2,2}$. (English summary) *Util. Math.* **54** (1998), 13–23. (Summary) **99g:05134** 05C55
— Graphs with large restrained domination number. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 415–429. (Summary) **99m:05078** 05C35
— (*with* Dunbar, Jean E.; Hedetniemi, Stephen T.; McRae, Alice A.) Minus domination in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 35–47. (Summary) **99j:05104** 05C35
— (*with* Fricke, Gerd H.; Haynes, Teresa W.; Hedetniemi, Sandra M.; Hedetniemi, Stephen T.) On perfect neighborhood sets in graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 221–225. (Summary) **99k:05090** 05C35 (05C70)
— (*with* Slater, Peter J.) Open packing in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 3–16. (Summary) **99j:05152** 05C70
Hennings, Mark A. (*with* Dubin, Daniel A.; Smith, Thomas B.) Dequantization techniques for Weyl quantization. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 4, 325–354. (Günter Braunss) **99i:81118** 81S10 (46F25, 46N50, 81S30)
Henningson, Dan S. (*with* Andersson, Paul; Berggren, Martin) Optimal disturbances in boundary layers. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 1–26, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 49Q10 (49R10, 76D10)
— (*with* Andersson, Paul; Hanifi, A.) On a stabilization procedure for the parabolic stability equations. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 311–332. (Sharon O. Seddougui) **99d:76042** 76E99 (76D05)
— (*with* Reddy, Satish C.; Schmid, Peter J.; Baggett, Jeffrey S.) On stability of streamwise streaks and transition thresholds in plane channel flows. (English summary) *J. Fluid Mech.* **365** (1998), 269–303. (Summary) **99e:76053** 76E99 (76D10, 76F99, 76N20)
— (*with* Högberg, Markus) Secondary instability of cross-flow vortices in Falkner-Skan-Cooke boundary layers. (English summary) *J. Fluid Mech.* **368** (1998), 339–357. (Summary) **99f:76064** 76E99 (76D10)
— (*with* Bech, Knut H.; Henkes, Ruud A. W. M.) Linear and nonlinear development of localized disturbances in zero and adverse pressure gradient boundary-layers. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1405–1418. (Summary) **99c:76043** 76E05 (76D10, 76E30, 76F99, 76M25)
— (*with* Andersson, Paul; Berggren, Martin) Optimal disturbances and bypass transition in boundary layers. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 134–150. (Summary) **99h:76047** 76F99 (76D10, 76M25)
Henningson, Måns (*with* Berglund, Per; Wyllard, Niclas) Special geometry and automorphic forms. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 256–276. (Summary) **99f:81145** 81T30 (11F55, 53C80)
— (*with* Skenderis, Kostas) The holographic Weyl anomaly. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 23, 12 *pp.* (*electronic*). (Summary) **99f:81162** 81T30 (81T40, 83E30)
— (*with* Sfetsos, Konstadinos) Spinors and the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 63–68. (Summary) **99c:81186** 81T30 (83E30)
Hénon, Michel ★ Generating families in the restricted three-body problem. (English summary) Lecture Notes in Physics. New Series m: Monographs, 52. *Springer-Verlag, Berlin*, 1997. xii+278 *pp. ISBN* 3-540-63802-4 (A. D. Bruno) **99e:70031** 70F07 (70F15)
— (*with* Petit, Jean-Marc) Good rotations. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 420–435. (Summary) **99f:70003** 70–08 (65D32, 70F15)
Henrard, Marc (*with* De Coster, Colette) Existence and localization of solution for second order elliptic BVP in presence of lower and upper solutions without any order. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 420–452. (Long-Yi Tsai) **99k:35059** 35J65

— (*with* Sadyrbaev, F. Zh.) Multiplicity results for fourth order two-point boundary value problems with asymmetric nonlinearities. *Nonlinear Anal.* **33** (1998), *no.* 3, 281–302. (A. I. Perov) **99d:34035** 34B15 (34C10, 47H11)

Henriksen, Melvin Rings of continuous functions in the 1950s. *Handbook of the history of general topology, Vol.* 1, 243–253, *Kluwer Acad. Publ., Dordrecht*, 1997. (F. Smithies) **99d:01025** 01A60 (46–03, 54–03)

— (*with* Kopperman, Ralph; Mack, John E.; Somerset, D. W. B.) Joincompact spaces, continuous lattices, and C^*-algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 289–323. (Jimmie D. Lawson) **99c:54004** 54A05 (06B35, 46L05, 54C05, 54D30, 54E55)

Henrion, Claudia ★ Women in mathematics. (English summary) The addition of difference. Race, Gender, and Science. *Indiana University Press, Bloomington, IN*, 1997. xxxiv+294 *pp. ISBN* 0-253-33279-6; 0-253-21119-0 (S. Zdravkovska) **99g:01046** 01A80 (01A70)

Henrion, Didier (*with* Šebek, Michael) Symmetric matrix polynomial equation: interpolation results. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 811–824. 93B40 (65F30, 93C05)

— (*with* Šebek, Michael) Reliable numerical methods for polynomial matrix triangularization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 497–508. (Summary) **99m:65098** 65F99 (93B40)

Henrion, René Characterization of stability for cone increasing constraint mappings. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 4, 323–349. (Summary) **99k:49064** 49K40 (90C15, 90C31)

— (*with* Klatte, Diethard) Regularity and stability in nonlinear semi-infinite optimization. (English summary) *Semi-infinite programming*, 69–102, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Hubertus Th. Jongen) **99f:90156** 90C34 (90–02, 90C31)

Henríquez, Hernán R. (*with* Hernández, Eduardo A.) Existence results for partial neutral functional-differential equations with unbounded delay. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 452–475. (Hana Petzeltová) **99b:34127** 34K30 (34K40, 35R10, 45K05)

— (*with* Hernández, Eduardo A.) Existence of periodic solutions of partial neutral functional-differential equations with unbounded delay. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 499–522. (Krzysztof A. Topolski) **99e:35239** 35R10 (34K30, 35B10)

— (*with* Castillo, Genaro A.) Compensators for singular control systems with small delays in outputs. (English summary) *Proyecciones* **17** (1998), *no.* 1, 23–54. (Jerzy Klamka) **99f:93083** 93C30 (93B50)

— On the collective compactness of strongly continuous semigroups and cosine functions of operators. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 497–509. (Dieter Lutz) **99k:47092** 47D06 (34G10, 47D09)

Henrot, Antoine (*with* Sokołowski, Jan) A shape optimization problem for the heat equation. (English summary) *Optimal control (Gainesville, FL*, 1997), 204–223, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Maïtine Bergounioux) **99f:49067** 49Q10 (35K05, 49K20)

— (*with* Bucur, Dorin; Buttazzo, Giuseppe) Existence results for some optimal partition problems. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 571–579. (Muthusamy Vanninathan) **99k:49004** 49J10 (35J99, 49Q10)

— (*with* Philippin, Gérard A.) Some overdetermined boundary value problems with elliptical free boundaries. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 309–320 (*electronic*). (Summary) **99b:35159** 35N10 (30E25, 35R35)

Henry, B. I. (*with* Batchelor, Murray T.; Watt, S. D.) Continuum model for radial interface growth. (English summary) *Phys. A* **260** (1998), *no.* 1-2, 11–19. (Summary) **99g:82059** 82C24

Henry, Daniel (*with* Touihri, R.; Ben Hadid, H.) Effect of a constant and uniform magnetic field on Rayleigh-Bénard instabilities in cylindrical cavities. (English summary) *Advances in fluid mechanics, II (Udine*, 1998), 161–170, *Adv. Fluid Mech.*, 21, *Comput. Mech., Southampton*, 1998. (*see* **99k:76003**) 76E15 (76E25, 76W05)

— (*with* Juel, A.; Mullin, Tom; Ben Hadid, H.) Magnetohydrodynamic convection to molten gallium. (English summary) *J. Fluid Mech.* **378** (1999), 97–118. (Summary) **99j:76137** 76W05 (76–05, 76R05)

Henry, Jacques (*with* Díaz Díaz, Jesús Ildefonso; Ramos, Angel Manuel) On the approximate controllability of some semilinear parabolic boundary-value problems. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 1, 71–97. (Takao Nambu) **99c:93005** 93B05 (35B37, 35K60, 93C20)

Hens, Thorsten (*with* Gottardi, Piero) Disaggregation of excess demand and comparative statics with incomplete markets and nominal assets. (English summary) *Econom. Theory* **13** (1999), *no.* 2, 287–308. (Summary) **99k:90062** 90A60 (90A09)

Henschen, Lawrence Metalevel reasoning for controlling automated reasoning programs. *Automated reasoning and its applications*, 211–230, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 68T15 (03B35)

Hensel, Kurt *see* **Ullrich, Peter, 99k:01029**

Hensel, Martin Integral representation of fermionic Schwinger functions. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8191–8205. (Lech Jakóbczyk) **99d:81073** 81T08 (81T05)

Hensel, Ulrich (*with* Jacobs, Bart) Proof principles for datatypes with iterated recursion. (English summary) *Category theory and computer science (Santa Margherita Ligure*, 1997), 220–241, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99g:68132** 68Q65

Henseler, Michael (*with* Wirzba, Andreas) A direct link between the quantum-mechanical and semiclassical determination of scattering resonances. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2155–2172. (Summary) **99b:81064** 81Q50 (81Q20, 81U05)

Hensgen, W. (*with* Emmanuele, G.) Property (V) of Pełczyński in projective tensor products. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 227–231. (Dirk Werner) **99k:46014** 46B03 (46M05)

Henshaw, William D. Automatic grid generation. (English summary) *Acta numerica*, 1996, 121–148, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (*see* **99a:65003**) 65M50 (65N50, 73V20, 76M25, 78–08)

Henson, C. Ward Foundations of nonstandard analysis: a gentle introduction to nonstandard extensions. *Nonstandard analysis (Edinburgh*, 1996), 1–49, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (Guangrun Sun) **99i:03085** 03H05 (00A05, 03B10, 03C20, 26E35)

Henson, Michael A. (*with* Meadows, Edward S.; Eaton, John W.; Rawlings, James B.) Receding horizon control and discontinuous state feedback stabilization. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1217–1229. 93D15

— (*with* Kurtz, Michael J.) Feedback linearizing control of discrete-time nonlinear systems with input constraints. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 603–616. (Summary) **99c:93023** 93B18 (93C55, 93D05)

Henson, Shandelle M. (*with* Cushing, Jim M.) The effect of periodic habitat fluctuations on a nonlinear insect population model. (English summary) *J. Math. Biol.* **36** (1997), *no.* 2, 201–226. (Hassan El-Owaidy) **99c:92058** 92D40 (34C25, 34D99, 92D25)

Henson, Van Emden (*with* Shaker, Aihua W.) Theory and numerics for a semilinear elliptic PDE, with an application in the theory of pseudoplastic fluids. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 271–285. (Summary) **99a:35045** 35J15 (65N55, 73E50, 76A05)

— (*with* Cleary, Andrew J.; Falgout, Robert D.; Jones, Jim E.) Coarse-grid selection for parallel algebraic multigrid. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA*, 1998), 104–115, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55)

Hensz-Chądzyńska, Ewa (*with* Jajte, Ryszard; Paszkiewicz, Adam) Almost sure convergence of projections in L_p-spaces. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 67–84. (Richard D. Duncan) **99c:28046** 28D05 (47A35, 47B38)

— (*with* Jajte, Ryszard; Paszkiewicz, Adam) Dilation theorems for completely positive maps and map-valued measures. (English summary) *Quantum probability (Gdańsk*, 1997), 231–239, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (B. V. Rajarama Bhat) **99k:46114** 46L50 (28B05, 46L10)

— (*with* Jajte, Ryszard) Lech Włodarski (1916–1997). (Polish) *Wiadom. Mat.* **34** (1998), 165–166. 01A70

van Hentenryck, Pascal *see* **Van Hentenryck, Pascal**

Hentschel, Ann M. *see* **Einstein, Albert, 99e:01033**

Hentschel, H. George E. (*with* Hogrefe, J. Errett; Peffley, Nicholas L.; Goodridge, Christopher L.; Shi, William T.; Lathrop, Daniel P.) Power-law singularities in gravity-capillary waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 183–205. (*see* **99h:00031**) 76D33 (76–05, 76D45)

— (*with* Davidovitch, Benny; Olami, Zeev; Procaccia, Itamar; Sander, Leonard M.; Somfai, Ellak) Diffusion limited aggregation and iterated conformal maps. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1368–1378. (Summary) **99m:82048** 82D99 (58F40)

Hentschel, Klaus *see* **Einstein, Albert, 99e:01033**

Hentzel, Irvin Roy (*with* Abian, Alexander) Cantor ternary set and measurability of Hamel bases. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 163–168. (Summary) **99b:28001** 28A05

— (*with* Peresi, Luiz Antonio) Degree three, four, and five identities of quadratic algebras. *J. Algebra* **206** (1998), *no.* 1, 1–16. (Alberto Elduque) **99g:17008** 17A45 (17–08)

Henze, Norbert Extreme smoothing and testing for multivariate normality. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 203–213. (V. K. Rohatgi) **99c:62132** 62G10 (62H15)

— Stochastische Extremwertprobleme oder Wie banal ist die Sensation? (German summary) [Stochastic extreme value problems or how banal is the sensation?] *Mitt. Math. Ges. Hamburg* **17** (1998), 51–74. (J. Hüsler) **99k:60133** 60G70 (60C05)

— A Poisson limit law for a generalized birthday problem. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 333–336. (Anant P. Godbole) **99g:60017** 60C05 (60F05)

— *see also* **Surveys on mathematics, 99a:00018** *and* **Surveys of mathematics, 99d:00011**

Henzinger, Monika R. (*with* Thorup, Mikkel) Sampling to provide or to bound: with applications to fully dynamic graph algorithms. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 369–379. (Summary) **99c:68125** 68Q25 (05C85, 68R10)

— (*with* Goel, Ashish; Plotkin, Serge) Online throughput-competitive algorithm for multicast routing and admission control. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 97–106, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (90C90)

— (*with* Fredman, Michael L.) Lower bounds for fully dynamic connectivity problems in graphs. (English summary) *Algorithmica* **22** (1998), *no.* 3, 351–362. (Fabrizio Luccio) **99k:68078** 68Q25 (05C40)

Henzinger, Thomas A. (*with* Raskin, J.-F.; Schobbens, P.-Y.) The regular real-time languages. (English summary) *Automata, languages and programming (Aalborg*, 1998), 580–591, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (68Q45)

— (*with* Alur, Rajeev; Kupferman, Orna; Vardi, Moshe Y.) Alternating refinement relations. (English summary) *CONCUR'98: concurrency theory (Nice)*, 163–178, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68116** 68Q60 (68Q10)

— (*with* Raskin, J.-F.; Schobbens, P.-Y.) Axioms for real-time logics. (English summary) *CONCUR'98: concurrency theory (Nice)*, 219–236, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

— It's about time: real-time logics reviewed. (English summary) *CONCUR'98: concurrency theory (Nice)*, 439–454, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68121** 68Q60 (03B45, 03D15, 68Q25)

— (*with* Ho, Pei-Hsin; Wong-Toi, Howard) Algorithmic analysis of nonlinear hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 540–554. (*see* **99a:93006**) 93B40 (93C30)

— (*with* Alur, Rajeev; Fix, Limor) Event-clock automata: a determinizable class of timed automata. (English summary) *Theoret. Comput. Sci.* **211** (1999), *no.* 1-2, 253–273. (Summary) **99k:68104** 68Q60 (68Q45, 68Q68)

Heo, Junseong (*with* Vachaspati, Tanmay) Z_3 strings and their interactions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 065011, 7 *pp.* (Summary) **99k:81176** 81T10

Heo, Sangwoo (*with* Xu, Yuan[1]) Constructing symmetric cubature formulae on a triangle. (English summary) *Advances in computational mathematics (Guangzhou*, 1997), 203–221,

Lecture Notes in Pure and Appl. Math., 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 65D32

Heppes, Aladár (*with* Melissen, Hans) Covering a rectangle with equal circles. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 65–81. (Summary) **99b:52045** 52C17

— On the partition of the 2-sphere by geodesic nets. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2163–2165. (Luis J. Alías) **99j:53051** 53C22 (53A10)

Heppler, G. R. (*with* Vermeulen, A. H.) Predicting and avoiding shear locking in beam vibration problems using the *B*-spline field approximation method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 311–327. (Summary) **99a:73129** 73V05 (73K05)

Hérard, Jean-Marc (*with* Buffard, Thierry; Gallouët, Thierry) Un schéma simple pour les équations de Saint-Venant. (English and French summaries) [A naive scheme for solving the Saint-Venant shallow-water equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 385–390. (Summary) **99g:76089** 76M20 (76B15)

Heras, A. (*with* Balbas, A.; Jiménez Guerra, Pedro) Duality theory and slackness conditions in multiobjective linear programming. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 101–109. (Summary) **99k:90141** 90C29 (49N15)

echavarría Heras, Héctor *see* **Echavarría Heras, Héctor**

Heras, José A. Explicit expressions for the electric and magnetic fields of a moving magnetic dipole. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5047–5056. (Summary) **99f:78008** 78A35

— Unified model based on U(1) duality symmetry of polarization and magnetization. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, *R*6951–*R*6954. (Summary) **99i:78012** 78A25 (81V10)

Herbera, Dolors (*with* Phạm Ngọc Ánh; Menini, Claudia) AB-5* for module and ring extensions. *Abelian groups, module theory, and topology* (*Padua*, 1997), 59–68, *Lecture Notes in Pure and Appl. Math.*, 201, *Dekker, New York*, 1998. (Robert Wisbauer) **99k:16014** 16D90 (16P99)

Herberthson, Magnus On the differentiability conditions at spacelike infinity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3873–3889. (Richard Hansen) **99k:83029** 83C30

Herberts, Tina (*with* Jensen, Uwe) Some remarks on dependent censoring in complex systems. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 125–138, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N05 (62G05)

Herbin, R. (*with* Eymard, R.; Gallouët, Thierry; Ghilani, Mustapha) Error estimate for the finite volume approximate of the solution to a nonlinear convective equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 13–24, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K99, 76M25)

Herbort, G. (*with* Diederich, Klas) An alternative proof of a theorem by Boas-Straube-Yu. *Complex analysis and geometry* (*Trento*, 1995), 112–118, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (M. Klimek) **99c:32034** 32H10 (32F15)

— (*with* Diederich, Klas; Michel, V.) Weights of holomorphic extension and restriction. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 697–719. (Manfred Stoll) **99k:46036** 46E20 (32F05, 32H10, 47B38)

wilkinson-Herbots, Hilde M. *see* **Wilkinson-Herbots, Hilde M.**

Herbut, Fedor (*with* Božin, Vladimir; Hruška, Marina; Paunković, Nikola) On statistical and deterministic quantum teleportation. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4403–4435. (S. Gudder) **99e:81022** 81P15

Herceg, D. *see* **Herceg, Dragoslav**

Herceg, Djordje (*with* Petković, Miodrag S.; Ilić, Snežana M.) ★ Point estimation theory and its applications. *University of Novi Sad, Institute of Mathematics, Novi Sad*, 1997. vi+168 *pp. ISBN* 86-7031-003-1 (W. Govaerts) **99f:65078** 65H10

— (*with* Petković, Miodrag S.) Börsch-Supan-like methods: point estimation and parallel implementation. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 327–341. (Summary) **99e:65086** 65H05 (65Y05)

— (*with* Petković, Miodrag S.; Ilić, Snežana M.) Point estimation and some applications to iterative methods. (English summary) *BIT* **38** (1998), *no.* 1, 112–126. (De Ren Wang) **99e:65087** 65H05 (65G10)

— (*with* Petković, Miodrag S.; Petković, Ljiljana D.) Point estimation of a family of simultaneous zero-finding methods. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 1–12. (Nikolay Vesselinov Kyurkchiev) **99h:65105** 65H05

— (*with* Petković, Miodrag S.) On the convergence of Wang-Zheng's method. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 1, 123–135. (Summary) **99a:65069** 65H05

— (*with* Petković, Miodrag S.; Tričković, Slobodan B.) On Euler-like methods for the simultaneous approximation of polynomial zeros. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 295–315. (Iliya Makrelov) **99e:65088** 65H05 (30C15)

— (*with* Ilić, Snežana M.) Safe convergence of Tanabe's method. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 51–60. (Summary) **99h:65103** 65H05

— (*with* Ilić, Snežana M.; Petković, Miodrag S.) On the convergence of Halley-like method. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 61–70. (Iliya Makrelov) **99m:65108** 65H05

— (*with* Petković, Miodrag S.; Tričković, Slobodan B.) Higher order Euler-like methods. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 129–136. (Nikolay Vesselinov Kyurkchiev) **99j:65090** 65H05

— (*with* Petković, Miodrag S.; Ilić, Snežana M.) Safe convergence of simultaneous methods for polynomial zeros. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 313–331. (T. L. Freeman) **99j:65091** 65H05

Herceg, Dragoslav On a discrete analogue for singularly perturbed BVP. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 57–74. (Bernhard A. Schmitt) **99f:65120** 65L10

— (*with* Surla, Katarina; Rapajić, Sanja) Cubic spline difference scheme on a mesh of Bakhvalov type. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 41–49. (Josef Dalík) **99k:65061** 65L10

Herczyński, Jan Semiclassical estimates for Weyl quantisation. (English summary) *J. Funct. Anal.* **147** (1997), *no.* 1, 1–25. (H. Hogreve) **99g:81047** 81Q20 (47N50, 81Q15, 81S30)

Herdegen, Andrzej Semidirect product of CCR and CAR algebras and asymptotic states in quantum electrodynamics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1788–1817. (Gerald Hofmann) **99i:81137** 81T05 (46L05, 46L60, 81V10)

Herdman, Terry L. (*with* Hartung, Ferenc; Turi, Janos) Parameter identification in classes of hereditary systems of neutral type. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 147–160. (Shin-ichi Nakagiri) **99m:34188** 34K40 (34K35, 93B30)

— (*with* Kang, Kyehong) A structured reduced sequential quadratic programming and its application to a shape design problem. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 81–100. 90C30 (49Q10)

hernández Heredero, R. *see* **Hernández Heredero, R.**

Hereman, Willy (*with* Göktaş, Ünal) Invariants and symmetries for partial differential equations and lattices. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 403–407, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q53 (35A30)

— (*with* Göktaş, Ünal) Computation of conservation laws for nonlinear lattices. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 425–436. (*see* **99h:00031**) 35A25 (34K99, 35L65, 39A12)

— (*with* DeSanto, John A.; Erdmann, G.; Misra, Manavendra) Theoretical and computational aspects of scattering from rough surfaces: one-dimensional perfectly reflecting surfaces. (English summary) *Waves Random Media* **8** (1998), *no.* 4, 385–414. (Summary) **99j:76112** 76Q05 (76M25, 78–08, 78A45)

Herendi, Tamás (*with* Grabner, Peter J.; Tichy, Robert F.) Fractal digital sums and codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 1, 33–39. (Michael Drmota) **99c:11150** 11T23 (11A63, 11T71, 94B99)

— (*with* Hajdu, L.) Explicit bounds for the solutions of elliptic equations with rational coefficients. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 3, 361–366. (Yann Bugeaud) **99a:11033** 11D25 (11G05, 14Q05)

Herfort, W. N. (*with* Doppel, K.; Pflüger, Klaus) A nonlinear beam equation arising in the theory of elastic bodies. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 945–960. (Takashi Narazaki) **99a:35252** 35Q72 (34G20, 35G25, 47H20, 73D35)

— (*with* Ribes, L.; Zalesskiĭ, P. A.) Finite extensions of free pro-p groups of rank at most two. (English summary) *Israel J. Math.* **107** (1998), 195–227. (Martyn Quick) **99m:20061** 20E18 (20E05)

Herings, P. Jean-Jacques Closed form solutions for a game of macroeconomic policy in a two-party system. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 325–330, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90D40 (90A14)

— On the existence of a continuum of constrained equilibria. (English summary) *J. Math. Econom.* **30** (1998), *no.* 3, 257–273. (Summary) **99g:90032** 90A16

— (*with* Talman, A. J. J.) Intersection theorems with a continuum of intersection points. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 311–335. (Mihai Turinici) **99d:54016** 54F15 (90C29)

Heritier, S. (*with* Victoria-Feser, M.-P.) Practical applications of bounded-influence tests. *Robust inference*, 77–100, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

Herlihy, Maurice (*with* Dwork, Cynthia; Waarts, Orli) Contention in shared memory algorithms. (English summary) *J. ACM* **44** (1997), *no.* 6, 779–805. (Julian Padget) **99b:68069** 68Q10 (68Q25)

Herman, Gabor T. (*with* Maritz, Milton F.; Yee, Conway) Recovery of the absorption coefficient from diffused reflected light using a discrete diffusive model. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 58–71 (*electronic*). (Summary) **99j:92009** 92C55

Herman, Michael-Robert Some open problems in dynamical systems. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 797–808 (*electronic*). (Rafael de la Llave) **99i:58047** 58Fxx

Herman, Paul A. (*with* Franchek, Matthew A.) Direct connection between time-domain performance and frequency-domain characteristics. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1021–1042. (Summary) **99f:93097** 93C80 (93C05)

— *see also* **Errata: "Direct connection between time-domain performance and frequency-domain characteristics"**

Herman, Rhett Method for calculating the imaginary part of the Hadamard elementary function $G^{(1)}$ in static, spherically symmetric spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084028, 11 *pp.* 83C47 (81T20)

Hermann, Andreas *see* **Kalmbach, Gudrun, 99j:81014**

Hermann, Jakob *see* **Mazzone, Silvia, 99f:01010**

Hermann, Miki (*with* Salzer, Gernot) On the word, subsumption, and complement problem for recurrent term schematizations (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 257–266, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68T15 (03B35, 68Q42)

Hermann, Thomas *see* **Hermann, Thomas[2]**

Hermann, Thomas[1] (*with* Kovács, Zoltán; Várady, Tamás) Special applications in surface fitting. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 14–31, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65021** 65D17 (65D10)

— (*with* Lukács, Gábor) Proof of the nonintersection conjecture of Hoffmann and Peters. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 147–163. (Marshall Walker) **99d:65044** 65D17 (52B55, 68U05)

— On the smoothness of offset surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 529–533. (Hellmuth Stachel) **99f:53002** 53A05 (68U05)

— On the derivatives of second and third degree rational Bézier curves. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 3, 157–163. 65D17

Hermann, Thomas[2] (*with* Poguntke, Werner) Fehlerkorrigierende Codes in der Kryptologie. (German summary) [Error-correcting codes in cryptology] *Math. Semesterber.* **42** (1995), *no.* 2, 139–151. (Summary) **99a:94033** 94A60 (94B99)

Hermans, Aad J. Low-frequency second-order wave-drift forces and damping. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 181–198. (Summary)

99m:76015 76B15 (73K12, 73K70, 86A05)

Hermeline, François Une méthode de volumes finis pour les équations elliptiques du second ordre. (English and French summaries) [A finite-volume method for second-order elliptic equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1433–1436. (Summary) **99h:65181** 65N06 (65N30)

Hermenegildo, Manuel (*with* Debray, Saumya; López-García, Pedro; Lin, Nai-Wei) Lower bound cost estimation for logic programs. (English summary) *Logic programming (Port Washington, NY, 1997)*, 291–305, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17

— (*with* Muthukumar, K.; Bueno, F.; García de la Banda, Maria) Automatic compile-time parallelization of logic programs for restricted, goal level, independent and-parallelism. (English summary) *J. Logic Programming* **38** (1999), *no.* 2, 165–218. (Summary) **99h:68032** 68N17 (68N20)

Hermes, Henry Asymptotic stabilization via homogeneous approximation. (English summary) *Geometry of feedback and optimal control*, 205–218, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93D15

— *see also* **Differential geometry and control, 99f:93003**

Hermida, Claudio (*with* Makkai, Michael; Power, Anthony John) Higher-dimensional multigraphs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 199–206, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 18D05 (03D05, 68Q45)

— (*with* Jacobs, Bart) Structural induction and coinduction in a fibrational setting. (English summary) *Inform. and Comput.* **145** (1998), *no.* 2, 107–152. (Horst Reichel) **99g:68133** 68Q65 (03G30, 18D30)

Hermida-Alonso, J. A. (*with* Martín Yagüez, M. C.) On the application of the factorization ideals associated to a finite free resolution. (English summary) *Rings, Hopf algebras, and Brauer groups (Antwerp/Brussels, 1996)*, 167–173, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Joseph Gubeladze) **99e:13019** 13D25 (13C12)

— (*with* Carriegos, M.; Sánchez-Giralda, T.) The pointwise feedback relation for linear dynamical systems. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 119–134. (Summary) **99f:93025** 93B25 (13C11, 93B10)

Hermiller, Susan M. (*with* Kramer, Xenia H.; Laubenbacher, Reinhard C.) Monomial orderings, rewriting systems, and Gröbner bases for the commutator ideal of a free algebra. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 133–141. (Vesselin Drensky) **99m:16040** 16S15 (13P10, 68Q40, 68Q42)

Hermisson, J. (*with* Richard, Christoph; Höffe, M.; Baake, Michael) Random tilings: concepts and examples. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6385–6408. (Richard Kenyon) **99g:82033** 82B41 (52C20, 82D25)

Hermisson, Ulrich Construction of covariant differential calculi on quantum homogeneous spaces. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 313–322. (Andrzej Sitarz) **99m:58023** 58B30 (16W30)

Hermo, Montserrat (*with* Balcázar, José L.) The structure of logarithmic advice complexity classes. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 217–244. (Summary) **99g:68070** 68Q15

Hermoso Carazo, Aurora (*with* García-Ligero, M. J.; Linares Pérez, Josefa) Least squared estimation for distributed parameter systems with uncertain observations. I. Linear prediction and filtering. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 11–18. (Summary) **99e:93075** 93E10

Hern, S. D. (*with* Stewart, John M.) The Gowdy T^3 cosmologies revisited. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1581–1593. (S. Kichenassamy) **99h:83040** 83C75 (83–08)

Hern, Thomas (*with* Long, Cliff; Long, Andrew E.) Looking at order of integration and a minimal surface. *College Math. J.* **29** (1998), *no.* 2, 128–133. (Fei-Tsen Liang) **99a:53007** 53A10 (65D17, 68U05)

Hernández, A. *see* **Hernández Martín, Aníbal**

melle-Hernández, Alejandro *see* **Melle-Hernández, Alejandro**

cruz-Hernández, César *see* **Cruz-Hernández, César**

Hernández, Constancio (*with* Tkachenko, M. G.) Subgroups of **R**-factorizable groups. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 371–378. (I. I. Guran) **99i:54051** 54H11 (22A05, 22D05, 54C50)

Hernández, E. *see* **Hernández, E. S.**

Hernandez, E. C. (*with* Gatica, Gabriel N.; Mellado, M. E.) A domain decomposition method for linear exterior boundary value problems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 1–9. (Summary) **99d:65345** 65N55 (80–08)

Hernández, E. S. (*with* Mondragón, A.) Accidental degeneracy and Berry phase of resonant states. (English summary) *Irreversibility and causality (Goslar, 1996)*, 257–281, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Piotr Kosiński) **99f:81069** 81Q99 (81S99)

Hernández, Eduardo A. (*with* Henríquez, Hernán R.) Existence results for partial neutral functional-differential equations with unbounded delay. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 452–475. (Hana Petzeltová) **99b:34127** 34K30 (34K40, 35R10, 45K05)

— (*with* Henríquez, Hernán R.) Existence of periodic solutions of partial neutral functional-differential equations with unbounded delay. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 499–522. (Krzysztof A. Topolski) **99e:35239** 35R10 (34K30, 35B10)

Hernández, Enriqueta *see* **Symposium: Nuclear Physics, 99g:81002**

Hernández, Evelio (*with* Arkun, Y.) Stability of nonlinear polynomial ARMA models and their inverse. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 885–906. 93E15 (93D05)

hernández Hernández, Fernando *see* **Hernández Hernández, Fernando**

Hernández, Francisco L. (*with* Semenov, E. M.) Disjunctive systems and complemented subspaces of rearrangement-invariant spaces. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 312–314. (Yu. A. Abramovich) **99h:46046** 46E30 (46B42)

— (*with* Rodríguez-Salinas, Baltasar) Lattice-embedding scales of L^p spaces into Orlicz spaces. (English summary) *Israel J. Math.* **104** (1998), 191–220. (Yu. A. Abramovich) **99g:46032** 46E30

Hernández, Gastón E. Density dependent population dispersal in $\mathbf{R}^n$. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 409–417, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 35Q80 (35M10, 92D25)

— Age-density dependent population dispersal in $\mathbf{R}^N$. (English summary) *Math. Biosci.* **149** (1998), *no.* 1, 37–56. (V. N. Razzhevaikin) **99k:92029** 92D25 (35K65, 35Q80, 45K05)

Hernández, Gerardo (*with* Lacomba, Ernesto A.) Contact Riemannian geometry and thermodynamics. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 205–216. (Ryszard Mrugała) **99g:53035** 53C15 (53C80, 80A10)

Hernández, Héctor Froilan (*with* Núñez, L. A.; Percoco, U.) Non-local equation of state in general relativistic radiating spheres. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 871–896. (Summary) **99k:83030** 83C30 (83C55)

Hernández, Héctor J. (*with* Brisaboa, Nieves R.; González-Tuchmann, Agustín; Paramá, José R.) Chasing programs in Datalog. (English summary) *Proceedings of the 6th International Workshop on Deductive Databases and Logic Programming (DDLP'98) (Manchester, 1998)*, 13–23, *GMD Rep.*, 22, *GMD—Forschungszentrum Informationstech., St. Augustin*, 1998. (*see* **99g:68052**) 68P15 (68N17)

velasco-Hernández, Jorge X. *see* **Velasco-Hernández, Jorge X.**

otero Hernández, José A. *see* **Otero Hernández, José A.**

guadalupe Hernández, José Javier *see* **Guadalupe Hernández, José Javier**

torrea Hernández, José Luis *see* **Torrea Hernández, José Luis**

gonzález-Hernández, Juan *see* **González-Hernández, Juan**

Hernández, Luis D. (*with* Moral, Serafín; Salmerón, Antonio) A Monte Carlo algorithm for probabilistic propagation in belief networks based on importance sampling and stratified simulation techniques. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 53–91. (Maria-Teresa Lamata) **99m:68194** 68T30 (65C05)

Hernández, Luis Javier (*with* Extremiana Aldana, J. Ignacio; Rivas Rodríguez, M. Teresa) Closed model categories for $[n, m]$-types. (English summary) *Theory Appl. Categ.* **3** (1997), *No.* 10, 250–268 (*electronic*). (Pilar C. Carrasco) **99c:55010** 55P15 (18D15, 55U35)

— (*with* García-Calcines, J. M.; García-Pinillos, M.) A closed simplicial model category for proper homotopy and shape theories. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 221–242. (Summary) **99a:55017** 55U35 (18B99, 18G99)

— Fundamental pro-groupoids and covering projections. (English summary) *Fund. Math.* **156** (1998), *no.* 1, 1–31. (Summary) **99a:55010** 55Q07 (18F20, 55R05, 55U40)

— (*with* Casacuberta, Carles; Rodríguez, José Luis) Models for torsion homotopy types. (English summary) *Israel J. Math.* **107** (1998), 301–318. (Donald M. Davis) **99i:55027** 55U35 (55P15)

bello Hernández, M. *see* **Bello Hernández, M.**

Hernández, M. A. *see* **Hernández Verón, Miguel A.**

Hernández, Miguel A. *see* **Hernández Verón, Miguel A.**

Hernández, Roberto (*with* Dormido, S.; Dormido, R.) On the thirty-two virtual polynomials to stabilize an interval plant. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1460–1465. (Summary) **99e:93055** 93D09

Hernández, Salvador (*with* Galindo, Jorge) On a theorem of van Douwen. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 109–113 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99a:22004** 22A05 (54C45, 54H11)

— (*with* Galindo, Jorge) Transmission of continuity to the Bohr topology. (English summary) Proceedings of the First Ibero-American Conference on Topology and its Applications (Benicassim, 1995). *Topology Appl.* **77** (1997), *no.* 2, 161–175. (M. Rajagopalan) **99b:22006** 22B05 (22B10, 43A20, 54H11)

— (*with* Galindo, Jorge) On a theorem of van Douwen. *Extracta Math.* **13** (1998), *no.* 1, 115–123. (K. D. Magill, Jr.) **99k:54031** 54H11 (54C45)

— The dimension of an LCA group in its Bohr topology. (English summary) Special issue on topological groups. *Topology Appl.* **86** (1998), *no.* 1, 63–67. (Vladimir Tkachuk) **99e:54027** 54H10 (22B05)

Hernández, Vicente G. (*with* Estruch, Vicente D.; Sánchez, Elena; Coll, Carmen) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 21 *pp.* (*electronic*). (Summary) **99e:93016** 93B15 (65F30)

— (*with* Aliaga, José Ignacio; Pérez, José Luis) Approximation of the general Lanczos method. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 31–38, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65Fxx

— (*with* Guerrero, D.; Román, J. E.; Vidal Macía, Antonio M.) Parallel solution of the generalized Lyapunov equation using the Hammarling method. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 799–804, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65F30

— (*with* Estruch, Vicente D.; Sánchez, Elena; Coll, Carmen) Forward/backward periodic realizations of nonproper rational matrices. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 155–175. (John Maroulas) **99f:93021** 93B15 (49N20)

— (*with* Quintana Ortí, Enrique S.; Quintana-Ortí, Gregorio) Numerical methods for the solution of the linear-quadratic optimal control problem. (Spanish. English and Spanish summaries) *Rev. Internac. Métod. Numér. Cálc. Diseñ. Ingr.* **14** (1998), *no.* 3, 383–402. 49N10 (65K10)

Hernández Ayuso, Ma. del Carmen ★ Introducción a la teoría de redes. (Spanish. Spanish summary) [Introduction to network theory] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 12. *Sociedad Matemática Mexicana, México*, 1997. *xvi+259 pp. ISBN* 968-36-5770-2 90-01 (05–01, 90B10, 90C35)

Hernández Bastida, A. (*with* Martel Escobar, Ma. del Carmen; Vázquez Polo, F. J.) On maximum entropy priors and a most likely likelihood in auditing. (English summary) *Qüestiió* (2) **22** (1998), *no.* 2, 231–242. 62A15 (62C10)

Hernández Bermejo, Benito (*with* Fairén, Víctor) Algebraic treatment of differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 291–296, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34A34 (34C20)

— (*with* Fairén, Víctor) Hamiltonian structure and Darboux theorem for families of generalized Lotka-Volterra systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6162–6174. (Vincent Naudot) **99j:58072** 58F05 (34A34, 58F40)

— (*with* Fairén, Víctor; Brenig, Léon) Algebraic recasting of nonlinear systems of ODEs into universal formats. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2415–2430. (W.-H. Steeb) **99g:34030** 34A34

— (*with* Fairén, Víctor) Simple evaluation of Casimir invariants in finite-dimensional Poisson systems. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 148–154. (Christine Médan) **99b:70015** 70H05 (58F05, 70E15)

Hernandez-Castillo, A. (*with* Cartas-Fuentevilla, R.) Generalized Xanthopoulos theorem in the low-energy limit of string theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104019, 5 *pp.* (Summary) **99m:83048** 83C22 (83E30)

Hernández Cifre, M. A. (*with* Scott, Paul R.) An isodiametric problem with lattice-point constraints. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 289–294. (Martin Henk) **99d:52013** 52C05

— (*with* Segura Gomis, S.) Some inequalities for planar convex sets containing one lattice point. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 159–166. (Matthieu Fradelizi) **99h:52019** 52C05 (52A10, 52A40)

— (*with* Segura Gomis, S.) Some area-diameter inequalities for two-dimensional lattices. (English summary) *Geom. Dedicata* **72** (1998), *no.* 3, 325–330. (Konrad J. Swanepoel) **99i:52017** 52C05 (52A10, 52A40)

Hernández Encinas, Luis (*with* Gadea, Pedro M.) Reflector spaces over the 4-dimensional Kaneyuki-Kozai's para-Hermitian symmetric spaces. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 41–49. (Cornelia-Livia Bejan) **99e:53072** 53C35 (53C50)

Hernández García, Vicente *see* **Hernández, Vicente G.**

Hernández Heredero, R. (*with* Levi, D.; Winternitz, Pavel) Symmetries of the discrete Burgers equation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2685–2695. 35Q53 (35A30, 39A12)

Hernández Hernández, Fernando ★ Teoría de conjuntos. (Spanish. Spanish summary) [Set theory] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 13. *Sociedad Matemática Mexicana, México*, 1998. *x*+342 *pp. ISBN* 968-36-6854-2 (Editors) **99e:04001** 04–01

Hernández Lamoneda, Luis The Bochner method. (Spanish) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 331–352, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Sorin Dragomir) **99j:53039** 53C20 (58E20)

Hernández-Lerma, Onésimo (*with* Montes-de-Oca, Raúl) Conditions for average optimality in Markov control processes with unbounded costs and controls. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 1, 19 *pp.* (*electronic*). (Summary) **99h:93112** 93E20 (90C40)

— (*with* Lasserre, Jean B.) Linear programming approximations for Markov control processes in metric spaces. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 2, 123–139. (Nikolai K. Krivulin) **99f:93143** 93E20 (90C05, 90C40)

— (*with* Lasserre, Jean B.) Ergodic theorems and ergodic decomposition for Markov chains. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 99–119. (M. Iosifescu) **99m:60104** 60J05 (28D99, 47A35)

— (*with* Lasserre, Jean B.) Existence and uniqueness of fixed points for Markov operators and Markov processes. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 711–736. (Richard Isaac) **99f:60119** 60J05 (47A35, 47B38)

— (*with* González-Hernández, Juan) Infinite linear programming and multichain Markov control processes in uncountable spaces. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 313–335 (*electronic*). (Summary) **99h:90113** 90C40 (93E20)

— (*with* Lasserre, Jean B.) Approximation schemes for infinite linear programs. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 973–988 (*electronic*). (Edward J. Anderson) **99e:90112** 90C48 (90C05)

Hernández Martin, Anibal (*with* Aguirregabiria, J. M.; Bel, Lluís; Rivas, M.) Regular order reductions of ordinary and delay-differential equations. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 1, 95–105. 65–04 (65L99)

Hernández Mederos, Victoria (*with* Barrera Sánchez, Pablo; Durán Sánchez, Claudia) ★ El ABC de los splines. (Spanish. Spanish summary) [The ABC of splines] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 9. *Sociedad Matemática Mexicana, México*, 1996. *iv*+245 *pp. ISBN* 968-36-4806-1 41–01 (41A15, 65D07)

— (*with* Estrada Sarlabous, J.) Generation of points on a curve with prescribed distribution of their arc length. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 133–138. 65D17

Hernández-Medina, Miguel Ángel (*with* García, Antonio G.) Fourier duality associated with regular Sturm-Liouville problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 297–302, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34L10

— (*with* García, Antonio G.; Moro, Julio) On the distributional Fourier duality and its applications. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 43–54. (Stevan Pilipović) **99m:46103** 46F12 (40A05, 42A38)

Hernández-Paricio, L. J. *see* **Hernández, Luis Javier**

Hernández Paricio, L. Javier *see* **Hernández, Luis Javier**

Hernández Paricio, Luis Javier *see* **Hernández, Luis Javier**

Hernández-Pastora, J. L. (*with* Martín, Jésus; Ruiz, Eduardo) Approaches to the monopole-dynamic dipole vacuum solution concerning the structure of its Ernst potential on the symmetry axis. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 999–1023. (Summary) **99f:83011** 83C15 (83C25)

aroca Hernández-Ros, José Manuel *see* **Aroca Hernández-Ros, José Manuel**

Hernández Ruipérez, Daniel (*with* Bartocci, Claudio; Bruzzo, Ugo) Moduli of reflexive $K3$ surfaces. *Complex analysis and geometry* (*Trento*, 1995), 60–68, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Bangere P. Purnaprajna) **99e:14038** 14J10 (14J28)

— (*with* Bartocci, Claudio; Bruzzo, Ugo; Pestov, Vladimir G.) Quotient supermanifolds. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 107–120. (Fausto Ongay-Larios) **99i:58009** 58A50

— (*with* Bartocci, Claudio; Bruzzo, Ugo; Muñoz Porras, José María) Mirror symmetry on $K3$ surfaces via Fourier-Mukai transform. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 79–93. (Alexander E. Polishchuk) **99f:14046** 14J28 (14J27, 32G05, 32J81)

— (*with* Bartocci, Claudio; Bruzzo, Ugo) A hyper-Kähler Fourier transform. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 239–249. (Antony Maciocia) **99f:32049** 32L07 (14J28, 14J60, 32L25)

Hernández Suárez, Víctor (*with* Hayek Calil, Nácere; Cabrera Suárez, Francisco S.) On the third-order Bessel-Clifford differential operator. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 44A40

— (*with* Hayek Calil, Nácere; Cabrera Suárez, Francisco S.) Asymptotic solutions of the nth-order Bessel-Clifford differential equation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 285–290, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 33C10 (34B30)

Hernández Verón, Miguel A. (*with* Gutiérrez, José Manuel) The Newton method under strong Kantorovich conditions. Application to differential and integral equations. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99h:65114** 65J10

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel) A construction procedure of iterative methods with cubical convergence. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 181–199. (John B. Kioustelidis) **99a:65076** 65J15

— (*with* Ezquerro, J. A.) Different acceleration procedures of Newton's method. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 1–17. (R. P. Tewarson) **99i:65055** 65H05

— (*with* Salanova, M. A.) Relaxing convergence conditions for the Jarratt method. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 16–19 (*electronic*). (Summary) **99d:65185** 65J15 (47H17)

— (*with* Salanova, M. A.) An acceleration procedure of regula falsi method. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 67–77. (Zhong Wu Chu) **99c:65097** 65H05

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel; Salanova, M. A.) The super-Halley method and partial differential equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 713–718, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (47H17)

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel; Salanova, M. A.) A multipoint method applied to the solution of Hammerstein integral equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 719–724, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65J20 (45G10, 47H17, 65R20)

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel) A construction procedure of iterative methods with cubical convergence. II. Another convergence approach. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 59–68. (John B. Kioustelidis) **99g:65067** 65J15

— (*with* Salanova, M. A.) Chebyshev method and convexity. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 51–62. (Gerd Pönisch) **99g:65063** 65H05 (47H17, 65J15)

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel; Salanova, M. A.) The application of an inverse-free Jarratt-type approximation to nonlinear integral equations of Hammerstein-type. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 9–20. (V. V. Vasin) **99f:65201** 65R20 (45L05, 65J15)

— (*with* Gutiérrez, José Manuel) Recurrence relations for the super-Halley method. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 1–8. (Summary) **99f:65087** 65J15

— (*with* Ezquerro, J. A.; Gutiérrez, José Manuel) Solving a nonlinear equation by a uniparametric family of iterative processes. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 301–308. (Summary) **99m:65106** 65H05

— (*with* Ezquerro, J. A.; Salanova, M. A.) Construction of iterative processes with high order of convergence. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 191–201. (Summary) **99f:65073** 65H05 (26A18, 26A51)

— (*with* Ezquerro, J. A.) Avoiding the computation of the second Fréchet-derivative in the convex acceleration of Newton's method. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 1, 1–12. (Summary) **99h:65120** 65J15 (47H17)

— (*with* Ezquerro, J. A.; Salanova, M. A.) Remark on the convergence of the midpoint method under mild differentiability conditions. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 2, 305–309. (Summary) **99f:65085** 65J15 (47H17)

— Reduced recurrence relations for the Chebyshev method. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 385–397. (Mihai Turinici) **99e:65097** 65J15 (47H17)

— (*with* Ezquerro, J. A.; Salanova, M. A.) A new family of multipoint methods of second order. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 499–512. (A. M. Galperin) **99g:47147** 47H17 (65J15)

— (*with* Ezquerro, J. A.) Region of accessibility for a class of Newton-type iterations. (English summary) *Proyecciones* **17** (1998), *no.* 1, 71–76. (Summary) **99d:65154** 65H05

— (*with* Salanova, M. A.) A family of Chebyshev type methods in the complex plane. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 11–21. (Summary) **99g:65032** 65E05 (65H05)

— (*with* Ezquerro, J. A.) Newton-type iterations as approximations of Chebyshev's method. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 44–55 (*electronic*). (Boro Döring) **99i:65061** 65J15

— (*with* Gutiérrez, José Manuel) Majorizing sequences for Newton's method. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 199–202. (Boro Döring) **99m:65119** 65J15 (47H17)

— (*with* Ezquerro, J. A.) On a convex acceleration of Newton's method. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 311–326. (José Mario Martínez) **99m:65107** 65H05 (65B99, 65J15)

Hernando, Beatriz Some properties of the second conjugate of a Tauberian operator. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 60–65. (Summary) **99h:47027** 47B07

Hernando, C. (*with* García, Alfredo; Hurtado, Ferran; Noy, M.; Tejel, F. Javier) Packing trees into planar graphs. (English summary) *Graph drawing* (*Rome*, 1997), 383–390, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99g:05060** 05C10 (68R10)

Hernek, Diane Random generation of $2 \times n$ contingency tables. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 71–79. (Summary) **99c:60142** 60J10 (62H17)

Hernquist, E. (*with* Newhart, Donald W.; Stong, Richard A.) Finding short and light codewords in BCH codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 255–260. (Summary) **99k:94054** 94B15

Hero, Alfred O. (*with* Piramuthu, Robinson; Fessler, Jeffrey A.; Titus, Steven R.) Minimax emission computed tomography using high-resolution anatomical side information and B-spline models. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 920–938. (Summary) **99m:94011** 94A12 (92C55)

Hero, Michael W. (*with* Ancel, Lauren W.) One-way intervals of circle maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 4, 1191–1197. (Louis Block) **99a:58054** 58F03 (54H20)

Heron, D. R. (*with* Chapman, S. J.) The motion of superconducting vortices in thin films of varying thickness. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1808–1825 (*electronic*). (Jacob Rubinstein) **99k:82077** 82D55

Heroux, Michael A. (*with* Chow, Edmond Ten-Fu) An object-oriented framework for block preconditioning. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 159–183. 65F35 (65–04)

Heroy, Hans Olav ★ Hecke-Operatoren auf $\Gamma_0(m)$. (German) [Hecke operators on $\Gamma_0(m)$] Bonner Mathematische Schriften [Bonn Mathematical Publications], 292. *Universität Bonn, Mathematisches Institut, Bonn*, 1996. $x + 84$ *pp.* (Stefan Breulmann) **99c:11047** 11F25

Herraiz, Luis A. A nonlinear parabolic problem in an exterior domain. (English summary) *J. Differential Equations* **142** (1998), *no.* 2, 371–412. (Mark A. Peletier) **99a:35142** 35K60 (35K20, 35K55)

martín-Herrán, G. *see* **Martín-Herrán, G.**

Herranz, Francisco J. (*with* Ballesteros, Angel; Celeghini, Enrico; del Olmo, Mariano A.; Santander, Mariano) Non-quasitriangular Hopf algebras and quantum $(1 + 1)$ affine orthogonal groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 319–324, *PWN, Warsaw*, 1995. (Michèle Irac-Astaud) **99f:81088** 81R50 (16W60, 17B37)

— (*with* Ballesteros, Angel; Gromov, N. A.; del Olmo, Mariano A.; Santander, Mariano) Quantum algebras for non-semisimple quasi-orthogonal groups. (English summary) *Quantum groups* (*Karpacz*, 1994), 325–335, *PWN, Warsaw*, 1995. (Summary) **99h:81082** 81R50 (17B37)

— (*with* Ballesteros, Angel; Pereña, C. M.) (Quasi)triangular Poincaré Hopf algebras. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 3–11, *PWN, Warsaw*, 1997. (Anatol Nowicki) **99e:16045** 16W30 (17B37)

— (*with* Santander, Mariano; Ballesteros, Angel; del Olmo, Mariano A.) The "null-plane" quantum Poincaré algebra. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 79–91, *PWN, Warsaw*, 1997. (Mathias Pillin) **99e:81104** 81R50 (17B81)

— Nonstandard $2 + 1$ conformal Lie bialgebras and their quantum deformations. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1171–1178. (Marcelo R. Ubriaco) **99g:17030** 17B37 (16W30)

— (*with* Negro, Javier; Ballesteros, Angel) On a class of nonstandard quantum algebras and their representations. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1259–1266. (Pavel Šťovíček) **99c:81096** 81R50 (17B37)

— (*with* Santander, Mariano) Geometries of orthogonal groups and their contractions: a unified classical deformation viewpoint. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 99–107. (Summary) **99k:81085** 81R05 (22E45, 22E70)

— (*with* Ballesteros, Angel; Negro, Javier) Boson representations, non-standard quantum algebras and contractions. (English summary) *J. Phys. A* **30** (1997), *no.* 19, 6797–6809. (Jamal Zerouaoui) **99c:81083** 81R50 (81R10)

— (*with* Ballesteros, Angel; Parashar, Preeti) A Jordanian quantum two-photon/Schrödinger algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8587–8597. (Joris Van der Jeugt) **99c:81084** 81R50 (17B37)

— (*with* Arratia, Oscar; del Olmo, Mariano A.) Bicrossproduct structure of the null-plane quantum Poincaré algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L1–L7*. (Anatol Nowicki) **99c:81082** 81R50 (17B37)

— (*with* de Azcárraga, J. A.; Pérez Bueno, J. C.; Santander, Mariano) Central extensions of the quasi-orthogonal Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1373–1394. (Saïd Benayadi) **99d:17004** 17B05 (17B56)

— (*with* Pérez Bueno, J. C.; Santander, Mariano) Central extensions of the families of quasi-unitary Lie algebras. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5327–5347. (Michael Wüstner) **99i:17007** 17B05

— (*with* Ballesteros, Angel; Parashar, Preeti) Quantum two-photon algebra from non-standard $U_z(\mathrm{sl}(2, \mathbf{R}))$ and a discrete time Schrödinger equation. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1241–1252. (Robert Rałowski) **99j:81069** 81R50 (82B30)

Herranz Calzada, J. (*with* Gavete, L.; Manzano del Moral, Carlos; Falcón, Santiago) An error indicator for a finite point method using the Galerkin formulation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 769–774, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65D99 (65G05)

Herre, Heinrich (*with* Engelfriet, Joeri) Generated models and extensions of nonmonotonic systems. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 85–99, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68018** 68N17 (03B70, 68Q55)

Herreman, Alain Le statut de la géométrie dans quelques textes sur l'homologie, de Poincaré aux années 1930. (English and French summaries) [The status of geometry in various contributions on homology, from Poincaré to the 1930s] *Rev. Histoire Math.* 3 (1997), *no.* 2, 241–293. (Summary) **99b:01016** 01A60 (51–03, 57–03)

Herrera, Blas (*with* Reventós, Agusti) The transverse structure of Lie flows of codimension 3. *J. Math. Kyoto Univ.* **37** (1997), *no.* 3, 455–476. (Gaël Meigniez) **99a:58124** 58F18 (17B99, 57R30)

bouza Herrera, Carlos N. *see* **Bouza Herrera, Carlos N.**

Herrera, Francisco (*with* Verdegay, J. L.) Fuzzy control rules in optimization problems. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 89–96. 90C70

— (*with* Chiclana, F.; Herrera-Viedma, E.) Integrating three representation models in fuzzy multipurpose decision making based on fuzzy preference relations. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 33–48. (Summary) **99d:90009** 90A05 (90C70)

— (*with* Delgado, Miguel; Herrera-Viedma, E.; Martínez Lopez, Luis) Combining numerical and linguistic information in group decision making. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 177–194. (Summary) **99b:68184** 68T30 (90A05)

Herrera, L. (*with* Martínez, Justino) Thermal conduction before relaxation in slowly rotating fluids. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3260–3270. (Gh. Procopiuc) **99c:83039** 83C55

— (*with* Santos, N. O.) Geodesics in Lewis space-time. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3817–3827. (W. B. Bonnor) **99d:83008** 83C10 (83C15)

— (*with* Di Prisco, A.; Martínez, Justino) Breakdown of the linear approximation in the perturbative analysis of heat conduction in relativistic systems. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 7–12. (Summary) **99d:83055** 83C55 (76Y05, 80A20)

— (*with* Di Prisco, A.) The active gravitational mass of a heat conducting sphere out of hydrostatic equilibrium. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 301–313. 83C55

Herrera-Aguilar, Alfredo (*with* Kechkin, Oleg) Charging symmetries and linearizing potentials for Einstein-Maxwell dilaton-axion theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 23, 1907–1914. (Sergey Nikolaevich Roshchupkin) **99g:83021** 83C22

— (*with* Kechkin, Oleg) IWP solutions for heterotic string in five dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 24, 1979–1986. (Summary) **99d:83095** 83E30 (81T30)

— (*with* Kechkin, Oleg) Multi-dimensional IWP solutions for heterotic string theory. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 6, 1745–1753. 81T30 (83E30)

Herrera Guzmán, Rafael On the periods of the orbits of a nonlinear center. (Spanish) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 209–216, *Aportaciones Mat: Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (*see* **99f:00013**) 58F22

Herrera-Viedma, E. (*with* Chiclana, F.; Herrera, Francisco) Integrating three representation models in fuzzy multipurpose decision making based on fuzzy preference relations. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 1, 33–48. (Summary) **99d:90009** 90A05 (90C70)

— (*with* Delgado, Miguel; Herrera, Francisco; Martínez Lopez, Luis) Combining numerical and linguistic information in group decision making. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 177–194. (Summary) **99b:68184** 68T30 (90A05)

Herrero, Henar (*with* Lucquin-Desreux, Brigitte; Perthame, Y. B.) Modelling of bubbly flows. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 947–952, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76T05 (76M25)

Herrero, Joan (*with* Giralt, Francesc; Humphrey, Joseph A. C.) Influence of the geometry on the structure of the flow between a pair of corotating disks. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 88–96. 76U05 (76E10)

Herrero, Miguel A. (*with* Velázquez, Juan J. L.) A blow-up mechanism for a chemotaxis model. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 633–683 (1998). (Yoram Schiffmann) **99h:92007** 92C15 (35K60, 35Q80, 92D50)

— (*with* Lacey, Andrew A.; Velázquez, Juan J. L.) Global existence for reaction-diffusion systems modelling ignition. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 219–251. (Alexander L. Gladkov) **99h:35099** 35K57 (80A25)

— (*with* Medina Reus, Elena; Velázquez, Juan J. L.) Self-similar blow-up for a reaction-diffusion system. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 99–119. (Summary) **99h:35100** 35K57 (35B40, 93C20)

— (*with* Escobedo, M.; Velázquez, Juan J. L.) A nonlinear Fokker-Planck equation modelling the approach to thermal equilibrium in a homogeneous plasma. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 3837–3901. (Sergei A. Vakulenko) **99a:82093** 82D10 (35Q99, 76X05, 82C31)

campillo Herrero, Pedro *see* **Campillo Herrero, Pedro**

Herrero, R. (*with* Farjas, J.; Pi, F.; Orriols, G.) Experimental analysis of codimension-2 bifurcations in a periodically-forced opto-thermal oscillator. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1413–1435. (Summary) **99g:58087** 58F14 (34C23)

Herrlich, Horst (*with* Strecker, George E.) Categorical topology—its origins, as exemplified by the unfolding of the theory of topological reflections and coreflections before 1971. *Handbook of the history of general topology, Vol.* 1, 255–341, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jiří Rosický) **99f:54003** 54–03 (01A60, 18B30, 54B30)

— Stabilität topologischer Eigenschaften unter kategoriellen Konstruktionen. [Stability of topological properties under categorical constructions] *Mathematik aus Berlin*, 245–250, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 54B30 (18B30)

— (*with* Bentley, H. L.) On the strict completion of a nearness space. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 11–21 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99d:54014** 54E17 (54D35, 54E15)

— (*with* Strecker, George E.) When is N Lindelöf? (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 553–556. (Vinodkumar) **99c:03070** 03E25 (26A03, 54A35, 54D20)

— (*with* Steprāns, Juris) Maximal filters, continuity and choice principles. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 697–705. (Norbert Brunner) **99m:03097** 03E25 (03E35, 04A25, 54A20, 54A35)

— (*with* Zhang, Dexue) Categorical properties of probabilistic convergence spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 4, 495–513. (Summary) **99i:54007** 54A20 (18B15, 18B30, 54B30, 54E70)

— (*with* Bentley, H. L.) Countable choice and pseudometric spaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 153–164. (Vinodkumar) **99k:03041** 03E25 (04A25, 54A35, 54E35, 54E45, 54E50, 54E52)

— (*with* Vaughan, David) Weak separatedness for nearness spaces. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 15–24. 54E17 (54D35, 54E15)

Herrmann, Carl (*with* Grimm, Richard; Hasler, Maximilian F.) The $N = 2$ vector-tensor multiplet, central charge superspace, and Chern-Simons couplings. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1805–1816. (Summary) **99a:81171** 81T60 (81T13)

Herrmann, D. J. L. (*with* Janssen, T. W. J. M.) On spectral properties of Harper-like models. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1197–1214. (Mihai Pascu) **99m:81054** 81Q10 (47N50)

Herrmann, Eberhard Boolean pairs formed by Δ_n^0-sets. (English summary) Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 145–149. (Victor Selivanov) **99d:03040** 03D35 (03D55)

Herrmann, Eva (*with* Eichenauer-Herrmann, Jürgen; Wegenkittl, Stefan) A survey of quadratic and inversive congruential pseudorandom numbers. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 66–97, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:11085** 11K45 (65C10)

Herrmann, H. J. Granular media: some new results. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 109–128, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Summary) **99c:73065** 73Q05 (73S10)

— (*with* Luding, S.) Modeling granular media on the computer. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 4, 189–231. 76A99 (73E99)

— *see also* **Physics of dry granular media, 99e:73003**

Herrmann, J. *see* **Herrmann, Jürgen Georg**

eichenauer-Herrmann, Jürgen *see* **Eichenauer-Herrmann, Jürgen**

Herrmann, Jürgen Georg (*with* Busse, F. H.) Stationary and time dependent convection in the rotating cylindrical annulus with modulated height. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1611–1620. (Summary) **99b:76034** 76E15 (76U05)

Herrmann, Philippe Timed automata and recognizability. *Inform. Process. Lett.* **65** (1998), *no.* 6, 313–318. (Introduction) **99b:68113** 68Q45 (68Q10, 68Q68)

Herro, Mark A. (*with* Telang, Vivek P.) Error control coding for the N-user mod-2 multiple-access channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1632–1642. 94A40

Herroelen, Willy (*with* Demeulemeester, Erik; De Reyck, Bert) Resource-constrained project scheduling—a survey of recent developments. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 197–202, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35 (90–02)

— (*with* De Reyck, Bert; Demeulemeester, Erik) Resource-constrained project scheduling: a survey of recent developments. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 4, 279–302. (Summary) **99g:90057** 90B35 (90–02)

— (*with* De Reyck, Bert; Demeulemeester, Erik) Local search methods for the discrete time/resource trade-off problem in project networks. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 553–578. 90B40 (90B10)

Herron, David A. (*with* Ghamsari, Manouchehr) Higher dimensional Ahlfors regular sets and chordarc curves in $\mathbf{R}^n$. *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 191–222. (Jeremy T. Tyson) **99m:28016** 28A78 (42B20)

— (*with* Ghamsari, Manouchehr) Bi-Lipschitz homogeneous Jordan curves. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3197–3216. (Jouni Luukkainen) **99m:30042** 30C65 (28A80)

Herron, Timothy (*with* Seidenfeld, Teddy; Wasserman, Larry) Divisive conditioning: further results on dilation. (English summary) *Philos. Sci.* **64** (1997), *no.* 3, 411–444. (Reinhard Suck) **99g:62007** 62A15 (03B48, 60A99, 62F15)

Herscovici, David S. (*with* Higgins, Aparna W.) The pebbling number of $C_5 \times C_5$. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 123–135. (A. Pultr) **99d:05082** 05C99 (05C35, 90D43)

— A geometric proof of the gap theorem. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 146–151. (J. E. Graver) **99h:05033** 05C12 (52C99)

Hershberger, John (*with* Suri, Subhash) Matrix searching with the shortest-path metric. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1612–1634. (Summary) **99k:68079** 68Q25 (68U05)

— (*with* Suri, Subhash) Practical methods for approximating shortest paths on a convex polytope in $\mathbf{R}^3$. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 31–46. (Evangelos Kranakis) **99b:52030** 52B55 (68U05)

Hershey, John E. (*with* Yarlagadda, R. K. Rao) ★ Hadamard matrix analysis and synthesis. (English summary) With applications to communications and signal/image processing. The Kluwer International Series in Engineering and Computer Science, 383. *Kluwer Academic Publishers, Boston, MA*, 1997. x+123 *pp. ISBN* 0-7923-9826-2 (A. Bultheel) **99a:94009** 94A12 (05B20, 94A55)

Hershkovits, Yehuda (*with* Ziv, Jacob) On fixed-database universal data compression with limited memory. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1966–1976. (Maxime Crochemore) **99f:94005** 94A29 (68P20, 94A15)

— (*with* Ziv, Jacob) On sliding-window universal data compression with limited memory. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 66–78. (Summary) **99a:94015** 94A29

Hershkowitz, Daniel (*with* Mashal, Nira) P^a-matrices and Lyapunov scalar stability. (English summary) *Electron. J. Linear Algebra* **4** (1998), 39–47 (*electronic*). (Mihail Voicu) **99k:15039** 15A57 (15A18, 34D20)

— On cones and stability. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 249–259. (Sophie Tarbouriech) **99e:15026** 15A48 (34D20, 93D05)

— (*with* Elsner, Ludwig) Hadamard functions preserving nonnegative H-matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 13–19. (Gong Ning Chen) **99g:15028** 15A57 (15A48)

Herskovits, José (*with* Leont'ev, A. N.; Eboli, Claudia) Optimization theory application to slitted plate bending problems. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 20, 2679–2694. (Summary) **99a:73098** 73K40 (73K10)

— Feasible direction interior-point technique for nonlinear optimization. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 121–146. (Yin Zhang) **99k:90155** 90C30

Herssens, Chris (*with* Dumortier, Freddy) Polynomial Liénard equations near infinity. (English summary) *J. Differential Equations* **153** (1999), *no.* 1, 1–29. (I. D. Iliev) **99m:34061** 34C05 (58F21)

Hersvik, Karl J. (*with* Espedal, Magne S.; Ersland, Brit G.) Domain decomposition methods for flow in heterogeneous porous media. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 104–120, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Jian-Ping Zhu) **99k:76109** 76M25 (65M55, 76S05)

Hert, Susan (*with* Lumelsky, Vladimir J.) Polygon area decomposition for multiple-robot workspace division. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 437–466. (Summary) **99d:68231** 68U05

Hertling, Claus (*with* Greuel, Gert-Martin; Pfister, Gerhard) Moduli spaces of semiquasi-homogeneous singularities with fixed principal part. *J. Algebraic Geom.* **6** (1997), *no.* 1, 169–199. (Piotr Jaworski) **99a:32057** 32S30 (14J15, 32S05)

Hertling, Peter H. Effectivity and effective continuity of functions between computable metric spaces. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 264–275, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:03042** 03F65 (03D45)

— (*with* Weihrauch, Klaus) Randomness spaces (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 796–807, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q30 (60B05)

— (*with* Calude, Cristian S.; Khusainov, B. M.; Wang, Yongge) Recursively enumerable reals and Chaitin Ω numbers. (English summary) *STACS* 98 (*Paris*, 1998), 596–606, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68089** 68Q30 (03D25)

— Embedding cellular automata into reversible ones. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 243–256, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Thomas Worsch) **99k:68117** 68Q80

— (*with* Calude, Cristian S.; Svozil, Karl) Kochen-Specker theorem: two geometric proofs. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 133–142. (Anatolij Dvurečenskij) **99i:81020** 81P15 (03G12, 81P10)

Hertrampf, Ulrich Polynomial time machines equipped with word problems over algebraic structures as their acceptance criteria. (English summary) *Fundamentals of computation theory* (*Kraków*, 1997), 233–244, *Lecture Notes in Comput. Sci.*, 1279, *Springer, Berlin*, 1997. (Summary) **99b:68084** 68Q15 (68Q05)

— The inherent dimension of bounded counting classes. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 157–166, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q15

— (*with* Cronauer, K.; Vollmer, Heribert; Wagner, Klaus Werner) The chain method to separate counting classes. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 93–108. (Gerhard Lischke) **99b:68083** 68Q15 (03D15)

Hertrich-Jeromin, Udo (*with* Pedit, Franz) Remarks on the Darboux transform of isothermic surfaces. (English summary) *Doc. Math.* **2** (1997), 313–333 (*electronic*). (Summary) **99k:53006** 53A10 (53A05)

— Supplement on curved flats in the space of point pairs and isothermic surfaces: a quaternionic calculus. (English summary) *Doc. Math.* **2** (1997), 335–350 (*electronic*). (Kotaro Yamada) **99b:53017** 53A40 (53A10)

Hertz, Alain (*with* Ferland, Jacques A.; Lavoie, Alain) An object-oriented methodology for solving assignment-type problems with neighborhood search techniques. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 347–359. (Summary) **99k:90131** 90C27 (90C35)

— (*with* Gendreau, Michel; Laporte, Gilbert) An approximation algorithm for the traveling salesman problem with backhauls. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 639–641. (Summary) **99h:90083** 90C27 (90C35)

— On perfect switching classes. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 263–267. (Summary) **99g:05077** 05C15 (05C85)

— (*with* Laporte, Gilbert; Hugo, Pierrette Nanchen) Improvement procedures for the undirected rural postman problem. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 53–62. 90C27 (90C35)

— (*with* Anily, Shoshana; Bramel, Julien) A $\frac{5}{3}$-approximation algorithm for the clustered traveling salesman tour and path problems. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 1-2, 29–35. (Summary) **99m:90112** 90C27 (90C35)

von Hertzen, Raimo (*with* Holmlund, Ulf; Ranta, Matti A.) Theory of optimal competitive running. (Finnish. English and Finnish summaries) *Arkhimedes* **1998**, *no.* 4, 16–22. 92C10 (00A71)

Hertzler, Greg (*with* Harman, Julie; Lindner, Robert K.) Estimating a stochastic model of population dynamics with an application to kangaroos. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 4, 303–343. (Summary) **99c:92039** 92D25

Hervás, Antonio (*with* Sanchis, Francisco J.; Soler Fernández, David) An approximate algorithm for the mixed rural postman problem. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 6 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 90C27 (90C35)

Hervé, L. (*with* Conze, J.-P.; Raugi, Albert) Pavages auto-affines, opérateurs de transfert et critères de réseau dans $\mathbf{R}^d$. (English and French summaries) [Self-affine tilings, transfer operators and criteria for lattices in $\mathbf{R}^d$] *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 1, 1–42. (Steen Pedersen) **99a:52034** 52C22 (28A80, 42C15)

Hervé, Michel Travaux de Köcher sur les formes modulaires. [Works of Köcher on modular groups] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 132, 341–346, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 11F06 (20G15, 22E40)

Hervella-Nieto, L. (*with* Durán, Ricardo G.; Liberman, E.; Rodríguez, Rodolfo; Solomin, J.) Approximation of the vibration modes of a plate by Reissner-Mindlin equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1447–1463. (Riccardo Fazio) **99m:73045** 73K10 (65N30, 73V20)

Hervés-Beloso, Carlos (*with* Candeal-Haro, Juan Carlos; Induráin Eraso, Esteban) Some results on representation and extension of preferences. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 75–81. (Yew-Kwang Ng) **99a:90020** 90A06 (90A10)

Herweijer, Janine A. (*with* van de Water, Willem) High-order structure functions of turbulence. (English summary) *J. Fluid Mech.* **387** (1999), 3–37. 76F99

Herwig, H. Laminar boundary layers. Asymptotic and scaling considerations. (English summary) *Recent advances in boundary layer theory* (*Udine*, 1997), 9–48, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (Summary) **99j:76030** 76D10 (76N20)

— (*with* Severin, J.) The effect of heat transfer on flow stability. (English summary) *Recent advances in boundary layer theory* (*Udine*, 1997), 75–106, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (From the summary) **99j:76051** 76E99 (76D10, 76E30, 76F99, 80A20)

Herz, J.-C. Caractérisation des caractères des groupes finis (d'après R. Brauer). [Characterization of the characters of finite groups (after R. Brauer)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 92, 385–390, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 20C20

Herzberg, Amir (*with* Blundo, Carlo; De Santis, Alfredo; Kutten, Shay; Vaccaro, Ugo; Yung, Moti) Perfectly secure key distribution for dynamic conferences. (English

summary) *Inform. and Comput.* **146** (1998), *no.* 1, 1–23. (Luis Hernández Encinas) **99j:94039** 94A60

Herzberger, Jürgen ★ Übungsbuch zur numerischen Mathematik. (German. German summary) [Exercise book for numerical mathematics] Typische Aufgaben mit ausgearbeiteten Lösungen zur Numerik und zum wissenschaftlichen Rechnen. [Typical problems with worked-out solutions on numerics and on scientific computing] Vieweg Mathematik. [Vieweg Mathematics] *Friedr. Vieweg & Sohn, Braunschweig*, 1998. *x*+132 *pp.* *ISBN* 3-528-06948-1 65–01 (00A07)

Herzel, H. (*with* Holste, D.; Große, Ivo) Bayes' estimators of generalized entropies. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2551–2566. (Summary) **99d:94012** 94A17

Herzer, Armin Kennzeichnung von Berührstrukturen, die Kettengeometrien sind. (English summary) [Characterization of contact structures which are chain geometries] *J. Geom.* **62** (1998), *no.* 1-2, 166–175. (Andrea Blunck) **99d:51003** 51B05

Herzlich, Marc Théorèmes de masse positive. [Positive mass theorems] *Séminaire de Théorie Spectrale et Géométrie, Vol.* 16, *Année* 1997–1998, 107–126, *Sémin. Théor. Spectr. Géom.*, 16, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Miroslav Lovrić) **99k:53067** 53C20 (53C80, 58G30, 83C40)

— A Penrose-like inequality for the mass of Riemannian asymptotically flat manifolds. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 1, 121–133. (Robert McOwen) **99a:53039** 53C21 (53C20, 53C80)

— (*with* Hebey, Emmanuel) Harmonic coordinates, harmonic radius and convergence of Riemannian manifolds. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 569–605 (1998). (Andrea Sambusetti) **99f:53039** 53C21 (53C20)

— The positive mass theorem for black holes revisited. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 97–111. (Simonetta Frittelli) **99g:83029** 83C40 (83C57, 83C60)

— Scalar curvature and rigidity of odd-dimensional complex hyperbolic spaces. *Math. Ann.* **312** (1998), *no.* 4, 641–657. (Hans-Bert Rademacher) **99k:53079** 53C21 (53C55, 58G30)

Herzog, Gerd An existence and uniqueness theorem for ordinary differential equations in ordered Banach spaces. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 735–740. (Sergey G. Lobanov) **99b:34107** 34G20 (34A12)

— A fixed point theorem for quasimonotone increasing mappings. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 293–297. (Da Jun Guo) **99g:47132** 47H10

— On a theorem of Mierczyński. (English summary) *Colloq. Math.* **76** (1998), *no.* 1, 19–29. (Sergey G. Lobanov) **99b:34108** 34G20 (34A12)

— On Lipschitz conditions for ordinary differential equations in Fréchet spaces. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 95–103. (Sergey G. Lobanov) **99c:34134** 34G20 (46G05)

— (*with* Lemmert, Roland) On universal subsets of Banach spaces. (English summary) *Math. Z.* **229** (1998), *no.* 4, 615–619. (Summary) **99k:47080** 47B99 (46B20, 47A99)

— One-sided estimates for linear quasimonotone increasing operators. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 5-6, 549–555. (Andrei N. Ronto) **99k:47077** 47B60 (47A12, 47N20)

— (*with* Lemmert, Roland) On quasipositive elements in ordered Banach algebras. (English summary) *Studia Math.* **129** (1998), *no.* 1, 59–65. (Summary) **99g:46061** 46H05

— (*with* Redheffer, Raymond M.) Asymptotisches Verhalten der Maxima der Lösungen gewisser Differentialgleichungen. (German summary) [Asymptotic behavior of maxima of solutions of certain differential equations] *Arch. Math. (Basel)* **72** (1999), *no.* 2, 132–144. (E. Müller-Pfeiffer) **99k:34066** 34C10

Herzog, Ivo Model theory of modules (extended abstract). *Logic Colloquium '95 (Haifa)*, 66–72, *Lecture Notes Logic*, 11, *Springer, Berlin*, 1998. (*see* **99m:03003**) 03C60

Herzog, Jonathan (*with* McLaren, Christopher; Godbole, Anant P.) Generalized k-matches. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 167–175. (Lars Holst) **99f:60018** 60C05 (60F05)

Herzog, Jürgen (*with* Conca, Aldo) Ladder determinantal rings have rational singularities. *Adv. Math.* **132** (1997), *no.* 1, 120–147. (Irena Swanson) **99c:13028** 13C40 (13A35, 13C14, 13F50)

— (*with* Conca, Aldo; Ngô Viêt Trung; Valla, Giuseppe) Diagonal subalgebras of bigraded algebras and embeddings of blow-ups of projective spaces. (English summary) *Amer. J. Math.* **119** (1997), *no.* 4, 859–901. (Aron Simis) **99d:13001** 13A30 (13C40, 13D45, 13H10)

— (*with* Cutkosky, Steven Dale) Cohen-Macaulay coordinate rings of blowup schemes. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 605–617. (Aron Simis) **99d:13028** 13H10 (13A30)

— (*with* Aramova, Annetta; Hibi, Takayuki) Weakly stable ideals. *Osaka J. Math.* **34** (1997), *no.* 4, 745–755. (Ralf Fröberg) **99b:13016** 13C13 (13D02)

— (*with* Popescu, Dorin) Hilbert functions and generic forms. (English summary) *Compositio Math.* **113** (1998), *no.* 1, 1–22. (J. K. Verma) **99k:13021** 13D40 (13A02)

— (*with* Aramova, Annetta; De Negri, Emanuela) Lexsegment ideals with linear resolution. *Illinois J. Math.* **42** (1998), *no.* 3, 509–523. (Lê Tuân Hoa) **99m:13021** 13D02 (13F20)

— (*with* Kamoi, Yuji) Taylor complexes for Koszul boundaries. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 133–147. (Aron Simis) **99f:13014** 13D25 (13A30, 13D02)

— (*with* Aramova, Annetta; Hibi, Takayuki) Squarefree lexsegment ideals. *Math. Z.* **228** (1998), *no.* 2, 353–378. (Lê Tuân Hoa) **99h:13013** 13D02 (13F20)

— (*with* Reiner, Victor; Welker, Volkmar) The Koszul property in affine semigroup rings. (English summary) *Pacific J. Math.* **186** (1998), *no.* 1, 39–65. (Ralf Fröberg) **99j:13010** 13D03 (05E25)

— (*with* De Negri, Emanuela) Completely lexsegment ideals. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3467–3473. (Ngô Viêt Trung) **99b:13022** 13F20 (13D02)

— (*with* Srinivasan, Hema) Bounds for multiplicities. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 7, 2879–2902. (Summary) **99g:13033** 13H15 (13D02, 13F20)

— *see also* **Vasconcelos, Wolmer V., 99c:13048**

Herzog, Marcel (*with* Adami, S.; Bianchi, Mariagrazia; Gillio Berta Mauri, Anna) On graph-complete groups. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 295–307 (1997). (David Chillag) **99b:20040** 20D60

Herzog, Monika Some properties of solutions of a singular equation. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 37–42. (Tamara G. Sukacheva) **99k:34136** 34G20

Hesaaraki, Mahmoud (*with* Farjami, Yaghoub) Structure of shock waves in planar motion of plasma. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 797–821. (James F. Reineck) **99g:76148** 76W05 (34C37, 35L67, 58F40, 76L05)

Heskovits N., J. (*with* Nicolas Baracatt, C.) A quasi-Newton algorithm with consistent approximations for semi-infinite programming. (Spanish. Spanish summary) *Proyecciones* **16** (1997), *no.* 2, 99–124. (Summary) **99e:90104** 90C34 (90C30)

Hesla, Todd I. (*with* Glowinski, Roland; Pan, Tsorng-Whay; Joseph, Daniel D.; Périaux, Jacques) A fictitious domain method with distributed Lagrange multipliers for the numerical simulation of particulate flow. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 121–137, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99i:76112** 76M25 (65M60, 76T05)

Hespel, Christiane (*with* Jacob, Gérard) First steps towards exact algebraic identification. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 211–219. (Ding Zhu Du) **99i:05010** 05A15

Hess, Eckehard (*with* Schick, Thomas) L^2-torsion of hyperbolic manifolds. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 329–334. (Patrick T. McDonald) **99h:58200** 58G26 (58G12)

Hess, Kathryn Perturbation and transfer of generic algebraic structure. (English summary) *Higher homotopy structures in topology and mathematical physics (Poughkeepsie, NY*, 1996), 103–143, *Contemp. Math.*, 227, *Amer. Math. Soc., Providence, RI*, 1999. (Teimuraz Pirashvili) **99k:55022** 55U15 (18C10, 18G50, 55P62, 55R20, 55S05, 55U35)

Hess, Siegfried Nonlinear flow behavior and shear-induced structure of fluids. (English summary) *A perspective look at nonlinear media*, 75–95, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (*see* **99d:00025**) 76A05

Hess, Walter Paul (*with* Schmidt, Jochen W.) Shape preserving C^3 data interpolation and C^2 histopolation with splines on threefold refined grids. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 487–496. (Mariano Gasca) **99i:65010** 65D07

— (*with* Schmidt, Jochen W.) Numerical methods in strip interpolations applying C^1, C^2, and C^3 splines on refined grids. (English summary) *Mitt. Math. Ges. Hamburg* **16** (1997), 107–135. (Ewald Quak) **99d:65032** 65D07 (65D05)

Hesse, Christian How many "good" observations do you need for "fast" density deconvolution from supersmooth errors. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 3, 491–506. (Somnath Datta) **99k:62076** 62G05

Hessenberg, Karl *see* **Fujino, Seiji, 99m:01057**

Hessenberger, Gerald The trace in Banach Jordan pairs. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 561–568. (Horst Behncke) **99g:46067** 46H70 (17C27)

Hessmo, B. (*with* Brändas, E.) Indirect measurements and the mirror theorem: a Liouville formulation of quantum mechanics. (English summary) *Irreversibility and causality (Goslar*, 1996), 359–375, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Adonai S. Sant'Anna) **99h:81020** 81P15 (81R30)

Hestenes, David Real Dirac theory. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 97–144. (Pierre Anglès) **99f:81080** 81R20 (81V15)

— Spinor particle mechanics. (English summary) *Clifford algebras and their application in mathematical physics (Aachen*, 1996), 129–143, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Elisa Brinis-Udeschini) **99d:70010** 70D99 (53A50, 70G05, 70H40)

Hesthaven, J. S. On the analysis and construction of perfectly matched layers for the linearized Euler equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 129–147. (Summary) **99a:76110** 76M25 (76Q05)

— (*with* Jameson, Leland) A wavelet optimized adaptive multi-domain method. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 280–296. (Summary) **99d:65293** 65M70 (42C15, 65T99)

— From electrostatics to almost optimal nodal sets for polynomial interpolation in a simplex. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 655–676 (*electronic*). (Summary) **99b:65009** 65D05 (41A10, 78A30)

— Integration preconditioning of pseudospectral operators. I. Basic linear operators. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1571–1593 (*electronic*). (Mark Ainsworth) **99f:65068** 65F35 (65M70, 65N35)

— A stable penalty method for the compressible Navier-Stokes equations. III. Multidimensional domain decomposition schemes. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 62–93 (*electronic*). (Summary) **99g:65091** 65M12 (65M55, 76M25, 76N10)

Héthelyi, László (*with* Corrádi, Keresztély) On a theorem of Broline. *J. Algebra* **210** (1998), *no.* 1, 361–363. (David Gluck) **99j:20010** 20C15

Hetherington, Stephen Actually knowing. *Philos. Quart.* **48** (1998), *no.* 193, 453–469. 03A05 (03B45)

Hetnarski, Richard B. (*with* Ignaczak, Józef) On soliton-like thermoelastic waves. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 183–204. (Summary) **99k:73021** 73B30 (73D99)

Hettlich, Frank (*with* Rundell, William) The determination of a discontinuity in a conductivity from a single boundary measurement. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 67–82. (Yongzhi Xu) **99b:35210** 35R30 (35J25)

— The Landweber iteration applied to inverse conductive scattering problems. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 931–947. (Plamen D. Stefanov) **99f:35221** 35R30 (35P99, 65M55, 76Q05, 78A45)

Hettmansperger, Thomas P. (*with* Öztürk, Ömer) Almost fully efficient and robust simultaneous estimation of location and scale parameters: a minimum distance approach. (English summary) *Statist. Probab. Lett.* **29** (1996), *no.* 3, 233–244. (Andrzej S. Kozek) **99b:62034** 62F12 (62F35)

— (*with* McKean, Joseph W.; Sheather, Simon J.) Rank-based analyses of linear models. *Robust inference*, 145–173, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G10 (62J05)

— (*with* Möttönen, Jyrki; Oja, Hannu) Affine-invariant multivariate one-sample signed-rank tests. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1591–1600. (Georg Neuhaus) **99c:62133** 62G10

— (*with* McKean, Joseph W.) ★ Robust nonparametric statistical methods. (English summary) Kendall's Library of Statistics, 5. *Edward Arnold, London; copublished by John*

Wiley & Sons, Inc., New York, 1998. xiv+467 *pp. ISBN* 0-340-54937-8; 0-471-19479-4 (Xuming He) **99c:62075** 62Gxx

— (*with* Öztürk, Ömer) Simultaneous robust estimation of location and scale parameters: a minimum-distance approach. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 217–229. (Summary) **99f:62046** 62F35

— (*with* Möttönen, Jyrki; Oja, Hannu; Tienari, J.) On the efficiency of affine invariant multivariate rank tests. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 1, 118–132. (Margaret P. Gessaman) **99j:62067** 62G10 (62H15)

— (*with* Möttönen, Jyrki; Oja, Hannu) Affine invariant multivariate rank tests for several samples. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 785–800. (Summary) **99i:62105** 62G10

Hétu, Jean-François (*with* Ilinca, Florin; Pelletier, Dominique) Process modeling and optimization: issues and challenges. (English summary) *Computational methods for optimal design and control (Arlington, VA*, 1997), 249–263, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 93A30 (90C90)

Hetyei, Gábor (*with* Labelle, Gilbert; Leroux, Pierre) Cubical species and nonassociative algebras. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 499–546. (Volkmar Welker) **99j:05005** 05A15 (05E15)

— (*with* Reiner, Ethan) Permutation trees and variation statistics. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 847–866. (Volker Strehl) **99i:05011** 05A15 (05C05, 05E25)

Hetzer, Georg S-shapedness for energy balance climate models of Sellers-type. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 253–287, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (From the introduction) **99j:86017** 86A40 (35Q80)

— A quasilinear functional reaction-diffusion equation from climate modeling. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2547–2556. (Siegfried Carl) **99d:35083** 35K57 (34K30, 35Q80, 58G40)

— (*with* Díaz Díaz, Jesús Ildefonso) A quasilinear functional reaction-diffusion equation arising in climatology. *Équations aux dérivées partielles et applications*, 461–480, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Lidia Skóra) **99i:35069** 35K57 (35Q80, 35R10, 86A10)

— (*with* Tello, L.) On a "multilayer" nonlinear parabolic system in climatology. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 471–476, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Summary) **99e:86004** 86A10 (35B40, 35K55, 35Q80)

Heuberger, Clemens On a family of quintic Thue equations. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 2, 173–185. (Paul M. Voutier) **99d:11134** 11Y50 (11D41)

Heudin, Jean-Claude A new candidate rule for the game of two-dimensional Life. (English summary) *Complex Systems* **10** (1996), *no.* 5, 367–381. (Summary) **99e:92002** 92B05

Heuer, Norbert (*with* Stephan, Ernst P.) Boundary integral operators in countably normed spaces. (English summary) *Math. Nachr.* **191** (1998), 123–151. (Manil Suri) **99d:65367** 65R20 (45B05, 45E05, 45L10, 47G10)

— An iterative substructuring method for the p-version of the boundary element method for hypersingular integral operators in three dimensions. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 371–396. (H. Marcinkowska) **99f:65184** 65N38 (45E05, 45L05, 65R20)

— (*with* Stephan, Ernst P.) Preconditioners for the p-version of the Galerkin method for a coupled finite element/boundary element system. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 47–61. (Wojciech Mydlarczyk) **99a:65148** 65N30

— (*with* Stephan, Ernst P.) Iterative substructuring for hypersingular integral equations in $\mathbf{R}^3$. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 739–749 (*electronic*). (Ivan K. Lifanov) **99j:65239** 65R20 (45L05, 65N30)

van Heule, Dirk *see* **Van Heule, Dirk**

Heumann, Christian ★ Likelihoodbasierte marginale Regressionsmodelle für korrelierte kategoriale Daten. (German. German summary) [Likelihood-based marginal regression models for correlated categorial data] Dissertation, Universität München, Munich, 1997. Anwendungsorientierte Statistik [Applications-Oriented Statistics], 2. *Peter Lang, Frankfurt am Main*, 1998. 180 *pp. ISBN* 3-631-32671-8 (Publisher's description) **99g:62100** 62J12

Heun, Volker (*with* Mayr, Ernst W.) Efficient dynamic embedding of arbitrary binary trees into hypercubes. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 287–298, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68132** 68R10 (68M10)

Heunis, A. J. (*with* Hashemi, S. N.) Averaging principle for diffusion processes. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 201–216. (Summary) **99a:60029** 60F15 (60H10)

Heurteaux, Yanick Estimations de la dimension inférieure et de la dimension supérieure des mesures. (English and French summaries) [Estimates of the lower and upper dimensions of measures] *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 3, 309–338. (Claude Tricot) **99g:28013** 28A78 (28A12)

Heusener, Michael (*with* Kroll, Jochen) Deforming abelian SU(2)-representations of knot groups. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 480–498. (Darren D. Long) **99g:57008** 57M25

Heusler, M. (*with* Straumann, Norbert; Volkov, Mikhail S.) On rotational excitations and axial deformations of BPS monopoles and Julia-Zee dyons. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105021, 16 *pp.* 81T13

van den Heuvel, Jan (*with* Goddyn, Luis A.; McGuinness, Sean) Removable circuits in multigraphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 130–143. (Bradley W. Jackson) **99c:05113** 05C38 (05C40)

— (*with* Bauer, Douglas; Morgana, Aurora; Schmeichel, Edward) The complexity of toughness in regular graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 47–61. (Summary) **99j:05173** 05C85 (68Q25)

— (*with* Leese, R. A.; Shepherd, M. A.) Graph labeling and radio channel assignment. (English summary) *J. Graph Theory* **29** (1998), *no.* 4, 263–283. (Summary) **99h:05103** 05C78

van den Heuvel, P. C. J. (*with* Helminck, G. F.) A multipoint version of the KP-hierarchy. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 69–81, *World Sci. Publishing, River Edge, NJ*, 1996. (Ahmet Satir) **99k:58091** 58F07 (22E65)

Heuveline, Vincent (*with* Philippe, Bernard; Sadkane, Miloud) Parallel computation of spectral portrait of large matrices by Davidson type methods. (English summary) Sparse matrices in industry (Lille, 1997). *Numer. Algorithms* **16** (1997), *no.* 1, 55–75 (1998). (Summary) **99c:65071** 65F15 (65Y05)

Hevia, Alejandro (*with* Kiwi, Marcos A.) Strength of two data encryption standard implementations under timing attacks. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 192–205, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 94A60

Hevia, Héctor Transitional values of graphs. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 65–79. (Haruo Hosoya) **99b:05048** 05C12 (05C90, 80A32, 92E10, 92E20)

— (*with* Chartrand, Gary; Gavlas, Heather; Johnson, Mark A.) Rotation and jump distances between graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 285–300. (András Gyárfás) **99f:05084** 05C60 (05C12)

Hewer, Gary A. (*with* Kenney, Charles; Manjunath, B. S.) Variational image segmentation using boundary functions. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 9, 1269–1282. (Summary) **99h:94017** 94A12

Hewett, Dennis W. (*with* Bateson, William B.) Grid and particle hydrodynamics: beyond hydrodynamics via fluid element particle-in-cell. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 358–378. (Summary) **99c:76079** 76M25

Hewett, John (*with* Chen, Yi-Ju[2]; Wang, Yazhen; Johnson, Jane) A rank test for equality of two multivariate populations vs a particular ordered alternative. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 129–144. (Summary) **99j:62063** 62G10

Hewitt, Richard E. (*with* Hall, Philip[2]) The evolution of finite-amplitude wavetrains in plane channel flow. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2413–2446. (From the text) **99h:76031** 76D33 (76E30)

Hewson, S. F. (*with* Lambert, N. D.) Potentials and T-duality. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 201–206. (Yolanda Lozano) **99b:81194** 81T30

— Threebranes in twelve dimensions. *Strings, branes and dualities* (*Cargèse*, 1997), 459–462, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81T30 (83E30)

Hext, Jan In-place distributive sorting. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 149–165 (*electronic*). (*see* **99d:68010**) 68P10

Hey, John D. An application of Selten's measure of predictive success. (English summary) *Math. Social Sci.* **35** (1998), *no.* 1, 1–15. (Summary) **99b:90039** 90A46

Heyde, Christopher C. ★ Quasi-likelihood and its application. (English summary) A general approach to optimal parameter estimation. Springer Series in Statistics. *Springer-Verlag, New York*, 1997. x+235 *pp. ISBN* 0-387-98225-6 (Uttara V. Naik-Nimbalkar) **99f:62003** 62–02 (62A10, 62F99, 62M99)

— (*with* Lin, Yan-Xia) On spaces of estimating functions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 255–264. (Uttara V. Naik-Nimbalkar) **99d:62017** 62F10 (62A10)

— *see also* **Probability towards 2000**, **99b:60004**

Heydemann, Marie-Claude (*with* Germa, Anne; Sotteau, Dominique) Cycles in the cube-connected cycles graph. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 135–155. (Joseph B. Klerlein) **99d:05049** 05C38 (68R10)

— (*with* Tvrdík, Pavel; Harbane, Rabah) Uniform homomorphisms of de Bruijn and Kautz networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 279–301. (Neville G. F. Sancho) **99d:68025** 68M10 (05C20, 68R10)

— (*with* Bouabdallah, A.; Opatrny, J.; Sotteau, Dominique) Embedding complete binary trees into star and pancake graphs. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 3, 279–305. (Michael O. Albertson) **99d:68188** 68R10 (05C85, 68M99)

Heydtmann, Agnes Eileen (*with* Decker, Wolfram; Schreyer, Frank-Olaf) Generating a Noetherian normalization of the invariant ring of a finite group. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 6, 727–731. (Dmitri I. Panyushev) **99d:13004** 13A50

Heymann, Michael (*with* Lin, Feng[1]) Nonblocking supervisory control of nondeterministic systems. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 96–110, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Ratnesh Kumar) **99a:93069** 93C83 (93B40)

Heyting, Arend The intuitionist foundations of mathematics. Translated by Erna Putnam and Gerald J. Massey. *Logical empiricism at its peak*, 122–131, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006a**) 00A30

Heywood, J. G. *see* **Theory of the Navier-Stokes equations**, **99c:35002**

mahdavi-Hezavehi, M. *see* **Mahdavi-Hezavehi, M.**

Hiai, Fumio Large deviations for random matrices. Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 28–58. (Introduction) **99e:46087** 46L50

— (*with* Petz, Dénes) Logarithmic energy as an entropy functional. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 205–221, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:46101** 46L50 (60F10)

— (*with* Petz, Dénes) Maximizing free entropy. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 4, 335–356. (Ken Dykema) **99m:46154** 46L50 (94A17)

— (*with* Izumi, Masaki) Amenability and strong amenability for fusion algebras with applications to subfactor theory. (English summary) *Internat. J. Math.* **9** (1998), *no.* 6, 669–722. (Carl Winsløw) **99h:46116** 46L37 (46L50)

— (*with* Ando, Tsuyoshi) Hölder type inequalities for matrices. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 1–30. (Linda J. Patton) **99b:15021** 15A45 (15A60, 47A63)

— Biographical sketch of Professor Morisuke Hasumi. *Math. J. Ibaraki Univ.* **30** (1998), *i–vi*. (Editors) **99m:01068** 01A70

— (*with* Ando, Tsuyoshi) Matrix Hölder inequalities. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 126–134. (*see* **99f:47002**) 15A45

Hibi, Takayuki (*with* Aramova, Annetta; Herzog, Jürgen) Weakly stable ideals. *Osaka J. Math.* **34** (1997), *no.* 4, 745–755. (Ralf Fröberg) **99b:13016** 13C13 (13D02)
— (*with* Aramova, Annetta; Herzog, Jürgen) Squarefree lexsegment ideals. *Math. Z.* **228** (1998), *no.* 2, 353–378. (Lê Tuân Hoa) **99h:13013** 13D02 (13F20)
— (*with* Ohsugi, H.) A normal (0, 1)-polytope none of whose regular triangulations is unimodular. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 201–204. (Ivan V. Arzhantsev) **99k:52023** 52B20 (13P10, 14M25, 52B11)
Hibiki, Yanagisawa *see* **Yanigasawa, Hibiki**
Hibino, Takeshi (*with* Murabayashi, Naoki) Modular equations of hyperelliptic $X_0(N)$ and an application. *Acta Arith.* **82** (1997), *no.* 3, 279–291. (Chandrashekhar Khare) **99a:11076** 11G18 (11F25)
— (*with* Umegaki, Atsuki) Families of elliptic Q-curves defined over number fields with large degrees. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 20–24. (Alain Kraus) **99d:11059** 11G05
Hibti, M. (*with* Legeard, B.; Lombardi, Henri) Une procédure de décision pour un problème de satisfiabilité dans un univers ensembliste héréditairement fini. (English and French summaries) [A decision procedure for a satisfiability problem in a universe of hereditarily finite sets] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 205–236. (M. A. Taïtslin) **99a:03052** 03E70 (03D15, 03D60, 03E75, 68N17, 68Q15)
Hickel, Michel (*with* Boyer, Jean-Yves) Une généralisation de la loi de transformation pour les résidus. (English and French summaries) [A generalization of the transformation formula for residues] *Bull. Soc. Math. France* **125** (1997), *no.* 3, 315–335. (Mohammed El Amrani) **99c:32002** 32A27
Hickernell, Fred J. (*with* An, Hong-Zhi; Zhu, Li-Xing) A new class of consistent estimators for stochastic linear regressive models. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 242–258. (Jiří Anděl) **99b:62098** 62J02 (62F12)
— (*with* Hong, Hee Sun) The asymptotic efficiency of randomized nets for quadrature. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 767–791. (S. Dubuc) **99i:65021** 65D32
Hicks, Katrina The Loewy structure and basic algebra structure for some three-dimensional projective special unitary groups in characteristic 3. *J. Algebra* **202** (1998), *no.* 1, 192–201. (Meinolf Geck) **99f:20020** 20C33 (20C20)
Hida, Haruzo Corrections to: "On Λ-adic forms of half integral weight for $SL(2)_{/\mathbf{Q}}$" [in *Number theory (Paris, 1992–1993)*, 139–166, Cambridge Univ. Press, Cambridge, 1995; MR 96i:11049]. *Number theory (Paris, 1993–1994)*, 129–132, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (*see* **99b:11003**) 11F37 (11F70, 11F85, 22E55)
— (*with* Maeda, Yoshitaka) Non-abelian base change for totally real fields. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 189–217. (Alexey A. Panchishkin) **99f:11068** 11F80 (11F85)
Hida, Takeyuki White noise analysis with special emphasis on applications to biology. (English summary) *Advanced mathematical approach to biology*, 269–306, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99c:92005**) 92B05
— Random fields and quantum dynamics. (English summary) *Found. Phys.* **27** (1997), *no.* 11, 1511–1518. (Summary) **99a:81082** 81S20 (60G60)
— Classical functional analysis and stochastic calculus. (Japanese) Study of the history of mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1019 (1997), 30–39. (*see* **99d:01002**) 01A60 (46–03, 60H05)
— White noise approach to fluctuations. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 575–581. (Jan Ubøe) **99k:60168** 60H30 (46F25, 46G05, 60G60)
— *see also* **Advanced mathematical approach to biology, 99c:92005**
Hidaka, Kazuyoshi (*with* Okano, Hiroyuki) Practical approach to a facility location problem for large-scale logistics. (English summary) *Algorithms and computation (Singapore*, 1997), 12–21, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 90B80 (90C27)
González Hidalgo, Manuel *see* **González Hidalgo, Manuel**
lobo-Hidalgo, Miguel *see* **Lobo-Hidalgo, Miguel**
Hidalgo, Rubén A. (*with* Hagelberg, Marcel) Some generalized Coxeter groups and their orbifolds. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 3, 543–566. (Stephen P. Humphries) **99c:57038** 57M50 (20F55, 51F15, 57M05)
— On a theorem of Accola. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 19–26. (Summary) **99c:30073** 30F10 (30F40)
— Noded Fuchsian groups. I. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 45–66. (Summary) **99c:30074** 30F10 (30F40)
— γ-hyperelliptic Riemann surfaces. (English summary) *Proyecciones* **17** (1998), *no.* 1, 77–117. (Hiroshige Shiga) **99h:30038** 30F10 (30F40)
— An example of degeneration on the noded Schottky space. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 165–183. (V. V. Chueshev) **99h:30039** 30F10 (20H10, 30F40, 32G15)
Hidalgo Sánchez, Ramón (*with* Calderón Montero, Susana; Caballero Fernández, Rafael E.) Direct collocation in nonlinear control problems. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic*, 1995), 7 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65K10 (49M25)
Hidalgo-Solís, Laura (*with* Brambila Paz, Leticia) A restriction theorem. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society (Spanish) (Colima*, 1995), 31–36, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (Summary) **99i:14048** 14K05
Hidano, Kunio Nonlinear small data scattering for the wave equation in $\mathbf{R}^{4+1}$. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 253–292. (Peter R. Popivanov) **99b:35147** 35L70 (35P25, 47A40, 47F05)
Hide, Raymond (*with* Moroz, Irene M.; Smith, Leonard A.) Synchronized chaos in coupled double disk homopolar dynamos. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2125–2133. (Summary) **99m:76126** 76W05 (34C99, 58F13, 58F40, 78A55)
— (*with* Moroz, Irene M.; Soward, Andrew M.) On self-exciting coupled Faraday disk homopolar dynamos driving series motors. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 128–144. (Manuel Núñez Jiménez) **99e:78040** 78A99 (34C23, 58F13, 58F36, 76W05)
Hieber, Matthias Gaussian estimates and invariance of the L^p-spectrum for elliptic operators of higher order. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 235–249 (1997). (C. J. K. Batty) **99a:47061** 47D06 (35J30, 35K35, 35P05, 46N20, 47F05)
Hieda, Yoshimasa (*with* Tsushima, Yukio) On $S_R(H)$-blocks for finite groups. *J. Algebra* **202** (1998), *no.* 2, 583–588. (P. Donovan) **99d:20017** 20C20
Hieida, Y. (*with* Nishino, Tomotoshi; Hikihara, Tomotoshi; Okunishi, K.) Density matrix renormalization group: introduction from a variational point of view. (English summary) *Internat. J. Modern Phys. B* **13** (1999), *no.* 1, 1–24. (Summary) **99m:82019** 82B28 (82–08)
Hiejima, Yoshimitsu Interpretation of the quasi-likelihood via the tilted exponential family. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 2, 157–164. (Summary) **99c:62051** 62F10 (62E10)
pham Hien Bang *see* **Pham Hien Bang**
Hierons, Robert (*with* Edwards, Hugh; Jackson, Bill) The zero-free intervals for characteristic polynomials of matroids. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 153–165. (Marcel Wild) **99e:05032** 05B35
fernández garcía-Hierro, Manuel *see* **Fernández García-Hierro, Manuel**
Hietarinta, Jarmo Introduction to the Hirota bilinear method. (English summary) *Integrability of nonlinear systems (Pondicherry*, 1996), 95–103, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Oktay K. Pashaev) **99j:58093** 58F07 (35Q53)
— Hirota's bilinear method and its generalization. (English summary) IWCQIS 96 (Dubna, 1996). *Internat. J. Modern Phys. A* **12** (1997), *no.* 1, 43–51. (Chris Athorne) **99c:58072** 58F07 (35Q53)
— (*with* Nijhoff, Frank) The eight tetrahedron equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3603–3615. (Summary) **99a:82033** 82B23 (18D10, 81R50)
— Pure quantum integrability. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 97–104. (Summary) **99e:81126** 81S99
doan the Hieu *see* **Doan The Hieu**
Higa, Tatsuo Conformal manifolds admitting Ricci-flat Weyl structures. *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 15–33. (Andrew Swann) **99h:53058** 53C25 (53C15)
Higaki, Hiroaki (*with* Ishida, Tsunetake; Takizawa, Makoto) Pseudo-active replication of objects in heterogeneous clusters. (English summary) *Res. Act. Fac. Sci. Engrg. Tokyo Denki Univ.* **20** (1998), *no.* 1, 3–13. 68Q10 (68M15)
— (*with* Tachikawa, Takayuki; Takizawa, Makoto) Checkpoint and rollback in asynchronous distributed systems. (English summary) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1058–1066. (Summary) **99a:68064** 68Q10
Higashi, Masatake (*with* Kuroda, Mitsuru[2]; Saitoh, Tsuyoshi; Watanabe, Yumiko; Kuragano, Tetsuzou) Interpolating curve with B-spline curvature function. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer*, 1997), 303–310, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65048** 65D17 (65D05, 65D07)
Higashino, Teruo (*with* Nakata, Akio; Taniguchi, Kenichi) Time-action alternating model for verifying symbolic bisimulation equivalence of timed processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 98–110. (*see* **99a:68004**) 68Q10 (68Q60)
— (*with* Fukada, Atsushi; Kaji, Tadashi; Taniguchi, Kenichi; Mori, Masaaki) A conformance testing for communication protocols modeled as a set of DFSMs. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2519–2527. 68Q60
— (*with* Fukada, Atsushi; Nakata, Akio; Taniguchi, Kenichi) Generation of test cases with timing constraints from timed I/O automata. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 85–94. (Summary) **99m:68127** 68Q68 (68Q60, 90B35)
Higdon, Robert L. Implementation of a barotropic-baroclinic time splitting for isopycnic coordinate ocean modeling. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 579–604. (Summary) **99i:86003** 86–08 (86A10)
Higgins, Aparna W. (*with* Herscovici, David S.) The pebbling number of $C_5 \times C_5$. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 123–135. (A. Pultr) **99d:05082** 05C99 (05C35, 90D43)
longuet-Higgins, H. C. *see* **Longuet-Higgins, H. C.**
Higgins, J. R. An appreciation of Paul Butzer's work in signal theory. Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 3–19. (Editors) **99m:01069a** 01A70
longuet-Higgins, Michael S. *see* **Longuet-Higgins, Michael S.**
Higgins, Patrick John (*with* Read, W. W.; Belward, S. R.) Iterative schemes for series solutions to Laplacian free boundary problems. *Computational techniques and applications: CTAC95 (Melbourne*, 1995), 669–676, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N35
Higgins, Peter M. Divisors of semigroups of order-preserving mappings on a finite chain. *Transformation semigroups (Colchester*, 1993), 30–43, *Univ. Essex, Colchester*, 199?. (T. E. Hall) **99g:20113** 20M20
— Combinatorial aspects of semigroups of order-preserving and decreasing functions. (English summary) *Semigroups (Luino*, 1992), 103–110, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M20 (05A10)
— (*with* Howie, John M.; Ruškuc, N.) On relative ranks of full transformation semigroups. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 733–748. (Inessa Levi) **99b:20099** 20M20
— (*with* Catarino, P. M.) The monoid of orientation-preserving mappings on a chain. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 190–206. (I. S. Ponizovskiĭ) **99k:20117** 20M20 (20M17)
Higgs, R. J. Projective characters of odd degree. *Comm. Algebra* **26** (1998), *no.* 10, 3133–3140. (David Gluck) **99f:20017** 20C25 (20C15, 20D05)
— On projective characters of the same degree. *Glasgow Math. J.* **40** (1998), *no.* 3, 431–434. (Katsuhiro Uno) **99k:20024** 20C25 (20C15)
Higham, Desmond J. Regular Runge-Kutta pairs. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 229–241. (Iulian Coroian) **99b:65086** 65L06 (65L05)
— (*with* Stuart, Andrew M.) Analysis of the dynamics of local error control via a piecewise continuous residual. (English summary) *BIT* **38** (1998), *no.* 1, 44–57. (Summary) **99d:65235** 65L70 (34A45)

— (*with* Higham, Nicholas J.) Structured backward error and condition of generalized eigenvalue problems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 493–512 (*electronic*). (V. L. Makarov) **99m:65071** 65F15 (65F35)

— *see also* **Numerical analysis, 99d:65006**

Higham, Lisa (*with* Przytycka, Teresa M.) Asymptotically optimal election on weighted rings. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 721–733 (*electronic*). (Summary) **99d:68023** 68M10 (68Q22)

Higham, Nicholas J. Recent developments in dense numerical linear algebra. (English summary) *The state of the art in numerical analysis* (*York*, 1996), 1–26, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (*see* **99a:65008**) 65Fxx

— ★ Handbook of writing for the mathematical sciences. (English summary) Second edition. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xvi+302 pp. ISBN* 0-89871-420-6 (From the preface) **99g:00017** 00A20

— (*with* Cox, A. J.) Stability of Householder *QR* factorization for weighted least squares problems. (English summary) *Numerical analysis* 1997 (*Dundee*), 57–73, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99j:65066** 65F20

— (*with* Cheng, Sheung Hun) Modifying the inertia of matrices arising in optimization. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 261–279. (Hubertus Th. Jongen) **99d:90072** 90C08 (15A42, 65F15)

— Factorizing complex symmetric matrices with positive definite real and imaginary parts. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1591–1599. (Jin Xi Zhao) **99a:65049** 65F15 (15A23, 65F10, 65G05)

— (*with* Cheng, Sheung Hun) A modified Cholesky algorithm based on a symmetric indefinite factorization. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 1097–1110 (*electronic*). (Summary) **99e:65046** 65F05 (15A23)

— Stability of block LDL^T factorization of a symmetric tridiagonal matrix. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 181–189. (Summary) **99h:65048** 65F05 (15A23)

— (*with* Higham, Desmond J.) Structured backward error and condition of generalized eigenvalue problems. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 493–512 (*electronic*). (V. L. Makarov) **99m:65071** 65F15 (65F35)

Higle, Julia L. Variance reduction and objective function evaluation in stochastic linear programs. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 236–247. 90C15

Higson, Nigel (*with* Kasparov, G. G.) Operator *K*-theory for groups which act properly and isometrically on Hilbert space. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 131–142 (*electronic*). (Vicumpriya S. Perera) **99e:46090** 46L80 (19K56)

— (*with* Kasparov, G. G.; Trout, Jody) A Bott periodicity theorem for infinite-dimensional Euclidean space. (English summary) *Adv. Math.* **135** (1998), *no.* 1, 1–40. (Evgeniĭ V. Troitskiĭ) **99j:19005** 19K35 (19L47, 46L80, 57R67, 58G12)

Higuchi, Atsushi (*with* Crispino, Luís C. B.; Matsas, George E. A.) Interaction of Hawking radiation and a static electric charge. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084027, 4 *pp.* 83C47

— (*with* Matsas, George E. A.; Sudarsky, Daniel) Interaction of Hawking radiation with static sources outside a Schwarzschild black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104021, 10 *pp.* 83C57

Higuchi, Isao On the thinness of a closed set in the neighborhood of the point at infinity. Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 136–145. (*see* **99a:00036**) 31C15

Higuchi, Osamu (*with* Miyamoto, Izumi) The 2-generators for certain simple permutation groups of small degree. (English summary) *SUT J. Math.* **34** (1998), *no.* 1, 63–74. (A. S. Kondrat'ev) **99f:20004** 20B05 (20F05)

Higuchi, Saburo Counting Hamiltonian cycles on planar random lattices. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 9, 727–733. (Francois Vanderseypen) **99h:05080** 05C45 (05C30, 82B41)

— Field theoretic approach to the counting problem of Hamiltonian cycles of graphs. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 128–132. (Summary) **99c:05094** 05C30 (05C45, 58D30)

Higuchi, Yasunari (*with* Yoshida, Nobuo) Slow relaxation of 2-D stochastic Ising models with random and non-random boundary conditions. (English summary) *New trends in stochastic analysis* (*Charingworth*, 1994), 153–167, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:82037** 82B44

de la Higuera, Colin Learning stochastic finite automata from experts. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 79–89, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 68T05 (68Q45, 68Q75)

Hijazi, Oussama Twistor operators and eigenvalues of the Dirac operator. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 151–174 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Uwe Semmelmann) **99h:58196** 58G25 (53C21, 53C25)

Hijikata, Hiroaki (*with* Nishida, Kenji) When is $\Lambda_1 \otimes \Lambda_2$ hereditary? *Osaka J. Math.* **35** (1998), *no.* 3, 493–500. (Juliusz Brzeziński) **99j:16009** 16H05

Hikami, Kazuhiro (*with* Komori, Yasushi) Nonlinear Schrödinger model with boundary, integrability and scattering matrix based on the degenerate affine Hecke algebra. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 30, 5397–5410. (Andrey V. Tsiganov) **99a:81208** 81V70 (17B37, 81R50, 82B23)

— (*with* Komori, Yasushi) Quantum integrability of the generalized elliptic Ruijsenaars models. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4341–4364. (Summary) **99g:81242** 81V70 (33D45)

— (*with* Inoue, Rei) New approach to the lattice W_N algebra and the exchange algebra. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 10, 3013–3020. (Josep Herrero) **99e:81078** 81R10 (17B68, 17B81, 58F07)

— Lattice W_N algebra and its quantization. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 749–770. (Jun'ichi Shiraishi) **99f:81076** 81R10 (17B81, 81R50)

— On the fundamental *L* operator for the quantum lattice *W* algebra. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 853–867. (Rinat M. Kashaev) **99h:82025** 82B23 (17B37, 81R50)

— Integrable structure of the classical lattice W_N algebra. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 10, 1773–1782. (M. I. Monastyrskiĭ) **99k:58092** 58F07 (17B68)

— Notes on the structure of the δ-function interacting gas. Intertwining operator in the degenerate affine Hecke algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 4, *L85–L91*. (Gunter Schütz) **99d:82021** 82B21 (82B23)

— (*with* Inoue, Rei) The hungry-Volterra model—the classical and quantum integrable structures. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 87–92. (Summary) **99a:58091** 58F07 (58F40, 92D25)

— (*with* Komori, Yasushi) Diagonalization of the elliptic Ruijsenaars model of type-*BC*. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 12, 4037–4044. (Kazuhiro Hikami) **99k:82021** 82B23 (39A99, 58F07, 81R50)

— (*with* Komori, Yasushi) Affine *R*-matrix and the generalized elliptic Ruijsenaars models. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 335–346. (Rinat M. Kashaev) **99g:81091** 81R50 (17B67, 33D80, 81V70, 82B23)

Hikami, S. (*with* Brézin, E.) Universal singularity at the closure of a gap in a random matrix theory. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4140–4149. (Estelle L. Basor) **99i:82021** 82B44

— (*with* Brézin, E.) Level spacing of random matrices in an external source. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7176–7185. (Alexei Khorunzhy) **99m:82023** 82B41 (15A52)

Hikari, Michitaka Skew linear groups of odd order. (English summary) *Hiyoshi Rev. Natur. Sci. No.* 23 (1998), 1–4. (Summary) **99k:20093** 20G15

Hikihara, Tomotoshi (*with* Nishino, Tomotoshi; Okunishi, K.; Hieida, Y.) Density matrix renormalization group: introduction from a variational point of view. (English summary) *Internat. J. Modern Phys. B* **13** (1999), *no.* 1, 1–24. (Summary) **99m:82019** 82B28 (82–08)

Hikita, Mitsunori (*with* Nakagawa, Yuji) Introduction to substitute objectives in multiobjective discrete optimization problems. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 24–31. (*see* **99b:90009**) 90C29 (90C10)

Hikita, T. (*with* Rosenberg, I. G.) Completeness for uniformly delayed circuits, a survey. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 49–61. (Summary) **99i:94076** 94C05 (03B50)

Hilbert, David[1] ★ The theory of algebraic number fields. (English summary) Translated from the German and with a preface by Iain T. Adamson. With an introduction by Franz Lemmermeyer and Norbert Schappacher. *Springer-Verlag, Berlin*, 1998. *xxxvi+350 pp. ISBN* 3-540-62779-0 (T. Metsänkylä) **99j:01027** 01A75 (01A60, 11Rxx)

— *see also* **Hilbert's Problems, 99b:01001; Wehmeier, Kai F., 99c:01019; Corry, Leo, 99e:01019; Schappacher, Norbert, 99e:11002; Sauer, Tilman, 99k:01039; Corry, Leo, 99m:01023; Vinnikov, Victor, 99m:01029; Hachaj, Jadwiga, (99b:01001)** *and* **Smirnova, E. D., (99m:03005)**

Hilbert, Heinrich (*with* Suhl, Uwe H.) A branch-and-cut algorithm for solving generalized multiperiod Steiner problems in graphs. (English summary) *Networks* **31** (1998), *no.* 4, 273–282. (Summary) **99c:90150** 90C35 (05C85, 90C90)

Hild, Matthias The coherence argument against conditionalization. (English summary) *Synthese* **115** (1998), *no.* 2, 229–258. 03B48

Hild, Patrick À propos d'approximation par éléments finis optimale pour les problèmes de contact unilatéral. (English and French summaries) [On optimal finite element approximation for unilateral contact problems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1233–1236. (Summary) **99h:65191** 65N30

— (*with* Ben Belgacem, Faker; Laborde, Patrick) The mortar finite element method for contact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 263–271. (Summary) **99f:73072** 73T05 (73V05)

— (*with* Ben Belgacem, Faker; Laborde, Patrick) Extension of the mortar finite element method to a variational inequality modeling unilateral contact. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 2, 287–303. (Pierre Alart) **99m:73066** 73V05 (65N30, 73T05, 73V25)

Hildebrand, Martin V. Random walks on random simple graphs. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 4, 301–318. (James Allen Fill) **99b:60111** 60J15 (05C80, 60C05, 60J10)

— (*with* Dai, Jack J.) Random random walks on the integers mod *n*. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 371–379. (Donald I. Cartwright) **99f:60128** 60J15 (60B15)

— (*with* Callahan, Patrick J.; Weeks, Jeffrey R.) A census of cusped hyperbolic 3-manifolds. (English summary) With microfiche supplement. *Math. Comp.* **68** (1999), *no.* 225, 321–332. (Colin C. Adams) **99c:57035** 57M50 (57N10)

Hildebrandt, Stefan (*with* Sauvigny, Friedrich) Minimal surfaces in a wedge. II. The edge-creeping phenomenon. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 2, 164–176. (Roger Chen) **99e:58044** 58E12 (35J60, 49Q05, 53A10)

— Remarks on the life and work of Fritz John. Dedicated to the memory of Fritz John. *Comm. Pure Appl. Math.* **51** (1998), *no.* 9-10, 971–989. (Michael von Renteln) **99i:01033** 01A70

Hildebrandt, Thomas T. (*with* Panangaden, Prakash; Winskel, Glynn) A relational model of non-deterministic dataflow. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 613–628, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (18C10, 68Q55)

Hilden, Michael (*with* Steinebach, Gerd) ENO-discretizations in MOL-applications: some examples in river hydraulics. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 293–308. (*see* **99e:65002**) 76M20 (86–08, 86A05)

Hildenbrand, W. (*with* Kneip, Alois) Demand aggregation under structural stability. (English summary) Aggregation. *J. Math. Econom.* **31** (1999), *no.* 1, 81–109. (*see* **99k:90003**) 90A40

— *see also* **Menger, Karl, 99j:01028** *and* **Aggregation, 99k:90003**

Hile, G. N. (*with* Begehr, Heinrich G. W.) A hierarchy of integral operators. *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 669–706. (Manfred W. Kracht) **99i:35013** 35F05 (30E20, 30G20, 35C15, 47G10)

Hiley, B. J. (*with* Monk, N. A. M.) A unified algebraic approach to quantum theory. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 4, 371–377. (Summary) **99d:81008** 81P05 (81R99)

Hilfer, R. (*with* Biswal, B.; Manwart, C.) Three-dimensional local porosity analysis of porous media. (English summary) *Phys. A* **255** (1998), *no.* 3-4, 221–241. (Summary) **99d:73076** 73N20 (73V30, 76S05)

Hilgert, Joachim (*with* Neeb, Karl-Hermann) Poisson Lie groups and non-linear convexity theorems. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 395–410, *World Sci. Publishing, River Edge, NJ*, 1994. (Charles-Michel Marle) **99d:58063** 58F05 (22E60, 58F06)

— Singular unitary highest weight representations via geometric quantization. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 209–215. (Karl-Hermann Neeb) **99c:22020** 22E46 (58F06)

— (*with* Neeb, Karl-Hermann) Invariant cones in real representations. *Positivity in Lie theory: open problems*, 99–119, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Aleksy Tralle) **99i:22015** 22E45 (22E47)

— (*with* Neeb, Karl-Hermann) Poisson Lie groups and non-linear convexity theorems. (English summary) *Math. Nachr.* **191** (1998), 153–187. (Charles-Michel Marle) **99k:58070** 58F05 (22E60, 58F06)

— *see also* **Lie theory and its applications in physics, 99d:00022** *and* **Problems: Positivity in Lie theory, 99f:22001**

Hilgert, Nadine (*with* Portier, Bruno) Estimation non paramétrique dans un modèle autorégressif fonctionnel non directement observé. (English and French summaries) [Nonparametric estimation in a functional autoregressive model with no direct measurements] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 597–600. (Theo Gasser) **99k:62163** 62M10 (62G05)

Hilgevoord, Jan The uncertainty principle for energy and time. II. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 5, 396–402. (Summary) **99a:81011** 81P05

Hilhorst, D. (*with* Abergel, F.; Issard-Roch, Françoise; Scheid, J. F.) Local existence and uniqueness of a Stefan problem with surface tension. *Appl. Anal.* **60** (1996), *no.* 3-4, 219–240. 35R35 (80A32)

— (*with* van der Hout, R.; Peletier, L. A.) Diffusion in the presence of fast reaction: the case of a general monotone reaction term. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 469–517. (Siegfried Carl) **99a:35131** 35K57 (35B40)

— (*with* Eymard, R.; Gallouët, Thierry; Naït Slimane, Y.) Convergence of a finite volume scheme for a parabolic degenerate equation. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 3–11, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65M60 (35K65, 76M25)

— (*with* Eymard, R.; Gutnic, M.) The finite volume method for an elliptic-parabolic equation. (English summary) Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian.* (*N.S.*) **67** (1998), *no.* 1, 181–195. (B. Kellogg) **99j:65167** 65M60 (76M10, 76S05)

— (*with* Dupaix, C.; Laurençot, Philippe) Upper-semicontinuity of the attractor for a singularly perturbed phase field model. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 115–143. (Alan V. Lair) **99f:35009** 35B25 (34G20, 35J25, 35K20, 47H20, 58F39)

— (*with* Eymard, R.; Gallouët, Thierry; Naït Slimane, Y.) Finite volumes and nonlinear diffusion equations. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 747–761. (Erwin Schechter) **99j:65166** 65M60 (35K55)

Hilker, Torsten (*with* Gather, Ursula) A note on Tyler's modification of the MAD for the Stahel-Donoho estimator. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2024–2026. (Hannu Oja) **99c:62072** 62F35 (62H12)

Hill, Adrian T. Estimates on the Green's function of second-order elliptic operators in $\mathbf{R}^N$. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 5, 1033–1051. (Xi Ting Liang) **99i:35021** 35J15 (35A08, 35B45)

— L_∞ estimates on the solutions of nonselfadjoint elliptic and parabolic equations in bounded domains. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 720–735 (*electronic*). (Summary) **99b:35014** 35B45 (35J25, 35K20, 47F05)

Hill, C. Denson (*with* Nacinovich, Mauro) Simplicially q-pseudoconcave CR manifolds and wedge decomposition. *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 111–124, *Univ. Stud. Bologna, Bologna*, 1998. (Kimio Miyajima) **99k:32012** 32C16 (32F25)

Hill, Christopher Brooks Uniform distribution modulo one on subsequences. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1981–1986. (Summary) **99j:11085** 11K06

Hill, David J. (*with* Wen, Changyun) Decentralized adaptive linear control of complex systems using relative deadzones. (English summary) *Internat. J. Adapt. Control Signal Process.* **11** (1997), *no.* 6, 519–531. (Summary) **99f:93089** 93C40 (93A14, 93D15)

— (*with* Fradkov, A. L.) Exponential feedback passivity and stabilizability of nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 697–703. (Summary) **99c:93096** 93D21 (93B52)

— (*with* Jiang, Zhong-Ping; Guo, Yi) Stabilization and tracking via output feedback for the nonlinear benchmark system. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 907–915. 93D15 (93C95)

— (*with* Jiang, Zhong-Ping; Mareels, Iven M. Y.) Robust control of uncertain nonlinear systems via measurement feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 807–812. 93B35 (93C10)

— (*with* Xiao, Chengshan) Generalizations and new proof of the discrete-time positive real lemma and bounded real lemma. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 6, 740–743. 93B36

Hill, Gillian Formal specification. *Systems: theory and practice*, 13–32, *Adv. Comput. Sci., Springer, Vienna*, 1998. (*see* **99g:93002**) 68Q65 (68Q60)

Hill, James M. (*with* Hoang, Ha V.; Dewynne, J. N.) Pseudo-steady-state solutions for solidification in a wedge. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2, 109–121. (Summary) **99d:80007** 80A22

— (*with* Arrigo, Daniel J.) On a class of linearizable Monge-Ampère equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 115–119. (Summary) **99c:35052** 35J60

— (*with* Arrigo, Daniel J.) Transformations and equation reductions in finite elasticity. III. A general integral for plane strain deformations. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 3–15. (Summary) **99k:73044** 73C50 (73G05)

— (*with* Shi, Jingyu; Tordesillas, Antoinette; Wu, Yong-Hong) The velocity field for the punch problem for dilatant granular materials. (English summary) *Quart. J. Mech. Appl. Math.* **52** (1999), *no.* 1, 99–110. 73E99

Hill, Katherine "Juglers or Schollers?": negotiating the role of a mathematical practitioner. *British J. Hist. Sci.* **31** (1998), *no.* 110, *part* 3, 253–274. (Donald Cook) **99m:01013** 01A45

Hill, N. A. (*with* Bees, M. A.) Non-linear bioconvection in a deep suspension of gyrotactic swimming micro-organisms. (English summary) *J. Math. Biol.* **38** (1999), *no.* 2, 135–168. (Summary) **99k:76166** 76Z10 (92C05, 92D50)

Hill, Patricia M. (*with* Gallagher, John) Meta-programming in logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol.* 5, 421–497, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99f:68029** 68N17 (03B70)

— (*with* Bagnara, Roberto; Zaffanella, Enea) The correctness of set-sharing. (English summary) *Static analysis* (*Pisa*, 1998), 99–114, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68N17 (68N20)

Hill, Paul (*with* Ullery, William) On commutative group algebras of mixed groups. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 4029–4038. (Peter V. Danchev) **99d:20008** 20C07 (16U60, 20K10, 20K21)

— (*with* Megibben, Charles) The nonseparability of simply presented mixed groups. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 1–5. (K. M. Rangaswamy) **99m:20132** 20K21

— (*with* Ullery, William) The balanced-projective dimension of units in commutative modular group algebras. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 143–157. (Michael Dokuchaev) **99h:16047** 16U60 (16S34, 20C07)

— A note on σ-summable groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3133–3135. (William Ullery) **99a:20057** 20K10

Hill, R. *see* **Hill, Rodney**

Hill, Raymond (*with* Kolev, E.) An improved lower bound on the covering number $K_2(9, 1)$. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 483–489. (Summary) **99i:05061** 05B40 (94B75)

Hill, Richard Michael (*with* Velani, Sanju L.) Metric Diophantine approximation in Julia sets of expanding rational maps. (English summary) *Inst. Hautes Études Sci. Publ. Math. No.* 85 (1997), 193–216. (Rita Giuliano Antonini) **99b:58143** 58F11 (11K55)

— (*with* Fel'shtyn, A. L.) Comparisons for the Reidemeister and Nielsen numbers. (Russian) *Algebra i Analiz* **10** (1998), *no.* 3, 163–182. (Alexander N. Dranishnikov) **99m:57021** 57Q10 (55M35)

— Space forms and higher metaplectic groups. *Math. Ann.* **310** (1998), *no.* 4, 735–775. (Stefan Kühnlein) **99c:11142** 11R56 (11R37, 11R52)

— (*with* Velani, Sanju L.) The Jarník-Besicovitch theorem for geometrically finite Kleinian groups. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 524–550. (Thomas A. Schmidt) **99f:11100** 11K55 (11K60)

Hill, Robin D. (*with* Vethecan, Jerome K.) On the time-domain performance of multivariable systems in response to fixed inputs. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 437–458. (Summary) **99h:93051** 93B51 (93C05)

Hill, Rodney ★ The mathematical theory of plasticity. Reprint of the 1950 original. Oxford Classic Texts in the Physical Sciences. Oxford Engineering Science Series, 11. *The Clarendon Press, Oxford University Press, New York*, 1998. $x+355$ *pp. ISBN* 0-19-850367-9 (Editors) **99f:73037** 73Exx

— Plastic deformation and instability in thin-walled tubes under combined loading: a general theory. II. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 921–933. (Summary) **99k:73065** 73E05 (73H99)

Hill, Roger M. Bayesian decision-making in inventory modelling. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 147–163. 90B05 (90A05)

Hill, S. *see* **Hill, Sharon**

Hill, S. P. (*with* Achuthan, N. R.; Caccetta, Louis) Capacitated vehicle routing problem: some new cutting planes. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 109–123. (Summary) **99f:90157** 90C35 (90C27)

Hill, Sharon (*with* Humphreys, L. D.) Numerical mountain pass periodic solutions of a nonlinear spring equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 59–67. (Summary) **99c:34083** 34C25 (35L99, 58E05, 65H05)

Hill, Theodore P. (*with* Monticino, Michael) Constructions of random distributions via sequential barycenters. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1242–1253. (David J. Aldous) **99h:60099** 60G57 (60A10, 62A15)

— (*with* Elton, J.) On the basic representation theorem for convex domination of measures. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 449–466. (O. Lipovan) **99k:28015** 28B15 (46G12)

— *see also* **Advances in stochastic inequalities, 99m:60004**

Hille, J. On sufficiency and Blackwell sufficiency. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 319–347. (Sakutaro Yamada) **99c:62006** 62B05 (62B15)

Hille, Lutz Toric quiver varieties. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 311–325, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Dmitrii A. Timashëv) **99h:14012** 14D25 (14M25, 16G20)

— Homogeneous vector bundles and Koszul algebras. (English summary) *Math. Nachr.* **191** (1998), 189–195. (Summary) **99m:14094** 14M15 (14F05, 16G20, 20G15)

Hille, S. C. (*with* van Dijk, Gerrit) Maximal degenerate representations, Berezin kernels and canonical representations. (English summary) *Lie groups and Lie algebras*, 285–298, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Brian C. Hall) **99f:22015** 22E30 (43A80)

Hillebrand, Gerd (*with* Abiteboul, Serge) Space usage in functional query languages. (English summary) *Database theory—ICDT '95* (*Prague*), 439–454, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17)

Hillen, Thomas A Turing model with correlated random walk. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 49–72. (Yuzo Hosono) **99b:92042** 92D25 (35K57, 35R60, 60J15, 82B41)

— (*with* Müller, Johannes Heinrich Otto Gustav) Modulation equations and parabolic limits of reaction random-walk systems. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1207–1226. (Summary) **99d:35193** 35R60 (35L60)

— Qualitative analysis of semilinear Cattaneo equations. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 507–519. (Qing Fang) **99c:35121** 35K60 (35B40)

Hiller, John (*with* Ramer, Arthur; Diamond, Phil; Padet, Colette) Total uncertainty revisited. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 223–237. (Summary) **99m:68198** 68T30 (90A05, 94A17)

Hiller, Manfred (*with* Verhoeven, R.; Tadokoro, S.) Workspace, stiffness, singularities and classification of tendon-driven Stewart platforms. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 105–114, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:70009** 70B15

Hillerström, Gunnar (*with* Sternby, Jan) Robustness properties of repetitive controllers. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 939–961. 93B35 (93A30)

Hillion, Pierre Hertz-Debye potentials and pulse propagation. (English summary) *J. Phys. A* **31** (1998), *no.* 24, 5477–5484. (Summary) **99c:78013** 78A40

— Maxwell's equations and accelerated frames. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7239–7243. (Summary) **99d:78013** 78A25

— Scattering by a rotating circular conducting cylinder. I, II. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 2, 223–233, 235–244. (Tatiana Allen) **99f:78012** 78A45

— Remark on Maxwell's divergence equations. (English summary) *COMPEL* **18** (1999), *no.* 1, 77–83. (Marius Mitrea) **99m:78005** 78A25 (35Q60)

— Time-asymptotic approximations of cylindrical focus wave modes. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 1, 205–207. (Summary) **99j:78016** 78A40 (78A45)

Hillman, Jonathan A. (*with* Kearton, C.) Algebraic invariants of simple 4-knots. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 3, 307–318. (J. P. Levine) **99b:57047** 57Q45

— Optimal presentations for solvable 2-knot groups. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 129–133. (C. Kearton) **99d:57017** 57Q45 (57M25)

— (*with* Kearton, C.) Simple 4-knots. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 907–923. (Washington Mio) **99k:57053** 57Q45

— On 4-manifolds which admit geometric decompositions. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 415–431. (Masaaki Ue) **99c:57050** 57N13 (57M50)

— (*with* Crisp, J. S.) Embedding Seifert fibred 3-manifolds and Sol^3-manifolds in 4-space. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 685–710. (Charles Livingston) **99g:57027** 57N35 (57N10, 57N13)

Hilout, S. Directional Lipschitzian optimal solution of infinite-dimensional optimization problems. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 123–128. (Summary) **99g:90140** 90C31 (49K40)

winters-Hilt, Stephen N. *see* **Winters-Hilt, Stephen N.**

Hilton, A. J. W. (*with* Stirling, D. S. G.; Slivnik, Tomaž, Jr.) A vertex-splitting lemma, de Werra's theorem, and improper list colourings. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 91–103. (D. de Werra) **99a:05047** 05C15

Hilton, H. H. (*with* Danyluk, M. J.; Geubelle, P. H.) Two-dimensional dynamic and three-dimensional fracture in viscoelastic materials. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 28-29, 3831–3853. 73M25 (73F99)

Hilton, Peter (*with* Pedersen, Jean) A fresh look at old favourites: the Fibonacci and Lucas sequences revisited. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 3, 146–160. (Neville Robbins) **99e:11020** 11B39

— (*with* Pedersen, Jean) On the quasi-order theorem. *Panamer. Math. J.* **8** (1998), *no.* 4, 97–105. (Samuel S. Wagstaff, Jr.) **99k:11006** 11A05 (11A07)

Himonas, Alexandros Alexandrou (*with* Misiołek, Gerard) The Cauchy problem for a shallow water type equation. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 123–139. (Alan Shapiro) **99b:35176** 35Q35 (76B15)

— (*with* Petronilho, Gerson) Global hypoellipticity for sums of squares of vector fields of infinite type. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 145–155. (Peter R. Popivanov) **99m:35034** 35H05

— (*with* Cordaro, Paulo D.) Global analytic regularity for sums of squares of vector fields. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4993–5001. (Luigi Rodino) **99b:35023** 35H05 (35B65, 35N10)

Hinamoto, Takao (*with* Muneyasu, Mitsuji; Yagi, Hideyuki) A realization of 2-D adaptive filters using affine projection algorithm. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1185–1193. (Summary) **99e:93019** 93B15 (94A12)

Hinch, E. John (*with* Lister, John R.; Brenner, Michael P.; Day, Richard F.; Stone, Howard A.) Singularities and similarity solutions in capillary breakup. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 257–269, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D45

Hinczewski, Michael (*with* Rogers, Joel C. W.) The response of a damped pendulum to a large driving force. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 105–127. (Sergei A. Dovbysh) **99g:34076** 34C15 (34C28, 34C37, 34D05, 70K40)

Hind, Hugh R. (*with* Molloy, Michael Sean O'Brien; Reed, Bruce A.) Colouring a graph frugally. (English summary) *Combinatorica* **17** (1997), *no.* 4, 469–482. (David E. Woolbright) **99j:05070** 05C15

— (*with* Zhao, Yue[1]) Edge colorings of graphs embeddable in a surface of low genus. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 107–114. (Michael O. Albertson) **99f:05038** 05C15 (05C10)

— (*with* Henning, Michael A.) Strict majority functions on graphs. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 49–56. (Bert L. Hartnell) **99f:05063** 05C35

— (*with* Molloy, Michael Sean O'Brien; Reed, Bruce A.) Total coloring with $\Delta +$ poly(log Δ) colors. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 816–821 (*electronic*). (Summary) **99e:05050** 05C15 (05C85)

Hind, R. Filling by holomorphic disks with weakly pseudoconvex boundary conditions. *Geom. Funct. Anal.* **7** (1997), *no.* 3, 462–495. (Vsevolod V. Shevchishin) **99a:58018** 58D10 (32F25, 58F05)

Hindawi, Ahmed (*with* Ovrut, Burt A.; Waldram, Daniel) Higher-derivative supergravitation and soft supersymmetry breaking. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 304–312, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83E50

— (*with* Ovrut, Burt A.; Waldram, Daniel) Soft supersymmetry breaking induced by higher-derivative supergravitation. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 435–444, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:83103** 83E50 (83D05)

— (*with* Ovrut, Burt A.; Waldram, Daniel) The vector-tensor multiplet in $N = 2$ superspace. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 164–169. (Summary) **99c:81241** 81T60 (83E50)

Hinder, R. (*with* Meister, Erhard) Integral equations arising from instationary flows around thin wings. *Boundary element topics* (*Stuttgart*, 1995), 167–188, *Springer, Berlin*, 1997. (Introduction) **99i:76024** 76B99 (35J05, 45A05, 65R20, 76B05, 76M15)

Hinderer, Karl (*with* Waldmann, Karl-Heinz) Approximate solution of Markov renewal programs with finite time horizon. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 502–520 (*electronic*). (Alfred Müller) **99j:90109** 90C40 (60G40, 60K15, 90C42)

Hinderer, Wolfram The mean of circumscribed polygons. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 2, 153–160. (H. W. Guggenheimer) **99m:52003** 52A10

Hindi, Khalil S. (*with* Bazlamaçcı, Cüneyt F.) Verifying minimum spanning trees in linear time. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 139–144, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27 (90C35)

Hindley, James Roger *see* **Typed lambda-calculi and applications, 99i:68006**

Hindman, Neil (*with* Strauss, Dona Papert) ★ Algebra in the Stone-Čech compactification. Theory and applications. de Gruyter Expositions in Mathematics, 27. *Walter de Gruyter & Co., Berlin*, 1998. *xiv*+485 *pp. ISBN* 3-11-015420-X (Michael Tkačenko) **99j:54001** 54–02 (05D10, 22A15, 54D35, 54H99)

— (*with* Strauss, Dona Papert) An algebraic proof of Deuber's theorem. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 167–180. (Bruce Landman) **99g:05177** 05D10

— (*with* Leader, Imre) Partition regular inequalities. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 573–578. (Robert J. Simpson) **99g:05178** 05D10 (05C55)

— (*with* Bergelson, Vitaly; Leader, Imre) Additive and multiplicative Ramsey theory in the reals and the rationals. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 41–68. (Jerrold W. Grossman) **99m:05159** 05D10 (03E05, 04A20, 11B05, 22A15, 54D35, 54D80)

Hindman, Peter (*with* Klingler, Lee; Odenthal, Charles J.) On the Krull-Schmidt-Azumaya theorem for integral group rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3743–3758. (Jeremy Haefner) **99i:16012** 16D70 (20C05, 20C10)

Hindmarsh, Alan C. (*with* Brown, Peter N.; Petzold, Linda R.) Consistent initial condition calculation for differential-algebraic systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1495–1512 (*electronic*). (Gennady Y. Kulikov) **99d:65202** 65L05 (34A09)

Hindry, Marc (*with* Duby, Jean-Jacques; Laumond, Jean-Paul; Châtelet, Gilles; Risler, Jean-Jacques; Schapira, Pierre; Bourguignon, Jean Pierre) Le rôle des mathématiques. [The role of mathematics] *Gaz. Math. No.* 74 (1997), 5–25. (Editors) **99g:00021** 00A30 (01A80)

Hines, Peter A. Characterising the linear complexity of span 1 de Bruijn sequences over finite fields. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 140–148. (Qing De Kang) **99b:05012** 05A99 (12E20, 94A55)

mainegra Hing, Marisela *see* **Mainegra Hing, Marisela**

Hing Cortón, Rosina (*with* Mainegra Hing, Marisela) Application of the simulated annealing algorithm to the solution of combinatorial optimization problems. (Spanish. English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 19–27. 90C27

Hinich, Vladimir Homological algebra of homotopy algebras. *Comm. Algebra* **25** (1997), *no.* 10, 3291–3323. (Kathryn P. Hess) **99b:18017** 18G99 (16E99, 18G05, 55U35)

Hinkelmann, Klaus (*with* Singh, Murari) Analysis of partial diallel crosses in incomplete blocks. (English summary) *Biom. J.* **40** (1998), *no.* 2, 165–181. (Summary) **99a:62112** 62K10

— (*with* Jo, Jinnam) Linear trend-free Box-Behnken designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 347–354. (Summary) **99g:62114** 62K10 (62K15)

Hinkkanen, Aimo Schur products of certain polynomials. (English summary) *Lipa's legacy* (*New York*, 1995), 285–295, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Albert Baernstein, II) **99b:30004** 30C15 (32A99)

— ★ Applications of complex dynamics and potential theory. Report, 79. *University of Jyväskylä, Department of Mathematics, Jyväskylä*, 1998. *ii*+104 *pp. ISBN* 951-39-0367-2 (Walter Bergweiler) **99i:30046** 30D30 (30D05, 31A15, 58F23)

— Zeros of derivatives of meromorphic functions with one pole. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 279–369. (Summary) **99m:30052** 30D05

— (*with* Anderson, James Milne) Unbounded domains of normality. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3243–3252. (F. W. Carroll) **99a:30034** 30D45 (58F23)

Hinkley, David Discussion of paper: "Bootstrapping cointegrating regressions" [J. Econometrics **80** (1997), no. 2, 297–318; MR 99a:62156] by H. Li & G. S. Maddala. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 319–323. (Summary) **99a:62157** 62P20 (62M10)

— *see also* **Berger, James O. et al., 99e:62003**

Hinnion, Roland Ramifiable directed sets. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 216–228. (Klaas Pieter Hart) **99g:04002** 04A10 (03C55, 03E55, 06A07)

Hino, Masanori Convergence of non-symmetric forms. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 329–341. (Wilhelm Stannat) **99k:31011** 31C25 (47D03, 60J40)

— Existence of invariant measures for diffusion processes on a Wiener space. *Osaka J. Math.* **35** (1998), *no.* 3, 717–734. (Tu Sheng Zhang) **99j:60118** 60J60 (46G12, 60J35)

Hino, Yoshiyuki (*with* Murakami, Satoru) Stabilities in linear integrodifferential equations. *Finite- and infinite-dimensional dynamics* (*Kyoto*, 1988), 31–46, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (V. B. Smirnova) **99b:45005** 45J05 (34K20, 45M10)

— (*with* Murakami, Satoru) Almost periodic processes and the existence of almost periodic solutions. *Electron. J. Qual. Theory Differ. Equ.* **1998**, *no.* 3, 19 *pp.* (*electronic*). (George Seifert) **99f:34067** 34C27 (35B15, 54H20)

— (*with* Murakami, Satoru) A generalization of processes and stabilities in abstract functional-differential equations. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 28–48. (*see* **99f:00019**) 34Kxx (34C35, 45K05, 54H20)

Hinokuma, Takanori (*with* Shiga, Hiroo) Topology of the configuration space of polygons as a codimension one submanifold of a torus. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 4, 313–324. (Darryl McCullough) **99i:57043** 57N65 (52B70, 57R70)

Hinrichs, Maren (*with* Wechsung, Gerd) Time bounded frequency computations. (English summary) *Inform. and Comput.* **139** (1997), *no.* 2, 234–257. (Uwe Schöning) **99c:68097** 68Q15 (03D15)

klempien-Hinrichs, Renate *see* **Klempien-Hinrichs, Renate**

Hinrichsen, Diederich (*with* Manthey, W.; Helmke, U.) Generalized partial realizations. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 138–156, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Xiao Yun Lu) **99e:93018** 93B15 (93C55)

— (*with* Nguyễn Khoa So'n) Stability radii of positive discrete-time systems. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 13 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:93073** 93D05 (93B60, 93C55)

— (*with* Atanassova, Lidiya Y.; Kharitonov, Vladimir L.) Convex directions for stable polynomials and quasipolynomials: a survey of recent results. (English summary) *Stability and control of time-delay systems*, 72–91, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D09 (34K20, 34K35, 93–02)

— (*with* Nguyễn Khoa So'n) μ-analysis and robust stability of positive linear systems. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 253–268. (Abdelmoula El Bouhtouri) **99f:93109** 93D09 (34H05, 93C15)

— (*with* Nguyễn Khoa So'n) Stability radii of positive discrete-time systems under affine parameter perturbations. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 13, 1169–1188. (Guang Xiong Wang) **99m:93071** 93D05 (93C55)

— (*with* Pritchard, A. J.) Stochastic H^∞. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1504–1538 (*electronic*). (George Yin) **99c:93113** 93E15 (93B36, 93C55, 93D09)

Hintermeier, Claus (*with* Kirchner, Claude; Kirchner, Hélène) Dynamically typed computations for order-sorted equational presentations. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 4, 455–526. (Summary) **99b:68105** 68Q40 (68Q65)

Hintikka, Jaakko (*with* Sandu, Gabriel) A revolution in logic? *Nordic J. Philos. Logic* **1** (1996), *no.* 2, 169–183 (*electronic*). (Stewart Shapiro) **99b:03008** 03A05 (01A60, 03–03)

— ★ Language, truth and logic in mathematics. Jaakko Hintikka Selected Papers, 3. *Kluwer Academic Publishers, Dordrecht*, 1998. x+247 *pp. ISBN* 0-7923-4766-8 (E. Mendelson) **99h:01042** 01A75 (00A30, 03–03, 03–06, 03A05)

— La philosophie contemporaine et le problème de la vérité. [Contemporary philosophy and the problem of truth] Translated by Jean-Pierre Cometti. *Jaakko Hintikka* (*Paris*, 1994), 47–67, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03A05

— La connaissance reconnue: la connaissance de propositions par opposition à la connaissance d'objets. [Knowledge recognized: knowledge of propositions as opposed to knowledge of objects] Translated by Fabienne Poinbœuf and Christiane Chauviré. With an appendix by Gabriel Sandu and translated by Élisabeth Rigal. *Jaakko Hintikka* (*Paris*, 1994), 99–126, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03B65 (03A05)

— Réponses et commentaires. [Replies and comments] Translated by Élisabeth Rigal. *Jaakko Hintikka* (*Paris*, 1994), 309–329, *Probl. Controv., Vrin, Paris*, 1998. (*see* **99f:03005**) 03A05 (03B65)

— *see also* **Gödel, 99d:00032**; **Jaakko Hintikka, 99f:03005**; **Woods, John Hayden, 99g:03007** *and* **Cook, Roy**

Hinton, Don (*with* Clark, Steve) A Liapunov inequality for linear Hamiltonian systems. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 201–209. (Ondřej Došlý) **99c:34056** 34C10

Hintz, Martin (*with* Andreae, Thomas; Nölle, Michael; Schreiber, Gerald; Schuster, Gerald W.; Seng, Hajo) Cartesian products of graphs as subgraphs of de Bruijn graphs of dimension at least three. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 3–34. (Jean-Claude Bermond) **99a:05116** 05C75

— On proportion polynomials. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 97–108. (V. Sree Hari Rao) **99k:39064** 39B22

— (*with* Andreae, Thomas) On hypercubes in de Bruijn graphs. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 259–268. (Summary) **99i:68088** 68R10 (05C99)

Hintz, P. (*with* Benz, Simon; Riley, R. J.; Neitzel, G. P.) Instability of thermocapillary-buoyancy convection in shallow layers. II. Suppression of hydrothermal waves. (English summary) *J. Fluid Mech.* **359** (1998), 165–180. (Summary) **99a:76053b** 76E15 (76R05)

Hinz, Andreas M. (*with* Brown, B. Malcolm; Eastham, Michael S. P.; Kriecherbauer, Thomas; McCormack, Daniel K. R.; Schmidt, Karl Michael) Welsh eigenvalues of radially periodic Schrödinger operators. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 347–357. (Carol Shubin) **99m:34196** 34L40 (35J10, 35P15)

— (*with* Davies, E. B.) Explicit constants for Rellich inequalities in $L_p(\Omega)$. *Math. Z.* **227** (1998), *no.* 3, 511–523. (Alberto G. Setti) **99e:58169** 58G03 (46E35)

Hinze, Michael (*with* Kunisch, Karl) Suboptimal control of fluid flows. *Operations Research Proceedings* 1997 (*Jena*), 182–187, *Springer, Berlin*, 1998. (*see* **99d:90008**) 93C20 (49K20)

Hioe, F. T. Solitary waves for two and three coupled nonlinear Schrödinger equations. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part B*, 6700–6707. (Summary) **99g:78028** 78A60

Hip, Ivan (*with* Gattringer, Christof) Clover improvement, spectrum and Atiyah-Singer index theorem for the Dirac operator on the lattice. (English summary) *Nuclear Phys. B* **541** (1999), *no.* 1-2, 305–319. 81T25 (58G10)

Hipp, Christian (*with* Dickson, David C. M.) Ruin probabilities for Erlang(2) risk processes. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 251–262. 62P05

Hiptmair, R. Multigrid method for **H**(div) in three dimensions. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 133–152 (*electronic*). (Weimin Han) **99c:65232** 65N55

— Multigrid method for Maxwell's equations. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 204–225 (*electronic*). (Jacques Rappaz) **99j:65229** 65N55 (65N30, 78–08)

Hiraba, Seiji Asymptotic behavior of hitting rates for absorbing stable motions in a half space. *Osaka J. Math.* **34** (1997), *no.* 4, 905–921. (Patrick Fitzsimmons) **99k:60192** 60J30 (60F05, 60F15, 60K35)

Hirabayashi, Mikihito A generalization of Maillet and Demyanenko determinants. *Acta Arith.* **83** (1998), *no.* 4, 391–397. (Kurt Girstmair) **99b:11122** 11R29 (11R20)

Hirabayashi, Ryuichi (*with* Ikebe, Yoshiko) Shellability of ordered complexes. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 103–119. (*see* **99b:90009**) 06A08 (13H10)

Hirachi, Kengo CR invariant of weight 6. (Japanese) CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 22–28. (*see* **99f:32001**) 32C16

Hirai, Takakasu *see* **Hirai, Yoshikazu**

Hirai, Takeshi (*with* Shimomura, Hiroaki) On group topologies on the group of diffeomorphisms. Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 104–115. (Nobuaki Obata) **99h:58010** 58B25 (22E65, 58D05)

— (*with* Tatsuuma, Nobuhiko; Shimomura, Hiroaki) On group topologies and unitary representations of inductive limits of topological groups and the case of the group of diffeomorphisms. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 551–578. (M. Rajagopalan) **99k:22003** 22A05 (54H11, 58D05)

Hirai, Yoshikazu Eisenstein series over $O(2, m+2)$. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 180–191. (Hidenori Katsurada) **99d:11050** 11F55

— On Eisenstein series on quaternion unitary groups of degree 2. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 93–128. (B. Ramakrishnan) **99i:11031** 11F55 (11F30, 11F37)

Hiraki, Akira (*with* Koolen, J. H.) An improvement of the Ivanov bound. (English summary) *Ann. Comb.* **2** (1998), *no.* 2, 131–135. (Summary) **99m:05171** 05E30

— Distance-regular subgraphs in a distance-regular graph. V. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 141–150. (Dmitri Fon-Der-Flaass) **99f:05124** 05E30 (05C12)

— (*with* Araya, Makoto) Distance-regular graphs with $c_i = b_{d-i}$ and antipodal double covers. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 2, 127–138. (Andrew Woldar) **99j:05194** 05E30 (05C12, 05C70)

— (*with* Chen, Yue-Lan; Koolen, J. H.) On distance-regular graphs with $c_4 = 1$ and $a_1 \neq a_2$. *Kyushu J. Math.* **52** (1998), *no.* 2, 265–277. (Robert Beezer) **99g:05186** 05E30 (05C12)

— (*with* Chen, Yue-Lan) On the non-existence of certain distance-regular graphs. *Kyushu J. Math.* **53** (1999), *no.* 1, 1–15. (Jack H. Koolen) **99m:05169** 05E30

Hiramine, Yutaka On three-dimensional Schur rings obtained from partial spreads. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 273–282. (Peter M. Neumann) **99b:20042** 20D60 (05B15)

— (*with* Johnson, Norman Lloyd[1]) Nets of order p^2 and degree $p+1$ admitting SL(2, p). (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 15–34. (Martin W. Liebeck) **99g:51004** 51E14

Hirano, Katsuhiro An asymptotic behavior of the mean of some exponential functionals of a random walk. *Osaka J. Math.* **34** (1997), *no.* 4, 953–968. (Noël Veraverbeke) **99a:60071** 60J15

— Determination of the limiting coefficient for exponential functionals of random walks with positive drift. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 2, 299–332. (Noël Veraverbeke) **99g:60122** 60J15 (60G50)

Hirano, Norimichi (*with* Kim, Wan Se) Multiplicity and stability result for semilinear parabolic equations. *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 14 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Arnaldo do Nascimento) **99b:35087** 35K55 (35B10, 47N20)

— (*with* Wang, Zhi Qiang[1]) Subharmonic solutions for second order Hamiltonian systems. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 467–474. (Maria Letizia Bertotti) **99a:34118** 34C25 (34B15, 58E05, 58F22)

— Solutions to elliptic problems on $\mathbf{R}^N$. (Japanese) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 101–109. (*see* **99f:00024**) 35J65

Hirano, Yasuyuki On admissible rings. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 1, 55–59. (William H. Gustafson) **99b:16034** 16P10 (16L60)

— On rings over which each module has a maximal submodule. *Comm. Algebra* **26** (1998), *no.* 10, 3435–3445. (Robert Wisbauer) **99k:16019** 16E50 (16L30)

Hiraoka, Kazuyuki (*with* Amari, Shun-ichi) Strategy under the unknown stochastic environment: the nonparametric lob-pass problem. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 138–156. (John C. Gittins) **99k:90206** 90D05 (62L15, 68T05, 90D20)

— (*with* Yoshizawa, Shuji) The optimal solution of the lob-pass problem with known reaction curves. (Japanese. English and Japanese summaries) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 509–530. 92J40 (92J45)

Hirasawa, Shigeichi (*with* Maeda, Yasunari; Ukita, Yoshifumi; Matsushima, Toshiyasu) The optimal algorithms for the reinforcement learning problem separated into a learning period and a control period. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 4, 1116–1126. (Summary) **99a:68144** 68T05

— (*with* Ukita, Yoshifumi; Matsushima, Toshiyasu) A note on decision-theoretic formulation for learning from queries. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 2937–2948. (Summary) **99i:68107** 68T05 (90A05)

Hirashima, Youichi (*with* Iiguni, Youji; Adachi, Norihiko) An adaptive control system design using a memory based learning system. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1085–1102. 93C40 (93E35)

— (*with* Inoue, Akira; Yanou, Akira) A design of a strongly stable self-tuning controller using the coprime factorization approach. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 290–296. 93B51 (93D15)

Hirata, Hitoshi (*with* Hayashi, Nakao) Global existence of small solutions to nonlinear Schrödinger equations. *Functional analysis and global analysis* (*Quezon City*, 1996), 107–112, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35Q55

— (*with* Hayashi, Nakao) Local and global existence in time of small solutions to the elliptic-hyperbolic Davey-Stewartson system. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 105–120. (Peter L. Christiansen) **99e:35210** 35Q55 (76D33)

Hirata, Kenji (*with* Fujita, Masayuki[1]) A switching state feedback control of input constrained linear discrete-time systems. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 316–323. 93B51 (93C55)

Hirata, Kouichi (*with* Shimozono, Shinichi; Shinohara, Ayumi) On the hardness of approximating the minimum consistent acyclic DFA and decision diagram. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 165–170. (Summary) **99b:68102** 68Q25

— (*with* Yamada, Keizo; Harao, Masateru) On decidable higher-order unification problems. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 227–234. (*see* **99i:65003**) 68Q40 (03D40, 03D80)

Hirata, Tomio (*with* Asano, Takao; Hori, Kuniaki; Ono, Takao) A theoretical framework of hybrid approaches to MAX SAT. (English summary) *Algorithms and computation (Singapore, 1997)*, 153–162, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25

— (*with* Asano, Takao; Hori, Kuniaki; Ono, Takao) Approximation algorithms for MAX SAT: semidefinite programming and network flows approach. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 90–108. (Gerald Hammer) **99d:90089** 90C27 (68Q25)

Hirayama, Minoru (*with* Matsubara, Shugo) Stokes theorem for loop variables of non-abelian gauge field. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 4, 691–706. (José A. Zapata) **99e:81146** 81T13 (53C07)

— (*with* Kanno, Mika; Ueno, Masataka; Yamakoshi, Hitoshi) Non-abelian Stokes theorem for loop variables associated with nontrivial loops. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 817–830. (Bogusław Broda) **99k:81183** 81T13 (58Z05)

Hirayama, Takayuki (*with* Maekawa, Nobuhiro; Sugimoto, Shigeki) Deformations of $\mathcal{N} = 2$ dualities to $\mathcal{N} = 1$ dualities in SU, SO and USp gauge theories. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 843–873. (Marco Spaans) **99h:81211** 81T60 (81T13)

Hiremath, S. V. (*with* Rathod, H. T.) Boundary integration of polynomials over an arbitrary linear tetrahedron in Euclidean three-dimensional space. (English summary) *Comput. Methods Appl. Mech. Engrg.* **153** (1998), *no.* 1-2, 81–106. (Sven Ehrich) **99c:65045** 65D30

— (*with* Rathod, H. T.) Boundary integration of polynomials over an arbitrary linear hexahedron in Euclidean three-dimensional space. (English summary) *Comput. Methods Appl. Mech. Engrg.* **161** (1998), *no.* 1-2, 155–193. (Summary) **99e:65041** 65D30

Hiriart-Urruty, Jean-Baptiste Ensembles de Tchebychev vs. ensembles convexes: l'état de la situation vu via l'analyse convexe non lisse. (English and French summaries) [Chebyshev sets vs. convex sets: the situation from the perspective of convex nonsmooth analysis] *Ann. Sci. Math. Québec* **22** (1998), *no.* 1, 47–62. (Bernard Lemaire) **99f:49018** 49J52 (41A65)

— (*with* Imbert, Cyril) Les fonctions d'appui de la jacobienne généralisée de Clarke et de son enveloppe plénière. (English and French summaries) [The support functions of Clarke's generalized Jacobian matrix and of its plenary hull] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1275–1278. (Jean-Noël Corvellec) **99k:49035** 49J52 (58C20)

— (*with* Clarke, F. H.; Ledyaev, Yu. S.) On global optimality conditions for nonlinear optimal control problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 109–122. (Dariusz Zagrodny) **99j:49035** 49K15 (49L10)

— Conditions for global optimality. II. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 349–367. (Immanuel M. Bomze) **99m:90131** 90C30 (49M37, 90C26)

Hirică, Iulia Elena (*with* Udrişte, Constantin) Family of projective projections on tensors and connections. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 139–156. (Josef Janyška) **99k:53015** 53B10 (15A72, 53A45)

— Geodesically related Riemannian spaces. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **49** (1997), *no.* 1-2, 73–76. (V. Oproiu) **99m:53030** 53B10 (53B20)

Hirohata, Kazuhide Long cycles passing through a specified path in a graph. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 177–184. (Akira Saito) **99m:05087** 05C38 (05C40)

Hirokawa, Masao (*with* Arai, Asao) On the spin-boson model. (English summary) Quantum stochastic analysis and related fields (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 957 (1996), 16–35. (H. Hogreve) **99g:81041** 81Q10 (47N50, 81V10)

— (*with* Arai, Asao) On the existence and uniqueness of ground states of a generalized spin-boson model. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 455–503. (Lech Jakóbczyk) **99b:82012** 82B10 (47N55)

Hironaka, Heisuke The work of Shigefumi Mori [MR 93d:14003]. *Fields Medallists' lectures*, 487–493, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (14–03)

Hironaka, Yumiko Local zeta functions on Hermitian forms and its application to local densities. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 40–64. (Hidenori Katsurada) **99e:11045** 11E39 (11E95, 11S40)

Hirose, Keiichi (*with* Isogai, Eiichi; Uno, Chikara) The convergence rate of fixed-width sequential confidence intervals for a parameter of an exponential distribution. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 199–209. (Z. Govindarajulu) **99d:62077** 62L12

— (*with* Isogai, Eiichi) Sequential fixed-width confidence interval estimation for the percentiles of a normal distribution. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 2, 123–134. (Summary) **99a:62123** 62L12

— (*with* Isogai, Eiichi) Relative deficiency of nonparametric recursive kernel estimators of smooth distribution functions. (English summary) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 70–79. (*see* **99a:62005**) 62G05 (62G20)

Hirose, Munemitsu (*with* Dohmen, Claus) Structure of positive radial solutions to the Haraux-Weissler equation. *Nonlinear Anal.* **33** (1998), *no.* 1, 51–69. (Michael A. Karls) **99f:35045** 35J60 (34B15, 35B05)

Hirose, Susumu Homeomorphisms of a 3-dimensional handlebody standardly embedded in S^3. *KNOTS '96 (Tokyo)*, 493–513, *World Sci. Publishing, River Edge, NJ*, 1997. (Lee Mosher) **99k:57037** 57N10 (57N05)

Hiroshima, Fumio Strong and weak coupling limits of interaction models of quantum fields and particles. Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 207–224. (Hiroshi Isozaki) **99h:81042** 81Q10 (81T10)

— Weak coupling limit with a removal of an ultraviolet cutoff for a Hamiltonian of particles interacting with a massive scalar field. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 407–423. (Hiroshi Isozaki) **99k:81061** 81Q10

Hirota, Kaoru (*with* Zhang, Kun Long) On fuzzy number lattice $(\widetilde{R}, \leq)$. (English summary) *Fuzzy Sets and Systems* **92** (1997), *no.* 1, 113–122. (Summary) **99b:04003** 04A72

— (*with* Zhang, Kun Long; Nakagawa, Yukiko) On Kleene algebra with De Morgan algebra with centers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 1, 131–146. (Manuel Abad) **99b:06012** 06D30 (03G25)

— (*with* Uehara, Kiyohiko) Parallel and multistage fuzzy inference based on families of α-level sets. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 159–195. (From the summary) **99f:68194** 68T35

Hirota, Osamu (*with* Ban, Masashi; Kurokawa, Keiko) Cut-off rate for quantum communication channels with entangled measurement. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 2, *L7–L12*. (Summary) **99a:81019** 81P99 (94A05, 94A40)

Hirota, Ryogo (*with* Tsujimoto, Satoshi) Pfaffian representation of solutions to the discrete BKP hierarchy in bilinear form. (English summary) *J. Phys. Soc. Japan* **65** (1996), *no.* 9, 2797–2806. (Francisco Balibrea) **99c:39021** 39A12 (58F07)

— Conserved quantities of "random-time Toda equation". (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 22–27. (*see* **99a:00024**) 39A99

— Discretization of coupled modified KdV equations. (English summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 143–159. (*see* **99c:00013**) 65M99 (35Q53)

— (*with* Tsujimoto, Satoshi) Ultradiscrete KdV equation. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1809–1810. (Summary) **99i:39032** 39A12 (35Q53, 58F07)

— Discretization of the potential modified KdV equation. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2234–2236. 35Q53 (65M99)

Hirotsu, Chihiro Two-way change-point model and its application. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 205–218. (Summary) **99m:62036** 62F25

Hirowatari, Eiju (*with* Apsītis, Kalvis; Arikawa, Setsuo; Freivalds, Rūsiņš; Smith, Carl H.) Recursive inference of real functions. I. Strict inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 199–204. (*see* **99i:65003**) 03D20 (03D80)

— (*with* Apsītis, Kalvis; Arikawa, Setsuo; Freivalds, Rūsiņš; Smith, Carl H.) Recursive inference of real functions. II. Approximate inference. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 205–210. (*see* **99i:65003**) 03D20 (03D80)

Hiroyama, Takashi (*with* Tabata, Minoru; Eshima, Nobuoki; Takagi, Ichiro) The Cauchy problem for the system of equations describing migration motivated by regional economic disparity. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 1, 45–64. (Vladimir Mityushev) **99i:92036** 92H20 (45K05, 90A99)

Hirsch, Edward A. Local search algorithms for SAT: worst-case analysis. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 246–254, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68Q25

— Two new upper bounds for SAT. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 521–530, *ACM, New York*, 1998. (Summary) **99d:68109** 68Q25 (03B05, 03D15)

— A fast deterministic algorithm for formulas that have many satisfying assignments. (English summary) *Log. J. IGPL* **6** (1998), *no.* 1, 59–71. (M. Tetruashvili) **99b:03013** 03B05 (03D15, 68Q25)

Hirsch, Francis (*with* Song, Shiqi) Properties of the set of positivity for the density of a regular Wiener functional. (English and French summaries) *Bull. Sci. Math.* **122** (1998), *no.* 1, 1–15. (Hélène Airault) **99j:60121** 60J65 (60H99)

— (*with* Lacombe, Gilles) ★ Elements of functional analysis. (English summary) Translated from the 1997 French original by Silvio Levy. Graduate Texts in Mathematics, 192. *Springer-Verlag, New York*, 1999. *xiv+393 pp. ISBN* 0-387-98524-7 (Editors) **99j:46001** 46–01 (47–01)

Hirsch, K. A. *see* **Gantmakher, F. R., 99f:15001**

Hirsch, Michael D. (*with* Hirsch, Morris W.) Families of Morse functions parameterized by maxima. *Michigan Math. J.* **45** (1998), *no.* 2, 347–368. (Donald W. Kahn) **99h:57056** 57R35 (57R70, 58E05)

Hirsch, Morris W. (*with* Hirsch, Michael D.) Families of Morse functions parameterized by maxima. *Michigan Math. J.* **45** (1998), *no.* 2, 347–368. (Donald W. Kahn) **99h:57056** 57R35 (57R70, 58E05)

Hirsch, Warren M. (*with* Hanisch, Herman) The mathematical epidemiology of hermaphroditic helminthic infections. I. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1311–1336. (Curtis C. Travis) **99j:92024** 92D30 (34K15)

Hirschberg, P. (*with* Knobloch, Edgar) A robust heteroclinic cycle in an $O(2) \times Z_2$ steady-state mode interaction. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 89–104. (Ian Melbourne) **99b:58172** 58F14 (34C23, 34C37)

Hirschel, Ernst Heinrich *see* **Numerical flow simulation, 99h:76003**

Hirschfeld, J. W. P. Complete arcs. (English summary) Combinatorics (Rome and Montesilvano, 1994). *Discrete Math.* **174** (1997), *no.* 1-3, 177–184. (Christine M. O'Keefe) **99f:51017** 51E21 (51E22)

— ★ Projective geometries over finite fields. Second edition. Oxford Mathematical Monographs. *The Clarendon Press, Oxford University Press, New York*, 1998. *xiv+555 pp. ISBN* 0-19-850295-8 (T. G. Ostrom) **99b:51006; EA 99m** 51E15 (05B25, 51A30)

— (*with* Korchmáros, Gábor) On the number of rational points on an algebraic curve over a finite field. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 313–340. (Chao Ping Xing) **99e:11082** 11G20 (14G05, 14G15, 51E15, 51E20)

— (*with* Ledermann, W.) Obituary: David Bernard Scott. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 549–554. (Editors) **99m:01077** 01A70

— Codes on curves and their geometry. (English summary) *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 123–137. (Summary) **99c:94057** 94B27 (11G25, 94B05)

— Curves and configurations in finite spaces. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 69–87. (Summary)

99f:51015 51E20 (11G20)
— *see also* **Finite geometry and combinatorics, 99a:51001** *and* **Conference: Combinatorial, 99h:00023**
Hirschhorn, Michael D. Two or three identities of Ramanujan. *Amer. Math. Monthly* **105** (1998), *no.* 1, 52–55. (Bruce C. Berndt) **99b:11011** 11B65
— A new formula for π. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 2, 82–83. (From the text) **99d:01046** 01A99
— A trigonometric identity and Morley's theorem. *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 4, 198–199. 51M04
— Proofs of some hyperelliptic function identities. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 465–468. (Summary) **99j:33025** 33E05
— The fundamental theorem of algebra. *College Math. J.* **29** (1998), *no.* 4, 276–277. 12D10 (30C15)
— On the expansion of Ramanujan's continued fraction. (English summary) *Ramanujan J.* **2** (1998), *no.* 4, 521–527. (Ken Ono) **99i:11006** 11A55
— A problem in dynamics. *Austral. Math. Soc. Gaz.* **26** (1999), *no.* 1, 34–41. 70F35
Hirschkoff, Daniel Automatically proving up-to bisimulation. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 15 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q60)
Hirschmann, Eric W. (*with* Wang, Anzhong) Spherical self-similar solutions in Einstein-multi-scalar gravity. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 383–388. (Serguey M. Pokas') **99m:83042** 83C20 (83C15)
Hirschorn, Ronald M. (*with* Aranda-Bricaire, Eduardo) Global approximate output tracking for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1389–1398. (Hua Lin Tan) **99g:93035** 93B52 (93D15)
— (*with* Aranda-Bricaire, Eduardo) Equivalence of nonlinear systems to prime systems under generalized output transformations. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 118–130 (*electronic*). (Ülle Kotta) **99g:93020** 93B18 (93B11)
Hirschowitz, André (*with* Göttsche, Lothar) Weak Brill-Noether for vector bundles on the projective plane. *Algebraic geometry* (*Catania*, 1993/*Barcelona*, 1994), 63–74, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Jean-Marc Drezet) **99i:14015** 14D20 (14J60)
— (*with* Ramanan, Sundararaman) New evidence for Green's conjecture on syzygies of canonical curves. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 2, 145–152. (Luca Chiantini) **99a:14033** 14H10 (13D02)
Hirshberg, A. (*with* D'Aniello, E.; Bhaskara Rao, K. P. S.; Shortt, Rae Michael) Bounded common extensions of vector measures. (English summary) *Real Anal. Exchange* **22** (1996/97), *no.* 2, 766–774. (L. Ya. Savel'ev) **99e:28018** 28B05
— (*with* Shortt, Rae Michael) Strassen's theorem for group-valued charges. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 173–178, *Kluwer Acad. Publ., Dordrecht*, 1997. (K. P. S. Bhaskara Rao) **99i:28009** 28A35 (28B10, 28B15)
Hirst, Jeffry L. (*with* Clote, Peter G.) Reverse mathematics of some topics from algorithmic graph theory. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 1–13. (Roman Murawski) **99j:03051** 03F35 (03B30)
Hirukawa, Hirohisa (*with* Guibas, Leonidas J.; Halperin, Dan; Latombe, Jean-Claude; Wilson, Randall H.) Polyhedral assembly partitioning using maximally covered cells in arrangements of convex polytopes. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 179–199. (Rephael Wenger) **99d:68229** 68U05 (52B55, 70B15)
Hirvensalo, Mika An introduction to quantum computing. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 100–121. (Robert M. Baer) **99k:68053** 68Q05 (81P99)
Hirzebruch, Friedrich Singularities and exotic spheres. *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 314, 13–32, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 57R60 (14B05, 57R55, 57R70)
— A Riemann-Roch theorem for differentiable manifolds. *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 177, 129–149, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 19L10 (55R45, 57R20)
— The topology of normal singularities of an algebraic surface (after D. Mumford). *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 250, 129–137, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 14J17
— Learning complex analysis in Münster-Paris, Zürich and Princeton from 1945 to 1953. *Gaz. Math. No.* 74 (1997), 27–39. (Editors) **99k:01059a** 01A70 (01A72, 32–03)
— Learning complex analysis in Münster-Paris, Zürich and Princeton from 1945 to 1953. *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 2, 5–11. (Editors) **99k:01059b** 01A70 (01A72, 32–03)
— Kunihiko Kodaira: mathematician, friend, and teacher. *Notices Amer. Math. Soc.* **45** (1998), *no.* 11, 1456–1462. (Editors) **99k:01060** 01A70 (14–03)
Hisakado, Masato The Davey-Stewartson system and the Bäcklund transformations. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 9, 3038–3043. (Summary) **99f:58178** 58F37 (35Q53, 35Q55)
Hisamatsu, H. (*with* Maekawa, K.; Knight, J. L.) Finite sample comparisons of the distributions of the OLS and GLS estimators in regression with an integrated regressor and correlated errors. (English summary) *Econometric Rev.* **17** (1998), *no.* 4, 387–413. (Summary) **99j:62096** 62J05
Hisasue, Masaki (*with* Katsurada, Hidenori) A recursion formula of local densities with congruence conditions. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 47 (1997), 97–102. (Martin Epkenhans) **99c:11041** 11E08
Hisdal, Ellen ★ Logical structures for representation of knowledge and uncertainty. (English summary) Studies in Fuzziness and Soft Computing, 14. *Physica-Verlag, Heidelberg*, 1998. xxiv+419 *pp. ISBN* 3-7908-1056-8 (Frans Voorbraak) **99f:68186** 68T27 (03B48, 03B52, 68T30)
Hishida, Takaaki (*with* Jimbo, Masakazu) Possible patterns of cyclic resolutions of the BIB design associated with PG(7, 2). (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 179–186. (Summary) **99m:05020** 05B05
Hislop, P. D. (*with* Combes, J. M.; Mourre, E.) Correlated Wegner inequalities for random Schrödinger operators. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 191–203, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Peter Stollmann) **99b:82047** 82B44 (35J10, 35R60)
Hiss, Gerhard (*with* Geck, Meinolf; Lübeck, Frank; Malle, Gunter; Pfeiffer, Götz) CHEVIE—a system for computing and processing generic character tables. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 175–210. (Summary) **99m:20017** 20C40 (20C33)
— (*with* Cooperman, Gene; Lux, Klaus; Müller, Jürgen[4]) The Brauer tree of the principal 19-block of the sporadic simple Thompson group. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 293–300. (Andrew Woldar) **99b:20026** 20C34 (20C20, 20C40)
— (*with* Gruber, Jochen) Decomposition numbers of finite classical groups for linear primes. (English summary) *J. Reine Angew. Math.* **485** (1997), 55–91. (Marc Cabanes) **99d:20073** 20G05 (20G40)
— Harish-Chandra theory, q-Schur algebras, and decomposition matrices for finite classical groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 58–73, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Bhama Srinivasan) **99i:20015** 20C20
— *see also* **Algorithmic algebra and number theory, 99h:00020**
Hitchin, Nigel Geometrical aspects of Schlesinger's equation. (English summary) *J. Geom. Phys.* **23** (1997), *no.* 3-4, 287–300. (William Goldman) **99a:32023** 32G34 (58D29)
— Hypercomplex manifolds and the space of framings. *The geometric universe* (*Oxford*, 1996), 9–30, *Oxford Univ. Press, Oxford*, 1998. (Andrew Swann) **99k:53093** 53C25 (32L25, 53C15, 58F07)
Hitczenko, Paweł (*with* Godbole, Anant P.) Beyond the method of bounded differences. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 43–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (J. Glaz) **99i:60040** 60E15 (60E15, 60G46)
— (*with* Kwapień, Stanisław; Li, Wenbo V.; Schechtman, Gideon; Schlumprecht, Thomas; Zinn, Joel) Hypercontractivity and comparison of moments of iterated maxima and minima of independent random variables. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 2, 26 *pp.* (*electronic*). (From the text) **99k:60008** 60B11 (52A21, 60E07, 60E15, 60G15)
Hitschfeld, N. Generalization of modified octrees for geometric modeling. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 260–272, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65022** 65D17
Hitzer, E. (*with* Geitner, A.; Hanauske, M.) New Higgs field ansatz for effective gravity in flat space time. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 971–980. (Summary) **99k:83024** 83C25 (81T13)
Hitzler, Pascal *see* **Kalmbach, Gudrun, 99j:81014**
Hivert, Florent Analogues non-commutatifs et quasi-symétriques des fonctions de Hall-Littlewood, et modules de Demazure d'une algèbre enveloppante quantique dégénérée. (English and French summaries) [Noncommutative and quasisymmetric analogues of Hall-Littlewood functions, and Demazure modules of a degenerate quantized enveloping algebra] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 1–6. (Aleksandr Panov) **99i:17018** 17B37 (05E05)
Hiwatashi, Osamu (*with* Yoshida, Hiroaki) Characterization of the semicircle distribution in noncommutative probability spaces. (Japanese) Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 15–27. (*see* **99a:46002**) 46L50 (81S25)
— (*with* Kuroda, Tomoko; Nagisa, Masaru; Yoshida, Hiroaki) Distribution functions of free random variables. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 53–63. (*see* **99i:00029**) 46L50
— (*with* Kuroda, Tomoko; Nagisa, Masaru; Yoshida, Hiroaki) The free analogue of noncentral chi-square distributions and symmetric quadratic forms in free random variables. *Math. Z.* **230** (1999), *no.* 1, 63–77. (Dimitri Y. Shlyakhtenko) **99m:46155** 46L50 (60F99)
Hiyoshi, Hisamoto (*with* Sekigawa, Hiroshi) Deciding the sign of an algebraic number by a floating point calculation. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 190–197. (*see* **99h:00034**) 11R04
Hizanidis, K. (*with* Polymilis, C.; Frantzeskakis, D. J.) Phase plane Stäckel potential dynamics of the Manakov system. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 1, 1112–1124. (Summary) **99c:35229** 35Q55 (58F39)
Hjalmarsson, Håkan (*with* Ninness, Brett; Gustafsson, Fredrik) Generalized Fourier and Toeplitz results for rational orthonormal bases. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 429–460 (*electronic*). (Sergey V. Lototsky) **99i:42052** 42C15 (47B35, 60G35, 93E12, 93E24)
rygaard-Hjalsted, Camilla *see* **Rygaard-Hjalsted, Camilla**
Hjellvik, Vidar (*with* Yao, Qiwei; Tjøstheim, Dag) Linearity testing using local polynomial approximation. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 295–321. (Theo Gasser) **99i:62099** 62G09 (62G05)
Hjelmborg, Jacob v. B. (*with* Rørdam, Mikael) On stability of C^*-algebras. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 153–170. (E. Størmer) **99g:46079** 46L05
Hjorring, Curt (*with* Holt, John N.) New optimality cuts for a single-vehicle stochastic routing problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 569–584. (*see* **99k:90002**) 90C27 (90B35)
Hjorth, Greg (*with* Kechris, Alexander S.) Borel equivalence relations and classifications of countable models. (English summary) *Ann. Pure Appl. Logic* **82** (1996), *no.* 3, 221–272. (Summary) **99m:03073** 03C75 (03C15, 03E15, 54H05)
— Cameron's cofinitary group conjecture. *J. Algebra* **200** (1998), *no.* 2, 439–448. (Manfred Droste) **99a:20003** 20B35 (03C60)
— An absoluteness principle for Borel sets. *J. Symbolic Logic* **63** (1998), *no.* 2, 663–693. (Peter G. Hinman) **99m:03095** 03E15 (03E40, 03E45)
— Sharper changes in topologies. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 271–278. (Marek Balcerzak) **99b:54059** 54H05 (04A15, 54E50)
— (*with* Solecki, Sławomir) Vaught's conjecture and the Glimm-Effros property for Polish transformation groups. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2623–2641. (Klaas Pieter Hart) **99j:54037** 54H05 (22A05, 54H15)
abu Hlail, J. *see* **Abu Hlail, J.**
Hlaváček, Ivan (*with* Křížek, Michal) A posteriori error estimates for three-dimensional axisymmetric elliptic problems. (English summary) *Finite element methods* (*Jyväskylä*,

1997), 147–154, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (I. N. Molchanov) **99d:65317** 65N30
— Reliable solution of an elastoplastic Reissner-Mindlin beam for Hencky's model with uncertain yield function. (English summary) *Appl. Math.* **43** (1998), *no.* 3, 223–237. (Introduction) **99b:73019** 73E05 (49J40, 73K05, 73V25)
— (*with* Lovíšek, Ján) Optimal control of semi-coercive variational inequalities with application to optimal design of beams and plates. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 405–417. (Daniel Goeleven) **99f:49013** 49J40 (73K05, 73K10, 73K40, 73V25)
Hlaváček, Miloslav On the set of solutions of the system $x_1 + x_2 + x_3 = 1$, $x_1x_2x_3 = 1$. (English summary) *Math. Bohem.* **123** (1998), *no.* 1, 1–6. (Andrew Bremner) **99a:11034** 11D25 (11G05)
Hlavatý, Ladislav Open spin chains and quadratic algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 525–530, *PWN, Warsaw*, 1995. (Shao-Ming Fei) **99f:82021** 82B23 (81R50)
— Quantization of nonultralocal models—generalization of the theorem for the multiple coproduct. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 150–156, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81R50 (16W30)
— Classification of quantized braided groups in the dimension 2. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 28, 5161–5169. (Bodo Pareigis) **99g:17031** 17B37 (81R50)
Hlawatsch, F. (*with* Flandrin, Patrick) The interference structure of the Wigner distribution and related time-frequency signal representations. (English summary) *The Wigner distribution*, 59–133, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12
— (*with* Krattenthaler, W.) Signal synthesis algorithms for bilinear time-frequency signal representations. (English summary) *The Wigner distribution*, 135–209, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12
— *see also* **Wigner distribution, 99k:94018**
Hlawka, Edmund Die Idee der "willkürlichen" Funktionen von Poincaré im Laufe eines Jahrhunderts. [The idea of "arbitrary" functions of Poincaré in the course of a century] Natur, Mathematik und Geschichte. *Acta Hist. Leopold. No.* 27 (1997), 189–200. (Pierre Crépel) **99c:01018** 01A60
— Gleichverteilung und Simulation. (German summary) [Uniform distribution and simulation] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 183–216 (1998). (Michael Drmota) **99h:11084** 11K06 (11K38, 11K41, 11Z05)
— Über Dirichletsche Randwertprobleme bei partiellen Differentialgleichungen, die mit Schwingungsgleichungen verwandt sind. [On Dirichlet boundary value problems in partial differential equations that are related to equations of oscillation] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 217–239 (1998). (Andrej T. Il'ichev) **99f:35156** 35Qxx
— ★ Statistik und Gleichverteilung. (German) [Statistics and uniform distribution] Grazer Mathematische Berichte [Graz Mathematical Reports], 335. *Karl-Franzens-Universität Graz, Graz*, 1998. *ii*+206 *pp.* (Robert F. Tichy) **99g:11093** 11K06 (60A99)
Hledík, S. (*with* Stuchlík, Zdeněk; Bao, Gang[4]; Østgaard, E.) Kerr-Newman-de Sitter black holes with a restricted repulsive barrier of equatorial photon motion. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084003, 8 *pp.* 83C57
Hliněný, Petr Touching graphs of unit balls. (English summary) *Graph drawing* (*Rome*, 1997), 350–358, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (Summary) **99e:68126** 68R10 (68Q25)
— (*with* Kratochvíl, Jan) Computational complexity of the Krausz dimension of graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 214–228, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68110** 68Q25 (05C85, 68R10)
— The maximal clique and colourability of curve contact graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 59–68. (O. V. Borodin) **99h:05041** 05C15 (05C10)
— Classes and recognition of curve contact graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 87–103. (Dalibor Fronček) **99f:05095** 05C75
Hlousek, Zvonimir (*with* Spector, Donald) Fermi-Bose cancellation in topologically nontrivial backgrounds. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 193–202. (Summary) **99d:81089** 81T15
Hmissi, Mohamed (*with* Sieveking, Malte) Sur l'existence des courbes de Siegel. (English summary) [Existence of Siegel curves] *Iteration theory* (*ECIT* 94) (*Opava*), 139–146, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F10 (58F25)
Hnatich, J. (*with* Horváth, D.; Stehlík, Milan) Large and small scale random forcing concept in magnetohydrodynamic turbulence. (English summary) *Magnetohydrodynamics* **33** (1997), *no.* 3, 217–224 (1998). 76W05 (76F99, 82C28)
Hnid, M. (*with* Galusinski, Cédric; Miranville, Alain) Exponential attractors for nonautonomous partially dissipative equations. (English summary) *Differential Integral Equations* **12** (1999), *no.* 1, 1–22. (Piotr Biler) **99m:35100** 35K55 (34G20, 35B40, 35Q30, 47H20, 58F39, 76D05)
Hnizdo, V. Common misrepresentation of the Einstein-Podolsky-Rosen argument. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 4, 359–369. (Adonai S. Sant'Anna) **99e:81009** 81P05
— Comment on: "An exactly solvable two-body problem with retarded interactions and radiation reaction in classical electrodynamics" [J. Math. Phys. **38** (1997), no. 11, 5690–5706; MR 98j:78018] by R. Rivera and D. Villarroel. *J. Math. Phys.* **39** (1998), *no.* 10, 5663. 78A35
— *see also* **Rivera, R.**
nguyen van Ho *see* **Nguyen Van Ho**
Ho, Alan A note on eigenvalues of ordinary differential operators. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 403–410. (Horst Behncke) **99a:34224** 34L15 (34E20)
Ho, Chih-Chang (*with* Griggs, Jerrold R.) The cycling of partitions and compositions under repeated shifts. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 205–227. (Dennis A. Eichhorn) **99j:05013** 05A17 (11P81)
Ho, Chin-Wen (*with* Peng, Shen Lung; Hsu, Tsan-sheng; Ko, Ming-Tat; Tang, Chuan Yi) A linear-time algorithm for constructing an optimal node-search strategy of a tree. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 279–288, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (05C85, 68R10)
— (*with* Hsieh, Sun-Yuan; Hsu, Tsan-sheng; Ko, Ming-Tat; Chen, Gen-Huey) A new simple parallel tree contraction scheme and its application on distance-hereditary graphs. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 298–309, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (65Y10)
— (*with* Chang, Jou-Ming) Solving the all-pairs-shortest-length problem on chordal bipartite graphs. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 87–93. (Summary) **99i:68091** 68R10 (05C85)
Ho, Ching-Tien (*with* Ding, Kuo-Shun; Tsay, Jyh-Jong) Matrix transpose on meshes with wormhole and *XY* routing. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 41–59. (Summary) **99d:15022** 15A99 (68M10, 68Q22)
— (*with* Kao, Ming-Yang) Efficient submesh permutations in wormhole-routed meshes. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 1–13. (Summary) **99b:68015** 68M10
Ho, Choon-Lin (*with* Chou, Chung-I; Hu, Bambi; Lee, Hsuan) Morse-type Frenkel-Kontorova model. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2747–2756. (Summary) **99a:82040** 82B26 (58F40)
Ho, D. W. C. (*with* Chu, D. L.; Chan, Ho Chung) A general framework for state feedback pole assignment of singular systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 2, 135–152. 93B55 (93C30)
— (*with* Chu, D. L.; Chan, Ho Chung) Regularization of singular systems by derivative and proportional output feedback. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 21–38 (*electronic*). (Li Yi Dai) **99c:93053** 93C15 (93B52)
— (*with* Chu, D. L.) Necessary and sufficient conditions for the output feedback regularization of descriptor systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 405–412. (Maria Letizia Corradini) **99m:93081** 93D15 (93C10, 93C30)
Ho, J. K. (*with* Chern, De-Ching; Nester, James M.) Some spherically symmetric exact solutions of the metric-affine gravity theory. (English summary) *Chinese J. Phys.* **35** (1997), *no.* 6, *part* 1, 640–650. (Summary) **99a:83055** 83D05
Ho, Jeongwon (*with* Kim, Won Tae; Park, Young-Jai) Duality of quasilocal black-hole thermodynamics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1437–1448. (Marco Cavaglià) **99f:83048** 83C57 (83E30)
— (*with* Kang, Gungwon) Superradiance and the statistical-mechanical entropy of rotating BTZ black holes. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 27–35. (Summary) **99k:83071** 83C57
Ho, K. L. (*with* Chan, Shing Chow; Luo, Y.) *M*-channel compactly supported biorthogonal cosine-modulated wavelet bases. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1142–1151. (Summary) **99h:94005** 94A11 (42C15)
Ho, Linda Lee (*with* Singer, Julio Motta) Regression models for bivariate counts. (English summary) *Rebrape* **11** (1997), *no.* 2, 175–197. (Summary) **99a:62100** 62J12 (62D05)
Ho, Lop F. A generalized Pohozaev's identity for a quasilinear elliptic equation and a nonexistence theorem for the Dirichlet problem. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 71–74. (Summary) **99d:35055** 35J65
Ho, Ming-Tzu (*with* Datta, Aniruddha) Partially decentralized adaptive control of interconnected systems with improved performance. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 529–561. 93C40 (93A14)
Ho, Pei-Hsin (*with* Henzinger, Thomas A.; Wong-Toi, Howard) Algorithmic analysis of nonlinear hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 540–554. (*see* **99a:93006**) 93B40 (93C30)
Ho, Pei-Ming (*with* Chu, Chong-Sun; Zumino, Bruno) Some complex quantum manifolds and their geometry. *Quantum fields and quantum space time* (*Cargèse*, 1996), 281–322, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Tomasz Brzeziński) **99c:58012** 58B30 (17B37, 81R50)
— (*with* Li, Miao[1]; Wu, Yong Shi[1]) p-p' strings in M(atrix) theory. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 146–162. (Marco Spaans) **99f:81163** 81T30 (83E30)
— Twisted bundle on quantum torus and BPS states in matrix theory. (English summary) *Phys. Lett. B* **434** (1998), *no.* 1-2, 41–47. (Jihad Mourad) **99j:81140** 81T30 (58B30)
— (*with* Wu, Yi-Yen; Wu, Yong Shi[1]) Towards a noncommutative geometric approach to matrix compactification. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026006, 12 *pp.* (Summary) **99m:81191** 81T30 (58B30)
— (*with* Wu, Yong Shi[1]) Noncommutative gauge theories in matrix theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066003, 6 *pp.* (Summary) **99k:81242** 81T30 (81T13)
Ho, Tin Kam Nearest neighbors in random subspaces. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 640–648, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 62H30
Ho, Tung-Yang (*with* Sung, Ting-Yi; Hsu, Lih-Hsing; Tsai, Chang-Hsiung; Hwang, Jeng-Yan) The recognition of double Euler trails in series-parallel networks. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 216–257. (András Recski) **99m:94072** 94C15 (05C45, 05C85, 68R10)
Ho, Yu Chi (*with* Lee, Loo Hay; Lau, Tak Wing Edward) Explanation of goal softening in ordinal optimization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 94–99. 90C15 (93E20)
— An explanation of ordinal optimization: soft computing for hard problems. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 169–192. 90C90 (90C08)
lê tuân Hoa *see* **Lê Tuân Hoa**
Hoa, Vu Dinh *see* **Vũ Đình Hòa**
Hoag, Jeffrey T. (*with* Amleh, A. M.; Ladas, G.) A difference equation with eventually periodic solutions. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 401–404. (Summary) **99j:39002** 39A10
le thi Hoai An *see* **Le Thi Hoai An**
dinh huy Hoang *see* **Dinh Huy Hoang**
Hoang, H. K. (*with* Gire, F.) An extension of fixpoint logic with a symmetry-based choice construct. (English summary) *Inform. and Comput.* **144** (1998), *no.* 1, 40–65. (Feodor Alexandrovich Murzin) **99m:68061** 68Q15 (03C80, 68P15)
Hoang, Ha V. (*with* Hill, James M.; Dewynne, J. N.) Pseudo-steady-state solutions for solidification in a wedge. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 2,

109–121. (Summary) **99d:80007** 80A22

Hoàng, Viêt Hà (*with* Craster, R. V.) Applications of Fuchsian differential equations to free boundary problems. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1241–1252. (Summary) **99c:34005** 34A20 (30C20, 35R35)

Hoang Duong Tuan (*with* Hosoe, S.) On a state-space approach in robust control for singularly perturbed systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 435–462. (Summary) **99k:93065** 93C70 (34H05, 93B36)

— (*with* Hosoe, S.) On robust $\mathscr{H}_\infty$ control for nonlinear discrete and sampled-data systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 715–718. (Vasile Drăgan) **99d:93020** 93B36 (93C10, 93C57)

Hoang Ngoc Minh, V. Fonctions de Dirichlet d'ordre n et de paramètre t. (French summary) [Dirichlet functions of order n and parameter t] Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 221–241. (Guy Melançon) **99c:05010** 05A15

Hoàng Tụy ★ Convex analysis and global optimization. (English summary) Nonconvex Optimization and its Applications, 22. *Kluwer Academic Publishers, Dordrecht*, 1998. *xii*+339 *pp. ISBN* 0-7923-4818-4 (W. W. Breckner) **99i:90001** 90–02 (26B25, 52A41, 65K05, 90C25)

— (*with* Ghannadan, Saied) A new branch and bound method for bilevel linear programs. (English summary) *Multilevel optimization: algorithms and applications*, 231–249, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:90122** 90C05 (90C08)

— Bilevel linear programming, multiobjective programming, and monotonic reverse convex programming. (English summary) *Multilevel optimization: algorithms and applications*, 295–314, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99a:90135** 90C08 (90C90)

— (*with* Chen, Pey-Chun; Hansen, Pierre; Jaumard, Brigitte) Solution of the multisource Weber and conditional Weber problems by d.-c. programming. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 548–562. (Zeng Kun Xu) **99g:90088** 90C26 (90C08)

Hoarau, S. (*with* Mesnard, F.; Maillard, A.) CLP(χ) for automatically proving program properties. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 77–93. (Summary) **99f:68031** 68N17 (68Q60)

Hoare, C. A. R. Unified theories of programming. (English summary) *Mathematical methods in program development* (*Marktoberdorf*, 1996), 313–367, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 158, *Springer, Berlin*, 1997. (Annabelle McIver) **99k:68108** 68Q60 (68Q55)

Hobart, S. (*with* Ito, Tatsuro) The structure of nonthin irreducible T-modules of endpoint 1: ladder bases and classical parameters. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 53–75. (Paul-Hermann Zieschang) **99a:05144** 05E30

Hobbs, B. E. (*with* Mühlhaus, H.-B.; Sakaguchi, Hide) Evolution of three-dimensional folds for a non-Newtonian plate in a viscous medium. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3121–3143. (From the summary) **99i:76004** 76A05 (73H05)

Hobbs, D. M. (*with* Alvarez, M. M.; Muzzio, F. J.) Mixing in globally chaotic flows: a self-similar process. (English summary) *Fractals* **5** (1997), *no.* 3, 395–425. (Vered Rom-Kedar) **99b:76040** 76F20 (58F40)

— (*with* Muzzio, F. J.) The curvature of material lines in a three-dimensional chaotic flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1942–1952. (Summary) **99e:76062** 76F20 (58F13, 58F40)

Hobbs, M. F. (*with* Bailey, R. N.; Garner, K. M.) Using simulated annealing and genetic algorithms to solve staff scheduling problems. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 27–43. 90C90 (90C27)

Hobert, James P. (*with* Casella, George) Functional compatibility, Markov chains, and Gibbs sampling with improper posteriors. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 1, 42–60. (Summary) **99c:62064** 62F15 (60J05, 65C05)

— (*with* Geyer, Charles J.) Geometric ergodicity of Gibbs and block Gibbs samplers for a hierarchical random effects model. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 414–430. (Christian P. Robert) **99k:62134** 62J10 (62C05)

Hobijn, Bart (*with* Franses, Philip Hans) Increasing seasonal variation; unit roots versus shifts in mean and trend. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 255–261. 62M10

Hobson, David G. Volatility misspecification, option pricing and superreplication via coupling. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 193–205. (Summary) **99a:90040** 90A09

— (*with* Rogers, L. C. G.) Complete models with stochastic volatility. (English summary) *Math. Finance* **8** (1998), *no.* 1, 27–48. (Walter Schachermayer) **99i:90016** 90A09

Hochbaum, Dorit S. Instant recognition of half integrality and 2-approximations. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 99–110, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (*see* **99i:68002**) 90C10 (68Q25)

— Approximating clique and biclique problems. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 174–200. (Summary) **99e:68069** 68Q25 (05C85, 68R10)

— (*with* Pathria, Anu) Analysis of the greedy approach in problems of maximum k-coverage. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 615–627. (Summary) **99f:90161** 90C35

— (*with* Chudak, Fabián A.; Goemans, Michel X.; Williamson, David P.) A primal-dual interpretation of two 2-approximation algorithms for the feedback vertex set problem in undirected graphs. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 111–118. (Xue Liang Li) **99i:90107** 90C35 (90C27)

Hochberg, David (*with* Visser, Matt) Dynamic wormholes, antitrapped surfaces, and energy conditions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044021, 14 *pp.* (Summary) **99m:83173** 83E05 (83C15)

— (*with* Visser, Matt) Null energy condition in dynamic wormholes. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 4, 746–749. (Summary) **99c:83070** 83C75 (83E05)

— (*with* Molina-París, Carmen; Pérez-Mercader, Juan; Visser, Matt) Zeta functions, renormalization group equations, and the effective action. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 22, 4802–4805. (Summary) **99h:81140** 81T16 (81T17)

Hochberg, Kenneth J. (*with* Dawson, Donald A.; Vinogradov, V. V.) The Wiener process revisited. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 43–50, *World Sci. Publishing, River Edge, NJ*, 1996. (Karl Grill) **99a:60027** 60F15 (60G15, 60J65)

Hochberg, Yosef (*with* Benjamini, Yoav) Multiple hypotheses testing with weights. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 407–418. (František Rublík) **99d:62046** 62G10 (62F03)

Hochbruck, Marlis A numerical comparison of look-ahead Levinson and Schur algorithms for non-Hermitian Toeplitz systems. (English summary) *High performance algorithms for structured matrix problems*, 127–148, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65F30

— (*with* Lubich, Christian; Selhofer, Hubert) Exponential integrators for large systems of differential equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1552–1574 (*electronic*). (Xin Yuan Wu) **99f:65101** 65L05

Hocherman, Judith (*with* Kulkarni, Sanjeev R.; Ramadge, Peter J.) Controller switching based on output prediction errors. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 596–607. (Jacek Kabziński) **99d:93045** 93C57 (93D15)

— (*with* Kogan, Jacob; Leizarowitz, Arie; Zeheb, Ezra) Robust stability of quasipolynomials with annular uncertainties. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 1, 77–92. (Summary) **99f:93110** 93D09

— (*with* Kulkarni, Sanjeev R.; Ramadge, Peter J.) Controller switching based on output predictions. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 135–149, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C30 (93C83)

Hochmuth, Reinhard A-posteriori estimates and adaptive schemes for transmission problems. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 1, 1–50. (Mohammad Asadzadeh) **99f:65158** 65N15 (35J05, 45F15, 45L05, 65R20)

— A φ-transform result for spaces with dominating mixed smoothness properties. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 106–119. (Cristian E. Gutiérrez) **99g:42028** 42B30 (46E35, 46F05)

Hochstättler, Winfried A lattice-theoretical characterization of oriented matroids. (English summary) *European J. Combin.* **18** (1997), *no.* 5, 563–574. (Summary) **99b:05029** 05B35

— (*with* Faigle, Ulrich; Fekete, Sándor P.; Kern, Walter) On approximately fair cost allocation in Euclidean TSP games. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 29–37. (Hans Peters) **99h:90118** 90D06 (90C27, 90D12, 90D46)

— (*with* Blasum, Ulrich; Bussieck, Michael R.; Moll, Christoph; Scheel, Hans-Helmut; Winter, Thomas) Scheduling trams in the morning. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 137–148. (Summary) **99m:90083** 90B35 (90C27)

Hochwald, Bertrand M. (*with* Jelenković, Predrag R.) State learning and mixing in entropy of hidden Markov processes and the Gilbert-Elliott channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 128–138. (Summary) **99k:94028** 94A40 (60J20)

Hocking, Graeme C. (*with* Forbes, Lawrence K.) Withdrawal from a two-layer inviscid fluid in a duct. (English summary) *J. Fluid Mech.* **361** (1998), 275–296. (Summary) **99a:76157** 76V05 (76B99)

Hocking, L. M. (*with* Debler, W. R.; Cook, K. E.) The growth of leading-edge distortions on a viscous sheet. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 307–313. 76D99

Hocquemiller, Marcel Contribution numérique à l'étude d'un système congruentiel. [Numerical contribution to the study of a congruent system] *Publications du Centre de Recherches en Mathématiques Pures. Sér. I, Fasc.* 22, 1–9, *Publ. Cent. Rech. Math. Pures Sér. I*, 22, *Univ. Neuchâtel, Neuchâtel*, 1991. (*see* **99f:11004**) 11Y50 (11D41)

Hod, Shahar (*with* Piran, Tsvi) Late-time evolution of charged gravitational collapse and decay of charged scalar hair. I. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024017, 6 *pp.* 83C57

— (*with* Piran, Tsvi) Late-time evolution of charged gravitational collapse and decay of charged scalar hair. II. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024018, 6 *pp.* 83C57

— (*with* Piran, Tsvi) Late-time evolution of charged gravitational collapse and decay of charged scalar hair. III. Nonlinear analysis. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024019, 6 *pp.* 83C57

— Late-time evolution of realistic rotating collapse and the no-hair theorem. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104022, 7 *pp.* (Summary) **99k:83072** 83C57

— Bohr's correspondence principle and the area spectrum of quantum black holes. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 20, 4293–4296. (Summary) **99f:83049** 83C57

— Best approximation to a reversible process in black-hole physics and the area spectrum of spherical black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 024014, 4 *pp.* 83C57

Hodaka, Ichijyo (*with* Suzuki, Masayuki; Sakamoto, Noboru) Loopshaping by quadratic constraints on open-loop transfer functions. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 416–431, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93C80)

Hodel, R. E. Neighborhood assignments and cardinal functions: a unified approach to metrization and uniformity. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 31–56. (A. H. Stone) **99j:54007** 54A25 (54D70, 54E05, 54E15, 54E35)

Hodges, Andrew P. The twistor diagram programme. (English summary) *The geometric universe* (*Oxford*, 1996), 257–263, *Oxford Univ. Press, Oxford*, 1998. (Andreas Bette) **99e:81085** 81R25 (32A27, 81Q30, 81T18)

Hodges, Dewey H. (*with* Volovoi, Vitali V.; Berdichevskiĭ, V. L.; Sutyrin, Vladislav G.) Asymptotic theory for static behavior of elastic anisotropic I-beams. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 7, 1017–1043. (Summary) **99i:73045** 73K05

Hodges, James S. Some algebra and geometry for hierarchical models, applied to diagnostics. (English summary) With discussion and a reply by the author. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 3, 497–536. (Summary) **99a:62030** 62F15 (62J10)

Hodges, Timothy J. (*with* Giaquinto, Anthony) Nonstandard solutions of the Yang-Baxter equation. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 67–75. (Tomasz Brzeziński) **99h:81086** 81R50 (16W30, 17B37)

— The Cremmer-Gervais solution of the Yang-Baxter equation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1819–1826. (Andrey V. Tsiganov) **99i:81102** 81R50 (17B37, 82B23)

Hodges, Wilfrid Some strange quantifiers. (English summary) *Structures in logic and computer science*, 51–65, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Martin Weese) **99i:03044** 03C80
— An editor recalls some hopeless papers. *Bull. Symbolic Logic* **4** (1998), *no.* 1, 1–16. (Stewart Shapiro) **99c:03007** 03A05
Hodgson, Bernard R. (*with* de Guzmán, Miguel; Robert, Aline; Villani, Vinicio) Difficulties in the passage from secondary to tertiary educ :tion. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 747–762 (*electronic*). (*see* **99e:00025**) 00A35
Hodgson, Craig D. (*with* Kerckhoff, Steven P.) Rigidity of hyperbolic cone-manifolds and hyperbolic Dehn surgery. *J. Differential Geom.* **48** (1998), *no.* 1, 1–59. (Athanase Papadopoulos) **99b:57030** 57M50 (53C21)
Hodgson, David A. (*with* Amos, Martyn; Wilson, Steve D.; Owenson, Gerald; Gibbons, Alan) Practical implementation of DNA computations. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 1–18, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05
— (*with* Amos, Martyn; Gibbons, Alan) Error-resistant implementation of DNA computations. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 151–161, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)
Hodgson, Douglas J. Adaptive estimation of error correction models. (English summary) *Econometric Theory* **14** (1998), *no.* 1, 44–69. (Bert M. Steece) **99m:62161** 62P20 (62M10)
— Adaptive estimation of cointegrating regressions with ARMA errors. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 231–267. (Summary) **99b:62132** 62M10 (62P20)
Hodgson, Kahlil Shortest single axioms for the equivalential calculus with CD and RCD. (English summary) *J. Automat. Reason.* **20** (1998), *no.* 3, 283–316. (A. Tauts) **99k:03010** 03B05 (03B35)
Hodgson, S. P. (*with* Stoten, D. P.) Passivity-based analysis of the minimal control synthesis algorithm. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 67–84. 93B50 (93B40)
— (*with* Stoten, D. P.) Passivity-based analysis of the decentralized and extended minimal control synthesis algorithms. (English summary) *Internat. J. Control* **69** (1998), *no.* 5, 633–646. 93B51
— (*with* Stoten, D. P.) Robustness of the minimal control synthesis algorithm with minimal phase plant dynamics of unknown order but known relative degree. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 1–17. 93D09 (93B51)
Hodkinson, Ian Atom structures of cylindric algebras and relation algebras. (English summary) *Ann. Pure Appl. Logic* **89** (1997), *no.* 2-3, 117–148. (S. Comer) **99c:03103** 03G15 (03C05, 03C25, 06E25)
Hodnett, P. F. (*with* Yuan, Yong) Effect of small thermal diffusion in a zonally uniform ocean model. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 2, 193–207. 86A05
Hoede, Cornelis (*with* Göbel, F.) Magic labelings of graphs. (English summary) *Ars Combin.* **51** (1999), 3–19. (Hung-Lin Fu) **99m:05142** 05C78
— A comparison of some conditions for non-Hamiltonicity of graphs. (English summary) *Ars Combin.* **51** (1999), 149–159. 05C45
— (*with* Broersma, H. J.) Another equivalent of the graceful tree conjecture. (English summary) *Ars Combin.* **51** (1999), 183–192. (Summary) **99j:05166** 05C78 (05C05)
ver Hoef, Jay M. *see* **Ver Hoef, Jay M.**
Hoefer, Carl Absolute versus relational spacetime: for better or worse, the debate goes on. (English summary) *British J. Philos. Sci.* **49** (1998), *no.* 3, 451–467. (Summary) **99j:00003** 00A30 (00A79, 83C99)
Hoehnke, Hans-Jürgen Invariants of algebras and finite groups. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 277–283. (*see* **99e:00015**) 20C15 (16B99)
— Categories, fractegories, fractal lax functors. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 357–364. (Kimmo I. Rosenthal) **99e:18006** 18C10 (08A55)
van der Hoek, John (*with* Elliott, Robert J.) A finite-dimensional filter for hybrid observations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 736–739. (Summary) **99a:93099** 93E11
— (*with* Dragomir, Sever Silvestru) Some new analytic inequalities and their applications in guessing theory. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 542–556. (Yong Ping Liu) **99g:26042** 26D15
van der Hoek, Wiebe (*with* Witteveen, Cees) A general framework for revising nonmonotonic theories. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 258–272, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (*see* **99a:68011**) 68T27
— (*with* van Eijk, Rogier M.; de Boer, Frank S.; Meyer, John-Jules Ch.) A language for modular information-passing agents. (English summary) *CWI Quarterly* **11** (1998), *no.* 2-3, 273–297. (Summary) **99j:68130** 68T25 (68Q10)
— (*with* van Linder, B.; Meyer, John-Jules Ch.) Formalising abilities and opportunities of agents. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 53–101. (Summary) **99g:68193** 68T27 (03B70)
Hoekstra, Alfons (*with* Kandhai, D.; Koponen, A.; Kataja, M.; Timonen, Jussi; Sloot, P. M. A.) Implementation aspects of 3D lattice-BGK: boundaries, accuracy, and a new fast relaxation method. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 482–501. (Summary) **99m:76093** 76M25
Hoekstra, Hugo J. W. M. (*with* Valkering, Theo P.; de Boer, Pieter-Tjerk) Soliton switching in directional couplers. (English summary) *Japan J. Indust. Appl. Math.* **16** (1999), *no.* 1, 65–99. (Summary) **99k:78031** 78A60 (35Q55)
Hoene, Albrecht (*with* Buhrman, Harry; Torenvliet, Leen) Splittings, robustness, and structure of complete sets. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 637–653 (*electronic*). (Uwe Schöning) **99d:68079** 68Q15 (03D15, 03D20)
Hoenselaers, C. Factor structure of rational electrovacuum metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, 2627–2633. (Nora Bretón Báez) **99b:83019** 83C20 (83C15)
Hoepman, Jaap-Henk (*with* Buhrman, Harry; Franklin, Matthew; Garay, Juan A.; Tromp, John; Vitányi, Paul) Mutual search (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 481–489, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q10 (68R10)
— Self-stabilizing ring orientation using constant space. (English summary) *Inform. and Comput.* **144** (1998), *no.* 1, 18–39. (Summary) **99b:68016** 68M10
Hoeppner, Sabine Differential equations with 2-term recursion. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 349–362. (K. Kiyek) **99g:12007** 12H20 (12H25, 33C99)
van Hoesel, Stan *see* **Van Hoesel, Stan**
van der Hoeven, Joris ★ Asymptotique automatique. (English and French summaries) [Automatic asymptotics] Thèse, Université Paris VII, Paris, 1997. With an introduction and a conclusion in French. *Université Paris VII, Paris*, 1997. vi+405 *pp.* (Éric Delabaere) **99h:34078** 34E05 (12H20, 39B32, 41A58)
— Generic asymptotic expansions. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 1, 25–44. (Igor E. Shparlinski) **99c:11158** 11Y16 (12Y05, 26A12, 68Q40)
— Fast evaluation of holonomic functions. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 199–215. (Summary) **99h:65046** 65E05 (65D20, 68Q25)
Hoever, Georg On the spectrum of two-dimensional Schrödinger operators with spherically symmetric, radially periodic magnetic fields. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 879–890. (Rainer Hempel) **99e:81048** 81Q10 (35J10, 35L40)
Hof, A. Diffraction by aperiodic structures. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 239–268, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Mihail N. Kolountzakis) **99b:82085** 82D25
— Uniform distribution and the projection method. (English summary) *Quasicrystals and discrete geometry* (*Toronto, ON*, 1995), 201–206, *Fields Inst. Monogr.*, 10, *Amer. Math. Soc., Providence, RI*, 1998. (Irene Hueter) **99g:54037** 54H20 (22D40, 52C07)
— Percolation on Penrose tilings. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 166–177. (Olle Häggström) **99d:60109** 60K35 (52C20, 82B43)
van 't Hof, Bastiaan ★ Numerical aspects of laminar flame simulation. (Dutch summary) Dissertation, Eindhoven University of Technology, Eindhoven, 1998. *Eindhoven University of Technology, Eindhoven*, 1998. 152 *pp. ISBN* 90-386-0641-9 (J. D. P. Donnelly) **99m:80004** 80–08 (65M50, 80A25)
— (*with* Anthonissen, M. J. H.; Reusken, A. A.) A finite volume scheme for solving elliptic boundary value problems on composite grids. (English summary) *Computing* **61** (1998), *no.* 4, 285–305. (Shu-Sen Xie) **99m:65207** 65N30 (65N50)
van den Hof, J. M. Structural identifiability of linear compartmental systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 6, 800–818. (P. Bertrand) **99c:93031** 93B30 (93E12)
— (*with* Picci, Giorgio; van Schuppen, J. H.) Primes in several classes of the positive matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 149–185. (D. J. Hartfiel) **99f:15019** 15A23 (15A48, 15A51)
— Positive linear observers for linear compartmental systems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 590–608 (*electronic*). (M. J. Chappell) **99b:93015** 93B07 (93B30)
Hof, M. B. (*with* Zwart, H. J.) Zeros of infinite-dimensional systems. Distributed parameter systems: analysis, synthesis and applications, Part 1. *IMA J. Math. Control Inform.* **14** (1997), *no.* 1, 85–94. (Introduction) **99a:93055** 93C25 (93B28, 93B55)
van den Hof, Paul M. J. *see* **Van den Hof, Paul M. J.**
Hofacker, Ivo L. (*with* Schuster, Peter Karl; Stadler, Peter F.) Combinatorics of RNA secondary structures. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 207–237. (Michael A. Steel) **99k:92018** 92D20 (05A16, 05C30)
Hofbauer, Franz (*with* Raith, Peter) Density of periodic orbit measures for transformations on the interval with two monotonic pieces. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 221–234. (Anthony Quas) **99f:58125** 58F11 (58F03)
Hofbauer, Josef (*with* So, Joseph W.-H.; Takeuchi, Yasuhiro) Global stability of competition in a spatially heterogeneous environment. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 213–223. (Peter Moson) **99k:92030** 92D25 (34D99)
— (*with* Sigmund, Karl) ★ Evolutionary games and population dynamics. (English summary) *Cambridge University Press, Cambridge*, 1998. *xxviii*+323 *pp. ISBN* 0-521-62365-0; 0-521-62570-X (Gabriela Kirlinger) **99h:92027** 92D25 (34C35, 34D99, 90–02, 92–02, 92D40)
Hofer, Helmut H. W. (*with* Wysocki, K.; Zehnder, E.) Correction to: "Properties of pseudoholomorphic curves in symplectisations. I. Asymptotics" [Ann. Inst. H. Poincaré Anal. Non Linéaire **13** (1996), no. 3, 337–379; MR 97e:58029]. (English summary) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **15** (1998), *no.* 4, 535–538. (Summary) **99e:58026** 58D10 (58F05)
— (*with* Wysocki, K.; Zehnder, E.) The dynamics on three-dimensional strictly convex energy surfaces. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 1, 197–289. (Matthias Schwarz) **99m:58089** 58F05 (58D10, 58F22)
— Dynamics, topology, and holomorphic curves. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 255–280 (*electronic*). (Joa Weber) **99k:58028** 58D10 (58F05, 58F22)
Höfer, Roland On the geometry of hyperbolic cycles. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 169–180. (Lovejoy S. K. Das) **99i:51005** 51B25 (51B15, 51M10, 83C20)
— Kennzeichnungen hyperbolischer Bewegungen durch Lineationen. (English summary) [Characterizations of hyperbolic motions by lineations] *J. Geom.* **61** (1998), *no.* 1-2, 56–61. (F. A. Sherk) **99a:51012** 51M10
Hofer-Szabó, Gábor Reichenbach's common cause definition on Hilbert lattices. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 435–442. (Sylvia Pulmannová) **99h:81018** 81P10 (03G12)
Hoff, David The zero-Mach limit of compressible flows. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 543–554. (Benoît P. Desjardins) **99e:35175** 35Q30 (76N10)
— On the transformation of discontinuity waves from spatial to pressure coordinates for the primitive system of geophysical fluid dynamics. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 398–414. (From the introduction) **99g:76031** 76C99 (35Q35, 76U05, 86A05)
— Global solutions of the equations of one-dimensional, compressible flow with large data and forces, and with differing end states. (English summary) *Z. Angew. Math. Phys.* **49**

(1998), *no.* 5, 774–785. (Benoît P. Desjardins) **99m:35186** 35Q30 (76N10)

— (*with* Ziane, Mohammed) Compact attractors for the Navier-Stokes equations of one-dimensional, compressible flow. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 239–244. (Summary) **99k:35143** 35Q30 (34G20, 35B40, 58F39, 76N10)

Hoff, Joseph W. (*with* Weinstein, Steven J.; Ross, David S.) Time-dependent equations governing the shape of a three-dimensional liquid curtain. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1815–1818. (Summary) **99e:76016** 76B99 (76B45, 76D33)

Höffe, M. (*with* Richard, Christoph; Hermisson, J.; Baake, Michael) Random tilings: concepts and examples. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6385–6408. (Richard Kenyon) **99g:82033** 82B41 (52C20, 82D25)

Hoffman, Alan J. (*with* Coppersmith, Don; Rothblum, Uriel G.) Inequalities of Rayleigh quotients and bounds on the spectral radius of nonnegative symmetric matrices. (English summary) *Linear Algebra Appl.* **263** (1997), 201–220. (Summary) **99c:65067** 65F15 (15A42)

Hoffman, Christopher Unpredictable nearest neighbor processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 4, 1781–1787. (Olle Häggström) **99m:60060** 60G07 (60G25)

Hoffman, Corneliu (*with* Guralnick, Robert M.) The first cohomology group and generation of simple groups. (English summary) *Groups and geometries* (*Siena*, 1996), 81–89, *Trends Math., Birkhäuser, Basel*, 1998. (Andrea Lucchini) **99h:20087** 20J06 (20D08)

Hoffman, David A. (*with* Rossman, Wayne) Limit surfaces of Riemann examples. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 161–171. (Rabah Souam) **99h:53008** 53A10 (49Q05)

Hoffman, David K. (*with* Kouri, Donald J.; Huang, Youhong) Time-independent wavepacket quantum mechanics. *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 83–101, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Vladimir Georgescu) **99g:81225** 81U05 (81Q15)

— (*with* Wei, Guo Wei[2]; Zhang, De Sheng; Althorpe, S. C.; Kouri, Donald J.) Wavelet-distributed approximating functional method for solving the Navier-Stokes equation. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 18–24. (Summary) **99h:76077** 76M25 (65M70, 76D05)

Hoffman, Dean G. (*with* Kirkpatrick, Kimberly S.) G-designs of order n and index λ where G has 5 vertices or less. (English summary) *Australas. J. Combin.* **18** (1998), 13–37. (Chris Rodger) **99i:05054** 05B30

— (*with* Khodkar, A.) On the non-existence of Steiner $(v, k, 2)$ trades with certain volumes. (English summary) *Australas. J. Combin.* **18** (1998), 303–311. (Summary) **99f:05017** 05B05

— (*with* Pike, David A.) 4-cycle decompositions of the Cartesian product of two complete graphs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 215–226. (Summary) **99i:05166** 05C70 (05C38)

— (*with* Johnson, Peter D., Jr.) Covering numbers and list-colorings of $K_{n,n}$. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 13–22. (W. H. Mills) **99f:05027** 05B40 (05A05, 05C15)

— (*with* Johnson, Peter D., Jr.) Greedy colorings and the Grundy chromatic number of the n-cube. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 49–57. 05C15

— (*with* Billington, Elizabeth J.; Maenhaut, Barbara M.) Group divisible pentagon systems. (English summary) *Util. Math.* **55** (1999), 211–219. (Summary) **99m:05038** 05B30

Hoffman, Frederick Introduction and history. (English summary) *Mathematical aspects of artificial intelligence* (*Orlando, FL*, 1996), 1–18, *Proc. Sympos. Appl. Math.*, 55, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68162**) 68–03 (01A60, 90–03)

— *see also* **Mathematical aspects of artificial intelligence, 99g:68162**

Hoffman, James A. There are no strict great x-cycles after a reducing or P^2 surgery on a knot. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 5, 549–569. (Daniel Matignon) **99h:57008** 57M25 (57N10)

Hoffman, Michael E. The algebra of multiple harmonic series. (English summary) *J. Algebra* **194** (1997), *no.* 2, 477–495. (Summary) **99e:11119** 11M41 (05E05)

— The bull and the silo: an application of curvature. *Amer. Math. Monthly* **105** (1998), *no.* 1, 55–58. (H. W. Guggenheimer) **99a:53002** 53A04 (52A38)

Hoffman, Paul *see* **Cohen, Marion**

Hoffmann, Armin (*with* Ginchev, I.) The Hausdorff nearest circle to a convex compact set in the plane. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 479–499. (Marek Lassak) **99e:52003** 52A10 (52A27)

Hoffmann, Berthold (*with* Andries, Marc; Engels, Gregor; Habel, Annegret; Kreowski, Hans-Jörg; Kuske, Sabine; Plump, Detlef; Schürr, Andy; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Hoffmann, Christoph M. (*with* Lomonosov, Andrew; Sitharam, Meera) Geometric constraint decomposition. *Geometric constraint solving and applications*, 170–195, *Springer, Berlin*, 1998. (*see* **99e:68167**) 68U05 (65Y25, 68U07)

— (*with* Várady, Tamás) Vertex blending: problems and solutions. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 501–527, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65058** 65D17

— *see also* **Applied computational geometry, 99b:68003**

Hoffmann, Detlev W. Similarity of quadratic forms and half-neighbors. *J. Algebra* **204** (1998), *no.* 1, 255–280. (Adrian R. Wadsworth) **99g:11046** 11E04

— On Elman and Lam's filtration of the u-invariant. *J. Reine Angew. Math.* **495** (1998), 175–186. (Adrian R. Wadsworth) **99d:11037** 11E81 (11E04)

— Splitting patterns and invariants of quadratic forms. (English summary) *Math. Nachr.* **190** (1998), 149–168. (Adrian R. Wadsworth) **99g:11047** 11E04

Hoffmann, Frank (*with* Icking, Christian; Klein, Rolf; Kriegel, Klaus) Moving an angle around a region. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 71–82, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68192** 68U05

— (*with* Kriegel, Klaus; Wenk, Carola) An applied point pattern matching problem: comparing 2D patterns of protein spots. (English summary) 13th European Workshop on Computational Geometry CG'97 (Würzburg, 1997). *Discrete Appl. Math.* **93** (1999), *no.* 1, 75–88. (*see* **99k:00039**) 92D20 (68U05, 92C15)

Hoffmann, Jörg (*with* Prätzel-Wolters, Dieter; Zerz, Eva) A balanced canonical form for discrete-time minimal systems using characteristic maps. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 63–81. (K. B. Datta) **99g:93017** 93B10 (15A21, 93C55)

Hoffmann, Karl-Heinz[1] (*with* Starovoĭtov, V. N.) The Stefan problem with surface tension and convection in Stokes fluid. *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 173–183. (Angela Pawell) **99d:35185** 35R35 (35Q30, 76D07, 76D45, 80A22)

— (*with* Starovoĭtov, V. N.) Phase transitions of liquid-liquid type with convection. *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 185–198. (Angela Pawell) **99d:35186** 35R35 (35Q30, 76D07, 76D45, 80A22)

— (*with* Rybka, Piotr) Convergence of solutions to the equation of quasi-static approximation of viscoelasticity with capillarity. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 61–81. (Ming Mei) **99h:35146** 35L75 (35Q72, 73F15)

— (*with* Anderssen, Robert S.; Götz, Ivan G.) The global behavior of elastoplastic and viscoelastic materials with hysteresis-type state equations. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 703–723 (*electronic*). (Martin Brokate) **99a:73062** 73E50 (35Q72, 47H20, 47H30, 73F15)

— (*with* Botkin, Nikolai D.) Oscillations of nonlinear thin plates excited by piezoelectric patches. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 7, 495–503. (Introduction) **99d:73056** 73K10 (73D35, 73K50, 73R05)

Hoffmann, Miklós On the theorems of central axonometry. (English summary) *J. Geom. Graph.* **1** (1997), *no.* 2, 151–155. (Summary) **99c:51029** 51N05

— (*with* Várady, Lajos) Free-form surfaces for scattered data by neural networks. (English summary) *J. Geom. Graph.* **2** (1998), *no.* 1, 1–6. 68U05 (65D17)

Hoffmann, N. (*with* Jahnel, Jörg; Stuhler, U.) Generalized vector bundles on curves. *J. Reine Angew. Math.* **495** (1998), 35–60. (Aigli Papantonopoulou) **99a:14044** 14H60

Hoffmann, Norbert (*with* Busse, F. H.; Chen, W.-L.) Transitions to complex flows in the Ekman-Couette layer. (English summary) *J. Fluid Mech.* **366** (1998), 311–331. (Summary) **99c:76045** 76E10 (76U05)

Hoffmann, Tim Discrete rotational CMC surfaces and the elliptic billiard. (English summary) *Mathematical visualization* (*Berlin*, 1997), 117–124, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65Y25

Hoffmann, Walter (*with* de Swart, Jacques J. B.) Approximating Runge-Kutta matrices by triangular matrices. (English summary) *BIT* **37** (1997), *no.* 2, 346–354. (Summary) **99f:65115** 65L06

— The Gauss-Huard algorithm and LU factorization. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 281–286. (*see* **99a:00039**) 65F05 (15A23)

Hoffmann-Jørgensen, Jørgen Convergence in law of random elements and random sets. *High dimensional probability* (*Oberwolfach*, 1996), 151–189, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Miguel A. Arcones) **99h:60007** 60B10 (60B05, 60D05)

Hoffmann-Ostenhof, M. (*with* Hoffmann-Ostenhof, T.; Nadirashvili, Nikolai) On the nodal line conjecture. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 33–48, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Vitaly A. Volpert) **99c:35045** 35J25 (35B99, 35P99)

Hoffmann-Ostenhof, T. (*with* Hoffmann-Ostenhof, M.; Nadirashvili, Nikolai) On the nodal line conjecture. (English summary) *Advances in differential equations and mathematical physics* (*Atlanta, GA*, 1997), 33–48, *Contemp. Math.*, 217, *Amer. Math. Soc., Providence, RI*, 1998. (Vitaly A. Volpert) **99c:35045** 35J25 (35B99, 35P99)

Hoffstätter, Georg (*with* Berz, Martin) Computation and application of Taylor polynomials with interval remainder bounds. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 83–97. (Summary) **99c:65024** 65D15 (65G10)

Höfling, Burkhard Periodic radical products of two locally nilpotent subgroups. *Glasgow Math. J.* **40** (1998), *no.* 2, 241–255. (Silvana Franciosi) **99g:20068** 20F19 (20D40)

— On the number of conjugacy classes of maximal subgroups in a finite soluble group. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 1, 1–8. (H. Bechtell) **99i:20025** 20D10

Hofman, Christiaan (*with* Zwart, Gysbert; Verlinde, E. P.) U-duality invariance of the four-dimensional Born-Infeld theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 20, 10 *pp.* (*electronic*). (C. Gauthier) **99k:81243** 81T30

— (*with* Park, Jae-Suk) Monads, strings, and M-theory. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 229–260. (Marco Spaans) **99k:81244** 81T30 (58D27)

Hofmann, Bernd (*with* Tautenhahn, Ulrich) On ill-posedness measures and space change in Sobolev scales. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 979–1000. (Otmar Scherzer) **99d:65191** 65J20 (46N40, 47A50, 47B38)

— Approximation of the inverse electrical impedance tomography problem by an inverse transmission problem. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1171–1187. (Viatcheslav I. Priĭmenko) **99j:78021** 78A45 (35R30, 44A12, 78–08, 92C55)

— (*with* Scherzer, Otmar) Local ill-posedness and source conditions of operator equations in Hilbert spaces. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1189–1206. (V. V. Vasin) **99j:65106** 65J20 (47H17, 65J15)

Hofmann, Karl H. (*with* Morris, Sidney A.; Nickolas, Peter; Pestov, Vladimir G.) Small large subgroups of a topological group. (English summary) *Note Mat.* **14** (1994), *no.* 2, 161–165 (1997). (Michael Tkačenko) **99a:22005** 22A05 (54H11)

— (*with* Mislove, Michael W.) Principles underlying the degeneracy of topological models of the untyped lambda calculus. *Semigroup theory and its applications* (*New Orleans, LA*, 1994), 123–155, *London Math. Soc. Lecture Note Ser.*, 231, *Cambridge Univ. Press, Cambridge*, 1996. (Vladimiro Sassone) **99c:03014** 03B40 (54D30, 68Q55)

— (*with* Morris, Sidney A.) ★ The structure of compact groups. A primer for the student—a handbook for the expert. de Gruyter Studies in Mathematics, 25. *Walter de Gruyter & Co., Berlin*, 1998. *xviii*+835 *pp. ISBN* 3-11-015268-1 (Alexander Isaakovich Shtern) **99k:22001** 22–02 (22C05)

— (*with* Hazod, W.; Scheffler, Hans-Peter; Wüstner, Michael; Zeuner, Hansmartin) Normalizers of compact subgroups, the existence of commuting automorphisms, and applications to operator semistable measures. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 189–209. (Aleksy Tralle) **99j:22008** 22E15 (22E30, 60B15)

Hofmann, Mark C. (*with* Bechtell, H.) Kernels of formations. (English summary) *Problems in algebra, No.* 9 (*Russian*), 15–37, *Gomel. Gos. Univ., Gomel'*, 1996. (Martyn R. Dixon) **99h:20025** 20D10 (20D25, 20F17)

Hofmann, Martin ★ Extensional constructs in intensional type theory. (English summary) CPHC/BCS Distinguished Dissertations. *Springer-Verlag London, Ltd., London*, 1997.

xii+214 pp. *ISBN* 3-540-76121-7 (Mohamed Amer) **99i:03007** 03B15 (03B70, 68N15, 68Q55)

— Syntax and semantics of dependent types. *Semantics and logics of computation* (*Cambridge*, 1995), 79–130, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 03B70 (68N15, 68Q55)

— An application of category-theoretic semantics to the characterisation of complexity classes using higher-order function algebras. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 4, 469–486. (Summary) **99f:03050** 03D15 (03B40, 03F30, 68Q15)

Hofmann, Steve Parabolic singular integrals of Calderón-type, rough operators, and caloric layer potentials. *Duke Math. J.* **90** (1997), *no.* 2, 209–259. (Rodolfo Torres) **99b:42018** 42B20 (35K05, 42B25, 47G10)

— (*with* Lewis, John L.) The L^p Neumann and regularity problems for the heat equation in non-cylindrical domains. (English summary) *Journées "Équations aux Dérivées Partielles"* (*Saint-Jean-de-Monts*, 1998), *Exp. No. VI*, 7 *pp.*, *Univ. Nantes, Nantes*, 1998. (*see* **99d:35002**) 35K05

Hofmann, Thomas (*with* Buhmann, Joachim M.) Competitive learning algorithms for robust vector quantization. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1665–1675. (Summary) **99j:94007** 94A12 (92B20, 94A29)

Hofmeister, Gerd Extremal Frobenius numbers in a class of sets. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 5, 357–365. (Georges Grekos) **99c:11026** 11D04

Hofmeister, Michael On the two largest eigenvalues of trees. (English summary) *Linear Algebra Appl.* **260** (1997), 43–59. (J. Richard Lundgren) **99c:05134** 05C50

— A note on counting connected graph covering projections. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 286–292 (*electronic*). (T. R. S. Walsh) **99b:05038** 05C10 (05C50, 57M15)

Hofmeister, Thomas (*with* Lefmann, Hanno) A combinatorial design approach to MAXCUT. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 163–175. (Summary) **99c:05185** 05C85

— (*with* Lefmann, Hanno) Approximating maximum independent sets in uniform hypergraphs. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 562–570, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C65, 05C85, 68Q25)

— (*with* Bertram-Kretzberg, Claudia; Lefmann, Hanno) Sparse 0-1-matrices and forbidden hypergraphs (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 181–187, *ACM, New York*, 1998. (*see* **99d:68011**) 05C65

— (*with* Lefmann, Hanno) On k-partite subgraphs. (English summary) *Ars Combin.* **50** (1998), 303–308. (Summary) **99i:05111** 05C35

Hofri, Micha (*with* Thomson, David L.) Matrix transposition on a mesh with blocking transmissions. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 561–566. (Editors) **99m:65084** 65F30 (65Y05)

— (*with* Coffman, E. G., Jr.; Flajolet, Philippe; Flatto, Leopold) The maximum of a random walk and its application to rectangle packing. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 373–386. (Ren Ding) **99f:60127** 60J15 (52C15)

Hofschuster, Werner (*with* Krämer, Walter Stephan) A computer oriented approach to get sharp reliable error bounds. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 239–248. (Summary) **99a:65062** 65G10

van der Hofstad, R. W. ★ One-dimensional random polymers. (English summary) CWI Tract, 123. *Stichting Mathematisch Centrum, Centrum voor Wiskunde en Informatica, Amsterdam*, 1998. *vi*+165 *pp.* *ISBN* 90-6196-481-4 (Wolfgang König) **99m:82026** 82B41 (60F10, 60J15, 60J55, 82D60)

— The constants in the central limit theorem for the one-dimensional Edwards model. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1295–1310. (Summary) **99b:82075** 82C31 (60K35)

— (*with* den Hollander, Frank; Slade, Gordon) A new inductive approach to the lace expansion for self-avoiding walks. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 2, 253–286. (Neal Madras) **99j:82043** 82B41 (60J15, 60K35)

Hogan, Joseph (*with* Yao, Qing; Wei, Lee Jen) Analysis of incomplete repeated measurements with dependent censoring times. (English summary) *Biometrika* **85** (1998), *no.* 1, 139–149. (Summary) **99d:62095** 62P10

Hogan, P. A. (*with* Barrabès, C.; Bressange, G. F.) Colliding plane waves in Einstein-Maxwell theory. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 263–265. (J. B. Griffiths) **99b:83023** 83C22 (83C35)

— (*with* Barrabès, C.) Lightlike signals in general relativity and cosmology. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044013, 9 *pp.* (Summary) **99k:83032** 83C35 (83C30)

Hogan, S. J. (*with* Homer, M. E.) A method for finding all possible periodic orbits in piecewise continuous mechanical systems of arbitrary dimension. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 273–282, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 34C25 (70K99)

Hogan, Thomas A. Stability and independence of the shifts of finitely many refinable functions. (English summary) *J. Fourier Anal. Appl.* **3** (1997), *no.* 6, 757–774. (Kathi Karima Selig) **99c:42061** 42C15

— A note on matrix refinement equations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 849–854 (*electronic*). (Gerlind Plonka) **99f:39040** 39B62 (39A10, 42B10)

Hogben, Leslie Completions of inverse M-matrix patterns. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 145–160. (Ronald L. Smith) **99g:15031** 15A57

— Completions of M-matrix patterns. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 143–152. (Hugo Jan Woerdeman) **99i:15035** 15A57

Högberg, Markus (*with* Henningson, Dan S.) Secondary instability of cross-flow vortices in Falkner-Skan-Cooke boundary layers. (English summary) *J. Fluid Mech.* **368** (1998), 339–357. (Summary) **99f:76064** 76E99 (76D10)

Hogg, Tad Which search problems are random? (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 438–443, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68Q25 (68Q30)

Hoggan, P. E. (*with* Safouhi, H.) Efficient evaluation of Coulomb integrals: the nonlinear D- and $\overline{D}$-transformations. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8941–8951. (Summary) **99h:65022** 65D15 (81V55)

Hoggar, Stuart G. (*with* Pickavance, Keith) The weight distribution of KM codes. *Applications of combinatorial mathematics* (*Oxford*, 1994), 95–117, *Inst. Math. Appl. Conf. Ser. New Ser.*, 60, *Oxford Univ. Press, New York*, 1997. (Mihai Caragiu) **99d:94031** 94B05 (94B60)

— Weight enumerators of codes derived from polynomial product algorithms. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 373–391. (Wende Chen) **99c:94046** 94B05

Hogger, C. J. *see* **Handbook of logic in artificial intelligence and logic programming, 99a:68009**

Högnäs, G. (*with* Vellekoop, Michel) Stability of stochastic population models. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 4, 459–476. (Min Ping Qian) **99c:60140** 60J05 (60J20, 92D25)

Hogrefe, J. Errett (*with* Peffley, Nicholas L.; Goodridge, Christopher L.; Shi, William T.; Hentschel, H. George E.; Lathrop, Daniel P.) Power-law singularities in gravity-capillary waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 183–205. (*see* **99h:00031**) 76D33 (76-05, 76D45)

Hoh, Walter Un calcul symbolique pour des opérateurs pseudo-différentiels engendrant des semi-groupes de Feller. (English and French summaries) [A symbolic calculus for pseudodifferential operators generating Feller semigroups] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1121–1124. (Niels Jacob) **99b:47076** 47G30 (35S05, 47D07, 60J35)

— A symbolic calculus for pseudo-differential operators generating Feller semigroups. *Osaka J. Math.* **35** (1998), *no.* 4, 789–820. (Kazuaki Taira) **99k:47102** 47D07 (35S05, 47G30, 60G35)

Hohage, Thorsten (*with* Schormann, C.) A Newton-type method for a transmission problem in inverse scattering. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1207–1227. (Ulrich Tautenhahn) **99j:65232** 65N99 (35P30, 35R30, 65J20)

— Convergence rates of a regularized Newton method in sound-hard inverse scattering. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 125–142 (*electronic*). (P. Rochus) **99j:65107** 65J20 (76M25, 76Q05)

von Hohenbalken, B. *see* **Von Hohenbalken, B.**

Hohjo, Hitoshi (*with* Teraoka, Yoshinobu) Sphere of influence games with generalized values and expenses. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 241–249. (*see* **99h:90006**) 90D05

— A competitive inventory model with reallocation under uniform demand distribution. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 51–64. (Summary) **99i:90137** 90D40

Hohl, Jean-Christophe Massively parallel search for linear factors in polynomials with many variables. (English summary) *Appl. Math. Comput.* **85** (1997), *no.* 2-3, 227–243. (Iliya Makrelov) **99b:65186** 65Y05 (12Y05, 68Q40)

Höhle, Ulrich (*with* Weber, Siegfried) Uncertainty measures, realizations and entropies. (English summary) *Random sets* (*Minneapolis, MN*, 1996), 259–295, *IMA Vol. Math. Appl.*, 97, *Springer, New York*, 1997. (Constantin Drossos) **99d:81027** 81P99 (03G10, 03G20, 60A99, 68T30)

— Categorical axioms of neighborhood systems. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 373–414. (Summary) **99e:54004** 54A99 (18B30)

Hohlov, Yu. E. *see* **Khokhlov, Yu. E.**

Höhn, Gerald (*with* Dong, Chongying; Griess, Robert L., Jr.) Framed vertex operator algebras, codes and the Moonshine module. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 407–448. (Dražen Adamović) **99g:17050** 17B69 (11F22)

von Höhne, Hans-Joachim (*with* de la Peña, José Antonio) Edge reduction for weakly non-negative quadratic forms. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 4, 270–277. (Héctor A. Merklen) **99b:11031** 11E12 (16G60)

— (*with* de la Peña, José Antonio) Isotropic vectors of non-negative integral quadratic forms. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 621–638. (Hans Arwed Keller) **99j:11035** 11E12 (15A36, 15A63)

— (*with* Simson, Daniel) Bipartite posets of finite prinjective type. (English summary) *J. Algebra* **201** (1998), *no.* 1, 86–114. (Rainer Nörenberg) **99h:16027** 16G20 (16G70)

Höhne, Stephan (*with* Stolzenburg, Frieder; Koch, Ulrich; Volk, Martin) Constraint logic programming for computational linguistics. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 406–425, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (68N17)

Høholdt, Tom (*with* van Lint, Jacobus Hendricus; Pellikaan, Ruud) Order functions and evaluation codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 138–150, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (N. L. Manev) **99m:94055** 94B27 (94B15)

— (*with* van Lint, Jacobus Hendricus; Pellikaan, Ruud) An elementary approach to algebraic geometry codes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 25–35. (Introduction) **99m:94056** 94B27 (94–01)

— (*with* Sakata, Shojiro; Leonard, Douglas A.; Jensen, Helge Elbrønd) Fast erasure-and-error decoding of algebraic geometry codes up to the Feng-Rao bound. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1558–1564. (Summary) **99h:94072** 94B35 (94B27)

— (*with* Blake, Ian F.; Heegard, Chris; Wei, Victor) Algebraic-geometry codes. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2596–2618. (Summary) **99i:94070** 94B27 (14G15, 94–02)

Hohzaki, Ryusuke (*with* Iida, Koji; Inada, Kenji) Optimal survivor search for a target with conditionally deterministic motion under reward criterion. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 246–260. (Summary) **99d:90064** 90B40

— (*with* Iida, Koji; Kiyama, Masaki) Randomized look strategy for a moving target when a search path is given. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 374–386. (Teruhisa Nakai) **99k:90093** 90B40 (49K45, 90D25, 93E03)

— (*with* Iida, Koji) An integer resource allocation problem with cost constraint. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 470–482. 90C35 (90B06)

— (*with* Iida, Koji) A search game with reward criterion. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 629–642. (Summary) **99j:90114** 90D05 (90B40)

Hoijtink, Herbert Constrained latent class analysis using the Gibbs sampler and posterior predictive *P*-values: applications to educational testing. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 691–711. 62P15 (62F15)

nguyen Hoi Nghia *see* **Nguyen Hoi Nghia**

müller-Hoissen, Folkert *see* **Müller-Hoissen, Folkert**

Højbjerre, M. (*with* Andersen, Heidi H.; Sørensen, Dorte; Eriksen, P. S.) ★ Linear and graphical models. For the multivariate complex normal distribution. Lecture Notes in Statistics, 101. *Springer-Verlag, New York*, 1995. x+183 *pp. ISBN* 0-387-94521-0 (M. Studený) **99a:62002** 62–01 (05C90, 62H12, 62H15)

Højgaard, Bjarne (*with* Taksar, Michael I.) Optimal proportional reinsurance policies for diffusion models with transaction costs. (English summary) The interplay between insurance, finance and control (Aarhus, 1997). *Insurance Math. Econom.* **22** (1998), *no.* 1, 41–51. (Summary) **99i:90038** 90A46

Hojjati, G. (*with* Hosseini, S. M.) Matrix free MEBDF method for the solution of stiff systems of ODEs. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 67–77. 65L06 (65L12, 65M06)

Hojjatie, B. (*with* Bloom, Frederick; Orloff, D.) Modelling and analysis of the heat transfer problem in an impulse drying press roll. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 5, 59–88. (Summary) **99m:80008** 80A20

Holá, Ľubica (*with* Di Maio, G.; Holý, D.; McCoy, Robert A.) Topologies on the space of continuous functions. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 77–91 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C35 (54C05, 54E05, 54E15, 54E35)

— Coincidence of Vietoris and Wijsman topologies: a new proof. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 363–366. (S. A. Naimpally) **99j:54013** 54B20 (54E45)

— Uniformizability of the generalized compact-open topology. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 219–224. (Summary) **99h:54024** 54C35 (54B20)

— (*with* Di Maio, G.; Holý, D.; McCoy, Robert A.) Topologies on the space of continuous functions. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 105–122. (S. A. Peregudov) **99c:54020** 54C35 (54E05, 54E15)

— (*with* Levi, S.; Pelant, Jan) Normality and paracompactness of the Fell topology. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2193–2197. (Hidenori Tanaka) **99j:54014** 54B20 (54D15, 54D20, 54D45)

— Complete metrizability of generalized compact-open topology. (English summary) *Topology Appl.* **91** (1999), *no.* 2, 159–167. (Manuel Sanchis) **99m:54015** 54E35 (54B20, 54C35)

Holcman, David Solutions nodales sur les variétés riemanniennes compactes. (English and French summaries) [Nodal solutions on compact Riemannian manifolds] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1205–1208. (David L. Finn) **99i:53039** 53C21 (35J60, 58G30)

— Solutions nodales sur les variétés riemanniennes à bord. (English and French summaries) [Nodal solutions on Riemannian manifolds with boundary] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1321–1324. (Emmanuel Hebey) **99m:53078** 53C21 (35J65)

— Solutions nodales sur les variétés riemanniennes. (English summary) [Nodal solutions in Riemannian manifolds] *J. Funct. Anal.* **161** (1999), *no.* 1, 219–245. (David L. Finn) **99m:58205** 58G30 (35J60, 53C21)

Holcroft, Christina A. (*with* Rotnitzky, Andrea; Robins, James M.) Efficient estimation of regression parameters from multistage studies with validation of outcome and covariates. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 349–374. (Summary) **99c:62180** 62J05 (62G05)

Holden, Damien J. (*with* Wands, David) Phase-plane analysis of Friedmann-Robertson-Walker cosmologies in Brans-Dicke gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3271–3290. (Summary) **99h:83044** 83D05

Holden, Helge (*with* Bulla, W.; Gesztesy, Fritz; Teschl, Gerald) Algebro-geometric quasi-periodic finite-gap solutions of the Toda and Kac-van Moerbeke hierarchies. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 641, *x*+79 *pp.* (Mihai Pascu) **99b:58109** 58F07 (35Q55, 39A12)

— (*with* Lie, Knut-Andreas; Risebro, Nils Henrik) An unconditionally stable method for the Euler equations. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 76–96. (Summary) **99k:76110** 76M25 (76L05, 76N15)

Holden, Lars Geometric convergence of the Metropolis-Hastings simulation algorithm. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 371–377. (Jean Diebolt) **99h:60135** 60J05 (60J20, 65C20)

Holder, Allen G. (*with* Greenberg, Harvey J.; Roos, Cornelis; Terlaky, Tamás) On the dimension of the set of Rim perturbations for optimal partition invariance. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 207–216 (*electronic*). (Shu Zhong Zhang) **99m:90095** 90C05 (90C31)

Hölder, Otto The axioms of quantity and the theory of measurement. Translated from the 1901 German original and with notes by Joel Michell and Catherine Ernst. With an introduction by Michell. *J. Math. Psych.* **41** (1997), *no.* 4, 345–356. (Reinhard Suck) **99i:00003** 00A05 (00A30, 00A69, 01A60, 01A75, 92G05)

Hole, Kjell Jørgen (*with* Ytrehus, Øyvind) Cosets of convolutional codes with least possible maximum zero- and one-run lengths. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 423–431. (Summary) **99b:94047** 94B10

Holevo, A. S. *see* **Kholevo, A. S.**

Holford, Richard L. (*with* Burnett, David S.) Multipole-based 3-D infinite elements: an ellipsoidal acoustic element and a spherical electromagnetic element. *IUTAM Symposium on Computational Methods for Unbounded Domains* (*Boulder, CO*, 1997), 53–62, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 78–08

— (*with* Burnett, David S.) Prolate and oblate spheroidal acoustic infinite elements. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 117–141. (Summary) **99a:76136** 76Q05 (76M25)

— (*with* Burnett, David S.) An ellipsoidal acoustic infinite element. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 49–76. (Summary) **99i:76105** 76M25 (65M60, 76Q05)

Holgate, David Linking the closure and orthogonality properties of perfect morphisms in a category. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 587–607. (Summary) **99i:18003** 18A20 (18B30, 54C10)

Holický, P. (*with* Šmídek, M.; Zajíček, Luděk) Convex functions with non-Borel set of Gâteaux differentiability points. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 469–482. (Javier Gómez Gil) **99k:46073** 46G05 (46B26)

Holl, Peter[2] Berechnung der Hough-Funktionen durch numerische Integration ihrer Differentialgleichungen. (English and German summaries) [Calculation of Hough functions by numerical integration of their differential equations] *Nachr. Akad. Wiss. Göttingen Math.-Phys. Kl. II* **1998**, *no.* 2, 20 *pp.* 65D20 (65L99)

Holland, Darius (*with* Bos, L. P.) Radial extensions of vertex data. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 5–14, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 65D17 (41A63)

Holland, John *see* **Ackermann, Silke**

Holland, Jonathan Earl (*with* Whitehead, Earl Glen, Jr.) On matching equivalent graphs. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 227–235. (Summary) **99i:05167** 05C70

Holland, Martin P. (*with* Crawley-Boevey, William) Noncommutative deformations of Kleinian singularities. *Duke Math. J.* **92** (1998), *no.* 3, 605–635. (Michel Van den Bergh) **99f:14003** 14B07 (16G10)

Holland, Owen (*with* Adamatskiĭ, A. I.) Voronoi-like nondeterministic partition of a lattice by collectives of finite automata. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 73–93. (Summary) **99h:68123** 68Q80 (68U05)

Holland, Peter R. New trajectory interpretation of quantum mechanics. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 881–911. (S. Gudder) **99e:81023** 81P15 (81P10)

— (*with* Brown, Harvey R.) The Galilean covariance of quantum mechanics in the case of external fields. (English summary) *Amer. J. Phys.* **67** (1999), *no.* 3, 204–214. (Summary) **99k:81124** 81R99 (81S99)

Holland, Samuel S., Jr. The eigenvalues of the sum of two projections. *Inner product spaces and applications*, 54–64, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (Harro Heuser) **99a:47006** 47A10

Holland, W. C. (*with* Clark, W. Edwin; Székely, Gábor) Decompositions in discrete semigroups. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 15–23. (J. L. Chrislock) **99i:20080** 20M14

den Hollander, Frank (*with* van der Hofstad, R. W.; Slade, Gordon) A new inductive approach to the lace expansion for self-avoiding walks. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 2, 253–286. (Neal Madras) **99j:82043** 82B41 (60J15, 60K35)

Holländer, I. (*with* Bača, M.) On (a, d)-antimagic prisms. (English summary) *Ars Combin.* **48** (1998), 297–306. (Summary) **99a:05126** 05C78

Hollander, Michael Israel Greedy numeration systems and regularity. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 2, 111–133. (Jeffrey O. Shallit) **99d:11078** 11K16 (11A63, 68Q45, 68Q68)

Hollander, Myles (*with* Dorado, Crisanto; Sethuraman, Jayaram) Nonparametric estimation for a general repair model. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1140–1160. (J. V. Deshpande) **99b:62151** 62N05 (60K10, 62G05)

— (*with* Wolfe, Douglas A.) ★ Nonparametric statistical methods. (English summary) Second edition. Wiley Series in Probability and Statistics: Texts and References Section. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xvi*+787 *pp. ISBN* 0-471-19045-4 (J. A. Melamed) **99m:62004** 62–02 (62G05, 62G10)

Hollatz, Horst Eine Alternativ-Methode für die numerische Lösung linearer Optimierungsaufgaben. (English and German summaries) [An alternative method for the numerical solution of linear optimization problems] *Operations Research Proceedings* 1996 (*Braunschweig*), 5–9, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C05

Hollenbeck, R. (*with* Campbell, Stephen L.; Yeomans, Kevin D.; Zhong, Yangchun) Mixed symbolic-numerical computations with general DAEs. I. System properties. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 73–83. (Summary) **99m:65150** 65L99 (34–04, 34A09)

Hollenberg, Marco Characterizations of negative definability in modal logic. (English summary) *Studia Logica* **60** (1998), *no.* 3, 357–386. (Leo Esakia) **99m:03034** 03B45

Holler, Manfred J. Power, monotonicity and expectations. *Control Cybernet.* **26** (1997), *no.* 4, 605–607. 90A08 (90A28)

Hollerbach, Rainer The dynamical balance in semi-Taylor states. (English summary) *Geophys. Astrophys. Fluid Dynam.* **84** (1997), *no.* 1-2, 85–98. (Summary) **99b:86003** 86A25 (76E25, 76W05)

— (*with* Galloway, D. J.; Proctor, M. R. E.) On the adjustment to the Bondi-Gold theorem in a spherical-shell fast dynamo. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 111–132. (Summary) **99c:76116** 76W05 (85A30)

— (*with* Fotheringham, Paul) Inertial oscillations in a spherical shell. (English summary) *Geophys. Astrophys. Fluid Dynam.* **89** (1998), *no.* 1-2, 23–43. (Summary) **99j:76128** 76U05 (86A05, 86A10)

Hollermann, Lisa (*with* Hsu, Tsan-sheng; Lopez, Dian Rae; Vertanen, Keith) Scheduling problems in a practical allocation model. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 129–149. (Summary) **99b:90070** 90B35 (90C35)

Holliday, Dennis (*with* DeRaad, Lester L., Jr.; St-Cyr, Gaetan J.) New equations for electromagnetic scattering by small perturbations of a perfectly conducting surface. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1427–1432. (Summary) **99e:78031** 78A45

Hollkamp, J. J. (*with* Tzou, H. S.; Venkayya, V. B.) Orthogonal sensing and control of continua with distributed transducers—distributed structronic system. (English summary) *Dynamics and control of distributed systems*, 304–370, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99b:73002**) 93C20 (73K15, 73K50)

Hollmann, Helia A harmonic space approach to quantum gravity of stationary space-times with SO(3) symmetry. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6066–6085. (Marco Cavaglià) **99i:83039** 83C45 (83C47)

— (*with* Breitenlohner, Peter; Maison, Dieter) Quantization of the Reissner-Nordström black hole. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 293–297. (Marco Cavaglià) **99g:83031** 83C45 (83C22, 83C47, 83C57)

Hollmann, Henk D. L. (*with* Körner, János; Litsyn, Simon) Tiling Hamming space with few spheres. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 388–393. (Harold N. Ward) **99a:05025** 05B40 (51E23)

— (*with* van Lint, Jacobus Hendricus; Linnartz, Jean-Paul; Tolhuizen, Ludo M. G. M.) On codes with the identifiable parent property. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 121–133. (Wolfgang Willems) **99h:94075** 94B60 (94B65)

Holló, Cs. (*with* Blázsik, Z.; Imreh, Balázs) On decision-mappings related to process network synthesis problem. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 319–328. (Summary) **99d:90133** 90C35 (90C27)

Hollo, Csaba (*with* Romilă, Bogdan; Preda, Cristian) A structural characterization of D-continuous partially ordered sets. (Romanian. English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 81–96. 68Q55 (06A06)

Holloway, Greg (*with* Merryfield, William J.) Eddy fluxes and topography in stratified quasi-geostrophic models. (English summary) *J. Fluid Mech.* **380** (1999), 59–80. (Summary) **99j:86008** 86A05 (76C99, 76V05)

Hollowood, Timothy J. (*with* Dorey, Nicholas; Khoze, Valentin V.; Mattis, Michael P.) Supersymmetry and the multi-instanton measure. II. From $N = 4$ to $N = 0$. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 470–482. (Summary) **99h:81206b** 81T60 (58D20, 58D27)

Holly, Jan E. Prototypes for definable subsets of algebraically closed valued fields. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1093–1141. (H. Dugald Macpherson) **99k:03033** 03C60 (03C40, 12J10)

Holm, Darryl D. (*with* Marsden, Jerrold E.; Ratiu, Tudor S.) The Euler-Poincaré equations and semidirect products with applications to continuum theories. (English summary) *Adv. Math.* **137** (1998), *no.* 1, 1–81. (Jair Koiller) **99e:58070** 58F05 (58E30, 58F40, 70H30, 73B99, 73V25)

— (*with* Cendra, Hernán; Hoyle, Mark J. W.; Marsden, Jerrold E.) The Maxwell-Vlasov equations in Euler-Poincaré form. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3138–3157. (Summary) **99e:76131** 76X05 (58F05, 58F40, 76M30, 82D10)

— (*with* Zeitlin, Vladimir) Hamilton's principle for quasigeostrophic motion. (English summary) *Phys. Fluids* **10** (1998), *no.* 4, 800–806. (Yuri N. Skiba) **99a:76023** 76C05 (58D30, 58F05, 76M30, 76U05, 76V05, 86A05, 86A10)

Holm, Jacob (*with* Alstrup, Stephen; de Lichtenberg, Kristian; Thorup, Mikkel) Direct routing on trees (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 342–349, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (68R10)

Holm, Magnus (*with* Adawi, Tom; Cederwall, Martin; Gran, Ulf; Nilsson, Bengt E. W.) Superembeddings, nonlinear supersymmetry and five-branes. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4691–4715. (Sergey Nikolaevich Roshchupkin) **99j:81129** 81T30

Holm, Sture Estimation and multiple comparisons when there are missing values with an application in immunology. (English summary) *Biom. J.* **40** (1998), *no.* 3, 269–279. (Summary) **99e:62126** 62J15

Holm, Tara S. (*with* Bogart, Kenneth P.) On tolerance sphere-of-influence graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 33–46. (Summary) **99c:05163** 05C75

Holm, Thorsten Hochschild cohomology of Brauer tree algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3625–3646. (Thierry Lambre) **99k:16017** 16E40

Holmåker, Kjell Some optimization problems for second order differential equations. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 497–512. (Summary) **99j:49037** 49K15 (34H05)

Holman, Richard (*with* Boyanovsky, D.; de Vega, H. J.; Salgado, J. F. J.) Preheating and reheating in inflationary cosmology: a pedagogical survey. (English summary) *String theory in curved space times* (*Paris*, 1996), 260–280, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83F05

Holmann, H. (*with* Kaup, B.; Reiffen, Hans-Jörg) Singular holomorphic foliations with attractive leaves. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 625–658 (1998). (M. G. Soares) **99c:32043** 32L30 (58F18)

Holmberg, Kaj (*with* Yuan, Di) A Lagrangean heuristic based branch-and-bound method for the capacitated network design problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 78–83, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C25

— Creative modeling: variable and constraint duplication in primal-dual decomposition methods. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 355–390. (Anna Rycerz) **99j:90049** 90C10 (90C11, 90C27)

Holmberg, Ulf (*with* Myszkorowski, Piotr[1]) Comment on: "Precision tracking control of non-minimum phase systems with zero phase error" [Internat. J. Control **61** (1995), no. 4, 791–807] by J. Z. Xia and C.-H. Menq. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 995. 93B55 (93C95)

Holmes, D. J. (*with* Pfeffermann, Danny; Skinner, C. J.; Goldstein, Harvey; Rasbash, J.) Weighting for unequal selection probabilities in multilevel models. (English summary) With discussion. *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 23–56. (Summary) **99a:62013** 62D05

Holmes, Mark H. (*with* Haider, Mansoor A.) Three-dimensional viscoelasticity in finite strain: formulation of a rate-type constitutive law consistent with dissipation. (English summary) *Particulate flows* (*Minneapolis, MN*, 1996), 67–87, *IMA Vol. Math. Appl.*, 98, *Springer, New York*, 1998. (Summary) **99a:73070** 73F05 (73G25, 73P20)

— (*with* Caprioli, Paul) A parallel quasi-Newton method for Gaussian data fitting. (English summary) *Parallel Comput.* **24** (1998), *no.* 11, 1635–1651. 65D15 (65Y05, 90C30)

Holmes, Philip J. (*with* Aubry, Nadine; Berkooz, Gal; Coller, B.; Elezgaray, J.; Lumley, John L.; Poje, A. C.) Low-dimensional models, wavelet transforms and control. *Eddy structure identification* (*Udine*, 1994), 271–331, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (From the text) **99f:76068** 76Fxx (76M25)

— (*with* Domokos, Gábor; Royce, B.) Constrained Euler buckling. (English summary) *J. Nonlinear Sci.* **7** (1997), *no.* 3, 281–314. (Summary) **99b:73025** 73H05 (34B15, 58F40)

— (*with* Hek, Geertje; Doelman, Arjen) Homoclinic saddle-node bifurcations and subshifts in a three-dimensional flow. (English summary) *Arch. Ration. Mech. Anal.* **145** (1998), *no.* 4, 291–329. (Jörg M. Härterich) **99m:58138** 58F14 (34C23, 34C37, 35B32, 58F15)

— (*with* Taylor, David A.) Simple models for excitable and oscillatory neural networks. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 419–446. (Summary) **99g:92011** 92C05 (34C15, 34C23, 92C15, 92C20)

— (*with* Mielke, Alexander; Kutz, J. Nathan) Global existence and uniqueness for an optical fibre laser model. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1489–1504. (Summary) **99f:35194** 35Q55 (78A60)

— (*with* Schmitt, John; Domokos, Gábor) Constrained Euler buckling: line contact solutions. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 149–158, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 73H05

— (*with* Elezgaray, J.; Berkooz, Gal) Modelling the coupling between small and large scales in the Kuramoto-Sivashinsky equation. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 293–302, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:76059** 76F99 (35Q35, 35Q53)

— (*with* Domokos, Gábor; Schmitt, John; Szeberényi, Imre) Constrained Euler buckling: an interplay of computation and analysis. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 175–207. (Summary) **99m:73039** 73H05

— *see also* **Parker, Matthew W.**

Holmes, Randall R. Simple restricted modules for the restricted Hamiltonian algebra. (English summary) *J. Algebra* **199** (1998), *no.* 1, 229–261. (Sen Qiu) **99a:17011** 17B10 (17B50)

Holmes, Susan P. (*with* Diaconis, Persi W.) Matchings and phylogenetic trees. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 25, 14600–14602 (*electronic*). 92D15

Holmlund, Ulf (*with* von Hertzen, Raimo; Ranta, Matti A.) Theory of optimal competitive running. (Finnish. English and Finnish summaries) *Arkhimedes* **1998**, *no.* 4, 16–22. 92C10 (00A71)

Holmström, Mats (*with* Waldén, Johan) Adaptive wavelet methods for hyperbolic PDEs. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 19–49. (Summary) **99a:65124** 65M60 (94A12)

Holod, P. *see* **Golod, P. I.**

Holopainen, Ilkka (*with* Heinonen, Juha) Quasiregular maps on Carnot groups. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 109–148. (Tero Kilpeläinen) **99i:30037** 30C65 (31C45, 58G03)

— (*with* Soardi, Paolo M.) p-harmonic functions on graphs and manifolds. (English summary) *Manuscripta Math.* **94** (1997), *no.* 1, 95–110. (Maretsugu Yamasaki) **99c:31017** 31C20 (30F20, 53C20)

— (*with* Rickman, Seppo) Ricci curvature, Harnack functions, and Picard type theorems for quasiregular mappings. *Analysis and topology*, 315–326, *World Sci. Publishing, River Edge, NJ*, 1998. (Juha Heinonen) **99j:30026** 30C65 (53C20)

Holovatch, Yu. (*with* von Ferber, C.) Polymer stars in three dimensions. Three loop results. (English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 34–50; *reprinted in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1274–1286 (1997). (Stuart G. Whittington) **99b:82036** 82B41 (82B28, 82D60)

Holroyd, Alexander E. Existence and uniqueness of infinite components in generic rigidity percolation. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 944–973. (T. M. Liggett) **99g:60189** 60K35 (05C10, 82B43)

Holroyd, Fred C. *see* **Combinatorial designs and their applications, 99k:05002**

Holschneider, Matthias (*with* Saillard, Marc; Guérin, Charles-Antoine) Characterization of multi-scale rough surfaces. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 174–178, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A45

— (*with* Guérin, Charles-Antoine) Time-dependent scattering on fractal measures. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4165–4194. (Hiroshi Isozaki) **99g:81223** 81U05 (28A80)

— Some directional microlocal classes defined using wavelet transforms. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 115–133, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Peter R. Massopust) **99k:42059** 42C15 (35A27, 35B65)

Holst, Jan (*with* Sadegh, Payman; Hansen, Lars H.; Madsen, Henrik) Input design for linear dynamic systems using maxmin criteria. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 223–240. 93B51 (93B30)

Holst, Lars (*with* Fill, James Allen) On the distribution of search cost for the move-to-front rule. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 3, 179–186. (Martin V. Hildebrand) **99b:60118** 60J27 (60C05, 60J10, 68P20)

Holst, Sören (*with* Peldán, Peter) Black holes and causal structure in anti-de Sitter isometric spacetimes. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3433–3452. (Valter Moretti) **99a:83047** 83C57 (83C55)

— (*with* Åminneborg, Stefan; Bengtsson, Ingemar; Brill, Dieter; Peldán, Peter) Black holes and wormholes in $2 + 1$ dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 627–644. (Kirill V. Krasnov) **99c:83043** 83C57 (83C75)

Holstad, Astrid Modelling subsurface coupled chemical reactions and fluid flow over long time periods. (English summary) Differential algebraic equations (Grenoble, 1997). *Numer. Algorithms* **19** (1998), *no.* 1-4, 95–110. (*see* **99h:34001**) 76S05 (76M25, 80A32)

Holste, D. (*with* Große, Ivo; Herzel, H.) Bayes' estimators of generalized entropies. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2551–2566. (Summary) **99d:94012** 94A17

Holt, Charles A. (*with* Davis, Douglas D.) Equilibrium cooperation in two-stage games: experimental evidence. (English summary) *Internat. J. Game Theory* **28** (1999), *no.* 1, 89–109. (Summary) **99k:90215** 90D12 (90A14, 90D20)

Holt, Derek F. The Meataxe as a tool in computational group theory. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 74–81, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Sarah E. Rees) **99k:20001** 20–04 (20C05)

— (*with* Hurt, Darren F.) Computing automatic coset systems and subgroup presentations. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 1–19. (Stephan Rosebrock) **99j:20038** 20F10 (03B25, 03D05, 03D40, 68Q42)

Holt, F. B. (*with* Klee, Victor) Many polytopes meeting the conjectured Hirsch bound. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 1–17. (P. R. Goodey) **99e:52015** 52B05 (52B11)

Holt, Jason Superassertibility and asymptotic truth. (French summary) *Dialogue* **38** (1999), *no.* 1, 109–122. 03A05

Holt, John N. (*with* Hjorring, Curt) New optimality cuts for a single-vehicle stochastic routing problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 569–584. (*see* **99k:90002**) 90C27 (90B35)

Holt, Linda M. Interaction of low regularity waves. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1999–2006. (K. A. Yagdjian) **99g:35086** 35L70 (35L05)

Holt, Robert J. (*with* Bajaj, Chanderjit L.; Chen, Jindong; Netravali, Arun N.) Energy formulations of *A*-splines. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 1, 39–59. (Summary) **99f:65024** 65D17 (65D07)

Holt, William (*with* Refenes, Paul) The Durbin-Watson test for neural regression models. (English summary) *Risk measurement, econometrics and neural networks* (*Karlsruhe*, 1997), 57–68, *Contrib. Econom., Physica, Heidelberg*, 1998. (Summary) **99k:62125** 62J05 (62J20)

van Holten, J. W. Stability and mass of point particles. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 525–543. (Summary) **99f:81222** 81V22

— (*with* Jarvis, P. D.; Kowalski-Glikman, Jerzy) Off-shell κ-symmetry of the superparticle and the spinning superparticle. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 47–52. (Summary) **99b:81239** 81T60

— (*with* Groot Nibbelink, S.) Matter coupling and anomaly cancellation in supersymmetric σ-models. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 185–191. (Summary) **99j:81175** 81T50 (81T60)

Holthaus, Martin (*with* Kalinowski, Eva; Kirsten, Klaus) Condensate fluctuations in trapped Bose gases: canonical vs. microcanonical ensemble. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 198–230. (Summary) **99h:82004** 82B05 (11Z05)

— (*with* Nicodemus, Rolf; Grossmann, Siegfried) The background flow method. I. Constructive approach to bounds on energy dissipation. (English summary) *J. Fluid Mech.* **363** (1998), 281–300. (Summary) **99f:76071a** 76F10 (76M10, 76M25)

— (*with* Nicodemus, Rolf; Grossmann, Siegfried) The background flow method. II. Asymptotic theory of dissipation bounds. (English summary) *J. Fluid Mech.* **363** (1998), 301–323. (Summary) **99f:76071b** 76F10 (76M10, 76M25)

Holthöfer, Norbert (*with* Brockmann, Klaus; Dangelmaier, Wilhelm) Parallel branch & bound algorithm for makespan optimal scheduling in flow shops with multiple processors. *Operations Research Proceedings* 1997 (*Jena*), 428–433, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B35

Holtkamp, R. (*with* Gerritzen, L.) On quantum general linear groups. *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 43–54. (Nicolás Andruskiewitsch) **99e:17019** 17B37 (16W30)

Holton, W. C. (*with* Collins, David[2]; Kim, Ki Wook) Deutsch-Jozsa algorithm as a test of quantum computation. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, *R*1633–*R*1636. (Summary) **99d:81024** 81P99

Holtz, R. (*with* Emamirad, H.) Coherent state vectors and entire groups on a Fréchet space. (English summary) *Proceedings of the* 28*th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 165–175, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Ioana Ciorănescu) **99d:47032** 47D06 (47N50, 81R30)

Holub, James R. Aspects of unconditionality of bases in spaces of compact operators. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 27–30. (Christian Samuel) **99a:46029** 46B28 (46B15, 47D15)

Hołubowicz, Ryszard (*with* Mozgawa, Witold) On compact non-Kählerian manifolds admitting an almost Kähler structure. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 53–57. (Sorin Dragomir) **99k:53131** 53C56 (53C15)

Holvorcem, Paulo R. (*with* Bishop, Nigel T.; Gómez, Roberto; Matzner, Richard A.; Papadopoulos, Philippos; Winicour, Jeffrey) Erratum: "Cauchy-characteristic evolution and waveforms" [J. Comput. Phys. **136** (1997), no. 1, 140–167; MR 98e:76084]. *J. Comput. Phys.* **148** (1999), *no.* 1, 299–301. 76M25 (76Q05)

Holý, D. (*with* Di Maio, G.; Holá, Ľubica; McCoy, Robert A.) Topologies on the space of continuous functions. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 77–91 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C35 (54C05, 54E05, 54E15, 54E35)

— (*with* Di Maio, G.; Holá, Ľubica; McCoy, Robert A.) Topologies on the space of continuous functions. (English summary) *Topology Appl.* **86** (1998), *no.* 2, 105–122. (S. A. Peregudov) **99c:54020** 54C35 (54E05, 54E15)

Holz, Daniel E. (*with* Wald, Robert M.) New method for determining cumulative gravitational lensing effects in inhomogeneous universes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 063501, 23 *pp.* (Summary) **99m:83004** 83–08 (83C99)

Holzer, Markus Multi-head finite automata: data-independent versus data-dependent computations. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 299–308, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68051** 68Q15 (68Q10, 68Q45, 68Q68)

— (*with* Fernau, Henning; Freund, Rudolf J.) Character recognition with *k*-head finite array automata. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 282–291, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T10 (68Q45)

— (*with* Bordihn, H.) On a hierarchy of languages generated by cooperating distributed grammar systems. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 59–62. (Summary) **99i:68077** 68Q50 (68Q45)

Holzman, Ron (*with* Aharoni, Ron) Fractional kernels in digraphs. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 1, 1–6. (Hortensia Galeana-Sánchez) **99e:05058** 05C20

Holzmann, W. H. (*with* Craigen, R.; Kharaghani, H.) On the asymptotic existence of complex Hadamard matrices. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 319–327. (Summary) **99e:05026** 05B20

— (*with* Kharaghani, H.) A *D*-optimal design of order 150. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 265–269. 05B05

— (*with* Kharaghani, H.; Lavassani, M. T.) The excess problem and some excess inequivalent matrices of order 32. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 381–391. (Summary) **99g:05039** 05B20

Hombali, Chhaya M. (*with* Bhoosnurmath, Subhas S.) Fix-points of certain differential polynomials. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 121–131. (L. R. Sons) **99g:30038** 30D35

Hömberg, Dietmar (*with* Sokołowski, Jan) Optimal control of laser hardening. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 911–928. (Summary) **99g:49035** 49N55 (73B30, 80A22)

— (*with* Arnăutu, Viorel; Sokołowski, Jan) On a laser hardening problem. *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **6** (1998), *no.* 1, 1–7 (1999). 49N55 (80A22)

Homburg, Ale Jan Heteroclinic bifurcations of Ω-stable vector fields on 3-manifolds. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 3, 559–580. (Rafael Labarca) **99h:58099** 58F10 (58F14)

Home, D. (*with* Hardy, Lucien; Squires, E. J.; Whitaker, M. A. B.) Comment on: "Why quantum mechanics cannot be formulated as a Markov process" [Phys. Rev. A (3) **49** (1994), no. 3, 1607–1612; MR 95a:81009] by D. T. Gillespie. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 4, 3301–3303. (Gennady Berman) **99g:81006** 81P05

— *see also* **Gillespie, Daniel T.**, **99g:81007**

Homeier, Herbert H. H. On the stability of the $\mathcal{S}$ transformation. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 223–239. (Summary) **99f:65009** 65B05 (65B10)

— An asymptotically hierarchy-consistent, iterative sequence transformation for convergence acceleration of Fourier series. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 1–30. (M. S. Rangachari) **99m:65009** 65B99 (65T99)

Homeier, Peter V. (*with* Martin, David F.) Mechanical verification of total correctness through diversion verification conditions. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 189–206, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 68Q60 (68T15)

Homem-de-Mello, Tito (*with* Shapiro, Alexander) A simulation-based approach to two-stage stochastic programming with recourse. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 301–325. (Riho Lepp) **99d:90080** 90C15

Homentcovschi, D. (*with* Marinoschi, Gabriela; Ghergut, I.; Jaekel, U.; Vereecken, H.) Determination of the macrodispersive parameters of a motion in a two-layer porous medium. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 117–126. (Summary) **99a:76150** 76S05 (76R50)

— (*with* Ghergut, I.; Marinoschi, Gabriela; Vereecken, H.; Jaekel, U.) Asymptotic solutions for two-site non-equilibrium transport. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 127–132. (Summary) **99a:76151** 76S05 (76R50)

Homer, M. E. (*with* Hogan, S. J.) A method for finding all possible periodic orbits in piecewise continuous mechanical systems of arbitrary dimension. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 273–282, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 34C25 (70K99)

Homer, Steven Structural properties of complete problems for exponential time. (English summary) *Complexity theory retrospective, II*, 135–153, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

al-Homidan, Suliman *see* **Al-Homidan, Suliman**

Homma, Masaaki[2] Separable gonality of a Gorenstein curve. Algebra Meeting (Rio de Janeiro, 1996). *Mat. Contemp.* **14** (1998), 71–74. (R. F. Lax) **99k:14050b** 14H45 (14H20, 14H55)

— Singular hyperelliptic curves. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 21–36. (R. F. Lax) **99k:14050a** 14H45 (14H20, 14H55)

Homma, Yasushi (*with* Fujii, Kazuyuki; Suzuki, Tatsuo[2]) Nonlinear Grassmann sigma models in any dimension and an infinite number of conserved currents. (English summary) *Phys. Lett. B* **438** (1998), *no.* 3-4, 290–294. (Summary) **99i:81143** 81T10

Hommel, Gerhard (*with* Krummenauer, Frank) Improvements and modifications of Tarone's multiple test procedure for discrete data. (English and French summaries) *Biometrics* **54** (1998), *no.* 2, 673–681. (Summary) **99d:62011** 62F03

Hommes, Cars H. (*with* Feichtinger, Gustav; Milik, Alexandra) Chaotic consumption patterns in a simple 2-D addiction model. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 147–173. (Summary) **99d:90033** 90A40

— (*with* Brock, William A.) Heterogeneous beliefs and routes to chaos in a simple asset pricing model. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1235–1274. (Summary) **99k:90024** 90A09

— (*with* Sorger, Gerhard) Consistent expectations equilibria. (English summary) *Macroecon. Dyn.* **2** (1998), *no.* 3, 287–321. (Jeffrey L. Coles) **99k:90059** 90A56

Ho-Mock-Qai, Bertina (*with* Dayawansa, Wijesuriya P.) Non-smooth simultaneous stabilization of nonlinear systems: an interpolation method. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 43–53. (Gianna Stefani) **99j:93079** 93D15 (93C10)

Homolka, Peter (*with* Riedler, Jürgen; Beirl, Wolfgang; Bittner, Elmar; Hauke, Alf; Markum, Harald) Phase structure and graviton propagators in lattice formulations of four-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 4, 1163–1173. 83C27 (83–08, 83C45)

Homp, Michelle Reeb (*with* Logan, J. David; Ledder, Glenn) A singular perturbation problem in fractured media with parallel diffusion. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 645–655. (Summary) **99d:76092** 76S05 (86A05)

Hon, Giora *see* **Yourgrau, Palle**, **99k:01041**

Honari, B. (*with* Bahrampour, Y.) Cut-point spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2797–2803. (A. H. Stone) **99m:54008** 54D05 (54F15, 54F65)

Honary, Bahram (*with* Markarian, Garik) ★ Trellis decoding of block codes. (English summary) A practical approach. With a preface by P. G. Farrell. The Kluwer International Series in Engineering and Computer Science, 391. *Kluwer Academic Publishers, Boston, MA*, 1997. xvi+265 *pp. ISBN* 0-7923-9860-2 (Ivan Landgev) **99e:94047** 94B35 (94B05, 94B10, 94B12)

— (*with* Sidorenko, Vladimir; Martin, Ian) On the rectangularity of nonlinear block codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 720–725. (Summary) **99k:94064** 94B60

Honavar, Vasant (*with* Parekh, Rajesh; Nichitiu, Codrin) A polynomial time incremental algorithm for learning DFA. (English summary) *Grammatical inference* (*Ames, IA*, 1998), 37–49, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (Summary) **99j:68119** 68T05 (68Q45)

— *see also* **Grammatical inference, 99h:68006**

Honda, Aoi (*with* Okazaki, Yoshiaki) The equivalence of the Rademacher translations of an infinite product measure. *Bull. Kyushu Inst. Tech. Math. Natur. Sci. No.* 44 (1997), 33–44. (Andrej A. Dorogovtsev) **99c:60087** 60G30 (28A35)

— (*with* Okazaki, Yoshiaki; Takahashi, Yasuji) Generalizations of the Hlawka's inequality. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 9–15. (Zsolt Páles) **99j:46043** 46E99 (26D15, 46B20)

— (*with* Okazaki, Yoshiaki; Takahashi, Yasuji) An extension of the Hlawka inequality. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 12–19. (*see* **99i:00029**) 26D15

Honda, Ko A note on Morse theory of harmonic 1-forms. *Topology* **38** (1999), *no.* 1, 223–233. (Patrick T. McDonald) **99h:58030** 58E05 (57R30, 57R70)

Honda, Kohei (*with* Abramsky, Samson; McCusker, Guy) A fully abstract game semantics for general references. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 334–344, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15

— (*with* Fiore, Marcelo) Recursive types in games: axiomatics and process representation (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 345–356, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68N15 (68Q55)

Honda, Naofumi Microfunction solutions of holonomic systems with irregular singularities. *New trends in microlocal analysis* (*Tokyo*, 1995), 191–204, *Springer, Tokyo*, 1997. (Andrea D'Agnolo) **99i:32014** 32C38 (58G07)

— Stokes phenomena of holonomic systems. (Japanese) Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 21–30. (*see* **99d:00021**) 32G34 (34A20)

Honda, Tatsuhiro The $\overline{\partial}$-problem on an infinite-dimensional domain. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 68–77, *Sci. Cult. Technol. Publ., Singapore*, 1995. (Jorge Mujica) **99k:46080** 46G20 (32F20, 35N15, 35R15)

— (*with* Miyagi, Mitsuhiro; Nishihara, Masaru; Yoshida, Mamoru) On the extension of polynomials of weak type. (English summary) *Fukuoka Univ. Sci. Rep.* **27** (1997), *no.* 1, 9–16. (Luiza Amália de Moraes) **99a:46083** 46G20 (46A32)

— (*with* Hamada, Hidetaka) Holomorphic maps into complex ellipsoids which are Kobayashi isometries at one point. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 67–71. (Summary) **99e:32037** 32H15 (32H02)

Honda, Toshio The CUSUM tests with nonparametric regression residuals. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 1, 45–63. (Lajos Horváth) **99b:62133** 62M10 (62G10)

— Testing the goodness of fit of a linear model by kernel regression. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 529–546. (Summary) **99b:62078** 62G10

Hone, Andrew N. W. On the non-integrability of Roy's system. (English summary) *Nuovo Cimento Soc. Ital. Fis. A* (12) **111** (1998), *no.* 2, 205–209. 35Q53 (35Q58)

— Non-autonomous Hénon-Heiles systems. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 1–16. (Oktay K. Pashaev) **99k:34012** 34A34 (35Q53, 70K99)

— Reciprocal transformations, Painlevé property and solutions of energy-dependent Schrödinger hierarchies. (English summary) *Phys. Lett. A* **249** (1998), *no.* 1-2, 46–54. (Summary) **99h:58087** 58F07 (35Q53)

Honecker, A. (*with* Cabra, Daniel C.; Mussardo, G.; Pujol, P.) A non-perturbative approach to the random-bond Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8415–8426. (Aernout C. D. van Enter) **99d:82031** 82B44 (81T99)

Honegger, Reinhard (*with* Rieckers, Alfred) Squeezing of optical states on the CCR-algebra. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 6, 869–892. (Lech Jakóbczyk) **99b:81093** 81R30 (46L60, 46N50, 76D45, 81S05, 81V80)

— (*with* Rieckers, Alfred) Unitary implementations of one-parameter squeezing groups. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 777–801. (Nicolaas P. Landsman) **99d:46092** 46L60 (81V80)

— Enlarged test-function spaces for the global free folia dynamics on the CCR-algebra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 1153–1169. (Nicolaas P. Landsman) **99h:81124** 81T05 (46F99, 46L60, 46N50)

— (*with* Rieckers, Alfred) Coherence properties of squeezed photon states. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 147–159. (Lech Jakóbczyk) **99h:81240** 81V80 (46N50, 47N50, 81R30, 81S05)

Honerkamp, Josef ★ Statistical physics. (English summary) An advanced approach with applications. Translated from the German manuscript by Thomas Filk. *Springer-Verlag, Berlin*, 1998. *xii*+410 *pp. ISBN* 3-540-63978-0 (Peter Eichelsbacher) **99j:82001** 82-01 (60-01)

van den Honert, Robin C. *see* **Trends in multicriteria decision making, 99g:90012**

Hong, Bing Rong (*with* Ren, Shi Jun) A fast algorithm to determine whether convex regions bounded by multiple linear constraints are empty. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 896–901. 90C08

— (*with* Quan, Guang Ri; Li, Wei Gang) A feedforward neural network based on learning rules. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 57–61. 68T05

Hong, Bo (*with* Huang, Zheng Da) The convergence of Broyden's method under a weak condition. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 3, 6–11. 90C30 (65K05)

Hong, Bum Il (*with* Choi, Jeongwhan; Ha, Sung Nam) Analytic expression of hydraulic fall in the free surface flow of a two-layer fluid over a bump. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 479–490. (Summary) **99f:76023** 76B15

— (*with* Hahm, Nahmwoo) Extension of localised approximation by neural networks. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 121–131. (Andrei Martínez Finkelshtein) **99k:41042** 41A46 (41A63, 93B20)

Hong, Chan Yong A note of PI-rings with restricted descending. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **1** (1994), *no.* 1, 1–6. 16R40

Hong, Chin-Ming (*with* Wang, Shun-Yuan; Liu, Chun-Chang; Yang, Wei-Tzen) Design of a static reactive power compensator using fuzzy sliding mode control. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 393–413. 93C42 (93B50)

Hong, Chung-Chien (*with* Huang, Young-Ye) Fixed points of compatible mappings in complete Menger spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 69–84 (*electronic*). 54H25 (54E70)

Hong, D. K. (*with* Gusynin, V. P.; Shovkovy, I. A.) Chiral symmetry breaking by a non-abelian external field in $2+1$ dimensions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5230–5235. 81T13 (81R40)

Hong, Do-Won (*with* Wee, In-Suk) Uniform L^p-approximation for the solutions of functional stochastic differential equations. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 403–410. (Amarjit Budhiraja) **99f:60110** 60H10 (65U05)

— (*with* Wee, In-Suk) Approximation for jump-diffusion processes with non-Lipschitzian coefficients. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 837–845. (V. Mackevičius) **99j:60086** 60H10

Hong, Dong Recent progress on multivariate splines. (English summary) *Approximation theory*, 265–291, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99c:41022** 41A15 (41A63)

— On optimal order of approximation from bivariate spline spaces. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 219–225, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 41A15 (41A25)

Hong, Dug Hun (*with* Choi, Chang Hwan) A note on infinite fuzzy logic L^1 controllers. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 513–514. 93C42

Hong, H. *see* **Hong, Hoon**

Hong, Hee Sun (*with* Hickernell, Fred J.) The asymptotic efficiency of randomized nets for quadrature. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 767–791. (S. Dubuc) **99i:65021** 65D32

Hong, Hong-Ki (*with* Liu, Chein-Shan) Internal symmetry in bilinear elastoplasticity. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 279–288. (Summary) **99j:73051** 73E05 (73B10)

Hong, Hoon (*with* Liska, Richard; Steinberg, Stanly) Testing stability by quantifier elimination. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 161–187. (Joos Heintz) **99a:34144** 34D05 (34-04, 39A10, 68Q40)

— An improvement of the projection operator in cylindrical algebraic decomposition. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 166–173, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40

— (*with* Collins, George E.) Partial cylindrical algebraic decomposition for quantifier elimination. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 174–200, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (03C10)

— Simple solution formula construction in cylindrical algebraic decomposition based quantifier elimination. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 201–219, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (03B25, 03B50, 03C10)

— (*with* Sendra, J. Rafael) Computation of variant resultants. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 327–340, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (03C10, 12D10)

— (*with* Jakuš, Dalibor) Testing positiveness of polynomials. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 1, 23–38. (Klaus Madlener) **99m:68096** 68Q40 (03C10, 03C62, 26D05, 68Q42)

— Bounds for absolute positiveness of multivariate polynomials. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 571–585. (Daniel Lazard) **99k:12002** 12D10 (12Y05, 26C10, 68Q40)

— Groebner basis under composition. I. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 5, 643–663. (Joachim Apel) **99c:13052** 13P10 (68Q40)

— (*with* Schicho, Josef) Algorithms for trigonometric curves (simplification, implicitization, parameterization). (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 279–300. (Summary) **99d:65394** 65Y25

— *see also* **Non-standard applications of computer algebra, 99a:00035**

Hong, Huei-Lin (*with* Agarwal, Ravi P.; Yeh, Cheh-Chih) The existence of positive solutions for the Sturm-Liouville boundary value problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 89–96. (Summary) **99a:34044** 34B15 (47H15)

— On the oscillatory behavior of solutions of second order nonlinear differential equations. (English summary) *Publ. Math. Debrecen* **52** (1998), *no.* 1-2, 55–68. (John R. Graef) **99c:34058** 34C10

Hong, Jee Chang (*with* Jung, Inha) On consistency of some nonparametric Bayes estimators with respect to a beta process based on incomplete data. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 123–132. (Summary) **99m:62046** 62G05

Hong, Jia Rong (*with* Wang, Xi Zhao) On the handling of fuzziness for continuous-valued attributes in decision tree generation. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 283–290. (Summary) **99e:68139** 68T05

— (*with* Guo, Mao Zu) The extension graph approach to learning from examples. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 65–67, 72. 68T05

Hong, Jialin (*with* Yuan, Rong[1]) The existence of almost periodic solution of a population equation with delay. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 45–52. (Summary) **99b:92050** 92D25

— (*with* Yuan, Rong[1]) Almost periodic solutions of linear differential equations with piecewise constant argument. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 141. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 59–64. (Alan R. Hausrath) **99c:34170** 34K15 (34A30, 34C27)

— (*with* Alonso, Ana I.; Rojo, Jesús) A class of ergodic solutions of differential equations with piecewise constant arguments. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 561–574. (Russell A. Johnson) **99m:34155** 34K15 (34C28)

— (*with* Nuñez Jimenez, Carmen) The almost periodic type difference equations. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 21–31. (P. Talpalaru) **99m:39007** 39A10

— (*with* Obaya García, Rafael; Sanz, Ana M.) Exponential trichotomy and a class of ergodic solutions of differential equations with ergodic perturbations. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 7–13. (Wei Nian Zhang) **99k:34102** 34D05 (34C11, 58F11)

Hong, Jin (*with* Kwon, Jae-Hoon) Decomposition of free Lie algebras into irreducible components. (English summary) *J. Algebra* **197** (1997), *no.* 1, 127–145. (Hartmut Laue) **99c:17006** 17B01

— (*with* Kang, Seok-Jin; Miwa, Tetsuji; Weston, Robert) Mixing of ground states in vertex models. (English summary) *J. Phys. A* **31** (1998), *no.* 28, *L515–L525*. (Summary) **99e:82027** 82B23 (81R50)

Hong, Jongbae (*with* Ji, Jeong-Young) Heisenberg picture approach to the invariants and the exact quantum motions for coupled parametric oscillators. (English summary) *J. Phys. A* **31** (1998), *no.* 39, *L689–L693*. (P. G. L. Leach) **99i:81031** 81Q05 (70H05)

Hong, Li (*with* Chen, Jin-ru) The *h-p* version of the infinite element method and its application. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 125–132. 65N30 (73V05, 76M10)

Hong, Lu Feasible Bayesian implementation with state dependent feasible sets. (English summary) *J. Econom. Theory* **80** (1998), *no.* 2, 201–221. (Summary) **99f:90009** 90A06 (90A08)

— (*with* Gensemer, Susan H.; Kelly, Jerry S.) Migration disequilibrium and specific division rules. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 201–209. (Summary) **99a:90078** 90A53

Hong, Min-Chun (*with* Guo, Bo Ling; Su, Fengqiu) The global attractors for the Landau-Lifshitz equation of the ferromagnetic spin chain on compact manifolds. *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 213–227, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Daniel Ševčovič) **99b:58217** 58F39 (35B40, 35Q60, 58F12, 82D40)

— Asymptotic limits of a self-dual Ginzburg-Landau functional in bounded domains. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 251–267. (Summary) **99j:35201** 35Q55 (58E50)

Hong, Mu (*with* Sederberg, Thomas W.; Klimaszewski, Krzysztof S.; Kaneda, Kazufumi) Triangulation of branching contours using area minimization. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 389–406. (Summary) **99d:68232** 68U05 (52B70)

Hong, Shao Fang Additive characters and orthogonal systems of polynomials in several indeterminates over residue class rings. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 4, 275–277. (Jau-Shyong Shiue) **99e:11148** 11T06

— (*with* Sun, Qi) Aurifeuillian factorizations of $q^q \pm 1$ ($q = p^n$). (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 342–348. (Jie Wu) **99g:11014** 11A51 (11Y05)

— Bounds for determinants of matrices associated with classes of arithmetical functions. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 311–322. (Gang Song Leng) **99k:15010** 15A15 (11A25, 15A45)

— Gaps in the cardinalities of row spaces of Boolean matrices. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 158–186. (N. J. Pullman) **99c:15023** 15A33

— Orthogonal systems of multivariate polynomials over the ring $\mathbf{Z}/m\mathbf{Z}$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 2, 155–157. (Summary) **99h:11141** 11T06

Hong, Soon-Tae The static properties of hypersphere skyrmions. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 211–216. (Summary) **99c:81267** 81V05 (58E50)

Hong, Sung-Min (*with* Jun, Young Bae; Kim, Hee Sik) Fuzzy ideals in near-rings. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 455–464. (Summary) **99h:16072** 16Y99

— (*with* Jun, Young Bae) Fuzzy maximal and complete fuzzy normal BCK-filters. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 137–143. (A. B. Thaheem) **99i:06021** 06F35 (03G25)

— (*with* Jun, Young Bae) Anti-fuzzy ideals in BCK-algebras. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 145–150. (A. B. Thaheem) **99h:06011** 06F35 (03G25)

— (*with* Song, Seok-Zun; Jun, Young Bae; Kim, Seon Jeong) Linear operators that preserve Boolean ranks. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 131–138. (R. Piziak) **99m:15001** 15A03 (06E20, 15A04)

Hong, Sungook Unfaithful offspring? Technologies and their trajectories. (English summary) *Perspect. Sci.* **6** (1998), *no.* 3, 259–287 (1999). 01A99

Hong, Sungpyo (*with* Bahn, Hyoungsick) Isoperimetric inequalities for sectors in the Minkowski 2-spacetime. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 17–24. (J. A. Lester) **99k:51024** 51M16 (51B20)

Hong, Wen Ming (*with* Wu, Rong[1]) Intersection problems for OU-type processes with continuous trajectories. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 15–22. (Zhen-Qing Chen) **99k:60108** 60G17 (60J60)

Hong, Yeon Woong A bivariate extension of the two-parameter exponential distribution. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 185–192. 62E15

Hong, Yi[1] (*with* Houh, Chorng Shi) Lagrangian submanifolds of quaternion Kaehlerian manifolds satisfying Chen's equality. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 413–421. (Paolo Piccinni) **99h:53084** 53C42 (53C15, 53C40)

Hong, Yi Guang (*with* Mei, Sheng Wei; Qin, Hua Shu; Wen, Shao Peng) Viscosity solutions and an analysis of approximate algorithms for nonlinear H_∞ control. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 447–453. 93B36 (49L25)

— (*with* Qin, Hua Shu; Mei, Sheng Wei; Zhu, Quan Min) Finite attraction for nonlinear uncertain mechanical systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 397–407. (Alexander M. Kovalev) **99k:70024** 70Q05 (70H05, 93D21)

— (*with* Li, Hongyi) Nonlinear H_∞ control and related problems of homogeneous systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 79–92. (Peng Shi) **99f:93044** 93B36

Hong, Yong *see* **Hong, Yong[2]**

Hong, Yong[1] (*with* Chen, Bin[3]) FCV_1: a new fast greedy covering algorithm. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 4, 369–374. 68T05

Hong, Yong[2] (*with* Zou, Ze Min) The function space $L^{P_1,P_2,\cdots,P_n}(X_1 \times X_2 \times \cdots \times X_n)$. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 19–22. (Summary) **99k:46042** 46E30

— A theorem on spherical fractional integrals of variable order. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 184–188. 26A33

— A higher-order differential mean value theorem and its applications. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 6, 620–623. 26A24

Hong, Yongmiao (*with* Shehadeh, Ramsey D.) A new test for ARCH effects and its finite-sample performance. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 91–108. (Summary) **99i:62254** 62P20 (62J05)

Hong, You Cheng (*with* Yin, Qun) Periodic solutions of a class of Birkhoffian equations. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 252–257. (Summary) **99c:34084** 34C25 (58F22, 70K99)

Hong, Yuan Upper bounds of the spectral radius of graphs in terms of genus. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 153–159. (Koduvayur R. Parthasarathy) **99i:05065** 05C10 (05C50)

Hongjing, Fang *see* **Fang, Hong Jin**

Hongjun, Yuan *see* **Yuan, Hong Jun**

Hong Tam, Judy Application of Lanchester combat model in the Ardennes campaign. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Natur. Resource Modeling* **11** (1998), *no.* 2, 95–116. (Summary) **99d:90156** 90D40 (90B06)

do Hong Tan *see* **Do Hong Tan**

lê Hông Vân *see* **Lê Hông Vân**

Hongyi, Zhu *see* **Zhu, Hong Yi**

Honji, Hiroyuki (*with* Saki, Yoshinori; Sugihara, Yuji) Nonlinear evolution of 2-dimensional decaying turbulence on a rotating sphere. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 1–9. (*see* **99k:76004**) 76F99 (76U05)

Honjo, Y. (*with* Kudo, N.) Matching objective and subjective information in geotechnical inverse analysis based on entropy minimization. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 263–271, *Elsevier, Oxford*, 1998. (Summary) **99k:86010** 86A32

Honkala, Iiro (*with* Cohen, Gérard Denis; Litsyn, Simon; Lobstein, Antoine) ★ Covering codes. North-Holland Mathematical Library, 54. *North-Holland Publishing Co., Amsterdam*, 1997. xxii+542 *pp. ISBN* 0-444-82511-8 (H. F. Mattson, Jr.) **99b:94059** 94B75 (05–02, 11T71)

— Combinatorial lower bounds on binary codes with covering radius one. (English summary) *Ars Combin.* **50** (1998), 149–159. (Summary) **99k:94071** 94B75 (94B65)

Honkala, Juha Decision problems concerning algebraic series with noncommuting variables. (English summary) *Structures in logic and computer science*, 281–290, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99c:68152** 68Q45 (03B25)

— Decision problems concerning a power series generalization of DT0L systems. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 341–348. (Peter R. J. Asveld) **99i:68075** 68Q45

— On N-algebraic Parikh slender power series. (English summary) *J.UCS* **3** (1997), *no.* 10, 1114–1120 (*electronic*). (Summary) **99h:68104** 68Q45

— Decision problems concerning thinness and slenderness of formal languages. (English summary) *Acta Inform.* **35** (1998), *no.* 7, 625–636. (Summary) **99c:68153** 68Q45 (03D05)

— On slender languages. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 145–152. (Summary) **99a:68109** 68Q45 (03D05)

— On number systems with finite degree of ambiguity. (English summary) *Inform. and Comput.* **145** (1998), *no.* 1, 51–63. (Robert M. Baer) **99g:68113** 68Q45 (03D05, 11U05)

Honkapohja, Seppo (*with* Evans, George William, III) Convergence of learning algorithms without a projection facility. (English summary) *J. Math. Econom.* **30** (1998), *no.* 1, 59–86. (James Bergin) **99m:90044** 90A19 (90A58)

Honkasalo, Hannu The equivariant Serre spectral sequence as an application of a spectral sequence of Spanier. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 11–19. (John McCleary) **99k:55020** 55T10 (55P91, 55T25)

Honkonen, Juha Asymptotic behavior of the solution of the two-dimensional stochastic vorticity equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 4532–4540. (Summary) **99g:76073** 76F99 (76D99, 76M35, 82C28)

Honma, Hirotoshi An optimal parallel algorithm for constructing a spanning forest on interval graphs. (Japanese. English summary) *Res. Rep. Kushiro Natl. Coll. Technol. No.* 32 (1998), 55–58. (Summary) **99k:68072** 68Q22 (68Q25, 68R10)

Honma, Noriyasu (*with* Abe, Kenichi; Sato, Mitsuo; Takeda, Hiroshi[1]) Adaptive evolution of holon networks by an autonomous decentralized method. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 1, 43–61. (From the summary) **99a:93024** 93B30 (93A14)

Hon-nami, Akimitsu (*with* Takagi, Noboru; Nakashima, Kyoichi) A characterization of r-valued functions monotonic in an order based on regularity. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 71–76, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Honold, Thomas (*with* Solov'eva, Faina I.; Avgustinovich, Sergei V.; Heise, Werner R.) On the extendability of code isometries. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 3–16. (Italo José Dejter) **99a:94053** 94B25 (51E99)

— (*with* Landgev, Ivan N.) All Reed-Muller codes are linearly representable over the ring of dual numbers over Z_2. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 700–701. (Summary) **99j:94066** 94B05

Honov, S. A. *see* **Khonov, S. A.**

Honsell, Furio (*with* Forti, Marco) Addendum and corrigendum: "Choice principles in hyperuniverses" [Ann. Pure Appl. Logic **77** (1996), no. 1, 35–52; MR 97a:03060]. (English summary) *Ann. Pure Appl. Logic* **92** (1998), *no.* 2, 211–214. (Summary) **99c:03069** 03E25 (03E70, 54C65, 54E99)

— (*with* Pravato, Alberto; Ronchi Della Rocca, Simona) Structured operational semantics of a fragment of the language Scheme. (English summary) *J. Funct. Programming* **8** (1998), *no.* 4, 335–365. (Summary) **99k:68102** 68Q55 (68N15)

Hon-Snir, Shlomit (*with* Monderer, Dov; Sela, Aner) A learning approach to auctions. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 65–88. (Milan Mareš) **99m:90054** 90A60

Hontand, Jean-Claude (*with* Achdou, Yves; Abdulaev, G. S.; Kuznetsov, Yuriĭ Alekseevich[1]; Pironneau, Olivier; Prud'homme, Christophe) Nonmatching grids for fluids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 3–22, *Contemp. Math.*,

218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76103** 76M25 (65M50, 65N50)

Hontani, Hidekata (*with* Deguchi, Koichiro) A method for detection of inherent shape type and size of figures based on multi-scale image analysis. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 3018–3026. (Summary) **99i:68125** 68U10

Hoo, C. S. Molecules and linearly ordered ideals of MV-algebras. (English summary) *Publ. Mat.* **41** (1997), *no.* 2, 455–465. (Elias Deeba) **99c:06022** 06F35 (03G25)

— Some fuzzy concepts of BCI, BCK and MV-algebras. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 177–189. (Summary) **99h:03042** 03G25 (03E72, 03G20, 06F35)

Hoo, Karlene A. (*with* Sun, Debin) A robust transition control structure for time-delay systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 150–163. (O. A. Sebakhy) **99k:93048** 93B36 (93C40)

Hood, M. J. (*with* Fowkes, N. D.) Surface tension effects in a wedge. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 4, 553–561. (Summary) **99f:76031** 76B45

Hood, Simon On using materially conserved quantities to construct solutions of differential equations. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3255–3269. (Yuri N. Skiba) **99d:76083** 76M99 (35A25, 35C99, 76C99, 76U05, 86A05)

— A new class of solutions to a generalized nonlinear Schrödinger equation. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9715–9727. (Summary) **99i:35149** 35Q55 (34A34)

Hooda, D. S. (*with* Ram, Anant) On two generalized measures of "useful" J-divergence. (English summary) *Ganita* **48** (1997), *no.* 1, 1–10. (Summary) **99e:94015** 94A15

— (*with* Bhaker, U. S.) On a generalized useful mean codeword length for the best 1:1 code. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 25–33. (Summary) **99j:94017** 94A15 (94A24)

't Hooft, Gerard Quantization of space and time in 3 and in 4 space-time dimensions. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 151–163, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Valdir B. Bezerra) **99i:81267** 81V17 (83C27, 83C57)

— The quantum black hole. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 1–26, *World Sci. Publishing, River Edge, NJ*, 1997. (Paulo Moniz) **99i:83061** 83C57 (83C45)

— The self-screening Hawking atmosphere—a different approach to quantum black hole microstates. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 174–184. (Summary) **99g:83054** 83C57 (83C47)

— Trans-Planckian particles and the quantization of time. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 395–405. (Markku Lehto) **99m:83072** 83C45 (81V17, 83C57)

— Counting planar diagrams with various restrictions. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 389–410. (Summary) **99i:81156** 81T18

Hoogendijk, Paul (*with* Backhouse, Roland) When do datatypes commute? (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 242–260, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99d:68162** 68Q65 (68N15)

Hoogeveen, Johannes Adzer (*with* Williamson, David P.; Hall, Leslie A.; Hurkens, C. A. J.; Lenstra, Jan Karel; Sevast'yanov, S. V.; Shmoys, David B.) Short shop schedules. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 288–294. (Jan Węglarz) **99g:90049** 90B25 (68Q25)

— (*with* van de Velde, Steef) Scheduling by positional completion times: analysis of a two-stage flow shop problem with a batching machine. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 273–289. (Summary) **99d:90060** 90B35 (90C70)

Hoogewijs, Albert (*with* Van Heule, Dirk; Slaats, Noemie) The non-definedness notion in expert systems. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 53–62. (Summary) **99j:68140** 68T35 (03B50, 03B70)

Hooghiemstra, Gerard (*with* Greenwood, Priscilla E.) The domain of attraction of the α-sun [α-sum] operator for type II and type III distributions. (English summary) *Bernoulli* **3** (1997), *no.* 4, 479–489. (Makoto Maejima) **99e:60060** 60F05 (60G70, 60J05)

— (*with* Adan, I. J. B. F.) The $M/M/c$ with critical jobs. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 341–353. (Srinivas Chakravarthy) **99g:60163** 60K25 (90B22)

Hoogland, Jiri (*with* van Hameren, André; Kleiss, Ronald) Gaussian limits for discrepancies. I. Asymptotic results. (English summary) *Comput. Phys. Comm.* **107** (1997), *no.* 1-3, 1–20. (Michael Mascagni) **99k:65009** 65C05 (11K36, 11K38)

— (*with* James, Fred; Kleiss, Ronald) Quasi-Monte Carlo, discrepancies and error estimates. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 266–276, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65070** 65D30 (65C05)

Hooley, Christopher On Hypothesis K^* in Waring's problem. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 175–185, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (S. Turjányi) **99i:11091** 11P05 (11P55)

— On the Barban-Davenport-Halberstam theorem. IX. *Acta Arith.* **83** (1998), *no.* 1, 17–30. (Alessandro Zaccagnini) **99g:11107** 11N13 (11N37, 11N56)

— On the Barban-Davenport-Halberstam theorem. VIII. *J. Reine Angew. Math.* **499** (1998), 1–46. (Alessandro Zaccagnini) **99g:11106** 11N13 (11N37, 11N56, 11P32, 11P55)

de Hoop, Maarten V. Direct, leading-order asymptotic, inverse scattering based on the generalized Bremmer series. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 249–253, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73D25 (73D10)

Hooper, Peter M. (*with* Yang, Zhenlin) Confidence intervals following Box-Cox transformation. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 3, 401–416. (Hariharan K. Iyer) **99g:62035** 62F25 (62F04, 62F05, 62J05)

Hooper, Wallace Inertial problems in Galileo's preinertial framework. *The Cambridge companion to Galileo*, 146–174, *Camb. Companions Philos., Cambridge Univ. Press, Cambridge*, 1998. (*see* **99k:01020**) 01A45

Hoover, Wm. G. (*with* Posch, Harald A.) Chaos and irreversibility in simple model systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 366–373. (*see* **99d:58003**) 58F13

Hopcroft, John E. (*with* Ullman, Jeffrey D.) ★ Wprowadzenie do teorii automatów, języków i obliczeń. (Polish. Polish summary) [Introduction to automata theory, languages, and computation] Translated from the 1979 English original by Beata Konikowska. *Wydawnictwo Naukowe PWN, Warsaw*, 1994. 480 *pp. ISBN* 83-01-11298-0 (Editors) **99a:68001** 68–01 (03–01, 03Dxx, 68Q05, 68Q15, 68Q45)

Hope, Harry (*with* Paprzycki, Marcin; Petrova, Svetozara) Parallel performance of a direct elliptic solver. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 310–318, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N06 (65Y05)

Hopenwasser, Alan Boundary functions for ideals in analytic limit algebras. *Illinois J. Math.* **42** (1998), *no.* 2, 257–279. (Allan P. Donsig) **99c:47065** 47D25 (46L05)

Hopf, H. The work of R. Thom [MR **22** #5558]. *Fields Medallists' lectures*, 67–69, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70 (55–03, 57–03)

Hopfinger, E. J. (*with* Orlandi, P.; Egermann, P.) Vortex rings descending in a stratified fluid. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2819–2827. (Summary) **99h:76015** 76C05 (76–05, 76V05)

Höpfner, Reinhard On tail parameter estimation in certain point process models. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 1, 169–187. (Summary) **99c:62238** 62M09

— Estimating a stability parameter: asymptotics and simulations. (English summary) *Statistics* **30** (1998), *no.* 4, 291–305. (Summary) **99k:62048** 62F12

Hopkins, Jane (*with* Krishnan, Padmanabhan) A process algebraic view of linear logic. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 308–320, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68046** 68Q10 (03B70, 03F50)

Hopkins, Michael J. (*with* Ravenel, Douglas C.; Wilson, W. Stephen) Morava Hopf algebras and spaces $K(n)$ equivalent to finite Postnikov systems. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 137–163, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Nobuaki Yagita) **99e:55005** 55N20 (55N15, 55P20, 55S45, 57T05)

— (*with* Smith, Jeffrey H.) Nilpotence and stable homotopy theory. II. *Ann. of Math.* (2) **148** (1998), *no.* 1, 1–49. (David A. Blanc) **99h:55009** 55P42 (55N20, 55Q10)

Hopkins, Nora C. (*with* Kinyon, Michael K.) Automorphism eigenspaces of quadratic differential equations and qualitative theory. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 121–138. (David R. Finston) **99i:34017** 34A34 (34C25, 34C99)

Hopkins, Richard P. (*with* Best, Eike; Frączak, Wojciech; Klaudel, Hanna; Pelz, Elisabeth) M-nets: an algebra of high-level Petri nets, with an application to the semantics of concurrent programming languages. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 813–857. (Summary) **99i:68085** 68Q90 (68Q10, 68Q55)

Hoppe, Fred M. (*with* Feng, Shui) Large deviation principles for some random combinatorial structures in population genetics and Brownian motion. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 975–994. (Vadim R. Fatalov) **99k:60074** 60F10 (60C05, 92D10)

— (*with* Feng, Shui) Limiting behaviour of some combinatorial structures in population genetics. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 65–70. (Summary) **99e:92019** 92D10

Hoppe, Jens (*with* Fröhlich, Jürg) On zero-mass ground states in super-membrane Matrix models. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 613–626. (Jihad Mourad) **99g:81162** 81T30

— (*with* Yau, Shing-Tung) Some properties of matrix harmonics on S^2. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 67–77. (Man Chun Leung) **99f:58183** 58G03 (53C80)

— (*with* Bordemann, Martin) Diffeomorphism invariant integrable field theories and hypersurface motions in Riemannian manifolds. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 683–694. (Summary) **99g:58029** 58E15

Hoppe, Peter (*with* Münster, Gernot) The interface tension of the three-dimensional Ising model in two-loop order. (English summary) *Phys. Lett. A* **238** (1998), *no.* 4-5, 265–270. (Summary) **99a:82038** 82B24 (82B26, 82B27)

Hoppe, Ronald H. W. (*with* Wohlmuth, Barbara I.) Hierarchical basis error estimators for Raviart-Thomas discretizations of arbitrary order. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 155–167, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (I. N. Molchanov) **99d:65318** 65N30

— (*with* Iliash, Yu.; Kuznetsov, Yuriĭ Alekseevich[1]; Vasilevskiĭ, Yu. V.; Wohlmuth, Barbara I.) Analysis and parallel implementation of adaptive mortar element methods. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 223–248. (Dao Qi Yang) **99m:65237** 65N55

— (*with* Wohlmuth, Barbara I.) A comparison of a posteriori error estimators for mixed finite element discretizations by Raviart-Thomas elements. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1347–1378. (Bernd Heinrich) **99m:65222** 65N30

Hoppensteadt, Frank C. ★ An introduction to the mathematics of neurons. (English summary) Modeling in the frequency domain. Second edition. Cambridge Studies in Mathematical Biology, 14. *Cambridge University Press, Cambridge*, 1997. xx+211 *pp. ISBN* 0-521-59075-2; 0-521-59929-6 (Steven Matthysse) **99a:92005** 92C20 (92B20)

Hopteriev, Hristo *see* **Khopteriev, Khristo**

Hoque, Md. Sanaul (*with* Kaykobad, M.; Akbar, Md. Mostofa; Nath, Suman Kumar) An efficient preprocessor for solving systems of linear equations. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 309–315. (Summary) **99f:65044** 65F05

Hora, Akihito The cut-off phenomenon for random walks. (Japanese) Infinite-dimensional measure theory and representation theory of infinite-dimensional groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1017 (1997), 70–91. (*see* **99d:22001**) 60J15

— Central limit theorem for the adjacency operators on the infinite symmetric group. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 405–416. (S. Gudder) **99i:46058** 46N50 (46L50)

— Central limit theorems and asymptotic spectral analysis on large graphs. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 221–246. (Dimitri Y. Shlyakhtenko) **99g:46089** 46L50 (60F99)

Horáček, B. Milan (*with* Clements, John C.) The inverse problem of electrocardiography: a solution in terms of single- and double-layer sources on the epicardial surface. (English summary) *Math. Biosci.* **144** (1997), *no.* 2, 119–154. (Summary) **99b:92020** 92C50 (65N30)

— (*with* Clements, Clyde J.; Clements, John C.) On the formation of scroll waves in an anisotropic ventricular myocardium. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 97–107, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92C50 (92C05, 92C30)

Horacek, Helmut (*with* Fehrer, Detlef) Presenting inequations in mathematical proofs. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 3–23. (Summary) **99k:68172** 68T15 (03B35)

Horadam, A. F. Morgan-Voyce type generalized polynomials with negative subscripts. *Fibonacci Quart.* **36** (1998), *no.* 5, 391–395. (Péter Kiss) **99j:11012** 11B37

— Numerical properties of Morgan-Voyce numbers. *Notes Number Theory Discrete Math.* 4 (1998), *no.* 1, 38–42. (Neville Robbins) **99e:11018** 11B37

Horadam, K. J. (*with* Perera, A. A. I.) Codes from cocycles. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 151–163, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (L. R. Vermani) **99j:94067** 94B05 (20J05, 94B15, 94B60)

— (*with* Lin, Cantian) Construction of proper higher-dimensional Hadamard matrices from perfect binary arrays. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 237–248. (Summary) **99i:05047** 05B20

Horak, Matthew (*with* Becker, Jennifer; Van Wyk, Leonard) Presentations of subgroups of Artin groups. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 3–14. (Susan Hermiller) **99f:20052** 20F05 (20F36)

Horák, Peter (*with* Branković, Ljiljana; Miller, Mirka) A combinatorial problem in database security. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 119–126. (Summary) **99k:68124** 68R05 (68P15, 94A60)

Horák, Zdeněk *see* **Vybíral, Bohumil**

Horanská, Ľubomíra On sectioning multiples of the nontrivial line bundle over Grassmannians. Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 59–64. (*see* **99g:00047**) 55S40 (55R10)

Horbacz, Katarzyna Randomly connected dynamical systems—asymptotic stability. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 31–50. (Wojciech Bartoszek) **99b:47015** 47A35 (60J10, 60K10)

Hordijk, Arie (*with* Loeve, Anneke; Tiggelman, Jeroen) Analysis of a finite-source customer assignment model with no state information. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 317–336. (Summary) **99c:90052** 90B22 (60K25)

— (*with* Yushkevich, Aleksandr A.) Blackwell optimality in the class of stationary policies in Markov decision chains with a Borel state space and unbounded rewards. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 1–39. (Jean B. Lasserre) **99m:90157** 90C40 (60K30)

— (*with* Passchier, O.; Spieksma, F. M.) On the existence of the Puiseux expansion of the discounted rewards: a counterexample. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 2, 229–235. (Summary) **99m:90158** 90C40

van Horebeek, Johan *see* **Van Horebeek, Johan**

Horesh, N. (*with* Mann, Ady) Intelligent states for the Anandan-Aharonov parameter-based uncertainty relation. (English summary) *J. Phys. A* **31** (1998), *no.* 36, *L*609–*L*611. (Summary) **99g:81032** 81P99

Horesh, Tamir (*with* Dana, Itzhack) Strong variation of global-transport properties in chaotic ensembles. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 51–58, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99d:58120** 58F13 (58F40, 78A35)

Horgan, Cornelius O. (*with* Schaefer, Philip W.) In recognition of the seventy-fifth birthday of Lawrence E. Payne. *J. Elasticity* **49** (1997/98), *no.* 2, 89–99. (Editors) **99k:01061** 01A70

— (*with* Tullini, N.; Savoia, Marco) End effects for anti-plane shear deformations of periodically laminated strips with imperfect bonding. (English summary) *J. Elasticity* **50** (1998), *no.* 3, 227–244. (Summary) **99f:73028** 73C10 (73B40)

— (*with* Chan, Alice M.) End effects in anti-plane shear for an inhomogeneous isotropic linearly elastic semi-infinite strip. (English summary) *J. Elasticity* **51** (1998), *no.* 3, 227–242. (Summary) **99k:73040** 73C10 (35Q72, 73B27)

Hori, Hajime A Hicksian two-sector model of unemployment, cycles, and growth. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 3, 369–399. (Summary) **99a:90065** 90A16

Hori, Hikaru (*with* Adachi, Kenzō) Note on the $\overline{\partial}$-problem on the complex ellipsoid. (English summary) *Sci. Bull. Fac. Ed. Nagasaki Univ. No.* 58 (1998), 9–13. (Der-Chen E. Chang) **99b:32018** 32F20 (35H05, 35N15)

Hori, Kentaro (*with* Eguchi, Tohru; Xiong, Chuan-Sheng) Gravitational quantum cohomology. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1743–1782. (Ralph Martin Kaufmann) **99a:32027** 32G81 (14N10, 58D10, 58F07, 81T40)

— (*with* de Boer, Jan; Ooguri, Hirosi; Oz, Yaron) Mirror symmetry in three-dimensional gauge theories, quivers and D-branes. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 101–147. (Summary) **99c:81230** 81T60 (58D27, 81T13, 81T30)

— (*with* de Boer, Jan; Ooguri, Hirosi; Oz, Yaron; Yin, Zheng) Mirror symmetry in three-dimensional gauge theories, SL(2, Z) and D-brane moduli spaces. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 1-2, 148–176. (Summary) **99c:81231** 81T60 (14J32, 81R10, 81T13, 81T30)

— (*with* de Boer, Jan; Oz, Yaron) Dynamics of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 163–191. (Nobuhito Maru) **99a:81167** 81T60 (81T13, 81T30)

— (*with* de Boer, Jan; Oz, Yaron; Yin, Zheng) Branes and mirror symmetry in $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 107–124. (Summary) **99j:81179** 81T60 (81T13, 81T30)

— (*with* Ooguri, Hirosi; Vafa, Cumrun) Non-abelian conifold transitions and $N = 4$ dualities in three dimensions. (English summary) *Nuclear Phys. B* **504** (1997), *no.* 1-2, 147–174. (Angel Maria Uranga) **99a:81140** 81T30 (32G81, 32S45, 81T60, 83E30)

— (*with* Ooguri, Hirosi; Vafa, Cumrun) Non-abelian conifold transitions and $N = 4$ dualities in three dimensions. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 205–238, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Douglas J. Smith) **99m:81192** 81T30 (14J32, 32J81, 81T60)

— (*with* Hanany, Amihay) Branes and $N = 2$ theories in two dimensions. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 119–174. (Douglas J. Smith) **99m:81250** 81T60 (81T13, 81T30)

— (*with* de Boer, Jan; Ooguri, Hirosi; Oz, Yaron) Kähler potential and higher derivative terms from M-theory fivebrane. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 173–211. (Sergey A. Cherkis) **99d:81109** 81T30 (81T60, 83E30)

— (*with* de Boer, Jan; Ooguri, Hirosi; Oz, Yaron) Branes and dynamical supersymmetry breaking. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 20–68. (Angel Maria Uranga) **99e:81232** 81T60 (81R40, 81T30)

— (*with* de Boer, Jan; Ooguri, Hirosi) Membrane scattering in curved space with M-momentum transfer. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 257–283. (Summary) **99g:81151** 81T30 (83E30)

Hori, Kuniaki (*with* Asano, Takao; Ono, Takao; Hirata, Tomio) A theoretical framework of hybrid approaches to MAX SAT. (English summary) *Algorithms and computation* (*Singapore*, 1997), 153–162, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25

— (*with* Asano, Takao; Ono, Takao; Hirata, Tomio) Approximation algorithms for MAX SAT: semidefinite programming and network flows approach. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 90–108. (Gerald Hammer) **99d:90089** 90C27 (68Q25)

Hori, Noriyuki (*with* Comeau, A. Raymond) State-space forms for higher-order discrete-time models. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 23–31. (A. T. Barabanov) **99m:93061** 93C55 (49M25, 93A30)

Hori, Shoichi Generalization of Tomimatsu-Sato solutions. IV. (English summary) *Progr. Theoret. Phys.* **96** (1996), *no.* 2, 327–345. (Yu. P. Rybakov) **99b:83013** 83C15

— (*with* Tanimura, Osamu) Solution with real value of deformation parameter for Ernst equation in gravitational field caused by rotating source. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 783–799. (János Kánnár) **99h:83011** 83C15 (83C20)

Horibata, Takatoshi (*with* Midorikawa, Shoichi[2]; Tomoda, Toshiaki; Muraoka, Mitsuo) Recurrence relations for counting the number of permutations with forbidden successive numbers. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 9, 2551–2562. 05A05 (68R05)

Horibe, Daiji (*with* Miyoshi, Naoto) Application of smoothed perturbation analysis to a discrete-time stationary queue. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 152–165. (Summary) **99b:60158** 60K25 (90B22)

Horie, Kazuo Homogenization of Hamilton-Jacobi equations with Neumann and Dirichlet boundary conditions. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 38–47. (*see* **99a:35003**) 35B27 (35F20, 49L99)

Horie, Kuniaki Iwasawa invariants. (Japanese) *Sūgaku* **48** (1996), *no.* 4, 358–371. (Ken Yamamura) **99b:11119** 11R23

Horiguchi, Kazumi A parametrization of linear discrete-time systems interpolating input-output characteristics. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 4, 172–181. 93C55 (93B40)

Horiguchi, Tsutomu Gravitational constant, cosmological constant and phases of quantum gravity based on the Wheeler-DeWitt equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 9, 1227–1288. (Alejandro R. Corichi) **99g:83034** 83C45

Horiuchi, Toshio Semilinear degenerate elliptic equations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 635–650. (Jun Yu Wang) **99c:35059** 35J60 (35J70)

— Notes on removable singularities for a certain class of semilinear degenerate elliptic equations. *Math. J. Ibaraki Univ.* **29** (1997), 31–39. (H. J. Kuiper) **99c:35060** 35J60 (35B65, 35J70)

— Removable singularities of solutions to degenerate semilinear elliptic equations and their applications. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 8–21. (*see* **99a:00036**) 35J70 (35J60)

Horiyama, Takashi (*with* Yajima, Shuzo) Exponential lower bounds on the size of OBDDs representing integer division. (English summary) *Algorithms and computation* (*Singapore*, 1997), 163–172, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q05 (68Q25)

Horja, P. (*with* Boskoff, Vladimir) The characterization of some special Barbilian spaces using the Tzitzeica construction. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 5, 503–514. 54E35 (51M99)

Hörmander, Lars Autobiography of Lars Hörmander. *Fields Medallists' lectures*, 82–85, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 01A70

— Looking forward from ICM 1962. *Fields Medallists' lectures*, 86–103, *World Sci. Ser. 20th Century Math., 5, World Sci. Publishing, River Edge, NJ*, 1997. (Editors) **99d:01028** 01A65 (01A70)

— On the Legendre and Laplace transformations. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 517–568 (1998). (Valentin Napalkov) **99m:46175** 46N20 (42A38)

— *see also* **Gårding, Lars**, (**99b:00010**)

Hörmann, G. (*with* Kunzinger, M.) Nonlinearity and self-interaction in physical field theories with singularities. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 205–214. (Summary) **99d:35168** 35Q99 (35D99, 46F10, 78A25)

Hormann, Kai (*with* Greiner, Günther) Interpolating and approximating scattered 3D data with hierarchical tensor product *B*-splines. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 163–172, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 65D05 (41A63, 65D07)

Hörmann, Wolfgang (*with* Leydold, Josef) A sweep-plane algorithm for generating random tuples in simple polytopes. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1617–1635. (P. Neumann) **99c:65011** 65C10 (65Y25)

Hormigón, Mariano Garcia de Galdeano and El Progreso Matematico. *Messengers of mathematics: European mathematical journals* (1800–1946), 95–115, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— Schools in the history of mathematics. (Spanish) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 61–70, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 01A72
— *see also* **Brezinski, Claude, 99c:01002** *and* **Messengers of mathematics: European mathematical journals (1800–1946), 99d:01045**
Horn, Charles S. (*with* Ramadge, Peter J.) A topological analysis of a family of dynamical systems with non-standard chaotic and periodic behaviour. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 979–996. 93C10 (58F13)
Horn, Jeffrey D. (*with* Ferris, Michael C.) Partitioning mathematical programs for parallel solution. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 35–61. (Panos M. Pardalos) **99d:90111** 90C30 (65Y05)
Horn, Manfred (*with* Vollandt, Rüdiger) Sample sizes for comparisons of k treatments with a control based on different definitions of the power. (English summary) *Biom. J.* **40** (1998), *no.* 5, 589–612. 62J15
Horn, Mark A. (*with* Chan, Raymond H.; DeLillo, Thomas K.) Superlinear convergence estimates for a conjugate gradient method for the biharmonic equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 139–147 (*electronic*). (Summary) **99e:65145** 65N12 (30C30, 65E05)
Horn, Mary Ann Remarks on robustness of stability with respect to thickness for elastic structures. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 137–152 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Werner Horn) **99m:93075** 93D09 (35B32, 35Q72, 73K50, 93D15)
— Implications of sharp trace regularity results on boundary stabilization of the system of linear elasticity. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 126–150. (Vadim Komkov) **99c:93059** 93C20 (35Q72, 73C02, 73K50, 93D15)
— Sharp trace regularity for the solutions of the equations of dynamic elasticity. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 11 *pp.* (*electronic*). (Vilmos Komornik) **99j:73021** 73C02 (35B65, 35Q72, 93C20)
— A review on the influence of boundary regularity on the question of boundary stabilization. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1199–1222. (Vadim Komkov) **99k:93076** 93D15 (35Q72, 73K50, 93C20)
Horn, Roger A. (*with* Choudhury, Dipa) An analog of the Gram-Schmidt algorithm for complex bilinear forms. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 43–60. (Wasin So) **99b:15015** 15A21
Horn, Stephen (*with* Singh, Sarjinder; Chowdhury, Sadeq) Estimation of stigmatized characteristics of a hidden gang in a finite population. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 291–297. (Summary) **99i:62016** 62D05
Hořňák, Mirko (*with* Soták, Roman) Asymptotic behaviour of the observability of Q_n. (English summary) *Discrete Math.* **176** (1997), *no.* 1-3, 139–148. (S. G. Hoggar) **99b:05058** 05C15
— (*with* Soták, Roman) Localization of jumps of the point-distinguishing chromatic index of $K_{n,n}$. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 243–251. (Summary) **99b:05059** 05C15
Hornberg, A. (*with* Ritter, Stefan) An integral equation method for the flow in an infinite tunnel. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 731–742. (Summary) **99i:76025** 76B99 (45L05, 65R20, 76M25)
Horne, Michael A. (*with* Żukowski, Marek; Zeilinger, Anton; Weinfurter, Harald) Independent photons and entanglement. A short overview. (English summary) Irreversibility and cosmology. Fundamental aspects of quantum mechanics (Peyresq, 1997). *Internat. J. Theoret. Phys.* **38** (1999), *no.* 1, 501–517. (*see* **99k:00032**) 81P99
Horne, Neil (*with* Green, John Stephen; Orłowska, Ewa; Siemens, Paul) A rough set model of information retrieval. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 273–296. (Summary) **99c:68237** 68T30 (68P20)
Horner, Heinz (*with* Kühn, Reimer) Neural networks. *Intelligence and artificial intelligence*, 125–161, *Springer, Berlin*, 1998. (*see* **99d:68211**) 68T05 (92B20)
Horng, Gwoboa (*with* Huang, Ming-Deh A.) Solving polynomials by radicals with roots of unity in minimum depth. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 881–885. (Richard Massy) **99i:12009** 12Y05 (11R32, 12F10)
Horng, Shi-Jinn (*with* Jiang, Feng-Shr) Finding generalized Fibonacci cubes in faulty hypercubes. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 358–381 (*electronic*). (*see* **99g:68005**) 68M10
— (*with* Lee, Yu-Hua) The equivalence of the chessboard distance transform and the medial axis transform. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 165–177. (Summary) **99m:68223** 68U10
Hornix, E. A. M. Relations between invariants of formally real fields. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 181–191. (Victoria Powers) **99f:11049** 11E10 (12D15)
Hornor, William E. (*with* Jamison, James E.) Isometrically equivalent composition operators. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 65–72, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Shamil Makhmutov) **99b:47041** 47B38 (30H05, 32A35, 46E15)
Hornung, Ulrich (*with* Gerke, Horst H.; Kelanemer, Youcef; Slodička, Marián; Schumacher, Stephan) ★ Optimal control of soil venting: mathematical modeling and applications. (English summary) International Series of Numerical Mathematics, 127. *Birkhäuser Verlag, Basel*, 1999. *xvi*+152 *pp. ISBN* 3-7643-6041-0 (Publisher's description) **99m:49061** 49N55 (76S05, 86A99, 93C95)
Horodecki, Michał (*with* Horodecki, Paweł; Horodecki, Ryszard) Mixed-state entanglement and distillation: Is there a "bound" entanglement in nature? (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 24, 5239–5242. (Summary) **99c:81007** 81P05
Horodecki, Paweł (*with* Życzkowski, Karol; Sanpera, Anna; Lewenstein, Maciej) Volume of the set of separable states. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 883–892. (Summary) **99d:81011** 81P05
— (*with* Horodecki, Michał; Horodecki, Ryszard) Mixed-state entanglement and distillation: Is there a "bound" entanglement in nature? (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 24, 5239–5242. (Summary) **99c:81007** 81P05
Horodecki, Ryszard (*with* Horodecki, Michał; Horodecki, Paweł) Mixed-state entanglement and distillation: Is there a "bound" entanglement in nature? (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 24, 5239–5242. (Summary) **99c:81007** 81P05
Horová, Ivana Gegenbauer polynomials, optimal kernels and Stancu operators. (English summary) *Approximation theory and function series* (*Budapest*, 1995), 227–235, *Bolyai Soc. Math. Stud.*, 5, *János Bolyai Math. Soc., Budapest*, 1996. (Summary) **99f:33010** 33C45 (41A36)
— (*with* Budíková, Marie) Multivariate kernel estimators. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 7–16, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99c:62096** 62G05
— Boundary kernels. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 17–24, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (*see* **99a:00042**) 62G05
— *see also* **Proceedings: Summer Schools MATLAB 94, 95, 99a:00042**
Horowitz, Charles Factorization of functions in generalized Nevanlinna classes. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 745–751. (L. R. Sons) **99f:30053** 30D50
Horowitz, Gary T. (*with* Polchinski, Joseph) Correspondence principle for black holes and strings. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 10, 6189–6197. (Summary) **99d:83059** 83C57 (81T30, 83E30)
— Quantum states of black holes. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 241–266, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57 (83E30)
— (*with* Ross, Simon F.) Possible resolution of black hole singularities from large N gauge theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 15, 9 *pp.* (*electronic*). (Marco Spaans) **99f:83050** 83C57 (81T30, 81T60, 83E30)
— (*with* Ooguri, Hirosi) Spectrum of large N gauge theory from supergravity. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 19, 4116–4118. (Summary) **99c:81242** 81T60 (81T13, 81T30, 83E30, 83E50)
Horowitz, Joel L. (*with* Manski, Charles F.) What can be learned about population parameters when the data are contaminated. *Robust inference*, 439–466, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35
— ★ Semiparametric methods in econometrics. (English summary) Lecture Notes in Statistics, 131. *Springer-Verlag, New York*, 1998. *x*+204 *pp. ISBN* 0-387-98477-1 (Peter M. Robinson) **99g:62154** 62P20 (62G05)
Horowitz, Roberto (*with* Li, Bo[2]; McCormick, J. W.) Wiener-filter-based minimum variance self-tuning regulation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 531–545. (Summary) **99c:93104** 93E11 (93D15)
Horozov, Emil (*with* Bakalov, B.; Yakimov, M.) Bispectral algebras of commuting ordinary differential operators. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 331–373. (Alexander V. Shapovalov) **99e:34188** 34L05 (58F07)
— (*with* Grünbaum, F. Alberto; Haine, Luc) On the Krall-Hermite and the Krall-Bessel polynomials. *Internat. Math. Res. Notices* **1997**, *no.* 19, 953–966. (Kenji Taniguchi) **99e:33007** 33C45 (58F19)
— (*with* Bakalov, B.; Yakimov, M.) Highest weight modules over the $W_{1+\infty}$ algebra and the bispectral problem. *Duke Math. J.* **93** (1998), *no.* 1, 41–72. (Piotr G. Grinevich) **99h:58077** 58F07 (17B68, 34L05)
— (*with* Iliev, Iliya D.) Linear estimate for the number of zeros of Abelian integrals with cubic Hamiltonians. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1521–1537. (Pavao Mardešić) **99j:34036** 34C05 (58F21)
Horrocks, David G. C. Nested chain partitions of Hamiltonian filters. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 176–189. (James W. Lea, Jr.) **99g:06002** 06A06
Horrocks, Ian (*with* Patel-Schneider, Peter F.) Optimising propositional modal satisfiability for description logic subsumption. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 234–246, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 03B45
Horsch, Armin (*with* Harris, Bernard; Godehardt, Erhard) Random multigraphs, classification and clustering. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 279–286, *VSP, Utrecht*, 1995. (*see* **99g:62004**) 60C05 (05C80, 62H30)
Horsin-Molinaro, Thierry On the controllability of the Burgers equation. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 83–95 (*electronic*). (Enrique Zuazua) **99c:93007** 93B05 (35Q35, 93B05, 93C20)
Horský, J. (*with* Štefaník, M.) Generating conjecture and some Einstein-Maxwell fields of high symmetry. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 1, 113–116. (Summary) **99a:83024** 83C22
Horsley, Anthony (*with* Wrobel, A. J.; Van Zandt, Timothy) Berge's maximum theorem with two topologies on the action set. (English summary) *Econom. Lett.* **61** (1998), *no.* 3, 285–291. (Summary) **99j:90002** 90A05 (90A06)
van Horssen, W. T. (*with* Boertjens, G. J.) On internal resonances for a weakly nonlinear beam equation. (English summary) *Differential equations* (*Bandung*, 1996), 221–231, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:73085** 73K12 (35Q72, 73D35, 73K05)
— (*with* Boertjens, G. J.) On mode interactions for a weakly nonlinear beam equation. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 1, 23–40. (Summary) **99g:73045** 73D35 (73K05, 73K12)
Horst, Reiner (*with* Raber, Ulrich) Convergent outer approximation algorithms for solving unary programs. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 123–149. (Summary) **99g:90121** 90C30 (90C60)
— *see also* **Workshop: Global Optimization, 99k:90005**
Horsten, Leon Provability in principle and controversial constructivistic principles. (English summary) *J. Philos. Logic* **26** (1997), *no.* 6, 635–660. (Wim Veldman) **99f:03083** 03F55 (03F30, 03F65)
Hortaçsu, M. (*with* Ülker, K.) Gravitational shock waves and vacuum fluctuations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1415–1420. (Summary) **99a:83035** 83C47
— (*with* Kaya, Rüstem) Comparison of exact and perturbative results for two metrics. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1645–1654. (Michael L. Fil'chenkov) **99h:83016** 83C25 (83C15)

Hortal, Mariano Formulation of the ECMWF forecast model. *Numerical methods for wave propagation* (*Manchester*, 1995), 237–251, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (From the text) **99j:86003** 86–08 (86A10)

Hortascu, M. (*with* Enginer, Y.; Kaya, Rüstem; Özdemir, N.; Ülker, K.; Yapiskan, B.) Quantum fluctuations of some gravitational waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1029–1048. 83C35 (83C47)

Hortikar, Sanjay (*with* Srednicki, Mark) Random matrix elements and eigenfunctions in chaotic systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 7313–7316. (Summary) **99a:81045** 81Q50

Horváth, Á. (*with* Szabados, J.) Polynomial approximation and interpolation on the real line with respect to general classes of weights. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 120–131. (Z. Ditzian) **99g:41006** 41A10

Horváth, Ákos G. Dissections of a centrally symmetric hexagon. (English summary) *Intuitive geometry* (*Budapest*, 1995), 327–334, *Bolyai Soc. Math. Stud.*, 6, *János Bolyai Math. Soc., Budapest*, 1997. (Summary) **99m:52017** 52B12

— Extremal polygons with minimal perimeter. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 83–92. (Summary) **99a:52029** 52C17 (52B12)

— On Dirichlet-Voronoi cell. II. Diagrams. (English summary) *Period. Polytech. Mech. Engrg.* **41** (1997), *no.* 2, 95–117. (Béla Uhrin) **99j:52018** 52C07 (20H15)

Horvath, Charles D. On topological means. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 139–147, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (G. Chichilnisky) **99a:90029** 90A08

Horváth, D. (*with* Hnatich, J.; Stehlik, Milan) Large and small scale random forcing concept in magnetohydrodynamic turbulence. (English summary) *Magnetohydrodynamics* **33** (1997), *no.* 3, 217–224 (1998). 76W05 (76F99, 82C28)

Horváth, Erzsébet (*with* Corrádi, Keresztély) Normal π-complement theorems. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 262–269. (George Glauberman) **99h:20040** 20D20

— (*with* Hassan, Nabila Mohamed) Some remarks on Dade's conjecture. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 181–194. (J. L. Alperin) **99h:20010** 20C20 (20C15)

Horváth, Ivan Ginsparg-Wilson relation and ultralocality. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 19, 4063–4066. (Summary) **99g:81148** 81T25 (81T27)

Horváth, Jenő (*with* Temesvári, Ágota H.) Über die Enge von Kugelpackungen und Dicke von Punktsystemen im sphärischen Raum. (English summary) [On the closeness of packings of balls and the thickness of point systems in spherical space] 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 93–104. (Summary) **99a:52030** 52C17

Horváth, Lajos (*with* Kokoszka, Piotr) The effect of long-range dependence on change-point estimators. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 57–81. (M. Hušková) **99c:62061** 62F12 (60G10, 60G18)

— (*with* Csörgő, Miklós; Szyszkowicz, Barbara) Integral tests for suprema of Kiefer processes with application. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 365–377. (Qi Man Shao) **99c:60080** 60G15 (62G10)

— (*with* Hušková, Marie; Serbinowska, Monika) Estimators for the time of change in linear models. (English summary) *Statistics* **29** (1997), *no.* 2, 109–130. (Summary) **99k:62126** 62J05 (62G05)

— (*with* Shao, Qi-Man) Limit distributions of directionally reinforced random walks. (English summary) *Adv. Math.* **134** (1998), *no.* 2, 367–383. (Luis G. Gorostiza) **99g:60070** 60F17 (60F15, 60J15)

— Diffusion approximation for random walks on anisotropic lattices. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 206–212. (Karl Grill) **99f:60073** 60F17 (60J15)

— Tests for changes under random censorship. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 229–243. (Winfried Stute) **99h:62057** 62G10

— (*with* Berkes, István) Limit theorems for logarithmic averages of random vectors. (English summary) *Math. Nachr.* **195** (1998), 5–16. (Mark M. Meerschaert) **99h:60069** 60F17 (60F15)

— (*with* Berkes, István; Csáki, Endre) Almost sure central limit theorems under minimal conditions. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 67–76. (Peter Schatte) **99b:60042** 60F15 (60F05)

— (*with* Berkes, István; Khoshnevisan, Davar) Logarithmic averages of stable random variables are asymptotically normal. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 35–51. (J. L. Mijnheer) **99j:60023** 60E07 (60F15, 60G50)

— (*with* Steinebach, Josef) On the best approximation for bootstrapped empirical processes. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 117–122. (Miguel A. Arcones) **99k:60082** 60F15

Horváth, M. *see* **Horváth, Miklós**

Horváth, Márta (*with* Lugosi, Gábor) Scale-sensitive dimensions and skeleton estimates for classification. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 37–61. (Summary) **99c:62166** 62H30 (62G05)

Horváth, Miklós Local uniform convergence of the Riesz means of Laplace and Dirac expansions. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 653–696. (Kamoliddin Kh. Boimatov) **99g:47113** 47F05 (35J10, 35P10, 47A70)

— (*with* Joó, István) On some special pseudoconvex spaces. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 13–20. (Summary) **99i:52001** 52A01

Horváth, Sándor (*with* Choffrut, Christian) Equations in transfinite strings. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 656–664, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R15 (03C05, 03D05)

— *see also* **Modern applied analysis**

Horváth, Tamás² (*with* Bohnebeck, Uta; Wrobel, Stefan) Term comparisons in first-order similarity measures. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 65–79, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (*see* **99k:68010**) 68T05 (68N17)

Horváth, Zalán *see* **Conformal field theories and integrable models, 99b:81001**

Horváth, Zoltán² On the unconditional positivity of diagonally split Runge-Kutta methods. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 311–320, *Gordon and Breach, Amsterdam*, 1997. (Bolesław Kacewicz) **99k:65057** 65L06

— Positivity of Runge-Kutta and diagonally split Runge-Kutta methods. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 309–326. (Iulian Coroian) **99i:65073** 65L06

Horváthy, P. A. (*with* Hassaïne, M.; Yéra, J.-C.) Non-relativistic Maxwell-Chern-Simons vortices. (English summary) *Ann. Physics* **263** (1998), *no.* 2, 276–294. (Giulio Soliani) **99f:81129** 81T13 (58E50)

— (*with* Yéra, J.-C.) Vortex solutions of the Liouville equation. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 111–120. (Avinash Khare) **99k:58057** 58E50 (35Q40, 81T13)

Horvitz, Eric (*with* Poh, Kim Leng) A graph-theoretic analysis of information value. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 427–435, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99a:68166** 68T30 (90A05)

— *see also* **Uncertainty in artificial intelligence, 99a:68018**

basarab-Horwath, Peter *see* **Basarab-Horwath, Peter**

Horwich, Paul Realism and truth. *Realism and quantum physics*, 29–39, *Poznań Stud. Philos. Sci. Humanities*, 55, *Rodopi, Amsterdam*, 1997. (*see* **99k:81012**) 03A05 (00A30, 81P05)

Horwitz, Lawrence P. (*with* Eisenberg, Eli) Lax-Phillips theory and the unstable system in quantum mechanics. (English summary) *Quantum classical correspondence* (*Philadelphia, PA*, 1994), 267–280, *Internat. Press, Cambridge, MA*, 1997. (Summary) **99a:81192** 81U99 (47A40, 47N50, 81Q10)

— (*with* Eisenberg, Eli; Strauss, Y.) The Lax-Phillips semigroup of the unstable quantum system. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 323–332, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Ghias Hachem) **99i:81131** 81S99 (47A40, 47N50)

— (*with* Strauss, Y.) Description of unstable systems in relativistic quantum mechanics in the Lax-Phillips theory. (English summary) Parametrized relativistic quantum theory, Part 2 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 10, 1607–1616. (Summary) **99k:81334** 81U20 (47A40, 47N50)

— (*with* Adler, Stephen L.) Equilibrium statistical ensembles and structure of the entropy functional in generalized quantum dynamics. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 519–529. (Robert Alicki) **99k:82048** 82C10 (82C03)

— (*with* Ashkenazy, Y.; Goren, C.) Chaos of the relativistic parametrically forced van der Pol oscillator. (English summary) *Phys. Lett. A* **243** (1998), *no.* 4, 195–204. (Summary) **99b:70023** 70K50 (58F13, 70H40)

— *see also* **Parametrized relativistic quantum theory, 99k:81005** *and* **99k:81006**

Hosaka, Hiroshi (*with* Kato, Hisao) Continuous maps of trees and nonwandering sets. (English summary) *Topology Appl.* **81** (1997), *no.* 1, 35–46. (Louis Block) **99c:54058** 54H20 (54F50, 58F03)

Hosaka, Masanori (*with* Kurano, Masami; Song, Jinjie; Huang, Youqiang) Controlled Markov set-chains with discounting. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 293–302. (D. Kalin) **99g:90157** 90C40

— (*with* Song, Jinjie; Kurano, Masami) Controlled Markov set-chains under average criteria. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 169–177. (*see* **99h:90006**) 90C40 (90C39)

Hoschek, Josef (*with* Schneider, Mike) Interpolation and approximation with developable surfaces. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 185–202, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:65025** 65D17 (51N05)

— (*with* Speer, Thomas; Kuppe, Markus) Global reparametrization for curve approximation. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 869–877. (Summary) **99g:65021** 65D17 (41A30)

nematy Hoseanabady, A. *see* **Nematy Hoseanabady, A.**

Hösel, Volker On the estimation of covariance functions of P_n-weakly stationary processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 607–629. (M. M. Rao) **99i:62223** 62M15 (60G12, 60G15)

Hoshii, Naoki (*with* Muramatsu, Eiichi; Ikeda, Masao) An interpolated controller for stabilization of a plant with variable operating conditions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 76–81. (Summary) **99j:93084** 93D15

Hoshina, Takao (*with* Yamazaki, Kaori) Extensions of functions on product spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 195–204. (Zbigniew Grande) **99b:54026** 54C45 (54B10, 54E18)

Hoshino, Fumitaka (*with* Sugihara, Masaaki; Fujino, Seiji) Verification of a numerical method for the exact solution of Burgers' equation using overload function of C++. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 11–16. (*see* **99h:65005**) 65M70

Hoshino, Hiroki (*with* Imabayashi, R.; Kusano, Takaŝi; Tanigawa, T.) On second-order half-linear oscillations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 199–216. (E. Müller-Pfeiffer) **99c:34059** 34C10

— (*with* Kawashima, Shuichi) Exponentially decaying component of a global solution to a reaction-diffusion system. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 897–904. (Mark A. Peletier) **99j:35104** 35K57

Hoshino, Mitsuhiro On some continuous time discounted Markov decision process. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 53–61. (Summary) **99a:90226** 90C40 (93E20)

Hoshino, Mitsuo (*with* Sumioka, Takeshi) Injective pairs in perfect rings. *Osaka J. Math.* **35** (1998), *no.* 3, 501–508. (K. R. Fuller) **99i:16009** 16D50 (16D40, 16L30)

Hoshino, Tasuku (*with* Hara, Masaaki; Furuta, Katsuhisa; Pan, Yaodong) Evaluation of discrete-time VSC on an inverted pendulum apparatus with additional dynamics. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 159–181. (*see* **99a:93003**) 93C95

Hoshiro, Toshihiko On weighted L^2 estimates of solutions to wave equations. *J. Anal. Math.* **72** (1997), 127–140. (Eugene Schlereth) **99j:35120** 35L05 (35B45, 35B65)

— A restriction theorem and weighted L^2 estimates for wave equations. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 48–59. (*see* **99a:35003**) 35B45 (35J10, 35Q53)

— Restriction theorems and limiting absorption. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 121–130. (*see* **99a:00049**) 35J10 (35P99)

Hoskins, Brian (*with* Methven, John) Spirals in potential vorticity. I. Measures of structure. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 11, 2053–2066. (From the summary) **99e:86005** 86A10 (76C99)

Höskuldsson, Agnar The Heisenberg modelling procedure and applications to process control. (English summary) Data processing and process control. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 4, 755–773. (*see* **99h:93003**) 93A30 (93E35)

Hosoda, Yohsuke (*with* Nakata, Susumu; Kitagawa, Takashi) A Tikhonov regularization method involving rank-revealing QR decomposition. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 212–219. (*see* **99i:00028**) 65H10

— Truncated least-squares least-norm solutions by applying the QR decompositions twice. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1051–1055. 65F10

Hosoe, S. (*with* Hoang Duong Tuan) On a state-space approach in robust control for singularly perturbed systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 435–462. (Summary) **99k:93065** 93C70 (34H05, 93B36)

— (*with* Hoang Duong Tuan) On robust $\mathscr{H}_\infty$ control for nonlinear discrete and sampled-data systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 715–718. (Vasile Drăgan) **99d:93020** 93B36 (93C10, 93C57)

— LMI approach to an H_∞-control problem with time-domain constraints over a finite horizon. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1128–1132. 93B36

— A unified approach to H_∞ control by J-causal-anticausal factorization. *Learning, control and hybrid systems* (*Bangalore*, 1998), 337–352, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36

Hosoh, Toshio Automorphism groups of cubic surfaces. (English summary) *J. Algebra* **192** (1997), *no.* 2, 651–677. (From the introduction) **99d:14042** 14J50

Hosoi, A. E. (*with* Mahadevan, L.) Axial instability of a free-surface front in a partially filled horizontal rotating cylinder. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 97–106. (Summary) **99k:76055** 76E10 (76D45, 76U05)

Hosoi, Tsutomu (*with* Migita, Takafumi) Gentzen-type formulation of some modal logics. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 207–237. (Branislav Boričić) **99b:03030** 03B45 (03F05)

Hosokawa, Fujitsugu (*with* Suzuki, Shin'ichi) Every 2-link with two components is link-homotopic to the trivial 2-link. (English summary) *KNOTS '96* (*Tokyo*), 319–326, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:57016** 57M25

Hosokawa, Hiroshi[2] (*with* Nakagiri, Shin-ichi) Auto-control collision avoidance for vehicles by means of Lyapunov functions. (Japanese) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 14–27. (*see* **99f:00019**) 93C95 (70Q05)

Hosokawa, Iwao (*with* Atobe, Takashi; Kaburaki, Hideo) Divergence of solutions to the 3-dimensional Euler equations. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 176–184. (*see* **99e:76056**) 76C99 (35Q35)

— (*with* Oide, Shin-ichi; Yamamoto, Kiyoshi) Similar variables for passive scalar and joint multifractals. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 137–145. (*see* **99k:76004**) 76F99 (28A80)

Hosomichi, Kazuo Absorption of fermions by D3-branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 9, 9 *pp.* (*electronic*). (Summary) **99c:81187** 81T30 (83E30)

— Fermion emission from five-dimensional black holes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 312–332. (Summary) **99c:83100** 83E50 (83C57)

Hosono, Yuzo Travelling waves for a diffusive Lotka-Volterra competition model. II. A geometric approach. (English summary) *Forma* **10** (1995), *no.* 3, 235–257. (N. F. Britton) **99m:35119** 35K57 (92D25)

— Traveling wave solutions for a simple diffusive epidemic model. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 23–36, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:92038** 92D30 (34C99, 35K99, 35Q80)

Hosotani, Yutaka Gauge theory model—quark dynamics and anti-ferromagnets. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 445–449, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81V05 (81V10, 82B20)

— (*with* Rodríguez, Ramón Gerardo) Bosonized massive N-flavour Schwinger model. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9925–9955. (Summary) **99j:81112** 81T10 (81V05)

— (*with* Tekin, Bayram; Saririan, Kamran) Complex monopoles in the Georgi-Glashow-Chern-Simons model. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 3, 720–738. 81V05

Hosoya, Akio (*with* Iguchi, Osamu; Koike, Tatsuhiko) Renormalization group approach to the Einstein equation in cosmology. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3340–3350. (Summary) **99m:83016** 83C05 (81T17)

Hosoya, Haruo Pascal's triangle, non-adjacent numbers, and D-dimensional atomic orbitals. (English summary) Girona 97 special issue. *J. Math. Chem.* **23** (1998), *no.* 1-2, 169–178. (Summary) **99c:81277** 81V45 (11B65, 11Z05)

Hossain, A. K. M. Shahadat (*with* Steihaug, Trond) Computing a sparse Jacobian matrix by rows and columns. (English summary) *Optim. Methods Softw.* **10** (1998), *no.* 1, 33–48. 90C30 (65F50)

Hossain, Abul (*with* Ray, Kumar S.) An extension of QSIM with qualitative curvature. (English summary) *Artificial Intelligence* **96** (1997), *no.* 2, 303–350. (Pavel S. Pankov) **99d:68093** 68Q20 (65Y25, 68T99)

Hossain, Anwar (*with* Howlader, Hatem A.) Bayesian prediction intervals for Maxwell parameters. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 97–106. 62F15

Hossain, M. F. *see* **Hossain, Md. Forhad**

Hossain, Md. Akram (*with* Yonge, David R.) Modeling contaminant transport in groundwater: an optimized finite element method. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 89–100. 76S05 (65M60, 76M10)

— (*with* Yonge, David R.) On Galerkin models for transport in groundwater. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 249–263. (Summary) **99m:76079** 76M10 (65M60, 76S05, 86–08, 86A05)

— Modeling advective-dispersive transport with reaction: an accurate explicit finite difference model. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 2-3, 101–108. 65M06

Hossain, Md. Bellal (*with* Sen, Rabindranath) On the solution by fourth order finite difference method for certain singular boundary value problems. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 253–275. (Ekkehard Wagenführer) **99c:65147** 65L10

Hossain, Md. Forhad (*with* Islam, M. K.) A note on combinatorial problems: some propositions. (English summary) *J. Stat. Stud.* **17** (1997), 93–102. 60C05 (05A10, 62E15)

Hossain, Md. T. (*with* Pal, T. K.) An alternative algorithm for LPP. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 41–49. 90C05

Hosseini, S. M. (*with* Hojjati, G.) Matrix free MEBDF method for the solution of stiff systems of ODEs. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 67–77. 65L06 (65L12, 65M06)

Hosseinzadeh, Hassan (*with* Shahgholian, Henrik) Some qualitative aspects of a free boundary problem for the p-Laplace operator. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 109–121. (Mahdi Boukrouche) **99m:35273** 35R35 (35J65)

Hossen, H. M. (*with* Aouf, M. K.) The starlike functions of order α and type β with finitely many fixed coefficients. *Mathematica* **38(61)** (1996), *no.* 1-2, 3–12. (O. P. Ahuja) **99d:30013** 30C45

— (*with* Aouf, M. K.; Lee, Sang Hun; Cho, Nak Eun) Certain generalizations of P-valent functions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 251–258. (Summary) **99i:30019** 30C45

— (*with* Aouf, M. K.) A note on certain subclass of analytic functions. *Mathematica* **39(62)** (1997), *no.* 1, 3–5. (Shigeyoshi Owa) **99f:30017** 30C45

— (*with* Salagean, Grigore Stefan; Aouf, M. K.) Notes on certain classes of analytic functions with negative coefficients. *Mathematica* **39(62)** (1997), *no.* 2, 165–179. (D. E. Tepper) **99g:30011** 30C45

— (*with* Owa, Shigeyoshi; Aouf, M. K.) A class of functions defined by using Hadamard product. II. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 115–139. (T. H. MacGregor) **99i:30024** 30C45

— (*with* Aouf, M. K.; Srivastava, Hari M.) Certain subclasses of prestarlike functions with negative coefficients. (English summary) *Kumamoto J. Math.* **11** (1998), 1–17. (Herb Silverman) **99f:30019** 30C45 (26A33)

— (*with* Srivastava, Hari M.; Aouf, M. K.) A certain subclass of meromorphically convex functions with negative coefficients. (English summary) *Math. J. Ibaraki Univ.* **30** (1998), 33–51. (Herb Silverman) **99j:30016** 30C45

— (*with* Srivastava, Hari M.; Aouf, M. K.) Certain classes of analytic and multivalent functions. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 233–244. (Shigeyoshi Owa) **99k:30020** 30C45

Hössjer, O. (*with* Jones, Michael C.) From basic to reduced bias kernel density estimators: links via Taylor series approximations. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 23–34. (Summary) **99d:62036** 62G05

Höst, Stefan (*with* Johannesson, Rolf; Zigangirov, Kamil Sh.; Zyablov, Viktor V.) Active distances for convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 658–669. (Summary) **99k:94050** 94B10

Hoste, Jim Framed link diagrams of open 3-manifolds. (English summary) *KNOTS '96* (*Tokyo*), 515–537, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57026** 57M50 (57M25, 57N10)

— Open 3-manifolds with infinitely many knot-surgery descriptions. (English summary) *KNOTS '96* (*Tokyo*), 539–543, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57035** 57N10 (57M25)

— (*with* Thistlethwaite, Morwen; Weeks, Jeffrey R.) The first 1,701,936 knots. *Math. Intelligencer* **20** (1998), *no.* 4, 33–48. (C. Kearton) **99i:57015** 57M25

Hoşten, Serkan On the complexity of smooth projective toric varieties. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 325–332. (Franz Pauer) **99i:14063** 14M25 (52B20)

— (*with* Adams, William W.; Loustaunau, Philippe; Miller, J. Lyn) SAGBI and SAGBI-Gröbner bases over principal ideal domains. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 31–47. (Karin Gatermann) **99j:13023** 13P99 (68Q40)

Hotaling, S. P. Radix-$R > 2$ quantum computation. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 481–485. (*see* **99e:81004**) 81P99

Hotloś, Marian (*with* Arslan, Kadri; Deszcz, Ryszard; Ezentaş, Rıdvan) On a certain subclass of conformally flat manifolds. *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 4, 283–299. (Eric Boeckx) **99i:53045** 53C25 (53C50)

— (*with* Deszcz, Ryszard) On a certain extension of the class of semisymmetric manifolds. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 115–130. (Chuan Yu Ma) **99g:53023** 53B30 (53C50)

— (*with* Deszcz, Ryszard) On a certain subclass of pseudosymmetric manifolds. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 29–48. (Luis J. Alías) **99m:53088** 53C25 (53C50)

— (*with* Deszcz, Ryszard; Şentürk, Zerrin) On the equivalence of the Ricci-pseudosymmetry and pseudosymmetry. *Colloq. Math.* **79** (1999), *no.* 2, 211–227. (Eric Boeckx) **99k:53017** 53B20 (53C25)

Hotta, Keisuke (*with* Yoshise, Akiko) Global convergence of a class of non-interior-point algorithms using Chen-Harker-Kanzow functions for nonlinear complementarity problems. (English summary) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 40–70. (S. R. Mohan) **99f:90149** 90C33

Hotta, Kenji (*with* Kikkawa, Keiji; Sakamoto, Michihiko) T duality and time development of a $(2 + 1)$-dimensional string universe. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1709–1721. (Summary) **99c:83091** 83E30 (81T30)

Hotta, M. (*with* Itoh, Yousuke; Futamase, Toshifumi; Morikawa, Masahiro) Thermal hair of a quantum black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064016, 11 *pp.* 83C57

Hotz, Günter ★ Algorithmische Informationstheorie. (German) [Algorithmic information theory] Statistische Informationstheorie und Anwendungen auf algorithmische Fragestellungen. [Statistical information theory and applications to algorithmic problems] Teubner-Texte zur Informatik [Teubner Texts on Information Science], 25. *B. G. Teubner Verlagsgesellschaft mbH, Stuttgart*, 1997. 143 *pp.* *ISBN* 3-8154-2310-4 (Editors) **99g:94008** 94A15 (94-01)

— (*with* Pitsch, Gisela) On using semi-Dyck sets to analyse coupled-context-free languages. (English summary) *Fund. Inform.* **29** (1997), *no.* 1-2, 1–26. (Marcus Kracht) **99b:68114** 68Q45 (68Q50, 68Q52)

Hotzel, Eckehart Congruences on some semigroups of one-one transformations. (English summary) *Semigroups (Luino, 1992)*, 111–124, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M20

Hotzel, Richard (*with* Karsenti, Laurent) Adaptive tracking strategy for a class of nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1272–1279. (Summary) **99d:93039** 93C40

— Some stability conditions for fractional delay systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 19 *pp.* (*electronic*). (Alexander M. Kovalev) **99i:93063** 93D25 (26A33)

— (*with* Fliess, Michel) On linear systems with a fractional derivation: introductory theory and examples. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 385–395. (Summary) **99c:93064** 93C30 (93B05)

Hou, B. Y. *see* **Hou, Bo Yu**

Hou, Bang Pin (*with* Li, Bo Zang; Yu, Wan Lun) Pure states and quantum systems of Berry type. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 5, 712–717. (Summary) **99f:81068** 81Q99

Hou, Bi Hui (*with* Yang, Hong Bo) A group representation of canonical transformation. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 4, 345–350; *translated from Appl. Math. Mech.* **19** (1998), *no.* 4, 321–326 (*Chinese. English and Chinese summaries*). (B. Vujanović) **99d:70025** 70H15

Hou, Bo Yu (*with* Shi, Kang-jie; Wang, Yan Shen; Yang, Wen Li^2) Multipoint functions (form-factors) of quantum sine-Gordon field with boundary. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 157–165, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81T10

— (*with* Yang, Wen Li^2) Boundary $A_1^{(1)}$ face model. (English summary) *Comm. Theoret. Phys.* **27** (1997), *no.* 3, 257–262. (Takeo Kojima) **99d:82024** 82B23 (82B20)

— (*with* Shi, Kang-jie; Wang, Yan Shen; Yang, Wen Li^2) Bosonization of quantum sine-Gordon field with boundary. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 9, 1711–1741. (Marco Moriconi) **99a:81099** 81T10 (81U40)

— (*with* Fan, Heng; Shi, Kang-jie; Yang, Zhong-Xia) Integrable boundary conditions associated with the $Z_n \times Z_n$ Belavin model and solutions of reflection equation. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 16, 2809–2823. (Andrey V. Tsiganov) **99e:82026** 82B23 (82B20)

— (*with* Yang, Wen Li^2) An $\hbar$-deformation of the W_N algebra and its vertex operators. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6131–6145. (Rinat Kedem) **99c:81089** 81R50 (17B68)

— (*with* Zhao, Liu) Note on the algebra of screening currents for the quantum-deformed W-algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7659–7666. (Summary) **99b:81110** 81R50 (17B37, 81R10)

— (*with* Wang, Yan Shen; Zhao, Liu) Drinfeld-Sokolov construction of heterotic Toda model. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 3, 389–398. (Andrey V. Tsiganov) **99h:58092** 58F07 (82B20)

— (*with* Song, Xingchang) Lagrangian form of the self-dual equations for SU(n) gauge fields on four-dimensional Euclidean space. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 3, 443–446. (Summary) **99e:81147** 81T13 (58E30)

— (*with* Shi, Kang-jie; Wang, Yan Shen; Yang, Wen Li^2) Bosonic realization for boundary states in quantum sine-Gordon field with boundary. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 4, 579–586. (Mathias Pillin) **99j:81113** 81T10

— (*with* Shi, Kang-jie; Yang, Wen Li^2) The general crossing relation for boundary reflection matrix. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 3, 415–418. (Summary) **99m:82013** 82B23

— (*with* Ding, Xiang Mao; Zhao, Liu) $\hbar$ (Yangian) deformation of the Miura map and Virasoro algebra. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 7, 1129–1144. (Stanislav Z. Pakuliak) **99e:81091** 81R50 (17B37, 17B68)

— (*with* Zhao, Liu; Ding, Xiang Mao) The algebra $\mathscr{A}_{\hbar,\eta}(\hat{g})$ and infinite Hopf family of algebras. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 249–266. (Stanislav Z. Pakuliak) **99i:16071** 16W30 (17B37, 17B69)

— (*with* Ding, Xiang Mao; Hou, Bo-yuan; Zhao, Liu) Free boson representation of $DY_\hbar(\mathrm{gl}_N)_k$ and $DY_\hbar(\mathrm{sl}_N)_k$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2273–2289. (Jun'ichi Shiraishi) **99g:81083** 81R50 (17B37)

— (*with* Fan, Heng; Li, Guang-liang; Shi, Kang-jie; Wang, Yan Shen) A one-dimensional many-body integrable model from Z_n Belavin model with open boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4746–4758. (Kazuhiro Hikami) **99g:81237** 81V70 (81R50, 82B23)

— (*with* Yang, Wen Li^2) Dynamically twisted algebra $A_{q,p,\hat{s}}(\widehat{\mathrm{gl}}_2)$ as current algebra generalizing screening currents of q-deformed Virasoro algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5349–5369. (Stanislav Z. Pakuliak) **99h:81090** 81R50 (17B37, 81R10)

— (*with* Yang, Wen Li^2) The nondynamical r-matrix structure of the elliptic Calogero-Moser model. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 1, 35–41. (Benjamin David Enriquez) **99d:58081** 58F07 (70H05)

— (*with* Fan, Heng; Li, Guang-liang; Shi, Kang-jie) A new solution to the reflection equation for the Z_n symmetric Belavin model. (English summary) *Phys. Lett. A* **250** (1998), *no.* 1-3, 79–87. (Andrey V. Tsiganov) **99j:82014** 82B20 (82B23)

Hou, Bo-yuan (*with* Xu, Lianchao; Zhou, Shanyou) On the q-deformation of Heisenberg algebra. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 2, 231–236. (Summary) **99e:81094** 81R50 (17B37)

— (*with* Mi, Dong; Yang, Fu-zhong) The statistical interaction and the Bethe ansatz of the *XXZ* chain corresponding Potts case. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 1, 137–140. (Summary) **99h:82017** 82B20

— (*with* Ding, Xiang Mao; Hou, Bo Yu; Zhao, Liu) Free boson representation of $DY_\hbar(\mathrm{gl}_N)_k$ and $DY_\hbar(\mathrm{sl}_N)_k$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2273–2289. (Jun'ichi Shiraishi) **99g:81083** 81R50 (17B37)

— (*with* Yang, Fu-zhong; Mi, Dong) Factorized representation of Felder's elliptic quantum group. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L*267–*L*272. (Robert Rałowski) **99g:81099** 81R50 (17B37, 82B23)

Hou, Cheng Jun (*with* Tang, Chuan Feng) Hyperreflexivity and quasitriangular algebras of nest algebras. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1996), *no.* 3, 17–19. 47D25

Hou, Chun Hai (*with* Qian, Ji Xin) Decay estimates for Razumikhin-type theorems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 699–701. 93D05

— (*with* Qian, Ji Xin) Decay estimates for applications of Razumikhin-type theorems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 921–924. (Summary) **99d:34147** 34K20

— (*with* Qian, Ji Xin) On an estimate of the decay rate for applications of Razumikhin-type theorems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 958–960. (Summary) **99e:93058** 93D10 (34K20)

— (*with* Qian, Ji Xin) Practical stability and exponential estimates of trajectory bounds for retarded systems with bounded disturbances. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 50–61. (Anthony N. Michel) **99d:34148** 34K20 (34K35, 93D09)

— (*with* Qian, Ji Xin) Remarks on quantitative analysis for a family of scalar delay differential inequalities. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 334–336. (Pedro Martinez-Amores) **99m:34173** 34K20

Hou, Ji-Cheng Character and tightness of hyperspaces with the Fell topology. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 199–206. (Summary) **99a:54004** 54A25 (54B20)

Hou, Jian (*with* Wang, Guo Jun[1]) Some sufficient conditions for a family of OWA bag mappings to have an identity. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 36–44. 54A40 (54H25)

— Some sufficient conditions for a family of OWA bag mappings having identities. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 15–27. (Summary) **99m:03110** 03E72

Hou, Jin-Chuan (*with* Zhang, Xiu Ling) On the Weyl spectrum: spectral mapping theorem and Weyl's theorem. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 760–768. (Gerhard Garske) **99b:47003** 47A10 (47A55, 47B20)

— A characterization of positive elementary operators. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 43–58. (Martin Mathieu) **99g:47077** 47B47 (46L05, 47A63)

— Multiplicative maps on $\mathscr{B}(X)$. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 337–345. (Matej Brešar) **99k:47073** 47B47 (46H99, 46L05, 47B48)

Hou, Jing-yu (*with* Guo, Ben Yu) Chebyshev pseudospectral-hybrid finite element method for three-dimensional vorticity equation. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 161–196. (D. M. Sloan) **99c:76066** 76M10 (65M60, 76C05, 76M25)

— (*with* Guo, Ben Yu) Chebyshev pseudospectral-finite element method for the three-dimensional unsteady Navier-Stokes equation. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 209–244. (Markku Lindroos) **99m:65187** 65M60 (76D05, 76M10)

Hou, L. Steven *see* **Hou, LiSheng**

Hou, Ling (*with* Ye, Hui; Michel, Anthony N.) Stability theory for hybrid dynamical systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 461–474. (Summary) **99c:93079** 93D05 (34H05)

— (*with* Michel, Anthony N.) Asymptotic stability of systems with saturation constraints. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1148–1154. (Nicolay A. Magnitskiĭ) **99f:93124** 93D20 (34D20)

— (*with* Ye, Hui; Michel, Anthony N.) Stability analysis of systems with impulse effects. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1719–1723. (Yuri V. Rogovchenko) **99k:34019** 34A37 (34D20, 93D05)

Hou, LiSheng (*with* Fursikov, Andrei V.; Gunzburger, Max D.) Optimal Dirichlet control and inhomogeneous boundary value problems for the unsteady Navier-Stokes equations. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 97–116 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Ruxandra Stavre) **99k:49013** 49J20 (35Q30, 49K20, 76D05)

— (*with* Gunzburger, Max D.; Svobodny, Thomas P.) Optimal control problems for a class of nonlinear equations with an application to control of fluids. *Optimal control of viscous flow*, 43–62, *SIAM, Philadelphia, PA*, 1998. (Qin Xu) **99f:49008** 49J20 (35Q35, 49J27, 76D05)

— (*with* Ravindran, S. S.) Penalty methods for numerical approximations of optimal boundary flow control problems. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 157–167. (Summary) **99m:49048** 49M25 (65M06, 76D05)

— (*with* Gunzburger, Max D.; Manservisi, S.; Yan, Yin) Computations of optimal controls for incompressible flows. (English summary) Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 181–191. (Summary) **99m:49047** 49M25 (65M06, 76D99, 76M99)

— (*with* Fursikov, Andrei V.; Gunzburger, Max D.) Boundary value problems and optimal boundary control for the Navier-Stokes system: the two-dimensional case. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 852–894 (*electronic*). (Sergey V. Nikitin) **99c:76030** 76D05 (35Q30, 49J20)

— (*with* Ravindran, S. S.) A penalized Neumann control approach for solving an optimal Dirichlet control problem for the Navier-Stokes equations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1795–1814 (*electronic*). (Long An Ying) **99d:49040** 49K20 (35Q30, 65M60, 76D05)

— *see also* **Flow control and optimization, 99k:76005**

Hou, M. *see* **Hou, Ming**

Hou, Marc *see* **Seminar: Monte Carlo Methods, 99d:65008**

Hou, Ming (*with* Pugh, A. C.; Hayton, G. E.) Generalized transfer functions and input-output equivalence. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1163–1178. 93A30 (93C30)

— (*with* Müller, Peter C.) Causal observability of descriptor systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 158–163. (Heide Glüsing-Lüerßen)

99k:93028 93B07 (93C30)
— (*with* Müller, Peter C.) Observer design for descriptor systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 164–169. (Heide Glüsing-Lüerßen) **99k:93029** 93B07 (93C30)
— (*with* Pugh, A. C.; Müller, Peter C.) Disturbance decoupled functional observers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 382–386. (Summary) **99j:93015** 93B07 (93B25, 93B52)
Hou, Ping (*with* Saberi, Ali; Lin, Zongli) On l_p-stabilization of strictly unstable discrete-time linear systems with saturating actuators. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 14, 1227–1236. (Michael I. Gil') **99k:93077** 93D15 (93C55)
Hou, Qiang (*with* Dalang, Robert C.) On Markov properties of Lévy waves in two dimensions. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 265–287. (Marco Ferrante) **99e:60136** 60H15 (60J25)
Hou, Qing (*with* Goldenfeld, Nigel; McKane, Alan) Block spins for partial differential equations. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 699–714. (Summary) **99i:82029** 82C28 (65M99)
Hou, Shui-Hung A simple proof of the Leverrier-Faddeev characteristic polynomial algorithm. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 706–709 (*electronic*). 15A18 (93C05)
Hou, Thomas Yizhao (*with* Zhang, Pingwen) Growth rates for the linearized motion of 3-D fluid interfaces with surface tension far from equilibrium. (English summary) *Asian J. Math.* **2** (1998), *no.* 2, 263–288. (Summary) **99k:76033** 76B99 (35Q35, 76B45, 76E99, 76V05)
— Numerical study of free interface problems using boundary integral methods. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 601–610 (*electronic*). (Summary) **99g:76109** 76M25 (65M12, 76B15)
— (*with* Klapper, Isaac; Si, Helen) Removing the stiffness of curvature in computing 3-D filaments. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 628–664. (From the text) **99c:76085** 76M25 (65N30, 73K05, 76C05)
— (*with* Wu, Xiao-Hui; Cai, Zhi Qiang) Convergence of a multiscale finite element method for elliptic problems with rapidly oscillating coefficients. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 913–943. (Larisa V. Maslovskaya) **99i:65126** 65N30 (65N12)
— (*with* Caflisch, Russel E.; Lowengrub, John) Almost optimal convergence of the point vortex method for vortex sheets using numerical filtering. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1465–1496. (Barak Galanti) **99m:76035** 76C05 (65M12, 76M25)
— (*with* Ceniceros, Hector D.) Dynamic generation of capillary waves. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1042–1050. (Summary) **99m:76012** 76B15 (76B45, 76D33, 76D45)
Hou, Wei Bo Strong approximations for open queueing networks with transfer time under high load conditions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 63–68. 90B22
Hou, Xi-Wen (*with* Dong, Shi-Hai; Ma, Zhong-Qi) Irreducible bases and correlations of spin states for double point groups. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 841–855. (John J. Sullivan) **99f:81070** 81R05 (20C35)
— (*with* Dong, Shi-Hai; Xie, Mi; Ma, Zhong-Qi) Irreducible bases in icosahedral group space. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2135–2152. (Summary) **99i:81060** 81R05 (20H15, 82D25)
— (*with* Dong, Shi-Hai; Ma, Zhong-Qi) Levinson's theorem for non-local interactions in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7501–7509. (Summary) **99g:81035** 81Q05 (34L25, 35J10, 81U05)
Hou, Xiang-dong (*with* Langevin, Philippe) Results on bent functions. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 232–246. (Ryoh Fuji-Hara) **99b:05025** 05B20
— q-ary bent functions constructed from chain rings. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 55–61. (Siu Lun Ma) **99j:05031** 05B10 (16P10)
— (*with* Lahtonen, Jyrki T.; Koponen, Sami) The Reed-Muller code $R(r, m)$ is not Z_4-linear for $3 \le r \le m-2$. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 798–799. (Summary) **99a:94045** 94B05
Hou, Xiaodong (*with* Cao, Zhi-Hao; Chen, Guangxi) A convergent restarted GMRES algorithm. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 645–651. 65F10
Hou, Xiaoli Parameter design with monotone loss functions. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 87–100. (Summary) **99a:62105** 62K05 (62N05)
Hou, Xin Chang Sieved number sequences. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 18–19, 69. (Ping Ding) **99k:11022** 11B37
Hou, Xue Zhang (*with* Gao, Hai Yin; Weng, Shi You; Li, Xiao Chun) Observability of a class of shift robots. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 21–26. 93B07 (93C85)
— (*with* Tsui, Sze-Kai) A control theory for Cartesian flexible robot arms. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 265–288. (Clementina D. Mladenova) **99h:93069** 93C85 (70B15, 70Q05, 73K50, 93D15)
— (*with* Tsui, Sze-Kai) A mathematical model for control of flexible robot arms. *Systems modelling and optimization* (*Detroit, MI*, 1997), 391–398, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C85 (70B15, 70Q05, 93A30)
Hou, Yan Ren (*with* Li, Kai-tai) An effective nonlinear Galerkin scheme. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 2, 81–85. (Summary) **99d:76076** 76M25 (65M60, 76D05)
Hou, Yaoping (*with* Wang, Bo Ying[1]) Multi-extension of arithmetic functions and its applications. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 226–230. (Jean-Marie De Koninck) **99f:11012** 11A25
Hou, You Liang (*with* Liu, Pei De) Spaces of martingales with complex measure and their duals. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 481–492. (Summary) **99e:60113** 60G44
— (*with* Liu, Pei De) Geometry of complex Banach spaces. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 1, 1–20. (Summary) **99e:46017** 46B20 (42B99, 60G46)
— (*with* Liu, Pei De) b_p^+ weighted inequalities for Clifford martingales. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 122–132. (Summary) **99g:60084** 60G42 (60E15)
— (*with* Wei, Wen Zhan) Banach space valued martingales with respect to complex measure and their inequalities. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 3, 283–287. (Dominique Lépingle) **99k:60115** 60G42
Hou, Yu Mei (*with* Tian, Nai Shuo) The PH structure of $M/M/c$ queueing systems with synchronous vacations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 5–8. 60K25
Hou, Zeng Guang (*with* Wu, Cang Pu) A new method for real-time hierarchical control of large-scale dynamical systems. (Chinese. English and Chinese summaries) Automatic control. *J. Beijing Inst. Technol. (Chin. Ed.)* **17** (1997), *no.* 3, 287–291. (*see* **99a:93004**) 93A13 (93C15)
— (*with* Gao, Hui Qi; Wu, Cang Pu) A neural network based method for dynamical hierarchical optimization of a class of large-scale systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 160–165. 93A13 (93C83)
— (*with* Wu, Cang Pu) Hierarchical optimization of nonlinear large-scale systems: a neural network method. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 750–754. 93A13 (90C90)
Hou, Zhanyuan (*with* Cassell, J. S.) Asymptotic solutions of mixed-type equations with a diagonal matrix. (English summary) *Analysis* **17** (1997), *no.* 1, 1–12. (P. K. Palamides) **99c:34178** 34K25
— (*with* Cassell, J. S.) Asymptotic solutions for mixed-type equations with a small deviation. (English summary) *Georgian Math. J.* **5** (1998), *no.* 2, 107–120. (Sjoerd M. Verduyn Lunel) **99i:34112** 34K25
— (*with* Cassell, J. S.) Global attractivity of a single species population model. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 2, 167–180. (Yang Kuang) **99g:34152** 34K20 (92D25)
Hou, Zhen Ting (*with* Guo, Xian Ping) Homogenization of nonhomogeneous Markov decision processes. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 432–438. (Summary) **99e:90110** 90C40
— (*with* Liu, Zai Ming; Zou, Jie Zhong) QNQL processes—(H, Q)-processes and their applications. *Chinese Sci. Bull.* **42** (1997), *no.* 11, 881–886. (O. A. Voina) **99e:60227** 60K99 (60G99)
— (*with* Tang, You Rong; Liu, Zai Ming) The ergodicity and equilibrium distribution of generalized birth and death processes. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 25–32. (Summary) **99c:60195** 60J80
— (*with* Liu, Zai Ming; Zou, Jie Zhong; Li, Xue Wei[2]) Markov framework processes. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 457–467. 60J25
— (*with* Guo, Xian Ping) The expected average criterion for nonstationary Markov decision processes. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 123–128. 90C40
Hou, Zhong Hua A pinching problem on submanifolds with parallel mean curvature vector field in a sphere. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 35–45. (M. Okumura) **99e:53040** 53C20 (53C40)
— Submanifolds of constant scalar curvature in a space form. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 439–458. (Xue Shan Zhang) **99k:53108** 53C40 (53C42)
— The total mean curvature of submanifolds in a Euclidean space. *Michigan Math. J.* **45** (1998), *no.* 3, 497–505. (Bogdan Suceavă) **99h:53075** 53C40 (53C42)
Hou, Zhongsheng (*with* Huang, Wen-hu) The model-free learning adaptive control of a class of nonlinear discrete-time systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 893–899. 93C40 (93E35)
Hou, Zi Xin (*with* Deng, Shaoqiang; Kaneyuki, Soji) Dipolarizations in compact Lie algebras and homogeneous para-Kähler manifolds. *Tokyo J. Math.* **20** (1997), *no.* 2, 381–388. (O. Kowalski) **99a:53027** 53C15 (53C30)
— (*with* Jin, Quan Qin) Automorphisms of order 3 of affine Lie algebras. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 13, 1370–1374. 17B40
Hou, Zong Yi (*with* Jin, Qi Nian) A strategy for choosing the parameters for Tikhonov regularization of ill-posed nonlinear problems. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 4, 483–490; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 3, 295–304. (Hong Kun Xu) **99c:65112** 65J15 (47H17)
— (*with* Jin, Qi Nian) Maximum entropy methods for ill-posed nonlinear problems. II. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 679–684. 65M30 (65H05)
— (*with* Yang, Hong Qi) Regularization method for improving optimal convergence rate of the regularized solution of ill-posed problems. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 177–185. (V. V. Vasin) **99f:65093** 65J20
— (*with* Li, He Nong) Regularization with closed linear operators. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 3, 186–190. (Summary) **99g:65069** 65J15 (47A50)
— (*with* Yang, Hong Qi) Convergence rates of regularized solutions and parameter choice strategy for semi-positive definite operator equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 245–251. 65J10 (45L05, 47A50)
— (*with* Yang, Hong Qi) Convergence rates of regularized solutions of nonlinear ill-posed operator equations involving monotone operators. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 252–259. (Otmar Scherzer) **99e:47090** 47H17 (65J15)
Houart, Laurent (*with* Englert, François; Windey, Paul) Thermodynamics of black holes in presence of string instantons. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 228–231, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57 (83E30)
— (*with* Argurio, Riccardo) Little theories in six and seven dimensions. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 205–226. (Summary) **99k:81215** 81T30 (81T60)
— (*with* Argurio, Riccardo; Englert, François) Statistical entropy of the four-dimensional Schwarzschild black hole. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 275–281. (Summary) **99c:83044** 83C57 (83E30)
— (*with* Argurio, Riccardo) On the exotic phases of M-theory. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 109–118. (Summary) **99m:81166** 81T30
Houba, Harold (*with* Tieman, Alexander F.; Brinksma, Rene) The Nash bargaining solution for decision weight utility functions. (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 41–48. (Summary) **99f:90021** 90A10 (90A60)

— (*with* Bolt, Wilko) Strategic bargaining in the variable threat game. (English summary) *Econom. Theory* **11** (1998), *no.* 1, 57–77. (T. Parthasarathy) **99f:90192** 90D10 (90D40)

Houdayer, J. (*with* Boutet de Monvel, J. H.; Martin, Olivier C.) Comparing mean field and Euclidean matching problems. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **6** (1998), *no.* 3, 383–393. (Summary) **99i:82023** 82B44 (82D30)

Houdré, Christian Comparison and deviation from a representation formula. *Stochastic processes and related topics*, 207–218, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Krzysztof Podgorski) **99k:60041** 60E15 (60G15)

— (*with* Averkamp, R.) Some distributional properties of the continuous wavelet transform of random processes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1111–1124. (Albert Benassi) **99e:60048** 60E10 (42C15, 60G07)

— *see also* **Advances in stochastic inequalities**, **99m:60004**

Hoüel, Jules *see* **Beltrami, Eugenio**, **99j:01011**

Houfaidi, Souâd (*with* Benghabrit, Youssef) Robustesse et étude asymptotique d'un GM-estimateur des paramètres d'un ARMA(p, q). (French summary) [Robustness and asymptotic study of a GM-estimator of the parameters of an ARMA(p, q)] *Afrika Mat.* (3) **9** (1998), 1–10. (Summary) **99c:62251** 62M10 (62F35)

Hougaard, Philip (*with* Lee, Mei-Ling Ting; Whitmore, G. A.) Analysis of overdispersed count data by mixtures of Poisson variables and Poisson processes. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1225–1238. (Summary) **99a:62150** 62P10

Houghten, Sheridan (*with* Ding, Yuan; Lam, Clement Wing Hong; Smith, Suzan; Thiel, Larry; Tonchev, Vladimir D.) Quasi-symmetric 2-(28, 12, 11) designs with an automorphism of order 7. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 213–223. (Mohan S. Shrikhande) **99a:05011** 05B05

Houh, Chorng Shi (*with* Hong, Yi[1]) Lagrangian submanifolds of quaternion Kaehlerian manifolds satisfying Chen's equality. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 413–421. (Paolo Piccinni) **99h:53084** 53C42 (53C15, 53C40)

Houle, Michael E. (*with* Eades, Peter; Webber, Richard) Finding the best viewpoints for three-dimensional graph drawings. (English summary) *Graph drawing* (*Rome*, 1997), 87–98, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05 (68R10)

— (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Lubiw, Anna; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

— (*with* Turner, Gavin) Dimension-exchange token distribution on the mesh and the torus. (English summary) *Parallel Comput.* **24** (1998), *no.* 2, 247–265. (Summary) **99c:68014** 68M10 (68Q22)

Hounie, Jorge (*with* Malagutti, Pedro) Existence and nonexistence of homotopy formulas for the Mizohata complex. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 31–42. (Makhlouf Derridj) **99g:58116** 58G05 (35A30)

— (*with* Alvarez, Josefina) An oscillatory singular integral operator with polynomial phase. (English summary) *Studia Math.* **133** (1999), *no.* 1, 1–18. (Dashan Fan) **99k:42028** 42B20 (42B30, 47G10)

Houpis, C. H. (*with* Pachter, Meir; Kobylarz, T.) Literal Nyquist stability criterion for MIMO control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 55–65. (Summary) **99f:93106** 93D05 (93B60)

Houser, Nathan *see* **Peirce, Charles Sanders**, **99h:01043**

Houshıyarı, Mastaneh (*with* Erdem, İpek) Global attractors for nonlinear pseudoparabolic and pseudohyperbolic equations. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 19–31. (Piotr Biler) **99m:35024** 35B40 (35K70, 35L99, 47H20, 58F39)

Houshmand, Bijan (*with* Itoh, Tatsuo[2]; Piket-May, Melinda) High-speed electronic circuits with active and nonlinear components. *Advances in computational electrodynamics*, 461–511, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78A55 (94C99)

Housiadas, Kostas (*with* Tsamopoulos, John) Unsteady flow of an axisymmetric annular film under gravity. (English summary) *Phys. Fluids* **10** (1998), *no.* 10, 2500–2516. (Summary) **99g:76049** 76D99

Houssni, M. (*with* Belhaq, M.; Freire Macías, Emilio; Rodríguez-Luis, A. J.) Second period-doubling in a three-dimensional system. *Mech. Res. Comm.* **26** (1999), *no.* 2, 123–128. 34C23 (58F14)

— (*with* Belhaq, M.) Quasi-periodic oscillations, chaos and suppression of chaos in a nonlinear oscillator driven by parametric and external excitations. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 1, 1–24. (Summary) **99k:34075** 34C15 (34C27, 58F13, 70K40, 70K50)

Houston, Evan (*with* Fontana, Marco; Gabelli, Stefania) UMT-domains and domains with Prüfer integral closure. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1017–1039. (J. W. Brewer) **99d:13024** 13F05

— (*with* Cahen, Paul-Jean; Chabert, Jean-Luc; Lucas, Thomas G.) Skolem properties, value-functions, and divisorial ideals. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 3, 207–223. (David F. Anderson) **99m:13039** 13F20 (13F05)

Houston, Kevin On singularities of folding maps and augmentations. *Math. Scand.* **82** (1998), *no.* 2, 191–206. (Aleksandr G. Aleksandrov) **99k:32070** 32S50 (32S30, 58C27)

Houston, Paul (*with* Süli, Endre) Finite element methods for hyperbolic problems: a posteriori error analysis and adaptivity. *The state of the art in numerical analysis* (*York*, 1996), 441–471, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (Eun-Jae Park) **99i:65107** 65M60 (65M15)

in 't Hout, Karel *see* **In 't Hout, Karel**

van der Hout, R. (*with* Hilhorst, D.; Peletier, L. A.) Diffusion in the presence of fast reaction: the case of a general monotone reaction term. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 469–517. (Siegfried Carl) **99a:35131** 35K57 (35B40)

— (*with* van de Fliert, B. W.) Stress-driven diffusion in a drying liquid paint layer. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 5, 447–461. (Song Jiang) **99j:76119** 76R50 (35Q35, 76A05)

van Houtum, G. J. (*with* Zijm, W. H. M.; Adan, I. J. B. F.; Wessels, Jaap) Bounds for performance characteristics: a systematic approach via cost structures. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 205–224. (Gerard Hooghiemstra) **99g:60170** 60K25

van Houwelingen, Hans C. (*with* Verweij, Pierre J. M.; Stijnen, Theo) A goodness-of-fit test for Cox's proportional hazards model based on martingale residuals. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1517–1526. (Summary) **99i:62110** 62G10

van der Houwen, P. J. (*with* van der Veen, Wolter A.) The solution of implicit differential equations on parallel computers. (English summary) Special issue on time integration (Amsterdam, 1996). *Appl. Numer. Math.* **25** (1997), *no.* 2-3, 257–274. (M. S. Derakhshan) **99c:65134** 65L06 (65F10, 65Y05)

— Parallel aspects of integration methods for initial value problems. (English summary) *Special functions and differential equations* (*Madras*, 1997), 403–431, *Allied Publ., New Delhi*, 1998. (I. Norman Katz) **99j:65115** 65L05 (65Y05)

— (*with* Eichler-Liebenow, C.; Sommeijer, B. P.) Analysis of approximate factorization in iteration methods. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 245–258. (Summary) **99f:65114** 65L06

— (*with* Sommeijer, B. P.) CWI contributions to the development of parallel Runge-Kutta methods. (English summary) Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 33–53. (*see* **99g:65011**) 65M06 (65–02)

— (*with* Sommeijer, B. P.) The use of approximate factorization in stiff ODE solvers. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 11–21. (Bernhard A. Schmitt) **99k:65058** 65L06 (65F10)

— (*with* Messina, Eleonora) Splitting methods for second-order initial value problems. (English summary) *Numer. Algorithms* **18** (1998), *no.* 3-4, 233–257. (Severiano Gonzalez-Pinto) **99m:65128** 65L05 (65F10, 65M20)

— *see also* **Conference: Numerical Treatment of Differential Equations**, **99e:65002**

Houzel, Christian Espaces analytiques rigides (d'après R. Kiehl). [Rigid analytic spaces (after R. Kiehl)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 327, 215–235, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 32P05

— D'une variable à plusieurs variables complexes: les fonctions abéliennes. [From one to several complex variables: abelian functions] *Géométrie complexe* (*Paris*, 1992), 271–281, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Salvatore Coen) **99f:01014** 01A55 (14–03, 32–03)

— Historie de la théorie des faisceaux. (English and French summaries) [History of the theory of sheaves] *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 101–119, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Jean-Paul Brasselet) **99i:01027** 01A60 (35A27, 55–03)

— *see also* **Beltrami, Eugenio**, **99j:01011**

Hovakimyan, Naira *see* **Ovakimyan, N. V.**

van Hove, H. *see* **Van Hove, H.**

Hoveijn, I. (*with* Broer, Hendrik W.; van Noort, M.) A reversible bifurcation analysis of the inverted pendulum. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 50–63. (Mikhail B. Sevryuk) **99b:58168** 58F14 (34C20, 58F36, 70H05, 70H33, 70K40)

Hovens, Frans Lotze and Frege: the dating of the "Kernsätze". (English summary) *Hist. Philos. Logic* **18** (1997), *no.* 1, 17–31. (Summary) **99f:01015** 01A55 (03–03)

Hovey, Mark ★ Model categories. (English summary) Mathematical Surveys and Monographs, 63. *American Mathematical Society, Providence, RI*, 1999. *xii*+209 *pp. ISBN* 0-8218-1359-5 (Teimuraz Pirashvili) **99h:55031** 55U35 (18D15, 18G30, 18G55)

— (*with* Strickland, Neil P.) Morava K-theories and localisation. (English summary) *Mem. Amer. Math. Soc.* **139** (1999), *no.* 666, *viii*+100 *pp.* (J. P. C. Greenlees) **99b:55017** 55P60 (55N22, 55P42, 55T15)

Hovi, J.-P. *see* **Physics of dry granular media**, **99e:73003**

Hovland, Paul (*with* Mohammadi, Bijan; Bischof, Christian H.) Automatic differentiation and Navier-Stokes computations. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 265–284, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 65D25 (76M25)

How, Jonathan P. (*with* Banjerdpongchai, David) Parametric robust H_2 control design with generalized multipliers via LMI synthesis. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 481–503. (Summary) **99d:93019** 93B36 (93C41, 93D21)

Howard, C. Douglas Good paths don't double back. *Amer. Math. Monthly* **105** (1998), *no.* 4, 354–357. (Mathew D. Penrose) **99h:51017** 51M04 (60K35)

Howard, F. T. Lacunary recurrences for sums of powers of integers. *Fibonacci Quart.* **36** (1998), *no.* 5, 435–442. (Péter Kiss) **99m:11010** 11B37

Howard, H. C. (*with* Marić, Vojislav) Regularity and nonoscillation of solutions of second order linear differential equations. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 85–98. (C. A. Swanson) **99d:34054** 34C11 (34C10, 34E05)

Howard, James E. (*with* Dullin, Holger R.) Linear stability of natural symplectic maps. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 273–283. (Dmitry V. Treshchëv) **99i:58088** 58F10 (58F05, 70H05)

Howard, Joe On weak* separable subsets of dual Banach spaces. *Missouri J. Math. Sci.* **7** (1995), *no.* 3, 116–118. (Stephen J. Dilworth) **99a:46022** 46B20

Howard, Louis (*with* Friedlander, Susan J.) Instability in parallel flows revisited. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 1, 1–21. (Alexander Lifschitz) **99f:76050** 76E05

Howard, Martin J. (*with* Godrèche, Claude) Persistence in the voter model: continuum reaction-diffusion approach. (English summary) *J. Phys. A* **31** (1998), *no.* 11, *L*209–*L*215. (Summary) **99a:82063** 82C22 (60K35, 82C80)

Howard, Paul E. (*with* Brunner, N.; Rubin, Jean E.) Choice principles in Węglorz' models. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 97–121. (J. M. Plotkin) **99e:03033** 03E25 (00A30, 06E99, 46A22)

— (*with* Rubin, Jean E.) ★ Consequences of the axiom of choice. (English summary) With 1 IBM-PC floppy disk (3.5 inch; WD). Mathematical Surveys and Monographs, 59. *American Mathematical Society, Providence, RI*, 1998. *viii*+432 *pp. ISBN* 0-8218-0977-6 (Yehuda Rav) **99h:03026** 03E25 (03E35, 04A25)

— (*with* Keremedis, Kyriakos; Rubin, Herman; Rubin, Jean E.) Versions of normality and some weak forms of the axiom of choice. (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 3, 367–382. (N. H. Williams) **99h:03027** 03E25 (54D15)

Howard, Peter (*with* Zumbrun, Kevin) Pointwise semigroup methods and stability of viscous shock waves. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3,

741–871. (Roberto Natalini) **99m:35157** 35L67 (35B35, 35L65, 47D06, 47N20)

Howard, Ralph (*with* Andersson, Lars Åke; Galloway, Gregory J.) The cosmological time function. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 309–322. (Robert J. Low) **99b:53087** 53C50 (83C75)

— (*with* Andersson, Lars Åke; Galloway, Gregory J.) A strong maximum principle for weak solutions of quasi-linear elliptic equations with applications to Lorentzian and Riemannian geometry. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 6, 581–624. (Wen Xiong Chen) **99d:35045** 35J60 (35B50, 35D10, 53C21, 58E15)

Howard, Stamps (*with* Zefran, Milos; Kumar, Vijay[5]) On the 6×6 Cartesian stiffness matrix for three-dimensional motions. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 4, 389–408. (Summary) **99i:70005** 70B15

Howarth, Richard J. (*with* Tsang, Edward P. K.) Spatio-temporal conflict detection and resolution. (English summary) *Constraints* **3** (1998), *no.* 4, 343–361. 90B35 (90C90)

Howe, Douglas J. A type annotation scheme for Nuprl. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 207–224, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 03B35 (03B15, 68T15)

Howe, M. S. On Rayleigh's computation of the "end correction", with application to the compression wave generated by a train entering a tunnel. (English summary) *J. Fluid Mech.* **385** (1999), 63–78. 76Q05

Howe, Paul S. (*with* West, P. C.) Is $N = 4$ Yang-Mills theory soluble? (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 622–626, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:81186** 81T60 (81T13)

— (*with* West, P. C.) Superconformal Ward identities and $N = 2$ Yang-Mills theory. (English summary) *Nuclear Phys. B* **486** (1997), *no.* 1-2, 425–442. (Summary) **99b:81238** 81T60 (81T13)

— (*with* Raetzel, Olaf; Sezgin, Ergin) On brane actions and superembeddings. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 11, 19 *pp.* (*electronic*). (Sergey Nikolaevich Roshchupkin) **99i:81186** 81T30 (83E30)

— (*with* Lambert, N. D.; West, P. C.) The self-dual string soliton. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 203–216. (Jihad Mourad) **99c:81188** 81T30 (83E30)

— (*with* Lambert, N. D.; West, P. C.) Classical M-fivebrane dynamics and quantum $N = 2$ Yang-Mills. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 85–90. (Jihad Mourad) **99e:81197** 81T30 (81T13, 81T60)

— (*with* Lambert, N. D.; West, P. C.) The threebrane soliton of the M-fivebrane. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 79–83. (Sergey Nikolaevich Roshchupkin) **99c:81189** 81T30

— (*with* Chu, Chong-Sun; Sezgin, Ergin) Strings and D-branes with boundaries. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 59–67. (Summary) **99b:81180** 81T30

— (*with* Chu, Chong-Sun; Sezgin, Ergin; West, P. C.) Open superbranes. (English summary) *Phys. Lett. B* **429** (1998), *no.* 3-4, 273–280. (Summary) **99b:81181** 81T30

— (*with* Sezgin, Ergin) Anomaly-free tensor-Yang-Mills system and its dual formulation. (English summary) *Phys. Lett. B* **440** (1998), *no.* 1-2, 50–58. (Summary) **99j:81187** 81T60 (81T50)

Howe, Roger (*with* Kraft, Hanspeter) Principal covariants, multiplicity-free actions, and the K-types of holomorphic discrete series. (English summary) *Geometry and representation theory of real and p-adic groups* (*Córdoba*, 1995), 147–161, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Michel Brion) **99a:22023** 22E46 (14L35)

Howell, Jason (*with* Gao, Shu Hong; Panario, Daniel) Irreducible polynomials of given forms. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 43–54, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Igor E. Shparlinski) **99g:11143** 11T06 (11Y16)

Howell, Kenneth J. The role of biblical interpretation in the cosmology of Tycho Brahe. *Stud. Hist. Philos. Sci.* **29** (1998), *no.* 4, 515–537. 01A70 (01A40)

Howell, Louis H. (*with* Almgren, Ann S.; Bell, John B.; Colella, Phillip; Welcome, Michael L.) A conservative adaptive projection method for the variable density incompressible Navier-Stokes equations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 1–46. (Jian Guo Liu) **99k:76096** 76M20

— (*with* Sussman, Mark; Almgren, Ann S.; Bell, John B.; Colella, Phillip; Welcome, Michael L.) An adaptive level set approach for incompressible two-phase flows. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 81–124. (Małgorzata Peszyńska) **99m:76098** 76M25 (76T05)

Howell, P. D. (*with* Fitt, A. D.) The manufacture of continuous smelting electrodes from carbon-paste briquettes. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 4, 353–376. 76T05 (76D99)

— (*with* Lattimer, T. R. B.) Modelling bristle bending in brush seals. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 349–359. 73K99

Hower, Walter Revisiting global constraint satisfaction. *Inform. Process. Lett.* **66** (1998), *no.* 1, 41–48. (From the text) **99c:68226** 68T20

Howgrave-Graham, Nicholas Finding small roots of univariate modular equations revisited. (English summary) *Cryptography and coding* (*Cirencester*, 1997), 131–142, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99j:94049** 94A60 (11Y16)

Howie, James Free subgroups in groups of small deficiency. *J. Group Theory* **1** (1998), *no.* 1, 95–112. (Benjamin Fine) **99e:20041** 20F05 (20E05, 20E07, 20F38)

Howie, John M. Amalgamations: a survey. (English summary) *Semigroups* (*Luino*, 1992), 125–132, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M50

— (*with* Ruškuc, N.; Higgins, Peter M.) On relative ranks of full transformation semigroups. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 733–748. (Inessa Levi) **99b:20099** 20M20

— (*with* Gomes, Gracinda M. S.) Semigroups with zero whose idempotents form a subsemigroup. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 265–281. (Boris M. Schein) **99e:20076** 20M17

Howlader, Hatem A. (*with* Hossain, Anwar) Bayesian prediction intervals for Maxwell parameters. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 97–106. 62F15

Howland, James S. Floquet operators with singular spectrum. III. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 2, 265–273. (Timo Weidl) **99i:81037** 81Q10 (34B99, 34L40, 47A10, 47E05, 47N50)

Howle, Laurens (*with* Schaeffer, David G.; Shearer, Michael; Zhong, Pei) Lithotripsy: the treatment of kidney stones with shock waves. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 356–371 (*electronic*). (Summary) **99d:92009** 92C05 (76Q05, 76Z99, 92C50)

Howlett, P. G. (*with* Pudney, Peter) An optimal driving strategy for a solar powered car on an undulating road. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 553–567. (From the summary) **99h:49050** 49N55 (34H05, 70Q05, 93C95)

— (*with* Torokhtiĭ, A. P.) Weak interpolation and approximation of non-linear operators on the space $\mathscr{C}([0, 1])$. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1025–1043. (D. K. Ugulava) **99j:41003** 41A05 (41A35, 65D05)

— (*with* Cheng, Jia Xin; Davydova, E. E.; Pudney, Peter) Optimal driving strategies for a train journey with non-zero track gradient and speed limits. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 2, 89–115. 49N55 (93C95)

Howls, C. J. Hyperasymptotics for multidimensional integrals, exact remainder terms and the global connection problem. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2271–2294. (F. Ursell) **99a:58154** 58G18 (44A10)

— (*with* Trasler, S. A.) Weyl's wedges. (English summary) *J. Phys. A* **31** (1998), *no.* 8, 1911–1928. (Christian Grosche) **99f:81057** 81Q50

Howse, Adelle (*with* Donovan, Diane) Critical sets for Latin squares of order 7. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 113–123. (Summary) **99i:05039** 05B15

— Families of critical sets for the dihedral group. (English summary) *Util. Math.* **54** (1998), 175–191. (Summary) **99h:05016** 05B15

Howson, Albert Geoffrey *see* **Obituary: Lighthill, Michael James**

Howson, Susan (*with* Balister, P. N.) Note on Nakayama's lemma for compact Λ-modules. *Asian J. Math.* **1** (1997), *no.* 2, 224–229. (Marcus du Sautoy) **99f:16047** 16W80 (11R23)

— (*with* Coates, John) Euler characteristics and elliptic curves. (English summary) Elliptic curves and modular forms (Washington, DC, 1996). *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 21, 11115–11117. (Franck Leprévost) **99b:11058** 11G05 (11G40)

Hoxha, P. (*with* Duff, M. J.; Lu, Hong[1]; Martinez-Acosta, R. R.; Pope, C. N.) A lattice universe from M-theory. (English summary) *Phys. Lett. B* **451** (1999), *no.* 1-2, 38–45. (Summary) **99m:83187** 83E30 (81T30, 83F05)

Hoy, E. On Bernstein's theorem for quasiminimal surfaces. II. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 4, 1027–1032. (Yi Fang) **99f:53008** 53A10 (30C62)

Høyer, Peter (*with* Brassard, Gilles; Tapp, Alain) Quantum cryptanalysis of hash and claw-free functions (invited paper). (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 163–169, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99g:94013** 94A60

— (*with* Larsen, Kim S.) Parametric permutation routing via matchings. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 105–114. (Sudhangshu B. Karmakar) **99g:68017** 68M10 (05C70, 90B12)

Hoyle, Mark J. W. (*with* Cendra, Hernán; Holm, Darryl D.; Marsden, Jerrold E.) The Maxwell-Vlasov equations in Euler-Poincaré form. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3138–3157. (Summary) **99e:76131** 76X05 (58F05, 58F40, 76M30, 82D10)

Hoyle, R. B. Zigzag and Eckhaus instabilities in a quintic-order nonvariational Ginzburg-Landau equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7315–7318. (Summary) **99g:76061** 76E30 (35Q55)

Hoyles, Matthew (*with* Kuyucak, Serdar; Chung, Shin-Ho) Solutions of Poisson's equation in channel-like geometries. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 45–68. 65N55 (65–04)

duque Hoyos, Álvaro *see* **Duque Hoyos, Álvaro**

Høyrup, Jens The position of Heron's formula in the *Metrica* (with a note about Plato). (Italian) *Boll. Storia Sci. Mat.* **17** (1997), *no.* 1, 3–11. (H. W. Guggenheimer) **99h:01009** 01A20

Hozumi, Jin (*with* Hara, Shinji; Fujioka, Hisaya) Robust servo problem with $\mathscr{H}_\infty$ norm constraint. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 803–823. 93B36

Hozumi, Takahiro (*with* Kakusho, Osamu; Hata, Yutaka) On low cost realization of multiple-valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 233–238, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Hrabě de Angelis, Jörg A presentation and a representation of the Held group. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 285–290. (*see* **99e:00015**) 20F05 (20C34)

Hraber, Peter T. (*with* Schultes, Erik; Labean, Thomas H.) A parameterization of RNA sequence space. (English summary) *Complexity* **4** (1999), *no.* 4, 61–71. 92D20

Hreinsdottir, Freyja The Koszul dual of the ring of commuting matrices. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3807–3819. (Aldo Conca) **99i:13026** 13D03 (13C40, 17B70)

Hric, Roman Topological sequence entropy for maps of the interval. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2045–2052. (Victor Jiménez López) **99j:58141** 58F13 (26A18, 54H20, 58F03)

Hrimiuc, Dragoș Diffusion on the total space of a vector bundle. (English summary) *Balkan J. Geom. Appl.* **1** (1996), *no.* 2, 53–62. (Ming Liao) **99b:58239** 58G32 (60J60)

— (*with* Antonelli, Peter L.) On the geometry of a homogeneous contact transformation. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 697–705. (Makoto Matsumoto) **99j:53091** 53C60

— (*with* Shimada, Hideo) On some special problems concerning the $\mathscr{L}$-duality between Finsler and Cartan spaces. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 48–61. (M. Matsumoto (Zbl 897.53015)) **99j:53017** 53B40

— Diffusion on the total space of a vector bundle [MR 99b:58239]. *The theory of Finslerian Laplacians and applications*, 111–121, *Math. Appl.*, 459, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99i:58003**) 58G32 (60J60)

— On the Cartan connection for a class of generalized Lagrange spaces. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 133–148. (Mihai Anastasiei) **99k:53133** 53C60

Hristea, Florentina An algorithm for the detection of outliers in the case of the normal distribution. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 5-6, 339–342. (Summary) **99i:62130** 62H15

Hristopulos, Dionissios T. (*with* Christakos, George; Serre, Marc) Numerical implementation of a space-transformation approach for solving the three-dimensional flow equation. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 619–647 (*electronic*). (Summary) **99d:65025** 65C20 (76M20, 76S05)

tsiporkova-Hristoskova, Elena *see* **Tsiporkova-Hristoskova, Elena**

Hristov, M. On the integrability conditions and structure properties for almost contact metric manifolds. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 239–253. (José A. Oubiña) **99k:53054** 53C15

Hristova, Miryana S. *see* **Khristova, Miryana S.**

Hristova, S. G. *see* **Khristova, S. G.**

Hrnčiar, Pavel (*with* Haviar, Alfonz; Monoszová, Gabriela) Minimal eccentric sequences with least eccentricity three. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 27–50. (Summary) **99i:05071** 05C12

Hromadka, T. V., II (*with* Whitley, Robert) ★ Advances in the complex variable boundary element method. (English summary) *Springer-Verlag London, Ltd., London*, 1998. xiv+390 *pp. ISBN* 3-540-76194-2 (B. Kellogg) **99a:65168** 65N38 (65K05, 73V10, 76M15)

— (*with* Whitley, Robert) The existence of approximate solutions to mixed boundary value problems. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 2, 191–199. (S. F. McCormick) **99k:65114** 65N38

Hromkovič, Juraj (*with* Schnitger, Georg) Communication complexity and sequential computation. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 71–84, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68045** 68Q10 (68Q15, 68Q25)

— (*with* Klasing, Ralf; Pardubská, Dana; Waczulik, Juraj; Wagener, Hubert) Effective systolic algorithms for gossiping in cycles. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 197–205. (A. T. Amin) **99i:68011** 68M10 (68Q22)

Hrushovski, E. *see* **Model theory and algebraic geometry, 99k:03032**

Hruška, Marina (*with* Božin, Vladimir; Paunković, Nikola; Herbut, Fedor) On statistical and deterministic quantum teleportation. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4403–4435. (S. Gudder) **99e:81022** 81P15

Hrycak, Tomasz (*with* Rokhlin, Vladimir V.) An improved fast multipole algorithm for potential fields. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1804–1826 (*electronic*). (Summary) **99d:65026** 65C20 (65N99, 70–08, 70F10, 78–08)

Hryniv, O. *see* **Griniv, O. O.**

Hryniv, Ostap *see* **Griniv, O. O.**

Hsia, J. S. (*with* Shao, Y. Y.; Xu, Fei[1]) Representations of indefinite quadratic forms. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 129–140. (A. G. Earnest) **99h:11039** 11E12 (11E08)

Hsia, Liang-chung On the dynamical height zeta functions. *J. Number Theory* **63** (1997), *no.* 1, 146–169. (Emmanuel Peyre) **99c:11076** 11G30 (11M45, 14G10)

— On the coefficients of modular polynomials for Drinfeld modules. *J. Number Theory* **72** (1998), *no.* 2, 236–256. (Yoshinori Hamahata) **99h:11059** 11G09 (14G15)

Hsia, Yuanfu (*with* Wu, Xiaohua[1]; Zhao, Yumin) Hardy's theorem for n spin-s particles in entanglement. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 1, 17–20. 81P99

Hsiang, Jieh (*with* Huang, Guan Shieng) Some fundamental properties of Boolean ring normal forms. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ*, 1996), 587–602, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (T. Thrivikraman) **99g:06018** 06E20 (03G05, 06E30, 54C40, 68T15)

Hsiao, Cheng (*with* Li, Qi[1]) Testing serial correlation in semiparametric panel data models. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 207–237. (M. P. Moklyachuk) **99k:62207** 62P20 (62G10)

Hsiao, Chun-Hui (*with* Wang, Wen-June) State analysis and optimal control of linear time-varying systems via Haar wavelets. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 423–433. (Summary) **99k:49070** 49M30 (93B40)

Hsiao, Feng-Hsiag (*with* Pan, Shing-Tai; Hsiau, Lin-Goei) Composite feedback control of discrete multiparameter singularly perturbed systems. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 577–597. 93C70 (93B55)

— (*with* Pan, Shing-Tai; Teng, Ching-Cheng) An efficient algorithm for finding the D-stability bound of discrete singularly perturbed systems with multiple time delays. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 1–17. (Lian Wang) **99k:93078** 93D15 (93C30, 93C70)

Hsiao, George C. (*with* Marcozzi, Michael D.) Variational methods for the potential flow past an airfoil. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 153–182. (Summary) **99k:76016** 76B05 (45A05)

— (*with* Habetha, Klaus; Begehr, Heinrich G. W.) Laudatio for Robert Pertsch Gilbert on the occasion of his 65th anniversary. *Generalized analytic functions* (*Graz*, 1997), *xvii–xxvi, Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 01A70

— (*with* Marcozzi, Michael D.) A boundary-finite element method for potential flow past an airfoil. (English summary) *Generalized analytic functions* (*Graz*, 1997), 157–181, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (A. Jami) **99j:65217** 65N38 (76M10, 76M15)

— (*with* Dallas, Allan G.; Kleinman, Ralph E.) Observations on the numerical stability of the Galerkin method. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 37–67. (Wojciech Mydlarczyk) **99m:65210** 65N30 (65N12, 65R20)

— (*with* Barrenechea, Gabriel R.; Gatica, Gabriel N.) Weak solvability of interior transmission problems via mixed finite elements and Dirichlet-to-Neumann mappings. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 2, 145–160. (Summary) **99h:65184** 65N30 (45A05, 45L05, 65R20)

Hsiao, L. *see* **Xiao, Ling**

Hsiao, Ling *see* **Xiao, Ling**

Hsiao, Wen Jiunn (*with* Lai, Wei Kuang; Hwang, Chuang-Chi) A proportional feedback scheme for ATM networks. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 237–253. 93B51 (90B12)

Hsiau, Lin-Goei (*with* Pan, Shing-Tai; Hsiao, Feng-Hsiag) Composite feedback control of discrete multiparameter singularly perturbed systems. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 577–597. 93C70 (93B55)

Hsieh, Chien-Shu (*with* Chen, Fu-Chuang) Optimal solution of the two-stage Kalman estimator. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 194–199. (Summary) **99j:93102** 93E11 (93E10)

Hsieh, Chun-Chung Phragmèn-Lindelöf theorem of minimal surface equations in domains with symmetry. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 97–109. (Silvano Delladio) **99d:35048** 35J60 (35B05, 49Q05, 53A10)

Hsieh, Chung-Tyan (*with* Chen, Cheng-Liang; Wang, Sheng-Nan; Chang, Feng-Yuan) Theoretical analysis of a fuzzy-logic controller with unequally spaced triangular membership functions. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 87–108. 93C42

Hsieh, D. Y. (*with* Tang, Shaoqiang; Wang, Xiao Ping[1]; Wu, L. X.) Dissipative nonlinear evolution equations and chaos. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 233–266. (Summary) **99g:35133** 35Q99 (58F13, 58F39)

Hsieh, Fushing Estimations in homoscedastic linear regression models with censored data: an empirical process approach. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2665–2681. (Lajos Horváth) **99c:62097** 62G05 (62G20)

Hsieh, Jer-Guang (*with* Sun, Yeong Jeu; Lien, Chang-Hua) Global exponential stabilization for a class of uncertain nonlinear systems with control constraint. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 674–677. (Summary) **99a:93091** 93D21 (34D20, 34H05)

— (*with* Lien, Chang-Hua; Sun, Yeong Jeu) Robust stabilization for a class of uncertain systems with multiple time delays via linear control. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 369–378. (Olof J. Staffans) **99b:93039** 93D15 (34K35)

— (*with* Sun, Yeong Jeu) Robust stabilization for a class of uncertain nonlinear systems with time-varying delay: Razumikhin-type approach. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 161–173. (Summary) **99b:93045** 93D21 (34K35)

Hsieh, Po-Fang (*with* Xie, Feipeng) On asymptotic diagonalization of linear ordinary differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 351–377. (Juncheng Wei) **99g:34119** 34E10 (34A30, 34D05)

Hsieh, Po-Hsun Linear submanifolds and bisectors in $\mathbf{C}H^n$. (English summary) *Forum Math.* **10** (1998), *no.* 4, 413–434. (Athanase Papadopoulos) **99e:53105** 53C56 (53C40)

— Canonical almost Hermitian structures of normal bundles and applications to Kähler forms. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 257–277. (Ildefonso Castro) **99i:53027** 53C15 (53C55)

Hsieh, Sun-Yuan (*with* Chang, Maw-Shang; Chen, Gen-Huey) Dynamic programming on distance-hereditary graphs. (English summary) *Algorithms and computation* (*Singapore*, 1997), 344–353, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:05107** 05C85 (68Q20)

— (*with* Ho, Chin-Wen; Hsu, Tsan-sheng; Ko, Ming-Tat; Chen, Gen-Huey) A new simple parallel tree contraction scheme and its application on distance-hereditary graphs. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 298–309, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (65Y10)

Hsieh, T.-H. (*with* Gajic, Z.) An algorithm for solving the singularly perturbed H_∞ algebraic Riccati equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 69–77. (Summary) **99f:93057** 93B40 (65F30, 93B36, 93C70)

Hsing, Tailen (*with* Leadbetter, M. Ross) On multiple-level excursions by stationary processes with deterministic peaks. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 11–32. (J. Hüsler) **99b:60062** 60G70 (60G57)

— (*with* Bräker, H.; Bingham, N. H.) On the Hausdorff distance between a convex set and an interior random convex hull. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 295–316. (Irene Hueter) **99f:60020** 60D05 (52A22)

— (*with* Leadbetter, M. Ross) On the excursion random measure of stationary processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 710–742. (Toshio Mori) **99k:60057** 60F05 (60G10, 60G70)

— (*with* Bräker, H.) On the area and perimeter of a random convex hull in a bounded convex set. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 517–550. (Irene Hueter) **99j:60015** 60D05 (60F05)

Hsiung, C. C. *see* **Hsiung, Chuan-Chih**

Hsiung, Chao A. (*with* Chang, I-Shou; Chen, Li-Ru) A class of efficient non-parametric K-sample tests for multivariate counting processes with frailties. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 127–141. (David P. Harrington) **99g:62054** 62G10 (62M99)

Hsiung, Chuan-Chih *see* **Surveys in differential geometry, 99k:58003**

Hsu, Chiente ★ Volume and the nonlinear dynamics of stock returns. Lecture Notes in Economics and Mathematical Systems, 457. *Springer-Verlag, Berlin*, 1998. *viii*+133 *pp. ISBN* 3-540-63672-2 (Editors) **99a:90041** 90A09

Hsu, Chih-Chiang (*with* Kuan, Chung-Ming) Change-point estimation of fractionally integrated processes. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 693–708. (Summary) **99j:62128** 62M10

Hsu, Chih-Nung Applications of the large sieve inequality for $\mathbf{F}_q[T]$. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 275–281. (Mireille Car) **99d:11130** 11T55 (11N36, 11R58)

— On Carmichael polynomials. (English summary) *J. Number Theory* **71** (1998), *no.* 2, 257–274. (Mireille Car) **99i:11116** 11T55 (11G09)

— Estimates for coefficients of L-functions for function fields. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 76–88. (Martha Rzedowski-Calderón) **99m:11136** 11R58 (11M41)

Hsu, Ching-yao (*with* Brüderlin, Beat) A degree-of-freedom graph approach. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 132–155, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65023** 65D17

Hsu, D. Frank (*with* Cao, Feng[1]; Du, Ding Zhu; Hwang, Lihui; Wu, Weili) Super line-connectivity of consecutive-d digraphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 27–38. (A. Ádám) **99b:05071** 05C20 (05C40)

— (*with* Hu, Xiao-Dong) On shortest two-connected Steiner networks with Euclidean distance. (English summary) *Networks* **32** (1998), *no.* 2, 133–140. (Summary) **99f:05064** 05C35 (90C35)

— (*with* Cao, Feng[1]; Du, Ding Zhu; Teng, Shang-Hua) Fault tolerance properties of pyramid networks. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 88–93. (Summary) **99j:68002** 68M10 (68M15)

Hsu, David (*with* Kavraki, Lydia E.; Latombe, Jean-Claude; Motwani, Rajeev; Sorkin, Stephen) On finding narrow passages with probabilistic roadmap planners. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 141–153, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68T20)

Hsu, Elton P. (*with* Capitaine, Mireille; Ledoux, Michel) Martingale representation and a simple proof of logarithmic Sobolev inequalities on path spaces. (English summary) *Electron. Comm. Probab.* **2** (1997), 71–81 (*electronic*). (Shi Zan Fang) **99b:60136** 60J65 (58D20, 58G32, 60B15, 60D05, 60H07)
— (*with* Chen, Jingyi) Gradient estimates for harmonic functions on manifolds with Lipschitz metrics. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1163–1175. (William P. Minicozzi, II) **99m:53065** 53C20 (58G30)
— *see also* **Probability theory and applications, 99k:60002**
Hsu, F. R. (*with* Chao, H. S.; Lee, R. C. T.) An optimal algorithm for finding the minimum cardinality dominating set on permutation graphs. (English summary) *Computing and combinatorics (Taipei, 1998)*, 309–318, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (Summary) **99m:68148** 68R10 (05C85, 68Q25)
Hsu, Guang-Hui *see* **Xu, Guang Hui[1]**
Hsu, Hu-Hsiao (*with* Wu, Yung-Chao) Numerical solution for the second-order wave interaction with porous structures. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 265–288. (Summary) **99i:76119** 76M25 (76B15, 76S05)
Hsu, J. P. *see* **Hsu, Jong Ping**
Hsu, Jason C. ★ Multiple comparisons. (English summary) Theory and methods. *Chapman & Hall, London*, 1996. *xiv+277 pp. ISBN* 0-412-98281-1 (Juliet Popper Shaffer) **99g:62102** 62J15
Hsu, Jong Ping (*with* Kleff, Silvia M.) Generalized Møller-Wu-Lee transformation for accelerated frames. (English summary) *Chinese J. Phys.* **36** (1998), *no.* 6, 768–777. (Mary L. Boas) **99k:83004** 83A05
Hsu, Kou-Cheng Decentralized variable-structure control design for uncertain large-scale systems with series nonlinearities. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1231–1240. 93B12 (93A14)
— Adaptive variable structure control design for uncertain time-delayed systems with nonlinear input. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 341–354. (Summary) **99d:93040** 93C40 (93B12)
Hsu, Leetsch Charles (*with* Yu, Hongquan) On mutual representations of symmetrically weighted Stirling-type pairs with applications. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 399–405. (F. T. Howard) **99b:11014** 11B73 (05A10)
— (*with* Shiue, Peter Jau-Shyong) A unified approach to generalized Stirling numbers. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 3, 366–384. (F. T. Howard) **99c:11020** 11B73 (05A10)
— (*with* Wang, Jun[1]) Some Möbius-type functions and inversions constructed via difference operators. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 2, 89–99. (Vichian Laohakosol) **99g:11010** 11A25 (03H05, 11U10, 39A70, 47B39)
Hsu, Lih-Hsing (*with* Wang, Jeng-Jung; Sung, Ting-Yi; Lin, Men-Yang) A new family of optimal 1-Hamiltonian graphs with small diameter. (English summary) *Computing and combinatorics (Taipei, 1998)*, 269–278, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C45 (68R10)
— (*with* Sung, Ting-Yi; Lin, Chun-Yuan; Chuang, Yen-Chu) Fault tolerant token ring embedding in double loop networks. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 201–207. (Summary) **99c:68025** 68M15 (68M10, 68R10)
— (*with* Ho, Tung-Yang; Sung, Ting-Yi; Tsai, Chang-Hsiung; Hwang, Jeng-Yan) The recognition of double Euler trails in series-parallel networks. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 216–257. (András Recski) **99m:94072** 94C15 (05C45, 05C85, 68R10)
— (*with* Chang, Chien-Ping; Wang, Jyh-Nan) Topological properties of twisted cube. (English summary) *Inform. Sci.* **113** (1999), *no.* 1-2, 147–167. (Summary) **99g:68013** 68M10 (68R10)
Hsu, Liu Smooth sliding control of uncertain systems based on a prediction error. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 4, 353–372. (Summary) **99a:93014** 93B12 (93B52, 93C41)
— (*with* Lizarralde, Fernando) Comments and further results regarding: "On variable structure output feedback controllers" [IEEE Trans. Automat. Control **41** (1996), no. 11, 1691–1693] by C. M. Kwan. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1338–1340. 93B12 (93B52)
— (*with* Geromel, José C.; de Oliveira, Maurício C.) LMI characterization of structural and robust stability. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 69–80. (B. T. Polyak) **99m:93074** 93D09 (15A45)
— *see also* **Kwan, C.-M.**
Hsu, Stephen D. H. Gaugino determinant in supersymmetric Yang-Mills theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 9, 673–676. 81T60 (81T13, 81V05)
Hsu, Sze-Bi (*with* Chen, Goong; Zhou, Jianxin) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. II. Energy injection, period doubling and homoclinic orbits. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 423–445. (Summary) **99i:35084** 35L05 (34C37, 35L70, 58F39, 73D35, 93C20)
— (*with* Chen, Goong; Zhou, Jianxin) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. III. Natural hysteresis memory effects. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 447–470. (Summary) **99i:35085** 35L05 (34C37, 35L70, 58F39, 73D35, 93C20)
— (*with* Chiu, Chuang-Hsiung) Extinction of top-predator in a three-level food-chain model. (English summary) *J. Math. Biol.* **37** (1998), *no.* 4, 372–380. (Summary) **99k:92044** 92D40 (34D20, 92D25)
— (*with* Chen, Goong; Zhou, Jianxin) Snapback repellers as a cause of chaotic vibration of the wave equation with a van der Pol boundary condition and energy injection at the middle of the span. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6459–6489. (Summary) **99i:58103** 58F13 (34C37, 35L70, 73D35)
— (*with* Waltman, Paul) Competition in the chemostat when one competitor produces a toxin. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 471–490. (Hassan El-Owaidy) **99k:92031** 92D25 (34D20)
— (*with* Chi, Chia-Wei; Wu, Lih-Ing) On the asymmetric May-Leonard model of three competing species. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 211–226 (*electronic*). (H. A. DeKleine) **99i:92018** 92D25 (34C25)
— (*with* Chen, Goong; Zhou, Jianxin) Chaotic vibrations of the one-dimensional wave equation due to a self-excitation boundary condition. I. Controlled hysteresis. (English summary) Appendix C by Guanrong Chen and Giovanni Crosta. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4265–4311. (Jürgen Scheurle) **99a:35155** 35L05 (34C99, 58F39, 73D25, 93C20)
Hsu, Tim (*with* Wise, Daniel T.) Embedding theorems for non-positively curved polygons of finite groups. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 201–221. (William A. Bogley) **99a:20036** 20F32 (20E06, 57M05, 57M20)
Hsu, Tsan-sheng (*with* Hollermann, Lisa; Lopez, Dian Rae; Vertanen, Keith) Scheduling problems in a practical allocation model. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 129–149. (Summary) **99b:90070** 90B35 (90C35)
— (*with* Peng, Shen Lung; Ho, Chin-Wen; Ko, Ming-Tat; Tang, Chuan Yi) A linear-time algorithm for constructing an optimal node-search strategy of a tree. (English summary) *Computing and combinatorics (Taipei, 1998)*, 279–288, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (05C85, 68R10)
— (*with* Hsieh, Sun-Yuan; Ho, Chin-Wen; Ko, Ming-Tat; Chen, Gen-Huey) A new simple parallel tree contraction scheme and its application on distance-hereditary graphs. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 298–309, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (65Y10)
Hsu, Vernon Ning (*with* de Matta, Renato; Lowe, Timothy J.) Capacitated selection problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 19–37. (Summary) **99h:90038** 90B05 (90B30)
Hsu, Vivian Y. (*with* Li, Yongming) Curve offsetting based on Legendre series. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 711–720. (Summary) **99e:65025** 65D17 (65Y25)
Hsu, Wen-Ko (*with* Chen, Huey-Kuo; Chiang, Wei-Ling) A comparison of vertex method with JHE method. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 201–214. (Jonathan Lawry) **99j:04002** 04A72 (03E72)
Hsu, Wen-Lian *see* **Computing and combinatorics, 99k:68008**
Htay, Win Win Optimalities for random functions: Lee-Wiener's network and non-canonical representation of stationary Gaussian processes. (English summary) *Nagoya Math. J.* **149** (1998), 9–17. (Akio Noda) **99f:60079** 60G15 (60G10, 60G35, 94A17)
Hu, B. *see* **Hu, Bambi**
Hu, B. L. Semiclassical gravity and mesoscopic physics. (English summary) *Quantum classical correspondence (Philadelphia, PA, 1994)*, 147–170, *Internat. Press, Cambridge, MA*, 1997. (Markku Lehto) **99a:83036** 83C47 (83F05)
— (*with* Ramsey, S. A.) Erratum: "Nonequilibrium inflaton dynamics and reheating: back reaction of parametric particle creation and curved spacetime effects" [Phys. Rev. D (3) **56** (1997), no. 2, 678–705; MR 98j:81233]. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3798. 81T20 (83C47)
Hu, Bambi (*with* Ananikyan, N. S.; Dallakian, S. K.) Chaotic properties of the Q-state Potts model on the Bethe lattice: $Q < 2$. (English summary) *Complex Systems* **11** (1997), *no.* 3, 213–222. 82B20
— (*with* Kocarev, Ljupčo; Parlitz, Ulrich) Lie deriatives and dynamical systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1359–1366. (Timothy Sauer) **99k:58119** 58F13 (58F40, 93B07)
— (*with* Li, Baowen) Statistical analysis of scars in stadium billiard. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 483–504. (Summary) **99b:81061** 81Q50
— (*with* Chou, Chung-I; Ho, Choon-Lin; Lee, Hsuan) Morse-type Frenkel-Kontorova model. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2747–2756. (Summary) **99a:82040** 82B26 (58F40)
— (*with* Kim, Sang-Yoon) Critical behavior of period doublings in coupled inverted pendulums. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7231–7242. 70K50 (58F13)
— (*with* Liu, Jie[2]; Li, Baowen) Nonadiabatic geometric phase and Hannay angle: a squeezed state approach. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1749–1753. (Summary) **99e:81064** 81Q99
Hu, Bao Cun (*with* Yang, Ping Hua; Xu, Rui[2]) Qualitative analysis of a class of biochemical reaction systems. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 361–364. (Summary) **99k:92051** 92E20 (34C05, 92C40)
Hu, Bao Sheng (*with* Wang, Zhao Hui; Chen, Hao Xun; Gan, Wen Quan) Short-term scheduling of multipurpose batch processes with a rolling time horizon scheme. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 569–574. 90B35
— (*with* Kang, Zheng Jiu; Shi, Yi Ming) A parallel algorithm for recursive total least squares parameter estimation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 3, 1–4. 93E10
— (*with* Gao, Jiang; Dai, Guan Zhong) Frequency-domain properties applied to optimal estimation and smoothing of systems involving model mismatches. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 79–82, 87. 93E10 (93E14)
Hu, Bei (*with* Friedman, Avner) Head-media interaction in magnetic recording. (English summary) *Arch. Rational Mech. Anal.* **140** (1997), *no.* 1, 79–101. (Sergey Nikolaevich Alekseenko) **99c:76041** 76D99 (35Q35, 78A99)
— (*with* Guo, Jong-Shenq) Quenching problem for a singular semilinear heat equation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 905–910. (Xiao Qiang Zhao) **99a:35118** 35K55 (35B05, 35K05)
— *see also* **Chen, Ya-Zhe, 99i:35016**
Hu, Bi Jin (*with* Huang, Jian Zhong[2]; Tian, Jin Wen; Fu, Cai Fang; Zhu, Hong Zhang; Cui, Jiong Cheng) LMS estimation and inversion in lithology. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 246–250. 86A32 (62M09)
Hu, Bo Stabilization of two-dimensional linear systems by time-delay feedback controls. II. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 259–274. 93D15 (93C30)
Hu, Chang Song Convergence of Mann iteration processes for a class of nonlinear operators in L_p. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 101–105. (Zhen Yu Huang) **99h:47067** 47H10 (47H17)
Hu, Changbing (*with* Li, Kai-tai) The stability of Navier-Stokes equations and the estimation of its attractor dimension. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 125–136. (Alp O. Eden) **99d:35127** 35Q30 (34G20, 35B40, 47H20, 58F39, 76D05)

Hu, Changqing (*with* Shu, Chi-Wang) Weighted essentially non-oscillatory schemes on triangular meshes. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 97–127. (Summary) **99k:76111** 76M25

Hu, Chaoming (*with* Chen, Zhong Hu) On some projections of the Iwasawa-like decomposition for split G_2. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 9–12. (Zoltán Magyar) **99k:17018** 17B20 (22E46)

Hu, Cheng-Feng (*with* Fang, Shu Cherng) Solving fuzzy inequalities with concave membership functions. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 233–240. 90C70 (65F30)

— (*with* Fang, Shu Cherng; Wang, Hsiao Fan; Wu, Soon-Yi) Linear programming with fuzzy coefficients in constraints. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 10, 63–76. 90C70 (90C05)

Hu, Chuan-Gan (*with* Yang, Chung-Chun) Some remarks on Nevanlinna's theory in a Hilbert space. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 267–271. (Summary) **99b:30041** 30D35 (46E40)

Hu, Dihe The construction of statistically self-similar measures. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 19–24. (Norbert Patzschke) **99m:28018** 28A80 (28A78, 60D05)

— The convergence of statistically self-similar sets and the upper bound and lower bound of Hausdorff measure. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 142–146. (Norbert Patzschke) **99m:28019** 28A80 (28A78, 60D05)

— The construction of statistically recursive sets. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 3, 265–269. (Norbert Patzschke) **99m:28020** 28A80 (28A78, 60D05)

— The classification of statistically recursive sets. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 3, 270–276. (Norbert Patzschke) **99m:28021** 28A80 (28A78, 60D05)

Hu, Dong Cheng (*with* Zhang, Tao; Wang, Xiaofeng[2]) A study of a reliability estimation method for cold standby systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 166–172. 90B25

— (*with* Chen, Jing Lin; Yang, Shi Yuan) A reliability approach to repairable k/n(G) systems with consideration of the failure detection rate. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 82–85. 90B25 (60K10)

— (*with* Yang, Liang Tu; Luo, Yu Pin) Robustness analysis of k-order attractors in a discrete Hopfield associative memory. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 55–58. 82C32

— (*with* Chen, Jing Lin) A reliability index system for repairable systems with unrecoverable failures. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 87–90. 90B25

Hu, Fen Lan (*with* Wang, Ji Lin; Zhou, Gang[1]) An initial parameter method for solving quasi-Hamilton linear equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 1, 105–107. 65L05

Hu, Feng (*with* Sun, Guo Ji) An iterative algorithm for M-filters for stochastic systems and its convergence. (Chinese. Chinese summary) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 7, 106–108. 93E11 (93E25)

Hu, G. *see* **Hu, Gang**

Hu, G. D. *see* **Hu, Guang Di**

Hu, G. Y. (*with* Ryu, Jai Yon; O'Connell, R. F.) Analytical solution of the generalized discrete Poisson equation. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9279–9282. (Summary) **99h:65077** 65F30 (65N30)

Hu, Gang (*with* Saaty, T. L.) Ranking by eigenvector versus other methods in the analytic hierarchy process. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 121–125. (Summary) **99b:90012** 90A05

Hu, Guang-Da (*with* Cahlon, Baruch) Estimations on numerically stable step-size for neutral delay differential systems with multiple delays. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 221–234. (Summary) **99j:65116** 65L05 (34K05, 65L06)

Hu, Guang Di (*with* Meguid, S. A.) A new finite element for treating plane thermomechanical heterogeneous solids. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 4, 567–585. (Summary) **99i:73071** 73V05 (73B27, 73B30, 80–08)

Hu, Guanzhang Group theory method for enumeration of outerplanar graphs. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 381–387. (Jing Zhong Mao) **99h:05061** 05C30 (05C25)

Hu, Gui Wu Convergence of a family of iterative methods. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 4, 41–46. 65H05

Hu, Guo En (*with* Chen, Wen Gu) Uniform estimates for multilinear oscillatory integral operators. II. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 1, 25–31. (Summary) **99f:42027** 42B15 (47G10)

— (*with* Lu, Shan Zhen; Yang, Da Chun) The applications of weak Herz spaces. (English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 5, 417–428. (Josefina Alvarez) **99e:42034** 42B30 (42B20, 42B25)

— (*with* Lu, Shan Zhen; Yang, Da Chun) The weak Herz spaces. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 27–34. (Maria J. Carro) **99b:46034** 46E30 (46M35)

— (*with* Chen, Wen Gu; Lu, Shan Zhen) A multilinear oscillatory singular integral operator. II. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 73–82; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 31–42. 42B20

— (*with* Yang, Da Chun) Multilinear oscillatory singular integral operators on Hardy spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 5, 569–578; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 4, 403–413 (1998). (Yi Biao Pan) **99g:42017** 42B20 (42B30, 47G10)

— (*with* Lu, Shan Zhen; Yang, Da Chun) On a class of multilinear oscillatory singular integral operators. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 623–637. (Gary Sampson) **99f:42034** 42B20

— (*with* Ma, Bo Lin) Commutators of Cesàro means of spherical harmonics expansions. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 18, 1933–1937. 42B20

— (*with* Chen, Wen Gu; Lu, Shan Zhen) Criterion of (L^p, L^r) boundedness for a class of multilinear oscillatory singular integrals. (English summary) *Nagoya Math. J.* **149** (1998), 33–51. (Dashan Fan) **99g:42012** 42B15 (42B20)

— (*with* Lu, Shan Zhen; Yang, Da Chun) Boundedness of rough singular integral operators on homogeneous Herz spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 201–223. (Steven George Krantz) **99k:31004** 31B10 (42B20)

Hu, Guo Quan Modules over bialgebras in Yetter-Drinfel'd categories. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 2, 16–21. (Andrei Marcus) **99b:16058** 16W30

— A Schur double centralizer theorem for symmetric Yetter-Drinfel'd categories. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 4, 1–5. (Sara Westreich) **99d:16044** 16W30

— (*with* Deng, Han Yuan; He, Guo Liang) Hopf-algebraic structure of families of binary trees. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 1–3. (Summary) **99i:15041** 15A63 (05C05, 16W30)

— (*with* Wei, Li Juan) Twistings of algebras and coalgebras over bialgebras. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 2, 5–9, 41. (George Szeto) **99k:16081** 16W30

— (*with* Xu, Yong Hua[1]) Braided cocommutative coalgebras in Yetter-Drinfel'd categories. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 105–112; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 69–78. (Fang Li) **99c:16039** 16W30

— Twisting products and quantum doubles of Hopf algebras. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 15, 1600–1603. 16W30

Hu, Guo Sheng A collocation method for integral equations of the second kind on a sphere. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 73–78. 65R20 (45L05)

Hu, H. Y. *see* **Hu, Hai Yan**

Hu, Hai-rong (*with* Kong, De Xing) Geometric approach for finding exact solutions to nonlinear partial differential equations. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 105–112. 35C05 (35A30)

Hu, Hai Yan (*with* Wu, Zhi Qiang) Calculating normal forms for nonsemisimple bifurcations. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 4, 423–433. (Zhong-Hua Yang) **99k:58166** 58F36 (34C20, 34C23)

— (*with* Wang, Fu Xin) An algorithm for locating coexisting periodic solutions of nonlinear oscillators. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 105–108, *IX*. 34C25 (34C15)

— (*with* Wang, Zai Hua) Stability analysis of damped SDOF systems with two time delays in state feedback. (English summary) *J. Sound Vibration* **214** (1998), *no.* 2, 213–225. 93D05 (34K35, 73K50)

— (*with* Dowell, Earl H.; Virgin, L. N.) Stability estimation of high-dimensional vibrating systems under state delay feedback control. (English summary) *J. Sound Vibration* **214** (1998), *no.* 3, 497–511. 93D05 (70Q05, 73K12, 73K50)

Hu, Han Ping (*with* Xiong, Lian Huan; Li, De Hua; Pi, Ming Hong) The Shannon orthogonal wavelet transform using the FFT. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 8, 67–69, 73. 65T20 (42C15, 94A11)

Hu, Han Ping A general purpose Green function and Green function solutions to heat conduction problems. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 6, 718–721. 35K05 (35A08, 80A20)

Hu, Heng Zhang (*with* Li, Dong Mei; Liu, Jun Qiang) Research on the design of a Wiener-Hopf optimal controller. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 62–65. 93B52 (93C05)

Hu, Huyi Box dimensions and topological pressure for some expanding maps. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 397–407. (Dieter H. Mayer) **99k:58118** 58F12 (28A78, 28A80, 58F15)

Hu, Inchi On sequential designs in nonlinear problems. (English summary) *Biometrika* **85** (1998), *no.* 2, 496–503. (Christos P. Kitsos) **99m:62118** 62L05 (62L10)

— Strong consistency of Bayes estimates in nonlinear stochastic regression models. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 155–163. (B. L. S. Prakasa Rao) **99k:62049** 62F12 (62F15, 62J02)

Hu, J. *see* **Hu, Jun[1]**

Hu, Ji Shan Computation of the adiabatic invariant of the symmetric nonlinear oscillator $d^2y/dt^2 + Q(\varepsilon t)y^n = R(\varepsilon t)y^m$. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 187–194. (Summary) **99c:34093** 34C99 (34E99, 70K99)

— (*with* Xu, Kun) Projection dynamics in Godunov-type schemes. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 412–427. (Summary) **99a:76104** 76M20

— Linkage between adiabatic invariance and symmetry of solutions. (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 2, 99–126. (Sergei A. Dovbysh) **99g:34115** 34E05 (34C15, 34E20, 70K99)

— Nonuniformity of adiabatic invariance for nonlinear oscillators. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 777–786 (*electronic*). (Sergei A. Dovbysh) **99k:34118** 34E05 (34C15, 70K99)

Hu, Jiagan (*with* Liu, Xing Ping) $\|A^{-1}\|_\infty$ and equidiagonal-dominance. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 433–442. (Dao Sheng Zheng) **99k:15043** 15A60 (65F10)

Hu, Jian-Qiang (*with* Fu, Michael C.) ★ Conditional Monte Carlo. (English summary) Gradient estimation and optimization applications. The Kluwer International Series in Engineering and Computer Science, 392. *Kluwer Academic Publishers, Boston, MA*, 1997. xvi+399 *pp. ISBN* 0-7923-9873-4 (Joseph Kreimer) **99b:65002** 65C05 (65–02)

— (*with* Cao, Xi-Ren; Fu, Michael C.) On performance potentials and conditional Monte Carlo for gradient estimation for Markov chains. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 263–272. (*see* **99m:90004**) 65C05 (65U05)

Hu, Jian Wei (*with* Geng, Wei) The partial upwind finite element method and the discrete maximum principle for solving the Burgers equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 365–374. (Summary) **99a:65125** 65M60

Hu, Jiankun (*with* Aldeen, Mohammad) Comments on: "Design of decentralized control for symmetrically interconnected systems" [Automatica J. IFAC **32** (1996), no. 3, 475–476] by A. El Kashlan and M. El Geneidy. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 925–927. 93A14 (93B60)

Hu, Jiaxin The Riemann problem for a two-dimensional hyperbolic system of conservation laws with non-classical weak solutions: some one-J and non-R initial data. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 4, 361–375. (Christophe Cheverry) **99b:35134** 35L65 (35L67)

— The Riemann problem for a two-dimensional hyperbolic system of conservation laws with non-classical shock waves. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 45–56. (Christian F. Klingenberg) **99c:35154** 35L67 (35L65)

— The Riemann problem for pressureless fluid dynamics with distribution solutions in Colombeau's sense. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 191–205. (Philippe G. LeFloch) **99e:35130** 35L60 (35Q99, 46F10, 76N10)

— The Riemann problem for a resonant nonlinear system of conservation laws with Dirac-measure solutions. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 81–94. (Hermano Frid) **99b:35135** 35L65 (35B35, 35D05)

— The Riemann problem for a two-dimensional hyperbolic system of nonlinear conservation laws: multiplication of distribution solutions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 743–757. (Summary) **99h:35127** 35L65 (35D05, 46F10)

Hu, Jin Song (*with* Da, Qing Li) A method using slack in activities to determine critical path in a fuzzy network. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 24–31. 90B10 (90C70)

— (*with* Da, Qing Li) Analysis of K degree activities in fuzzy networks. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 78–84. 90B35 (68M20)

Hu, Jinglu (*with* Kumamaru, Kousuke; Inoue, Katsuhiro; Söderström, Torsten) Statistical methods for robust change detection in dynamical systems with model uncertainty. *Statistical methods in control and signal processing*, 453–479, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12

Hu, Jinjin (*with* Hu, Taizhong) Comparison of order statistics between dependent and independent random variables. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 1–6. (Summary) **99a:60014** 60E15 (62G30)

Hu, Jiuxiang (*with* Chen, Qingyi) Asymptotic behaviour of blow-up for solutions of semilinear reaction-diffusional systems. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 141–150. (Wenxian Shen) **99e:35104** 35K57 (35B40)

Hu, Jun *see* **Hu, Jun[3]**

Hu, Jun[1] (*with* Leviner, M. D.; Dawson, Darren M.; Vedagarbha, P.) An adaptive tracking controller for multiple-phase permanent-magnet machines. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 997–1022. 93C40 (93B51)

Hu, Jun[2] (*with* Tresser, Charles) Period doubling, entropy, and renormalization. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 237–249. (Joan Carles Tatjer) **99j:58142** 58F13 (58F03, 58F11)

Hu, Jun[3] A combinatorial approach to representations of quantum linear groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2591–2621. (Jonathan Brundan) **99f:20072** 20G15 (17B37)

— On a characterization of geometric points of quantum general linear groups. (English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 1, 1–6. 20G99

— (*with* Wang, Jian-pan) Hecke algebras of type D_n at roots of unity. (English summary) *J. Algebra* **212** (1999), *no.* 1, 132–160. (Andrew P. Mathas) **99k:20031** 20C99 (20F55)

Hu, Junsheng Limit cycles for a class of E_3^1 system with a fine focus and a fine saddle. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 486–497. (A. P. Sadovskiĭ) **99m:34063** 34C05

Hu, Jwusheng (*with* Lin, Jyh-Feng) Active impedance control of linear one-dimensional wave equations. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 247–257. (Summary) **99j:93038** 93B50 (93C20)

Hu, Ke An inequality and some of its applications. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 192–199. (Seng-Kee Chua) **99g:26038** 26D10

Hu, Lei (*with* Liu, Mu Lan) Module structure of doubly periodic arrays over finite fields. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1009–1015. (Bernard J. M. Smeets) **99m:94028** 94A55 (11T71, 12E12)

— Chrestenson spectral characterization of correlation-immunity of multiple-valued logic functions over $Z/(m)$. *Chinese Sci. Bull.* **43** (1998), *no.* 21, 1846–1847. 03B50

— (*with* Shi, Sheng Ming) The finite groups of order p^2q with p-blocks of defect 0. *J. Algebra* **210** (1998), *no.* 2, 487–497. (Jürgen Ritter) **99m:20012** 20C20 (20D05)

— (*with* Liu, Mu Lan) Properties of Gröbner bases and applications to doubly periodic arrays. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 301–314. (Amnon Rosenmann) **99g:13036** 13P10 (94A55)

— A further study on the enumeration of linear recurring m-arrays. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 34–39. (Summary) **99m:94027** 94A55 (11T71)

Hu, Ming (*with* He, Cheng Yuan) A fast algorithm for computing the inverses of two classes of circulant matrices. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 258–264. 65F30

Hu, Nai Xin (*with* Li, Jia Yun) Two-dimensional δ-functions and their application in electromagnetic theory. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 57–62. 78A25

Hu, Naihong (*with* Shen, Guangyu) On the representations of the Witt algebra. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 189–192. (Yuri B. Ermolaev) **99f:17028** 17B66

— Quantum group structure of the q-deformed Virasoro algebra. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 2, 99–103. (Władysław Marcinek) **99f:81093** 81R50 (16W30, 17B37)

Hu, Ning[3] (*with* Guo, Xian Zhong; Katz, I. Norman) Bounds for eigenvalues and condition numbers in the p-version of the finite element method. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1423–1450. (K. Najzar) **99a:65149** 65N30 (65F10, 65N22)

Hu, Pei-Chu (*with* Yang, Chung-Chun) Fatou-Julia theory in high-dimensional spaces. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 273–287. (Summary) **99b:32041** 32H50

Hu, Ping[2] (*with* Zelen, Marvin) Planning clinical trials to evaluate early detection programmes. (English summary) *Biometrika* **84** (1997), *no.* 4, 817–829. (Summary) **99a:62151** 62P10

— (*with* Tsiatis, Anastasios A.; Davidian, Marie) Estimating the parameters in the Cox model when covariate variables are measured with error. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1407–1419. 62N05

Hu, Qi Ya Stepwise collocation methods based on higher-order interpolation for Volterra integral equations with multiple delays. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 353–358. (Summary) **99b:65174** 65R20 (45L05)

— Superconvergence of numerical solutions to Volterra integral equations with singularities. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 5, 1698–1707. (Ilya V. Boikov) **99a:65189** 65R20 (45D05, 45L05)

— Geometric meshes and their application to Volterra integro-differential equations with singularities. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 1, 151–164. (Jose Cuminato) **99c:65247** 65R20 (45L05)

— Interpolation correction for collocation solutions of Fredholm integro-differential equations. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 987–999. (Jean-Paul Kauthen) **99a:45023** 45L05 (45J05, 65R20)

— (*with* Liang, Guo Ping) A kind of preconditioner for domain decomposition methods with Lagrangian multipliers. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 201–212. (Summary) **99e:65173** 65N55

— A continuation-type collocation method for integral operator equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 261–266. (Summary) **99m:65247** 65R20

— Higher-order interpolation for collocation solutions of certain singular integral equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 273–278. 65R20 (45E05, 45L05)

— (*with* Liang, Guo Ping) A general framework for constructing an interface preconditioner for domain decomposition methods. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 117–128. (Summary) **99m:65238** 65N55

Hu, Qi Ying Discounted semi-Markov decision process in a semi-Markov environment. (English summary) *Optimization* **39** (1997), *no.* 4, 367–382. (Summary) **99a:90227** 90C40 (93E20)

— (*with* Gan, Xiao Bing) Analysis of some production line problems in CIMS. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 95–102. 90B35 (90B30)

— (*with* Xu, Chen) The Borel state space semi-Markov decision process with expected total rewards in a semi-Markov environment. (English summary) *Systems Sci. Math. Sci.* **12** (1999), *no.* 1, 82–91. (Summary) **99k:90197** 90C40 (60K15)

Hu, Qing Long (*with* Chen, Zong Rong) The asymptotic theory of solutions of initial value problems for nonlinear perturbed telegraph equations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 415–418. (Summary) **99k:35121** 35L70 (35B40, 35C20)

Hu, Qing Ping (*with* Lin, Yi[3]; Li, Dan) On α-type hierarchies of systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 5–16. (Summary) **99f:93005** 93A13

— (*with* Li, Dan; Hu, Zhi Gang) The essence of Kleene closure and related problems. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 3, 185–187. 68Q45

Hu, Rong Equivalence of general variational inequality to unconstrained minimization. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 191–195. 49J40 (90C33)

— (*with* Sheng, Song-bai) Convergence of inexact conic Newton methods. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 159–168. (Dorel Duca) **99m:90132** 90C30 (65K05)

Hu, Ruo Xue A new class of generalized strong nonlinear quasivariational inequalities involving relaxed Lipschitz operators. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 390–394. 49J40 (90C33)

Hu, Sen A variational principle associated to positive tilt maps. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 627–639. (Gabriel P. Paternain) **99b:58144** 58F11 (58E30, 58F05)

Hu, Shao-Chung (*with* Fong, I-Kong; Kuo, Te-Son) Multivariable pi-sharing theory and its application on the Lur'e problem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1501–1505. 93E12 (90C90)

Hu, Sheng Biao Chromatic uniqueness of a class of K_4-homeomorphs. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 14–16, 5. 05C15

Hu, Shi Geng (*with* Wang, Chun Lin) Positive solutions of boundary value problems for second-order systems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 22–27. (Jun Yu Wang) **99a:34063** 34B15 (47N20)

— (*with* Huang, Zheng Hai; Shen, Yi[2]) Lagrange duality and an alternative theorem for vector optimization problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 18–22. (Summary) **99a:90171** 90C29 (49N15)

— (*with* Huang, Zheng Hai; Shen, Yi[2]) Weakly efficient solutions in nonconvex infinite-dimensional programming. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 1–7. 90C29 (90C48)

— (*with* Shen, Yi[2]; Huang, Zheng Hai) A general Motzkin theorem and its applications. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 40–46. (Summary) **99f:90109** 90C29 (90C48)

— (*with* Wang, Chun Lin; Shen, Yi[2]) Positive radial solutions for a class of semilinear elliptic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 29–33. (Summary) **99e:35077** 35J65 (34B15, 35B05)

Hu, Shi Min (*with* Zuo, Zheng; Yuan, Bo; Sun, Jia Guang) A subdivision theorem for tensor product Bézier surfaces on a rectangular domain. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 25–27. 65D17 (41A63)

Hu, Shou Song (*with* Cao, Jian; He, Ya Qun) Tracking large-scale interconnected systems with strong stability. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 341–345. 93D10 (93A15)

Hu, Shouchuan (*with* Kandilakis, Dimitrios A.; Papageorgiou, Nikolaos S.) Periodic solutions for nonconvex differential inclusions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 89–94. (Marian Mureşan) **99b:34034** 34A60 (34C25, 47H11, 47N20)

Hu, Shu An[1] (*with* Smith, Ronald L.) Inequalities for monotonic pairs of Z-matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 57–65. (Summary) **99c:15036** 15A45 (15A57)

Hu, Shu He Distribution-free consistency of kernel estimates of regression functions. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 448–455. (Summary) **99c:62142** 62G20 (62G05)

— Consistency estimate for a new class of semiparametric regression models. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 527–536. (Summary) **99c:62098** 62G05
— Large deviations of least squares estimators for nonlinear regression models with m_0-dependent errors. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 56–62. (Summary) **99d:62067** 62J02 (62F12)
— (*with* Chen, Ming Hua[2]; Ren, Zhe) Strong consistency of a class of estimators in a partial linear model. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 429–438. (Summary) **99m:62095** 62J05 (62G05)
Hu, Si Zhu (*with* Chen, Chang Yuan) Exact bound state solutions for relativistic equations with linear potentials in a one-dimensional half-space. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **37** (1998), *no.* 6, 713–719. 35Q53 (34L40, 81Q05)
Hu, T.-C. *see* **Hu, Tien Chung**
Hu, Tai Pei *see* **Liu, Huan Ping**
Hu, Taizhong (*with* Hu, Jinjin) Comparison of order statistics between dependent and independent random variables. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 1–6. (Summary) **99a:60014** 60E15 (62G30)
Hu, Te Chiang (*with* Tucker, Paul A.) Optimal alphabetic trees for binary search. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 3, 137–140. (Summary) **99d:68052** 68P05 (68P10)
Hu, Thakyin (*with* Huang, Jui-Chi) Weak topology and Markov-Kakutani theorem on hyperspace. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 113–117. (Summary) **99j:47088** 47H10
Hu, Tie Song (*with* Shen, Pei Jun; Guo, Yuan Yu; Wan, Yi) A goal programming method for improving the generalization performance of feedforward neural networks. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 34–39. 90C08 (90B10)
Hu, Tien Chung (*with* Chang, Hen-Chao) Complete convergence and the law of large numbers for arrays of random elements. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4257–4266. (A. Bozorgnia) **99c:60008** 60B12
— (*with* Szynal, Dominik; Volodin, A. I.) A note on complete convergence for arrays. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 27–31. (V. K. Rohatgi) **99e:60084** 60F15 (60G50)
Hu, Tingshu (*with* Qiu, Li) On structured perturbation of Hermitian matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 287–314. (Ilse C. F. Ipsen) **99c:15007** 15A15 (15A18, 15A23, 15A42)
Hu, Wei Li (*with* Xiang, Zheng Rong; Guo, Zhi) Feedback linearization of discrete-time nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 746–749. 93B18 (93C55)
Hu, Weiqun (*with* Feng, Keqin) On real quadratic function fields of Chowla type with ideal class number one. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1301–1307. (Martha Rzedowski-Calderón) **99h:11133** 11R58 (11R29)
Hu, Wen Yuan (*with* Duan, Guang-Ren) Simultaneous stabilization of linear systems with time-varying uncertainties. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 447–450. 93D15 (93C41)
Hu, X. Joan (*with* Lawless, Jerald F.) Estimation from truncated lifetime data with supplementary information on covariates and censoring times. (English summary) *Biometrika* **83** (1996), *no.* 4, 747–761. (Summary) **99c:62279** 62N05
— (*with* Lawless, Jerald F.) Pseudolikelihood estimation in a class of problems with response-related missing covariates. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 125–142. (Summary) **99m:62028** 62F10 (62G05)
— (*with* Lawless, Jerald F.; Suzuki, Kazuyuki) Nonparametric estimation of a lifetime distribution when censoring times are missing. (English summary) *Technometrics* **40** (1998), *no.* 1, 3–13. (Summary) **99a:62051** 62G05 (62N05)
Hu, Xi Yan (*with* Zhang, Lei[1]; Xie, Dong Xiu) The solvability conditions for the inverse eigenvalue problem of bisymmetric matrices. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 409–418. (Jor-Ting Chan) **99k:15015** 15A18
Hu, Xian-cheng (*with* Gu, Jin Sheng) Some estimates with nonconforming elements in domain decomposition analysis. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 63–80. (Włodzimierz Proskurowski) **99c:65231** 65N55 (65N15, 65N30)
Hu, Xiao[2] (*with* Fang, Yun Lan; Zheng, Hui Rao) Fast inverse Cholesky decomposition for rectangular Toeplitz-block matrix. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 4, 418–422. 65F35 (65F10)
Hu, Xiao-Dong (*with* Hsu, D. Frank) On shortest two-connected Steiner networks with Euclidean distance. (English summary) *Networks* **32** (1998), *no.* 2, 133–140. (Summary) **99f:05064** 05C35 (90C35)
Hu, Xiao Yu Measure properties of random fractals. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 305–314. (Yimin Xiao) **99e:28012** 28A80 (28A78, 60J30)
Hu, Xiaobo (*with* Chen, Danny Z.; Daescu, Ovidiu; Xu, Jinhui) Finding an optimal path without growing the tree. (English summary) *Algorithms—ESA '98 (Venice)*, 356–367, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68R10 (05C85, 68Q25)
Hu, Xiaomi An exact algorithm for projection onto a polyhedral cone. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 165–170. (Summary) **99c:62070** 62F30 (62J05)
Hu, Xiaoming An invariant manifold approach to nonlinear feedback stabilization on compacta. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 26 *pp.* (*electronic*). (Summary) **99h:93085** 93D15 (93C10)
Hu, Xin Qi (*with* Liu, Ding You) Solutions to $-u'' \in F(t, u(t), u(t))$ in Banach spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 301–304. (Wan Zhuang) **99i:34084** 34G20 (34A60)
Hu, Xin Sheng (*with* Li, Guangzhen; Li, Shuyang; Shi, Bao Chang) The fixed point approach to nonsmooth multiobjective programming. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 65–70. (Summary) **99b:90108** 90C29 (49J52)
— (*with* Shi, Bao Chang) Maximum entropy methods and feasible direction methods with nonmonotone curvilinear search for constrained optimization. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 241–256. (Summary) **99a:65078** 65K05
— (*with* Shi, Bao Chang; Zhou, Ji[1]) Convergence of maximum entropy approximations for multiobjective minimax problems. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 285–290. 90C29 (49K35)
Hu, Xin Xin (*with* Gao, Bing Song; Zhou, Kun Ping) A primal-dual affine scaling algorithm for box linear programming. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 305–309. 90C05
— (*with* Huang, Zheng Hai; Meng, Xu) A high-order infeasible interior point algorithm for solving monotone linear complementarity problems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 105–109. 90C33
Hu, Xing-Biao Rational solutions of integrable equations via nonlinear superposition formulae. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8225–8240. (Summary) **99h:58088** 58F07 (35Q53, 58F37)
— (*with* Lou, Sen-yue) Broer-Kaup systems from Darboux transformation related symmetry constraints of Kadomtsev-Petviashvili equation. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 1, 145–148. (Efthymia Meletlidou) **99f:58099** 58F07 (35Q53, 58F37)
— (*with* Zhu, Zuo-Nong) Some new results on the Blaszak-Marciniak lattice: Bäcklund transformation and nonlinear superposition formula. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4766–4772. (F. Pempinelli) **99h:58173** 58F37 (35Q51, 35R10, 58F07)
— (*with* Wu, Yong-Tang; Zhu, Si-Ming; Geng, Xian-Guo) Some new results on the triple-humped soliton equation: Bäcklund transformation, superposition principle and new explicit solutions. (English summary) *J. Phys. A* **31** (1998), *no.* 44, 8859–8868. 35Q51 (35C99, 58F37)
— (*with* Wu, Yong-Tang) Some new results on a highly nonlinear differential-difference equation. *J. Phys. Soc. Japan* **67** (1998), *no.* 10, 3645–3646. 35R10 (35Q58)
— (*with* Wu, Yong-Tang) A new integrable differential-difference system and its explicit solutions. (English summary) *J. Phys. A* **32** (1999), *no.* 8, 1515–1521. 35R10 (34K99, 35Q99, 39A10)
Hu, Xinmin Bubblings of a family of singular pseudo-holomorphic disks. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 4, 347–360. (Véronique Lizan) **99k:58031** 58D27 (53C15, 58G20)
Hu, Xu-Guang (*with* Li, Qian-Shu) Morse oscillator in a quantum phase-space representation: rigorous solutions. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 139–146. 81S30
Hu, Y. *see* **Hu, Yao Zhong**
Hu, Y. F. *see* **Hu, Yi Fan**
Hu, Ya Hui The exponent set of $n \times n$ zero-trace centrally symmetric primitive matrices. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 22–25. 15A48
— (*with* Mei, Quan Xiong) A distance inequality for an undirected graph and its application to nonnegative matrices. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 2, 141–144. (Summary) **99i:05072** 05C12 (15A48)
Hu, Yao Zhong Itô-Wiener chaos expansion with exact residual and correlation, variance inequalities. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 835–848. (Christian Houdré) **99b:60079** 60H10 (60E15, 60G15, 60J60)
— (*with* Kallianpur, Gopinath) Exponential integrability and application to stochastic quantization. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 3, 295–353. (Tu Sheng Zhang) **99c:60117** 60H10 (60G15, 81S20)
— (*with* Chen, Zhen-Qing; Qian, Zhongmin; Zheng, Weian) Stability and approximations of symmetric diffusion semigroups and kernels. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 255–280. (Zhi Ming Ma) **99f:60139** 60J60 (35A08, 35J45, 47D07)
— (*with* Nualart, David) Continuity of some anticipating integral processes. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 203–211. (Marco Ferrante) **99i:60111** 60H07 (60H05)
— On the positivity of the solution of a class of stochastic pressure equations. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 1-2, 27–40. (Summary) **99f:60116** 60H15 (35R60, 60H07)
Hu, Yi Fan (*with* Blake, R. J.) An improved diffusion algorithm for dynamic load balancing. (English summary) *Parallel Comput.* **25** (1999), *no.* 4, 417–444. 68M20
Hu, Yi Jun A unified approach to the large deviations for small perturbations of random evolution equations. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 7, 697–706. (Toshio Mikami) **99c:60055** 60F10 (60H10)
— Large deviations of trajectories of sums of series of a class of dependent random variables. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 197–210. (Kongming Wang) **99i:60055** 60F10
— Large deviation principles for stable NA sequences. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 375–379. 60F10
Hu, Yi Ping The stability of the linear complexity of a feedforward stream cipher with uniform spectrum absolute values. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 288–294. (Summary) **99f:94010** 94A60
Hu, Ying (*with* Buckdahn, Rainer) Hedging contingent claims for a large investor in an incomplete market. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 239–255. (Rüdiger Kiesel) **99h:90013** 90A09 (60H30)
— (*with* Briand, Philippe) Stability of BSDEs with random terminal time and homogenization of semilinear elliptic PDEs. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 455–494. (Sergey V. Lototsky) **99e:35015** 35B27 (35J60, 35K55, 35R60, 60H10)
— (*with* Buckdahn, Rainer) Probabilistic approach to homogenizations of systems of quasilinear parabolic PDEs with periodic structures. *Nonlinear Anal.* **32** (1998), *no.* 5, 609–619. (Katsuyuki Ishii) **99g:35017** 35B27 (35K55)
Hu, Yong[2] (*with* Han, Yunrui) Regional pole assignment robustness for linear VSC system subject to structured perturbations. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1236–1239. 93B55 (93D09)
Hu, Yong Hong (*with* Xiao, Xiao Nan) Existence intervals and continuations of solutions to ordinary differential equations for interval-valued and fuzzy-valued functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 98–100, 97. 34A12
Hu, Yong-Jian (*with* Chen, Gong-Ning) The truncated Hamburger matrix moment problems in the nondegenerate and degenerate cases, and matrix continued fractions. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 199–236. (Boris Petrovich Osilenker) **99j:44015** 44A60 (47A57, 65D99)
— (*with* Chen, Gong-Ning) Inversion of a generalized block Loewner matrix, the minimal partial realization, and matrix rational interpolation problem. (English summary)

Linear Algebra Appl. **286** (1999), *no.* 1-3, 223–259. (Xiao Yun Lu) **99k:93034** 93B15 (15A09, 65F05)

Hu, Yong Ming (*with* Zhao, Xian Feng) An advanced nodal Green function method for boundary conditions of the second kind. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 4, 17–21. 65N30

Hu, Yu Da (*with* Meng, Zhi Qing) The existence theorem of the cone-weak subdifferential of set-valued mapping. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 473–477. 49J52 (90C29)

— (*with* Cai, Hui) Paradox of voting and the trivial preference set of group decision making. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 550–553. 90A05

— (*with* Liang, Dong Qing) The ε-expanding cone and ε-proper efficiency for multiobjective programming. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 72–78. 90C29 (90C48)

Hu, Yue Yun (*with* Shi, Zhan; Yor, Marc) Some applications of Lévy's area formula to pseudo-Brownian and pseudo-Bessel bridges. (English summary) *Exponential functionals and principal values related to Brownian motion*, 181–209, *Bibl. Rev. Mat. Iberoamericana, Rev. Mat. Iberoam., Madrid*, 1997. (F. B. Knight) **99j:60122** 60J65 (60J55, 60J60)

— (*with* Shi, Zhan) Extreme lengths in Brownian and Bessel excursions. (English summary) *Bernoulli* **3** (1997), *no.* 4, 387–402. (Davar Khoshnevisan) **99c:60169** 60J60 (60F15, 60J65)

— (*with* Bernfeld, Stephen R.; Vuillermot, Pierre A.) Large-time asymptotic equivalence for a class of non-autonomous semilinear parabolic equations. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 5, 337–368. (Sergei A. Vakulenko) **99f:35077** 35K55 (35B40)

— (*with* Shi, Zhan) The local time of simple random walk in random environment. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 765–793. (Kiyoshi Kawazu) **99m:60105** 60J15 (60F05, 60F20, 60K05, 60K35)

— (*with* Shi, Zhan) Favourite sites of transient Brownian motion. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 87–99. (Endre Csáki) **99a:60088** 60J65 (60F15, 60J55)

— (*with* Shi, Zhan) Shortest excursion lengths. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **35** (1999), *no.* 1, 103–120. (Michèle Mastrangelo-Dehen) **99k:60206** 60J65 (60F17)

— (*with* Shi, Zhan; Yor, Marc) Rates of convergence of diffusions with drifted Brownian potentials. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 3915–3934. (Kiyoshi Kawazu) **99m:60119** 60J60 (60F17, 60K35)

Hu, Yueming (*with* Li, Qingxiang; Pei, Hailong; Zhou, Qi Jie) Robust output tracking for mobile robot. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 515–524. 93C83 (70B15, 93B12)

Hu, Zhan-Ning Three-dimensional vertex model. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 166–173, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (82B20)

— Remarks on the three-dimensional lattice model. (English summary) *Chinese Phys. Lett.* **13** (1996), *no.* 6, 412–415. (M. Yu. Rasulova) **99c:82025** 82B23 (82B20)

— (*with* Pu, Fu Ke; Wang, Yupeng) Integrabilities of the t-J model with impurities. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5241–5262. (Summary) **99c:82012** 82B20 (82D15)

— Heisenberg XYZ Hamiltonian with integrable impurities. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 337–343. (Summary) **99h:82026** 82B23 (81R50)

Hu, Zhan Yi (*with* Wang, Wei; Yang, Yi; Ma, Song De) A new definition of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 5, 385–392. (Summary) **99i:44006** 44A15 (68U10)

— (*with* Tang, Min; Li, Jun[5]) A comparison between the randomized Hough transformation and the Tabu search algorithm in geometric primitive extraction. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **22** (1999), *no.* 1, 56–65. 90C27 (68T10, 68U10)

— (*with* Yang, Changjiang; Yang, Yi; Ma, Song De) An inherent probabilistic aspect of the Hough transform. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 1, 44–48. 68U10

Hu, Zhangjian Carleson measures and the fractional derivatives of holomorphic functions in the unit ball of $\mathbf{C}^n$. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 533. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 299–304. (Manfred Stoll) **99j:32004** 32A35 (46E15)

Hu, Zhenjiang (*with* Iwasaki, Hideya; Takeichi, Masato) Towards manipulation of mutually recursive functions. (English summary) *Third Fuji International Symposium on Functional and Logic Programming* (*Kyoto*, 1998), 61–79, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68N15

Hu, Zhi Gang (*with* Hu, Qing Ping; Li, Dan) The essence of Kleene closure and related problems. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 3, 185–187. 68Q45

Hu, Zhi Quan (*with* Liu, Zhen Hong[1]) A strongly polynomial algorithm for the inverse shortest arborescence problem. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 135–154. (Xiao Tie Deng) **99a:05134** 05C85

— (*with* Zheng, De Yin) An extension of a theorem of Duffus et al. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 17–19. (Summary) **99c:05124** 05C45

— A generalization of Fan's condition and forbidden subgraph conditions for Hamiltonicity. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 167–175. (Günter Schaar) **99m:05100** 05C45

Hu, Zhi Xing (*with* Wang, Hui[1]; Ma, Zhi En) An SIRS epidemic model with distributed delay. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 44–48. (Summary) **99d:92040** 92D30

Hu, Zhibao (*with* Moors, Warren B.; Smith, Mark A.) On a Banach space without a weak mid-point locally uniformly rotund norm. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 193–196. (Stephen J. Dilworth) **99a:46015** 46B03 (46B20)

Hu, Zhiguo The von Neumann algebra VN(G) of a locally compact group and quotients of its subspaces. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1117–1138. (Tianxuan Miao) **99b:22010** 22D25 (22D15, 43A22, 43A30, 46L99)

— Spectrum of commutative Banach algebras and isomorphism of C^*-algebras related to locally compact groups. (English summary) *Studia Math.* **129** (1998), *no.* 3, 207–223. (Alain Valette) **99f:46073** 46J05 (22D25, 43A45, 46L05)

Hu, Zhongzhi (*with* Salcudean, S. E.; Loewen, P. D.) A numerical solution of multiobjective control problems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 411–422. (Summary) **99k:49071** 49M30 (90C29, 93B51)

Hu, Zuo Sheng (*with* Mingarelli, Angelo B.) On a question in the theory of almost periodic differential equations. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2665–2670. (George Seifert) **99m:34095** 34C27 (34B05)

Hua, Bach Lien (*with* McWilliams, James C.; Klein, Patrice) Lagrangian accelerations in geostrophic turbulence. (English summary) *J. Fluid Mech.* **366** (1998), 87–108. (Summary) **99c:76054** 76F99 (76U05, 86A10)

Hua, Cun Cai (*with* Li, Kai-tai; Ma, Yi Chen) Petrov-Galerkin methods for the stationary Navier-Stokes equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 23–29. (Long An Ying) **99d:65319** 65N30 (35Q30, 76D05)

Hua, Jian-wei *see* **Hu, Jian Wei**

Hua, Jiuzhao Polynomial equations for matrices over finite fields. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 59–64. (S. D. Cohen) **99m:11144** 11T30 (11C20)

Hua, Wei (*with* Daripa, Prabir) A numerical study of an ill-posed Boussinesq equation arising in water waves and nonlinear lattices: filtering and regularization techniques. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 159–207. (Summary) **99m:76087** 76M20 (35Q35, 65M99, 70K99, 76B15)

Hua, Xin-Hou (*with* Yang, Chung-Chun) Uniqueness problems of entire and meromorphic functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 289–300. (Summary) **99b:30042** 30D35 (30D05, 58F23)

— (*with* Wang, Xiaoling) Fatou components of transcendental entire functions. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 180–186. (Jian-Hua Zheng) **99e:30018** 30D05

— (*with* Yang, Chung-Chun) ★ Dynamics of transcendental functions. (English summary) Asian Mathematics Series, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *xii*+241 *pp. ISBN* 90-5699-161-2 (Walter Bergweiler) **99j:58169** 58F23 (30D05)

— (*with* Zhou, Jiazhang) Relative primeness of entire functions. (English summary) *Acta Math. Vietnam.* **23** (1998), *no.* 2, 263–267. (Chung-Chun Yang) **99m:30054** 30D05 (30D35)

— (*with* Yang, Chung-Chun) Fatou components and a problem of Bergweiler. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1613–1616. (Peter Petek) **99k:58157** 58F23

— (*with* Fang, Ming Liang) Meromorphic functions that share one finite set CM. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 15–22. (Hong Xun Yi) **99g:30039** 30D35 (30D05)

Hua, Zeyi (*with* Chao, Hongyang; Fisher, Paul S.) An approach to integer wavelet transformations for lossless image compression. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 19–38, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Ding-Xuan Zhou) **99k:42056** 42C15 (65D15, 68M10, 94A12)

Huan, Zhongdan (*with* Liu, Changhe; Tong, Ming Sheng) Uniqueness of the viscosity solutions for the initial value problem of one type of second order partial differential equation. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 6–11. (Naoki Yamada) **99f:35082** 35K55 (35B05, 35D05)

Huang, Ai Xiang (*with* Mei, Li Quan; Shi, Rui Min) Analysis of a spectral-finite element method for the 3D unsteady Boltzmann transport equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 44–50, 102. 65N35

— (*with* He, Yin Nian; Li, Kai-tai) The stability and convergence of an inertial algorithm. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 239–250. (Summary) **99m:65170** 65M12 (65J15)

— (*with* Chen, Gu Ding) Post-Galerkin methods based on the approximate inertial manifold. (Chinese. Chinese summary) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 8, 104–105. 65M70

Huang, Alan (*with* McDonald, David R.) Connection admission control for constant bit rate traffic at a multi-buffer multiplexer using the oldest-cell-first discipline. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 1, 1–16. (Summary) **99f:60158** 60K25

Huang, Bao Jian (*with* Sun, Mingxuan; Zhang, Xue Zhi) PD-type iterative learning control for a class of nonlinear systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 711–714. 93E35

— (*with* Sun, Mingxuan; Zhang, Xue Zhi) PD-type iterative learning control for a class of uncertain time-delay systems with arbitrary initial states. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 853–858. 93C30 (93B52)

Huang, Bao Jun Complete Riemannian manifolds have a closed cut space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 313–316. 55M30 (53C20)

Huang, Bao Sheng Approximation by Kantorovich interpolation operators with triangular wave basis functions and an algorithmic procedure. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 9–12. (Song Ping Zhou) **99j:41042** 41A36 (65D15)

— Estimation of the order of approximation of the Bernstein-Fan interpolation operator and a computational procedure for it. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 200–203, 224. 41A25

Huang, Benwen The characterization of A_5. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 4, 405–410. 20D06

Huang, Chaocheng Global solutions for dynamical systems modeling motion of charged particles. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4663–4674. (J. W. Jerome) **99a:35260** 35Q99 (35Q35, 76C05, 82D99)

— (*with* Friedman, Avner) Averaged motion of charged particles in a curved strip. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1557–1587. (George Rowlands) **99d:78022** 78A35 (35B60, 35Q60)

— (*with* Svobodny, Thomas P.) Evolution of mixed-state regions in type-II superconductors. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 1002–1021 (*electronic*).

(J. R. Ockendon) **99e:82099** 82D55 (35Q99, 35R35)

Huang, Cheng Biao Analysis of periodic solutions for strongly nonlinear dynamical systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 4, 1–10, *I.* 34C25

— Qualitative analysis of periodic solutions to a class of nonlinear dynamical systems with many degrees of freedom. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 2, 40–46, *III–IV.* 34C25

Huang, Chenggui A theory of right inverse relation to operational calculus. (English summary) *J. Tianjin Norm. Univ. Nat. Sci. Ed.* **17** (1997), *no.* 1, 1–10. (Summary) **99g:44012** 44A45

Huang, Chieh-Sen (*with* Douglas, Jim, Jr.; Pereira, Felipe) The modified method of characteristics with adjusted advection for an immiscible displacement problem. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 53–73, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Zhangxin Chen) **99j:76071** 76M10 (65M60, 76S05)

Huang, Chong Chao (*with* Zhang, Ming Wang) An interior ellipsoid method for convex programming. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 129–132. (Wan Tao Fu) **99k:90120** 90C25

Huang, Chun Chao Oscillation and nonoscillation for second order linear differential equations. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 712–723. (From the introduction) **99a:34096** 34C10

— Positive solutions of two-point boundary value problems of differentio-integral equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 176–184. (Bernhard Lani-Wayda) **99e:34091** 34K10

— A new fixed point theorem for cone maps and its applications. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 498–510. (Bogdan Przeradzki) **99j:47089** 47H10 (34B15, 45G10)

— Quasiconvex spaces. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 1–5. (Summary) **99c:46018** 46B99 (46C15)

Huang, D. *see* **Huang, Da Wei**

Huang, Da Ren (*with* Zhang, Ze Yin) Asymptotic behavior of Gibbs functions for M-band wavelet expansions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 6, 1219–1224. 42C15

Huang, Da Wei Stochastic FM models and non-linear time series analysis. (English summary) *Adv. in Appl. Probab.* **29** (1997), *no.* 4, 986–1003. (Summary) **99a:60019** 60F05 (60G10, 60G35, 62M10)

Huang, De Shuang A study of the classification mechanism of outer-supervised feedforward network classifiers. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 650–655. 68T05

Huang, Debin (*with* Liu, Zeng Rong; Cheng, Zhongshi) Global dynamics near the resonance in the sine-Gordon equation. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 4, 259–261. 35L70 (34C37, 35B40, 35Q53, 58F39)

— (*with* Zhao, Xiao Hua; Liu, Zeng Rong) Divergence-free vector-field and reduction. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 377–382. (Peter J. Topalov) **99k:58159** 58F25

Huang, Ding-Wei Multiplicity distributions from the Ising model with next-nearest-neighbor interactions. (English summary) *Phys. A* **260** (1998), *no.* 1-2, 106–116. (Summary) **99g:82009** 82B20

Huang, Dongjie (*with* Kiasaleh, Kamran) Routing strategy and performance evaluation of multiple-ring shufflenet topology for high speed wavelength-division multiplexed optical communications. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 273–293, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 90B12

Huang, Fa Lun (*with* Liang, Jin; Xiao, Ti Jun) Exponential stability for abstract linear autonomous functional-differential equations with infinite delay. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 255–259. (Summary) **99a:34213** 34K20 (34K30, 47D06)

— (*with* Zhang, Qian Chuan) Compact perturbation of C_0-operator semigroups. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 829–833. (Summary) **99m:47050** 47D06

Huang, Fang Lun The Cesàro operator is bounded on S^p for $0 < p < 1$. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 3, 296–299. (Ke He Zhu) **99k:47066** 47B38

— The boundedness of the Cesàro operator on the Bloch space. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 197–199. (Ke He Zhu) **99i:30052** 30D45 (30D55, 47B38)

Huang, Fei Min Existence and uniqueness of discontinuous solutions for a hyperbolic system. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1193–1205. (Ralph Saxton) **99f:35122** 35L60

— (*with* Yang, Xiao Zhou) The two-dimensional Riemann problem for a class of systems of hyperbolic conservation law equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 193–205. (Ming Mei) **99e:35138** 35L65

— The two-dimensional Cauchy problem for a class of systems of nonlinear hyperbolic equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 707–714. (Shu-Xing Chen) **99m:35141** 35L60 (35D05, 46F10)

— (*with* Yang, Xiao Zhou) Two-dimensional Riemann problems of simplified Euler equation. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 6, 441–444. (Huicheng Yin) **99e:35134** 35L60 (35Q35, 76N10)

Huang, Fuchun (*with* An, Hong-Zhi; Chen, Min[4]) The geometric ergodicity and existence of moments for a class of non-linear time series model. (English summary) *Statist. Probab. Lett.* **31** (1997), *no.* 3, 213–224. (Juan Carlos Abril) **99a:62126** 62M10 (62J02)

Huang, G. On extended block induction and Brauer's third main theorem. *Representation theory of finite groups (Columbus, OH, 1995)*, 85–91, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Burkhard Külshammer) **99b:20018** 20C20 (20C05)

Huang, Guan Shieng (*with* Hsiang, Jieh) Some fundamental properties of Boolean ring normal forms. (English summary) *Satisfiability problem: theory and applications (Piscataway, NJ, 1996)*, 587–602, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (T. Thrivikraman) **99g:06018** 06E20 (03G05, 06E30, 54C40, 68T15)

Huang, Guang Yuan (*with* Zhu, Yue Qiu; Ning, Fei; Lu, Kun) Speech signal processing by inversion of equations of mathematical physics. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 44–51. 94A12 (35Q80, 35R30, 92C05)

Huang, Guifeng (*with* Liao, Gongfu; He, Bai He) Likely limit sets of Feigenbaum's maps and their Hausdorff dimensions. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 349–356. (Remo Badii) **99b:58153** 58F12 (28A80)

Huang, Guowei (*with* Russell, David L.) Asymptotic properties of solutions of a KdV-Burgers equation with localized dissipation. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 38 *pp.* (*electronic*). (Vladislav G. Dubrovsky) **99m:35207** 35Q53

Huang, Hai (*with* Yuan, Rong[1]) Boundedness of solutions and existence of invariant tori for generalized pendulum type equation. *Chinese Sci. Bull.* **42** (1997), *no.* 20, 1673–1675. (Sergei A. Dovbysh) **99d:34055** 34C11 (58F27, 70H05, 70K99)

— Destruction of invariant tori in pendulum-type equations. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 67–89. (Rafael de la Llave) **99d:58145** 58F27 (34C35, 70H05)

— Generic existence of invariant Cantori in pendulum-type equations. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 379–394. (Dmitry V. Treshchëv) **99a:34140** 34C99 (34C15, 58F27, 70K99)

Huang, Haiyang (*with* Guo, Bo Ling; Miao, Changxing) Global flow generated by coupled system of Schrödinger-BBM equations. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 131–138. (Nakao Hayashi) **99a:35209** 35Q35 (47H20, 76X05)

— The finite dimension behavior of the Schrödinger equation with nonlocal integral nonlinearity. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **15** (1999), *no.* 1, 34–44. (Summary) **99m:35230** 35Q55 (47H20, 58F39)

Huang, He Jiao (*with* Wei, Xian Sun; Zhang, Jiang Tao) Edge arboricity decomposition of a finite graph. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 25–28. 05C05

— (*with* Zhang, Jiang Tao; Liu, San Yang) Sufficient conditions and duality theorems for solutions to nonconvex fractional multiobjective programming problems with different denominators. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 43–48. 90C29 (49N15)

Huang, Hong-ci (*with* Shi, Zhong Ci; Chen, Shao Chun) Plate elements with high accuracy. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 155–164, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:73097** 73V05 (73K10)

— (*with* Cheng, Xiao-liang; Zou, Jun) Quadrilateral finite elements for planar linear elasticity problem with large Lamé constant. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 357–366. (Summary) **99g:73102** 73V05 (65N30, 73C02)

— (*with* Zhu, Zuo-Nong) Some new nonlinear differential-difference integrable hierarchies. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 10, 3393–3396. (Summary) **99j:58106** 58F07 (34K99, 35Q58)

— (*with* Chen, Jiuhua; Han, Weimin) On the Kačanov method for a quasi-Newtonian flow problem. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 961–970. (Marko A. Rojas-Medar) **99m:65118** 65J15 (65M60, 76A05, 76M30)

— (*with* Zhu, Zuo-Nong; Xue, Wei Min[1]) Lax representations and integrable time discretizations of the DDKdV, DDmKdV, and DDHOKdV. (English summary) *Phys. Lett. A* **252** (1999), *no.* 3-4, 180–190. (Reda A. Zait) **99m:58121** 58F07 (35Q53, 58F37)

Huang, Huai Zhi (*with* He, Ming[2]; Wang, Huan Chen) The optimal mechanism of a multi-object auction. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 12, 101–106. 90A09

Huang, Hui Optimal exploitation in a generalized logistic model. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 39–44. 90B06 (34C99)

Huang, I-Chiau Reversion of power series by residues. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 803–812. (Reinhold Hübl) **99g:14017** 14F10 (13F25, 13J05)

Huang, I-Ming (*with* Lin, Chyi-Yeu) A crystal growth approach for topographical global optimization. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 255–267. (Summary) **99g:90126** 90C30 (65K05)

Huang, J. S. *see* **Huang, Jin-sheng[1]**

Huang, Jian *see* **Huang, Jian[2]**

Huang, Jian[1] (*with* Wellner, Jon A.) Regression models with interval censoring. (English summary) *Probability theory and mathematical statistics (St. Petersburg, 1993)*, 269–296, *Gordon and Breach, Amsterdam*, 1996. (Summary) **99i:62066** 62G05 (62N05)

— Asymptotic properties of the NPMLE of a distribution function based on ranked set samples. (English summary) *Ann. Statist.* **25** (1997), *no.* 3, 1036–1049. (M. Hušková) **99e:62047** 62G05 (62G20)

Huang, Jian[2] (*with* Chen, Yaobin) An improved computation of time-optimal control trajectory for robotic point-to-point motion. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 177–194. 49N55 (70B15, 70Q05, 93C85)

Huang, Jian[3] (*with* Huang, Wei) The four-color problem for flat graphs. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 5, 1–3. 05C15

Huang, Jian Hua *see* **Huang, Jian Hua[3]**

Huang, Jian Hua[1] (*with* Wang, Xiao Li) On the structure of finite group modules. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 3, 11–14. (Zhi Rang Zhang) **99e:20010** 20C15 (20E22)

Huang, Jian Hua[3] (*with* Lu, Gang[2]) Global attractor of a spatially discretized reaction-diffusion system with Hamiltonian structure. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 185–195. (Piotr Biler) **99f:35088** 35K57 (34G20, 35B40, 47H20, 58F39)

— Solutions to a class of systems of discrete reaction-diffusion equations that are periodic in space and time. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 33–38. 65M06 (39A12)

— (*with* Ye, Hong Xin; Lu, Gang[2]) Finding periodic solutions to the spatially homogeneous Nagumo equation by the Adams-Bashforth difference scheme. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 4, 394–399. 65M06

Huang, Jian Min[2] Positive periodic solution to a high-order delay equation. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 346–349. (Marlène Frigon) **99a:34190** 34K15

Huang, Jian Zhong[2] (*with* Hu, Bi Jin; Tian, Jin Wen; Fu, Cai Fang; Zhu, Hong Zhang; Cui, Jiong Cheng) LMS estimation and inversion in lithology. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 246–250. 86A32 (62M09)
— (*with* Tian, Jin Wen; Gao, Qian) The Bouligand dimension of some graphs based on wavelet series. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 115–118. 42A16 (28A78)
Huang, Jianguo (*with* Xi, Shitong) On the finite volume element method for general self-adjoint elliptic problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1762–1774 (*electronic*). (Shuzi Zhou) **99g:65104** 65N15
Huang, Jianhua *see* **Huang, Jian Hua**[3]
Huang, Jianhua Z. Projection estimation in multiple regression with application to functional ANOVA models. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 242–272. (Patricia B. Cerrito) **99c:62099** 62G05 (62G20, 62J10)
— *see also* **Stone, Charles J. et al.**, **99e:62060**
Huang, Jianjun Further investigation of the Volterra-Lotka competition model with diffusion. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 239. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 135–140. (Summary) **99h:92028** 92D25 (35K57, 35Q80, 92D40)
Huang, Jianmin *see* **Huang, Jian Min**[2]
Huang, Jianzhong *see* **Huang, Jian Zhong**[2]
Huang, Jie[1] (*with* Zhang, Ji-Feng) Impulse-free output regulation of singular nonlinear systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 789–806. (V. A. Sobolev) **99i:93052** 93D15 (34H05)
— An algorithm to solve the discrete HJI equation arising in the L_2 gain optimization problem. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 49–57. (Summary) **99j:93037** 93B40 (49L25, 65K10)
Huang, Jin-sheng[1] (*with* Lin, Gwo Dong) The cube of a logistic distribution is indeterminate. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 247–252. (S. G. Maloshevskiĭ) **99e:60045** 60E05 (44A60, 62E10)
— Sequence of expectations of maximum-order statistics. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 117–123. (Summary) **99c:62148** 62G30
Huang, Jing A note on spanning local tournaments in locally semicomplete digraphs. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 277–279. (Summary) **99h:05046** 05C20
— (*with* Bang-Jensen, Jørgen) Kings in quasi-transitive digraphs. (English summary) *Discrete Math.* **185** (1998), *no.* 1-3, 19–27. (Summary) **99a:05054** 05C20
— (*with* Yeo, Anders) Maximal and minimal vertex-critical graphs of diameter two. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 311–325. (Jaroslav Ivančo) **99i:05112** 05C35 (05C12)
Huang, Jing-Song (*with* Adams, Jeffrey) Kazhdan-Patterson lifting for $\mathrm{GL}(n, \mathbf{R})$. *Duke Math. J.* **89** (1997), *no.* 3, 423–444. (From the introduction) **99e:22033** 22E47
— (*with* Magaard, Kay; Savin, Gordan) Unipotent representations of G_2 arising from the minimal representation of D_4^E. *J. Reine Angew. Math.* **500** (1998), 65–81. (Dihua Jiang) **99j:22025** 22E50
— (*with* Adams, Jeffrey; Vogan, David A., Jr.) Functions on the model orbit in E_8. (English summary) *Represent. Theory* **2** (1998), 224–263 (*electronic*). (William M. McGovern) **99g:20077** 20G05 (22E47)
— (*with* Zhu, Chen-Bo) Weyl's construction and tensor power decomposition for G_2. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 925–934. (William M. McGovern) **99f:22025** 22E46 (20G05)
Huang, Jing Wei (*with* Kang, Li Shan) A graph drawing algorithm for general undirected graphs based on genetic algorithms. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 68–72. 68U05 (68R10)
Huang, Jui-Chi On the convergence of the iteration methods to a common fixed point for a pair of mappings. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 59–67. (Charles Ejike Chidume) **99i:47103** 47H10
— (*with* Hu, Thakyin) Weak topology and Markov-Kakutani theorem on hyperspace. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 113–117. (Summary) **99j:47088** 47H10
— Iteration processes for nonlinear multi-valued mappings in convex metric spaces. (English summary) *Tamsui Oxf. J. Math. Sci.* **14** (1998), 19–24. 54H25 (47H10, 54C60)
Huang, Jun Min On $\lambda[S]$ semigroup of semigroup. (English summary) *Chinese Quart. J. Math.* **13** (1998), *no.* 2, 1–4. 20M15
— On the structure and commutativity of (m, n)-commutative semigroups. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 8, 118–121. (Yow-Tzong Yeh) **99m:20143** 20M14
Huang, Kai-bin (*with* Yan, Shi Jian[2]) Constructions of bases for extended oblique projection method. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 176–184. (Yao Zhang) **99d:65112** 65F10 (65F20)
— (*with* Yan, Shi Jian[2]; Xu, Ling-ling; Fan, Jin-yan) The solubility of the multidimensional TLS problem. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 121–124. 65F30 (90C30)
Huang, Ke Zhi (*with* Song, G.-Q.; Sun, Q.-P.) Micromechanics constitutive modeling for polycrystalline SMA. (English summary) *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 25–33, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73S10 (73B30)
Huang, Kerson ★ Quantum field theory. (English summary) From operators to path integrals. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xx*+426 *pp. ISBN* 0-471-14120-8 (Lewis H. Ryder) **99m:81001** 81-01 (81T15, 81T17, 81T18)
Huang, Kun (*with* Born, Max) ★ Dynamical theory of crystal lattices. (English summary) Reprint of the 1954 original. Oxford Classic Texts in the Physical Sciences. *The Clarendon Press, Oxford University Press, New York*, 199?. *xii*+420 *pp. ISBN* 0-19-850369-5 (Uwe C. Täuber) **99h:82001** 82-02 (82B10, 82D25)
Huang, Kuo-Ching (*with* Chen, Jer-Jeong; Chang, Gerard J.) Integral distance graphs. (English summary) *J. Graph Theory* **25** (1997), *no.* 4, 287–294. (Hansjoachim Walther) **99b:05047** 05C12
— (*with* Chen, Bor-Liang; Dong, Lei; Liu, Qi-Zhang) Total colorings of equibipartite graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 59–65. (Summary) **99k:05076** 05C15
Huang, L. *see* **Huang, Lei**[2]
Huang, L. H. *see* **Huang, Li Hong**
Huang, L. R. *see* **Huang, Liren**
Huang, Lan Jie (*with* Wu, Ya-Dan) Runge-Kutta methods for differential algebraic equations in the numerical solution of the incompressible Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 277–286. (Summary) **99a:76123** 76M25 (34A09, 65L06, 76M20)
— (*with* Golub, Gene H.; Simon, Horst D.; Tang, Wei-Pai) A fast Poisson solver for the finite difference solution of the incompressible Navier-Stokes equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1606–1624 (*electronic*). (Jean-Luc Guermond) **99e:65116** 65M06 (65F30, 76D05, 76M20)
Huang, Lei[2] (*with* Takiguchi, T.) The reconstruction of uniquely determined plane sets from two projections. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 3, 217–242. (F. W. Stallmann) **99i:65150** 65R30
Huang, Li Bo (*with* Zhang, Yan Ying; Yao, Huan Min) Multivariate interpolation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 9–12. 41A63 (65D15)
Huang, Li Hong (*with* Peng, Min Shu) Asymptotic behaviour and oscillation in first-order neutral delay difference equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 5, 1–5. (Shu Nian Zhang) **99e:39039** 39A10
— (*with* Peng, Min Shu; Xu, Qian Li) Oscillation and stability of a class of higher-order nonlinear difference equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 303–307. (Summary) **99b:39018** 39A11
— (*with* Chen, Ming-Po) Boundedness of solutions and existence of limit cycles for a nonlinear system of differential equations. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 113–120. (Gabriele Villari) **99j:34035** 34C05 (34C11)
— (*with* Dai, Bin Xiang) Asymptotic behavior and existence of positive solutions for a neutral difference equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 22–28. (Summary) **99i:39004** 39A10
— (*with* Dai, Bin Xiang; Zhou, Zhan) Convergence of solutions for a class of difference equations with variable delay. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 117–119. (Summary) **99h:39004** 39A10
— (*with* Zhou, Zhan; Dai, Bin Xiang) Oscillation for nonlinear neutral difference equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 468–473. (Summary) **99i:39024** 39A10
— (*with* Dai, Bin Xiang) Convergence of solutions for a class of neutral difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 83–91. (I. P. Stavroulakis) **99h:39005** 39A10
— (*with* Dai, Bin Xiang) Asymptotic behavior of solutions for a class of neutral retarded differential equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 139–144. (Wantong Li) **99d:34129** 34K15 (34K25, 34K40)
— (*with* Peng, Min Shu; Xu, Qian Li; Ge, Wei Gao) Asymptotic and oscillatory behavior of solutions of certain second-order nonlinear difference equations. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 9–18. (E. Thandapani) **99k:39034** 39A10
Huang, Li Ping[3] The quaternion matrix equation $\sum A^i X B_i = E$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 459–462. (Wasin So) **99f:15020** 15A33 (15A24)
— The primary rational canonical form and the eigenvalues of algebraic matrices over a skew field. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 871–880. (Summary) **99j:15025** 15A33 (15A18, 15A21)
— (*with* Cai, Yong Yu) A weighted power mean inequality for determinants of positive definite Hermitian matrices. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 91–94. 15A45
— The minimal polynomial of a matrix over a central simple algebra. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 99–107. (Summary) **99i:15024** 15A33 (15A18, 15A21)
Huang, Li Ying Enumeration of the spanning trees of lattice graphs in the plane. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 12–15. 05C30 (05C05)
Huang, Liede The approximate treatment of a class stochastic differential-integral equation. (English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 19–21, 42. 60H10 (60H20)
Huang, Libu (*with* Li, Bing Zhang; Liu, Luqin) Some fractal properties of a class of self-similar Markov processes. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 3, 257–262. (Summary) **99i:60143** 60J25 (60E07, 60J55)
Huang, Lin[1] (*with* Chen, Hui[2]) H_∞-norm perturbation margins of robust input-output stability for Lur'e systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 454–462. 93D09 (93B36)
— (*with* Chu, Tian Guang) Mixed monotone decomposition of dynamical systems with application. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 14, 1171–1175. (Zoran Gajic) **99k:93083** 93D20 (54H20)
— (*with* Chu, Tian Guang) Mixed monotone decompositions of dynamical systems and their applications. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 388–391. 34C35
— (*with* Yu, Wen Sheng) A necessary and sufficient condition for robust strictly positive stabilization of low order systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 21, 2275–2279. 93D21
Huang, Lin Wen (*with* Zha, Jian Guo) Infinite-dimensional algebraic subgroups of Kac-Moody groups. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 9–13. (Zhi Xue Zhang) **99f:17027** 17B65 (22E65)
Huang, Lingling (*with* Chang, Gerard J.; Zhu, Xuding) Circular chromatic numbers and fractional chromatic numbers of distance graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 423–431. (Hansjoachim Walther) **99j:05066** 05C15
— (*with* Chang, Gerard J.; Chen, Fu-Loong; Hwang, Frank K.; Nuan, Su-Tzu; Rothblum, Uriel G.; Sun, I-Fan; Wang, Jan-Wen; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)
Huang, Linpeng (*with* Sun, Yong Qiang; Yuan, Wei) Hierarchical bulk synchronous parallel model and performance optimization. (English summary) *J. Comput. Sci. Tech.*

14 (1999), *no.* 3, 224–233. 68Q05 (68Q10, 68Q22)

Huang, Liren (*with* Ng, Kung Fu) On lower bounds of the second-order directional derivatives of Ben-Tal, Zowe, and Chaney. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 3, 747–753. (Summary) **99f:49019** 49J52 (26B05)

Huang, Liying (*with* Yen, David H. Y.) A Gauss-Galerkin finite-difference method for singular partial differential equations in two space variables. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 331–355. (Reinhard Scholz) **99a:65108** 65M20 (65M60)

Huang, Loulin (*with* Zribi, Mohamed) Robust control of multiple robots handling a constrained load. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 215–231. (Summary) **99e:93052** 93C85 (70B15, 70Q05, 93B36)

Huang, Maosong (*with* Zienkiewicz, O. C.) New unconditionally stable staggered solution procedures for coupled soil-pore fluid dynamic problems. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 1029–1052. (Summary) **99i:76143** 76S05 (73N20, 76M20, 86A15)

— (*with* Pastor, M.; Zienkiewicz, O. C.; Li, Tongchun; Liu, Xiaoqing) Stabilized finite elements with equal order of interpolation for soil dynamics problems. (English summary) *Arch. Comput. Methods Engrg.* **6** (1999), *no.* 1, 3–33. 73V05 (65M60, 73Q05)

Huang, Mei Ling (*with* Li, Deli) A note on moments of the maximum of Cesàro summation. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 73–81. (Allan Gut) **99f:60035** 60E99

Huang, Meichun (*with* Yu, Li; Huang, Wenda; Zhu, Zizhong; Zeng, Xiao Ming[2]; Ji, Wei) The Laguerre-Gaussian series representation of two-dimensional fractional Fourier transform. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9353–9357. (Summary) **99j:44012** 44A15 (33C45, 42B10)

Huang, Miinshiou (*with* Brinson, L. C.) A multivariant model for single crystal shape memory alloy behavior. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 8, 1379–1409. 73B30 (73C50, 73S10)

Huang, Min Hai The moving load problem for an elastic half-plane with a horizontal crack. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 72–75, 80. 73T05 (73V35)

Huang, Min-Jei On the eigenvalue ratio for vibrating strings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1805–1813. (Miklós Horváth) **99i:34119** 34L15

Huang, Ming-Chang (*with* Wu, Ming-Chya) The Caldirola-Kanai model and its equivalent theories for a damped oscillator. (English summary) *Chinese J. Phys.* **36** (1998), *no.* 4, 566–587. (Summary) **99h:81032** 81Q05 (81Q15)

Huang, Ming-Deh A. (*with* Adleman, Leonard M.; Demarrais, Jonathan) Quantum computability. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1524–1540. (Robert M. Baer) **99e:68035** 68Q05 (03D10, 03D15, 68Q15, 81P99)

— (*with* Horng, Gwoboa) Solving polynomials by radicals with roots of unity in minimum depth. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 881–885. (Richard Massy) **99i:12009** 12Y05 (11R32, 12F10)

Huang, Ming-you (*with* Zhang, Tie) Superconvergence of Ritz-Volterra projection on finite element spaces. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **5** (1996), *no.* 2, 197–206. (K. Najzar) **99f:65147** 65M60 (65M12, 65R20)

— (*with* Zou, Yongkui) Eigenstructure preserving schemes and their applications in dynamical systems. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 223–235, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Mark J. Friedman) **99j:65133** 65L15 (34C23)

Huang, Mo Jia (*with* Fu, Ming Fu; Bufler, H.) A self-consistent analysis for coupled elastoplastic damage problems. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 12, 1217–1226; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1119–1126 (*Chinese. English and Chinese summaries*). 73M25 (73B30, 73E99)

— (*with* Bufler, H.) Updated Lagrangian polar decomposition method in non-linear elasticity and its shell element implementation. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 3, 167–181. (Summary) **99m:73069** 73V05 (65F10, 65N30, 73C50)

Huang, Nan Jing Existence of periodic solutions for fully nonlinear wave equation. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 321–326. 35L70 (35B10)

— (*with* Long, Xiang; Cho, Yeol Je) Random completely generalized nonlinear variational inclusions with non-compact valued random mappings. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 603–615. (E. Tarafdar) **99f:47087** 47H19 (47H40, 49J40, 58E35)

— On the generalized implicit quasivariational inequalities. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 197–210. (Summary) **99j:47100** 47H19 (49J40)

— Mann and Ishikawa type perturbed iterative algorithms for generalized nonlinear implicit quasi-variational inclusions. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 1–7. (Summary) **99c:47109** 47H19 (49J24)

— A new completely general class of variational inclusions with noncompact valued mappings. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 9–14. (Summary) **99c:47110** 47H19 (49J40)

— (*with* Cho, Yeol Je) Random completely generalized nonlinear quasivariational inclusions. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 93–106. (Summary) **99a:47104** 47H19 (47H17, 47H40, 49J40)

— The existence of equilibria for generalized abstract economics. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 8, 801–809. (C. D. Aliprantis) **99m:90038** 90A14

— A general class of nonlinear variational inclusions for fuzzy mappings. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 957–964. (Summary) **99j:49015** 49J40 (47H19, 90C70)

— A new class of random completely generalized strongly nonlinear quasi-complementarity problems for random fuzzy mappings. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 315–329. (George Isac) **99g:90146** 90C33 (47N10, 90C15, 90C70)

— (*with* Cho, Yeol Je) Common fixed point theorems of Gregus type in convex metric spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 83–89. 54H25 (47H10)

— (*with* Wu, Dingping; Long, Xiang) Generalized nonlinear variational inclusions for fuzzy mappings. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 509–513. (Summary) **99g:47152** 47H19 (47S40, 49J40)

— A new method for a class of nonlinear set-valued variational inequalities. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 427–430. (From the introduction) **99c:49011** 49J40 (65K10)

— (*with* Bai, Min-Ru) A perturbed iterative procedure for multivalued pseudo-contractive mappings and multivalued accretive mappings in Banach spaces. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 7–15. (Charles Ejike Chidume) **99m:47072** 47H15 (46B20, 47H10, 65J15)

Huang, Nian-Ning (*with* Yue, Hong[1]) Soliton solutions for a spin chain with an easy plane and the method of Riemann problem with zeros. (English summary) *J. Phys. A* **30** (1997), *no.* 1, 331–344. (Summary) **99e:82022** 82B20

— (*with* Yue, Hong[1]; Chen, Xiang-Jun) An inverse scattering transform for the Landau-Lifshitz equation for a spin chain with an easy plane. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2491–2501. (Summary) **99b:82025** 82B20 (81U40)

— (*with* Chen, Xiang-Jun; Chen, Zhi-De) A direct perturbation theory for dark solitons based on a complete set of the squared Jost solutions. (English summary) *J. Phys. A* **31** (1998), *no.* 33, 6929–6947. (Summary) **99d:35150** 35Q55

Huang, Norden E. (*with* Shen, Zheng; Long, Steven R.; Wu, Manli C.; Shih, Hsing H.; Zheng, Quanan; Yen, Nai-Chyuan; Tung, Chi Chao; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)

Huang, Pei Qing (*with* Zhu, Zu; Li, Cong) Managerial labor market and product market. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 12, 124–127. 90A50 (90A60)

Huang, Peng[2] (*with* Chen, Dechang; Voelkel, Joseph G.) Minimum-aberration two-level split-plot designs. (English summary) *Technometrics* **40** (1998), *no.* 4, 314–326. (Summary) **99j:62115** 62K15

Huang, Qichang (*with* Burton, T. A.) Asymptotic stability and boundedness for functional-differential equations. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 640. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 3, 363–372. (Summary) **99d:34128** 34K15 (34K20)

— (*with* Zhang, Bo[1]) Liapunov functionals and asymptotic stability in infinite delay systems. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 503–516. (Harlan W. Stech) **99f:34110** 34K20

Huang, Qing[3] (*with* Mochizuki, Kiyoshi; Mukai, Kentaro) Life span and asymptotic behavior for a semilinear parabolic system with slowly decaying initial values. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 393–407. (Summary) **99g:35055** 35K55 (35B40)

— (*with* Mochizuki, Kiyoshi) Existence and behavior of solutions for a weakly coupled system of reaction-diffusion equations. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 109–124. (Summary) **99e:35109** 35K57

Huang, Qing Huai (*with* He, Yin Nian) Stability of nonlinear Galerkin methods for the Navier-Stokes equations. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **31** (1997), *no.* 2, 113–120. 65M60 (76D05, 76M25)

Huang, Qingbo Harnack inequality for the linearized parabolic Monge-Ampère equation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 2025–2054. (John Urbas) **99h:35087** 35K55 (35B45)

Huang, Qiong Xiang (*with* Ëlkin, V. I.) Classification of symmetric circulants of degree 4. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 1, 1–8. (Hugo S. Sun) **99b:05074** 05C25

— Isomorphism decompositions of Cayley graphs and a necessary and sufficient condition for weak DCI subsets. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 281–284. (Summary) **99e:05065** 05C25

Huang, Quan Sheng (*with* Guo, Shu Yan; Han, Zeng Jin) Adaptive flow control of a manufacturing system with one machine producing many part types. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 25–29. 90B30 (90C90)

Huang, S. Z. *see* **Huang, Sen Zhong**

Huang, Sen-Shan (*with* Chan, Heng Huat) On the Ramanujan-Göllnitz-Gordon continued fraction. (English summary) *Ramanujan J.* **1** (1997), *no.* 1, 75–90. (Liang-Cheng Zhang) **99k:11015** 11A55 (11F03)

Huang, Sen Zhong (*with* van Neerven, J. M. A. M.) On small solutions of delay equations in infinite dimensions. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 2, 178–185. (Shin-ichi Nakagiri) **99c:34181** 34K30 (47D06, 47N20)

— Completeness of eigenvectors of group representations of operators whose Arveson spectrum is scattered. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1473–1482. (C. J. K. Batty) **99h:47046** 47D03 (43A60, 47A10)

Huang, Sha A nonlinear boundary value problem for analytic functions of several complex variables. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 4, 382–388. (Sheng Gong) **99a:32004** 32A30 (45E05, 47G10)

— A (linear) nonlinear boundary value problem for generalized biregular functions in Clifford analysis. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 913–920. (Tao Qian) **99f:30070** 30G35

— (*with* Qiao, Yuying; Li, Shengxun) The Hilbert problem for the first order elliptic complex equation with discontinuous coefficients. (English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 4, 317–322. (Guo Chun Wen) **99b:35048** 35J55 (30E25)

— Poincaré-Bertrand transformation formulae for singular integrals in Clifford analysis. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 119–126. (Guo Chun Wen) **99c:30076** 30G30 (30G35)

— Quasi-permutations and generalized regular functions in real Clifford analysis. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 380–384. 30G35

Huang, Shi-Wei (*with* Elout, Melchior O.; Goodson, David Z.; Elliston, Carl D.; Sergeev, A. V.; Watson, Deborah K.) Improving the convergence and estimating the accuracy of summation approximants of $1/D$ expansions for Coulombic systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5112–5122. (Peter N. Zhevandrov) **99g:81045** 81Q15

Huang, Shi Zhong (*with* Quan, Hong Shun) A sufficient condition for the existence of limit cycles of the system $\dot{x} = Q(x, y)$, $\dot{y} = P(x)$. (Chinese. English and Chinese summaries) *J. Lanzhou Univ. Nat. Sci.* **34** (1998), *no.* 1, 15–20. (Mao An Han) **99i:34043** 34C05

Huang, Shou Dong (*with* Zhang, Si Ying) Comments on: "Design of decentralized control for symmetrically interconnected systems" [Automatica J. IFAC **32** (1996), no. 3,

475–476] by A. El Kashlan and M. El Geneidy. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 929–933. 93A14 (93B60)
— (*with* Wang, Gang; Jing, Yuan Wei) Decentralized stabilization and output tracking of uncertain symmetric composite systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 286–289. (Long Wang) **99i:93059** 93D15 (93A13)
Huang, Shun Ji (*with* Lin, Shui Sheng) A parallel algorithm for computing FFTs on MIMD parallel computers. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 621–626. (Summary) **99c:65252** 65T20 (65Y05)
Huang, Shuxiang (*with* Xie, Chun Hong) Asymptotic behaviour in a reaction-diffusion system. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 57–62. (Weiqing Xie) **99e:35105** 35K57 (35B40)
Huang, Su Ming (*with* Zhou, Wu Neng) II-ultraparacompactness in L-fuzzy topological spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 10–14. 54A40 (54D20)
Huang, Sunan (*with* Ren, Wei[1]) Automatic vehicle following with integrated throttle and brake control. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 75–83. 93C95 (93C85)
Huang, Ti Yun (*with* Mu, Yong; Han, Zhi Gang; Li, Ming Xing) A parametrized approach to the identification of systems with randomly varying structure. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 104–107. 93B35 (93E12)
Huang, Tian Yi (*with* Tao, Jin-He; Yi, Zhao-Hua) First post-Newtonian angular momentum in relativistic celestial mechanics. (English summary) *Astrophys. Space Sci.* **254** (1997), *no.* 2, 173–186. (Summary) **99g:83023** 83C25 (70F15, 70H40)
— (*with* Wang, Chang-bin; Zhao, Zhang-yin) The relation between symmetric and symplectic methods. (English summary) *Chinese Astronom. Astrophys.* **22** (1998), *no.* 1, 101–112. (Benedict J. Leimkuhler) **99b:70001** 70–08 (58F05, 65L99)
— (*with* Yue, Jin Hai) Nonlinear phenomena in solving Kepler's equation in the case of elliptic orbits. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 1, 21–28. 70F05 (70K50)
Huang, Tie Jun (*with* Liu, Jian; Zhang, Jun[7]) Quadratic residue functions and the beauty of their patterns. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 6, 21–23. (Zhen Fu Cao) **99j:11004** 11A15
Huang, Ting Zhu Estimates for $\|A^{-1}\|_\infty$ and singular values of block H-matrices. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 441–444. 65F15 (15A18)
— Convergence of block Jacobi iteration matrices. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 6, 663–665. 65F10
— (*with* Zhong, Shou Ming) A note on a theorem of Brauer. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 642–644. (Zhong Zhu Zou) **99g:30027** 30C99 (15A18)
— (*with* You, Zhao Yong) Estimates of lower bounds for the smallest singular values of matrices. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 359–364. (Summary) **99e:65071** 65F30 (15A18)
— (*with* Bai, Zhong Zhi; You, Zhao Yong) Generalizations of block diagonal dominance and the distribution of eigenvalues. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 277–281. (Hongyuan Zha) **99e:15010** 15A18
— Stability criteria for matrices. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 637–639. (Summary) **99b:15008** 15A18 (93D05)
— (*with* Pu, He Ping) (Block) H-matrices and sub-positive definite matrices. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 216–218. 15A57 (15A48)
— (*with* Pu, He Ping) Unified formulas for the problems of counting two classes of linear permutations. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 3, 332–336. 05A15
— (*with* Bai, Zhong Zhi) On the convergence of the relaxation methods for positive definite linear systems. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 527–538. (Summary) **99h:65049** 65F10
Huang, Tu Sen The existence of trajectories connecting critical points. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 551–558. (Bing Hong Wang) **99g:34064** 34C05 (34C99)
Huang, W.-l. *see* **Huang, Wen-Ling**
Huang, W.-Z. *see* **Huang, Wei Zhang[1]**
Huang, Wanzhen (*with* Zhang, Feng[1]) An $O(n^2)$ algorithm for a controllable machine scheduling problem. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 1, 15–26. (Summary) **99j:90037** 90B35 (93E20)
Huang, Wei (*with* Huang, Jian[3]) The four-color problem for flat graphs. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 5, 1–3. 05C15
Huang, Wei[2] (*with* Wu, Dong Hua; Tian, Wei Wen) An actual algorithm for global optimization. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 5, 482–486. 90C30 (65K05)
Huang, Wei Zhang *see* **Huang, Wei Zhang[2]**
Huang, Wei Zhang[1] (*with* Mulholland, L. S.; Sloan, D. M.) Pseudospectral solution of near-singular problems using numerical coordinate transformations based on adaptivity. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1261–1289 (*electronic*). (Summary) **99b:65155** 65N35 (76D30, 76M25)
— (*with* Cao, Wei-ming; Russell, Robert D.) An r-adaptive finite element method based upon moving mesh PDEs. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 221–244. 65N30 (65N55)
— (*with* Russell, Robert D.) Moving mesh strategy based on a gradient flow equation for two-dimensional problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 998–1015 (*electronic*). (Bruno Scheurer) **99m:65179** 65M50 (65N40)
Huang, Wei Zhang[2] (*with* Mo, Jia Qi) The singularly perturbed nonlinear elliptic integral differential equations of fourth order. (English summary) *Chinese Quart. J. Math.* **13** (1998), *no.* 2, 79–83. 35B25 (35J60, 45K05)
— Singular perturbations of a quasilinear system with an integral operator and two parameters. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 202–207. (Summary) **99m:34153** 34K10 (34E15, 45J05)
— (*with* Mo, Jia Qi) Singularly perturbed problems for reaction-diffusion equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 80–82. (Summary) **99k:35015** 35B25 (35K57)
Huang, Weihua (*with* Kong, Fan Hui[1]; Li, Xiaoming) Estimating survival curves under proportional hazards model with covariate measurement errors. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 4, 573–587. (Summary) **99k:62191** 62N05 (62G05)
Huang, Weizhang *see* **Huang, Wei Zhang[2]**
Huang, Wen-Chung (*with* Fu, Chin-Mei) Decompositions of $K_{m,n}$ into 4-cycles and 8-cycles. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 69–72. (Katherine Heinrich) **99c:05151** 05C70 (05C38)
— (*with* Chou, Chao-Chih; Fu, Chin-Mei) Decomposition of $K_{m,n}$ into short cycles. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 195–203. (Summary) **99k:05127** 05C70 (05C38)
Huang, Wen-hu (*with* Hou, Zhongsheng) The model-free learning adaptive control of a class of nonlinear discrete-time systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 893–899. 93C40 (93E35)
— (*with* Zhang, Li-xiang; Tijsseling, Arris S.; Vardy, Alan E.) Normal modes of fluid-structure interaction in internal flows. (English summary) *J. Hydrodyn. Ser. B (English Ed.)* **10** (1998), *no.* 4, 71–89. 73K70
Huang, Wen Hua On global homeomorphism theorem and 2π-periodic solution of Duffing equation. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 382–386. (Rafael Ortega) **99e:34048** 34C25 (47H15)
— (*with* Cao, Ju Sheng; Shen, Zu He) On the solution of nonlinear two-point boundary value problem $u'' + g(t,u) = f(t)$, $u(0) = u(2\pi) = 0$. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 9, 889–894; *translated from Appl. Math. Mech.* **19** (1998), *no.* 9, 821–826 (*Chinese. English and Chinese summaries*). (Lorenzo Pisani) **99m:34034** 34B15 (47H15)
Huang, Wen-Jui (*with* Shaw, Jiin-Chang; Tu, Ming-Hsien) Matrix formulation of Hamiltonian structures of constrained KP hierarchy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3738–3753. (Henrik Aratyn) **99d:58082** 58F07 (35Q53)
Huang, Wen-Ling Adjacency preserving transformations of Grassmann spaces. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 65–77. (Toshiyuki Maebashi) **99k:51025** 51M35
Huang, Wen Ping (*with* Sun, Da Jun) Invertible elements in the adjoint semigroups of BCI-algebras. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 114–117. (Yishu Pu) **99g:06026** 06F35 (06F25, 20M99)
— (*with* Roh, Eun Hwan; Jun, Young Bae) On prime dual ideals in BCK-algebras. II. *Kyungpook Math. J.* **38** (1998), *no.* 2, 387–391. 06F35 (03G25)
— (*with* Sun, Da Jun) Periodic BCI-algebras and subgroups of adjoint monoids of BCI-algebras. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 315–320. (Summary) **99d:06025** 06F35 (20M99)
— (*with* Sun, Da Jun) Invertible elements in adjoint semigroups of BCI-algebras. (English summary) *Soochow J. Math.* **24** (1998), *no.* 4, 323–328. (Summary) **99h:06009** 06F25 (03G25)
— (*with* Liu, Fang[3]) On the adjoint semigroups of p-separable BCI-algebras. (English summary) *Semigroup Forum* **58** (1999), *no.* 3, 317–322. (Summary) **99k:06011** 06F35 (06F05, 20M14)
Huang, Wen Qi (*with* Xu, Ru Chu; Chen, Wei Dong; Zhang, Jing Fen) A physicalification and personification method for solving packing problems and the CNF-SAT problem. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 9, 5–7, 54. 68Q25 (03B05, 03B35)
Huang, Wen Qi (*with* Yao, Huan Min; Wang, Sheng Hai) Runge-Kutta type TVB time discretizations for Hamilton-Jacobi equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 4–8. 65M06 (49L20, 65L06)
Huang, Wen-Tao (*with* Liang, TaChen) Empirical Bayes rules for selecting the best uniform populations. (English summary) *Advances in statistical decision theory and applications*, 79–96, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (S. Panchapakesan) **99c:62049** 62F07 (62C12)
Huang, Wenda (*with* Yu, Li; Huang, Meichun; Zhu, Zizhong; Zeng, Xiao Ming[2]; Ji, Wei) The Laguerre-Gaussian series representation of two-dimensional fractional Fourier transform. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9353–9357. (Summary) **99j:44012** 44A15 (33C45, 42B10)
Huang, Wenhua *see* **Huang, Wen Hua**
Huang, Wenzhang (*with* Castillo-Chavez, Carlos; Li, Jia[2]) The effects of females' susceptibility on the coexistence of multiple pathogen strains of sexually transmitted diseases. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 503–522. (Summary) **99b:92021** 92C60
— Global dynamics for a reaction-diffusion equation with time delay. *J. Differential Equations* **143** (1998), *no.* 2, 293–326. (Ludwik Byszewski) **99d:35172** 35R10 (34K30, 35B40, 35K57, 47D06)
Huang, Wu-Hsiung (*with* Lin, Chun-Chi) Negatively curved sets on surfaces of constant mean curvature in $\mathbf{R}^3$ are large. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 2, 105–116. (M. Elisa G. G. de Oliveira) **99j:58049** 58E12 (35J60, 49Q05, 53A10)
Huang, Wung-Hong Expansion of effective action in curved spacetime with large anisotropy. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 257–263. (Summary) **99d:83053** 83C47
— Semiclassical gravitation and quantization for the Bianchi type-I universe with large anisotropy. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084007, 8 *pp.* 83C47 (81T10, 81T20)
— Comment on: "Quantum statistical mechanics of an ideal gas with fractional exclusion statistics in arbitrary dimension" [Phys. Rev. Lett. **78** (1997), no. 17, 3233–3236; MR 98f:82007] by K. Iguchi. *Phys. Rev. Lett.* **81** (1998), *no.* 11, 2392. 82B10
— *see also* **Iguchi, Kazumoto**
Huang, X. X. *see* **Huang, Xue Xiang**
Huang, Xiao Han (*with* Pan, Victor Y.) Fast rectangular matrix multiplication and applications. (English summary) *J. Complexity* **14** (1998), *no.* 2, 257–299. (Israel Koltracht) **99i:15002** 15–04 (68Q25)
Huang, Xiaojun (*with* Ji, Shanyu) Global holomorphic extension of a local map and a Riemann mapping theorem for algebraic domains. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 247–260. (Francine A. Meylan) **99d:32013** 32D15 (32H02)
Huang, Xili (*with* Han, Xi'an) The relationship between projective geometric and rational quadratic B-spline curves. (English summary) A Chinese summary appears in Gaoxiao

Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 486. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 445–450. 41A15 (65D17)

Huang, Xin[1] (*with* Drees, Holger) Best attainable rates of convergence for estimators of the stable tail dependence function. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 25–47. (M. Csörgő) **99m:62042** 62G05 (62G20)

Huang, Xin Han (*with* Lu, Hao[2]; Wang, Zhi Hong; Fang, Hua Jing) A four-block H^∞ control design problem with irrational transfer matrices. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 573–575. 93B36

Huang, Xin Min[2] (*with* Xu, Xiao Ming; Yang, Yu Pu; Chen, Ping[4]) Stable controller design based on dynamic recurrent neural networks. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 8, 49–54. 93B51 (93C83)

Huang, Xin-Rong (*with* Chen, Chang-Pao) Weighted integrability of double trigonometric series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1463–1471. (Naza Tanović-Miller) **99h:42019** 42B05 (42A16, 43A70)

Huang, Xin Zhong The metric contraction problem for a universal Teichmüller space. (Chinese. English and Chinese summaries) *J. Huaqiao Univ. Nat. Sci. Ed.* **18** (1997), *no.* 4, 329–333. (Summary) **99i:30034** 30C62

— (*with* Owa, Shigeyoshi) On Bloch functions and the contraction of Teichmüller metrics. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 198–204. (Summary) **99b:30053** 30D45

Huang, Xu-Ri (*with* Liu, Jing-Yao; Sun, Jia Zhong; Li, Ze-Sheng) On geminals and symplectic bases in quantum chemistry. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 159–182. (A. J. Coleman) **99e:81271** 81V55 (81R05)

Huang, Xuan Guo A theorem on the existence of surfaces with a prescribed principal curvature function. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 743–750. (Chuan Yu Ma) **99e:53005** 53A05

— Isoperimetric inequalities for some special surfaces and submanifolds. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 221–230. (Yi Bing Shen) **99m:53114** 53C42 (53A05)

Huang, Xue Xiang (*with* Chen, Guang Ya) Stability results for Ekeland's ϵ variational principle for vector valued functions. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 97–103. (Christiane Tammer) **99h:49017** 49J45 (49J52, 90C29, 90C31)

— (*with* Chen, Guang Ya) A unified approach to the existing three types of variational principles for vector valued functions. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 3, 349–357. (Christiane Tammer) **99m:90122** 90C29 (49J27, 49J40, 90C26)

— (*with* Chen, Guang Ya; Lee, Gue Myung) Equivalents of an approximate variational principle for vector-valued functions and applications. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 125–136. (Christiane Tammer) **99m:49038** 49K27 (47H19, 49J40, 90C29, 90C48)

Huang, Y. *see* **Huang, Yu-Guang**

Huang, Y-T. *see* **Huang, Yu-Tai**

Huang, Yenkun Almost sure convergence of stochastic Taylor expansions for functions of real-valued two-parameter continuous Brownian semimartingales. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 291–302. (Yu. S. Mishura) **99f:60099** 60H05 (60F15, 60F25, 60G60)

Huang, Yi[2] (*with* Tian, Yu Ping[1]; Feng, Chun Bo) Robust stability of multivariable systems with nonlinear and linear structured uncertainties. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 531–541. (Jacek Kabziński) **99m:93076** 93D09 (93B36)

— (*with* Xu, Ke Kang; Feng, Chun Bo; Tian, Yu Ping[1]) Eigenstructure assignment via dynamic output feedback. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 280–288. (Krzysztof Kuźmiński) **99i:93024** 93B55

Huang, Yi Bin (*with* Peng, Yi; Jing, Ji Liang) Quantum effects for the stationary axisymmetric Sen black hole. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 19–25. (Summary) **99g:83057** 83C57

Huang, Yi Ru (*with* Zhang, Ke Min[1]) New upper bounds for Ramsey numbers. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 391–394. (Summary) **99b:05100** 05C55

— (*with* Zhang, Ke Min[1]) A new upper bound formula for two color classical Ramsey numbers. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 347–350. (Summary) **99j:05143** 05C55

Huang, Yi Sheng[2] (*with* Chen, Zhao Mu) Multiply implicative BCK-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 325–328. (Elias Deeba) **99a:06024** 06F35 (03G25, 08A05)

Huang, Yi-Zhi Genus-zero modular functors and intertwining operator algebras. (English summary) *Internat. J. Math.* **9** (1998), *no.* 7, 845–863. (Mirko Primc) **99i:17031** 17B69 (81R10)

Huang, Yin Xi (*with* Allegretto, Walter) A Picone's identity for the p-Laplacian and applications. *Nonlinear Anal.* **32** (1998), *no.* 7, 819–830. (P. Lindqvist) **99c:35051** 35J60 (35P30)

Huang, Ying (*with* Lerat, Alain) Second-order upwinding through a characteristic time-step matrix for compressible flow calculations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 445–472. (Summary) **99a:76097** 76M20 (76G25, 76H05, 76J20)

Huang, Ying Ping Biholomorphic mappings of several complex variables. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 257–263. (Yan Da Zhao) **99j:32002** 32A30 (30C80)

Huang, Ying Sue Periodic solutions to system of globally coupled oscillators. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 279–291, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Peter Ashwin) **99m:34080** 34C15 (34C25, 92C15)

Huang, Yisheng *see* **Huang, Yi Sheng**[2]

Huang, Yong Quasinormal and subnormal n-tuples of operators. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 323–328. (Zikun Yan) **99i:47039** 47B20

Huang, Yong (*with* Wang, Shu Ning; Dai, Jian She; Shi, Xue Dong) A fast algorithm for l^1 robust identification. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *suppl. I*, 72–74. 93B30 (93B40)

Huang, Yong Nian[2] (*with* Yu, Guang) Application of the algebraic analytical method to the one-dimensional logistic map. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 330–342. (Gong Fu Liao) **99a:58115** 58F13 (58F20)

— A new development of P. Y. Zhou's statistical theory of turbulence. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 2-3, 151–158. (Summary) **99i:76065** 76F05 (76M35)

Huang, Yong Xuan (*with* Han, Jiu Qiang; Re, Xi Ti) An analytical algorithm for Nehari problem and its application in control system identification. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 5, 6–8. 93B30 (93B40)

Huang, Youhong (*with* Kouri, Donald J.; Hoffman, David K.) Time-independent wavepacket quantum mechanics. *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics (Minneapolis, MN, 1995)*, 83–101, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Vladimir Georgescu) **99g:81225** 81U05 (81Q15)

Huang, Young-Sea Formulation of Schrödinger-like relativistic wave equation of motion. (English summary) Parametrized relativistic quantum theory, Part 2 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 10, 1551–1559. (Summary) **99k:81077** 81Q99

Huang, Young-Ye (*with* Duh, Meng-Feng) Common fixed points for mappings on complete Menger spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 169–193. (Summary) **99g:54042** 54H25 (54C60, 54E70)

— (*with* Hong, Chung-Chien) Fixed points of compatible mappings in complete Menger spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 69–84 (*electronic*). 54H25 (54E70)

— (*with* Chang, Tong-Huei; Jeng, Jyh-Chung; Kuo, Kung-Hwang) On S-KKM property and related topics. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 212–227. (Carlo Bardaro) **99m:47063** 47H10

Huang, Youqiang (*with* Kurano, Masami; Song, Jinjie; Hosaka, Masanori) Controlled Markov set-chains with discounting. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 293–302. (D. Kalin) **99g:90157** 90C40

— (*with* Kurano, Masami; Nakagami, Jun-ichi) Constrained Markov decision processes with compact state and action spaces: the average case. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 1–12. (Summary) **99k:90196** 90C40 (90C39)

Huang, Yu[1] (*with* Zhou, Zuoling) Minimal centers of attraction for noncompact dynamical systems. (English summary) *Functional analysis and global analysis (Quezon City, 1996)*, 113–119, *Springer, Singapore*, 1997. (Summary) **99h:58119** 58F12 (54H20)

— Inertial manifolds for a class of nondissipative systems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 5, 6–10. (Xiao Qiang Zhao) **99a:47109** 47H20 (34G20, 35B40, 58F12, 58F39)

— Global attractors and weakly approximate inertial manifolds for a class of nonlinear parabolic variational inequalities. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 4, 339–349. (Wenxian Shen) **99b:34109** 34G20 (34D45, 35B40, 47H20, 49J40, 58F39)

— Estimates of the Hausdorff dimension and fractal dimension of global attractors for nonlinear wave equations with damping. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 257–266. (Shu-Xing Chen) **99h:35140** 35L70 (34G20, 35B40, 47H20, 58F39)

Huang, Yu-Guang (*with* McColl, W. F.) Analytical inversion of general tridiagonal matrices. (English summary) *J. Phys. A* **30** (1997), *no.* 22, 7919–7933. (S. Zlobec) **99h:15007** 15A09 (15A57, 65F10)

— (*with* Bai, Zhong Zhi) Asynchronous multisplitting two-stage iterations for systems of weakly nonlinear equations. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 1, 13–33. (Robert Rihm) **99e:65089** 65H10 (65Y05)

Huang, Yu-Ling (*with* Law, Chun-Kong) Eigenvalue ratios and eigenvalue gaps of Sturm-Liouville operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 337–347. (Karl-Josef Witsch) **99c:34193** 34L15 (34B24, 35J25, 35P15)

Huang, Yu Qin (*with* Yuan, Jin Jiang) An upper bound of the fill-in number of a graph. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 22–24. 05C35

Huang, Yu Qing (*with* Li, Lei Min; Li, Zhong Li) A robust self-tuning controller with unmodeled dynamics and its stability analysis. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 156–160. 93D21 (93C99)

Huang, Yu-Tai (*with* Ibbotson, J.; Zielezny, Z.) An application of regularly varying functions. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 505–515. (Michael Langenbruch) **99m:46100** 46F10 (35H05)

Huang, Yuan Qiu A theorem on the maximum genus of graphs. (Chinese) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 477–478. 05C10

— (*with* Liu, Yan Pei) Extensions on 2-edge connected 3-regular up-embeddable graphs. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 337–346. (Roman Nedela) **99i:05066** 05C10 (05C75)

— (*with* Liu, Yan Pei) The degree-sum of nonadjacent vertices and up-embeddability of graphs. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 651–656. (Xiaoya Zha) **99k:05063** 05C10

— (*with* Liu, Yan Pei) An improvement of a theorem on the maximum genus for graphs. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 109–112. 05C10

— (*with* Liu, Yan Pei) Upper embeddability of graphs. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 498–504. (Roman Nedela) **99i:05067** 05C10

— (*with* Liu, Yan Pei) The maximum genus of graphs with diameter three. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 139–149. (Saul Stahl) **99k:05064** 05C10 (05C12)

— Maximum genus and girth of graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 253–259. (Summary) **99g:05062** 05C10

Huang, Yun Bao Conditions for powers of C^∞-words to be C^∞-words. I. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **12** (1997), *no.* 4, 485–490. (Summary) **99b:68153** 68R15 (05A99, 11B85)

Huang, Yun Qing (*with* Shu, Shi; Yu, Hai Yuan) Superconvergence and a high accuracy combination formula for bicubic spline elements for plate problems. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 167–174. (Summary) **99e:65146** 65N12 (73K10, 73V20)

— (*with* Chen, Yan Ping) Superconvergence of a time-discretization procedure for compressible miscible displacement. (English and Chinese summaries) *Natur. Sci. J.*

Xiangtan Univ. **20** (1998), *no.* 3, 41–50. 65M06 (76M10, 76S05)

— (*with* Zhou, Su Hua) Higher-order asymptotic expansions of corrected finite element solutions to a class of elliptic equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 17–21. 65N30

— (*with* Mu, Mo) An alternating Crank-Nicolson method for decoupling the Ginzburg-Landau equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1740–1761 (*electronic*). (J. W. Neuberger) **99m:65215** 65N30 (35Q55, 65N55, 82D55)

Huang, Z. L. *see* **Huang, Zhilong**

Huang, Zai Xing Stress boundary conditions in linear nonlocal elasticity theories. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 3, 79–83, *VI.* 73B18

Huang, Zhao Yong Change of ring theorems for G-Matlis reflexive modules. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 277–280. (Summary) **99e:13022** 13D99

Huang, Zhen Xun (*with* Gao, Guo Zhu) Some stability theorems for retarded functional-differential equations. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 652–658. (Summary) **99e:34106** 34K20

— (*with* Tang, Feng Jun; Ruan, Jiong) Hopf bifurcation of generalized Liénard equations parametrized by delay. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 469–476. (Bo Zhang) **99m:34166** 34K15 (34C23, 34C25, 34K20)

— (*with* Li, Jijuan; Zeng, Xiping; Ruan, Jiong) An improved strategy in controlling chaotic dynamics to any desired orbit. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 1, 31–35. 93C10 (34H05, 58F13)

Huang, Zhen-yu Approximating fixed points of φ-hemicontractive mappings by the Ishikawa iteration process with errors in uniformly smooth Banach spaces. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 13–21. (Summary) **99f:47077** 47H10 (47H17, 65J15)

— (*with* Shen, Zu He) ε-optimal solution for continuous minimax problems with maximum-entropy function. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 1, 45–50. (Igor′ V. Konnov) **99g:90122** 90C30 (49J35, 65K10)

— An interval entropy penalty method for nonlinear global optimization. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 15–25. (Summary) **99a:90189** 90C30 (65K05)

Huang, Zheng (*with* Qi, Feng) Inequalities of the complete elliptic integrals. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 165–169. (J. M. H. Peters) **99k:33062** 33E05 (26D10, 26D15, 33C55)

Huang, Zheng Da (*with* Hong, Bo) The convergence of Broyden's method under a weak condition. (Chinese. English and Chinese summaries) *J. Hangzhou Univ. Natur. Sci. Ed.* **25** (1998), *no.* 3, 6–11. 90C30 (65K05)

Huang, Zheng Dong Handling of G^2 compatibility constraint conditions using the intermediary surface method. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 2, 7–10. 65D17

Huang, Zheng Hai (*with* Hu, Shi Geng; Shen, Yi[2]) Lagrange duality and an alternative theorem for vector optimization problems. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 18–22. (Summary) **99a:90171** 90C29 (49N15)

— (*with* Hu, Shi Geng; Shen, Yi[2]) Weakly efficient solutions in nonconvex infinite-dimensional programming. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 1–7. 90C29 (90C48)

— (*with* Hu, Shi Geng; Shen, Yi[2]) A general Motzkin theorem and its applications. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 40–46. (Summary) **99f:90109** 90C29 (90C48)

— (*with* Meng, Xu; Hu, Xin Xin) A high-order infeasible interior point algorithm for solving monotone linear complementarity problems. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 105–109. 90C33

— (*with* Deng, Guantie; Zhang, Yuming) Bouligand dimension of fractal curve of almost periodic series. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 57–60. (Summary) **99e:28009** 28A78 (28A80)

Huang, Zhengliang (*with* Li, Zhong Li; Wan, Bai Wu) A new technique integrated steady-state estimation and dynamic identification for a class of nonlinear systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 415–422. 93E12 (93C10)

Huang, Zhenyou (*with* Wang, Hai Yan[1]) The integrated C-semigroup and its spectral mapping theorem. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 3, 369–377. (Evgeniĭ Mel′nikov) **99c:47049** 47D03 (47A10)

Huang, Zhi Cai An improvement of Ważewski's inequality and its applications. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 169–172. (Summary) **99k:34021** 34A40 (34D99)

Huang, Zhi Min (*with* Tian, Cheng Ke) A generalization of a theorem about continuous convex functions and its application. (Chinese. English and Chinese summaries) *J. Luoyang Univ.* **12** (1997), *no.* 2, 21–23, 36. 26A51

Huang, Zhi Tong (*with* Cheng, Long Sheng; Wu, Ke Fa) A new solution method for removing the effects of multicollinearities. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 113–119. (Summary) **99m:62096** 62J05 (62H12)

Huang, Zhi Yuan (*with* Lin, Qingquan) The weak solutions for stochastic differential equations with terminal conditions. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 60–64. (Summary) **99d:60061** 60H10 (60H20, 90A09)

— (*with* Ren, Jiagang) D_∞-approximation of quadratic variations of smooth Itô processes. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 534. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 305–310. (Ely Merzbach) **99k:60142** 60H07 (60G44)

— (*with* Luo, Shun-Long) Quantum white noises and free fields. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 69–82. (Kalyanapuram R. Parthasarathy) **99h:81127** 81T08 (46N50, 81S25)

— (*with* Luo, Shun-Long) Wick calculus of generalized operators and its applications to quantum stochastic calculus. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 455–466. (Wolfgang Freudenberg) **99f:81109** 81S25 (47D45)

— (*with* Wang, Cai Shi) Preservation of positivity by differential second quantization. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 31–32. 81S25

Huang, Zhida (*with* Xiao, Shutie) Some typical behaviors of weak solutions of layered porous media equation. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **13** (1997), *no.* 2, 145–157. (Summary) **99a:35214** 35Q35 (35D99, 35K55, 76S05)

— Wetting front instability analysis of infiltration in layered porous media. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 122–133. 76S05

Huang, Zhilong (*with* Zhu, Wei Qiu; Yang, Yong Qin) Stochastic averaging of quasi-integrable Hamiltonian systems. (English summary) *Trans. ASME J. Appl. Mech.* **64** (1997), *no.* 4, 975–984. (Thomas Wanner) **99g:70023** 70H05 (34C29, 34F05, 70L05, 82C31)

— (*with* Zhu, Wei Qiu) Stochastic Hopf bifurcation of quasi-nonintegrable-Hamiltonian systems. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 3, 437–447. (Klaus R. Schenk-Hoppé) **99m:34085** 34C23 (34F05, 58F14, 70H05, 70L05)

Huang, Zhisheng (*with* Masuch, Michael) A case study in logical deconstruction: formalizing J. D. Thompson's organizations in action in a multiagent action logic. (English summary) *Comput. Math. Organ. Theory* **2** (1996), *no.* 2, 71–113. (Yeneng Sun) **99h:90060** 90B70 (03B80, 92H10)

Huang, Zi-ping A multi-grid algorithm for mixed problems with penalty by C^0-piecewise linear element approximation. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **6** (1997), *no.* 2, 121–131. (Weimin Han) **99e:65174** 65N55 (73V05)

— (*with* Chen, Su Qin; Jiang, Cun Li; Gu, Ming) A fast iterative procedure for the Stokes equation using nonconforming finite element approximations. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 94–100. (Summary) **99d:76057** 76M10 (65M60, 76D07)

Huang, Ziyu (*with* Wang, Fei-Yue; Chen, David D. Q.; Lever, Paul J. A.) Refinement and generation of decision rules through training and augmentation of neural networks. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 329–360. 93C42 (93C83)

Huard, Alain (*with* Guillaume, Philippe; Robin, Vincent) Generalized multivariate Padé approximants. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 203–214. (Ralitza Kovacheva) **99k:41018** 41A21

Huard, François Tilted gentle algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 63–72. (Jan Schröer) **99d:16012** 16G10

Huard, James G. (*with* Spearman, Blair K.; Williams, Kenneth S.) Pascal's triangle (mod 8). (English summary) *European J. Combin.* **19** (1998), *no.* 1, 45–62. (Andrew Granville) **99b:11012** 11B65 (11A07)

— (*with* Ayoub, Raymond G.; Williams, Kenneth S.) Sarvadaman Chowla (1907–1995). *Notices Amer. Math. Soc.* **45** (1998), *no.* 5, 594–598. (Editors) **99k:01044** 01A70

Hubbard, Barbara Burke ★ The world according to wavelets. (English summary) The story of a mathematical technique in the making. Second edition. *A K Peters, Ltd., Wellesley, MA*, 1998. *xx*+331 *pp. ISBN* 1-56881-072-5 (Editors) **99g:00029** 00A69 (01A60, 42C15)

— (*with* Hubbard, John Hamal) ★ Vector calculus, linear algebra, and differential forms. A unified approach. *Prentice Hall, Inc., Upper Saddle River, NJ*, 1999. *xvi*+687 *pp. ISBN* 0-13-657446-7 (W. P. Ziemer) **99k:00002** 00A05 (15–01, 26–01)

Hubbard, John Hamal (*with* Hubbard, Barbara Burke) ★ Vector calculus, linear algebra, and differential forms. A unified approach. *Prentice Hall, Inc., Upper Saddle River, NJ*, 1999. *xvi*+687 *pp. ISBN* 0-13-657446-7 (W. P. Ziemer) **99k:00002** 00A05 (15–01, 26–01)

Hubbard, M. E. (*with* Baines, M. J.) Multidimensional upwinding with grid adaptation. *Numerical methods for wave propagation* (*Manchester*, 1995), 33–54, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (From the text) **99h:76071** 76M25 (65M55)

Hubbard, Philip M. (*with* Suri, Subhash; Hughes, John F.) Collision detection in aspect and scale bounded polyhedra. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 127–136, *ACM, New York*, 1998. (Summary) **99e:68165** 68U05

Huber, Alfred On conformal weldings which generate welding curves of finite rotation. *Analysis and topology*, 327–338, *World Sci. Publishing, River Edge, NJ*, 1998. (D. Gaier) **99m:30013** 30C35

Huber, Annette Extensions of motives. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 218–236, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Luca Barbieri Viale) **99j:14020** 14F99 (19E99)

— (*with* Wildeshaus, Jörg) Classical motivic polylogarithm according to Beilinson and Deligne. (English summary) *Doc. Math.* **3** (1998), 27–133 (*electronic*). (Jan Nekovář) **99k:19001a** 19F27 (11R42, 11R70, 14D07)

— (*with* Wildeshaus, Jörg) Correction to the paper: "Classical motivic polylogarithm according to Beilinson and Deligne". (English summary) *Doc. Math.* **3** (1998), 297–299 (*electronic*). (Jan Nekovář) **99k:19001b** 19F27 (11R42, 11R70, 14D07)

Huber, Birkett (*with* Verschelde, Jan) Polyhedral end games for polynomial continuation. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 91–108. (Summary) **99i:65057** 65H10 (52A39, 52B20)

Huber, Catherine *see* **Huber-Carol, Catherine**

Huber, Heinz Ein Gitterpunktproblem in der hyperbolischen Ebene. [A lattice point problem in the hyperbolic plane] *J. Reine Angew. Math.* **496** (1998), 15–53. (Matti Jutila) **99m:11113** 11P21 (11F06, 11F72)

Huber, Katharina (*with* Dress, Andreas W. M.; Hendy, Mike; Moulton, Vincent L.) On the number of vertices and edges of the Buneman graph. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 329–337. (Pranava K. Jha) **99h:05114a** 05C99 (05C05, 92B99)

— (*with* Dress, Andreas W. M.; Moulton, Vincent L.) Some variations on a theme by Buneman. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 339–352. (Pranava K. Jha) **99h:05114b** 05C99 (92B99)

Huber, Klaus (*with* Bach, Eric) Note on taking square-roots modulo N. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 807–809. (Summary) **99j:94036** 94A60 (11T24, 11T71)

Huber, Mark L. (*with* Ahearn, Stephen T.; Sherman, Gary J.) Finite groups can be arbitrarily Hamiltonian. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1013–1016. (Summary) **99k:20048** 20D60

Huber, Roland A comparison theorem for l-adic cohomology. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 217–235. (Abdellah Mokrane) **99k:14033** 14F20

— A finiteness result for the compactly supported cohomology of rigid analytic varieties. *J. Algebraic Geom.* **7** (1998), *no.* 2, 313–357. (Nobuo Tsuzuki) **99h:14020** 14F20 (14G20, 32P05)

— A finiteness result for direct image sheaves on the étale site of rigid analytic varieties. *J. Algebraic Geom.* **7** (1998), *no.* 2, 359–403. (Nobuo Tsuzuki) **99h:14021** 14F20 (14G20,

32P05)

Huber-Carol, Catherine Lower bounds for function estimation. *Festschrift for Lucien Le Cam*, 245–258, *Springer, New York*, 1997. (Alexander G. Kukush) **99a:62052** 62G05 (62G20)

Huberman, Bernardo A. Computation as economics. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1169–1186. (Summary) **99k:68018** 68M10 (90A16)

Huberson, S. (*with* Le Maître, O.; Souza de Cursi, J. E.) Large displacement analysis for ideally flexible sails. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 619–636. 73K15

Hubert, Evelyne Detecting degenerate behaviors in first order algebraic differential equations. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 7–25. (Georg M. Reinhart) **99b:34002** 34A09 (12H05, 34–04)

Hubert, Florence Global existence for hyperbolic-parabolic systems with large periodic initial data. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 69–83. (Song Jiang) **99b:35155** 35M10 (35K45, 35K55, 35L60)

Hubert, Mia (*with* Rousseeuw, Peter J.) The catline for deep regression. (English summary) *J. Multivariate Anal.* **66** (1998), *no.* 2, 270–296. (Xuming He) **99i:62146** 62J05 (62F35)

Hubert, Pascal (*with* Arnoux, Pierre; Ferenczi, Sébastien) Trajectories of rotations. *Acta Arith.* **87** (1999), *no.* 3, 209–217. (Jean-Paul Allouche) **99k:11039** 11B85 (11J70, 58F03, 68R15)

Hübl, R. (*with* Kunz, Ernst) On the intersection of algebraic curves and hypersurfaces. *Math. Z.* **227** (1998), *no.* 2, 263–278. (Amnon Yekutieli) **99h:14019** 14F10 (14C17)

Hübner, F. (*with* Reissig, Michael) Analytical and numerical treatment of Hele-Shaw models with and without regularization. *Generalized analytic functions* (*Graz*, 1997), 271–287, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Peter A. McCoy) **99i:76047** 76D99 (35Q99, 65M06, 76M20, 76S05)

Hübner, Peter More about vacuum spacetimes with toroidal null infinities. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, L21–L25. (Richard Hansen) **99c:83018** 83C20 (83C30)

Hübner, Thomas Hereditary module categories arising as categories perpendicular to exceptional vector bundles. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 327–336, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Hagen Meltzer) **99i:16025** 16G10 (14F05, 16G20, 16G70)

— Rank additivity for quasi-tilted algebras of canonical type. (English summary) *Colloq. Math.* **75** (1998), *no.* 2, 183–193. (Thorsten Holm) **99b:16016** 16G10 (16G20, 18E30)

Huck, Andreas (*with* Broersma, H. J.; Kloks, Ton; Koppius, Otto; Kratsch, Dieter; Müller, Haiko; Tuinstra, Hilde) Degree-preserving forests. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 713–721, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q25)

— Independent branchings in acyclic digraphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 245–249. (Summary) **99k:05059** 05C05 (05C20)

Huck, Friedrich O. (*with* Fales, Carl L.; Rahman, Zia-ur) ★ Visual communication. (English summary) An information theory approach. The Kluwer International Series in Engineering and Computer Science, 409. *Kluwer Academic Publishers, Boston, MA*, 1997. xviii+203 *pp. ISBN* 0-7923-9956-0 (Gilbert Crombez) **99b:94010** 94A12 (68U10, 94A15)

Huck, Wolfgang (*with* Puppe, Volker) Circle actions on 4-manifolds. II. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 6, 493–500. (Mikiya Masuda) **99j:57040** 57S25 (57M60, 57N13, 57S15)

Huckaba, James A. (*with* Heinzer, William J.; Papick, Ira J.) m-canonical ideals in integral domains. (English summary) *Comm. Algebra* **26** (1998), *no.* 9, 3021–3043. (Muhammad Zafrullah) **99h:13024** 13F05 (13A15)

Huckaba, Sam On associated graded rings having almost maximal depth. (English summary) *Comm. Algebra* **26** (1998), *no.* 3, 967–976. (Sunsook Noh) **99d:13002** 13A30 (13D40, 13H10)

Huckle, Thomas Iterative methods for ill-conditioned Toeplitz matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 177–190 (1998). (Summary) **99e:65056** 65F10 (65F35)

— Computations with Gohberg-Semencul-type formulas for Toeplitz matrices. (English summary) *Linear Algebra Appl.* **273** (1998), 169–198. (A. Böttcher) **99b:65028** 65F05 (15A09)

— Symmetric Gaussian elimination for Cauchy-type matrices with application to positive definite Toeplitz matrices. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 213–229. (Joaquím J. Júdice) **99d:65092** 65F05

Huckleberry, Alan (*with* Kuś, Marek; Haake, Fritz; Zaitsev, Dmitri) Level dynamics for conservative and dissipative quantum systems. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8635–8651. (Alexei Khorunzhy) **99e:82088** 82C41 (15A52)

Huda, S. Minimax second-order designs over hypercubes for the difference between estimated response at two points on a straight line through the origin. (English summary) *Calcutta Statist. Assoc. Bull.* **48** (1998), *no.* 189-190, 101–108. 62K05

— (*with* Al-Shiha, A. A.) Minimax designs for estimating the slope of a third-order response surface in a hypercubic region. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 345–356. (Summary) **99a:62106** 62K05

Hudelmaier, Jörg On the computational complexity of propositional logic programs with nested implications. *Extensions of logic programming* (*Leipzig*, 1996), 153–159, *Lecture Notes in Comput. Sci.*, 1050, *Springer, Berlin*, 1996. (From the text) **99g:68035** 68N17 (68Q25)

Hudelson, Matthew Dissecting d-cubes into smaller d-cubes. (English summary) *J. Combin. Theory Ser. A* **81** (1998), *no.* 2, 190–200. (J. C. Fisher) **99b:52028** 52B45 (05B45)

Hudetz, Thomas Quantum dynamical entropy revisited. (English summary) *Quantum probability* (*Gdańsk*, 1997), 241–251, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Matthew J. Donald) **99k:46119** 46L55 (46L50, 82C10)

Hudry, Olivier Nombre maximum d'ordres de Slater des tournois T vérifiant $\sigma(T) = 1$. (English and French summaries) [Maximum number of Slater orders of tournaments T with $\sigma(T) = 1$] *Math. Inform. Sci. Humaines No.* 140 (1997), 51–58. (Erol Barbut) **99f:05045** 05C20

— (*with* Charon-Fournier, Irène) Lamarckian genetic algorithms applied to the aggregation of preferences. (English summary) *Ann. Oper. Res.* **80** (1998), 281–297. (Summary) **99g:90020** 90A07 (90A08, 90C27)

Hudson, H. Malcolm (*with* Ma, Jun[3]) An augmented data scoring algorithm for maximum likelihood. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2761–2776. (Summary) **99j:62028** 62F10

Hudson, Robin L. Quantum stochastic analysis after four decades. (English summary) *Probability towards* 2000 (*New York*, 1995), 194–217, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Kalyanapuram R. Parthasarathy) **99h:81107** 81S25 (46L50, 60H05)

— (*with* Cohen, Paula Beazley; Parthasarathy, Kalyanapuram Rangachari; Pulmannová, Sylvia) Hall's transformation via quantum stochastic calculus. (English summary) *Quantum probability* (*Gdańsk*, 1997), 147–155, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Timothy M. W. Eyre) **99h:81105** 81S25 (17B35)

— (*with* Lindsay, J. Martin; Parthasarathy, Kalyanapuram Rangachari) Flows of quantum noise. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 143–160. (John E. Gough) **99k:81143** 81S25 (60H99)

— (*with* Cohen, Paula Beazley) Generators of quantum stochastic flows and cyclic cohomology. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 345–363. (B. V. Rajarama Bhat) **99e:46091** 46L85 (19D55, 46L60, 81S25)

— (*with* Pulmannová, Sylvia) Chaotic expansion of elements of the universal enveloping algebra of a Lie algebra associated with a quantum stochastic calculus. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 462–480. (John E. Gough) **99d:81066** 81S25

Hudson, Steve (*with* Leckband, Mark) A sharp exponential inequality for Lorentz-Sobolev spaces on bounded domains. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2029–2033. (Summary) **99j:46036** 46E35

Hudson, Timothy D. (*with* Katsoulis, E. G.) Primitive triangular UHF algebras. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 1–27. (Liang Sen Wu) **99m:46135** 46L05 (46K50, 47D25)

— (*with* Davidson, Kenneth R.; Donsig, Allan P.) Norm-closed bimodules of nest algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 59–87. (Stephen Power) **99e:47053** 47D25

Hudzik, Henryk (*with* Foralewski, Paweł) Some basic properties of generalized Calderon-Lozanovskiĭ spaces. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 523–538. (Lars Erik Persson) **99a:46046** 46E30 (46M35)

— (*with* Zbąszyniak, Zenon) Smoothness in Musielak-Orlicz spaces equipped with the Orlicz norm. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 543–561. (Ting Fu Wang) **99b:46035** 46E30 (46B20)

— On the distance from the subspace of order continuous elements in $L^1 + L^\infty$. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 157–163. (Yu. A. Abramovich) **99b:46036** 46E30 (46B20)

— (*with* Cui, Yun An; Meng, C.) On some local geometry of Orlicz sequence spaces equipped with the Luxemburg norm. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 143–154. (Anna H. Kamińska) **99e:46028** 46B45 (46B20)

— (*with* Wang, Bao Xiang) On the smallest singular seminorm in a class of normed Köthe function spaces. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 43–52. (Summary) **99k:46043** 46E30

— (*with* Cui, Yun An) On the uniform Opial property in some modular sequence spaces. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 93–102. (Summary) **99j:46010** 46A45 (46A80)

— (*with* Wang, Bao Xiang) Approximate compactness in Orlicz spaces. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 82–89. (Alberto Fiorenza) **99h:46043** 46E30 (46B20)

— (*with* Kurc, W.) Monotonicity properties of Musielak-Orlicz spaces and dominated best approximation in Banach lattices. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 353–368. (Evgeniy I. Pustylnik) **99k:46044** 46E30 (41A65, 46B42)

— (*with* Cerdà, Joan; Kamińska, Anna; Mastyło, Mieczysław) Geometric properties of symmetric spaces with applications to Orlicz-Lorentz spaces. (English summary) *Positivity* **2** (1998), *no.* 4, 311–337. (Alexander Mekler) **99m:46070** 46E30

— (*with* Cui, Yun An; Płuciennik, Ryszard) On some uniform convexities and smoothness in certain sequence spaces. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 893–905. (Christian Samuel) **99m:46054** 46B45 (46E30)

— (*with* Cui, Yun An) Maluta's coefficient and Opial's properties in Musielak-Orlicz sequence spaces equipped with the Luxemburg norm. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 475–485. (Y. Benyamini) **99k:46029** 46B45 (46E30)

Huebner, Marianne A characterization of asymptotic behaviour of maximum likelihood estimators for stochastic PDE's. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 4, 395–415 (1998). (Leonid I. Piterbarg) **99f:62102** 62M09 (60H15, 62F12)

Huebschmann, Johannes Lie-Rinehart algebras, Gerstenhaber algebras and Batalin-Vilkovisky algebras. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 425–440. (J. Stasheff) **99b:17021** 17B55 (17B56, 17B66, 17B81)

— Smooth structures on certain moduli spaces for bundles on a surface. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 183–221. (Jonathan A. Poritz) **99j:58036** 58D29 (32G13)

— (*with* Berger, Clemens) Comparison of the geometric bar and W-constructions. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 109–123. (Donald M. Davis) **99e:18010** 18G30 (55P35, 55Q05, 55R35)

Huen, Y. K. Final value theorem in number sequences. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 121–126. 11Y16

Huergo, Elena (*with* Antón, Jesús; Cerda Tena, Emilio) Sensitivity analysis in a class of dynamic optimization models. (English summary) *Top* **6** (1998), *no.* 1, 97–121. (Summary) **99e:90098** 90C31 (90A16)

Huerre, Patrick (*with* Billant, Paul; Chomaz, Jean-Marc) Experimental study of vortex breakdown in swirling jets. (English summary) *J. Fluid Mech.* **376** (1998), 183–219. 76–05 (76C05)

— (*with* Loiseleux, T.; Chomaz, Jean-Marc) The effect of swirl on jets and wakes: linear instability of the Rankine vortex with axial flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1120–1134. (From the introduction) **99a:76026** 76C05 (76D25, 76E99)

— (*with* Pier, Benoît; Chomaz, Jean-Marc; Couairon, Arnaud) Steep nonlinear global modes in spatially developing media. (English summary) *Phys. Fluids* **10** (1998), *no.* 10,

2433–2435. (Summary) **99g:76062** 76E30
— *see also* **Dynamics and statistics of concentrated vortices in turbulent flow**, **99e:76002** *and* **Hydrodynamics and nonlinear instabilities**, **99i:76001**
Huerta, Antonio (*with* Blasco, Jordi; Codina, Ramon) Convergence of a fractional-step method for the incompressible Navier-Stokes equation. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 18 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 76M10 (65M06, 76D05)
— (*with* Díez, Pedro; Rodríguez-Ferran, Antonio; Pijaudier-Cabot, Gilles) Error estimation and adaptive finite element analysis of softening solids. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 333–347, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05
— (*with* Díez, Pedro; Egozcue, Juan José) A posteriori error estimation for standard finite element analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 141–157. 65N30 (65N15)
— (*with* Blasco, Jordi; Codina, Ramon) A fractional-step method for the incompressible Navier-Stokes equations related to a predictor-multicorrector algorithm. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 10, 1391–1419. (Summary) **99i:76092** 76M20 (76D05, 76M10)
Huespe, Alfredo E. (*with* Fachinotti, Víctor D.; Cardona, Alberto) A fast convergent and accurate temperature model for phase-change heat conduction. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 12, 1863–1884. (Summary) **99m:80003** 80–08 (65M12, 80A22)
Huet, S. (*with* Denis, J.-B.; Adamczyk, K.) Bootstrap confidence intervals in nonlinear regression models when the number of observations is fixed and the variance tends to 0. Application to biadditive models. (English summary) *Statistics* **32** (1999), *no.* 3, 203–227. (Summary) **99k:62087** 62G09 (62J02)
Huete, Juan F. (*with* de Campos Ibáñez, Luis Miguel) Independence concepts in possibility theory. I. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 127–152. (Summary) **99j:68131** 68T27
Hüffel, Helmuth (*with* Kelnhofer, Gerald) Nonperturbative stochastic quantization of the helix model. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 417–453. (Constantin Syros) **99j:81086** 81S20 (60H30, 82C31)
Huffman, Timothy (*with* Park, Chull; Skoug, David) Convolution and Fourier-Feynman transforms. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 3, 827–841. (Kun Soo Chang) **99c:28039** 28C20
Huffman, W. Cary Decompositions and extremal type II codes over Z_4. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 800–809. (Summary) **99e:94043** 94B05
Huffman, William P. (*with* Betts, John T.) Mesh refinement in direct transcription methods for optimal control. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 1, 1–21. (Summary) **99a:49038** 49M25
Hufnagel, Alexander (*with* Dyer, Martin E.; Gritzmann, Peter) On the complexity of computing mixed volumes. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 356–400 (*electronic*). (Hans-Dietrich Hecker) **99f:68092** 68Q25 (52A39, 52B55, 65Y25, 68U05)
Hug, Daniel Generalized curvature measures and singularities of sets with positive reach. (English summary) *Forum Math.* **10** (1998), *no.* 6, 699–728. (Giovanni Alberti) **99j:52004** 52A22 (49Q15, 52A20)
— Absolute continuity for curvature measures of convex sets. I. (English summary) *Math. Nachr.* **195** (1998), 139–158. (Z. Nádeník) **99j:52002** 52A20 (28A75, 52A40)
Hug, M. (*with* Menke, C.; Schleich, W. P.) How to calculate the Wigner function from phase space. (English summary) *J. Phys. A* **31** (1998), *no.* 11, *L*217–*L*224. (Summary) **99b:81124** 81S30
— (*with* Menke, C.; Schleich, W. P.) Modified spectral method in phase space: calculation of the Wigner function. I. Fundamentals. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3188–3205. (Summary) **99c:81116a** 81S30
— (*with* Menke, C.; Schleich, W. P.) Modified spectral method in phase space: calculation of the Wigner function. II. Generalizations. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3206–3224. (Summary) **99c:81116b** 81S30
angeleri-Hügel, Lidia *see* **Angeleri-Hügel, Lidia**
Hugger, Jens (*with* Babuška, Ivo M.; Strouboulis, T.; Copps, K.; Gangaraj, S. K.) The asymptotically optimal meshsize function for bi-p degree interpolation over rectangular elements. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 185–221. (Qian Li) **99d:65309** 65N30
Huggett, Nick *see* **Teller, Paul**
Huggett, S. A. *see* **Geometric universe**, **99b:00015**
Huggins, James K. (*with* Börger, Egon) Abstract state machines 1988–1998: commented ASM bibliography. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 64 (1998), 105–127. (Summary) **99d:68001** 68–00 (00A15, 68Q05)
Huggins, Richard M. (*with* Bui, Quang M.) Robust inference for the bivariate bifurcating autoregressive model. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 151–163. (Summary) **99d:62084** 62M10 (62F10, 62P10, 92B05)
Hughes, G. E. (*with* Cresswell, M. J.) ★ A new introduction to modal logic. *Routledge, London*, 1996. *x*+421 *pp. ISBN* 0-415-12599-5 (Editors) **99j:03011** 03B45 (03–01, 03–02)
Hughes, H. R. Products of constant curvature spaces with a Brownian independence property. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3417–3425. (Ming Liao) **99a:58164** 58G32 (60J65)
Hughes, I. P. (*with* Campbell, H. E. A.) Rings of invariants of certain p-groups over the field $\mathbf{F}_p$. (English summary) *J. Algebra* **211** (1999), *no.* 2, 549–561. (Gene Freudenburg) **99m:13009** 13A50 (20D20)
Hughes, Jeff "Modernists with a vengeance": changing cultures of theory in nuclear science, 1920–1930. Cultures of theory. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 3, 339–367. (*see* **99h:01002**) 01A60 (81–03)
Hughes, John F. (*with* Suri, Subhash; Hubbard, Philip M.) Collision detection in aspect and scale bounded polyhedra. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 127–136, *ACM, New York*, 1998. (Summary) **99e:68165** 68U05
Hughes, M. (*with* Pericleous, Koulis A.; Cross, Mark) Convection-diffusion in MHD: comparison of primitive variable and vector potential solutions of the magnetic induction equation. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 227–250, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 76M25 (76W05)
Hughes, Mervyn Extended root graphs for complex reflection groups. *Comm. Algebra* **27** (1999), *no.* 1, 119–148. (O. V. Shvartsman) **99m:20089** 20F55 (05C25)
Hughes, Rhonda J. Relativistic Kronig-Penney-type Hamiltonians. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 436–448. (Ghias Hachem) **99f:81046** 81Q10 (47N50)
— Generalized Kronig-Penney Hamiltonians. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 151–166. (Serguei E. Tcheremchantsev) **99d:34165** 34L40 (47E05, 47N50, 81Q05, 81Q10)
Hughes, Richard J. Cryptography, quantum computation and trapped ions. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1853–1868. (Summary) **99e:81033** 81P99 (94A60)
Hughes, T. G. (*with* Elcoate, C. D.; Evans, H. Peredur) A novel method for integrating first- and second-order differential equations in elastohydrodynamic lubrication for the solution of smooth isothermal, line contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1099–1113. (Summary) **99k:76045** 76D08 (73T05, 76M10, 76M20)
Hughes, Thomas J. R. (*with* Brezzi, Franco; Franca, Leopoldo P.; Russo, Alessandro) Stabilization techniques and subgrid scales capturing. (English summary) *The state of the art in numerical analysis (York, 1996)*, 391–406, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (I. Norman Katz) **99f:65162** 65N30
— (*with* Simo, Juan Carlos) ★ Computational inelasticity. (English summary) Interdisciplinary Applied Mathematics, 7. *Springer-Verlag, New York*, 1998. *xiv*+392 *pp. ISBN* 0-387-97520-9 (Weimin Han) **99i:73038** 73Exx (65N30, 73G20, 73V05)
— (*with* Ferencz, Robert M.) Iterative finite element solutions in nonlinear solid mechanics. *Handbook of numerical analysis, Vol. VI*, 3–178, *North-Holland, Amsterdam*, 1998. (Xiaoguang Allan Zhong) **99k:73114** 73V05 (65N30, 73C50, 73Kxx)
— (*with* Barnett, David M.) Obituary: Juan Carlos Simo (1952–1994). *Handbook of numerical analysis, Vol. VI*, 179–181, *North-Holland, Amsterdam*, 1998. (*see* **99h:65001**) 01A70
— (*with* Stewart, James R.) A tutorial in elementary finite element error analysis: a systematic presentation of a priori and a posteriori error estimates. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 1–22. (Summary) **99c:65217** 65N30 (65N15, 73V05)
— (*with* Taylor, Charles A.; Zarins, Christopher K.) Finite element modeling of blood flow in arteries. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 155–196. (Summary) **99d:92014** 92C35 (76M10, 76Z05, 92C10)
— (*with* Garikipati, Krishna) A study of strain localization in a multiple scale framework—the one-dimensional problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 3-4, 193–222. (Weimin Han) **99g:73056** 73E99 (73E60, 73V20)
— (*with* Feijóo, Gonzalo R.; Mazzei, Luca; Quincy, Jean-Baptiste) The variational multiscale method—a paradigm for computational mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 3–24. (I. N. Molchanov) **99m:65239** 65N55 (65M55, 73V05, 73V25)
— (*with* Oshima, M.; Jansen, Kenneth E.) Consistent finite element calculations of boundary and internal fluxes. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 227–235. (*see* **99f:76004**) 76M10
— (*with* Rifai, Steven M.; Johan, Zdeněk; Wang, Wen-Ping; Grisval, Jean-Pierre; Ferencz, Robert M.) Multiphysics simulation of flow-induced vibrations and aeroelasticity on parallel computing platforms. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 3-4, 393–417. 73K70 (73V20, 76M25)
Hughes-Oliver, Jacqueline M. (*with* Boos, Dennis D.) Applications of Basu's theorem. (English summary) *Amer. Statist.* **52** (1998), *no.* 3, 218–221. (Summary) **99e:62006** 62B05
— (*with* González-Farías, Graciela) Parametric covariance models for shock-induced stochastic processes. (English summary) *J. Statist. Plann. Inference* **77** (1999), *no.* 1, 51–72. (Summary) **99k:62179** 62M30
Hughett, Paul Error bounds for numerical inversion of a probability characteristic function. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1368–1392 (*electronic*). (Summary) **99a:65197** 65U05 (42A38, 60E10)
Hughston, Lane P. (*with* Brody, Dorje C.) Geometric models for quantum statistical inference. *The geometric universe (Oxford, 1996)*, 265–276, *Oxford Univ. Press, Oxford*, 1998. (John W. Rice) **99g:81030** 81P99
Hugly, Philip (*with* Sayward, Charles) A Fregean principle. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 3, 125–135. (Summary) **99g:03004** 03A05 (03B65)
Hugo, Pierrette Nanchen (*with* Hertz, Alain; Laporte, Gilbert) Improvement procedures for the undirected rural postman problem. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 53–62. 90C27 (90C35)
Hugoniot, Pierre Henri On the propagation of motion in bodies and in perfect gases in particular. I [J. Éc. Polytech. **57** (1887), 3–97]. *Classic papers in shock compression science*, 161–243, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76N10 (35Q99, 76L05)
— On the propagation of motion in bodies and in perfect gases in particular. II [J. Éc. Polytech. **58** (1889), 1–125]. *Classic papers in shock compression science*, 245–358, *High-press. Shock Compression Condens. Matter, Springer, New York*, 1998. (*see* **99m:76076**) 76N10 (35Q99, 76L05)
— *see also* **Chéret, Roger**, (**99m:76076**)
Hugonnard-Roche, Henri The influence of Arabic astronomy in the medieval West. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 284–305, *Routledge, London*, 1996. (*see* **99k:01001**) 01A35 (01A30)
Hugues, E. (*with* Bogomol'nyĭ, E. B.) Semiclassical theory of flexural vibrations of plates. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5404–5424. (Summary) **99b:81057** 81Q50 (73D30, 73K10, 81Q20)
Hugues, Sandrine (*with* Randriamampianina, Anthony) An improved projection scheme applied to pseudospectral methods for the incompressible Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 501–521. (Summary) **99f:76106** 76M25

Huh, Chan (*with* Lee, Yang; Kim, Hong Kee) Questions on 2-primal rings. *Comm. Algebra* **26** (1998), *no.* 2, 595–600. (R. L. Tangeman) **99d:16022** 16N40 (16N80)
— (*with* Lee, Yang) A note on π-regular rings. *Kyungpook Math. J.* **38** (1998), *no.* 1, 157–161. (W. D. Burgess) **99d:16011** 16E50
— (*with* Lee, Yang) Finite filterations of iterated Ore extensions of Noetherian algebras. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 393–400. (S. S. Page) **99j:16026** 16W60 (16P90, 16S36)
Huh, J. (*with* Park, Byeong U.; Kim, Woo Chul; Jeon, J. W.) Estimation of density via local polynomial regression. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 91–100. (Summary) **99e:62055** 62G05
Huh, Keun (*with* Postert, Anthony K.; Sickles, Robin C.) Maximum penalized likelihood estimation of mixed proportional hazard models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2143–2164. (Summary) **99e:62172** 62N05 (62G05)
Huhn, Petra ★ Schranken für die durchschnittliche Laufzeit des Simplexverfahrens und von Innere-Punkte-Verfahren. (German. English and German summaries) [Bounds for the average running time of the simplex-method and of interior-points methods] Dissertation, Universität Augsburg, Augsburg, 1997. With a foreword by Karl Heinz Borgwardt. Augsburger Mathematisch-Naturwissenschaftliche Schriften [Augsburg Mathematical-Scientific Texts], 16. *Dr. Bernd Wißner, Augsburg*, 1997. viii+223 *pp. ISBN* 3-89639-067-8 (Sven-Åke Gustafson) **99a:90123** 90C05 (65Y25, 68Q25, 90–02)
— (*with* Borgwardt, Karl Heinz) An upper bound for the average number of iterations required in phase II of an interior-point-method. *Operations Research Proceedings* 1997 (*Jena*), 19–24, *Springer, Berlin*, 1998. (Joachim Käschel) **99g:90064** 90C05
— (*with* Enge, Andreas) A counterexample to H. Arsham's "Initialitzation of the simplex algorithm: an artificial-free approach" [SIAM Rev. **39** (1997), no. 4, 736–744; MR 98i:90051]. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 6 *pp.* (*electronic*). 90C05 (68Q25)
Huhtanen, M. An alternative to the Ritz pairs with the EN subspace method. (English summary) *BIT* **38** (1998), *no.* 1, 58–71. (Raffaella Pavani) **99d:65118** 65F15
Hui, C.-Y. (*with* Shia, David) Evaluations of hypersingular integrals using Gaussian quadrature. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 2, 205–214. 65D32
Hui, Dafeng (*with* Gu, Shiliang; Bian, Aihua) The contraction-expansion algorithm and its use in fitting nonlinear equation. (English summary) *J. Biomath.* **13** (1998), *no.* 4, 426–434. 65H10 (90C30)
Hui, Gary Man-Kwong (*with* Swann, Howard) On orthogonal polynomial bases for triangles and tetrahedra invariant under the symmetric group. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 438–446, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N30 (35C99, 41A63)
Hui, Kin Ming Asymptotic behaviour of solutions of the modified lubrication equation. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 311–321. (Summary) **99b:35103** 35K60 (35B40, 76D08)
— Singular limit of solutions of the porous medium equation with absorption. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4651–4667. (Vladimir Grebenev) **99a:35150** 35K65 (35Q35, 76S05)
— Singular limit of solutions of the equation $u_t = \Delta(u^m/m)$ as $m \to 0$. (English summary) *Pacific J. Math.* **187** (1999), *no.* 2, 297–316. (Summary) **99j:35096** 35K55 (35B20)
Hui, Pak-ming (*with* Johnson, N. F.; Jarvis, S.; Jonson, R.; Cheung, Ping; Kwong, Y. R.) Volatility and agent adaptability in a self-organizing market. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 230–236. 90A60
Hui, Stefen (*with* Glazos, Michael P.; Żak, Stanislaw H.) Sliding modes in solving convex programming problems. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 680–697 (*electronic*). (L. E. Faybusovich) **99d:90113** 90C30 (93B12, 93D05)
Hui, Wai How (*with* He, Yuanping) Hyperbolicity and optimal coordinates for the three-dimensional supersonic Euler equations. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 893–928. (Dietmar Kröner) **99c:76060** 76J20 (35L99, 35Q30, 76N15)
— (*with* Loh, Ching-Yuen; Liou, Meng-Sing) An investigation of random choice method for three-dimensional steady supersonic flows. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 1, 97–119. (Summary) **99h:76073** 76M25 (76J20)
Huidobro, J. A. *see* **Huidobro Rojo, J. A.**
garcía-Huidobro, Marta *see* **García-Huidobro, Marta**
Huidobro Rojo, J. A. (*with* Serrano, M.; Robles, Arturo) Analysis of the solution of a thermoelastoplastic model. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 73B30 (73E50, 73V20)
Huijberts, H. J. C. Characterization of static feedback realizable transfer functions for nonlinear control systems. (English summary) Twenty years of feedback linearization of nonlinear systems. *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 11, 979–994. (Ewa Pawłuszewicz) **99j:93020** 93B15 (93B17, 93B27, 93C10)
— (*with* Lilge, Torsten; Nijmeijer, Henk) Control perspective on synchronization and the Takens-Aeyels-Sauer reconstruction theorem. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4691–4698. 93D15 (93C10)
Huijsmans, C. B. (*with* Bernau, S. J.) The Schwarz inequality in Archimedean f-algebras. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 137–148. (Cho Ho Chu) **99e:46062** 46H99 (46A40, 46L99, 47B60)
— (*with* Grobler, J. J.) Disjointness preserving operators on complex Riesz spaces. (English summary) *Positivity* **1** (1997), *no.* 2, 155–164. (Gerard Buskes) **99k:47079** 47B65
cattiaux-Huillard, I. *see* **Cattiaux-Huillard, I.**
Huillet, Thierry (*with* Jeannet, B.; Choukri, K.) Marches pseudo-aléatoires issues de substitutions: aspects statistiques. (English and French summaries) [Pseudorandom walks arising from substitutions: statistical aspects] *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 77–89. (Jean-Paul Allouche) **99f:11030** 11B85 (28A80, 68R15)
— Statistics of aggregates. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 187–221. (Summary) **99k:82082** 82D99
— (*with* Jeannet, B.) Multifractal formalism for self-similar bridges. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2567–2590. (Summary) **99b:58145** 58F11 (82B26)
zimmermann-Huisgen, Birge *see* **Zimmermann-Huisgen, Birge**
Huisgen-Zimmermann, B. *see* **Zimmermann-Huisgen, Birge**
Huisgen-Zimmermann, Birge *see* **Zimmermann-Huisgen, Birge**
Huisken, Gerhard Lecture one: mean curvature evolution of closed hypersurfaces. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 117–123, *Internat. Press, Cambridge, MA*, 1997. (John Urbas) **99a:53040** 53C21 (35J60, 35K55, 58G11)
— Lecture two: singularities of the mean curvature flow. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 125–130, *Internat. Press, Cambridge, MA*, 1997. (John Urbas) **99a:53041** 53C21 (35J60, 35K55, 58G11)
— Lecture three: an evolution equation for the isoperimetric problem. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 131–136, *Internat. Press, Cambridge, MA*, 1997. (John Urbas) **99a:53042** 53C21 (35J60, 35K55, 58G11)
— Lecture four: an evolution of metrics by the Ricci curvature. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 137–143, *Internat. Press, Cambridge, MA*, 1997. (John Urbas) **99a:53043** 53C21 (35J60, 35K55, 58G11)
— A distance comparison principle for evolving curves. (English summary) *Asian J. Math.* **2** (1998), *no.* 1, 127–133. (Anders Linnér) **99m:58052** 58E10 (53A04)
— Evolution of hypersurfaces by their curvature in Riemannian manifolds. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 349–360 (*electronic*). (John Urbas) **99k:53080** 53C21 (35K55, 53C42)
— (*with* Sinestrari, Carlo) Mean curvature flow singularities for mean convex surfaces. (English summary) *Calc. Var. Partial Differential Equations* **8** (1999), *no.* 1, 1–14. (John Urbas) **99m:58057** 58E12 (35K55, 53A10)
Huiszoon, L. (*with* Achúcarro, Ana; de Roo, Mees) Unstable vortices do not confine. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 288–292. (Summary) **99f:81228** 81V25 (81T30)
Huitema, George B. (*with* Broer, Hendrik W.; Sevryuk, Mikhail B.) ★ Quasi-periodic motions in families of dynamical systems. Order amidst chaos. Lecture Notes in Mathematics, 1645. *Springer-Verlag, Berlin*, 1996. xii+196 *pp. ISBN* 3-540-62025-7 (Luigi Chierchia) **99d:58142** 58F27 (34C27, 34C35, 70H05)
Hujeirat, A. (*with* Rannacher, Rolf) A method for computing compressible, highly stratified flows in astrophysics based on operator splitting. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 1–22. (Summary) **99b:85001** 85A30 (85–08)
Huke, Jeremy P. (*with* Muldoon, Mark R.; Broomhead, David S.; Hegger, Rainer) Delay embedding in the presence of dynamical noise. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 175–186. (Dieter Beule) **99d:58158** 58F40 (65U05)
Hulanicki, A. (*with* Damek, Ewa; Penney, Richard C.) Hua operators on bounded homogeneous domains in $\mathbf{C}^n$ and alternative reproducing kernels for holomorphic functions. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 77–120. (A. Korányi) **99d:32044** 32M10 (22E30, 46E22)
Hulek, Klaus (*with* Catanese, F.) Rational surfaces in $\mathbf{P}^4$ containing a plane curve. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 229–256. (James E. Alexander) **99f:14044** 14J26 (14H45)
— (*with* Aure, Alf; Decker, Wolfram; Popescu, Sorin; Ranestad, Kristian) Syzygies of abelian and bielliptic surfaces in $\mathbf{P}^4$. *Internat. J. Math.* **8** (1997), *no.* 7, 849–919. (James E. Alexander) **99a:14049** 14J25 (14J27, 14J60)
— (*with* Gritsenko, V. A.) Commutator coverings of Siegel threefolds. *Duke Math. J.* **94** (1998), *no.* 3, 509–542. (I. Dolgachev) **99e:11075** 11G15 (11F46, 14G35, 14J28, 14K10)
— (*with* Ciliberto, Ciro) A remark on the geometry of elliptic scrolls and bielliptic surfaces. *Manuscripta Math.* **95** (1998), *no.* 2, 213–224. (Angelo Lopez) **99i:14041** 14J27 (14J10)
— (*with* Gritsenko, V. A.) Minimal Siegel modular threefolds. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 461–485. (Kazuyuki Hatada) **99c:14048** 14J15 (11F46, 14G35, 14J10, 14J30)
Hulett, Heather Monomials and the lexicographic order. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 145–150, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Lê Tuân Hoa) **99c:13053** 13P10 (05A10)
Hulin, G. (*with* Thayse, André; Gribomont, E. Pascal; et al.) ★ Логический подход к искусственному интеллекту. (Russian. Russian summary) [A logical approach to artificial intelligence] От модальной логики к логике баз данных. [From modal logic to the logic of databases] Translated from the 1989 French original by G. P. Gavrilov, P. P. Permyakov and A. A. Ivanova. Translation edited and with a preface by Gavrilov. "*Mir*", *Moscow*, 1998. 494 *pp. ISBN* 5-03-002519-7 (Olga M. Kosheleva) **99m:68190** 68T27 (03B45, 03B70, 68–01, 68P15)
Hull, Christopher M. (*with* Douglas, Michael R.) D-branes and the noncommutative torus. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 8, 5 *pp.* (*electronic*). (Éric Leichtnam) **99b:58024** 58B30 (81T30)
— (*with* Berkovits, Nathan) Manifestly covariant actions for $D = 4$ self-dual Yang-Mills and $D = 10$ super-Yang-Mills. (English summary) *J. High Energy Phys.* **1998**, *no.* 2, *Paper* 12, 12 *pp.* (*electronic*). (J. A. H. Samtleben) **99i:81146** 81T13 (81T60)
— Duality and the signature of space-time. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 17, 36 *pp.* (*electronic*). (Marco Spaans) **99k:81245** 81T30 (83E30)
— Non-abelian gravity and antisymmetric tensor gauge theory. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 229–238. (Ilya Shapiro) **99c:83092** 83E30 (81T30)
— (*with* Abou Zeid, Mohab) The gauged (2, 1) heterotic sigma model. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 490–514. (Ahmet Satir) **99i:81219** 81T60 (81T30)
— (*with* Cvetič, Mirjam) Wrapped branes and supersymmetry. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 141–158. (Claudio A. Scrucca) **99d:81114** 81T30 (83E30)
— Decoupling limits in M-theory. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 207–224. (Marco Spaans) **99h:81166** 81T30 (83E30)
— Gravitational duality, branes and charges. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 412–421. (Summary) **99f:81164** 81T30 (83E30)
— (*with* Abou Zeid, Mohab) Large conformal invariance and duality in self-dual gravity and (2, 1) heterotic string theory. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 139–147. (Ilya Shapiro) **99c:83080** 83E30 (53C80, 81T30)
Hull, D. G. Sufficiency for optimal control problems involving parameters. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 579–590. (Pier Luigi Zezza) **99f:49026** 49K15
Hull, Richard B. (*with* Su, Jianwen) Deductive query languages for recursively typed complex objects. (English summary) *J. Logic Programming* **35** (1998), *no.* 3, 231–261. (Marc Gyssens) **99g:68047** 68P15 (68N17, 68Q05, 68Q15)
— *see also* **Database programming languages, 99h:68004**

Hull, Thomas (*with* Eaton, Nancy) Defective list colorings of planar graphs. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 79–87. (Summary) **99i:05078** 05C15

Hulpke, Alexander (*with* Conway, John H.; McKay, John) On transitive permutation groups. (English summary) *LMS J. Comput. Math.* **1** (1998), 1–8 (*electronic*). (D. F. Holt) **99g:20011** 20B05 (20B40)

Hulse, Paul A class of unique g-measures. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 6, 1383–1392. (G. R. Goodson) **99d:28035** 28D05

Hülsemann, Frank (*with* Tourigny, Yves) A new moving mesh algorithm for the finite element solution of variational problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1416–1438 (*electronic*). (Beny Neta) **99f:65178** 65N30

Hulshof, Josephus Recent results on selfsimilar solutions of degenerate nonlinear diffusion equations. *Reaction diffusion systems* (*Trieste*, 1995), 199–215, *Lecture Notes in Pure and Appl. Math.*, 194, *Dekker, New York*, 1998. (Vladimir Grebenev) **99c:35126** 35K65 (35B99, 35K55, 76S05)

— (*with* Shishkov, Andrei E.) The thin film equation with $2 \le n < 3$: finite speed of propagation in terms of the L^1-norm. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 5, 625–642. (Summary) **99i:35140** 35Q53 (76D99)

— (*with* Brauner, Claude-Michel; Schmidt-Lainé, Claudine) The saddle point property for focusing selfsimilar solutions in a free boundary problem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 473–479. (Galina I. Bizhanova) **99c:35262** 35R35 (35C20, 35K05)

— (*with* King, John Robert) Analysis of a Darcy flow model with a dynamic pressure saturation relation. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 318–346 (*electronic*). (Vladimir Grebenev) **99m:76109** 76S05 (35K70, 35Q35)

Hulsurkar, Suresh G. (*with* Patel, Hemendra K.) On the graph on a Weyl group being an interval graph. (English summary) *Rev. Colombiana Mat.* **32** (1998), *no.* 1, 1–12. (Kimmo Eriksson) **99m:05166** 05E15 (05C25, 20F55)

Humair, S. (*with* Servi, L. D.) Optimizing Bernoulli routing policies for balancing loads on call centers and minimizing transmission costs. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 3, 623–659. (Summary) **99m:90072** 90B12 (94A05)

Humberstone, I. L. Negation by iteration. *Theoria* **61** (1995), *no.* 1, 1–24. (Piotr Wojtylak) **99i:03024** 03B50

— Homophony, validity, modality. *Logic and reality* (*Christchurch*, 1989), 215–236, *Oxford Univ. Press, New York*, 1996. (Torben Braüner) **99f:03016** 03B45

— Choice of primitives: a note on axiomatizing intuitionistic logic. (English summary) *Hist. Philos. Logic* **19** (1998), *no.* 1, 31–40. (A. Tauts) **99m:03013** 03B20

Humbert, J. Sean (*with* Krener, Arthur J.) Dynamics and control of entrained solutions in multi-mode Moore-Greitzer compressor models. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 807–821. 93A30 (93C95)

von Humboldt, Alexander *see* **Zielnica, Krzysztof, 99c:01027**

garza-Hume, C. E. *see* **Garza-Hume, C. E.**

Hume, David (*with* Breen, Michael) Properties of a standard form for a Boolean matrix. (English summary) Proceedings of the Fifth Conference of the International Linear Algebra Society (Atlanta, GA, 1995). *Linear Algebra Appl.* **254** (1997), 49–65. (K. P. S. Bhaskara Rao) **99a:15005** 15A33

Humenn, Polar (*with* Blair, Howard A.; Dushin, Fred) Simulations between programs as cellular automata. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 115–131, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68025** 68N17

Humke, P. D. (*with* Skvortsov, V. A.) Symmetric primitives and Lusin's condition $\mathcal{N}$. *Acta Math. Hungar.* **76** (1997), *no.* 4, 279–285. (From the introduction) **99f:26008** 26A24

— (*with* Evans, Michael Jon) Contrasting symmetric porosity and porosity. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 1, 19–41. (Luděk Zajíček) **99i:26013** 26A99

Hummel, Christoph (*with* Schroeder, Viktor) Tits geometry associated with 4-dimensional closed real-analytic manifolds of nonpositive curvature. (English summary) *J. Differential Geom.* **48** (1998), *no.* 3, 531–555. (Andrea Sambusetti) **99j:53058** 53C23 (53C20)

Hummel, Tamara (*with* Groszek, Marcia J.) Σ_2-constructions and $\mathrm{I}\Sigma_1$. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 83–101. (Peter Cholak) **99f:03054** 03D25

Humphrey, J. D. (*with* Rajagopal, K. R.) Finite thermoelasticity of constrained elastomers subject to biaxial loading. (English summary) *J. Elasticity* **49** (1997/98), *no.* 3, 189–200. (Summary) **99d:73010** 73B30 (73C50)

— (*with* Reynolds, R. A.) Steady diffusion within a finitely extended mixture slab. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 2, 147–167. (Summary) **99a:73034** 73B99 (76A02)

Humphrey, Joseph A. C. (*with* Herrero, Joan; Giralt, Francesc) Influence of the geometry on the structure of the flow between a pair of corotating disks. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 88–96. 76U05 (76E10)

Humphreys, John Branching rules for modular projective representations of the symmetric groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 82–89, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Christine Bessenrodt) **99k:20025** 20C25 (20C20, 20C30)

Humphreys, L. D. (*with* Hill, Sharon) Numerical mountain pass periodic solutions of a nonlinear spring equation. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 59–67. (Summary) **99c:34083** 34C25 (35L99, 58E05, 65H05)

Humphreys, Neil P. (*with* Matravers, David R.; Maartens, Roy) Exact isotropic cosmologies with local fractal number counts. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3041–3049. 83F05

Humphries, A. R. (*with* Budd, C. J.; Wathen, Andrew J.) Finite element method solutions for semi-linear elliptic PDEs with critical Sobolev exponents on non-spherical 3D domains. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 418–425, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 65N30

— (*with* Budd, C. J.) Weak finite-dimensional approximations of semi-linear elliptic PDEs with near-critical exponents. (English summary) *Asymptot. Anal.* **17** (1998), *no.* 3, 185–220. (Manil Suri) **99g:65109** 65N30 (34B15, 35C20, 35J60, 65N12)

Humphries, Stephen M. (*with* Lodwick, Weldon A.; McCourt, Steve; Newman, Francis) Optimization methods for radiation therapy plans. (English summary) *Computational radiology and imaging* (*Minneapolis, MN*, 1997), 229–249, *IMA Vol. Math. Appl.*, 110, *Springer, New York*, 1999. (*see* **99m:92012**) 92C50

Humphries, Stephen P. Action of some braid groups on Hodge algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1233–1242. (Vitaly A. Roman'kov) **99e:20048** 20F36 (13F50)

Hune, Thomas (*with* Nielsen, Mogens) Timed bisimulation and open maps. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 378–387, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q10 (68Q55, 68Q60)

Huneke, Craig Tight closure, parameter ideals, and geometry. *Six lectures on commutative algebra* (*Bellaterra*, 1996), 187–239, *Progr. Math.*, 166, *Birkhäuser, Basel*, 1998. (Karen E. Smith) **99j:13001** 13A35 (13–02)

— (*with* Corso, Alberto; Vasconcelos, Wolmer V.) On the integral closure of ideals. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 331–347. (Stephen McAdam) **99b:13010** 13B22

— (*with* Ribbe, Jürgen) Symbolic squares in regular local rings. (English summary) *Math. Z.* **229** (1998), *no.* 1, 31–44. (Mark R. Johnson) **99j:13018** 13H05 (13A15)

— (*with* Corso, Alberto; Heinzer, William J.) A generalized Dedekind-Mertens lemma and its converse. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5095–5109. (Rafael H. Villarreal) **99b:13012** 13B25 (13A15)

nguyễn mạnh hùng *see* **Nguyễn Mạnh Hùng**

Hung, Andy C. (*with* Meng, Teresa H.) Multidimensional rotations for robust quantization of image data. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 1, 1–12. 94A12

Hung, H. H. Metrizability beyond g-functions. *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 237–238. 54E35

Hung, Le Tu Quoc *see* **Le Tu, Quoc Hung**

Hu'ng, Nguyễn H. V. *see* **Nguyễn Hữ'u Việt Hu'ng**

Hung, Wen-Liang (*with* Fuh, Cheng-Der; Fan, Tsai-Hung) Importance resampling for Markov chains. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1007–1026. (Summary) **99i:62098** 62G09 (60J10)

Hung, Y. S. (*with* Chu, D. L.) (J, J')-lossless factorization for discrete-time systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 517–533. (Summary) **99h:93033** 93B29 (93C55)

— (*with* Chu, D. L.) On extended (J, J')-lossless factorization. (English summary) *Linear Algebra Appl.* **271** (1998), 117–138. (Daniel Alpay) **99f:93028** 93B25 (15A23)

Hung, Yu Ching (*with* Chiang, Li) On Hilbert-Kunz function and representation ring. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 1–32. (Anna Guerrieri) **99k:13004** 13A35 (13D40)

— (*with* Chiang, Li) On Hilbert-Kunz functions of some hypersurfaces. *J. Algebra* **199** (1998), *no.* 2, 499–527. (J. K. Verma) **99c:13037** 13D40 (13A35, 13H15)

Hungerbühler, Norbert m-harmonic flow. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 4, 593–631 (1998). (Martin Fuchs) **99c:58046** 58E20

— (*with* Halbeisen, Lorenz) The Josephus problem. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 303–318. (Yuri Bilu) **99c:11022** 11B83 (11B50, 11Y16)

— (*with* Dolzmann, Georg; Müller, Stefan C.) Non-linear elliptic systems with measure-valued right hand side. *Math. Z.* **226** (1997), *no.* 4, 545–574. (Rolando Magnanini) **99c:35069** 35J65 (35R05)

Hungerbühler, Ralf (*with* Garloff, Jürgen) Bounds for the range of a bivariate polynomial over a triangle. (English summary) *Reliab. Comput.* **4** (1998), *no.* 1, 3–13. (Summary) **99b:65064** 65G10 (26B99, 65H10)

đặng Hùng Thắng *see* **Đặng Hùng Thắng**

Hünlich, R. (*with* Glitzky, A.; Gröger, Konrad) Free energy and dissipation rate for reaction diffusion processes of electrically charged species. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 201–217. 35K57 (78A35)

Hunt, B. *see* **Hunt, Bruce**

Hunt, Brian R. (*with* Jacobs, Joeri; Ott, Edward) Calculating topological entropy for transient chaos with an application to communicating with chaos. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6577–6588. (Summary) **99b:58161** 58F13 (58F11)

— *see also* **Nusse, Helena E., 99f:58001**

Hunt, Bruce (*with* Freitag, E.) A remark on a theorem of Runge. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 6, 464–469. (John B. Little) **99j:14025** 14G35 (11F46, 14Q15)

Hunt, Fern Y. Unique ergodicity and the approximation of attractors and their invariant measures using Ulam's method. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 307–317. (Michael Dellnitz) **99e:58121** 58F11 (58F12)

Hunt, Giles W. (*with* Champneys, A. R.; Thompson, J. M. T.) Localization and solitary waves in solid mechanics. *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2077–2081. (Muthiah Daniel) **99f:73034** 73D35 (35Q72)

— (*with* Wadee, M. Ahmer) Localization and mode interaction in sandwich structures. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1197–1216. (Summary) **99c:73033** 73H05 (73K20)

— (*with* Lord, G. J.; Champneys, A. R.) The role of homoclinic bifurcations in understanding the buckling of long thin cylindrical shells. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 159–168, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 73K15 (34C23, 73H05)

— (*with* Lord, G. J.; Champneys, A. R.) Homoclinic and heteroclinic orbits underlying the post-buckling of axially-compressed cyclindrical shells. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 239–251. (Summary) **99m:73040** 73H05 (34C37, 73K15)

Hunt, Harry B., III (*with* Marathe, Madhav V.; Stearns, Richard E.; Radhakrishnan, Venkatesh) Complexity of hierarchically and 1-dimensional periodically specified problems. I. Hardness results. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 225–259, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Italo José Dejter) **99c:68129** 68Q25 (03B05, 03D15, 03F20, 68Q15, 68R10)

— (*with* Shukla, Sandeep K.; Rosenkrantz, Daniel J.; Stearns, Richard E.) The polynomial time decidability of simulation relations for finite state processes: a HORNSAT based approach. (English summary) *Satisfiability problem: theory and applications*

(*Piscataway, NJ*, 1996), 603–641, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Ryszard Janicki) **99h:68116** 68Q60 (03B05, 68N17, 68Q10, 68Q68)

— (*with* Marathe, Madhav V.; Rosenkrantz, Daniel J.; Stearns, Richard E.) Theory of periodically specified problems: complexity and approximability. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 106–118, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q25)

— (*with* Marathe, Madhav V.; Ravi, R.; Sundaram, Ravi; Ravi, S. S.; Rosenkrantz, Daniel J.) Bicriteria network design problems. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 142–171. (Dominique Sotteau) **99h:68137** 68R10 (68M10)

— (*with* Marathe, Madhav V.; Radhakrishnan, Venkatesh; Stearns, Richard E.) The complexity of planar counting problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1142–1167 (*electronic*). (Italo José Dejter) **99e:68052** 68Q15 (68R10)

— (*with* Marathe, Madhav V.; Stearns, Richard E.; Radhakrishnan, Venkatesh) Approximation algorithms for PSPACE-hard hierarchically and periodically specified problems. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1237–1261 (*electronic*). (Summary) **99f:68103** 68Q25 (68Q15, 68R10)

Hunt, J. C. R. (*with* Fernando, Harindra J. S.) Turbulence, waves and mixing at shear-free density interfaces. I. A theoretical model. (English summary) *J. Fluid Mech.* **347** (1997), 197–234. (From the summary) **99i:76071a** 76F99 (76–05)

— (*with* McGrath, J. L.; Fernando, Harindra J. S.) Turbulence, waves and mixing at shear-free density interfaces. II. Laboratory experiments. (English summary) *J. Fluid Mech.* **347** (1997), 235–261. (From the summary) **99i:76071b** 76F99 (76–05)

— (*with* Ghosh, Satyajit) Spray jets in a cross-flow. (English summary) *J. Fluid Mech.* **365** (1998), 109–136. (Summary) **99e:76038** 76D25 (76T05)

— Sir James Lighthill F.R.S. (1924–1998). Funeral address by the author, 27th July 1998. *Fluid Dynam. Res.* **24** (1999), *no.* 2, *iii–vi.* 01A70

Hunt, J. N. *see* **Gravity waves in water of finite depth, 99b:76015**

Hunt, K. J. (*with* Johansen, Tor A.) Design and analysis of gain-scheduled control using local controller networks. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 619–651. (Summary) **99j:93066** 93C83 (93B52)

— (*with* Gollee, H.) Nonlinear modelling and control of electrically stimulated muscle: a local model network approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1259–1288. 93C95 (92C05, 93A30)

Hunt, L. R. (*with* Ramakrishna, Viswanath; Meyer, George) Stable inversion and parameter variations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 203–207. 93B40 (93C40)

— *see also* **Shim, Hyungbo et al.**

Hunt, M. L. (*with* Zenit, R.) The impulsive motion of a liquid resulting from a particle collision. (English summary) With an appendix by Ludwig C. Nitsche. *J. Fluid Mech.* **375** (1998), 345–361. 76–05

Hunter, D. B. (*with* Nikolov, Geno P.) Gaussian quadrature of Chebyshev polynomials. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 123–131. (A. J. Rodrigues) **99g:65028** 65D32 (33C55, 41A55)

Hunter, Douglas L. (*with* Hyland, David C.; Collins, Emmanuel G., Jr.; Haddad, Wassim M.) Neural network system identification for improved noise rejection. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 233–258. 93B30 (93C95)

Hunter, Geoffrey[2] (*with* Ecimovic, P.; Schlifer, I.; Walker, I. M.; Beamish, D.; Donev, S.; Kowalski, Marian; Arslan, S.; Heck, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

— *see also* **Enigmatic photon, 99h:81226** *and* **Causality and locality in modern physics, 99j:81005**

Hunter, J. Stuart Cuthbert Daniel [1904–1997]: industrial statistician. *Amer. Statist.* **52** (1998), *no.* 2, 89–92. 01A70

Hunter, John K. (*with* Glassey, Robert T.; Zheng, Yuxi) Singularities and oscillations in a nonlinear variational wave equation. (English summary) *Singularities and oscillations (Minneapolis, MN, 1994/1995)*, 37–60, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (Linda M. Holt) **99a:35181** 35L70 (35A20, 35B05)

Hunter, M. N. (*with* Love, E. R.) Expansions in series of Legendre functions. (English summary) *Transform methods & special functions, Varna '96*, 288–299, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 42B10 (33C45)

Hunter, N. (*with* Stringer, S. M.; Woolhouse, M. E. J.) A mathematical model of the dynamics of scrapie in a sheep flock. (English summary) *Math. Biosci.* **153** (1998), *no.* 2, 79–98. 92D30

Huntley, Hugh Edgar (*with* Wineman, A. S.; Rajagopal, K. R.) Stress softening, strain localization and permanent set in the circumferential shear of an incompressible elastomeric cylinder. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 3, 309–338. (Cesare Davini) **99a:73039** 73C50 (73S10)

Huntley, Jonathan (*with* Jorgenson, Jay; Lundelius, Rolf) On the asymptotic behavior of counting functions associated to degenerating hyperbolic Riemann surfaces. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 58–82. (Christopher M. Judge) **99e:58186** 58G18 (11F72)

— (*with* Catto, Sultan; Jorgenson, Jay; Tepper, David) On an analogue of Selberg's eigenvalue conjecture for $SL_3(\mathbf{Z})$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3455–3459. (Werner Hoffmann) **99b:11055** 11F72 (22E40)

Hunton, John Robert The complex oriented cohomology of extended powers. *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 2, 517–534. (Mark Hovey) **99c:55017** 55S25 (55T25)

— (*with* Mimura, Mamoru; Nishimoto, Tetsu; Schuster, Björn) Higher v_n torsion in Lie groups. (English summary) *J. Math. Soc. Japan* **50** (1998), *no.* 4, 801–818. (Vidhyanath K. Rao) **99i:55005** 55N22 (55T25, 57T10)

— (*with* Turner, Paul R.) Coalgebraic algebra. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 3, 297–313. (Andrew J. Baker) **99g:16048** 16W30 (18G15, 55N20)

Hunziker, W. Mathematical theory of N-body quantum systems. (English summary) Mathematical results in quantum mechanics (Ascona, 1996). *Helv. Phys. Acta* **71** (1998), *no.* 1, 26–43. (Peter D. Hislop) **99d:81173** 81U10 (35P25, 47N50)

Huo, Wei (*with* Ma, Bao Li) Coordinated motion control of a free-flying space robot system. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 50–55. 93C85

Huo, Yong Zhong (*with* Zu, X.) On the three phase mixtures in martensitic transformations of shape memory alloys: thermodynamical modeling and characteristic temperatures. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 179–188. (Matthias Wilhelm Winter) **99e:73015** 73B30 (73E99)

Hupfer, Thomas (*with* Fischer, Werner; Leschke, Hajo; Müller, Peter[1]) Existence of the density of states for multi-dimensional continuum Schrödinger operators with Gaussian random potentials. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 133–141. (Nariyuki Minami) **99b:82049** 82B44 (47B80, 47N55)

Hüpper, Bruno (*with* Eckhardt, Bruno) Semiclassical cross sections. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 63–82, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 81Q20

Huppert, Bertram ★ Character theory of finite groups. de Gruyter Expositions in Mathematics, 25. *Walter de Gruyter & Co., Berlin*, 1998. *vi+618 pp. ISBN* 3-11-015421-8 (Gerhard Hiss) **99j:20011** 20C15 (20C05, 20C10)

Huppert, Herbert E. (*with* Ungarish, Marius) The effects of rotation on axisymmetric gravity currents. (English summary) *J. Fluid Mech.* **362** (1998), 17–51. (From the summary) **99c:76112** 76U05 (76C99, 86A05)

Hur, Chang Kyu (*with* Kim, Hee Sik) BCK-algebras of extended pogroupoid[s]. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 203–208. (C. S. Hoo) **99m:06039** 06F35 (03G25, 20N02)

Hurd, Spencer P. (*with* McCranie, Judson S.) Small integer labels for Egyptian and super-Egyptian graphs. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 77–84. (*see* **99i:00022**) 05C78

Hureau, J. (*with* Weber, Regine) Impinging free jets of ideal fluid. (English summary) *J. Fluid Mech.* **372** (1998), 357–374. (Summary) **99f:76018** 76B10

— (*with* Weber, Regine) Impact of an ideal fluid jet on a curved wall: the inverse problem. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 283–294. 76B10

Hurelbaatar, G. A strong approximation for logarithmic averages of partial sums of random variables. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 189–200. (Summary) **99c:60067** 60F15 (60F05, 60G10)

Hurewicz, Witold *see* **Borsuk, Karol, (99a:01001)**

Hurkens, A. J. C. (*with* McArthur, Monica; Moschovakis, Yiannis N.; Moss, Lawrence S.; Whitney, Glen T.) The logic of recursive equations. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 451–478. (Thomas Glaß) **99m:03092a** 03D75 (03D70)

— (*with* McArthur, Monica; Moschovakis, Yiannis N.; Moss, Lawrence S.; Whitney, Glen T.) Erratum: "The logic of recursive equations". *J. Symbolic Logic* **64** (1999), *no.* 1, 406. (Thomas Glaß) **99m:03092b** 03D75 (03D70)

Hurkens, C. A. J. (*with* Williamson, David P.; Hall, Leslie A.; Hoogeveen, Johannes Adzer; Lenstra, Jan Karel; Sevast'yanov, S. V.; Shmoys, David B.) Short shop schedules. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 288–294. (Jan Węglarz) **99g:90049** 90B25 (68Q25)

Hurley, Richard *see* **Proceedings: Conference on Computing and Information, 99d:68010; Proceedings: Conference of Computing and Information, 99f:68006** *and* **99g:68005**

Hurley, Steve (*with* Allen, S. M.; Smith, Derek Howard) Lower bounding techniques for frequency assignment. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 41–52. (Summary) **99i:90105** 90C35 (05C90, 90C27)

Hurley, T. C. (*with* Ward, M. A.) Bases for commutator subgroups of a free group. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 43–65. (Carlo M. Scoppola) **99f:20038** 20E05

Hürlimann, Werner Best bounds for expected financial payoffs. I. Algorithmic evaluation. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 199–212. (Axel Ernest Grorud) **99a:90076** 90A46 (90A09)

— Best bounds for expected financial payoffs. II. Applications. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 213–227. (Axel Ernest Grorud) **99a:90077** 90A46 (90A09)

— On the characterization of maximum likelihood estimators for location-scale families. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 495–508. (Summary) **99a:62022** 62F10

— On distribution-free safe layer-additive pricing. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 277–285. (Lorenzo Peccati) **99k:62200** 62P05

— On best stop-loss bounds for bivariate sums by known marginal means, variances and correlation. (English, French and German summaries) *Schweiz. Aktuarver. Mitt.* **1998**, *no.* 1, 111–134. (Serguei V. Zhulenev) **99k:62201** 62P05

Hurn, Merrilee A. (*with* Rue, Håvard; Sheehan, Nuala A.) Block updating in constrained Markov chain Monte Carlo sampling. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 353–361. (Summary) **99j:62138** 62M99

Hurrelbrink, Jurgen (*with* Rehmann, Ulf) Splitting patterns and trace forms. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 71–78. (Martin Epkenhans) **99d:11035** 11E04

Hurricane, O. A. (*with* Fong, B. H.; Cowley, S. C.) Nonlinear magnetohydrodynamic detonation. I. (English summary) *Phys. Plasmas* **4** (1997), *no.* 10, 3565–3580. (Summary) **99d:76098** 76W05 (76E25, 76X05, 85A30)

— (*with* Widdowson, S.; Cowley, S. C.) The continuum of unstable magnetohydrodynamic modes in a simple magnetized atmosphere. (English summary) *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1259–1264. (Summary) **99a:76166** 76W05 (76E25, 85A30)

Hurst, C. A. (*with* Grundling, Hendrik) Constrained dynamics for quantum mechanics. I. Restricting a particle to a surface. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3091–3119. (Kanji Fujii) **99j:81094** 81S99 (81Q99)

Hurt, Darren F. (*with* Holt, Derek F.) Computing automatic coset systems and subgroup presentations. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 1–19. (Stephan Rosebrock) **99j:20038** 20F10 (03B25, 03D05, 03D40, 68Q42)

Hurt, Norman E. ★ Quantum chaos and mesoscopic systems. (English summary) Mathematical methods in the quantum signatures of chaos. Mathematics and its Applications, 397. *Kluwer Academic Publishers, Dordrecht*, 1997. xvi+331 *pp. ISBN* 0-7923-4459-6 (Jens Bolte) **99c:81045** 81Q50 (11Z05)

muñoz Hurtado, César Augusto *see* **Muñoz Hurtado, César Augusto**

Hurtado, Ferran (*with* García, Alfredo; Hernando, C.; Noy, M.; Tejel, F. Javier) Packing trees into planar graphs. (English summary) *Graph drawing (Rome, 1997)*, 383–390,

Lecture Notes in Comput. Sci., 1353, *Springer, Berlin*, 1997. (Summary) **99g:05060** 05C10 (68R10)
— (*with* Avis, David; Beresford-Smith, Bryan; Devroye, Luc; ElGindy, Hossam; Guévremont, Eric; Zhu, Binhai) Unoriented Θ-maxima in the plane: complexity and algorithms. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 278–296 (*electronic*). (Menachem Dishon) **99g:68088** 68Q25 (60D05, 68U10)
Hurtado, J. A. (*with* Freund, Lambert B.) The force on a dislocation near a weakly bonded interface. (English summary) *J. Elasticity* **52** (1998/99), *no.* 2, 167–180. (Summary) **99m:73013** 73C02
Hurtado, J. E. (*with* Barbat, A. H.) Monte Carlo techniques in computational stochastic mechanics. (English summary) *Arch. Comput. Methods Engrg.* **5** (1998), *no.* 1, 3–29. (Summary) **99b:73043** 73V30 (65C05)
Hurtubise, Jacques C. Moduli spaces and particle spaces. (English summary) *Gauge theory and symplectic geometry* (*Montreal, PQ*, 1995), 113–146, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 488, *Kluwer Acad. Publ., Dordrecht*, 1997. (Martin A. Guest) **99a:58025** 58D29 (55P35)
— The algebraic geometry of the Kostant-Kirillov form. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 504–518. (Emma Previato) **99b:58112** 58F07 (14H40, 17B65)
— (*with* Markman, E.) Rank 2-integrable systems of Prym varieties. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 3, 633–695. (Emma Previato) **99k:14073** 14K05 (14H60, 58F07)
— (*with* Markman, E.) Integrable systems associated with Riemann surfaces. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1644–1651. (Francesco Bottacin) **99m:14056** 14H40 (14C05, 58F07)
— Particles and connections on four-manifolds. (English summary) *Comm. Anal. Geom.* **7** (1999), *no.* 1, 55–93. (Marc Sanders) **99k:58032** 58D27 (57R57)
Huruya, Tadasi (*with* Chō, Muneo; Itoh, Masuo) Riemann-Hilbert problem for characteristic functions of p-hyponormal operators. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 271–279. (Mihai Putinar) **99e:47025** 47B20
— (*with* Duggal, B. P.; Chō, Muneo) Corrigendum to: "On the spectrum of p-hyponormal operators" [Acta Sci. Math. (Szeged) **63** (1997), no. 3-4, 623–637; MR 98m:47024] by Duggal. *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 741–742. (From the text) **99k:47054** 47B20 (47A10)
— (*with* Chō, Muneo; Itoh, Masuo) Singular integral models for p-hyponormal operators and the Riemann-Hilbert problem. (English summary) *Studia Math.* **130** (1998), *no.* 3, 213–221. (Mihai Putinar) **99c:47024** 47B20 (45E05, 47G10)
— Lifting problems for mappings of C^*-algebras. (Japanese) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 36–44. (*see* **99i:46001**) 46L05
Hurvich, Clifford M. Mean square over degrees of freedom: new perspectives on a model selection treasure. (English summary) *The practice of data analysis* (*Princeton, NJ*, 1995), 203–215, *Princeton Univ. Press, Princeton, NJ*, 1997. (Summary) **99c:62181** 62J05
— (*with* Cai, Zongwu; Tsai, Chih-Ling) Score tests for heteroscedasticity in wavelet regression. (English summary) *Biometrika* **85** (1998), *no.* 1, 229–234. (Summary) **99c:62170** 62J02 (62G05)
— (*with* Deo, Rohit; Brodsky, Julia) The mean squared error of Geweke and Porter-Hudak's estimator of the memory parameter of a long-memory time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 19–46. (Roger Gay) **99h:62114** 62M10
Hurwood, William (*with* Aspnes, James) Spreading rumors rapidly despite an adversary. (English summary) *J. Algorithms* **26** (1998), *no.* 2, 386–411. (Summary) **99b:68010** 68M10 (68Q10)
Hürzeler, Markus (*with* Künsch, Hans R.) Monte Carlo approximations for general state-space models. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 2, 175–193. (Summary) **99e:65004** 65C05 (93E11)
Husain, I. (*with* Gulati, T. R.; Ahmad, Izhar) Symmetric duality for minimax variational problems. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 81–95. (Fuan Zhao) **99i:49025** 49K35 (49N15)
— (*with* Chandra, Suresh; Goyal, Abha) On symmetric duality in mathematical programming with F-convexity. (English summary) *Optimization* **43** (1998), *no.* 1, 1–18. (Summary) **99a:90157** 90C26 (49N15)
Husain, Tahir *see* **Hussain, Tahir**
Husain, Viqar Demise of the cosmic censor? (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1439–1443. (Peter R. Law) **99j:83053** 83C75
— (*with* Ashtekar, Abhay) Symmetry reduced Einstein gravity and generalized σ and chiral models. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 549–566. (Dmitri Korotkin) **99i:83019** 83C20
Husain, Zegham (*with* Agarwal, Ashok Kumar^2) Some remarks on fixed point theorem in Banach space. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 219–221. 47H10
— (*with* Agarwal, Ashok Kumar^2) Some remarks on fixed point theorems. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 443–444. 54H25
— (*with* Agarwal, Ashok Kumar^2) Common fixed point theorems for three maps. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 495–497. 54H25
Husby, Oddvar K. (*with* Rue, Håvard) Modern statistical methods: a first introduction. (English summary) *Normat* **47** (1999), *no.* 1, 20–33, 48. 62–01 (65U05)
Huschens, Stefan Confidence intervals for the Value-at-Risk. (English summary) *Risk measurement, econometrics and neural networks* (*Karlsruhe*, 1997), 233–244, *Contrib. Econom., Physica, Heidelberg*, 1998. (Summary) **99k:90028** 90A09 (62F10)
Hušek, Miroslav Mazur-like topological linear spaces and their products. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 1, 157–164. (Jerzy Kąkol) **99a:46003** 46A03 (22A99, 54B10, 54C08)
Huseyin, Koncay (*with* Yu, Pei) Parametrically excited non-linear systems: a comparison of certain methods. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 967–978. (Yuri V. Mikhlin) **99b:34071** 34C23 (70K28)
— (*with* Zhang, Wei Yi; Chen, Yushu S.) A new approach for obtaining normal forms of non-linear systems. (English summary) *J. Sound Vibration* **210** (1998), *no.* 5, 609–625. (James A. Murdock) **99g:34082** 34C20 (34C29, 58F36)
— (*with* Zhang, Wei Yi; Chen, Yushu S.) On the analysis of certain high-dimensional systems with inner resonances. (English summary) *J. Sound Vibration* **213** (1998), *no.* 4, 739–756. (Peter Ashwin) **99g:34083** 34C20 (70K30)
— (*with* Sensoy, S.) On the application of IHB technique to the analysis of non-linear oscillations and bifurcations. (English summary) *J. Sound Vibration* **215** (1998), *no.* 1, 35–46. (Summary) **99d:34059** 34C15 (34–04, 34C23, 70K99)
Husfeldt, Thore (*with* Rauhe, Theis) Hardness results for dynamic problems by extensions of Fredman and Saks' chronogram method. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 67–78, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q20 (68Q25)
Hušková, Marie (*with* Horváth, Lajos; Serbinowska, Monika) Estimators for the time of change in linear models. (English summary) *Statistics* **29** (1997), *no.* 2, 109–130. (Summary) **99k:62126** 62J05 (62G05)
— Estimators in the location model with gradual changes. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 147–157. (Lajos Horváth) **99i:62067** 62G05 (60F17, 62G20)
— (*with* Gombay, Edit) Rank based estimators of the change-point. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 137–154. (Lajos Horváth) **99g:62056** 62G10 (62G05)
— Sequential tests based on rank regression scores. (English summary) *Sequential Anal.* **17** (1998), *no.* 1, 115–122. (Stergios B. Fotopoulos) **99h:62102** 62L10 (62J05)
— *see also* **Hájek, Jaroslav, 99k:01086**
Hüsler, Jürg Extremes: limit results for univariate and multivariate extreme values. (English summary) *8th International Summer School on Probability Theory and Mathematical Statistics* (*Varna*, 1994), 1–36, *Sci. Cult. Technol. Publ., Singapore*, 1996. (H. Vishnu Hebbar) **99a:60052** 60G70 (60F05)
— (*with* Anderson, Clive W.; Coles, Stuart G.) Maxima of Poisson-like variables and related triangular arrays. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 953–971. (Toshio Mori) **99c:60108** 60G70
— Range of bivariate normal random vectors. (English summary) II International Conference in "Stochastic Geometry, Convex Bodies and Empirical Measures" (Agrigento, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 50 (1997), 229–234. (Norbert Henze) **99b:60033** 60F05 (60D05, 60F17, 60G70)
Husnine, S. M. (*with* Aslam, M.; Majeed, Abdul) On invariant subsets of certain quadratic fields under modular group action. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **29** (1996), 21–27. (W. Narkiewicz) **99c:11131** 11R11 (11R04)
— (*with* Kausar, Imrana; Majeed, Abdul) Behaviour of ambiguous and totally positive or negative elements of $\mathbf{Q}^*(\sqrt{n})$ under the action of the modular group. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 11–34. (W. Narkiewicz) **99k:11166** 11R04 (20H05)
— On a characterization of $\widehat{F_4(2)}$, the Ree-extension of the Chevalley group $F_4(2)$. IV. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 41–46. (Summary) **99m:20021** 20D06
— (*with* Kausar, Imrana; Majeed, Abdul) Action of the group $h = \langle t, y: t^3 = y^3 = 1\rangle$ on the quadratic field. (English summary) *Punjab Univ. J. Math.* (*Lahore*) **30** (1997), 47–66. (W. Narkiewicz) **99k:11167** 11R04 (20H05)
Huson, Daniel H. Visualization of periodic tilings. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 135–139, *Springer, Berlin*, 1997. (*see* **99g:68212**) 52C20
— (*with* Dolbilin, Nikolai; Dress, Andreas W. M.) Two finiteness theorems for periodic tilings of d-dimensional Euclidean space. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 143–153. (R. Blind) **99f:52027** 52C22
Husøy, J. H. (*with* Haugland, D.; Heber, J. G.) Compressing data by shortest path methods. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 145–150, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35 (90B12)
Hussain, F. *see* **Hussain, Fazle**
Hussain, Faheem (*with* Blau, Matthias; Thompson, George) Some general aspects of coset models and topological Kazama-Suzuki models. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 541–598. (Summary) **99e:81218** 81T40 (58D29)
— (*with* Blau, Matthias; Thompson, George) Grassmannian topological Kazama-Suzuki models and cohomology. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 599–652. (Summary) **99e:81219** 81T40 (58D29)
— (*with* Iengo, Roberto; Núñez, Carmen A.; Scrucca, Claudio A.) Interactions and dynamics of D-branes. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 413–424, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99g:81166** 81T30
— (*with* Iengo, Roberto; Núñez, Carmen A.; Scrucca, Claudio A.) Closed string radiation from moving D-branes. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 92–124. (Summary) **99a:81141** 81T30
Hussain, Fazle (*with* Schoppa, W.) New aspects of vortex dynamics relevant to coherent structures in turbulent flows. (English summary) *Eddy structure identification* (*Udine*, 1994), 61–143, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (Rupert Klein) **99a:76028** 76C05 (76D99, 76F10)
— (*with* Shtern, Vladimir; Borisov, A. A.) Vortex sinks with axial flow: solution and applications. (English summary) *Phys. Fluids* **9** (1997), *no.* 10, 2941–2959. (Rupert Klein) **99c:76022** 76C05 (76D05)
— (*with* Goldshtik, M.) Analysis of inviscid vortex breakdown in a semi-infinite pipe. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 4, 189–234. (Summary) **99f:76035** 76C05
— (*with* Goldshtik, M.) Inviscid separation in steady planar flows. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 4, 235–266. (Summary) **99f:76038** 76C99 (76C05)
— (*with* Shtern, Vladimir) Instabilities of conical flows causing steady bifurcations. (English summary) *J. Fluid Mech.* **366** (1998), 33–85. (Alexander Lifschitz) **99h:76036** 76Exx (76C05, 76D05, 76D25)
— (*with* Schoppa, W.) Genesis of longitudinal vortices in near-wall turbulence. (English and Italian summaries) Topics in fluid mechanics (Turin, 1998). *Meccanica* **33** (1998), *no.* 5, 489–501. (*see* **99h:76005**) 76F99 (76C05, 76D99)
— (*with* Shtern, Vladimir) Collapse, symmetry breaking, and hysteresis in swirling flows. (English summary) *Annual review of fluid mechanics, Vol.* 31, 537–566, *Annu. Rev. Fluid*

Mech., 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99k:76043** 76D05 (76C05, 76E99)

Hussain, M. (*with* Khalil, Roshdi) Uniformly dominated sets of p-summing operators. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 59–68. (A. Pietsch) **99e:47023** 47B10

Hussain, Malik Zawwar (*with* Butt, Sohail; Sarfraz, Muhammad) Locally constructed C^2 spline. (English summary) *Punjab Univ. J. Math. (Lahore)* **29** (1996), 73–79. (Zygmunt Wronicz) **99d:41014** 41A15 (41A20)

Hussain, Tahir (*with* Ikram, Mohd.) The concept of transportation time in a special class of N-jobs, 2-machines sequencing problem with minimization of a lateness cost function. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 47–53. 90B35 (90B30)

al-Hussaini, Essam K. *see* **Al-Hussaini, Essam K.**

Hussein, H. Attia *see* **Attia Hussein, Hassan**

attia Hussein, Hassan *see* **Attia Hussein, Hassan**

Husseini, Sufian (*with* Fadell, Edward) When are configuration bundles fiber-homotopically trivial? (English and French summaries) Dedicated to the memory of Gilles Fournier (Sherbrooke, PQ, 1997). *Ann. Sci. Math. Québec* **22** (1998), *no.* 2, 149–159. (Summary) **99m:55018** 55R10

Hussen, S. A. (*with* El-Desouky, B. S.) A generalization of a waiting time problem. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 369–374. (Klaus Schürger) **99i:05018** 05A19 (05A10)

Husserl, Edmund *see* **Desanti, Jean-Toussaint**, (**99g:01038**)

Hussien, M. A. (*with* El-Safty, Abdalla) Chebyshev solution for stiff delay differential equations. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 323–335. (Summary) **99m:65153** 65L99 (34A45)

Hussin, V. (*with* Ayari, M. A.; Ayari, M. I.) Computation of Lie supersymmetries for the supersymmetric two bosons equations. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 416–427. (Summary) **99h:81058** 81Q60 (81R05)

— (*with* Frappat, L.; Rideau, Guy) Classification of the quantum deformations of the superalgebra gl(1|1). (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4049–4072. (Robert Rałowski) **99i:81098** 81R50 (17B37)

— (*with* Fernández C., David J.; Mielnik, Bogdan) A simple generation of exactly solvable anharmonic oscillators. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 309–316. (Peter N. Zhevandrov) **99g:81036** 81Q05

Hustadt, Ullrich (*with* Schmidt, Renate A.) Simplification and backjumping in modal tableau. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk, 1998)*, 187–201, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)

Husty, Manfred L. (*with* Zsombor-Murray, P. J.; Gervasi, P.) Geometry in mechanics. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 267–276, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15 (51M99)

— *see also* **Advances in robot kinematics: analysis and control**, **99d:70002**

Hut, Piet (*with* Ruelle, David; Traub, Joseph) Varieties of limits to scientific knowledge. (English summary) *Complexity* **3** (1998), *no.* 6, 33–38. 00A30 (00A35)

Hutchings, Michael The structure of area-minimizing double bubbles. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 2, 285–304. (Rabah Souam) **99j:53010** 53A10 (49Q05)

Hutchinson, Joan P. A note on: "On 2-visibility drawings of non-planar graphs" [Bull. Inst. Combin. Appl. **24** (1998), 24–26; MR 99c:05050] by I. Cahit. *Bull. Inst. Combin. Appl.* **25** (1999), 100. 05C10

Hutchinson, John *see* **Hutchinson, John J.**

Hutchinson, John E. Fractals: a mathematical framework. (English summary) *Complex. Int.* **2** (1995), 14 *HTML documents (electronic)*. 28A80

— (*with* Dziuk, Gerhard) Finite element approximations and the Dirichlet problem for surfaces of prescribed mean curvature. (English summary) *Mathematical visualization (Berlin, 1997)*, 73–87, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65N30

— (*with* Rüschendorf, Ludger) Random fractal measures via the contraction method. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 2, 471–487. (Ben Hambly) **99j:60019** 60D05 (28A80, 60G18, 60G57)

Hutchinson, John J. (*with* Kaiser, Mark J.; Lankarani, Hamid M.) The head injury criterion (HIC) functional. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 1–16. (Summary) **99d:92015** 92C50

Hutchinson, Tim A conjectural extension of the Gross-Zagier formula on singular moduli. (English summary) *Tokyo J. Math.* **21** (1998), *no.* 1, 255–265. (Michel Olivier) **99j:11131** 11R29 (11F03, 11G05, 11R11, 11R65)

Huth, Michael The interval domain: a matchmaker for aCTL and aPCTL. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 15 *pp. (electronic)*, *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (Summary) **99m:68122** 68Q60 (90C40)

Hutson, Alan D. (*with* Mudholkar, Govind S.) Improvements in the bias and precision of sample quartiles. (English summary) *Statistics* **30** (1997), *no.* 3, 239–257. (Summary) **99c:62149** 62G30 (62F12, 62G20)

— (*with* Mudholkar, Govind S.) Hermitian quantile curves as statistical plots. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 3, 783–805. 62G99 (62–09)

— (*with* Mudholkar, Govind S.) LQ-moments: analogs of L-moments. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 191–208. (Summary) **99j:62074** 62G30

Hutson, Vivian (*with* Dockery, Jack; Mischaikow, Konstantin; Pernarowski, Mark) The evolution of slow dispersal rates: a reaction diffusion model. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 61–83. (Si Ning Zheng) **99j:92006** 92D10 (35K57)

— (*with* Mischaikow, Konstantin) An approach to practical persistence. (English summary) *J. Math. Biol.* **37** (1998), *no.* 5, 447–466. (Peter Moson) **99m:92030** 92D25 (39A10, 92D40)

Hutt, Steven On Siebenmann periodicity. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 291–303. (Masayuki Yamasaki) **99f:57024** 57N15

Hüttemann, Andreas Über das Verhältnis von Metaphysik und Physik bei Descartes. (English summary) [On the relationship between metaphysics and physics in Descartes] *Studia Leibnitiana* **28** (1996), *no.* 1, 93–107. (Summary) **99k:01014** 01A45

Hutter, Kolumban (*with* Gödert, Günter) Induced anisotropy in large ice shields: theory and its homogenization. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 5, 293–318. (Summary) **99i:86018** 86A40 (73N20)

— (*with* Wu, Tianhao; Svendsen, B.) On shear flow of a saturated ice-sediment mixture with thermodynamic equilibrium pressure and momentum exchange. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 71–88. (Summary) **99e:86014** 86A40 (73N20, 76A05)

— (*with* dell'Isola, Francesco) What are the dominant thermomechanical processes in the basal sediment layer of large ice sheets? (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1169–1195. (Summary) **99c:86010** 86A60

— (*with* dell'Isola, Francesco) A qualitative analysis of the dynamics of a sheared and pressurized layer of saturated soil. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3105–3120. (Summary) **99j:73087** 73N20 (73Q05, 86A99)

— (*with* Weis, Magnus; Greve, R.) Theory of shallow ice shelves. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 1, 15–50. (Summary) **99m:86017** 86A40 (73N20)

Huttner, Bruno (*with* Bechmann-Pasquinucci, H.; Gisin, Nicolas) Non-linear quantum state transformation of spin-1/2. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 198–204. (Summary) **99b:81028** 81P99

nguyen-Huu-Bong *see* **Nguyen-Huu-Bong**

nguyen Huu Cong *see* **Nguyen Huu Cong**

nguyễn Hữu Dư *see* **Nguyễn Hữu Dư**

Huuhtanen, Pentti Stochastic complexity and the MDL principle in density function estimation. (English summary) Dissertation, University of Tampere, Tampere, 1998. *Acta Univ. Tampere.* **611** (1998), 109 *pp.* (Summary) **99d:62034** 62G05 (68Q30)

phạm Hữu Sách *see* **Phạm Hữu Sách**

nguyễn Hữu Việt Hưng *see* **Nguyễn Hữu Việt Hưng**

Huwendiek, O. (*with* Brockmann, Werner) Function approximation with decomposed fuzzy systems. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 273–286. (*see* **99k:93004**) 93C42 (65D15)

Huxley, M. N. Moments of differences between square-free numbers. *Sieve methods, exponential sums, and their applications in number theory (Cardiff, 1995)*, 187–204, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (S. W. Graham) **99j:11103** 11N25

— *see also* **Sieve methods, exponential sums, and their applications in number theory**, **99b:11004**

ha Huy Bang *see* **Ha Huy Bang**

Huybrechts, Cécile (*with* Pasini, Antonio) A characterization of the Hall-Janko group J_2 by a $c.L^*$-geometry. (English summary) *Groups and geometries (Siena, 1996)*, 91–106, *Trends Math., Birkhäuser, Basel*, 1998. (Alberto Delgado) **99i:51011** 51E24 (20D08, 20E32)

— (*with* Pasini, Antonio) Flag-transitive extensions of dual projective spaces. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 341–352. (M. J. Kallaher) **99h:51015** 51E24

Huyer, Waltraud Well-posedness of a linear age-dependent population model with spatial diffusion in L^2. (English summary) *Advances in mathematical population dynamics—molecules, cells and man (Houston, TX, 1995)*, 713–732, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:92027** 92D25 (35K99, 35Q80, 47D06, 47N20)

— On periodic cohort solutions of a size-structured population model. (English summary) *J. Math. Biol.* **35** (1997), *no.* 8, 908–934. (Jiong Yu Wu) **99c:92040** 92D25 (34C25)

Huygens, Constantyn *see* **Vilain, Christiane**, (**99h:01003**)

Huyghe, C. $\mathscr{D}^1$-affinité de l'espace projectif. (English summary) [$\mathscr{D}^1$-affineness of projective space] With an appendix by P. Berthelot. *Compositio Math.* **108** (1997), *no.* 3, 277–318. (Stéphane Guillermou) **99c:14031** 14F20 (11G99, 14F30)

dinh Huy Hoang *see* **Đinh Huy Hoàng**

ha Huy Khoai *see* **Hà Huy Khoái**

Huyn, Nam Efficient complete local tests for conjunctive query constraints with negation. (English summary) *Database theory—ICDT '97 (Delphi)*, 83–97, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15

Huynh, Cam-Loi (*with* Xiong, Zheng Xin; Sinha, Snehesh Kumar) Efficiency of estimates for reliability function of exponential distribution in life testing. (English summary) *J. Statist. Res.* **30** (1996), *no.* 2, 47–56. 62N05

hà Huy Vui *see* **Hà Huy Vui**

Huzak, Miljenko Parameter estimation of diffusion models. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 129–134. (Summary) **99f:92020** 92D25

— Parameter estimation of diffusion models from discrete observations. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 2, 221–225. 62M09

Hvala, Bojan Generalized derivations in rings. *Comm. Algebra* **26** (1998), *no.* 4, 1147–1166. (Andrzej Trzepizur) **99a:16028** 16W25

— (*with* Brešar, Matej) On additive maps of prime rings. II. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 39–54. (J. Hausen) **99m:16035** 16N60 (16R50, 16W25)

Hvidsten, Per Øyvind (*with* Andreassen, Øyvind; Fritts, David C.; Arendt, Steve) Vorticity dynamics in a breaking internal gravity wave. I. Initial instability evolution. (English summary) *J. Fluid Mech.* **367** (1998), 27–46. (From the summary) **99d:76021a** 76C10 (76E99, 76V05)

Hvistendahl Karlsen, K. *see* **Karlsen, Kenneth Hvistendahl**

Hwa, Rudolph C. (*with* Cao, Zhen) Phase transition in evolutionary games. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 10, 1551–1559. 90D12

Hwang, Chuang-Chi (*with* Lai, Wei Kuang; Hsiao, Wen Jiunn) A proportional feedback scheme for ATM networks. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 237–253. 93B51 (90B12)

Hwang, Chul Ju (*with* Chang, Gyu Whan) Prüfer v-multiplication domains in which each t-ideal is divisorial. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 259–268. (Sylvia Wiegand) **99i:13001** 13A15 (13F05)

Hwang, Chyi (*with* Hwang, Jyh-Haur; Tsay, Sun-Yuan) Numerical computation of cross-covariance functionals for linear systems with multiple time delays. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 4, 409–423. 65K10 (93E11)

— (*with* Leu, Jeng-Fan; Jang, Jyh-Cheng) Computation of Battle-Lemarie wavelets using an FFT-based algorithm. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 485–504.

65T20 (42C15)
— (*with* Chen, Jyh-Jia) Plotting robust root loci for linear systems with multilinearly parametric uncertainties. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 501–511. 93D09 (93B40)
Hwang, Dae Sung Topological Yang-Mills theory from non-commutative geometry. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 204–208, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81256** 81T70 (58B30, 81T13)
— (*with* Kim, Gwang-Hee) Wess-Zumino term and phase-space structure of the spin system through the path integral. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 223–228. (Summary) **99a:82028** 82B21 (81S40)
Hwang, Dah-Yan Generalizations of Copson's inequalities involving series of positive terms. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 29–39. (B. G. Pachpatte) **99f:26030** 26D15
Hwang, Frank K. (*with* Richards, G. W.) Extended generalized shuffle networks: sufficient conditions for strictly nonblocking operation. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 15–48, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:94073** 94C10
— (*with* Chang, Gerard J.; Tong, Li-Da) Characterizing bit permutation networks. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 157–167, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (W.-K. Chen) **99h:94088** 94C10 (90B12, 94C05)
— (*with* Lin, Wen-Dar) The number of rearrangements in a 3-stage Clos network using an auxiliary switch. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 204–212, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 90B10 (90C35)
— (*with* Xue, Guo Liang; Du, Ding Zhu) Faster algorithm for shortest network under given topology. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 137–152, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Author's review (D.-Z.D.)) **99f:90173** 90C35 (52B55, 68Q25, 90C27)
— (*with* Yeh, Hong-Gwa; Liaw, Sheng-Chyang; Chang, Gerard J.) Enumerating partitions with given part-sizes. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 33–38. (Summary) **99b:11115** 11P81 (05A17)
— (*with* Chang, Gerard J.) Enumerating consecutive and nested partitions for graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 63–70. (Gerard Sierksma) **99b:05006** 05A18 (05C99)
— (*with* Onn, Shmuel; Rothblum, Uriel G.) Representations and characterizations of vertices of bounded-shape partition polytopes. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 263–284. (Jesús A. de Loera) **99f:52014** 52B12 (05A18, 90C27)
— (*with* Chang, Gerard J.; Chen, Fu-Loong; Huang, Lingling; Nuan, Su-Tzu; Rothblum, Uriel G.; Sun, I-Fan; Wang, Jan-Wen; Yeh, Hong-Gwa) Sortabilities of partition properties. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 413–427. (Summary) **99k:90129** 90C27 (90C10)
— (*with* Du, Ding Zhu; Gao, Biao; Kim, Jeong Han) On multirate rearrangeable Clos networks. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 464–471 (*electronic*). (Summary) **99h:94093** 94C15 (05C90)
— *see also* **Advances in switching networks, 99a:94001**
Hwang, Hark-Chin (*with* Chang, Soo Young) Parallel machines scheduling with machine shutdowns. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 21–31. (Summary) **99c:90065** 90B35
Hwang, Ho Jin (*with* Cho, Yeol Je) Iterative process with errors for m-accretive operators in Banach spaces. (English summary) *Nonlinear Anal. Forum* **3** (1998), 75–88. (Charles Ejike Chidume) **99j:47099** 47H17 (47H15)
Hwang, Hong-Sub (*with* Baik, Jong-Jin; Chun, Hye-Yeong) Transient, linear dynamics of a stably stratified shear flow with thermal forcing and a critical level. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 4, 483–499. (Summary) **99j:86009** 86A10 (76V05)
Hwang, Hong-Yeon (*with* Lee, Ho-Pyeong) Design of two-degree-of-freedom robust controllers for a seeker scan loop system. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 517–537. 93B36 (93C95)
Hwang, Hsien-Kuei Limit theorems for mergesort. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 4, 319–336. (István Ratkó) **99c:68062** 68P10 (68Q25)
— Asymptotic expansions of the mergesort recurrences. (English summary) *Acta Inform.* **35** (1998), *no.* 11, 911–919. (Summary) **99i:68025** 68P10
— Large deviations of combinatorial distributions. II. Local limit theorems. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 163–181. (Rita Giuliano Antonini) **99i:60056** 60F10 (60C05)
— (*with* Bai, Zhi-Dong; Chao, Chern-Ching; Liang, Wen-Qi) On the variance of the number of maxima in random vectors and its applications. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 886–895. (Ilya S. Molchanov) **99f:60019** 60D05 (65Y25, 68Q25)
— A Poisson $*$ geometric convolution law for the number of components in unlabelled combinatorial structures. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 89–110. (Arnold Knopfmacher) **99e:05012** 05A16 (60C05)
— On convergence rates in the central limit theorems for combinatorial structures. (English summary) *European J. Combin.* **19** (1998), *no.* 3, 329–343. (Summary) **99c:60014** 60C05 (05A99, 60F05)
— (*with* Chao, Chern-Ching; Liang, Wen-Qi) Expected measure of the union of random rectangles. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 495–500. (Summary) **99e:60037** 60D05
— Sur la répartition des valeurs des fonctions arithmétiques. Le nombre de facteurs premiers d'un entier. (English summary) [On the distribution of the values of arithmetical functions. The number of prime factors of an integer] *J. Number Theory* **69** (1998), *no.* 2, 135–152. (Summary) **99d:11100** 11N25 (11N37, 11N64)
— A Poisson $*$ negative binomial convolution law for random polynomials over finite fields. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 17–47. (Andrew D. Barbour) **99e:11149** 11T06 (05A16, 11K99, 60C05)
— (*with* Bai, Zhi-Dong; Liang, Wen-Qi) Normal approximations of the number of records in geometrically distributed random variables. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 319–334. (Peter Kirschenhofer) **99k:60051** 60F05 (60F10, 60G70)
— Corrections to: "Asymptotic behaviour of some infinite products involving prime numbers" [Acta Arith. **75** (1996), no. 4, 339–350; MR 97d:11140]. *Acta Arith.* **87** (1999), *no.* 4, 391. 11N25
— (*with* Chen, Wei-Mei; Chen, Gen-Huey) The cost distribution of queue-mergesort, optimal mergesorts, and power-of-2 rules. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 423–448. (Ranjan Chaudhuri) **99k:68035** 68P10 (68Q25)
Hwang, J. T. Gene (*with* Brown, Lawrence D.; Munk, Axel) An unbiased test for the bioequivalence problem. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2345–2367. (Holger Dette) **99b:62025** 62F04 (62P10)
— (*with* Wang, Weizhen) The validity of the test of individual equivalence ratios. (English summary) *Biometrika* **84** (1997), *no.* 4, 893–900. (Summary) **99d:62093** 62P10
— (*with* Tsao, Chen-Hai Andy) Improved confidence estimators for Fieller's confidence sets. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 299–310. (Summary) **99e:62033** 62F25 (62C15)
Hwang, Jeng-Yan (*with* Ho, Tung-Yang; Sung, Ting-Yi; Hsu, Lih-Hsing; Tsai, Chang-Hsiung) The recognition of double Euler trails in series-parallel networks. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 216–257. (András Recski) **99m:94072** 94C15 (05C45, 05C85, 68R10)
Hwang, Jenn-Fang (*with* Chen, Chiun-Chuan) $\sum_{j=1}^{\infty} e^{i\sqrt{j}x}$ is a C^∞ function on $\mathbf{R} \setminus \{0\}$. (English summary) *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 51–58, *Internat. Press, Cambridge, MA*, 1997. (Friedbert Prüfer) **99b:58229** 58G25 (53C22, 58E10)
— Catenoid-like solutions for the minimal surface equation. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 91–102. (Karsten Grosse-Brauckmann) **99d:58041** 58E12 (53A10)
Hwang, Jinsoo Convergence of score process in the Cox proportional hazards model. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 117–130. (Ulrich Mansmann) **99a:62116** 62L05 (62M05)
Hwang, Jun-Muk (*with* Mok, Ngaiming) Uniruled projective manifolds with irreducible reductive G-structures. *J. Reine Angew. Math.* **490** (1997), 55–64. (From the introduction) **99h:32034** 32L07 (14J60, 53C10)
— (*with* Mok, Ngaiming) Rigidity of irreducible Hermitian symmetric spaces of the compact type under Kähler deformation. *Invent. Math.* **131** (1998), *no.* 2, 393–418. (Kimio Miyajima) **99b:32027** 32G05 (32J27, 32M15)
— Stability of tangent bundles of low-dimensional Fano manifolds with Picard number 1. *Math. Ann.* **312** (1998), *no.* 4, 599–606. (Bernd Kreussler) **99i:14045** 14J45 (14J60, 32L30)
Hwang, Jyh-Haur (*with* Tsay, Sun-Yuan; Hwang, Chyi) Numerical computation of cross-covariance functionals for linear systems with multiple time delays. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 4, 409–423. 65K10 (93E11)
Hwang, K.-C. *see* **Huang, Ke Zhi**
Hwang, Lihui (*with* Cao, Feng[1]; Du, Ding Zhu; Hsu, D. Frank; Wu, Weili) Super line-connectivity of consecutive-d digraphs. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 27–38. (A. Ádám) **99b:05071** 05C20 (05C40)
Hwang, Min-Shiang An improvement of a dynamic cryptographic key assignment scheme in a tree hierarchy. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 19–22. 94A60
Hwang, S. Y. *see* **Hwang, Sun Young**
Hwang, Seungsu A rigidity theorem for Ricci flat metrics. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 5–17. (Man Chun Leung) **99d:53042** 53C25 (53C80)
Hwang, Shin-Chul (*with* Yoon, Dall Sun) On the irreducible quintic polynomial over the rational number field. *Honam Math. J.* **20** (1998), *no.* 1, 21–29. (Charles Helou) **99e:11111** 11L05 (11R09)
Hwang, Shin-Feng (*with* Yeh, Li-Rong) Analysis of large deformation of a nonprismatic beam. (English summary) *Taiwanese J. Math.* **3** (1999), *no.* 1, 89–106. (Summary) **99m:73043** 73K05 (34B15, 73H05)
Hwang, Shiow-Fen (*with* Chang, Gerard J.) k-neighborhood-covering and -independence problems for chordal graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 633–643 (*electronic*). (Douglas F. Rall) **99g:05144** 05C70 (05C85, 68R10)
Hwang, Shiuh-Nan (*with* Lin, Chin-Tsai) A generalization of Chang and Lin's model in a multi-location newsboy problem. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 2, 11–18. 90B05
Hwang, Stephen (*with* Rhedin, Henric) States in the BRST cohomology for G/H WZNW models. *Strings* '95 (*Los Angeles, CA*, 1995), 247–248, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T40 (17B81, 81T70)
— The semi-infinite cohomology of affine Lie algebras. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 591–611. (Elena Poletaeva) **99e:17033** 17B56 (17B10)
— Unitarity of strings and non-compact Hermitian symmetric spaces. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 331–336. (Summary) **99j:81166** 81T40 (53C80, 81T30)
Hwang, Suk-Geun (*with* Kräuter, Arnold R.) Comparison of permanental bounds of (0, 1)-matrices. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 133–144. (Jorma Kaarlo Merikoski) **99f:15006** 15A15 (33B15)
— (*with* Lee, Jae Don; Park, Hong-Sun) Permanents of doubly stochastic kite matrices. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 423–432. (Thomas H. Foregger) **99c:15008** 15A15 (15A51)
— (*with* Shao, Jia-Yu) Generalized exponents of non-primitive graphs. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 207–225. (Thomas H. Foregger) **99g:05092** 05C20
— (*with* Kräuter, Arnold R.; Michael, T. S.) An upper bound for the permanent of a nonnegative matrix. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 259–263. (Peter M. Gibson) **99k:15011** 15A15
Hwang, Sun Young (*with* Park, Sangwoo; Cho, Sinsup) The asymptotic variance of the Studentized residual autocorrelations for a generalized random coefficient autoregressive processes. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 531–541. (Summary) **99c:62259** 62M10
— (*with* Park, Sangwoo; Lee, Sangyeol) Testing the randomness of the coefficients in first order autoregressive processes. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 189–195. (Summary) **99j:62132** 62M10

— (*with* Basawa, I. V.) Parameter estimation for generalized random coefficient autoregressive processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 323–337. (Jiří Anděl) **99e:62157** 62M10

Hwang, Sunwook A vertex property of real function algebras. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 65–72. (W. T. Whitley) **99g:46070** 46J10

Hwang, Tzonelih (*with* Wang, Chih-Hung) Arbitrated unconditionally secure authentication scheme with multi-senders. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 4, 189–193. (Summary) **99d:94026** 94A60

Hwu, Chyanbin (*with* Fan, Cheng Wen) Mixed boundary-value problems of two-dimensional anisotropic elasticity with perturbed boundaries. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1269–1282. (Igor Yu. Chudinovich) **99f:73029** 73C35 (73B40)

Hyassat, Khaled The averaging method in noncoalitive differential games. (English summary) *Internat. J. Appl. Sci. Comput.* **5** (1998), *no.* 2, 197–200. 90D25

Hydon, P. E. Discrete point symmetries of ordinary differential equations. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1961–1972. (Summary) **99d:34016** 34A25 (34A26)

Hyers, Donald H. (*with* Isac, George; Rassias, Themistocles M.) ★ Stability of functional equations in several variables. (English summary) Progress in Nonlinear Differential Equations and their Applications, 34. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *vi*+313 *pp. ISBN* 0-8176-4024-X (Zygfryd Kominek) **99i:39035** 39Bxx (39-02, 47H99)

Hyland, David C. (*with* Haddad, Wassim M.; Collins, Emmanuel G., Jr.; Chellaboina, Vijaya-Sekhar) Frequency-domain performance bounds for uncertain structures with sensor and actuator dynamics. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 381–392. 93C80 (93C42)

— (*with* Collins, Emmanuel G., Jr.; Haddad, Wassim M.; Hunter, Douglas L.) Neural network system identification for improved noise rejection. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 233–258. 93B30 (93C95)

— (*with* Haddad, Wassim M.; Razavi, Ali) Active vibration isolation of multi-degree-of-freedom systems. (English summary) *J. Vib. Control* **5** (1999), *no.* 4, 577–589. 93D15 (76Q05)

Hyland, J. Martin E. (*with* Moggi, Eugenio) The S-replete construction. *Category theory and computer science (Cambridge, 1995)*, 96–116, *Lecture Notes in Comput. Sci.*, 953, *Springer, Berlin*, 1995. (Ioan Tofan) **99i:03084** 03G30 (18D15, 68Q55)

— Game semantics. *Semantics and logics of computation (Cambridge, 1995)*, 131–184, *Publ. Newton Inst.*, 14, *Cambridge Univ. Press, Cambridge*, 1997. (*see* **99h:68111**) 68Q55 (03B70, 68N15)

Hyland, K. E. (*with* McKee, Sean; Reeks, M. W.) Exact analytic solutions to turbulent particle flow equations. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1249–1261. (Summary) **99m:76072** 76F99 (76M35)

Hyland, Martin *see* **Hyland, J. Martin E.**

Hyman, James M. (*with* Li, Jia^2) Disease transmission models with biased partnership selection. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 379–392. (Ralf-Dieter Hilgers) **99d:92041** 92D30 (34C99)

— (*with* Shashkov, Mikhail) Adjoint operators for the natural discretizations of the divergence, gradient and curl on logically rectangular grids. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 413–442. (Sui Yang Chen) **99c:39018** 39A12 (65C20, 65N06)

— (*with* Shashkov, Mikhail) Approximation of boundary conditions for mimetic finite-difference methods. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 79–99. (Summary) **99d:65298** 65N06

— (*with* Moulton, J. David; Dendy, Joel E., Jr.) The black box multigrid numerical homogenization algorithm. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 1, 80–108. (Summary) **99a:76116** 76M25 (73B27, 76S05)

— (*with* Camassa, Roberto; Luce, Benjamin P.) Nonlinear waves and solitons in physical systems. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 1–20. (*see* **99h:00031**) 35Q51 (35Q53, 76B15)

— (*with* Rosenau, Philip) Pulsating multiplet solutions of quintic wave equations. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 502–512. (Summary) **99j:35187** 35Q53

— (*with* Li, Jia^2) Modeling the effectiveness of isolation strategies in preventing STD epidemics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 912–925 (*electronic*). (Summary) **99c:92052** 92D30 (34D20, 58F40)

— *see also* **Nonlinear waves and solitons in physical systems, 99h:00031**

Hynds, Emily A. (*with* Gould, Ronald J.) A note on cycles in 2-factors of line graphs. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 46–48. (Summary) **99m:05085** 05C38 (05C70)

Hynne, F. (*with* Ipsen, M.; Sørensen, Preben Graae) Systematic derivation of amplitude equations and normal forms for dynamical systems. (English summary) *Chaos* **8** (1998), *no.* 4, 834–852. (Jialin Hong) **99k:58165** 58F36 (34C20, 34C23)

Hyry, Eero (*with* Villamayor U., Orlando E.) A Briançon-Skoda theorem for isolated singularities. (English summary) *J. Algebra* **204** (1998), *no.* 2, 656–665. (Ian M. Aberbach) **99f:13024** 13H10 (13B22)

— The diagonal subring and the Cohen-Macaulay property of a multigraded ring. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2213–2232. (Ngô Viêt Trung) **99i:13005** 13A30 (13D45, 13H10)

Hyttinen, Tapani On nonstructure of elementary submodels of a stable homogeneous structure. (English summary) *Fund. Math.* **156** (1998), *no.* 2, 167–182. (Fuxing Shen) **99i:03034** 03C45

— Generalizing Morley's theorem. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 176–184. (O. V. Belegradek) **99d:03032** 03C45 (03C35, 03C50)

Hyun, Jae Min (*with* Kwak, Ho Sang; Kuwahara, Kunio) Symmetric flow of a modified Hadley cell model with a free surface. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 81–109. (Summary) **99c:76048** 76E20 (76M25, 76R05, 86A10)

Hyun, Jong-Ik Kaehler submanifolds with $RS = 0$ in a complex projective space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 685–690. (Florentino García Santos) **99h:53094** 53C55 (53C25)

Hyun, Seungjoon The background geometry of DLCQ supergravity. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 116–122. (Summary) **99h:83054** 83E30 (81T30, 83E50)

— (*with* Kiem, Youngjai; Shin, Hyeonjoon) Infinite Lorentz boost along the M-theory circle and nonasymptotically flat solutions in supergravities. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4856–4861. (Summary) **99k:83121** 83E30 (81T30, 83E50)

— (*with* Kiem, Youngjai; Shin, Hyeonjoon) Effective action for membrane dynamics in DLCQ M theory on a two-torus. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 021901, 4 *pp.* 81T30

Hyvönen, Saara Convergence of the Arnoldi process when applied to the Picard-Lindelöf iteration operator. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 2, 303–320. (John W. Mooney) **99f:47016** 47A50 (47N40, 65L06)

–I–

Iachello, F. Algebraic methods in physics. *Symmetries in science, X* (*Bregenz*, 1997), 135–143, *Plenum, New York*, 1998. (U. Cattaneo) **99m:81073** 81R05 (81V35, 81V45, 81V55)

— (*with* Bijker, Roelof; Santopinto, E.) Algebraic treatment of the hyper-Coulomb problem. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9041–9054. (A. Ventura) **99j:81206** 81V25 (81R05)

Iacob, Andrei *see* **Arnol'd, Vladimir Igorevich et al., 99f:58024** *and* **Eidelman, Samuil D., 99h:35080**

Iacob, Maria-Eugenia (*with* Soltan, V. P.) On geodetic characteristic of networks. (English summary) *Stud. Cerc. Mat.* **46** (1994), *no.* 5, 521–527. 90C35 (05C12, 54E35)

— Optimization of d-convex functions on networks. (Romanian summary) *Studia Univ. Babeş-Bolyai Math.* **40** (1995), *no.* 3, 45–58. (Behnam B. Malakooti) **99c:90146** 90C35 (05C90)

Iacobini, Fabio (*with* d'Amore, Fabrizio) On-line algorithms for networks of temporal constraints. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 144–156, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68T20

Iagolnitzer, Daniel (*with* Magnen, Jacques) Locally self-avoiding walks. *Functional integration* (*Cargèse*, 1996), 309–325, *NATO Adv. Sci. Inst. Ser. B Phys.*, 361, *Plenum, New York*, 1997. (Stuart G. Whittington) **99a:82045** 82B41

— *see also* **Lectures: Fields Medallists, 99b:00010**

Iaia, Joseph A. (*with* Warchall, Henry A.; Weissler, Fred B.) Localized solutions of sublinear elliptic equations: loitering at the hilltop. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1131–1157. (Summary) **99e:35148** 35L70 (34B15, 35B05, 35J60)

— (*with* Warchall, Henry A.) Encapsulated-vortex solutions to equivariant wave equations: existence. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 118–139 (*electronic*). (Spyridon Kamvissis) **99h:35198** 35Q55 (34B15, 35Q53)

Iancu, G. M. (*with* Wong, Man Wah) Spectra and dynamics of convolution operators. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 61–71. (Rémi Vaillancourt) **99c:47037** 47B38 (42B15)

Iancu, Ion Some applications of Pedrycz's operator. (English summary) *Comput. Artificial Intelligence* **17** (1998), *no.* 1, 83–97. (Claudi Alsina) **99d:03021** 03B52 (04A72, 68T30, 94D05)

— A method for constructing t-norms. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 407–414. (From the text) **99e:94060** 94D05

— Connectives for fuzzy partitions. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 509–512. (Summary) **99i:03067** 03E72

Iancu, Lăcrimioara (*with* Pop, Maria S.) A Post type theorem for (m, n) fields. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A* (*Arad*, 1996), 13–18, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 16Y99

— Redefining n-modules. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 111–122. 16D99

Iankov, P. *see* **Yankov, P.**

Iannacci, R. (*with* Bersani, A. M.; Dell'Acqua, G.; Santucci, P.) Embedding theorems for Sobolev-Besicovitch spaces of almost periodic functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 443–457. (J. Musielak) **99e:46041** 46E35 (42A75)

Iannelli, J. S. (*with* Baker, Allen Jerome; Roy, Subrata; Chaffin, D. J.) On some recent adventures into improved finite element CFD methods for convective transport. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 27–42. (From the summary) **99d:76056** 76M10 (65M60, 76Rxx)

Iannelli, Mimmo (*with* Barbu, Viorel) The semigroup approach to non-linear age-structured equations. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 59–71 (1997). (Paolo Acquistapace) **99h:35107** 35K60 (34G20, 34K30, 35Q80, 47H20, 92D25)

— (*with* Cha, Youngjoon; Milner, Fabio A.) Are multiple endemic equilibria possible? (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 779–788, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:92022** 92D25

— (*with* Cha, Youngjoon; Milner, Fabio A.) Existence and uniqueness of endemic states for the age-structured S-I-R epidemic model. (English summary) *Math. Biosci.* **150** (1998), *no.* 2, 177–190. (Summary) **99g:92036** 92D30

— (*with* Aniţa, Sebastian[2]; Kim, Mi-Young[2]; Park, Eun-Jae) Optimal harvesting for periodic age-dependent population dynamics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1648–1666 (*electronic*). (George Karakostas) **99k:92021** 92D25 (35Q80, 45K05, 49K20, 90A30)

— (*with* Kim, Mi-Young[2]; Park, Eun-Jae) Asymptotic behavior for an SIS epidemic model and its approximation. *Nonlinear Anal.* **35** (1999), *no.* 7, *Ser. A: Theory Methods*, 797–814. (V. N. Razzhevaikin) **99k:92042** 92D30 (35Q80)

Iannelli, Pasquale (*with* Baigent, Steve; Stark, Jaroslav) Inertial manifolds for dynamics of cells coupled by gap junction. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 2, 187–213. (Boris G. Zaslavskiĭ) **99j:92004** 92C30 (34D45, 34G20, 58F40)

di Ianni, Miriam *see* **Di Ianni, Miriam**

Iantchenko, Alexei La forme normale de Birkhoff pour un opérateur intégral de Fourier. (English summary) [The Birkhoff normal form for a Fourier integral operator] *Asymptot. Anal.* **17** (1998), *no.* 1, 71–92. (Luigi Rodino) **99e:58180** 58G15 (35S30, 47G30)

Ianuş, Stere (*with* Călin, O.) A note on harmonic maps of semi-Riemannian manifolds. (English summary) *Proceedings of the Workshop on Global Analysis, Differential Geometry and Lie Algebras* (*Thessaloniki*, 1995), 33–37, *BSG Proc.*, 1, *Geom. Balkan Press, Bucharest*, 1997. (Anne-Joëlle Vanderwinden) **99j:58054** 58E20

— (*with* Vişinescu, Mihai) Space-time compactification in Kaluza-Klein theories and Riemannian submersions. (English summary) Collection of papers in honour of Academician Radu Miron on his 70th birthday. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 9-10, 775–786. (Gheorghe Zet) **99j:83064** 83E15 (53C15, 53C80)

— (*with* Rizza, Giovanni Battista) Totally umbilical submanifolds: some remarks. (Italian summary) *Riv. Mat. Univ. Parma* (5) **6** (1997), 213–218 (1998). (Bang-yen Chen) **99e:53075** 53C40

— (*with* Bârză, Ilie; Ghişa, D.) Some remarks on the nonorientable surfaces. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 47–54. (Antonio F. Costa) **99i:30065** 30F50

— (*with* Rizza, Giovanni Battista) Some submanifolds of a para-Kähler manifold. (Italian summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 1, 71–80. (Andrew Bucki) **99e:53076** 53C40 (53C15)

— (*with* Pastore, Anna Maria) Harmonic maps and f-structures with parallelizable kernel. *New developments in differential geometry, Budapest* 1996, 143–154, *Kluwer Acad. Publ., Dordrecht*, 1999. (Cornelia-Livia Bejan) **99m:58064** 58E20 (53C15)

Iarovici, A. (*with* Visarion, V.) The homogeneous-invariant theory for thin elastic shells. Applications for dynamic calculus. (English and Russian summaries) *J. Theoret. Appl. Mech.* **26** (1996), *no.* 4, 7, 68–81. 73K15

Iavernaro, Felice (*with* Mazzia, Francesca) Convergence and stability of multistep methods solving nonlinear initial value problems. (English summary) Dedicated to C. William Gear on the occasion of his 60th birthday. *SIAM J. Sci. Comput.* **18** (1997), *no.* 1, 270–285. (Severiano Gonzalez-Pinto) **99c:65126** 65L05 (65L06, 65L12, 65L20)

— (*with* La Scala, Massimo; Mazzia, Francesca) Boundary values methods for time-domain simulation of power system dynamic behavior. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 50–63. (Summary) **99b:65094** 65L99 (34A45, 65Y05, 94A05)

Ibănescu, L. (*with* Cazacu, Costică) Semigroups of RN-algorithms. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform.* (*N.S.*) **5/6** (1996/97), 35–48 (1998). (Summary) **99c:68106** 68Q20

cuchillo-Ibáñez, E. *see* **Cuchillo-Ibáñez, E.**

angulo Ibañez, J. M. *see* **Angulo Ibañez, J. M.**

Ibáñez, Jesus (*with* Olasagasti, I.) On the evolution of a large class of inhomogeneous scalar-field cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1937–1950. (Victor G. LeBlanc) **99j:83021** 83C20

— (*with* Billyard, Andrew; Coley, Alan A.) Asymptotic behavior of cosmological models in scalar-tensor theories of gravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 023507, 9 *pp.* 83D05 (83F05)

Ibáñez, Luis E. Strings, unification and dilaton/moduli-induced SUSY-breaking. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 249–269, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81268** 81V22 (81T30)

— A chiral $D = 4$, $N = 1$ string vacuum with a finite low energy effective field theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 2, 10 *pp.* (*electronic*). (Summary) **99d:81118** 81T30 (83E30)

— (*with* Burgess, Clifford P.; Quevedo, Fernando) Strings at the intermediate scale or is the Fermi scale dual to the Planck scale? (English summary) *Phys. Lett. B* **447** (1999), *no.* 3-4, 257–265. (Summary) **99k:81344** 81V22 (81T30)

de campos Ibáñez, Luis Miguel *see* **de Campos Ibáñez, Luis Miguel**

Ibáñez, Raúl Coeffective-Dolbeault cohomology of compact indefinite Kähler manifolds. *Osaka J. Math.* **34** (1997), *no.* 3, 553–571. (Luis Ugarte) **99i:53071** 53C55 (53C15, 53C50, 58G05)

— (*with* de León, Manuel; Marrero, Juan Carlos; Martín de Diego, David) Nambu-Poisson dynamics. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 405–413. (Frans Cantrijn) **99h:58063** 58F05 (70H05, 70H99)

— (*with* Fernández, Marisa; de León, Manuel) Coeffective and de Rham cohomologies on almost contact manifolds. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 285–303. (Luis Ugarte) **99f:53028** 53C15 (58G05)

— (*with* Fernández, Marisa; de León, Manuel) The canonical spectral sequences for Poisson manifolds. (English summary) *Israel J. Math.* **106** (1998), 133–155. (Juan Carlos Marrero Gonzalez) **99k:58067** 58F05 (53C15, 55T99, 57R15, 58A12)

— (*with* Fernández, Marisa; de León, Manuel) Coeffective and de Rham cohomologies of symplectic manifolds. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 281–296. (Domingo Chinea) **99k:53053** 53C15 (58A12)

— (*with* de León, Manuel; Marrero, Juan Carlos) Homology and cohomology on generalized Poisson manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1253–1266. (Frans Cantrijn) **99f:53029** 53C15 (55T99, 58F05)

— (*with* de León, Manuel; Marrero, Juan Carlos; Padrón, Edith) Nambu-Jacobi and generalized Jacobi manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1267–1286. (Frans Cantrijn) **99f:53030** 53C15 (58F05)

Ibáñez, S. (*with* Dumortier, Freddy) Singularities of vector fields on $\mathbf{R}^3$. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 1037–1047. (Robert Roussarie) **99h:58133** 58F14 (34C05, 34C23, 58F21)

Ibáñez Pérez, M. J. (*with* Barrera Rosillo, D.; López Carmona, A.) Hermite interpolation via finite elements. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 20 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65D15 (41A10)

Ibaraki, Toshihide (*with* Ishii, Toshimasa; Nagamochi, Hiroshi) Augmenting edge and vertex connectivities simultaneously. (English summary) *Algorithms and computation* (*Singapore*, 1997), 102–111, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:05109** 05C85 (68R10)

— (*with* Eiter, Thomas; Makino, Kazuhisa) Two-face Horn extensions. (English summary) *Algorithms and computation* (*Singapore*, 1997), 112–121, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68171** 68T05 (68N17, 68T35)

— (*with* Boros, Endre; Hammer, Peter L.; Kogan, Alexander[1]) Logical analysis of numerical data. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 163–190. (Béla Vizvári) **99c:90079** 90C09 (65Y20, 90C27)

— (*with* Nonobe, Koji) The tabu search approach: a widely used algorithm for CSPs (constraint satisfaction problems). (Japanese. English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 124–136. (*see* **99b:90009**) 90C27 (90C10)

— (*with* Deng, Xiao Tie; Nagamochi, Hiroshi) Some duality properties of combinatorial optimization games. (English summary) Optimization theory in discrete and continuous

mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 137–149. (Summary) **99e:90124** 90D46

— (*with* Eiter, Thomas; Makino, Kazuhisa) Computing intersections of Horn theories for reasoning with models. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 292–297, *MIT Press, Cambridge, MA*, 1998. (Summary) **99g:68190** 68T27 (03B70, 68T30)

— (*with* Yagiura, Mutsunori) Efficient 2 and 3-flip neighborhood search algorithms for the MAX SAT. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 105–116, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25

— (*with* Katoh, Naoki) Resource allocation problems. *Handbook of combinatorial optimization, Vol.* 2, 159–260, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90B80)

— (*with* Ishii, Toshimasa; Nagamochi, Hiroshi) Optimal augmentation to make a graph k-edge-connected and triconnected. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 280–289, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C40, 05C85, 68Q25)

— (*with* Eiter, Thomas; Makino, Kazuhisa) On disguised double Horn functions and extensions. (English summary) *STACS* 98 (*Paris*, 1998), 50–60, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68N17 (06E30)

— (*with* Karzanov, A. V.; Nagamochi, Hiroshi) A fast algorithm for finding a maximum free multiflow in an inner Eulerian network and some generalizations. (English summary) *Combinatorica* **18** (1998), *no.* 1, 61–83. (Mechthild Opperud) **99g:90096** 90C27 (05C85)

— (*with* Boros, Endre; Makino, Kazuhisa) Error-free and best-fit extensions of partially defined Boolean functions. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 254–283. (Nicolae Ţăndăreanu) **99d:06017** 06E30 (68Q25, 68T05)

— (*with* Nagamochi, Hiroshi) A note on minimizing submodular functions. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 239–244. (Summary) **99e:68072** 68Q25 (68R05)

— (*with* Frank, András; Nagamochi, Hiroshi) Two arc-disjoint paths in Eulerian digraphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 557–589 (*electronic*). (Cun-Quan Zhang) **99i:05121** 05C38 (05C45)

— (*with* Nagamochi, Hiroshi) Augmenting edge-connectivity over the entire range in $\tilde{O}(nm)$ time. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 253–301. (Summary) **99k:68146** 68R10 (05C40, 05C85, 68Q25)

salazar Ibargüen, Humberto *see* **Salazar Ibargüen, Humberto**

Ibarra, Andoni (*with* Echeverría, Javier; Mormann, Thomas) The long and winding road to the philosophy of science in Spain. (English summary) *Representations of scientific rationality*, 11–55, *Poznań Stud. Philos. Sci. Humanities*, 61, *Rodopi, Amsterdam*, 1997. (*see* **99k:00024**) 01A60 (00A30)

— (*with* Mormann, Thomas) Data, phenomena and theoretical constructs—a representational account. (Spanish. English and Spanish summaries) Semantics and representation in scientific theories: formal analysis. *Theoria* (*San Sebastián*) (2) **13** (1998), *no.* 31, 61–87. (*see* **99a:00056**) 00A30

— *see also* **Representations of scientific rationality, 99k:00024**

Ibarrola, P. *see* **Ibarrola Muñoz, María del Pilar**

vélez Ibarrola, Ricardo *see* **Vélez Ibarrola, Ricardo**

Ibarrola Muñoz, María del Pilar (*with* Różański, Roman; Vélez Ibarrola, Ricardo) On estimation of the mean and covariance parameter for Gaussian random fields. (English summary) *Statistics* **31** (1998), *no.* 1, 1–20. (Summary) **99b:62150** 62M40 (62F15, 62M30)

Ibbotson, J. (*with* Huang, Yu-Tai; Zielezny, Z.) An application of regularly varying functions. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 505–515. (Michael Langenbruch) **99m:46100** 46F10 (35H05)

Ibiejugba, M. A. (*with* Bamigbola, O. M.; Evans, David John[1]) Analysis of Chebyshev finite element method for nonlinear differential equations. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 309–320. (Summary) **99m:65148** 65L60

Ibn al-Bannā' al-Marrākushī *see* **Samsó, Julio, 99h:01012**

Ibn al-kammād *see* **Mancha, J. L., 99h:01011**

Ibnkahla, Mohamed (*with* Bershad, Neil J.; Sombrin, Jacques; Castanié, Francis) Neural network modeling and identification of nonlinear channels with memory: algorithms, applications, and analytic models. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 5, 1208–1220. (Summary) **99j:94028** 94A40 (92B20)

Ibort, Luis Alberto (*with* Cantrijn, F.; de León, Manuel) Hamiltonian structures on multisymplectic manifolds. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 225–236. (Jesús Marín-Solano) **99e:58067** 58F05 (70G50, 70H05)

— (*with* de León, Manuel; Marmo, Giuseppe; Martín de Diego, David) Non-holonomic constrained systems as implicit differential equations. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 295–317. (Frans Cantrijn) **99g:70021** 70F25 (34A09, 34A26, 58F05, 70Hxx)

— (*with* de León, Manuel; Lacomba, Ernesto A.; Marrero, Juan Carlos; Martín de Diego, David; Pitanga, Paulo) Geometric formulation of mechanical systems subjected to time-dependent one-sided constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2655–2674. (Frans Cantrijn) **99d:70021** 70F30 (58F05, 70F25)

— (*with* de León, Manuel; Marrero, Juan Carlos; Martín de Diego, David) A Dirac bracket for non-holonomic Lagrangian systems. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 85–101. (Frans Cantrijn) **99j:70018** 70F25 (58F05, 70H35)

— (*with* Marmo, Giuseppe) From the equations of motion to quantum commutation relations and the geometry of Hermitian structures. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 165–179. (Frans Cantrijn) **99j:81079** 81S05 (58F05)

Ibraev, Sh. Sh. (*with* Dzhumadil'daev, A. S.) Defining relations of nilpotent subalgebras of modular classical Lie algebras. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 5(323), 233–234. 17B30

Ibragimov, A. I. (*with* Nekrasov, A. A.) An analogue of Schwartz's method for the construction of the Green function of the Zaremba problem and its application in underground hydrodynamics. *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 31–41, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 65N99 (35Q35, 76S05)

— (*with* Landis, Evgenii Mikhailovich) Behavior of the solution of a mixed problem for elliptic equations in neighborhoods of a singular point and at infinity. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 19–20. 35J25 (35B45)

— (*with* Gerver, M. L.; Il'yashenko, Yu. S.; Kondrat'ev, Vladimir) Evgenii Mikhailovich Landis [1921–1997]. *Appl. Anal.* **71** (1999), *no.* 1-4, 9–23. 01A70

Ibragimov, F. N. (*with* Bekbaev, U. D.) On commutative Artinian rings. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 17–22 (1997). (Andrei Kelarev) **99e:13024** 13E10

Ibragimov, Gafurzhan I. (*with* Kuchkarov, A. Sh.) Optimality of pursuit time in a differential game in a half-space with integral constraints. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 15–22. (Summary) **99g:90172** 90D25

— On a differential pursuit-evasion game with several pursuers. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 42–46 (1997). 90D25

— On a differential game with fixed termination time. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1997), 29–36. (Summary) **99i:90135** 90D26

— (*with* Satimov, N. Yu.) The structure of optimal strategies in simultaneous pursuit games in Hilbert spaces. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 51–61. (A. M. Tarasyev) **99m:90180** 90D26

Ibragimov, I. *see* **Ibragimov, Il'dar Abdulovich**

Ibragimov, I. Gafurzhan *see* **Ibragimov, Gafurzhan I.**

Ibragimov, Il'dar Abdulovich (*with* Khasminskii, Rafail Z.) Some estimation problems for stochastic partial differential equations. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 3, 300–302. (M. Arató) **99f:62103** 62M09 (35R60)

— (*with* Lifshits, Mikhail) On the convergence of generalized moments in almost sure central limit theorem. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 343–351. (Ying Chao Xie) **99m:60032** 60F05

— On estimation of analytic functions. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 191–210. (Paulo E. Oliveira) **99h:62047** 62G07 (62M20)

— *see also* **Probability theory and mathematical statistics, 99g:60004**

Ibragimov, N. Kh. (*with* Gazizov, R. K.) Lie symmetry analysis of differential equations in finance. (English summary) *Nonlinear Dynam.* **17** (1998), *no.* 4, 387–407. (Olena V. Roman) **99m:35015** 35A30 (35Q80, 90A09)

Ibragimov, V. A. (*with* Makhnach, V. I.; Shved, O. L.) The method of p-analytic representations in mixed boundary value problems on the elastoplastic antiplane state of polygonal regions. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 5, 44–48, 124. (Summary) **99j:73058** 73E99 (30G20, 73C35, 73V35)

— (*with* Makhnach, V. I.; Shved, O. L.) An elastoplastic problem of antiplanar deformation of a rectangular domain with a cut. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 43–46, 140. 73E99 (73V35)

Ibragimova, R. Kh. Motions on tangent bundles that preserve orthogonal and tangent structures. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 29–34; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 8, 27–32 (1999). (V. Cruceanu) **99i:53012** 53B20

Ibragimova, S. R. On the existence of holomorphic solutions of a class of boundary value problems for third-order operator-differential equations. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaĭdzhana* **51(52)** (1995/96), *no.* 1-12, 9–12 (1997). (Nguyễn Minh Trí) **99m:34128** 34G10 (35R20)

— On the increase in the smoothness of solutions of boundary value problems for third-order elliptic operator-differential equations. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaĭdzhana* **51(52)** (1995/96), *no.* 1-12, 17–27 (1997). (Nguyễn Minh Trí) **99m:34129** 34G10 (35R20)

Ibrahim, A. G. (*with* Gomaa, A. M.) Strong and weak solutions for differential inclusions with moving constraints in Banach spaces. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 1, 53–65. (Manuel D. P. Monteiro Marques) **99a:34167** 34G20 (34A60, 49J24)

— Existence theorems for fractional set-valued integral equations in Banach spaces. (English summary) *J. Fract. Calc.* **14** (1998), 65–75. (Summary) **99h:45022** 45N05 (26A33, 34A60, 34G20, 45G10)

Ibrahim, Iman H. (*with* Ismail, Gamal A. F.) Variable step stiffly stable methods. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **7** (1996), *no.* 2, 67–79. (Zhong Wu Chu) **99d:65213** 65L06

— (*with* Ismail, Gamal A. F.) A new higher order effective P-C methods for stiff systems. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 541–552. (Summary) **99i:65081** 65L99

Ibrahim, Joseph G. (*with* Kleinman, Kenneth P.) Semiparametric Bayesian methods for random effects models. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 89–114, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99d:62035** 62G05 (62F15, 62J12)

— (*with* Sinha, Debajyoti) Prior elicitation for semiparametric Bayesian survival analysis. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 273–292, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99c:62100** 62G05 (62F15, 62N05)

— (*with* Lipsitz, Stuart R.) Estimating equations with incomplete categorical covariates in the Cox model. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 1002–1013. 62P10 (62F10, 62H17)

— (*with* Lipsitz, Stuart R.; Chen, Ming-Hui) Missing covariates in generalized linear models when the missing data mechanism is non-ignorable. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 173–190. 62J12

— (*with* Chen, Ming-Hui; Yiannoutsos, Constantin) Prior elicitation, variable selection and Bayesian computation for logistic regression models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 223–242. (Summary) **99j:62101** 62J12 (62F15)

Ibrahim, M. A.-K. (*with* Alnasr, M. H.) Quadrature methods with regularization technique for singularly perturbed Volterra integral equations. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 3-4, 285–299. (Summary) **99m:65248** 65R20 (45L05, 65D32)

Ibrahim, R. S. (*with* Khater, A. H.; El-Kalaawy, O. H.; Callebaut, Dirk K.) Bäcklund transformations and exact soliton solutions for some nonlinear evolution equations of the ZS/AKNS system. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1847–1855. (Summary) **99i:35150** 35Q55 (58F37)

Ibrahim, S. F. M. Indefinite eigenvalue problem with eigenparameter in the two boundary conditions. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 775–784. (Summary) **99h:34120** 34L10 (34B24, 47A70, 47B50, 47E05)

Ibrahim, Sobhy El-Sayed (*with* Agwo, Hassan A.) Boundedness for solutions of general quasi-integro differential equation. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 75–90. (From the introduction) **99i:45015** 45J05 (45M99, 47G20)

— On L^2_w-quasi-derivatives for solutions of perturbed general quasi-differential equations. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 175–185. (Anton Zettl) **99i:34026** 34A99 (34B05)

Ibrahimbegovic, Adnan (*with* Gharzeddine, Fadi) Finite deformation plasticity in principal axes: from a manifold to the Euclidean setting. (English summary) *Comput. Methods Appl. Mech. Engrg.* **171** (1999), *no.* 3-4, 341–369. 73G20 (73E99, 73V05)

Ibstedt, Henry On Smarandache's periodic sequences. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 3–12, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11A07

— A few Smarandache integer sequences. (English summary) *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 179–192, *Am. Res. Press, Lupton, AZ*, 1997. (*see* **99a:11002**) 11B83

— ★ Computer analysis of number sequences. *American Research Press, Lupton, AZ*, 1998. 87 *pp. ISBN* 1-879585-59-6 (Samuel S. Wagstaff, Jr.) **99g:11151** 11Y55 (11A63, 11B25)

— Smarandache continued fractions. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 39–49. 11A55

— An integer as a sum of consecutive integers. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 133–138. 11B75

Ibukiyama, Tomoyoshi On Shintani's zeta functions of ternary zero forms (third approach). Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 10–20. (Hideshi Takayanagi) **99c:11043** 11E45 (11F37, 11M41)

— On some elementary character sums. *Comment. Math. Univ. St. Paul.* **47** (1998), *no.* 1, 7–13. (Ronald J. Evans) **99h:11094** 11L10

— (*with* Saito, Hiroshi[1]) On the "simple" zeta-functions. (Japanese. Japanese summary) *Sūgaku* **50** (1998), *no.* 1, 1–11. (Hiroshi Saito) **99e:11120** 11M41 (11E12, 11F46)

Ichida, Yoshio (*with* Funakoshi, Mitsuaki) Chaotic mixing in flows between two eccentric cylinders. (Japanese. Japanese summary) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 31–52. (*see* **99e:76056**) 76F20

Ichihara, Kanji A Liouville property for difference operators. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 123–137. (Frédéric Mathéus) **99j:60114** 60J45 (31C05, 39A12, 47B39)

Ichihara, Kazuhiro On framed link presentations of surface bundles. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 8, 1087–1092. (Summary) **99i:57016** 57M25

Ichihara, Takashi (*with* Ambjørn, Jan; Anagnostopoulos, Konstantinos N.; Jensen, Lars; Watabiki, Yoshiyuki) Quantum geometry and diffusion. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 22, 16 *pp.* (*electronic*). (Summary) **99m:83059** 83C45 (83C27)

Ichihashi, Hidetomo (*with* Ohtani, Takashi; Miyoshi, Tetsuya; Nagasaka, Kazunori) Orthogonal and successive projection methods for the learning of neurofuzzy GMDH. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 5–24. 68T05

— (*with* Miyoshi, Tetsuya; Nagasaka, Kazunori) Fuzzy projection pursuit density estimation by eigenvalue method. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 3, 237–248. (Summary) **99m:62061** 62G07

— (*with* Kanaumi, Yoshihiko; Yamakawa, Asuka; Miyoshi, Tetsuya) Simultaneous application of fuzzy clustering and correspondence analysis. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 191–198. 62H30 (68T10)

Ichiishi, Tatsuro (*with* Sertel, Murat R.) Cooperative interim contract and re-contract: Chandler's M-form firm. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 523–543. (Shigeo Muto) **99i:90126** 90D12 (90A30)

Ichikawa, Akira (*with* Katayama, Hitoshi) H_∞-control with output feedback for time-varying discrete systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1167–1178. 93B36 (93B52)

— (*with* Wanyoike, Gakio; Katayama, Hitoshi) H_∞ control for systems with jumps. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 941–964. (Peng Shi) **99f:93053** 93B36 (93C57)

— *see also* **Jacob, Birgit et al., 99d:49064**

Ichikawa, Kunihiko Robust issues in exact model matching. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1323–1336. 93B35 (93D21)

Ichikawa, Takashi Universal periods of hyperelliptic curves and their applications. Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 91–104. (John B. Little) **99k:14048** 14H42 (11F46, 58F07)

Ichim, Ion Sur le problème des moindres carrés. (English and French summaries) [On the least square problems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 625–627. (Summary) **99h:65115** 65J10 (47A50)

Ichimura, Hidehiko (*with* Heckman, James; Smith, Jeffrey Andrew; Todd, Petra) Characterizing selection bias using experimental data. (English summary) *Econometrica* **66** (1998), *no.* 5, 1017–1098. (Summary) **99d:62098** 62P20 (62G05)

— (*with* Thompson, T. Scott) Maximum likelihood estimation of a binary choice model with random coefficients of unknown distribution. (English summary) *J. Econometrics* **86** (1998), *no.* 2, 269–295. (V. K. Srivastava) **99m:62162** 62P20 (62J12)

Ichimura, Humio On the class numbers of the maximal real subfields of cyclotomic function fields. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 2, 167–174. (Barry W. Green) **99e:11143** 11R58 (11R18, 11R29)

— On the class numbers of the maximal real subfields of cyclotomic function fields. II. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 140–149. (Barry W. Green) **99h:11134** 11R58 (11R18, 11R29)

— (*with* Hachimori, Yoshitaka) Semi-local units modulo Gauss sums. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 377–395. (Alan Candiotti) **99h:11120** 11R20 (11R23)

Ichimura, Keiko (*with* Ito, Michiho) Dynamics of skew tent maps. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 31–39. (*see* **99h:00034**) 58F03

Ichinose, Ikuo (*with* Kayama, Yasuyuki) Low-energy excitations in two-leg and three-leg quantum spin ladders. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 3, 569–587. (Summary) **99c:82013** 82B20 (82B10)

— (*with* Takano, Hiroshi; Onoda, Masaru; Matsui, Tetsuo) Finite-temperature renormalization-group study of a dissipative gauge theory with fermions. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 3, 581–620. 81T17

Ichinose, Shoichi New algorithm for tensor calculation in field theories. (English summary) *Internat. J. Modern Phys. C* **9** (1998), *no.* 2, 243–264. (Summary) **99a:83001** 83–04

— Weyl anomaly of 2D dilaton-scalar gravity and the Hermiticity of the system operator. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6224–6229. (Summary) **99m:81229** 81T50 (83C99)

Ichinose, Takashi (*with* Takanobu, Satoshi) Estimate of the difference between the Kac operator and the Schrödinger semigroup. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 167–197. (J. A. Van Casteren) **99e:47052** 47D07 (35J10, 47F05, 60J65)

— (*with* Doumeki, Atsushi; Tamura, Hideo) Error bounds on exponential product formulas for Schrödinger operators. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 359–377. (J. A. Van Casteren) **99i:47086** 47F05 (35J10, 47D06, 81Q10)

— (*with* Takanobu, Satoshi) The norm estimate of the difference between the Kac operator and the Schrödinger semigroup: a unified approach to the nonrelativistic and relativistic cases. (English summary) *Nagoya Math. J.* **149** (1998), 53–81. (J. A. Van Casteren) **99i:47075** 47D07 (35J10, 47F05, 81Q10, 82B10)

Ichinose, Wataru On the semi-classical approximation of the solution of the Heisenberg equation with spin. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 59–76. (H. Hogreve) **99e:81056** 81Q20 (35Q40, 47G30, 47N50)

— On the convergence of the Feynman path integral defined through broken line paths. (English summary) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 65–71. (*see* **99a:00049**) 81S40 (58D30)

Ichishima, Rikio (*with* Kountanis, Dionysios; Saba, Farrokh) Connectivity and topological properties of the Z-cube architecture. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 163–173. (Qiao Li) **99m:68153** 68R10

Icking, Christian (*with* Hoffmann, Frank; Klein, Rolf; Kriegel, Klaus) Moving an angle around a region. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 71–82, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68192** 68U05

Ickstadt, Katja (*with* Wolpert, Robert L.) Simulation of Lévy random fields. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 227–242, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (*see* **99a:62004**) 62F15 (60G60, 60J30, 62G05)

— (*with* Wolpert, Robert L.) Poisson/gamma random field models for spatial statistics. (English summary) *Biometrika* **85** (1998), *no.* 2, 251–267. (Summary) **99k:62110** 62H11 (62H40)

Ida, Daisuke (*with* Nakao, Ken-ichi; Siino, Masaru; Hayward, Sean A.) Hoop conjecture for colliding black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 121501, 4 *pp.* (Summary) **99m:83113** 83C57

Ida, Kenichi (*with* Li, Yinzhen; Gen, Mitsuo) Improved genetic algorithm for solving multiobjective solid transportation problem with fuzzy numbers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 2, 197–211 (1998). (Summary) **99a:90089** 90B06 (90C70)

Ida, M. P. (*with* Miksis, Michael J.) The dynamics of thin films. I. General theory. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 456–473 (*electronic*). (Stephen K. Wilson) **99a:76040** 76D08 (35Q30, 76D10, 76D45, 76M30)

— (*with* Miksis, Michael J.) The dynamics of thin films. II. Applications. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 474–500 (*electronic*). (Stephen K. Wilson) **99a:76041** 76D08 (35Q30, 76D10, 76D45, 76M25)

Idà, Monica General points on a quadric: resolution. *Geometry Seminars*, 1996–1997 (*Italian*) (*Bologna*), 125–135, *Univ. Stud. Bologna, Bologna*, 1998. (Juan C. Migliore) **99g:13019** 13D02 (14M05)

Ida, Tetsuo (*with* Suzuki, Taro; Nakagawa, Koji) Higher-order lazy narrowing calculus: a computation model for a higher-order functional logic language. *Algebraic and logic programming* (*Southampton*, 1997), 99–113, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (68N17)

Idczak, Dariusz Distributional derivatives of functions of two variables of finite variation and their application to an impulsive hyperbolic equation. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 145–171. (Hidetoshi Tahara) **99b:46059** 46F10 (26B30, 35L10, 35R10)

— Optimal control of a coercive Dirichlet problem. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1250–1267 (*electronic*). (Manfred Goebel) **99h:49003** 49J15 (34H05, 49K15)

— M-periodic problem of order $2k$. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 169–185. (Maria Letizia Bertotti) **99i:34035** 34B15 (34C25, 49J45)

Idels, Lev (*with* Berezanskiĭ, L. M.) Exponential stability of some scalar impulsive delay differential equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 301–308. (Summary) **99c:34173** 34K20 (34A37)

Idelsohn, S. (*with* Oñate, Eugenio; García Espinosa, Julio) An alpha-adaptive approach for stabilized finite element solution of advective-diffusive problems with sharp gradients. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 309–323, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65M60 (76M10)

— (*with* Oñate, Eugenio; García Espinosa, Julio) Stabilization of the numerical solution of the convective transport problem using finite elements. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics*,

Vol. I, II (Spanish) (*Vigo*, 1997), 53–61, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M10 (65M12)

— (*with* Oñate, Eugenio) A mesh-free finite point method for advective-diffusive transport and fluid flow problems. (English summary) *Comput. Mech.* **21** (1998), *no.* 4-5, 283–292. (Summary) **99b:76066** 76M25

— (*with* Storti, M.; D'Elía, J.) Algebraic discrete nonlocal (DNL) absorbing boundary condition for the ship wave resistance problem. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 570–602. (Summary) **99f:76109** 76M25 (76B20)

Idier, Jérôme (*with* Nikolova, Mila; Mohammad-Djafari, Ali) Inversion of large-support ill-posed linear operators using a piecewise Gaussian MRF. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 571–585. (Summary) **99j:94012** 94A12

— (*with* Champagnat, Frédéric; Goussard, Yves) Stationary Markov random fields on a finite rectangular lattice. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2901–2916. (Summary) **99i:60104** 60G60 (60J10)

Idlis, G. M. The unity of natural science according to Bohr and uniform interconnected periodic systems in physics, chemistry, biology and psychology. II. (Russian) *Studies in the history of physics and mechanics*, 1991–1992 (*Russian*), 101–187, "*Nauka*", *Moscow*, 1997. (*see* **99g:01002**) 01A60 (00A30, 81-03, 92-03)

Idone, Giovanna (*with* Fattorusso, Luisa) Partial Hölder continuity results for solutions of non-linear non-variational elliptic systems with strictly controlled growth. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv*, 1997), 161–167, *VSP, Utrecht*, 1998. (Summary) **99f:35047** 35J60 (35B65)

Idzik, Adam (*with* Miklaszewski, Dariusz) Borsuk-Ulam type theorems. I. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 119–122. (Summary) **99i:55001** 55M20

— (*with* Bylka, Stanisław; Tuza, Zsolt) Maximum cuts: improvements and local algorithmic analogues of the Edwards-Erdős inequality. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 39–58. (Italo José Dejter) **99i:05104** 05C35 (68R10)

Iellici, Devis (*with* Moretti, Valter) ζ-function regularization and one-loop renormalization of field fluctuations in curved space-time. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 33–40. (Summary) **99c:81143** 81T16 (58G26, 81T20)

Iembo, Rosanna Fractal dimension and scale problems. (Italian. English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 65–76 (1998). 28A80

— A fractal interpretation of exponential distributions. (Italian. English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 129–136 (1998). 28A80

Iemma, U. (*with* Marchese, V.; Morino, L.) High-order BEM for potential transonic flows. (English summary) *Comput. Mech.* **21** (1998), *no.* 3, 243–252. (Summary) **99c:76074** 76M15 (76H05)

Iengo, Roberto (*with* Hussain, Faheem; Núñez, Carmen A.; Scrucca, Claudio A.) Interactions and dynamics of D-branes. (English summary) *Trends in theoretical physics (La Plata*, 1997), 413–424, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Summary) **99g:81166** 81T30

— (*with* Fabbrichesi, Marco; Ferretti, Gabriele) Supergravity and Matrix theory do not disagree on multi-graviton scattering. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 2, 11 *pp.* (*electronic*). (Summary) **99c:83088** 83E30 (81T30, 83E50)

— (*with* Hussain, Faheem; Núñez, Carmen A.; Scrucca, Claudio A.) Closed string radiation from moving D-branes. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 92–124. (Summary) **99a:81141** 81T30

— (*with* Bertolini, Matteo; Scrucca, Claudio A.) Electric and magnetic interaction of dyonic D-branes and odd spin structure. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 193–213. (Summary) **99d:81108** 81T30 (83C57, 83E30)

— (*with* Bertolini, Matteo; Fré, Pietro; Scrucca, Claudio A.) Black holes as D3-branes on Calabi-Yau threefolds. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 22–30. (Summary) **99e:83051** 83E30 (81T30, 83C57)

— (*with* Acatrinei, Ciprian; Fabbrichesi, Marco) D-particles in the space-time of the shock wave. (English summary) *J. High Energy Phys.* **1999**, *no.* 1, *Paper* 24, 20 *pp.* (*electronic*). (Summary) **99k:81209** 81T30 (81T20)

Ierley, Glenn R. A class of sparse spectral operators for inversion of powers of the Laplacian in N dimensions. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 1, 57–73. (K. Moszyński) **99c:65204** 65N30 (65F50)

Ierotheou, Constantinos S. (*with* Palansuriya, Charaka J.; Lai, Choi-Hong; Pericleous, Koulis A.) A domain decomposition based algorithm for non-linear 2D inverse heat conduction problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 515–522, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 80-08 (65M55)

Ieşan, D. (*with* Scalia, A.) On Saint-Venant's principle for microstretch elastic bodies. (English summary) *Internat. J. Engrg. Sci.* **35** (1997), *no.* 14, 1277–1290. (E. S. Şuhubi) **99a:73037** 73C10 (73B25)

— (*with* Ciarletta, Michele) Some results in the dynamical theory of porous elastic bodies. (English summary) *J. Elasticity* **50** (1998), *no.* 1, 3–14. (Peregrina Quintela Estévez) **99g:73006** 73B27 (73C02, 73K12)

İftar, Altuğ (*with* Özgüner, Ümit) Overlapping decompositions, expansions, contractions, and stability of hybrid systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1040–1055. (Keigo Watanabe) **99f:93066** 93B51 (93C30, 93D05)

— (*with* Davison, Edward J.) A decentralized discrete-time controller for dynamic routing. (English summary) *Internat. J. Control* **69** (1998), *no.* 5, 599–632. 93A13 (90B12)

Iftimie, Dragos Équations de Navier-Stokes sur des domaines minces tridimensionnels et espaces anisotropes. [Navier-Stokes equations on three-dimensional thin domains and anisotropic spaces] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. VI*, 15 *pp.*, *École Polytech., Palaiseau*, 1998. (Raphaël Danchin) **99m:35187** 35Q30 (76D05)

Iftimie, Viorel (*with* Dermenjian, Yves; Durand, Marc) Spectral analysis of an acoustic multistratified perturbed cylinder. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 141–169. (Ghias Hachem) **99a:35035** 35J05 (35P25, 47F05, 76Q05)

— (*with* Durand, Marc) Comparaison des semi-groupes associés à des opérateurs de Schrödinger dans un champ magnétique. [Comparison of semigroups associated with Schrödinger operators in a magnetic field] *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 685–700. (El Maati Ouhabaz) **99d:35032** 35J10 (81Q10)

Iftimovici, Andrei Hard-core scattering for N-body systems [MR 98k:81292]. (English summary) *Math. Phys. Anal. Geom.* **1** (1998), *no.* 1, 23–74. 81U10 (47A40, 47F05)

Iftode, V. Control of the flux substrate in an enzymatic membrane. (English summary) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **59** (1997), *no.* 1-4, 5–10. 49N55 (92C45)

Igaki, Nobuko (*with* Sumita, Ushio) Necessary and sufficient conditions for global geometric convergence of block Gauss-Seidel iteration algorithm applied to Markov chains. (English summary) *J. Oper. Res. Soc. Japan* **40** (1997), *no.* 3, 283–293. (Summary) **99h:65233** 65U05 (60J10)

— (*with* Sumita, Ushio; Kowada, Masashi) On a generalized $M/G/1$ queue with service degradation/enforcement. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 415–429. (K. M. Ramachandran) **99m:90075a** 90B22 (60K25)

— (*with* Sumita, Ushio; Kowada, Masashi) Erratum: "On a generalized $M/G/1$ queue with service degradation/enforcement". *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 646. (K. M. Ramachandran) **99m:90075b** 90B22 (60K25)

— (*with* Kowada, Masashi) A parallel queueing system $GI/M/2$ with probabilistic branching. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 461–470. (Yannis A. Phillis) **99k:90076** 90B22 (60K25, 68M20)

Igarashi, Masao Recurrence formulas for zeros of polynomials. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 9–16. (*see* **99i:00028**) 65C05 (26C10)

Igarashi, Masayuki On compact Kähler-Liouville surfaces. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 363–397. (Ronaldo Alves Garcia) **99e:53102** 53C55 (53C22, 58F17)

Igarashi, Yoshihide (*with* Bao, Feng; Öhring, Sabine R.) Reliable broadcasting in product networks. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 3–20. (Summary) **99c:68009** 68M10 (05C90, 68M15)

— (*with* Kurumazaki, Hironobu; Kawa, Minako; Nishitani, Yasuaki) Some modifications of lockout-free mutual exclusion algorithms. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 19–26. (*see* **99i:65003**) 68Q10

— (*with* Han, Yijie) Parallel PROFIT/COST algorithms through fast derandomization. (English summary) *Acta Inform.* **36** (1999), *no.* 3, 215–232. (Summary) **99m:68069** 68Q22

— (*with* Iwasaki, Yukihiro; Kajiwara, Yuka; Obokata, Koji) Independent spanning trees of chordal rings. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 155–160. (Summary) **99k:68138** 68R10 (68M15)

Igarashi, Yuji (*with* Itoh, Katsumi; Kamimura, Kiyoshi) Self-duality in super D3-brane action. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 469–482. (Summary) **99i:81187** 81T30

Igari, Katsuju Propagation of singularities of solutions to Cauchy problems in the complex domain. (Japanese) Partial differential equations in the complex domain (Japanese)(Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1028 (1998), 1–20. (*see* **99e:35002**) 35A20

Igari, Satoru The Kakeya maximal operator with a special base. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 1–7. (Detlef Horst Müller) **99d:42030** 42B25 (46E30)

— ★ Real analysis—with an introduction to wavelet theory. (English summary) Translated from the 1996 Japanese original by the author. Translations of Mathematical Monographs, 177. *American Mathematical Society, Providence, RI*, 1998. *xiv+256 pp. ISBN* 0-8218-0864-8 (Peter R. Massopust) **99g:00005** 00A05 (28-01, 42C15, 46-01)

Iggidr, A. (*with* Jghima, H.; Outbib, Rachid) Global stabilization of planar homogeneous polynomial systems. *Nonlinear Anal.* **34** (1998), *no.* 7, 1097–1109. (Matthias Kawski) **99m:93084** 93D15 (34D20, 34H05)

Iglesias, F. Castaño *see* **Castaño Iglesias, Florencio**

castaño Iglesias, Florencio *see* **Castaño Iglesias, Florencio**

Iglesias, Pablo A. (*with* Peters, Marc A.) On the induced norms of discrete-time and hybrid time-varying systems. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 9, 811–833. (Summary) **99f:93091** 93C55 (93C30)

— (*with* O'Brien, Richard T., Jr.) Pole/zero cancellations in time-varying systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 103–130. (Srinivasu Maka) **99k:93054** 93B60 (93B55, 93C05)

— (*with* O'Brien, Richard T., Jr.) Closed loop cancellations in $\mathscr{H}_\infty$ control of time-varying systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 163–189. (Michel Malabre) **99f:93048** 93B36 (93B55, 93B60)

Iglói, E. (*with* Terdik, György) Bilinear stochastic systems with long range dependence in continuous time. *Stochastic differential and difference equations (Győr*, 1996), 299–307, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 62M10

Iglói, F. (*with* Karevski, Dragi; Rieger, H.) Random and aperiodic quantum spin chains: a comparative study. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 4, 513–517. (Summary) **99g:82038** 82B44

Ignaczak, Ewa (*with* Paszkiewicz, Adam) Perturbation of normal operators, vanishing on a given subspace. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 851–858. (Alexei V. Rybkin) **99f:47027** 47B15 (47A55)

— (*with* Paszkiewicz, Adam) Extensions of convex functionals on convex cones. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 3, 381–386. (S. Simons) **99j:46005** 46A22 (46N10, 90A12, 90C25)

— Weyl-von Neumann type theorems with the perturbation vanishing on a given subspace. II. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 529–536. (Pei Yuan Wu) **99j:47015** 47A55 (47B25)

Ignaczak, Józef (*with* Hetnarski, Richard B.) On soliton-like thermoelastic waves. (English summary) *Appl. Anal.* **65** (1997), *no.* 1-2, 183–204. (Summary) **99k:73021** 73B30 (73D99)

Ignat, Anca Approximating algebraic Riccati equations in infinite dimensions. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 147–157. (K. N. Murty) **99c:65148** 65L12 (34K15, 93C05)

— (*with* Ignat, Margareta) Gravitational instability of a radiative dissipative rotating plasma with thermal conduction and anisotropic current in the presence of suspended

particles. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 15–26. (Summary) **99b:76038** 76E25 (76W05)

Ignat, Margareta (*with* Ignat, Anca) Gravitational instability of a radiative dissipative rotating plasma with thermal conduction and anisotropic current in the presence of suspended particles. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 15–26. (Summary) **99b:76038** 76E25 (76W05)

— (*with* Ciurea-Borcia, Rodica) The properties of nonlinear Alfvén waves with finite amplitude. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 3-4, 147–157. (Summary) **99j:76132** 76W05 (85A30)

Ignatenko, M. V. Application of the Fourier transform and the sine (cosine)-transform for the construction of operator interpolation formulas. (Russian. English and Russian summaries) *Vestn. Belorus. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 53–58, 77. (Vasily A. Chernecky) **99m:65020** 65D05 (41A10)

— (*with* Yanovich, L. A.) Application of the Hankel transform for constructing operator interpolation formulas. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 2, 5–10, 139. (Valeri Kaliaguine) **99g:41001** 41A05 (44A15, 47A58)

— (*with* Yanovich, L. A.) On operator interpolation formulas of a special form with double nodes. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 35–41, 140. (Galimzian G. Islamov) **99m:41036** 41A35

Ignatenko, V. F. Algebraic surfaces with an infinite set of planes of skew symmetry. III. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 2, 201–211. (Vladislav Goldberg) **99e:14040** 14J25

— (*with* Diban, Issam) On algebraic surfaces with an infinite set of planes of skew symmetry. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2501–2504. (Zbigniew Szafraniec) **99i:14068** 14P05

— Algebraic surfaces with planes of skew symmetry. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 35–48. (Summary) **99f:14060** 14J99

Ignat'ev, A. O. (*with* Konosevich, B. I.) On the Routh-Lyapunov-Salvadori stability criterion. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 78–79. (Summary) **99j:34071** 34D20 (70K20)

— On the asymptotic stability in functional-differential equations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1753–1760. (Sergei Mazanik) **99i:34108** 34K20

Ignatiouk-Robert, Irina *see* **Ignatyuk, Irina**

Ignatov, I. M. (*with* Kurkin, O. M.) A lower bound for transition time in a multidimensional time-optimality problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 17–21; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1544–1547 (1997). (Introduction) **99a:49007** 49J15 (49K40)

Ignatyev, A. O. *see* **Ignat'ev, A. O.**

Ignatyuk, Irina Large deviations for a random walk in dynamical random environment. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 5, 601–636. (Ofer Zeitouni) **99g:60058** 60F10 (60J15, 60K35)

Ignizio, James P. *see* **Li, Han-Lin, 99k:90202**

Ignjatović, Aleksandar (*with* Grulović, Milan Z.) A comment on the joint embedding property. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 1, 45–50. (Fuxing Shen) **99c:03050** 03C25 (03C52, 03C62)

Igodt, Paul (*with* Dekimpe, Karel) Polycyclic-by-finite groups admit a bounded-degree polynomial structure. (English summary) *Invent. Math.* **129** (1997), *no.* 1, 121–140. (Daniel Segal) **99c:20071** 20H15 (20F16, 57S30)

Igra, O. (*with* Shalman, E.; Yakhot, A.; Shalman, S.; Yadlin, Y.) Attenuating artificial dissipation in the computation of Navier-Stokes turbulent boundary layers. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 2, 151–172. (Summary) **99f:76072** 76F10 (76D10, 76M20)

Iguain, J. L. (*with* de la Torre, A. C.) Manifest and concealed correlations in quantum mechanics. (English summary) *European J. Phys.* **19** (1998), *no.* 6, 563–568. (S. Gudder) **99j:81011** 81P05 (81P15)

Iguchi, Hideo (*with* Nakao, Ken-ichi; Harada, Tomohiro) Gravitational waves around a naked singularity: odd-parity perturbation of Lemaître-Tolman-Bondi space-time. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7262–7273. 83C35 (83C75)

Iguchi, Kazumoto Universal algebraic varieties and ideals in physics: field theory on algebraic varieties. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 21, 2533–2592. (V. V. Chueshev) **99a:14075** 14M12 (13C40, 14J70, 58F06, 58F07, 81T08, 82B10, 82B20)

— Generalized Sommerfeld theory: specific heat of a degenerate g-on gas in any dimension and the generalized Riemann zeta function. (English summary) *Internat. J. Modern Phys. B* **11** (1997), *no.* 30, 3551–3580. (M. Lawrence Glasser) **99b:82013** 82B10 (11M06, 11Z05, 82B30)

— Iguchi replies: "Comment on: 'Quantum statistical mechanics of an ideal gas with fractional exclusion statistics in arbitrary dimension'" [Phys. Rev. Lett. **81** (1998), no. 11, 2392; 1 643 250] by W.-H. Huang. *Phys. Rev. Lett.* **81** (1998), *no.* 11, 2393. 82B10

— *see also* **Huang, Wung-Hong**

Iguchi, Osamu (*with* Hosoya, Akio; Koike, Tatsuhiko) Renormalization group approach to the Einstein equation in cosmology. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3340–3350. (Summary) **99m:83016** 83C05 (81T17)

Iguchi, Tatsuo On the irrotational flow of incompressible ideal fluid in a circular domain with free surface. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 6, 525–565. (Nikolay G. Kuznetsov) **99m:76016** 76B15 (35Q35)

Ihara, Shunsuke (*with* Sakuma, Yusuke) Signal detection in continuous time white Gaussian channel. (English summary) *Probability theory and mathematical statistics (Tokyo, 1995)*, 147–156, *World Sci. Publishing, River Edge, NJ*, 1996. (H. Vincent Poor) **99c:94012** 94A13 (60G35)

— Information transmission in certain continuous-time Gaussian channels with feedback. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 118–134. (*see* **99i:00029**) 94A40

Ihara, Yasutaka What comes next after $Q(\mu_{l^\infty})$? *Algebraic analysis, geometry, and number theory (Baltimore, MD, 1988)*, 153–159, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Alexandru Buium) **99c:14032** 14F35 (11G99, 14H25)

— (*with* Nakamura, Hiroaki) Some illustrative examples for anabelian geometry in high dimensions. *Geometric Galois actions*, 1, 127–138, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Abdellah Mokrane) **99b:14021** 14F99 (14F35)

— The solution of the Grothendieck conjecture on fundamental groups of algebraic curves—the work of Hiroaki Nakamura, Akio Tamagawa, and Shinichi Mochizuki. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 200–201. 14H30

— Goppa codes and rational points. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 113–126. (*see* **99d:11001**) 11T71 (11G20, 94B27)

— Shimura curves over finite fields and their rational points. Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 127–135. (Chandrashekhar Khare) **99h:11066** 11G20 (11G18, 14G35)

— The achievements of special medalist A. J. Wiles. (Japanese) *Sūgaku* **51** (1999), *no.* 1, 72–73. 01A70 (11–02)

Ihlenburg, Frank (*with* Babuška, Ivo M.; Strouboulis, T.; Gangaraj, S. K.) A posteriori error estimation for finite element solutions of Helmholtz' equation. II. Estimation of the pollution error. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 21, 3883–3900. (Zhangxin Chen) **99a:76080** 76M10 (65N30, 76Q05)

— ★ Finite element analysis of acoustic scattering. (English summary) Applied Mathematical Sciences, 132. *Springer-Verlag, New York*, 1998. *xiv+224 pp. ISBN* 0-387-98319-8 (A. Jami) **99g:65114** 65N30 (65M60, 76M10, 76Q05)

— (*with* Bouillard, Ph.) Error estimation and adaptivity for the finite element method in acoustics. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 477–492, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 76M10 (76Q05)

— (*with* Gerdes, Klaus) On the pollution effect in FE solutions of the 3D-Helmholtz equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 155–172. (Summary) **99k:65108** 65N30

Ihler, Edmund (*with* Reich, Gabriele; Widmayer, Peter) Class Steiner trees and VLSI-design. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 173–194. (Summary) **99m:68151** 68R10 (05C85, 68Q25, 68Q35)

Ihm, Jisoon Manifestation of the generalized fractional statistics in three spatial dimensions. (English summary) *Topics in theoretical physics (Sorak Mountain Resort, 1995)*, 188–191, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81S05

Ihorst, G. (*with* Trenkler, Götz) A general investigation of mean square error matrix superiority in linear regression. (English and Italian summaries) *Statistica (Bologna)* **56** (1996), *no.* 1, 15–25. (Summary) **99m:62108** 62J07 (62C15)

Ihrig, E. (*with* Petrie, E.) A new family of one factorizations of the complete graph derived from even starters. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 107–115. (Summary) **99j:05153** 05C70

— (*with* Petrie, E.) Divisibility and structure constraints on automorphism groups of almost perfect 1-factorizations of K_{2n}. (English summary) *J. Combin. Des.* **6** (1998), *no.* 5, 355–380. (Martin Bača) **99f:05091** 05C70

Iiams, Joel E. (*with* Davis, James Andrew) Hadamard difference sets in nonabelian 2-groups with high exponent. (English summary) *J. Algebra* **199** (1998), *no.* 1, 62–87. (Kenneth W. Smith) **99a:05017** 05B10 (05B20, 20D60)

Iida, Koji (*with* Hohzaki, Ryusuke; Inada, Kenji) Optimal survivor search for a target with conditionally deterministic motion under reward criterion. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 246–260. (Summary) **99d:90064** 90B40

— (*with* Hohzaki, Ryusuke; Kiyama, Masaki) Randomized look strategy for a moving target when a search path is given. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 374–386. (Teruhisa Nakai) **99k:90093** 90B40 (49K45, 90D25, 93E03)

— (*with* Hohzaki, Ryusuke) An integer resource allocation problem with cost constraint. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 470–482. 90C35 (90B06)

— (*with* Hohzaki, Ryusuke) A search game with reward criterion. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 629–642. (Summary) **99j:90114** 90D05 (90B40)

Iida, Masato (*with* Ninomiya, Hirokazu) Nonlinear boundary value problems related to some chemical reactions on the interface. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 52–59, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35K60 (80A32)

— (*with* Mimura, Masayasu; Yanagida, Eiji) A free boundary problem as a singular limit of a competition-diffusion system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 217–221, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35R35 (35K55, 92D25)

— (*with* Muramatsu, Tatsuya; Ninomiya, Hirokazu; Yanagida, Eiji) Diffusion-induced extinction of a superior species in a competition system. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 233–252. (Hal Leslie Smith) **99i:92021** 92D25 (34C99, 34D05, 35Q80)

Iida, O. (*with* Nagano, Yasutaka) Coherent structure and heat transfer in geostrophic flow under density stratification. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 368–377. (Summary) **99k:76147** 76U05 (76V05, 86A10)

Iida, Tadashi (*with* Nishimura, Tsuyoshi[1]) Neighborhood conditions and k-factors. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 411–418. (Sheshayya A. Choudum) **99a:05113** 05C70

Iida, Tetsuo Non-homogeneous Markov decision processes with a constraint. *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 314–326. (Gerhard Hübner) **99i:90114** 90C40

Iida, Yasuo (*with* Mochizuki, Nozomu) Isometries of some F-algebras of holomorphic functions. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 4, 297–300. (Raymond Mortini) **99h:30050** 30H05 (30D99, 46J15, 47B38)

Iiguni, Youji (*with* Hirashima, Youichi; Adachi, Norihiko) An adaptive control system design using a memory based learning system. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1085–1102. 93C40 (93E35)

Iimura, Kiyoaki (*with* Li, Xue; Yamazaki, Genji) The high-efficiency range of decision vectors in optimization problems and its application. (Japanese. English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 122–127. (*see* **99h:90006**) 90A05 (90C90)

Iio, Takeyoshi (*with* Kita, Eisuke; Kamiya, Norio) Application of direct Trefftz method to two-dimensional potential problem. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1870–1878. (Summary) **99d:65338** 65N38

Iitaka, Shigeru Minimal plane curves. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 212–216, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 14H45 (14E30)

Iiyori, Nobuo (*with* Chigira, Naoki; Yamaki, Hiroyoshi) Nonabelian Sylow subgroups of finite groups of even order. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 88–90 (*electronic*). 20D20

— (*with* Chigira, Naoki) Prime graphs and Brauer characters. *J. Group Theory* **1** (1998), *no.* 4, 363–368. (Harold N. Ward) **99j:20009** 20C15 (05C25, 20C20)

Iizuka, Takeshi Theoretical analysis of a grating soliton. (English summary) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 183–191. (*see* **99a:00032**) 78A60 (35Q60)

— (*with* Kivshar, Yu. S.) Optical gap solitons in nonresonant quadratic media. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 6, 7148–7151. 78A60

Ikai, Hisatoshi ★ Some prehomogeneous representations defined by cubic forms. Tohoku Mathematical Publications, 5. *Tohoku University, Mathematical Institute, Sendai*, 1997. iv+65 *pp.* (Hubert Rubenthaler) **99f:17037a** 17C10 (17C30, 17C40)

— Some prehomogeneous representations defined by cubic forms. (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 192–198. (Akihiko Yukie) **99g:11054** 11E57

— Some prehomogeneous representations defined by cubic forms. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 365–388. (Hubert Rubenthaler) **99f:17037b** 17C10 (17C30, 17C40)

Ikawa, Mitsuru Scattering by several convex bodies. (Japanese) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 96–109. (*see* **99m:35003**) 35J05 (58F20)

Ikawa, Osamu Maximal rank totally geodesic submanifolds in symmetric spaces. (Japanese) Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 13–37. (Hiroo Naitoh) **99m:53096** 53C35 (53C42)

Ikebe, Yoshiko SDP for the maximum stable set problem. (Japanese) Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 109–127. (Maretsugu Yamasaki) **99f:90096** 90C27 (90C08)

— (*with* Hirabayashi, Ryuichi) Shellability of ordered complexes. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 103–119. (*see* **99b:90009**) 06A08 (13H10)

Ikeda, Akira[2] On meromorphic α-starlike functions. New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 20–24. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Koike, Naoya; Ota, Yoshiaki) Sufficient condition for multivalently starlikeness. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 66–69. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Kim, Yong Chan; Koike, Naoya; Ota, Yoshiaki) On angular estimate of analytic functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 70–73. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Koike, Naoya; Ota, Yoshiaki) On meromorphic convex and starlike functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 74–77. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Yamakawa, Rikuo; Koike, Naoya; Ota, Yoshiaki) Sufficient conditions for starlikeness of meromorphic functions. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 78–81. (*see* **99a:00033**) 30C45

Ikeda, Daisuke (*with* Arimura, Hiroki) The computational complexity of hereditary elementary formal systems. (English summary) The theory of computing and its applications (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 992 (1997), 207–214. (Summary) **99d:68084** 68Q15 (03D15, 68Q05, 68Q45)

Ikeda, Fumio Criteria for conformal flatness of Finsler spaces. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 63–68. (Mihai Anastasiei) **99k:53027** 53B40

Ikeda, Hideo (*with* Rodrigo, Marianito R.) Travelling front waves in parallel coupled nerve fibers. *Math. J. Toyama Univ.* **19** (1996), 211–252. (Qi Xiao Ye) **99d:35166** 35Q80 (35B25, 35K57, 92C20)

— Bifurcation of pulse waves from front and back waves in bistable reaction-diffusion systems. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 60–67, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35B25 (34B15, 35K57)

— (*with* Ikeda, Tsutomu; Mimura, Masayasu) Global structure of travelling pulse solutions in some reaction-diffusion systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 85–92, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57 (35B25, 35B32)

Ikeda, K. *see* **Ikeda, Kiyohiro**

Ikeda, Kazufumi (*with* Sugimoto, Nobumasa) An integral equation method for the Burgers equation that takes geometrical spreading into consideration. (Japanese. English summary) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 46–56. (*see* **99a:00032**) 35Q53 (45D05, 76Q05)

Ikeda, Kenji (*with* Shin, Seiichi) Adaptive stabilization of minimum phase plants with relative degree n or $n+1$. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 290–296. 93D21 (93C40)

Ikeda, Kensuke S. Irreversibility and quantum chaos. (English summary) *The impact of chaos on science and society* (*Tokyo*, 1991), 146–175, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 81Q50 (58F13)

— (*with* Shudo, Akira) Chaotic tunneling: a remarkable manifestation of complex classical dynamics in non-integrable quantum phenomena. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 234–292. (Summary) **99b:81062** 81Q50 (58F13, 81Q20)

Ikeda, Kiyohiro (*with* Nakazawa, M.) Bifurcation hierarchy of a rectangular plate. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 7-8, 593–617. (B. V. Loginov) **99a:73075** 73H05 (58E09, 73K10)

— (*with* Murota, Kazuo; Terada, Kenjiro) Bifurcation mechanism underlying echelon-mode formation. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 423–448. (Summary) **99m:73042** 73H05 (73B10)

Ikeda, Koichiro (*with* Pillay, Anand; Tsuboi, Akito) On theories having three countable models. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 161–166. (G. Cherlin) **99m:03061** 03C15 (03C35, 03C45)

Ikeda, Masao (*with* Wada, Teruyo; Ohta, Yuzo; Šiljak, Dragoslav D.) Parametric absolute stability of Lur′e systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1649–1653. (Summary) **99h:93091** 93D20 (34D99, 34H05)

— (*with* Fujisaki, Yasumasa; Duan, Yiran) A system representation and a control strategy based on an input-output data array. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 11, 630–637. 93A30 (93B51)

— (*with* Muramatsu, Eiichi; Hoshii, Naoki) An interpolated controller for stabilization of a plant with variable operating conditions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 76–81. (Summary) **99j:93084** 93D15

Ikeda, Masatoshi G. (*with* Akyıldız, Ersan; Güloğlu, İsmail Ş.) Weight equations for binary linear codes and their applications. (English and Turkish summaries) Meeting in Honor of Cahit Arf (Istanbul, 1995). *Turkish J. Math.* **21** (1997), *Special Issue*, 1–14. (Raymond Hill) **99f:94014** 94B05

— Cahit Arf's contribution to algebraic number theory and related fields. *Turkish J. Math.* **22** (1998), *no.* 1, 1–14. (W. Narkiewicz) **99f:11001** 11–03 (01A70, 11E04, 11R56, 11S15)

— A remark on the non-existence of generalized bent functions. *Number theory and its applications* (*Ankara*, 1996), 109–119, *Lecture Notes in Pure and Appl. Math.*, 204, *Dekker, New York*, 1999. (Dingyi Pei) **99k:11188** 11T71 (11T22)

Ikeda, Nobuyuki (*with* Kusuoka, Shigeo) Short time asymptotics for fundamental solutions of heat equations with boundary conditions. (English summary) *New trends in stochastic analysis* (*Charingworth*, 1994), 182–219, *World Sci. Publishing, River Edge, NJ*, 1997. (Kazuaki Taira) **99k:35076** 35K20 (35A08, 35B40)

Ikeda, Noriaki[2] How to solve quantum nonlinear abelian gauge theory in two dimensions in the Heisenberg picture. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3245–3254. (Summary) **99b:81142** 81T10

Ikeda, Satoshi[1] Some remarks on the Finsler metric $g_{ij}(x,y) = e^{2\sigma(x,y)}\gamma_{ij}(x)$. (English summary) *J. Nat. Acad. Math. India* **10** (1992/96), 122–125 (1997). (László Kozma) **99a:53018** 53B40

— On the theory of gravitational field in Finsler spaces. IV. (French summary) *Mem. Secț. Științ. Acad. Română Ser. IV* **17** (1994), 43–49 (1997). (Mihai Anastasiei) **99a:83056** 83D05 (53B50)

Ikeda, T. *see* **Ikeda, Tsutomu**

Ikeda, Takayuki (*with* Tanaka, Kazuo[1]; Wang, Hua O.) A unified approach to controlling chaos via an LMI-based fuzzy control system design. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 10, 1021–1040. 93C42 (58F13, 58F40)

Ikeda, Takeshi ★ Coset constructions of conformal blocks. Dissertation, Tohoku University, Sendai, 1996. Tohoku Mathematical Publications, 3. *Tohoku University, Mathematical Institute, Sendai*, 1996. ii+55 *pp.* (Stanislav Z. Pakuliak) **99d:81142** 81T40 (17B68, 81R10)

Ikeda, Tamotsu Gamma factors of triple L-functions (holomorphic case). (Japanese) Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 151–159. (Hideshi Takayanagi) **99g:11065** 11F66 (11F67, 11F70)

— On some functional equation of a prehomogeneous space of symmetric matrices. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 21–30. (*see* **99a:11006**) 11S40 (11S80)

Ikeda, Tomohiro (*with* Sakawa, Masatoshi; Inuiguchi, Masahiro; Kato, Kosuke) An interactive fuzzy satisficing method for multiobjective optimal control problems in linear distributed-parameter systems. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 237–246. 90C70 (93C42)

Ikeda, Toshiharu (*with* Mitsukawa, Atsushi) On a class of simple Lie algebras with a basis indexed by $\mathbf{Z}^2$. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 17–23. (Oleg Smirnov) **99k:17019** 17B20

Ikeda, Tsutomu (*with* Ikeda, Hideo; Mimura, Masayasu) Global structure of travelling pulse solutions in some reaction-diffusion systems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 85–92, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57 (35B25, 35B32)

— (*with* Ueda, Akiho) Parallel computation of interfacial dynamics. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 52–61, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:65234** 65Y05 (65M55)

Ikeda, Yoshito (*with* Tanaka, Yoshio) Closed projections. *Questions Answers Gen. Topology* **16** (1998), *no.* 1, 25–32. (Ilija Kovačević) **99f:54014** 54C10 (54D20)

Ikegami, Takashi (*with* Sato, Yuzuru; Taiji, Makoto) Self-similar sets as satisfiable Boolean expressions. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 352–370, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (Summary) **99h:68058** 68Q15 (03B05, 03D15, 68Q05)

— (*with* Taiji, Makoto) Structures of possible worlds in a game of players with internal models. (English summary) *Acta Polytech. Scand. Math. Comput. Manage. Eng. Ser.* **1998**, *no.* 91, 283–292. 90D40 (03B45)

Ikehata, Masaru Reconstruction of the shape of the inclusion by boundary measurements. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1459–1474. (Serge Lvin) **99f:35222** 35R30 (35J25)

— Reconstruction of an obstacle from the scattering amplitude at a fixed frequency. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 949–954. (Summary) **99e:35242** 35R30 (35J05)

— Size estimation of inclusion. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 2, 127–140. (B. Belinskiy) **99g:73036** 73C99 (35Q72, 35R30)

— Reconstruction of a source domain from the Cauchy data. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 637–645. (Summary) **99m:35263** 35R30 (35J05)

Ikehata, Ryo (*with* Matsuyama, Tokio; Nakao, Mitsuhiro) Global solutions to the initial-boundary value problem for the quasilinear viscoelastic wave equation with a perturbation. *Funkcial. Ekvac.* **40** (1997), *no.* 2, 293–312. (Sophia Demoulini) **99h:35141** 35L70 (35B40, 73F15)

Ikemori, Hitoshi (*with* Kitakado, Shinsaku; Nakatani, Hajime; Otsu, Hideharu; Sato, Toshiro[2]) Quantum mechanics on S^n and meron solution. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 15–21. (Bernd J. Schroers) **99h:81101** 81S10 (81T10)

Iki, Tetsuichiro (*with* Iwamoto, Seiichi) An inverse assignment problem. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 163–175. (*see* **99b:90009**) 90C27

Ikota, Ryo (*with* Ei, Shin-Ichiro; Mimura, Masayasu) A three phase partition problem arising in a competition-diffusion system. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 55–63, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K57 (35Q55)

— (*with* Ishimura, Naoyuki; Mimura, Masayasu; Yamaguchi, Tomohiko) On the structure of steady solutions for the kinematic model of spiral waves in excitable media. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 223–228, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:92009** 92C05 (92E20)

Ikram, Mohd. (*with* Hussain, Tahir) The concept of transportation time in a special class of N-jobs, 2-machines sequencing problem with minimization of a lateness cost function. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 47–53. 90B35 (90B30)

Ikramov, Khakim D. On a unitary factor of a polar decomposition of a positively stable matrix. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 46–50; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 40–43. 65F30

— On the normal dilatation of triangular matrices. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 861–872, 959; *translation in Math. Notes* **60** (1996), *no.* 5-6, 649–657 (1997). (Aurelian Gheondea) **99f:15035** 15A57 (47A20)

— (*with* Williamson, Clifton James) On the Hegland-Marti inverse eigenvalue problem. (Russian) *Mat. Zametki* **61** (1997), *no.* 1, 144–148; *translation in Math. Notes* **61** (1997), *no.* 1-2, 120–124. (Yao Zhang) **99f:15011** 15A18 (65F15)

— (*with* Savel'eva, N. V.; Chugunov, V. N.) Rational criteria for the existence of common eigenvectors or invariant subspaces. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 3, 43–57; *translation in Program. Comput. Software* **23** (1997), *no.* 3, 153–163. (Vladimir Rakočević) **99e:15011** 15A18 (15A21)

— (*with* Savel'eva, N. V.; Chugunov, V. N.) On computer-algebra procedures that check for common eigenvectors or invariant subspaces. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 269–282. (Jin Yun Yuan) **99j:15015** 15A18 (65F15)

— (*with* Chugunov, V. N.) On the conditionality of the eigenvalues near the boundary of the numerical range of a matrix. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 2, 159–160. 15A18 (15A12, 15A60, 65F15)

— (*with* Chugunov, V. N.) On the skew-symmetric part of the product of Toeplitz matrices. (Russian) *Mat. Zametki* **63** (1998), *no.* 1, 138–141; *translation in Math. Notes* **63** (1998), *no.* 1-2, 124–127. (Anna Lee) **99e:15028** 15A57 (15A21)

— On products of symmetric, skew-symmetric, Hermitian and involutory matrices. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 8–11, 52; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 1, 10–15. (Mihail Voicu) **99e:15027** 15A57

— (*with* Savel'eva, N. V.) Efficient computer algebra implementation of the Schur-Cohn-Fujiwara criterion. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 9–12, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 9–14. (Summary) **99d:65156** 65H05 (12D10)

— On a pseudo-unitary QR-algorithm for pseudo-Hermitian matrices. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 709–712; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 679–682. (Florica Luban) **99g:65051** 65F25

— (*with* Savel'eva, N. V.) On some quasi-diagonalizable families of matrices. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1075–1084; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1026–1035. (V. V. Sergeĭchuk) **99e:15015** 15A21

— Shin's formulas for eigenpairs of symmetric tridiagonal 2-Toeplitz matrices. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 119–120. (Summary) **99k:15016** 15A18 (15A57)

— (*with* George, Alan) Common invariant subspaces of two matrices. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 171–179. (John P. Daughtry) **99k:15014** 15A18

— (*with* Chugunov, V. N.) On algebras generated by pairs of conjugate matrices. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1999**, *no.* 1, 49–50. 15A30

— (*with* Savel'eva, N. V.) Computer-algebra procedures for verifying the definiteness of a matrix on a subspace. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 3, 357–370. (Summary) **99m:65099** 65F99 (15A48)

Ikromov, I. A. On the convergence exponent of trigonometric integrals. Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 179–189. (Elijah Liflyand) **99i:11064** 11L03 (11L07, 42A38)

Ikumi, Keita (*with* Shiromizu, Tetsuya) Freely falling 2-surfaces and the effective gravitational mass. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 73–90. (Summary) **99j:83028** 83C40

Ilarslan, K. (*with* Ekmekçi, N.) Higher curvatures of a regular curve in Lorentzian space. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 97–102. (Dean E. Allison) **99k:53022** 53B30

Il'chenko, A. V. (*with* Dikhtyar', A. I.) Oscillation of membranes in an incompressible fluid. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2470–2473. (Summary) **99g:73089** 73K70 (73D30, 73K10, 76B99)

Ilchmann, Achim Adaptive λ-tracking for polynomial minimum phase systems. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 341–371. 93C40 (93D15)

— (*with* Logemann, Hartmut) Adaptive λ-tracking for a class of infinite-dimensional systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 11–21. (Summary) **99c:93061** 93C25 (93C40)

kohr-Ile, Mirela *see* **Kohr-Ile, Mirela**

Il'ev, Victor P. (*with* Parfenova, Irina B.) On the games over matroids. *Operations Research Proceedings* 1997 (*Jena*), 270–275, *Springer, Berlin*, 1998. (Daniel Elliott Loeb) **99m:90186** 90D46

— (*with* Ofenbakh, I. V.) Optimization models and algorithms of constructing reliable networks. *Systems modelling and optimization* (*Detroit, MI*, 1997), 237–244, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B10 (90C90)

Il'gisonis, V. I. (*with* Pastukhov, V. P.) Hidden symmetry and conservation laws in magnetohydrodynamic systems with nested magnetic surfaces. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 38–40. 76W05 (35Q35)

Iliadis, S. D. Acknowledgement concerning two papers on rational dimension. Comment on: "Rational spaces and the property of universality" [Fund. Math. **131** (1988), no. 3, 167–184; MR 90a:54097]. *Fund. Math.* **158** (1998), *no.* 1, 95. (From the text) **99i:54049** 54F50

Ilias, Saïd (*with* El Soufi, Ahmad; Ros, Antonio) Sur la première valeur propre des tores. [On the first eigenvalue of the torus] *Séminaire de Théorie Spectrale et Géométrie, No. 15, Année* 1996–1997, 17–23, *Sémin. Théor. Spectr. Géom., 15, Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (Noureddine Rahmani) **99e:58192** 58G25

Iliash, Yu. (*with* Hoppe, Ronald H. W.; Kuznetsov, Yuriĭ Alekseevich[1]; Vasilevskiĭ, Yu. V.; Wohlmuth, Barbara I.) Analysis and parallel implementation of adaptive mortar element methods. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 223–248. (Dao Qi Yang) **99m:65237** 65N55

Ilić, Snežana M. (*with* Petković, Miodrag S.; Herceg, Djordje) ★ Point estimation theory and its applications. *University of Novi Sad, Institute of Mathematics, Novi Sad*, 1997. vi+168 *pp. ISBN* 86-7031-003-1 (W. Govaerts) **99f:65078** 65H10

— (*with* Tričković, Slobodan B.) A family of simultaneous methods for finding zeros of analytic functions. (English summary) *Filomat No.* 11 (1997), 41–47. (Summary) **99b:65067** 65H05 (30C15)

— (*with* Petković, Miodrag S.; Herceg, Djordje) Point estimation and some applications to iterative methods. (English summary) *BIT* **38** (1998), *no.* 1, 112–126. (De Ren Wang) **99e:65087** 65H05 (65G10)

— (*with* Herceg, Djordje) Safe convergence of Tanabe's method. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 51–60. (Summary) **99h:65103** 65H05

— (*with* Herceg, Djordje; Petković, Miodrag S.) On the convergence of Halley-like method. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 61–70. (Iliya Makrelov) **99m:65108** 65H05

— (*with* Petković, Miodrag S.; Herceg, Djordje) Safe convergence of simultaneous methods for polynomial zeros. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 313–331. (T. L. Freeman) **99j:65091** 65H05

Il'ichev, A. *see* **Il'ichev, A. T.**

Il'ichev, A. P. (*with* Kogan, G. P.; Shevchenko, V. N.) Polynomial algorithms for computing the permanents of some matrices. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 96–100. (G. P. Egorychev) **99c:15009** 15A15

Il'ichev, A. T. Periodic and quasi-periodic Alfvenic structures in a cold plasma. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 275–281, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:76121** 76W05 (35B10, 35Q99)

— (*with* Marchenko, A. V.) Formation of nonlinear waveguides under resonance interaction of three surface waves. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 190–201; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 2, 183–193. (Summary) **99c:76011** 76B15

— Solitary and generalized solitary waves in dispersive media. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 606–620; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 587–600. (Anatoly M. Kamchatnov) **99e:35190** 35Q51 (35Q35, 76B25, 76D33)

— (*with* Hărăguş-Courcelle, Mariana) Three-dimensional solitary waves in the presence of additional surface effects. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 5, 739–768. (Summary) **99f:76030** 76B25 (76B15, 76B45, 86A05)

— Faraday resonance: asymptotic theory of surface waves. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 327–351. (E. Cumberbatch) **99i:76014** 76B15 (76B25)

— (*with* Brevdo, Leonid) Exponential neutral stability of a floating ice layer. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 401–419. (Summary) **99c:73064** 73N20 (73D15, 73H99, 73K70, 76B99, 86A05)

— (*with* Bakholdin, I.) Solitary wave decay in non-linear Faraday resonance. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 93–102. (Summary) **99j:76018** 76B25

Il'ichev, V. G. Delta functions and competition theory in a changing environment. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 115–127; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 2, 1627–1637 (1997). (Summary) **99a:92035** 92D40 (34K15)

— Delta functions and the investigation of Volterra ecological models in a changing environment. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 23–33; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 4, 20–30. (Stanisław Sędziwy) **99h:92039** 92D40 (34A37, 34D05)

Ilie, Lucian A new type of self-reading sequences. (English summary) *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 5-6, 409–421. (Patrice Séébold) **99i:68096** 68R15

— On ambiguity in internal contextual languages. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 29–45, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (Summary) **99i:68099** 68S05 (68Q45)

— Generalized factors of words. (English summary) *Fund. Inform.* **33** (1998), *no.* 3, 239–247. (Pascal Weil) **99k:68151** 68R15 (20M05)

— (*with* Salomaa, Arto) 2-testability and relabelings produce everything. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 3, 253–262. (Juhani Karhumäki) **99m:68106** 68Q45

— (*with* Harju, Tero) On quasi orders of words and the confluence property. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 205–224. (Pascal Weil) **99e:68091** 68Q45 (68Q42)

— (*with* Salomaa, Arto) On well quasi orders of free monoids. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 131–152. (Dong Yang Long) **99g:68114** 68Q45 (20M05)

Iliev, Bozhidar Z. Is the principle of equivalence a principle? (English summary) *J. Geom. Phys.* **24** (1998), *no.* 3, 209–222. (Paul E. Ehrlich) **99e:53097** 53C50 (53C80, 83C99)

— Normal frames and the validity of the equivalence principle. III. The case along smooth maps with separable points of self-intersection. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1287–1296. (S. Timothy Swift) **99f:53022** 53B50 (53B05, 83D05)

Iliev, Christo On the non-integrability of a Hamiltonian system resulting from a problem for elastic string. (English and Russian summaries) *Annuaire Univ. Sofia Fac. Math. Inform.* **88** (1994), *no.* 2, 57–69 (1996). (M. I. Monastyrskiĭ) **99f:73047** 73K03 (58F40, 70H05)

Iliev, Iliya D. Inhomogeneous Fuchs equations and the limit cycles in a class of near-integrable quadratic systems. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1207–1217. (Dmitri Novikov) **99c:34051** 34C05 (34A20)

— Perturbations of quadratic centers. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 2, 107–161. (Douglas S. Shafer) **99a:34082** 34C05 (34C23)

— (*with* Horozov, Emil) Linear estimate for the number of zeros of Abelian integrals with cubic Hamiltonians. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1521–1537. (Pavao Mardešić) **99j:34036** 34C05 (58F21)

Iliev, Oleg P. On numerical solution of 3D elliptic problems with highly varying coefficients. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 229–238, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N30

— *see also* **Large-scale scientific computations of engineering and environmental problems, 99m:65006**

Iliev, Plamen (*with* Haine, Luc) The bispectral property of a q-deformation of the Schur polynomials and the q-KdV hierarchy. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7217–7227. (Alexander V. Shapovalov) **99c:58071** 58F07 (17B37, 33D80)

— Solutions to Frenkel's deformation of the KP hierarchy. (English summary) *J. Phys. A* **31** (1998), *no.* 12, L241–L244. (Iskander A. Taimanov) **99c:58073** 58F07 (17B99)

— Tau function solutions to a q-deformation of the KP hierarchy. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 187–200. (Alexander V. Shapovalov) **99f:58098** 58F07 (35Q53)

Iliev, S. D. On a hysteresis model for the capillary contact angle. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 674–681; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 649–656. (Summary) **99c:76040** 76D45

Ilieva-Douglas, Nina Kids walking on a D-brane. *Strings, branes and dualities* (*Cargèse*, 1997), 477–483, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 520, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:81009**) 81–01 (81T30)

Il'in, A. A. Best constants in multiplicative inequalities for sup-norms. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 84–96. (E. Thandapani) **99m:26024** 26D07

Il'in, A. M. (*with* Gadyl'shin, R. R.) Asymptotics of the eigenvalues of the Dirichlet problem in a domain with a narrow crack. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 25–48; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 503–526. (Kamoliddin Kh. Boimatov) **99k:35138** 35P20 (35B25, 35J25)

— The boundary layer [MR 91i:35020]. *Partial differential equations, V*, 173–210, 241–247, *Encyclopaedia Math. Sci.*, 34, *Springer, Berlin*, 1999. (*see* **99i:35002**) 35B25 (34E15, 35B40)

Il'in, A. V. (*with* Korovin, S. K.; Fomichev, V. V.) Algorithms for the inversion of linear scalar dynamical systems: the controlled model method. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 329–339, 429; *translation in Differential Equations* **33** (1997), *no.* 3, 326–336. (Ülle Kotta) **99c:93043** 93B40 (93B17)

Ilin, Andrew V. (*with* Bagheri, Babak; Metcalfe, Ralph W.; Scott, L. Ridgway) Error control and mesh optimization for high-order finite element approximation of incompressible viscous flow. (English summary) Symposium on Advances in Computational Mechanics, Vol. 2 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **150** (1997), *no.* 1-4, 313–325. (Summary) **99a:76085** 76M10 (65M60)

Il'in, I. V. Application of symbolic dynamics to verify the transversality condition. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 486–494, 574; *translation in Differential Equations* **33** (1997), *no.* 4, 487–495. (Alexander Loskutov) **99g:58044** 58F03 (34C35, 58F25)

— Investigation of a global scheme for a dynamical system by the methods of symbolic dynamics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 762–767, 861; *translation in Differential Equations* **33** (1997), *no.* 6, 765–770 (1998). (Krzysztof Ciesielski) **99g:34099** 34C35 (54H20, 58F03)

Ilin, K. I. (*with* Vladimirov, Vsevolod A.) Generalized isovorticity principle for ideal magnetohydrodynamics. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 161–177, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Darryl D. Holm) **99k:76157** 76W05 (76E25, 76M30)

— (*with* Vladimirov, Vsevolod A.) Note on the nonlinear stability of stratified fluid equilibria. (English summary) *Phys. D* **118** (1998), *no.* 1-2, 123–133. (Stefan G. Llewellyn Smith) **99f:76063** 76E30 (76E20, 76V05, 86A10)

— (*with* Vladimirov, Vsevolod A.) The three-dimensional stability of steady magnetohydrodynamic flows of an ideal fluid. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4199–4204. (Summary) **99g:76060** 76E25 (76W05)

Il'in, S. N. Invertibility of matrices over ordered algebraic systems. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 551–559, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 476–483. (Predrag S. Stanimirović) **99g:15005** 15A09 (06F25)

Il'in, V. A. *see* **Il'in, Vladimir Aleksandrovich[1]**

Il'in, Valeriĭ Pavlovich (*with* Gololobova, S. P.; Itskovich, E. A.) ★ ФАКТОР: библиотека программ для решения сеточных уравнений. (Russian. English and Russian summaries) [FAKTOR: a library of programs for solving difference equations] Препринт. Вычислительный Центр. Российская Академия Наук. Сибирское Отделение [Preprint. Computing Center. Russian Academy of Sciences. Siberian Branch], 1079. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1996. 34 *pp.* 65–04

— (*with* Laevskii, K. Yu.) Generalized compensation principle in incomplete factorization methods. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 5, 399–420. (Dimitrios Noutsos) **99b:65035** 65F10

— (*with* Gur'eva, Ya. L.) On second-order finite volume approximations for 3D mixed boundary value problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 6, 481–500. (Adélia Sequeira) **99h:65203** 65N38 (65N06, 76R50)

— (*with* Gur'eva, Ya. L.) Computational aspects of finite volume methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1860–1876; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1783–1800. (Summary) **99i:65120** 65N22 (65N15)

Il'in, Vladimir Aleksandrovich[1] (*with* Izobov, N. A.; Kiguradze, I. T.; Kudryavtsev, L. D.; Maksimov, V. P.; Shemyakina, T. K.) Nikolaĭ Viktorovich Azbelev (on the occasion of his seventy-fifth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 4, 435–439; *translation in Differential Equations* **33** (1997), *no.* 4, 433–438. (Editors) **99k:01062** 01A70

— One more generalization of the Bessel inequality and the Riesz-Fischer theorem for a Fourier series in a uniformly bounded orthonormal system. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 211–219. (V. Totik) **99j:42003** 42A16 (42B05)

— (*with* Boĭchuk, A. A.; Gaĭshun, I. V.; Izobov, N. A.; Mitropol'skiĭ, Yuriĭ Alekseevich; Perestyuk, N. A.) Anatoliĭ Mikhaĭlovich Samoĭlenko (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 1, 3–6; *translation in Differential Equations* **34** (1998), *no.* 1, 1–4. (Editors) **99k:01046** 01A70

— (*with* Moiseev, Evgeniĭ Ivanovich) An upper bound taken on the diagonal for the spectral function of the multidimensional Schrödinger operator with a potential satisfying the Kato condition. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 359–369, 430; *translation in Differential Equations* **34** (1998), *no.* 3, 358–368. (Alimdjan R. Khalmukhamedov) **99m:35177** 35P15 (35J10, 47F05)

— *see also* **Birthday: Il'in, Vladimir Aleksandrovich[1]**

Il'ina, G. V. *see* **Algebraic geometry, 99e:00032**

Ilinca, Florin (*with* Hétu, Jean-François; Pelletier, Dominique) Process modeling and optimization: issues and challenges. (English summary) *Computational methods for optimal design and control* (*Arlington, VA*, 1997), 249–263, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99d:49001**) 93A30 (90C90)

Il'inskaya, I. P. Arithmetic of a semigroup of series in Legendre functions of the second kind. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 357–373. (Alexander Ulanovskiĭ) **99c:60036** 60E99 (33C45)

Ilinski, K. N. *see* **Il'inskiĭ, K. N.**

Il'inskiĭ, A. I. (*with* Chistyakov, G. P.) On the characterization of probability distributions by the absolute moments of partial sums. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 3, 473–481; *translation in Theory Probab. Appl.* **42** (1997), *no.* 3, 426–432 (1998). (Dominik Szynal) **99e:60041** 60E05 (60G50)

— On convolution of entire probability densities. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 165–181. (Summary) **99f:30046** 30D20 (60E05)

Il'inskiĭ, A. S. (*with* Apel'tsin, V. F.) High-frequency projection method for plane problems of wave diffraction on dielectric bodies. (English summary) Numerical methods in mathematical physics. Inverse problems of natural science. *Comput. Math. Model.* **8** (1997), *no.* 3, 237–244. (Charles I. Goldstein) **99b:78002** 78–08 (78A45)

— (*with* Kapustin, Yu. Yu.; Samokhin, A. B.) A mathematical model of the problem of diffraction by a nonhomogeneous cylindrical body. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1563–1571. (Summary) **99j:78022** 78A45 (78–08)

Il'inskii, Alexander *see* **Il'inskiĭ, A. I.**

Il'inskiĭ, K. N. (*with* Borisov, N. V.; Kalinin, G. V.) New index formulas as a meromorphic generalization of the Chern-Gauss-Bonnet theorem. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 249–262. (Akira Asada) **99e:58173** 58G10 (81Q60)

Il'inskiĭ, N. B. (*with* Elizarov, A. M.; Potashev, A. V.) ★ Mathematical methods of airfoil design. (English summary) Inverse boundary-value problems of aerohydrodynamics. Translated from the 1994 Russian original by A. Fokin and revised by the authors. *Akademie Verlag, Berlin*, 1997. 292 *pp. ISBN* 3-05-501701-3 (Editors) **99d:76054** 76G25 (76B05, 76D10, 76H05, 76N20)

— (*with* Abzalilov, D. F.; Aksent'ev, L. A.) An inverse boundary value problem for an airfoil with a suction slot. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 80–87; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 75–82. (Summary) **99b:76006** 76B05

— (*with* Kasimov, A. R.; Yakimov, N. D.) Analytical solutions of seepage theory problems. Inverse method, variational theorems, optimization and estimates (a review). *Fluid Dynam.* **33** (1998), *no.* 2, 157–168; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 3–19 (*Russian. Russian summary*). (Summary) **99h:76086** 76S05 (86A05)

Il'inskiĭ, S. V. Estimates for the degree of correct algebraic closure for families of heuristic algorithms. II. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 67–79, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68T20

Il'inskiy, N. B. *see* **Il'inskiĭ, N. B.**

Il'inykh, A. P. The Hering plane and associated block designs. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 873–881, 959; *translation in Math. Notes* **60** (1996), *no.* 5-6, 658–665 (1997). (V. A. Zinov'ev) **99f:05014** 05B05 (05B25)

Iliopoulos, C. S. (*with* Crochemore, Maxime; Korda, M.) Two-dimensional prefix string matching and covering on square matrices. (English summary) *Algorithmica* **20** (1998), *no.* 4, 353–373. (Ding Zhu Du) **99f:68078** 68Q20 (68R15)

Iliopoulos, George (*with* Kourouklis, Stavros) On improved interval estimation for the generalized variance. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 305–320. (Summary) **99a:62034** 62F25

Iliopoulos, J. (*with* Tomaras, T. N.; Tsamis, N. C.; Woodard, R. P.) Perturbative quantum gravity and Newton's law on a flat Robertson-Walker background. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 419–446. (Summary) **99g:83035** 83C45

Illanes, Alejandro The openness of induced maps on hyperspaces. *Colloq. Math.* **74** (1997), *no.* 2, 219–224. (Douglass L. Grant) **99b:54016** 54C05 (54B20)

— (*with* Torres, Roberto) The dimension of Whitney levels of a finite graph. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 263–273. (James T. Rogers, Jr.) **99b:54013** 54B20 (54C50)

— Pairs of indecomposable continua whose product is mutually aposyndetic. (English summary) *Topology Proc.* **22** (1997), 239–246. (Summary) **99j:54032** 54F15 (54B10)

— (*with* Charatonik, Janusz J.) Homotopy properties of curves. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 573–580. (Leonard R. Rubin) **99k:54027** 54F50 (54F15, 54H99, 55M99)

— (*with* Charatonik, Janusz J.; Charatonik, Włodzimierz J.) Remarks on unicoherence at subcontinua. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 3, 629–636. (James T. Rogers, Jr.) **99k:54024** 54F15 (54F55)

— (*with* Nadler, Sam B., Jr.) ★ Hyperspaces. (English summary) Fundamentals and recent advances. Monographs and Textbooks in Pure and Applied Mathematics, 216. *Marcel Dekker, Inc., New York*, 1999. *xx*+512 *pp. ISBN* 0-8247-1982-4 (L. E. Ward, Jr.) **99m:54006** 54B20 (54–02, 54C56, 54F15, 54H25)

Illarionova, O. G. On the stability of the *k*th general exponent of a linear system of differential equations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 9, 1171–1174, 1293; *translation in Differential Equations* **32** (1996), *no.* 9, 1173–1176 (1997). (E. A. Barabanov and E. K. Makarov) **99e:34061** 34D08 (34D10)

Ille, Pierre (*with* Rampon, Jean-Xavier) Reconstruction of posets with the same comparability graph. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 368–377. (Bernd S. W. Schröder) **99j:05148** 05C60 (06A06)

Illés, Tibor (*with* Kassay, Gábor) Perfect duality for *K*-convexlike programming problems. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 69–78. (Summary) **99c:90090** 90C25 (49N15)

— (*with* Roos, Cornelis; Terlaky, Tamás) Polynomial affine-scaling algorithms for $P_*(\kappa)$ linear complementary problems. (English summary) *Recent advances in optimization (Trier, 1996)*, 119–137, *Lecture Notes in Econom. and Math. Systems*, 452, *Springer, Berlin*, 1997. (S. R. Mohan) **99a:90211** 90C33

Illgner, Klaus (*with* Müller, Frank; Brigger, Patrick; Unser, Michael) Multiresolution approximation using shifted splines. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 9, 2555–2558. 94A11

Il'icheva, L. M. (*with* Leonenko, Nikolai N.) Asymptotic properties of the sample mean of a class of non-Gaussian random fields. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 38–46; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 39–48. (Leonid I. Piterbarg) **99e:60118** 60G60 (62E20, 62F12)

Illies, Georg Regularisierte Produkte, Spurformeln und Cramér-Funktionen. [Regularized products, trace formulas and Cramér functions] *Schriftenreihe des Mathematischen Instituts der Universität Münster. 3. Serie, Heft* 22, *ii*+185 *pp., Schriftenreihe Math. Inst. Univ. Münster 3. Ser.*, 22, *Univ. Münster, Münster*, 1998. (Stefan Kühnlein) **99j:11100** 11M36

Illner, R. (*with* Kavian, O.; Lange, Horst R.) Stationary solutions of quasi-linear Schrödinger-Poisson systems. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 1–16. (Nakao Hayashi) **99d:35152** 35Q55 (82D99)

— (*with* Victory, H. D.; Dukes, Peter; Bobylëv, A. V.) On Vlasov-Manev equations. II. Local existence and uniqueness. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 625–654. (Carlo Cercignani) **99i:85001** 85A05 (45K05, 70F10, 76X05, 82D10)

— (*with* Gasser, Ingenuin; Markowich, Peter A.; Schmeiser, Christian) Semiclassical, $t \to \infty$ asymptotics and dispersive effects for Hartree-Fock systems. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 699–713. (Peter E. Zhidkov) **99k:35164** 35Q55

Illuminati, Fabrizio (*with* Morato, Laura M.) Stochastic variational quantization of dissipative systems. (English summary) *New perspectives in the physics of mesoscopic systems (Caserta*, 1996), 152–164, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81026** 81P20 (81S20)

Illusie, Luc Contractibilité du groupe linéaire des espaces de Hilbert de dimension infinie (d'après N. Kuiper). [Contractibility of the linear group of infinite-dimensional Hilbert spaces (after N. Kuiper)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 284, 105–113, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 58B25 (22E65, 55P15, 57N20)

Ilolov, M. On the Hale equations with unbounded operators in a Banach space. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 5, 267–270 (1992). 34K30 (47D06, 47N20)

— (*with* Samoĭlenko, Anatoliĭ Mikhaĭlovich) Invariant tori of differential equations in a Banach space. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **50** (1998), *no.* 1, 13–21; *translation in Ukrainian Math. J.* **50** (1998), *no.* 1, 13–23. (From the text) **99m:34064** 34C05 (34G20)

Ilori, Samuel A. (*with* Ajayi, Deborah O.) Non-embeddings of the real flag manifolds $\mathrm{RF}(1, 1, n-2)$. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 51–55. (R. E. Stong) **99k:57061** 57R40 (57R20, 57R42)

Iltyakov, A. V. (*with* Bernad, J.; González, Santos; Martínez López, Consuelo) On identities of baric algebras and superalgebras. *J. Algebra* **197** (1997), *no.* 2, 385–408. (Irvin Roy Hentzel) **99a:17034** 17D92 (17A30, 17A70)

— On algebras of generic elements of simple Lie algebras. *Comm. Algebra* **26** (1998), *no.* 5, 1465–1473. (Gordon E. Brown) **99b:17037** 17B99

— Laplace operator and polynomial invariants. (English summary) *J. Algebra* **207** (1998), *no.* 1, 256–271. (Frank D. Grosshans) **99j:13003** 13A50 (17A36, 20G05)

— (*with* Bernad, J.; González, Santos; Martínez López, Consuelo) Polynomial identities of Bernstein algebras of small dimension. (English summary) *J. Algebra* **207** (1998), *no.* 2, 664–681. (Irvin Roy Hentzel) **99g:17056** 17D92 (17A30)

Il'yashenko, Yu. S. (*with* Anosov, D. V.; Aranson, S. Kh.; Arnol'd, Vladimir Igorevich; Bronshteĭn, I. U.; Grines, V. Z.) ★ Ordinary differential equations and smooth dynamical systems. Translated from the 1985 Russian original by E. R. Dawson and D. O'Shea. Third printing of the 1988 translation [*Dynamical systems. I*, Encyclopaedia Math. Sci., 1, Springer, Berlin, 1988; MR 89g:58060]. *Springer-Verlag, Berlin*, 1997. *vi*+233 *pp. ISBN* 3-540-61220-3 (Robert Roussarie) **99h:58053** 58Fxx (34Axx, 34Cxx, 54H20)

— (*with* Li, Weigu) ★ Nonlocal bifurcations. (English summary) Mathematical Surveys and Monographs, 66. *American Mathematical Society, Providence, RI*, 1999. *xiv*+286 *pp. ISBN* 0-8218-0497-9 (Todd Ray Young) **99m:58139** 58F14 (34C23, 34C35, 58F09, 58F15, 58F36)

— (*with* Gerver, M. L.; Ibragimov, A. I.; Kondrat'ev, Vladimir) Evgenii Mikhailovich Landis [1921–1997]. *Appl. Anal.* **71** (1999), *no.* 1-4, 9–23. 01A70

— *see also* **Khovanskiĭ, A. G., 99f:14070**

Il'yasov, N. A. On the direct theorem in the theory of approximations of periodic functions in different metrics. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 220–234. (J. Szabados) **99i:42004** 42A10 (41A17)

Il'yasov, Ya. Sh. The action functional on the manifold of ground states. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 3, 438–449; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 3, 1546–1555 (1996). (Yu. P. Rybakov) **99e:58039** 58E05 (35J60)

— The Euler functional for equations with the p-Laplacian as a function of a spectral parameter. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 182–193. (P. Lindqvist) **99h:35154** 35P30 (35J60, 35J70)

Ilyin, A. A. *see* **Il'in, A. A.**

Ilyin, Dmitry On constructing the 3-weak solution for some elliptic equation with generalized coefficients. (English summary) *J. Electrotech. Math.* **1997**, *no.* 1, 79–85. (Bosko Jovanovic (Zbl 885.35023)) **99m:35036** 35J05 (35C99, 35D05)

Ilyinsky, N. B. *see* **Il'inskiĭ, N. B.**

Il'yushin, Alekseĭ Antonovich *see* **Obituary: Il'yushin, Alekseĭ Antonovich**

Il'yuta, G. G. Lagrange interpolation in Chebyshev systems, and higher Bruhat orders. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 76–79; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 203–205 (1999). (Alexey R. Alimov) **99j:41004** 41A05 (57M25)

Im, Bokhee Kinematic structures of certain loops. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 543–551. (Elena Zizioli) **99h:20103** 20N05 (51A25)

— (*with* Ko, Hayi-Joo) Web loops and webs with reflections. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 62–73. (D. A. Robinson) **99c:20097** 20N05 (51F15)

Im, Jang-Hwan (*with* Betten, Dieter) 4-dimensional projective planes with a 3-dimensional elation group. (English summary) *Note Mat.* **15** (1995), *no.* 1, 65–84 (1997). (Norbert Knarr) **99b:51010** 51H10 (51A35)

— A class of topological space geometries. (English summary) *Note Mat.* **15** (1995), *no.* 2, 175–190 (1997). (Michael Joswig) **99b:51011** 51H10

— Product spaces. (English summary) *Proceedings of the Second International Workshop on Differential Geometry (Taegu*, 1997), 77–89, *Kyungpook Natl. Univ., Taegu*, 1998. (H. Salzmann) **99g:51011** 51H10

Im, Sun Woo (*with* Pahk, Dae Hyeon; Sohn, Byung Keun) Multipliers in the Fourier transform of distributions of rapid growth. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 59–67. (Richard D. Carmichael) **99j:46046** 46F10 (42B15, 44A35)

Im, Sung Mo (*with* Lee, Sang Han) A characterization of reflexivity of normed almost linear spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 211–219. (Summary) **99i:46011** 46B99 (46A19)

— (*with* Rim, Dong Il; Kim, Won Kyu) New existence of equilibria via connectedness. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 315–319. (Summary) **99k:47141** 47H10 (47N10, 54C60, 54H25, 90A14)

Im, Young Ho (*with* Kim, Soo Hwan) Approximate fibrations on PL manifolds. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 491–501. (R. J. Daverman) **99g:57025** 57N15 (55R65, 57N25)

— (*with* Kang, Mee Kwang; Woo, Ki Mun) Codimension 2 fibrators that are closed under finite product. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 815–818. (Summary) **99h:57044** 57N15 (55R65)

— (*with* Kim, Yongkuk) Hopfian and strongly Hopfian manifolds. (English summary) *Fund. Math.* **159** (1999), *no.* 2, 127–134. (Summary) **99j:57023** 57N15 (54B15, 55R65)

Imaanpur, A. (*with* Figueroa-O'Farrill, José M.; McCarthy, James G.) Supersymmetry and gauge theory on Calabi-Yau 3-folds. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 167–174. (Joan Simón Soler) **99e:53024** 53C07 (14J32, 32J81, 53C80, 58D27, 81T30, 81T60)

Imabayashi, R. (*with* Hoshino, Hiroki; Kusano, Takaši; Tanigawa, T.) On second-order half-linear oscillations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 199–216. (E. Müller-Pfeiffer) **99c:34059** 34C10

Imada, Naotaka A sparse matrix and the Catalan numbers. *Fibonacci Quart.* **36** (1998), *no.* 1, 76–84. (Jau-Shyong Shiue) **99b:11019** 11C20 (05A10, 11B83, 15A36)

Imae, Joe (*with* Wanyoike, Gakio) H_∞ norm computation of LTV systems using nonlinear optimal control algorithms. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 161–182. 93B36 (93B40)

— A chattering control based algorithm for nonlinear control problems with bounded controls restricted to non-convex sets. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 155–170. 93B12 (93C10)

— A Riccati-equation-based algorithm for continuous-time optimal control problems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 299–313. (Mikhail I. Sumin) **99m:49045** 49M05 (49M40)

— (*with* Furudate, Takashi) A design method of fixed-order H_∞ controllers via bilinear matrix inequalities. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 10, 554–567. 93B36 (93B51)

Imaeda, K. Biquaternionic formulation of Maxwell's equations and their solutions. (English summary) *Clifford algebras and spinor structures*, 265–280, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Waldyr Alves Rodrigues, Jr.) **99a:81065** 81R25 (15A66, 78A25, 78A45)

Imafuku, Kentaro (*with* Ohba, Ichiro) Extension of Nelson's flow quantum mechanics to a dispersive system and the influence on tunneling time. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 41–50. (*see* **99b:00018**) 81P20

Imagire, T. (*with* Saito, Takesi; Nemoto, Kae; Arimitsu, Toshihico) A comment on the Shibata-Hashitsume Langevin equation: is it of the Stratonovich type or of the Itô type? (English summary) *Phys. A* **256** (1998), *no.* 1-2, 129–148. (Kalyanapuram R. Parthasarathy) **99j:82059** 82C31 (81S25, 82C10)

Imai, H. *see* **Imai, Hitoshi**

Imai, Hideki (*with* Costello, Daniel J., Jr.; Hagenauer, Joachim; Wicker, Stephen B.) Applications of error-control coding. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2531–2560. (Summary) **99i:94027** 94A24 (94A40)

— (*with* Zheng, Yuliang) How to construct efficient signcryption schemes on elliptic curves. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 227–233. (Summary)

99h:94058 94A60

Imai, Hideyuki (*with* Taneichi, Nobuhiro; Sekiya, Yuri) A power approximation of the test of homogeneity for multinomial populations based on a normalizing transformation. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1677–1691. 62G10

— (*with* Kikuchi, Ken[2]; Miyakoshi, Masaaki) Unattainable solutions of a fuzzy relation equation. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 193–196. (From the summary) **99f:04004** 04A72

Imai, Hiroshi (*with* Hayase, Kazuyoshi) OBDDs of a monotone function and of its prime implicants. *Algorithms and computation* (*Osaka*, 1996), 136–145, *Lecture Notes in Comput. Sci.*, 1178, *Springer, Berlin*, 1996. (Summary) **99b:94064** 94C10 (68Q99)

— Robust output regulation for linear systems with structured uncertainty. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 499–515. (Summary) **99j:93028** 93B35 (93C41)

— (*with* Imai, Keiko) Computation of invariants in computational algebra and computational geometry using binary decision diagrams. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 12–18. (*see* **99i:65003**) 68Q40 (68Q05, 68U05)

— (*with* Hayase, Kazuyoshi) OBDDs of a monotone function and its prime implicants. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 579–591. (Editors) **99h:94089** 94C10 (68Q25, 68Q35)

— *see also* **Algorithms and computation, 99f:68001**

Imai, Hitoshi (*with* Aiki, Toyohiko) Some results on behavior of solutions to one-phase Stefan problems for a semilinear parabolic equation. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1009 (1997), 60–78. (Domingo A. Tarzia) **99g:35144** 35R35 (35K60, 80A22)

— (*with* Ishimura, Naoyuki; Nakamura, Masa Aki) On the finite determination of the solutions for the MHD equations. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 126–135, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Manuel Núñez Jiménez) **99j:76136** 76W05 (35Q35, 58F40)

— (*with* Ishimura, Naoyuki; Nakamura, Masa Aki) Convergence of attractors for simplified magnetic Bénard system. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 136–144, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 76W05 (35B40, 35Q35)

— (*with* Hanada, T.) A model of a contact angle problem and its numerical simulation. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 181–192, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:80009** 80A22

— (*with* Shinohara, Yoshitane; Konno, T.; Natori, Makoto; Zhou, Weidong; Ohnishi, Isamu; Nishiura, Yasumasa) Numerical computations of free boundary problems in quadruple precision arithmetic using an explicit method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 193–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65L06 (65G05)

— (*with* Ali, Zulfikar; Shinohara, Yoshitane; Sakaguchi, Hideo; Okamoto, Kuniya) Existence and uniqueness of quasiperiodic solutions to perturbed nonlinear oscillators. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 2, 279–293. (Jialin Hong) **99c:34085** 34C27

Imai, Jun[2] Energy of knots in a 3-manifold; the spherical and the hyperbolic cases. (English summary) *KNOTS '96* (*Tokyo*), 449–464, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57017** 57M25 (57M50, 57N10)

— Energies of knots. (Japanese) *Sūgaku* **49** (1997), *no.* 4, 365–378. (Kazushi Ahara) **99c:58034** 58E10 (57M25)

Imai, Keiko (*with* Kyoda, Yoshiaki; Takeuchi, Fumihiko; Tajima, Akira) A branch-and-cut approach for minimum weight triangulation. (English summary) *Algorithms and computation* (*Singapore*, 1997), 384–393, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68U05

— (*with* Imai, Hiroshi) Computation of invariants in computational algebra and computational geometry using binary decision diagrams. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 12–18. (*see* **99i:65003**) 68Q40 (68Q05, 68U05)

Imai, Kenji Systematic derivation of Darboux covariant $(1+1)$-dimensional soliton equations. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1811–1813. 35Q51 (58F37)

— Dromion solutions and lump solutions to the Ishimori equation. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 54–62. (*see* **99f:76003**) 35Q51

Imai, Koji (*with* Konno, Kimiaki; Kakuhata, Hiroshi) Solitons and ruled surfaces. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 192–199. (*see* **99a:00032**) 35Q51

— (*with* Konno, Kimiaki; Kakuhata, Hiroshi) Direct connection among nonlinear evolution equations based on O(3) group. *J. Phys. Soc. Japan* **67** (1998), *no.* 12, 4300–4301. 35Q58 (35A30)

Imam, A. (*with* Johnson, G. C.) Decomposition of the deformation gradient in thermo-elasticity. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 2, 362–366. (Summary) **99d:73011** 73B30 (73C50)

Imamura, Kyoki (*with* Dai, Zongduo) Linear complexity for one-symbol substitution of a periodic sequence over GF(q). (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1328–1331. (Summary) **99e:94028** 94A55

Imamura, Yosuke E_8 flavor multiplets. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 106005, 8 *pp.* (Summary) **99m:81251** 81T60 (81T13, 81T30)

Imanishi, Hideki (*with* Fukui, Kazuhiko) On commutators of foliation preserving homeomorphisms. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 227–236. (Gaël Meigniez) **99i:57048** 57R30

Imanuvilov, Oleg Yu. Local exact controllability for the 2-D Boussinesq equations with the Navier slip boundary conditions. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 153–170 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Irina F. Sivergina) **99m:93006** 93B05 (35Q35, 49K20, 76D05, 93C20)

— (*with* Chae, Dongho) Existence of axisymmetric weak solutions of the 3-D Euler equations for near-vortex-sheet initial data. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 26, 17 *pp.* (*electronic*). (Summary) **99g:35101** 35Q30 (35D05, 76C05)

— On exact controllability for the Navier-Stokes equations. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 97–131 (*electronic*). (Alexander Yurjevich Chebotarev) **99e:93037** 93C20 (35Q30, 76D05, 93B05)

— (*with* Yamamoto, Masahiro) Lipschitz stability in inverse parabolic problems by the Carleman estimate. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1229–1245. (Summary) **99h:35227** 35R30 (35B35, 35K10)

— (*with* Chae, Dongho) Global unique existence of a positive solution for a system of equations in electrochemistry. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 507–524. (Yuzo Hosono) **99e:35222** 35Q80 (35B05, 35K55)

— (*with* Fursikov, Andrei V.) Local exact boundary controllability of the Boussinesq equation. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 391–421 (*electronic*). (Alexander Yurjevich Chebotarev) **99c:93058** 93C20 (35Q35, 76D05, 93B05)

— (*with* Chae, Dongho; Han, Jongmin) Existence and nonexistence in Chern-Simons-Higgs theory with a constant electric charge density. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 19–34. (Avinash Khare) **99k:58055** 58E50 (53C80, 81T13)

Imao, Shigeki Characteristics of turbulence in a rotating cylinder. (Japanese) Non-linearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 17–30. (*see* **99e:76056**) 76F99 (76U05)

Imaoka, Teruo (*with* Ogawa, Takahide) Some remarks on representations of generalized inverse $*$-semigroups. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **30** (1997), 23–35. (Gracinda M. S. Gomes) **99a:20068** 20M30 (20M18)

— (*with* Hall, T. E.) Representations and amalgamation of generalized inverse $*$-semigroups. (English summary) *Semigroup Forum* **58** (1999), *no.* 1, 126–141. (Mária B. Szendrei) **99m:20149** 20M18 (20M30)

escalada-Imaz, Gonzalo *see* **Escalada-Imaz, Gonzalo**

Imbert, Claude *see* **Belna, Jean-Pierre, 99g:01019**

Imbert, Cyril (*with* Hiriart-Urruty, Jean-Baptiste) Les fonctions d'appui de la jacobienne généralisée de Clarke et de son enveloppe plénière. (English and French summaries) [The support functions of Clarke's generalized Jacobian matrix and of its plenary hull] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1275–1278. (Jean-Noël Corvellec) **99k:49035** 49J52 (58C20)

Imbert, Michel Sur l'isomorphisme du groupe de Richard Thompson avec le groupe de Ptolémée. [On the isomorphism of Richard Thompson's group and the Ptolemy group] *Geometric Galois actions*, 2, 313–324, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Gheorghe Ionesei) **99k:20078** 20F38

Imbesi, Maurizio On a lifting problem in codimension and codepth k. (English summary) *Stud. Cerc. Mat.* **47** (1995), *no.* 1, 51–59. 13H10

Imbimbo, C. (*with* Becchi, C.; Giusto, S.) On the identification of observables in topological gauge models. (English summary) Constrained dynamics and quantum gravity 1996 (Santa Margherita Ligure). *Nuclear Phys. B Proc. Suppl.* **57** (1997), 138–141. (Noriaki Ano) **99c:81252** 81T70 (83C45)

Imhof, Henrik (*with* Hella, Lauri) Enhancing fixed point logic with cardinality quantifiers. (English summary) *J. Logic Comput.* **8** (1998), *no.* 1, 71–86. (Michał Krynicki) **99h:03021** 03C80 (68Q15)

Imhof, L. (*with* Krafft, O.; Schaefer, Martin) D-optimal designs for polynomial regression with weight function $x/(1+x)$. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1271–1274. (Summary) **99i:62168** 62K05

Imig, Scott K. A construction of logarithmic 1-forms on hyperplane arrangements. (English summary) *Pacific J. Math.* **187** (1999), *no.* 1, 91–111. (Hiroaki Terao) **99m:52020** 52B30 (13D02, 13N05)

Imkeller, Peter Enlargement of the Wiener filtration by a manifold valued random element via Malliavin's calculus. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 157–171, *World Sci. Publishing, River Edge, NJ*, 1997. (Mireille Chaleyat-Maurel) **99h:60112** 60H07 (60G48, 60J65)

— On the laws of the Oseledets spaces of linear stochastic differential equations. *Stochastic differential and difference equations* (*Győr*, 1996), 133–142, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Björn Schmalfuss) **99h:60120** 60H10 (28D10, 34C35, 34F05, 58F10)

— The smoothness of laws of random flags and Oseledets spaces of linear stochastic differential equations. (English summary) *Potential Anal.* **9** (1998), *no.* 4, 321–349. (David Nualart) **99k:60143** 60H07 (58G32, 60H10)

— (*with* Arnold, Ludwig) Normal forms for stochastic differential equations. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 559–588. (Xue Rong Mao) **99e:60128** 60H10

— (*with* Amendinger, Jürgen; Schweizer, Martin) Additional logarithmic utility of an insider. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 263–286. (Rüdiger Kiesel) **99j:90008** 90A09 (60G44, 60H30)

Immerman, Neil (*with* Barrington, David A. Mix) Time, hardware, and uniformity. (English summary) *Complexity theory retrospective, II*, 1–22, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— (*with* Patnaik, Sushant) Dyn-FO: a parallel, dynamic complexity class. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 199–209. (Summary) **99d:68086** 68Q15 (68P15)

Immink, G. K. On the summability of the formal solutions of a class of inhomogeneous linear difference equations. (English summary) *Funkcial. Ekvac.* **39** (1996), *no.* 3, 469–490. (Summary) **99e:39021** 39A10

Immink, Kees A. Schouhamer (*with* Siegel, Paul H.; Wolf, Jack K.) Codes for digital recorders. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2260–2299. (Summary) **99h:94029** 94A24 (94A14)

Imomkulov, S. A. (*with* Abdullaev, B. I.) Removable singularities of subharmonic functions in the classes L_p and L_p^1. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 10–14. (A. È. Djrbashian) **99j:31005** 31B05

Imomnazarov, Kh. Kh. Archie's law for a mathematical model of movement of a conducting liquid through a conducting porous medium. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 135–138. (Summary) **99g:76142** 76S05 (73N20, 73R05, 76W05, 86A15)
— Uniqueness of the determination of the source in the Cauchy problem for a system of equations of continual filtration theory. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 1, 111–113. 35R30 (35Q35, 76S05)
Impagliazzo, Russell Hard-core distributions for somewhat hard problems. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 538–545, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q15)
— (*with* Beame, Paul; Pitassi, Toniann) Improved depth lower bounds for small distance connectivity. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 692–701, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q15)
— (*with* Buss, Samuel R.; Krajíček, Jan; Pudlák, Pavel; Razborov, A. A.; Sgall, Jiří) Proof complexity in algebraic systems and bounded depth Frege systems with modular counting. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 256–298. (Mariko Yasugi) **99g:03060** 03F20
— (*with* Dimitriou, Tassos) Go with the winners for graph bisection. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 510–520, *ACM, New York*, 1998. (Summary) **99d:68101** 68Q25 (05C85, 68Q35, 68R10)
— (*with* Di Crescenzo, Giovanni) Proofs of membership vs. proofs of knowledge. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 34–45, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68045** 68Q15
Impollonia, N. (*with* Elishakoff, Isaac) Behavior of stochastic shear beams under random loading via stochastic variational principles. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 12, 1983–1996. 73K05 (73K35)
— (*with* Elishakoff. Isaac; Ren, Yongjian) New exact solutions for randomly loaded beams with stochastic flexibility. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 16, 2325–2340. (Summary) **99m:73053** 73K35
Imposimato, Silvia Measurability of the family of systems consisting of a quadric cone and a straight line. (Italian. English summary) *Matematiche (Catania)* **51** (1996), *suppl.*, 107–114 (1997). (M. Stoka) **99c:53081** 53C65
Imreh, Balázs Compositions of nondeterministic automata. Semigroups, formal languages and computer systems (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 960 (1996), 44–53. (*see* **98d:00023**) 68Q68 (20M35, 68Q70, 68Q75)
— (*with* Ito, Masami[1]; Katsura, Masashi) On shuffle closures of commutative regular languages. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 276–288, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68092** 68Q45
— On α_i-products of nondeterministic tree automata. (English summary) *Acta Cybernet.* **13** (1997), *no.* 1, 41–54. (Summary) **99j:68086** 68Q70
— (*with* Ito, Masami[1]) On α_i-product of nondeterministic automata. (English summary) *Algebra Colloq.* **4** (1997), *no.* 2, 195–202. (Summary) **99m:68132** 68Q70
— (*with* Blázsik, Z.; Holló, Cs.) On decision-mappings related to process network synthesis problem. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 319–328. (Summary) **99d:90133** 90C35 (90C27)
— (*with* Fülöp, J.; Friedler, F.) On the formulation of some classes of PNS-problems as set covering problems. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 329–337. (Xue Liang Li) **99f:68095** 68Q25 (90C27, 90C35)
— (*with* Gécseg, Ferenc; Pluhár, András) On the existence of finite isomorphically complete systems of automata. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 2, 77–84. (Summary) **99m:68131** 68Q70
Imrich, Wilfried Factoring cardinal product graphs in polynomial time. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 119–144. (Pranava K. Jha) **99k:68136** 68R10 (05C85, 68Q25)
— (*with* Klavžar, Sandi) A convexity lemma and expansion procedures for bipartite graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 677–685. (Hari Pulapaka) **99k:05072** 05C12
— (*with* Klavžar, Sandi; Mulder, Henry Martyn) Median graphs and triangle-free graphs. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 111–118 (*electronic*). (Summary) **99k:68137** 68R10 (05C12, 05C85, 68Q25)
Inaba, Hiroshi (*with* Ito, Naoharu) Dynamic feedback (A, B)-invariant submodules for linear systems over commutative Noetherian domains. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 123–129. (Valeriu Prepeliță) **99k:93036** 93B25 (13E05, 93B52, 93C55)
— (*with* Otsuka, Naohisa) A note on robust disturbance-rejection problems for infinite-dimensional systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 33–41. (Summary) **99a:93090** 93D21
— (*with* Otsuka, Naohisa) Parameter insensitive disturbance-rejection problems with direct control and with known disturbances for infinite-dimensional systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 701–710. 93C25 (93D15)
Inaba, Hisayoshi (*with* Soma, Teruhiko) On spatial graphs isotopic to planar embeddings. *KNOTS '96 (Tokyo)*, 1–22, *World Sci. Publishing, River Edge, NJ*, 1997. (From the text) **99j:57002** 57M15
Inaba, Takashi An example of a flow on a non-compact surface without minimal set. (English summary) *Ergodic Theory Dynam. Systems* **19** (1999), *no.* 1, 31–33. (Michael Hurley) **99m:58162** 58F25 (34C40, 54H20)
Inada, Kenji (*with* Iida, Koji; Hohzaki, Ryusuke) Optimal survivor search for a target with conditionally deterministic motion under reward criterion. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 246–260. (Summary) **99d:90064** 90B40
Inagaki, Hironobu (*with* Uozumi, Takashi; Ono, Koich) The agents' characteristics which generate cooperative behavior in an iterated game with variable payoff. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1056–1064. 90D12 (68T99)
Inagaki, Tomohiro (*with* Ishikawa, Ken-Ichi; Fukazawa, Kenji; Yamamoto, Kazuhiro) Dynamical symmetry breaking in compact flat spaces. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 237–255. (Summary) **99c:81081** 81R40 (81T20, 83F05)
— (*with* Odintsov, Sergei D.; Shil'nov, Yu. I.) Dynamical symmetry breaking in the external gravitational and constant magnetic fields. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 481–503. 81R40 (81T20)
Inagaki, Yasuyoshi (*with* Yuen, Shoji; Sakabe, Toshiki) Symbolic alternative characterizations of testing preorder for regular timed processes. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 5–22. (Summary) **99b:68078** 68Q10 (68Q55, 68Q60)
Inago, Nozomu (*with* Arimura, Hiroki) Polynomial-time on-line study of one-variable pattern languages. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 183–190. (*see* **99i:65003**) 68Q45 (68T05)
Inai, Hiroshi (*with* Yamakita, Jiro) A two-layer queueing model to predict performance of packet transfer in broadband networks. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 349–371. (*see* **99a:90010**) 90B22 (90B12, 94A05)
Inami, Takeo (*with* Tsukahara, Hiroshi) Test of Guttmann and Enting's conjecture in the eight-vertex model. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 4, 1067–1070. (Summary) **99b:82024** 82B20
İnanç, N. (*with* Derdiyok, A.; Özbulur, V.; Bilgiç, M. O.) Improving performance of switched reluctance motor by fuzzy logic controller. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 5, 307–317. 93C42 (93C95)
Inarra, Elena (*with* Arin, Javier) A characterization of the nucleolus for convex games. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 12–24. (Hans Peters) **99h:90117** 90D06 (90D12)
— (*with* Grafe, F.; Zarzuelo Zarzosa, José Manuel) Population monotonic allocation schemes on externality games. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 71–80. (Summary) **99j:90123** 90D12
Inasaridze, N. Non-abelian homology of groups. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 1, 13–18 (1995). 20J05 (18G50)
— Non-abelian tensor products of finite groups with non-compatible actions. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 25–27. 20E22
Inassaridze, H. Universal property of Kasparov bivariant K-theory. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 185–189. (Summary) **99g:19006** 19K56 (46L80)
— (*with* Inassaridze, N.) New descriptions of the non-abelian homology of groups. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 2, 196–199. 20J05 (18G50)
— (*with* Inassaridze, N.) The second and the third non-abelian homology of groups. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 376–378 (1999). 20J05
Inassaridze, N. Nonabelian tensor products of precrossed modules. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 1, 7–11. 20J05 (18G50)
— (*with* Inassaridze, H.) New descriptions of the non-abelian homology of groups. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 2, 196–199. 20J05 (18G50)
— (*with* Inassaridze, H.) The second and the third non-abelian homology of groups. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 376–378 (1999). 20J05
Inayat Noor, Khalida *see* **Noor, Khalida Inayat**
Indeikina, Alexandra (*with* Veretennikov, Igor; Chang, Hsueh-Chia) Front dynamics and fingering of a driven contact line. (English summary) *J. Fluid Mech.* **373** (1998), 81–110. 76–05 (76D99)
Indlekofer, Karl-Heinz (*with* Stakėnas, V.) Multiplicative functions of Farey fractions. (English summary) *New trends in probability and statistics, Vol.* **4** (*Palanga*, 1996), 323–344, *VSP, Utrecht*, 1997. (Jie Wu) **99h:11111** 11N64 (11B57)
— (*with* Timofeev, Nikolai M.) Estimates for multiplicative functions on the set of shifted primes. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 195–221. (A. J. Hildebrand) **99k:11126** 11K65 (11N37)
— (*with* Timofeev, Nikolai M.) A mean-value theorem for multiplicative functions on the set of shifted primes. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 153–165. (R. C. Baker) **99e:11125** 11N64 (11N36)
— (*with* Járai, Antal) Largest known twin primes and Sophie Germain primes. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1317–1324. (Oliver Schirokauer) **99k:11013** 11A41 (11Y11)
— (*with* Kátai, Imre) On asymptotically correlated q-multiplicative functions. (English summary) *Math. Pannon.* **10** (1999), *no.* 1, 29–36. (Cécile Dartyge) **99m:11092** 11K65
Indow, Tarow Hyperbolic representation of global structure of visual space. (English summary) *J. Math. Psych.* **41** (1997), *no.* 1, 89–98. (Summary) **99d:92056** 92J30
Indri, Marina (*with* Tornambè, Antonio) Impact model and control of two multi-DOF cooperating manipulators. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1297–1303. 93C85
Indrzejczak, Andrzej Cut-free double sequent calculus for S5. (English summary) *Log. J. IGPL* **6** (1998), *no.* 3, 505–516. (Summary) **99m:03035** 03B45 (03F05)
Induráin Eraso, Esteban (*with* Candeal-Haro, Juan Carlos; Olóriz Urriza, Esteban) Bivariate maps that represent ordered semigroups. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **90** (1996), *no.* 3, 157–170. (Summary) **99f:06017** 06F05
— (*with* Candeal-Haro, Juan Carlos; De Miguel, Juan Ramón; Olóriz Urriza, Esteban) Associativity equation revisited. (English summary) *Publ. Math. Debrecen* **51** (1997), *no.* 1-2, 133–144. (K. D. Magill, Jr.) **99a:90019** 90A06 (39B52, 54F05)
— (*with* Olóriz Urriza, Esteban; Candeal-Haro, Juan Carlos) Representability of interval orders. (English summary) *J. Econom. Theory* **78** (1998), *no.* 1, 219–227. (Summary) **99f:90011** 90A06
— (*with* Candeal-Haro, Juan Carlos; Hervés-Beloso, Carlos) Some results on representation and extension of preferences. (English summary) *J. Math. Econom.* **29** (1998), *no.* 1, 75–81. (Yew-Kwang Ng) **99a:90020** 90A06 (90A10)
— (*with* Candeal-Haro, Juan Carlos; Olóriz Urriza, Esteban) Weak extensive measurement without translation-invariance axioms. (English summary) *J. Math. Psych.* **42** (1998), *no.* 1, 48–62. (Jean-Paul Doignon) **99i:92035** 92G05
— (*with* Candeal-Haro, Juan Carlos; De Miguel, Juan Ramón) Universal semigroups in additive utility. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 288–296. (Frank

A. Smith) **99b:06013** 06F05 (06F20, 20M30)

Ineichen, Robert Abhängige und unabhängige Ereignisse. [Dependent and independent events] *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 3, 69–70. 01A99 (60–03)

Inerbaev, M. S. A noncoordinate method for splitting a multidimensional equation of parabolic type. (Russian) *Vestn. Minister. Nauki Akad. Nauk Resp. Kaz.* **1998**, *no.* 4, 57–59. 65M99 (35K99)

Infante, Juan-Antonio (*with* Zuazua, Enrique) Boundary observability for the space-discretizations of the 1-d wave equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 713–718. (Summary) **99g:65092** 65M12

Infeld, E. (*with* Rowlands, George) Lagrangian picture of plasma physics. II. *J. Tech. Phys.* **39** (1998), *no.* 1, 3–35. (Summary) **99g:76157** 76X05 (82D10)

Ingalls, Colin Quantizable orders over surfaces. (English summary) *J. Algebra* **207** (1998), *no.* 2, 616–656. (Manuel Ojanguren) **99h:14045** 14J99 (16H05)

Ingber, M. S. (*with* Mammoli, A. A.) Stokes flow around cyclinders in a bounded two-dimensional domain using multipole-accelerated boundary element methods. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 897–917. 76M15 (76D07)

Ingerman, David (*with* Curtis, Edward B.; Morrow, James A.) Circular planar graphs and resistor networks. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 115–150. (W.-K. Chen) **99k:05096** 05C38 (05C40, 05C50, 94C05)

— (*with* Morrow, James A.) On a characterization of the kernel of the Dirichlet-to-Neumann map for a planar region. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 106–115 (*electronic*). (Hiroshi Isozaki) **99c:35258** 35R30 (78A55)

Ingham, D. B. (*with* Zeb, A.; Elliott, Lionel; Lesnic, D.) Cauchy problem for the biharmonic equation solved using the regularization method. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 285–294, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 65N38 (35J40)

— (*with* Lesnic, D.; Elliott, Lionel) An inverse coefficient identification problem for the heat equation. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 11–16, *Elsevier, Oxford*, 1998. (Summary) **99m:80009** 80A20 (35R30)

— (*with* Ma, Lin; Wen, Xian Yun) A finite volume method for fluid flow in polar cylindrical grids. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 4, 663–677. (Summary) **99f:76108** 76M25

— (*with* McCaffery, S. J.; Elliott, Lionel) One-dimensional enhanced sedimentation in inclined fracture channels. (English summary) *Math. Engrg. Indust.* **6** (1998), *no.* 4, 261–290. (Summary) **99a:76152** 76S05 (76T05, 86A99)

— (*with* McCaffery, S. J.; Elliott, Lionel) Two-dimensional enhanced sedimentation in inclined fracture channels. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 97–125. (Summary) **99g:76145** 76T05 (76A05, 86A05)

Inglese, Gabriele (*with* Fasino, Dario) Discrete methods in the study of an inverse problem for Laplace's equation. (English summary) *IMA J. Numer. Anal.* **19** (1999), *no.* 1, 105–118. (Summary) **99j:65205** 65N30

— (*with* Fasino, Dario) An inverse Robin problem for Laplace's equation: theoretical results and numerical methods. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 41–48. (Summary) **99j:65206** 65N30 (35J05, 35R30)

Inglesfield, J. E. The embedding method for electromagnetics. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8495–8510. (Summary) **99g:78005** 78–08 (78A25)

Inglot, Tadeusz (*with* Ledwina, Teresa) Asymptotic optimality of data-driven Neyman's tests for uniformity. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1982–2019. (Philippe Barbe) **99b:62079** 62G10 (60F10, 62G20)

Ingman, Dov (*with* Suzdal′nitskiĭ, I. D.) Calculation of the eigenvalue of a differential equation under non-linear parameter-dependence of its coefficients. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 4, 239–247. (Summary) **99m:65145** 65L15

Ingólfsdóttir, Anna (*with* Aceto, Luca; Fokkink, Willem Jan) A Cook's tour of equational axiomatizations for prefix iteration. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 20–34, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q10 (68Q60)

— (*with* Aceto, Luca; Fokkink, Willem Jan) A menagerie of non-finitely based process semantics over BPA*—from ready simulation to completed traces. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 3, 193–230. (Wiesław Zielonka) **99k:68059** 68Q10 (68Q55, 68Q60)

Ingraham, R. L. The angle-geometry of spacetime and classical charged particle motion. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 603–621. (S. Timothy Swift) **99g:53024** 53B50 (53A30, 70D99, 78A35, 83A05)

Ingram, D. M. (*with* Causon, D. M.; Yang, Guodong) On applications of high resolution shock capturing methods to unsteady flows. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 145–171, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76104** 76M25 (65M99, 76L05)

Ingrassia, Salvatore (*with* Gilio, Angelo) Totally coherent set-valued probability assessments. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika* (*Prague*) **34** (1998), *no.* 1, 3–15. (Giulianella Coletti) **99e:60009** 60A05 (03B48, 68T30, 68T35)

Ingster, Yu. I. Minimax detection of a signal with nondegenerate loss functions, and extremal convex problems. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **228** (1996), *Veroyatn. i Stat.* 1, 162–188, 360; *translation in J. Math. Sci.* (*New York*) **93** (1999), *no.* 3, 354–371. (M. P. Moklyachuk) **99a:62066** 62G10 (62C20, 62G20, 94A12)

— (*with* Suslina, I. A.) Minimax signal detection for Besov bodies and balls. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 56–68; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 48–59. (D. Stanomir) **99m:94018** 94A13 (62G20)

Inkeri, Kustaa Fermat's problem. (Finnish. Finnish summary) *Arkhimedes* **1998**, *no.* 5, 26–35. 11D41 (11–03)

Innami, Nobuhiro Integral formulas for polyhedral and spherical billiards. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 339–357. (Edoh Amiran) **99a:53052** 53C22 (58F17)

Innamorati, Stefano The non-existence of certain large minimal blocking sets. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 1–26. (Summary) **99h:05020** 05B25 (51E21)

— The non-existence of certain large minimal blocking sets. (English summary) *Mitt. Math. Sem. Giessen No.* 235 (1998), 1–23. (Tamás Szőnyi) **99m:51013** 51E21 (05B25)

Innocenti, Mario (*with* Napolitano, Marcello R.; Casdorph, Van; Neppach, Charles; Naylor, Steve; Silvestri, Giovanni) Online learning neural architectures and cross-correlation analysis for actuator failure detection and identification. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 433–455. 93E12 (93E03)

Inoguchi, Jun-ichi Surfaces in Minkowski 3-space and harmonic maps. Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 58–69. (Yuan-Jen Chiang) **99m:58065** 58E20 (53A40)

— (*with* Fujioka, Atsushi) Bonnet surfaces with constant curvature. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 288–293. (Rabah Souam) **99e:53004** 53A05

— Timelike surfaces of constant mean curvature in Minkowski 3-space. *Tokyo J. Math.* **21** (1998), *no.* 1, 141–152. (Luis J. Alías) **99e:53098** 53C50 (53A40, 53C42)

Inohara, Takehiro On conditions for a meeting not to reach a recurrent argument. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 2-3, 281–298. (Summary) **99k:90010** 90A05 (90D12)

Inokuchi, Shuichi On behaviors of cellular automata with rule 156. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 121–131. (Summary) **99c:68180** 68Q80

Inomata, Akira (*with* Kizilkaya, O.) Factorization, algebraization, and shape invariance. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 107–124. (Jiu Qing Liang) **99g:81058** 81Q60 (81R99)

— (*with* Junker, Georg; Rösch, Claudia) Remarks on the magnetic top. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 729–739. (Summary) **99j:81091** 81S40 (81R99)

Inooka, Hikaru (*with* Satoh, Toshiyuki; Ishihara, Tadashi) Characterization of matched systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 449–456. (Summary) **99j:93041** 93B51 (93C15)

Inoue, Akihiko (*with* Bingham, N. H.) An Abel-Tauber theorem for Hankel transforms. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 83–90, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99j:44008** 44A15 (40E05)

— Abel-Tauber theorems for Fourier-Stieltjes coefficients. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 2, 460–480. (S. Baron) **99a:40003** 40E05 (42A16, 42A32, 42A38)

— (*with* Bingham, N. H.) The Drasin-Shea-Jordan theorem for Fourier and Hankel transforms. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 191, 279–307. (Sergei Treil) **99c:44005** 44A15 (47B38)

Inoue, Akira (*with* Yoshinaga, Shin-ichi; Masuda, Shiro) A design of an adaptive servo control system estimating the internal model. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 324–329. 93C40 (93C85)

— (*with* Yanou, Akira; Hirashima, Youichi) A design of a strongly stable self-tuning controller using the coprime factorization approach. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 290–296. 93B51 (93D15)

Inoue, Atsushi *see* **Inoue, Atsushi[2]**

Inoue, Atsushi[1] A new construction of a fundamental solution for the free Weyl equation—an example of superanalysis. (English summary) *Nonlinear waves* (*Sapporo*, 1995), 169–182, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 10, *Gakkōtosho, Tokyo*, 1997. (Akira Asada) **99j:58029** 58C50 (58D30, 81S40)

— On a construction of the fundamental solution for the free Weyl equation by Hamiltonian path-integral method—an exactly solvable case with "odd variable coefficients". (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 1, 91–118. (Stanislav V. Spichak) **99b:35001** 35A30 (35J99, 35Q40, 35S30, 81Q60, 81S40)

Inoue, Atsushi[2] (*with* Ogi, Hidekazu) Regular weights on algebras of unbounded operators. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 227–252. (Klaus-Detlef Kürsten) **99b:47062** 47D40 (46K10, 47D45, 81S05)

Inoue, Hiroshi[2] Periodic problems for heat convection equations with dissipative terms. *Functional analysis and global analysis* (*Quezon City*, 1996), 120–125, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35Q35 (35B10, 35K05, 76R10)

Inoue, Jun-ichi (*with* Nishimori, Hidetoshi; Kabashima, Yoshiyuki) On-line learning of non-monotonic rules by simple perceptron. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3795–3816. (Ladislav Andrey) **99c:68212** 68T05 (82C32, 92B20)

— (*with* Nishimori, Hidetoshi) Convergence of simulated annealing using the generalized transition probability. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5661–5672. (Summary) **99c:82052** 82C31

Inoue, Junko[2] (*with* Sato, Shunsuke; Ricciardi, Luigi M.) A note on the moments of the first-passage time of the Ornstein-Uhlenbeck process with a reflecting boundary. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 87–99. (Summary) **99c:60184** 60J70 (92C20, 92D25)

— (*with* Doi, Shinji; Kumagai, Sadatoshi) Spectral analysis of stochastic phase lockings and stochastic bifurcations in the sinusoidally forced van der Pol oscillator with additive noise. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1107–1127. (Summary) **99a:34109** 34C15 (34C23, 34F05, 70K40, 70L05)

Inoue, Katsuhiro (*with* Kumamaru, Kousuke; Hu, Jinglu; Söderström, Torsten) Statistical methods for robust change detection in dynamical systems with model uncertainty. *Statistical methods in control and signal processing*, 453–479, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12

Inoue, Katsumi *see* **Inoue, Katsumi[3]**

Inoue, Katsumi[1] Remarks on algebraic convergence of discrete Möbius groups. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 113–116. (Bernd O. Stratmann) **99g:20093** 20H10

Inoue, Katsumi[2] (*with* Sakama, Chiaki) Negation as failure in the head. (English summary) *J. Logic Programming* **35** (1998), *no.* 1, 39–78. (Summary) **99b:68030** 68N17

— (*with* Sakai, Akemi) Testing the satisfiability of a clause set by SATCHMO with symmetry. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2084–2092. 68T15 (03B35)

Inoue, Katsumi[3] (*with* Egawa, Yoshimi) Radius of $(2k-1)$-connected graphs. (English summary) *Ars Combin.* **51** (1999), 89–95. (Summary) **99j:05061** 05C12 (05C40)

Inoue, Katsushi (*with* Okazaki, Tokio; Zhang, Lan; Ito, Akira; Wang, Yue[2]) A note on two-dimensional probabilistic finite automata. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 303–314. (Summary) **99h:68122** 68Q68 (68Q45, 68Q75)

— (*with* Okazaki, Tokio; Ito, Akira; Wang, Yue^2) A note on two-dimensional probabilistic Turing machines. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 127–134. (*see* **99i:65003**) 68Q05 (03D10)

— (*with* Ito, Akira; Wang, Yue^2) Alternating automata characterizations of one-way iterative arrays. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 135–142. (Summary) **99i:68032** 68Q05 (68Q68)

— (*with* Okazaki, Tokio; Ito, Akira; Wang, Yue^2) A note on two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 205–220. (Summary) **99k:68055** 68Q05

— (*with* Okazaki, Tokio; Ito, Akira; Wang, Yue^2) Closure properties of the classes of sets recognized by space-bounded two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 61–81. (Summary) **99k:68056** 68Q05 (03D10, 68Q68)

Inoue, Kazuo (*with* Kawata, Masakatsu; Shimazu, Naomitsu) An approximate realization of nonlinear $\mathscr{H}_\infty$ control based on the Hamilton-Jacobi equation. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 7, 401–410. 93B36 (49L20)

Inoue, Kazuyuki The law equivalence of linearly additive and infinitely divisible random fields. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 157–163, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99k:60129** 60G60 (60E07)

— Equivalence of probability laws for a class of infinitely divisible random measures. (English summary) *J. Fac. Sci. Shinshu Univ.* **31** (1996), *no.* 2, 71–80. (Summary) **99c:60102** 60G57 (60E07, 60G30)

Inoue, Kei (*with* Ohya, Masanori; Suyari, Hiroki) A quantum information-theoretic approach to a quantum teleportation process. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 194–202. (*see* **99b:00018**) 94A05

Inoue, Kiyoshi^2 On the variance of the feasible weighted least squares estimator. *Tokyo J. Math.* **20** (1997), *no.* 2, 481–493. (Hartmut Milbrodt) **99f:62032** 62F10 (62F12)

Inoue, Makoto^2 (*with* Tsuruoka, Nobuhiko) Rook problem on a fractal lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4565–4572. (Igor Rivin) **99k:05011** 05A16

Inoue, Masayoshi (*with* Kawazoe, Takashi; Hata, Hiroki) Appearance of an invariant manifold and on-off intermittency in coupled-maps—application to a 3-valued neuron. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 387–398. (Bruce B. Peckham) **99g:58082** 58F13 (39A10, 58F40)

Inoue, Osamu (*with* Hattori, Yuji) Sound generation by shock-vortex interactions. (English summary) *J. Fluid Mech.* **380** (1999), 81–116. (Summary) **99k:76088** 76J20 (76L05, 76M20, 76N10, 76Q05)

Inoue, Rei (*with* Hikami, Kazuhiro) New approach to the lattice W_N algebra and the exchange algebra. (English summary) *J. Phys. Soc. Japan* **66** (1997), *no.* 10, 3013–3020. (Josep Herrero) **99e:81078** 81R10 (17B68, 17B81, 58F07)

— (*with* Hikami, Kazuhiro) The hungry-Volterra model—the classical and quantum integrable structures. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 1, 87–92. (Summary) **99a:58091** 58F07 (58F40, 92D25)

Inoue, T. *see* **Inoue, Tomoki**

Inoue, Takayuki (*with* Kawata, Shigeto) On Auslander-Reiten components and trivial modules for integral group rings of p-groups. *J. Algebra* **203** (1998), *no.* 2, 374–384. (D. Zacharia) **99f:16017** 16G70

Inoue, Tetsuo Potential-theoretic schemes of inverse conformal mappings in the charge simulation method. (Japanese. English summary) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 68–76. (*see* **99a:00036**) 30C35

— Theoretical consideration of charge simulation method for numerical conformal mappings in a ring domain. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 289–298. (Summary) **99m:30012** 30C30 (41A10)

— Generalization of Symm's integral equation for the numerical conformal mapping and the duality. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3333–3336. 65E05 (65D32)

— (*with* Okano, Dai; Ogata, Hidenori; Amano, Kaname) A method of approximating real functions using the charge simulation method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3337–3340. 65D15 (41A30)

Inoue, Tomoki Sojourn times in laminar states of deterministic dynamical systems with intermittency. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4028–4030. (Summary) **99j:58143** 58F13

Inoue, Yoshinori (*with* Yoshimoto, Megumi) Propagation of triangular waves and sawtooth waves in a nonuniform gas. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 11–18. (*see* **99a:00032**) 76N15 (35Q35)

Inovenkov, I. N. (*with* Bulanov, S. V.; Echkina, E. Yn.; Pegoraro, F.; Pichushkin, V. V.) On the structural stability of magnetic configurations with two null lines. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 802–815. (Summary) **99k:76151** 76W05

Inozemtsev, V. I. Symmetries of the Hubbard models with variable range hopping. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 134–139, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:82015** 82B20 (81R50)

— (*with* Inozemtseva, N. G.) Integrability and explicit solutions to nonuniform quantum spin lattices. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1732–1735. (Summary) **99i:82014** 82B23 (81V70)

Inozemtseva, N. G. (*with* Inozemtsev, V. I.) Integrability and explicit solutions to nonuniform quantum spin lattices. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1732–1735. (Summary) **99i:82014** 82B23 (81V70)

— (*with* Sadovnikov, B. I.) On exact solutions for some matrix equations. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 78–85. (Summary) **99g:34019** 34A20 (34A05)

Insall, Matt (*with* Grow, David E.) Further properties of an extremal set of uniqueness. *Colloq. Math.* **77** (1998), *no.* 1, 33–39. (C. McGehee) **99g:43007** 43A46 (42A63)

Insel, Thomas (*with* Crisp, David; Dziadosz, Susan; Garity, Dennis J.; Schmidt, Thomas A.; Wiles, Peter) Closed curves and geodesics with two self-intersections on the punctured torus. (English summary) *Monatsh. Math.* **125** (1998), *no.* 3, 189–209. (Mark Sheingorn) **99b:11078** 11J06 (30F35, 57M50)

Inshakov, A. V. Homotopy groups of spaces of curves on two-dimensional manifolds. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 147–148; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 390–391. (Peter M. Akhmetiev) **99h:57057** 57R42 (55Q52)

ríos Insua, David *see* **Ríos Insua, David**

ríos-Insua, Sixto *see* **Ríos-Insua, Sixto**

Inter-IREM Commission "Epistemology and History of Mathematics" *see* **Commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques"**

commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques" *see* **Commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques"**

Interlando, J. Carmelo (*with* Rodrigues Costa, Sueli I.; Gerônimo, João Roberto; Palazzo, Reginaldo, Jr.; Alves, Marcelo Muniz Silva) The symmetry group of $\mathbf{Z}_q^n$ in the Lee space and the $\mathbf{Z}_{q^r}$-linear codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 66–77, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94035** 94B05

Intermont, Michele An equivariant smash spectral sequence and an unstable box product. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2763–2775. (L. Gaunce Lewis, Jr.) **99j:55014** 55Q91 (18G15, 55M35, 55Q35, 55T99)

In 't Hout, Karel (*with* Lubich, Christian) Periodic orbits of delay differential equations under discretization. (English summary) *BIT* **38** (1998), *no.* 1, 72–91. (Wolf-Jürgen Beyn) **99k:34154** 34K15 (34K20, 65L06)

Intissar, Ahmed (*with* Askour, Nour eddine; Mouayn, Zouhaïr) Espaces de Bargmann généralisés et formules explicites pour leurs noyaux reproduisants. (English and French summaries) [Explicit formulas for reproducing kernels of generalized Bargmann spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 707–712. (Gerald B. Folland) **99a:46041** 46E22 (32A37)

Intriligator, Kenneth (*with* Seiberg, Nathan) Phases of $N = 1$ supersymmetric gauge theories and electric-magnetic triality. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 270–282, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81237** 81T60 (81T13)

— (*with* Seiberg, Nathan) Lectures on supersymmetric gauge theories and electric-magnetic duality. (English summary) With discussion. *Effective theories and fundamental interactions* (*Erice*, 1996), 237–280, *Submucl. Ser.*, 34, *World Sci. Publishing, River Edge, NJ*, 1997. (Giulio Bonelli) **99i:81238** 81T60 (81T13)

— RG fixed points and composite gauge invariance in SUSY gauge theories. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 228–236, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81003**) 81T17 (81T60)

— New string theories in six dimensions via branes at orbifold singularities. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 271–282. (Gerardo Marcelo Aldazabal) **99g:81167** 81T30

— (*with* Aharony, Ofer; Hanany, Amihay; Seiberg, Nathan; Strassler, Matthew J.) Aspects of $N = 2$ supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 1-2, 67–99. (Gustavo Dotti) **99b:81227** 81T60 (81T13)

— (*with* Blum, Julie D.) New phases of string theory and 6d RG fixed points via branes at orbifold singularities. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 199–222. (Summary) **99a:81128** 81T30

— (*with* Blum, Julie D.) Consistency conditions for branes at orbifold singularities. (English summary) *Nuclear Phys. B* **506** (1997), *no.* 1-2, 223–235. (André J. Van Tonder) **99b:81179** 81T30 (81T50)

— (*with* Seiberg, Nathan) Lectures on supersymmetric gauge theories and electric-magnetic duality. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 157–183. (Claus Montonen) **99a:81173** 81T60 (81T13)

Inui, Norio Distribution of poles in a series expansion of the asymmetric directed-bond percolation probability on the square lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 48, 9613–9620. (Summary) **99i:82020** 82B43

Inuiguchi, Masahiro (*with* Sakawa, Masatoshi) Robust optimization under softness in a fuzzy linear programming problem. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 21–34. 90C70

— (*with* Tanino, Tetsuzo) Portfolio selection as a source of possibilistic information. (Japanese. Japanese summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 1–9. (*see* **99h:90006**) 90A09

— (*with* Sakawa, Masatoshi; Kato, Kosuke; Ikeda, Tomohiro) An interactive fuzzy satisficing method for multiobjective optimal control problems in linear distributed-parameter systems. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 237–246. 90C70 (93C42)

Inuzuka, Nobuhiro (*with* Seki, Hirohisa; Itoh, Hidenori) Efficient induction of executable logic programs from examples. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 212–224, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N17 (68T05)

— (*with* Furuzawa, Mitsue; Seki, Hirohisa; Itoh, Hidenori) Induction of recursive logic programs based on structural analysis of saturations. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3155–3164. (Summary) **99j:68013** 68N17 (68T05)

d'Inverno, Ray A. Applications of SHEEP in general relativity. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 330–349. (Sergey I. Tertychniy) **99j:83001** 83–04

van Inwagen, P. Modal epistemology. *Philos. Stud.* **92** (1998), *no.* 1-2, 67–84. 03A05

Ioachim, Irina (*with* Gélinas, Sylvie; Soumis, François; Desrosiers, Jacques) A dynamic programming algorithm for the shortest path problem with time windows and linear node costs. (English summary) *Networks* **31** (1998), *no.* 3, 193–204. (Summary) **99b:90154** 90C39 (93B35)

Ioakimidis, Nikolaos I. Inequality constraints in rectangular finite/boundary elements. (English summary) *Comput. & Structures* **60** (1996), *no.* 3, 415–431. (Summary)

99g:73105 73V05 (73V10)
— Application of computer-generated finite-difference equations to decision and inverse problems in elasticity. (English summary) *Comput. & Structures* **68** (1998), *no.* 5, 529–541. (Summary) **99c:73085** 73V15 (73C99)
Ioan, Cătălin Angelo Totally geodesic foliations and minimal foliations of the semi-Riemannian manifolds. *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 281–299. (P. G. Walczak) **99h:53032** 53C12
— Degenerate submanifolds of semi-Riemannian manifolds. *Tensor (N.S.)* **58** (1997), *no.* 1, 1–7. (Miguel Sánchez) **99b:53028** 53B30 (53B25, 53C50)
— Totally umbilical lightlike submanifolds. *Tensor (N.S.)* **58** (1997), *no.* 1, 18–30. (Miguel Sánchez) **99b:53029** 53B30 (53B25, 53C50)
Ioan, Petru ★ Logic and dialectics. Confrontations. Connexions. Clarifications. Translated from the Romanian by Carmen Manoliu-Ciobanu and Silvia Manoliu. "Interferences" Series. "*Al. I. Cuza*" *University Press, Iaşi*, 1990. 264 *pp.* (Yehuda Rav) **99a:03007** 03A05
Ioannidou, T. (*with* Zakrzewski, Wojciech J.) Solutions of the modified chiral model in (2 + 1) dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2693–2701. (Bernd J. Schroers) **99e:58058** 58E50 (35Q58)
— (*with* Zakrzewski, Wojciech J.) A note on Ward's chiral model. (English summary) *Phys. Lett. A* **242** (1998), *no.* 4-5, 233–238. (Summary) **99c:81133** 81T13 (81T10)
Ioannou, Petros A. (*with* Zhang, Youping) A new class of nonlinear robust adaptive controllers. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 745–769. 93C40 (93B36)
— (*with* Zhang, Youping) Robustness and performance of a modified adaptive backstepping controller. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 3, 247–265. (Summary) **99b:93025** 93B36 (93C40)
— (*with* Zhang, Youping) Robustness of nonlinear control systems with respect to unmodeled dynamics. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 119–124. 93B35 (93D09)
Iochum, Bruno (*with* Carminati, Lionel; Kastler, Daniel; Schücker, Thomas) On Connes' new principle of general relativity: can spinors hear the forces of spacetime? *Operator algebras and quantum field theory (Rome*, 1996), 359–373, *Internat. Press, Cambridge, MA*, 199?. (Raimar Wulkenhaar) **99h:58181** 58G11 (46L87, 58B30, 81V17, 83C99)
— (*with* Kastler, Daniel; Schücker, Thomas) On the universal Chamseddine-Connes action. I. Details of the action computation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4929–4950. (S. I. Vacaru (Zbl 906.58004)) **99m:81285** 81V22 (58B30, 81T13)
Iofa, Mikhail Z. (*with* Pando Zayas, Leopoldo A.) Statistical entropy of magnetic black holes from near-horizon geometry. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 264–268. (Summary) **99d:83060** 83C57 (83E50)
— (*with* Pando Zayas, Leopoldo A.) Statistical entropy of Calabi-Yau black holes. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064023, 6 *pp.* (Summary) **99m:83114** 83C57 (83E30)
Ioffe, Alexandre D. (*with* Tikhomirov, Vladimir) Some remarks on variational principles. (Russian) *Mat. Zametki* **61** (1997), *no.* 2, 305–311; *translation in Math. Notes* **61** (1997), *no.* 1-2, 248–253. (Françoise Berquier) **99d:49017** 49J27 (49J52)
— (*with* Schwartzman, E.) Critical points of convex perturbations of quadratic functionals. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 113–118. (Summary) **99i:49027** 49K40 (58E05, 90C31, 90C48)
Ioffe, Dimitri (*with* Bolthausen, Erwin) Harmonic crystal on the wall: a microscopic approach. (English summary) *Comm. Math. Phys.* **187** (1997), *no.* 3, 523–566. (Matthias Löwe) **99b:82034** 82B41 (60F10, 60G15, 82B24)
Ioffe, Ludmila (*with* Averbuch, Amir; Israeli, Moshe; Vozovoi, Lev) Two-dimensional parallel solver for the solution of Navier-Stokes equations with constant and variable coefficients using ADI on cells. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 673–699. (Summary) **99g:65133** 65Y05 (65M99, 76D05, 76M25)
Ioffe, M. V. (*with* Andrianov, A. A.; Nishnianidze, D. N.) Polynomial supersymmetry and dynamic symmetries in quantum mechanics. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 3, 463–478; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 3, 1129–1140 (1996). (Stanislav V. Spichak) **99c:81049** 81Q60
— (*with* Andrianov, A. A.; Cannata, Francesco; Dedonder, J.-P.) Deformed supersymmetry, q-oscillator algebra and the scattering problem in quantum mechanics. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 22–48, 282–283. (Pavel Šťovíček) **99i:81050** 81Q60 (81R50)
Iohara, Takao Bénard-Marangoni convection with a deformable surface. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 255–270. (Marie Christine Néel) **99h:76039** 76E15 (35Q35, 76D99, 76R99)
Ĭokimaĭtis, A. *see* **Jokimaitis, A.**
Ion, Mihoc On some informational inequalities. *Research Seminar on Numerical and Statistical Calculus*, 53–60, *Preprint*, 94-1, "*Babeş-Bolyai*" *Univ., Cluj-Napoca*, 199?. (Ma. Luisa Menéndez) **99a:94010** 94A15
Ion, Virlan (*with* Petre, Stavre) Almost symplectic tensor systems. I. (Romanian. English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 76–85. 53C15
Ionac, Doina Some remarks on k-sum linear-fractional programming problems. (English summary) *25 years of high level technical education in Arad, Vol. I (Arad*, 1997), 57–62, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 90C32
Ionascu, Eugen J. (*with* Larson, David R.; Pearcy, Carl M.) On the unitary systems affiliated with orthonormal wavelet theory in n-dimensions. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 413–431. (Steen Pedersen) **99g:47086** 47B99 (42C15, 47A99)
— (*with* Pearcy, Carl M.) On subwavelet sets. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3549–3552. (Eugenio Hernández) **99b:42040** 42C15
Ionescu, Carmen (*with* Babalean, Aurel; Constantinescu, Radu D.) Non-minimal BRST terms for Yang-Mills theory. (English summary) *J. Phys. A* **31** (1998), *no.* 43, 8653–8659. (Summary) **99m:81267** 81T70 (81T13)
Ionescu, Cristodor (*with* Restuccia, Gaetana) q-torsion freeness of symmetric powers. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 329–346. (José F. Andrade) **99c:13021** 13C12 (13C15, 13D25, 13H10)
Ionescu, Dumitru Cezar (*with* Ulmeanu, Anatoli Paul) The computer-assisted analysis of the semi-Markovian stochastic Petri nets and an application. (English summary) *Statistical and probabilistic models in reliability (Bucharest*, 1997), 307–320, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 68Q90 (68Q10)
— *see also* **Statistical and probabilistic models in reliability, 99h:60004**
Ionescu, V. *see* **Ionescu, Vlad**
Ionescu, Valentin (*with* Cabanal-Duvillard, Thierry) Un théorème central limite pour des variables aléatoires non-commutatives. (English and French summaries) [A central limit theorem for noncommutative random variables] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1117–1120. (Summary) **99a:46135** 46N30 (46K99, 46L50)
Ionescu, Vlad (*with* Oară, Cristian) The class of suboptimal and optimal solutions to the discrete Nehari problem: characterization and computation. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 483–509. 93B30 (93B28)
— Robust controller for multiplicative uncertainty: the time-varying discrete case. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 471–483. 93D21 (93C41)
— (*with* Halanay, Aristide) Time-varying discrete Hamiltonian systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 307–326. (Fozi M. Dannan) **99k:39014** 39A10 (34C10, 39A12)
— (*with* Oară, Cristian) The extended generalized distance problem in discrete time. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 6, 523–534. (Summary) **99c:93027** 93B25 (93C55)
— Time-varying discrete Riccati equation in terms of Ben Artzi-Gohberg dichotomy. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 313–336. (M. M. Konstantinov) **99g:93051** 93C55 (39A10, 39A12, 93B25)
— (*with* Freiling, Gerhard) Time-varying discrete Riccati equation: some monotonicity results. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 135–148. (Author's review (G.F.)) **99k:93063** 93C55 (39A12)
Ionicioiu, Radu Amplitudes for topology change in Turaev-Viro theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1885–1894. (Răzvan Gelca) **99i:57052** 57R57 (57N10, 83C45)
— (*with* Williams, Ruth M.) Lens spaces and handlebodies in three-dimensional quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3469–3477. (Stephen F. Sawin) **99h:83021** 83C45 (57N10)
Ionin, V. K. Inequalities between radii of spheres that are connected with a convex surface. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 814–830, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 700–715. (Summary) **99k:53121** 53C45
Ionin, Yury J. A technique for constructing symmetric designs. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 147–158. (Marco Buratti) **99d:05009** 05B05 (05B10, 05B20)
— (*with* Bekker, Boris; Shrikhande, Mohan S.) Embeddability and construction of affine α-resolvable pairwise balanced designs. (English summary) *J. Combin. Des.* **6** (1998), *no.* 2, 111–129. (Elizabeth J. Billington) **99a:05008** 05B05
— Symmetric subdesigns of symmetric designs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 65–78. (Summary) **99k:05027** 05B05 (05B20)
Iooss, Gérard Sur une transformation conforme, utile dans le problème des ondes de gravité stationnaires. (English and French summaries) [On a conformal map that is useful in the problem of standing gravity waves] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1131–1136. (Guido Schneider) **99b:76010** 76B15 (30C20, 35Q35, 42A16)
— (*with* Kirchgässner, Klaus) Ondes progressives périodiques dans une chaîne d'oscillateurs non linéaires couplés. (English and French summaries) [Periodic travelling waves in a chain of linearly coupled nonlinear oscillators] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 855–860. (From the introduction) **99k:34177** 34K30 (35Q99, 70K99)
— Travelling water-waves, as a paradigm for bifurcations in reversible infinite-dimensional "dynamical" systems. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 611–622 (*electronic*). (Mikhail B. Sevryuk) **99g:58089** 58F14 (34C23, 34C37, 35B32, 58F39, 76B15)
Iordache, Mihai (*with* Bizdadea, C.; Saliu, S. O.; Tîmneanu, E. N.) An irreducible BRST approach of topological Yang-Mills theory. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 262–273. (Bani Mitra Södermark) **99e:81248** 81T70 (81T13)
Iordan, A. (*with* Boutet de Monvel, Louis) Peak curves in weakly pseudoconvex boundaries in $\mathbf{C}^2$. (English summary) *J. Geom. Anal.* **7** (1997), *no.* 1, 1–15. (Gregor Herbort) **99e:32016** 32E25 (32F30)
— (*with* Boutet de Monvel, Louis) Real analytic maximum-modulus sets. (English summary) Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 81–88. (Gregor Herbort) **99k:32019** 32E25 (32F25)
Iordanescu, R. (*with* Truini, P.) Quantum groups and Jordan structures. (English and Romanian summaries) *Politehn. Univ. Bucharest Sci. Bull. Ser. A Appl. Math. Phys.* **57/58** (1995/96), *no.* 1-4, 43–60. (Aleksandr Panov) **99c:17027** 17B37 (17C90)
Iordanskiĭ, M. A. Constructive descriptions of graphs. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 4, 35–63, 95. (M. S. Burgin) **99c:05187** 05C99
Iorgov, N. Z. (*with* Gavrilik, A. M.) q-deformed inhomogeneous algebras $U_q(\mathrm{iso}_n)$ and their representations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 384–392, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:81087** 81R50 (17B37)
— (*with* Gavrilik, A. M.; Klimyk, A. U.) Nonstandard deformation $U_q'(\mathrm{so}_n)$: the imbedding $U_q'(\mathrm{so}_n) \subset U_q(\mathrm{sl}_n)$ and representations. *Symmetries in science, X (Bregenz*, 1997), 121–133, *Plenum, New York*, 1998. (Fabio Gavarini) **99j:81071** 81R50 (17B37)
Ĭorgov, Vasil Ĭ. The extremal codes of length 42 with automorphism of order 7. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 201–213. (Summary) **99i:94073** 94B60
Iorgulescu, Afrodita Connections between MV_n algebras and n-valued Łukasiewicz-Moisil algebras. I. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 155–177. (Manuel Abad) **99g:06016** 06D30 (03G20)
Iori, M. (*with* Caraffini, G. L.; Spiga, Giampiero) On the connections between kinetic theory and a statistical model for the distribution of dominance in populations of social organisms. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 169–181 (1997). (Silvia Totaro) **99b:92038** 92D25 (82C40)
Iorio, A. (*with* De Martino, Salvatore; De Siena, Silvio; Vitiello, Giuseppe) Physical relevance of quantum groups. (English summary) *New perspectives in the physics of mesoscopic systems (Caserta*, 1996), 79–88, *World Sci. Publishing, River Edge, NJ*, 1997. (Roberto Casalbuoni) **99g:81082** 81R50 (81R30, 81V80)

Iório, Rafael José, Jr. (*with* Linares, Felipe; Scialom, M.) KdV and BO equations with bore-like data. (English summary) *Differential Integral Equations* **11** (1998), *no.* 6, 895–915. (Shu Ming Sun) **99j:35188** 35Q53 (76B15)
— (*with* Biagioni, Hebe A.) Generalized solutions to the Kuramoto-Sivashinsky equation. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 1–8. (Summary) **99f:35174** 35Q53 (35D05, 46F10)
— (*with* Nunes, Wagner Vieira Leite) On equations of KP-type. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 725–743. (Xian Guo Geng) **99j:35189** 35Q53
Iosevich, Alex (*with* Sawyer, Eric) Maximal averages over surfaces. (English summary) *Adv. Math.* **132** (1997), *no.* 1, 46–119. (Michael Cowling) **99b:42023** 42B25 (42B10)
— (*with* De Carli, Laura) Some sharp restriction theorems for homogeneous manifolds. *J. Fourier Anal. Appl.* **4** (1998), *no.* 1, 105–128. (Adam Sikora) **99i:42017** 42B15
Iosifescu, Marius In memoriam. Mihai Dragomirescu (1942–1994). *Stud. Cerc. Mat.* **48** (1996), *no.* 5-6, 409–410. 01A70
Iosif'yan, G. A. *see* **Petrovskiĭ, Ivan Georgievich, 99m:01106a** *and* **99m:01106b**
Iosilevskii, G. An asymptotic theory of high-aspect-ratio non-planar curved wings in steady incompressible flow. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 241–262. (Summary) **99c:76006** 76B05
Iovanović, B. S. *see* **Jovanović, Boško S.**
Iovashevich, V. (*with* Dobrynin, A. A.; Gutman, Ivan M.) Bicyclic graphs and their edge graphs with coinciding Wiener index. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 3–9, 63 (1998). (B. Zelinka) **99k:05097** 05C38 (05C35)
Iovino, José Types on stable Banach spaces. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 85–95. (Yasuji Takahashi) **99d:46013** 46B20 (46B08, 46M07)
Iovino, Maria Gabriella Futures options with futures-style margining in the Gaussian models setting. (English and Italian summaries) *Riv. Mat. Sci. Econom. Social.* **20** (1997), *no.* 1, 3–21. 90A09
Iovleff, Serge (*with* León, José R.) High-frequency approximation for the Helmholtz equation: a probabilistic approach. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 1–16. (Youri G. Smirnov) **99d:35023** 35C99 (35J05, 76Q05, 78A25)
Iozzi, Alessandra (*with* Corlette, Kevin) Limit sets of discrete groups of isometries of exotic hyperbolic spaces. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1507–1530. (Vadim A. Kaĭmanovich) **99f:58122** 58F11 (58F17)
Ip, A. (*with* Tang, Jia Fu; Wang, Ding Wei; Fung, R. Y. K.) A hybrid genetic algorithm for a type of nonlinear programming problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 11–21. 90C30 (65K05)
cheung Ip, Wai *see* **Cheung Ip, Wai**
Iparraguirre, A. (*with* Taksar, Michael I.; Poznyak, A. S.) Robust output feedback control for linear stochastic systems in continuous time with time-varying parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1133–1136. 93D09 (93D21)
Ipatov, S. I. Methods for choosing pairs of contacting objects in the study of the evolution of discrete systems with binary interactions. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 1, 35–59. 70F15 (70–08, 85–08)
Ipatova, I. L. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**
Ipatova, V. M. Convergence of numerical solutions of the variational altimeter data assimilation problem in a quasigeostrophic model of ocean circulation. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 411–418, 431; *translation in Differential Equations* **34** (1998), *no.* 3, 410–418. (Summary) **99i:86004** 86–08 (76C99, 76M20, 86A05)
Ipsen, Ilse C. F. (*with* Meyer, Carl D.) The idea behind Krylov methods. *Amer. Math. Monthly* **105** (1998), *no.* 10, 889–899. (Introduction) **99g:65040** 65F10
— (*with* Eisenstat, Stanley C.) Relative perturbation results for eigenvalues and eigenvectors of diagonalisable matrices. (English summary) *BIT* **38** (1998), *no.* 3, 502–509. (Hongyuan Zha) **99j:65056** 65F15
— (*with* Eisenstat, Stanley C.) Three absolute perturbation bounds for matrix eigenvalues imply relative bounds. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 149–158 (*electronic*). (Wen Yu Sun) **99h:65065** 65F15 (15A42)
— (*with* Banoczi, J. M.; Chiu, Nan-Chieh; Cho, Grace E.) The lack of influence of the right-hand side on the accuracy of linear system solution. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 203–227 (*electronic*). (Xinguo Liu) **99g:65033** 65F05 (15A06)
Ipsen, M. (*with* Hynne, F.; Sørensen, Preben Graae) Systematic derivation of amplitude equations and normal forms for dynamical systems. (English summary) *Chaos* **8** (1998), *no.* 4, 834–852. (Jialin Hong) **99k:58165** 58F36 (34C20, 34C23)
Iqbal, Amer (*with* DeWolfe, Oliver; Hauer, Tamás; Zwiebach, Barton) Constraints on the BPS spectrum of $\mathcal{N} = 2$, $D = 4$ theories with ADE flavor symmetry. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 261–274. (Summary) **99i:81229** 81T60 (81T13, 81T30)
Iqbal, Mohammad[1] On spline regularized inversion of noisy Laplace transforms. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 1, 39–54. (Markus Hegland) **99c:65241** 65R10 (65R30)
Iqbal Basha, R. (*with* Krishnamoorthy, A.; Lakshmy, B.) Stochastic analysis of a two commodity inventory problem with Markov dependent shift in demand. (English summary) *J. Math. Phys. Sci.* **30** (1996), *no.* 5, 237–252 (1998). 90B05
Irac-Astaud, Michèle (*with* Rideau, Guy) Deformed harmonic oscillators: coherent states and Bargmann representations. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1179–1186. (Summary) **99c:81078** 81R30 (81R50)
Iracleous, Dimitris P. (*with* Alexandridis, A. T.) New results to the inverse optimal control problem for discrete-time linear systems. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 517–528. (Summary) **99g:49034** 49N50 (93B55)
Irago, Hipólito (*with* Viaño Rey, Juan M.) Mathematical justification of elastodynamical models in rods. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 477–481, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73K05 (73D99)
— (*with* Kerdid, Nabil; Viaño Rey, Juan M.) Analyse asymptotique des modes de hautes fréquences dans les poutres minces. (English and French summaries) [Asymptotic analysis of high-frequency modes in thin rods] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1255–1260. (Summary) **99g:73070** 73K05 (73D30, 73K12)
— (*with* Viaño Rey, Juan M.) Second-order asymptotic approximation of flexural vibrations in elastic rods. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1343–1362. (Summary) **99g:73071** 73K05 (73D30, 73K12)
— (*with* Viaño Rey, Juan M.) Asymptotic error estimation in linear elastic beam models. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 7, 631–636. (Summary) **99k:73076** 73K05
Irani, Sandy Competitive analysis of paging. *Online algorithms* (*Schloss Dagstuhl*, 1996), 52–73, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25 (68N25)
— (*with* Canetti, Ran) Bounding the power of preemption in randomized scheduling. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 993–1015 (*electronic*). (Summary) **99c:68026** 68M20 (68M10, 90B12)
— (*with* Seiden, Steven S.) Randomized algorithms for metrical task systems. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 163–182. (Summary) **99b:68096** 68Q25
— (*with* Raghavan, Prabhakar) Combinatorial and experimental results for randomized point matching algorithms. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 17–31. (Summary) **99k:68193** 68U05
Irbäck, Anders The hybrid Monte Carlo method for polymer chains. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 133–142, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 82B80 (82D60)
— Simulations of toy proteins. (English summary) *Field theoretical tools for polymer and particle physics* (*Wuppertal*, 1997), 143–154, *Lecture Notes in Phys.*, 508, *Springer, Berlin*, 1998. (*see* **99k:82001**) 92D20
commission inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques" *see* **Commission Inter-I.R.E.M. "Épistémologie et Histoire des Mathématiques"**
Irges, Nikolaos (*with* Lavignac, Stéphane) A guide to flat direction analysis in anomalous U(1) models. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 293–304. (Summary) **99b:81224** 81T50 (81T13)
Iri, Masao Theory of uncontrollable flows—a new type of network-flow theory as a model for the 21st century of multiple values. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 107–123. (Summary) **99b:90046** 90B10 (90C35)
— (*with* Kubota, Koichi) A general numerical approach to sensitivity analysis and error analysis with adjoint systems. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 75–92. (Summary) **99a:90202** 90C31 (65G05)
aranda Iriarte, José I. *see* **Aranda Iriarte, José I.**
Iriarte Quirós, Manrique (*with* Garcés Calvelo, Alejandro) Simple data types in denotational semantics. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 2, 173–183. 68Q55 (68N15)
d'Iribarne, C. (*with* Rasigni, M.; Rasigni, G.) Minimal spanning tree and percolation on mosaics: graph theory and percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2611–2622. 82B43 (05C05)
Ričanin, Bratislav D. (*with* Mašanović, Goran Z.; Gvozdić, Dejan M.) On the analytical and numerical treatment of a class of PDE's with the application to some two-valley semiconductor electron devices. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 71–93. 82D99 (65N30)
Irion, Albrecht Fuzzy rules and fuzzy functions: a combination of logic and arithmetic operations for fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 49–56. (Summary) **99c:03036** 03E72
Iriondo, Mirta S. (*with* Leguizamón, Enzo O.; Reula, Oscar A.) Fast and slow solutions in general relativity: the initialization procedure. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1555–1565. (Alan D. Rendall) **99b:83008** 83C05 (35L40, 83C25)
Irkad, Ahmet A characterization of dual cover developability using the concept of d-convergence. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 33–37. (Summary) **99k:54022** 54E55
Irle, Albrecht (*with* Lotov, Vladimir Ivanovich) A bound on the expected overshoot for some concave boundaries. (English summary) *Metrika* **46** (1997), *no.* 3, 253–267. (Norbert Schmitz) **99c:60090** 60G40 (60E15, 60G50, 60K05)
— A bound for higher moments of expected sample size in sequential testing. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 2, 135–140. (Françoise Garcia-Brouaye) **99c:62221** 62L10
— ★ Finanzmathematik. (German. German summary) [Mathematical finance] Die Bewertung von Derivaten. [The evaluation of derivatives] Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1998. 260 *pp. ISBN* 3-519-02640-6 (Christian Hipp) **99k:90029** 90A09 (60H30, 60J99)
— Minimax results and randomization for certain stochastic games. (English summary) *Minimax theory and applications* (*Erice*, 1996), 91–103, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99j:90127** 90D15 (49K45)
Irmak, H. (*with* Altıntaş, O.) On a family of multivalently analytic functions with negative coefficients. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **26** (1997), 83–94. (Summary) **99a:30013** 30C45 (30C50)
— (*with* Chen, Ming-Po; Srivastava, Hari M.) A certain subclass of analytic functions involving operators of fractional calculus. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 5, 83–91. (R. K. Raina) **99a:30015** 30C45 (26A33)
Irony, Telba Z. (*with* Singpurwalla, Nozer D.) Non-informative priors do not exist: a dialogue with José M. Bernardo. With comments and a rejoinder by Bernardo. *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 159–189. (Mohan Delampady) **99k:62008** 62A15 (62F15)
Irving, Robert W. Matching medical students to pairs of hospitals: a new variation on a well-known theme. (English summary) *Algorithms—ESA '98* (*Venice*), 381–392, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90C35 (90B35)
Irwin, Mary Jane (*with* Borah, Manjit; Owens, Robert Michael) A fast and simple Steiner routing heuristic. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 51–67. (Summary) **99k:68129** 68R10 (05C85, 68Q35)
Irz, D. Yu. (*with* Ryzhov, V. N.; Tareeva, E. E.) Statistical mechanics of a vortex system in a thin superconducting film in a ring approximation. II. Allowance for the finite thickness of the film and the bending of vortices. (Russian. English and Russian summaries)

Teoret. Mat. Fiz. **104** (1995), *no.* 2, 337–347; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 1035–1042 (1996). (Tatiana Allen) **99f:82062** 82D55

— (*with* Ryzhov, V. N.; Tareeva, E. E.) Statistical mechanics of a vortex system in a thin superconducting film in a ring approximation. III. Allowance for the finite size of the vortex core. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **107** (1996), *no.* 1, 100–114; *translation in Theoret. and Math. Phys.* **107** (1996), *no.* 1, 499–510. (Tatiana Allen) **99f:82063** 82D55

Isaac, Richard On equitable ratios of Dubins-Freedman type. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 1–6. (Zdzisław Rychlik) **99m:60053** 60F15 (60G42)

Isaacs, I. M. (*with* Moulton, David Petrie) Real fields and repeated radical extensions. *J. Algebra* **201** (1998), *no.* 2, 429–455. (James K. Deveney) **99a:12003** 12F05

— (*with* Karagueuzian, Dikran) Conjugacy in groups of upper triangular matrices. (English summary) *J. Algebra* **202** (1998), *no.* 2, 704–711. (James E. Humphreys) **99b:20011** 20C15 (15A33, 20D15, 20G40)

— Numbers of classes and chains of subgroups in finite groups. *J. Algebra* **206** (1998), *no.* 2, 722–727. (Andrea Lucchini) **99g:20038** 20D30 (20D60)

— (*with* Karagueuzian, Dikran) Erratum: "Conjugacy in groups of upper triangular matrices" [J. Algebra **202** (1998), no. 2, 704–711; MR 99b:20011]. *J. Algebra* **208** (1998), *no.* 2, 722. (From the text) **99g:20021** 20C15 (15A33, 20D15, 20G40)

— Large orbits in actions of nilpotent groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 45–50. (Silvana Franciosi) **99b:20035** 20D15 (20F28)

Isaacson, David (*with* Cheney, Margaret; Newell, Jonathan C.) Electrical impedance tomography. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 85–101 (*electronic*). (From the introduction) **99k:78017** 78A30 (35J25, 35R30, 44A12, 92C55)

Isaacson, Richard (*with* Bishop, Nigel T.; Maharaj, Manoj; Winicour, Jeffrey) Black hole data via a Kerr-Schild approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6113–6118. (Summary) **99m:83098** 83C57

Isaak, Garth (*with* Bogart, Kenneth P.) Proper and unit bitolerance orders and graphs. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 37–51. (Henry Martyn Mulder) **99h:05098** 05C75

— Powers of Hamiltonian paths in interval graphs. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 31–38. (Peter Damaschke) **99d:05057** 05C45 (05C38, 05C40)

Isac, George (*with* Ben-El-Mechaiekh, Hichem) Some geometric solvability theorems in topological vector spaces. *Bull. Korean Math. Soc.* **34** (1997), *no.* 2, 273–285. (Introduction) **99a:47092** 47H15 (47H10, 47H17)

— Ekeland's principle and nuclear cones: a geometrical aspect. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 11, 111–116. (Summary) **99j:49026** 49J52 (46N10, 47H99, 47N10, 90C29)

— (*with* Hyers, Donald H.; Rassias, Themistocles M.) ★ Stability of functional equations in several variables. (English summary) Progress in Nonlinear Differential Equations and their Applications, 34. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *vi*+313 *pp. ISBN* 0-8176-4024-X (Zygfryd Kominek) **99i:39035** 39Bxx (39–02, 47H99)

— (*with* Ben-El-Mechaiekh, Hichem) Generalized multivalued variational inequalities. (English summary) *Analysis and topology*, 115–142, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 49J40 (47H04, 47H19, 54C60)

— (*with* Bulavskiĭ, V. A.; Kalashnikov, Vyacheslav Vital'evich) Application of topological degree theory to complementarity problems. (English summary) *Multilevel optimization: algorithms and applications*, 333–358, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Author's review (G.I.)) **99g:90144** 90C33 (47H11, 47N10, 49J40)

— (*with* Yuan, Xian-Zhi; Tan, Kok-Keong; Yu, Jian) The study of minimax inequalities, abstract economics and applications to variational inequalities and Nash equilibria. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 2, 135–166. (Xie Ping Ding) **99j:49018** 49J40 (49J35, 58E35, 90A14)

— (*with* Yu, Jian; Yuan, Xian-Zhi) The stability of solutions for differential inclusions and differential equations in the sense of Baire category theory. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 51–56. (Tzanko D. Donchev) **99d:34024** 34A60 (34D99)

— (*with* Obuchowska, W. T.) Functions without exceptional family of elements and complementarity problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 147–163. (Siegfried Schaible) **99i:90098** 90C33

— (*with* Sehgal, V. M.; Singh, Sankatha Prasad) An alternate version of a variational inequality. *Indian J. Math.* **41** (1999), *no.* 1, 25–31. (Paolo Cubiotti) **99k:49023** 49J40 (47H19, 90C33)

Isaev, A. P. (*with* Popowicz, Ziemowit) $SL_q(N)$-covariant noncommutative geometry. (English summary) *Quantum groups* (*Karpacz*, 1994), 259–266, *PWN, Warsaw*, 1995. (Andrzej Sitarz) **99i:58015** 58B30 (17B37, 81R50)

— (*with* Hadjiivanov, L. K.; Ogievetskiĭ, O. V.; Pyatov, P. N.; Todorov, Ivan T.) Hecke algebraic properties of dynamical R-matrices. Application to related quantum matrix algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 427–448. (Andrei G. Bytsko) **99k:81114** 81R50 (17B37)

Isaev, A. V. (*with* Krantz, Steven G.) Hyperbolic Reinhardt domains in $\mathbf{C}^2$ with noncompact automorphism group. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 149–160. (John Bland) **99h:32003** 32A07 (32M05)

Isaev, I. Yu. (*with* Yavorskiĭ, I. N.) Component spectral analysis of signals with stochastic recurrence. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 104–113, 158. 93B60 (93E03)

Isaeva, G. A. A modified Dirichlet problem for a degenerate elliptic system in an n-dimensional space. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 130–132, 144; *translation in Differential Equations* **34** (1998), *no.* 1, 135–138. (Summary) **99i:35054** 35J70

Isakhanov, R. S. A linear boundary value problem for solutions of systems of first-order differential equations of elliptic type. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 265–267 (1991). 35J55

Isakov, Sergei B. Quantum liquids of particles with generalized statistics. (English summary) *Phys. Lett. A* **242** (1998), *no.* 3, 130–138. (Summary) **99b:82084** 82D15

— (*with* Leinaas, Jon Magne; Myrheim, Jan; Polychronakos, Alexios P.; Varnhagen, Raimund) Algebra of observables for identical particles in one dimension. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 151–160. (Summary) **99e:81112** 81S05

Isakov, Victor On reconstruction of the diffusion and of the principal coefficient of a hyperbolic equation. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 259–275, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (Guan Quan Zhang) **99c:35259** 35R30 (35L05)

— ★ Inverse problems for partial differential equations. (English summary) Applied Mathematical Sciences, 127. *Springer-Verlag, New York*, 1998. xii+284 *pp. ISBN* 0-387-98256-6 (Gottfried Anger) **99b:35211** 35R30 (35–02, 65M30, 73D50, 76Q05, 86A22)

— Some inverse problems for the diffusion equation. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 3–10. (Summary) **99j:35231** 35R30 (35K20, 35N10)

Isakova, G. A. Some properties of the covariation of complex stable random variables. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 39–43, 139. (Gabriele Laue) **99i:60034** 60E07

Isard, M. (*with* Blake, Andrew; Bascle, B.; MacCormick, J.) Statistical models of visual shape and motion. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1283–1302. (Summary) **99b:68162** 68T10 (68U10)

Isazadeh, Ayaz (*with* Isazadeh, Hosein) Hypergraphs, higraphs, and some applications. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 243–253, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C65

Isazadeh, Hosein (*with* Isazadeh, Ayaz) Hypergraphs, higraphs, and some applications. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 243–253, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 05C65

kern-Isberner, Gabriele *see* **Kern-Isberner, Gabriele**

Isbister, Dennis J. (*with* Searles, Debra J.; Evans, Denis J.) The conjugate-pairing rule for non-Hamiltonian systems. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 337–349. (*see* **99d:58003**) 76M35 (58F40)

— (*with* Searles, Debra J.; Evans, Denis J.) Non-equilibrium molecular dynamics integrators using Maple. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 147–162. (Summary) **99a:70005** 70–08 (70–04, 76N15)

Ischebeck, F. (*with* Ojanguren, M.) Vector bundles on real affine varieties. (Italian summary) Text in English, German and French. *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 397–413. (Claus Scheiderer) **99d:14043** 14J60 (14P05)

Iscoe, Ian (*with* Feng, Shui; Seppäläinen, Timo) A microscopic mechanism for the porous medium equation. (English summary) *Stochastic Process. Appl.* **66** (1997), *no.* 2, 147–182. (Pablo A. Ferrari) **99a:60114** 60K35 (35K55, 35Q35, 82C20, 82C22)

van Iseghem, J. *see* **Van Iseghem, J.**

Isenberg, James A. Mathematical studies of relativistic field equations. *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 435–444, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83Cxx

— (*with* Berger, Beverly K.; Garfinkle, David; Moncrief, V.; Weaver, Marsha) The singularity in generic gravitational collapse is spacelike, local and oscillatory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1565–1573. (Robert J. Low) **99j:83052** 83C75

Iserles, Arieh Numerical methods on (and off) manifolds. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 180–189, *Springer, Berlin*, 1997. (Summary) **99i:65067** 65L05 (34A45, 34C40)

— Beyond the classical theory of computational ordinary differential equations. *The state of the art in numerical analysis* (*York*, 1996), 171–192, *Inst. Math. Appl. Conf. Ser. New Ser.*, 63, *Oxford Univ. Press, New York*, 1997. (W. C. Rheinboldt) **99d:65239** 65L99 (34A09, 34A45)

— (*with* Ramaswami, Geetha; Sofroniou, Mark) Runge-Kutta methods for quadratic ordinary differential equations. (English summary) *BIT* **38** (1998), *no.* 2, 315–346. (Iulian Coroian) **99i:65074** 65L06

— *see also* **Acta numerica**, **99a:65003**

nasr-Isfahani, A. R. *see* **Nasr-Isfahani, A. R.**

Isham, Chris J. ★ Lectures on quantum theory. Mathematical and structural foundations. *Imperial College Press, London*, 1995. xii+220 *pp. ISBN* 1-86094-000-5 (J.-P. Antoine) **99a:81001** 81–01

— Structural issues in quantum gravity. (English summary) *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 167–209, *World Sci. Publishing, River Edge, NJ*, 1997. (Jorge A. Pullin) **99m:83073** 83C45

— Topos theory and consistent histories: the internal logic of the set of all consistent sets. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 4, 785–814. (Summary) **99a:81014** 81P10 (03B50, 03E70, 03G30, 18B25)

— (*with* Linden, N.; Savvidou, K.; Schreckenberg, S.) Continuous time and consistent histories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1818–1834. (Władysław Adam Majewski) **99d:81005** 81P05

Ishankulov, T. I. (*with* Makhmudov, O. I.) The Cauchy problem for a system of equations in the moment theory of elasticity in a space. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 22–29. (Summary) **99e:73031** 73C02 (35Q72)

— On the Cauchy problem for the linear stationary Navier-Stokes system. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1089–1097, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 942–949. (Antonín Novotný) **99f:35161** 35Q30 (76D05, 76D07)

— (*with* Niëzov, I. È.) Regularization of the solution of the Cauchy problem for a system of Navier-Stokes equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 35–42. 35Q30 (76D05)

Ishchuk, Yu. B. Semiperfect rings with periodic locally nilpotent group of units. (English and Russian summaries) *Mat. Stud.* **7** (1997), *no.* 2, 125–128, 220. 16L30 (16U60)

Ishi, Hideyuki An explicit description of positive Riesz distributions on homogeneous cones. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 8, 132–134. (From the introduction) **99h:22016** 22E46

Ishibashi, Akihiro (*with* Maeda, Kengo; Narita, Makoto) Chronology protection and non-naked singularity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1637–1651. (Robert J. Low) **99i:83075** 83C75

— (*with* Maeda, Kengo; Koike, Tatsuhiko; Narita, Makoto) Upper bound for entropy in asymptotically de Sitter space-time. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3503–3508. (Summary) **99m:83125** 83C57

Ishibashi, K. (*with* Tsugē, S.; Nakagawa, T. M. S.) Solitary-wave solution of turbulence with application to Bénard convection. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 227–236, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 76F99

Ishibashi, Makoto Q-linear relations of special values of the Estermann zeta function. *Acta Arith.* **86** (1998), *no.* 3, 239–244. (Matti Jutila) **99j:11101** 11M41 (11J72)

Ishibashi, Nobuyuki p-branes from $(p-2)$-branes in bosonic string theory. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 1-2, 107–120. (C. Gauthier) **99m:81193** 81T30 (81T60)

Ishibashi, Yasunori (*with* Tamai, Hiroyuki) Checker-jumping problem in $\mathbf{R}^n$. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **20** (1998), 11–15. (Summary) **99a:05006** 05A99

Ishibayashi, Hiroki (*with* Sugiura, Nariaki) Reference prior Bayes estimator for bivariate normal covariance matrix with risk comparison. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2203–2221. (N. Giri) **99e:62104** 62H12 (62C10, 62C20, 62F15)

Ishida, Haruhisa On uniform well-posedness of the abstract Cauchy problem. *Tsukuba J. Math.* **21** (1997), *no.* 3, 617–628. (Sergiu Aizicovici) **99b:35208** 35R20 (34G10, 35K99, 35L99)

Ishida, Nobuhiko Generators and equations for modular function fields of principal congruence subgroups. *Acta Arith.* **85** (1998), *no.* 3, 197–207. (Martha Rzedowski-Calderón) **99j:11040** 11F03 (11F06, 11G30)

Ishida, Tsunetake (*with* Higaki, Hiroaki; Takizawa, Makoto) Pseudo-active replication of objects in heterogeneous clusters. (English summary) *Res. Act. Fac. Sci. Engrg. Tokyo Denki Univ.* **20** (1998), *no.* 1, 3–13. 68Q10 (68M15)

Ishida, Yoshiteru Formula processing on physical systems by symmetry. (English summary) *Complex Systems* **11** (1997), *no.* 2, 141–160. (Summary) **99j:00005** 00A69 (00A73, 00A79)

Ishigame, Atsushi (*with* Aihara, Tohru; Yuasa, Hidetaka) Optimization with constraints using the chaos steepest descent method. (Japanese) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 316–318. 90C30 (65K05)

Ishige, Kazuhiro (*with* Murata, Minoru) Parabolic equations whose nonnegative solutions in a cylinder are determined only by their initial values. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 1–7. (*see* **99a:00036**) 35K55

— An intrinsic metric approach to uniqueness of nonnegative solutions of parabolic equations. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 93–103, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Yehuda Pinchover) **99e:35090** 35K15 (35B05, 35K20)

— (*with* Murata, Minoru) An intrinsic metric approach to uniqueness of the positive Cauchy problem for parabolic equations. *Math. Z.* **227** (1998), *no.* 2, 313–335. (W. Watzlawek) **99c:35088** 35K15 (35B05)

Ishiguro, Kenshi Projective unitary groups and K-theory of classifying spaces. (English summary) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 1, 1–6. (Summary) **99b:55034** 55R50

— (*with* Møller, Jesper M.; Notbohm, Dietrich) Rational self-equivalences of spaces in the genus of a product of quaternionic projective spaces. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 45–61. (Jean-Claude Thomas) **99j:55004** 55P10 (55R35)

Ishiguro, Makio (*with* Sakamoto, Yosiyuki; Kitagawa, Genshiro) Bootstrapping log likelihood and EIC, an extension of AIC. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 411–434. (Summary) **99c:62040** 62F03 (62G09)

Ishihara, Hajime (*with* Bridges, Douglas) Spectra of selfadjoint operators in constructive analysis. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 1, 11–35. (Summary) **99a:47003** 47A10 (03F60)

— (*with* Khusainov, B. M.; Nerode, Anil) Decidable Kripke models of intuitionistic theories. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 115–123. (Leo Esakia) **99m:03075** 03C90 (03B20, 03C57)

— (*with* Khusainov, B. M.; Nerode, Anil) Computable Kripke models and intermediate logics. (English summary) *Inform. and Comput.* **143** (1998), *no.* 2, 205–230. (A. Yu. Muravitsky) **99m:03089** 03D45 (03B55, 03C57)

— (*with* Bridges, Douglas) A definite constructive open mapping theorem? (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 4, 545–552. (Summary) **99f:46009** 46A30 (03F60, 26E40, 46S30, 47S30)

Ishihara, Hironobu (*with* Fukuma, Yoshiaki) Complex manifolds polarized by an ample and spanned line bundle of sectional genus three. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 2, 159–168. (Antonio Lanteri) **99g:14007** 14C20 (14J40)

Ishihara, Kazuo (*with* Yamamoto, Tetsuro) On nonlinear SOR-like methods. IV. SOR-secant method for nondifferentiable problems. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 103–116. (Eugene Allgower) **99f:65075** 65H05 (65N06)

— (*with* Yamamoto, Tetsuro) On nonlinear SOR-like methods. III. Global convergence of SOR, SSOR and USSOR methods for convex problems. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 135–145. (Eugene Allgower) **99f:65074** 65H05

— Iterative solution methods for systems of complex nonlinear equations with nondifferentiable terms. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 24–30. (*see* **99i:00028**) 65H10

Ishihara, T. *see* **Ishihara, Tatsuya**

Ishihara, Tadashi Dual control theory. (Japanese) *Systems Control Inform.* **42** (1998), *no.* 6, 300–305. 93E10 (93E12)

— (*with* Satoh, Toshiyuki; Inooka, Hikaru) Characterization of matched systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 449–456. (Summary) **99j:93041** 93B51 (93C15)

Ishihara, Takashi[2] (*with* Kaneda, Yukio) Fine-scale structure of thin vortical layers. (English summary) *J. Fluid Mech.* **364** (1998), 297–318. (Summary) **99b:76024** 76D05

Ishihara, Tatsuya (*with* Matsuda, Hirotsugu; Hashimoto, Akihiro[1]) Classifying molecular sequences using a linkage graph with their pairwise similarities. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 305–325. (Michael A. Steel) **99k:92019** 92D20 (05C90, 68Q25)

Ishihara, Yasunori (*with* Seki, Hiroyuki; Ito, Minoru[1]) Type-consistency problems for queries in object-oriented databases. (English summary) *Database theory—ICDT '97 (Delphi)*, 364–378, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68055** 68P15

Ishii, H. *see* **Ishii, Hitoshi**

Ishii, Hiroaki[1] (*with* Mohri, Shintaro; Masuda, Teruo) Parallel machines scheduling with resource dependent processing times. Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 200–204. (*see* **99b:90009**) 90B35

— (*with* Matsutomi, Tatsuo) Minimax location problem with A-distance. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 2, 181–195. (Giovanni Andreatta) **99h:90062** 90B80 (90C30)

— (*with* Konno, Tsutomu) Two-machines scheduling problem with fuzzy allowable time constraint. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 487–491. 90B35 (90C70)

— (*with* Noda, Tatsuo) A general Newton method for systems of nonlinear equations. II. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 447–452. (Summary) **99j:65095** 65H10

— (*with* Shimada, Fumihiko; Itoh, Takeshi) Optimization problems on fuzzy networks. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 25–31. (*see* **99h:90006**) 90C70 (90C35)

— (*with* Katagiri, Hideki) Chance constrained bottleneck spanning tree with fuzzy random cost. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 83–91. (*see* **99h:90006**) 90C27 (90C70)

— (*with* Koide, Takeshi; Shinmori, Shuichi) A method of deriving a lower bound for all-terminal reliability that utilizes series-parallel graphs. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 128–134. (*see* **99h:90006**) 90B25

— (*with* Lee, Kyo-Won; Han, Sang-Su; Miyazaki, Shigeji) Fuzzy scheduling problem on a multiprocessor system with memories. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 139–144. 90B35 (68M20, 90C70)

Ishii, Hitoshi (*with* Adalsteinsson, D.; Evans, Lawrence C.) The level set method for etching and deposition. (English summary) *Math. Models Methods Appl. Sci.* **7** (1997), *no.* 8, 1153–1186. (Robert McOwen) **99a:35257** 35Q99 (35F25, 35K22, 49L25)

Ishii, Katsuyuki Regularity and convergence of crystalline motion in the plane. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 7 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Giandomenico Orlandi) **99f:58044** 58E15 (35Q99, 82C24)

— Singular limit of solutions of Ginzburg-Landau equation. Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 103–118. (*see* **99h:35003**) 35Q55 (58E50)

Ishii, Naohiro (*with* Kawabe, Yoshinobu) On modularity of completeness in order-sorted term rewriting systems. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 331–342, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99a:68099** 68Q42

Ishii, Shihoko Minimal, canonical and log-canonical models of hypersurface singularities. (English summary) *Birational algebraic geometry (Baltimore, MD, 1996)*, 63–77, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (From the introduction) **99f:14018** 14E15 (14E30)

— (*with* Chen, Hao[1]) On $-K^2$ for normal surface singularities. (English summary) *Internat. J. Math.* **9** (1998), *no.* 6, 653–668. (Takao Fujita) **99f:14039** 14J17 (14B05)

— (*with* Tomari, Masataka) Hypersurface non-rational singularities which look like canonical from its Newton boundary. Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 34–58. (Jan Stevens) **99m:32044** 32S25 (14B05, 32S05)

Ishii, Shin (*with* Sato, Masa-aki) Associative memory based on parametrically coupled chaotic elements. (English summary) *Phys. D* **121** (1998), *no.* 3-4, 344–366. (Summary) **99g:92048** 92J40 (58F13, 58F40)

Ishii, Tadao Propositional calculus with identity. *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 3, 96–104. 03B05 (03B45)

Ishii, Tadashi Products of S_2 spaces with S_3 spaces. *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 229–235. 54B10 (54D15)

— New types of separation properties and countably w-paracompact spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 211–226. (Douglas E. Cameron) **99b:54002** 54A10 (54D20)

Ishii, Takashi Topological characteristics of trivial points in a fiber. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 118–128. (*see* **99i:00018**) 46J15

Ishii, Toshimasa (*with* Nagamochi, Hiroshi; Ibaraki, Toshihide) Augmenting edge and vertex connectivities simultaneously. (English summary) *Algorithms and computation (Singapore, 1997)*, 102–111, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:05109** 05C85 (68R10)

— (*with* Nagamochi, Hiroshi; Ibaraki, Toshihide) Optimal augmentation to make a graph k-edge-connected and triconnected. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 280–289, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C40, 05C85, 68Q25)

Ishii, Yutaka Towards a kneading theory for Lozi mappings. II. Monotonicity of the topological entropy and Hausdorff dimension of attractors. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 375–394. (Frederick R. Marotto) **99b:58160** 58F13 (54H20, 58F03)

— (*with* Sands, Duncan) Monotonicity of the Lozi family near the tent-maps. (English summary) *Comm. Math. Phys.* **198** (1998), *no.* 2, 397–406. (Volker Matthias Gundlach) **99j:58065** 58F03 (58F13)

Ishijima, Shintaro (*with* Song, Ri-yao; Kojima, Akira) Stabilization of a class of nonlinear systems by a specific nonlinear observer. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 3, 136–144. (Summary) **99b:93041** 93D15 (93C10)

— (*with* Kojima, Akira) LQ preview synthesis: optimal control and worst case analysis. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 352–357. 93E20 (49N10)

Ishikawa, Go-o Topology of plane trigonometric curves and the strangeness of plane curves derived from real pseudo-line arrangements. Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 103–129. (Eugenii Shustin) **99h:58019** 58C27 (14P25, 52B30, 57M99)

— Singularities of sub-Riemannian exponential mappings, conjugate loci (caustics), wave fronts, cut loci and Carnot-Carathéodory small-balls (recent results by Agrachev, El-Alaoui, Gauthier, Ge and Kupka). Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 121–137. (Fernand Pelletier) **99h:53049** 53C22 (53C20)

— A relative transversality theorem and its applications. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 84–93, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Toshizumi Fukui) **99b:58030** 58C27 (58C25)

Ishikawa, Ken-Ichi (*with* Inagaki, Tomohiro; Fukazawa, Kenji; Yamamoto, Kazuhiro) Dynamical symmetry breaking in compact flat spaces. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 237–255. (Summary) **99c:81081** 81R40 (81T20, 83F05)

Ishikawa, Masato (*with* Yada, Tetsushi; Totoki, Yasushi; Asai, Kiyoshi[2]) Generation of hidden Markov model describing complex motif in DNA sequences. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 750–767. 92D20

Ishikawa, Satoshi The range characterizations of the totally geodesic Radon transform on the real hyperbolic space. *Duke Math. J.* **90** (1997), *no.* 1, 149–203. (Jacques Faraut) **99m:43011** 43A85 (22E30, 44A12)

Ishikawa, Shiro Fuzzy logic in measurements. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 291–300. 03B52

Ishikawa, Susumu (*with* Cheng, Qing-Ming) Complete maximal spacelike submanifolds. (English summary) *Kodai Math. J.* **20** (1997), *no.* 3, 208–217. (Miguel Sánchez) **99c:53064** 53C42 (53C50)

— (*with* Chen, Bang-Yen) Biharmonic pseudo-Riemannian submanifolds in pseudo-Euclidean spaces. *Kyushu J. Math.* **52** (1998), *no.* 1, 167–185. (Ivko Dimitric) **99b:53078** 53C40 (53C50)

— (*with* Cheng, Qing-Ming) Spacelike hypersurfaces with constant scalar curvature. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 499–505. (Miguel Sánchez) **99e:53087** 53C42 (53C50)

— (*with* Cheng, Qing-Ming) A characterization of the Clifford torus. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 819–828. (Ivko Dimitric) **99g:53064** 53C42 (53C20)

Ishikawa, Yoshi-hiro The generalized Whittaker functions for SU(2, 1). Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 199–212. (*see* **99a:11005**) 22E46 (11F70, 33C80)

Ishimaru, Akira ★ Wave propagation and scattering in random media. (English summary) Reprint of the 1978 original. With a foreword by Gary S. Brown. IEEE/OUP Series on Electromagnetic Wave Theory. An IEEE/OUP Classic Reissue. *IEEE Press, New York*, 1997. *xxvi+574 pp. ISBN* 0-7803-3409-4 (Werner Kohler) **99g:78019** 78A40 (35Q60, 35Q99, 78A45)

Ishimura, Naoyuki (*with* Ikota, Ryo; Mimura, Masayasu; Yamaguchi, Tomohiko) On the structure of steady solutions for the kinematic model of spiral waves in excitable media. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 223–228, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (Summary) **99b:92009** 92C05 (92E20)

— (*with* Imai, Hitoshi; Nakamura, Masa Aki) On the finite determination of the solutions for the MHD equations. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 126–135, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Manuel Núñez Jiménez) **99j:76136** 76W05 (35Q35, 58F40)

— (*with* Imai, Hitoshi; Nakamura, Masa Aki) Convergence of attractors for simplified magnetic Bénard system. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 136–144, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 76W05 (35B40, 35Q35)

— Self-similar solutions for the Gauss curvature evolution of rotationally symmetric surfaces. *Nonlinear Anal.* **33** (1998), *no.* 1, 97–104. (Fei-Tsen Liang) **99f:58041** 58E12 (34A12, 35K55, 53A10)

— Shape of spirals. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 197–202. (Joel L. Weiner) **99c:53003** 53A04 (35B99, 58E10)

Ishimura, R. The Cauchy-Kowalevski theorem for $\mathscr{E}$-modules. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 647–654. (Andrea D'Agnolo) **99i:32015** 32C38 (35A10, 35A27, 58G07)

Ishioka, Keiichi Statistical equilibrium solutions for 2-dimensional nondivergent flow and their calculation. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 164–175. (*see* **99e:76056**) 76F99 (76M35)

Ishitani, Hiroshi (*with* Segawa, Hitoshi) On the existence of a conjugacy between weakly multimodal maps. *Tokyo J. Math.* **21** (1998), *no.* 2, 511–521. (Eleonora Catsigeras) **99k:58061** 58F03

Ishiwata, Emiko (*with* Muroya, Yoshiaki) Main convergence theorems for the improved SOR method with orderings. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 123–147. (Summary) **99c:65057** 65F10

— A practical choice of parameters in improved SOR-Newton method with orderings. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 315–331. (Summary) **99m:65062** 65F10 (65N12)

Ishiwata, Michinori Positive solutions for semilinear elliptic equations in unbounded domains: zero mass case. *Functional analysis and global analysis* (*Quezon City*, 1996), 126–130, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60 (35B05)

— Existence of positive solutions for semilinear elliptic problems involving critical Sobolev exponent in unbounded domains. (Japanese) Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 20–34. (*see* **99d:35005**) 35J65 (35B05)

Ishiwata, Shingo (*with* Kawamura, Katsuyuki; Oh, Heung-Geun; Watanabe, Shinsuke) Higher-order approximations of the Burgers equation. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 35–45. (*see* **99a:00032**) 35Q53

Ishiwata, Tetsuya (*with* Tsutsumi, Masayoshi) Numerical studies of blow-up of solutions to some degenerate parabolic equations. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 238–251, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 35K65 (35B05, 35K60, 65M70)

Ishizaka, Hiroki (*with* Arimura, Hiroki; Shinohara, Takeshi) Finding tree patterns consistent with positive and negative examples using queries. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 101–115. (Rani Siromoney) **99m:68140** 68Q99 (68T05)

Ishizaki, Fumio (*with* Takine, Tetsuya; Oie, Yuji) Dynamic behavior of TCP-like window control and throughput performance. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 538–559. (Sudhangshu B. Karmakar) **99j:90029** 90B12 (90B22)

Ishizaki, Katsuya A result for a certain algebraic differential equation. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 301–307. (Summary) **99b:34009** 34A20 (30D35)

— Hypertranscendency of meromorphic solutions of a linear functional equation. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 271–283. (F. W. Carroll) **99k:39070** 39B32 (30D35)

— (*with* Toda, Nobushige) Unicity theorems for meromorphic functions sharing four small functions. (English summary) *Kodai Math. J.* **21** (1998), *no.* 3, 350–371. (Bao Qin Li) **99k:30050** 30D35

Ishizuka, Sho Closure, path-factors and path coverings in claw-free graphs. (English summary) *Ars Combin.* **50** (1998), 115–128. (Summary) **99i:05168** 05C70

Ishkhanyan, A. M. The integrability of the two-state problem in terms of confluent hypergeometric functions. (English summary) *J. Phys. A* **30** (1997), *no.* 4, 1203–1208. (Summary) **99a:81025** 81Q05 (33C15)

Ishlinskiĭ, A. Yu. (*with* Bobylev, N. A.; Gorin, E. A.; Novikov, Sergeĭ Petrovich; Tikhomirov, Vladimir) Mark Aleksandrovich Krasnosel'skiĭ. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 1(319), 199–201; *translation in Russian Math. Surveys* **53** (1998), *no.* 1, 195–198. (Editors) **99m:01042** 01A70

Ishmuratov, A. T. Logical modelling of conflict phenomenon. (English summary) Analytical philosophy and epistomology in Ukraine. *Theoria* (*San Sebastián*) (2) **14** (1999), *no.* 34, 95–107. (*see* **99k:03002**) 03B45

Ishwaran, Hemant *see* **Roberts, Gareth O., 99h:62123**

Isichenko, Michael B. (*with* Hameiri, Eliezer) Comment on: "A Lyapunov functional for stability of ideal magnetohydrodynamic systems in arbitrary motion" [Phys. Plasmas **4** (1997), no. 5, 1201–1212; MR 98j:76042] by G. Berge. *Phys. Plasmas* **5** (1998), *no.* 5, *part* 1, 1566–1567. (Adelina Georgescu) **99i:76058** 76E25 (76U05, 76W05)

— *see also* **Berge, Gerhard, 99i:76059**

Isidori, Alberto (*with* Suzuki, Sadanori; Tarn, Tzyh Jong) H_∞ control of nonlinear systems with sampled measurement. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 2, 12 *pp.* (*electronic*). (Summary) **99h:93042** 93B36 (93C57)

— (*with* Suzuki, Sadanori; Tarn, Tzyh Jong) H_∞ control of nonlinear systems with sampled measurement. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 381–392. (Peng Shi) **99h:93043** 93B36 (93C57)

— (*with* Lin, Wei[2]) Global L_2-gain design for a class of nonlinear systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 295–302. (Henk Nijmeijer) **99f:93072** 93C10 (93B51)

— *see also* **Twenty years of feedback linearization of nonlinear systems, 99f:93004**

Isidro, José María[1] Behaviour of holomorphic automorphisms on equicontinuous subsets of the space $\mathscr{C}(\Omega, E)$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 437–446. (Harald Upmeier) **99c:46034** 46E40 (17C65, 22E65, 46L70)

Işık, Ahmet On Eisenstein series and theta functions. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 241–248. (Michael C. Berg) **99g:11058** 11F11 (11F27)

— Construction of elliptic functions with Jacobi forms. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 161–165. 11F55 (33E05)

— Automorphic functions on the Hecke groups $\Gamma(\sqrt{m})$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 67–71. 11F12 (11F06)

— (*with* Kaplan, Abdullah) Fibonacci sequences in Hecke groups $\Gamma(\lambda_n)$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 79–81. 11B39 (11F06, 20F05)

Iskakov, K. T. (*with* Kabanikhin, S. I.; Koptyug, I. V.; Sagdeev, R. Z.) Inverse problem for a quasi-linear equation of diffusion. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 335–351. (Hong Ming Yin) **99k:65085** 65M30 (35R30, 76R50)

Iskandar, A. A. Solution of the affine Toda equations as an initial value problem. (English summary) *Differential equations* (*Bandung*, 1996), 301–310, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99c:58074** 58F07 (35Q58, 81T10)

Iskandar, Labib (*with* Rawy, E. K.; Ghaleb, A. F.) Numerical solution for a nonlinear, one-dimensional problem of thermoelasticity. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 53–76. 73V15 (73B30)

Iske, Armin (*with* Floater, Michael S.) Thinning and approximation of large sets of scattered data. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 87–96, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D15)

— (*with* Floater, Michael S.) Thinning, inserting, and swapping scattered data. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 139–144, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65015** 65D05 (41A63)

— (*with* Gutzmer, Tim) Detection of discontinuities in scattered data approximation. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 155–170 (1998). (A. Bultheel) **99d:65042** 65D17

Iskenderov, A. D. (*with* Makhmudov, N. M.) Optimal control of a quantum mechanical system with the Lions quality criterion. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 30–35 (1997). 49K20 (81S25)

Iskenderov, B. A. (*with* Aliev, M. P.) The limiting absorption and limiting amplitude principles for an equation with periodic coefficients that is well-posed in the sense of I. G. Petrovskiĭ. (Russian. English and Azerbaijani summaries) *Dokl. Akad. Nauk Azerbaĭdzhana* **51(52)** (1995/96), *no.* 1-12, 3–8 (1997). 35J30 (35B99)
— (*with* Mekhtieva, A. I.) Principles of radiation for Helmholtz equation in N-dimensional layer with impedance boundary conditions. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 291–303. (Summary) **99i:78017** 78A40 (35J05, 35L05)
Iskhokov, S. A. The generalized Dirichlet problem for a class of degenerate elliptic systems of differential operators in bounded domains. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 6, 333–337 (1992). 35J70 (35J55, 47F05)
— (*with* Boĭmatov, K. Kh.) On the solvability and smoothness of a solution of the variational Dirichlet problem associated with a noncoercive bilinear form. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 107–134. (Nguyễn Minh Trí) **99i:35024** 35J25 (35J20)
Iskovskikh, V. A. On the rationality problem for algebraic threefolds. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 190–232. (Yuri G. Prokhorov) **99g:14002** 14–02 (14E05, 14J30, 14M20)
Islam, A. S. (*with* Paul, S. R.) Addendum: "Joint estimation of the mean and dispersion parameters in the analysis of proportions: a comparison of efficiency and bias" [Canad. J. Statist. **26** (1998), no. 1, 83–94]. *Canad. J. Statist.* **26** (1998), *no.* 3, 515. 62F10 (62F12)
Islam, M. K. (*with* Hossain, Md. Forhad) A note on combinatorial problems: some propositions. (English summary) *J. Stat. Stud.* **17** (1997), 93–102. 60C05 (05A10, 62E15)
Islam, M. L. (*with* Ali, Md. Almech; Ahmed, Md. Saleh) Almost unbiased ratio type estimators using two phase sampling. (English summary) *J. Stat. Stud.* **17** (1997), 39–44. 62D05
shafiqul Islam, Md. *see* **Shafiqul Islam, Md.**
Islam, Md. M. (*with* Kaykobad, M.; Amyeen, M. E.; Murshed, M. M.) 3 is a more promising algorithmic parameter than 2. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 19–24. 68Q25 (68M07)
Islam, Mohammed Ashraful Static spherically symmetric solutions of perfect fluid sphere in general relativity. (English and Bengali summaries) *Chittagong Univ. Stud. Part II Sci.* **21** (1997), *no.* 2, 7–11. 83C15 (83C55)
Islei, Gerd (*with* Lockett, Geoff; Naudé, Peter) Influence in group decision making. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 187–198, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A07
Isli, Amar (*with* Cohn, Anthony G.) An algebra for cyclic ordering of 2D orientations. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 643–649, *MIT Press, Cambridge, MA*, 1998. (Summary) **99f:68187** 68T27
Islomov, B. On the theory of an elliptic-type equation with two lines of degeneracy. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 26–39. (Sulaimon A. Ishokov) **99h:35073** 35J70
Ismagilov, R. S. Ultrametric spaces and related Hilbert spaces. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 223–237; *translation in Math. Notes* **62** (1997), *no.* 1-2, 186–197 (1998). (M. S. Rangachari) **99f:46110** 46S10 (46C99, 54E35)
Ismail, A. I. (*with* El-Barki, F. A.; Shaker, M. O.; Amer, T. S.) On the motion of the pendulum on an ellipse. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 65–72. 70K99
Ismail, Fathy (*with* Warkentin, Andrew; Bedi, Sanjeev) Intersection approach to multi-point machining of sculptured surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 567–584. (Summary) **99c:65041** 65D17
Ismail, Gamal A. F. (*with* Ibrahim, Iman H.) Variable step stiffly stable methods. (English summary) *J. Inst. Math. Comput. Sci. Comput. Sci. Ser.* **7** (1996), *no.* 2, 67–79. (Zhong Wu Chu) **99d:65213** 65L06
— (*with* Ibrahim, Iman H.) A new higher order effective P-C methods for stiff systems. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 541–552. (Summary) **99i:65081** 65L99
Ismail, M. S. (*with* Taha, T. R.) A numerical study of compactons. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 6, 519–530. (Summary) **99j:65137** 65M06 (65M60)
Ismail, Mourad E. H. (*with* Chen, Yang[1]) Asymptotics of extreme zeros of the Meixner-Pollaczek polynomials. (English summary) 7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 59–78. (Shusen Ding) **99c:33014** 33C45 (30C15, 30E05)
— (*with* Stanton, Dennis W.) More orthogonal polynomials as moments. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 377–396, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Mizan Rahman) **99f:33011** 33C45 (05E35)
— (*with* Chen, Yang[1]; Van Assche, Walter) Tau-function constructions of the recurrence coefficients of orthogonal polynomials. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 2, 141–168. (Mayumi Ohmiya) **99b:33013** 33C45 (39A10, 82B41)
— Discriminants and electrostatics of general orthogonal polynomials. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 4, 108–112. (Summary) **99h:42045** 42C05 (78A30)
— (*with* Chen, Yang[1]) Some indeterminate moment problems and Freud-like weights. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 439–458. (Boris Petrovich Osilenker) **99j:44016** 44A60 (33D45)
— (*with* Valent, Galliano) On a family of orthogonal polynomials related to elliptic functions. *Illinois J. Math.* **42** (1998), *no.* 2, 294–312. (Dmitriy S. Kalyuzhniy) **99k:30066** 30E05 (33E05)
— (*with* Chihara, T. S.) In memoriam: Waleed Al-Salam (July 15, 1926–April 13, 1996). *J. Approx. Theory* **95** (1998), *no.* 2, 153–160. (Editors) **99m:01049** 01A70
— (*with* Rahman, Mizan) The q-Laguerre polynomials and related moment problems. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 155–174. (Axel Riese) **99b:33040** 33D45 (44A60)
— (*with* Chen, Yang[1]) Asymptotics of the largest zeros of some orthogonal polynomials. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5525–5544. (Tim H. Baker) **99g:33049** 33D45
— (*with* Wimp, Jet) On differential equations for orthogonal polynomials. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 4, 439–452. (Summary) **99f:42037** 42C05 (33C45)
— Discriminants and functions of the second kind of orthogonal polynomials. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 132–149. (José Javier Guadalupe Hernández) **99g:42032** 42C05 (33C45)
— (*with* Chen, Yang[1]) Hermitean matrix ensembles and orthogonal polynomials. (English summary) *Stud. Appl. Math.* **100** (1998), *no.* 1, 33–52. (Boris A. Khoruzhenko) **99d:82032** 82B44 (33C45, 42C05)
— (*with* Kim, Dongsu; Stanton, Dennis W.) Lattice paths and positive trigonometric sums. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 69–81. (Summary) **99k:42007** 42A24 (05A15, 05A19, 05A20)
Ismailescu, D. Covering the plane with copies of a convex disk. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 251–263. (Chuanming Zong) **99e:52026** 52C17
Ismailov, I. G. (*with* Bobylev, N. A.; Ivanenko, S. A.) Some remarks on homeomorphic mappings. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 593–596; *translation in Math. Notes* **60** (1996), *no.* 3-4, 442–445 (1997). (Jacek Marek Jędrzejewski) **99d:54007** 54C05 (26B05)
— (*with* Morozov, Vladimir Viktorovich) Some optimal design problems and their reduction to an antagonistic game. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 21–25, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 2, 30–38. (Summary) **99d:49069** 49N55 (90C30, 90D10)
— Some conditional optimization problems with constraints in the form of operator equations. Pontryagin's maximum principle. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 31–38. (Grigory M. Sklyar) **99k:49060** 49K27 (47N10, 49J40, 90C48)
— On optimality conditions in optimization problems on solutions of operator equations. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 44–54. (Vasile Postolică) **99k:49061** 49K27 (47A50, 65J10)
Ismailov, N. A. (*with* Bilalov, B. T.) A necessary and sufficient condition for the minimality of a system of functions. (Russian) *Algebra and mathematical analysis* (*Russian*), 130–137, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 42C30
İsmailov, S. (*with* Bayramoğlu, M.; Taşçı, F.) Higher trace formulas for Sturm Liouville equation with unbounded operator coefficient in finite interval. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 199–208. (Vladimir Vasil'evich Dubrovskiĭ) **99b:34098** 34G10 (34B24, 34L40)
Ismailov, V. È. Two-sided estimates for best approximation in domains consisting of a union of rectangles. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 109–114. (From the text) **99i:41026** 41A50 (41A63)
Ismail-zade, A. T. (*with* Korotkiĭ, A. I.; Naĭmark, B. M.; Suetov, A. P.; Tsepelev, I. A.) Realization of a three-dimensional hydrodynamic model of the evolution of sedimentary basins. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1190–1203; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1138–1151. (Summary) **99f:86008** 86A60 (76D05, 86–08)
Isnard, Carlos A. (*with* Iusem, Alfredo N.; Butnariu, Dan) A mixed Hölder and Minkowski inequality. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2405–2415. (Jiří Rákosník) **99j:26019** 26D15 (46B10, 46E30)
Iso, Satoshi (*with* Kavalov, An.) Breakdown of universality in random matrix models. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 3, 670–684. (Boris A. Khoruzhenko) **99f:82034** 82B44 (82B41)
— (*with* Aoki, Hajime; Kawai, Hikaru; Kitazawa, Yoshihisa; Tada, Tsukasa) Space-time structures from IIB Matrix model. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 713–745. (Summary) **99f:81141** 81T30
Isobe, Takeshi (*with* Marini, Antonella) On topologically distinct solutions of the Dirichlet problem for Yang-Mills connections. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 4, 345–358. (Summary) **99f:58045** 58E15 (53C07)
— Some new properties of Sobolev mappings: intersection theoretical approach. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 2, 337–358. (Jürgen Eichhorn) **99b:58039** 58D15 (46E35)
Isobe, Yoshinao (*with* Nakada, Hidemoto; Sato, Yutaka; Ohmaki, Kazuhito) Stepwise synthesis of partial specifications preserving strong (Ω_1, Ω_2)-equivalence. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 39–53. (Summary) **99c:68172** 68Q60 (68Q10)
Isogai, Eiichi (*with* Hirose, Keiichi; Uno, Chikara) The convergence rate of fixed-width sequential confidence intervals for a parameter of an exponential distribution. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 199–209. (Z. Govindarajulu) **99d:62077** 62L12
— (*with* Hirose, Keiichi) Sequential fixed-width confidence interval estimation for the percentiles of a normal distribution. (English summary) *J. Japan Statist. Soc.* **27** (1997), *no.* 2, 123–134. (Summary) **99a:62123** 62L12
— (*with* Hirose, Keiichi) Relative deficiency of nonparametric recursive kernel estimators of smooth distribution functions. (English summary) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 70–79. (*see* **99a:62005**) 62G05 (62G20)
Isokawa, Yukinao Limit distributions of random triangles in hyperbolic planes. (English summary) *Bull. Fac. Ed. Kagoshima Univ. Natur. Sci.* **49** (1997), 1–16. (Jan Rataj) **99k:60020** 60D05 (51M05, 51M10, 52A22)
dell'Isola, Francesco (*with* Ruta, Giuseppe C.; Batra, R. C.) A second-order solution of Saint-Venant's problem for an elastic pretwisted bar using Signorini's perturbation method. (English summary) *J. Elasticity* **49** (1997/98), *no.* 2, 113–127. (Summary) **99e:73037** 73C50
— (*with* Rosa, Luigi; Woźniak, Cz.) A micro-structured continuum modelling compacting fluid-saturated grounds: the effects of pore-size scale parameter. (English summary) *Acta Mech.* **127** (1998), *no.* 1-4, 165–182. (Summary) **99k:73102** 73N20 (73Q05, 73S10, 76S05, 86A15)
— (*with* Batra, R. C.; Vidoli, S.) A second-order solution of Saint-Venant's problem for a piezoelectric circular bar using Signorini's perturbation method. (English summary) *J.*

Elasticity **52** (1998), *no.* 1, 75–90. (Summary) **99k:73105** 73R05

— (*with* Hutter, Kolumban) What are the dominant thermomechanical processes in the basal sediment layer of large ice sheets? (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1972, 1169–1195. (Summary) **99c:86010** 86A60

— (*with* Hutter, Kolumban) A qualitative analysis of the dynamics of a sheared and pressurized layer of saturated soil. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3105–3120. (Summary) **99j:73087** 73N20 (73Q05, 86A99)

— (*with* dell'Erba, Ramiro; Rotoli, Giacomo) The influence of the curvature dependence of the surface tension on the geometry of electrically charged menisci. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 89–105. 80A10

Isola, S. (*with* Baladi, V.; Degli Esposti, Mirko; Järvenpää, Esa; Kupiainen, Antti) The spectrum of weakly coupled map lattices. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 539–584. (Volker Matthias Gundlach) **99c:58127** 58F19 (58F11, 82B20)

Isola, Tommaso (*with* Guido, Daniele) Singular traces and their applications to geometry. *Operator algebras and quantum field theory* (*Rome*, 1996), 440–456, *Internat. Press, Cambridge, MA*, 199?. (Andrzej Sitarz) **99k:46125** 46L87

Isopi, M. (*with* Fontes, L. R. G.; Kohayakawa, Y.; Picco, Pierre) The spectral gap of the REM under Metropolis dynamics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 917–943. (Christian Maes) **99g:60184** 60K35 (82B44)

Isozaki, Hiroshi Inverse problems in quantum mechanical scattering theory. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 163–180. (Summary) **99k:81335** 81U40

Ispány, Márton On stationarity of additive bilinear state-space representation of time series. (English summary) *Stochastic differential and difference equations* (*Győr*, 1996), 143–155, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 62M10

— (*with* Arató, Mátyás; Baran, Sándor) Functionals of complex Ornstein-Uhlenbeck processes. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 1–13. (Summary) **99j:62122** 62M10 (65U05)

Ispolov, Yu. G. Oscillations of an extendable flexible filament with small sag. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 766–773; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 743–750 (1998). (Summary) **99c:73046** 73K12 (73D99, 73K03)

ben-Israel, Adi *see* **Ben-Israel, Adi**

Israel, Giorgio "To administer is to calculate": two "social mathematicians" at the wane of the Enlightenment. (Italian) *Boll. Storia Sci. Mat.* **16** (1996), *no.* 2, 241–314. (C. Irimia (Zbl 899.01010)) **99k:01021** 01A50 (01A55)

— (*with* Menghini, Marta) The "essential tension" at work in qualitative analysis: a case study of the opposite points of view of Poincaré and Enriques on the relationships between analysis and geometry. (English and Italian summaries) *Historia Math.* **25** (1998), *no.* 4, 379–411. (I. Grattan-Guinness) **99k:01023** 01A55 (00A30)

— Des *Regulæ* à la *Géométrie*. (English and French summaries) [From the *Regulæ* to the *Géométrie*] "Pour Descartes": mathématiques et physique cartésiennes (Paris, 1996). *Rev. Histoire Sci.* **51** (1998), *no.* 2-3, 183–236. (Massimo Galuzzi) **99m:01014** 01A45 (51-03)

Israel, Werner The internal structure of black holes. (English summary) *Black holes and relativistic stars* (*Chicago, IL*, 1996), 137–151, *Univ. Chicago Press, Chicago, IL*, 1998. (*see* **99d:83070**) 83C57

— (*with* Pretorius, Frans) Quasi-spherical light cones of the Kerr geometry. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2289–2301. (Juan Antonio Sáez) **99i:83017** 83C15

— (*with* Pretorius, Frans; Vollick, Dan N.) An operational approach to black hole entropy. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6311–6316. (Summary) **99m:83137** 83C57

— (*with* Mukohyama, Shinji) Black holes, brick walls, and the Boulware state. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104005, 10 *pp.* (Summary) **99k:83079** 83C57

— (*with* Balasin, Herbert) Do vortex filaments in a superfluid neutron star produce gravimagnetic forces? (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 61–67. 83C55 (83F05)

Israeli, Moshe (*with* Averbuch, Amir; Vozovoi, Lev) On a fast elliptic solver by a modified Fourier method. (English summary) *Numer. Algorithms* **15** (1997), *no.* 3-4, 287–313. (Manil Suri) **99c:65222** 65N35

— (*with* Vozovoi, Lev; Weill, A.) Spectrally accurate solution of nonperiodic differential equations by the Fourier-Gegenbauer method. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 4, 1451–1471. (V. M. Krasnopol'sky) **99b:65092** 65L10 (65M70, 65N35, 65T10)

— (*with* Averbuch, Amir; Beylkin, Gregory; Coifman, Ronald R.) Multiscale inversion of elliptic operators. (English summary) *Signal and image representation in combined spaces*, 341–359, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99a:65162** 65N35

— (*with* Braverman, E. Ya.; Averbuch, Amir; Vozovoi, Lev) A fast 3D Poisson solver of arbitrary order accuracy. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 109–136. (Summary) **99c:65251** 65T20 (65N30)

— (*with* Averbuch, Amir; Ioffe, Ludmila; Vozovoi, Lev) Two-dimensional parallel solver for the solution of Navier-Stokes equations with constant and variable coefficients using ADI on cells. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 673–699. (Summary) **99g:65133** 65Y05 (65M99, 76D05, 76M25)

— (*with* Averbuch, Amir; Vozovoi, Lev) A fast Poisson solver of arbitrary order accuracy in rectangular regions. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 933–952 (*electronic*). (Summary) **99b:65153** 65N35 (45L05)

— (*with* Amitai, Dganit; Averbuch, Amir; Itzikowitz, Samuel) Implicit-explicit parallel asynchronous solver of parabolic PDEs. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1366–1404 (*electronic*). (Dao Qi Yang) **99f:65137** 65M55 (65M06, 65Y05)

Israelit, Mark Torsional Weyl-Dirac electrodynamics. (English summary) *Found. Phys.* **28** (1998), *no.* 2, 205–229. (Alberto Saa Vazquez) **99b:83043** 83C50 (78A25, 83D05)

Israfilov, D. M. Approximation by generalized Faber series in weighted Bergman spaces on finite regions with quasiconformal boundary. (English, Russian and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 115–125. (Yuri A. Farkov) **99j:30039** 30E10 (30C62, 30H05)

— Approximation by generalized Faber series in weighted Bergman spaces on finite domains with quasi-conformal boundary. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 1–13. (Yuri A. Farkov) **99d:30038** 30E10

— Uniform convergence of some extremal polynomials in domains with quasi-conformal boundary. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 527–539. (Timothy S. Norfolk) **99k:41009** 41A10 (30E10)

Israilov, M. I. (*with* Bakhramov, S. A.) Error estimates for an interpolation cubic spline. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 31–39. (Jian Ke Lu) **99e:41009** 41A15 (41A55)

— (*with* Khodzhaev, Z. Sh.) Effective improvement of a method for computing singular integrals. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 23–28. 65R20 (45E05)

— Quadrature formulas for singular integrals with nonstandard weights. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1997), 24–35. (I. P. Mysovskikh) **99j:65034** 65D32 (41A55)

Issard-Roch, Françoise (*with* Abergel, F.; Hilhorst, D.; Scheid, J. F.) Local existence and uniqueness of a Stefan problem with surface tension. *Appl. Anal.* **60** (1996), *no.* 3-4, 219–240. 35R35 (80A32)

— (*with* Seidman, Thomas I.) Well-posedness of a dissolution-growth problem on an unbounded domain. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 183–205. (Summary) **99a:35278** 35R35 (35K35)

grenon-Isselkou, Nathalie *see* **Grenon-Isselkou, Nathalie**

Istas, Jacques (*with* Stryhn, Henrik) Discretely observing a white noise change-point model in the presence of blur. (English summary) *Bernoulli* **4** (1998), *no.* 2, 185–201. (Summary) **99k:62164** 62M10

— (*with* Benhenni, Karim) Minimax results for estimating integrals of analytic processes. (English summary) *ESAIM Probab. Statist.* **2** (1998), 109–121 (*electronic*). (A. Ya. Olenko) **99m:62013** 62C20 (62G05)

— (*with* Benassi, Albert; Cohen, Serge) Identifying the multifractional function of a Gaussian process. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 337–345. (Norbert Patzschke) **99h:60080** 60G15 (60G05, 60G17)

— (*with* Benassi, Albert; Cohen, Serge; Jaffard, Stéphane) Identification of filtered white noises. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 31–49. (José Rafael León) **99e:60104** 60G15 (60G18, 62G05)

Istratov, A. Yu. (*with* Ageev, D. A.) Neural network implementation of the problem of the search for an optimal path. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 124–132. 90C30 (90B40, 90C35, 93C85)

Isyangil'din, A. Kh. (*with* Sabitov, K. B.) On the theory of the Tricomi problem with a nonlocal conjugation condition for equations of mixed type. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 305–307. (Megumi Saigo) **99d:35111** 35M10

Itagaki, Ryoichi Einstein's "Kyoto lecture": the Michelson-Morley experiment. *Science* **283** (1999), *no.* 5407, 1457–1458. 01A60 (83-03)

Italiano, Giuseppe F. (*with* Alberts, David; Cattaneo, Giuseppe) An empirical study of dynamic graph algorithms. (English summary) *ACM J. Exp. Algorithmics* **2** (1997), *approx.* 40 *pp.* (*electronic*). (Summary) **99g:68148** 68R10 (05C85)

— (*with* Ausiello, Giorgio; Nanni, Umberto) Hypergraph traversal revisited: cost measures and dynamic algorithms. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 1–16, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q25)

— (*with* Ramaswami, R.) Maintaining spanning trees of small diameter. (English summary) *Algorithmica* **22** (1998), *no.* 3, 275–304. (Summary) **99f:68037** 68P05 (05C85, 68M10)

— (*with* Eppstein, David; Galil, Zvi; Spencer, Thomas H.) Separator-based sparsification. II. Edge and vertex connectivity. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 341–381 (*electronic*). (Fabrizio Luccio) **99g:05058** 05C10 (05C85, 68Q25, 68R10)

— *see also* **Algorithms—ESA '98, 99k:68004**

de Ita Luna, Guillermo *see* **De Ita Luna, Guillermo**

Itaya, Akihiko (*with* Ukai, Seiji) Periodic points of logistic map with diffusion. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 1–20. (Volker Matthias Gundlach) **99d:58136** 58F20 (34C25)

Itaya, Nobutoshi (*with* Kobayashi, Yasumaro) The Dirichlet problem for a certain degenerate parabolic equation. II. (English summary) With corrigenda to Part I. *J. Fac. Sci. Shinshu Univ.* **32** (1997), *no.* 2, 69–75. (Summary) **99c:35127** 35K65

Itenberg, I. V. (*with* Roy, Marie-Françoise) Interactions between real algebraic geometry and discrete and computational geometry. (English summary) *Advances in discrete and computational geometry* (*South Hadley, MA*, 1996), 217–236, *Contemp. Math.*, 223, *Amer. Math. Soc., Providence, RI*, 1999. (Eugenii Shustin) **99j:14052** 14P10 (14P25, 68Q25)

Itin, A. P. (*with* Vasil'ev, A. A.; Neĭshtadt, A. I.) On dynamics of four globally phase-coupled oscillators with close frequencies. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 9–18. (Peter Ashwin) **99k:34078** 34C15 (34C29, 58F21)

Itkis, Gene (*with* Even, Shimon; Rajsbaum, Sergio) On mixed connectivity certificates. (English summary) ESA '95 (Corfu). *Theoret. Comput. Sci.* **203** (1998), *no.* 2, 253–269. (Italo José Dejter) **99h:05075** 05C40 (68Q10, 68R10)

Ito, Akio (*with* Yamazaki, Noriaki; Kenmochi, Nobuyuki) Global attractors of time-dependent double obstacle problems. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 288–301, *Springer, Singapore*, 1997. (Ioannis G. Stratis) **99m:35114** 35K55 (34G20, 35K85, 47H20, 58F39)

— (*with* Kenmochi, Nobuyuki) Errata to: "Asymptotic behaviour of solutions to phase field models with constraints" [Funkcial. Ekvac. **39** (1996), no. 1, 123–142; MR 97g:80011]. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 483–484. (Si Ning Zheng) **99g:80008** 80A22 (35B40, 35Q99, 35R35)

— A problem of Allen-Cahn type for p-Laplacian. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 229–233, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35K55

— (*with* Shirakawa, K.; Yamazaki, Noriaki; Kenmochi, Nobuyuki) Asymptotic stability for evolution systems associated with phase transition. (English summary) *Progress in partial differential equations, Vol. 2 (Pont-à-Mousson, 1997)*, 104–115, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Alp O. Eden) **99h:35019** 35B35 (35K99, 47N20, 80A22)

— (*with* Shirakawa, K.; Yamazaki, Noriaki; Kenmochi, Nobuyuki) Asymptotic stability for evolution equations governed by subdifferentials. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 287–310, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Philippe Laurençot) **99m:34141** 34G20 (34D05, 35K99, 35R70, 80A22)

Ito, Akira (*with* Okazaki, Tokio; Zhang, Lan; Inoue, Katsushi; Wang, Yue[2]) A note on two-dimensional probabilistic finite automata. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 303–314. (Summary) **99h:68122** 68Q68 (68Q45, 68Q75)

— (*with* Okazaki, Tokio; Inoue, Katsushi; Wang, Yue[2]) A note on two-dimensional probabilistic Turing machines. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 127–134. (*see* **99i:65003**) 68Q05 (03D10)

— (*with* Inoue, Katsushi; Wang, Yue[2]) Alternating automata characterizations of one-way iterative arrays. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 135–142. (Summary) **99i:68032** 68Q05 (68Q68)

— (*with* Okazaki, Tokio; Inoue, Katsushi; Wang, Yue[2]) A note on two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 205–220. (Summary) **99k:68055** 68Q05

— (*with* Okazaki, Tokio; Inoue, Katsushi; Wang, Yue[2]) Closure properties of the classes of sets recognized by space-bounded two-dimensional probabilistic Turing machines. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 61–81. (Summary) **99k:68056** 68Q05 (03D10, 68Q68)

Ito, Hidetaka (*with* Kumamoto, Akira) Locating periodic orbits and bifurcation points using subspace shooting. (English summary) *Tech. Rep. Kansai Univ. No.* 40 (1998), 41–54. (Summary) **99b:65095** 65L99 (34C23, 34C25)

Ito, Hiro (*with* Yokoyama, Mitsuo) Linear time algorithms for graph search and connectivity determination on complement graphs. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 209–213. (Summary) **99c:68194** 68R10 (68P05)

— (*with* Yokoyama, Mitsuo) Edge connectivity between nodes and node-subsets. (English summary) *Networks* **31** (1998), *no.* 3, 157–163. (D. de Werra) **99d:90045** 90B10 (05C40)

Ito, Hiroshi *see* **Ito, Hiroshi T.**

Ito, Hiroshi[1] Local stability and performance robustness of nonlinear systems with structured uncertainty. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1250–1254. 93D09

Ito, Hiroshi[2] On a product related to the cubic Gauss sum. II. (English summary) *Nagoya Math. J.* **148** (1997), 1–21. (D. R. Heath-Brown) **99a:11098** 11L05

— Cubic Gaussian sums and related elementary products. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 54–66. (Shin-ya Koyama) **99j:11090** 11L05

Ito, Hiroshi T. An inverse scattering problem for Dirac equations with time-dependent electromagnetic potentials. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 4, 355–381. (Tuncay Aktosun) **99h:35228** 35R30 (35P25, 47A40, 47N50, 81U40)

— A time-dependent method for inverse scattering problems. (English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 46–64. (Summary) **99h:35229** 35R30 (35Q99, 78A40, 78A45, 81U40)

— Inverse scattering problems for Dirac operator with time-dependent electromagnetic potentials. (Japanese) Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 26–35. (*see* **99i:00030**) 81U40 (35J10, 35P25, 47N50)

Ito, Hiroyuki[2] On unirationality of extremal elliptic surfaces. *Math. Ann.* **310** (1998), *no.* 4, 717–733. (Constantin D. Manoil) **99f:14045** 14J27 (14J28)

Ito, Hisashi Discrete time stochastic processes on finite sets and stochastic modules. II. (Japanese. English summary) Investigations on applied functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 975 (1996), 51–64. (Summary) **99g:60093** 60G99 (60J10)

Ito, Hitoshi Two-body Dirac equation and its wave function at the origin. (English summary) *J. Fac. Sci. Eng. Kinki Univ. No.* 34 (1998), 9–16. (Summary) **99f:81054** 81Q40 (81Q05)

Ito, K. *see* **Ito, Kazufumi**

Ito, K. R. (*with* Tamura, Hiroshi) Deviation of upper bounds of critical temperature of two-dimensional O(N) spin models. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 339–348. (Hugo Fort) **99e:82034** 82B26 (82B20)

Ito, Katsushi (*with* Yang, Sung-Kil) Flat coordinates, topological Landau-Ginzburg models and the Seiberg-Witten period integrals. (English summary) *Phys. Lett. B* **415** (1997), *no.* 1, 45–53. (Henrik Aratyn) **99d:81158** 81T60 (14D05, 32G20, 58F07, 81T13)

— (*with* Xiong, Chuan-Sheng; Yang, Sung-Kil) Seiberg-Witten theory as $d < 1$ topological strings. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 155–162. (Summary) **99h:81212** 81T60 (81T13, 81T30)

Ito, Kazufumi (*with* Fahroo, F.) Variational formulation of optimal damping designs. (English summary) *Optimization methods in partial differential equations (South Hadley, MA, 1996)*, 95–114, *Contemp. Math.*, 209, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99g:49021** 49K20 (49Q10, 73K40, 73K50)

— (*with* Ravindran, S. S.) A reduced basis method for control problems governed by PDEs. (English summary) *Control and estimation of distributed parameter systems (Vorau, 1996)*, 153–168, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Summary) **99c:49029** 49M05 (49K20, 76D05, 93C20)

— (*with* Ravindran, S. S.) A reduced-order method for simulation and control of fluid flows. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 403–425. (Summary) **99a:76111** 76M25 (49J20)

— (*with* Ravindran, S. S.) Optimal control of thermally convected fluid flows. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1847–1869 (*electronic*). (Ruxandra Stavre) **99f:49009** 49J20 (49K20, 76M10)

Ito, Kazuho Uniform stabilization of the dynamic elastica by boundary feedback. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 319–329 (*electronic*). (Vadim Komkov) **99i:93053** 93D15 (73K05, 73K50, 93C50)

Ito, Kei (*with* Maru, Nobuhito) Matrix string theory from brane configuration. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 43–49. (Summary) **99b:81195** 81T30

Ito, Keisuke (*with* Gunji, Yukio-Pegio; Kusunoki, Yoshiyuki) Formal model of internal measurement: alternate changing between recursive definition and domain equation. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 289–312. (Summary) **99b:03082** 03G30 (18B25)

Ito, Ken (*with* Kobayashi, Teiichi; Kotani, Yasusuke) Stable homotopy types of stunted lens spaces mod 2^r. II. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 29–33. (Paul Selick) **99b:55008** 55P10 (55P42)

Ito, Kenichi Domino tilings on orientable surfaces. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 1, 1–8. (Ludwig Balke) **99j:52024** 52C20

Itô, Kiyosi A measure-theoretic approach to Malliavin calculus. *New trends in stochastic analysis (Charingworth, 1994)*, 220–287, *World Sci. Publishing, River Edge, NJ*, 1997. (Yasushi Ishikawa) **99i:60112** 60H07

Ito, M. *see* **Ito, Masami[1]**

Ito, Masahiko On a theta product formula for Jackson integrals associated with root systems of rank two. *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 122–163. (Laurent Habsieger) **99e:33023** 33D80 (33D05, 33D60)

— A theta product formula for Jackson integrals associated with root systems. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 4, 60–61. (Jiang Zeng) **99b:33043** 33D80 (33D05, 33D10)

Ito, Masami[1] (*with* Kari, Lila; Thierrin, Gabriel) Two operators on languages related to shuffle products. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields (Mito, 1996)*, 34–38, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M35 (68Q45)

— (*with* Dömösi, Pál; Katsura, Masashi; Nehaniv, Chrystopher L.) A new pumping property of context-free languages. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 187–193, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Editors) **99g:68110** 68Q45

— (*with* Imreh, Balázs; Katsura, Masashi) On shuffle closures of commutative regular languages. (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 276–288, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68092** 68Q45

— (*with* Imreh, Balázs) On α_i-product of nondeterministic automata. (English summary) *Algebra Colloq.* **4** (1997), *no.* 2, 195–202. (Summary) **99m:68132** 68Q70

Ito, Masayuki[2] (*with* Fukagai, Nobuyoshi; Narukawa, Kimiaki) A bifurcation problem of some nonlinear degenerate elliptic equations. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 895–926. (Norman Dancer) **99c:35070** 35J65 (34B15, 35B32, 47H15)

— (*with* Fukagai, Nobuyoshi; Narukawa, Kimiaki) Limit as $p \to \infty$ of p-Laplace eigenvalue problems and L^∞-inequality of the Poincaré type. (English summary) *Differential Integral Equations* **12** (1999), *no.* 2, 183–206. (Jan Bochenek) **99m:35058** 35J60 (35B40, 35P30)

Ito, Michiho (*with* Ichimura, Keiko) Dynamics of skew tent maps. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 31–39. (*see* **99h:00034**) 58F03

Ito, Minoru[1] (*with* Ishihara, Yasunori; Seki, Hiroyuki) Type-consistency problems for queries in object-oriented databases. (English summary) *Database theory—ICDT '97 (Delphi)*, 364–378, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68055** 68P15

Ito, Naoharu (*with* Inaba, Hiroshi) Dynamic feedback (A, B)-invariant submodules for linear systems over commutative Noetherian domains. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 123–129. (Valeriu Prepeliţă) **99k:93036** 93B25 (13E05, 93B52, 93C55)

Ito, Noboru On Hadamard 2-groups. (English summary) *Australas. J. Combin.* **18** (1998), 133–137. (Kathryn J. Horadam) **99k:20006** 20B25 (05B10, 05B20)

— (*with* Cho, Jung R.; Kim, Pan Soo) On Hadamard property of a certain class of finite groups. (English summary) *J. Algebra* **204** (1998), *no.* 2, 666–674. (Stephen D. Smith) **99d:20033** 20D60

Ito, Nobuyasu (*with* Jordan, Richard; Yoshida, Zensho) Statistical mechanics of three-dimensional magnetohydrodynamics in a multiply connected domain. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 251–272. (Barak Galanti) **99e:76127** 76W05 (76M35, 82D40)

Ito, Satoshi Optimality and duality of semi-infinite programming. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 345–358. 90C34 (49N15)

— (*with* Liu, Yanqun; Teo, Kok Lay) A dual parameterization approach to linear-quadratic semi-infinite programming problems. (English summary) *Optim. Methods Softw.* **10** (1999), *no.* 3, 471–495. 90C34

Ito, Shunji Simultaneous approximations and dynamical systems (on the simultaneous approximation of (α, α^2) satisfying $\alpha^3 + k\alpha - 1 = 0$). Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 59–61. (*see* **98c:11001**) 11J13 (58F08)

— (*with* Furukado, Maki) The quasi-periodic tiling of the plane and Markov subshifts. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 1, 1–42. (R. Blind) **99f:52024** 52C20 (28D05)

— (*with* Ei, Hiromi) Decomposition theorem on invertible substitutions. *Osaka J. Math.* **35** (1998), *no.* 4, 821–834. (Katalin Bencsath) **99k:20050** 20E05 (20E36, 20F28)

Ito, T. *see* **Ito, Tatsuro**

Ito, Takashi Liftings of (2, 2)-Galois coverings of curves of characteristic 2. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 58–65. (*see* **99a:00029**) 14H30

Ito, Tatsuro (*with* Hobart, S.) The structure of nonthin irreducible T-modules of endpoint 1: ladder bases and classical parameters. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 1, 53–75. (Paul-Hermann Zieschang) **99a:05144** 05E30

Ito, Yukari The world of rational Gorenstein singularities. Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 1–6. (*see* **99h:32002**) 14E15

Itoh, Hajime (*with* Tabata, Masahisa) A finite element analysis for a thermal convection problem with the infinite Prandtl number. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 555–570. (Summary) **99i:76089** 76M10 (65M60, 76R05, 86A60)

— Numerical simulation of thermal convection in a fluid with the infinite Prandtl number and its application to a glass manufacturing problem. (English summary) *Hiroshima Math. J.* **29** (1999), *no.* 1, 27–60. (Summary) **99m:76080** 76M10 (76R99, 80A20)

Itoh, Hidenori (*with* Inuzuka, Nobuhiro; Seki, Hirohisa) Efficient induction of executable logic programs from examples. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 212–224, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N17 (68T05)

— (*with* Inuzuka, Nobuhiro; Furuzawa, Mitsue; Seki, Hirohisa) Induction of recursive logic programs based on structural analysis of saturations. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3155–3164. (Summary) **99j:68013** 68N17 (68T05)

— (*with* Nakamura, Tsuyoshi; He, Lifeng) SRAMCs: skeleton revision algorithm using maximal circles. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 768–771. 68U05

Itoh, Jin-ichi (*with* Tanaka, Minoru[3]) The dimension of a cut locus on a smooth Riemannian manifold. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 571–575. (James J. Hebda) **99k:53068** 53C20 (28A78)

Itoh, Katsumi (*with* Igarashi, Yuji; Kamimura, Kiyoshi) Self-duality in super D3-brane action. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 469–482. (Summary) **99i:81187** 81T30

Itoh, Masuo (*with* Chō, Muneo; Huruya, Tadasi) Riemann-Hilbert problem for characteristic functions of p-hyponormal operators. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 271–279. (Mihai Putinar) **99e:47025** 47B20

— (*with* Chō, Muneo; Huruya, Tadasi) Singular integral models for p-hyponormal operators and the Riemann-Hilbert problem. (English summary) *Studia Math.* **130** (1998), *no.* 3, 213–221. (Mihai Putinar) **99c:47024** 47B20 (45E05, 47G10)

Itoh, Minoru Explicit Newton's formulas for $\mathfrak{gl}_n$. *J. Algebra* **208** (1998), *no.* 2, 687–697. (Darin R. Stephenson) **99j:17016** 17B35

Itoh, Mitsuhiro Compact Einstein-Weyl manifolds and the associated constant. *Osaka J. Math.* **35** (1998), *no.* 3, 567–578. (Jimmy Petean) **99h:53059** 53C25

Itoh, Nobutake Development of axisymmetric wave lattice disturbances in a rotating disk and the structure of absolute instability. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 1–16. (*see* **99e:76056**) 76E99 (76F99)

— The effect of nonparallelism on the stability of 3-dimensional boundary layers. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 215–225. (*see* **99k:76004**) 76E99 (76D10)

Itoh, Shoji (*with* Zhang, Shao Liang; Natori, Makoto) On an efficient solution method for vector computers related to block 5-diagonal matrix groups. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 180–187. (*see* **99i:00028**) 15–04

Itoh, Shuichi (*with* Chen, Wen[2]; Shiki, Junji) Irregular sampling theorems for wavelet subspaces. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1131–1142. (Summary) **99e:94008** 94A12

Itoh, Takashi[1] Schur-type cross norms on C^*-algebras. (Japanese) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 9–14. (*see* **99i:46001**) 46L05

Itoh, Takeshi (*with* Shimada, Fumihiko; Ishii, Hiroaki[1]) Optimization problems on fuzzy networks. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 25–31. (*see* **99h:90006**) 90C70 (90C35)

Itoh, Tatsuo[2] (*with* Houshmand, Bijan; Piket-May, Melinda) High-speed electronic circuits with active and nonlinear components. *Advances in computational electrodynamics*, 461–511, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78A55 (94C99)

Itoh, Toshiaki Discretization for ordinary differential equations that have general solution. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 95–103. (*see* **99h:65005**) 65L06

Itoh, Tsuyoshi A construction of normal bases over the Hilbert p-class field of imaginary quadratic fields. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 1, 25–28. (Cornelius Greither) **99f:11146** 11R33 (11R37)

Itoh, Yousuke (*with* Hotta, M.; Futamase, Toshifumi; Morikawa, Masahiro) Thermal hair of a quantum black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064016, 11 *pp.* 83C57

Itoyama, Hiroshi (*with* Koike, Michio; Takashino, H.) $N = 2$ supermultiplet of currents and anomalous transformations in supersymmetric gauge theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1063–1069. (Summary) **99c:81243** 81T60 (81T13, 81T50)

— (*with* Matsuo, Takekiyo) Berry's connection and USp(2k) Matrix model. (English summary) *Phys. Lett. B* **439** (1998), *no.* 1-2, 46–54. (Summary) **99g:81168** 81T30 (81Q99)

— (*with* Tokura, Akira) US$p(2k)$ matrix model: nonperturbative approach to orientifolds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026002, 15 *pp.* (Summary) **99k:81246** 81T30

— (*with* Tokura, Akira) USp(2k) matrix model: F-theory connection. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 1, 129–138. (Summary) **99a:81142** 81T30

Its, A. R. (*with* Korepin, Vladimir E.) Probability of phase separation and two point temperature correlation functions for the Bose gas with delta interaction. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 174–181, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B26 (82B10)

— (*with* Kapaev, Andrei A.) Connection formulae for the fourth Painlevé transcendent; Clarkson-McLeod solution. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4073–4113. (Yoshitsugu Takei) **99i:34007** 34A20 (34E20)

Its, Elizabeth (*with* Lee, Jong S.) Scattering of surface elastic waves at a vertical anisotropic layer. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 439–459. (Yibin Fu) **99g:73042** 73D25 (73B40, 73D20)

Itskovich, E. A. (*with* Gololobova, S. P.; Il'in, Valeriĭ Pavlovich) ★ ФАКТОР: библиотека программ для решения сеточных уравнений. (Russian. English and Russian summaries) [FAKTOR: a library of programs for solving difference equations] Препринт. Вычислительный Центр. Российская Академия Наук. Сибирское Отделение [Preprint. Computing Center. Russian Academy of Sciences. Siberian Branch], 1079. *Ross. Akad. Nauk Sibirsk. Otdel., Vychisl. Tsentr, Novosibirsk*, 1996. 34 *pp.* 65–04

Iturralde, Mikel *see* **Lezaun Iturralde, Mikel**

Iturriaga, Claudia (*with* Lubiw, Anna) Elastic labels: the two-axis case. (English summary) *Graph drawing* (*Rome*, 1997), 181–192, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05

Iturriaga, R. (*with* Contreras-Barandiarán, Gonzalo; Paternain, Gabriel P.; Paternain, Miguel) Lagrangian graphs, minimizing measures and Mañé's critical values. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 5, 788–809. (Héctor Sánchez-Morgado) **99f:58075** 58F05 (58F17, 58F27)

— (*with* Contreras-Barandiarán, Gonzalo; Sánchez Morgado, Héctor) On the creation of conjugate points for Hamiltonian systems. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 355–361. (Gabriel P. Paternain) **99a:58063** 58F05 (58F15, 58F17)

Iturrieta, Miguel (*with* Zó, Felipe) Best monotone L_φ-approximations in several variables. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 1–10. (Ion Badea) **99m:41045** 41A50

Iturrioz, Luisa (*with* SanJuan, Eric) Duality and informational representability of some information algebras. *Rough sets in knowledge discovery*, 1, 233–247, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 68T30 (03G25)

Itza, Benjamín (*with* Bosch, Carlos) A folding problem. (Spanish) *Miscelánea Mat. No.* 22 (1995), 23–36. 51M15

Itzhaki, Nissan (*with* Brandhuber, Andreas; Sonnenschein, Jacob; Theisen, Stefan; Yankielowicz, Shimon) On the M-theory approach to (compactified) 5D field theories. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 127–134. (Gonzalo Violero) **99a:81129** 81T30 (81T13, 81T60, 83E30)

— (*with* Brandhuber, Andreas; Sonnenschein, Jacob; Yankielowicz, Shimon) Wilson loops, confinement, and phase transitions in large N gauge theories from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 1, 20 *pp.* (*electronic*). (Summary) **99c:81232** 81T60 (81T13, 81T30, 83E30)

— (*with* Brandhuber, Andreas; Sonnenschein, Jacob; Yankielowicz, Shimon) Baryons from supergravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 20, 11 *pp.* (*electronic*). (Summary) **99i:83087** 83E30 (81T30, 83E50)

— D6 + D0 and five-dimensional spinning black hole. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 18, 6 *pp.* (*electronic*). (Marco Cavaglià) **99h:83055** 83E30 (81T30, 83C57)

— (*with* Tseytlin, Arkady A.; Yankielowicz, Shimon) Supergravity solutions for branes localized within branes. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 298–304. (Summary) **99c:83093** 83E30 (83E50)

— (*with* Maldacena, Juan M.; Sonnenschein, Jacob; Yankielowicz, Shimon) Supergravity and the large N limit of theories with sixteen supercharges. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 046004, 11 *pp.* (Summary) **99k:83133** 83E50 (81T30, 83E30)

Itzikowitz, Samuel (*with* Amitai, Dganit; Averbuch, Amir; Israeli, Moshe) Implicit-explicit parallel asynchronous solver of parabolic PDEs. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1366–1404 (*electronic*). (Dao Qi Yang) **99f:65137** 65M55 (65M06, 65Y05)

Itzkowitz, Gerald L. Pseudocompactness, measurability, and category in compact groups. (English summary) *Papers on general topology and applications* (*Brookville, NY*, 1990), 111–117, *Ann. New York Acad. Sci.*, 659, *New York Acad. Sci., New York*, 1992. (W. W. Comfort) **99b:54061** 54H11 (22C05, 28A12, 54A25, 54E52)

— Cardinal numbers associated with dense pseudocompact, countably compact, and ω-bounded subgroups. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 21–32. (Oleg G. Okunev) **99b:54062** 54H11 (22C05, 54A05, 54B10)

Itzykson, Claude Équations différentielles covariantes et représentations de l'algèbre de Virasoro. (English summary) [Covariant differential equations and representations of the Virasoro algebra] *Géométrie complexe* (*Paris*, 1992), 219–237, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (Miguel A. Rodríguez) **99m:81083** 81R10 (17B68, 81T40)

— *see also* **R.C.P. 25**, **99g:00050**

Iusem, Alfredo N. (*with* Alber, Ya. I.; Solodov, Michael V.) Minimization of nonsmooth convex functionals in Banach spaces. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 235–255. (W. W. Breckner) **99g:90158** 90C48 (46N10, 65K05)

— On some properties of paramonotone operators. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 269–278. (Igor' V. Konnov) **99m:47081** 47H19 (47H05, 49J40, 90C25, 90C33)

— On some properties of generalized proximal point methods for variational inequalities. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 337–362. (Wan Tao Fu) **99d:90130** 90C33 (49J40, 65J10)

— (*with* Alber, Ya. I.; Solodov, Michael V.) On the projected subgradient method for nonsmooth convex optimization in a Hilbert space. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 23–35. (Lionel Thibault) **99k:90114** 90C25 (49J52, 90C48)

— (*with* Censor, Yair; Zenios, Stavros A.) An interior point method with Bregman functions for the variational inequality problem with paramonotone operators. (English summary) *Math. Programming* **81** (1998), *no.* 3, *Ser. A*, 373–400. (M. Teboulle) **99f:90147** 90C33 (49J40, 90C25, 90C48)

— (*with* Burachik, Regina S.) A generalized proximal point algorithm for the variational inequality problem in a Hilbert space. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 197–216 (*electronic*). (Igor' V. Konnov) **99b:49033** 49M30 (47H17, 47H19, 49J40, 65K10)

— (*with* Isnard, Carlos A.; Butnariu, Dan) A mixed Hölder and Minkowski inequality. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2405–2415. (Jiří Rákosník) **99j:26019** 26D15 (46B10, 46E30)

— (*with* Svaiter, B. F.; Da Cruz Neto, João Xavier) Central paths, generalized proximal point methods, and Cauchy trajectories in Riemannian manifolds. (English summary)

SIAM J. Control Optim. **37** (1999), *no.* 2, 566–588 (*electronic*). (M. Teboulle) **99k:90175** 90C33 (49J40, 90C30)

Ivakhnenko, A. G. (*with* Ivakhnenko, G. A.) Normative prediction and optimal control of multidimensional plants by the self-organization of a system of nonphysical models. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 27–34, 295. 93A15 (93C95)

Ivakhnenko, G. A. (*with* Ivakhnenko, A. G.) Normative prediction and optimal control of multidimensional plants by the self-organization of a system of nonphysical models. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 27–34, 295. 93A15 (93C95)

Ivakhnenko, V. I. (*with* Smirnov, Yu. G.; Tyrtyshnikov, E. E.) The electric field integral equation: theory and algorithms. *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 251–262, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Marius Mitrea) **99h:78020** 78A45 (45L05, 65N30, 65R20, 78–08)

Ivan, Constantin (*with* Räder, Alexander) Decision models with complete connections with infinite horizon. (English summary) *Stud. Cerc. Mat.* **45** (1993), *no.* 6, 495–515. 90C40 (90A05)

— (*with* Räder, Alexander) Homogeneous decision models with complete connections with infinite horizon. (English summary) *Stud. Cerc. Mat.* **48** (1996), *no.* 1-2, 95–103. 90A05

Ivan, Dumitru Mircea An operator method in difference equations. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 537–550. (Fozi M. Dannan) **99j:39007** 39A10 (65Q05)

Ivan, Gheorghe Čech-de Rham cohomology of a refinement of a principal bundle. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 69–78. (Summary) **99i:55007** 55N99 (55R10, 58A12)

Iván, Ildikó (*with* Szeidl, György) Macro-conditions of compatibility and strain boundary conditions for some mixed plane boundary value problems of micropolar elastostatics. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 35–45. 73B25 (73C02)

Ivanauskas, F. (*with* Meškauskas, T.; Kaulakys, B.) Solution of the equations of dynamical chaos. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 467–474, *VSP, Utrecht*, 1997. (Summary) **99i:70030** 70K50 (34F05, 58F13)

Ivanchov, M. I. Inverse problem for finding a major coefficient in a parabolic equation. (English and Russian summaries) *Mat. Stud.* **8** (1997), *no.* 2, 212–220, 238. 35R30 (35K10)

— The inverse problem of determining the heat source power for a parabolic equation under arbitrary boundary conditions. (English summary) *J. Math. Sci.* (*New York*) **88** (1998), *no.* 3, 432–436. (Dang Dinh Ang) **99b:35212** 35R30 (35K10)

— (*with* Koval'chuk, S. M.) Inverse problems for the heat equation in a composite domain. (Ukrainian. English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 1, 53–69, 110. 35R30 (35K05)

— Détermination simultanée de deux coefficients aux variables diverses dans une équation parabolique. (English and Russian summaries) [Simultaneous determination of two coefficients dependent on diverse variables in a parabolic equation] *Mat. Stud.* **10** (1998), *no.* 2, 173–187. 35R30 (35K10)

— On the determination of the time-dependent leading coefficient in a parabolic equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 539–550, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 465–475. (Peter G. Danilaev) **99f:35223** 35R30 (35K99)

Ivančo, Jaroslav (*with* Borowiecki, Piotr) $\mathscr{P}$-bipartitions of minor hereditary properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 89–93. (Summary) **99b:05104** 05C70

— (*with* Meszka, M.; Skupień, Z.) Decomposition of multigraphs into isomorphic graphs with two edges. (English summary) *Ars Combin.* **51** (1999), 105–112. (Summary) **99j:05154** 05C70

Ivanenko, Nazar Some classes of linearizable polynomial maps. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 223–232. (George F. Seelinger) **99a:14023** 14E09 (13B25, 14L27)

Ivanenko, S. A. (*with* Bobylev, N. A.; Ismailov, I. G.) Some remarks on homeomorphic mappings. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 593–596; *translation in Math. Notes* **60** (1996), *no.* 3-4, 442–445 (1997). (Jacek Marek Jędrzejewski) **99d:54007** 54C05 (26B05)

— (*with* Prokopov, G. P.) Methods for constructing adaptive-harmonic grids. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 6, 643–662; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 6, 627–645. (Włodzimierz Proskurowski) **99a:65171** 65N50

Ivanenko, V. I. (*with* Zinchuk, N. A.) A model of a class of dynamical systems with a discrete state space. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 96–103, 158. 93A30 (93C55)

Ivanishchev, V. V. Simulation without a mediator. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 27–32. 68Q05

Ivanitskiĭ, A. Yu. (*with* Vasil'ev, F. P.; Jaćimović, Milojica) Pointwise residual method for solving linear lexicographical problems. (English summary) *Math. Montisnigri* **8** (1997), 217–229. (Luis N. Vicente) **99c:90085** 90C20 (65K05)

— (*with* Vasil'ev, F. P.; Morozov, Vladimir A.) The pointwise residual method for solving some problems of linear algebra and linear programming. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1140–1152; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1090–1102. (C. Ilioi) **99f:90059** 90C05 (65F35)

Ivankov, P. L. On the linear independence of some numbers. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 383–390; *translation in Math. Notes* **62** (1997), *no.* 3-4, 323–328 (1998). (Eugene M. Matveev) **99h:11076** 11J72 (11J91)

Ivanoff, B. Gail (*with* Lin, Yan-Xia; Merzbach, Ely) Weak convergence of set-indexed point processes and the Poisson process. (English summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 77–89; *reprinted in Theory Probab. Math. Statist. No.* 55 (1997), 79–91 (1998). (Ely Merzbach) **99e:60013** 60B10 (60G55)

— (*with* Weber, Neville C.) A maximal inequality and tightness for multiparameter stochastic processes. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 359–369, *North-Holland, Amsterdam*, 1998. (Ely Merzbach) **99i:60078** 60F17 (60E15, 60G60)

— (*with* Weber, Neville C.) Tail probabilities for weighted sums of products of normal random variables. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 2, 239–244. (C. D. Lai) **99i:60099** 60G55 (60E05)

Ivanov, A. A. *see* **Ivanov, Aleksandr Anatol'evich**

Ivanov, A. F. *see* **Ivanov, Anatoliĭ Fedorovich**

Ivanov, A. G. On the equivalence of differential inclusions and controlled almost periodic systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 876–884, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 879–887 (1998). (Stefan Mirică) **99a:49012** 49J24 (34A60, 34C27, 34H05)

Ivanov, A. O. (*with* Tuzhilin, Alekseĭ Avgustinovich) Geometry of the set of minimal networks of a given topology with a fixed boundary. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 6, 119–152; *translation in Izv. Math.* **61** (1997), *no.* 6, 1231–1263. (Summary) **99c:05052** 05C10 (52A20)

Ivanov, A. P. Construction of an inverse operator in an observation problem. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 90–93, 246, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 93B07 (93B40)

— On the constrained shock problem. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 355–368; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 341–353. (Summary) **99c:70009** 70E15 (70F99)

Ivanov, A. V. Mixers, functors and soft mappings. (Russian. Russian summary) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 1 (1993), 22–26. 54C55

— Relatively compact extensions of completely regular spaces. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 79–87. (Aleksander Błaszczyk) **99k:54018** 54D35

— *OK*-extensions and generalized proximities. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 76–84. (Summary) **99c:54039** 54E05 (54C20, 54D35)

Ivanov, Aleksandr Anatol'evich Flag-transitive extensions of dual polar spaces. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 16–18. (Elena Brožíková) **99m:51004** 51A50 (20D45)

— *see also* **Algebra and combinatorics: interactions and applications**, **99e:00015**

Ivanov, Aleksandr Vasil'evich The regularity theory for (M, L)-Laplacian parabolic equation. (Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 87–110, 339. (Herbert Koch) **99k:35104** 35K65 (76S05)

Ivanov, Aleksandr Vladimirovich (*with* Bardadym, T. A.) An asymptotic expansion of the cross-validation functional. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 1–9; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 1–9. (A. Ya. Dorogovtsev) **99j:62090** 62J02 (62G05)

— ★ Asymptotic theory of nonlinear regression. (English summary) Mathematics and its Applications, 389. *Kluwer Academic Publishers Group, Dordrecht*, 1997. vi+327 *pp. ISBN* 0-7923-4335-2 (Andrej Pázman) **99h:62086** 62J02 (62F12)

— Decomposable statistics and waiting time in the Markov-Pólya urn model. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 237–252, *VSP, Utrecht*, 1997. (Summary) **99g:60018** 60C05 (60F05)

— (*with* Ivchenko, G. I.) On waiting time in the Markov-Pólya scheme. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2904–2916. (Lyuben R. Mutafchiev) **99j:60012** 60C05 (60F05, 60G09)

Ivanov, Anatoliĭ Fedorovich (*with* Fedorenko, A. D.; Fedorenko, V. V.; Sharkovs'kiĭ, Aleksandr) Solution behaviour in a class of difference-differential equations. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 37–48. (Frederick R. Marotto) **99e:34097** 34K15 (58F14)

— (*with* Dormayer, Peter) Stability of symmetric periodic solutions with small amplitude of $\dot{x}(t) = \alpha f(x(t), x(t-1))$. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 61–82. (Jialin Hong) **99k:34168** 34K20 (34K15)

Ivanov, B. V. Colliding axisymmetric pp waves. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3378–3381. (Summary) **99m:83055** 83C35

Ivanov, D. N. $\mathscr{K}$-bijections of groups and $\mathscr{K}_R$-isomorphisms of group rings. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 6, 27–46; *translation in Sb. Math.* **188** (1997), *no.* 6, 823–841. (Victor Bovdi) **99e:16030** 16S34

Ivanov, D. Yu. Justification of an algorithm for the numerical solution of inverse boundary value problems of heat conduction that takes into account the semigroup symmetry of such problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2028–2042; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1948–1961. (Summary) **99h:65162** 65M30

Ivanov, E. *see* **Ivanov, Evgeniĭ Alekseevich^2**

Ivanov, E. A. (*with* Ivchenko, G. I.; Khonov, S. A.) An exact maximum likelihood estimator for the composition of a stratified population. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 216–222; *translation in Math. Notes* **62** (1997), *no.* 1-2, 181–185 (1998). (Summary) **99a:62012** 62D05

Ivanov, Evgeniĭ Alekseevich^2 Harmonic superspace: new directions. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 374–383, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:81239** 81T60 (58A50)

— Harmonic superspace: some recent developments. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 450–453, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T60

— (*with* Bukhbinder, E. I.; Bukhbinder, I. L.; Kuzenko, Sergei M.) Central charge as the origin of holomorphic effective action in $N = 2$ gauge theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1071–1082. (Piet Termonia) **99h:81204** 81T60 (81T13, 81T15)

— On gauge-equivalent formulations of $N = 4$ SKdV hierarchy. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2855–2862. (Oktay K. Pashaev) **99m:58110** 58F07 (35Q53)

— (*with* Ketov, Sergei V.; Zupnik, B. M.) Induced hypermultiplet self-interactions in $N = 2$ gauge theories. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 53–82. (Summary) **99k:81310** 81T60 (81T13)

— (*with* Sokatchev, E.) On non-linear superfield versions of the vector-tensor multiplet. (English summary) *Phys. Lett. B* **429** (1998), *no.* 1-2, 35–47. (Piet Termonia) **99h:81213** 81T60 (81T30, 83E50)

— (*with* Dragon, Norbert; Kuzenko, Sergei M.; Sokatchev, E.; Theis, U.) $N = 2$ rigid supersymmetry with gauged central charge. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 411–450. (Ilya Shapiro) **99k:81303** 81T60 (81T13)

Ivanov, G. E. The ellipsoid method for differential games with a terminal-integral payment. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 3, 300–303. 90D25

Ivanov, G. P. (*with* Kiryakova, Virginia S.) Fractional calculus and Mittag-Leffler functions: some applications in control theory. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 117–123, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 93B28

Ivanov, George Generalizing the Baer-Kaplansky theorem. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 107–115. (Alberto Facchini) **99k:16004** 16D10 (16D70, 20K10)

Ivanov, I. A. Link between the strong-coupling and the weak-coupling asymptotic perturbation expansions for the quartic anharmonic oscillator. (English summary) *J. Phys. A* **31** (1998), *no.* 33, 6995–7003. (Summary) **99c:81040** 81Q15

Ivanov, Ivan Ganchev (*with* Petkov, Milko Georgiev) Numerical computation of eigenvalues of Hamiltonian matrices. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 339–346. (Hongyuan Zha) **99j:65060** 65F15 (15A18)

— (*with* Dyankova, V. S.) A numerical algorithm for the solution of a matrix quadratic equation. (Bulgarian. Bulgarian summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 147–149, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 65F30

— (*with* El-Sayed, Salah M.; Petkov, Milko Georgiev) A new modification of the Rojo method for solving symmetric circulant five-diagonal systems of linear equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 35–44. (Summary) **99d:65089** 65F05 (65F50)

— (*with* El-Sayed, Salah M.) Properties of positive definite solutions of the equation $X + A^*X^{-2}A = I$. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 303–316. (Summary) **99c:15019** 15A24

— (*with* Minchev, B. V.; Hasanov, V. I.) Positive definite solutions of the equation $X - A^*\sqrt{X^{-1}}A = I$. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 113–116, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F30

— (*with* Zarnan, J.; Petkov, Milko Georgiev) Two-sided iteration methods for matrix inversion. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 129–130, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 65F20 (65F30)

Ivanov, M. A. *see* **Ivanov, Mikhail Anisimovich**

Ivanov, M. G. (*with* Aref'eva, Irina Ya.; Rytchkov, O. A.) Properties of intersecting p-branes in various dimensions. (English summary) *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 25–41, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81214** 81T30 (83E30)

— (*with* Aref'eva, Irina Ya.; Rytchkov, O. A.; Volovich, I. V.) Non-extremal localized branes and vacuum solutions in M-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2923–2936. (C. Gauthier) **99m:81165** 81T30

Ivanov, Mikhail Anisimovich The Diophantine equation $x_1^n + x_2^n + \cdots + x_{l}^n = y_1^n + y_1^n + \cdots + y_{r_2}^n$. (English summary) *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 1, 25–33. (Aleksander Grytczuk) **99d:11033** 11D72 (11D41)

Ivanov, Milen (*with* Zlateva, Nadia) Abstract subdifferential calculus and semi-convex functions. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 35–58. (Jean-Noël Corvellec) **99f:49020** 49J52 (46G05, 46N10, 47H05, 47N10)

Ivanov, N. N. Generalized time stochastic Petri nets. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 156–167; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 2, 1503–1512 (1997). (Krassimir Atanassov) **99d:68174** 68Q90

— A queueing system with a parallel-serial buffer. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 50–61; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 194–203. 90B22

— (*with* Alekhina, A. È.) Properties of the dynamic Leontief model for fuzzy data. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 32–33, 139. 90A14 (90A16)

Ivanov, N. V. Automorphisms of complexes of curves and of Teichmüller spaces. *Progress in knot theory and related topics*, 113–120, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (Colin C. Adams) **99b:57032** 57N05

— (*with* McCarthy, John D.) On injective homomorphisms between Teichmüller modular groups. I. (English summary) *Invent. Math.* **135** (1999), *no.* 2, 425–486. (Athanase Papadopoulos) **99m:57014** 57M60 (20F38, 30F10)

Ivanov, O. A. ★ Easy as π? (Russian summary) An introduction to higher mathematics. With a foreword by A. S. Merkurjev [A. S. Merkur'ev]. Translated from the 1995 Russian original by Robert G. Burns. *Springer-Verlag, New York*, 1999. *xviii*+187 *pp. ISBN* 0-387-98521-2 (Editors) **99g:00001** 00–01 (00A05)

Ivanov, O. V. *see* **Ivanov, Aleksandr Vladimirovich**

Ivanov, P. Nonlinear metric perturbations and production of primordial black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7145–7154. 83C57 (83F05)

Ivanov, P. M. ★ Алгебраическое моделирование сложных систем. (Russian. English and Russian summaries) [Algebraic modeling of complex systems] *Fizmatlit "Nauka"*, *Moscow*, 1996. 272 *pp. ISBN* 5-02-015218-8 (Nikolai K. Krivulin) **99a:68057** 68Q05 (03B52, 03D05, 68Q75, 93A30, 93B11, 93C83)

Ivanov, P. S. *see* **Emel'yanov, S. V. et al., 99a:93040**

Ivanov, Radostin *see* **Proceedings: Conference on Mathematical Methods in Operations Research/Workshop on Well-posedness and Stability of Optimization Problems, 99k:49002**

Ivanov, S. *see* **Ivanov, Sergei Vladimirovich**

Ivanov, S. V. *see* **Ivanov, Sergei Vladimirovich**

Ivanov, Sergei *see* **Ivanov, Sergei Vladimirovich**

Ivanov, Sergei Vladimir On the Burnside problem for groups of even exponent. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 67–75 (*electronic*). (Gunnar Traustason) **99m:20085** 20F50 (20F32)

— On aspherical presentations of groups. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 109–114 (*electronic*). (Martin Edjvet) **99m:20067** 20F05 (57M20)

— On certain elements of free groups. (English summary) *J. Algebra* **204** (1998), *no.* 2, 394–405. (Enric Ventura Capell) **99e:20035** 20E05 (20E36)

— On endomorphisms of free groups that preserve primitivity. (English summary) *Arch. Math.* (*Basel*) **72** (1999), *no.* 2, 92–100. (Vincent Guirardel) **99m:20047** 20E05 (20F28)

Ivanov, Sergei Vladimirovich (*with* de Rougemont, Michel) Interactive protocols on the reals. (English summary) *STACS* 98 (*Paris*, 1998), 499–510, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68056** 68Q15 (68Q05)

— On convergent metrics of upper-bounded curvature on 2-polyhedra. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 130–141. (Igor Belegradek) **99j:53087** 53C45 (53C23)

— (*with* Burago, D. Yu.) On asymptotic isoperimetric constant of tori. *Geom. Funct. Anal.* **8** (1998), *no.* 5, 783–787. (João Lucas Marques Barbosa) **99j:53034** 53C20

Ivanov, Stefan P. (*with* Apostolov, V.; Grantcharov, G.) Hermitian structures on twistor spaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 3, 291–308. (Massimiliano Pontecorvo) **99h:53054** 53C25 (32L25, 53C56)

— (*with* Pétrova, Irina) Riemannian manifold in which the skew-symmetric curvature operator has pointwise constant eigenvalues. (English summary) *Geom. Dedicata* **70** (1998), *no.* 3, 269–282. (Andrea Spiro) **99d:53034** 53C20 (53C21)

— (*with* Alexandrov, B.; Grantcharov, G.) An estimate for the first eigenvalue of the Dirac operator on compact Riemannian spin manifold admitting parallel one-form. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 263–270. (Jean-Louis Milhorat) **99k:58182** 58G25 (53C25)

Ivanov, Ts. P. (*with* Savova, R.) Stability of relative equilibria of an elastic body. (English summary) *European J. Mech. A Solids* **16** (1997), *no.* 5, 823–832. (Summary) **99d:73049** 73H10 (73C50)

Ivanov, V. I. (*with* Smirnov, O. I.) Jackson constants in the space $l_2(Z_2^n)$. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 183–210. (Ion Badea) **99j:41022** 41A17

Ivanov, V. M. (*with* Kul'chitskiĭ, O. Yu.; Arsen'ev, D. G.) Adaptive-statistical methods for the control of complicated computational processes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 102–111, 156. 93C95 (93C40)

Ivanov, Yu. E. (*with* Bublik, G. F.) Analysis of discretization methods for continuous dynamical systems in modeling and control problems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 83–95, 158. 93B40 (93A30)

Ivanova, A. A. *see* **Thayse, André et al., 99m:68190**

Ivanova, A. N. (*with* Manevich, L. I.; Tarnopol'skiĭ, B. L.) Mathematical modeling of structure formation in a polymer blend. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 300–308. 82D60

— (*with* Tarnopol'skiĭ, B. L.) On the bifurcation of inhomogeneous stationary states in the problem of phase separation of a polymer blend. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 4, 653–659. 82D10

Ivanova, G. P. An estimate of the optimal Z^* value for threshold payments in the case when the insurance requirements assume two values. (English summary) Methods of mathematical modeling. *Comput. Math. Model.* **9** (1998), *no.* 4, 352–357. (From the text) **99k:90058** 90A46

Ivanova, Petya N. (*with* Gorman, Arthur D.) On caustics associated with the linearized vorticity equation. (English summary) *Appl. Math.* **43** (1998), *no.* 4, 255–262. (Peter N. Zhevandrov) **99d:76022** 76C20 (34E20, 35Q35, 86A05)

Ivanova, S. P. *see* **Conference: Young Scientists and Specialists at the Joint Institute for Nuclear Research (JINR), 99g:00031**

Ivanova, T. A. Self-dual Yang-Mills connections and generalized Nahm equations. *Tensor and vector analysis*, 57–70, *Gordon and Breach, Amsterdam*, 1998. (Andrew Dancer) **99k:53039** 53C07 (81T13)

— On infinitesimal symmetries of the self-dual Yang-Mills equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 396–404. (Ian A. B. Strachan) **99m:53045** 53C07 (58E15)

— Diffeomorphism-type symmetries of the self-dual Yang-Mills equations. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1892–1897. (Summary) **99j:81061** 81R25 (81T13)

gateva-Ivanova, Tatiana *see* **Gateva-Ivanova, Tatiana**

Ivanović, L. (*with* Kovačević-Vujčić, V. V.; Čangalović, M. M.; Ašić, M. D.; Dražić, M.) TABU search methodology in global optimization. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 125–133. (Summary) **99k:90157** 90C30 (65K05)

Ivanovski, S. B. Stability of the von Golitschek algorithm. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 417–429. (C. Franchetti) **99k:65020** 65D15 (41A25)

Ivan'shin, P. N. (*with* Shirokova, E. A.) The exact solution of the plane elasticity problems for the S-cut with cusps. *Mech. Res. Comm.* **26** (1999), *no.* 1, 65–68. 73C02 (73V35)

Ivansson, Lars (*with* Håstad, Johan; Lagergren, Jens) Fitting points on the real line and its application to RH mapping. (English summary) *Algorithms—ESA* '98 (*Venice*), 465–476, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68084** 68Q25 (92D20)

— *see also* **Algorithm theory—SWAT'98, 99k:68003**

Ivansson, Sven A class of low-frequency modes in laterally homogeneous fluid-solid media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1462–1508 (*electronic*). (Andrew Badanin) **99e:73045** 73D20 (34B15, 73F15, 73K70, 76Q05)

— The compound matrix method for multi-point boundary-value problems depending on a parameter. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 4, 231–242. (Summary) **99b:65090** 65L10 (73D15, 76M25, 76Q05, 86A15)

Ivantchov, M. I. *see* **Ivanchov, M. I.**

Ivanyos, Gábor (*with* de Graaf, W. A.; Küronya, A.; Rónyai, Lajos) Computing Levi decompositions in Lie algebras. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 291–303. (Andrej A. Zolotykh) **99a:17001** 17–04 (16–04, 17B05)

— (*with* Rónyai, Lajos) Quaternion algebras. *Some tapas of computer algebra*, 311–314, *Algorithms Comput. Math.*, 4, *Springer, Berlin*, 1999. (*see* **99k:00038**) 16K20

Ivanyuta, I. D. The Sylow p-subgroups of a limiting (stable) linear group over an algebraically closed field. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 291–295. (Gerhard Kowol) **99i:20061** 20G15 (20D20)

grimalt Ivars, Pedro *see* **Grimalt Ivars, Pedro**

Ivashchuk, V. D. (*with* Melnikov, V. N.) Inflationary solutions in multidimensional cosmology with perfect fluid. (English summary) *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 488–493, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 83E15 (53C80)

— (*with* Melnikov, V. N.) Billiard representation for pseudo-Euclidean Toda-like systems of cosmological origin. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 23–35. (Edoh Amiran) **99i:58135** 58F40 (58F13, 70H35, 83F05)

— (*with* Melnikov, V. N.) Corrigenda: "Sigma-model for the generalized composite p-branes" [Classical Quantum Gravity **14** (1997), no. 11, 3001–3029; MR 98j:81280]. *Classical Quantum Gravity* **15** (1998), *no.* 12, 3941. 81T30 (83E30)

— (*with* Melnikov, V. N.) Multidimensional classical and quantum cosmology with intersecting p-branes. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2866–2888. (Paulo Moniz) **99d:83087** 83E15 (83C45, 83E30)

— Composite p-branes on product of Einstein spaces. (English summary) *Phys. Lett. B* **434** (1998), *no.* 1-2, 28–35. (Summary) **99d:83096** 83E30 (53C25, 53C80, 81T30)

Ivashkevich, E. V. Correlation functions of dense polymers and $c = -2$ conformal field theory. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1691–1699. (Summary) **99m:81221** 81T40 (82D60)

Ivashko, D. G. (*with* Élkin, V. I.) Admissible Lie algebras for some types of affine control systems. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1473–1479, 1581; *translation in Differential Equations* **32** (1996), *no.* 11, 1469–1476 (1997). (Valeriu Prepeliţă) **99b:93008** 93B05 (17B66, 34H05, 58E25, 93B25)

Ivashkovich, S. Complex Plateau problem in non-Kähler manifolds. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 131–143. (Francine A. Meylan) **99m:32011** 32C30 (32C25)

Ivchenko, G. I. (*with* Medvedev, Yu. I.) The contribution of the Russian mathematicians to the study of urn models. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 1–9, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60C05 (05–03, 60–03)

— (*with* Khonov, S. A.) The exact and asymptotic maximum likelihood estimates of the structure of a stratified population. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 253–265, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 62D05 (60C05, 62F10)

— (*with* Khonov, S. A.; Ivanov, E. A.) An exact maximum likelihood estimator for the composition of a stratified population. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 216–222; *translation in Math. Notes* **62** (1997), *no.* 1-2, 181–185 (1998). (Summary) **99a:62012** 62D05

— (*with* Khonov, S. A.) On the Jaccard similarity test. (English summary) Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 789–794. (Summary) **99c:62041** 62F03 (62G10)

— (*with* Ivanov, Aleksandr Vladimirovich) On waiting time in the Markov-Pólya scheme. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2904–2916. (Lyuben R. Mutafchiev) **99j:60012** 60C05 (60F05, 60G09)

Ivchenko, I. N. (*with* Loyalka, S. K.; Tompson, R. V.) The polynomial expansion method for boundary value problems of transport in rarefied gases. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 955–966. (Summary) **99j:76108** 76P05 (76M25, 82C40)

Ivey, G. N. (*with* Jacobs, Pieter) The influence of rotation on shelf convection. (English summary) *J. Fluid Mech.* **369** (1998), 23–48. (Summary) **99f:86003** 86A05 (76–05, 76C20, 76R99, 76U05, 86–05)

— (*with* Finnigan, T. D.) Submaximal exchange between a convectively forced basin and a large reservoir. (English summary) *J. Fluid Mech.* **378** (1999), 357–378. (Summary) **99j:76041** 76E20 (76–05, 76R05, 86A05)

Ivey, Thomas (*with* Calini, Annalisa) Bäcklund transformations and knots of constant torsion. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 6, 719–746. (Anders Linnér) **99m:53004** 53A04 (57M25, 58F37)

Ivić, Aleksandar (*with* De Koninck, Jean-Marie) Arithmetic functions defined on sets of primes of positive density. (English summary) *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 2-3, 279–300. (Daniel A. Goldston) **99c:11120** 11N37

— The general additive divisor problem and moments of the zeta-function. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 69–89, *VSP, Utrecht*, 1997. (Gunter Dufner) **99i:11089** 11N56 (11M06)

— On the ternary additive divisor problem and the sixth moment of the zeta-function. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 205–243, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Lutz Gerhard Lucht) **99k:11129** 11M06 (11L07, 11N37)

— On the number of subgroups of finite abelian groups. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 371–381. (Gautami Bhowmik) **99g:11115** 11N45 (11M41, 20K01)

— Remembering Paul Erdős. *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 1-2, 79–89. 01A70

— On some integrals involving certain number-theoretic error terms. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 43–64. (Summary) **99g:11116** 11N64 (11N37, 33C10)

— (*with* De Koninck, Jean-Marie) On a sum of divisors problem. (English summary) 50th anniversary of the Mathematical Institute, Serbian Academy of Sciences and Arts (Belgrade, 1996). *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **64(78)** (1998), 9–20. (G. Greaves) **99m:11103** 11N25 (11N37)

— The Voronoi identity via the Laplace transform. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 39–45. (Alessandro Zaccagnini) **99g:11114** 11N37 (11N45, 44A10)

Ivings, M. J. (*with* Causon, D. M.; Toro, E. F.) On Riemann solvers for compressible liquids. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 3, 395–418. (Summary) **99e:76088** 76M25 (76L05)

Ivković, Zoran (*with* Ramnath, Sarnath; Sunder, Sivaprakasam) Fully dynamic algorithms for permutation graph coloring. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 16–35 (*electronic*). (*see* **99g:68005**) 68R10 (05C15, 05C85)

— (*with* Lloyd, Errol L.) Fully dynamic algorithms for bin packing: being (mostly) myopic helps. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 575–612 (*electronic*). (Summary) **99f:68038** 68P05 (68Q25, 68R05)

Ivlev, D. D. (*with* Zakharova, T. L.) On the flow of a tube weakened by cavities. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 40–42; *translation in Dokl. Phys.* **43** (1998), *no.* 3, 171–173. (From the text) **99j:73059** 73E99

Ivnitskiĭ, O. V. A closed queueing network with a variable number of customer classes at nodes. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 3, 81–95; *translation in Problems Inform. Transmission* **34** (1998), *no.* 3, 277–289 (1999). (O. K. Zakusilo) **99k:60230** 60K25 (90B22)

Ivochkina, N. M. (*with* Ladyzhenskaya, O. A.) Estimation of the second derivatives on the boundary for surfaces evolving under the action of their principal curvatures. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 30–50; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 199–217. (J. S. Joel) **99c:35091** 35K20 (35K50, 58E12)

— The existence of evolution of closed type. (English summary) *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 233–247. (Jianzhong Su) **99b:35082** 35K22 (35G15)

— (*with* Prokof'eva, S. I.) A priori estimate for the second-order derivatives of solutions to the Dirichlet problem for fully nonlinear parabolic equations. (English summary) Some questions of mathematical physics and function theory. *J. Math. Sci.* (*New York*) **92** (1998), *no.* 6, 4302–4315. (Alan V. Lair) **99m:35126** 35K60 (35B45)

Ivrīĭ, V. Ya. Heavy molecules in the strong magnetic field. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 4, 449–455. (Peter D. Hislop) **99e:81267** 81V55 (35P20, 47N50, 81Q20)

— Asymptotics of the ground state energy of heavy molecules in the strong magnetic field. (English summary) *Quasiclassical methods* (*Minneapolis, MN*, 1995), 125–138, *IMA Vol. Math. Appl.*, 95, *Springer, New York*, 1997. (Peter D. Hislop) **99e:81268** 81V55 (35P20, 47N50, 81Q20)

— Asymptotics of the ground state energy of heavy molecules in a strong magnetic field. II. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 321–354 (1998). (Peter D. Hislop) **99e:81269** 81V55 (35P20, 47N50, 81Q20)

— ★ Microlocal analysis and precise spectral asymptotics. (English summary) Springer Monographs in Mathematics. *Springer-Verlag, Berlin*, 1998. *xvi*+731 *pp. ISBN* 3-540-62780-4 (G. V. Rozenblyum) **99e:58193** 58G25 (35A27, 35P20, 35S15, 47F05, 47G30, 58G15, 58G18)

Ivshin, V. V. On the estimation of the probabilities of a double linear inequality in the case of uniform and two-parameter exponential distributions. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 819–827. (*see* **99b:62004**) 62F10 (62N05)

Iwai, Keiichiro (*with* Nishimura, Kazuo; Shigoka, Tadashi; Yano, Makoto) Topological optimal chaos. Mathematical analysis in economics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 987 (1997), 84–106. (Joan Carles Tatjer) **99g:90034** 90A16 (58F13, 58F40)

— Continuity of topological entropy of one-dimensional maps with degenerate critical points. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 19–40. (Tomoki Inoue) **99e:58060** 58F03 (54C70, 58F11)

— The rotation sets versus the Markov partitions. (English summary) Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 133–142. (Nathaniel F. G. Martin) **99m:58127** 58F11 (28D05, 58F08)

Iwai, Toshihiro The mechanics and control for multi-particle systems. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3849–3865. (Andrew D. Lewis) **99e:70049** 70H05 (49N55, 58F05, 70F99, 70Q05, 93C85)

Iwai, Zenta (*with* Mizumoto, Ikuro) Simplified adaptive model output following control for plants with unmodelled dynamics. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 61–80. 93C40 (93C41)

Iwama, Kazuo Complexity of finding short resolution proofs. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 309–318, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68070** 68Q25 (03D15, 03F20)

— (*with* Kambayashi, Yahiko; Miyano, Eiji) New bounds for oblivious mesh routing. (English summary) *Algorithms—ESA '98* (*Venice*), 295–306, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68017** 68M10

— (*with* Miyano, Eiji; Tajima, Satoshi; Tamaki, Hisao) Efficient randomized routing algorithms on the two-dimensional mesh of buses. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 229–240, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68M10

— (*with* Iwamoto, Chuzo) Improved time and space hierarchies of one-tape off-line TMs. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 580–588, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q05 (68Q15)

— (*with* Nouzoe, Mitsushi; Yajima, Shuzo) Optimizing OBDDs is still intractable for monotone functions. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 625–635, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q25

— (*with* Miyano, Eiji) Better approximations of non-Hamiltonian graphs. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 239–261. (Mirosław Truszczyński) **99b:68097** 68Q25 (05C45, 05C85)

— (*with* Bouno, Hironori) Unsatisfiability threshold values for randomly generated sum-product logic formulas. (Japanese) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 56–62. (*see* **99i:65003**) 68Q25 (03B05, 06E30)

Iwamoto, Chuzo (*with* Iwama, Kazuo) Improved time and space hierarchies of one-tape off-line TMs. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 580–588, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q05 (68Q15)

Iwamoto, Masayuki General multi-canonical divisors on two-dimensional smoothable semi-log-terminal singularities. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2,

211–228. (Mark Gross) **99h:14037** 14J10 (14J29)

Iwamoto, Seiichi (*with* Fujita, Toshiharu; Tsurusaki, Kazuyoshi) Conditional decision-making in a fuzzy environment. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 150–162. (*see* **99b:90009**) 90A05

— (*with* Iki, Tetsuichiro) An inverse assignment problem. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 163–175. (*see* **99b:90009**) 90C27

— On expected values of Markov statistics. (English summary) *Bull. Inform. Cybernet.* **30** (1998), *no.* 1, 1–24. (Onésimo Hernández Lerma) **99g:90156** 90C39 (62M05)

— (*with* Sniedovich, Moshe) Sequential decision making in fuzzy environment. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 208–224. (Introduction) **99b:90158** 90C70 (90C39)

— Dual fuzzy dynamic programming. Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 72–85. (*see* **99i:90002**) 90C70 (90C39)

Iwamoto, Takashi[1] Manifolds collapsing to a torus. *Bull. Fukuoka Univ. Ed. III* **46** (1997), 11–21. (Xiao Wei Peng) **99i:53044** 53C23 (53C20)

Iwamura, Kakuzo (*with* Liu, Baoding) Chance constrained programming with fuzzy parameters. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 227–237. (Summary) **99a:90238** 90C70

Iwanaga, Yasuo Duality over Auslander-Gorenstein rings. *Math. Scand.* **81** (1997), *no.* 2, 184–190. (John Clark) **99e:16010** 16E10 (16D50, 16P40)

— Expectations for noncommutative Noetherian ring theory in quantum groups—focusing on examples. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 30–43. (Mitsuhiro Takeuchi) **99d:16027** 16P40

Iwaniec, Henryk (*with* Duke, William; Friedlander, John B.) Representations by the determinant and mean values of L-functions. *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 109–115, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Matti Jutila) **99f:11105** 11M06 (11L40)

— (*with* Chamizo, Fernando) On the Gauss mean-value formula for class number. (English summary) *Nagoya Math. J.* **151** (1998), 199–208. (T. Metsänkylä) **99h:11041** 11E41 (11P21, 11R11, 11R29)

— Harmonic analysis in number theory. *Prospects in mathematics* (*Princeton, NJ*, 1996), 51–68, *Amer. Math. Soc., Providence, RI*, 1999. (D. R. Heath-Brown) **99i:11068** 11L07 (11M06)

Iwaniec, Tadeusz The Gehring lemma. (English summary) *Quasiconformal mappings and analysis* (*Ann Arbor, MI*, 1995), 181–204, *Springer, New York*, 1998. (M. K. Vamanamurthy) **99e:30012** 30C65 (30C85)

— (*with* Sbordone, Carlo) Div-curl fields of finite distortion. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 729–734. (Summary) **99h:35076** 35J99 (35B65)

— (*with* Sbordone, Carlo) Riesz transforms and elliptic PDEs with VMO coefficients. (English summary) *J. Anal. Math.* **74** (1998), 183–212. (Giuseppe Di Fazio) **99e:35034** 35J15 (47F05)

— (*with* Gehring, F. W.) The limit of mappings with finite distortion. (English summary) *Ann. Acad. Sci. Fenn. Math.* **24** (1999), *no.* 1, 253–264. (Vasily A. Chernecky) **99m:30041** 30C65 (46E35)

Iwanik, A. (*with* Dellacherie, C.) Sous-mesures symétriques sur un ensemble fini. [Symmetric submeasures on a finite set] *Séminaire de Probabilités, XXXII*, 1–5, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (J. Lukeš) **99i:28017** 28A99 (28A12)

Iwano, Masahiro General solution of a nonlinear $(m+n)$-system with a irregular type singularity without Poincaré condition. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 257–285. (Donald A. Lutz) **99f:34004** 34A20 (34C20)

Iwasa, Yoh (*with* Haccou, Patsy) Robustness of optimal mixed strategies. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 485–496. (Summary) **99c:92057** 92D40

Iwasaki, Akinori (*with* Ohtagaki, Hirokazu; Nakagawa, Yuji; Teraoka, Yoshinobu; Narihisa, Hiroyuki) Approximate method for separable nonconvex programs. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 115–122. (Summary) **99j:90061** 90C26 (90C30)

Iwasaki, Chisato A new construction of an asymptotics for the fundamental solution for parabolic initial-boundary problem and its application to the $\overline{\partial}$-Neumann problem. *Geometric complex analysis* (*Hayama*, 1995), 287–295, *World Sci. Publishing, River Edge, NJ*, 1996. (Makhlouf Derridj) **99c:58157** 58G18 (32F20, 35C20, 35N15, 35S15)

Iwasaki, Hideya (*with* Hu, Zhenjiang; Takeichi, Masato) Towards manipulation of mutually recursive functions. (English summary) *Third Fuji International Symposium on Functional and Logic Programming* (*Kyoto*, 1998), 61–79, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:68008**) 68N15

— (*with* Xu, Liangwei; Takeichi, Masato) Relational definition of UNITY loop. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 646–655. (Summary) **99a:68121** 68Q60

Iwasaki, Hironori (*with* Teshima, Tomoki; Aoyama, Tomoo) Logical interpolation. (Japanese. English summary) *Mem. Fac. Engrg. Miyazaki Univ. No.* 27 (1998), 117–120. 03B50

Iwasaki, Katsunori Polytopes, invariants, and PDEs. Algebraic analysis methods in microlocal analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 983 (1997), 14–21. (Irene Hueter) **99a:31002** 31B05 (35J15)

— Polyhedral harmonics. Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 96–103. (Béla Uhrin) **99b:52034** 52B70

— (*with* Kawamuko, Hiroyuki) A combinatorial formula of Leibniz type with application to Gegenbauer's polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 29–33. (Summary) **99b:33018** 33C45 (05A19)

Iwasaki, Tetsuya (*with* Skelton, Robert E.) The XY-centring algorithm for the dual LMI problem: a new approach to fixed-order control design. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1257–1272. 93B51 (93B40)

— (*with* Rotea, Mario A.) Fixed-order scaled $\mathscr{H}_\infty$ synthesis. (English summary) *Optimal Control Appl. Methods* **18** (1997), *no.* 6, 381–398. (Jacob Hammer) **99a:93030** 93B36 (93B51)

— (*with* Hara, Shinji) LMI based control design: solutions to nonconvex problems. Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 24–39. (Petko Petkov) **99d:93025** 93B40 (93–02, 93B51)

— (*with* Hara, Shinji) Well-posedness of feedback systems: insights into exact robustness analysis and approximate computations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 619–630. (Summary) **99a:93078** 93D09

— The dual iteration for fixed-order control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 783–788. 93B52 (93C05)

Iwasaki, Yoshimitsu Algebraic and geometrical aspects on the Chinese remainder theorem. (Japanese. English and Japanese summaries) *Information* **1** (1998), *no.* 2, 33–45. (Summary) **99h:11003** 11A07

— (*with* Kohara, Tetsuya) Matrix calculation algorithms for optimization of design of experiments. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 162–171. (*see* **99i:00028**) 65F30 (15–04, 90C90)

— (*with* Osada, Takuya) A fractal set having any box-counting dimension. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 91–94. (Summary) **99j:28008** 28A80

Iwasaki, Yukihiro (*with* Kajiwara, Yuka; Obokata, Koji; Igarashi, Yoshihide) Independent spanning trees of chordal rings. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 155–160. (Summary) **99k:68138** 68R10 (68M15)

Iwase, Kōsei On the Lorenz curve for an inverse Gaussian distribution. (Japanese. English summary) *Bull. Fac. Eng. Hiroshima Univ.* **44** (1995), *no.* 1, 11–15. (Summary) **99e:60042** 60E05

— (*with* Kanefuji, Koji) Estimation for a scale parameter with known coefficient of variation. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 377–388. (Summary) **99e:62023** 62F10 (62C15)

Iwase, Norio Ganea's conjecture on Lusternik-Schnirelmann category. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 623–634. (Thomas Bartsch) **99j:55003** 55M30 (55Q40)

Iwashita, Toshiya (*with* Siotani, Minoru; Seo, Takashi) Asymptotic expansion for sampling distribution and sample size in statistical inference. II. Probability of misdiscrimination in the discriminant analysis. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 2, 135–152. 62H30

Iwata, Koichiro (*with* Schäfer, Jörg) Markov property and cokernels of local operators. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 657–672. (Isamu Dôku) **99h:60087** 60G20 (60G60)

Iwata, Satoru (*with* McCormick, S. Thomas; Shigeno, Maiko) A faster algorithm for minimum cost submodular flows. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 167–174, *ACM, New York*, 1998. (Summary) **99f:90162** 90C35 (90B10)

— (*with* Matsui, Tomomi; McCormick, S. Thomas) A fast bipartite network flow algorithm for selective assembly. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 137–143. (Mechthild Opperud) **99h:90110** 90C35 (90B10, 90B30)

Iwata, Shigeki (*with* Tanno, Takehisa) Computer calculation of the minimal number of comparators for merging (4, 7)- and (5, 6)-networks. (Japanese. Japanese summary) Discrete algorithms and computational complexity (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1054 (1998), 40–53. (*see* **99m:68009**) 68Q25 (68P10)

Iwatsuka, Akira (*with* Takuya, Mine; Doi, Shin-ichi) The uniqueness of the integrated density of states for the Schrödinger operators with magnetic fields. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 32–36. (*see* **99a:00049**) 47F05 (35J10, 47N50)

— (*with* Shirai, Shin-ich) Eigenvalue asymptotics for the Schrödinger operator with asymptotically flat magnetic fields and decreasing electric potential. Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 184–194. (P. A. Mishnayevskiy) **99f:35152** 35P20 (35J10, 47F05, 47N50, 81Q10)

— (*with* Tamura, Hideo) Asymptotic distribution of eigenvalues for Pauli operators with nonconstant magnetic fields. Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 195–202. (P. A. Mishnayevskiy) **99e:35167** 35P20 (35J10, 47F05, 47N50, 81Q10)

— (*with* Tamura, Hideo) Asymptotic distribution of negative eigenvalues for two-dimensional Pauli operators with nonconstant magnetic fields. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 479–515. (George D. Raikov) **99e:35168** 35P20 (35Q40, 47F05, 47N50, 81Q10)

— (*with* Tamura, Hideo) Asymptotic distribution of negative eigenvalues for two-dimensional Pauli operators with spherically symmetric magnetic fields. *Tsukuba J. Math.* **22** (1998), *no.* 2, 281–303. (Miklós Horváth) **99j:35159** 35P20 (35J99, 47F05, 47N50, 81Q10)

Iwayama, Takahiro (*with* Watanabe, Takeshi; Fujisaka, Hirokazu) Dynamic scaling rules in the development process of drift wave turbulence. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 140–151. (*see* **99e:76056**) 76F99

— (*with* Fujisaka, Hirokazu; Okamoto, Hisao) Theoretical determination of the scaling exponent ξ in 2-dimensional decaying turbulence. (Japanese. Japanese summary) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 152–163. (*see* **99e:76056**) 76F99

— (*with* Watanabe, Takeshi; Fujisaka, Hirokazu; Okamoto, Hisao) Formation of the order structure and dynamical scaling rules in 2-dimensional turbulent systems. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 10–19. (*see* **99k:76004**) 76F99

Iwińska, Maria On the characterization of the exponential distribution by expected value of record value with random index. (English summary) *Fasc. Math. No.* 28 (1998), 57–61. (Summary) **99e:62013** 62E10 (62N05)

Ixaru, L. Gr. (*with* Rizea, M.) Four step methods for $y''=f(x,y)$. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 1, 87–99. (Summary) **99d:65214** 65L06 (34A45, 65L05, 65L20)

— (*with* Van Daele, M.; Vanden Berghe, Guido; De Meyer, H.) Exponential-fitted four-step methods for $y'' = f(x, y)$. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 299–309. (Summary) **99a:65084** 65L05

— (*with* De Meyer, H.; Vanden Berghe, Guido) CP methods for the Schrödinger equation revisited. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 289–314. (Summary) **99b:65081** 65L05 (65L15, 65L70, 81Q15)

Iyama, Osamu A generalization of rejection lemma of Drozd-Kirichenko. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 697–718. (Ellen E. Kirkman) **99h:16029** 16G30 (16G70)

Iyengar, R. N. (*with* Roy, Debasish) New approaches for the study of non-linear oscillators. (English summary) *J. Sound Vibration* **211** (1998), *no.* 5, 843–875. (James A. Murdock) **99i:34054** 34C15 (34A45, 70–08, 70K99)

— (*with* Roy, Debasish) Extensions of the phase space linearization (PSL) technique for non-linear oscillators. (English summary) *J. Sound Vibration* **211** (1998), *no.* 5, 877–906. (James A. Murdock) **99i:34055** 34C15 (34A45, 70–08, 70K99)

Iyengar, S. R. K. (*with* Upadhyay, Ranjit Kumar; Rai, Vikas) Chaos: an ecological reality? (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1325–1333. 92D40 (58F13)

Iyengar, S. S. (*with* Xavier, C.) ★ Introduction to parallel algorithms. (English summary) Wiley Series on Parallel and Distributed Computing. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xvi*+365 *pp. ISBN* 0-471-25182-8 (Julian Padget) **99k:68073** 68Q22 (68–01, 68M05, 68Q05)

Iyengar, Satish (*with* Mazumdar, Mainak) A saddle point approximation for certain multivariate tail probabilities. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1234–1244 (*electronic*). (Summary) **99a:62082** 62H99 (62E20)

Iyengar, T. K. V. (*with* Seshagiri Rao, K. V. V.) On the existence of positive solutions of certain nonlinear differential equations of arbitrary order. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 143–150. (John R. Graef) **99i:34053** 34C11

Iyer, Balasubramanian Ramakrishna Gravitational waves from inspiralling compact binaries. (English summary) *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 23–41, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (*see* **99b:83003**) 83C35

— *see also* **Geometry, fields and cosmology**, **99a:83002** *and* **Classical and quantum aspects of gravitation and cosmology**, **99b:83003**

Iyer, H. K. (*with* Liao, C. T.) Orthogonal parallel-flats designs for $s_1^{n_1} \times s_2^{n_2}$ mixed factorial experiments. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 175–191. (I. M. Chakravarti) **99m:62116** 62K15

Iyer, Radha R. (*with* Kulli, Veerabhadrappa R.; Janakiram, Bidarahalli) Split bondage numbers of a graph. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 79–84. (Summary) **99e:05074** 05C35

Iyer, Ramesh (*with* Walser, Joachim P.; Venkatasubramanyan, Narayan) An integer local search method with application to capacitated production planning. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 373–379, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C10 (90B30)

Iyer, Sai Problems on tetrads, the Newman-Penrose formalism and spinors. *Geometry, fields and cosmology* (*Pune*, 1989), 331–350, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 83C60 (53C80)

Iyer, Srikanth K. (*with* Epstein-Feldman, Raisa) Non-Gaussian density processes arising from non-Poisson systems of independent Brownian motions. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 213–220. (Robert J. Adler) **99f:60093** 60G60 (60F05, 60H15)

ganapathy Iyer, V. *see* **Ganapathy Iyer, V.**

Izabel Camacho, Maria *see* **Camacho, Maria Izabel Tavares**

Izadi, Baback A. (*with* Özgüner, Füsun) Optimal subcube allocation in a circuit-switched faulty hypercube. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 1, 77–81. (Summary) **99c:68015** 68M10 (68M15)

Izadi, E. Density and completeness of subvarieties of moduli spaces of curves or abelian varieties. *Math. Ann.* **310** (1998), *no.* 2, 221–233. (From the introduction) **99m:14048** 14H10 (14K10)

Izawa, Yasumitsu (*with* Takahashi, Wataru) The coalitional rationality of the Shapley value. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 597–602. (Summary) **99a:90241** 90D06

— (*with* Takahashi, Wataru) Shapley values for n-person games. (Japanese) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 111–116. (*see* **99i:90002**) 90D12 (90D06)

Izbash, V. (*with* Moldovyan, A.; Moldovyan, N.) Software encryption: new 64-bit block cryptoscheme. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 1, 10–19. 94A60

Izé, A. F. A comparison theorem for the analysis of the asymptotic behaviour and stability of neutral functional-differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 553–560. (Summary) **99j:34113** 34K20 (34K15, 34K40)

Ize, Jorge (*with* Minzoni, Antonmaria; Turbiner, A. V.) Weierstrass today. (Spanish) Dedicated to the memory of Karl Weierstrass (Spanish). *Miscelánea Mat. No.* 25 (1997), 97–100. (I. Grattan-Guinness) **99m:01036** 01A70

— Connected sets in multiparameter bifurcation. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3763–3774. (Jacobo Pejsachowicz) **99a:58037** 58E07 (34B15, 47H15, 47N20)

Izepe Rodrigues, Claudina The mod 2 homology of BSO. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1209–1213. (Nguyen H. V. Hung) **99j:55017** 55R40 (55R35, 55R45)

Izergin, A. G. (*with* Pronko, A. G.) Correlators in the one-dimensional two-component Bose and Fermi gases. (English summary) *Phys. Lett. A* **236** (1997), *no.* 5-6, 445–454. (M. Yu. Rasulova) **99f:82008** 82B10 (82B23)

— (*with* Kapitonov, V. S.; Kitanin, N. A.) Simultaneous temperature correlators of the one-dimensional Heisenberg XY chain. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 173–206, 285. (Nicolae Angelescu) **99f:82011** 82B20

— (*with* Karjalainen, Esa; Kitanin, N. A.) Integrable equations for the partition function of a six-vertex model. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 207–215, 285. (Marek Biskup) **99e:82028** 82B23 (58F07, 82B20)

— (*with* Bogolyubov, N. M.; Kitanin, N. A.) Correlation functions for a strongly correlated boson system. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 501–528. (Marek Biskup) **99f:82017** 82B23 (82B20)

— (*with* Pronko, A. G.) Temperature correlators in the two-component one-dimensional gas. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 594–632. (Johanna K. Erdmenger) **99m:82014** 82B23

Izhboldin, Oleg T. (*with* Karpenko, Nikita A.) On the group $H^3(F(\varphi, D)/F)$. (English summary) *Doc. Math.* **2** (1997), 297–311 (*electronic*). (Detlev W. Hoffmann) **99b:11038** 11E81 (11E04, 12G05, 19E15)

— On the isotropy of quadratic forms over the function field of a quadric. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 1, 32–57; *translation in St. Petersburg Math. J.* **10** (1999), *no.* 1, 25–43. (Vyacheslav I. Yanchevskiĭ) **99e:11040** 11E04 (11E99)

— Motivic equivalence of quadratic forms. (English summary) *Doc. Math.* **3** (1998), 341–351 (*electronic*). (Detlev W. Hoffmann) **99m:11036** 11E04 (11E81, 19E15)

— (*with* Karpenko, Nikita A.) Isotropy of six-dimensional quadratic forms over function fields of quadrics. (English summary) *J. Algebra* **209** (1998), *no.* 1, 65–93. (Detlev W. Hoffmann) **99j:11039** 11E81 (12G05, 14C17, 19E15)

Izhutkin, V. S. (*with* Blinov, A. V.) The reduced directions methods (like centres) based on the external distance function for nonlinear extremal problems. *Operations Research Proceedings* 1997 (*Jena*), 56–61, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30

— (*with* Blinov, A. V.) The exterior centers method using a reduced gradient for a nonlinear programming problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 49–57. (Bernd Luderer) **99m:90133** 90C30 (65K05)

Izmailov, Alekseĭ Feridovich On the realization of Newton-type methods for nonlinear boundary value problems. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 47–49. 65L06 (34A45, 65J15)

— On the convergence of descent methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 903–911; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 866–874. (Summary) **99e:90090** 90C30 (65K05)

— Justification of the quadrature method for nonlinear integral problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1153–1161; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1103–1111. (Wojciech Mydlarczyk) **99f:45016** 45L05 (45G10, 65R20)

— (*with* Tret'yakov, A. A.) On the application of nonsmooth optimization methods for solving nonlinear operator equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1452–1460. (C. Ilioi) **99m:65120** 65J15 (47H17, 90C30)

Izmailova, Z. A. *see* **Dynamical systems**, **99h:00042**

Izmailova, Z. I. *see* **Functional analysis**, **99g:00055**

Izobov, N. A. (*with* Batan, S. N.) On the instability of characteristic exponents of linear differential systems under Perron perturbations. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1341–1347, 1438; *translation in Differential Equations* **32** (1996), *no.* 10, 1337–1343 (1997). (Alexander V. Lasunsky) **99b:34086** 34D08 (34D10)

— (*with* Il'in, Vladimir Aleksandrovich[1]; Kiguradze, I. T.; Kudryavtsev, L. D.; Maksimov, V. P.; Shemyakina, T. K.) Nikolaĭ Viktorovich Azbelev (on the occasion of his seventy-fifth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 4, 435–439; *translation in Differential Equations* **33** (1997), *no.* 4, 433–438. (Editors) **99k:01062** 01A70

— Estimates of the lower exponent of the two-dimensional linear system under Perron perturbations. *Mem. Differential Equations Math. Phys.* **11** (1997), 170–173. 34D08 (34D10)

— (*with* Batan, S. N.) On exactness of upper estimates of the characteristic exponent of a linear system with exponentially decreasing perturbations. *Mem. Differential Equations Math. Phys.* **11** (1997), 174–177. 34D08 (34A30)

— (*with* Prokhorova, R. A.) Coppel-Conti sets of linear systems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 90–98. (Summary) **99d:34056** 34C11 (34A30, 34D05, 34D10)

— (*with* Boĭchuk, A. A.; Gaĭshun, I. V.; Il'in, Vladimir Aleksandrovich[1]; Mitropol'skiĭ, Yuriĭ Alekseevich; Perestyuk, N. A.) Anatoliĭ Mikhaĭlovich Samoĭlenko (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 1, 3–6; *translation in Differential Equations* **34** (1998), *no.* 1, 1–4. (Editors) **99k:01046** 01A70

— (*with* et al.) Nikolaĭ Khristovich Rozov (on the occasion of his sixtieth birthday). (Russian) *Differ. Uravn.* **34** (1998), *no.* 2, 147–148; *translation in Differential Equations* **34** (1998), *no.* 2, 151–152. 01A70

— Linear Pfaff systems with the lower characteristic vectors' set of positive Lebesgue measure. *Mem. Differential Equations Math. Phys.* **13** (1998), 136–139. 35A30 (35F05)

alonso Izquierdo, A. *see* **Alonso Izquierdo, A.**

Izquierdo, B. C. (*with* Ramm, Alexander G.; Arredondo Ruiz, J. H.) Formula for the radius of the support of the potential in terms of scattering data. (English summary) *J. Phys. A* **31** (1998), *no.* 1, *L*39–*L*44. (Summary) **99a:81188** 81U05

Izquierdo, José M.[1] (*with* Pérez Bueno, J. C.) Poisson structures: old and new. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fis. Natur. Madrid* **32** (1998), 103–130. (Janusz Grabowski) **99j:58073** 58F05 (58A50)

— (*with* Cruz, Javier; Navarro, D. J.; Navarro-Salas, J.) Free fields via canonical transformations of matter-coupled two-dimensional dilaton gravity models. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 044010, 7 *pp.* (Summary) **99m:81215** 81T40 (83C99, 83E30)

Izquierdo Barrios, Milagros (*with* Bujalance, Emilio; Costa, Antonio F.) A note on isolated points in the branch locus of the moduli space of compact Riemann surfaces. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 25–32. (Steffen Timmann) **99a:30038** 30F10 (14H15, 30F35, 30F50, 30F60)

— (*with* Gromadzki, G.) Real forms of a Riemann surface of even genus. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3475–3479. (David Singerman) **99b:30062** 30F50 (14P25, 20H10)

Izquierdo M., Ebroul On the epipolar geometry in stereo vision. (English summary) *Proceedings of the* 3*rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 16 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (*see* **99e:00022**) 65Y25 (68U10)

Izquierdo Macana, Ebroul (*with* Hanke, Michael; März, Roswitha) On asymptotics in case of linear index-2 differential-algebraic equations. (English summary) *SIAM J. Numer.*

Anal. **35** (1998), *no.* 4, 1326–1346 (*electronic*). (Viktor F. Chistyakov) **99d:34002** 34A09 (34A45, 34D05, 65L06)

Izrailev, F. M. (*with* Ruffo, Stefano; Tessieri, L.) Classical representation of the one-dimensional Anderson model. (English summary) *J. Phys. A* **31** (1998), *no.* 23, 5263–5270. (Summary) **99c:82037** 82B44

Izu, Tetsuya (*with* Kogure, Jun; Yokoyama, Kazuhiro) Mounting an improved Schoof algorithm according to Atkin, Elkies et al. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 230–243. (*see* **99h:00034**) 11G05 (11Y16, 14G25)

— Calculation of modular polynomials by Risa/Asir. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 244–254. (*see* **99h:00034**) 11F03

Izuchi, Keiji (*with* Hatori, Osamu) Apostol algebras and decomposition in Douglas algebras. *Michigan Math. J.* **44** (1997), *no.* 3, 435–449. (S. J. Sidney) **99c:46058** 46J10 (46E25, 46J30, 47B48)

— (*with* Takahasi, Sin-Ei) BKW-operators on the interval [0, 1]. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 3, 477–489. (Francesco Altomare) **99a:41030** 41A35 (47B38)

— (*with* Matsugu, Yasuo) A_φ-invariant subspaces on the torus. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 99–133. (Takahiko Nakazi) **99f:47011** 47A15 (46E99)

— Weak infinite powers of Blaschke products. (English summary) *J. Anal. Math.* **75** (1998), 135–154. (R. McLaughlin) **99k:30061** 30D50 (30D55, 46J15)

— Spreading Blaschke products and homeomorphic parts. (Japanese) Harmonic/analytic function spaces and linear operators (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1049 (1998), 157–16[illegible]. (*see* **99i:00018**) 30D50

Izumi, Hideaki Constructions of non-commutative L^p-spaces with a complex parameter arising from modular actions. (English summary) *Internat. J. Math.* **8** (1997), *no.* 8, 1029–1066. (Christian Le Merdy) **99a:46114** 46L50 (46L55, 46M35)

— ★ Non-commutative L^p-spaces constructed by the complex interpolation method. Dissertation, Tohoku University, Sendai, 1998. Tohoku Mathematical Publications, 9. *Tohoku University, Mathematical Institute, Sendai*, 1998. v+131 *pp.* (Stanisław Goldstein) **99h:46120** 46L50 (46M35)

— Relative modular theory for a weight. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2703–2713. (Summary) **99m:46144** 46L10

Izumi, Masaki Subalgebras of infinite C^*-algebras with finite Watatani indices. II. Cuntz-Krieger algebras. *Duke Math. J.* **91** (1998), *no.* 3, 409–461. (Yasuyuki Kawahigashi) **99h:46110** 46L05 (46L37)

— (*with* Hiai, Fumio) Amenability and strong amenability for fusion algebras with applications to subfactor theory. (English summary) *Internat. J. Math.* **9** (1998), *no.* 6, 669–722. (Carl Winsløw) **99h:46116** 46L37 (46L50)

— Actions of compact quantum groups on operator algebras. Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 55–60. (Introduction) **99g:46093** 46L55

Izumi, Shuzo Transcendence measures for subsets of local algebras. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 189–206, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (J.-P. Lafon) **99d:32004** 32B10 (13H99, 32B15)

— Quantification of the singularities of Osgood and Whitney. Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 106–109. (*see* **99h:32002**) 32S05

Izumino, Saichi Ozeki's method on Hölder's inequality. (English summary) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 86–102. (Lucio Renato Berrone) **99i:26024** 26D15 (47A99)

Izumiya, Shyuichi (*with* Li, Bing[3]) Overdetermined systems of first order partial differential equations with singular solution. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 3, 327–332. (Werner M. Seiler) **99i:35114** 35N10 (35F20)

— (*with* Kossioris, Georgios T.) Realization theorems of geometric singularities for Hamilton-Jacobi equations. *Comm. Anal. Geom.* **5** (1997), *no.* 3, 475–495. (V. M. Zakalyukin) **99b:58031** 58C27 (35F20)

— (*with* Sano, Takasi) Affine differential geometry of space curves and singularity theory. (English summary) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 106–113. (I. R. Porteous) **99m:53022** 53A15 (58C27)

— (*with* Sun, Wei Zhi) Geometric study of quasilinear first order partial differential equations. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 150–163, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Stanisław Janeczko) **99c:58017** 58C27 (35A30, 35F20)

— Characteristic vector fields for first order partial differential equations. *Nonlinear Anal.* **32** (1998), *no.* 4, 575–582. (Pablo Padilla) **99c:35030** 35F05 (35A30)

— (*with* Sano, Takasi) Generic affine differential geometry of plane curves. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 315–324. (Peter Giblin) **99h:53012a** 53A15 (58C27)

— (*with* Sano, Takasi) Generic affine differential geometry of space curves. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 301–314. (Maria Carmen Romero-Fuster) **99f:53009** 53A15 (58C27)

Izvorski, Ivailo A nonuniform grid method for solving PDE's. Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1445–1452. (From the text) **99m:65159** 65M06 (90A09)

Izydorek, Marek Bourgin-Yang type theorem and its application to Z_2-equivariant Hamiltonian systems. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2807–2831. (Andrzej Szulkin) **99j:58040** 58E05 (34C25, 55M20, 58E40, 58F05, 70H05)

Izyumova, D. (*with* Koplatadze, R.) On oscillatory and Kneser-type solutions of the high order delay differential equations. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 169–171 (1994). 34K15

Izzo, Alexander J. C^r convergence of Picard's successive approximations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2059–2063. (S. A. Brykalov) **99j:34003** 34A12 (34A45)

Izzo, Luciano (*with* Napolitano, Antonio) Multirate processing of time series exhibiting higher order cyclostationarity. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 2, 429–439. (Summary) **99k:94008** 94A12 (62M10)

– J –

já Já, Joseph *see* **Já Já, Joseph**

Jaa, Omar (*with* Fernández López, Antonio[1]) Local algebras and the largest spectrum finite ideal. *Extracta Math.* **13** (1998), *no.* 1, 61–67. (John Duncan) **99j:46054** 46H10

Jaafar, L. (*with* Trimèche, Khélifa) Wavelets on the product of Euclidean hypergroup and Chébli-Trimèche hypergroup. *Functional analysis*, 203–220, *Narosa, New Delhi*, 1998. (Gerald B. Folland) **99k:43007** 43A62 (42C15)

Jaaksoo, Ülo *see* **Kotta, Ülle**

Jaballah, A. A lower bound for the number of intermediary rings. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1307–1311. (Summary) **99k:13028** 13F05

Jabauri, G. Solution of some special boundary problems of the elasticity theory in cylindrical coordinates. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 23–26. 73C02

Jabbar, Abdul (2, 3, 7)-subgroups of the Conway group Co_1. *J. Natur. Sci. Math.* **34** (1994), *no.* 2, 1–34. (Jamshid Moori) **99g:20030** 20D08 (20F05)

— Orbits of (2, 3) pairs in $PSL_2(q)$. *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 177–184. (Bernd Baumann) **99f:20022** 20D06 (20C33)

Jabbari, Faryar (*with* Nguyen, Thanh; Köse, İ. Emre) A new characterization for positive real and $*$-norm controllers. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 215–230. (Kang-Zhi Liu) **99g:93033** 93B50 (93B40, 93B51)

— (*with* Köse, İ. Emre; Schmitendorf, W. E.) A direct characterization of L_2-gain controllers for LPV systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1302–1307. 93B36 (93C60)

— (*with* Köse, İ. Emre) Control of LPV systems with partly measured parameters. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 658–663. 93B35 (93B51)

— (*with* Nguyen, Thanh) Disturbance attenuation for systems with input saturation: an LMI approach. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 852–857. 93D15 (93C05)

sheikh Jabbari, M. M. *see* **Sheikh Jabbari, M. M.**

Jabbari, M. M. Sheikh *see* **Sheikh Jabbari, M. M.**

Jabbour, Toni (*with* Mascle, Christian; Maranzana, Roland) A database for the representation of assembly features in mechanical products. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 5-6, 483–507. 90B30 (90A11)

Jabłoński, Marian (*with* Góra, Paweł) Invariant measures and the compactness of the domain. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 13–24. (Ryszard Rudnicki) **99i:28022** 28D05 (35B40, 35R10, 58F11)

Jabłoński, Wojciech On some subsemigroups of the group L^1_+. (English summary) *Rocznik Nauk.-Dydakt. Prace Mat. No.* 14 (1997), 101–119. (Z. Moszner) **99e:39089** 39B52 (20M99, 39B12, 39B22)

Jabon, David (*with* Nord, Gail; Nord, John) The global positioning system and the implicit function theorem. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 692–696 (*electronic*). (Summary) **99e:86010** 86A30 (86–01)

Jabri, Y. (*with* Moussaoui, Mimoun) A critical point theorem without compactness and applications. *Nonlinear Anal.* **32** (1998), *no.* 3, 363–380. (Miguel Ramos) **99a:58029** 58E05 (35J65, 35L20, 47H15)

Jachymski, Jacek R. Some consequences of fundamental ordering principles in metric fixed point theory. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 123–134. (Summary) **99i:54058** 54H25 (47H10)

— Remarks on a paper by Beg, Latif and Minhas about fixed points. *Demonstratio Math.* **31** (1998), *no.* 2, 333–338. (Jarosław Górnicki) **99i:54059** 54H25

— Caristi's fixed point theorem and selections of set-valued contractions. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 55–67. (Summary) **99f:54057** 54H25 (54C60, 54C65)

— Another proof of the Markov-Kakutani theorem, and an extension. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 19–20. (Roman Mańka) **99f:47078** 47H10

— Some consequences of the Tarski-Kantorovitch ordering theorem in metric fixed point theory. (English summary) *Quaestiones Math.* **21** (1998), *no.* 1-2, 89–99. (Summary) **99g:54043** 54H25

Jačimović, Milojica (*with* Vasil'ev, F. P.; Ivanitskiĭ, A. Yu.) Pointwise residual method for solving linear lexicographical problems. (English summary) *Math. Montisnigri* **8** (1997), 217–229. (Luís N. Vicente) **99c:90085** 90C20 (65K05)

— (*with* Krnić, Izedin) On some classes of regularization methods for minimization problem of quadratic functional on a half-space. (English summary) *Hokkaido Math. J.* **28** (1999), *no.* 1, 57–69. (V. V. Vasin) **99m:49054** 49M40 (65J20, 65K05)

Jack, Ian (*with* Jones, D. R. T.; Pickering, Austin) Renormalisation invariance and the soft β-functions. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 73–77. (Summary) **99b:81157** 81T17 (81R40)

Jäckel, Peter (*with* Mullin, Tom) A numerical and experimental study of codimension-2 points in a parametrically excited double pendulum. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1980, 3257–3274. (Summary) **99h:70027** 70K28 (70–05)

Jackiewicz, Z. (*with* Vermiglio, R.; Zennaro, M.) Regularity properties of Runge-Kutta methods for delay differential equations. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 265–278. (Ming Zhu Liu) **99c:65135** 65L06 (34A45)

— (*with* Butcher, J. C.) Construction of high order diagonally implicit multistage integration methods for ordinary differential equations. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 1, 1–12. (S. Hitotumatu) **99f:65110** 65L06 (65L05)

— (*with* Owren, Brynjulf; Welfert, B.) Pseudospectra of waveform relaxation operators. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 67–85. (Summary) **99g:65086** 65L60

— (*with* Burrage, Kevin; Welfert, B.) Block-Toeplitz preconditioning for static and dynamic linear systems. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 51–74. (Summary) **99d:65204** 65L05

— (*with* Bartoszewski, Z.) Construction of two-step Runge-Kutta methods of high order for ordinary differential equations. (English summary) *Numer. Algorithms* **18** (1998), *no.* 1, 51–70. (Iulian Coroian) **99j:65113** 65L05 (65L20)

Jackiw, R. Quantal modifications to the Wheeler DeWitt equation. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 79–89, *Univ. Montréal, Montreal, QC*, 1997. (Orfeu Bertolami) **99b:83035** 83C45

— (*with* Bazeia, D.) Nonlinear realization of a dynamical Poincaré symmetry by a field-dependent diffeomorphism. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 246–259. (Violeta V. Tretynyk) **99m:81128** 81T10 (20C35, 81R05)

Jackson, Allyn Interview with Shiing Shen Chern. *Notices Amer. Math. Soc.* **45** (1998), *no.* 7, 860–865. (Bernard Rouxel) **99e:01025** 01A70

— Borcherds, Gowers, Kontsevich, and McMullen receive Fields Medals. *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1358–1360. 01A70

— Peter Shor receives Nevanlinna prize. *Notices Amer. Math. Soc.* **45** (1998), *no.* 10, 1361. 01A70

— The IHÉS at forty. *Notices Amer. Math. Soc.* **46** (1999), *no.* 3, 329–337. 01A74

— Mathematical treasures of the Smithsonian Institution. *Notices Amer. Math. Soc.* **46** (1999), *no.* 5, 528–534. 01A74 (01A99)

— The American Institute of Mathematics. *Notices Amer. Math. Soc.* **46** (1999), *no.* 5, 560–563. 01A74

Jackson, Bill (*with* Sheehan, John) The structure of transform graphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 123–144. (Hansjoachim Walther) **99e:05103** 05C75 (05C45)

— (*with* Edwards, Hugh; Hierons, Robert) The zero-free intervals for characteristic polynomials of matroids. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 153–165. (Marcel Wild) **99e:05032** 05B35

— (*with* Bondy, J.-A.) Vertices of small degree in uniquely Hamiltonian graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 265–275. (R. C. Entringer) **99k:05103** 05C45

Jackson, D. M. (*with* Goulden, I. P.) Maps in locally orientable surfaces and integrals over real symmetric surfaces. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 865–882. (A. N. Philippou) **99d:05042** 05C30 (05A15)

france-Jackson, H. *see* **France-Jackson, H.**

Jackson, Jeffrey C. (*with* Anderson, Bruce B.; Sitharam, Meera) Descartes' rule of signs revisited. *Amer. Math. Monthly* **105** (1998), *no.* 5, 447–451. (D. Boyd) **99e:12001** 12D10 (01A45, 26C10)

— (*with* Bshouty, Nader H.) Learning DNF over the uniform distribution using a quantum example oracle. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1136–1153 (*electronic*). (Summary) **99k:68049** 68Q05 (68T05)

Jackson, Matthew O. (*with* Kalai, Ehud) Erratum: "Social learning in recurring games" [Games Econom. Behav. **21** (1997), no. 1, 102–134; MR 98m:90205]. *Games Econom. Behav.* **25** (1998), *no.* 1, 145. 90D20 (90D10, 90D35, 93E35)

Jackson, Wen-Ai (*with* van Dijk, Marten; Martin, Keith M.) A general decomposition construction for incomplete secret sharing schemes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 301–321. (Summary) **99i:94041** 94A60

— (*with* Martin, Keith M.) Combinatorial models for perfect secret sharing schemes. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 249–265. (Summary) **99j:94050** 94A60 (05B35)

— (*with* Martin, Keith M.) An algorithm for efficient geometric secret sharing schemes. (English summary) *Util. Math.* **54** (1998), 127–150. (Corrado Zanella) **99k:94036** 94A60

Jacob, Birgit Linear quadratic optimal control of time-varying systems with indefinite costs on Hilbert spaces: the finite horizon problem. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 1, 28 *pp.* (*electronic*). (Summary) **99h:49046** 49N10 (49K15)

— A formula for the stability radius of time-varying systems. (English summary) *J. Differential Equations* **142** (1998), *no.* 1, 167–187. (Achim Ilchmann) **99k:93069** 93D05 (34D10)

— Linear quadratic optimal control of time-varying systems with indefinite costs on Hilbert spaces: the finite horizon problem. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 3, 261–288. (Urszula Ledzewicz) **99i:49024** 49K27 (49N10, 93C20)

— (*with* Larsen, Mikael; Zwart, H. J.) Corrections and extensions of: "Optimal control of linear systems with almost periodic inputs" [SIAM J. Control Optim. **25** (1987), no. 4, 1007–1019; MR 88i:93042] by G. Da Prato and A. Ichikawa. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1473–1480 (*electronic*). (Summary) **99d:49064** 49N20 (93C15)

Jacob, Gérard (*with* Hespel, Christiane) First steps towards exact algebraic identification. (English and French summaries) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 211–219. (Ding Zhu Du) **99i:05010** 05A15

— *see also* **Lie computations, 99a:00031**

Jacob, J. D. (*with* Chen, Amy Laguna; Savaş, Ö.) Dynamics of corotating vortex pairs in the wakes of flapped airfoils. (English summary) *J. Fluid Mech.* **382** (1999), 155–193. 76C05

Jacob, Lissy (*with* Jacob, Mendus) Ordering policy for items with inventory level-dependent demand rate and linear rate of deterioration. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 83–88. 90B05 (90B25)

Jacob, Maurice (*with* Pais, Abraham; Olive, David I.; Atiyah, Michael F.) ★ Paul Dirac. The man and his work. Edited by Peter Goddard. *Cambridge University Press, Cambridge*, 1998. *xvi*+124 *pp. ISBN* 0-521-58382-9 (Arne Schirrmacher) **99d:01033** 01A70 (01A60, 81–03)

— Antimatter. *Paul Dirac*, 46–87, *Cambridge Univ. Press, Cambridge*, 1998. (*see* **99d:01033**) 81–03

Jacob, Mendus (*with* Jacob, Lissy) Ordering policy for items with inventory level-dependent demand rate and linear rate of deterioration. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 83–88. 90B05 (90B25)

Jacob, Michael (*with* Andersson, Sten) ★ The nature of mathematics and the mathematics of nature. *Elsevier Science B.V., Amsterdam*, 1998. *viii*+345 *pp. ISBN* 0-444-82994-6 (J. S. Joel) **99k:00005** 00A06 (00A69)

Jacob, Niels Characteristic functions and symbols in the theory of Feller processes. (English summary) *Potential Anal.* **8** (1998), *no.* 1, 61–68. (Kazuaki Taira) **99b:60121** 60J35 (47D07, 60E10)

— (*with* Schilling, René L.) An analytic proof of the Lévy-Khinchin formula on $\mathbf{R}^n$. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 69–89. (Sergio A. Tozoni) **99j:42013** 42B10 (47D07)

Jacob, Riko (*with* Barrett, Chris; Marathe, Madhav V.) Formal language constrained path problems. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 234–245, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68091** 68Q45 (68Q25)

Jacobi, Carl Gustav Jacob *see* **Pulte, Helmut, 99g:01022; Correspondence: Legendre, Adrien-Marie–Jacobi, Carl Gustav Jacob, 99i:01022** *and* **Pieper, Herbert, (99k:01080)**

Jacobowitz, Howard *see* **Complex analysis and applications, 99h:32001**

Jacobs, Bart (*with* Hensel, Ulrich) Proof principles for datatypes with iterated recursion. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 220–241, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (Summary) **99g:68132** 68Q65

— (*with* Hermida, Claudio) Structural induction and coinduction in a fibrational setting. (English summary) *Inform. and Comput.* **145** (1998), *no.* 2, 107–152. (Horst Reichel) **99g:68133** 68Q65 (03G30, 18D30)

— *see also* **Workshop: Coalgebraic Methods in Computer Science, 99e:68002**

Jacobs, David P. (*with* Fricke, Gerd H.; Hedetniemi, Stephen T.) Independence and irredundance in k-regular graphs. (English summary) *Ars Combin.* **49** (1998), 271–279. (Summary) **99c:05183** 05C85

— (*with* Ghoshal, J.; Laskar, Renu C.; Pillone, D.) Partitions in tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 145–155. (Summary) **99j:05081** 05C20 (05C85)

— (*with* Trevisan, Vilmar) Constructing the characteristic polynomial of a tree's adjacency matrix. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 139–145. (Summary) **99j:05138** 05C50 (05C05)

Jacobs, Joeri (*with* Ott, Edward; Antonsen, Thomas M., Jr.) Fractal patterns of tracers advected by smooth temporally irregular fluid flows and their analysis by use of random maps. (English summary) Fractal 97 (Estes Park, CO). *Fractals* **5** (1997), *suppl.*, 119–128. (*see* **99f:00017**) 76F20 (76R99)

— (*with* Ott, Edward; Antonsen, Thomas M., Jr.; Yorke, James A.) Modeling fractal entrainment sets of tracers advected by chaotic temporally irregular fluid flows using random maps. (English summary) *Phys. D* **110** (1997), *no.* 1-2, 1–17. (Summary) **99k:76072** 76F20 (58F40, 76M35)

— (*with* Ott, Edward; Hunt, Brian R.) Calculating topological entropy for transient chaos with an application to communicating with chaos. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6577–6588. (Summary) **99b:58161** 58F13 (58F11)

Jacobs, Larry W. (*with* Brusco, Michael J.; Thompson, Gary M.) A morphing procedure to supplement a simulated annealing heuristic for cost- and coverage-correlated set-covering problems. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 611–627. (*see* **99k:90002**) 90C27 (90C35)

Jacobs, P. *see* **Jacobs, Pieter**

Jacobs, Philippe (*with* Laeremans, Ann) Complex arrangements whose complement has Euler characteristic ± 1. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 399–404. (Luis Paris) **99c:52017** 52B30

— (*with* Denef, Jan) On the vanishing of principal value integrals. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1041–1046. (Margaret M. Robinson) **99h:11137** 11S40 (14F10)

Jacobs, Pieter (*with* Ivey, G. N.) The influence of rotation on shelf convection. (English summary) *J. Fluid Mech.* **369** (1998), 23–48. (Summary) **99f:86003** 86A05 (76-05, 76C20, 76R99, 76U05, 86-05)

Jacobs, Robert G. (*with* Durbin, Paul A.) Shear sheltering and the continuous spectrum of the Orr-Sommerfeld equation. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2006–2011. (Summary) **99d:76032** 76E05 (76D10)

Jacobsen, Hans Jørgen (*with* Groes, Ebbe; Sloth, Birgitte; Tranæs, Torben) Nash equilibrium with lower probabilities. (English summary) *Theory and Decision* **44** (1998), *no.* 1, 37–66. (Peter Borm) **99f:90195** 90D10

Jacobsen, Jesper Lykke (*with* Cardy, John L.) Critical behaviour of random-bond Potts models: a transfer matrix study. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 3, 701–742. (Summary) **99b:82052** 82B44 (82B26, 82B27)

— (*with* Kondev, Jané) Field theory of compact polymers on the square lattice. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 3, 635–688. (Summary) **99f:82027** 82B27 (82B20, 82D60)

Jacobson, Eliot (*with* Carlip, Walter; Somer, Lawrence) Pseudoprimes, perfect numbers, and a problem of Lehmer. *Fibonacci Quart.* **36** (1998), *no.* 4, 361–371. (A. N. Philippou) **99g:11013** 11A41 (11A25)

Jacobson, Michael J., Jr. Applying sieving to the computation of quadratic class groups. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 859–867. (Michel Olivier) **99i:11120** 11Y40 (11R11, 11R29)

Jacobson, Michael S. (*with* Chen, Guantao) Degree sum conditions for Hamiltonicity on k-partite graphs. (English summary) *Graphs Combin.* **13** (1997), *no.* 4, 325–343. (Ralph Faudree) **99a:05090** 05C45

— (*with* Kézdy, André E.; Lehel, Jenő) Scenic graphs. I. Traceable graphs. (English summary) *Ars Combin.* **49** (1998), 79–96. (Arthur M. Hobbs) **99j:05132** 05C45 (05C38)

— (*with* Chen, Guantao; Gould, Ronald J.) On 2-factors containing 1-factors in bipartite graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 185–194. (Summary) **99i:05161** 05C70

Jacobson, N. Le problème de Kurosch. [The Kurosh problem] *Séminaire Bourbaki, Vol. 2, Exp. No.* 64, 145–154, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 16R10

Jacobson, Sheldon H. (*with* Morrice, Douglas J.) A mathematical model for assessing the temporal association between health disorders and medical treatments. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 209–228. (Summary) **99e:92015** 92C50 (62P10)

— (*with* Fleischer, Mark) Information theory and the finite-time behavior of the simulated annealing algorithm: experimental results. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 35–43. 90C27 (94A15)

Jacobson, Theodore A. Comment on: "Accelerated detectors and temperature in (anti-) de Sitter spaces" [Classical Quantum Gravity **14** (1997), no. 9, L163–L168; MR 99d:83050] by S. Deser and O. Levin. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 1, 251–253. (Summary) **99d:83051** 83C47 (81T20)

— (*with* Bengtsson, Ingemar) Corrigenda: "Degenerate metric phase boundaries" [Classical Quantum Gravity **14** (1997), no. 11, 3109–3121; MR 98k:83036]. *Classical Quantum Gravity* **15** (1998), *no.* 12, 3942. (From the text) **99j:83032** 83C45 (83C05)

— Semiclassical decay of near-extremal black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4890–4898. (Summary) **99m:83115** 83C57

— (*with* Corley, Steven) Lattice black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6269–6279. (Summary) **99m:83106** 83C57

Jacod, Jean (*with* Pérez-Abreu, Víctor) On martingales which are finite sums of independent random variables with time dependent coefficients. *Séminaire de Probabilités, XXXI*, 62–68, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Fuqing Gao) **99e:60114** 60G44 (60G50)

— On continuous conditional Gaussian martingales and stable convergence in law. (English summary) *Séminaire de Probabilités, XXXI*, 232–246, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Ireneusz Szyszkowski) **99c:60081** 60G15 (60F05, 60G44, 60G48)

— (*with* Delattre, Sylvain) A central limit theorem for normalized functions of the increments of a diffusion process, in the presence of round-off errors. (English summary) *Bernoulli* **3** (1997), *no.* 1, 1–28. (Fuqing Gao) **99f:60041** 60F05 (60F17, 60J60)

— (*with* Protter, Philip) Asymptotic error distributions for the Euler method for stochastic differential equations. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 267–307. (Denis Talay) **99d:60062** 60H10 (60G44, 65U05)

Jacon, F. (*with* Kergaravat, Y.; Okong'o, Nora; Knight, Doyle D.) A fully-implicit 2-D Navier-Stokes algorithm for unstructured grids. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 2, 179–196. 76M20

Jacovkis, Pablo M. (*with* Savioli, Gabriela B.; Bidner, M. Susana) On some numerical methods for solving 2D radial flow towards an oil well. (English summary) *Math. Comput. Simulation* **47** (1998), *no.* 1, 17–36. 76M25 (65M06, 76S05)

Jacquard, Benjamin (*with* Schaeffer, Gilles) A bijective census of nonseparable planar maps. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 1–20. (W. G. Brown) **99f:05054** 05C30 (05C05, 05C10, 68P10, 68R10)

Jacquemard, Alain Calcul formel et applications à la géométrie algébrique. (French summary) [Computer algebra and applications to algebraic geometry] *Actes de l'Université d'Été* 1996: *Recherche Mathématique et Formation* (*Dijon*), 7–15, *Univ. Bourgogne, Dijon*, 1997. (*see* **99e:00026**) 14-02

Jacquemard, Florent (*with* Meyer, Christoph; Weidenbach, Christoph) Unification in extensions of shallow equational theories. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 76–90, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:03008** 03B25 (68Q40, 68T15)

Jacquemin, Didier (*with* Rasson, Jean-Paul; Bertholet, Vincent) A new geometrical hypothesis for clustering and discriminant analysis. (English summary) *Advances in data science and classification* (*Rome*, 1998), 257–264, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Jacquenet, François (*with* Bernard, Marc) Free space modeling for placing rectangles without overlapping. (English summary) *J.UCS* **3** (1997), *no.* 6, 703–720 (*electronic*). (Summary) **99f:68178** 68T20

Jacquet, Hélène (*with* Melançon, Guy) Langages de Dyck généralisés et factorisations du monoïde libre. (English and French summaries) [Generalized Dyck languages and factorizations of the free monoid] *Ann. Sci. Math. Québec* **21** (1997), *no.* 2, 103–122. (Pascal Weil) **99c:68204** 68R15 (05A15, 20M05)

Jacquet, Hervé Mémoire de Langlands sur la dimension des espaces de formes automorphes [MR **31** #385]. [Memoir of Langlands on the dimension of spaces of automorphic forms] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 261, 259–273, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 11F70 (11F12)

— La transformation de Radon sur un espace symétrique (d'après S. Helgason). [Radon transform on a symmetric space (after S. Helgason)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 285, 115–127, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 43A85

— (*with* Lapid, Erez M.; Rogawski, Jonathan) Periods of automorphic forms. *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 173–240. (Jiandong Guo) **99c:11056** 11F67 (11F70, 11F72, 22E55)

— (*with* Ye, Yangbo) Germs of Kloosterman integrals for GL(3). (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1227–1255. (Solomon Friedberg) **99j:11053** 11F70 (11R39, 22E50)

Jacquet, Jean-Marie (*with* Brogi, Antonio) On the expressiveness of Linda-like concurrent languages. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS '98*) (*Nice*), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68N15 (68Q10)

Jacquet, Philippe (*with* Szpankowski, Wojciech) Analytical de-Poissonization and its applications. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 1–62. (István Ratkó) **99f:68099** 68Q25 (68P05)

Jacquette, Dale The validity paradox in modal S_5. *Synthese* **109** (1996), *no.* 1, 47–62. (J. M. Plotkin) **99c:03021** 03B45

Jacquot, S. (*with* Cépa, Emmanuel) Ergodicité d'inégalités variationnelles stochastiques. (English and French summaries) [Ergodicity of stochastic variational inequalities] *Stochastics Stochastics Rep.* **63** (1998), *no.* 1-2, 41–64. (Summary) **99f:60104** 60H07 (60J60)

Jacroux, Mike (*with* Githinji, F.) On the determination and construction of optimal designs for comparing a set of test treatments with a set of controls in the presence of a linear trend. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 161–174. (Rahul Mukerjee) **99c:62207** 62K05 (05B05)

— On the determination and construction of E-optimal block designs in the presence of linear trends. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 331–342. (Summary) **99b:62113** 62K10 (05B05)

Jadczyk, Arkadiusz (*with* Blanchard, Ph.) Relativistic quantum events. (English summary) *Found. Phys.* **26** (1996), *no.* 12, 1669–1681. (Summary) **99b:81008** 81P05

— (*with* Canarutto, Daniel) A 2-spinor approach to Einstein-Cartan-Maxwell-Dirac fields. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 261–265, *World Sci. Publishing, River Edge, NJ*, 1997. (Andreas Bette) **99d:83071** 83C60 (83C22)

— (*with* Canarutto, Daniel) Fundamental geometric structures for the Dirac equation in general relativity. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 1, 59–92. (Jayme Vaz, Jr.) **99b:81083** 81R20 (81R25, 81T20, 83C10)

— (*with* Blanchard, Ph.) Time and events. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 227–233. (*see* **99e:81004**) 81P99

— (*with* Canarutto, Daniel) Two-spinors and Einstein-Cartan-Maxwell-Dirac fields. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 1, 49–67. (Jorge Goncalves Cardoso) **99b:83054** 83C60 (53C80)

Jaddu, H. (*with* Shimemura, Etsujiro) Computation of optimal control trajectories using Chebyshev polynomials: parameterization, and quadratic programming. (English summary) *Optimal Control Appl. Methods* **20** (1999), *no.* 1, 21–42. 49M30 (49N10)

Jadhav, A. L. (*with* Chaudhary, M. S.) On the modified generalised Hankel transform $S^{\eta,\alpha}$. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 101–104. (Summary) **99h:44006** 44A15

Jaecker-Voirol, Anne (*with* Bamberger, Alain; Benjelloun-Dabaghi, Zakia; Billette, Emmanuel; Quandalle, Philippe; Sandu, Adrian) Mathematical and numerical studies to improve CPU time in a transport-convection atomospheric problem. (English summary) *Équations aux dérivées partielles et applications*, 81–105, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (*see* **99f:00029**) 86A10 (86–08)

Jaeger, Andre (*with* Gaboriau, Damien; Levitt, Gilbert; Lustig, Martin) An index for counting fixed points of automorphisms of free groups. *Duke Math. J.* **93** (1998), *no.* 3, 425–452. (Olympia Talelli) **99f:20051** 20E36 (20E05, 20E08, 57M07)

Jaeger, Andreas (*with* Krämer, Walter) A final twist on the equality of OLS and GLS. (English summary) *Statist. Papers* **39** (1998), *no.* 3, 321–324. (Shuangzhe Liu) **99j:62094** 62J05

Jaeger, Arno ★ Mathematik und Leben—eine seltene Gleichung. (German. German summary) [Mathematics and life—an odd equation] Memoiren eines Hochschullehrers auf vier Kontinenten. [Memoirs of a university teacher on four continents] Frieling-Erinnerungen. [Frieling Memoirs] *Verlag Frieling & Partner GmbH, Berlin*, 1997. 319 *pp. ISBN* 3-8280-0139-4 (Wilfried Schröder) **99h:01037** 01A70

Jaeger, François On some graph invariants related to the Kauffman polynomial. *Progress in knot theory and related topics*, 69–82, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (From the introduction) **99a:57002** 57M15 (57M25)

— (*with* Matsumoto, Makoto; Nomura, Kazumasa) Bose-Mesner algebras related to type II matrices and spin models. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 1, 39–72. (Andrew Woldar) **99f:05125** 05E30 (05B20, 82B23)

Jaeger, Gerhard *see* **Jäger, Gerhard**

Jaeger, Gregg The Ehrenfest classification of phase transitions: introduction and evolution. (English summary) *Arch. Hist. Exact Sci.* **53** (1998), *no.* 1, 51–81. (Domingos H. U. Marchetti) **99e:82003** 82–03 (01A60, 82B26)

Jaeger, Manfred Convergence results for relational Bayesian networks. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 44–55, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03031** 03C13 (68T99)

tomczak-Jaegermann, Nicole *see* **Tomczak-Jaegermann, Nicole**

de Jaegher, J. *see* **De Jaegher, J.**

Jaekel, Marc-Thierry (*with* Reynaud, Serge) Conformal symmetry and quantum relativity. (English summary) Invited papers dedicated to Asim O. Barut, Part I. *Found. Phys.* **28** (1998), *no.* 3, 439–456. (Dan Radu Grigore) **99m:81107** 81S05 (81P05)

Jaekel, U. (*with* Dimov, Ivan T.; Vereecken, H.; Wendt, D.) A numerical approach for determination of sources in reactive transport equations. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 189–204, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:82061** 82C70 (65C05, 65D30, 65M99, 82–08)

— (*with* Marinoschi, Gabriela; Ghergut, I.; Homentcovschi, D.; Vereecken, H.) Determination of the macrodispersive parameters of a motion in a two-layer porous medium. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 117–126. (Summary) **99a:76150** 76S05 (76R50)

— (*with* Homentcovschi, D.; Ghergut, I.; Marinoschi, Gabriela; Vereecken, H.) Asymptotic solutions for two-site non-equilibrium transport. (English summary) *Acta Mech.* **129** (1998), *no.* 1-2, 127–132. (Summary) **99a:76151** 76S05 (76R50)

Jafari, F. (*with* Tonev, T.; Toneva, E.; Yale, K.) Holomorphic flows, cocycles, and coboundaries. *Michigan Math. J.* **44** (1997), *no.* 2, 239–253. (Wayne Stewart Smith) **99c:47050** 47D03 (47B38)

Jafari, Saeid (*with* Noiri, Takashi) On almost weakly continuous functions. (English summary) *Demonstratio Math.* **31** (1998), *no.* 2, 437–443. 54C08

— (*with* Noiri, Takashi) On rarely β-continuous multifunctions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 283–289. 54C60 (54C08)

— On rare θ-continuity. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 447–458. 54C10

— (*with* Noiri, Takashi) Some remarks on weak α-continuity. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 619–625. 54C08

— Rare θ-continuity in topological spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 651–657. 54C08

— Some properties of quasi θ-continuous functions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 689–696. 54C08

— Rarely strong θ-continuous functions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 751–759. 54C10

— On faintly θ-rare continuous functions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 789–800. 54C10

— A note on weak semi-continuity. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 87–90. 54C10

— (*with* Noiri, Takashi) On strongly θ-semi-continuous functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 11, 1195–1201. 54C08

— Semi-continuity in topological spaces. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 113–116. 54C08

— Rarely quasi-continuous functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 163–170. 54C08 (54C10)

Jafarian, Ali A. (*with* Rodman, Leiba; Šemrl, Peter) Linear maps preserving the isomorphism class of lattices of invariant subspaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3607–3617. (P. Rosenthal) **99e:47012** 47A15 (15A99, 47B49)

Jafarizadeh, M. A. (*with* Fakhri, H.) Supersymmetry and shape invariance in differential equations of mathematical physics. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1 (Tabriz, 1997)*, 181–190, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99d:34018** 34A30 (33C20, 34A05, 34A25, 81Q60)

— (*with* Fakhri, H.) Parasupersymmetry and shape invariance in differential equations of mathematical physics and quantum mechanics. (English summary) *Ann. Physics* **262** (1998), *no.* 2, 260–276. (Avinash Khare) **99c:81052** 81Q60

— (*with* Fakhri, H.) The embedding of parasupersymmetry and dynamical symmetry into GL(2, **C**) group. (English summary) *Ann. Physics* **266** (1998), *no.* 1, 178–206. (Avinash Khare) **99h:81059** 81Q60 (81R05)

— (*with* Darabi, F.; Rastegar, A.) On the Duru-Kleinert path integral in quantum cosmology. (English summary) *Phys. Lett. A* **248** (1998), *no.* 1, 19–24. (Summary) **99e:83028** 83C45

Jafarov, Elchin I. (*with* Atakishiev, N. M.; Nagiev, Sh. M.; Wolf, Kurt Bernardo) Meixner oscillators. (English and Spanish summaries) *Rev. Mexicana Fis.* **44** (1998), *no.* 3, 235–244. (Summary) **99e:81038** 81Q05 (33C45, 81R30)

Jaffar, Joxan (*with* Maher, Michael J.) Constraint logic programming: a survey. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 591–696, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99b:68031** 68N17 (03B20, 68T20)

— (*with* Maher, Michael J.; Marriott, Kim; Stuckey, Peter J.) The semantics of constraint logic programs. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 1–46. (Summary) **99d:68041** 68N17 (68Q55)

— *see also* **Logic programming, 99f:68004**

Jaffard, Paul Les corps quasi-algébriquement clos (d'après Serge Lang). [Quasi-algebraically closed fields (after Serge Lang)] *Séminaire Bourbaki, Vol. 2, Exp. No.* 70, 201–212, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 12E99

— Anneaux d'adèles d'après Iwasawa. [Rings of adèles, after Iwasawa] *Séminaire Bourbaki, Vol. 3, Exp. No.* 103, 23–33, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 12J10 (12F99)

— Travaux de Krull sur les anneaux de Jacobson. [Works of Krull on Jacobson rings] *Séminaire Bourbaki, Vol. 3, Exp. No.* 127, 295–303, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 13F99

Jaffard, Paul Les corps quasi-algébriquement clos (d'après Serge Lang). [Quasi-algebraically closed fields (after Serge Lang)] *Séminaire Bourbaki, Vol. 2, Exp. No.* 70, 201–212, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 12E99

— Anneaux d'adèles d'après Iwasawa. [Rings of adèles, after Iwasawa] *Séminaire Bourbaki, Vol. 3, Exp. No.* 103, 23–33, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 12J10 (12F99)

— Travaux de Krull sur les anneaux de Jacobson. [Works of Krull on Jacobson rings] *Séminaire Bourbaki, Vol. 3, Exp. No.* 127, 295–303, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 13F99

Jaffard, Stéphane Multifractal formalism for functions. I. Results valid for all functions. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 944–970. (Claude Tricot) **99c:28025a** 28A80 (28A78, 42C15, 76F99)

— Multifractal formalism for functions. II. Self-similar functions. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 4, 971–998. (Claude Tricot) **99c:28025b** 28A80 (28A78, 42C15, 76F99)

— (*with* Guiheneuf, Bertrand; Lévy Véhel, Jacques) Two results concerning chirps and 2-microlocal exponents prescription. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 487–492. (Summary) **99e:42047** 42C15 (94A11)

— Sur la dimension de boîte des graphes. (English and French summaries) [On the box dimension of graphs] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 555–560. (Miguel Angel Martín) **99i:28016** 28A80 (42C15)

— (*with* Tucsnak, Marius; Zuazua, Enrique) Singular internal stabilization of the wave equation. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 184–215. (Irina F. Sivergina) **99g:93073** 93D15 (35L70, 93C20)

— (*with* Arneodo, A.; Bacry, E.; Muzy, J. F.) Singularity spectrum of multifractal functions involving oscillating singularities. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 159–174. (B. S. Rubin) **99i:42041** 42C15

— (*with* Benassi, Albert; Cohen, Serge; Istas, Jacques) Identification of filtered white noises. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 31–49. (José Rafael León) **99e:60104** 60G15 (60G18, 62G05)

Jaffe, Arthur Reflections and twists. *Les relations entre les mathématiques et la physique théorique*, 119–130, *Inst. Hautes Études Sci., Bures-sur-Yvette*, 1998. (Roman Gielerak) **99m:81004** 81–03 (01A60, 81T05, 81T08)

Jaffé, Charles (*with* Tovbis, Alexander; Tsuchiya, Masa) Exponential asymptotic expansions and approximations of the unstable and stable manifolds of singularly perturbed systems with the Hénon map as an example. (English summary) *Chaos* **8** (1998), *no.* 3, 665–681. (Jürgen Scheurle) **99j:58189** 58F30 (34C37, 65Q05, 70K99)

Jaffe, David B. A brief tour of split linear programming. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 164–173, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94032** 94B05

— (*with* Tonchev, Vladimir D.) Computing linear codes and unitals. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 39–52. (Ian Blake) **99a:51008** 51E20 (05B05, 94B05)

Jaffe, R. L. (*with* Graham, Noah) Energy, central charge, and the BPS bound for 1 + 1-dimensional supersymmetric solitons. (English summary) *Nuclear Phys. B* **544** (1999), *no.* 1-2, 432–447. 81T15 (81T60)

Jaffray, Jean-Yves (*with* Gonzales, Christophe) Imprecise sampling and direct decision making. (English summary) *Ann. Oper. Res.* **80** (1998), 207–235. (Summary) **99g:90016** 90A05 (90A10, 90A43)

Jaffré, Jérôme (*with* Chavent, Guy; Jan-Jégou, Sophie) Estimation of relative permeabilities in three-phase flow in porous media. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 33–39. (*see* **99h:00024**) 76S05 (76T05)

— *see also* **Conference: Inverse Problems, Control and Shape Optimization, 99h:00024**

Jagadeesan, Radha (*with* Colby, Christopher; Jategaonkar, Lalita; Läufer, Konstantin; Puchol, Carlos) The semantics of Triveni: a process-algebraic API for threads + events. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 27 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q10 (68Q55, 68Q90)

Jagadeesh, Jogikal M. (*with* Barria, Enrique A.) Wavelet functions to estimate velocity in spatiotemporal signals. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4,

1105–1118. 94A12 (42C15)

Jagadeeshan, Shashidhar (*with* Kleiner, Mark) Structure of projectively stable Artinian rings. *J. Algebra* **197** (1997), *no.* 1, 92–126. (Flávio Ulhoa Coelho) **99a:16011** 16G30 (16E60)

Jagannathan, Ramaswamy (P, Q)-special functions. (English summary) *Special functions and differential equations* (*Madras*, 1997), 158–164, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33025** 33D65

— (*with* Van der Jeugt, Joris) Realizations of su(1, 1) and U_q(su(1, 1)) and generating functions for orthogonal polynomials. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5062–5078. (Alexei Zhedanov) **99h:33057** 33C80 (17B37, 33D80)

— (*with* Lakshminarayanan, Vasudevan; Sridhar, Raghavendra) Lie algebraic treatment of dioptric power and optical aberrations. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 9, 2497–2503. (Summary) **99i:78011** 78A10

— *see also* **Special functions and differential equations, 99h:33002**

Jagannathan, Ravi (*with* Ferson, Wayne E.) Econometric evaluation of asset pricing models. (English summary) *Statistical methods in finance*, 1–33, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62137** 62P20 (90A09)

Jagannathan, Sarargapani (*with* Lewis, Frank L.; Pastravanu, O.) Discrete-time model reference adaptive control of nonlinear dynamical systems using neural networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 217–239. 93C40 (93C55)

— (*with* Commuri, S.; Lewis, Frank L.) Feedback linearization using CMAC neural networks. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 547–557. (Summary) **99c:93068** 93C40 (93C83)

de Jager, Bram (*with* Weiland, Siep; Stoorvogel, Anton A.) A behavioral approach to the $\mathscr{H}_\infty$ optimal control problem. (English summary) System and control theory in the behavioral framework. *Systems Control Lett.* **32** (1997), *no.* 5, 323–334. (Maria Letizia Corradini) **99c:93039** 93B36 (93A30)

— Symbolic aids for modelling, analysis and synthesis of nonlinear control systems. *Symbolic methods in control system analysis and design*, 297–320, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93A30 (93C10)

Jäger, Gerhard Some proof theory of first order logic programming. (English summary) *Logic of computation* (*Marktoberdorf*, 1995), 201–228, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (M. I. Dekhtyar) **99a:68030** 68N17 (03B10, 03B70, 03F03)

— Power types in explicit mathematics? (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1142–1146. (Summary) **99g:03063** 03F65

— (*with* Stärk, Robert F.) A proof-theoretic framework for logic programming. *Handbook of proof theory*, 639–682, *Stud. Logic Found. Math.*, 137, *North-Holland, Amsterdam*, 1998. (From the introduction) **99g:68036** 68N17 (03B50, 03B70)

— *see also* **Colloquium: Logic '95, 99b:03005**

Jäger, Gunther Separation axioms for fuzzy convergence spaces. (English summary) *J. Fuzzy Math.* **5** (1997), *no.* 4, 915–924. (Ivan L. Reilly) **99b:54007** 54A40 (04A72, 54A20)

— Function spaces in FTS. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 929–939. (Summary) **99h:54008** 54A40 (54C35)

— Relative compact fuzzy subsets in fuzzy convergence spaces. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 159–165. (Summary) **99k:54003** 54A40

Jäger, Monika (*with* Tröndle, G.; Antes, H.) Efficient calculation of acoustic fields by boundary element method. *Boundary element topics* (*Stuttgart*, 1995), 9–29, *Springer, Berlin*, 1997. (*see* **99e:00017**) 76M15 (65N38, 76Q05)

Jäger, Willi (*with* Mikelić, Andro) On the boundary conditions at the contact interface between a porous medium and a free fluid. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **23** (1996), *no.* 3, 403–465. (From the introduction) **99a:76147** 76S05 (35B27, 35Q35, 73B27)

— (*with* Mikelić, Andro) On the effective equations of a viscous incompressible fluid flow through a filter of finite thickness. (English summary) Dedicated to the memory of Fritz John. *Comm. Pure Appl. Math.* **51** (1998), *no.* 9-10, 1073–1121. (Alain Brillard) **99f:35012** 35B27 (35Q30, 73B27, 76D05)

Jagers, Peter (*with* Nerman, Olle) The asymptotic composition of supercritical multi-type branching populations. (English summary) *Séminaire de Probabilités, XXX*, 40–54, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (John Charles D'Souza) **99b:60144** 60J80

— Towards dependence in general branching processes. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 127–139, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Fima Klebaner) **99b:60145** 60J80 (60F25, 92D25)

— *see also* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**

Jaggard, Aaron D. (*with* Jaggard, Dwight L.) Scattering from fractal superlattices with variable lacunarity. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1626–1635. (Summary) **99b:78011** 78A45

Jaggard, Dwight L. (*with* Jaggard, Aaron D.) Scattering from fractal superlattices with variable lacunarity. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1626–1635. (Summary) **99b:78011** 78A45

Jagger, Chris Extremal digraph results for topological complete subgraphs. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 687–694. (A. G. Thomason) **99f:05046** 05C20 (05C35)

Jaggi, C. K. (*with* Aggarwal, K. K.; Aggarwal, S. P.) Impact of inflation and credit policies on economic ordering. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 93–100. 90A09

Jagy, William C. (*with* Kaplansky, Irving; Schiemann, Alexander) There are 913 regular ternary forms. *Mathematika* **44** (1997), *no.* 2, 332–341. (Andrzej Sładek) **99a:11046** 11E12 (11E20)

— Sphere-foliated constant mean curvature submanifolds. *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 983–1015. (Miguel Angel Meroño) **99j:53026** 53C12 (53C40, 57R30)

Jahan, Nujhat (*with* Khan, M. G. M.; Khan, E. A.) Determining the optimum number of strata. II. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 215–225, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

Jahandideh, M. T. On the ideal-triangularizability of semigroups of quasinilpotent positive operators on $C(\mathscr{X})$. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 298–305. (Anton Schep) **99j:47043** 47B38 (47A15, 47D03)

Jahangiri, Jay M. (*with* Ahuja, O. P.) Integral means for prestarlike and some related univalent functions. *Mathematica* **39(62)** (1997), *no.* 2, 157–164. (Herb Silverman) **99f:30015** 30C45

— (*with* Farahmand, K.) On real zeros of random polynomials with hyperbolic elements. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 347–350. (V. Thangaraj) **99i:60107** 60G99 (42B99)

— (*with* Farahmand, K.) Complex roots of a class of random algebraic polynomials. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 220–228. (Natesan Renganathan) **99j:60068** 60G99

— (*with* Farahmand, K.) On the powers of strongly close-to-convex functions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 2, 71–77. (James A. Hummel) **99d:30016** 30C45

— (*with* Ahuja, O. P.) On a class of bounded analytic functions. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 85–88 (*electronic*). (Summary) **99m:30014** 30C45

— (*with* Ahuja, O. P.; Silverman, Herb) Subclasses of starlike functions related to a multiplier family. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 65–72. (F. W. Hartmann) **99m:30015** 30C45 (30C50)

— (*with* Ahuja, O. P.) Unified classes of analytic functions defined by subordination. (English summary) *J. Nat. Geom.* **15** (1999), *no.* 1-2, 131–138. (Paul Eenigenburg) **99m:30048** 30C80 (30C45)

Jahani, Fereidoun (*with* Böhm, Michael; Devinny, Joseph; Rosen, Gary) On a moving-boundary system modeling corrosion in sewer pipes. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 247–269. (Summary) **99b:80007** 80A22 (80A32)

Jahani-Nezhad, R. (*with* Mahdavi-Hezavehi, M.) Value functions on simple Artinian rings. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 328–337. (Patrick J. Morandi) **99f:16020** 16K40 (16W60)

Jaheen, Zeinhum F. (*with* Ahmad, K. E.; Fakhry, M. E.) Empirical Bayes estimation of $P(Y < X)$ and characterizations of Burr-type X model. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 297–308. (Summary) **99c:62015** 62C12 (62F15)

— (*with* Ali Mousa, M. A. M.) Bayesian prediction bounds for the two parameters Burr type XII model based on doubly censored data. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 103–111. 62F15

— (*with* Al-Hussaini, Essam K.) Parametric prediction bounds for the future median of the exponential distribution. (English summary) *Statistics* **32** (1999), *no.* 3, 267–275. (Summary) **99k:62053** 62F15

Jahn, Johannes (*with* Rauh, Rüdiger) Contingent epiderivatives and set-valued optimization. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 2, 193–211. (Abderrahim Jourani) **99a:49024** 49J52 (49K27, 90C29)

— (*with* Chen, Guang Ya) Optimality conditions for set-valued optimization problems. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 187–200. (Zeng Kun Xu) **99k:49033** 49J52 (90C29, 90C48)

— (*with* Baier, J.) On subdifferentials of set-valued maps. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 233–240. (Zsolt Páles) **99k:49030** 49J52 (58C20, 90C25)

— *see also* **Set-valued optimization, 99g:90010**

Jahnel, Jörg (*with* Hoffmann, N.; Stuhler, U.) Generalized vector bundles on curves. *J. Reine Angew. Math.* **495** (1998), 35–60. (Aigli Papantonopoulou) **99a:14044** 14H60

— Heights for line bundles on arithmetic varieties. (English summary) *Manuscripta Math.* **96** (1998), *no.* 4, 421–442. (Harry Tamvakis) **99g:14030** 14G40 (11G35)

Jähnichen, Stefan *see* **Simons, Martin, 99e:68144**

el Jaï, Abdelhak *see* **El Jaï, Abdelhak**

Jaiani, G. *see* **Dzhaiani, G. V.**

gutiérrez Jáimez, Ramón *see* **Gutiérrez Jáimez, Ramón**

Jaimoukha, Imad M. (*with* Kasenally, Ebrahim M.) Implicitly restarted Krylov subspace methods for stable partial realizations. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 633–652. (Summary) **99c:93025** 93B20 (65F30, 93B40)

— (*with* Halikias, George D.) Hierarchical optimization in $\mathscr{H}_\infty$. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1123–1128. 93B36 (93A13)

— (*with* Halikias, George D.) The 2-block superoptimal AAK problem. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 3, 244–264. (Cheng Wu Yang) **99h:93036** 93B35 (93D09)

Jaimungal, Sebastian (*with* Gattringer, Christof; Semenoff, Gordon) Topology and duality in abelian lattice theories. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 282–290. (Summary) **99b:81165** 81T25

— T-duality in lattice regularized σ-models. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 147–154. (Summary) **99h:81167** 81T30

— Wilson loops, Bianchi constraints and duality in abelian lattice models. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 441–470. (Summary) **99k:81205** 81T25

Jain, Abhinandan (*with* Rodriguez, Guillermo) Two-way recursive decomposition of the free-flying robot mass matrix. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 413–431. (*see* **99b:70004**) 70B15 (70Q05, 93C85)

Jain, B. N. (*with* Padmini, M. V.; Madan, B. B.) Reordering for parallelism. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 373–390. (Summary) **99k:15028** 15A23 (05C99)

— (*with* Padmini, M. V.; Madan, B. B.) A linear array for large sparse matrix operations. I. Cholesky factorization. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 187–215. (Summary) **99m:65095** 65F50 (65Y05)

— (*with* Padmini, M. V.; Madan, B. B.) A linear array for large sparse matrix operations. II. Triangular system solvers and matrix multiplication. (English summary) *Parallel Algorithms Appl.* **13** (1999), *no.* 3, 217–237. (Summary) **99m:65096** 65F50 (65Y05)

Jain, Dinesh Rani (*with* Chugh, Renu) Some results on fixed points in bimetric spaces. (English summary) *Vikram Math. J.* **14** (1994), 51–59. 54H25 (54E55)

— (*with* Chugh, Renu) Some results on common fixed points under asymptotic regularity at a point. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 191–196. 54H25

Jain, Kanchan (*with* Nanda, Asok K.) A note on two new ageing properties. (English summary) *IAPQR Trans.* **21** (1996), *no.* 2, 109–117. (Summary) **99i:62237** 62N05

Jain, M. K. *see* **Jain, Mahinder Kumar**

Jain, Madhu Reliability analysis of a two unit system with common cause shock failures. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1281–1289. (Summary) **99k:60220** 60K10

— (*with* Dhyani, Indu) An efficient algorithm for the analysis of two unreliable machines separated by a finite buffer. (English summary) *J. Maulana Azad College Tech.* **31**

(1998), 75–85. 90B35 (90B25)
— Finite population loss and delay queueing system with nopassing. (English summary) *Opsearch* **35** (1998), *no.* 3, 261–276. (Carl M. Harris) **99g:60171** 60K25 (90B22)
Jain, Mahinder Kumar (*with* Mohanty, R. K.; George, Kochurani) Fourth-order approximations at first time level, linear stability analysis and the numerical solution of multidimensional second-order nonlinear hyperbolic equations in polar coordinates. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 1, 1–12. (Guan Quan Zhang) **99f:65129** 65M06 (65M12)
Jain, Naresh C. Large time asymptotics of Lévy processes and random walks. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 583–611. (Mamoru Kanda) **99k:60075** 60F10 (60J30)
Jain, P. K. *see* **Jain, Pawan Kumar**
Jain, Pankaj (*with* Jain, Pawan Kumar) Certain recent refinements of Sobolev inequalities. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 101–113, *New Age, New Delhi*, 1997. (Summary) **99f:46044** 46E35
Jain, Pawan Kumar (*with* Jain, Pankaj) Certain recent refinements of Sobolev inequalities. (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 101–113, *New Age, New Delhi*, 1997. (Summary) **99f:46044** 46E35
— (*with* Sinha, Deba Prasad) On strong Markuševič decompositions of Banach spaces. II. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 69–76. (From the introduction) **99c:46005** 46B15
— (*with* Arora, K. K.; Sinha, Deba Prasad) Weak* sequential compactness of dual unit balls of Banach spaces with PRI. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 123–132. (Anatolij M. Plichko) **99e:46016** 46B20
— (*with* Sinha, Deba Prasad) Some recent breakthroughs in the theory of bases in Banach spaces. *Functional analysis*, 50–59, *Narosa, New Delhi*, 1998. (*see* **99h:00036**) 46B15
— (*with* Sinha, Deba Prasad; Arora, K. K.) Projectional resolutions of the identity on Banach spaces. *Functional analysis*, 60–67, *Narosa, New Delhi*, 1998. (Introduction) **99k:46016** 46B15
— (*with* Sinha, Deba Prasad; Arora, K. K.) On Grothendieck spaces with PRI. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 70–81, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Paolo Terenzi) **99c:46010** 46B20
— *see also* **Fourier analysis, approximation theory and applications**, **99d:00019** *and* **Functional analysis**, **99h:00036**
Jain, R. K. *see* **Jain, Rajinder Kumar**
Jain, Rajendra Kumar[1] (*with* Shrivastava, A. K.; Fisher, Brian) Fixed points on three complete metric spaces. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 27–35. 54H25
— (*with* Nayak, B. K.; Shrivastava, A. K.) A related fixed point theorem on four complete metric spaces. (English summary) *Ultra Sci. Phys. Sci.* **11** (1999), *no.* 1, 100–103. 54H25
Jain, Rajinder Kumar Prime ideals and finitely generated ideals in semigroups. *Ranchi Univ. Math. J.* **28** (1997), 3–4. 20M12
Jain, S. K. *see* **Jain, Surender Kumar**
Jain, Sandeep (*with* Khorrami, Farshad; Fardanesh, B.) Decentralized control of large-scale power systems with unknown interconnections. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 591–608. 93A14
— (*with* Khorrami, Farshad) Robust decentralized control of power systems utilizing only swing angle measurements. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 581–601. 93A14 (93B35)
Jain, Sanjay *see* **Jain, Sanjay**[2]
Jain, Sanjay[1] (*with* Kinber, Efim; Wiehagen, Rolf) On learning and co-learning of minimal programs. (English summary) *Algorithmic learning theory* (*Sydney*, 1996), 242–255, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (From the introduction) **99a:68142** 68T05 (68Q99)
— (*with* Sharma, Arun) The structure of intrinsic complexity of learning. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1187–1201. (Philip Ross Watson) **99k:03035** 03D30 (68Q99, 68T05)
— (*with* Freivalds, Rūsiņš) Kolmogorov numberings and minimal identification. (English summary) *Theoret. Comput. Sci.* **188** (1997), *no.* 1-2, 175–194. (Summary) **99k:68156** 68T05 (68Q99)
— (*with* Case, John) Synthesizing learners tolerating computable noisy data. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 205–219, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q45)
— (*with* Case, John; Kaufmann, Susanne; Sharma, Arun; Stephan, Frank) Predictive learning models for concept drift. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 276–290, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q99)
— Learning with refutation. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 291–305, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (Summary) **99m:68165** 68T05 (68Q45)
— (*with* Sharma, Arun) Generalization and specialization strategies for learning r.e. languages. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 1–26. (Philip Ross Watson) **99m:68167** 68T05 (68Q99)
— Learning with refutation. (English summary) *J. Comput. System Sci.* **57** (1998), *no.* 3, 356–365. (Philip Ross Watson) **99m:68166** 68T05 (68Q99)
— *see also* **Algorithms and computation**, **99f:68001**
Jain, Sanjay[2] (*with* Borkar, Vivek S.; Rangarajan, Govindan) Evolutionary games with two timescales. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 155–166. (Ross Cressman) **99m:90182** 90D40 (90A16, 92D15, 92D50)
Jain, Sudha[2] Power comparisons of nonparametric tests for location. (English summary) *Estadística* **48** (1996), *no.* 150-151, 155–174 (1998). 62G10
Jain, Sudhir R. (*with* Grémaud, Benoît) Spacing distributions for rhombus billiards. (English summary) *J. Phys. A* **31** (1998), *no.* 37, *L*637–*L*643. (Summary) **99g:81054** 81Q50
Jain, Surender Kumar (*with* Barthwal, S.; Jhingan, Sujal; López-Permouth, Sergio R.) A ring of Morita context in which each right ideal is weakly self-injective. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 31–38, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Maureen H. Fenrick) **99b:16003** 16D50 (16D90, 16P40)
— (*with* Barthwal, S.; Kanwar, Pramod; López-Permouth, Sergio R.) Nonsingular semiperfect CS-rings. (English summary) *J. Algebra* **203** (1998), *no.* 2, 361–373. (Dinh Van Huynh) **99h:16002** 16D70 (16S50)
— (*with* Lam, T. Y.; Leroy, André) On uniform dimensions of ideals in right nonsingular rings. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 117–139. (J. L. García Hernández) **99k:16063** 16S90 (16D10, 16E50, 16N60)
— (*with* Manjunatha Prasad, K.) Right-left symmetry of $aR \oplus bR = (a+b)R$ in regular rings. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 141–142. (From the text) **99h:16018** 16E50
— (*with* Bapat, Ravindra; Manjunatha Prasad, K.) Generalized power symmetric stochastic matrices. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1987–1994. (Ryszard Grząślewicz) **99j:15032** 15A51
Jain, V. K. *see* **Jain, Vinay Kumar**
Jain, Vimal Chand (*with* Bali, Raj) Magnetized Bianchi type I cosmological model in general relativity. (English summary) *Ganita Sandesh* **11** (1997), *no.* 2, 73–83 (1998). 83C15
Jain, Vinay Kumar Certain interesting implications of T. J. Rivlin's result on maximum modulus of a polynomial. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 33–36. (N. K. Govil) **99k:30006** 30C10 (26C10, 30A10)
— Inequalities for polynomials with a prescribed zero. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 343–346. (Summary) **99d:30004** 30C10 (30A10)
Jain, Vinod Kumar (*with* Verma, Arun[1]) Summation formulae for bibasic and polybasic hypergeometric series. *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 211–223. (S. P. Goyal) **99h:33059** 33D65
Já Já, Joseph (*with* Bader, David A.; Helman, David R.) Practical parallel algorithms for personalized communication and integer sorting. (English summary) *ACM J. Exp. Algorithmics* **1** (1996), *approx.* 42 *pp.* (*electronic*). 68Q22 (68P10)
— (*with* Helman, David R.; Bader, David A.) A new deterministic parallel sorting algorithm with an experimental evaluation. (English summary) *ACM J. Exp. Algorithmics* **3** (1998), 24 *pp.*+*software suite* (*electronic*). 68Q22 (68P10)
Jajcay, Robert (*with* Jajcayová, Tatiana Baginová) Notes on subtractive properties of natural numbers. *Bull. Inst. Combin. Appl.* **25** (1999), 29–40. (Otokar Grošek) **99m:05031** 05B10
Jajcayová, Tatiana Baginová (*with* Jajcay, Robert) Notes on subtractive properties of natural numbers. *Bull. Inst. Combin. Appl.* **25** (1999), 29–40. (Otokar Grošek) **99m:05031** 05B10
Jajodia, Sushil (*with* Bettini, Claudio; Wang, X. Sean) A general framework for time granularity and its application to temporal reasoning. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 29–58. (Summary) **99b:68171** 68T27 (03B70)
Jajszczyk, Andrzej (*with* Kubale, Marek) Repackable networks—the concept and applications. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 75–83, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10 (94A40)
Jajte, Ryszard (*with* Hensz-Chądzyńska, Ewa; Paszkiewicz, Adam) Almost sure convergence of projections in L_p-spaces. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 67–84. (Richard D. Duncan) **99c:28046** 28D05 (47A35, 47B38)
— (*with* Hensz-Chądzyńska, Ewa; Paszkiewicz, Adam) Dilation theorems for completely positive maps and map-valued measures. (English summary) *Quantum probability* (*Gdańsk*, 1997), 231–239, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (B. V. Rajarama Bhat) **99k:46114** 46L50 (28B05, 46L10)
— (*with* Paszkiewicz, Adam) Almost sure approximation of unbounded operators in $L_2(X, \mathcal{A}, \mu)$. (English summary) *Studia Math.* **128** (1998), *no.* 2, 103–120. (Fumio Hiai) **99c:47016** 47A58 (46E30, 47B15, 47B25)
— (*with* Hensz-Chądzyńska, Ewa) Lech Włodarski (1916–1997). (Polish) *Wiadom. Mat.* **34** (1998), 165–166. 01A70
Jaju, R. P. (*with* Khan, Q. J. A.; Bhatt, B. S.) Switching model with two habitats and a predator involving group defence. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 212–229. (Summary) **99d:92046** 92D40 (34C23)
Jäkel, Christian D. Decay of spatial correlations in thermal states. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 4, 425–440. (Stephen J. Summers) **99k:81170** 81T05 (46L60, 82B10)
Jaker Ali, Sk. (*with* Chakraborty, N. D.) Pettis integration in locally convex spaces. (Russian summary) *Anal. Math.* **23** (1997), *no.* 4, 241–257. (K. Musiał) **99e:28019** 28B05 (46G10)
Jakiela, Mark J. (*with* Saitou, Kazuhiro) On classes of one-dimensional self-assembling automata. (English summary) *Complex Systems* **10** (1996), *no.* 6, 391–416. (E. Pessa) **99k:92004** 92B05 (68Q68)
Jakimovski, Amnon (*with* Stadtmüller, Karin) On matrix transforms of power series with Ostrowski gaps. (English summary) *J. Nat. Acad. Math. India* **10** (1992/96), 30–54 (1997). (John A. Fridy) **99f:30004** 30B30 (40C05, 40G05, 40G10)
— (*with* Sharma, Ambikeshwar) Hermite interpolation on Chebyshev nodes and Walsh equiconvergence. (English summary) *Approximation theory*, 293–333, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Weixing Zheng) **99f:41004** 41A05 (30E05, 30E10, 42A15)
— (*with* Borwein, David) A generalization of Hardy's inequality with applications. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 3, 309–320. (Ling Yau Chan) **99m:26028** 26D15 (40G10)
— (*with* Sharma, Ambikeshwar) Hermite interpolation on Chebyshev nodes and Walsh equiconvergence. II. (English summary) *J. Anal.* **6** (1998), 91–119. (Weixing Zheng) **99m:41002** 41A05 (30E05, 30E10)
Jaklič, T. (*with* Kolenko, T.; Glogovac, B.) An analysis of a heat transfer model for situations involving gas and surface radiative heat transfer. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 5, 349–365. 80A20
Jakob, Martin A bordism-type description of homology. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 67–80. (Masayoshi Kamata) **99e:55006** 55N20 (55N15, 55N22,

55P42)

Jakóbczak, Piotr Hilbert's Twenty-Second Problem. (Polish. English summary) *Hilbert's Problems (Polish)* (*Międzyzdroje*, 1993), 247–254, *Polsk. Akad. Nauk, Warsaw*, 1997. (Grzegorz Gromadzki) **99m:01025** 01A60 (30–03, 30F10)

Jakóbczyk, L. (*with* Gielerak, R.; Olkiewicz, Robert) Stochastically positive structures on Weyl algebras. The case of quasi-free states. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6291–6328. (Shigeaki Nagamachi) **99m:81124** 81T05 (46N50, 81T20, 82B31)

Jakóbowski, Jan A new construction for Minkowski planes. (English summary) *Geom. Dedicata* **69** (1998), *no.* 2, 179–188. (Sergey N. Astrakov) **99i:51004** 51B20

Jakobsen, Hans Plesner Quantized Hermitian symmetric spaces. (English summary) *Lie theory and its applications in physics* (*Clausthal*, 1995), 105–116, *World Sci. Publishing, River Edge, NJ*, 1996. (Mitsuhiro Takeuchi) **99e:17022** 17B37

Jakobsen, Thomas Cryptanalysis of block ciphers with probabilistic non-linear relations of low degree. (English summary) *Advances in cryptology—CRYPTO '98* (*Santa Barbara, CA*, 1998), 212–222, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99i:94045** 94A60 (94B35)

Jakobson, Dmitry Equidistribution of cusp forms on $PSL_2(\mathbf{Z})\backslash PSL_2(\mathbf{R})$. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 3, 967–984. (Shin-ya Koyama) **99c:11063** 11F72 (58F19)

— Quantum limits on flat tori. (English summary) *Ann. of Math.* (2) **145** (1997), *no.* 2, 235–266. (Summary) **99e:58194** 58G25 (11P21)

Jakobson, M. On Markov partitions for nonhyperbolic maps. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 285–291. (Roman Srzednicki) **99j:58066** 58F03 (58F11)

Jakoby, Andreas (*with* Reischuk, Rüdiger; Schindelhauer, Christian) The complexity of broadcasting in planar and decomposable graphs. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 179–206. (Summary) **99e:68006** 68M10 (05C85, 68R10, 90B12)

Jakševičius, Šarūnas On a method for the expansion of probabilities of lattice random variables. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 294–307; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 271–282 (1998). (Dominik Szynal) **99c:60076** 60F99 (60E99, 60F05)

Jakšić, Vojkan (*with* Pillet, Claude-Alain) From resonances to master equations. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 4, 425–445. (Bruno Nachtergaele) **99k:82050** 82C10 (46L55, 46L60)

— (*with* Molchanov, Stanislav Alekseevich) On the spectrum of the surface Maryland model. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 189–193. (Aernout C. D. van Enter) **99h:82046** 82B44 (47B39, 47N55, 60H25)

Jakubczyk, Bronisław (*with* Zhitomirskiĭ, M. Ya.) Odd-dimensional Pfaffian equations: reduction to the hypersurface of singular points. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 4, 423–428. (Summary) **99e:58003** 58A17

— Critical Hamiltonians and feedback invariants. (English summary) *Geometry of feedback and optimal control*, 219–256, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93B29 (93B52)

— *see also* **Geometry of feedback and optimal control**, **99b:93001** *and* **Singularities Symposium—Łojasiewicz 70**, **99i:00035**

Jakubec, Stanislav Note on Wieferich's congruence for primes $p \equiv 1 \pmod 4$. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 193–197. (Andrew Bremner) **99i:11012** 11B68 (11A07, 11R18)

— Note on the congruence of Ankeny-Artin-Chowla type modulo p^2. *Acta Arith.* **85** (1998), *no.* 4, 377–388. (Peter Stevenhagen) **99m:11128** 11R29 (11R18)

— (*with* Laššák, Miroslav) Congruence of Ankeny-Artin-Chowla type modulo p^2. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 75–91. (Peter Stevenhagen) **99m:11127** 11R29 (11R18)

— (*with* Kostra, Juraj) On the existence of a normal basis for an ambiguous ideal. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 125–129. (Lawrence Washington) **99f:11147** 11R33 (11R20)

— Congruence of Ankeny-Artin-Chowla type for cyclic fields. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 323–326. (Xianke Zhang) **99j:11127** 11R18 (11R29)

Jakubík, Ján Closed convex l-subgroups and radical classes of convergence l-groups. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 301–315. (Douglass L. Grant) **99f:06022** 06F20 (22C05)

— Lexicographic product decompositions of cyclically ordered groups. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 229–241. (Michael Darnel) **99m:06031** 06F15 (06F20, 20F60)

— Radical classes of generalized Boolean algebras. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 253–268. (Thanjavur V. Swaminathan) **99m:06024** 06E05

— (*with* Csontóová, Mária) Affine completeness of projectable lattice ordered groups. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 359–363. (N. Sankaran) **99m:06032** 06F15

— On Archimedean MV-algebras. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 575–582. (Summary) **99i:03083** 03G20

— Complete generators and maximal completions of MV-algebras. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 597–608. (S. Rudeanu) **99m:03130** 03G20 (03G10)

— Sequential convergences in a vector lattice. (English summary) *Math. Bohem.* **123** (1998), *no.* 1, 33–48. (Gerard Buskes) **99h:46004** 46A40

— Partially ordered sets having selfdual system of intervals. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 271–278. (J. C. Ault) **99m:06001** 06A06

— Disjoint sequences in Boolean algebras. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 411–418. (Leo Esakia) **99k:06008** 06E05 (06A12)

— Convex isomorphisms of Archimedean lattice ordered groups. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 49–56. (Summary) **99b:06016** 06F15

Jakubíková-Studenovská, Danica Retract injective and retract projective monounary algebras. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 207–214, *Heyn, Klagenfurt*, 1998. (Pavol Zlatoš) **99m:08015** 08A60

— Monounary algebras and bottleneck algebras. (English summary) *Algebra Universalis* **40** (1998), *no.* 1, 59–72. (Margret H. Höft) **99h:08009** 08A60

— Antiatomic retract varieties of monounary algebras. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 793–808. (Keith A. Kearnes) **99m:08020** 08B15 (08A60)

Jakubowski, Adam (*with* Nagaev, Aleksandr Viktorovich; Zaigraev, A. Yu.) Large deviation probabilities for sums of heavy-tailed dependent random vectors. (English summary) Heavy tails and highly volatile phenomena. *Comm. Statist. Stochastic Models* **13** (1997), *no.* 4, 647–660. (Vadim R. Fatalov) **99d:60033** 60F10 (60G10)

— (*with* Zaigraev, A. Yu.; Nagaev, Aleksandr Viktorovich) Probabilities of large deviations of the sums of lattice random vectors when the original distribution has heavy tails. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 68–81. (S. A. Book) **99d:60037** 60F10 (62E20)

— Minimal conditions in p-stable limit theorems. II. (English summary) *Stochastic Process. Appl.* **68** (1997), *no.* 1, 1–20. (George L. O'Brien) **99g:60031** 60E07 (60F05, 60G10)

Jakuš, Dalibor (*with* Hong, Hoon) Testing positiveness of polynomials. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 1, 23–38. (Klaus Madlener) **99m:68096** 68Q40 (03C10, 03C62, 26D05, 68Q42)

lejeune-Jalabert, Monique *see* **Lejeune-Jalabert, Monique**

Jalal, Galina (*with* Krarup, Jakob) Single-facility location problems with arbitrary weights. (English summary) *New trends in mathematical programming*, 101–114, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Giovanni Andreatta) **99g:90062** 90B85 (65Y25, 90C90)

Jalal, H. T. (*with* Ahmad, Z. U.) Invariant means and some matrix transformations. (English summary) *Pure Appl. Math. Sci.* **45** (1997), *no.* 1-2, 17–21. (V. K. Srinivasan) **99f:40002** 40C05 (40J05)

Jalal, M. A. (*with* Ferone, Adele; Rakotoson, Jean Michel; Volpicelli, Roberta) Nonlocal generalized models for a confined plasma in a Tokamak. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 43–46. 35J60 (35Q35, 76X05)

Jalali, M. A. (*with* Sobouti, Y.) Some analytical results in dynamics of spheroidal galaxies. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 4, 255–270. (Summary) **99g:85001** 85A05

Jalan, A. K. (*with* Chaudhuri, K. S.) An EOQ model for deteriorating items in a declining market with SFI policy. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 2, 437–449. 90B05 (90A60, 90B25)

Jalby, V. Approximation of vector valued functions. (English summary) *Positivity* **1** (1997), *no.* 2, 181–192. (A. B. Pevnyĭ) **99i:41035** 41A65 (60B12)

Jalili, N. (*with* Esmailzadeh, E.) Parametric response of cantilever Timoshenko beams with tip mass under harmonic support motion. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 765–781. (Yuri V. Mikhlin) **99i:73044** 73K05 (73K12)

Jama, Jama Musse (*with* Castellani, Marco; Mastroeni, Giandomenico) Duality relations for variational inequalities with applications to network flows. Equilibrium problems with side constraints. Lagrangean theory and duality, II (Scilla, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 48 (1997), 39–55. (Giandomenico Mastroeni) **99m:49013** 49J40 (49N15, 90C35)

Jamali, Ali-Reza On some finite 2-groups of deficiency zero. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 139–143. (W. E. Deskins) **99i:20029** 20D15

— On some finite soluble groups with zero deficiency. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 465–471. (Pin Chao Wang) **99m:20029** 20D10

— The non-abelian simple groups G, $|G| < 10^6$, minimal C-generator pairs, symmetric presentations. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 351–359. (Summary) **99c:20012** 20D06 (20D08, 20F05)

Jambu, Michel Yves (*with* Papadima, Ştefan) A generalization of fiber-type arrangements and a new deformation method. (English summary) *Topology* **37** (1998), *no.* 6, 1135–1164. (P. Orlik) **99g:52019** 52B30 (55R10)

James, Brennig The universal algorithm. (English summary) *Kybernetes* **27** (1998), *no.* 2, 117, 182–189. 68Q05

James, D. A. (*with* Nair, V. N.; Ehrlich, W. K.; Zevallos, J.) A statistical assessment of some software testing strategies and application of experimental design techniques. (English summary) *Statist. Sinica* **8** (1998), *no.* 1, 165–184. (Summary) **99a:62140** 62N05 (62K99)

James, D. J. G. (*with* Dunoyer, A.; Balmer, L.; Burnham, K. J.) On the discretization of single-input single-output bilinear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 361–372. 93A30 (93C55)

James, Donald G. Conjugacy classes of $SU(h, \mathscr{O}_S)$ in $SL(2, \mathscr{O}_S)$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 825–835. (Leonid Vulakh) **99d:11038** 11F06 (11E57, 20G30)

James, François (*with* Bouchut, François) Solutions en dualité pour les gaz sans pression. (English and French summaries) [Duality solutions for pressureless gases] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1073–1078. (Summary) **99e:35180** 35Q35 (76N10)

— Convergence results for some conservation laws with a reflux boundary condition and a relaxation term arising in chemical engineering. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1200–1223 (*electronic*). (Bruno Scheurer) **99h:65155** 65M12 (35L65, 46N40, 80A32)

James, Fred (*with* Hoogland, Jiri; Kleiss, Ronald) Quasi-Monte Carlo, discrepancies and error estimates. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 266–276, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65070** 65D30 (65C05)

James, Gareth (*with* Hastie, Trevor) The error coding method and PICTs. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 3, 377–387. 62H30

James, Glyn Parameter estimation and control algorithms for self-tuning control. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1997), 27–46, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 93B30 (93C40)

James, Gordon Symmetric groups and Schur algebras. (English summary) *Algebraic groups and their representations* (*Cambridge*, 1997), 91–102, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alexander Kleshchev) **99k:20027** 20C30 (16G10, 20G05)

— (*with* Dipper, Richard; Mathas, Andrew) The (Q, q)-Schur algebra. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 327–361. (Jochen Gruber) **99e:20019** 20C99 (16G99, 20G05)

James, Guillaume Réduction à une variété centrale du problème des ondes progressives en fluide continûment stratifié, dans la limite d'une stratification discontinue. (English and French summaries) [Center manifold reduction for the problem of travelling waves in

a continuously stratified fluid, in the limit of a discontinuous stratification] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 699–704. (Guido Schneider) **99j:76024** 76C10 (35Q35, 58F39, 76V05)

James, Ioan Mackenzie Reflections of the history of topology. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 87–96 (1998). 55-03 (01A55, 01A60)

— (*with* Crabb, M. C.) ★ Fibrewise homotopy theory. (English summary) Springer Monographs in Mathematics. *Springer-Verlag London, Ltd., London*, 1998. *viii*+341 *pp. ISBN* 1-85233-014-7 (J. P. C. Greenlees) **99k:55001** 55-02 (55M20, 55P42, 55R99, 55T10, 55T20)

James, Matthew R. (*with* Collings, Iain B.; Moore, John Barratt) An information-state approach to risk-sensitive tracking problems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 3, 24 *pp.* (*electronic*). (Summary) **99h:93111** 93E20 (93E35)

— (*with* Dower, P. M.) Dissipativity and nonlinear systems with finite power gain. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 699–724. (Daniel Hernández-Hernández) **99f:93104** 93D05 (93C20)

— (*with* Yuliar, S.; Helton, J. William) Dissipative control systems synthesis with full state feedback. (English summary) *Math. Control Signals Systems* **11** (1998), *no.* 4, 335–356. (Éva Gyurkovics) **99j:93039** 93B50 (49L25, 93B36)

— (*with* Dupuis, Paul) Rates of convergence for approximation schemes in optimal control. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 719–741 (*electronic*). (Jose Luis Menaldi) **99b:49029** 49M25 (65U05, 93E20)

James, Richard D. *see* **Mathematics of multiscale materials, 99c:73001**

James, Robert C. The Eberlein-Šmulian theorem. *Functional analysis*, 47–49, *Narosa, New Delhi*, 1998. (From the text) **99m:46035** 46B20 (46B10)

Jameson, G. J. O. The q-concavity constants of Lorentz sequence spaces and related inequalities. *Math. Z.* **227** (1998), *no.* 1, 129–142. (Christian Samuel) **99a:46031** 46B45 (46E30)

Jameson, Leland (*with* Adachi, T.; Ukai, O.; Yuasa, A.) Wavelet-based numerical methods. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 4, 267–280. 76M25 (65-02, 65T20, 76M10)

— (*with* Hesthaven, J. S.) A wavelet optimized adaptive multi-domain method. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 280–296. (Summary) **99d:65293** 65M70 (42C15, 65T99)

— A wavelet-optimized, very high order adaptive grid and order numerical method. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1980–2013 (*electronic*). (Summary) **99e:65140** 65M99 (65T99)

Jamieson, Michael Pell and Pell-Lucas numbers and acceleration of convergence. (English summary) *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 5, 153–156. (Edward L. Cohen) **99i:11010** 11B39 (11Y16)

— On rational function approximations to square roots. *Amer. Math. Monthly* **106** (1999), *no.* 1, 50–52. (W. W. Adams) **99j:11078** 11J70

— On an eighth order formula for solving a Schrödinger equation. *J. Comput. Phys.* **149** (1999), *no.* 1, 194–197. 81–08 (81Q05)

Jamiiru, L. (*with* Sadek, Ibrahim S.; Al-Mohamad, H. A.) Optimal boundary control of one-dimensional multi-span vibrating systems. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 1, 39–54. (S. Bhargava) **99h:49052** 49N55 (49K20, 73K50)

Jamil, Hasan M. (*with* Bugliesi, Michele) A stable model semantics for behavioral inheritance in deductive object oriented languages (extended abstract). (English summary) *Database theory—ICDT '95* (*Prague*), 222–237, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68N15 (68N17)

Jaming, Philippe Principe d'incertitude qualitatif et reconstruction de phase pour la transformée de Wigner. (English and French summaries) [A qualitative uncertainty principle and phase retrieval for the Wigner distribution] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 249–254. (Summary) **99h:42022** 42B10 (22E30, 43A30)

Jamison, James E. (*with* Hornor, William E.) Isometrically equivalent composition operators. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 65–72, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Shamil Makhmutov) **99b:47041** 47B38 (30H05, 32A35, 46E15)

Jamison, K. David (*with* Lodwick, Weldon A.) Minimizing unconstrained fuzzy functions. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 457–464. (Summary) **99k:26030** 26E50

Jamison-Waldner, Robert E. (*with* Fisher, J. Chris) Properties of affinely regular polygons. (English summary) *Geom. Dedicata* **69** (1998), *no.* 3, 241–259. (Tamás Szönyi) **99m:51029** 51N10 (33C45, 51M20)

Jamjoom, F. B. H. On the biduals of the JC-tensor products. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 1, 51–60. (Horst Behncke) **99a:46124** 46L70 (46K70, 46M05)

— On the universal enveloping von Neumann algebra of an atomic JW-algebra. (English summary) *J. Natur. Geom.* **13** (1998), *no.* 2, 119–126. (A. Niknam) **99i:46054** 46L70 (46L10, 47D25)

— (*with* Bajunaid, I.; Zaheer, N.) On a theorem of Marden with applications. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 101–114. (Jay M. Jahangiri) **99c:30004** 30C15

Jammalamadaka, Sreenivasa Rao (*with* Qin, Jing[1]) Some results on the empirical spacings process and its bootstrapped version. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 17–33, *VSP, Utrecht*, 1995. (Summary) **99h:60041** 60F05 (60F15, 62G09)

— (*with* Ghosh, Kaushik) Small sample approximations for spacing statistics. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 245–261. (Nancy Reid) **99f:62026** 62E20 (62G10, 62G20)

— (*with* Basu, Sanjib[2]; Liu, Wei) Stability and infinitesimal robustness of posterior distributions and posterior quantities. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 151–162. (Marek Męczarski) **99m:62011** 62C10 (60A10, 62F35, 62G35)

— (*with* Lee, Eun-Soo) Testing for harmonic new better than used in expectation. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 409–416. (J. V. Deshpande) **99j:62064** 62G10 (62N05)

le Jan, Yves *see* **Le Jan, Yves**

Jana, Devashis (*with* Jayaraman, Bharat) Set constructors, finite sets, and logical semantics. (English summary) *J. Logic Programming* **38** (1999), *no.* 1, 55–77. (Summary) **99i:03060** 03E30 (03B70, 68N17)

Jana, Prasanta Kumar Estimation of $P[Y < X]$ under a bivariate exponential stress-strength model. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 207–214, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62N05

Jana, Rabindranath (*with* Rao, Ayyagari Ramachandra; Bandyopadhyay, Suraj) A Markov chain Monte Carlo method for generating random (0, 1)-matrices with given marginals. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 2, 225–242. (B. L. Granovskiy) **99k:65012** 65C05 (15A52, 60J15)

Janaki Latha, N. S. (*with* Graf, Thorsten; Kamakoti, V.; Pandu Rangan, C.) The colored sector search tree: a dynamic data structure for efficient high-dimensional nearest-foreign-neighbor queries. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 35–44, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68P05 (68U05)

Janakiram, Bidarahalli (*with* Kulli, Veerabhadrappa R.) The nonbondage number of a graph. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 14–16. (*see* **99g:05001**) 05C35

— (*with* Kulli, Veerabhadrappa R.) The split domination number of a graph. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 16–19. (*see* **99k:05003**) 05C35

— (*with* Kulli, Veerabhadrappa R.) On common minimal dominating graphs. New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 9–10. (*see* **99h:05003**) 05C35

— (*with* Kulli, Veerabhadrappa R.; Iyer, Radha R.) Split bondage numbers of a graph. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 79–84. (Summary) **99e:05074** 05C35

Janaqi, Stefan *see* **Stefan, Janaqi**

Janardan, K. G. A stochastic model for the number of accidents and a class of distributions for the number of fatalities. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1823–1833. (Ramesh C. Gupta) **99m:62148** 62M99 (62E15)

— Generalized Polya Eggenberger family of distributions and its relation to Lagrangian Katz family. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2423–2443. 62E15 (60C05, 62F10)

Janardan, Ravi (*with* Gupta, Prosenjit; Smid, Michiel H. M.) Efficient algorithms for counting and reporting pairwise intersections between convex polygons. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 7–13. (Summary) **99i:68121** 68U05 (68P05)

— (*with* Smid, Michiel H. M.) On the width and roundness of a set of points in the plane. (English summary) *Internat. J. Comput. Geom. Appl.* **9** (1999), *no.* 1, 97–108. (Summary) **99j:65261** 65Y25 (52C15)

Janas, Jan (*with* Naboko, Sergei N.) On the point spectrum of some Jacobi matrices. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 113–132. (Petru A. Kozhukhar') **99f:47041** 47B39

— (*with* Naboko, Sergei N.) Jacobi matrices with absolutely continuous spectrum. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 791–800. (Alexander A. Kiselev) **99f:47042** 47B39 (47A10, 47B37)

Janashia, G. (*with* Ephremidze, L.; Lagvilava, E.) On the factorization of unitary matrix-functions. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **116** (1998), 101–106. (Mihály Bakonyi) **99j:47023** 47A68 (15A23, 35Q15)

Janaszewska, E. (*with* Nagaev, Aleksandr Viktorovich) On the joint distribution of the shorth height and length. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 210–229. (Michael Falk) **99m:62079** 62G30 (62E20)

el Janati, Abdessalam *see* **El Janati, Abdessalam**

Jančar, Petr (*with* Kučera, Antonín; Mayr, Richard) Deciding bisimulation-like equivalences with finite-state processes. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 200–211, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68Q60)

— *see also* **Workshop: Concurrency, 99h:68010**

Jancovici, B. (*with* Téllez, G.) Two-dimensional Coulomb systems on a surface of constant negative curvature. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 953–977. (Summary) **99e:82008** 82B05 (82B21)

Jandhyala, Vikram (*with* Shanker, Balasubramaniam; Michielssen, Eric; Chew, Weng Cho) Fast algorithm for the analysis of scattering by dielectric rough surfaces. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 7, 1877–1885. (Summary) **99c:78004** 78–08 (78A45)

Janeczko, S. Hamiltonian geodesics in nonholonomic differential systems. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 217–224. (Edoh Amiran) **99e:58071** 58F05 (53C22, 70F25)

— Classification of Lagrangian stars and their symplectic reductions. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3677–3685. (Raúl Ibáñez) **99g:58051** 58F05 (53C40, 58C15)

Janelidze, George (*with* Márki, László; Tholen, Walter) Locally semisimple coverings. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 281–289. (Hans-E. Porst) **99d:18010** 18E10 (16N99, 55U35)

— (*with* Brown, Ronald) Galois theory of second order covering maps of simplicial sets. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 1, 23–31. (David A. Blanc) **99k:55021** 55U10 (18G55, 57M10)

Janez, Fabrice (*with* Appriou, Alain) Theory of evidence and non-exhaustive frames of discernment: plausibilities correction methods. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 1-2, 1–19. (Maria-Teresa Lamata) **99m:68195** 68T30

Jang, Changrim (*with* Park, Keun) Surfaces of 1-type Gauss map with flat normal connection. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 189–200. (Ivko Dimitric) **99m:53014** 53A07 (53C40)

Jang, Cheol Min (*with* Kuroda, Tadashi) Julia set of the function $z \exp(z + \mu)$. II. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 577–584. (I. N. Baker) **99b:30032** 30D05 (58F23)

Jang, Jinhee (*with* Han, Changsoo) Proposition of a modeling method for constrained mechanical systems based on the vector bond graph. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 3, 451–469. (Naseer Ahmed) **99a:70024** 70F99 (70B15)

Jang, Jyh-Cheng (*with* Leu, Jeng-Fan; Hwang, Chyi) Computation of Battle-Lemarie wavelets using an FFT-based algorithm. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 485–504. 65T20 (42C15)

Jang, Kyung-Ok (*with* Kim, Young Ho[1]) 2-type surfaces with 1-type Gauss map. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 79–86. (Ivko Dimitric) **99m:53033** 53B25 (53A05)

Jang, Lee-Chae (*with* Kwon, Joong-Sung) A note on law of large numbers for fuzzy numbers in a Banach space. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 77–81. (Summary) **99f:46111** 46S40 (46B09)

— (*with* Kwon, Joong-Sung) A uniform strong law of large numbers for partial sum processes of fuzzy random variables indexed by sets. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 97–103. 60F99

— (*with* Kwon, Joong-Sung) A uniform strong law of large numbers for partial sum processes of Banach space-valued random sets. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 21–25. (Summary) **99c:60068** 60F15 (60D05)

Jang, M.-Y. (*with* Liu, Zhi Jun) Asymptotic theory of smoothed LAD estimates in linear regression models. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 61–75. (Summary) **99g:62094** 62J05 (62F12)

Jang, Shih-Biau (*with* Chen, So-Chin) An extension of H. Cartan's theorem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2265–2271. (Bernard Joseph Coupet) **99j:32037** 32M05 (32H40)

Jang, Soon Yeun (*with* Pahk, Dae Hyeon) Nodal solutions of nonlinear elliptic equations in annular domains. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 387–398. (Summary) **99a:35069** 35J60 (35B05)

Jang, Y. D. (*with* Park, Hung Mok; Lee, Min Woo) An efficient computational method of boundary optimal control problems for the Burgers equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 289–308. (Summary) **99j:49072** 49M30 (65M60)

Jang, Young Ho Algebraic Weyl system and application. (English summary) *Ann. Math. Blaise Pascal* **4** (1997), *no.* 2, 27–40. (Summary) **99m:11139** 11S80 (11S85, 11Z05, 22E50)

— ★ Non-Archimedean quantum mechanics. Dissertation, Tohoku University, Sendai, 1998. Tohoku Mathematical Publications, 10. *Tohoku University, Mathematical Institute, Sendai*, 1998. *iv*+69 *pp.* (Eugen Belokolos) **99c:81002** 81–02 (11S85, 11Z05, 46N50, 46S10)

— An asymptotic expansion of the *p*-adic Green function. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 229–242. (Daniel Barsky) **99g:11142** 11S40 (11M41)

Janglajew, K. On the existence of integral manifolds for a system of difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 321–326, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39063** 39A11

— (*with* Elaydi, Saber N.) Dichotomy and trichotomy of difference equations. *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 417–448. (Summary) **99a:39012** 39A10 (39A12)

Janhunen, Tomi Separating disbeliefs from beliefs in autoepistemic reasoning. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 132–151, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99b:03029** 03B45 (03B70, 68T27)

— ★ Non-monotonic systems: a framework for analyzing semantics and structural properties of non-monotonic reasoning. (English summary) Dissertation, Helsinki University of Technology, Espoo, 1998. Helsinki University of Technology. Digital Systems Laboratory. Series A: Research Reports, 49. *Helsinki University of Technology, Department of Computer Science and Engineering, Digital Systems Laboratory, Espoo*, 1998. *viii*+211 *pp. ISBN* 951-22-3974-4 (Summary) **99d:03024** 03B60 (03B70, 68N17, 68Q25, 68T27)

Jani, P. N. (*with* Shanubhogue, Ashok; Muraleedharan Nair, K. R.) A test for gamma DFR alternative. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2535–2546. 62N05 (62F03)

Janiak, Adam Computational complexity analysis of single machine scheduling problems with job release dates dependent on resources. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 203–207, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35

— (*with* Portmann, Marie-Claude) Genetic algorithm for the permutation flow-shop scheduling problem with linear models of operations. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 95–114. (Edward J. Anderson) **99j:90038** 90B35 (90C27)

— Single machine sequencing with linear models of release dates. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 1, 99–113. (Wanzhen Huang) **99c:90066** 90B35 (65Y20, 68Q25, 90C27)

— (*with* Cheng, T. C. Edwin; Kovalëv, M. Ya.) Bicriterion single machine scheduling with resource dependent processing times. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 617–630. (Summary) **99a:90108** 90B35 (90C30)

Janiak, Teresa (*with* Łuczak-Kumorek, Elżbieta) Method of averaging for the system of functional-differential inclusions. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 137–151. (Tzanko D. Donchev) **99f:34105** 34K15 (34A60, 34C29)

Janić, Radovan R. (*with* Đorđević, Radosav Ž.) Publications of D. S. Mitrinović. *Recent progress in inequalities* (*Niš*, 1996), 11–27, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Editors) **99k:01068b** 01A70

Jänich, Klaus ★ Topologia. (Polish. Polish summary) [Topology] Translated from the English by Dorota Czarnocka-Cieciura and Grzegorz Cieciura. Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 192 *pp. ISBN* 83-01-10141-5 (Editors) **99a:54001** 54–01 (55–01, 57–01)

Janicka-Żuk, Irena (*with* Dyrda, Kazimiera) Axiomatization of the logics determined by finite relational systems of natural numbers with identity. (English summary) *Bull. Sect. Logic Univ. Łódź* **27** (1998), *no.* 4, 152–155. 03C13

— (*with* Dyrda, Kazimiera; Treliński, Gustaw) Tadeusz Prucnal (1939–1998). (Polish) *Wiadom. Mat.* **34** (1998), 167–170. (Editors) **99m:01054** 01A70

Janik, Romuald A. (*with* Nowak, Maciej A.; Papp, Gábor; Zahed, Ismail) New developments in non-Hermitian random matrix models. *New developments in quantum field theory* (*Zakopane*, 1997), 297–314, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99j:82044** 82B41

Janik, Tadeusz J. Parallel implementation of the *p*-version of the finite element method for elliptic equations on a shared-memory architecture. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 97–110. (K. Najzar) **99b:65187** 65Y05 (65N30)

Janin, Robert (*with* Gauvin, Jacques) Lipschitz dependence of the optimal solution to elementary convex programs. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics* (*Odeillo*, 1995), 149–161, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Jia Liu Mei) **99a:90203** 90C31

Janiš, Vladimír[2] Fuzzy uniformly continuous functions. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 177–180. (*see* **99f:00022**) 54A40 (26A15, 54C05)

Janiszczak, Ingo (*with* Fleischmann, Peter) On the computation of conjugacy classes of Chevalley groups. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 221–234. (Demetris I. Deriziotis) **99c:20069** 20G40

Jan-Jégou, Sophie (*with* Chavent, Guy; Jaffré, Jérôme) Estimation of relative permeabilities in three-phase flow in porous media. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 33–39. (*see* **99h:00024**) 76S05 (76T05)

Jank, Gerhard (*with* Freiling, Gerhard; Lee, S.-R.) Coupled matrix Riccati equations in minimal cost variance control problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 556–560. (Keigo Watanabe) **99m:93098** 93E10 (93C99)

— *see also* **Clifford algebras and their application in mathematical physics, 99a:00022**

Janke, Wolfhard (*with* Kleinert, Hagen) Convergence behavior of variational perturbation expansions. (English summary) *Path integrals: Dubna* '96, 336–340, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81Q15

— (*with* Weigel, Martin) Numerical tests of conjectures of conformal field theory for three-dimensional systems. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 575–579. 82B80 (82B27)

— Nonlocal Monte Carlo algorithms for statistical physics applications. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 329–346. (*see* **99d:65008**) 82B80 (65C05)

Janko, Béla Nonlinear programming for set valued extremal solution of linear and of nonlinear large systems of inequalities. (English summary) *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 1, 21–50. 90C30 (65H10)

Janko, Zvonimir (*with* Tonchev, Vladimir D.) New designs with block size 7. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 152–157. (Summary) **99c:05024** 05B05

— The existence of symmetric designs with parameters (105, 40, 15). (English summary) *J. Combin. Des.* **7** (1999), *no.* 1, 17–19. 05B05

Janková, Katarína Systems with random perturbations. (English summary) *Iteration theory* (*ECIT* '94) (*Opava*), 147–152, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F30 (58F10)

Janković, Dragan (*with* Stanković, Radomir S.; Moraga, Claudio) Reed-Muller-Fourier versus Galois field representations of four-valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 186–191, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Janković, Slobodanka On continuation of max-stable laws. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part I (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 3, 3900–3905. (E. Omey) **99k:60134** 60G70

Janković, Svetlana (*with* Jovanović, Miljana) On a general iterative method for solving hereditary differential equations. II. (English summary) *Filomat No.* 11 (1997), 7–18. (Haydar Akça) **99e:34016** 34A45 (34G20, 34K05)

Janković, Vladimir Necessary conditions for an extremum in the calculus of variations in the absence of smoothness in the phase variables. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 922–930; *translation in Math. Notes* **61** (1997), *no.* 5-6, 770–776. (Mikhail I. Sumin) **99f:49023** 49K05

Jankowska-Sahraoui, Emilia Diagrammes de Newton et leur application dans la désingularisation des champs vectoriels. [Newton diagrams and their application in the desingularization of vector fields] *Univ. Iagel. Acta Math. No.* 33 (1996), 173–183. (From the text) **99c:58141** 58F36 (58F14)

Jankowski, Stanisław *see* **Nusse, Helena E., 99k:58002**

Jankunas, Andrius (*with* Khasminskii, Rafail Z.) Estimation of parameters of linear homogenous stochastic differential equations. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 205–219. (Shao Zhong Cheng) **99e:62146** 62M05 (60H10)

Janno, J. (*with* von Wolfersdorf, Lothar) Identification of memory kernels in general linear heat flow. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 2, 141–164. (Alfredo Lorenzi) **99h:45018** 45K05 (35R30, 45D05, 80A23)

— (*with* von Wolfersdorf, Lothar) Identification of weakly singular memory kernels in viscoelasticity. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 391–403. (Maurizio Grasselli) **99h:45019** 45K05 (35Q72, 73F15)

Jannone, J. A. (*with* Majerus, J. N.; Mimnagh, M. L.; Tenney, D. A.; Lamphear, S. P.) Blending hierarchical economic decision matrices (EDM) with FE and stochastic modeling. II. Detailing EDM. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 219–234. 73K25 (73K15)

Jannsen, Uwe Principe de Hasse cohomologique. [Cohomological Hasse principle] *Séminaire de Théorie des Nombres, Paris*, 1989–90, 121–140, *Progr. Math.*, 102, *Birkhäuser Boston, Boston, MA*, 1992. (Takeshi Ooe) **99a:11080** 11G35 (11G45, 11R37, 14G25)

Janodet, Jean-Christophe (*with* Echahed, Rachid) Admissible graph rewriting and narrowing. (English summary) *Logic programming* (*Manchester*, 1998), 325–340, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68Q42 (68Q55, 68R10)

Janoš, Ludvík Compactification and linearization of abstract dynamical systems. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 157–162 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:54067** 54H20 (34C35, 47A99)

Janovská, D. (*with* Böhmer, Klaus; Janovský, Vladimír) Computer aided analysis of imperfect bifurcation diagrams. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 207–222. (Timothy Sauer) **99k:58124** 58F14 (34C23)

Janovský, Vladimír (*with* Böhmer, Klaus; Janovská, D.) Computer aided analysis of imperfect bifurcation diagrams. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 207–222. (Timothy Sauer) **99k:58124** 58F14 (34C23)

— (*with* Xu, Haihong; Werner, Bodo) Numerical computation of degenerate Hopf bifurcation points. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998),

no. 12, 807–821. (Eugene Allgower) **99k:58131** 58F14 (34C23, 65H17)
— (*with* Böhmer, Klaus; Govaerts, Willy) Numerical detection of symmetry breaking bifurcation points with nonlinear degeneracies. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1097–1108. (Philip J. Aston) **99k:58125** 58F14 (34C23)
Janowski, E. J. (*with* Ladas, G.; Valicenti, S.) Lyness-type equations with period two coefficients. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 327–334, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39022** 39A10
Jansche, Stefan (*with* Butzer, Paul Leo) Mellin transform theory and the role of its differential and integral operators. (English summary) *Transform methods & special functions, Varna '96*, 63–83, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99i:44005** 44A15 (45P05, 47E05, 47G10)
— (*with* Butzer, Paul Leo) The exponential sampling theorem of signal analysis. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 99–122. (Dale H. Mugler) **99m:94007** 94A12 (42A38, 44A05)
— (*with* Butzer, Paul Leo) The finite Mellin transform, Mellin-Fourier series, and the Mellin-Poisson summation formula. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 55–81. (Henri-Michel Maire) **99j:44009** 44A15 (11F99, 40A25)
Jansen, Benjamin (*with* Roos, Cornelis; Terlaky, Tamás) Introduction to the theory of interior point methods. (English summary) *Interior point methods of mathematical programming*, 3–34, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05
— (*with* Roos, Cornelis; Terlaky, Tamás) Target-following methods for linear programming. (English summary) *Interior point methods of mathematical programming*, 83–124, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C05
— (*with* Warners, Joost P.; Terlaky, Tamás; Roos, Cornelis) A potential reduction approach to the frequency assignment problem. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 251–282. (Ulrich Faigle) **99b:90106** 90C27 (90C26)
Jansen, Christoph (*with* Wilson, Robert A.) The 2-modular and 3-modular decomposition numbers for the sporadic simple O'Nan group and its triple cover. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 71–90. (Gerhard Hiss) **99g:20025** 20C34 (20C20, 20C40)
Jansen, K. *see* **Jansen, Kenneth E.**
Jansen, Karl (*with* Bunk, B.; Elser, S.; Frezzotti, R.) Ordering monomial factors of polynomials in the product representation. (English summary) *Comput. Phys. Comm.* **118** (1999), *no.* 2-3, 95–109. 81–08
Jansen, Kenneth E. (*with* Oshima, M.; Hughes, Thomas J. R.) Consistent finite element calculations of boundary and internal fluxes. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 227–235. (*see* **99f:76004**) 76M10
Jansen, Klaus (*with* Erlebach, Thomas) Off-line and on-line call-scheduling in stars and trees. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 199–213, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Peter Brucker) **99i:90054** 90B35 (05C05, 68M20, 90B12)
— An approximation scheme for bin packing with conflicts. *Algorithm theory—SWAT'98* (*Stockholm*), 35–46, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99m:68085** 68Q25 (90B35)
— A new characterization for parity graphs and a coloring problem with costs. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 249–260, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:05051** 05C15 (05C75, 68R10, 90C35)
— (*with* Erlebach, Thomas; Kaklamanis, Christos; Persiano, Pino) An optimal greedy algorithm for wavelength allocation in directed tree networks. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 117–129, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68192** 68R10 (68Q25, 78A55, 90C35)
— The mutual exclusion scheduling problem for permutation and comparability graphs. (English summary) *STACS* 98 (*Paris*, 1998), 287–297, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68049** 68Q10 (05C85, 68M20, 68R10)
— (*with* Bodlaender, Hans L.; Deogun, Jitender S.; Kloks, Ton; Kratsch, Dieter; Müller, Haiko; Tuza, Zsolt) Rankings of graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 168–181 (*electronic*). (Peter Damaschke) **99b:68143** 68R10 (05C15, 05C78, 05C85)
— An approximation scheme for scheduling of malleable parallel tasks. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 109–121, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99g:68153** 68R10 (68M10, 68Q25, 90B35)
— *see also* **Approximation algorithms for combinatorial optimization, 99i:68002**
Jansen, M. J. M. (*with* Vermeulen, A. J.) Extending invariant solutions. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 135–147. (Summary) **99a:90247** 90D10 (90D35)
Janse van Rensburg, E. J. (*with* Diao, Yuanan; Ernst, Claus Dieter) Knot energies by ropes. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 6, 799–807. (Torsten Asselmeyer) **99c:57016** 57M25
— (*with* Madras, Neal) Metropolis Monte Carlo simulation of lattice animals. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8035–8066. (Stuart G. Whittington) **99b:82038** 82B41 (60K35, 82B80)
— (*with* Madras, Neal) Monte Carlo simulation of the Θ-point in lattice trees. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 141–157, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82B80 (65C05, 82D60)
— (*with* Orlandini, Enzo; Tesi, Maria Carla; Whittington, Stuart G.) Entropic exponents of knotted lattice polygons. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 9–21, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82065** 82D60 (57M25)
— (*with* Diao, Yuanan; Ernst, Claus Dieter) Properties of knot energies. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 37–47, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Kazushi Ahara) **99m:58050** 58E10 (57M25)
— (*with* Diao, Yuanan) Percolation of linked circles. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 79–88, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Stuart G. Whittington) **99i:57010** 57M25 (82B43)
— (*with* Uberti, R.; Orlandini, Enzo; Tesi, Maria Carla; Whittington, Stuart G.) Minimal links in the cubic lattice. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 89–100, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Yuanan Diao) **99h:57020** 57M25
— (*with* Tesi, Maria Carla; Orlandini, Enzo; Whittington, Stuart G.) Topological entanglement complexity of polymer chains in confined geometries. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 135–157, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82066** 82D60 (57M25)
— A model of lattice vesicles. (English summary) *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 193–201, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Summary) **99f:82012** 82B20
— (*with* Orlandini, Enzo; Tesi, Maria Carla; Whittington, Stuart G.) Asymptotics of knotted lattice polygons. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5953–5967. (Summary) **99g:82031** 82B41 (82B80, 82D60)
— Collapsing and adsorbing polygons. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8295–8306. (Summary) **99i:82017** 82B26
Janson, Svante On the traveling fly problem. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 17. (*see* **99i:05002**) 26B99
— ★ Gaussian Hilbert spaces. (English summary) Cambridge Tracts in Mathematics, 129. *Cambridge University Press, Cambridge*, 1997. x+340 *pp. ISBN* 0-521-56128-0 (Amarjit Budhiraja) **99f:60082** 60G35 (60H15, 62M20, 81T08)
— (*with* Bollobás, Béla) On the length of the longest increasing subsequence in a random permutation. (English summary) *Combinatorics, geometry and probability* (*Cambridge*, 1993), 121–128, *Cambridge Univ. Press, Cambridge*, 1997. (Graham Brightwell) **99c:05003** 05A05 (60C05)
— On complex hypercontractivity. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 270–280. (Habib Ouerdiane) **99b:46063** 46F25 (42C05, 44A15, 46G12, 60H99)
— (*with* Knuth, Donald E.) Shellsort with three increments. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 125–142. (Linda Pagli) **99b:68046** 68P10 (68Q25)
Jansons, Kalvis M. (*with* Chan, Terence) Semiflexible polymers in straining flows. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 145–176. (Paul McGill) **99a:82066** 82C31 (60J65, 82D60)
— (*with* Lythe, G. D.) Stochastic calculus: application to dynamic bifurcations and threshold crossings. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 227–251. (Peter E. Kloeden) **99a:82065** 82C26 (60H10)
Janssen, A. J. E. M. Positivity and spread of bilinear time-frequency distributions. *The Wigner distribution*, 1–58, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12
— From continuous to discrete Weyl-Heisenberg frames through sampling. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 583–596. (Ole Christensen) **99c:42062** 42C15 (94A12)
— A density theorem for time-continuous filter banks. (English summary) *Signal and image representation in combined spaces*, 513–523, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Amos Ron) **99d:42061** 42C15 (94A12)
— Proof of a conjecture on the supports of Wigner distributions. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 6, 723–726. (Summary) **99j:42014** 42B10 (94A12)
Janssen, Arnold Studentized permutation tests for non-i.i.d. hypotheses and the generalized Behrens-Fisher problem. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 1, 9–21. (S. Rao Jammalamadaka) **99e:62079** 62G10
Janssen, H. K. (*with* Kutbay, Ü.; Oerding, K.) Equation of state for directed percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1809–1817. 82B43 (82B28)
Janssen, Jan (*with* Vandewalle, Stefan) On SOR waveform relaxation methods. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2456–2481. (V. L. Makarov) **99a:65096** 65L60
Janssen, Philippe (*with* Amilhastre, J.; Vilarem, M. C.) Complexity of minimum biclique cover and minimum biclique decomposition for bipartite domino-free graphs. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 2-3, 125–144. (Xiao Tie Deng) **99d:05068** 05C70 (05C85)
Janssen, T. W. J. M. From quasiperiodic to more complex systems. *Beyond quasicrystals* (*Les Houches*, 1994), 75–140, *Springer, Berlin*, 1995. (Editors) **99d:82074** 82D25
— (*with* Herrmann, D. J. L.) On spectral properties of Harper-like models. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1197–1214. (Mihai Pascu) **99m:81054** 81Q10 (47N50)
Janssen, Theo M. V. Algebraic translations, correctness and algebraic compiler construction. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 25–56. (Summary) **99c:68051** 68N20 (68Q45, 68Q52, 68S05)
Jansson, Christian (*with* Rohn, Jiří) An algorithm for checking regularity of interval matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 3, 756–776 (*electronic*). (Summary) **99m:65101** 65G10 (65F30, 90C90)
Jansson, Patrik (*with* Jeuring, Johan) Functional pearl: polytypic unification. (English summary) *J. Funct. Programming* **8** (1998), *no.* 5, 527–536. 68N15 (68Q65)
Janszky, J. (*with* Kis, Z.; Adam, Peter) Star states. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 829–835. (*see* **99j:81007**) 81V80
Jantke, Klaus P. (*with* Grieser, Gunter; Lange, Steffen) Towards the validation of inductive learning systems. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 409–423, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05
— (*with* Grieser, Gunter; Lange, Steffen) Towards TCS concepts for characterizing expertise in learning systems validation. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 103–110. (Summary) **99i:68103** 68T05 (68Q99)
Jantzen, Chris On supports of induced representations for symplectic and odd-orthogonal groups. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1213–1262. (Marko Tadić) **99b:22028** 22E50
— Some remarks on degenerate principal series. (English summary) *Pacific J. Math.* **186** (1998), *no.* 1, 67–87. (Leticia Barchini) **99j:22018** 22E45 (22E50)

Jantzen, Jens Carsten Low-dimensional representations of reductive groups are semisimple. *Algebraic groups and Lie groups*, 255–266, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Bhama Srinivasan) **99g:20079** 20G05 (20G40)
— Representations of Lie algebras in prime characteristic. (English summary) Notes by Iain Gordon. *Representation theories and algebraic geometry (Montreal, PQ*, 1997), 185–235, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (Daniel K. Nakano) **99h:17026** 17B50
— Subregular nilpotent representations of $\mathfrak{sl}_n$ and $\mathfrak{so}_{2n+1}$. *Math. Proc. Cambridge Philos. Soc.* **126** (1999), *no.* 2, 223–257. (Daniel K. Nakano) **99k:17037** 17B50
Jantzen, Matthias Basics of term rewriting. *Handbook of formal languages, Vol.* 3, 269–337, *Springer, Berlin*, 1997. (Klaus Madlener) **99e:68082** 68Q42 (03D05, 03D40, 68Q45)
— Hierarchies of principal twist-closed trios. (English summary) *STACS* 98 (*Paris*, 1998), 344–355, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99i:68076** 68Q45 (68Q90)
Jantzen, R. T. (*with* Uggla, Claes) The kinematical role of automorphisms in the orthonormal frame approach to Bianchi cosmology. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 353–368. (Leonardo Fernández-Jambrina) **99m:83043** 83C20
Januszewski, Janusz Filling a cube with subsequences of boxes. *Demonstratio Math.* **31** (1998), *no.* 2, 377–386. (W. Kuperberg) **99m:52028** 52C22 (05B45)
Janvresse, Elise First order correction for the hydrodynamic limit of symmetric simple exclusion processes with speed change in dimension $d \geq 3$. (English summary) *Ann. Probab.* **26** (1998), *no.* 4, 1874–1912. (Timo Seppäläinen) **99k:60248** 60K35 (82C22)
Janwa, H. (*with* Moreno, Oscar) Coding-theoretic constructions of some number-theoretic Ramanujan graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 63–76. (Summary) **99j:05139** 05C50 (94A60, 94B27, 94C10)
Janyška, Josef (*with* Kolář, Ivan) Professor Karel Svoboda (1918–1997). *Arch. Math. (Brno)* **34** (1998), *no.* 2, *i–iii*. (Editors) **99m:01070** 01A70
Janžura, Martin (*with* Vajda, Igor) On asymptotically optimal estimates for general observations. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 27–45. (Francis Comets) **99c:62062** 62F12 (62F35, 62M05, 62M40)
— (*with* Boček, Pavel) A method for knowledge integration. (English summary) Uncertainty processing (Prague, 1997). *Kybernetika (Prague)* **34** (1998), *no.* 1, 41–55. (M. Iosifescu) **99d:68223** 68T30 (60J10, 65C05, 68T35)
Jaoua, Mohamed (*with* Andrieux, Stéphane; Ben Abda, Amel) On the inverse emergent plane crack problem. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 10, 895–906. (Yongzhi Xu) **99d:35176** 35R30 (35Q72, 73C99)
— (*with* Ben Abda, Amel; Chaâbane, Slim; El Dabaghi, Fadi) On a non-linear geometrical inverse problem of Signorini type: identifiability and stability. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1379–1398. (Alain Brillard) **99j:35233** 35R35 (35J25, 35Q72, 73C02)
— (*with* Chaâbane, Slim) Dérivation par rapport au domaine pour un problème aux limites avec condition de Signorini. (English and French summaries) [Derivative with respect to the domain for a Signorini boundary value problem] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 5, 395–400. (Summary) **99k:49086** 49Q10 (35R35, 49J10)
— (*with* Ben Abda, Amel; Ben Ameur, Hend) Identification of 2D cracks by elastic boundary measurements. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 67–77. (Summary) **99k:35187** 35R30 (35Q72, 73C02, 73M25)
— *see also* **Conference: Inverse Problems, Control and Shape Optimization, 99h:00024**
Japaridze, G. S. (*with* Tymczak, C. J.; Handy, Carlos R.; Wang, Xiao-Qian) New perspective on inner product quantization. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 17, 3673–3677. (Summary) **99b:81134** 81S99
Jäpel, Irg Existence theory to the equations in viscoelasticity at finite deformations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 757–780. (Jaime E. Muñoz Rivera) **99g:73061** 73F15 (35Q72, 45K05, 73G25, 73K03)
Japhet, Caroline (*with* Nataf, Frédéric; Roux, François-Xavier) Extension of a coarse grid preconditioner to non-symmetric problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 279–286, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65M60 (65F30, 65Y05)
Japhet, Sara *see* **Rosenkranz, Ze'ev, 99d:01036**
angeles Japon Pineda, M. *see* **Angeles Japon Pineda, M.**
Jappy, Pascal (*with* Nock, Richard) PAC learning conceptual graphs. (English summary) *Conceptual structures: theory, tools and applications* (*Montpellier*, 1998), 303–315, *Lecture Notes in Comput. Sci.*, 1453, *Springer, Berlin*, 1998. (*see* **99h:68003**) 68T05 (68T30)
— (*with* Nock, Richard) Function-free Horn clauses are hard to approximate. (English summary) *Inductive logic programming* (*Madison, WI*, 1998), 195–204, *Lecture Notes in Comput. Sci.*, 1446, *Springer, Berlin*, 1998. (Summary) **99m:68034** 68N17 (03B70, 68Q25, 68T05)
Jara, P. (*with* García, Josefa M.; Merino, L. M.) Decomposition of locally finite modules. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 147–157, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (S. S. Page) **99e:16008** 16D70 (16W30)
Jarachi, F. (*with* Bastin, G.; Mareels, Iven M. Y.) Output deadbeat control of nonlinear discrete-time systems with one-dimensional zero dynamics: global stability conditions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1262–1266. 93D20 (93C55)
Jaradat, Mohammed M. (*with* Al-Rhayyel, Ahmad) On the basis number of the direct product of some graphs. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 509–516. (Summary) **99d:05043** 05C35
Járai, Antal (*with* Sander, Wolfgang) A regularity theorem in information theory. (English summary) *Publ. Math. Debrecen* **50** (1997), *no.* 3-4, 339–357. (J. Aczél) **99c:39029** 39B22 (26A21, 28A20)
— Regularity property of the functional equation of the Dirichlet distribution. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 37–46. (P. N. Rathie) **99e:39083** 39B22 (28C15, 60E05)
— A generalization of a theorem of Piccard. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 497–506. (K. D. Magill, Jr.) **99e:54020** 54E52 (39B52)
— (*with* Indlekofer, Karl-Heinz) Largest known twin primes and Sophie Germain primes. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1317–1324. (Oliver Schirokauer) **99k:11013** 11A41 (11Y11)
Jaramillo, Jesús Angel (*with* Gonzalo, Raquel) Compact polynomials between Banach spaces. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 213–226. (Luiza Amália de Moraes) **99m:46112** 46G20 (47H99)
— (*with* Azagra, D.; Gómez Gil, Javier) Rolle's theorem and negligibility of points in infinite-dimensional Banach spaces. *Extracta Math.* **11** (1996), *no.* 3, 480–484. (Li Xin Cheng) **99b:46064** 46G05 (46B20)
— (*with* Prieto Yerro, Ángeles; Zalduendo, Ignacio) The bidual of the space of polynomials on a Banach space. *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 457–471. (Luiza Amália de Moraes) **99a:46030** 46B28 (46B10, 46G20, 46M05)
Jaranowski, Piotr (*with* Schäfer, Gerhard) Third post-Newtonian higher order ADM Hamilton dynamics for two-body point-mass systems. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7274–7291. 83C25
Jarchow, Hans (*with* Delbaen, Freddy; Pełczyński, A.) Subspaces of L_p isometric to subspaces of l_p. (English summary) *Positivity* **2** (1998), *no.* 4, 339–367. (Summary) **99m:46071** 46E30 (46B04)
— (*with* Domenig, Thomas; Riedl, Reinhard) The domain space of an analytic composition operator. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 1, 56–65. (Paul Bourdon) **99k:47063** 47B38 (30D55, 46E15)
Jarczyk, Witold Series of iterates summing up to the identity function. *Iteration theory (ECIT'94)* (*Opava*), 153–162, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12
Jard, Claude (*with* Benveniste, Albert; Gaubert, Stéphane) Algebraic techniques for timed systems. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 373–388, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68M20)
Jardas, Cvetan (*with* Pečarić, Josip; Roki, Rajko; Sarapa, Nikola) On an inequality of Hardy-Littlewood-Pólya and some applications to entropies. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 201–206. (Lars Erik Persson) **99c:26017** 26D15 (94A17)
— (*with* Sarapa, Nikola) A summability method in some strong laws of large numbers. (English and Croatian summaries) *Math. Commun.* **2** (1997), *no.* 2, 107–124. (Summary) **99c:28047** 28D05 (60B12, 60F15)
— (*with* Pečarić, Josip; Sarapa, Nikola) On summability of pairs of convolution sequences of probability measures on locally compact semigroups. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 481–492. (Uwe Franz) **99m:60011** 60B10 (43A05, 60B05)
Jarden, Moshe (*with* Haran, Dan) Regular split embedding problems over complete valued fields. (English summary) *Forum Math.* **10** (1998), *no.* 3, 329–351. (Akito Nomura) **99e:12007** 12F12 (12J10)
— (*with* Haran, Dan) Regular split embedding problems over function fields of one variable over ample fields. *J. Algebra* **208** (1998), *no.* 1, 147–164. (Helmut Völklein) **99h:12005** 12F12 (11S20, 12F10)
— (*with* Geyer, Wulf-Dieter) Bounded realization of l-groups over global fields. The method of Scholz and Reichardt. (English summary) *Nagoya Math. J.* **150** (1998), 13–62. (Helmut Völklein) **99d:12001** 12F12 (11R32, 11S31, 12F10)
— (*with* Fried, Michael D.) On Σ-Hilbertian fields. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 307–313. (Peter Müller) **99k:12004** 12E25 (14G05, 20E18)
Jardine, J. F. (*with* Goerss, P. G.) Localization theories for simplicial presheaves. (English summary) *Canad. J. Math.* **50** (1998), *no.* 5, 1048–1089. (Haynes R. Miller) **99j:55009** 55P60 (18F20, 19E08)
Jaric, Jovo P. On the representation of symmetric isotropic 4-tensors. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 73–79. (Maurizio Vianello) **99k:73035** 73C02 (73B05)
— (*with* Cowin, Stephen) On the mean rotation in finite deformation. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 55–83. (P. Villaggio) **99g:73004** 73A05 (73B99, 73C50, 73G05)
vargas Jarillo, Cristóbal *see* **Vargas Jarillo, Cristóbal**
Jarisch, Ralf (*with* Mutzbauer, Otto; Toubassi, Elias) Characterizing a class of simply presented modules by relation arrays. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 5, 349–357. (Luigi Salce) **99i:13016** 13C13 (20K21)
Jaritz, Renate Geometric ordering in oriented matroids. *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 208–213, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Ilda P. F. da Silva) **99b:52026** 52B40 (05B35)
— Zur mathematischen Modellierung von Raummodellen chemischer Moleküle. (English summary) [On the mathematical modelling of spatial models of chemical molecules] *Match No.* 37 (1998), 179–193. (Summary) **99i:05193** 05C90 (92E10)
Jarník, Vojtěch *see* **Netuka, Ivan**
Jarosz, Krzysztof *see* **Function spaces, 99k:46003**
Jaroszewski, I. (*with* Kwaśniewski, A. K.) On a dynamics of the Möbius mapping and Clifford numbers. (English summary) *Adv. Appl. Clifford Algebras* **6** (1996), *no.* 2, 183–192. (Michael V. Shapiro) **99c:39024** 39B12 (30G35)
— (*with* Kwaśniewski, A. K.) Some extensions of properties of the sequence of reciprocal Fibonacci polynomials. *Fibonacci Quart.* **36** (1998), *no.* 4, 348–353. 11B39
Jaroszkiewicz, George Deformed mechanics and the discrete time quantised anharmonic oscillator. (English summary) *Quantum groups* (*Karpacz*, 1994), 599–603, *PWN, Warsaw*, 1995. (Ashok Kumar Mishra) **99j:81078** 81S05 (81Q05, 81R50)
— (*with* Norton, Keith) Principles of discrete time mechanics. III. Quantum field theory. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 977–1000. (Summary) **99m:81275a** 81T99 (70G50, 70H99)
— (*with* Norton, Keith) Principles of discrete time mechanics. IV. The Dirac equation, particles and oscillons. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1001–1023. (Summary) **99m:81275b** 81T99 (70G50, 70H99)
— Symmetries in discrete-time quantum field theory. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1898–1903. (Summary) **99i:81260** 81T99
Jarrah, A. M. (*with* Tallafha, Abdalla) Complementary subspaces isomorphic to a nuclear stable G_∞-space. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 3, 27–40. (Juan Carlos Díaz Alcaide) **99f:46006** 46A11 (46A45)
al-Jarrah, Ali A. *see* **Al-Jarrah, Ali A.**

Jarre, Florian Interior-point methods for classes of convex programs. *Interior point methods of mathematical programming*, 255–296, *Appl. Optim.*, *5*, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C25
— (*with* Mizuno, Shinji) Global and polynomial-time convergence of an infeasible-interior-point algorithm using inexact computation. (English summary) Continuous and discrete mathematical optimization (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 981 (1997), 22–35. (Shu Zhong Zhang) **99a:90125** 90C05
— (*with* Kočvara, Michal; Zowe, Jochem) Optimal truss design by interior-point methods. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1084–1107 (*electronic*). (Summary) **99e:90091** 90C30
Jarrett, E. B. Edge rotation and edge slide distance graphs. (English summary) Graph theory in computer science, chemistry, and other fields (Las Cruces, NM, 1991). *Comput. Math. Appl.* **34** (1997), *no.* 11, 81–87. (Ioan Tomescu) **99b:05049** 05C12
Jarski, Michał Active dynamic programming—breaking the dimension barrier. (English summary) *Found. Comput. Decision Sci.* **23** (1998), *no.* 1, 49–59. 49L20 (90C39)
Jarušek, J. (*with* Eck, Christof) Existence results for the static contact problem with Coulomb friction. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 3, 445–468. (Alain Brillard) **99c:73071** 73T05 (49J40, 73V25)
Jarušková, Daniela Testing appearance of linear trend. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 263–276. (Yanhong Wu) **99j:62022** 62F05 (62J20)
Järvenpää, Esa A SRB-measure for globally coupled circle maps. (English summary) *Nonlinearity* **10** (1997), *no.* 6, 1435–1469. (Jérôme Buzzi) **99b:58146** 58F11 (82B05, 82B20)
— (*with* Baladi, V.; Degli Esposti, Mirko; Isola, S.; Kupiainen, Antti) The spectrum of weakly coupled map lattices. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 539–584. (Volker Matthias Gundlach) **99c:58127** 58F19 (58F11, 82B20)
Järvenpää, Maarit Packing dimension, intersection measures, and isometries. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 3, 483–490. (Manuel Morán) **99c:28018** 28A78 (28A80)
— (*with* Mattila, Pertti) Hausdorff and packing dimensions and sections of measures. (English summary) *Mathematika* **45** (1998), *no.* 1, 55–77. (Norbert Patzschke) **99g:28014** 28A78 (28A80)
— (*with* Falconer, Kenneth J.) Packing dimensions of sections of sets. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 89–104. (Norbert Patzschke) **99g:28012** 28A78
Järvenpää, Seppo (*with* Somersalo, Erkki) Impedance imaging and electrode models. *Inverse problems in medical imaging and nondestructive testing* (*Oberwolfach*, 1996), 65–74, *Springer, Vienna*, 1997. (Andreas Rieder) **99b:65181** 65R30 (65R10, 78A55)
Jarvis, P. D. (*with* van Holten, J. W.; Kowalski-Glikman, Jerzy) Off-shell κ-symmetry of the superparticle and the spinning superparticle. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 47–52. (Summary) **99b:81239** 81T60
Jarvis, S. (*with* Johnson, N. F.; Jonson, R.; Cheung, Ping; Kwong, Y. R.; Hui, Pak-ming) Volatility and agent adaptability in a self-organizing market. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 230–236. 90A60
Jarvis, Stuart (*with* Norbury, Paul) Degenerating metrics and instantons on the four-sphere. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 1-2, 79–98. (Antony Maciocia) **99j:53023** 53C07 (58E15)
— Euclidean monopoles and rational maps. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 1, 170–192. (Roger Bielawski) **99h:58024** 58D27 (53C07, 58E15, 58G11)
— Construction of Euclidean monopoles. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 1, 193–214. (Roger Bielawski) **99h:58025** 58D27 (53C07, 58E15, 58G11)
Jarvis, T. J. Torsion-free sheaves and moduli of generalized spin curves. (English summary) *Compositio Math.* **110** (1998), *no.* 3, 291–333. (José M. Muñoz Porras) **99b:14026** 14H10 (14M30)
Jaščur, Michal Exact results for a decorated Ising model. (English summary) *Phys. A* **252** (1998), *no.* 1-2, 217–224. (Oktay K. Pashaev) **99j:82016** 82B20 (82B23)
Jasiak, Joanna (*with* Ghysels, Eric; Gouriéroux, Christian) Kernel autocorrelogram for time-deformed processes. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 1, 167–191. (Summary) **99c:62250** 62M10 (62G05)
Jasinski, Jakub (*with* Recław, Ireneusz) Restrictions to continuous and pointwise discontinuous functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 161–174. (Jack B. Brown) **99g:26005** 26A15 (26A03)
Jasiuk, Iwona (*with* Markenscoff, Xanthippi) On multiple connectivity and reduction of constants for composites with body forces. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1357–1369. (Summary) **99d:73032** 73C99 (73K20)
Jaskold Gabszewicz, Jean (*with* Poddar, Sougata) Demand fluctuations and capacity utilization under duopoly. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 131–146. (Summary) **99g:90030** 90A11 (90D40)
Jaskólski, Zbigniew (*with* Daszkiewicz, Marcin; Hasiewicz, Zbigniew) Free strings in non-critical dimensions. *New developments in quantum field theory* (*Zakopane*, 1997), 269–277, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Pavlos I. Porfyriadis) **99i:81178** 81T30
— Smooth coalgebras. (English summary) *J. Geom. Phys.* **29** (1999), *no.* 1-2, 87–150. (Carles Victoria) **99k:58012** 58A50 (16W30, 58B99)
— (*with* Daszkiewicz, Marcin; Hasiewicz, Zbigniew) Light-cone formulation and spin spectrum of non-critical fermionic string. (English summary) *Phys. Lett. B* **454** (1999), *no.* 3-4, 249–258. 81T30
Jasor, Marie-Josée Perturbations singulières de problèmes aux limites, non linéaires, "paraboliques dégénérés-hyperboliques". (English and French summaries) [Singular perturbations of "degenerate-hyperbolic parabolic" nonlinear boundary value problems] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 267–291. (Albert J. Milani) **99m:35018** 35B25 (35K65, 35Q99)
Jassal, H. K. (*with* Mukherjee, Amitabha; Saxena, R. P.) Duality and cosmological compactification of superstrings with unbroken supersymmetry. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1035–1047. 83E30 (81T30, 83F05)
Jassim, W. S. *see* **Dicks, Warren, 99m:20046**
Jaswon, M. A. (*with* El-Damanawi, K. E. S. K.) Uniformly moving elastic singularities in the classical theory of elasticity. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 225–232, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 73C02 (73B50)
Jaszczolt, K. M. Discourse about beliefs. (English summary) *Theoret. Linguist.* **24** (1998), *no.* 1, 23–28. 03B65 (03B45)
Jategaonkar, Lalita (*with* Colby, Christopher; Jagadeesan, Radha; Läufer, Konstantin; Puchol, Carlos) The semantics of Triveni: a process-algebraic API for threads + events. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems* (*Rio de Janeiro*, 1997/*New Orleans, LA*, 1997), 27 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q10 (68Q55, 68Q90)
Jatkar, Dileep P. (*with* Dasgupta, Keshav; Mukhi, Sunil) Gravitational couplings and Z_2 orientifolds. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 465–484. (C. Gauthier) **99i:81177** 81T30 (83E30)
Jauberteau, F. (*with* Dubois, T.) A dynamic multilevel model for the simulation of the small structures in homogeneous isotropic turbulence. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 323–367. (Tomás Chacón Rebollo) **99j:76056** 76F05 (76M25)
Jault, D. (*with* Cardin, P.; Nataf, H. C.) Geodynamo and M.H.D. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 17–30, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 86A25 (76W05)
Jaumard, Brigitte (*with* Chen, Pey-Chun; Hansen, Pierre; Hoàng Tuy) Solution of the multisource Weber and conditional Weber problems by d.-c. programming. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 548–562. (Zeng Kun Xu) **99g:90088** 90C26 (90C08)
— (*with* Hansen, Pierre; Xiong, Junjie) An interval arithmetic algorithm for multivariate constrained global optimization using cord-slope forms of Taylor's expansion. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 2, 189–202. (Summary) **99h:90099** 90C30 (65G10)
Jauslin, H. R. (*with* Govin, M.; Cibils, M.) Julia sets in iterative KAM methods for eigenvalue problems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1835–1846. 58F27
— (*with* Chandre, C.) A version of Thirring's approach to the Kolmogorov-Arnold-Moser theorem for quadratic Hamiltonians and degenerate twist. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5856–5865. (Guido Gentile) **99j:58184** 58F27 (34C50, 70H05)
— (*with* Chandre, C.; Govin, M.) Kolmogorov-Arnold-Moser renormalization-group approach to the breakup of invariant tori in Hamiltonian systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 2, *part A*, 1536–1543. (Luigi Chierchia) **99e:58150** 58F27 (34C27, 70H05)
— (*with* Chandre, C.; Govin, M.; Koch, Hans) Universality for the breakup of invariant tori in Hamiltonian flows. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6612–6617. (Summary) **99b:58206** 58F27 (70H05)
— (*with* Monti, F.) Quantum Nekhoroshev theorem for quasi-periodic Floquet Hamiltonians. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 3, 393–428. (Pavel Šťovíček) **99h:81047** 81Q15 (35Q40)
— (*with* Kreiss, Heinz-Otto; Moser, Jürgen K.) On the forced Burgers equation with periodic boundary conditions. *Differential equations: La Pietra* 1996 (*Florence*), 133–153, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Guido Schneider) **99m:35208** 35Q53 (34C27, 58F27)
moser-Jauslin, Lucy *see* **Moser-Jauslin, Lucy**
Javidi, B. (*with* Towghi, Nasser; Li, Jerome) Decision regions of Fourier-plane nonlinear filtering for image recognition. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 1, 85–96. (Summary) **99j:78008** 78A10
Jaworowski, Jan The index of involutions in lens spaces. (English and French summaries) Dedicated to the memory of Gilles Fournier (Sherbrooke, PQ, 1997). *Ann. Sci. Math. Québec* **22** (1998), *no.* 2, 193–199. (Summary) **99m:55003** 55M35 (57S30)
Jaworski, Jerzy (*with* Godehardt, Erhard) On the connectivity of a random interval graph. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 137–161. (Andrzej Ruciński) **99e:05107** 05C80
— (*with* Godehardt, Erhard; Godehardt, D.) The application of random coincidence graphs for testing the homogeneity of data. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 35–45, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62H30 (05C80)
— Predecessors in a random mapping. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 501–519. (Lyuben R. Mutafchiev) **99k:60015** 60C05 (05C80, 60H25)
Jaworski, Wojciech Contractive automorphisms of locally compact groups and the concentration function problem. (English summary) *J. Theoret. Probab.* **10** (1997), *no.* 4, 967–989. (A. Mukherjea) **99c:60009** 60B15 (22D45)
— Random walks on almost connected locally compact groups: boundary and convergence. (English summary) *J. Anal. Math.* **74** (1998), 235–273. (Albert Raugi) **99i:60014** 60B15 (60J15, 60J45)
Jay, Laurent O. Structure preservation for constrained dynamics with super partitioned additive Runge-Kutta methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 416–446 (*electronic*). (Alexander Ostermann) **99g:65081** 65L06 (65L20, 70–08, 70F99, 70H05)
Jayanti, Prasad (*with* Chandra, Tushar Deepak; Toueg, Sam) Fault-tolerant wait-free shared objects. (English summary) *J. ACM* **45** (1998), *no.* 3, 451–500. (Behrooz Parhami) **99g:68010** 68M07 (68Q10, 90B25)
Jayaram, C. (*with* Johnson, E. W.) s-prime elements in multiplicative lattices. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 201–208. (Christian Herrmann) **99d:06013** 06C05 (13A15)
— (*with* Johnson, E. W.) Dedekind lattices. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 367–378. (Daniel D. Anderson) **99b:06015** 06F10 (06F05, 13A15)
Jayaraman, Anandhan (*with* Crawford, John David) Amplitude equations for electrostatic waves: multiple species. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4546–4577. (Summary) **99f:76133** 76X05 (82D10)
— (*with* Crawford, John David) First principles justification of a "single wave model" for electrostatic instabilities. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 666–673.

(Summary) **99k:76160** 76X05

Jayaraman, Bharat (*with* Osorio, Mauricio) Aggregation and well-founded semantics$^+$. (English summary) *Non-monotonic extensions of logic programming* (*Bad Honnef*, 1996), 71–90, *Lecture Notes in Comput. Sci.*, 1216, *Springer, Berlin*, 1997. (Summary) **99a:68046** 68P15 (68N17)

— (*with* Jana, Devashis) Set constructors, finite sets, and logical semantics. (English summary) *J. Logic Programming* **38** (1999), *no.* 1, 55–77. (Summary) **99i:03060** 03E30 (03B70, 68N17)

Jayaraman, Vaidyanathan (*with* Pirkul, Hasan) A multi-commodity, multi-plant, capacitated facility location problem: formulation and efficient heuristic solution. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 10, 869–878. 90B80 (90C90)

Jayashree, P. R. (*with* Sridharan, Varadachari) Transient solutions of a software model with imperfect debugging and generation of errors by two servers. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 3-4, 217–225. (Summary) **99a:68035** 68N99 (68M15)

— (*with* Sridharan, Varadachari) A model of HIV population to seropositivity. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 259–269. (Summary) **99a:92015** 92C60 (60G55, 60K99)

— (*with* Sridharan, Varadachari) A non-Markovian evolution model of HIV population with bunching behaviour. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 695–705. (Summary) **99m:60076** 60G55 (92D30)

— (*with* Sridharan, Varadachari) A population model of infected T-4 cells in AIDS. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 99–110. (Summary) **99j:60064** 60G55 (92D30)

Jayasuriya, A. (*with* Apte, Aruna Uday; Kennington, J.; Krass, I.; Mohamed, Ramadan Hamed; Sorensen, S.; Whitler, J.) Class scheduling algorithms for Navy training schools. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 533–551. 90B35 (90B90)

Jayaswal, Puran On generalizations of zeta functions. (English summary) *Math. Ed.* (*Siwan*) **32** (1998), *no.* 2, 70–72. 11M41

Jayawardene, Chula J. (*with* Rousseau, Cecil C.) An upper bound for the Ramsey number of a quadrilateral versus a complete graph on seven vertices. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 175–188. (Summary) **99m:05112** 05C55

Jayne, Nicola Contact metric structures and Legendre foliations. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 49–65. (Sorin Dragomir) **99h:53033** 53C12 (53C15)

Jazar, Mustapha (*with* deLaubenfels, Ralph) Functional calculi, regularized semigroups and integrated semigroups. (English summary) *Studia Math.* **132** (1999), *no.* 2, 151–172. (S. Kantorovitz) **99k:47036** 47A60 (47B15, 47D03, 47D06)

Jean, Brian A. (*with* Hamann, Bernd) An efficient surface-surface intersection algorithm using adaptive surface triangulations and space partitioning trees. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 25–40. 65D17 (65Y25)

Jean, Frédéric (*with* Koseleff, Pierre-Vincent) Elementary approximation of exponentials of Lie polynomials. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 174–188, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99e:17041** 17B70 (41A99, 65D99, 93B25)

Jean, Michel (*with* Jourdan, Franck; Alart, Pierre) A Gauss-Seidel like algorithm to solve frictional contact problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 31–47. (Summary) **99a:73134** 73V20 (73T05)

Jeandenans, E. *see* **Bonatti, Ch., 99m:58123**

Jeanjean, H. (*with* Lucia, M.; Stuart, C. A.) Branches of solutions to semilinear elliptic equations on $\mathbf{R}^N$. (English summary) *Math. Z.* **230** (1999), *no.* 1, 79–105. (Jie Yang) **99m:35060** 35J60 (35B32)

Jeanjean, Louis (*with* Toland, John Francis) Bounded Palais-Smale mountain-pass sequences. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 23–28. (Vicenţiu Rădulescu) **99g:58022** 58E05 (47H99, 49J52)

Jean-Marie, Alain (*with* Lefebvre-Barbaroux, Sophie; Liu, Zhen[1]) An analytical approach to the performance evaluation of master-slave computational models. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 841–862. 68M20 (65Y05)

Jeanneret, A. (*with* Osse, A.) The K-theory of p-compact groups. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 556–581. (David Benson) **99d:55007** 55R35 (55N15, 55P35, 55R50)

Jeannet, B. (*with* Huillet, Thierry; Choukri, K.) Marches pseudo-aléatoires issues de substitutions: aspects statistiques. (English and French summaries) [Pseudorandom walks arising from substitutions: statistical aspects] *Ann. Inst. H. Poincaré Phys. Théor.* **67** (1997), *no.* 1, 77–89. (Jean-Paul Allouche) **99f:11030** 11B85 (28A80, 68R15)

— (*with* Huillet, Thierry) Multifractal formalism for self-similar bridges. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2567–2590. (Summary) **99b:58145** 58F11 (82B26)

Jeannin, Pierre (*with* Fiorot, Jean-Charles) BR-form of an entire rational curve with a preassigned point. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 111–118, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99i:65013** 65D17

— (*with* Fiorot, Jean-Charles) Une nouvelle construction du polygone massique de contrôle d'une courbe spline rationnelle. (English and French summaries) [New control massic [global] polygon construction of a rational spline] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 1015–1019. (Summary) **99e:41025** 41A63 (41A15)

— (*with* Fiorot, Jean-Charles) New control polygons for polynomial curves. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 65–76, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Antonio López-Carmona) **99m:65032** 65D17 (41A63, 65Y25)

andré-Jeannin, Richard *see* **André-Jeannin, Richard**

saint Jean Paulin, Jeannine *see* **Saint Jean Paulin, Jeannine**

Jeanquartier, Pierre Une décomposition des fonctions lisses par rapport à un polynôme quasi-homogène. (English and French summaries) [A decomposition of smooth functions relative to a quasihomogeneous polynomial] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 941–944. (E. J. Barbeau) **99b:26023** 26C05 (46F05)

Jeantheau, Thierry Strong consistency of estimators for multivariate ARCH models. (English summary) *Econometric Theory* **14** (1998), *no.* 1, 70–86. (Baldev Raj) **99c:62289** 62P20

Jeary, A. P. (*with* Fang, J. Q.; Li, Qing Shan) A new function transform technique for the solution of FEM dynamic equations. (English summary) *Comput. & Structures* **70** (1999), *no.* 3, 345–355. (Summary) **99j:73112** 73V20 (65N30, 73K12)

Jeavons, John S. (*with* Albrecht, David; Crossley, John N.) New Curry-Howard terms for full linear logic. (English summary) *Theoret. Comput. Sci.* **185** (1997), *no.* 2, 217–235. (R. Gylys) **99a:03058** 03F50 (03B70)

Jeavons, Peter (*with* Cohen, David A.; Gyssens, Marc) Closure properties of constraints. (English summary) *J. ACM* **44** (1997), *no.* 4, 527–548. (Armin Cremers) **99a:68089** 68Q25 (68Q15, 68R05, 68T20)

— (*with* Cohen, David A.; Cooper, Martin C.) Constraints, consistency and closure. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 251–265. (Summary) **99d:68219** 68T20

— On the algebraic structure of combinatorial problems. (English summary) *Theoret. Comput. Sci.* **200** (1998), *no.* 1-2, 185–204. (Charles J. Colbourn) **99d:68085** 68Q15 (68Q25)

Jebelean, Petru (*with* Reghiş, Mircea) The comparison theorem of Stokes for infinite systems of differential equations. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 7-8, 487–496. (Sergey G. Lobanov) **99h:34086** 34G20 (34A12)

— Finite-dimensional approximation and coerciveness in a problem with p-Laplacian. *Nonlinear Anal.* **33** (1998), *no.* 3, 253–259. (Srinivasan Kesavan) **99c:35072** 35J65 (65N30)

Jech, Thomas ★ Set theory. (English summary) Second edition. Perspectives in Mathematical Logic. *Springer-Verlag, Berlin*, 1997. xiv+634 *pp. ISBN* 3-540-63048-1 (Perry Smith) **99b:03061** 03Exx (04–02)

— (*with* Dougherty, Randall) Finite left-distributive algebras and embedding algebras. (English summary) *Adv. Math.* **130** (1997), *no.* 2, 201–241. (Andreas Blass) **99f:08004** 08C99 (03E55, 03F30, 08A02)

— (*with* Balcar, Bohuslav; Zapletal, Jindřich) Semi-Cohen Boolean algebras. (English summary) *Ann. Pure Appl. Logic* **87** (1997), *no.* 3, 187–208. (R. Gylys) **99a:03050** 03E40 (03G05, 04A30, 06E05)

— (*with* Balcar, Bohuslav; Główczyński, Wiesław) The sequential topology on complete Boolean algebras. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 59–78. (Klaas Pieter Hart) **99b:28006** 28A60 (06E10, 54A20, 54A25)

Jecko, Th. Classical limit of elastic scattering operator of a diatomic molecule in the Born-Oppenheimer approximation. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 1, 83–131. (Hiroshi Isozaki) **99g:81224** 81U05 (81V35)

Jedwab, Jonathan (*with* Davis, James Andrew; Mowbray, Miranda) New families of semi-regular relative difference sets. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 131–146. (Siu Lun Ma) **99i:05036** 05B10

Jeevanand, E. S. Bayes estimation of reliability under stress-strength model for the Marshall-Olkin bivariate exponential distribution. (English summary) *IAPQR Trans.* **23** (1998), *no.* 2, 133–136. 62N05

Jefferies, Brian The Feynman-Kac formula in the operator setting. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 177–185, *World Sci. Publishing, River Edge, NJ*, 1997. (J. A. Van Casteren) **99g:47094** 47D06 (47N50, 60J25)

— (*with* McIntosh, Alan G. R.) The Weyl calculus and Clifford analysis. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 329–341. (Vladimir V. Kisil) **99e:47022** 47A60 (30G35, 46H30, 47A13, 47B25)

Jefferies, D. J. (*with* Deane, J. H. B.) The behaviour of coupled map chains. (English summary) *Complex. Int.* **3** (1996), 11 *HTML documents* (*electronic*). (Volker Matthias Gundlach) **99j:58064** 58F03 (34C35, 58F40)

Jeffers, Stanley *see* **Causality and locality in modern physics, 99j:81005**

Jefferson, T. R. (*with* Scott, C. H.; Frenk, J. B. G.) A duality theory for a class of generalized fractional programs. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 239–245. (Summary) **99a:90207** 90C32 (49N15)

— (*with* Scott, C. H.) Duality of a nonconvex sum of ratios. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 151–159. (Siegfried Schaible) **99f:90146** 90C32 (49N15)

Jeffrey, A. *see* **Jeffrey, Alan**

Jeffrey, Alan A note on the global existence and decay of solutions of systems of parabolic conservation laws. (English summary) *Generalized analytic functions* (*Graz*, 1997), 265–269, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:00020**) 35L65 (35K55)

— (*with* Zhao, Huijiang) Global existence and optimal temporal decay estimates for systems of parabolic conservation laws. I. The one-dimensional case. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 175–193. (Summary) **99m:35102** 35K55 (35B40, 35L65)

— (*with* Zhao, Huijiang) Global existence and optimal temporal decay estimates for systems of parabolic conservation laws. II. The multidimensional case. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 597–623. (Summary) **99m:35103** 35K55 (35B40, 35L65)

— Structural symmetries and solutions of nonlinear mechanical systems. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 373–382. (Summary) **99c:35234** 35Q58 (35A30, 35K99, 58F37, 70H05)

Jeffrey, Alan Stewart Austin Premonoidal categories and flow graphs. *Second Workshop on Higher-order Operational Techniques in Semantics* (*HOOTS II*) (*Stanford, CA*, 1997), 1 *p.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 10, *Elsevier, Amsterdam*, 1998. (*see* **99e:68003**) 68Q55 (18D10)

Jeffrey, D. J. Rectifying transformations for the integration of rational trigonometric functions. (English summary) *J. Symbolic Comput.* **24** (1997), *no.* 5, 563–573. (Summary) **99m:26011** 26A36 (33B10)

— (*with* Hare, D. E. G.; Corless, Robert M.) Exact rational solutions of a transcendental equation. (English and French summaries) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 71–76. (Summary) **99d:65157** 65H05 (33E99)

Jeffrey, Lisa C. Symplectic forms on moduli spaces of flat connections on 2-manifolds. (English summary) *Geometric topology* (*Athens, GA*, 1993), 268–281, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Vicente Muñoz) **99b:58043** 58D27 (57N05, 57R15, 58F05)

Jeganathan, P. On asymptotic inference in linear cointegrated time series systems. (English summary) *Econometric Theory* **13** (1997), *no.* 5, 692–745. (B. M. Pötscher) **99k:62165** 62M10 (62P20)

Jeganathan, P. Tauberian property for linear relations. (English summary) *Indian J. Math.* **38** (1996), *no.* 2, 121–136. (Manuel González) **99c:47002** 47A05 (47B99)

jan-Jégou, Sophie *see* **Jan-Jégou, Sophie**

Jéhiel, Philippe Learning to play limited forecast equilibria. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 274–298. (Summary) **99g:90169** 90D15 (90A14)

Jehne, Wolfram Weilgruppen und Schiefkörper. [Weil groups and skew fields] *Mathematik aus Berlin*, 251–263, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 12E15

— (*with* Lamprecht, Erich) Helmut Hasse, Hermann Ludwig Schmid and their students in Berlin. *Mathematics in Berlin*, 143–149, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

Jeinsch, T. (*with* Ding, Steven Xianchun; Ding, E. L.) Sensitivity analysis and design of observer-based fault diagnosis systems. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 51–71. 93B35 (93E12)

— (*with* Ding, Xianchun; Guo, Limin) A characterization of parity space and its application to robust fault detection. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 337–343. 93E12 (93D09)

Jelasity, Márk (*with* Dombi, József) GAS, a concept on modeling species in genetic algorithms. (English summary) *Artificial Intelligence* **99** (1998), *no.* 1, 1–19. (Summary) **99b:92027** 92D15 (90C27, 92B10)

Jelenić, G. (*with* Crisfield, M. A.) Interpolation of rotational variables in nonlinear dynamics of 3D beams. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1193–1222. (Summary) **99h:73078** 73V05 (73K05)

Jelenković, Predrag R. (*with* Lazar, Aurel A.) Subexponential asymptotics of a Markov-modulated random walk with queueing applications. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 325–347. (Noël Veraverbeke) **99f:60129** 60J15 (60K25)

— (*with* Hochwald, Bertrand M.) State learning and mixing in entropy of hidden Markov processes and the Gilbert-Elliott channel. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 128–138. (Summary) **99k:94028** 94A40 (60J20)

Jelínek, J. A Tauberian theorem for distributions. (English summary) *Transform methods & special functions, Varna '96*, 159–163, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 46F10 (40E05, 42B20, 46F05)

Jellal, A. Quantum Hall effect. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2187–2191. (Summary) **99g:81241** 81V70

— Fractional quantum Hall effect and $(2+1)$-dimensional quantum electrodynamics. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 11, 2751–2755. 81V70 (81V10)

Jelonek, Zbigniew Linearly independent divisors on complex manifolds. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 25–30. (R. V. Gurjar) **99e:32010** 32C15 (14F45, 32C10)

Jeltsch, Rolf (*with* Renaut, Rosemary; Smit, Jacobus Hendrik) An accuracy barrier for stable three-time-level difference schemes for hyperbolic equations. (English summary) *IMA J. Numer. Anal.* **18** (1998), *no.* 3, 445–484. (Claude Carasso) **99m:65160** 65M06

Jeltsch-Fricker, R. Bruchbedingungen vom Mohrschen Typ für transversal isotrope Werkstoffe am Beispiel der Faser-Kunststoff-Verbunde. (English and German summaries) [Fracture criteria of Mohr type for transversely isotropic materials, using the example of fiber composites] *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 505–520. (Summary) **99a:73108** 73M25 (73K20)

Jena, J. (*with* Sharma, V. D.) Bäcklund transformations for the nonlinear evolution equation $z_{yy} = [A(x,y,z)z_x]_x$. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 213–219. (F. Pempinelli) **99e:58163** 58F37 (35A30, 35Q99)

— (*with* Sharma, V. D.) Self-similar shocks in a dusty gas. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 313–327. (Summary) **99i:76083** 76L05 (76N15, 76T05)

Jenda, Overtoun M. G. (*with* Enochs, Edgar E.) Gorenstein injective modules over Gorenstein rings. *Comm. Algebra* **26** (1998), *no.* 11, 3489–3496. (John Clark) **99h:16011** 16E30 (16D50, 16P40)

— (*with* Enochs, Edgar E.) Coliftings and Gorenstein injective modules. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 241–254. (John Clark) **99g:13031** 13H10 (13C11, 13E05)

Jendoubi, Mohamed Ali Convergence vers l'équilibre pour une équation des ondes avec non-linéarité analytique. (English and French summaries) [Convergence to equilibrium for a wave equation with analytic nonlinearity] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 7, 727–730. (Fumioki Asakura) **99c:35162** 35L70 (34D20, 35B40)

— Convergence des solutions globales et bornées de quelques problèmes d'évolution avec nonlinéarité analytique. [Convergence of global and bounded solutions of some evolution problems with analytic nonlinearities] *Progress in partial differential equations, Vol. 1 (Pont-à-Mousson, 1997)*, 181–190, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (*see* **99d:35003**) 35K55 (35B40)

— Convergence of global and bounded solutions of the wave equation with linear dissipation and analytic nonlinearity. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 302–312. (Mehmet Can) **99e:35149** 35L70 (35B40)

— (*with* Haraux, A.) Convergence of solutions of second-order gradient-like systems with analytic nonlinearities. (English summary) *J. Differential Equations* **144** (1998), *no.* 2, 313–320. (Summary) **99a:35182** 35L70 (35G20)

— A simple unified approach to some convergence theorems of L. Simon. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 1, 187–202. (Qing Fang) **99c:35101** 35K55 (35B40, 35J60, 35L70)

— Exponential stability of positive solutions to some nonlinear heat equations. (English summary) *Portugal. Math.* **55** (1998), *no.* 4, 401–409. (V. N. Razzhevaikin) **99m:35127** 35K60 (35B05, 35B35)

Jendrol', Stanislav A structural property of convex 3-polytopes. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 91–99. (Ilda P. F. da Silva) **99b:52021** 52B10 (05C10, 05C38, 52B05)

— (*with* Nedela, Roman; Škoviera, Martin) Constructing regular maps and graphs from planar quotients. (English summary) *Math. Slovaca* **47** (1997), *no.* 2, 155–170. (Summary) **99h:05054** 05C25 (20F38, 57M15)

— (*with* Fabrici, Igor) Subgraphs with restricted degrees of their vertices in planar graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 83–90. (Summary) **99d:05045** 05C35

— Triangles with restricted degrees of their boundary vertices in plane triangulations. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 177–196. (O. V. Borodin) **99k:05065** 05C10 (05C15)

— (*with* Madaras, Tomáš; Soták, Roman; Tuza, Zsolt) On light cycles in plane triangulations. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 453–467. (Summary) **99j:05055** 05C10 (05C38, 52B10)

Jenei, Sándor On Archimedean triangular norms. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 179–186. (Summary) **99d:04008** 04A72

— (*with* Fodor, János C.) On continuous triangular norms. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 273–282. (Summary) **99h:03031** 03E72

— Fibred triangular norms. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 67–82. (From the summary) **99i:03068** 03E72

Jeney, András Numerical comparison of multistep quasi-Newton ABS methods with the multistep Broyden method for solving systems of nonlinear equations. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 47–54. 65H10 (90C30)

— Multistep discrete ABS methods for solving systems of nonlinear equations. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **37** (1997), 39–46. 65H10

Jeng, Jyh-Chung (*with* Chang, Tong-Huei; Huang, Young-Ye; Kuo, Kung-Hwang) On S-KKM property and related topics. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 212–227. (Carlo Bardaro) **99m:47063** 47H10

Jeng, Jyh-horng (*with* Hassard, Brian) The critical wave number for the planar Bénard problem is unique. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 221–229. (Mariarosaria Padula) **99j:76040** 76E15

Jeng, Yih Nen (*with* Liou, Yuan Chang) A transfinite interpolation method of grid generation based on multipoints. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 105–114. (Summary) **99a:65116** 65M50 (65N50)

Jenkins, J. T. Kinetic theory for nearly elastic spheres. (English summary) *Physics of dry granular media (Cargèse, 1997)*, 353–369, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:73020** 73B99 (73E99, 76A99)

— Particle segregation in collisional flows of inelastic spheres. (English summary) *Physics of dry granular media (Cargèse, 1997)*, 645–658, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73B99 (76A99, 82C40)

Jenkins, James A. On the schlicht Bloch constant. II. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 1059–1063. (Shamil Makhmutov) **99m:30071** 30D45

Jenkins, Joe (*with* Benson, Chal; Ratcliff, Gail) The spherical transform of a Schwartz function on the Heisenberg group. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 379–423. (Jacek Cygan) **99d:22016** 22E30 (22E25)

Jenner, Birgit (*with* Torán, Jacobo) The complexity of obtaining solutions for problems in NP and NL. (English summary) *Complexity theory retrospective, II*, 155–178, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15, 68Q25)

— (*with* McKenzie, Pierre; Torán, Jacobo) A note on the hardness of tree isomorphism. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 101–105, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q25 (68Q15)

Jennings, Derek (*with* Byard, Kevin) An extension for residue difference sets. (English summary) 15th British Combinatorial Conference (Stirling, 1995). *Discrete Math.* **167/168** (1997), 405–410. (Dieter Jungnickel) **99b:05021** 05B10 (11A07)

— (*with* Byard, Kevin) Qualified residue difference sets with zero. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 283–288. (Ronald J. Evans) **99c:11004** 11A15 (05B10)

Jennings, L. S. (*with* Benyah, F.) Ill-conditioning in optimal control computation. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 81–88, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 49M25 (65J20)

— (*with* Benyah, F.) The L-curve in regularisation of optimal control computation. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998/99), (*E*), *E*138–*E*172 (*electronic*). (R. Tichatschke) **99j:49070** 49M30 (65K10)

— (*with* Liu, Yanqun; Teo, Kok Lay; Wang, Song) On a class of optimal control problems with state jumps. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 65–82. (Summary) **99d:49037** 49K15 (49M30)

— (*with* Teo, Kok Lay; Lee, H. W. J.; Rehbock, V.) The control parameterization enhancing transform for constrained optimal control problems. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 314–335. (Summary) **99k:49073** 49M30 (49K15)

Jennings, N. Implementation of Engquist-Majda and Higdon absorbing boundary conditions in a finite element time domain electromagnetic code. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 157–170, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)

— (*with* Parrott, A. K.; LeHyaric, A.; Monk, P. B.; Murphy, John Andrew; Rowse, D.) Parallelisation of a 3-D electromagnetic scattering code. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford, 1995)*, 329–340, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)

Jennings, Nick (*with* Parsons, Simon; Sierra, Carles) Agents that reason and negotiate by arguing. (English summary) *J. Logic Comput.* **8** (1998), *no.* 3, 261–292. (Summary) **99d:68222** 68T27 (03B70)

Jennings, Sylvia M. (*with* Fitzpatrick, Patrick) Comparison of two algorithms for decoding alternant codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 211–220. (Summary) **99h:94069** 94B35

Jennison, Christopher (*with* Turnbull, Bruce W.) Distribution theory of group sequential t, χ^2 and F-tests for general linear models. (English summary) *Sequential Anal.* **16** (1997), *no.* 4, 295–317. (Mohamed Tahir) **99g:62090** 62J05 (62L10)

— (*with* Denne, Jonathan S.) Improving the post-experimental properties of Stein's two-stage procedure. (English summary) *Sequential Anal.* **18** (1999), *no.* 1, 43–56. 62L10

Jennrich, Robert I. (*with* Yuan, Ke-Hai) Asymptotics of estimating equations under natural conditions. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 245–260. (Stavros Kourouklis) **99i:62047** 62F12

Jenny, P. (*with* Müller, Bernhard) Rankine-Hugoniot-Riemann solver considering source terms and multidimensional effects. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 2, 575–610. (Summary) **99g:76091** 76M20 (65M99, 80–08, 80A25)

Jensen, Arne[2] (*with* Nakamura, Shu[1]) The 2D Schrödinger equation for a neutral pair in a constant magnetic field. (English and French summaries) *Ann. Inst. H. Poincaré Phys.*

Théor. **67** (1997), *no.* 4, 387–410. (Mihai Pascu) **99f:81047** 81Q10 (47N50)

— Space-time scattering for the Schrödinger equation. (English summary) *Ark. Mat.* **36** (1998), *no.* 2, 363–377. (Richard Ford) **99i:35121** 35P25 (35J10, 47A40, 47F05, 81U05)

Jensen, Atle (*with* Grue, John; Rusås, Per-Olav; Sveen, J. Kristian) Properties of large-amplitude internal waves. (English summary) *J. Fluid Mech.* **380** (1999), 257–278. 76C10 (76–05)

Jensen, Bjarke (*with* Andreasen, Jesper; Poulsen, Rolf) Eight valuation methods in financial mathematics: the Black-Scholes formula as an example. (English summary) *Math. Sci.* **23** (1998), *no.* 1, 18–40. (Summary) **99d:90017** 90A09 (60G35)

friis-Jensen, Britt *see* **Friis-Jensen, Britt**

Jensen, Carsten Nordstrøm (*with* Golubitsky, Martin; True, Hans) Symmetry, generic bifurcations, and mode interaction in nonlinear railway dynamics. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 387–396, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 70K99 (34C23)

Jensen, D. R. Bounds on Mahalanobis norms and their applications. (English summary) *Linear Algebra Appl.* **264** (1997), 127–139. (Sumitra Purkayastha) **99d:62059** 62H10 (15A45, 62H30)

— Peakedness of linear forms in ensembles and mixtures. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 3, 277–282. (Olcay Akman) **99c:62033** 62E15

— Principal predictors and efficiency in small second-order designs. (English summary) *Biom. J.* **40** (1998), *no.* 2, 183–203. (Summary) **99a:62107** 62K05

Jensen, David L. (*with* Barahona, Francisco) Plant location with minimum inventory. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 101–111. (Summary) **99f:90033** 90B05

Jensen, Eva B. Vedel ★ Local stereology. Advanced Series on Statistical Science & Applied Probability, 5. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xvi*+247 *pp. ISBN* 981-02-2454-0 (Werner Nagel) **99h:60018** 60D05 (49Q15, 52A22)

Jensen, F. M. (*with* Thoft-Christensen, P.) Reliability based optimization of passive fire protection on offshore topsides. *Systems modelling and optimization* (*Detroit, MI*, 1997), 309–317, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B25

Jensen, Finn Verner *see* **Uncertainty in artificial intelligence, 99a:68018**

Jensen, Helge Elbrønd (*with* Encheva, Sylvia B.) Optimal binary linear codes and Z_4-linearity. (English summary) *IEEE Trans. Inform. Theory* **42** (1996), *no.* 4, 1216–1222. (Summary) **99c:94040** 94B05

— (*with* Sakata, Shojiro; Leonard, Douglas A.; Høholdt, Tom) Fast erasure-and-error decoding of algebraic geometry codes up to the Feng-Rao bound. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1558–1564. (Summary) **99h:94072** 94B35 (94B27)

— (*with* Hansen, Johan P.; Kötter, Ralf) Determination of error values for algebraic-geometry codes and the Forney formula. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1881–1886. (Summary) **99h:94066** 94B27

Jensen, Iwan (*with* Guttmann, Anthony J.; Enting, I. G.) The finite lattice method of series expansions. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 411–416, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 82B20

— (*with* Feldmann, Heiko; Guttmann, Anthony J.; Shrock, Robert; Tsai, Shan-Ho) Study of the Potts model on the honeycomb and triangular lattices: low-temperature series and partition function zeros. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2287–2310. (Summary) **99b:82019** 82B20 (82B26)

— (*with* Guttmann, Anthony J.) Self-avoiding walks, neighbour-avoiding walks and trails on semiregular lattices. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8137–8145. (E. J. Janse van Rensburg) **99j:82045** 82B41 (82B23)

Jensen, Jens Ledet A saddlepoint approximation for the number of uniform spacings exceeding a given level. *Fourth Symposium on Probability Theory and Stochastic Processes* (*Spanish*) (*Guanajuato*, 1996), 129–136, *Aportaciones Mat. Notas Investigación*, 12, *Soc. Mat. Mexicana, México*, 1996. (*see* **99e:60008**) 62E20 (62G30)

bang-Jensen, Jørgen *see* **Bang-Jensen, Jørgen**

Jensen, Jørn M. On the q-ary image of cyclic codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 189–196, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99d:94038** 94B15

Jensen, Karsten Klint Measuring the size of a benefit and its moral weight. On the significance of John Broome's "interpersonal addition theorem". *Theoria* **61** (1995), *no.* 1, 25–60. (Reinhard Suck) **99f:90030** 90A43 (92G05)

Jensen, Lars (*with* Ambjørn, Jan; Anagnostopoulos, Konstantinos N.; Ichihara, Takashi; Watabiki, Yoshiyuki) Quantum geometry and diffusion. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 22, 16 *pp.* (*electronic*). (Summary) **99m:83059** 83C45 (83C27)

Jensen, Mogens H. (*with* Bohr, Tomas; Paladin, Giovanni; Vulpiani, Angelo) ★ Dynamical systems approach to turbulence. (English summary) Cambridge Nonlinear Science Series, 8. *Cambridge University Press, Cambridge*, 1998. *xx*+350 *pp. ISBN* 0-521-47514-7 (Philip J. Holmes) **99i:76066** 76F20 (58F40)

— (*with* Kockelkoren, Julien; Okkels, Fridolin) Chaotic behavior in shell models and shell maps. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 833–842. (Summary) **99i:76067** 76F20

Jensen, O. E. (*with* Halpern, D.) The stress singularity in surfactant-driven thin-film flows. I. Viscous effects. (English summary) *J. Fluid Mech.* **372** (1998), 273–300. (Summary) **99i:76038a** 76D07 (76D08, 76T05)

— The stress singularity in surfactant-driven thin-film flows. II. Inertial effects. (English summary) *J. Fluid Mech.* **372** (1998), 301–322. (Summary) **99i:76038b** 76D07 (76D08, 76T05)

Jensen, Ole Rask (*with* Nielsen, Erik Bjerrum; Słowikowski, W.) On exponentials of quadratic expressions of field operators in connection with representation of infinite-dimensional Lie groups and algebras. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 273–275. (Władysław Adam Majewski) **99g:81106** 81S05 (46N50)

Jensen, R. *see* **Jensen, Robert R.**

Jensen, R. V. (*with* Lin, W. A.) Conjugate points in stadium and circle billiards. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5251–5256. (Nikolai Chernov) **99c:58109** 58F13 (58F11, 81Q50)

Jensen, Robert R. Viscosity solutions of elliptic partial differential equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 31–38 (*electronic*). (*see* **99e:00025**) 35J60 (35D10, 49L25)

— (*with* Barron, E. N.; Liu, Wenxiong) The L^∞ control problem with continuous control functions. *Nonlinear Anal.* **32** (1998), *no.* 1, 1–14. (Sabine Pickenhain) **99a:49029** 49K15 (49K27)

— (*with* Barron, E. N.; Liu, Wenxiong) Applications of the Hopf-Lax formula for $u_t + H(u, Du) = 0$. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 1022–1039 (*electronic*). (Summary) **99a:35024** 35F20 (35B45, 49L10, 90D25)

Jensen, Søren S. (*with* Han, Weimin; Shimanskiĭ, I. V.) The Kačanov method for some nonlinear problems. (English summary) *Appl. Numer. Math.* **24** (1997), *no.* 1, 57–79. (Rolf Rannacher) **99d:65316** 65N30 (73V05, 76M10, 78–08, 80–08)

Jensen, Tommy R. (*with* Royle, Gordon F.) Hajós constructions of critical graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 37–50. (David Burns) **99j:05071** 05C15

Jensen, Uwe (*with* Herberts, Tina) Some remarks on dependent censoring in complex systems. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 125–138, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N05 (62G05)

— *see also* **Advances in stochastic models for reliability, quality and safety, 99f:62004**

Jenssen, Helge Kristian (*with* Baiti, Paolo) On the front-tracking algorithm. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 395–404. (Alexander Doktor) **99b:65125** 65M99 (35L65)

Jentsch, Lothar (*with* Mirschinka, D.) Bimetal problems. *Boundary element topics* (*Stuttgart*, 1995), 77–98, *Springer, Berlin*, 1997. (D. G. Natroshvili) **99j:73036** 73C99 (45P05, 65N38, 73B27, 73V10)

— (*with* Natroshvili, D. G.; Wendland, Wolfgang L.) General transmission problems in the theory of elastic oscillations of anisotropic bodies (basic interface problems). (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 397–433. (Matthias Wilhelm Winter) **99d:73043** 73D30 (35Q72, 73B40, 73T05)

Jentsch, Roland Reliability analysis in flow networks. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 235–245, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 90B25 (68M15, 90C35)

Jenvey, E. Strong stationarity and de Finetti's theorem. (English summary) *J. Anal. Math.* **73** (1997), 1–18. (Marco Scarsini) **99h:60076** 60G09 (28D99, 60G10)

Jenvrin, Odile (*with* Dégot, Jérôme) Bombieri's norm versus Mahler's measure. *Illinois J. Math.* **42** (1998), *no.* 2, 187–197. (Introduction) **99m:30010** 30C15

Jeon, In Ho On joint essential spectra of doubly commuting n-tuples of p-hyponormal operators. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 3, 353–358. (Mihai Putinar) **99i:47040** 47B20 (47A13)

Jeon, Intae Existence of gelling solutions for coagulation-fragmentation equations. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 541–567. (John M. Ball) **99g:82056** 82C21 (60J25, 82C26)

Jeon, J. W. (*with* Park, Byeong U.; Kim, Woo Chul; Huh, J.) Estimation of density via local polynomial regression. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 91–100. (Summary) **99e:62055** 62G05

Jeon, Kwang Joe (*with* You, Sang Koo; Kim, Chul Koo; Nahm, Kyun) A new approximation scheme in quantum mechanics. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 179–186. (Summary) **99b:81051** 81Q15

Jeon, Youngmok (*with* Kimn, Ha-Jine) New boundary element formulas for plane elasticity. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 263–274. (Summary) **99d:73096** 73V10 (31A30, 65N99, 65R20)

Jeong, Dal-Young The existence of (n, r, t, k)-arrangements. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 19–29. (J. Cofman) **99m:05021** 05B05 (51E05)

Jeong, Dong-Bin (*with* Sarkar, Sahadeb) Testing for a unit root in an AR(p) signal observed with MA(q) noise when the MA parameters are unknown. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 165–187. (Summary) **99k:62166** 62M10

Jeong, Ja A (*with* Osaka, Hiroyuki) Extremally rich C^*-crossed products and the cancellation property. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 285–301. (Yoshikazu Katayama) **99k:46097** 46L05

Jeong, Jae-Tack Free-surface deformation and formation of cusps at low Reynolds number flow. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 283–296, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D99

— Formation of cusp on the free surface at low Reynolds number flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 521–526. (Summary) **99j:76037** 76D45 (76D99)

Jeong, Jae Ug (*with* Park, Jong Yeoul) Ishikawa and Mann iteration methods for strongly accretive operators. (English summary) *Nonlinear Anal. Forum* **2** (1996), 39–48. (B. E. Rhoades) **99k:47147** 47H10 (47H17)

— Ishikawa and Mann iteration methods for strongly accretive operators. (English summary) *Korean J. Comput. Appl. Math.* **4** (1997), *no.* 2, 417–425. (Claudio H. Morales) **99c:65111** 65J15 (47H06, 47H10)

— (*with* Park, Jong Yeoul) Generalized strongly quasivariational inequalities for fuzzy mappings. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 115–120. (Summary) **99e:90113** 90C70 (49J40)

— (*with* Park, Jong Yeoul) Generalized strongly nonlinear quasi-variational inequalities. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 168–181. (Igor' V. Konnov) **99k:47174** 47H19 (49J40)

Jeong, Jang Chun (*with* Pak, Jin Suk; Shin, Yang Jae) Contact metric manifolds with vanishing contact conformal curvature tensor fields. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 747–751. (Themis Koufogiorgos) **99m:53063** 53C15 (53C25)

Jeong, Jin-Mun (*with* Kim, Dong-Hwa; Park, Jong Yeoul) Optimal initial functions for functional-differential system with delays. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 461–473. (Negash G. Medhin) **99d:49045** 49K25 (34K05)

— (*with* Park, Jong Yeoul; Kwun, Young-Chel) Regularity and controllability for semilinear control system. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 239–252. (Angelo Favini) **99e:34114** 34K30 (34K35, 93B05)

— (*with* Park, Jong Yeoul; Kwun, Young-Chel) Optimal problem of regular cost function for retarded system. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 115–126. (Florin Iacob) **99a:49032** 49K25 (34K35)

Jeong, Jong-Woo (*with* Albrecht, Ulrich F.) Homomorphisms between A-projective abelian groups and left Kasch-rings. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 31–43. (William J. Wickless) **99b:20088** 20K21 (20K30)

Jeong, Joohee Decidability and finite direct products. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 399–422. (S. Comer) **99m:03016** 03B25 (03C05, 08A60, 08B25)

Jeong, K. (*with* Lee, June-Yub) A parallel Poisson solver using the fast multipole method on networks of workstations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 47–61. (Summary) **99c:65206** 65N30 (65Y05)

Jeong, Kwang Mo (*with* Jeong, MiSook; Kim, SungHo) Initial value selection in applying an EM algorithm for recursive models of categorical variables. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 25–55. (Jon Stene) **99k:62042** 62F10

— Nonparametric estimation of hazard rates change-point. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 163–175. (Summary) **99j:62045** 62G05

Jeong, Kwang-Taek Derivations on semiprime mutation algebras. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 69–74. (Santos González) **99m:17046** 17D92 (17A36)

Jeong, MiSook (*with* Kim, SungHo; Jeong, Kwang Mo) Initial value selection in applying an EM algorithm for recursive models of categorical variables. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 25–55. (Jon Stene) **99k:62042** 62F10

Jeong, Moonja The Szegő kernel and a special self-correspondence. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 101–108. (Masahiro Uehara) **99k:30012** 30C40

Jeong, Seong-Hwa (*with* Cho, Kil-Ho; Choi, Dal-Woo; Chae, Hyeon-Sook) Bootstrap confidence interval for survival function in the Koziol-Green model. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 151–161. (Summary) **99g:62049** 62G09 (62G15, 62N05)

Jeong, Won Kyun (*with* Chae, Younki) Sandwich semigroups of closed functions. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 135–144. (Helmut Ludescher) **99i:54017** 54C35 (54H99)

— (*with* Chae, Younki) Sandwich semigroups generated by idempotents. *Kyungpook Math. J.* **37** (1997), *no.* 2, 349–354. (Saraswathi Subbiah) **99a:54026** 54H15 (20M20)

Jepsen, Charles (*with* Yang, Roc) Making squares from Pythagorean triangles. *College Math. J.* **29** (1998), *no.* 4, 284–288. (Katrin Tschirpke) **99h:52014** 52B45 (51M04)

Jerbi, A. (*with* Kamen, E. W.) Robust adaptive control of discrete-time systems with arbitrary rate of variations. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 31 *pp.* (*electronic*). (Summary) **99e:93042** 93C40 (93B36)

Jerez Diaz, C. (*with* Betancor, Jorge J.) Weighted norm inequalities for the $\mathscr{K}$-transformation. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 647–656. (V. L. Deshpande) **99c:44004** 44A15 (33C80, 44A20)

— (*with* Betancor, Jorge J.) New inversion formulas for the Hankel transformations. (English summary) *Rend. Circ. Mat. Palermo* (2) **46** (1997), *no.* 2, 287–308. (Semen Borisovich Yakubovich) **99i:44004** 44A15 (33C10, 33C15, 44A10)

Jeribi, Aref (*with* Latrach, Khalid) Sur une équation de transport intervenant en dynamique des populations. (English and French summaries) [On a transport equation arising in growing cell populations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1087–1090. (Atsushi Yagi) **99d:35167** 35Q80 (45K05, 47N60, 92D25)

— Quelques remarques sur le spectre de Weyl et applications. (English and French summaries) [Some remarks on the Weyl spectrum and applications] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 485–490. (Hassan Emamirad) **99g:47005** 47A10 (45J05, 47G20, 47N55, 82C70)

Jerie, M. (*with* O'Connor, J. E. R.; Prince, G. E.) Computer algebra determination of symmetries in general relativity. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 363–380. (Sergey I. Tertychniy) **99j:83002** 83–04 (83C20, 83C40)

Jerome, Joseph W. (*with* Park, J.-H.) Qualitative properties of steady-state Poisson-Nernst-Planck systems: mathematical study. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 609–630. (John G. Milton) **99e:92007** 92C05 (34B15, 35Q80, 92C45)

— (*with* Barcilon, V.; Chen, Duan Pin; Eisenberg, R. S.) Qualitative properties of steady-state Poisson-Nernst-Planck systems: perturbation and simulation study. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 3, 631–648. (John G. Milton) **99e:92008** 92C05 (34B15, 35Q80, 92C45)

— *see also* **Modelling and computation for applications in mathematics, science, and engineering, 99k:00033**

hertrich-Jeromin, Udo *see* **Hertrich-Jeromin, Udo**

Jerrard, Robert Leon (*with* Soner, Halil Mete) Dynamics of Ginzburg-Landau vortices. *Arch. Rational Mech. Anal.* **142** (1998), *no.* 2, 99–125. (Monica Lazzo) **99m:58073** 58E50 (35Q55)

— (*with* Colliander, J. E.) Vortex dynamics for the Ginzburg-Landau-Schrödinger equation. *Internat. Math. Res. Notices* **1998**, *no.* 7, 333–358. (From the introduction) **99c:35218; EA 99m** 35Q55 (58E50, 82D55)

Jerri, Abdul J. ★ The Gibbs phenomenon in Fourier analysis, splines and wavelet approximations. (English summary) Mathematics and its Applications, 446. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxviii*+336 *pp. ISBN* 0-7923-5109-6 (Bl. Sendov) **99i:42001** 42–02 (41–02, 41A15, 42C15)

Jerrum, Mark (*with* Sorkin, Gregory B.) The Metropolis algorithm for graph bisection. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 155–175. (Konrad Engel) **99e:90107** 90C35 (05C80, 05C85)

— (*with* Goldberg, Leslie Ann; MacKenzie, Philip D.) An $\Omega(\sqrt{\log\log n})$ lower bound for routing in optical networks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1083–1098 (*electronic*). (Neville G. F. Sancho) **99d:68022** 68M10 (90B12)

— (*with* Dyer, Martin E.; Frieze, Alan M.) Approximately counting Hamilton paths and cycles in dense graphs. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1262–1272 (*electronic*). (Peter Kirschenhofer) **99e:68067** 68Q25 (05C30, 05C45, 68R10)

Jerwood, David (*with* Moshakis, John) Discounting a random cash flow distributed as a finite mixture. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 53–62. (Summary) **99h:90026** 90A12 (90A09)

Jeshion, Robin Proof checking and knowledge by intellection. *Philos. Stud.* **92** (1998), *no.* 1-2, 85–112. 03A05

Jespers, Eric (*with* Giambruno, Antonio) Central idempotents and units in rational group algebras of alternating groups. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 4, 467–477. (Alexander Zimmermann) **99m:16048** 16U60 (16S34)

— (*with* Okniński, Jan) Binomial semigroups. (English summary) *J. Algebra* **202** (1998), *no.* 1, 250–275. (Edward S. Letzter) **99k:20119** 20M25 (16S36)

Jessup, Elizabeth (*with* Hendrickson, Bruce; Smith, Christopher) Toward an efficient parallel eigensolver for dense symmetric matrices. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 1132–1154 (*electronic*). (Jian-Ping Zhu) **99k:65033** 65F15 (65Y05)

Jesudason, Christopher G. On some difficulties concerning Heisenberg uncertainty and quantum mechanical relations. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 1, 6–33. (R. L. Ingraham) **99i:81011** 81P05 (81–03)

linhares de Jesus, C. *see* **Linhares de Jesus, C.**

Jetter, Kurt (*with* Zhou, Ding-Xuan) Seminorm and full norm order of linear approximation from shift-invariant spaces. (English summary) *Rend. Sem. Mat. Fis. Milano* **65** (1995), 277–302 (1997). (Amos Ron) **99d:41057** 41A63 (41A25, 65D10)

— (*with* Depczynski, Uwe) Multiscale decompositions on the interval based on DCT-I transforms. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 57–70, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (42C15)

— (*with* Stöckler, Joachim) Topics in scattered data interpolation and non-uniform sampling. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 191–208, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65016** 65D05 (41A63, 65D10)

— (*with* Stöckler, Joachim; Ward, Joseph D.) Norming sets and spherical cubature formulas. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 237–244, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99i:65022** 65D32

— (*with* Stöckler, Joachim; Ward, Joseph D.) Error estimates for scattered data interpolation on spheres. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 733–747. (L. L. Schumaker) **99i:41032** 41A63 (41A30, 65D15)

— *see also* **Multivariate approximation, 99a:41001** *and* **Advanced topics in multivariate approximation, 99f:41002**

van der Jeugt, Joris *see* **Van der Jeugt, Joris**

Jeulin, D. Dead leaves models: from space tessellation to random functions. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 137–156, *World Sci. Publishing, River Edge, NJ*, 1997. (Volker Schmidt) **99m:60022** 60D05 (52C22)

— (*with* Quenec'h, J. L.; Coster, M.; Chermant, J. L.) Approach of liquid phase sintering process by probabilistic models. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 231–249, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:60005**) 73B99 (60D05, 73V30, 76A99, 76M35)

— *see also* **Proceedings: Symposium on Advances in Theory and Applications of Random Sets, 99f:60005**

Jeung, Eun Tae (*with* Kim, Jong Hae; Park, Hong Bae) H^∞-output feedback controller design for linear systems with time-varying delayed state. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 971–974. (Summary) **99e:93029** 93B36 (93B50)

Jeuring, Johan (*with* Jansson, Patrik) Functional pearl: polytypic unification. (English summary) *J. Funct. Programming* **8** (1998), *no.* 5, 527–536. 68N15 (68Q65)

Jevicki, Antal (*with* Yoneya, Tamiaki) Space-time uncertainty principle and conformal symmetry in D-particle dynamics. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 335–348. (Summary) **99i:81240** 81T60 (81Q60, 81T13)

— (*with* Kazama, Yoichi; Yoneya, Tamiaki) Generalized conformal symmetry in D-brane matrix models. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 066001, 12 *pp.* (Summary) **99k:81247** 81T30 (81T60, 83E30)

Jevons, William Stanley *see* **Mosselmans, Bert, 99c:03001**

Jevtić, Jovan O. (*with* Nehrbass, John W.; Lee, Robert) Reducing the phase error for finite-difference methods without increasing the order. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 8, 1194–1201. (Summary) **99d:78004** 78–08

Jevtić, Miroljub Besov spaces on bounded symmetric domains. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 229–233. (Ke He Zhu) **99b:32048** 32M15 (32A37, 46E20, 46E35)

— (*with* Pavlović, Miroslav) Coefficient multipliers on spaces of analytic functions. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 531–545. (Oscar Blasco) **99m:46067** 46E15 (30H05, 42A45)

— A note on BMO and Bloch space of generalized (α, β)-harmonic functions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 332–348. (Ke He Zhu) **99d:32002** 32A37 (46E15)

— (*with* Arsenović, Miloš) BMO-boundedness of Lusin's area function. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 1–6. (Douglas Kurtz) **99h:42030** 42B25

Jex, I. (*with* Konôpka, Martin) Exact solutions for nonlinear Hamiltonians. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 12, 1537–1553. (Summary) **99k:81355** 81V80

Jeyakumar, V. (*with* Đinh Thế Lục; Schaible, Siegfried) Characterizations of generalized monotone nonsmooth continuous maps using approximate Jacobians. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 119–132. (V. F. Dem'yanov) **99j:49027** 49J52 (47N10, 90C31)

— (*with* Đinh Thế Lục) Approximate Jacobian matrices for nonsmooth continuous maps and C^1-optimization. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1815–1832 (*electronic*). (Adam B. Levy) **99c:49016** 49J52 (90C31)

— (*with* Wang, Xiang) Approximate Hessian matrices and second-order optimality conditions for nonlinear programming problems with C^1-data. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 403–420. (Doug Ward) **99k:49036** 49J52 (90C31)

Ježek, Jan (*with* Söderström, Torsten; Kučera, Vladimír) An efficient and versatile algorithm for computing the covariance function of an ARMA process. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1591–1600. (Summary) **99j:65253** 65U05 (62M10)

Ježek, Jaroslav (*with* Kepka, Tomáš) Bijective reflexions and coreflexions of commutative unars. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 1, 31–40. (Danica Jakubíková-Studenovská) **99h:08010** 08A60

Jezequel, L. (*with* Brandon, J. A.; Benoît, Eric) Subtle bifurcation in the vibration of a system with an interface nonlinearity. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 393–400. (Summary) **99b:70027** 70K99 (73K12)

— (*with* Thouverez, F.) Identification of a localized non-linearity. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 935–945. (Summary) **99b:73034** 73K50 (73K12, 93B30)

Jezierski, Jacek Bondi mass in classical field theory. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 3, 667–743. (Simonetta Frittelli) **99e:83022** 83C40 (83C30)

— (*with* Chruściel, Piotr T.; MacCallum, Malcolm A. H.) Uniqueness of the Trautman-Bondi mass. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084001, 16 *pp.* (Summary) **99k:83006** 83C05

Jghima, H. (*with* Iggidr, A.; Outbib, Rachid) Global stabilization of planar homogeneous polynomial systems. *Nonlinear Anal.* **34** (1998), *no.* 7, 1097–1109. (Matthias Kawski) **99m:93084** 93D15 (34D20, 34H05)

Jha, A. K. (*with* Kapur, P. K.; Garg, R. B.; Sehgal, V. K.) Numerical and transient solutions of K out of N: G systems in discrete time with multiple repair facilities. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 61–76. 60K10 (62N05)

Jha, Kamal Kant (*with* Kumar, Anil) On topological tensor products of strict inductive limits of locally convex spaces. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 1–6. (K. Floret) **99e:46003** 46A13 (46A32, 46M05)

Jha, Parmeshwar Calculus—its use and development in ancient India. (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 111–118. (Summary) **99h:01015** 01A32

Jha, Pranava K. (*with* Klavžar, Sandi; Zmazek, Blaž) Isomorphic components of Kronecker product of bipartite graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 301–309. (Summary) **99d:05065** 05C60

— (*with* Klavžar, Sandi) Independence in direct-product graphs. (English summary) *Ars Combin.* **50** (1998), 53–63. (Summary) **99i:05113** 05C35

Jha, V. N. Āryabhaṭa II's method for finding cube root of a number. *Gaṇita-Bhāratī* **19** (1997), *no.* 1-4, 60–68. (Takao Hayashi) **99b:01007** 01A32

Jha, Vikram (*with* Johnson, Norman Lloyd[1]) Finite doubly transitive affine planes. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 165–168. (From the introduction) **99d:51007** 51E15 (51E20)

Jhingan, S. (*with* Deshingkar, S. S.; Joshi, P. S.) On the global visibility of the singularity in quasi-spherical collapse. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1477–1499. (Volker Perlick) **99i:83073** 83C75 (83C57)

Jhingan, Sujal (*with* Barthwal, S.; Jain, Surender Kumar; López-Permouth, Sergio R.) A ring of Morita context in which each right ideal is weakly self-injective. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 31–38, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Maureen H. Fenrick) **99b:16003** 16D50 (16D90, 16P40)

ruiz Jhones, Alina *see* **Ruiz Jhones, Alina**

Ji, Ai Bing (*with* Zhang, Yan E; Sun, Jian Ping) Fuzzy measures on locally compact spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 36–40. 28E10 (28C15)

Ji, Chang Ming (*with* Wang, Zhong Ping; Jiang, Ming Qi) A smooth approximating method for a certain class of quasidifferentiable function minimization problems. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 28–32. 65D15 (41A30)

— (*with* Wang, Chang Ping[2]) Some new results on k-covered graphs. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 61–64. 05C70

— (*with* Wan, Zhong Ping) An approximate ε-allowable direction method for solving stochastic programming problems with recourse linear inequality deterministic constraints. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 82–88. 90C15

Ji, Chueng-Ryong Challenges in lightcone field quantization. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 237–246, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:81217** 81T70

Ji, Chun Gang Norms of fundamental units in real quadratic function fields. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 4, 7–12. (Shao Wei Zhang) **99c:11143** 11R58 (11R27)

— (*with* Chen, Yong-Gao) The degrees of extensions of algebraic number fields. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 3, 1–4. (Zhi Yong Zheng) **99k:11170** 11R21

— (*with* Chen, Yong-Gao) The number of multinomial coefficients not divided by a prime. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 37–48. (Gerhard Larcher) **99j:11020** 11B65 (11K16)

— A simple proof of a congruence modulo p. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 3, 15–16. 11A07

— On normal integral bases. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 105–111. (Charles J. Parry) **99h:11121** 11R20 (11R11, 11R33)

Ji, Dong Hai (*with* Zhang, Jing; Lu, Yan Ming) A condition for β^*-normability of a topological linear space. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 15–17. (Li Xin Cheng) **99j:46002** 46A16 (46B99)

— (*with* Hao, Cuixia; Wang, Ting Fu) On S points of Orlicz spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 75–80. (Stephen J. Dilworth) **99j:46034** 46E30 (46B20)

— (*with* Wang, Ting Fu; Liang, Zhao) The weakly strongly exposed points of Orlicz spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 375–396. (Sompong Dhompongsa) **99k:46049** 46E30 (46B20)

Ji, Guangcao (*with* Lasiecka, Irena) Energy decay in $H^2 \times L_2$ for semilinear plates with nonlinear boundary dissipation acting via moments only. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 224–249, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Peregrina Quintela Estévez) **99g:35128** 35Q72 (73D35, 73K10, 73K50, 93C20)

— (*with* Lasiecka, Irena) Partially observed analytic systems with fully unbounded actuators and sensors-FEM algorithms. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 111–136. (Vadim Komkov) **99h:93058** 93C25 (49K27, 93B07)

— (*with* Lasiecka, Irena) Nonlinear boundary feedback stabilization for a semilinear Kirchhoff plate with dissipation acting only via moments-limiting behavior. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 452–479. (R. F. Datko) **99m:93085** 93D15 (35L75, 93C20)

Ji, Guangheng (*with* Lu, Hongwen) Proof of class number formulae by machine—a note on a Chowla's conjecture. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 371–378. (Franz Lemmermeyer) **99i:11103** 11R29 (11R11, 11Y40)

Ji, Guo Jun Asymptotic behavior of and integral conditions for oscillation of solutions to first-order delay differential equations with variable coefficients. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 2, 131–137. (Xue Min Li) **99g:34139** 34K15 (34K25)

Ji, Guoxing (*with* Ohwada, Tomoyoshi; Saito, Kichi-Suke) Triangular forms of subdiagonal algebras. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 545–552. (Edward Azoff) **99m:47053** 47D25 (46L10)

— (*with* Saito, Kichi-Suke) Factorization in subdiagonal algebras. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 191–202. (Paul Jolissaint) **99k:46106** 46L10

— (*with* Ohwada, Tomoyoshi; Saito, Kichi-Suke) Certain structure of subdiagonal algebras. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 309–317. (Summary) **99b:46093** 46L10 (47D25)

Ji, Hai Bo (*with* Yang, Bei; Shen, Lian[2]) An extension of an algorithm for flows in a two-dimensional network. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 284–291. 90C35 (90C90)

Ji, Hui (*with* Wang, Jia Song) Wavelet transform in fractal image encoding. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **6** (1997), *no.* 2, 176–183. (Summary) **99c:94014** 94A29 (68U10, 94A12)

Ji, Hui (*with* Riemenschneider, Sherman D.; Shen, Zuowei) Multivariate compactly supported fundamental refinable functions, duals, and biorthogonal wavelets. (English summary) *Stud. Appl. Math.* **102** (1999), *no.* 2, 173–204. (Fabio Bagarello) **99m:42049** 42C15

Ji, Jeong-Young (*with* Cai, Rong-Gen; Soh, Kwang-Sup) Action and entropy of black holes in spacetimes with a cosmological constant. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2783–2793. (Marco Cavaglià) **99j:83042** 83C57

— (*with* Hong, Jongbae) Heisenberg picture approach to the invariants and the exact quantum motions for coupled parametric oscillators. (English summary) *J. Phys. A* **31** (1998), *no.* 39, *L*689–*L*693. (P. G. L. Leach) **99i:81031** 81Q05 (70H05)

— (*with* Cai, Rong-Gen; Soh, Kwang-Sup) Ultrarelativistic limits of boosted dilaton black holes. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 265–282. (Summary) **99g:83051** 83C57 (83E30)

— (*with* Cai, Rong-Gen; Soh, Kwang-Sup) Topological dilaton black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6547–6550. (Summary) **99k:83059** 83C57

— (*with* Cai, Rong-Gen) Hairs on the cosmological horizon. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 24002, 8 *pp.* 83C57

Ji, Jie (*with* Xie, Dong Qing; Zhao, Yu) A competitive algorithm for on-line multiprocessor scheduling problems. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 4, 100–102. 90B35

Ji, Jin Chen (*with* Yu, Lie) Bifurcation of a two-degree-of-freedom nonlinear vibrating system subject to parametric excitation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 10, 83–87. 34C23 (58F14, 70K40)

Ji, Li Peng B_f-robust Mallows type regression estimators. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 33–37. (Summary) **99k:62127** 62J05 (62C15, 62F35)

Ji, Lizhen (*with* Anker, Jean-Philippe) Comportement exact du noyau de la chaleur et de la fonction de Green sur les espaces symétriques non compacts. (English and French summaries) [Exact behavior of the heat kernel and of the Green function on noncompact symmetric spaces] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 153–156. (Alberto G. Setti) **99k:43009** 43A85 (22E30, 58G11)

— Metric compactifications of locally symmetric spaces. (English summary) *Internat. J. Math.* **9** (1998), *no.* 4, 465–491. (Raul Quiroga) **99f:32045** 32J05 (32H20)

— The trace class conjecture for arithmetic groups. (English summary) *J. Differential Geom.* **48** (1998), *no.* 1, 165–203. (Werner Hoffmann) **99b:11057** 11F72 (22E40)

Ji, Min Prescribing the symmetric scalar curvature on S^2. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 9, 929–933. (Zhi Ren Jin) **99e:53050** 53C21 (58G30)

Ji, Pei Sheng Some representations of triangular subalgebras of groupoid C^*-algebras. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **32** (1997), *no.* 3, 270–275. (Hua Xin Lin) **99f:46080** 46L05

— Reflexive subalgebras of groupoid C^*-algebras. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 1, 42–46. (Hua Xin Lin) **99f:46081** 46L05

Ji, Seunghwan (*with* Park, Minkee; Kim, Euntai; Park, Mignon) A new approach to the identification of a fuzzy model. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 169–181. 93C41 (93A30)

Ji, Shanhong (*with* Liu, Feng[2]; Liao, Guojun) An adaptive grid method and its application to steady Euler flow calculations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 811–825 (*electronic*). (Barak Galanti) **99j:65221** 65N50 (76M25)

Ji, Shanyu (*with* Huang, Xiaojun) Global holomorphic extension of a local map and a Riemann mapping theorem for algebraic domains. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 247–260. (Francine A. Meylan) **99d:32013** 32D15 (32H02)

Ji, Shujuan Analogs of $\Delta(z)$ for triangular Shimura curves. (English summary) *Acta Arith.* **84** (1998), *no.* 2, 97–108. (Chandrashekhar Khare) **99c:11044** 11F03 (11F06, 11F12)

Ji, Un Cig (*with* Chung, Dong Myung) Transforms on white noise functionals with their applications to Cauchy problems. (English summary) *Nagoya Math. J.* **147** (1997), 1–23. (Isamu Dôku) **99b:60098** 60H99 (35R15, 46G12, 60G20)

— (*with* Chung, Dong Myung) Transformation groups on white noise functionals and their applications. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 205–223. (T. Hida) **99h:60132** 60H99 (46F25, 46G12)

— (*with* Chung, Dong Myung; Obata, Nobuaki) Higher powers of quantum white noises in terms of integral kernel operators. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 533–559. (John E. Gough) **99m:81113** 81S25 (46N50)

— (*with* Chung, Dong Myung; Obata, Nobuaki) Transformations on white noise functions associated with second order differential operators of diagonal type. (English summary) *Nagoya Math. J.* **149** (1998), 173–192. (Isamu Dôku) **99c:60134** 60H99 (46F25, 47B38, 60G20)

Ji, Wan Hui A generalized form of Bowen's conjecture. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 118–123. (Zhen Fu Cao) **99a:11037** 11D61 (11D41)

— (*with* Chen, Shu) The exponent of an odd prime factor p in a power sum. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 2, 58–65. (Zhen Fu Cao) **99j:11010** 11B34 (11D61)

Ji, Wei (*with* Yu, Li; Huang, Wenda; Huang, Meichun; Zhu, Zizhong; Zeng, Xiao Ming[2]) The Laguerre-Gaussian series representation of two-dimensional fractional Fourier transform. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9353–9357. (Summary) **99j:44012** 44A15 (33C45, 42B10)

Ji, Wen Duo (*with* Feng, Zhao Sheng; Liu, Guo Zhong) Existence and number of periodic solutions of equations of (R_n^m) type. (Chinese. Chinese summary) *Math. Practice Theory* **28** (1998), *no.* 3, 226–228. 34C25

Ji, Xingzhi On matrix inverse eigenvalue problems. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 275–285. (Anna Lee) **99c:15011** 15A18 (15A22, 15A30)

Ji, Xinhua The existence of globally stable equilibria of n-dimensional Lotka-Volterra systems. (English summary) *Appl. Anal.* **62** (1996), *no.* 1-2, 11–28. (From the summary) **99d:34086** 34D05 (92D25)

Jia, Bao Guo (*with* Geng, Xiang Yi) The Hausdorff dimension of chaos sets of a finite sub-shift system. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 2, 5–7. 58F13 (28A78, 28D99)

Jia, Bo (*with* Zhou, Jia Liang) An analysis of multistage tandem queueing systems with blocking. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 96–100. 60K25

— (*with* Zhou, Jia Liang) The Jackson queueing networks with N service nodes of finite capacity. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 95–99. 60K25

Jia, Chaohua (*with* Heath-Brown, D. R.) The largest prime factor of the integers in an interval. II. *J. Reine Angew. Math.* **498** (1998), 35–59. (G. Greaves) **99d:11103** 11N36 (11N25)

Jia, Chun Fu (*with* Tu, Feng Sheng) Λ-shaped property of optimal solutions for stochastic single machine scheduling. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 25–29. 90B35 (90C15)

— Minimizing variation in stochastic flow shop. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 3-5, 109–111. (Summary) **99k:90077** 90B22 (60K25)

Jia, Chun Sheng (*with* Wang, Xiao Guo; Qiang, Shi Zhong; Fan, Jia Shen) A new method of solution for the Reissner plate bending problem. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 114–119, *IX–X*. 73K10

Jia, Erhui (*with* Chang, Qian-Shun; Sun, Wei Wei) Difference schemes for solving the generalized nonlinear Schrödinger equation. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 397–415. (Summary) **99i:65086** 65M06

Jia, Fang The Seiberg-Witten equations on 8-dimensional symplectic manifolds. (Chinese) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 124–127. (Weimin Chen) **99c:58025** 58D27 (32J27, 57R57, 58G05)

Jia, Fuchen (*with* Yang, Fengmei; Wang, Shou Yang) Sensitivity analysis in bilevel linear programming. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 359–366. (Stephan Dempe) **99i:90096** 90C31 (49K40, 90D65)

Jia, Hong (*with* Fan, Jian Xi) The problem of embedding cycles into crossed cubes and an algorithm for it. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 2, 11–18. (Summary) **99h:68019** 68M10

Jia, Jianmin (*with* Dyer, James S.) Preference conditions for utility models: a risk-value perspective. (English summary) *Ann. Oper. Res.* **80** (1998), 167–182. (Summary) **99g:90014** 90A05 (90A10)

Jia, Limin (*with* Wang, Jing[?]; Cai, Zixing) Direct fuzzy neural control with application to automatic train operation. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 391–399. 93C42 (93C90)

Jia, Mei (*with* Liu, Xi Ping; Ge, Wei Gao) A class of nonautonomous functional-differential iterative equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 249–256. (Summary) **99g:34132** 34K05

Jia, Qing-Wei (*with* Xu, Jian-Xin; Lee, Tong-Heng; Wang, Mao) On adaptive robust backstepping control schemes suitable for PM synchronous motors. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 893–920. 93C85 (93C40)

Jia, Rong Qing The subdivision and transition operators associated with a refinement equation. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 139–154, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41042** 41A63 (42C15)

— (*with* Riemenschneider, Sherman D.; Zhou, Ding-Xuan) Approximation by multiple refinable functions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 944–962. (J. W. Neuberger) **99f:39036** 39B12 (41A63, 65D15)

— Shift-invariant spaces and linear operator equations. (English summary) *Israel J. Math.* **103** (1998), 259–288. (Amos Ron) **99d:41016** 41A15 (41A25)

— Stability of the shifts of a finite number of functions. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 194–202. (Charles K. Chui) **99h:42040** 42B30 (46E99)

— (*with* Riemenschneider, Sherman D.; Zhou, Ding-Xuan) Vector subdivision schemes and multiple wavelets. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1533–1563. (María Cristina Pereyra) **99d:42062** 42C15 (39B12, 65F15, 65T20)

— (*with* Han, Bin[2]) Multivariate refinement equations and convergence of subdivision schemes. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1177–1999 (*electronic*). (Don Hong) **99f:41018** 41A25 (42C15, 65D15)

— (*with* Han, Bin[2]) Optimal interpolatory subdivision schemes in multidimensional spaces. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 105–124 (*electronic*). (Mariano Gasca) **99m:65019** 65D05 (41A25, 65D17)

— Characterization of smoothness of multivariate refinable functions in Sobolev spaces. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 10, 4089–4112. (Lars F. Villemoes) **99m:42050** 42C15 (39B99, 46E35)

Jia, Rui Zhong (*with* Caccetta, Louis) On a problem concerning ordered colourings. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 241–245. (Summary) **99d:05030** 05C15

Jia, Weijia (*with* Jia, Xiaohua; Makki, Kia; Pissinou, Niki) Group channel routing for conferencing systems in wide area networks. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 217–232. (Summary) **99b:68017** 68M10

Jia, Wu (*with* Liu, Wei Ping) The topological representation and properties of distributive lattices with the disjunctive property. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 400–402. 06D05

Jia, Xiaohua (*with* Makki, Kia; Pissinou, Niki; Jia, Weijia) Group channel routing for conferencing systems in wide area networks. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 217–232. (Summary) **99b:68017** 68M10

Jia, Yu Ting (*with* Zhang, Zhixue) On the generalized Virasoro-like algebras. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 83–88. (Shun-Jen Cheng) **99d:17028** 17B68 (17B37)

— (*with* Zhang, Zi Long) Kaplansky's theorem of the q-analogue of the enveloping algebra of the Witt algebra. (English summary) *Comm. Algebra* **26** (1998), *no.* 1, 97–105. (Alejandro Tiraboschi) **99e:17023** 17B37 (17B68)

— Second cohomology of generalized Cartan type H Lie algebras in characteristic 0. (English summary) *J. Algebra* **204** (1998), *no.* 1, 312–323. (Daniel K. Nakano) **99e:17034** 17B56

— (*with* Zhang, Zi Long) Classification of the indecomposable Harish-Chandra modules over the q-analogue of sl(2). (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 109–114. (Shao-Ming Fei) **99f:17020** 17B37

— New simple infinite-dimensional Lie algebras related to those of generalized Cartan type H. *Comm. Algebra* **27** (1999), *no.* 2, 973–988. (Darin R. Stephenson) **99m:17029** 17B65 (17B20, 17B56)

Jia, Zhiyuan (*with* Li, Ji Bin) Existence of periodic solution of a neuronic equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 196–203. (Summary) **99j:92002** 92C20 (34C25)

Jia, Zhongxiao A variation on the block Arnoldi method for large unsymmetric matrix eigenproblems. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 425–432. (Summary) **99h:65067** 65F15 (65F10)

— Generalized block Lanczos methods for large unsymmetric eigenproblems. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 239–266. (Summary) **99f:65059** 65F15

— Polynomial characterizations of the approximate eigenvectors by the refined Arnoldi method and an implicitly restarted refined Arnoldi algorithm. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 191–214. (F. Szidarovszky) **99j:65046** 65F10 (15A18)

Jia, Zu Peng Linear finite element approximations for a class of Cauchy-type singular integral equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 8–12. (Summary) **99f:65203** 65R20 (45E05, 45L05)

Jian, Huaiyu (*with* Xiao, Ling) Asymptotic behavior of solutions to the system of one-dimensional nonlinear thermoviscoelasticity. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 283. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 143–152. (Jaime E. Muñoz Rivera) **99k:73072** 73F15 (35B40, 35Q72, 73B30)

Jian, Jin Bao Quasimultiplier-strongly subfeasible direction methods for general constrained optimization. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 179–186. 90C30 (65K05)

— (*with* Xue, Sheng Jia) A class of superlinearly convergent feasible methods for nonlinearly constrained optimizations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 135–140. 90C30 (65K05)

Jian, Su Wen (*with* Yang, Feng Zao) Existence, nonexistence, the blow-up problem and unbounded growth of solutions to initial value problems for singular semilinear parabolic equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 439–446. (Hongwei Chen) **99b:35088** 35K55 (35B05, 47N20)

— The local Cauchy problem for singular semilinear evolution equations in Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 793–800. (Quan Zheng) **99c:34127** 34G10 (35K22, 47D06)

Jianfu, Yang *see* **Yang, Jian Fu**

Jiang, B. *see* **Jiang, Bin**

Jiang, Bao Qing A necessary and sufficient condition for a projection map between lattice fuzzy topological spaces to be open. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 21–23. 54A40

Jiang, Bin (*with* Shi, Zhong Ci; Xue, Wei Min[1]) A new superconvergence property of Wilson nonconforming finite element. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 259–268. (H. Marcinkowska) **99c:65215** 65N30

— (*with* Shi, Zhong Ci) Multigrid method for Wilson nonconforming finite element with numerical integration. (English summary) Domain decomposition methods and related topics (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 989 (1997), 103–121. (Eun-Jae Park) **99b:65149** 65N30 (65N55)

— (*with* Shi, Zhong Ci) Multigrid method for Wilson nonconforming finite element with numerical integration. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 72–94, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Pieter W. Hemker) **99m:65240** 65N55 (65N30, 73V05)

Jiang, Bo-nan ★ The least-squares finite element method. (English summary) Theory and applications in computational fluid dynamics and electromagnetics. Scientific Computation. *Springer-Verlag, Berlin*, 1998. *xvi*+418 *pp. ISBN* 3-540-63934-9 (Bruno Scheurer) **99f:65141** 65M60 (65N30, 76M10, 78–08)

Jiang, Boju (*with* Llibre, Jaume) Minimal sets of periods for torus maps. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 301–320. (Alexander

Fel'shtyn) **99j:58159** 58F20 (55M20)

— Bounds for fixed points on surfaces. *Math. Ann.* **311** (1998), *no.* 3, 467–479. (Katsuhiro Komiya) **99h:55002** 55M20 (57M15, 57N05)

Jiang, C. X. *see* **Jiang, Chun Xuan**

Jiang, Chang Bin (*with* Zhong, Shou Nan; Wang, Tian Hong) A neural network for vector optimization. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 47–50. 90C29 (90B10)

Jiang, Chang Jun Dynamic invariance of Petri net. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 6, 605–611. (Summary) **99a:68130** 68Q90

— (*with* Wang, Cheng Hong; Shu, Song Gui; Zheng, Ying Ping) Embedding operations of Petri nets and their use for establishing hierarchies in concurrent systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 551–557. 68Q90 (68Q10)

— (*with* Yan, Chun Gang) Composition operations for places of Petri nets. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 45–51. (Summary) **99k:68122** 68Q90 (68Q10)

Jiang, Cheng Shun (*with* Xie, Chun Hong) Blow-up of solutions to quasilinear parabolic equations on a semi-infinite space. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 84–91. (Summary) **99a:35119** 35K55 (35B05)

— (*with* Li, Hai Feng) Global existence of solutions for a strongly coupled reaction-diffusion system. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 1–10. (Alexander L. Gladkov) **99d:35084** 35K57

— (*with* Wang, Ming Xin[2]; Xie, Chun Hong) Asymptotic behavior of global solutions for a chemical reaction model. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 640–656. (Alain Brillard) **99e:92038** 92E20 (35Q80)

Jiang, Chuan Hai Approximation problems in neural networks. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 295–300. 41A30

— (*with* Wu, Tao) Approximation by the superpositions of one function with its translation and dilation in $L^p(\mathbf{R}^d)$. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 94–97. (Summary) **99i:41014** 41A20 (41A30)

— (*with* Li, Nan; Xu, Yong Qiang) An approximation problem related to neural networks. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 117–122. 41A30

Jiang, Chun Lan (*with* Guo, Kun Yu) The strong irreducibility of hyponormal operators and Berezin perturbation. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 231–248. (Miroslav Engliš) **99f:47029** 47B20 (47A55, 47B35)

Jiang, Chun Xuan On the Fermat-Santilli isotheorem. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 3, 319–349. 11D41

Jiang, Cui Po The holomorph and derivation algebra of infinite-dimensional Heisenberg algebra. (English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 422–426. (Summary) **99j:17029** 17B40

— (*with* Meng, Dao Ji) The structure of Lie algebras where nilpotent radicals are Heisenberg algebras, and their construction. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 19, 2047–2050. 17B05

— (*with* Meng, Dao Ji) The structures of some complete Lie algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 267–274. (Zhi Xue Zhang) **99k:17009** 17B05 (17B30)

— (*with* Meng, Dao Ji) The automorphism group of the derivation algebra of the Virasoro-like algebra. (English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 175–183. (Santos González) **99g:17039** 17B40 (17B65)

— (*with* Meng, Dao Ji) The derivation algebra of the associative algebra $C_q[X, Y, X^{-1}, Y^{-1}]$. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1723–1736. (Andrzej Trzepizur) **99c:16032** 16W25 (17B20)

Jiang, Cun Li (*with* Chen, Su Qin; Huang, Zi-ping; Gu, Ming) A fast iterative procedure for the Stokes equation using nonconforming finite element approximations. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 94–100. (Summary) **99d:76057** 76M10 (65M60, 76D07)

Jiang, D. *see* **Jiang, Dihua**

Jiang, Da Qing (*with* Zhao, Hong Liang) Multiple positive solutions of a third-order nonlinear differential equation. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 16–20. 34B15

— (*with* Wang, Yan; Liu, Hui Zhao) Existence of positive solutions to $(n-1, 1)$ conjugate boundary value problems. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 511–517. (Johnny Henderson) **99k:34044** 34B15 (47H10, 47N20)

— (*with* Kong, Lingbin) Multiple positive solutions of a nonlinear fourth order periodic boundary value problem. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 265–270. (Summary) **99j:34025** 34B15 (34C25, 47H15)

— (*with* Liu, Hui Zhao; Zhong, Tan Yi) A four-point boundary value problem for a nonlinear third-order differential equation. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 40–45. (Summary) **99i:34029** 34B10 (34B15)

— (*with* Wang, Junyu) A singular nonlinear second-order periodic boundary value problem. (English summary) *Tohoku Math. J. (2)* **50** (1998), *no.* 2, 203–210. (L. E. Bobisud) **99b:34052** 34B15 (34C25)

— (*with* Liu, Hui Zhao) Existence of positive solutions to $(k, n-k)$ conjugate boundary value problems. *Kyushu J. Math.* **53** (1999), *no.* 1, 115–125. (Johnny Henderson) **99k:34045** 34B15

Jiang, Da Wei (*with* Li, An Ping; Cai, Yuan Hu) Fairing B-spline curves with fixed area constraints. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 90–98. 65D07 (65D17)

Jiang, Dihua (*with* Rallis, Stephen) Fourier coefficients of Eisenstein series of the exceptional group of type G_2. (English summary) *Pacific J. Math.* **181** (1997), *no.* 2, 281–314. (Gordan Savin) **99d:11054** 11F70 (11R54)

— (*with* Piatetski-Shapiro, I. I.) Arithmeticity of discrete subgroups and automorphic forms. *Geom. Funct. Anal.* **8** (1998), *no.* 3, 586–605. (Solomon Friedberg) **99k:11060** 11F12 (11F06, 11F66, 22E55)

— Nonvanishing of the central critical value of the triple product L-functions. *Internat. Math. Res. Notices* **1998**, *no.* 2, 73–84. (Jiandong Guo) **99a:11060** 11F67 (11F70, 22E55)

— The first term identities for Eisenstein series. *J. Number Theory* **70** (1998), *no.* 1, 67–98. (Solomon Friedberg) **99h:11052** 11F70 (11F46, 22E55)

— G_2-periods and residual representations. *J. Reine Angew. Math.* **497** (1998), 17–46. (Jiandong Guo) **99e:11062** 11F70 (11F67, 22E55)

Jiang, Eric P. (*with* Berry, Michael W.) Information filtering using the Riemannian SVD (R-SVD). (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 386–395, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F30

Jiang, Feng (*with* Ren, Fu yao; Zhao, Xingqiu; Qiu, Weiyuan; Su, Feng; Qiang, Shaoxing) On fractal properties of reflection sequences from a well log and seismic trace. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 691–699. 86A15

Jiang, Feng-Shr (*with* Horng, Shi-Jinn) Finding generalized Fibonacci cubes in faulty hypercubes. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 358–381 (*electronic*). (*see* **99g:68005**) 68M10

Jiang, Fu (*with* Shao, Rui; Wu, Jian Zhong[2]) Exit and entry decisions of a cooperative game firm. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 3, 30–34. (Summary) **99e:90019** 90A11 (90D40)

— (*with* Shao, Rui; Wu, Jian Zhong[2]) Uncertainty, equivalent marginal costs and investments. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 102–107. 90A09

Jiang, Fu Ru (*with* Gabriel, Bissanga) Application of the modified method of multiple scales to the bending problems for circular thin plate at very large deflection and the asymptotics of solutions. I. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 10, 937–950; *translated from Appl. Math. Mech.* **19** (1998), *no.* 10, 865–877 (*Chinese. English and Chinese summaries*). (Summary) **99k:73080** 73K10

Jiang, Guang-Shan (*with* Yu, Shih-Hsien) Discrete shocks for finite difference approximations to scalar conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 749–772 (*electronic*). (Summary) **99a:65099** 65M06 (35L65, 65M12, 65M15)

— (*with* Levy, Doron; Lin, Chi-Tien; Osher, Stanley; Tadmor, Eitan) High-resolution nonoscillatory central schemes with nonstaggered grids for hyperbolic conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2147–2168 (*electronic*). (Rémi Vaillancourt) **99j:65145** 65M12 (35L65, 65M06)

— (*with* Tadmor, Eitan) Nonoscillatory central schemes for multidimensional hyperbolic conservation laws. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1892–1917 (*electronic*). (Summary) **99f:65128** 65M06 (35L65, 65M12)

Jiang, Guangfeng Algebraic descriptions of non-isolated singularities. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 233–243. (Kevin Houston) **99a:32049** 32S05 (14B05)

Jiang, Guo Ping (*with* Song, Wen Zhong) Design of observers for linear discrete systems with unknown inputs. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 507–514. 93B07 (93C55)

Jiang, Guorui (*with* Yue, Qingqi) Unoriented cobordism classes of the manifolds $\mathbf{RP}(\xi^{10})$. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 217–221, *World Sci. Publishing, River Edge, NJ*, 1998. (R. E. Stong) **99k:57076** 57R75

Jiang, Hai Jing (*with* Yang, Run Sheng) Subshifts of infinite type. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 2, 1–5, 18. (Gong Fu Liao) **99d:58058** 58F03 (58F13)

Jiang, Houyuan (*with* Kanzow, Christian) A continuation method for (strongly) monotone variational inequalities. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 103–125. (Summary) **99a:49016** 49J40

— (*with* Fukushima, Masao; Qi, Liqun; Sun, De Feng) A trust region method for solving generalized complementarity problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 140–157 (*electronic*). (Bruce D. Craven) **99c:90134** 90C33 (65K05)

Jiang, Hua (*with* Shi, Ning-Zhong) Maximum likelihood estimation of isotonic normal means with unknown variances. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 183–195. (Bhaskar Bhattacharya) **99h:62027** 62F30

Jiang, Hui You[2] Subsets of Lindelöf type. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 1–5. 54D20

— (*with* Tian, Gu Ji) The property of being of nonmonotone type for Weierstrass-Mandelbrot functions. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 181–183. 26A27

Jiang, J. F. *see* **Jiang, Jian Fei**

Jiang, Ji Fa Existence and non-existence of periodic solutions of generalized Liénard equations with damping of no lower bound. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 159. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 4, 361–371. (Introduction) **99b:34072** 34C25 (34C05)

— Convergence of solutions of a class of order-preserving systems. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 109–116; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 75–83. (Yang Kuang) **99e:34068** 34D20 (34C99)

— (*with* Tu, Caifeng) The coexistence of a community of species with limited competition. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 233–245. (F. Berezovskaya) **99c:92061** 92D40 (34D99)

— (*with* Wang, Xian; Yan, Ping) Analysis of global bifurcation for a class of systems of degree five. *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 305–318. (Douglas S. Shafer) **99d:34066** 34C23 (34C25, 58F14)

— The complete classification of asymptotic behavior for bounded cooperative Lotka-Volterra systems with the assumption (SM). (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 1, 37–53. (Summary) **99k:92032** 92D25 (34C11)

— (*with* Tu, Caifeng) Global stability and permanence for a class of type K monotone systems. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 360–378 (*electronic*). (Hal Leslie Smith) **99j:34073** 34D20 (34C35, 90A16, 92D25)

Jiang, Ji-Han (*with* Chang, Chin-Chen) Multiple disk allocation based on round-robin Hilbert curve for spatial data. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 1, 11–23. (Summary) **99c:68076** 68P20 (68P05)

Jiang, Jiahe Minimax-type inequalities for a family of functions with applications. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 640. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 389–406. (George Isac) **99g:49009** 49J40 (47H19, 47N10, 49J35)

— Simultaneous solutions to fixed point and minimax-type inequality problems. II. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6,

951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 473–486. (Carlo Bardaro) **99e:47076** 47H10 (47H19, 49J40)

Jiang, Jiahui (*with* Vatsala, Aghalaya) The quasilinearization method in the system of reaction diffusion equations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 223–235. (S. Leela) **99m:65129** 65L05 (35K57, 65M99)

Jiang, Jian Chu The dynamical properties of a class of difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **16** (1996), *no.* 3, 69–72. (Wan Biao Ma) **99a:39016** 39A10

— Sets of recurrent points of a class of difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 103–105. (Summary) **99k:39018** 39A10

Jiang, Jian Fei (*with* Fujii, Masatoshi; Kamei, Eizaburo; Tanahashi, Kôtarô) A characterization of chaotic order and a problem. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 149–156. (From the introduction) **99k:47039** 47A63

— (*with* Kamei, Eizaburo; Fujii, Masatoshi) Operator functions associated with the grand Furuta inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 267–277. (Frank Hansen) **99c:47019** 47A63

Jiang, Jiancheng (*with* Wu, Xizhi) Assessment of local influence on Cox's proportional hazards model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 414–424. (Summary) **99i:62160** 62J12 (62F35, 62G05)

Jiang, Jianmin A long-step primal-dual path-following method for semidefinite programming. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 53–61. (Michael L. Dowling) **99i:90071** 90C25 (90C08)

Jiang, Jiming Consistent estimators in generalized linear mixed models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 720–729. (Andrzej S. Kozek) **99j:62103** 62J12

— Asymptotic properties of the empirical BLUP and BLUE in mixed linear models. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 861–885. (Jian-Jian Ren) **99m:62101** 62J05 (62F12)

— On unbiasedness of the empirical BLUE and BLUP. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 19–24. (Summary) **99j:62027** 62F10 (62J05)

Jiang, Jing Ping (*with* Ye, Xu Dong) Adaptive nonlinear design without a priori knowledge of control directions. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1617–1621. (Summary) **99h:93052** 93B51 (93C40)

Jiang, Katie (*with* Han, Mao An) Normal forms of integrable systems at a resonant saddle. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 150–155. (Henry W. Haslach, Jr.) **99g:34079** 34C20 (34C35, 58F36)

Jiang, Lei[2] (*with* Schultz, William W.; Vanden-Broeck, Jean-Marc; Perlin, Marc) Highly nonlinear standing water waves with small capillary effect. (English summary) *J. Fluid Mech.* **369** (1998), 253–272. (Summary) **99f:76028** 76B15 (76B45, 76M25)

— (*with* Perlin, Marc; Schultz, William W.) Period tripling and energy dissipation of breaking standing waves. (English summary) *J. Fluid Mech.* **369** (1998), 273–299. (Summary) **99f:76002** 76–05 (76B15)

— (*with* Lin, Huan-Jay; Schultz, William W.; Perlin, Marc) Unsteady ripple generation on steep gravity-capillary waves. (English summary) *J. Fluid Mech.* **386** (1999), 281–304. 76B15 (76B45)

Jiang, Li (*with* Sun, Yong Qiang) Theoretical study of program rewriting technology. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 4, 104–108. (Summary) **99g:68029** 68N15 (68Q42)

Jiang, Li Li (*with* Qin, Zhong Ping; Zhang, Huan Guo; Xu, Guo Ai) The computer-aided AIC method for finding the isotopy classes of Latin squares. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 669–673. (Summary) **99k:05042** 05B15

Jiang, Liang Jun Initial-boundary value problems for the hyperbolic equation $\partial^2 u/\partial t^2 = \sum_{i=1}^{n}(\partial/\partial x_i)|\partial u/\partial x_i|^{p-2}(\partial u/\partial x_i) + |u|^a u$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 2, 162–167. (Summary) **99i:35100** 35L70

— Blow-up for a class of nonlinear degenerate parabolic systems with gradient terms. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 4, 380–384. (Summary) **99k:35098** 35K60 (35B05, 35K65)

Jiang, Lishang (*with* Yu, Wanghui) Analysis of Ginzburg-Landau model for superconductivity. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 85–97, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:58053** 58E50 (35Q55, 82D55)

— (*with* Chen, Zhi Ming[1]) Approximation of a two-phase continuous casting Stefan problem. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 59–72. (J. D. P. Donnelly) **99f:80004** 80A22 (65M60, 80–08)

Jiang, Maoze (*with* Xiao, Wei; Liu, Zhibin; Shi, Yong[1]) Multiobjective linear programming model on injection oilfield recovery system. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 127–135. 90C90 (86A20, 90C29)

Jiang, Mei-Yue Symplectic transformations and periodic solutions of Hamiltonian systems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 133–143. (Carles Simó) **99f:34062** 34C25 (58F22, 70H05)

— An inequality for symplectic capacity. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 237–240. (Karl Friedrich Siburg) **99j:58074** 58F05 (58F22)

Jiang, Miaohua (*with* Pesin, Yakov B.) Equilibrium measures for coupled map lattices: existence, uniqueness and finite-dimensional approximations. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 675–711. (Bernard Schmitt) **99f:58126** 58F11

Jiang, Ming Hui (*with* Zhang, Ming Wang) An algorithm for inverse eigenvalue problems for a special class of matrices. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 23–27. 65F15

Jiang, Ming Qi (*with* Wang, Zhong Ping; Ji, Chang Ming) A smooth approximating method for a certain class of quasidifferentiable function minimization problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 28–32. 65D15 (41A30)

Jiang, Murong (*with* Guo, Bo Ling) Attractors for the Ginzburg-Landau-BBM equations in an unbounded domain. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 78–82. 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* Ma, Da Cai) Finite dimension of global attractor of nonlinear strain waves in elastic waveguides. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 173–176. 35Q72 (34G20, 35B40, 47H20, 58F39)

— (*with* Tian, Yawei) Wave solutions for the Ginzburg-Landau-BBM equations. I. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 4, 218–221. 35Q55

Jiang, Qingtang Orthogonal multiwavelets with optimum time-frequency resolution. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 830–844. (Summary) **99j:94003** 94A11 (42C15)

— On the regularity of matrix refinable functions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1157–1176 (*electronic*). (Peter A. McCoy) **99d:42063** 42C15 (39B62, 41A15, 42B05)

— Multivariate matrix refinable functions with arbitrary matrix dilation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 6, 2407–2438. (F. Móricz) **99i:42047** 42C15 (42B05)

Jiang, Ren Yan (*with* Murthy, D. N. P.) Mixture of Weibull distributions—parametric characterization of failure rate function. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 47–65. (Summary) **99e:62014** 62E10

Jiang, Run Rong A generalization of the basic theorem on residues and its application. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 4, 354–360. (K. Pan) **99d:30039** 30E20

Jiang, S. *see* **Jiang, Song**

Jiang, Sheng (*with* Chen, Rui-Chen) Digits reversed Pythagorean triples. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 689–696. (Aleksander Grytczuk) **99i:11016** 11D09 (11B83)

— A characterization of spaces of quasiconstant curvature in terms of higher-dimensional curvature. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 1, 43–48. (Chuan Yu Ma) **99e:53041** 53C20 (53C21)

Jiang, Sheng Yuan Exact sequences in the categories $\mathfrak{M}_A$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 113–116. 18E10 (18B99)

Jiang, Song Global solutions of the Cauchy problem for a viscous polytropic ideal gas. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 47–74. (Rodolfo Salvi) **99h:35176** 35Q35 (35L99, 76N10)

— Global existence and exponential decay of spherically symmetric solutions to thermoelasticity equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 629–640. (Ya-Guang Wang) **99m:73005** 73B30 (35Q72)

— Global smooth solutions of the equations of a viscous, heat-conducting, one-dimensional gas with density-dependent viscosity. (English summary) *Math. Nachr.* **190** (1998), 169–183. (Anne Nouri) **99a:35164** 35L60 (35Q35, 76N10, 76N15)

— (*with* Muñoz Rivera, Jaime E.; Racke, Reinhard) Asymptotic stability and global existence in thermoelasticity with symmetry. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 259–275. (Reinhard Racke) **99d:35163** 35Q72 (35B40, 73B30)

Jiang, Tan (*with* Yau, Stephen Shing Toung) Intersection lattices and topological structures of complements of arrangements in $\mathbb{CP}^2$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 357–381. (P. Orlik) **99g:52020** 52B30 (14F45, 57M99)

Jiang, Tao *see* **Jiang, Tao[5]**

Jiang, Tao[1] (*with* Dasgupta, Bhaskar[1]; He, Xin[1]; Li, Ming[1]; Tromp, John; Wang, Lusheng; Zhang, Louxin) Computing distances between evolutionary trees. *Handbook of combinatorial optimization, Vol.* 2, 35–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

— (*with* Karp, Richard M.) Mapping clones with a given ordering or interleaving. (English summary) *Algorithmica* **21** (1998), *no.* 3, 262–284. (Michael A. Steel) **99f:92015** 92D20 (68Q25)

— (*with* Dasgupta, Bhaskar[1]; Kannan, Sampath K.; Li, Ming[1]; Sweedyk, Elizabeth) On the complexity and approximation of syntenic distance. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 59–82. (Peter Clote) **99j:92011** 92D20 (68Q25, 68R99, 92D15)

Jiang, Tao[5] (*with* Mubayi, Dhruv) Connectivity and separating sets of cages. (English summary) *J. Graph Theory* **29** (1998), *no.* 1, 35–44. (Chris Rodger) **99f:05071** 05C40

Jiang, Tian-zi The worst case complexity of the Fredholm equation of the second kind with free term in $H^r(\Gamma)$. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **6** (1997), *no.* 2, 200–207. (Arthur G. Werschulz) **99d:45013** 45L05 (45B05, 45L10, 65R20, 65Y20)

— (*with* Werschulz, Arthur G.) The average case complexity of the shift-invariant problem. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 1, 1–7. (Summary) **99h:65236** 65Y20 (47N40, 65G05, 65M60, 65N30)

— Probabilistic analysis of Galerkin-like methods for the Fredholm equation of the second kind. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 445–456. (Wojciech Mydlarczyk) **99j:65240** 65R20 (45L05)

— The worst case complexity of the Fredholm equation of the second kind with non-periodic free term and noise information. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 329–343. (Arthur G. Werschulz) **99d:45014** 45L05 (45B05, 45L10, 65R20, 65Y20)

— On multivariate approximation by Mejer-Konig-Zeller [Meyer-König-Zeller] type polynomials. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 1–8 (*electronic*). (Grzegorz Lewicki) **99g:41043** 41A63 (41A10, 41A36)

Jiang, Tongsong (*with* Zheng, Hengwu) Idempotent-separating congruences on weak $\mathcal{P}$-regular semigroups. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 573–578. (A. R. Rajan) **99c:20086** 20M17

Jiang, Wei (*with* Zheng, Zu Xiu) On the degenerate differential system with delay. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 204–211. (Peter Dormayer) **99e:34098** 34K15 (34A09)

— (*with* Zheng, Zu Xiu) The general solution of a degenerate system of difference equations with delay. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 44–50. (Summary) **99i:39008** 39A10

Jiang, Wei-Sun (*with* Yuan, Lisong; Achenie, Luke E. K.) Linear quadratic optimal output feedback control for systems with poles in a specified region. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1151–1164. 49N10 (93B55)

— (*with* Shang, Xiu-Gang) Addition of fuzzy numbers based on generalized t-norms. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 95–99. (Summary) **99d:04009** 04A72

Jiang, X. *see* **Jiang, Xiao-Yi**

Jiang, Xiao Gan (*with* Wu, Qing Lie; Xu, Nan Rong) A new method for large-scale multiobjective optimization with integer variables. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 53–59. 90C10 (90C29)

Jiang, Xiao-Yi (*with* Bunke, Horst) Marked subgraph isomorphism of ordered graphs. (English summary) *Advances in pattern recognition (Sydney, 1998)*, 122–131, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (Summary) **99m:68152** 68R10

— (*with* Bunke, Horst) On the coding of ordered graphs. (English summary) *Computing* **61** (1998), *no.* 1, 23–38. (William L. Kocay) **99g:05171** 05C99 (05C75)

Jiang, Xiao Yun The fractional transshipment problem and a dual algorithm for it. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 30–35. 90A08 (90B06)

Jiang, Xiaolong (*with* Xu, Yong Hua[1]) H-separable rings and their Hopf-Galois extensions. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 534. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 311–320. (Akira Masuoka) **99m:16031** 16H05 (16W30)

Jiang, Xinhui (*with* Su, Hongbing) A classification of simple limits of splitting interval algebras. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 50–76. (Mahmood Khoshkam) **99d:46076** 46L05 (46L80)

— An index theorem on foliated flat bundles. (English summary) *K-Theory* **12** (1997), *no.* 4, 319–359. (Marta Macho Stadler) **99f:58197** 58G12 (19K35, 19K56, 46L80)

Jiang, Xun (*with* Nochetto, Ricardo H.) A P^1-P^1 finite element method for a phase relaxation model. I. Quasi-uniform mesh. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1176–1190 (*electronic*). (Summary) **99a:65150** 65N30 (65N15)

Jiang, Y. C. *see* **Jiang, Yong Cai**

Jiang, Ya Ling (*with* Yan, Rong Yi) The event horizon of a uniformly accelerating nonstationary black hole. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 342–344. 83C57

— (*with* Yan, Rong Yi; Cheng, Sujun) Three kinds of horizon-like hypersurface of a uniformly accelerating, non-stationary charged black hole. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 183–190. (Summary) **99a:83049** 83C57

Jiang, Yan Jie (*with* Liu, Yong Ping) Average widths and optimal recovery of multivariate Besov classes in $L_p(\mathbf{R}^d)$. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 638–641. 41A46

— (*with* Liu, Yong Ping) Average B-width and infinite-dimensional G-width of some smooth function classes on the line. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 810–812. 41A46

— (*with* Liu, Yong Ping) The average width and optimal recovery of multivariable Besov classes in $L_p(\mathbf{R}^d)$. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 479–482. 46E35 (41A46)

— (*with* Liu, Yong Ping) Average B-width and infinite-dimensional G-width of classes of smooth functions. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 7, 701–703. 41A46 (46E35)

— Average widths and optimal recovery of multivariate Besov class $B^r_{p\theta}(R^d)$ in $L_{qp}(R^d)$. *Northeast. Math. J.* **14** (1998), *no.* 2, 127–130. 41A46

Jiang, Yao Lin (*with* Xu, Zong Ben) Convergence characteristics of solutions to nonlinear quasi-autonomous evolution equations. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 799–808. (Tie Hu Qin) **99g:34127** 34G20 (34A45, 34A60)

— (*with* Fu, Wei Ping; Xu, Jian Xue; Zhang, Xin Hua) A method of constructing nonlinear normal modes and Hopf bifurcation in an electromechanical coupled system. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 7–13, *I.* 70K99 (34C23)

— (*with* Wing, Omar; Yu, Qing-Jian) Rational approximation of irrational functions by linear fractional transformations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 11, 1216–1221. (Summary) **99h:41023** 41A20 (30E10, 94C05)

Jiang, Yaping (*with* Beals, Richard William; Greiner, Peter C.; Seco, Luis A.) A functional calculus on the Heisenberg group and the boundary layer potential $\Box_+^{-1}$ for the $\overline{\partial}$-Neumann problem. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 205–228. (Jorge Lauret) **99f:22013** 22E30 (22E25, 35P05, 47F05)

Jiang, Yi Min Unfolding of energy-level curves and quantum chaos. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 4, 551–558. 81Q50

Jiang, Yin Sheng (*with* Tang, Lin) Almost everywhere convergence of Bochner-Riesz means of conjugate Fourier series at the critical index. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 5–9. 42B25

Jiang, Ying *see* **Jiang, Ying[3]**

Jiang, Ying[1] Consistency and axiomatization of a natural extensional combinatory logic. (English summary) *Sci. China Ser. A* **39** (1996), *no.* 9, 897–908. (Summary) **99c:03015** 03B40

Jiang, Ying[3] (*with* Duan, Yishi; Yang, Guo-Hong) The origin and bifurcation of the space-time defects in the early universe. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 6, 715–725. (Michael L. Fil'chenkov) **99f:83083** 83F05

— (*with* Duan, Yishi; Yang, Guo-Hong) The quantization and production of the space-time defects in the early universe. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 12, 2001–2012. (Alberto Saa Vazquez) **99c:83104** 83F05 (83D05)

— (*with* Duan, Yishi) Can torsion play a role in angular momentum conservation law? (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 1, 3–12. (Alexander N. Petrov) **99m:83057** 83C40 (83D05)

— (*with* Duan, Yishi) Strings and the gauge theory of spacetime defects. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 563–573. (Summary) **99k:83136** 83F05 (83E30)

— (*with* Duan, Yishi; Xu, Tao[2]) A new topological aspect in the O(n) symmetric time-dependent Ginzburg-Landau model. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 307–315. (Summary) **99k:81174** 81T10 (81T70)

Jiang, Ying Yin Path decompositions of graphs. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 6–10. (Summary) **99i:05169** 05C70 (05C38)

Jiang, Yong Cai (*with* Chan, Ling-Yau; Meng, J. H.; Guan, Ying-Nan) D-optimal axial designs for quadratic and cubic additive mixture models. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 359–371. (Summary) **99e:62127** 62K05

Jiang, Yong Quan Orthocomplements of matrices with missing blocks. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 124–130. (Summary) **99f:15036** 15A57 (65F25)

Jiang, You Lin (*with* Luo, Gui Lie; Liao, Min Li) Almost periodic solution of two-species patch-type nonautonomous diffusive Lotka-Volterra competitive models. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 441–445. (Summary) **99a:92028** 92D25 (34C27)

— (*with* Luo, Gui Lie; Liao, Min Li) Almost periodic solutions to two-species nonautonomous Lotka-Volterra competition systems with diffusion. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 204–210. (Summary) **99f:92022** 92D25

Jiang, Yue Ping A criterion for discreteness of Möbius groups in several dimensions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 623–628. (Feng Luo) **99f:30067** 30F40

Jiang, Yun Fei (*with* Ouyang, Dan Tong) Kernel consistency-based diagnosis and kernel abductive diagnosis. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 540–545. 68T99

— (*with* Ouyang, Dan Tong) Consistency-based minimal normal diagnosis and its applications. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 560–565. 68T99

Jiang, Yunping Geometry of Cantor systems. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1975–1987. (Remo Badii) **99h:58107** 58F11 (28D20, 54H20, 58F12)

Jiang, Zeng Rong (*with* Yu, Pin Neng) A fast Fourier transform algorithm for the inversion of block K-circulant Toeplitz matrices. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 39–49. (Summary) **99h:65228** 65T20 (65F99, 65Y20)

Jiang, Zhao Lin (*with* Gao, Lan Chang; Sun, Qing Ying) Interpolation methods for finding the inverse matrices of level-2 (r_1, r_2)-circulant matrices of type (n_1, n_2). (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 80–84. (Summary) **99c:65077** 65F20

— (*with* Yin, Chuan Cun) Equivalent conditions for the finiteness of gauge. (English summary) *Systems Sci. Math. Sci.* **10** (1997), *no.* 4, 299–308. (Zhong Xin Zhao) **99e:60168** 60J45

— Interpolation methods for evaluating inverse matrices of level-k $(r_1, r_2, \cdots, r_k)$-circulant matrices of type $(n_1, n_2, \cdots, n_k)$. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 106–111. (Jin Yun Yuan) **99j:65047** 65F10 (15A09)

Jiang, Zheng Lu On the Liouville equation. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 3, 273–275. (Summary) **99j:34081** 34G10 (35F20, 47D06)

— Existence of a global solution to the Cauchy problem for the relativistic Boltzmann equation in a periodic box. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 375–384. (Yan Guo) **99k:82062** 82C40 (35Q99)

Jiang, Zhi Min A hierarchy of new systems of nonlinear evolution equations and its Hamiltonian structure. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 739–743. (Yun Bo Zeng) **99b:58113** 58F07

— Selfadjoint extensions of Volterra Stieltjes integrodifferential operators. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 212–218. (M. Tvrdý) **99g:47119** 47G20 (34L05, 47B50, 47E05)

Jiang, Zhigen (*with* Hemaspaandra, Lane A.) P-selectivity: intersections and indices (extended abstract). (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 66–75 (*electronic*). (*see* **99f:68006**) 68Q15

— (*with* Hemaspaandra, Lane A.; Rothe, Jörg; Watanabe, Osamu[2]) Polynomial-time multi-selectivity. (English summary) *J.UCS* **3** (1997), *no.* 3, 197–229 (*electronic*). (Summary) **99h:68054** 68Q15 (03D15)

— (*with* Hemaspaandra, Lane A.; Rothe, Jörg; Watanabe, Osamu[2]) Boolean operations, joins, and the extended low hierarchy. (English summary) *Theoret. Comput. Sci.* **205** (1998), *no.* 1-2, 317–327. (Marius Zimand) **99h:68055** 68Q15 (03D15)

Jiang, Zhike (*with* Colbourn, Charles J.) Completing the spectrum of rotational Mendelsohn triple systems. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 153–160. (Chung Je Cho) **99a:05014** 05B07 (05B05)

— (*with* Linek, Václav) Hooked k-extended Skolem sequences. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 229–238. (Elizabeth J. Billington) **99j:05032** 05B10 (05B07, 11B83)

Jiang, Zhimin *see* **Jiang, Zhi Min**

Jiang, Zhiping (*with* Xie, Kanglin) An improved scheme for a PKCS based on the PR method. (English summary) *J. Shanghai Jiaotong Univ. (Engl. Ed.)* **1** (1996), *no.* 1, 74–81. (Ugo Vaccaro) **99a:94034** 94A60 (68P25)

Jiang, Zhong-Ping (*with* Praly, Laurent) Design of robust adaptive controllers for nonlinear systems with dynamic uncertainties. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 825–840. 93C40 (93B35)

— (*with* Hill, David J.; Guo, Yi) Stabilization and tracking via output feedback for the nonlinear benchmark system. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 907–915. 93D15 (93C95)

— (*with* Nijmeijer, Henk) A recursive technique for tracking control of nonholonomic systems in chained form. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 265–279. (Summary) **99k:93068** 93C85 (70F25, 70Q05)

— (*with* Mareels, Iven M. Y.; Hill, David J.) Robust control of uncertain nonlinear systems via measurement feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 807–812. 93B35 (93C10)

Jiang, Zhonghao On (m, n)-commutative local (permutable) semigroups. (English summary) *Semigroups (Luino, 1992)*, 322–326, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M14

Jiang, Zhuhan Lie symmetries and preliminary classification of $u_n^{(k)}(t) = F_n(t, u_{n+a}, \cdots, u_{n+b})$. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 89–97, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:58139** 58F35 (35A30, 35R10)

— The intrinsicality of Lie symmetries of $u_n^{(k)}(t) = F_n(t, u_{n+a}, \cdots, u_{n+b})$. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 2, 396–419. (J. Chrastina) **99k:35011** 35A30 (34A34, 58G35)

— Lie symmetries and their local determinacy for a class of differential-difference equations. (English summary) *Phys. Lett. A* **240** (1998), *no.* 3, 137–143. (L. M. Berkovich) **99c:34145** 34K05 (58F35)

Jiang, Ziwen (*with* Chen, Huan Zhen) On the application of mixed finite element method for a strongly nonlinear second-order hyperbolic equation. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 23–39. (Ji Chun Li) **99c:65166** 65M12 (65M15)

— (*with* Sun, Jian) Second order generalized difference methods for one-dimensional parabolic equations. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 15–29. (Wei Zhong Dai) **99k:65074** 65M06

— L^∞ and $W^{1,\infty}$ estimates for second order generalized difference methods on two-point boundary value problems. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 148–161. (Summary) **99k:65062** 65L10 (65N06)

Jianhua, Zhang *see* **Zhang, Jian Hua[3]**

Jiankui, Li *see* **Li, Jian Kui**

Jianzhong, Wang *see* **Wang, Jian Zhong[1]**

Jiao, Bao Cong (*with* Chen, Lan Ping) Global convergence of the restarting conjugate gradient algorithm with a generalized Curry line search. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 601–607. 90C30 (65K05)

— (*with* Chen, Lan Ping) Global convergence for a new class of conjugate descent methods. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 193–196. 90C30 (65K05)

Jiao, Rong Zheng (*with* Cai, Tian Xin) On the Diophantine equation $xy + yz + zx = m$. II. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 20, 2154–2156. 11D09 (11D85)

Jiao, Xiao Xiang (*with* Peng, Jia Gui) Conformal minimal two-spheres with constant Gauss curvature in U(3). (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 994–997. (Pascual Lucas Saorin) **99m:53115** 53C42

— (*with* Peng, Jia Gui) Conformal minimal surfaces of constant Gaussian curvature in U(3). (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 8, 814–817. 53A10

Jiao, Zheng Ming (*with* Zhao, Wen Zheng; Wang, Shuan Hong) Twisted coproducts of Hopf algebras and H^R Hopf algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 591–596. (Fang Li) **99f:16045** 16W30

— (*with* Wang, Shuan Hong; Zhao, Wen Zheng) Hopf algebra structures on crossed products. *Comm. Algebra* **26** (1998), *no.* 4, 1293–1303. (M. Bettina Richmond) **99h:16067** 16W30 (16S35)

— (*with* Zhang, Yingshan; Pang, Shanqi; Zhao, Wen Zheng) Group partition and systems of orthogonal idempotents. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 249–262. (Harald E. Ellers) **99f:20009** 20C05

Jiaowan, Luo *see* **Luo, Jiao Wan**

Jicheng, He *see* **He, Ji Cheng**

Jifa, Jiang *see* **Jiang, Ji Fa**

Jijeishvili, L. Summability of series with respect to Haar-type systems by regular methods. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 374–376. 42C10

— On the order of decrease of Fourier coefficients. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 27–28. 42A16

— Summability by regular methods of multiple series with respect to Haar-type systems. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 188–190. 42B10

Jimbo, Masakazu (*with* Mishima, Miwako; Miao, Ying; Kageyama, Sanpei) Constructions of nested directed BIB designs. (English summary) *Australas. J. Combin.* **18** (1998), 157–172. (Frank E. Bennett) **99m:05023** 05B05

— (*with* Hishida, Takaaki) Possible patterns of cyclic resolutions of the BIB design associated with PG(7, 2). (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 179–186. (Summary) **99m:05020** 05B05

Jimbo, Michio (*with* Feĭgin, B. L.; Miwa, Tetsuji; Odesskiĭ, A. V.; Pugai, Yaroslav) Algebra of screening operators for the deformed W_n algebra. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 501–541. (Jun'ichi Shiraishi) **99b:81075** 81R10 (17B68, 81T40)

— (*with* Shiraishi, Jun'ichi) A coset-type construction for the deformed Virasoro algebra. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 173–185. (Rinat Kedem) **99c:81090a** 81R50 (17B68, 81R10)

— (*with* Shiraishi, Jun'ichi) Errata: "A coset-type construction for the deformed Virasoro algebra". *Lett. Math. Phys.* **44** (1998), *no.* 4, 349–352. (Rinat Kedem) **99c:81090b** 81R50 (17B68, 81R10)

Jimbo, Shuichi Ginzburg-Landau equation and stable steady state solutions. *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 68–72, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 58E50 (35Q55)

— Ginzburg-Landau equation with variable coefficients—an approach to prescribing zeros. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon, 1996)*, 9 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Xian Guo Geng) **99d:35153** 35Q55

— Ginzburg-Landau equation with variable coefficients. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 105–112, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35Q55 (35B35)

— (*with* Zhai, Jian) Ginzburg-Landau equation with magnetic effect: non-simply-connected domains. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 663–684. (John Albert) **99m:35231** 35Q55 (35B35, 35J20, 58E50)

— (*with* Morita, Yoshihisa) Ginzburg-Landau equation with a variable coefficient in a disk. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 35–43. (Vitaly B. Moroz) **99j:35202** 35Q55 (49K10, 58E15, 58E50)

Jimbo, Toshiya (*with* Niwa, Norio; Owa, Shigeyoshi) Hardy class of functions defined by the Salagean operator. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 25–30. (R. K. Raina) **99d:30018** 30C45

— (*with* Sakai, Akira) Polynomially convex hulls of graphs on the sphere. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2697–2702. (Anders V. Fällström) **99m:32017** 32E20

Jiménez, A. *see* **Jiménez-Losada, Andrés**

nuñez Jimenez, Carmen *see* **Nuñez Jimenez, Carmen**

Jiménez, Fernando (*with* Cadenas, José M.) A dual approach in fuzzy linear programming. (English summary) Fifth Spanish Congress on Fuzzy Logic and Technology (Murcia, 1995). *Mathware Soft Comput.* **3** (1996), *no.* 3, 383–394. (Roman Słowiński) **99a:90235** 90C70 (04A72, 90C08)

— (*with* Verdegay, J. L.) Uncertain solid transportation problems. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 45–57. 90C70 (90C08)

castro-Jiménez, Francisco Jesús *see* **Castro-Jiménez, Francisco Jesús**

ramos-Jiménez, G. *see* **Ramos-Jiménez, G.**

Jimenez, Guillermo (*with* Lundgren, J. Richard) Tournaments which yield connected domination graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 123–133. (Summary) **99j:05082** 05C20 (05C75)

Jimenez, J. C. *see* **Jimenez, Juan Carlos**

almendros-Jiménez, J. M. *see* **Almendros-Jiménez, J. M.**

Jiménez, Javier (*with* Wray, Alan A.) On the characteristics of vortex filaments in isotropic turbulence. (English summary) *J. Fluid Mech.* **373** (1998), 255–285. (Summary) **99h:76049** 76F99 (76M35)

— Turbulent velocity fluctuations need not be Gaussian. (English summary) *J. Fluid Mech.* **376** (1998), 139–147. (Summary) **99h:76050** 76F99 (76M35)

Jimenez, Jose (*with* Qian, Yuehong) Note on a fourth order finite difference scheme for the wave equation. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 461–469. 65M06

Jimenez, Juan Carlos (*with* Valdés, J. L.; Biscay, R.) Geometric selection of centers for radial basis function approximations involved in intensive computer simulations. (English summary) *Math. Comput. Simulation* **48** (1999), *no.* 3, 295–306. 65D15

Jiménez, M. *see* **Jiménez, Mariano**

núñez Jiménez, Manuel *see* **Núñez Jiménez, Manuel**

Jiménez, Mariano (*with* Arenas Parra, M. Mar; Bilbao Terol, Amelia; Rodriguez Uria, M. Victoria) Fuzzy parameters multiobjective linear programming problem: solution analysis. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 128–137, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90C29 (90C70)

— (*with* Rivas, Juan Antonio) Fuzzy number approximation. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 1, 69–78. (E. S. Lee) **99k:04001** 04A72 (03E72)

Jiménez, Miguel A. *see* **Jiménez Pozo, Miguel A.**

Jiménez, P. *see* **Jiménez Olivo, Pedro José**

Jiménez, R. *see* **Jimenez, Rolando**

Jiménez, Raúl (*with* Shao, Yongzhao) Entropy for random partitions and its applications. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 417–433. (Eric V. Slud) **99h:60067** 60F15 (62G10)

Jimenez, Rolando (*with* Malykhin, V. I.) Structure resolvability. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 379–387. (Summary) **99i:54008** 54A35 (03E35, 54A25)

— (*with* Dobrowolski, Tadeusz; Marciszewski, Witold) Extending open families in nonnmetric spaces and an application to overlays. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 109–114. (Summary) **99h:54033** 54D15 (54C56, 54D20)

— (*with* Rubin, Leonard R.) The existence of n-shape theory for arbitrary compacta. (English summary) *Glas. Mat. Ser. III* **33(53)** (1998), *no.* 1, 123–132. (Yuri V. Lubenets) **99i:55015** 55P55

Jiménez, Salvador (*with* Bulgakov, S.; Vázquez, Luis) Efficient shooting algorithms for solving the nonlinear one-dimensional scalar Helmholtz equation. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 101–114. 65N99 (65N12)

Jiménez-Casas, Angela (*with* Rodríguez-Bernal, Aníbal) Linear stability of some phase field models. Asymptotic behavior. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995)*, 5 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 35K55 (35B35)

— (*with* Rodríguez-Bernal, Aníbal) Asymptotic dynamics of a closed thermosyphon. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 483–488, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76D99 (35B40, 76R99)

Jiménez-Gamero, M. D. (*with* Muñoz-García, J.; Muñoz-Reyes, A.) Bootstrapping the sample median. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1979–1990. (Li-Xing Zhu) **99j:62056** 62G09

— (*with* Muñoz-García, J.; Muñoz-Reyes, A.; Pino-Mejías, R.) On Efron's Method II with identification of outlier bootstrap samples. (English summary) *Comput. Statist.* **13** (1998), *no.* 3, 301–318. 62G09

— (*with* Muñoz-García, J.; Muñoz-Reyes, A.) Bootstrapping statistical functionals. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 3, 229–236. (Summary) **99g:62050** 62G09

Jiménez Guerra, Pedro (*with* Balbas, A.; Ballve, M. E.) Sensitivity and optimality conditions in the multiobjective differential programming. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 7, 671–680. (I. M. Stancu-Minasian) **99h:90088** 90C29 (90C48)

— (*with* Delgado Pineda, Miguel) Orlicz classes of Hardy-Littlewood maximal functions. *Osaka J. Math.* **35** (1998), *no.* 1, 1–14. (Vladimir D. Stepanov) **99f:42040** 42B25 (46E30)

— (*with* Balbas, A.; Heras, A.) Duality theory and slackness conditions in multiobjective linear programming. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 101–109. (Summary) **99k:90141** 90C29 (49N15)

— (*with* Fernández y Fernández-Arroyo, Fidel José; Ulecia García, María Teresa) A Radon-Nikodým theorem for vector polymeasures. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 189–200. (Brian Jefferies) **99m:28026** 28B05 (46G10)

Jiménez López, Víctor (*with* Balibrea Gallego, Francisco) A characterization of ω-limit sets of continuous dynamical systems in the plane. (Spanish) *XIV CEDYA/IV Congress*

of Applied Mathematics (Spanish)(Vic, 1995), 3 pp. (electronic), Univ. Barcelona, Barcelona, 199?. (*see* **99g:00036**) 34C35 (54H20)

— (*with* Balibrea Gallego, Francisco; Cánovas Peña, José Salvador) Some results on sequential entropy. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997), 169–173, Colecc. Congr., 9, Univ. Vigo, Vigo,* 1998. (*see* **99d:00018**) 28D20

— (*with* Alsedà, Lluís; Snoha, Ľubomír) All solenoids of piecewise smooth maps are period doubling. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 121–138. (Alexander Loskutov) **99f:58063** 58F03 (58F08, 58F13)

— (*with* Balibrea Gallego, Francisco) A characterization of the ω-limit sets of planar continuous dynamical systems. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 469–488. (Yi Yuan Chen) **99f:34036** 34C05 (34A35, 58F21)

Jiménez-Losada, Andrés (*with* Bilbao, Jesús Mario; López Vázquez, Jorge) The Banzhaf power index on convex geometries. (English summary) *Math. Social Sci.* **36** (1998), *no.* 2, 157–173. (Edward M. Bolger) **99k:90213** 90D12 (90D80)

Jiménez-Merchán, A. (*with* Cabezas, J. M.; Gómez Martín, José Ramón) Family of p-filiform Lie algebras. (English summary) *Algebra and operator theory (Tashkent, 1997), 93–102, Kluwer Acad. Publ., Dordrecht,* 1998. (Duncan J. Melville) **99j:17013** 17B30

— (*with* Gómez Martín, José Ramón; Khakimdzhanov, Yu. B.) Low-dimensional filiform Lie algebras. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 2, 133–158. (Dietrich Burde) **99f:17011** 17B30

— (*with* Gómez Martín, José Ramón; Núñez Valdés, J.) An algorithm to obtain laws of families of filiform Lie algebras. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 1–12. (Dietrich Burde) **99e:17012** 17B30

Jiménez Olivo, Pedro José (*with* Navarro-Esbrí, J.; Verdú Martín, Gumersindo; Ginestar, D.; Bovea, M. D.; Peña Miralles, Juan; Muñoz-Cobo González, José Luis) Complex Lyapunov exponents of a system with Hopf bifurcation. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997), 977–982, Colecc. Congr., 9, Univ. Vigo, Vigo,* 1998. (*see* **99d:00018**) 34C23

Jiménez Pozo, Miguel A. (*with* Guerra, Francisco) On feasible sets defined through Chebyshev approximation. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 255–264. (Jan Rückmann) **99i:90101** 90C34 (41A10, 41A30)

— *see also* **Proceedings: Conference on Approximation and Optimization in the Caribbean, 99e:00022**

Jiménez-Seral, Paz (*with* Lafuente, Julio P.) On complemented nonabelian chief factors of a finite group. (English summary) *Israel J. Math.* **106** (1998), 177–188. (Bernd Baumann) **99i:20032** 20D30 (20E15)

Jiménez Sevilla, M. (*with* Suárez Granero, Antonio; Moreno, J. P.) Convex sets in Banach spaces and a problem of Rolewicz. (English summary) *Studia Math.* **129** (1998), *no.* 1, 19–29. (Wolfgang Lusky) **99b:46021** 46B20 (46B42, 46E05)

Jiménez-Urroz, Jorge (*with* Cilleruelo, Javier) Divisors in a Dedekind domain. *Acta Arith.* **85** (1998), *no.* 3, 229–233. (W. Narkiewicz) **99f:11128** 11P21 (11C08, 11R99, 13F05)

Jin, Byoung Jae (*with* Kim, Jong Kyu) Existence of solutions for differential equations on closed subsets in a probabilistic normed space. (English summary) *Nonlinear Anal. Forum* **2** (1996), 83–92. (Summary) **99f:34091** 34G20 (34A12, 47H15, 47N20, 47S50)

— (*with* Kim, Jong Kyu) Existence and uniqueness of the solutions of nonautonomous delay equations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 579–600. (Mary E. Parrott) **99c:34182** 34K30

Jin, Cheng-Hai (*with* Zhang, Shao Liang; Natori, Makoto) Product-type Krylov-subspace methods for solving nonsymmetric linear systems. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996), 95–106, GAKUTO Internat. Ser. Math. Sci. Appl., 11, Gakkōtosho, Tokyo,* 1998. (Summary) **99h:65059** 65F10

Jin, Cheng Ri (*with* Wen, De Chen) High-accuracy difference methods for Schrödinger equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 32–34. (Summary) **99d:65257** 65M06

— (*with* Ding, Xiao Hua) A monotonic difference scheme for solving one- and two-dimensional convection-diffusion equations. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 12–15. 65M06 (65M12)

Jin, Chun (*with* Crouse, Robert H.) A note on the common location parameter of several exponential populations. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2777–2789. (Summary) **99k:62043** 62F10 (62C15)

Jin, Cong Fuzzy barrelled spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 23–25. 46S40 (46A08)

— A special class of fuzzy locally convex spaces. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 472–476. 54A40

Jin, Feng[1] (*with* Nowacki, Horst; Ye, Xiuzi) A synthesis process for fair free-form surfaces. (English summary) *Geometric modeling: theory and practice (Blaubeuren, 1996), 32–51, Focus Comput. Graph., Springer, Berlin,* 1997. (Summary) **99e:65026** 65D17

Jin, Gan Lipschitz stability of general control systems. II. In terms of two measures. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 628–636. (Summary) **99j:93071** 93D05 (34D99, 34H05)

Jin, Guo Xiang Hermite trigonometric interpolation. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 114–119. (Summary) **99c:42002** 42A15 (41A05)

— Quadrature formulae with multiple nodes for singular integrals with Hilbert kernels. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 427–432. (Mao Dong Ye) **99m:65043** 65D30 (42A55, 65D05)

— Singular integrals with Hilbert kernel. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 4, 472–478. 42B25

Jin, Guohua (*with* Li, Zhiyuan; Chen, Fujie) An efficient solution to the cache thrashing problem caused by true data sharing. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 5, 527–543. (Summary) **99c:68055** 68N25 (68M07, 68N20)

Jin, Guoping (*with* Chen, Chuan Chong; Koh, K. M.) Triangle-free graphs with large degree. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 381–396. (Vadim E. Zverovich) **99a:05121** 05C75

— The number of complete subgraphs of equi-partite graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 157–165. (Summary) **99c:05095** 05C30

— (*with* Häggkvist, Roland) Graphs with odd girth at least seven and high minimum degree. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 351–362. (Ralph Faudree) **99m:05077** 05C35

Jin, Hao (*with* Prudhomme, Serge) A posteriori error estimation of steady-state finite element solutions of the Navier-Stokes equations by a subdomain residual method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 19–48. 76M10

Jin, Hongsung (*with* Pruess, Steven) Uniformly superconvergent approximations for linear two-point boundary value problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 363–375 (*electronic*). (Marco Marletta) **99e:65111** 65L10 (65L20, 65L60)

Jin, Jaehyun (*with* Tahk, Min-Jea; Park, Changsu) Time-delayed state and unknown input observation. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 733–745. 93C25 (93B07)

Jin, Jicheng (*with* Shu, Shi; Yu, Haiyan) On orthonormal spline wavelets of multi-knots in the periodic case. (English summary) *Advances in computational mathematics (Guangzhou, 1997), 491–505, Lecture Notes in Pure and Appl. Math., 202, Dekker, New York,* 1999. (Tian-Xiao He) **99i:42055** 42C15

— (*with* Chen, Chuan Miao; Shu, Shi) Superconvergence for triangular cubic elements. (English summary) *Chinese Sci. Bull.* **44** (1999), *no.* 1, 47–49. 65N38 (65N30)

Jin, Jingyu (*with* Zhang, Zhi Zheng) Some identities involving generalized Genocchi polynomials and generalized Fibonacci-Lucas sequences. *Fibonacci Quart.* **36** (1998), *no.* 4, 329–334. 11B39

Jin, Liang *see* **Liang, Jin**

Jin, Ming Zhong[1] Some new results of the strong consistency of multiple regression coefficients. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima), 514–519, World Sci. Publishing, River Edge, NJ,* 1998. (Summary) **99i:62147** 62J05 (62F12)

— (*with* Chen, Xi Ru) Some remarks concerning the consistency of LS and LAD estimates of multiple regression. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 121–128. (Summary) **99c:62176** 62J05 (62F12)

Jin, Naondo (*with* Ohtsuka, Makoto) On continuity of extremal distance in case islands exist. Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 42–57. (Makoto Masumoto) **99f:31010** 31B15 (31A15)

— (*with* Masaoka, Hiroaki; Segawa, Shigeo) Kuramochi boundaries of finite sheet unbounded covering surfaces. (Japanese) Potential theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1016 (1997), 166–171. (*see* **99a:00036**) 31C12 (30F25, 31C35)

Jin, Qi Nian (*with* Hou, Zong Yi) A strategy for choosing the parameters for Tikhonov regularization of ill-posed nonlinear problems. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 4, 483–490; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 3, 295–304. (Hong Kun Xu) **99c:65112** 65J15 (47H17)

— (*with* Hou, Zong Yi) Maximum entropy methods for ill-posed nonlinear problems. II. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 679–684. 65M30 (65H05)

— Applications of the modified discrepancy principle to Tikhonov regularization of nonlinear ill-posed problems. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 475–490 (*electronic*). (V. V. Vasin) **99m:65123** 65J20 (47H17, 65J15)

Jin, Quan Qin (*with* Hou, Zi Xin) Automorphisms of order 3 of affine Lie algebras. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 13, 1370–1374. 17B40

— Grassmann geometries on symmetric spaces. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 21, 2268–2271. 53C35

Jin, Renling Better nonstandard universes with applications. *Nonstandard analysis (Edinburgh, 1996), 183–208, NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci., 493, Kluwer Acad. Publ., Dordrecht,* 1997. (Ricardo Bianconi) **99f:03093** 03H05

— Type two cuts, bad cuts and very bad cuts. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1241–1252. (Žarko Mijajlović) **99j:03057** 03H15 (03C50, 03H05)

Jin, Rui (*with* Han, Wen Xiu) A study on non-zero sum multicriteria cooperative games. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 55–62. 90D12

Jin, S. *see* **Jin, Song**

Jin, Shan (*with* Levermore, C. David; McLaughlin, David W.) The semiclassical limit of the defocusing NLS hierarchy. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 5, 613–654. (Nakao Hayashi) **99m:35232** 35Q55 (81Q20)

Jin, Shao Hua A new limit theorem result. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 2, 156–160. (Tzong-Yow Lee) **99i:60070** 60F15 (60J10)

Jin, Shi (*with* Pareschi, Lorenzo; Toscani, Giuseppe) Diffusive relaxation schemes for multiscale discrete-velocity kinetic equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2405–2439 (*electronic*). (Anne Nouri) **99k:76100** 76M20 (76P05, 82C40)

Jin, Song (*with* Polasek, W.; Liu, Shuang Zhe) Heteroskedastic linear regression models—a Bayesian analysis. (English summary) *Classification, data analysis, and data highways (Potsdam, 1997), 182–191, Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin,* 1998. (*see* **99g:62002**) 62J05 (62F15)

Jin, Tong Guang (*with* Jin, Wen Biao) An intrinsic discrete method for curve modeling. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 30–36. (*see* **99k:65006**) 65D17

Jin, W. G. *see* **Jin, Wugen**

Jin, Wen Biao (*with* Jin, Tong Guang) An intrinsic discrete method for curve modeling. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 30–36. (*see* **99k:65006**) 65D17

Jin, Wen Hua (*with* He, Tao; Liu, Xiao Ping; Tang, Wei Qing; Tang, Rong Xi) A fast convex hull algorithm for planar point sets based on sorted simple polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 533–539. (Summary) **99k:68194** 68U05

Jin, Wu (*with* Guo, Wen Ge; Wang, Huan Chen) Incentive strategy in the Stackelberg game with multi-followers. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 3, 6–9. 90D06 (90A05)

Jin, Wugen (*with* Cheung, Y. K.) Trefftz method applied to a moderately thick plate. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 1011–1024.

73V10 (65N38, 73K10)

Jin, X.-S. *see* **Jin, Xue-Si**

Jin, Xiao Gang Generalized solutions to the Benjamin-Ono equation. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 156–162. (Summary) **99g:35113** 35Q53 (35D05, 46F10)

Jin, Xiao-Qing (*with* Sin, Vai-Kuong) Addendum to: "A note on construction of circulant preconditioners from kernels" [Appl. Math. Comput. **83** (1997), no. 1, 3–12; MR 97i:65077] by Jin. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 91–99. (Summary) **99d:65136** 65F35

— (*with* Yuan, Jin Yun) A wavelet method for the first kind integral equations with kernel $k(x-y)$. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 427–434. (Summary) **99h:65216** 65R20 (42C15, 65T99)

Jin, Xing Consumption and portfolio turnpike theorems in a continuous-time finance model. (English summary) *J. Econom. Dynam. Control* **22** (1998), *no.* 7, 1001–1026. (Jeffrey L. Coles) **99k:90030** 90A09

Jin, Xue-Si (*with* Wong, Roderick) Uniform asymptotic expansions for Meixner polynomials. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 113–150. (Richard B. Paris) **99c:41060** 41A60 (33C45)

Jin, Yi Hui (*with* Sun, Xi) A bilinear adaptive control algorithm with decoupling design. (Chinese. English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **2** (1998), *no.* 4, 61–70. 93C40 (93E35)

Jin, Ying-jun (*with* White, Luther W.) Resolution of regularized output least squares estimators for elliptic and parabolic problems. (English summary) *Optimal control (Gainesville, FL, 1997)*, 488–513, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:49041** 49M25 (65M06, 93C20)

Jin, Ying-Lie Enumeration of labelled connected graphs and Euler graphs with only one cut vertex. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 2, 125–134. (Jing Zhong Mao) **99f:05055** 05C30 (05C40, 05C45)

Jin, Zhaosen (*with* Cheng, Ji Lin; Guo, Yuan Yu; Tao, Changsheng; Chen, Baohua) Optimal experimental methods of the large-scale mathematical programming and applications. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 465–470. 90C30 (90C06)

Jin, Zhen (*with* Ma, Zhi En) The thresholds of persistence and extinction for a three-species Volterra system in a polluted environment. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 366–370. 92D25 (34K15, 92D40)

Jin, Zhezhen (*with* Shao, Yongzhao) On kernel estimation of a multivariate distribution function. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 2, 163–168. (Summary) **99j:62046** 62G05

Jin, Zhiren (*with* Lancaster, Kirk) A comparison principle for quasilinear elliptic equations and its application. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 279–294. (Siegfried Carl) **99d:35056** 35J65 (35B05)

Jin, Zhiying (*with* Armstrong, Ronald D.) A new strongly polynomial dual network simplex algorithm. (English summary) Network optimization: algorithms and applications (San Miniato, 1993). *Math. Programming* **78** (1997), *no.* 2, *Ser. B*, 131–148. (Summary) **99m:90148** 90C35 (90B10)

— (*with* Armstrong, Ronald D.; Chen, Wei[4]; Goldfarb, Donald) Strongly polynomial dual simplex methods for the maximum flow problem. (English summary) *Math. Programming* **80** (1998), *no.* 1, *Ser. A*, 17–33. (Dimiter T. Ivanchev) **99b:90143** 90C35

Jing, Bing-Yi Saddlepoint approximations to the two-sample permutation tests. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 197–201. (Summary) **99c:62134** 62G10 (62E20)

— (*with* Hall, Peter Gavin) Comparison of bootstrap and asymptotic approximations to the distribution of a heavy-tailed mean. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 887–906. (Alan M. Polansky) **99k:62086** 62G09

— (*with* Hall, Peter Gavin; Lahiri, Soumendra Nath) On the sampling window method for long-range dependent data. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1189–1204. (Somnath Datta) **99m:62045** 62G05

Jing, Cheng Ming (*with* Cao, Zhen Fu) On the number of solutions of Znám's problem. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 1, 46–49. (Mao Hua Le) **99i:11022** 11D68 (11D79)

— (*with* Li, Guo Cheng) Egorov's theorem for measurable set-valued mappings. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 101–104. 28B20

Jing, Feng Jie (*with* Chen, Hui[1]) The decomposition of a class of partially ordered abundant semigroups. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 11–14. (Summary) **99m:06027** 06F05 (20M17)

Jing, Ji Liang (*with* Peng, Yi; Huang, Yi Bin) Quantum effects for the stationary axisymmetric Sen black hole. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 19–25. (Summary) **99g:83057** 83C57

— Exact solutions of the Einstein field equations for a collapsing null fluid embedded in a de Sitter universe. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 2, 221–224. (Summary) **99b:83014** 83C15

— The quantum correction to the entropy of the general static black holes. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1075–1081. (Summary) **99g:83055** 83C57 (83C47)

Jing, Li Li (*with* Han, Li Xing; Liu, Guang Hui; Han, Dong) Convergence of the L-BFGS method with a generalized line search for nonlinear programming. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 2, 249–253. 90C30 (65K05)

Jing, Ling (*with* Xi, Ping; Tang, Rong Xi) Application of the finite element method in deformable curve and surface modeling. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 245–251. 65D17 (65N30)

Jing, Naihuan On Drinfeld realization of quantum affine algebras. (English summary) *The Monster and Lie algebras (Columbus, OH, 1996)*, 195–206, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Stefano Capparelli) **99j:17021** 17B37

— (*with* Koyama, Yoshitaka; Misra, Kailash C.) Bosonic realizations of $U_q(C_n^{(1)})$. (English summary) *J. Algebra* **200** (1998), *no.* 1, 155–172. (Jun'ichi Shiraishi) **99c:17028** 17B37 (81R50)

— (*with* Koyama, Yoshitaka) Vertex operators of admissible modules of $U_q(C_n^{(1)})$. (English summary) *J. Algebra* **205** (1998), *no.* 1, 294–316. (Dražen Adamović) **99g:17051** 17B69 (17B37, 17B67)

— Quantum Kac-Moody algebras and vertex representations. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 4, 261–271. (Chong Ying Dong) **99j:17043** 17B69 (17B37, 17B67)

— Level one representations of $U_q(G_2^{(1)})$. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 21–27. (Jia-Chen Ye) **99b:17012** 17B37 (17B69)

— (*with* Misra, Kailash C.) Vertex operators for twisted quantum affine algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1663–1690. (Hai Sheng Li) **99i:17027** 17B67 (17B69, 81R50)

Jing, Ping (*with* Zhu, Li-Xing) Bootstrap tests for the joint independence of variables. (English summary) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 51–69. (*see* **99a:62005**) 62G10 (62G09)

— Tests of covariance matrix by using projection pursuit and bootstrap method. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 309–322. (Summary) **99g:62088** 62H40 (62H15)

Jing, Sicong (*with* Liao, Zhisheng; Li, Hu) Power series expansions for vacuum projection operator of paraparticles. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 4, 615–616. 81S05

— (*with* Wang, Zhidan; Liao, Zhisheng) Charged parafermionic coherent states. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 2, 136–141. (Summary) **99g:81077** 81R30

— A new kind of deformed calculus and parabosonic coordinate representation. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6347–6354. (Roberto Casalbuoni) **99h:81120** 81S99 (81R50)

— Two-paraboson coherent states. (English summary) *J. Phys. A* **31** (1998), *no.* 32, 6839–6848. (Silvio De Siena) **99i:81080** 81R30

— (*with* Nelson, Charles A.) Eigenstates of paraparticle creation operators. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 401–409. (Constantin Brif) **99m:81108** 81S05 (81R30)

Jing, Yuan Wei (*with* Wang, Gang; Huang, Shou Dong) Decentralized stabilization and output tracking of uncertain symmetric composite systems. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 286–289. (Long Wang) **99i:93059** 93D15 (93A13)

Jing, Zhu-Jun (*with* Calio, Gloria L.; Sy, Polly Wee) Qualitative analysis of a mathematical model for predator-prey system. (English summary) *Functional analysis and global analysis (Quezon City, 1996)*, 31–36, *Springer, Singapore*, 1997. (Summary) **99j:92016** 92D25 (34C05, 34C23, 34D20)

— (*with* Chan, Kai-Yuen; Xu, Pengcheng) Bifurcation and chaotic behavior in the Duffing's equations with one and two external periodic forces. *Functional analysis and global analysis (Quezon City, 1996)*, 37–57, *Springer, Singapore*, 1997. (Frederick R. Marotto) **99k:34076** 34C15 (34C23, 34C29, 58F13, 58F14)

— (*with* Qi, Dong Wen) Bifurcations of a pair of nonorientable heteroclinic cycles. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 319–338. (Rodrigo Bamon) **99f:58150** 58F14 (34C23, 34C37)

Jingping, Jiang *see* **Jiang, Jing Ping**

Jinjiang, Yuan *see* **Yuan, Jin Jiang**

Jinzenji, Masao Construction of free energy of Calabi-Yau manifold embedded in $\mathbf{CP}^{N-1}$ via torus actions. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5775–5802. (Andreas Gathmann) **99c:32026** 32G13 (14J32, 32G81, 32J18, 81T30)

— On quantum cohomology rings for hypersurfaces in $\mathbf{CP}^{N-1}$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6613–6638. (Andreas Gathmann) **99f:14067** 14N10 (14J45, 14J70)

Jirari, H. (*with* Golse, G.; Kröger, Helmut; Moriarty, K. J. M.) Generalized Aharonov-Bohm effect. (English summary) *Causality and locality in modern physics (Toronto, ON, 1997)*, 67–74, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

Jirásek, Milan Nonlocal models for damage and fracture: comparison of approaches. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 31-32, 4133–4145. (Summary) **99c:73060** 73M25

Jirkovsky, L. (*with* Muriel, A.; Esguerra, P.; Dresden, M.) Instabilities in classical and quantum fluids. (English summary) *Phys. D* **119** (1998), *no.* 3-4, 381–397. (Summary) **99f:76066** 76E99 (76Y05, 82C70, 82D15)

Jirstrand, M. (*with* Glad, S. T.) Using differential and real algebra in control. *Symbolic methods in control system analysis and design*, 115–134, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93B51)

Jitaraşu, Nicolae Boundary values problems of Sobolev type for parabolic equations. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **6** (1998), *no.* 1, 85–88 (1999). 35K35

Jitomirskaya, Svetlana Ya. (*with* Last, Yoram) Anderson localization for the almost Mathieu equation. III. Semi-uniform localization, continuity of gaps, and measure of the spectrum. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 1–14. (Jean-Michel Ghez) **99j:81038** 81Q10 (47B39, 47N50, 82B44)

Jiu, Quan Sen Global strong solutions for a class of BBM-BO type equation. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 3, 340–347. (From the text) **99m:35209** 35Q53 (76B15)

— (*with* Gu, Jin Sheng; Shi, Hong Ting) A substructuring algorithm for solving fourth order elliptic problems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **19** (1999), *no.* 1, 61–65. 65N06 (65N30)

Jo, Cheong Lai (*with* Kim, Do Sang; Lee, Gue Myung) Optimality and duality for multiobjective fractional programming involving n-set functions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 1–13. (Summary) **99d:90102** 90C29 (49N15, 90C32)

Jo, Jinnam (*with* Hinkelmann, Klaus) Linear trend-free Box-Behnken designs. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 347–354. (Summary) **99g:62114** 62K10 (62K15)

Jo, Young Soo (*with* Kang, Young Yug; Park, Kwang Sung) Isomorphisms of Alg $\mathscr{L}_{2n+1(k)}$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 235–250. (Allan P. Donsig) **99j:47061** 47D25

— (*with* Kang, Joo Ho; Park, Kwang Sung) Isomorphisms of $\mathscr{L}_{2n}^{(n)}$. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 7–20. (Allan P. Donsig) **99k:47107** 47D25

— (*with* Choi, Taeg Young) Extreme points of tridiagonal algebras. *Math. Japon.* **47** (1998), *no.* 1, 57–66. (Cecelia Laurie) **99c:47066** 47D25

Joag-dev, Kumar (*with* Kochar, Subhash) A positive dependence paradox and aging distributions. (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 2, 105–112. (Yanhong Wu) **99b:62152** 62N05

Joan-Arinyo, R. (*with* Solé, J.) Boundary generation from voxel-based volume representations. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 273–285, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65Y25 (65D17)

Joanes, D. N. (*with* Baczkowski, A. J.; Shamia, G. M.) Range of validity of α and β for a generalized diversity index $H(\alpha, \beta)$ due to Good. (English summary) *Math. Biosci.* **148** (1998), *no.* 2, 115–128. (Summary) **99d:92043** 92D40

Joarder, Anwarul H. (*with* Singh, Sarjinder; King, Maxwell L.) Regression analysis using scrambled responses. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 201–211. (David Birkes) **99c:62191** 62J05 (62D05)

— (*with* Singh, Sarjinder) Estimation of finite population variance using random non-response in survey sampling. (English summary) *Metrika* **47** (1998), *no.* 3, 241–249. (Mahendra K. Sharma) **99m:62016** 62D05

— (*with* Ahmed, S. E.) Estimation of the scale matrix of a class of elliptical distributions. (English summary) *Metrika* **48** (1998), *no.* 2, 149–160. (Summary) **99j:62076** 62H12 (62C15)

Jochmann, Frank Convergence to stationary states of solutions of the transient drift diffusion equations for semiconductor devices with prescribed currents. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 1-2, 67–109. (J. W. Jerome) **99m:35250** 35Q99 (78A55)

— The semistatic limit for Maxwell's equations in an exterior domain. *Comm. Partial Differential Equations* **23** (1998), *no.* 11-12, 2035–2076. (Albert J. Milani) **99m:35241** 35Q60 (35B25, 78A25)

— Uniqueness and regularity for the two-dimensional drift-diffusion model for semiconductors coupled with Maxwell's equations. *J. Differential Equations* **147** (1998), *no.* 2, 242–270. (Yuanming Wang) **99g:35125** 35Q60 (78A35, 82C70, 82D99)

Jöchner, M. (*with* Chan, Wai-Kiu; Estes, Dennis R.) Representations of codimension ≥ 3 by definite quadratic forms. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 81–85. (Detlev W. Hoffmann) **99e:11042** 11E12 (11E08, 11E25)

Jocić, Danko R. Norm inequality for the class of self-adjoint absolute value generalized derivations. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 151–152. (Summary) **99a:47053** 47B47 (47A30)

— Integral representation formula for generalized normal derivations. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2303–2314. (Victor S. Shul'man) **99j:47026** 47A99 (47A30, 47B47)

Jockusch, Carl G., Jr. (*with* Stephan, Frank) Correction to: "A cohesive set which is not high" [Math. Logic Quart. **39** (1993), no. 4, 515–530; MR 95d:03078]. *Math. Logic Quart.* **43** (1997), *no.* 4, 569. (From the text) **99a:03044** 03D30 (03D55)

— (*with* Downey, Rodney G.; Füredi, Zoltán; Rubel, Lee A.) Difference sets and computability theory. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 63–72. (A. A. Mullin) **99h:03022** 03D20 (03D25, 05B10)

Jockusch, William (*with* Bohus, Géza; Lee, Carl W.; Prabhu, Nagabhushana) On a triangulation of the 3-ball and the solid torus. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 259–264. (Summary) **99a:05033** 05C10

Jódar, Lucas (*with* Defez, Emilio) Orthogonal matrix polynomials with respect to a conjugate bilinear matrix moment functional: basic theory. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 1, 66–79. (Boris Petrovich Osilenker) **99c:42063** 42C15 (44A60)

— (*with* Navarro, E.; Defez, Emilio) On the best approximation matrix problem and matrix Fourier series. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 4, 88–98. (Boris Petrovich Osilenker) **99d:42043** 42C05 (41A10, 42C15)

— (*with* Almenar, P.; Goberna, D.) Exact and approximate solutions with a priori error bounds for systems of time-dependent wave equations. *Math. Comput. Modelling* **26** (1997), *no.* 7, 11–28. (A. O. Oganesyan) **99a:65106** 65M15 (35A35, 35L05, 65N15)

— (*with* Defez, Emilio) Hermite rational matrix approximation of Riccati differential equations. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 237–242, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 93B40 (34A45)

— (*with* Defez, Emilio) A connection between Laguerre's and Hermite's matrix polynomials. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 13–17. (Summary) **99a:33007** 33C50 (15A99)

— (*with* Cortés López, J. C.) Some properties of gamma and beta matrix functions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 1, 89–93. (Summary) **99b:33002** 33B15 (15A21)

— (*with* Goberna, D.) Uniqueness of solutions for systems of separated variable coefficient partial differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 109–113. 35K10

— (*with* Defez, Emilio) On Hermite matrix polynomials and Hermite matrix functions. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 1, 36–48. (Valeri Kaliaguine) **99k:33027** 33C45 (41A10)

— (*with* Goberna, D.) A matrix d'Alembert formula for coupled wave initial value problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 1–15. (Summary) **99b:35018** 35C05 (35L05)

— (*with* Defez, Emilio) Some applications of the Hermite matrix polynomials series expansions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 105–117. (Summary) **99j:33010** 33C45 (34A30, 41A58)

— (*with* Cortés López, J. C.) On the hypergeometric matrix function. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 205–217. (H. M. Srivastava) **99j:33005** 33C05 (15A60)

— (*with* Camacho, Javier; Navarro, E.) Exact solution of coupled mixed diffusion problems with coupled boundary conditions. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 65–76. (Summary) **99e:35088** 35K10 (35C05)

— (*with* Goberna, D.) Correction to: "Mixed problems for the time-dependent telegraph equation: continuous numerical solutions with a priori error bounds" [Math. Comput. Modelling **25** (1997), no. 11, 31–44; MR 98d:65128] by P. Almenar, Jódar and J. A. Martín. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 113–116. (Summary) **99g:65101** 65M99

— (*with* Sastre, Jorge) On Laguerre matrix polynomials. (English summary) *Util. Math.* **53** (1998), 37–48. (C. M. Joshi) **99h:33040** 33C45 (33C10, 33C50)

— (*with* Blanes, Sergio) Continuous numerical solutions of coupled mixed partial differential systems using Fer's factorization. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 189–202. (Jennifer Zhao) **99m:65194** 65M99 (34A45, 35C99)

— (*with* Ponsoda, E.) Numerical solutions with a priori error bounds for coupled self-adjoint time dependent partial differential systems. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 2, 1–18. (Summary) **99m:65191** 65M60 (35C10)

— (*with* Almenar, P.; Goberna, D.) Constructive approximations of mixed variable coefficient diffusion problems. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 6, 33–44. (Summary) **99m:35093** 35K10 (35C10)

Jodayree Akbarfam, Aliasghar A survey of the inverse problem of Sturm-Liouville problem in one turning point case. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 1–9, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 34A55 (34B24, 34E20)

— (*with* Nematy Hoseanabady, A.) Representation of asymptotic solutions of second order differential equation with two turning points in explicit form. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 405–412, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (*see* **99a:00041**) 34E20 (34E05)

— *see also* **Proceedings: Mathematics Conference, 99a:00041**

Jodeit, Max, Jr. (*with* Levitan, B. M.) A characterization of some even vector-valued Sturm-Liouville problems. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 166–181. (Vjacheslav A. Yurko) **99m:34056** 34B24 (34A55, 34L40, 47E05)

Jodrá, Pedro (*with* García, Alfredo; Tejel, F. Javier) An efficient algorithm for on-line searching of minima in Monge path-decomposable tridimensional arrays. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 3–9. (Summary) **99j:68051** 68Q25 (65Y20, 68U05, 90C27)

Joe, S. M. (*with* Chung, Sang Kwon) On the regularization with nonlinear splines. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 165–176. (Summary) **99f:65020** 65D10

Joe, Stephen (*with* Kalnins, E. G.) Centrefold: Douglas Bridges. *New Zealand Math. Soc. Newslett. No.* 72 (1998), 14–15. (From the text) **99k:01063** 01A70

Joel, J. S. *see* **Partial differential equations, 99i:35002**

Joets, A. (*with* Monastyrskiĭ, M. I.; Ribotta, R.) Ensembles of singularities generated by surfaces with polyhedral symmetry. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 8, 1547–1550. (Summary) **99c:58018** 58C27

Jogdand, S. M. (*with* Dhage, B. C.; Heikkilä, Seppo) On extension of the method of upper and lower solutions to differential inclusions involving discontinuities. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 9, 33–37. (Alberto Cabada) **99h:34023** 34A60 (34A12, 34A45, 49J24)

Joglekar, Satish D. (*with* Bandhu, Rudra Shyam) Finite field-dependent BRS transformation and axial gauges. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4217–4224. (Summary) **99c:81250** 81T70 (81T13)

— (*with* Biswas, Tirthabir) Inverse Laplace transform and perturbation theory. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 369–382. (Roman Gielerak) **99k:81192** 81T15 (44A10)

— (*with* Mandal, Bhabani Prasad) Erratum: "Superspace formulation of Yang-Mills theory. II. Inclusion of gauge invariant operators and scalars" [Phys. Rev. D (3) **52** (1995), no. 12, 7129–7136]. *Phys. Rev. D* (3) **59** (1999), *no.* 12, 129901, 1 *pp.* 81T13

— (*with* Mandal, Bhabani Prasad) Erratum: "WT identities for proper vertices and renormalization in a superspace formulation of gauge theories" [Phys. Rev. D (3) **49** (1994), no. 10, 5382–5386; MR 95e:81222]. *Phys. Rev. D* (3) **59** (1999), *no.* 12, 129902, 1 *pp.* 81T60 (81T13)

Joglekar, Yogesh (*with* Dass, Tulsi) Erratum: "Augmented temporal logic formalism for histories-based generalized quantum mechanics" [J. Math. Phys. **39** (1998), no. 2, 704–729; MR 98j:81026]. *J. Math. Phys.* **40** (1999), *no.* 6, 3235. 81P10

Johal, Ramandeep S. (*with* Gupta, Raj K.) Two parameter quantum deformation of $U(2) \supset U(1)$ dynamical symmetry and the vibrational spectra of diatomic molecules. (English summary) *Internat. J. Modern Phys. E* **7** (1998), *no.* 5, 553–557. (Summary) **99h:81233** 81V55 (81R50)

— (*with* Gupta, Raj K.; Sahai, Vivek) On the classical limit of the generalized q-deformed $SU_q(2)$ and $SU_q(1,1)$ algebras. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 91–98. (Marcelo R. Ubriaco) **99g:81090** 81R50 (17B37)

— (*with* Sahai, Vivek; Gupta, Raj K.) Squeezed states and two-parameter quantum groups. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 887–891. (Summary) **99d:81056** 81R50 (81R30)

Johan, Zdeněk (*with* Rifai, Steven M.; Wang, Wen-Ping; Grisval, Jean-Pierre; Hughes, Thomas J. R.; Ferencz, Robert M.) Multiphysics simulation of flow-induced vibrations and aeroelasticity on parallel computing platforms. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 3-4, 393–417. 73K70 (73V20, 76M25)

Johannesson, H. (*with* Fröjdh, P.) Interacting electrons and localized spins: exact results from conformal field theory. *Low-dimensional models in statistical physics and quantum field theory* (*Schladming*, 1995), 265–271, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (*see* **98e:81002**) 82D20 (81T40)

Johannesson, Rolf (*with* Wan, Zhe-Xian; Wittenmark, Emma) Some structural properties of convolutional codes over rings. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 839–845. (Summary) **99c:94050** 94B10

— (*with* Wittenmark, Emma) Two 16-state, rate $R = 2/4$ trellis codes whose free distances meet the Heller bound. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1602–1604. 94B12

— (*with* Höst, Stefan; Zigangirov, Kamil Sh.; Zyablov, Viktor V.) Active distances for convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 658–669. (Summary) **99k:94050** 94B10

Johannsen, Jan Equational calculi and constant depth propositional proofs. (English summary) *Proof complexity and feasible arithmetics (Rutgers, NJ, 1996)*, 149–162, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Jan Krajíček) **99c:03085** 03F20 (03F30, 68Q15)

— (*with* Pollett, Chris) On proofs about threshold circuits and counting hierarchies (extended abstract). (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 444–452, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q15 (03F30)

— Lower bounds for monotone real circuit depth and formula size and tree-like cutting planes. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 37–41. (Summary) **99f:68100** 68Q25 (03D15, 68Q15)

— A model-theoretic property of sharply bounded formulae, with some applications. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 205–215. (Roman Kossak) **99m:03118** 03F30 (03C62, 03H15)

Johansen, Andrei (*with* Bershadsky, Michael; Pantev, Tony G.; Sadov, Vladimir; Vafa, Cumrun) F-theory, geometric engineering and $N = 1$ dualities. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 153–164. (Gonzalo Violero) **99b:81178** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Bershadsky, Michael; Pantev, Tony G.; Sadov, Vladimir) On four-dimensional compactifications of F-theory. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 165–201. (Gonzalo Violero) **99d:81107** 81T30 (14J32, 14J60, 32J18, 32J81)

— (*with* Anselmi, Damiano; Freedman, D. Z.; Grisaru, Marcus T.) Non-perturbative formulas for central functions of supersymmetric gauge theories. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 543–571. (Ilya Shapiro) **99i:81155** 81T17 (81T13, 81T60)

— (*with* Bershadsky, Michael; Chiang, Ti-Ming; Greene, Brian R.; Lazaroiu, C. I.) F-theory and linear sigma models. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 531–570. (Harald Skarke) **99g:81150** 81T30 (14J32, 32J81)

— (*with* Anselmi, Damiano; Erlich, Joshua; Freedman, D. Z.) Positivity constraints on anomalies in supersymmetric gauge theories. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7570–7588. (Summary) **99k:81288** 81T50 (81T15, 81T60)

— (*with* Bershadsky, Michael) Large N limit of orbifold field theories. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 141–148. (Harald Skarke) **99m:81240** 81T60 (81T18, 81T30)

Johansen, Hans (*with* Colella, Phillip) A Cartesian grid embedded boundary method for Poisson's equation on irregular domains. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 60–85. (Larisa V. Maslovskaya) **99m:65231** 65N50

Johansen, Lars M. Hydrodynamical quantum state reconstruction. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 25, 5461–5464. (Summary) **99b:81013** 81P05

Johansen, Søren Likelihood analysis of the $I(2)$ model. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 433–462. (Yoshihiro Yajima) **99e:62179** 62P20 (62M10)

— (*with* Harbo, Ingrid; Nielsen, Bent; Rahbek, Anders) Asymptotic inference on cointegrating rank in partial systems. (English summary) *J. Bus. Econom. Statist.* **16** (1998), *no.* 4, 388–399. (Summary) **99e:62178** 62P20 (62M10)

— (*with* Schaumburg, Ernst) Likelihood analysis of seasonal cointegration. (English summary) *J. Econometrics* **88** (1999), *no.* 2, 301–339. (Christiaan Heij) **99k:62206** 62P20 (62E20)

Johansen, Tor A. (*with* Hunt, K. J.) Design and analysis of gain-scheduled control using local controller networks. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 619–651. (Summary) **99j:93066** 93C83 (93B52)

— Constrained and regularized system identification. (English summary) *MIC—Model. Identif. Control* **19** (1998), *no.* 2, 109–116. 93E12

— (*with* Weyer, Erik) On convergence proofs in system identification—a general principle using ideas from learning theory. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 85–92. (Summary) **99c:93109** 93E12 (93E35)

Johansson, Ingvar Hume's surprise and the logic of belief changes. (English summary) *Synthese* **117** (1998/99), *no.* 2, 275–291. 03B45 (03A05)

Johansson, Kurt The longest increasing subsequence in a random permutation and a unitary random matrix model. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 63–82. (Martin V. Hildebrand) **99e:60033** 60C05 (05E10, 82B26, 82B41)

Johansson, Magnus (*with* Aubry, Serge) Existence and stability of quasiperiodic breathers in the discrete nonlinear Schrödinger equation. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1151–1178. (Summary) **99c:39019** 39A12 (35Q55, 82D99)

— (*with* Aubry, Serge; Gaĭdideĭ, Yu. B.; Christiansen, Peter Leth; Rasmussen, K. Ø.) Dynamics of breathers in discrete nonlinear Schrödinger models. (English summary) Localization in nonlinear lattices (Dresden, 1997). *Phys. D* **119** (1998), *no.* 1-2, 115–124. (Summary) **99e:70060** 70K99 (58F40, 78A60)

Johansson, Mikael (*with* Rantzer, Anders) Computation of piecewise quadratic Lyapunov functions for hybrid systems. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 555–559. (*see* **99a:93006**) 93D05 (93C30)

Johansson, Öjvind Clique-decomposition, NLC-decomposition, and modular decomposition—relationships and results for random graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 39–60. (Summary) **99j:05167** 05C78 (05C80, 05C85, 68R10)

Johansson, Robert An El-Zahár type condition ensuring path-factors. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 39–42. (Summary) **99c:05114** 05C38 (05C70)

Johansson, Thomas (*with* Zigangirov, Kamil Sh.) A simple one-sweep algorithm for optimal APP symbol decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3124–3128. 94B35 (94B05)

— (*with* Shtar′kov, Yu. M.; Smeets, Bernard J. M.) On message and key equivocation in secrecy systems. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 117–127; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 197–206. (Summary) **99h:94055** 94A60

John, David Jerome (*with* Francel, Margaret) Counting balanced ternary designs. (English summary) *Ars Combin.* **49** (1998), 161–184. (Elizabeth J. Billington) **99g:05022** 05B05

— Minimal edge cuts to induce balanced signed graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 5–8. (Summary) **99j:05178** 05C85

John, Fritz *see* **Dedicated to the memory of Fritz John**, **99a:00053**; **Hildebrandt, Stefan**, **99i:01033** *and* **Klainerman, Sergiu**, **99i:01034**

John, J. A. (*with* Draper, Norman R.) Response surface designs where levels of some factors are difficult to change. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 4, 487–495. 62K99

— (*with* Ruggiero, Katya) Resolvable block designs for factorial experiments. (English summary) *J. Statist. Plann. Inference* **77** (1999), *no.* 2, 293–299. 62K10

st. John, Katherine *see* **St. John, Katherine**

John, Oldřich (*with* Stará, Jana) On the regularity of weak solutions to parabolic systems in two spatial dimensions. *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1159–1170. (Vasiliy I. Sedenko) **99k:35079** 35K40 (35B65, 35D10)

John, Peter W. M. ★ Statistical design and analysis of experiments. (English summary) Reprint of the 1971 original. Classics in Applied Mathematics, 22. *Society for Industrial and Applied Mathematics (SIAM), Philadelphia, PA*, 1998. *xxiv*+356 *pp. ISBN* 0-89871-427-3 (Editors) **99d:62073** 62K99 (62-01)

— (*with* Cui, Xuewei) Time-trend free run orders with the minimum level changes. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 55–68. (Summary) **99a:62114** 62K15

— (*with* Chiu, Wan-Yi) D-optimal fractional factorial designs. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 367–373. (Summary) **99a:62103** 62K05

John, Reinhard Variational inequalities and pseudomonotone functions: some characterizations. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 291–301, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Igor′ V. Konnov) **99h:49011** 49J40 (47H19, 90A14)

John, Sajeev (*with* Aközbek, Neşet) Self-induced transparency solitary waves in a doped nonlinear photonic band gap material. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part B*, 3876–3895. 78A60 (35Q60)

John, Sarah Lattice functions, wavelet aliasing, and SO(3) mappings of orthonormal filters. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 569–593. (Peter R. Massopust) **99c:42064** 42C15

John, V. *see* **John, Volker**

John, Varghese (*with* Balachandran, A. P.; Vaidya, Sachindeo; Bimonte, G.; Govindarajan, T. R.; Gupta, K. S.) Current oscillations, interacting Hall discs and boundary CFTs. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 7, 1061–1085. (Summary) **99k:81276** 81T40 (81R10, 81V10)

John, Volker (*with* Maubach, Joseph M.; Tobiska, Lutz) Nonconforming streamline-diffusion-finite-element-methods for convection-diffusion problems. (English summary) *Numer. Math.* **78** (1997), *no.* 2, 165–188. (N. Gass) **99a:65151** 65N30 (65N15, 76M10, 76Rxx)

— On the parallel performance of coupled multigrid methods for the solution of the incompressible Navier-Stokes equations. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997)*, 269–280, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N30 (76D05, 76M25)

— (*with* Matthies, G.; Schieweck, F.; Tobiska, Lutz) A streamline-diffusion method for nonconforming finite element approximations applied to convection-diffusion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 85–97. (Dennis C. Jespersen) **99h:65169** 65M60 (65N30, 76M10, 76Rxx)

— A posteriori L^2-error estimates for the nonconforming P_1/P_0-finite element discretization of the Stokes equations. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 99–116. (Summary) **99f:65167** 65N30 (65N15, 65N50, 76M10)

Johns, Garry L. Margins in graphs and trees. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 99–105. (Summary) **99k:05140** 05C75 (05C12, 05C35)

Johnsen, Jon (*with* Runst, Thomas) Semi-linear boundary problems of composition type in L_p-related spaces. *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1283–1324. (Michael Wiegner) **99c:35073** 35J65

Johnsen, Trygve (*with* Kleiman, Steven L.) Toward Clemens' conjecture in degrees between 10 and 24. (English summary) Conference on Geometry and Mathematical Physics (Zlatograd, 1995). *Serdica Math. J.* **23** (1997), *no.* 2, 131–142. (Dag E. Sommervoll) **99g:14004** 14C05

Johnson, Aimee S. A. (*with* Madden, Kathleen M.) Putting the pieces together: understanding Robinson's nonperiodic tilings. *College Math. J.* **28** (1997), *no.* 3, 172–181. (Sándor Szabó) **99a:52033** 52C20

— (*with* Şahin, Ayşe Arzu) Finite rank $\mathbf{Z}^d$ actions and the loosely Bernoulli property. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 125–134 (*electronic*). (N. N. Ganikhodzhaev) **99b:28020** 28D15 (28D20)

— (*with* Haddad, Kamel N.) IP cluster points, idempotents, and recurrent sequences. (English summary) *Topology Proc.* **22** (1997), 213–226. (Summary) **99j:54039** 54H20 (28D05)

— (*with* Madden, Kathleen M.) The decomposition theorem for two-dimensional shifts of finite type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1533–1543. (Fred W. Roush) **99h:58055** 58F03

pollack-Johnson, Bruce *see* **Pollack-Johnson, Bruce**

Johnson, C. D. On the complete "discretization" of an nth-order linear differential equation model to obtain the exact nth-order difference equation model with correct "initial-sequence values". (English summary) *Math. Comput. Model. Dyn. Syst.* **5** (1999), *no.* 1, 74–84. 93B40 (93C05)

Johnson, C. R. *see* **Johnson, Charles Royal**

Johnson, C. Richard, Jr. (*with* Zeng, Hanks H.; Tong, Lang) Relationships between the constant modulus and Wiener receivers. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1523–1538. 94A05

Johnson, Charles Royal (*with* Nævdal, Geir) The probability that a (partial) matrix is positive semidefinite. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 171–182, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Tiberiu Constantinescu) **99g:15021** 15A48 (15A52)

— (*with* Kroschel, Brenda K.; Lundquist, Michael) The totally nonnegative completion problem. (English summary) *Topics in semidefinite and interior-point methods (Toronto,*

ON, 1996), 97–107, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Shu An Hu) **99c:15040** 15A48 (90C08)

— (*with* Kroschel, Brenda K.; Wolkowicz, Henry) An interior-point method for approximate positive semidefinite completions. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 2, 175–190. (Michael L. Dowling) **99a:90154** 90C25 (90C20)

— (*with* Szulc, Tomasz) Further lower bounds for the smallest singular value. (English summary) *Linear Algebra Appl.* **272** (1998), 169–179. (Fumio Hiai) **99b:15009** 15A18 (15A42)

— (*with* Lundquist, Michael) Local inversion of matrices with sparse inverses. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 33–39. (Summary) **99b:15002** 15A09

— (*with* Fallat, Shaun M.; Smith, Ronald L.; van den Driessche, P.) Eigenvalue location for nonnegative and Z-matrices. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 187–198. (Thomas L. Markham) **99e:15009** 15A18 (15A48, 15A57)

— Olga, matrix theory and the Taussky unification problem. With the assistance of Shaun Fallat. Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 39–49. (*see* **99c:01028**) 01A70 (15–03)

— (*with* Drew, John H.) The completely positive and doubly nonnegative completion problems. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 1, 85–92. (Summary) **99c:15038** 15A48

— (*with* Bakonyi, Mihály; Stanford, David P.) Sign pattern matrices that require domain-range pairs with given sign patterns. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 165–178. (Summary) **99j:15039** 15A99

— (*with* Waters, Charles) Sign patterns occurring in orthogonal matrices. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 287–299. (Summary) **99f:15043** 15A99

— (*with* Fallat, Shaun M.; Hall, H. Tracy) Characterization of product inequalities for principal minors of M-matrices and inverse M-matrices. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 196, 451–458. (Jeffrey Stuart) **99j:15010** 15A15 (15A45, 15A48)

— (*with* Tarazaga, Pablo) Approximate semidefinite matrices in a linear variety. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 861–871 (*electronic*). (B. N. Moyls) **99g:15032** 15A57 (15A60, 90C30)

— (*with* Cheon, Gi-Sang; Lee, Sang-Gu; Pribble, E. J.) The possible numbers of zeros in an orthogonal matrix. (English summary) *Electron. J. Linear Algebra* **5** (1999), 19–23 (*electronic*). (Summary) **99h:15023** 15A57

— (*with* Fallat, Shaun M.) Sub-direct sums and positivity classes of matrices. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 149–173. (Gregory Taylor) **99m:15021** 15A48

— (*with* Barrett, Wayne W.; Loewy, Raphael) Critical graphs for the positive definite completion problem. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 117–130 (*electronic*). (Shu An Hu) **99i:15029** 15A48 (05C50)

Johnson, Claes (*with* Estep, Don) The pointwise computability of the Lorenz system. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1277–1305. (Summary) **99h:65145** 65L99 (34C35, 34D45)

— (*with* Eriksson, Kenneth; Larsson, Stig) Adaptive finite element methods for parabolic problems. VI. Analytic semigroups. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1315–1325 (*electronic*). (Erwin Schechter) **99d:65281** 65M60 (47D06, 65M15)

Johnson, Clifford V. (*with* Evans, Nick; Shapere, Alfred D.) Orientifolds, branes, and duality of 4D gauge theories. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 1-2, 251–271. (Javier Borlaf González) **99d:81154** 81T60 (81T13, 81T30)

— From M-theory to F-theory, with branes. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 227–244. (Angel Maria Uranga) **99a:81143** 81T30 (83E30)

— Orientifolding of type II NS-five-branes. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 5160–5165. (Javier Borlaf González) **99c:81190** 81T30 (81T13, 81T60)

— On the (0, 4) conformal field theory of the throat. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2463–2473. (Angel Maria Uranga) **99j:81141** 81T30 (83E30)

— (*with* Chamblin, Andrew; Emparan, Roberto; Myers, Robert C.) Large N phases, gravitational instantons, and the nuts and bolts of AdS holography. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064010, 9 *pp.* (Summary) **99m:83067** 83C45 (81T40, 83E30)

Johnson, Corlis Powell Group distributive quasigroup algebras. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 3, 259–269. (Edgar G. Goodaire) **99m:12014** 12K99 (20N05)

Johnson, D. A. (*with* El Ouatouati, A.; Fisette, P.) A fully symbolic model of multibody systems containing flexible plates. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 4, 357–382. 70E99 (70B15, 73K12)

Johnson, D. L. *see* **Johnson, David Lawrence**

Johnson, D. S. *see* **Johnson, Dean Spencer**

Johnson, David L. *see* **Johnson, David Lewis**

Johnson, David Lawrence Monoid presentations of groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 1–4. (P. G. Trotter) **99h:20091** 20M05

— (*with* Kim, Ann Chi; O'Brien, E. A.) Certain cyclically presented groups are isomorphic. (English summary) *Comm. Algebra* **27** (1999), *no.* 7, 3531–3536. 20F05

Johnson, David Lewis (*with* Kocayusufoğlu, İsmail) Locally volume-minimizing codimension-one foliation of the solid torus. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 207–222. (Costache Apreutesei) **99j:53027** 53C12 (49Q20, 57R30)

Johnson, David Stifler (*with* Coffman, E. G., Jr.; Shor, Peter W.; Weber, R. R.) Bin packing with discrete item sizes. II. Tight bounds on first fit. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 69–101. (Ding Zhu Du) **99m:68080** 68Q25

Johnson, Dean Spencer (*with* Pugh, A. C.; McInerney, S. J.; Boudellioua, M. S.; Hayton, G. E.) A transformation for 2-D linear systems and a generalization of a theorem of Rosenbrock. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 491–503. (Summary) **99h:93059** 93C30 (93B25)

Johnson, Don *see* **Johnson, Donald Byron**

Johnson, Donald B. (*with* Metaxas, Panagiotis) Connected components in $O(\log^{3/2} n)$ parallel time for the CREW PRAM. (English summary) 32nd Annual Symposium on Foundations of Computer Science (San Juan, PR, 1991). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 1, 227–242. (Summary) **99e:68127** 68R10 (05C40, 05C85, 68Q22)

Johnson, Donald Byron (*with* Blake-Wilson, Simon; Menezes, Alfred J.) Key agreement protocols and their security analysis (extended abstract). (English summary) *Cryptography and coding* (*Cirencester*, 1997), 30–45, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (*see* **99g:94019**) 94A60

Johnson, E. R. (*with* Clarke, Simon R.) Finite-amplitude topographic Rossby waves in a channel. (English summary) *Phys. Fluids* **11** (1999), *no.* 1, 107–120. (Summary) **99h:76019** 76C20 (76M25, 86A05)

Johnson, E. W. (*with* Jayaram, C.) s-prime elements in multiplicative lattices. (English summary) *Period. Math. Hungar.* **31** (1995), *no.* 3, 201–208. (Christian Herrmann) **99d:06013** 06C05 (13A15)

— (*with* Jayaram, C.) Dedekind lattices. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 367–378. (Daniel D. Anderson) **99b:06015** 06F10 (06F05, 13A15)

Johnson, Ellis L. (*with* Barnhart, Cynthia; Nemhauser, George L.; Savelsbergh, Martin W. P.; Vance, Pamela H.) Branch-and-price: column generation for solving huge integer programs. (English summary) *Oper. Res.* **46** (1998), *no.* 3, 316–329. (Summary) **99g:90074** 90C10 (90–04)

Johnson, F. E. A. Subgroups of products of surface groups. *Math. Proc. Cambridge Philos. Soc.* **126** (1999), *no.* 2, 195–208. (Stephen P. Humphries) **99k:20079** 20F38 (57M05)

Johnson, G. C. (*with* Imam, A.) Decomposition of the deformation gradient in thermo-elasticity. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 2, 362–366. (Summary) **99d:73011** 73B30 (73C50)

Johnson, Gerald W. (*with* Ahn, Byung Moo) Path integrals, Fourier transforms, and Feynman's operational calculus. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 2, 189–203. (Dong M. Chung) **99d:28020** 28C20 (42A38, 47N50)

Johnson, J. R. *see* **Johnson, Jeremy R.**

Johnson, James N. *see* **Classic papers in shock compression science**, 99m:76076

Johnson, Jane (*with* Chen, Yi-Ju[2]; Hewett, John; Wang, Yazhen) A rank test for equality of two multivariate populations vs a particular ordered alternative. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 129–144. (Summary) **99j:62063** 62G10

Johnson, Jeffrey Horace (*with* Picton, Philip) How to train a neural network: an introduction to the new computational paradigm. (English summary) *Complexity* **1** (1995/96), *no.* 6, 13–27. 68T05

Johnson, Jeremy R. Algorithms for polynomial real root isolation. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 269–299, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 68Q40 (12–04, 12D10, 68Q25)

— *see also* **Quantifier elimination and cylindrical algebraic decomposition**, **99b:03007**

Johnson, Kelly K. (*with* Sandberg, Irwin W.) On the stability of bilinear filters. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 691–702. (Zoran Gajic) **99k:93090** 93E11 (94A12)

Johnson, Kenneth W. (*with* Poimenidou, Eirini) Generalised classes in groups and association schemes: duals of results on characters and sharpness. (English summary) *European J. Combin.* **20** (1999), *no.* 1, 87–92. (Jaume Pujol) **99k:20014** 20C15 (05E30)

Johnson, Kurt N. Circularly symmetric deformation of shallow elastic membrane caps. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 3, 537–550. (J. V. Baxley) **99a:73083** 73K10 (34B15)

Johnson, M. J. *see* **Johnson, Michael James**

Johnson, Mark *see* **Johnson, Mark Edward**

Johnson, Mark A. (*with* Chartrand, Gary; Gavlas, Heather; Hevia, Héctor) Rotation and jump distances between graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 285–300. (András Gyárfás) **99f:05084** 05C60 (05C12)

Johnson, Mark Edward A resource sensitive interpretation of lexical functional grammar. (English summary) *J. Logic Lang. Inform.* **8** (1999), *no.* 1, 45–81. 68S05 (03B65)

Johnson, Mark Ray (*with* Ulrich, Bernd) Serre's condition R_k for associated graded rings. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2619–2624. (C. P. L. Rhodes) **99m:13006** 13A30 (13H10)

Johnson, Michael James On the approximation order of principal shift-invariant subspaces of $L_p(\mathbf{R}^d)$. (English summary) *J. Approx. Theory* **91** (1997), *no.* 3, 279–319. (Rong Qing Jia) **99b:41010** 41A25 (41A63, 42B99)

— A bound on the approximation order of surface splines. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 429–438. (Naseer Shahzad) **99c:41023** 41A15 (41A25, 41A63, 65D07)

Johnson, N. F. (*with* Jarvis, S.; Jonson, R.; Cheung, Ping; Kwong, Y. R.; Hui, Pak-ming) Volatility and agent adaptability in a self-organizing market. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 230–236. 90A60

Johnson, N. L. *see* **Johnson, Norman Lloyd[1]**

Johnson, Norman L. *see* **Johnson, Norman Lloyd[2]**

Johnson, Norman Lloyd[1] Derivable nets may be embedded in nonderivable planes. (English summary) *Groups and geometries* (*Siena*, 1996), 123–144, *Trends Math., Birkhäuser, Basel*, 1998. (T. G. Ostrom) **99j:51001** 51A15 (51A45)

— (*with* Hiramine, Yutaka) Nets of order p^2 and degree $p+1$ admitting SL(2, p). (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 15–34. (Martin W. Liebeck) **99g:51004** 51E14

— Infinite nests of reguli. (English summary) *Geom. Dedicata* **70** (1998), *no.* 3, 221–267. (Gary L. Ebert) **99d:51016** 51E23 (51A35, 51A40)

— (*with* Jha, Vikram) Finite doubly transitive affine planes. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 165–168. (From the introduction) **99d:51007** 51E15 (51E20)

Johnson, Norman Lloyd[2] (*with* Kotz, Samuel; Balakrishnan, Narayanaswamy) ★ Discrete multivariate distributions. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxii+299 *pp. ISBN* 0-471-12844-9 (D. N. Shanbhag) **99h:62014** 62E15 (60C05, 60E05, 62H05)

— (*with* Balakrishnan, Narayanaswamy; Kotz, Samuel) A note on relationships between moments, central moments and cumulants from multivariate distributions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 49–54. 62H05

— (*with* Elandt-Johnson, Regina C.) ★ Survival models and data analysis. Reprint of the 1980 original [MR 81j:62195]. Wiley Classics Library. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xviii*+457 *pp. ISBN* 0-471-34992-5 (Title) **99k:62205** 62P10 (62N05)

— *see also* **Leading personalities in statistical sciences, 99c:62002** *and* **Breakthroughs in statistics, 99d:62001**

Johnson, Peter D., Jr. Continuous functions which change sign without properly crossing the x-axis. (English summary) *Approximation theory*, 335–341, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99b:41018** 41A50 (26A15)

— (*with* Hoffman, Dean G.) Covering numbers and list-colorings of $K_{m,n}$. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 13–22. (W. H. Mills) **99f:05027** 05B40 (05A05, 05C15)

— (*with* Hoffman, Dean G.) Greedy colorings and the Grundy chromatic number of the n-cube. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 49–57. 05C15

Johnson, Peter R. (*with* Beggs, Edwin J.) Inverse scattering and solitons in A_{n-1} affine Toda field theories. II. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 567–587. (Henrik Aratyn) **99i:81263** 81U40 (58F07, 81T10)

Johnson, R. *see* **Johnson, Russell A.**

Johnson, R. C. Unicycles and bifurcations. (English summary) *Amer. J. Phys.* **66** (1998), *no.* 7, 589–592. (Summary) **99c:70034** 70K99 (34C23, 58F14)

Johnson, R. S. ★ A modern introduction to the mathematical theory of water waves. (English summary) Cambridge Texts in Applied Mathematics. *Cambridge University Press, Cambridge*, 1997. *xiv+445 pp. ISBN* 0-521-59832-X (Harvey Segur) **99m:76017** 76B15 (35Q35, 35Q51, 76–01, 76D33)

Johnson, Regina C. *see* **Elandt-Johnson, Regina C.**

Johnson, Reynold B. *see* **Lee, John A. N.**

Johnson, Richard A. (*with* Sim, Songyong; Klein, Barbara E.; Klein, Ronald) A multivariate multisample quantile test for ordered alternatives. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 807–818. (Subhash C. Kochar) **99g:62057** 62G10

— (*with* Sim, Songyong) Comparisons of spatially correlated binary data. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 81–87. (Summary) **99i:62125** 62H11 (62F03)

— (*with* Evans, James W.; Green, David W.) Nonparametric Bayesian predictive distributions for future order statistics. (English summary) Special issue in memory of V. Susarla. *Statist. Probab. Lett.* **41** (1999), *no.* 3, 247–254. (*see* **99i:62003**) 62G30

Johnson, Robert T. (*with* Vaughan, Theresa P.) On union-closed families. I. (English summary) *J. Combin. Theory Ser. A* **84** (1998), *no.* 2, 242–249. (Summary) **99e:05124** 05D05

— (*with* Vaughan, Theresa P.) On union-closed families. I. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 112–119. (Summary) **99h:04003** 04A20 (05D05)

Johnson, Russell A. (*with* Kamenskii, Mikhail; Nistri, Paolo) On the existence of periodic solutions of an hyperbolic equation in a thin domain. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 189–195. (Summary) **99m:35164** 35L70 (35B10)

— An application of topological dynamics to bifurcation theory. (English summary) *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 323–334, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (Rafael Obaya García) **99c:34073** 34C23 (28D10, 34C35, 34D45, 54H20, 58F14)

— (*with* Nistri, Paolo) On the dynamical behavior of the approximate equivalent control in sliding manifold systems. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 119–138. (T. Zolezzi) **99m:93016** 93B12 (34C99, 34H05)

— (*with* Kamenskii, Mikhail; Nistri, Paolo) Existence of periodic solutions of an autonomous damped wave equation in thin domains. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 409–424. (Pavel Krejčí) **99i:35101** 35L70 (35B10, 47H11, 47N20)

— (*with* Nerurkar, Mahesh) Controllability, stabilization and the regulator problem for random differential systems. (English summary) *Mem. Amer. Math. Soc.* **136** (1998), *no.* 646, *viii+48 pp.* (G. N. Mil'shteĭn) **99d:93005** 93B05 (34F05, 34H05, 93D15, 93E03)

Johnson, Theodore (*with* McDiarmid, Colin; Stone, Harold S.) On finding a minimum spanning tree in a network with random weights. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 187–204. (Andrzej Ruciński) **99f:68161** 68R10 (05C05, 05C85)

Johnson, Valen E. A coupling-regeneration scheme for diagnosing convergence in Markov chain Monte Carlo algorithms. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 238–248. (Summary) **99a:60069** 60J10 (65C05)

Johnson, Wesley O. (*with* Westfall, Peter H.; Utts, Jessica M.) A Bayesian perspective on the Bonferroni adjustment. (English summary) *Biometrika* **84** (1997), *no.* 2, 419–427. (Michael J. Evans) **99a:62018** 62F03 (62F04, 62F15)

— (*with* Cavanaugh, Joseph E.) Assessing the predictive influence of cases in a state space process. (English summary) *Biometrika* **86** (1999), *no.* 1, 183–190. (Summary) **99m:62131** 62M10

Johnson, William B. Extensions of c_0. (English summary) *Positivity* **1** (1997), *no.* 1, 55–74. (Y. Benyamini) **99k:46017** 46B20 (43A46, 46B42)

Johnsson, Mika (*with* Magyar, Gábor; Nevalainen, Olli) On the Euclidean 3-matching problem. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 143–171. (Winfried Hochstättler) **99f:90163** 90C35 (90C27)

Johnsson, S. Lennart (*with* Pitsianis, Nikos P.) Load-balance in parallel FACR. (English summary) *High performance algorithms for structured matrix problems*, 163–180, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99m:65257** 65Y05 (65F10)

Johnsson, Thomas Efficient graph algorithms using lazy monolithic arrays. *J. Funct. Programming* **8** (1998), *no.* 4, 323–333. 68N15 (68P05, 68R15)

Johnston, Desmond A. (*with* Baillie, C. F.; Marinari, E.; Naitza, C.) Spin glass dynamics on thin graphs. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 346–349, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 82D30

— (*with* Bialas, Piotr; Burda, Zdzisław) Surplus anomaly and random geometries. *New developments in quantum field theory* (*Zakopane*, 1997), 251–259, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (*see* **99e:81002**) 82B41 (83C27)

— (*with* Plecháč, P.) Equivalence of ferromagnetic spin models on trees and random graphs. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 475–482. (Summary) **99b:82053** 82B44 (05C80)

— The Yang-Lee edge singularity on Feynman diagrams. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5641–5649. (Summary) **99b:81161** 81T18

— Thin animals. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9405–9417. (Summary) **99h:82038** 82B41 (82D60)

— (*with* Bialas, Piotr; Burda, Zdzisław) Phase diagram of the mean field model of simplicial gravity. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 413–424. (Summary) **99j:83023** 83C27 (83C45)

Johnston, Heather (*with* Cantarella, Jason) Nontrivial embeddings of polygonal intervals and unknots in 3-space. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 8, 1027–1039. (Peiyi Zhao) **99m:57002** 57M25

— Transversality for homology manifolds. (English summary) *Topology* **38** (1999), *no.* 3, 673–697. (Erik K. Pedersen) **99k:57048** 57N75 (57P05)

Johnston, P. R. Calculating surface Laplacians as a boundary element method postprocess. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 10, 95–103. 65N30 (65Y25)

Johnstone, Iain M. (*with* Donoho, David L.; Kerkyacharian, Gérard; Picard, Dominique) Universal near minimaxity of wavelet shrinkage. (English summary) *Festschrift for Lucien Le Cam*, 183–218, *Springer, New York*, 1997. (Alexander G. Kukush) **99a:62044** 62G05 (62G20)

— (*with* Donoho, David L.) Minimax estimation via wavelet shrinkage. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 879–921. (Ulrich Stadtmüller) **99i:62086** 62G07 (41A30, 62C20)

— Oracle inequalities and nonparametric function estimation. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 267–278 (*electronic*). (Summary) **99e:62048** 62G05

Johnstone, Peter (*with* Adámek, Jiří; Makowsky, Johann A.; Rosický, Jiří) Finitary sketches. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 699–707. (Leo Esakia) **99e:03044** 03G30 (03C75, 03C95, 18C10, 68Q65)

— (*with* Power, Anthony John; Tsujishita, Toru; Watanabe, Hiroshi[6]; Worrell, James) An axiomatics for categories of transition systems as coalgebras. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 207–213, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q55 (03B70, 18B05, 68Q10)

— (*with* Butz, Carsten) Classifying toposes for first-order theories. (English summary) *Ann. Pure Appl. Logic* **91** (1998), *no.* 1, 33–58. (Anna Labella) **99b:03081** 03G30 (03C75, 18B25)

Johri, V. B. A new Friedmann type model with matter creation. (English summary) *Hadronic J.* **22** (1999), *no.* 1, 1–11. 83F05

Johson, Corlis Powell *see* **Johnson, Corlis Powell**

Joinet, Jean-Baptiste (*with* Danos, Vincent; Schellinx, Harold) A new deconstructive logic: linear logic. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 755–807. (Henry Africk) **99b:03076** 03F50 (03B35, 03F05, 03F55)

Jokhadze, O. *see* **Dzhokhadze, O. M.**

Jokhadze, Otari *see* **Dzhokhadze, O. M.**

Jokiel-Rokita, A. Minimax prediction for the multinomial and multivariate hypergeometric distributions. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 3, 271–283. (Sam Gutmann) **99i:62013** 62C20 (62F10)

Jokimaitis, A. (*with* Aksomaĭtis, A.) Rate of convergence for the density of the distribution of the maximum of independent random variables. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 2, 133–138; *translation in Lithuanian Math. J.* **37** (1997), *no.* 2, 103–107 (1998). (R. J. Tomkins) **99c:60037** 60F05 (60G70)

Jolis, Maria (*with* Bardina, Xavier) An extension of Ito's formula for elliptic diffusion processes. (English summary) *Stochastic Process. Appl.* **69** (1997), *no.* 1, 83–109. (Catherine Donati-Martin) **99b:60066** 60H05 (60H07)

— (*with* Delgado, Rosario) Quadratic variation and Riemann sums for the generalized multiple Skorokhod integral. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 183–199. (Anatoly V. Swishchuk) **99f:60098** 60H05 (60G17, 60H07)

Jolissaint, P. (*with* Bekka, Mohammed El Bachir; Cherix, Pierre-Alain) Kazhdan constants associated with Laplacian on connected Lie groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 95–110. (Gerald B. Folland) **99d:22021** 22E45 (22E30)

Joly, J.-L. (*with* Donnat, P.; Métivier, Guy; Rauch, Jeffrey B.) Diffractive nonlinear geometric optics. *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. XVII*, 25 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Ya-Guang Wang) **99m:35147** 35L60 (35B25, 35L05, 78A60)

— (*with* Métivier, Guy; Rauch, Jeffrey B.) Nonlinear oscillations and caustics. *Singularities and oscillations* (*Minneapolis, MN*, 1994/1995), 79–95, *IMA Vol. Math. Appl.*, 91, *Springer, New York*, 1997. (L. Kalyakin (Zbl 909.35093)) **99j:35222** 35Q99 (35L60)

Joly, P. *see* **Joly, Patrick**

Joly, Pascal (*with* Maday, Yvon; Perrier, Valérie) A dynamical adaptive concept based on wavelet packet best bases: application to convection diffusion partial differential equations. (English summary) *Multiscale wavelet methods for partial differential equations*, 199–235, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Ruud van Damme) **99d:65287** 65M60 (42C15)

Joly, Patrick (*with* Collino, Francis; Millot, Florence) Fictitious domain method for unsteady problems: application to electromagnetic scattering. (English summary) *J. Comput. Phys.* **138** (1997), *no.* 2, 907–938. (J. R. Kuttler) **99i:78003** 78–08 (65N55, 78A45)

— (*with* Haddar, H.) An asymptotic approach of the scattering of electromagnetic waves by thin ferromagnetic coatings. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 292–296, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 78A45

— (*with* Bécache, E.; Tsogka, C.) Fictitious domain method applied to the scattering by a crack of transient elastic waves in anisotropic media: a new family of mixed finite elements leading to explicit schemes. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 322–326, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 73V20 (73D25)

— (*with* Collino, Francis; Fouquet, Thierry) Une méthode de raffinement de maillage espace-temps pour le système de Maxwell en dimension un. (English and French summaries) [A space-time mesh refinement method for the 1D Maxwell system] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 263–268. (Summary) **99k:78001** 78–05 (65M55, 78A25)

Jona Lasinio, G. (*with* Vicard, P.) Graphical Gaussian models and regression. (English summary) *Matrices and graphs (Brescia, 1993/1995)*, 200–222, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:00029**) 62J05 (05C90)
— (*with* De Angelis, G. F.; Sidoravicius, V.) Berezin integrals and Poisson processes. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 289–308. (Michael S. Marinov) **99b:81128** 81S40 (28C20, 60K35, 81S20, 82C31)
Jonas, Peter On the trace formula of perturbation theory. II. (English summary) *Math. Nachr.* **197** (1999), 29–49. (Alexei V. Rybkin) **99k:47028** 47A55 (47B50)
Jonas, Volker (*with* Strelen, Johann Christoph; Bärk, Berthold; Becker, Jürgen) Analysis of queueing networks with blocking using a new aggregation technique. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 121–142. (Summary) **99b:90062** 90B22 (60K25)
Jonassen, Inge (*with* Brāzma, Alvis; Vilo, Jaak; Ukkonen, Esko) Pattern discovery in biosequences. (English summary) *Grammatical inference (Ames, IA, 1998)*, 257–270, *Lecture Notes in Comput. Sci.*, 1433, *Springer, Berlin*, 1998. (*see* **99h:68006**) 92D20
Jonasson, Johan Infinite divisibility of random objects in locally compact positive convex cones. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 129–138. (Tomasz Żak) **99e:60011** 60B05 (60B11, 60E07)
— On positive random objects. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 81–125. (David Ross) **99i:60006** 60B11 (28A99, 60A05)
— The random cluster model on a general graph and a phase transition characterization of nonamenability. (English summary) *Stochastic Process. Appl.* **79** (1999), *no.* 2, 335–354. (Timo Seppäläinen) **99k:60249** 60K35 (82B26, 82B43)
Jonckheere, Edmond A. (*with* Hammad, A.; Cheng, Chih-Yung; Bhajekar, S.; Chien, C.-C.) Stabilization of chaotic dynamics: a modern control approach. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 663–677. 93D15 (58F10)
— ★ Algebraic and differential topology of robust stability. *Oxford University Press, New York*, 1997. xlviii+576 *pp. ISBN* 0-19-509301-1 (B. T. Polyak) **99d:93001** 93–02 (14P99, 55–02, 57Rxx, 58E25, 93D09)
— (*with* Chu, Chung-Kuang; Cheng, Chih-Yung) Simplicial algorithms for computing stationary probabilities of stochastic matrices. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 207–217. (Summary) **99c:65254** 65U05 (65F30)
Jones, A. F. (*with* Braithwaite, M.; Lynch, P. M.; Parker, I. B.; Wilson, Simon David Redfern) Compressional heating of isolated gas bubbles in reactive media. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 361–387. (Summary) **99j:80009** 80A32 (76N99)
Jones, Alexander Studies in the astronomy of the Roman period. III. Planetary epoch tables. *Centaurus* **40** (1998), *no.* 1, 1–41. (George Abraham) **99d:01009** 01A20
Jones, Amelia C. (*with* Bleiler, Steven A.) The free product of groups with amalgamated subgroup malnormal in a single factor. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 119–136. (S. Andreadakis) **99f:20041** 20E06 (20F05)
Jones, Andrew J. I. (*with* Krogh, Christen) Protocol breaches and violation flaws. (English summary) *Norms, logics and information systems (Bologna, 1998)*, 265–274, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 68P25 (68T27, 94A60)
Jones, Andrew R. The structure of the Young symmetrizers for spin representations of the symmetric group. I. (English summary) *J. Algebra* **205** (1998), *no.* 2, 626–660. (Hiro-Fumi Yamada) **99j:20017** 20C30
Jones, Arthur Raymond (*with* Fulford, G. R.; Forrester, P. J.) ★ Modelling with differential and difference equations. (English summary) Australian Mathematical Society Lecture Series, 10. *Cambridge University Press, Cambridge*, 1997. x+405 *pp. ISBN* 0-521-44069-6; 0-521-44618-X (John Brindley) **99f:00009** 00A71 (00A69, 34–01, 39–01)
Jones, Byron (*with* Sinha, Kishore; Kageyama, Sanpei) A series of quasi-multiple BIB designs from Hadamard matrices. (English summary) *Ars Combin.* **50** (1998), 245–250. (Summary) **99k:05031** 05B05 (05B20)
Jones, Christopher Andrew (*with* Wallace, S. G.) Temporal solutions of a duct geometry dynamo. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2 (Plovdiv, 1994)*, 232–241, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 76W05 (86A25)
— (*with* Tucker, P. J. Y.) Magnetic and thermal instabilities in a plane layer. I. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 201–227. (Summary) **99k:76060** 76E25 (76U05, 76W05, 86A25)
Jones, Christopher K. R. T. (*with* Rubin, Jonathan E.) Existence of standing pulse solutions to an inhomogeneous reaction-diffusion system. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 1–35. (Vladimir Grebenev) **99b:35094** 35K57 (34C37, 35Q60, 58F39, 78A60)
— (*with* Balasuriya, Sanjeeva; Sandstede, Björn) Viscous perturbations of vorticity-conserving flows and separatrix splitting. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 47–77. (Yuri N. Skiba) **99a:76018** 76C05 (34C37, 58F39, 76F20, 86A05)
— (*with* Turitsyn, Sergei K.; Aceves, Alejandro B.; Zharnitsky, Vadim; Mezentsev, Vladimir K.) Hamiltonian averaging in soliton-bearing systems with a periodically varying dispersion. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 3843–3846. (Summary) **99m:78012** 78A60 (35Q55)
Jones, D. R. T. (*with* Jack, Ian; Pickering, Austin) Renormalisation invariance and the soft β-functions. (English summary) *Phys. Lett. B* **426** (1998), *no.* 1-2, 73–77. (Summary) **99b:81157** 81T17 (81R40)
Jones, D. S. Irradiation of a cone by a magnetic dipole. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 33–53. (Summary) **99a:78027** 78A45 (78A40)
Jones, Dawn M. (*with* Roehm, Denny James; Schultz, Michelle) On matchings in graphs. (English summary) *Ars Combin.* **50** (1998), 65–79. (Martin Bača) **99m:05125** 05C70
Jones, Donald R. (*with* Schonlau, Matthias; Welch, William J.) Efficient global optimization of expensive black-box functions. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 455–492. (*see* **99k:90005**) 90C26 (90C30)
Jones, F. Burton The beginning of topology in the United States and the Moore school. *Handbook of the history of general topology, Vol. 1*, 97–103, *Kluwer Acad. Publ., Dordrecht*, 1997. (Albert C. Lewis) **99c:01029** 01A72 (54–03)
— *see also* **Rudin, Mary Ellen**, **99e:01029**
Jones, G. *see* **Jones, Geoff**
Jones, Gareth A. Characters and surfaces: a survey. (English summary) *The atlas of finite groups: ten years on (Birmingham, 1995)*, 90–118, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (David Singerman) **99j:20056** 20H10 (12F12, 14H55, 20C15, 30F10)
— (*with* Lloyd, E. Keith) Reaction graphs. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 121–147. (Xiao Feng Guo) **99m:05068** 05C25 (05C90, 20B25, 92E10)
Jones, Geoff The predictive distribution in decision theory: a case study. (English summary) *J. Appl. Math. Decis. Sci.* **2** (1998), *no.* 2, 107–117. 62C10
— (*with* Martin, Richard John; Eccleston, J. A.) Some results on two-level factorial designs with dependent observations. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 363–384. (Rainer Schwabe) **99f:62096** 62K15 (62M10)
— (*with* Martin, Richard John; Eccleston, J. A.) Eight-run two-level factorial designs under dependence. (English summary) *Metrika* **48** (1998), *no.* 2, 127–139. 62K15
Jones, George (*with* Baylis, W. E.) Crumeyrolle-Chevalley-Riesz spinors and covariance. (English summary) *Clifford algebras and spinor structures*, 125–132, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Waldyr Alves Rodrigues, Jr.) **99a:15011** 15A66 (53A50, 81R25)
Jones, H. F. ★ Groups, representations and physics. (English summary) Second edition. *Institute of Physics, Bristol*, 1998. *xiv*+326 *pp. ISBN* 0-7503-0505-3; 0-7503-0504-5 (Editors) **99d:20020** 20C35 (81R05)
Jones, I. A. A curved laminated orthotropic axisymmetric element based upon Flügge thin shell theory. (English summary) *Comput. & Structures* **60** (1996), *no.* 3, 487–503. (Summary) **99d:73089** 73V05 (73K15)
peyton Jones, J. C. *see* **Peyton Jones, J. C.**
Jones, J. Mary (*with* Dunwoody, M. J.) A group with strange decomposition properties. *J. Group Theory* **1** (1998), *no.* 3, 301–305. (Warren Dicks) **99d:20036** 20E08 (20E06, 20F05)
Jones, James P. (*with* Kiss, Péter) Some new identities and congruences for Lucas sequences. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 39–47. (Lawrence Somer) **99g:11022** 11B39
Jones, James S. (*with* Rus, Teodor) PHRASE parsers from multi-axiom grammars. (English summary) AMiLP '95 (Enschede). *Theoret. Comput. Sci.* **199** (1998), *no.* 1-2, 199–229. (Summary) **99c:68164** 68Q52
Jones, Jim E. (*with* Cleary, Andrew J.; Falgout, Robert D.; Henson, Van Emden) Coarse-grid selection for parallel algebraic multigrid. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 104–115, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N30 (65N55)
Jones, Kerry N. (*with* Reid, Alan W.) Geodesic intersections in arithmetic hyperbolic 3-manifolds. *Duke Math. J.* **89** (1997), *no.* 1, 75–86. (Colin C. Adams) **99a:57009** 57M50 (20H10, 57N10)
— (*with* Reid, Alan W.) Minimal index torsion-free subgroups of Kleinian groups. *Math. Ann.* **310** (1998), *no.* 2, 235–250. (Bruno Zimmermann) **99a:57010** 57M50 (20H10, 30F40, 57S30)
Jones, L. *see* **Doss, L. Jones Tarcius**
Jones, Lowell Edwin (*with* Farrell, F. T.) Rigidity for aspherical manifolds with $\pi_1 \subset \mathrm{GL}_m(\mathbf{R})$. *Asian J. Math.* **2** (1998), *no.* 2, 215–262. (A. A. Ranicki) **99j:57032** 57R57 (53C20)
— (*with* Farrell, F. T.; Ontaneda, P.) Examples of non-homeomorphic harmonic maps between negatively curved manifolds. *Bull. London Math. Soc.* **30** (1998), *no.* 3, 295–296. (Martin Scharlemann) **99h:58042** 58E20
Jones, M. C. *see* **Jones, Michael C.**
Jones, Mark C. W. Group invariances, unfoldings and the bifurcation of capillary-gravity waves. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 6, 1243–1266. (Boris Buffoni) **99j:76009** 76B15 (35Q35, 58E09, 76B25, 76B45)
— A nonlinear multiple scales approach to modelling almost third harmonic interfaces. (English summary) *Z. Angew. Math. Phys.* **50** (1999), *no.* 1, 47–63. (Summary) **99k:76027** 76B15 (35Q35, 76B45)
Jones, Martin L. A note on a cake cutting algorithm of Banach and Knaster. *Amer. Math. Monthly* **104** (1997), *no.* 4, 353–355. (Theodore P. Hill) **99e:60012** 60B05 (28A99, 60E15)
Jones, Michael C. (*with* Hössjer, O.) From basic to reduced bias kernel density estimators: links via Taylor series approximations. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 23–34. (Summary) **99d:62036** 62G05
— (*with* Samiuddin, S.; Al-Harbey, A. H.; Maatouk, T. A. H.) Simple smoothed histograms. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 113–129. (Summary) **99m:62065** 62G07
— (*with* Faddy, M. J.) Semiparametric smoothing for discrete data. (English summary) *Biometrika* **85** (1998), *no.* 1, 131–138. (Summary) **99d:62032** 62G05
— (*with* Samiuddin, M.; Al-Harbey, A. H.; Maatouk, T. A. H.) The edge frequency polygon. (English summary) *Biometrika* **85** (1998), *no.* 1, 235–239. (Summary) **99b:62058** 62G05
— (*with* Yu, Keming) Local linear quantile regression. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 441, 228–237. (Summary) **99a:62059** 62G05
— Constant local dependence. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 2, 148–155. (C. D. Lai) **99c:62162** 62H20 (62H05)
— (*with* Vines, S. K.) Choosing the smoothing parameter for unordered multinomial data. (English summary) *Test* **7** (1998), *no.* 2, 413–426. 62G05
— *see also* **Gu, Chong**, **99e:62045**
Jones, Peter R. On the congruence extension property for semigroups. (English summary) *Semigroups (Luino, 1992)*, 133–143, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M17
Jones, Peter Wilcox (*with* Bishop, Christopher J.) Wiggly sets and limit sets. (English summary) *Ark. Mat.* **35** (1997), *no.* 2, 201–224. (Frédéric Paulin) **99f:30066** 30F40 (28A78)
Jones, Philip (*with* Bell, Steven; Siemons, Johannes) On modular homology in the Boolean algebra. II. (English summary) *J. Algebra* **199** (1998), *no.* 2, 556–580. (Yasuyuki Hirano) **99a:16006** 16E40
Jones, R. *see* **Jones, Ronald**
Jones, Roger L. Ergodic theory and connections with analysis and probability. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of*

Mathematics Conference, June 9–13, 1997, 31–67 (*electronic*). (Idris Assani) **99d:28036** 28D05 (42A50, 42B20, 42B25, 60G42)
— (*with* Lin, Michael; Olsen, James) Weighted ergodic theorems along subsequences of density zero. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 89–98 (*electronic*). (Alberto de la Torre) **99d:47008** 47A35 (28D10)
— (*with* Akcoglu, Mustafa A.; Schwartz, Peter O.) Variation in probability, ergodic theory and analysis. *Illinois J. Math.* **42** (1998), *no.* 1, 154–177. (Michael T. Lacey) **99a:60048** 60G46 (28D05, 42B25)
Jones, Ronald (*with* Talbot, H.; Evans, Carolyn J.) Complete ordering and multivariate mathematical morphology: algorithms and applications. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam,* 1998), 27–34, *Comput. Imaging Vision,* 12, *Kluwer Acad. Publ., Dordrecht,* 1998. (*see* **99g:68217**) 68U10
Jones, Roy (*with* Li, Xin[3]; Mohapatra, Ram Narayan; Rodriguez, R. S.) On the Bernstein inequality for rational functions with a prescribed zero. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 476–496. (Wiesław Pleśniak) **99m:41019** 41A17
Jones, Sara Hawtrey Applications of the Baire category theorem. *Real Anal. Exchange* **23** (1997/98), *no.* 2, 363–394. (Władysław Wilczyński) **99h:26012** 26A27 (26A15)
Jones, Vaughan F. R. A polynomial invariant for knots via von Neumann algebras [MR 86e:57006]. *Fields Medallists' lectures,* 448–458, *World Sci. Ser. 20th Century Math.,* 5, *World Sci. Publishing, River Edge, NJ,* 1997. (*see* **99b:00010**) 57M25 (01A65)
— Index for subfactors [MR 84d:46097]. *Fields Medallists' lectures,* 459–486, *World Sci. Ser. 20th Century Math.,* 5, *World Sci. Publishing, River Edge, NJ,* 1997. (*see* **99b:00010**) 46L37 (01A65, 46–03)
— (*with* Bisch, Dietmar) Algebras associated to intermediate subfactors. (English summary) *Invent. Math.* **128** (1997), *no.* 1, 89–157. (Jeong Hee Hong) **99c:46072** 46L37
— (*with* Moscovici, Henri) Review of *Noncommutative geometry* [Academic Press, San Diego, CA, 1994; MR 95j:46063] by Alain Connes. *Notices Amer. Math. Soc.* **44** (1997), *no.* 7, 792–799. (Florian Scheck) **99a:46127** 46L87 (58B30)
— (*with* Przytycki, Józef H.) Lissajous knots and billiard knots. (English summary) *Knot theory (Warsaw,* 1995), 145–163, *Banach Center Publ.,* 42, *Polish Acad. Sci., Warsaw,* 1998. (Robert Ghrist) **99h:57009** 57M25
— *see also* **Knot theory, 99c:57002** *and* **Birman, Joan S., (99b:00010)**
Jones, William B. (*with* Shen, Guoxiang) Regular strong Hamburger moment problem. *Orthogonal functions, moment theory, and continued fractions (Campinas,* 1996), 209–256, *Lecture Notes in Pure and Appl. Math.,* 199, *Dekker, New York,* 1998. (Olav Njåstad) **99m:44011** 44A60 (30B70, 30E05)
— (*with* Van Assche, Walter) Asymptotic behavior of the continued fraction coefficients of a class of Stieltjes transforms including the Binet function. *Orthogonal functions, moment theory, and continued fractions (Campinas,* 1996), 257–274, *Lecture Notes in Pure and Appl. Math.,* 199, *Dekker, New York,* 1998. (Olav Njåstad) **99m:30006** 30B70 (33B15, 40A15)
— *see also* **Orthogonal functions, moment theory, and continued fractions, 99f:00020**
de Jong, Aise Johan (*with* Oort, Frans) On extending families of curves. *J. Algebraic Geom.* **6** (1997), *no.* 3, 545–562. (A. Prabhakar Rao) **99f:14028** 14H10 (14K10)
— (*with* Abramovich, D.) Smoothness, semistability, and toroidal geometry. *J. Algebraic Geom.* **6** (1997), *no.* 4, 789–801. (Vincent Cossart) **99b:14016** 14E15 (14E05, 14L30)
— Barsotti-Tate groups and crystals. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II,* 259–265 (*electronic*). (Nobuo Tsuzuki) **99i:14051** 14L05 (14F20, 14F30, 14G25)
— Erratum to: "Crystalline Dieudonné module theory via formal and rigid geometry" [Inst. Hautes Études Sci. Publ. Math. No. **82** (1995), 5–96 (1996); MR 97f:14047]. *Inst. Hautes Études Sci. Publ. Math. No.* 87 (1998), 175. (From the text) **99i:14050** 14L05 (14F30)
— (*with* van Geemen, Bert) On Hitchin's connection. *J. Amer. Math. Soc.* **11** (1998), *no.* 1, 189–228. (Emma Previato) **99c:14015** 14D20 (14H40, 32G13)
de Jong, Gerdien (*with* Doebeli, Michael) A simple genetic model with non-equilibrium dynamics. (English summary) *J. Math. Biol.* **36** (1998), *no.* 6, 550–556. (Summary) **99c:92025** 92D10 (92D25)
de Jong, Kenneth *see* **De Jong, Kenneth**
de Jong, M. C. M. *see* **De Jong, M. C. M.**
de Jong, Peter A central limit theorem with applications to random hypergraphs. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 2, 105–120. (Zbigniew Palka) **99c:60045** 60F05 (05C65, 05C80)
de Jong, Piet (*with* Penzer, Jeremy) Diagnosing shocks in time series. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 796–806. (Juan Carlos Abril) **99g:62137** 62M10 (62M20)
de Jong, Robert M. Central limit theorems for dependent heterogeneous random variables. (English summary) *Econometric Theory* **13** (1997), *no.* 3, 353–367. (B. M. Pötscher) **99c:60046** 60F05 (60G48)
— Uniform laws of large numbers and stochastic Lipschitz-continuity. (English summary) *J. Econometrics* **86** (1998), *no.* 2, 243–268. (R. J. Tomkins) **99k:60083** 60F15 (60F05, 60G50, 62F12)
de Jong, Theo Determinantal rational surface singularities. (English summary) *Compositio Math.* **113** (1998), *no.* 1, 67–90. (Angel Granja) **99h:14039** 14J17 (14M12)
— (*with* van Straten, Duco) Deformation theory of sandwiched singularities. *Duke Math. J.* **95** (1998), *no.* 3, 451–522. (Gerhard Pfister) **99j:14002** 14B07 (14J17, 32S30)
— An algorithm for computing the integral closure. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 273–277. (Summary) **99d:13007** 13B22 (13P99)
Jongbloed, Geurt The iterative convex minorant algorithm for nonparametric estimation. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 3, 310–321. 62G05
— Exponential deconvolution: two asymptotically equivalent estimators. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 6–17. (Bhaskar Bhattacharya) **99c:62101** 62G05 (62F30, 62G20)
Jongen, G. (*with* Bollé, D.; Shim, G. M.) Fully connected Q-Ising neural networks: a general scheme for discussing parallel dynamics. (English summary) *Theoretical aspects of neural computation (Hong Kong,* 1997), 277–285, *Springer, Singapore,* 1998. (*see* **99f:00027**) 82C32
Jongen, Hubertus Th. (*with* Rückmann, Jan-J.) On stability and deformation in semi-infinite optimization. (English summary) *Semi-infinite programming,* 29–67, *Nonconvex Optim. Appl.,* 25, *Kluwer Acad. Publ., Boston, MA,* 1998. (Summary) **99c:90141** 90C34 (90–02)
— (*with* Ballmann, Josef; Stavroulakis, Georgios E.) Nachruf auf Herrn Professor Panagiotis D. Panagiotopoulos 1. Januar 1950–12. August 1998. [Obituary for Prof. Panagiotis D. Panagiotopoulos (1950–1998)] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 2, 87–90. 01A70
— (*with* Rückmann, Jan-J.; Stein, O.) Generalized semi-infinite optimization: a first order optimality condition and examples. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A,* 145–158. (R. Tichatschke) **99g:90151** 90C34
— (*with* Ballmann, Josef; Stavroulakis, Georgios E.) In memoriam Panagiotis D. Panagiotopoulos, Thessaloniki and Aachen, January 1, 1950–August 12, 1998. *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 3, 147–148. 01A70
— *see also* **Proceedings: Conference on Approximation and Optimization in the Caribbean, 99e:00022** *and* **Charlemagne and his heritage. 1200 years of civilization and science in Europe, 99i:00015**
de Jonghe, F. *see* **De Jonghe, F.**
Jongmans, François Les mathématiciens liégois au 19e siècle. (English summary) [Mathematicians in 19th-century Liège] *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol.* 2 (*Aachen,* 1995), 107–117, *Brepols, Turnhout,* 1998. (Summary) **99k:01024** 01A55 (01A70)
— (*with* Butzer, Paul Leo) P. L. Chebyshev (1821–1894). A guide to his life and work. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 111–138. (F. Smithies) **99m:01019** 01A55 (01A70)
Jonker, Leo B. (*with* Zhang, Lei[2]) Torus homeomorphisms whose rotation sets have empty interior. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 5, 1173–1185. (Klaudiusz Wójcik) **99h:58147** 58F20 (58F12)
Jonoska, Nataša A conjugacy invariant for reducible sofic shifts and its semigroup characterizations. (English summary) *Israel J. Math.* **106** (1998), 221–249. (Doris Fiebig) **99h:58056** 58F03 (68Q45, 68Q70)
— (*with* Karl, Stephen A.) A molecular computation of the road coloring problem. (English summary) *DNA based computers, II (Princeton, NJ,* 1996), 87–96, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.,* 44, *Amer. Math. Soc., Providence, RI,* 1999. (*see* **99f:68002**) 68Q05
— (*with* Karl, Stephen A.; Saito, Masahico) Creating 3-dimensional graph structures with DNA. (English summary) *DNA based computers III (Philadelphia, PA,* 1997), 123–135, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.,* 48, *Amer. Math. Soc., Providence, RI,* 1999. (*see* **99m:68008**) 68Q05 (92E10)
Jonsbråten, Tore W. (*with* Wets, Roger J.-B.; Woodruff, David L.) A class of stochastic programs with decision dependent random elements. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 83–106. (Summary) **99f:90067** 90C15
Jonson, R. (*with* Johnson, N. F.; Jarvis, S.; Cheung, Ping; Kwong, Y. R.; Hui, Pak-ming) Volatility and agent adaptability in a self-organizing market. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 230–236. 90A60
Jonsson, Alf Wavelets on fractals and Besov spaces. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 3, 329–340. (Bl. Sendov) **99h:42060** 42C15 (28A80, 46E35)
Jonsson, Bengt (*with* Bengtsson, Johan; Lilius, Johan; Yi, Wang) Partial order reductions for timed systems. (English summary) *CONCUR'98: concurrency theory (Nice),* 485–500, *Lecture Notes in Comput. Sci.,* 1466, *Springer, Berlin,* 1998. (*see* **99k:68006**) 68Q60 (68Q55, 68Q68)
— (*with* Nyström, Sven-Olof) A fully abstract semantics for concurrent constraint programming. (English summary) *Inform. and Comput.* **146** (1998), *no.* 2, 138–180. (Neculai Curteanu) **99j:68078** 68Q55 (68Q10)
Jónsson, G. F. (*with* Trefethen, Lloyd N.) A numerical analyst looks at the "cutoff phenomenon" in card shuffling and other Markov chains. (English summary) *Numerical analysis* 1997 (*Dundee*), 150–178, *Pitman Res. Notes Math. Ser.,* 380, *Longman, Harlow,* 1998. (Sergei A. Nemnyugin) **99i:65155** 65U05 (65F30)
Jonsson, Mattias Some properties of 2-critically finite holomorphic maps of $\mathbf{P}^2$. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 171–187. (Dan Coman) **99b:32042** 32H50
— Sums of Lyapunov exponents for some polynomial maps of $\mathbf{C}^2$. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 613–630. (Jean-Yves Briend) **99d:32033** 32H50
— Holomorphic motions of hyperbolic sets. *Michigan Math. J.* **45** (1998), *no.* 2, 409–415. (Thomas Ransford) **99g:32049** 32H50 (58F15, 58F23)
Jonsson, Peter (*with* Bäckström, Christer) Tractable plan existence does not imply tractable plan generation. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 281–296. (Summary) **99f:68180** 68T20
— (*with* Bäckström, Christer) State-variable planning under structural restrictions: algorithms and complexity. (English summary) *Artificial Intelligence* **100** (1998), *no.* 1-2, 125–176. (Summary) **99g:68186** 68T20 (68Q25)
— (*with* Bäckström, Christer) A unifying approach to temporal constraint reasoning. (English summary) *Artificial Intelligence* **102** (1998), *no.* 1, 143–155. (Summary) **99h:68162** 68T27 (03B70, 03D15)
— Near-optimal nonapproximability results for some NPO PB-complete problems. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 5, 249–253. (Summary) **99i:68062** 68Q25 (90C60)
Jonsson, Thordur (*with* Wheater, John F.) The spectral dimension on branched polymer ensembles. *New developments in quantum field theory (Zakopane,* 1997), 341–348, *NATO Adv. Sci. Inst. Ser. B Phys.,* 366, *Plenum, New York,* 1998. (E. J. Janse van Rensburg) **99m:82027** 82B41 (81T30, 82D60, 83C45)
— (*with* Wheater, John F.) Area distribution for directed random walks. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 3-4, 713–725. (Summary) **99e:82048** 82B41
— (*with* Durhuus, Bergfinnur) A polymer gas on a random surface. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 2, 153–157. (Summary) **99d:82028** 82B41 (82D60)
— (*with* Wheater, John F.) The spectral dimension of the branched polymer phase of two-dimensional quantum gravity. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 3, 549–574. (Bergfinnur Durhuus) **99h:82039** 82B41 (81T40, 82B27)
— Width of handles in two-dimensional quantum gravity. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 265–268. (Summary) **99b:83036** 83C45

Jönsson, Ulf A Popov criterion for systems with slowly time-varying parameters. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 844–846. (Summary) **99m:93079** 93D10

Joó, István (*with* Pál, L. G.) Lacunary (0; 0, 1) interpolation on the roots of Jacobi polynomials and their derivatives, respectively. I. Existence, explicit formulae, unicity. (Russian summary) *Anal. Math.* **22** (1996), *no.* 4, 289–298. (Kewal Krishna Mathur) **99h:41003** 41A05 (41A10)

— (*with* Schnitzer, Franz Josef) On some problems concerning expansions by noninteger bases. *Anz. Österreich. Akad. Wiss. Math.-Natur. Kl.* **133** (1996), 3–10 (1997). (Yann Bugeaud) **99b:11008** 11A67

— (*with* Forgó, Ferenc) Necessary conditions for two-function minimax inequalities. (English summary) *New trends in mathematical programming*, 59–64, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 49K35

— (*with* Erdős, Paul[1]; Komornik, Vilmos) On the sequence of numbers of the form $\varepsilon_0 + \varepsilon_1 q + \cdots + \varepsilon_n q^n$, $\varepsilon_i \in \{0, 1\}$. *Acta Arith.* **83** (1998), *no.* 3, 201–210. (D. Boyd) **99a:11022** 11B83 (11R06)

— (*with* Zhang, Shenghai) Approximate controllability of infinite-dimensional bilinear systems. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 1, 58–67. (Sergei A. Avdonin) **99b:93013** 93B05 (93C25)

— (*with* Horváth, Miklós) On some special pseudoconvex spaces. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 13–20. (Summary) **99i:52001** 52A01

— (*with* Liflyand, E. R.) Approximation in L^∞ on the real line. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 171–181. (Eduard Belinskii) **99g:42046** 42C30 (41A30)

— (*with* Forgó, Ferenc) A general nontopological two-function minimax theorem. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 5, 376–383. (Tamaki Tanaka) **99j:49010** 49J35 (49K35, 52A37, 52A40)

Joppich, W. (*with* Mijalković, S.) Fourier analysis—a tool to estimate multigrid convergence. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 257–271. (Summary) **99d:65348** 65N55 (65M55)

Jorba, Àngel (*with* Villanueva, Jordi) Existence of quasiperiodic solutions for a restricted four-body problem. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 5 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 70F10 (58F27, 70H05)

— (*with* Villanueva, Jordi) Stability and asymptotic behaviour of the vertical family of periodic orbits around L_5 of the restricted three body problem. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 303–308, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70F15

— (*with* Villanueva, Jordi) Numerical computation of normal forms around some periodic orbits of the restricted three-body problem. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 197–229. (Ugo Locatelli) **99g:70017** 70F07 (34C20, 58F36, 65L99, 70–08, 70H05)

pérez-Jordá, José M. *see* **Pérez-Jordá, José M.**

arroyo-Jordá, P. *see* **Arroyo-Jordá, P.**

Jordan, Benjamin W. (*with* Hamann, Bernd) Triangulations from repeated bisection. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 229–236, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41056** 41A63 (65D07)

Jordán, C. *see* **Jordán Lluch, Cristina**

Jordán, Cristina *see* **Jordán Lluch, Cristina**

Jordan, David A. Iterated skew polynomial rings and simple modules. *Algebra and analysis* (*Kazan*, 1994), 57–73, *de Gruyter, Berlin*, 1996. (J. F. Watters) **99a:16022** 16S36 (16D60)

Jordán, Mario (*with* Julián, Pedro; Desages, Alfredo) Canonical piecewise-linear approximation of smooth functions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 567–571. (Summary) **99b:93021** 93B30 (41A30)

Jordan, P. M. (*with* Puri, Pratap) Wave structure in Stokes' second problem for a dipolar fluid with nonclassical heat conduction. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 145–160. (Summary) **99i:80010** 80A20 (76A05, 76R99)

Jordan, Richard (*with* Kinderlehrer, David; Otto, Felix) The route to stability through Fokker-Planck dynamics. *Differential equations and applications* (*Hangzhou*, 1996), 108–126, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 82C35 (82C03)

— (*with* Kinderlehrer, David; Otto, Felix) Free energy and the Fokker-Planck equation. (English summary) Landscape paradigms in physics and biology (Los Alamos, NM, 1996). *Phys. D* **107** (1997), *no.* 2-4, 265–271. (Yurïĭ Raikher) **99a:82068** 82C31

— (*with* Yoshida, Zensho; Ito, Nobuyasu) Statistical mechanics of three-dimensional magnetohydrodynamics in a multiply connected domain. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 251–272. (Barak Galanti) **99e:76127** 76W05 (76M35, 82D40)

Jordán, Tibor (*with* Cheriyan, Joseph; Nutov, Zeev) Approximating k-outconnected subgraph problems. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 77–88, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99k:68132** 68R10 (05C85, 90C35)

— (*with* Bang-Jensen, Jørgen; Gabow, Harold N.; Szigeti, Zoltán) Edge-connectivity augmentation with partition constraints. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 306–315, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (05C40, 05C85, 68Q25)

— (*with* Bang-Jensen, Jørgen) Adding and reversing arcs in semicomplete digraphs. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 17–25. (R. C. Entringer) **99a:05053** 05C20 (05C40)

— (*with* Bang-Jensen, Jørgen) Edge-connectivity augmentation preserving simplicity. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 4, 603–623 (*electronic*). (Jozef Širáň) **99f:05070** 05C40 (05C85, 68R10, 90B12)

Jordán Lluch, Cristina (*with* Torregrosa Sánchez, Juan Ramón; Urbano, Ana M.) On the Rodman-Shalom conjecture regarding the Jordan form of completions of partial upper triangular matrices. (English summary) *Electron. J. Linear Algebra* **3** (1998), 103–118 (*electronic*). (V. V. Sergeĭchuk) **99g:15014** 15A21

— (*with* Torregrosa Sánchez, Juan Ramón; Urbano, Ana M.) An algorithm for nilpotent completions of partial Jordan matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 315–325. (Hugo Jan Woerdeman) **99f:15017** 15A21 (15A57)

Jorge, J. C. (*with* Clavero Gracia, Carmelo; Lisbona, Francisco J.) Fractional-step method and Shishkin meshes for convection-dominated convection-diffusion problems. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M06 (76M25)

— (*with* Bujanda, B.) Design of new alternating directions methods applied to the solution of convection-diffusion problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 611–616, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

— (*with* Clavero Gracia, Carmelo; Lisbona, Francisco J.; Shishkin, G. I.) A fractional step method on a special mesh for the resolution of multidimensional evolutionary convection-diffusion problems. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 211–231. (Claus-Dieter Munz) **99g:65089** 65M06 (65M12, 76M20)

Jorge, M. C. (*with* Cruz-Pacheco, G.; Flores-Reyna, G.; Minzoni, Antonmaría; Smyth, Noel F.) Approximate evolution of lump initial conditions for the Benjamin-Ono equation. (English summary) *Wave Motion* **28** (1998), *no.* 3, 195–202. 35Q53 (76B15)

Jørgensen, Bent ★The theory of dispersion models. (English summary) Monographs on Statistics and Applied Probability, 76. *Chapman & Hall, London*, 1997. xii+237 *pp. ISBN* 0-412-99711-8 (Évelyne Bernadac) **99a:62015** 62E10 (60F05, 62E20, 62J12)

— Proper dispersion models. (English summary) With discussion and a rejoinder by the author. *Rebrape* **11** (1997), *no.* 2, 89–140. (Nancy Reid) **99f:62033** 62F10 (62F03)

— (*with* Song, Peter Xue-Kun) Stationary time series models with exponential dispersion model margins. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 78–92. (Francesco Battaglia) **99e:60101** 60G10 (62M10)

Jorgensen, David A. Complexity and Tor on a complete intersection. (English summary) *J. Algebra* **211** (1999), *no.* 2, 578–598. (Satyagopal Mandal) **99k:13014** 13C15 (13D99)

— Existence of unliftable modules. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1575–1582. (Ana Jeremías López) **99i:13028** 13D25 (13C13)

hoffmann-Jørgensen, Jørgen *see* **Hoffmann-Jørgensen, Jørgen**

Jorgensen, Palle E. T. (*with* Bratteli, Ola) A connection between multiresolution wavelet theory of scale N and representations of the Cuntz algebra $\mathcal{O}_N$. *Operator algebras and quantum field theory* (*Rome*, 1996), 151–163, *Internat. Press, Cambridge, MA*, 199?. (Introduction) **99j:46062** 46L05 (42C15)

— (*with* Bratteli, Ola) Isometries, shifts, Cuntz algebras and multiresolution wavelet analysis of scale N. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 4, 382–443. (Paul Jolissaint) **99k:46094b** 46Lxx (22D25, 39B12, 42C15, 46N40, 47D25)

— (*with* Pedersen, Steen) Local harmonic analysis for domains in $\mathbf{R}^n$ of finite measure. (English summary) *Analysis and topology*, 377–410, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99k:46039** 46E22 (42Bxx, 46N20)

— (*with* Pedersen, Steen) Orthogonal harmonic analysis and scaling of fractal measures. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 301–306. (Paul Jolissaint) **99h:28019** 28A80 (42B10, 46E30)

— (*with* Pedersen, Steen) Orthogonal harmonic analysis of fractal measures. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 35–42 (*electronic*). (Peter R. Massopust) **99b:28008** 28A75 (28A80, 42B10, 42C05, 47B38)

— (*with* Ólafsson, Gestur) Unitary representations of Lie groups with reflection symmetry. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 26–88. (A. L. Onishchik) **99m:22013** 22E45

— (*with* Bratteli, Ola) Iterated function systems and permutation representations of the Cuntz algebra. (English summary) *Mem. Amer. Math. Soc.* **139** (1999), *no.* 663, x+89 *pp.* (Paul Jolissaint) **99k:46094a** 46Lxx (11B85, 22D25, 39B12, 42C15, 47D25)

Jørgensen, Peter Non-commutative graded homological identities. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 336–350. (Michel Van den Bergh) **99h:16010** 16E10 (16E30, 16W50)

Jorgensen, Theodore P. Relativity and the quantum. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 11, 2763–2766. (Summary) **99k:81019** 81P05 (83A05)

Jorgenson, Jay (*with* Lundelius, Rolf) A regularized heat trace for hyperbolic Riemann surfaces of finite volume. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 636–659. (Józef Dodziuk) **99b:58224** 58G11 (58G18, 58G25, 58G26)

— (*with* Lundelius, Rolf) Convergence of the normalized spectral counting function on degenerating hyperbolic Riemann surfaces of finite volume. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 25–57. (Christopher M. Judge) **99e:58185** 58G18 (11F72, 58G25)

— (*with* Huntley, Jonathan; Lundelius, Rolf) On the asymptotic behavior of counting functions associated to degenerating hyperbolic Riemann surfaces. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 58–82. (Christopher M. Judge) **99e:58186** 58G18 (11F72)

— (*with* Todorov, Andreĭ Nikolov) Enriques surfaces, analytic discriminants, and Borcherds's Φ function. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 249–264. (I. Dolgachev) **99e:14042** 14J28 (11F22, 14J15, 32N15, 58G26)

— (*with* Kramer, Jürg) Towards the arithmetic degree of line bundles on abelian varieties. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 335–370. (Klaus Künnemann) **99h:11047** 11F46 (11G10, 14G40, 14K25)

— (*with* Catto, Sultan; Huntley, Jonathan; Tepper, David) On an analogue of Selberg's eigenvalue conjecture for $SL_3(\mathbf{Z})$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3455–3459. (Werner Hoffmann) **99b:11055** 11F72 (22E40)

Jörgenson, Loki (*with* Borwein, Jonathan M.; Borwein, Peter B.; Corless, Robert M.; Sinclair, Nathalie) What is organic mathematics? *Organic mathematics* (*Burnaby, BC*, 1995), 1–18, *CMS Conf. Proc.*, 20, *Amer. Math. Soc., Providence, RI*, 1997. (Editors) **99h:00014** 00A99 (00A30, 01A99)

Jöricke, Burglind Deformation of CR-manifolds, minimal points and CR-manifolds with the microlocal analytic extension property. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 4, 555–611 (1997). (J. Merker) **99f:32026** 32G07 (32C16, 32D10, 32F40)

Jorjadze, G. *see* **Dzhordzhadze, G. P.**

Jorjadze, George *see* **Dzhordzhadze, G. P.**

Jörnsten, Kurt O. (*with* Løkketangen, Arne) Tabu search for weighted k-cardinality trees. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 9–26. 90C27 (90C35)

— (*with* Fisher, Marshall L.; Madsen, Oli B. G.) Vehicle routing with time windows: two optimization algorithms. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 488–492.

90B06 (90C27)

José, Jorge V. (*with* Saletan, Eugene J.) ★Classical dynamics. (English summary) A contemporary approach. *Cambridge University Press, Cambridge*, 1998. *xxvi*+670 *pp. ISBN* 0-521-63636-1 (Steve Shkoller) **99g:70001** 70–02 (58F05, 58F27, 70–01, 70Fxx, 70Hxx)

Jose, Magie (*with* Xavier, D. Antony; Santiago, M. L.) Open mapping theorem in fuzzy normed spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 1009–1013. (Athanasios K. Katsaras) **99k:46008** 46A30 (46B99, 46S40)

Joseph, Anthony Sur l'annulateur d'un module de Verma. (English and French summaries) [On the annihilator of a Verma module] With an outline of the annihilation theorem by M. Gorelik and E. Lanzmann. *Representation theories and algebraic geometry* (*Montreal, PQ*, 1997), 237–300, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (Ian M. Musson) **99k:17022** 17B35

— Orbital varietes of the minimal orbit. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 1, 17–45. (William M. McGovern) **99e:17015** 17B35 (22E47)

— (*with* Braverman, Alexander) The minimal realization from deformation theory. *J. Algebra* **205** (1998), *no.* 1, 13–36. (Darin R. Stephenson) **99h:16043** 16S80 (16S30)

Joseph, Binson Chaotic advection in large-scale convection. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 1, 57–71. (Summary) **99d:76047** 76F20 (58F13, 58F40, 76E15)

Joseph, Daniel D. (*with* Glowinski, Roland; Pan, Tsorng-Whay; Hesla, Todd I.; Périaux, Jacques) A fictitious domain method with distributed Lagrange multipliers for the numerical simulation of particulate flow. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 121–137, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99i:76112** 76M25 (65M60, 76T05)

— Cavitation and the state of stress in a flowing liquid. (English summary) *J. Fluid Mech.* **366** (1998), 367–378. (Summary) **99c:76002** 76A05 (73M25, 76–05, 76D99)

Joseph, James E. (*with* Kwack, Myung H.) Families of Bloch functions on higher-dimensional complex spaces. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 299–319. (Summary) **99d:32003** 32A37 (32C15)

— (*with* Kwack, Myung H.) The arithmetic-mean–geometric-mean inequality derived from closed polynomial functions. *Missouri J. Math. Sci.* **11** (1999), *no.* 2, 103–106. 26D15

Joseph, John A. A chaotic extension of the $3x + 1$ function to $\mathbf{Z}_2[i]$. *Fibonacci Quart.* **36** (1998), *no.* 4, 309–316. (Štefan Porubský) **99f:11026** 11B83 (11B75, 11S85, 58F13)

babu Joseph, K. *see* **Babu Joseph, K.**

Joseph, Lawrence (*with* Rahme, Elham) Exact sample size determination for binomial experiments. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 83–93. (Summary) **99a:62026** 62F10

Joseph, Marc A. Wittgenstein's philosophy of arithmetic. (French summary) *Dialogue* **37** (1998), *no.* 1, 83–106. (Yehuda Rav) **99d:00005** 00A30 (01A60)

Joshi, Amitabh (*with* Vaccaro, J. A.) Position-momentum and number-phase Wigner functions and their respective displacement operators. (English summary) *Phys. Lett. A* **243** (1998), *no.* 1-2, 13–19. (Summary) **99b:81127** 81S30

Joshi, Aravind K. (*with* Schabes, Yves) Tree-adjoining grammars. *Handbook of formal languages, Vol.* 3, 69–123, *Springer, Berlin*, 1997. (From the introduction) **99h:68109** 68Q50 (03D05, 68Q45, 68S05)

— (*with* Kulick, Seth) Implementational aspects of a categorial grammar based on partial proof trees. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers* (*Gudauri*, 1995), 213–233, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 68S05 (03B65)

Joshi, C. M. (*with* Joshi, N. L.) Successive derivatives and finite expansions involving the H-function of one and more variables. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 1, 15–29. (S. L. Kalla) **99b:33027** 33C60 (33C65, 33C70)

— (*with* Bissu, S. K.) Inequalities of Appell's hypergeometric functions of two variables. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 1, 7–15. (Yoshishige Haraoka) **99b:33029** 33C65

Joshi, J. M. C. Recent studies integral transforms. *J. Natur. Phys. Sci.* **11** (1997), 65–78. (From the text) **99j:44001** 44A05

Joshi, Mark S. (*with* Sá Barreto, Antônio) The generation of semilinear singularities by a swallowtail caustic. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 529–550. (Jean-Marc Delort) **99c:58155** 58G17 (35B99, 35L70)

— (*with* Sá Barreto, Antônio) Recovering asymptotics of short range potentials. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 197–208. (Piotr G. Grinevich) **99e:58195** 58G25 (35P25, 58G15)

— A symbolic construction of the forward fundamental solution of the wave operator. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 7-8, 1349–1417. (William Margulies) **99j:58200** 58G15 (35L05, 35P05, 35S05, 58G15)

Joshi, Mukesh M. (*with* Nagar, Vishakha; Chhajer, G. C.; Rathie, Arjun K.) On Ramanujan's summations. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 65–66. 33C20 (11Y60)

— (*with* Rathie, N. R.) An expansion formula for $\overline{H}$-function in series involving Jacobi polynomials. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 232–235. (Summary) **99e:33008** 33C45 (33C60)

— (*with* Suri, Komal; Rathie, N. R.) Some finite series of $\overline{H}$-function. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 241–244. (Summary) **99h:33027** 33C20 (33C60)

Joshi, N. *see* **Joshi, Nalini**

Joshi, N. L. (*with* Joshi, C. M.) Successive derivatives and finite expansions involving the H-function of one and more variables. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 1, 15–29. (S. L. Kalla) **99b:33027** 33C60 (33C65, 33C70)

Joshi, Nalini (*with* Kruskal, M. D.; Halburd, R.) Analytic and asymptotic methods for nonlinear singularity analysis: a review and extensions of tests for the Painlevé property. (English summary) *Integrability of nonlinear systems* (*Pondicherry*, 1996), 171–205, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Summary) **99g:34031** 34A34 (34A20, 34E05, 35Q53, 58F07)

— A local asymptotic analysis of the discrete first Painlevé equation as the discrete independent variable approaches infinity. (English summary) Dedicated to Martin David Kruskal. *Methods Appl. Anal.* **4** (1997), *no.* 2, 124–133. (Summary) **99a:39017** 39A10

— (*with* Ramani, A.; Grammaticos, B.) A bilinear approach to discrete Miura transformations. (English summary) *Phys. Lett. A* **249** (1998), *no.* 1-2, 59–62. (Summary) **99h:58174** 58F37

— (*with* Clarkson, Peter A.; Pickering, Andrew) Bäcklund transformations for the second Painlevé hierarchy: a modified truncation approach. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 175–187. (Andrei A. Kapaev) **99m:34009** 34A34 (34A25)

Joshi, Nitu On the unification of some integral equations and their solutions involving generalized Bateman's function. (Hindi. English and Hindi summaries) *Vijnana Parishad Anusandhan Patrika* **41** (1998), *no.* 2, 103–108. 45A05

Joshi, P. C. (*with* Chakraborty, Sharmishtha) Alternating sums of sub-diagonal product moments of order statistics. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1049–1054. (Summary) **99a:62073** 62G30

Joshi, P. S. (*with* Deshingkar, S. S.; Jhingan, S.) On the global visibility of the singularity in quasi-spherical collapse. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1477–1499. (Volker Perlick) **99i:83073** 83C75 (83C57)

— (*with* Dwivedi, I. H.) Initial data and the end state of spherically symmetric gravitational collapse. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 41–59. (Leonardo Fernández-Jambrina) **99m:83150** 83C75 (83C57)

Joshi, Rajashri R. (*with* Yagle, Andrew E.) Levinson-like and Schur-like fast algorithms for solving block-slanted Toeplitz systems of equations arising in wavelet-based solution of integral equations. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 7, 1798–1813. (A. Bultheel) **99j:65241** 65R20 (45E10, 45L05, 47B35, 65F05)

Joshi, S. B. *see* **Joshi, Santosh B.**

Joshi, S. N. (*with* MacEachern, Steven N.) Isotonic maximum likelihood estimation for the change point of a hazard rate. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 3, 392–407. (Summary) **99k:62077** 62G05 (62N05)

Joshi, Santosh B. Meromorphic univalent functions with positive and fixed coefficients. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 81–85. (Summary) **99f:30022** 30C45 (30D30)

— (*with* Obradović, Milutin; Jovanović, Ivan) On certain sufficient conditions for starlikeness and convexity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 271–275. (Gerald Schmieder) **99e:30008** 30C45

— (*with* Aouf, M. K.) On certain subclasses of meromorphically starlike functions with positive coefficients. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 79–90. (F. W. Hartmann) **99f:30020** 30C45

— (*with* Obradović, Milutin) On certain classes of strongly starlike functions. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 297–302. (Wolfram Koepf) **99f:30025** 30C45

— (*with* Lee, Sang Keun) A certain class of analytic functions defined by Ruscheweyh derivatives. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 147–156. (Herb Silverman) **99m:30021** 30C45

Joshi, Shirish (*with* Sherali, Hanif D.; Tew, Jeffrey D.) An enhanced response surface methodology (RSM) algorithm using gradient deflection and second-order search strategies. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 7-8, 531–541. 90C30 (65K05)

Joshi, Sunil (*with* Bhati, S. S.) Kepteyn [Kapteyn] series for generalized Lauricella's triple hypergeometric functions. (English summary) *Math. Ed.* (*Siwan*) **33** (1999), *no.* 1, 29–32. 33C70

Joskowicz, L. (*with* Ramalingam, G.; Song, J.; Miller, Raymond E.) Solving systems of difference constraints incrementally. (English summary) *Algorithmica* **23** (1999), *no.* 3, 261–275. (Summary) **99j:90105** 90C35 (15A39, 68T20)

Jost, Jürgen Generalized harmonic maps between metric spaces. *Geometric analysis and the calculus of variations*, 143–174, *Internat. Press, Cambridge, MA*, 1996. (Klaus Steffen) **99a:58045** 58E20

— (*with* Albeverio, Sergio; Paycha, Sylvie; Scarlatti, Sergio) ★A mathematical introduction to string theory. (English summary) Variational problems, geometric and probabilistic methods. London Mathematical Society Lecture Note Series, 225. *Cambridge University Press, Cambridge*, 1997. viii+135 *pp. ISBN* 0-521-55610-4 (Steven Rosenberg) **99d:58178** 58G26 (14C40, 32G15, 58D30, 81T30)

— Minimal surfaces and Teichmueller theory. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 149–211, *Internat. Press, Cambridge, MA*, 1997. (Athanase Papadopoulos) **99b:32029** 32G15 (53A10)

— (*with* Yau, Shing-Tung) Harmonic maps and superrigidity. (English summary) *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 213–246, *Internat. Press, Cambridge, MA*, 1997. (Ralf J. Spatzier) **99i:53052** 53C35 (22E40, 32M15, 58E20)

— (*with* Zuo, Kang[1]) Harmonic maps of infinite energy and rigidity results for representations of fundamental groups of quasiprojective varieties. (English summary) *J. Differential Geom.* **47** (1997), *no.* 3, 469–503. (Raul Quiroga) **99a:58046** 58E20 (53C20)

— (*with* Kendall, Wilfrid S.; Mosco, Umberto; Röckner, Michael; Sturm, Karl-Theodor) ★New directions in Dirichlet forms. AMS/IP Studies in Advanced Mathematics, 8. *American Mathematical Society, Providence, RI; International Press, Cambridge, MA*, 1998. *xiv*+277 *pp. ISBN* 0-8218-1061-8 (Editors) **99e:31002** 31–06 (31C25, 60J35)

— ★Postmodern analysis. (English summary) Translated from the German manuscript by Hassan Azad. Universitext. *Springer-Verlag, Berlin*, 1998. xviii+353 *pp. ISBN* 3-540-63485-1 (P. Lindqvist) **99f:00002** 00A05 (26–01, 35–01, 49–01, 58–01)

— ★Riemannian geometry and geometric analysis. (English summary) Second edition. Universitext. *Springer-Verlag, Berlin*, 1998. *xiv*+455 *pp. ISBN* 3-540-63654-4 (Liviu I. Nicolaescu) **99g:53025** 53Cxx (53–02, 58E05, 58E10, 58G05)

— Nonlinear Dirichlet forms. *New directions in Dirichlet forms*, 1–47, *AMS/IP Stud. Adv. Math.*, 8, *Amer. Math. Soc., Providence, RI*, 1998. (Zhongmin Qian) **99k:31012** 31C25

— (*with* Ding, Weiyue; Li, Jia Yu[1]; Wang, Guofang) An analysis of the two-vortex case in the Chern-Simons Higgs model. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 87–97. (Yisong Yang) **99c:58039** 58E15 (35Q40)

— (*with* Xu, Chao-Jiang) Subelliptic harmonic maps. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4633–4649. (Martin Fuchs) **99a:58047** 58E20 (35H05)

Joswig, Michael Isotopy of polygonal domains for generalized polygons. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 151–158. (Hendrik Van Maldeghem) **99a:51005** 51E12

— Correction: "Generalized polygons with highly transitive collineation groups" [Geom. Dedicata **58** (1995), no. 1, 91–100; MR 96g:51018]. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 217–220. (Summary) **99h:51002** 51E12 (51H15, 51H20)

— (*with* Straub, B.) On the numerical range map. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 267–283. (Hiroshi Nakazato) **99i:15039** 15A60 (47A12)

Jotić, Nikola (*with* Ćirić, Ljubomir) A further extension of maps with non-unique fixed points. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 1–4. 54H25

Jou, Min-Jen (*with* Chang, Gerard J.) Survey on counting maximal independent sets. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 265–275, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99h:05064** 05C35

— (*with* Chang, Gerard J.) The number of maximal independent sets in connected triangle-free graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 169–178. (Summary) **99i:05105** 05C35

Jouan, P. (*with* Balde, M.) Genericity of observability of control-affine systems. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 345–359 (*electronic*). (Boris G. Zaslavskiĭ) **99j:93012** 93B07 (93C10)

Jouannaud, Jean-Pierre (*with* Rubio, Albert) Rewrite orderings for higher-order terms in η-long β-normal form and the recursive path ordering. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 33–58. (Editors) **99i:68071** 68Q42 (03B40)

— *see also* **Conference: Constraints in Computational Logics, 99a:68005**

Jouault, Bruno (*with* Greiner, Martin; Schmiegel, Jürgen; Giesemann, Jens; Lipa, Peter; Eggers, Hans) Wavelets: from signal analysis to the analysis of complex processes. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 11–14. (*see* **99g:81002**) 42C15 (94A12)

Joubert, P. N. (*with* Macfarlane, I.; Nickels, T. B.) Secondary flows and developing, turbulent boundary layers in a rotating duct. (English summary) *J. Fluid Mech.* **373** (1998), 1–32. 76F99 (76-05, 76D10)

Jouini, Elyès Unicité et stabilité de l'équilibre dans une économie de production avec règle de tarification marginale: les cas convexe et non-convexe. (English and French summaries) [Uniqueness and stability of the marginal pricing equilibrium: the convex and nonconvex cases] *Ann. Économ. Statist.* **1996**, *no.* 44, 159–176. (Hans Peters) **99d:90027** 90A14 (90A11, 90A12)

— (*with* Biais, Bruno; Björk, Tomas; Cvitanić, Jakša; El Karoui, N.; Rochet, Jean Charles) ★ Financial mathematics. Lectures given at the 3rd C.I.M.E. Session held in Bressanone, July 8–13, 1996. Edited by W. J. Runggaldier. Lecture Notes in Mathematics, 1656. *Springer-Verlag, Berlin*, 1997. viii+316 *pp. ISBN* 3-540-62642-5 (Marek Rutkowski) **99a:90033** 90A09 (60H10, 60H30, 90–06)

— Market imperfections, equilibrium and arbitrage. *Financial mathematics* (*Bressanone*, 1996), 247–307, *Lecture Notes in Math.*, 1656, *Springer, Berlin*, 1997. (*see* **99a:90033**) 90A09 (90A60)

Joulin, G. *see* **Hydrodynamics and nonlinear instabilities, 99i:76001**

Joun, M. S. (*with* Lee, Min Cheol) General approach to automatic generation of quadrilaterals on three-dimensional surfaces. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 609–620. (Summary) **99d:65270** 65M50 (65N50)

Jouneau, F. (*with* Guerre, Emmanuel) Geometric versus arithmetic random walk: the case of trended variables. (English summary) *J. Statist. Plann. Inference* **68** (1998), *no.* 2, 203–220. (Sung K. Ahn) **99h:62112** 62M10

Joung, Haewon Large sieve for generalized trigonometric polynomials. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 161–169. (Summary) **99k:42001** 42A05

Jourani, Abderrahim Variational sum of subdifferentials of convex functions. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 71–79, *Univ. Rovira Virgili, Tarragona*, 1998. (Summary) **99b:49017** 49J52 (49N15)

— The role of locally compact cones in nonsmooth analysis. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 1–35. (B. Mordukhovich) **99e:49018** 49J52 (46N10, 58C20)

— (*with* Thibault, L.) Qualification conditions for calculus rules of coderivatives of multivalued mappings. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 66–81. (B. Mordukhovich) **99f:49021** 49J52 (46G05, 46N10, 58C06)

— (*with* Amahroq, T.; Thibault, L.) A general metric regularity in Asplund Banach spaces. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 3-4, 215–226. (Ada Bottaro Aruffo) **99h:49021** 49J52 (46A99, 46G99, 90C48)

Jourdain, B. Propagation trajectorielle du chaos pour les lois de conservation scalaire. (French summary) [Propagation of chaos along the trajectory for scalar conservation laws] *Séminaire de Probabilités, XXXII*, 215–230, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (René Ferland) **99k:60201** 60J60 (35L65, 60K35, 82C22)

— Convergence of moderately interacting particle systems to a diffusion-convection equation. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 2, 247–270. (Ya. Ī. Bīlopol′s′ka) **99b:60092** 60H15 (60J60, 60K35)

Jourdan, Franck (*with* Alart, Pierre; Jean, Michel) A Gauss-Seidel like algorithm to solve frictional contact problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 1-2, 31–47. (Summary) **99a:73134** 73V20 (73T05)

Joussot, Patrice (*with* Zagrebnov, V. A.) Quantum critical fluctuations in a ferroelectric model: quasi-average approach. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 921–930. (Gustavo R. Guerberoff) **99j:82009** 82B10

Jouve, François (*with* Allaire, Grégoire) Structural optimization by the homogenization method. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 293–300, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73054** 73K40 (73B27, 73V20, 90C90)

Joux, Antoine (*with* Stern, Jacques) Lattice reduction: a toolbox for the cryptanalyst. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 161–185. (Summary) **99c:94031** 94A60

— (*with* Friedman, Joel; Roichman, Yuval; Stern, Jacques; Tillich, Jean-Pierre) The action of a few permutations on r-tuples is quickly transitive. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 335–350. (Martin Klazar) **99e:05106** 05C80 (05A05, 94A60)

guihenneuc-Jouyaux, Chantal *see* **Guihenneuc-Jouyaux, Chantal**

Jovanović, Boško S. (*with* Samarskiĭ, Aleksandr Andreevich; Matus, Petr P.; Shcheglik, V. S.) Difference schemes on time-adaptive grids for parabolic equations with generalized solutions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 975–984, 1007; *translation in Differential Equations* **33** (1997), *no.* 7, 981–990 (1998). (Summary) **99e:65117** 65M06

— An iterative vector method for solving elliptic difference problems. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 273–282. (Summary) **99d:65299** 65N06

— On the convergence of an iterative vector alternating directions difference scheme. (English summary) *Filomat No.* 11 (1997), 89–102. (Luciano Biasini) **99g:65102** 65N12 (65N06)

— (*with* Bojović, Dejan) Application of interpolation theory to the analysis of the convergence rate for finite difference schemes of parabolic type. (English summary) *Mat. Vesnik* **49** (1997), *no.* 2, 99–107. (Summary) **99b:65103** 65M12 (46M35, 65M06, 65N40)

— (*with* Popović, Branislav Z.) Interpolation of function spaces and the convergence rate estimates for the finite difference method. (English summary) *Novi Sad J. Math.* **28** (1998), *no.* 3, 95–104. (Summary) **99g:65103** 65N12 (65N06)

— (*with* Šestak, Ivan) Existence result for the displacement field of elastic body. The case of a locking support. (English summary) *Publ. Inst. Math.* (*Beograd*) (*N.S.*) **63(77)** (1998), 75–80. (Igor Bock) **99f:73026** 73C02 (73T05, 73V25)

— (*with* Šestak, Ivan) Least-squares mixed finite elements for linear elasticity problems with non-homogeneous boundary conditions. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 641–645. (Summary) **99f:65168** 65N30 (73C02, 73V05)

Jovanović, Božidar Žarko Non-holonomic geodesic flows on Lie groups and the integrable Suslov problem on SO(4). (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1415–1422. (David Martín de Diego) **99f:70024** 70F25 (58F17, 70E15, 70H05)

Jovanović, Ivan (*with* Rakočević, Vladimir) Multipliers of mixed-norm sequence spaces and measures of noncompactness. II. (English summary) 4th Symposium on Mathematical Analysis and Its Applications (Aranđelovac, 1997). *Mat. Vesnik* **49** (1997), *no.* 3-4, 197–206. (Asuman Aksoy) **99c:47085** 47H09 (30B10, 47B37)

— (*with* Obradović, Milutin; Joshi, Santosh B.) On certain sufficient conditions for starlikeness and convexity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 271–275. (Gerald Schmieder) **99e:30008** 30C45

Jovanovic, M. B. (*with* Bajić, V. B.; Debeljković, D. Lj.; Bogićevic, B. B.) Non-Lyapunov stability robustness consideration for discrete linear descriptor systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 2, 105–115. (Summary) **99e:93054** 93D09 (93C30)

Jovanovic, M. V. (*with* Govedarica, V.) Some remarks on the Bernoulli inequality. (English summary) *Bull. Soc. Math. Banja Luka* **4** (1997), 33–35. 26D20

Jovanović, Miljana (*with* Janković, Svetlana) On a general iterative method for solving hereditary differential equations. II. (English summary) *Filomat No.* 11 (1997), 7–18. (Haydar Akça) **99e:34016** 34A45 (34G20, 34K05)

Jovanović, Mirko S. On Hua's inequality in strictly convex normed spaces. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 47–49. (Introduction) **99m:46036** 46B20

Jovanovoć, Boško *see* **Jovanović, Boško S.**

torrecillas Jover, Blas *see* **Torrecillas Jover, Blas**

Joy, Mark P. (*with* Tavsanoglu, Vedat) An equilibrium analysis of CNN's. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 94–98. (Summary) **99c:92009** 92B20 (68T05, 94C05)

Joyal, Pierre Invariance of Poincaré-Lyapunov polynomials under the group of rotations. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 23, *p.* 8 (*electronic*). (Henryk Żołądek) **99i:34044** 34C05 (58F21)

Joyce, Dominic Compact manifolds with exceptional holonomy. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 361–370 (*electronic*). (Francisco M. Cabrera) **99j:53065** 53C25

Joyce, G. S. (*with* Delves, R. T.; Zucker, I. J.) Exact evaluation of the Baxter-Bazhanov Green function. (English summary) *J. Phys. A* **31** (1998), *no.* 7, 1781–1790. (M. Lawrence Glasser) **99g:33011** 33C20 (30E05, 82B20)

— (*with* Zucker, I. J.; Delves, R. T.) On the evaluation of the integral $\int_0^{\pi/4} \ln(\cos^{m/n}\theta \pm \sin^{m/n}\theta)d\theta$. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 317–326. (Summary) **99g:26019** 26A36

Joyce, H. Concerning the problem of subsets of finite positive packing measure. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 557–566. (Hermann Haase) **99c:28013** 28A75

— A relationship between packing and topological dimensions. (English summary) *Mathematika* **45** (1998), *no.* 1, 43–53. (Zbigniew Grande) **99h:54050** 54F45 (28A75)

— A space on which diameter-type packing measure is not Borel regular. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 985–991. (M. Zähle) **99j:28007** 28A80 (28A12)

Joyce, James M. A nonpragmatic vindication of probabilism. (English summary) *Philos. Sci.* **65** (1998), *no.* 4, 575–603. 03B48

Joye, Alain (*with* Hagedorn, George A.) Landau-Zener transitions through small electronic eigenvalue gaps in the Born-Oppenheimer approximation. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 1, 85–134. (Hiroshi Isozaki) **99e:81055** 81Q20

— (*with* Barbaroux, J. M.) Expectation values of observables in time-dependent quantum mechanics. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1225–1249. (Mihai Pascu) **99d:81034** 81Q10 (47N50)

— (*with* Hagedorn, George A.) Molecular propagation through small avoided crossings of electron energy levels. (English summary) *Rev. Math. Phys.* **11** (1999), *no.* 1, 41–101. (Hiroshi Isozaki) **99m:81293** 81V55 (81Q15)

Joye, Marc (*with* Quisquater, Jean-Jacques) Reducing the elliptic curve cryptosystem of Meyer-Müller to the cryptosystem of Rabin-Williams. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 53–56. 94A60 (11G20, 11T71)

Joyner, David A correspondence for the generalized Hecke algebra of the metaplectic cover $\widetilde{SL(2, F)}$, F p-adic. (English summary) *New York J. Math.* **4** (1998), 223–235 (*electronic*). (Ehud M. Baruch) **99m:22020** 22E50 (11F70)

Józefowska, Joanna Discrete-continuous scheduling problems. (Polish. English summary) *Rozprawy Politech. Poznań No.* 318 (1997), 95 *pp.* 90B35 (90–02)

Jozsa, Richard (*with* Hausladen, Paul; Schumacher, Benjamin; Westmoreland, Michael; Wootters, William K.) Classical information capacity of a quantum channel. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1869–1876. (Summary) **99c:94017** 94A40 (81P99, 94A15)

— (*with* Barenco, Adriano; Berthiaume, André; Deutsch, David; Ekert, Artur; Macchiavello, Chiara) Stabilization of quantum computations by symmetrization. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1541–1557. (V. Ya. Kreinovich) **99a:68060** 68Q05 (03D10, 03D15, 81P99)

— Entanglement and quantum computation. *The geometric universe* (*Oxford*, 1996), 369–379, *Oxford Univ. Press, Oxford*, 1998. (Emanuel H. Knill) **99d:81028** 81P99 (68Q05)

— (*with* Ekert, Artur) Quantum algorithms: entanglement-enhanced information processing. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1769–1782. (Emanuel H. Knill) **99i:81023** 81P99 (68Q05)

Ju, G. J. (*with* Kouvaritakis, B.; Rossiter, J. A.) Robust stable generalized predictive control. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 411–434. 93D21 (93B36)

Ju, Guo-Xing (*with* Cai, Jin-fang; Guo, Han-Ying; Wu, Ke[1]; Wang, Shi-kun) Super-Yangian $Y(\mathrm{gl}(1|1))$ and its oscillator realization. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6155–6161. (Mariano A. del Olmo) **99a:81074** 81R50 (17B37)

— (*with* Xiong, Chi) On the integrability of the one-dimensional open XYZ spin chain. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 3, 337–340. 82B23 (82B20)

— (*with* Wang, Shi-kun; Wu, Ke[1]; Xiong, Chi) Boundary K matrices and the Lax pair for one-dimensional open XYZ spin-chain. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4213–4226. (Andrey V. Tsiganov) **99h:82013** 82B20 (82B23)

— (*with* Wang, Shi-kun; Wu, Ke[1]) The algebraic structure of the $\mathrm{gl}(n|m)$ color Calogero-Sutherland models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2813–2820. (Kazuhiro Hikami) **99c:81281** 81V70 (17B37, 81R10)

Ju, Hong Bin (*with* Shen, Meng Yu) Optimization of finite difference schemes for wave equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 7, 49–53. 65M06 (76M20)

Ju, Hyeong-Kwan (*with* Nam, Ill-Hyeon) Uniqueness and existence of the solution for certain scalar semilinear elliptic problem. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 89–95. (Xin Kang Guo) **99h:35065** 35J65 (34B15)

Ju, Li Li (*with* Zhang, Lin Bo) Parallel implementation of a pressure-correction projection method for the unsteady incompressible Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 325–336. 65M60 (65Y05, 76D05, 76M25)

montero de Juan, Francisco Javier *see* **Montero de Juan, Francisco Javier**

san Juan, J. F. *see* **San Juan, J. F.**

Juanatey, Margarita (*with* Adrián de Pérez, Trina; Urbano, Luis; Banchs, Rafael) Wavelet transform and filter banks theory relationship. A revision. (English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 2, 107–123. 42C15

burusco Juandeaburre, A. *see* **Burusco Juandeaburre, A.**

Juang, Jong (*with* Lin, Wen-Wei) Nonsymmetric algebraic Riccati equations and Hamiltonian-like matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 228–243 (*electronic*). (John P. Daughtry) **99e:15019** 15A24 (82C70)

Juang, Jyh-Ching (*with* Yeh, Hsi-Han; Banda, Siva S.) Observer-based compensators for fixed-order H_∞ control. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 441–461. 93B36 (93B51)

— (*with* Wang, Wein-So; Sun, York-Yih) On the application of alternating projection under the constraint of linear matrix inequalities. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 15–22. 93B40 (65F30, 90C30)

Juan-Pineda, Daniel Stable splittings of classifying spaces of amalgams of finite groups. (English summary) *Homotopy theory via algebraic geometry and group representations* (*Evanston, IL*, 1997), 267–273, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Hans-Werner Henn) **99g:55019** 55R35 (20G30, 55R40)

garcía Juárez, Pedro *see* **García Juárez, Pedro**

Jubete, Francisco (*with* Castillo, Enrique F.; Cobo Ortega, Ángel; Pruneda, Rosa Eva) ★ Orthogonal sets and polar methods in linear algebra. (English summary) Applications to matrix calculations, systems of equations, inequalities, and linear programming. Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1999. *xiv*+422 *pp. ISBN* 0-471-32889-8 (From the preface) **99k:90001** 90–01 (15–01, 65F30, 90C05)

— (*with* Castillo, Enrique F.; Hadi, Ali S.; Solares, Cristina) An expert system for coherent assessment of probabilities in multigraph models. (English summary) *Networks* **33** (1999), *no.* 3, 193–206. 68T35

Jubinville, Chantal (*with* Tardif, Serge) Distribution-free analysis of a replicated Latin square design by the method of weighted rankings and generalized weighted rankings. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 95–122. (Summary) **99d:62051** 62G10 (62K99)

Judd, Kenneth L. ★ Numerical methods in economics. (English summary) *MIT Press, Cambridge, MA*, 1998. *xvi*+633 *pp. ISBN* 0-262-10071-1 (F. Szidarovszky) **99i:90005** 90Axx (65–01, 90–01)

— *see also* **Algorithms and economic dynamics, 99b:90005**

Judge, Christopher M. Conformally converting cusps to cones. (English summary) *Conform. Geom. Dyn.* **2** (1998), 107–113 (*electronic*). (David L. Finn) **99m:53026** 53A30 (35J60, 53A10, 58G30)

Júdice, Joaquim (*with* Murty, Katta G.) On the complexity of finding stationary points of nonconvex quadratic programs. (English summary) *Opsearch* **33** (1996), *no.* 3, 162–166. (Summary) **99a:90143** 90C20 (90C60)

— (*with* Facchinei, Francisco; Soares, João) Algorithm 774: Fortran subroutines for generating box-constrained optimization problems. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 3, 448–450. 65Y15

— (*with* Fernandes, Luis; Fischer, Andreas[1]; Requejo, C.; Soares, João) A block active set algorithm for large-scale quadratic programming with box constraints. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 75–95. (*see* **99b:90006**) 90C20

— (*with* Facchinei, Francisco; Soares, João) An active set Newton algorithm for large-scale nonlinear programs with box constraints. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 158–186 (*electronic*). (Zhen Yu Huang) **99c:90117** 90C30 (65K05, 90C06)

Juditsky, Anatoli (*with* Nazin, A. V.) Information lower bounds in a nonparametric adaptive control problem. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 6, 745–746. 93C40

Juel, A. (*with* Mullin, Tom; Ben Hadid, H.; Henry, Daniel) Magnetohydrodynamic convection to molten gallium. (English summary) *J. Fluid Mech.* **378** (1999), 97–118. (Summary) **99j:76137** 76W05 (76–05, 76R05)

Juels, Ari (*with* Peinado, Marcus) Hiding cliques for cryptographic security. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 678–684, *ACM, New York*, 1998. (*see* **99d:68011**) 94A60 (05C80, 68R10)

Jugo, Josu (*with* de la Sen, Manuel) Absolute stability and hyperstability of a class of hereditary systems. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **9** (1998), *no.* 2, 195–208. (Kaiqi Xiong) **99i:93048** 93D10 (34D20, 34H05)

Juhás, Gabriel The essence of Petri nets and transition systems through abelian groups. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 22 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (Summary) **99i:68086** 68Q90

Juhász, Arye (*with* Leibman, Alexander) A note on the combinatorics of multiplication in groups. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 695–699. (Summary) **99f:20069** 20F99 (05A15)

Juhász, I. *see* **Juhász, István**

Juhász, Imre Weight-based shape modification of NURBS curves. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 5, 377–383. 65D17 (41A63)

Juhász, István Cardinal functions on continuous images. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 89–94, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99a:54005** 54A25 (04A25, 54C05)

— (*with* Hajnal, András; Szentmiklóssy, Z.) On CCC Boolean algebras and partial orders. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 537–544. (P. A. Biryukov) **99d:06006** 06A07 (03E05, 06E10)

— (*with* Shelah, Saharon) On the cardinality and weight spectra of compact spaces. II. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 91–94. (W. W. Comfort) **99c:06015** 06E05 (54A25)

— (*with* Soukup, Lajos; Szentmiklóssy, Z.) What is left of CH after you add Cohen reals? (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 165–174. (Andrzej Szymański) **99d:54001** 54A25 (03E35, 03E50)

Juillard, Michel (*with* Laxton, Douglas; McAdam, Peter; Pioro, Hope) An algorithm competition: first-order iterations versus Newton-based techniques. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1291–1318. (F. Szidarovszky) **99m:90052** 90A58 (62P20, 65F10)

Jukić, D. (*with* Scitovski, R.; Ungar, Š.) Approximating surfaces by moving total least squares method. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 219–232. (Yu Yu Feng) **99f:65031** 65D17

— (*with* Marošević, T.; Scitovski, R.) Discrete total l_p-norm approximation problem for the exponential function. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 137–143. (Summary) **99c:65026** 65D15

— (*with* Scitovski, R.) Existence results for special nonlinear total least squares problem. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 348–363. (Gerd Pönisch) **99m:65024** 65D10 (62F12, 62J02, 93E24)

Jukl, Marek Desargues theorem for Klingenberg projective plane over certain local ring. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 33–39. 51C05

— Canonical matrices of λ-bilinear forms on modules over a certain local ring. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 9–17. (K. Szymiczek) **99e:11041** 11E08 (11E39, 13C99, 15A63)

— A remark on spaces over a special local ring. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 243–247. 13C10

Jukna, Stasys (*with* Razborov, A. A.; Savický, Petr; Wegener, Ingo) On P versus NP∩ co-NP for decision trees and read-once branching programs. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 319–326, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68053** 68Q15 (03D15, 68Q05)

— (*with* Žák, Stanislav) On branching programs with bounded uncertainty (extended abstract). (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 259–270, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q25 (68Q05)

— Exponential lower bounds for semantic resolution. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 163–172, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Uwe Schöning) **99c:03086** 03F20

— (*with* Damm, Carsten; Sgall, Jiří) Some bounds on multiparty communication complexity of pointer jumping. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 109–127. (Summary) **99h:68053** 68Q15 (68Q25)

— (*with* Razborov, A. A.) Neither reading few bits twice nor reading illegally helps much. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 223–238. (Christoph Meinel) **99f:68054** 68Q05 (68Q15, 68Q25)

Julia, B. (*with* Silva, S.) Currents and superpotentials in classical gauge-invariant theories. I. Local results with applications to perfect fluids and general relativity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2173–2215. (Hans P. Künzle) **99h:83004** 83C05 (58E30, 70G50, 76N10, 83C55)

Julián, Pedro (*with* Chen, Guanrong; Desages, Alfredo) Trajectory tracking and robust stability for a class of time-delayed flexible-joint robotic manipulators. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 259–276. 93C85 (70B15, 70Q05, 93D09)

— (*with* Jordán, Mario; Desages, Alfredo) Canonical piecewise-linear approximation of smooth functions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 567–571. (Summary) **99b:93021** 93B30 (41A30)

— (*with* Desages, Alfredo; Agamennoni, Osvaldo) High-level canonical piecewise linear representation using a simplicial partition. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **46** (1999), *no.* 4, 463–480. (Summary) **99m:65051** 65D99 (94C05)

Julien, Keith (*with* Knobloch, Edgar) Strongly nonlinear convection cells in a rapidly rotating fluid layer: the tilted f-plane. (English summary) *J. Fluid Mech.* **360** (1998), 141–178. (Summary) **99a:76058** 76E30 (76E15, 76E20, 76U05, 86A05, 86A10)

Julio-Arrieta, Carlos A. (*with* Ardila de la Peña, Victor Manuel; Duque Hoyos, Álvaro; Luna Torres, Joaquín; Restrepo, Mauricio) Sieves and adjunction. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **2** (1995), *no.* 2, 167–171. (Summary) **99g:18001** 18A40

— Observations concerning the Laplacian in manifolds. (Spanish. English and Spanish summaries) *Lect. Mat.* **17** (1996), *no.* 2, 129–153. (Summary) **99g:58114** 58G03

Julka, Vibhor (*with* Vázquez-Abad, Felisa J.; Cassandras, Christos G.) Centralized and decentralized asynchronous optimization of stochastic discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 631–655. (Summary) **99a:93093** 93E03 (93A14, 93C83)

Jullien, Graham A. (*with* Dimitrov, Vassil S.; Miller, William C.) A residue number system implementation of real orthogonal transforms. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 563–570. (Summary) **99h:94014** 94A12

— (*with* Dimitrov, Vassil S.; Miller, William C.) An algorithm for modular exponentiation. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 155–159. (Summary) **99d:94023** 94A60

Jullien, Vincent Descartes-Roberval, une relation tumultueuse. [Descartes and Roberval: a tumultuous relationship] "Pour Descartes": mathématiques et physique cartésiennes (Paris, 1996). *Rev. Histoire Sci.* **51** (1998), *no.* 2-3, 363–371. (*see* **99h:01003**) 01A45 (01A70)

— *see also* **de Roberval, Gilles Personne, 99h:01024**

Julve, J. (*with* de Urries, F. J.) Ostrogradski formalism for higher-derivative scalar field theories. (English summary) *J. Phys. A* **31** (1998), *no.* 33, 6949–6964. (Hans P. Künzle) **99f:70025** 70G50 (58E30)

Jumarie, Guy Ito's lemma for a rotating complex-valued Brownian motion of fractional order $1/n$. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 267–270. (Summary) **99b:60069** 60H05 (60J65)

— A new information-theoretic approach to the entropy of non-random discrete maps relation to fractal dimension and temperature of curves. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 6, 953–970. 94A17 (58F99)

— A new approach to complex-valued fractional Brownian motion via rotating white noise. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 6, 881–893. (Summary) **99e:60184** 60J65 (60H10)

— Entropy of Markovian processes: application to image entropy in computer vision. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1327–1338. (Summary) **99k:94009** 94A12 (60G35)

— An approach via the central limit theorem to randomization of Fourier's transform. (English summary) *COMPEL* **18** (1999), *no.* 1, 38–42. (Summary) **99j:42008** 42A38 (60F05)

Jun, Dong-Kum (*with* Lee, Il-Yong) On two-dimensional Landsberg spaces of the Finsler space with $L^2(\alpha,\beta)=2\alpha\beta$ metric. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 75–88. (Makoto Matsumoto) **99d:53021** 53B40

Jun, Jae-Bok (*with* Kim, Un Kyu) On 4-dimensional almost Hermitian manifolds with pointwise constant holomorphic sectional curvature. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 649–656. (Hani Farran) **99m:53056** 53C15

Jun, K. P. (*with* Kim, D. W.; Ryu, W.; Park, Byeong U.; Bae, H. D.) Waiting times in polling systems with Markov-modulated Poisson process arrival. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 355–363. (Summary) **99c:60204** 60K25

Jun, Sungtae On the certain primitive orders. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 791–807. (Thomas R. Shemanske) **99b:11126** 11R52 (11F25, 11F27)

— The representability of modular forms by certain theta series. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 809–824. (Thomas R. Shemanske) **99b:11047** 11F27 (11F11, 11F25)

Jun, Young Bae (*with* Meng, Jie; Xin, Xiao Long) Anti-fuzzy BCK-filters. (English summary) *Far East J. Math. Sci.* **1997**, *Special Volume, Part II*, 137–145. (Summary) **99b:06021** 06F35 (03G25)

— (*with* Roh, Eun Hwan) A result on fuzzy irreducible ideals of BCK-algebras. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 141–144. (Summary) **99f:06024** 06F35

— (*with* Xin, Xiao Long; Meng, Jie; Kim, Hee Sik) On free d-algebras. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 155–163. (Introduction) **99g:06027** 06F35

— (*with* Lajos, Sándor) Γ-filters and semilattice Γ-congruences in po-Γ-semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 275–280. (Mark Verus Lawson) **99i:06015** 06F05 (20M99)

— (*with* Hong, Sung-Min; Kim, Hee Sik) Fuzzy ideals in near-rings. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 455–464. (Summary) **99h:16072** 16Y99

— (*with* Neggers, J.; Kim, Hee Sik) On L-fuzzy ideals in semirings. I. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 669–675. (Udo Hebisch) **99k:16095** 16Y60

— (*with* Meng, Jie; Xin, Xiao Long) Prime ideals in commutative BCK-algebras. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 5–15. (Elias Deeba) **99f:06023** 06F35 (03G25)

— (*with* Roh, Eun Hwan; Wei, Shi Min) Fuzzy (∗)-ideals in BCI-algebras. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 437–445. (C. S. Hoo) **99g:06025** 06F35 (03G25, 04A72)

— (*with* Kim, Hee Sik) Finite valued fuzzy ideals in semirings. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 185–189. 16Y60

— (*with* Roh, Eun Hwan; Meng, Jie; Xin, Xiao Long) Fuzzy dual ideals in BCK-algebras. II. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 203–214. 06F35 (03G25, 04A72)

— (*with* Kuresh, S. W.) Anti-fuzzy ordered filters in adjoint semigroups of BCK-algebra. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 461–466. (Summary) **99a:06028** 06F35

— A characterization of fuzzy commutative $\mathcal{I}$-ideals in BCI-semigroups. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 483–489. (Summary) **99a:06025** 06F35

— (*with* Neggers, J.; Kim, Hee Sik) Extensions of L-fuzzy ideals in semirings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 131–135. 16Y60 (04A72)

— (*with* Hong, Sung-Min) Fuzzy maximal and complete fuzzy normal BCK-filters. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 137–143. (A. B. Thaheem) **99i:06021** 06F35 (03G25)

— (*with* Hong, Sung-Min) Anti-fuzzy ideals in BCK-algebras. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 145–150. (A. B. Thaheem) **99h:06011** 06F35 (03G25)

— (*with* Roh, Eun Hwan; Huang, Wen Ping) On prime dual ideals in BCK-algebras. II. *Kyungpook Math. J.* **38** (1998), *no.* 2, 387–391. 06F35 (03G25)

— (*with* Roh, Eun Hwan; Wei, Shi Min) Supplement of the paper: "Some ideals in BCI-algebras" [Math. Japon. **43** (1996), no. 1, 47–50]. (English summary) *Sci. Math.* **1** (1998), *no.* 2, 209–210 (*electronic*). 06F35 (03G25)

— (*with* Xin, Xiao Long) On p-semisimple BCI-algebras and pomonoids. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 131–140. (Summary) **99c:06023** 06F35

— (*with* Roh, Eun Hwan; Wei, Shi Min; Zhu, Yi Quan) Some ideals in BCI-algebras. II. (English summary) *Soochow J. Math.* **24** (1998), *no.* 2, 147–154. (Summary) **99d:06026** 06F35 (03G25)

— (*with* Song, Seok-Zun; Hong, Sung-Min; Kim, Seon Jeong) Linear operators that preserve Boolean ranks. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 131–138. (R. Piziak) **99m:15001** 15A03 (06E20, 15A04)

— (*with* Xin, Xiao Long; Lee, Dong-Soo[1]) On topological BCI-algebras. (English summary) *Inform. Sci.* **116** (1999), *no.* 2-4, 253–261. 54H12 (06F30)

— (*with* Kim, Hee Sik) Fuzzy implicative filters in implicative algebras. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 141–149. (Summary) **99m:03131** 03G25 (03E72)

— (*with* Roh, Eun Hwan; Mostafa, Samy M.) On fuzzy implicative ideals of BCK-algebras. (English summary) *Soochow J. Math.* **25** (1999), *no.* 1, 57–70. (Summary) **99k:06012** 06F35 (03G25)

Junca, Stéphane Réflexions d'oscillations monodimensionnelles. (English summary) [Reflections of one-dimensional oscillations] *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 727–759. (Christophe Cheverry) **99e:35131** 35L60

Junchao, Wei *see* **Wei, Jun Chao**

del Junco, Andrés A simple map with no prime factors. (English summary) *Israel J. Math.* **104** (1998), 301–320. (Mariusz Lemańczyk) **99d:28037** 28D05

Juncu, Gh. (*with* Popa, Constantin) Preconditioning by approximations of the Gram matrix for convection-diffusion equations. (English summary) *Math. Comput. Simulation* **48** (1998), *no.* 2, 225–233. (Summary) **99h:65078** 65F30 (65F10, 65J10, 65N06)

Junde, W. *see* **Wu, Jun De**

Jundong, Bao *see* **Bao, Jun Dong**

Junek, Heinz (*with* Matos, Mario C.) On unconditionally p-summing and weakly p-convergent polynomials. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 1, 41–51. (Andreas Defant) **99c:47021** 47B10 (46G20)

Jung, Achim (*with* Kegelmann, Mathias; Moshier, M. Andrew) Multilingual sequent calculus and coherent spaces. (English summary) *Mathematical foundations of programming semantics (Pittsburgh, PA, 1997)*, 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (S. Awodey) **99f:03036** 03B70 (03B22, 03F05, 68Q55)

— (*with* Sünderhauf, Philipp) Uniform approximation of topological spaces. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 23–37. (Summary) **99b:54038** 54E15 (06B35, 54D30, 54F05)

— *see also* **Workshop: Computation and Approximation, 99i:00013**

Jung, Gihyun (*with* Choi, Kyunghee; Kim, Taegeun; Jung, Seunhun) Real-time scheduling algorithm for minimizing maximum weighted error with $O(N \log N + cN)$ complexity. *Inform. Process. Lett.* **67** (1998), *no.* 6, 311–315. 68M20

Jung, H. S. (*with* Kwon, Kil Hyun) Convergence of a quadrature formula for variable-signed weight functions. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 275–288. (De Hui Chen) **99d:65079** 65D32 (41A55)

— (*with* Kwon, Kil Hyun) Mean convergence of Hermite-Fejér and Hermite interpolation for Freud weights. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 219–238. (Saulius Norvidas) **99m:41009** 41A10 (42C05)

Jung, Ho-Youl (*with* Choi, Tae-Young; Prost, Rémy) Rounding transform and its application for lossless pyramid structured coding. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 2, 234–237. (Summary) **99j:94008** 94A12 (94A29)

Jung, Hwan Yup (*with* Bae, Sunghan) Elliptic modules of rank one and class fields of function fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 1–9. (Yoshinori Hamahata) **99h:11132** 11R58 (11G09, 11R37)

Jung, Hyung Chan Bipartite posets with two optimal linear extensions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 279–284. (Gerhard Behrendt) **99a:06004** 06A07

Jung, Hyung-Jo (*with* Kim, Man-Cheol; Lee, In-Won) An improved subspace iteration method with shifting. (English summary) *Comput. & Structures* **70** (1999), *no.* 6, 625–633. 65F15 (65F30)

Jung, I. H. *see* **Jung, Il Hyo**

Jung, Il Bong (*with* Choi, Kun Wook; Kim, Bok Ja) Direct integrals of dual operator algebras with properties $(A_{m,n})$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 259–270. (Wing Suet Li) **99f:47058** 47D27 (46L45, 47A65)

— (*with* Exner, George R.) Some multiplicities for contractions with Hilbert-Schmidt defect. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 113–138, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (László Kérchy) **99h:47011** 47A20 (47A45, 47D27)

— (*with* Choi, Kun Wook; Lee, Sang Hun) Singly generated dual operator algebras with properties $(A_{m,n})$. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 727–739. (Gregory Adams) **99k:47109** 47D27 (47A45)

Jung, Il Hyo (*with* Kwon, Kil Hyun; Lee, Dong Won[1]) Markov type inequalities for difference operators and discrete classical orthogonal polynomials. (English summary) *Advances in difference equations (Veszprém, 1995)*, 335–342, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:33009** 33C45 (39A70)

— (*with* Kwon, Kil Hyun; Lee, Jeong Keun) Sobolev orthogonal polynomials relative to $\lambda p(c)q(c) + \langle \tau, p'(x)q'(x)\rangle$. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 603–617. (Peter A. McCoy) **99f:42050** 42C05 (33C45)

— (*with* Han, S. S.; Kwon, Kil Hyun; Lee, Jeong Keun) A non-standard class of Sobolev orthogonal polynomials. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 935–950. (Leonid B. Golinskiĭ) **99h:42044** 42C05

— (*with* Kwon, Kil Hyun; Yoon, G. J.) Differential equations of infinite order for Sobolev-type orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 2, 277–293. (Summary) **99f:33012** 33C45 (34A35, 42C05)

Jung, Inha (*with* Hong, Jee Chang) On consistency of some nonparametric Bayes estimators with respect to a beta process based on incomplete data. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 123–132. (Summary) **99m:62046** 62G05

Jung, J. S. *see* **Jung, Jong Soo**

Jung, Jae Hong (*with* Lee, Sang Keun) On left regular po-semigroups. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 1–6. (Jacques Lévy-Bruhl) **99d:06021** 06F05

Jung, Jong Soo (*with* Kim, Seong Sik) Strong convergence theorems for nonexpansive nonself-mappings in Banach spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 31–42. (Summary) **99g:47126** 47H09 (47H10)

— (*with* Cho, Yeol Je; Pathak, H. K.) Applications of coincidence theorems to best approximation theory. (English summary) *Nonlinear Anal. Forum* **1** (1995), 73–83. (Mihai Turinici) **99i:47100** 47H10 (41A50, 54H25)

— (*with* Kim, Tae Hwa) Strong convergence theorems for multivalued nonexpansive mappings in Banach spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 49–55. (Tomás Domínguez Benavides) **99f:47070** 47H09 (47H04, 47H10)

— (*with* Park, Jong Seo; Park, Eun Hee) Convergence of approximating fixed points for nonexpansive nonself-mappings in Banach spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 275–285. (Charles Ejike Chidume) **99i:47104** 47H10

— (*with* Kim, Seong Sik) Strong convergence theorems for nonexpansive nonself-mappings in Banach spaces. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 30–33, *World Sci. Publishing, River Edge, NJ*, 1998. (From the text) **99j:47078** 47H09 (47H10)

— (*with* Sahu, Daya Ram; Thakur, Balwant Singh) Strong convergence theorems for asymptotically nonexpansive mappings in Banach spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 53–69. (Behzad Djafari-Rouhani) **99g:47127** 47H09 (47H10)

— (*with* Thakur, Balwant Singh; Sharma, Birendra Kumar) Fixed point theorems for generalized uniformly Lipschitzian semigroups. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 71–79. (Mo Tak Kiang) **99b:47100** 47H20 (47H09, 47H10)

— (*with* Thakur, Balwant Singh; Sahu, Daya Ram) Fixed points of a certain class of mappings in spaces with uniformly normal structure. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 677–680. (Louis A. Talman) **99i:47105** 47H10 (54H25)

— (*with* Zhang, Shi Sheng; Cho, Yeol Je; Lee, Byung Soo; Kang, Shin Min) Iterative approximations of fixed points and solutions for strongly accretive and strongly pseudo-contractive mappings in Banach spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 149–165. (Charles Ejike Chidume) **99g:47146** 47H15 (47H06, 47H09, 47H17)

— (*with* Kim, Tae Hwa) Strong convergence of approximating fixed points for nonexpansive nonself-mappings in Banach spaces. (English summary) *Kodai Math. J.* **21** (1998), *no.* 3, 259–272. (Tomás Domínguez Benavides) **99k:47134** 47H09 (47H10)

— (*with* Kim, Seong Sik) Strong convergence theorems for nonexpansive nonself-mappings in Banach spaces. *Nonlinear Anal.* **33** (1998), *no.* 3, 321–329. (K. Goebel) **99h:47068** 47H10 (47H09)

— (*with* Sahu, Daya Ram) Approximating fixed points of asymptotically nonexpansive mappings. (English summary) *Nonlinear Anal. Forum* **3** (1998), 41–52. (Tomás Domínguez Benavides) **99f:47071** 47H09 (47H10, 47H17)

— (*with* Thakur, Balwant Singh; Sharma, Birendra Kumar) On some fixed point theorems for mappings with generalized Lipschitzian iterates. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 3, 187–198. (Hong Kun Xu) **99j:47081** 47H09 (47H10)

— (*with* Thakur, Balwant Singh; Cho, Yeol Je) Random fixed points of asymptotically regular mappings. (English summary) *Comm. Appl. Nonlinear Anal.* **6** (1999), *no.* 1, 61–71. 47H40 (47H10)

— (*with* Lee, Gue Myung; Lee, Byung Soo; Zhang, Shi Sheng) Minimization theorems and fixed point theorems in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 143–152. (Summary) **99k:54004** 54A40 (54H25)

— (*with* Zhang, Shi Sheng; Cho, Yeol Je; Lee, Byung Soo; Kang, Shin Min) Common fixed point theorems and variational principle in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 315–325. 54A40 (54C60, 54H25)

Jung, Kang-Mo Local influence assessment of the misclassification probability in multiple discriminant analysis. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 4, 471–483. 62H30

Jung, Michael[1] (*with* Rüde, Ulrich) Implicit extrapolation methods for variable coefficient problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1109–1124 (*electronic*). (Summary) **99b:65164** 65N55 (65F10, 65N22)

— (*with* Heise, Bodo) Efficiency, scalability, and robustness of parallel multilevel methods for nonlinear partial differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 553–567 (*electronic*). (Dao Qi Yang) **99h:65209** 65N55 (65N30, 78–08)

Jung, Seoung Dal (*with* Pak, Jin Suk) Some vanishing theorems on complete Kähler foliations. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 15–28. (Introduction) **99b:53042** 53C12 (53C55, 58G10)

Jung, Seunhun (*with* Choi, Kyunghee; Jung, Gihyun; Kim, Taegeun) Real-time scheduling algorithm for minimizing maximum weighted error with $O(N \log N + cN)$ complexity. *Inform. Process. Lett.* **67** (1998), *no.* 6, 311–315. 68M20

Jung, Soon-Mo On the superstability of the functional equation $f(x^y) = yf(x)$. *Abh. Math. Sem. Univ. Hamburg* **67** (1997), 315–322. (Stefan Czerwik) **99c:39041** 39B72 (39B22)

— On a general Hyers-Ulam stability of gamma functional equation. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 3, 437–446. (Prasanna Sahoo) **99e:39094** 39B72 (39B22)

— On solution and stability of functional equation $f(x+y)^2 = af(x)f(y) + bf(x)^2 + cf(y)^2$. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 561–571. (Kazimierz Nikodem) **99b:39027** 39B22 (39B72)

— On the superstability of some functional inequalities with the unbounded Cauchy difference $f(x+y) - f(x)f(y)$. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 287–291. (Summary) **99i:39038** 39B72

— On the modified Hyers-Ulam-Rassias stability of the functional equation for gamma function. *Mathematica* **39(62)** (1997), *no.* 2, 233–237. (Aurelio Cannizzo) **99f:39037** 39B22 (33B15, 39A11)

— On the Hyers-Ulam stability of the functional equations that have the quadratic property. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 126–137. (Maciej Sablik) **99e:39095** 39B72 (47H99)

— On modified Hyers-Ulam-Rassias stability of a generalized Cauchy functional equation. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 59–67. (Prasanna Sahoo) **99h:39030** 39B72 (47H99)

— Hyers-Ulam-Rassias stability of Jensen's equation and its application. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3137–3143. (Summary) **99a:39065** 39B72

— On the stability of gamma functional equation. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 306–309. (Aurelio Cannizzo) **99f:39038** 39B22 (33B15, 39A11)

Jung, Tacksun (*with* Choi, Q-Heung; Chun, Sungki) Jumping problem in a wave equation. *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 27 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Sergiu Aizicovici) **99c:35129** 35L05 (35B20, 47H12, 47N20)

— (*with* Choi, Q-Heung) Fourth order differential equations with jumping nonlinearity. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 557–568. (Š. Schwabik) **99c:34033** 34B15 (34L30)

— (*with* Choi, Q-Heung) A nonlinear wave equation with jumping nonlinearity. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 111–117, *VSP, Utrecht*, 1998. (Summary) **99f:35133** 35L70

— (*with* Choi, Q-Heung) A nonlinear beam equation with nonlinearity crossing an eigenvalue. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 331–350. (Takashi Narazaki) **99f:35205** 35Q72 (35B10, 47H15, 73D30, 73K05)

— (*with* Choi, Q-Heung; Chun, Sungki) Jumping problem in a wave equation with nonlinearity crossing two eigenvalues. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 483–494. (Sergiu Aizicovici) **99j:35140** 35L70 (35B10)

Jung, Yong-Soo On derivations in noncommutative semisimple Banach algebras. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 583–590. (Summary) **99f:46070** 46H40

— On left derivations and derivations of Banach algebras. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 659–667. (Volker Runde) **99m:46118** 46H05 (46H40, 47B47)

Jung, Yoon-Tae (*with* Kim, Nam-Gil; Kim, Seon-Bu) Jacobi tensor and scalar curvature. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 533–538. (Lieven Vanhecke) **99m:53066** 53C20 (53C22)

— (*with* Ehrlich, Paul E.; Kim, Seon-Bu) Volume comparison theorems for Lorentzian manifolds. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 39–56. (Eduardo García-Río) **99k:53125** 53C50 (53C20)

Jungck, G. A fixed point theorem for bounded symmetric spaces and a consequence in PPM spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 495–503. 54H25 (54E70)

Junge, Marius (*with* Defant, Andreas) On some matrix inequalities in Banach spaces. (English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **90** (1996), *no.* 3, 133–140. (Summary) **99h:46025** 46B28 (47B10)

— (*with* Gordon, Yehoram) Volume formulas in L_p-spaces. (English summary) *Positivity* **1** (1997), *no.* 1, 7–43. (Mikhail Ostrovskiĭ) **99m:46018** 46B07 (47B10, 52A21, 52A38)

— (*with* Gordon, Yehoram; Nielsen, N. J.) The relations between volume ratios and new concepts of GL constants. (English summary) *Positivity* **1** (1997), *no.* 4, 359–379. (Mikhail Ostrovskiĭ) **99m:46019** 46B07 (47B10, 52A21)

Junge, Oliver (*with* Dellnitz, Michael) Almost invariant sets in Chua's circuit. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2475–2485. (Philip J. Aston) **99k:58117** 58F12 (34C35, 58F13)

Jüngel, Ansgar A steady-state quantum Euler-Poisson system for potential flows. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 463–479. (J. W. Jerome) **99h:82080** 82D99 (35Q99, 76X05)

— (*with* Degond, Pierre; Génieys, Stéphane) A steady-state system in non-equilibrium thermodynamics including thermal and electrical effects. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 15, 1399–1413. (G. Albinus) **99i:35163** 35Q99 (76R99, 78A99, 80A10)

Jünger, Michael (*with* Rinaldi, Giovanni) Relaxations of the max cut problem and computation of spin glass ground states. *Operations Research Proceedings* 1997 (*Jena*), 74–83, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30 (82D30)

— (*with* Thienel, Stefan) Introduction to ABACUS—a branch-and-cut system. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 83–95. 90C11 (90–04)

Junghanns, Peter (*with* Capobianco, M. R.; Luther, Uwe; Mastroianni, Giuseppe) Weighted uniform convergence of the quadrature method for Cauchy singular integral equations. (English summary) *Singular integral operators and related topics* (*Tel Aviv*, 1995), 153–181, *Oper. Theory Adv. Appl.*, 90, *Birkhäuser, Basel*, 1996. (From the introduction) **99e:45012** 45L05 (45E05, 65R20)

— Numerical solution of a free surface seepage problem from nonlinear channel. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 87–110. (Summary) **99a:76112** 76M25 (76S05, 86A05)

— (*with* Matveev, A. F.) On the construction of an approximate solution of a nonlinear integral equation of permeable profile. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1242–1252, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1249–1259 (1998). (Adrian Carabineanu) **99g:76010** 76B05 (76G25, 76M25)

— (*with* Luther, Uwe) Uniform convergence of a fast algorithm for Cauchy singular integral equations. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 327–347. (Jose Cuminato) **99g:65124** 65R20 (45E05, 45L05)

— (*with* Luther, Uwe) Uniform convergence of the quadrature method for Cauchy singular integral equations with weakly singular perturbation kernels. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 551–566. (Ilya V. Boikov) **99h:65217** 65R20 (45L05)

Junghenn, H. D. Almost periodic compactifications of product flows. *Semigroup Forum* **58** (1999), *no.* 2, 296–312. (V. V. Mukhin) **99k:22008** 22A20 (54H20)

Jungnickel, Dieter (*with* Schmidt, Bernhard) Difference sets: a second update. (English summary) Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 89–118. (Otokar Grošek) **99k:05035** 05B10

Jung-Pałczewska, Elżbieta (*with* Gensler, Marek) Scotism in Poland. (Polish. English summary) *Acta Univ. Lodz. Folia Philos. No.* 12 (1998), 17–27. 03–03 (01A35, 01A40, 03A05)

— The origins of modern science. (Polish. English summary) *Acta Univ. Lodz. Folia Philos. No.* 12 (1998), 29–48. 01A05

Junk, Michael Domain of definition of Levermore's five-moment system. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 5-6, 1143–1167. (Carlo Cercignani) **99k:82063** 82C40 (35Q99, 76P05)

Junker, Brian W. Some remarks on H. Scheiblechner's treatment of ISOP models: "Isotonic ordinal probabilistic models (ISOP)" [Psychometrika **60** (1995), no. 2, 281–304; MR 96m:62181]. (English summary) *Psychometrika* **63** (1998), *no.* 1, 73–85. (Fumiko Samejima) **99h:62131** 62P15

— *see also* **Scheiblechner, Hartmann**, **99h:62132**

Junker, Georg ★ Supersymmetric methods in quantum and statistical physics. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1996. xiv+172 *pp. ISBN* 3-540-61591-1 (From the preface) **99a:81048** 81Q60 (81–01, 82C31)

— Path-integral aspects of supersymmetric quantum mechanics. (English summary) *Path integrals: Dubna* '96, 213–218, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81Q60 (81S40)

— (*with* Inomata, Akira; Rösch, Claudia) Remarks on the magnetic top. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 729–739. (Summary) **99j:81091** 81S40 (81R99)

— (*with* Roy, Pinaki) Supersymmetric construction of exactly solvable potentials and nonlinear algebras. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1736–1743. (Summary) **99i:81053** 81Q60

— (*with* Cannata, Francesco; Trost, Johannes) Schrödinger operators with complex potential but real spectrum. (English summary) *Phys. Lett. A* **246** (1998), *no.* 3-4, 219–226. (Peter N. Zhevandrov) **99g:81034** 81Q05 (81Q20)

Junkins, John L. (*with* Schaub, Hanspeter) An instantaneous eigenstructure quasivelocity formulation for nonlinear multibody dynamics. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 3, 279–295. (Summary) **99a:70014** 70E99

Junnila, Heikki J. K. (*with* Künzi, Hans-Peter A.) Characterizations of absolute $F_{\sigma\delta}$-sets. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 55–64. (Salvador Romaguera) **99b:54040** 54E35 (54E15, 54E50, 54H05)

— (*with* Yajima, Yukinobu) Characterizations of submetacompactness. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 227–238. (Gino Tironi) **99c:54031** 54D20 (54B10)

— (*with* Yajima, Yukinobu) Normality and countable paracompactness of products with σ-spaces having special nets. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 375–394. (J. E. Vaughan) **99i:54011** 54B10 (54D15, 54D20, 54E18, 54E20)

Junod, Bernard (*with* Suter, Ueli) On the vector field problem for product manifolds. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 437–461. (Július Korbaš) **99k:57056** 57R25 (55N15, 55S25)

Junqua, N. (*with* Colin, Jérôme; Grilhé, J.) Localized surface instabilities of stressed solids. (English summary) *Computational and mathematical models of microstructural evolution* (*San Francisco, CA*, 1998), 27–32, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73B30

Junqueira, Lúcia R. (*with* Tall, Franklin D.) The topology of elementary submodels. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 239–266. (Mohammad Ismail) **99a:54003** 54A10 (03C62, 54A25, 54B99, 54D15, 54D30, 54D55)

— (*with* Grunberg, Renata; Tall, Franklin D.) Forcing and normality. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 145–174. (Klaas Pieter Hart) **99e:54016** 54D15 (03E40, 03E55, 54D30)

Juntunen, M. (*with* Tervo, Jouko; Kaipio, J. P.) Root modulus constraints in autoregressive model estimation. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 709–718. (Summary) **99h:62115** 62M10

Jupp, Peter E. Some applications of directional statistics to astronomy. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 123–133, *VSP, Utrecht*, 1995. (Summary) **99h:62073** 62H11

— (*with* Carey, Alan L.; Murray, Michael K.) The phylon group and statistics. *Algebraic groups and Lie groups*, 35–49, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (John W. Rice) **99k:62006** 62A05 (58A20)

— (*with* Barndorff-Nielsen, Ole E.) Statistics, yokes and symplectic geometry. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 389–427. (John W. Rice) **99e:58066** 58F05 (58F40, 62G99)

— (*with* Barndorff-Nielsen, Ole E.) Yokes and symplectic structures. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 133–146. (C. R. Rao) **99c:62050** 62F10 (58F05)

garcía-Jurado, Ignacio *see* **García-Jurado, Ignacio**

mena-Jurado, Juan Francisco *see* **Mena-Jurado, Juan Francisco**

Jurak, M. (*with* Aganović, Ibrahim; Marušić-Paloka, Eduard; Tutek, Zvonimir) Moderately wrinkled plate. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 273–297. (Veronique Lods) **99d:73053** 73K10 (35B27)

Juránek, Jiří Some remarks to testing statistical hypothesis in linear regression model with constraints. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 41–52. (I. S. Alalouf) **99f:62081** 62J05

Jurchescu, Martin Simion Stoilow and the Romanian mathematical school. *Analysis and topology*, 411–416, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 01A70 (01A72)

— The concept of global analytic function and Riemann surface in Stoilow's work. *Analysis and topology*, 417–423, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99h:00035**) 30–03 (01A70, 30F99)

— *see also* **Obituary: Jurchescu, Martin**, **99m:01102** *and* **Collection of papers in memory of Martin Jurchescu**

Jurčo, Branislav On quantum groups from the quantization point of view. (English summary) *Generalized symmetries in physics* (*Clausthal*, 1993), 122–135, *World Sci. Publishing, River Edge, NJ*, 1994. (Pavel Šťovíček) **99a:81075** 81R50 (16W30, 17B37, 58F06)

— (*with* Schupp, Peter[1]) Adler-Kostant-Symes scheme for face and Calogero-Moser-Sutherland-type models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3577–3588. (Andrey V. Tsiganov) **99j:81072** 81R50 (81V70, 82B23)

Jurdjevic, V. Optimal control problems on Lie groups: crossroads between geometry and mechanics. (English summary) *Geometry of feedback and optimal control*, 257–303, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 49J15 (93B27)

— Optimal control, geometry, and mechanics. (English summary) *Mathematical control theory*, 227–267, *Springer, New York*, 1999. (L. E. Faybusovich) **99k:49045** 49K15 (58E25, 58F05, 70H05, 70Q05, 93C15)

— *see also* **Geometric control and non-holonomic mechanics**, **99d:93002**

Jurdziński, Marcin Deciding the winner in parity games is in UP ∩ co-UP. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 119–124. (Summary) **99h:68077** 68Q25 (68Q15, 68Q60)

Jurdziński, Tomasz (*with* Ďuriš, Pavol; Kutyłowski, Mirosław; Loryś, Krzysztof) Power of cooperation and multihead finite systems. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 896–907, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68100** 68Q42 (68Q05)

Jurečková, Jana (*with* Sen, Pranab Kumar[1]) Asymptotic representations and interrelations of robust estimators and their applications. *Robust inference*, 467–512, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35 (62G05)

— (*with* Sen, Pranab Kumar[1]) Partially adaptive rank and regression rank scores tests in linear models. (English summary) *Applied statistical science, III*, 1–12, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99j:62065** 62G10

— (*with* Hallin, Marc; Milhaud, Xavier) Characterization of error distributions in time-series regression models. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 335–345. (Vipul A. Kalamkar) **99i:62205** 62M10 (62E10, 62J05)

Jurečková, Mária Convergence and the limit theorems for z-representable observables in D-posets. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 181–191. (Mirko Navara) **99j:06007** 06C15 (03G12, 06A06, 28D99, 81P10)

Jureidini, Wadi N. (*with* Karakashian, Ohannes A.) A nonconforming finite element method for the stationary Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 93–120 (*electronic*). (Eun-Jae Park) **99d:65320** 65N30 (76D05, 76M10)

Jurek, Zbigniew J. Selfdecomposability: an exception or a rule? (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 93–107. (M. Sreehari) **99a:60013** 60E07 (60E05, 60E10)

Jurga, Rastislav (*with* Chvál, Viliam) Tangents of conics in Hjelmslev planes over a local ring of even characteristic. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 69–78. (Giorgio Faina) **99f:51006** 51C05 (51E30)

— Some combinatorial results on the classification of lines in Desarguesian Hjelmslev planes. (English summary) *Math. Slovaca* **48** (1998), *no.* 1, 79–85. (Martin Funk) **99e:51011** 51E30 (51C05)

Jurgaitis, Donatas On solutions of a strongly degenerate elliptic system with variable coefficients. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 837–842, 863; *translation in Differential Equations* **33** (1997), *no.* 6, 841–846 (1998). (Michael V. Shapiro) **99b:35076** 35J70

Jürgens, Ulf (*with* Röhrle, Gerhard) Algorithmic modality analysis for parabolic groups. (English summary) *Geom. Dedicata* **73** (1998), *no.* 3, 317–337. (Dmitri I. Panyushev) **99k:20094** 20G15 (17B45)

Jürgensen, Helmut (*with* Konstantinidis, Stavros) Codes. *Handbook of formal languages, Vol.* 1, 511–607, *Springer, Berlin*, 1997. (Dong Yang Long) **99a:94020** 94A45 (68Q45, 94–02, 94B99)

Juriaans, Stanley O. (*with* de Barros, Luiz G. X.) Some loops whose loop algebras are flexible. II. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 1, 73–80. (Miklós Csikós) **99m:20160** 20N05

Juriev, D. *see* **Yur'ev, Denis V.**

Juriev, Denis V. *see* **Yur'ev, Denis V.**

Jürimäe, E. Perfectness of reversible matrix maps. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 4, 401–412. (B. P. Mishra) **99m:40015** 40H05 (46A45)

Jurisich, Elizabeth Generalized Kac-Moody Lie algebras, free Lie algebras and the structure of the Monster Lie algebra. (English summary) *J. Pure Appl. Algebra* **126** (1998), *no.* 1-3, 233–266. (Chong Ying Dong) **99b:17032** 17B67 (17B01)

Jurjus, Hermanus Hendrikus ★ The exception proves the rule. (Dutch summary) Non-monotonic logic via topology. Dissertation, Katholieke Universiteit Brabant, Tilburg, 1997. *Tilburg University Press, Tilburg*, 1997. *viii*+149 *pp. ISBN* 90-361-9608-6 (Katalin Bimbó) **99m:03055** 03B60 (54H99)

Jurkiewicz, Jerzy Władysław (*with* Ambjørn, Jan; Anagnostopoulos, Konstantinos N.; Kristjansen, Charlotte F.) The concept of time in 2D gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 16, 14 *pp.* (*electronic*). (Summary) **99b:83028** 83C45 (82B20)

— (*with* Bialas, Piotr; Burda, Zdzisław) Correlation functions and critical behaviour on fluctuating geometries. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 86–92. (Summary) **99a:82042** 82B27 (82D60)
— *see also* **New developments in quantum field theory, 99e:81002**
Jurkowski, Jacek The inverse problem for a linear vector field in thermodynamics. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 351–360. (Summary) **99g:80004** 80A10
Jury, Eliahu I. The roles of Sylvester and Bezoutian matrices in the historical study of stability of linear discrete-time systems. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 12, 1233–1251. (Summary) **99j:93003** 93–03 (01A60, 93C55, 93D99)
— (*with* Meerov, M. V.) On aperiodicity robustness. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 193–201. (Summary) **99c:93034** 93B35 (93D09)
Jussien, Narendra (*with* Boizumault, Patrice) Best-first search for property maintenance in reactive constraints systems. (English summary) *Logic programming (Port Washington, NY, 1997)*, 339–353, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68T20
Just, Mike (*with* Vaudenay, Serge) Authenticated multi-party key agreement. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 36–49, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94035** 94A60
Just, Winfried (*with* Weese, Martin) ★ Discovering modern set theory. II. (English summary) Set-theoretic tools for every mathematician. Graduate Studies in Mathematics, 18. *American Mathematical Society, Providence, RI*, 1997. xiv+224 *pp. ISBN* 0-8218-0528-2 (J. M. Henle) **99b:03001** 03–01 (03E05, 04–01, 04A20)
— (*with* Vojtáš, Peter) On matrix rapid filters. (English summary) European Summer Meeting of the Association for Symbolic Logic (Haifa, 1995). *Fund. Math.* **154** (1997), *no.* 2, 177–182. (Yehuda Rav) **99a:04005** 04A20 (06A15, 40C05)
— (*with* Tartir, Jamal) A κ-normal, not densely normal Tychonoff space. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 901–905. (Vinodkumar) **99f:54028** 54D15
Just, Wolfram (*with* Matthäus, Frank; Sauermann, Herwig) On the degenerated soft-mode instability. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 5925–5938. (Summary) **99e:76049** 76E30 (35B32, 35Q35)
— (*with* Lepri, Stefano) Mean-field theory of critical coupled map lattices. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6175–6181. (Volker Matthias Gundlach) **99e:58166** 58F40 (58F11, 82B26)
— Analytical approach for piecewise linear coupled map lattices. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 727–748. (Volker Matthias Gundlach) **99a:58056** 58F03 (82B20)
Justesen, Jørn (*with* Andersen, Jakob Dahl) Critical lengths of error events in convolutional codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1608–1611. 94B12
— (*with* Forchhammer, Søren) Entropy bounds for constrained two-dimensional random fields. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 118–127. (Summary) **99k:94023** 94A29 (94A17)
zinn-Justin, J. *see* **Zinn-Justin, J.**
Justin, Jacques (*with* Pirillo, Giuseppe) Decimations and Sturmian words. (English and French summaries) *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 271–290. (Valérie Berthé) **99f:68164** 68R15
zinn-Justin, P. *see* **Zinn-Justin, P.**
Juszczak, C. (*with* Sobczyk, Jan T.) Classification of low-dimensional Lie super-bialgebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4982–4992. (Andrey V. Tsiganov) **99k:17031** 17B37 (81R50)
Jutila, Matti The correspondence between a Dirichlet series and its coefficients. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 91–105, *VSP, Utrecht*, 1997. (A. Perelli) **99h:11097** 11M06 (11F66)
— A variant of the circle method. *Sieve methods, exponential sums, and their applications in number theory (Cardiff*, 1995), 245–254, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (G. Greaves) **99f:11134** 11P55 (11F30)
Jutla, Charanjit S. Determinization and memoryless winning strategies. (English summary) *Inform. and Comput.* **133** (1997), *no.* 2, 117–134. (Damian Niwiński) **99a:03042** 03D05 (03B25, 03E60, 68Q60, 68Q68)
— Generalized birthday attacks on unbalanced Feistel networks. (English summary) *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA*, 1998), 186–199, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94051** 94A60
Jüttler, Bert Sectional curvature-preserving interpolation of contour lines. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc*, 1996), 203–210, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65027** 65D17
— Shape preserving least-squares approximation by polynomial parametric spline curves. (English summary) *Comput. Aided Geom. Design* **14** (1997), *no.* 8, 731–747. (Julio Guacaneme Dix) **99a:65025** 65D17 (41A29)
— Rotation minimizing spherical motions. (English summary) *Advances in robot kinematics: analysis and control (Salzburg*, 1998), 413–422, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15 (65D17)
— Construction and modification of convex parametric spline curves and surfaces. (English summary) *Creating fair and shape-preserving curves and surfaces (Kleinmachnow*, 1997), 219–229, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (41A29)
— Convex surface fitting with parametric Bézier surfaces. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer*, 1997), 263–270, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41058** 41A63 (65D17)
— The dual basis functions for the Bernstein polynomials. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 345–352. (D. D. Stancu) **99e:41004** 41A10 (65D17)
Jüttner, G. (*with* Klümper, Andreas; Suzuki, Junji) From fusion hierarchy to excited state TBA. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 581–600. (Deng Feng Wang) **99c:82014** 82B20
san gil Jutuca, L. P. *see* **San Gil Jutuca, L. P.**
Juul Rasmussen, J. *see* **Rasmussen, Jens Juul**
Juvan, Martin (*with* Mohar, Bojan; Žerovnik, Janez) Distance-related invariants on polygraphs. (English summary) *Discrete Appl. Math.* **80** (1997), *no.* 1, 57–71. (Douglas J. Klein) **99a:05039** 05C12
— (*with* Marinček, Jože; Mohar, Bojan) Elimination of local bridges. (English summary) Graph theory (Donovaly, 1994). *Math. Slovaca* **47** (1997), *no.* 1, 85–92. (Stanley Gill Williamson) **99c:05053** 05C10 (68R10)
— (*with* Mohar, Bojan; Škrekovski, Riste) On list edge-colorings of subcubic graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 137–149. (Michael E. Raines) **99d:05034** 05C15
Juyumaya, Jesús Sur les nouveaux générateurs de l'algèbre de Hecke $\mathscr{H}(G, U, 1)$. [On new generators of the Hecke algebra $\mathscr{H}(G, U, 1)$] *J. Algebra* **204** (1998), *no.* 1, 49–68. (Godofredo Iommi Amunátegui) **99d:20021** 20C99
Jwo, Jung-Sing (*with* Tuan, Tai-Ching) On container length and connectivity in unidirectional hypercubes. (English summary) *Networks* **32** (1998), *no.* 4, 307–317. (Summary) **99h:68020** 68M10 (90B35)
Jyothi, S. (*with* Syam Babu, M.) Multivalued dependencies in fuzzy relational databases and lossless join decomposition. (English summary) *Fuzzy Sets and Systems* **88** (1997), *no.* 3, 315–332. (Summary) **99b:68056** 68P15 (04A72)

–K–

Käärik, E. (*with* Tiit, E.-M.) Arrays of multivariate statistics and their representation. (English summary) *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994)*, 313–324, *VSP, Utrecht*, 1995. (Summary) **99h:62069** 62H05

Kaarli, Kalle (*with* Márki, László) Affine complete commutative inverse semigroups. (English summary) *Semigroups (Luino, 1992)*, 144–151, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M14 (20M18)

— (*with* Haviar, Miroslav; Ploščica, Miroslav) Affine completeness of Kleene algebras. (English summary) *Algebra Universalis* **37** (1997), *no.* 4, 477–490. (Brian A. Davey) **99c:06013** 06D15 (08A40)

— (*with* McKenzie, Ralph Nelson) Affine complete varieties are congruence distributive. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 329–354. (Ewa Graczyńska) **99m:08010** 08A40 (08A30)

— Primitivity and simplicity of non-zerosymmetric near-rings. *Comm. Algebra* **26** (1998), *no.* 11, 3691–3708. (John D. P. Meldrum) **99k:16094** 16Y30 (16D60, 20E32)

munthe-Kaas, Hans *see* **Munthe-Kaas, Hans**

Kaashoek, M. A. (*with* Foias, Ciprian; Frazho, A. E.; Gohberg, Israel) ★ Metric constrained interpolation, commutant lifting and systems. (English summary) Operator Theory: Advances and Applications, 100. *Birkhäuser Verlag, Basel*, 1998. *xii+587 pp. ISBN* 3-7643-5889-0 (Joseph A. Ball) **99i:47027** 47A57 (30E05, 47A20, 47N70, 93B36)

— (*with* Pik, D. R.) Factorization of lower triangular unitary operators with finite Kronecker index into elementary factors. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 183–217, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Mark A. Nudel'man) **99i:47035** 47A68 (15A23, 30D50, 47N70, 93B25)

— (*with* Gohberg, Israel; Sakhnovich, A. L.) Sturm-Liouville systems with rational Weyl functions: explicit formulas and applications. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 338–377. (Hendrik S. V. de Snoo) **99m:34195** 34L30 (34A55, 35Q53, 93B15)

— (*with* Arov, Damir Z.; Pik, D. R.) Optimal time-variant systems and factorization of operators. I. Minimal and optimal systems. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 389–420. (Dmitriy S. Kalyuzhniy) **99i:47017** 47A48 (47A67, 47N70, 93B28)

— (*with* Gohberg, Israel; Sakhnovich, A. L.) Canonical systems with rational spectral densities: explicit formulas and applications. (English summary) *Math. Nachr.* **194** (1998), 93–125. (Aad Dijksma) **99j:34118** 34L05 (34A55, 35Q55, 47A99)

— (*with* van der Mee, C. V. M.; Ran, A. C. M.) Wiener-Hopf factorization of transfer functions of extended Pritchard-Salamon realizations. (English summary) *Math. Nachr.* **196** (1998), 71–102. (L. Rodman) **99k:47030** 47A56 (47A68, 47N70, 93B15)

— (*with* Zeinstra, C. G.) The band method and generalized Carathéodory-Toeplitz interpolation at operator points. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 175–210. (L. Rodman) **99k:47035** 47A57

Kabadi, Santosh N. (*with* Phillips, Jeffrey Mark; Punnen, Abraham P.) A linear time algorithm for the bottleneck traveling salesman problem on a Halin graph. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 105–110. (Summary) **99c:68130** 68Q25 (90C35)

— (*with* Chandrasekaran, R.; Sridhar, Raghavendra) Integer solution for linear complementarity problem. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 390–402. (Anton Volgenant) **99d:90129** 90C33 (90D05)

— (*with* Chandrasekaran, R.) Geometric problems in automated manufacturing. (English summary) *Opsearch* **36** (1999), *no.* 1, 42–50. 90B30 (65Y25)

Kabaila, Paul (*with* Lloyd, Christopher J.) Tight upper confidence limits from discrete data. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 193–204. (Shyamal D. Peddada) **99c:62066** 62F25

— The choice of statistic on which to base tight upper confidence limits. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 189–196. (K. K. Ferentinos) **99e:62032** 62F25

— Valid confidence intervals in regression after variable selection. (English summary) *Econometric Theory* **14** (1998), *no.* 4, 463–482. 62J05

— A note on sufficiency and information loss. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 2, 111–114. (Michael J. Evans) **99f:62014** 62B05

Kabamba, Pierre T. (*with* Meerkov, Semyon M.; Poh, E.-K.) Pole placement capabilities of vibrational control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1256–1261. (Summary) **99d:93032** 93B55

— (*with* Meerkov, Semyon M.; Poh, E.-K.) Stability robustness in closed loop vibrational control. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1101–1111. (Summary) **99f:93111** 93D09 (93C20)

— (*with* Davison, Daniel E.; Meerkov, Semyon M.) Limitations of disturbance rejection in feedback systems with finite bandwidth. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1132–1144. 93E03 (93C95, 93E35)

Kabanikhin, S. I. (*with* Koptyug, I. V.; Iskakov, K. T.; Sagdeev, R. Z.) Inverse problem for a quasi-linear equation of diffusion. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 335–351. (Hong Ming Yin) **99k:65085** 65M30 (35R30, 76R50)

— (*with* Kowar, R.; Scherzer, Otmar) On the Landweber iteration for the solution of a parameter identification problem in a hyperbolic partial differential equation of second order. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 403–430. (Wen Huan Yu) **99k:35192** 35R30 (35L10, 65M30, 93B30)

Kabanov, Alexandre I. Stability of Schur functors. (English summary) *J. Algebra* **195** (1997), *no.* 1, 233–240. (Hiro-Fumi Yamada) **99c:17014** 17B10

— The second cohomology with symplectic coefficients of the moduli space of smooth projective curves. (English summary) *Compositio Math.* **110** (1998), *no.* 2, 163–186. (Ralph Martin Kaufmann) **99m:14051** 14H15 (14D07)

Kabanov, V. V. (*with* Makhnëv, A. A.) Coedge-regular graphs without 3-stars. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 495–503, 638; *translation in Math. Notes* **60** (1996), *no.* 3-4, 372–377 (1997). (Dmitri Fon-Der-Flaass) **99h:05129** 05E30 (05C12, 05C75)

— Characterization of triangular and lattice graphs. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1054–1059, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 908–912. (Dalibor Fronček) **99m:05136** 05C75

Kabanov, Yu. M. (*with* Arsenishvili, G. L.) On a closed queueing system. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 465–469 (1996). (L. M. Abol'nikov) **99h:60159** 60K25

— On the Pontryagin maximum principle for SDEs with a Poisson-type driving noise. (English summary) *Statistics and control of stochastic processes (Moscow, 1995/1996)*, 173–190, *World Sci. Publishing, River Edge, NJ*, 1997. (Stanisław Walczak) **99j:49058** 49K45 (60H15)

— *see also* **Statistics and control of stochastic processes, 99e:60005**

Kabanza, Froduald (*with* Bacchus, Fahiem) Planning for temporally extended goals. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 5–27. (Summary) **99b:68166** 68T20 (03B45, 03B70)

— (*with* Barbeau, Michel; St.-Denis, Richard) A method for the synthesis of controllers to handle safety, liveness, and real-time constraints. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1543–1559. (Bart De Schutter) **99h:93065** 93C83 (68Q75)

Kabashima, Yoshiyuki (*with* Inoue, Jun-ichi; Nishimori, Hidetoshi) On-line learning of non-monotonic rules by simple perceptron. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3795–3816. (Ladislav Andrey) **99c:68212** 68T05 (82C32, 92B20)

Kabat, Daniel (*with* Douglas, Michael R.; Pouliot, Philippe; Shenker, Stephen H.) D-branes and short distances in string theory. (English summary) *Nuclear Phys. B* **485** (1997), *no.* 1-2, 85–127. (Summary) **99c:81177** 81T30

— (*with* Rey, Soo-Jong) Wilson lines and T-duality in heterotic M(atrix) theory. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 535–568. (Yolanda Lozano) **99d:81119** 81T30 (81T13, 81T60)

— (*with* Taylor, Washington, IV) Spherical membranes in M(atrix) theory. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 181–206. (C. Gauthier) **99g:81169** 81T30

— (*with* Lifschytz, Gilad) Tachyons and black hole horizons in gauge theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 2, 22 *pp.* (*electronic*). (Summary) **99j:81142** 81T30 (83C57, 83E30)

— (*with* Taylor, Washington, IV) Linearized supergravity from Matrix theory. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 297–305. (Summary) **99c:83094** 83E30 (81T30, 83E50)

Kabatyanskiĭ, G. A. (*with* Kruk, E. A.; Smeets, Bernard J. M.) A digital signature scheme based on random error-correcting codes. (English summary) *Cryptography and coding (Cirencester, 1997)*, 161–167, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99h:94047** 94A60 (94B05)

Kabave, M. (*with* Chirkov, M. K.) Abstract analysis of generalized finite automata. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 27, *Teor. Prilozh. Diskretn. Sist.* (1995), 3–36, 220. (Janusz J. Szuster) **99f:68137** 68Q68 (68N99)

Kabbaj, Salah-Eddine (*with* Améziane Hassani, Souad; Dobbs, David E.) On the prime spectrum of commutative semigroup rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2559–2589. (Marco Fontana) **99g:13002** 13A15 (13C15, 16S36)

— (*with* Améziane, S.; Costa, Douglas L.; Zarzuela Armengou, Santiago) On the spectrum of the group ring. (English summary) *Comm. Algebra* **27** (1999), *no.* 1, 387–403. (L. J. Ratliff, Jr.) **99k:13013** 13C15 (13A15, 13F20)

Kabe, D. G. (*with* Gupta, Arjun K.) A note on the characteristic functions of spherical matrix distributions. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 17–19. (Summary) **99c:62154** 62H10 (60E10)

— (*with* Gupta, Arjun K.) A note on a result for two SUR models. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 417–421. 62J05

Kabeya, Yoshitsugu Uniqueness of nodal rapidly-decaying radial solutions to a linear elliptic equation on $\mathbf{R}^n$. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 3, 391–405. (Giovanna Citti) **99b:35040** 35J25 (34B15, 35B05)

— (*with* Ninomiya, Hirokazu) Imperfect bifurcation phenomena for elliptic boundary value problems. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems (Sendai, 1997)*, 235–237, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (*see* **99a:35004**) 35J65 (35B32)

— (*with* Ni, Wei-Ming) Stationary Keller-Segel model with the linear sensitivity. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 44–65. (Joseph So) **99j:35219** 35Q80 (35J65, 92D25, 92D50)

Kable, Anthony C. (*with* Yukie, Akihiko) Prehomogeneous vector spaces and field extensions. II. *Invent. Math.* **130** (1997), *no.* 2, 315–344. (Martin Epkenhans) **99c:12005** 12F10

— The main involutions of the metaplectic group. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 955–962. (Summary) **99f:20083** 20G99 (20F28)

Kabuli, M. G. (*with* Gündeş, A. N.) A general boundedness result for interconnected nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1107–1110. 93D15 (93C10)

— (*with* Gündeş, A. N.) Parameterization of stabilizing controllers with integral action. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 116–119. 93D15

Kaburaki, Hideo (*with* Atobe, Takashi; Hosokawa, Iwao) Divergence of solutions to the 3-dimensional Euler equations. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 176–184. (*see* **99e:76056**) 76C99 (35Q35)

Kac, Victor G. ★ Vertex algebras for beginners. (English summary) University Lecture Series, 10. *American Mathematical Society, Providence, RI*, 1997. viii+141 *pp. ISBN* 0-8218-0643-2 (Mirko Primc) **99a:17027** 17B69 (17B65, 81R10, 81T05, 81T40)

— (*with* Cheng, Shun-Jen) A new $N = 6$ superconformal algebra. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 219–231. (Summary) **99f:17029** 17B68 (81R10)

— Superconformal algebras and transitive group actions on quadrics. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 233–252. (Summary) **99f:17030** 17B68 (14L30, 81R10)

— ★ Vertex algebras for beginners. (English summary) Second edition. University Lecture Series, 10. *American Mathematical Society, Providence, RI*, 1998. *vi+201 pp. ISBN* 0-8218-1396-X (From the preface) **99f:17033** 17B69

— (*with* van de Leur, J. W.) The geometry of spinors and the multicomponent BKP and DKP hierarchies. (English summary) *The bispectral problem (Montreal, PQ*, 1997),

159–202, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Stephen Slebarski) **99a:17026** 17B67 (53A50, 58F07)

— (*with* Cheng, Shun-Jen; Wakimoto, Minoru) Extensions of conformal modules. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 79–129, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Matthias Dörrzapf) **99i:17028** 17B68 (81R10)

— Classification of infinite-dimensional simple linearly compact Lie superalgebras. *Adv. Math.* **139** (1998), *no.* 1, 1–55. (Shlomo Sternberg) **99m:17006** 17B05 (17B65)

— (*with* Cheng, Shun-Jen) Erratum: "Conformal modules" [Asian J. Math. **1** (1997), no. 1, 181–193; MR 98j:17026]. *Asian J. Math.* **2** (1998), *no.* 1, 153–156. (Christoph Schweigert) **99k:17046** 17B68 (17B66, 81R10)

— (*with* Golenishcheva-Kutuzova, Maria I.) Γ-conformal algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2290–2305. (Mirko Primc) **99d:81048** 81R10 (17B65)

— (*with* Boyallian, Carina; Liberati, José I.; Yan, Catherine Huafei) Quasifinite highest weight modules over the Lie algebra of matrix differential operators on the circle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2910–2928. (Kyo Nishiyama) **99c:17012** 17B10 (17B66, 17B69)

Kaçar, A. (*with* Yildiz, Bünyamin) Increase of accuracy of finite-differences system. (English and Turkish summaries) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **25** (1996), 35–52. (Summary) **99d:65230** 65L12

Kačėnas, A. A note on the mean square of $\zeta(s)$ in the critical strip. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 107–117, *VSP, Utrecht*, 1997. (A. Perelli) **99h:11098** 11M06 (11P55)

— (*with* Laurinčikas, Antanas) On Dirichlet series associated with some parabolic forms. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 82–97; *translation in Lithuanian Math. J.* **38** (1998), *no.* 1, 64–76. (Matti Jutila) **99j:11049** 11F66

Kachakhidze, N. On the representation of numbers by the direct sum of quadratic forms $x_1^2 + x_2^2 + x_3^2 + 2x_4^2 + x_1x_2 + x_1x_3 + x_2x_4$. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 1, 13–16. 11E25

— On the representation of numbers by the direct sums of some binary quadratic forms. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 55–70. (Rainer Schulze-Pillot) **99b:11033** 11E25 (11E45, 11F27)

Kachalov, A. P. (*with* Kurylev, Yaroslav) Multidimensional inverse problem with incomplete boundary spectral data. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 55–95. (Ghias Hachem) **99b:35213** 35R30 (35J15, 58G25)

Kachanov, M. (*with* Shafiro, B.) Solids with non-spherical cavities: simplified representations of cavity compliance tensors and the overall anisotropy. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 877–898. 73C99 (73B40)

Kachanovskiĭ, N. A. (*with* Us, G. F.) Biorthogonal Appell systems in analysis on dually nuclear spaces. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 69–72; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 53–56. (Introduction) **99c:46041** 46Gxx

Kachenas, A. *see* **Kačėnas, A.**

Kachi, Yasuyuki Flips of semi-stable 4-folds whose degenerate fibers are unions of Cartier divisors which are terminal factorial 3-folds. (English summary) *Math. Ann.* **307** (1997), *no.* 4, 647–662. (Jarosław A. Wiśniewski) **99d:14013** 14E30 (14J35)

— Flips from 4-folds with isolated complete intersection singularities. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 43–102. (Marco Andreatta) **99c:14025** 14E30 (14J35)

Kachkachi, M. (*with* Kouadik, S.) Proof of Polyakov conjecture on supercomplex plane. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4336–4342. (Alice Rogers) **99a:81162** 81T40 (14M30, 58A50, 81T60)

Kachmar, V. S. (*with* Rusyn, B. P.; Shmoĭlov, V. I.) Algorithms for computing the values of continued fractions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1436–1451. (M. Znojil) **99m:65026** 65D15 (11Y65, 30B70, 40A15)

Kachru, Shamit (*with* Aharony, Ofer; Berkooz, Micha; Seiberg, Nathan; Silverstein, Eva) Matrix description of interacting theories in six dimensions. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 1, 148–157. (David S. Berman) **99b:81226** 81T60 (81T13, 81T30)

— Aspects of $N = 1$ string dynamics. (English summary) Duality—strings & fields (Karpacz, 1997). *Nuclear Phys. B Proc. Suppl.* **61A** (1998), 42–57. (Angel Maria Uranga) **99d:81120** 81T30 (14J28, 14J32, 32J81, 83E30)

— (*with* Aharony, Ofer; Berkooz, Micha; Silverstein, Eva) Matrix description of $(1, 0)$ theories in six dimensions. (English summary) *Phys. Lett. B* **420** (1998), *no.* 1-2, 55–63. (Summary) **99a:81166** 81T60 (81T30)

— Remarks on $(0, 2)$ Calabi-Yau models. (English summary) *Mirror symmetry, III* (*Montreal, PQ*, 1995), 189–196, *AMS/IP Stud. Adv. Math.*, 10, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:81194** 81T30 (14J32, 32G81, 32J81)

Kacimov, A. R. *see* **Kasimov, A. R.**

Kacprzyk, Janusz Multistage fuzzy control with a soft aggregation of stage scores. (English summary) *Aggregation and fusion of imperfect information*, 118–137, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 93C42

— (*with* Nurmi, Hannu) Group decision making under fuzziness. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 103–136, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90A05 (04A72)

— (*with* Esogbue, Augustine O.) Fuzzy dynamic programming. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 281–307, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C39 (04A72, 90C70)

Kacsó, Daniela P. (*with* Cao, Jia-Ding; Gonska, Heinz H.) Simultaneous approximation by discretized convolution-type operators. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 203–218, *Transilvania, Cluj-Napoca*, 1997. (Octavian Agratini) **99a:41022** 41A28 (41A10, 41A36)

— (*with* Wenz, Hans-Jörg) On an almost-convex-hull property. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 217–222, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17

— (*with* Gavrea, Ioan; Gonska, Heinz H.) Variation on Butzer's problem: characterization of the solutions. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 51–64. (Kewal Krishna Mathur) **99c:41050** 41A36 (41A55)

— (*with* Gavrea, Ioan; Gonska, Heinz H.) On linear operators with equidistant nodes: negative results. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 445–454. (Sorin Gheorghe Gal) **99h:41033** 41A36 (41A25)

— (*with* Gavrea, Ioan; Gonska, Heinz H.) On discretely defined positive linear polynomial operators giving optimal degrees of approximation. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 455–473. (Sorin Gheorghe Gal) **99i:41023** 41A36 (41A25)

— (*with* Gonska, Heinz H.) Simultaneous approximation by Birkhoff interpolators. *Rocky Mountain J. Math.* **28** (1998), *no.* 4, 1303–1320. (Joseph M. Lambert) **99m:41029** 41A28 (41A65)

— Approximation by means of piecewise linear functions. (English summary) *Results Math.* **35** (1999), *no.* 1-2, 89–102. (Radu Păltănea) **99m:41040** 41A36 (41A25, 41A35)

Kačur, J. Solution of degenerate parabolic problems by relaxation schemes. *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 89–98, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (Erwin Schechter) **99g:65093** 65M12 (35K65, 76S05)

— (*with* Luckhaus, Stephan) Approximation of degenerate parabolic systems by nondegenerate elliptic and parabolic systems. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 307–326. (Maura Ughi) **99a:35151** 35K65 (35A35, 65M99)

— Solution of some free boundary problems by relaxation schemes. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 290–316 (*electronic*). (Jarosław Jelen) **99m:65177** 65M30 (76S05)

— *see also* **Proceedings: Conference on Scientific Computing**, **99f:00021**

Kaczmarek, Lech (*with* Hącia, Lechosław) On the boundedness of solutions for system of two-dimensional Volterra integral equations. (English summary) *Fasc. Math. No.* 28 (1998), 43–55. (Gustaf Gripenberg) **99f:45002** 45D05 (45F05, 45M99)

Kaczmarski, Bogusław On the sets where a continuous function has infinite one-sided derivatives. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 343–356. (Summary) **99a:26004** 26A24

Kaczor, Wiesława (*with* Goebel, Kazimierz) Remarks on failure of Schauder's theorem in noncompact settings. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 99–108. (Summary) **99j:47086** 47H10

Kaczorek, Tadeusz Some new results in 2-D continuous-discrete linear systems theory. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 78–87, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 93C55 (93C30)

— Unreachability and uncontrollability of 2-D linear systems with bounded inputs. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 513–520. (Summary) **99d:93038** 93C30 (93B05)

— Positive solutions to polynomial matrix equations. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 403–415. (Petko Petkov) **99f:93058** 93B40 (15A24, 93B25)

— An extension of the Cayley-Hamilton theorem for a standard pair of block matrices. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 511–516. (Petko Petkov) **99h:15010** 15A18 (93C05)

— *see also* **Recent developments in two-dimensional linear systems theory**, **99a:92001** *and* **Birthday: Kaczorek, Tadeusz**, (**99a:93003**)

Kaczorowski, Jerzy A note on primes in reciprocal arithmetic progressions. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 151–156. (A. Perelli) **99c:11117** 11N13 (11M26)

— Boundary values of Dirichlet series and the distribution of primes. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 237–254, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Matti Jutila) **99f:11119** 11N13 (11M06)

— (*with* Perelli, A.) Functional independence of the singularities of a class of Dirichlet series. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 289–303. (Matti Jutila) **99b:11102** 11M41

— (*with* Perelli, A.) On the distribution in short intervals of products of a prime and integers from a given set. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 1–14. (A. J. Hildebrand) **99g:11111** 11N25

— Bounded mean oscillation and the distribution of primes. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 397–404. (V. Siva Rama Prasad) **99k:11139** 11N05

Kaczyński, Tomasz (*with* Mrozek, Marian) Stable index pairs for discrete dynamical systems. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 448–455. (Summary) **99g:54038** 54H20

— (*with* Allili, Madjid) Stability of index pairs for flows. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4113–4122. (James F. Reineck) **99b:58204** 58F25 (34C35)

— (*with* Mrozek, Marian) Connected simple systems and the Conley functor. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 183–193. (James F. Reineck) **99j:58134** 58F12

— (*with* Mrozek, Marian; Ślusarek, M.) Homology computation by reduction of chain complexes. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 4, 59–70. (Michael Joswig) **99a:18001** 18–04 (18G35, 55–04, 55U15)

— (*with* Allili, Madjid) Stability of index pairs for flows. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 173–175. (*see* **99f:58002**) 58F25

Kada, Masaru The Baire category theorem and the evasion number. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3381–3383. (L. Bukovský) **99a:03049** 03E05

Kadalbajoo, Mohan. K. (*with* Rao, A. Appaji) Parallel discrete invariant embedding algorithm for singular perturbation problems. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 149–161. (Summary) **99c:65143** 65L10 (65Y05)

Kadchenko, S. I. (*with* Sadovnichiĭ, V. A.; Dubrovskiĭ, V. V.; Kravchenko, V. F.) Computation of the first eigenvalues of a boundary value problem of the hydrodynamic stability of a flow between two parallel planes for small Reynolds numbers. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 600–604. (Adelina Georgescu) **99i:76050** 76E05 (34B99, 34L15)

— (*with* Sadovnichiĭ, V. A.; Dubrovskiĭ, V. V.; Kravchenko, V. F.) Computation of the first eigenvalues of a boundary value problem on the hydrodynamic stability of a Poiseuille flow in a circular tube. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 50–53, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 49–53. (Summary) **99i:76051** 76E05 (34B99, 34L40)

Kaddeche, Hichem (*with* Beylot, André-Luc; Becker, Monique) Approche analytique pour l'étude des performances de serveurs multimédias multidisques. (English and French summaries) [Analytic approach for studying the performance of multidisk servers] Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 227–251. (*see* **99e:90004**) 90B25 (90B22)

Kadeishvili, T. (*with* Berikashvili, N.; Khazhomiya, S. M.; Makalatia, D.; Mikiashvili, M.; Saneblidze, S.) On the obstruction functor. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 172–176. 55S35

— (*with* Saneblidze, S.) On a multiplicative model of a fibration. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 345–346. 55R05

— (*with* Saneblidze, S.) On the iterated bar construction. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 338–340 (1997). 55N99 (18G99)

— (*with* Saneblidze, S.) Iterating the bar construction. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 441–452. (Summary) **99f:55014** 55P35 (57T30)

— Attaching cells and the rational homotopy type. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 53–70. (Summary) **99m:55008** 55P35

Kadeisvili, J. V. Foundations of the Lie-Santilli isotopic theory. (English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **20** (1997), *no.* 3, 171–194. (Summary) **99c:58145** 58F99 (70A05, 70Gxx, 78A25)

— An introduction to the Lie-Santilli theory. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 131–165. (Thomas N. Vougiouklis) **99b:53094** 53C99 (17B81, 53C80, 83D05)

Kadelburg, Zoran (*with* Radenović, Stojan) Some properties of short exact sequences of locally convex Riesz spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 81–89. (R. Cristescu) **99e:46007** 46A40 (46M99)

Kadell, Kevin W. J. A simple proof of an Aomoto-type extension of Gustafson's Askey-Wilson Selberg q-integral. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 125–142. (Jiang Zeng) **99k:33055** 33D70 (05A30, 33D80)

abd al-Kader, G. M. *see* **Abd Al-Kader, G. M.**

Kader, Mahamane (*with* Lenczner, Michel) Paramétrisation de contrôleurs H_∞ sous-optimaux. Application à l'équation des ondes. (English and French summaries) [Parametrization of suboptimal H_∞ controllers. Application to the wave equation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 179–183. (Summary) **99f:93045** 93B36 (93C20)

Kadets, M. I. (*with* Kaibkhanov, K. È.) On the extension of a linear operator to an involutive operator. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 671–676; *translation in Math. Notes* **61** (1997), *no.* 5-6, 561–565. (G. M. Ustinov) **99b:47012** 47A20 (46A22)

Kadets, V. M. (*with* Zheltukhin, K. V.) A vector-valued measure as a basis of a Banach space. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 25–34. (S. Cobzaş) **99f:46062** 46G10 (46B15)

Kadi, Amina Spectrum of randomly sampled multivariate ARMA models. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 3, 317–333. (Yoshihiro Yajima) **99k:62167** 62M10

Kadi, Zafer (*with* Rockwood, Alyn) Conformal maps defined about polynomial curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 4, 323–337. (F. W. Stallmann) **99b:30008** 30C30 (65E05)

Kadianakis, Nikos Lie derivatives of associated tensor fields on a Riemannian manifold. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 95–100. (Miroslav Lovrić) **99i:53040** 53C21 (53C20)

Kadiev, R. I., Jr. On the spectrum of a class of Schrödinger operators with a finite number of generalized functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 7, 26–31; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 7, 23–28 (1999). (Alexander A. Kiselev) **99h:47053** 47E05 (34L40)

Kadin, J. (*with* Buhrman, Harry; Thierauf, Thomas) Functions computable with nonadaptive queries to NP. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 77–92. (Summary) **99d:68080** 68Q15

Kadir, Shavkat The Cauchy problem for a third-order equation of parabolic-hyperbolic type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 29–34. 35M10

el Kadiri, Mohamed *see* **El Kadiri, Mohamed**

Kadirkamanathan, V. (*with* Liu, Guo Ping; Billings, S. A.) Stable sequential identification of continuous nonlinear dynamical systems by growing radial basis function networks. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 53–69. 93B30 (41A30)

— (*with* Liu, Guo Ping; Billings, S. A.) Predictive control for non-linear systems using neural networks. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1119–1132. 90B30 (93A30)

Kadirov, F. È. (*with* Takhirov, Zh. O.) On some problems with unknown boundaries for a parabolic-hyperbolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 68–76. (Introduction) **99e:35159** 35M10

— (*with* Takhirov, Zh. O.) A nonlocal problem with an unknown boundary for a mixed parabolic-hyperbolic equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 56–63. 35M10

Kadison, Richard V. (*with* Dixmier, Jacques; Duflo, Michel; Hajnal, András; Kóranyi, Adam; Rosenberg, Jonathan M.; Vergne, Michèle) Lajos Pukánszky (1928–1996). (English summary) *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 492–499. (Editors) **99k:01056** 01A70

— On representations of finite type. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 23, 13392–13396 (*electronic*). (H. Araki) **99k:46123** 46L60 (46L05, 46L10, 81S05)

Kadobyansky, R. M. (*with* Daletskiĭ, Yurīĭ L'vovich) The Poisson structures hierarchy and interacting systems dynamics. (Russian and Ukrainian summaries) *Dopov./Dokl. Akad. Nauk Ukraïni* **1994**, *no.* 8, 21–26. (Raúl Ibáñez) **99a:58064** 58F05 (17B99, 70H05)

Kadokami, Teruhisa Seifert complex for links and 2-variable Alexander matrices. (English summary) *KNOTS '96 (Tokyo)*, 395–409, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57018** 57M25

Kadota, Yoshinobu (*with* Kurano, Masami; Yasuda, Masami) Stopped decision processes with general utility. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 13–25. (O. L. V. Costa) **99m:90159** 90C40 (60G40, 62L15)

Kadowaki, Keiji (*with* Takahashi, Tadashi) On simple $K3$ singularity equations. (Japanese. English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 49–56. (*see* **99h:00034**) 14B05

Kadowaki, Mitsuteru Low energy resolvent estimates for acoustic propagators in perturbed stratified media. *J. Differential Equations* **141** (1997), *no.* 1, 25–53. (Volker Vogelsang) **99j:47069** 47F05 (35P25, 47A40)

— Low energy resolvent estimates for acoustic propagators in perturbed stratified media. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 94–103. (*see* **99a:00049**) 35J05 (35B45, 76Q05)

Kadoyoshi, Tomoko (*with* Sugamoto, Akio; Nojiri, Shin'ichi; Odintsov, Sergei D.) Vacuum polarization of supersymmetric D-brane in the constant electromagnetic field. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 19, 1531–1537. (Editors) **99c:81191** 81T30

— (*with* Nojiri, Shin'ichi; Odintsov, Sergei D.) Four-dimensional cosmology from dilaton coupled quantum matter in two dimensions. (English summary) *Phys. Lett. B* **425** (1998), *no.* 3-4, 255–264. (Summary) **99b:83037** 83C45

— (*with* Gates, S. James, Jr.; Nojiri, Shin'ichi; Odintsov, Sergei D.) Quantum cosmology in the models of 2D and 4D dilatonic supergravity with WZ matter. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084026, 17 *pp.* (Summary) **99m:83201** 83E50 (83C45)

Kadri, Mohammed L. (*with* Benayat, Djilali) Homotopy of hazy spaces. I, II. (English, French and Arabic summaries) *Maghreb Math. Rev.* **6** (1997), *no.* 2, 103–110, 111–136. (Summary) **99g:55016** 55Q05 (54A40)

Kadtke, James B. (*with* Péntek, Áron; Pedrizzetti, Gianni) Dynamical control for capturing vortices near bluff bodies. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1883–1898. 76C05

— *see also* **Applied nonlinear dynamics and stochastic systems near the millenium, 99h:00022**

Kadyrkulov, B. D. (*with* Berdyshev, A. S.) The generalized Tricomi problem for the loaded Lavrent'ev-Bitsadze equation. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 28–35 (1997). 35M10

Kadyrov, R. R. (*with* Dzhuraev, T. D.) On the behavior of solutions of elliptic-parabolic equations at infinity and in a neighborhood of a boundary point. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 19–35 (1996). (Megumi Saigo) **99f:35138** 35M10 (35B40)

— (*with* Dzhuraev, T. D.) A priori estimates for the L_2-norms of the derivatives of the solution of a nonlocal boundary value problem for an equation of mixed type. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 11–15. 35M10 (35B45)

Kaelbling, Leslie Pack (*with* Meuleau, Nicolas; Hauskrecht, Milos; Kim, Kee-Eung; Peshkin, Leonid; Dean, Thomas; Boutilier, Craig) Solving very large weakly coupled Markov decision processes. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 165–172, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C40

— (*with* Littman, Michael L.; Cassandra, Anthony R.) Planning and acting in partially observable stochastic domains. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 99–134. 68T20

Kaenders, Rainer The Seifert form of a plane curve singularity determines its intersection multiplicities. *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 185–197. (Jan Stevens) **99d:32048** 32S55

Kaess, Alexandra (*with* Balke, Ludwig; Neuschäfer, Uta; Rothenhäusler, Frank; Scheidt, Stefan) Polyhedral fundamental domains for discrete subgroups of PSL(2, **R**). (English summary) *Topology* **37** (1998), *no.* 6, 1247–1264. (I. Dolgachev) **99j:22017** 22E40 (14B05, 30F35, 32S25, 51M20, 57S30)

Kafetzaki, Maria (*with* Bassi, Franco; Embrechts, Paul) Risk management and quantile estimation. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 111–130, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 90A46 (62P05)

Kafri, Y. (*with* Evans, M. R.; Koduvely, H. M.; Mukamel, D.) Phase separation and coarsening in one-dimensional driven diffusive systems: local dynamics leading to long-range Hamiltonians. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 2764–2778. (Summary) **99e:82057** 82C05

Kagaku, Naoko (*with* Nakayama, Hirotaka) Pattern classification by linear goal programming and its extensions. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 111–126. (*see* **99a:90011**) 90C08 (90C29)

Kagan, Abram (*with* Laha, Radha Govinda; Rohatgi, V.) Independence of the sum and absolute difference of independent random variables does not imply their normality. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 263–265. (J. A. Melamed) **99a:62016** 62E10

— (*with* Shepp, Lawrence A.) Some linear models are necessarily parametric. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 77–80. (Summary) **99c:62182** 62J05

— (*with* Shepp, Lawrence A.) Why the variance? (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 329–333. (Iosif Pinelis) **99c:60031** 60E15

— (*with* Gertsbakh, Ilya) Characterization of the Weibull distribution by properties of the Fisher information under type-I censoring. (English summary) *Statist. Probab. Lett.* **42** (1999), *no.* 1, 99–105. (Summary) **99i:62019** 62E10

Kagan, Yu. M. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Kaganov, M. I. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Kaganovich, I. (*with* Rozhansky, V.) Transverse conductivity in a braided magnetic field. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3901–3909. (Summary) **99f:76134** 76X05

Kagawa, Koji Simplification of subtyping constraints and its application for monadic programming. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 142–155. (*see* **99d:68014**) 68N15

Kagawa, Takaaki (*with* Kida, Masanari) Nonexistence of elliptic curves with good reduction everywhere over real quadratic fields. *J. Number Theory* **66** (1997), *no.* 2, 201–210. (From the text) **99d:11060** 11G05

— Determination of elliptic curves with everywhere good reduction over certain real quadratic fields. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 67–77. (Takeshi Ooe) **99j:11061** 11G05

— (*with* Terai, Nobuhiro) Squares in Lucas sequences and some Diophantine equations. *Manuscripta Math.* **96** (1998), *no.* 2, 195–202. (Aleksander Grytczuk) **99i:11019** 11D25 (11B39)

Kagei, Yoshiyuki On two-dimensional equations of thermal convection in the presence of the dissipation function. *Theory of the Navier-Stokes equations*, 72–85, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Jürgen Socolowsky) **99k:35148** 35Q35 (35B40, 76D99, 76R05)

Kager, Gerald (*with* Scheutzow, Michael K. R.) Generation of one-sided random dynamical systems by stochastic differential equations. (English summary) *Electron. J. Probab.* **2** (1997), *no.* 8, 17 *pp.* (*electronic*). (Xue Rong Mao) **99b:60080** 60H10 (28D10, 34C35, 34F05)

Kageyama, Akira (*with* Sato, Tetsuya) Dynamo efficiency and Beltrami flows in rectangular cells. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 771–776. (Summary) **99k:76152** 76W05 (76M25)

— (*with* Ochi, Márcia M.; Sato, Tetsuya) Dipole and octapole field reversals in a rotating spherical shell: magnetohydrodynamic dynamo simulation. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 777–787. 76W05

Kageyama, Sanpei (*with* Caliński, Tadeusz) Block designs: their combinatorial and statistical properties. *Design and analysis of experiments*, 809–873, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K10 (05B05)

— (*with* Miao, Ying) Nested designs with block size five and subblock size two. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 125–139. (Damaraju Raghavarao) **99c:05025** 05B05 (62K10)

— (*with* Mejza, S.) Some statistical properties of nested block designs. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 231–238, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62093** 62K10

— (*with* Sinha, Kishore; Jones, Byron) A series of quasi-multiple BIB designs from Hadamard matrices. (English summary) *Ars Combin.* **50** (1998), 245–250. (Summary) **99k:05031** 05B05 (05B20)

— (*with* Mishima, Miwako; Miao, Ying; Jimbo, Masakazu) Constructions of nested directed BIB designs. (English summary) *Australas. J. Combin.* **18** (1998), 157–172. (Frank E. Bennett) **99m:05023** 05B05

— (*with* Pal, Satyabrata; Majumder, Anurup) Some constructions of variance-balanced designs. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **20** (1998), 17–21. (Summary) **99a:62111** 62K10

— (*with* Setoya, Hiroshi) Robustness of BIB designs against the unavailability of any two observations. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **20** (1998), 23–28. (Aloke Dey) **99k:62140** 62K10 (05B05, 62K05)

— (*with* Miao, Ying) A construction for resolvable designs and its generalizations. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 11–24. (Dieter Jungnickel) **99f:05015** 05B05

— (*with* Miao, Ying) Nested designs of superblock size four. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 1–5. (Summary) **99f:05016** 05B05 (62K10)

— (*with* Shimata, Tsutomu) Error-correcting codes derivable from (r, λ)-designs. (English summary) *Bull. Fac. Sch. Educ. Hiroshima Univ. Part II* **21** (1999), 9–14. (Summary) **99k:94047** 94B05

— (*with* Miao, Ying) Two classes of q-ary codes based on group divisible association schemes. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 269–276. (Patrick Solé) **99j:05199** 05E30 (94B60)

temgoua Kagou, Anatole *see* **Temgoua Kagou, Anatole**

Kagou, Anatole Temgoua *see* **Temgoua Kagou, Anatole**

Kågström, Bo (*with* Edelman, Alan; Elmroth, Erik) A geometric approach to perturbation theory of matrices and matrix pencils. I. Versal deformations. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 653–692. (Summary) **99e:58021** 58C27 (15A21, 15A22, 65F15)

Kahale, Nabil A semidefinite bound for mixing rates of Markov chains. (English summary) *Integer programming and combinatorial optimization* (*Vancouver, BC*, 1996), 190–203, *Lecture Notes in Comput. Sci.*, 1084, *Springer, Berlin*, 1996. (Summary) **99a:90228** 90C40

— A semidefinite bound for mixing rates of Markov chains. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 299–313. (Mu Fa Chen) **99e:60149** 60J10 (60E15, 68Q25)

— (*with* Leighton, Frank Thomson) Greedy dynamic routing on arrays. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 390–410. (Summary) **99k:68019** 68M10

— (*with* Alon, Noga) Approximating the independence number via the θ-function. (English summary) *Math. Programming* **80** (1998), *no.* 3, *Ser. A*, 253–264. (S. R. Arora) **99b:90142** 90C35 (05C85)

— (*with* Coffman, E. G., Jr.; Leighton, Frank Thomson) Processor-ring communication: a tight asymptotic bound on packet waiting times. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1221–1236 (*electronic*). (Jian-Min Li) **99d:68032** 68M20 (90B12, 90B35)

Kahan, Simon (*with* Snoeyink, Jack) On the bit complexity of minimum link paths: superquadratic algorithms for problem solvable in linear time. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 33–44. (Summary) **99m:68212** 68U05 (65Y20)

Kahane, Charles S. A gradient estimate for solutions of the heat equation. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 711–725. (Toyohiko Aiki) **99k:35077** 35K20 (35B45)

Kahane, Jean-Pierre Quotients de fonctions définies-négatives (d'après Beurling et Deny). [Quotients of negative-definite functions (after Beurling and Deny)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 315, 33–44, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 31C25 (43A35, 43A45)

— Séries de Fourier aléatoires. [Random Fourier series] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 200, 441–450, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 60G99

— Travaux de Beurling et Malliavin. [Works of Beurling and Malliavin] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 225, 27–39, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 42A65 (30D15)

— Algèbres tensorielles et analyse harmonique (d'après N. T. Varopoulos). [Tensor algebras and harmonic analysis (after N. T. Varopoulos)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 291, 221–230, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 43A45 (43A10, 43A15)

— Sommes partielles des séries de Fourier (d'après L. Carleson). [Partial sums of Fourier series (after L. Carleson)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 310, 491–507, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 42A20

— Sur trois notes de Stieltjes relatives aux séries de Dirichlet. [On three notes of Stieltjes concerning Dirichlet series] 100 ans après Th.-J. Stieltjes. *Ann. Fac. Sci. Toulouse Math.* (6) **1996**, *Special issue*, 33–56. (Don Redmond) **99f:11106** 11M06 (11–03, 11N80)

— A few generic properties of Fourier and Taylor series. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 187–196, *World Sci. Publishing, River Edge, NJ*, 1997. (Y. Katznelson) **99m:42007** 42A20 (26A21, 30B10)

— Sur les nombres premiers généralisés de Beurling. Preuve d'une conjecture de Bateman et Diamond. (English and French summaries) [On Beurling's generalized primes: proof of a conjecture of Bateman and Diamond] *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 251–266. (Wen-Bin Zhang) **99f:11127** 11N80

— Le mouvement brownien: un essai sur les origines de la théorie mathématique. (English and French summaries) [Brownian motion: an essay on the origins of the mathematical theory] *Matériaux pour l'histoire des mathématiques au XX^e siècle* (*Nice*, 1996), 123–155, *Sémin. Congr.*, 3, *Soc. Math. France, Paris*, 1998. (Paul Embrechts) **99j:60002** 60–03 (01A60, 60J65)

— Le rôle des algèbres A de Wiener, A^∞ de Beurling et H^1 de Sobolev dans la théorie des nombres premiers generalisés de Beurling. (English and French summaries) [The role of the Wiener algebra A, the Beurling algebra A^∞ and the Sobolev algebra H^1 in Beurling's generalized prime number theory] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 3, 611–648. (H. G. Diamond) **99k:11152** 11N80

Kahl, W. *see* **Relational methods in computer science, 99f:68148**

Kahle, Waltraud (*with* Gasmi, Sofiane) Parameter estimation in renewal processes with imperfect repair. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 53–65, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N05 (60K10)

— (*with* Lehmann, Axel) Parameter estimation in damage processes: dependent observation of damage increments and first passage time. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 139–152, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:62120** 62N05

— *see also* **Advances in stochastic models for reliability, quality and safety, 99f:62004**

Kähler, Erich Raum-Zeit-Individuum. [Space-time individuum] *Mathematik aus Berlin*, 41–105, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 00A79 (01A99, 83–03, 83A05)

Kähler, Uwe Clifford analysis and elliptic boundary value problems in unbounded domains. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 145–160, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Klaus Gürlebeck) **99e:30035** 30G35 (30E25, 35J25)

Kahlig, Peter (*with* Matkowski, Janusz) Envelopes of families of curves related to some iterative functional equations. (English summary) *Iteration theory* (*ECIT* 94) (*Opava*), 163–171, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12

— (*with* Matkowski, Janusz) On the composition of homogeneous quasi-arithmetic means. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 69–85. (Roland Girgensohn) **99b:26035** 26D15 (39B22)

— (*with* Smítal, Jaroslav) On a parametric functional equation of Dhombres type. (English summary) *Aequationes Math.* **56** (1998), *no.* 1-2, 63–68. (Jianguo Si) **99j:39019** 39B22 (26A18)

— (*with* Matkowski, Janusz) Decomposition of homogeneous means and construction of some metric spaces. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 463–480. (P. S. Bullen) **99h:26021** 26D07

Kahn, Bruno Formes quadratiques de hauteur et de degré 2. (English summary) [Quadratic forms of height and degree 2] *Indag. Math.* (*N.S.*) **7** (1996), *no.* 1, 47–66. (Jean-Pierre Tignol) **99h:11042** 11E81 (11E04)

— (*with* Phạm Anh Minh) A description of the second mod p cohomology group of a p-group. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 73–104. (Ian J. Leary) **99i:20071** 20J06 (17B50, 20D15)

Kahn, Charles M. (*with* Engelbrecht-Wiggans, Richard) Multi-unit pay-your-bid auctions with variable awards. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 25–42. (Summary) **99a:90082** 90A60

Kahn, Jeff A linear programming perspective on the Frankl-Rödl-Pippenger theorem. (English summary) *Random Structures Algorithms* **8** (1996), *no.* 2, 149–157. (Daniel Turzík) **99c:05146** 05C65 (90C05)

— (*with* Kayll, P. Mark) On the stochastic independence properties of hard-core distributions. (English summary) *Combinatorica* **17** (1997), *no.* 3, 369–391. (Summary) **99e:60034** 60C05 (05C65, 05C70, 52B12)

— (*with* Kim, Jeong Han) Random matchings in regular graphs. (English summary) *Combinatorica* **18** (1998), *no.* 2, 201–226. (J. Spencer) **99k:05131** 05C70 (05C65, 05C80, 60C05)

— (*with* Friedgut, Ehud) On the number of copies of one hypergraph in another. (English summary) *Israel J. Math.* **105** (1998), 251–256. (Nigel Martin) **99e:05092** 05C65

— (*with* Meshulam, Roy) On the number of group-weighted matchings. (English summary) *J. Algebraic Combin.* **7** (1998), *no.* 3, 285–290. (Mechthild Opperud) **99b:05113** 05C70 (05C25)

Kahn, Peter B. (*with* Zarmi, Yair) Reduction of secular error in approximations to harmonic oscillator systems with nonlinear perturbations. (English summary) *Phys. D* **118** (1998), *no.* 3-4, 221–249. (Summary) **99c:70030** 70K40 (34C15, 34C20, 58F36)

Kahng, Andrew B. (*with* Robins, Gabriel; Walkup, Elizabeth A.) How to test a tree. (English summary) *Networks* **32** (1998), *no.* 3, 189–197. (Summary) **99d:68029** 68M15 (68Q35, 68R10, 94C12)

— (*with* Alpert, Charles J.; Yao, So-Zen) Spectral partitioning with multiple eigenvectors. (English summary) *Discrete Appl. Math.* **90** (1999), *no.* 1-3, 3–26. (Summary) **99m:68145** 68R10 (05C50, 05C85, 68Q35)

Kai, Hiroshi (*with* Saito, Tomokatsu; Noda, Matu-Tarow) A relation between approximate-GCD and error of hybrid rational function approximation. (Japanese. En-

glish summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 139–145. (*see* **99h:00034**) 65D15 (41A20)

— (*with* Shiraishi, Kei-ichi; Saito, Tomokatsu; Noda, Matu-Tarow) An algebraic solution method for certain types of nonlinear programming problems. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 146–153. (*see* **99h:00034**) 90C30 (65K05)

— Error estimation of hybrid rational function approximation. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 4, 1754–1759. 41A20

Kaibkhanov, K. È. (*with* Kadets, M. I.) On the extension of a linear operator to an involutive operator. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 671–676; *translation in Math. Notes* **61** (1997), *no.* 5-6, 561–565. (G. M. Ustinov) **99b:47012** 47A20 (46A22)

Kaïdi, El Amin Mokhtar (*with* Cuenca Mira, J. A.; De Los Santos Villodres, R.; Rochdi, A.) Real quadratic flexible division algebras. (English summary) *Linear Algebra Appl.* **290** (1999), *no.* 1-3, 1–22. (Theo Grundhöfer) **99m:17003** 17A35 (17A20)

Kaĭgorodov, S. P. On noncooperative dynamic games with a phase constraint and fixed duration. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 37–41, *Yakut·sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 90D25

Kaĭgorodov, V. R. (*with* Shapukov, B. N.) Aleksandr Petrovich Shirokov (on the occasion of his seventieth birthday). (Russian) *Tr. Geom. Semin. No.* 23 (1997), 231–244. (Editors) **99k:01073** 01A70

Kaijser, Thomas Computing the Kantorovich distance for images. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 2, 173–191. (Summary) **99i:68126** 68U10

Kaikina, Elena I. (*with* Hayashi, Nakao; Naumkin, Pavel I.) On the scattering theory for the cubic nonlinear Schrödinger and Hartree type equations in one space dimension. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 651–667. (Tohru Ozawa) **99m:35228** 35Q55 (81U05)

— (*with* Hayashi, Nakao) Local existence of solutions to the Cauchy problem for nonlinear Schrödinger equations. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 111–137. (Thierry Cazenave) **99k:35165** 35Q55

— (*with* Hayashi, Nakao; Naumkin, Pavel I.) Large time behavior of solutions to the generalized derivative nonlinear Schrödinger equation. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 93–106. (Elaine Machtyngier) **99m:35229** 35Q55 (35B40)

Kaikkonen, Markku Codes from affine permutation groups. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 183–186. (Summary) **99j:94075** 94B60 (20B99)

Kailasam, M. (*with* Ponte Castañeda, P.) A general constitutive theory for linear and nonlinear particulate media with microstructure evolution. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 427–465. (David J. Bergman) **99g:73007** 73B27 (73B05, 73E60, 73K20, 73S10)

Kailath, Thomas (*with* Park, PooGyeon) Square-root RTS smoothing algorithms. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1049–1060. 93E14 (93E25)

— (*with* Boros, Tibor; Sayed, Ali H.; Lev-Ari, H.) A generalized Schur-type algorithm for the joint factorization of a structured matrix and its inverse. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 131–145 (1998). (Wen Yu Sun) **99f:65042** 65F05 (15A23)

— (*with* Park, PooGyeon) Guaranteed level-γ $\mathscr{H}_\infty$ control in uncertain linear systems via linear matrix inequalities. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 913–924. 93B36

— (*with* Park, PooGyeon) $\mathscr{H}_\infty$ filtering via convex optimization. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 15–22. (Summary) **99j:93036** 93B36 (90C25)

— (*with* Park, PooGyeon) Dual $\mathscr{J}$-spectral factorization. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 287–296. 93B25 (93D05)

— (*with* Suard, Bruno; Xu, Guanghan; Liu, Hui) Uplink channel capacity of space-division-multiple-access schemes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1468–1476. 94A40

— (*with* Poor, H. Vincent) Detection of stochastic processes. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2230–2259. (Summary) **99i:94017** 94A13 (60G35, 93E10)

— (*with* Chern, Shiing-Shen; Kostant, Bertram; Moore, Calvin C.; Tsao, Anna) Louis Auslander (1928–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 3, 390–395. (Editors) **99k:01053** 01A70

— (*with* Boros, Tibor; Sayed, Ali H.) A recursive method for solving unconstrained tangential interpolation problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 454–470. (Summary) **99m:93018** 93B17 (65F30, 93B40)

Kaimanovich, Vadim A. (*with* Fisher, Albert M.) A Poisson formula for harmonic projections. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 209–216. (Sam Northshield) **99d:60087** 60J50 (28C10, 31A10, 43A07)

— Hausdorff dimension of the harmonic measure on trees. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 3, 631–660. (Donald I. Cartwright) **99g:60123** 60J15 (28A78)

— (*with* Masur, Howard) The Poisson boundary of Teichmüller space. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 301–332. (Athanase Papadopoulos) **99h:30044** 30F60 (32G15, 60J15, 60J45, 60J50)

Kaio, Naoto (*with* Dohi, Tadashi; Osaki, Shunji) Revised optimal checkpointing strategies in database availability modeling and their comparison. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 59–66. (*see* **99h:90006**) 90B22 (90B25)

Kaipio, J. P. (*with* Juntunen, M.; Tervo, Jouko) Root modulus constraints in autoregressive model estimation. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 709–718. (Summary) **99h:62115** 62M10

— (*with* Baroudi, Djebar; Somersalo, Erkki) Dynamical electric wire tomography: a time series approach. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 799–813. 93C95 (78A55)

Kaĭrakbaev, A. K. (*with* Filatov, O. P.) An iterative method for computing the limits of maximal means. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1661–1664; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1591–1594. (Summary) **99f:65124** 65L99

Kairies, Hans-Heinrich Functional equations for peculiar functions. *Aequationes Math.* **53** (1997), *no.* 3, 207–241. (Wolfgang Sander) **99d:39032** 39B62 (26A27)

Kaise, Hidehiro (*with* Nagai, Hideo) Bellman-Isaacs equations of ergodic type related to risk-sensitive control and their singular limits. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 347–362. (Daniel Hernández-Hernández) **99b:93050** 93E20 (49L20)

Kaiser, Christian[2] ★ Ein getwistetes fundamentales Lemma für die GSp_4. (German) [A twisted fundamental lemma for GSp_4] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1997. Bonner Mathematische Schriften [Bonn Mathematical Publications], 303. *Universität Bonn, Mathematisches Institut, Bonn*, 1997. 71 *pp.* (Volker J. Heiermann) **99k:11078** 11F85 (11F46, 11G18, 22E50)

Kaiser, David A ψ is just a ψ? Pedagogy, practice, and the reconstitution of general relativity, 1942–1975. Cultures of theory. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **29** (1998), *no.* 3, 321–338. (H. Treder) **99m:01026** 01A60 (00A35, 83–03)

Kaiser, H. K. *see* **Contributions to general algebra**, **99f:00014**

Kaiser, Hans Erkennung und Identifikation linearer Systeme mit Anwendung in der Schichtenoptik. [Recognition and identification of linear systems, with applications in layer optics] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 1, 21–41. 93B30 (93C95)

Kaiser, Mark J. (*with* Hutchinson, John J.; Lankarani, Hamid M.) The head injury criterion (HIC) functional. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 1–16. (Summary) **99d:92015** 92C50

— Regular Steiner polygons. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 43–47. (Summary) **99e:52011** 52A40 (90C35)

— (*with* Cheraghi, S. H.) Green eggs and ham. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 91–99. (Anna Rycerz) **99f:52009** 52A40 (90C27)

— The shapes of the future are here! (English summary) *J. Franklin Inst.* **336** (1999), *no.* 1, 97–158. (Summary) **99i:65157** 65Y25 (51–02, 52Bxx)

Kaiser, Mark S. (*with* Cressie, Noel) Modeling Poisson variables with positive spatial dependence. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 423–432. (J. K. Ord) **99c:62273** 62M30 (62H11)

Kaiser, Ralf (*with* von Wahl, Wolf) Stability of plane parallel shear flow in a rotating layer heated from below. (English summary) *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 3, 227–262. (Alexander Lifschitz) **99e:76045** 76E05 (35Q35, 76D05, 76E15, 76E20, 76R05, 76U05)

— (*with* Xu, Lanxi) Nonlinear stability of the rotating Bénard problem, the case Pr = 1. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 3, 283–307. (Marie Christine Néel) **99g:76054** 76E15 (35Q35, 76D99, 76E30, 76U05)

Kaiser, Richard ★ Das sphärische Spektrum eines graduierten Ringes. (German) [The spherical spectrum of a graded ring] Regensburger Mathematische Schriften [Regensburg Mathematical Publications], 27. *Universität Regensburg, Fakultät für Mathematik, Regensburg*, 1998. 81 *pp. ISBN* 3-88246-199-3 (Murray Marshall) **99i:14069** 14P99 (12J15, 13A02)

Kaiser, Thomas Factor-GARCH models for German stocks—a model comparison. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 331–336, *Springer, Berlin*, 1997. (*see* **99a:90009**) 62M10 (62P20, 90A09)

Kaĭzer, K. (*with* Korenevskiĭ, D. G.) Algebraic coefficient conditions for the absolute stability of linear difference systems with continuous time and delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 22–27; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 17–21. (Summary) **99b:39016** 39A11 (34K20)

Kaj, I. (*with* Sagitov, S.) Superprocess approximation for a spatially homogeneous branching walk. (English summary) *Electron. Comm. Probab.* **2** (1997), 59–70 (*electronic*). (Luis G. Gorostiza) **99a:60094** 60J85 (60J80)

— (*with* Sagitov, S.) Limit processes for age-dependent branching particle systems. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 225–257. (Anton Wakolbinger) **99c:60189** 60J80 (60G57)

Kaji, Hajime Homogeneous projective varieties with degenerate secants. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 533–545. (Fyodor L. Zak) **99d:14052** 14M17 (14J40, 14N05)

Kaji, Tadashi (*with* Fukada, Atsushi; Higashino, Teruo; Taniguchi, Kenichi; Mori, Masaaki) A conformance testing for communication protocols modeled as a set of DFSMs. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2519–2527. 68Q60

Kajii, Atsushi (*with* Morris, Stephen Edward) The robustness of equilibria to incomplete information. (English summary) *Econometrica* **65** (1997), *no.* 6, 1283–1309. (Summary) **99b:90164** 90D10

— (*with* Citanna, Alessandro; Villanacci, Antonio) Constrained suboptimality in incomplete markets: a general approach and two applications. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 495–521. (Milan Mareš) **99d:90026** 90A14 (90A60)

— (*with* Morris, Stephen Edward) Payoff continuity in incomplete information games. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 267–276. (Summary) **99k:90230** 90D35 (90A05)

Kajinaga, Yasumasa (*with* Wadati, Miki) A new derivation of the Bäcklund transformation for the Volterra lattice. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 7, 2237–2241. (Summary) **99f:58180** 58F39

Kajitani, Kunihiko (*with* Mikami, Masahiro) The Cauchy problem for degenerate parabolic equations in Gevrey classes. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 383–406. (K. A. Yagdjian) **99f:35107** 35K65 (35K30)

— The Cauchy problem for Schrödinger type equations with variable coefficients. *J. Math. Soc. Japan* **50** (1998), *no.* 1, 179–202. (B. Hellwig) **99a:35043** 35J10 (35K15)

— (*with* Yagdzhyan, K. A.) Quasilinear hyperbolic operators with the characteristics of variable multiplicity. *Tsukuba J. Math.* **22** (1998), *no.* 1, 49–85. (Nickolai A. Lar′kin) **99h:35145** 35L75 (35L80)

Kajitani, Yoji (*with* Halldórsson, Magnús M.; Ueno, Shuichi; Nakao, Hiroshi) Approximating Steiner trees in graphs with restricted weights. (English summary) *Networks* **31** (1998), *no.* 4, 283–292. (Summary) **99c:05048** 05C05 (90C27)

Kajiwara, Joji (*with* Shon, Kwang Ho; Tsuji, Miki) Localization of global existence of holomorphic solutions of holomorphic differential equations with infinite-dimensional

parameter. *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 687–700. (Hidetoshi Tahara) **99m:32039** 32K99 (32C35, 32F15, 34A20)

Kajiwara, Kenji (*with* Ohta, Yasuhiro; Satsuma, Junkichi) Bilinear structure and exact solutions of the discrete Painlevé I equation. *Symmetries and integrability of difference equations (Estérel, PQ, 1994)*, 265–268, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (From the text) **99a:39048** 39A12

— (*with* Nagai, Atsushi; Tokihiro, Tetsuji; Satsuma, Junkichi; Willox, Ralph) Two-dimensional soliton cellular automaton of deautonomized Toda-type. (Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 15–27. (*see* **99c:00013**) 68Q80 (58F08)

— (*with* Nakamura, Yoshimasa; Shiotani, H.) On an integrable discretization of the Rayleigh quotient gradient system and the power method with a shift. (English summary) *J. Comput. Appl. Math.* **96** (1998), *no.* 2, 77–90. (Summary) **99i:39029** 39A12 (65Q05)

— (*with* Ohta, Yasuhiro) Determinant structure of the rational solutions for the Painlevé IV equation. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2431–2446. (Andrei A. Kapaev) **99g:34004** 34A05 (33E30, 34A34)

— (*with* Tamizhmani, K. M.; Ramani, A.; Grammaticos, B.) Coalescence cascades and special-function solutions for the continuous and discrete Painlevé equations. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5799–5810. (Summary) **99e:34013** 34A34 (33C99, 39A12)

— (*with* Maruno, Ken-ichi; Oikawa, Masayuki) Casorati determinant solution for the discrete-time relativistic Toda lattice equation. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 335–343. (Spyridon Kamvissis) **99e:58105** 58F07 (58F37)

Kajiwara, Tsuyoshi C^*-algebras constructed from Hilbert bimodules. (Japanese) Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 94–103. (*see* **99a:46002**) 46L05 (46H25, 46L80)

— Hilbert bimodules and associated C^*-algebras. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 94–111. (*see* **99d:46001**) 46L05

Kajiwara, Yuka (*with* Iwasaki, Yukihiro; Obokata, Koji; Igarashi, Yoshihide) Independent spanning trees of chordal rings. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 155–160. (Summary) **99k:68138** 68R10 (68M15)

Kak, Subhash C. Three old Indian values of π. (English summary) *Indian J. Hist. Sci.* **32** (1997), *no.* 4, 307–314. (A. I. Volodarskiĭ) **99e:01007** 01A32

— Quantum information in a distributed apparatus. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 1005–1012. (Summary) **99c:81021** 81P99

— The sun's orbit in the Brāhmaṇas. (English summary) *Indian J. Hist. Sci.* **33** (1998), *no.* 3, 175–191. 01A32

— (*with* Tejomurtula, Sreenivas) Inverse kinematics in robotics using neural networks. (English summary) *Inform. Sci.* **116** (1999), *no.* 2-4, 147–164. 70B15

Kakabadze, L. V. On the multiple basis property of a system of sums of exponentials. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 17–19. 42A32

Kakakhail, Haniya Homomorphisms of progenerator modules and direct limits. (English and Arabic summaries) *Arab. J. Sci. Eng. Sect. A Sci.* **23** (1998), *no.* 2, 195–202. (T. Albu) **99k:13011** 13C10

Kakas, Antonios C. (*with* Riguzzi, Fabrizio) Learning with abduction. (English summary) *Inductive logic programming (Prague, 1997)*, 181–188, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (*see* **99b:68007**) 68N17 (68T05)

— (*with* Miller, Robert Simon) Reasoning about actions, narratives, and ramification. (English summary) Commentary is available at http://www.ida.liu.se/ext/etai/received/rac/003/aip.html. *Electron. Trans. Artif. Intell.* **1** (1997), *no.* 4, 39–72 (*electronic*). (Summary) **99f:68182** 68T25 (68T30)

— (*with* Kowalski, Robert A.; Toni, Francesca) The role of abduction in logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 235–324, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99c:68039** 68N17 (03B70, 68T27)

Kakehi, Tomoyuki Range theorems and inversion formulas for Radon transforms on Grassmann manifolds. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 5, 89–92. (Summary) **99m:53136** 53C65 (44A12)

Kakei, Saburo Topics related to $1/r^2$ interaction models. (Japanese) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 72–94. (Kazuhiro Hikami) **99c:81282** 81V70 (33D80)

— Intertwining operators for a degenerate double affine Hecke algebra and multivariable orthogonal polynomials. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4993–5006. (Tim H. Baker) **99h:33049** 33C50

— Quantum Calogero models and the degenerate double affine Hecke algebra. (English summary) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 65–87. (Tim H. Baker) **99i:33017** 33C80 (81V70)

Kakichev, V. A. (*with* Thao, Nguyen Xuan; Vũ Kim Tuân) On the generalized convolutions for Fourier cosine and sine transforms. (English summary) *East-West J. Math.* **1** (1998), *no.* 1, 85–90. (N. K. Karapetyants) **99m:42011** 42A38 (44A35, 45E10)

— (*with* Nguen Suan Tkhao) A method for constructing generalized integral convolutions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 31–40; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 1, 29–38. (S. I. Grozdev) **99a:47045** 47B38 (44A35, 45E10, 65R20)

— (*with* Nguen Suan Tkhao) Errata: "A method for constructing generalized integral convolutions" [Izv. Vyssh. Uchebn. Zaved. Mat. **1998**, no. 1, 31–40; MR 99a:47045]. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. 47B38 (44A35, 45E10, 65R20)

Kakihara, Yûichirô Kalman filter in normal Hilbert modules. (English summary) *Far East J. Theor. Stat.* **1** (1997), 15–30. (Leopoldo Jetto) **99j:93103** 93E11 (47N70, 94A12)

Kakiko, Grayson (*with* Allan, Graham R.; O'Farrell, Anthony G.; Watson, R. O.) Algebras of smooth functions. (English summary) *Banach algebras '97 (Blaubeuren)*, 43–53, *de Gruyter, Berlin*, 1998. (W. J. Kotzé) **99k:46090** 46J30 (41A10, 46E25, 46J15)

— (*with* Allan, Graham R.; O'Farrell, Anthony G.; Watson, R. O.) Finitely-generated algebras of smooth functions, in one dimension. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 458–474. (S. J. Sidney) **99m:46127** 46J15 (46E10, 46E25)

Kakimizu, Osamu[2] Operations on trees of groups and decompositions of graph products and surface products. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 153–165. (*see* **99e:30001**) 57M07 (20F38)

Kakiuchi, Nobuhiko (*with* Tchizawa, Kiyoyuki) On a duck solution and delay in the FitzHugh-Nagumo equation. (English summary) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 56–70. (Tewfik Sari) **99c:34074** 34C23 (03H05, 03H10, 34E15, 92C20)

— (*with* Tchizawa, Kiyoyuki) On another type of ducks in the FitzHugh-Nagumo equation. (English summary) Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 101–104. (Summary) **99h:34011** 34A34 (03H05, 34C23, 34E05)

Kakizawa, Yoshihide Discriminant analysis for non-Gaussian vector stationary processes. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 2, 187–203. (Summary) **99a:62130** 62M10 (62H30)

— Higher-order Bartlett-type adjustment. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 269–280. (Yasunori Fujikoshi) **99i:62030** 62E20 (62H10)

— (*with* Sato, Toshiyuki; Taniguchi, Masanobu) Large deviation results for statistics of short- and long-memory Gaussian processes. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 17–29. (Gutti J. Babu) **99k:62181** 62M99 (60F10)

— On exponential rates of estimators of the parameter in the first-order autoregressive process. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 4, 355–362. (Raúl Pedro Mentz) **99g:62138** 62M10

Kaklamanis, Christos (*with* Auletta, V.; Caragiannis, I.; Persiano, Pino) Efficient wavelength routing in trees with low-degree converters. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 1–14, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99j:68100** 68R10 (05C05, 90B12)

— (*with* Erlebach, Thomas; Jansen, Klaus; Persiano, Pino) An optimal greedy algorithm for wavelength allocation in directed tree networks. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 117–129, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68192** 68R10 (68Q25, 78A55, 90C35)

Kaklis, Panagiotis D. (*with* Ginnis, Alexandros; Gabrielides, N. C.) Sectional-curvature preserving skinning surfaces with a 3D spine curve. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 113–123, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (41A29)

— (*with* Pigounakis, Konstantinos G.) Smoothing spatial cubic B-splines under shape constraints. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 345–354, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65D07)

— (*with* Sapidis, Nickolas S.; Sarantidis, Ilias) A spline-in-tension with a parabolic limit-curve. (English summary) *Creating fair and shape-preserving curves and surfaces (Kleinmachnow, 1997)*, 109–119, *Teubner, Stuttgart*, 1998. (Summary) **99h:65034** 65D17 (65D07)

— (*with* Pigounakis, Konstantinos G.) Fairing of 2D B-splines under design constraints. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 165–178. (*see* **99i:65004**) 65D17 (41A63)

— (*with* Gerostathis, T. P.; Koras, G. D.) Numerical experimentation with the Roulier-Rando fairness metrics. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 195–209. (*see* **99i:65004**) 65Y25 (65D17)

— *see also* **Creating fair and shape-preserving curves and surfaces, 99g:65003** *and* **Geometric modelling techniques, 99i:65004**

Kako, Takashi Remark on the relation between spectral pollution and inf-sup condition. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 252–258, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65N30

— (*with* Liu, Xiao-Jin) Higher order radiation boundary condition and finite element method for scattering problem. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 801–819. (Hassan Emamirad) **99j:65209** 65N30 (76M10, 76Q05, 78–08, 78A45)

— (*with* Chiba, Fumihiro) The stability of Newmark's β method. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 39–44. (*see* **99i:00028**) 65L20

Kakol, J. (*with* Abul-Ez, M. A.) Mode of increase of power similar sets of polynomials. (English and Arabic summaries) *Bull. Fac. Sci. Assiut Univ. C* **23** (1994), *no.* 2, 55–65. (N. K. Govil) **99d:30003** 30C10 (30A10, 30D15)

Kaku, Michio A note on the stability of quantum supermembranes. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 454–457, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:81188** 81T30

Kakubava, R. (*with* Mikadze, I.; Nachkebia, Sh.) Generalization of the virtual waiting time problem. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 93–95. 90B25

Kakuhata, Hiroshi (*with* Konno, Kimiaki; Imai, Koji) Solitons and ruled surfaces. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 192–199. (*see* **99a:00032**) 35Q51

— (*with* Imai, Koji; Konno, Kimiaki) Direct connection among nonlinear evolution equations based on O(3) group. *J. Phys. Soc. Japan* **67** (1998), *no.* 12, 4300–4301. 35Q58 (35A30)

— (*with* Konno, Kimiaki) Bilinearization of combined nondispersive equations. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 46–53. (*see* **99f:76003**) 35Q51 (35A25)

Kakushadze, Zurab (*with* Shiu, Gary; Tye, S.-H. Henry; Vtorov-Karevsky, Yan) A review of three-family grand unified string models. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 15, 2551–2598. (Angel Maria Uranga) **99e:81198** 81T30 (81V22, 83E30)

— Aspects of $N = 1$ type I–heterotic duality in four dimensions. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 221–236. (Gerardo Marcelo Aldazabal) **99f:81165** 81T30
— (*with* Shiu, Gary) Four-dimensional chiral $N = 1$ type I vacua with and without D5-branes. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 75–92. (Summary) **99c:81192** 81T30
— (*with* Bershadsky, Michael; Vafa, Cumrun) String expansion as large N expansion of gauge theories. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 59–72. (Angel Maria Uranga) **99i:81170** 81T30 (81T60, 83E30)
— Gauge theories from orientifolds and large-N limit. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 157–179. (Angel Maria Uranga) **99i:81189** 81T30 (81T60, 83E30)
— (*with* Shiu, Gary; Tye, S.-H. Henry) Type IIB orientifolds, F-theory, type I strings on orbifolds and type I-heterotic duality. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 25–87. (Gysbert Zwart) **99m:81195** 81T30 (83E30)
— Three-family grand unification in string theory. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 182–186. (*see* **99b:81006**) 81V22 (81T30)
— A three-family SU(6) type I compactification. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 269–276. (Summary) **99i:81190** 81T30
— (*with* Shiu, Gary; Tye, S.-H. Henry) Type IIB orientifolds with NS-NS antisymmetric tensor backgrounds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 086001, 7 *pp.* (Summary) **99k:81248** 81T30
— Three-family $SU(4)_c \otimes SU(2)_w \otimes U(1)$ type I vacuum. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 101901, 5 *pp.* (Summary) **99m:81196** 81T30 (81V22)
— Large N gauge theories from orientifolds. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 106003, 11 *pp.* (Summary) **99m:81252** 81T60 (81T30)
— (*with* Tye, S.-H. Henry) Three generations in type I compactifications. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 126001, 9 *pp.* (Summary) **99m:81197** 81T30 (81V22)
— (*with* Dvali, Gia) Large N domain walls as D-branes for $\mathcal{N} = 1$ QCD string. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 297–316. (Summary) **99i:81232** 81T60 (81T13, 81T30, 81V05)

Kakusho, Osamu (*with* Hozumi, Takahiro; Hata, Yutaka) On low cost realization of multiple-valued logic functions. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 233–238, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 03B50

Kakuta, Neuza (*with* Hefez, Abramo) Tangent envelopes of higher order duals of projective curves. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 47–56. (Fyodor L. Zak) **99f:14066** 14N05 (14H99)

el-Kalaawy, O. H. *see* **El-Kalaawy, O. H.**

Kalaba, R. E. (*with* Udwadia, F. E.) The explicit Gibbs-Appell equation and generalized inverse forms. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 277–288. (David A. Levinson) **99a:70022** 70F25 (70H35)
— (*with* Udwadia, F. E.) A unified approach for the recursive determination of generalized inverses. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 125–130. (Summary) **99h:65073** 65F20
— (*with* Natsuyama, H. H.; Ueno, Sueo) The estimation of parameters in time-dependent transport problems: dynamic programming and associative memories. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 41–45. 90C29

Kalachev, Leonid V. (*with* Seidman, Thomas I.) A one-dimensional reaction/diffusion system with a fast reaction. (English summary) *J. Math. Anal. Appl.* **209** (1997), *no.* 2, 392–414. (Atsushi Yagi) **99a:35135** 35K57 (34B15, 35J65, 92E20)

Kalachinskaya, I. S. (*with* Elizarova, T. G.; Klyuchnikova, A. V.; Sheretov, Yu. V.) Application of quasi-hydrodynamic equations for modeling thermal convection at low Prandtl numbers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1732–1742; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1662–1671. (Summary) **99f:76089** 76M20 (76D45, 76R05)

Kalafatis, A. D. (*with* Wang, Liuping; Cluett, W. R.) Identification of Wiener-type nonlinear systems in a noisy environment. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 923–941. 93E12

Kalai, Ehud (*with* Jackson, Matthew O.) Erratum: "Social learning in recurring games" [Games Econom. Behav. **21** (1997), no. 1, 102–134; MR 98m:90205]. *Games Econom. Behav.* **25** (1998), *no.* 1, 145. 90D20 (90D10, 90D35, 93E35)
— *see also* **Special Issue: Imperfect recall, 99b:90162**

Kalaidin, Evgeny (*with* Chang, Hsueh-Chia; Demëkhin, E. A.) Generation and suppression of radiation by solitary pulses. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1246–1277 (*electronic*). (Summary) **99b:35180** 35Q51 (34C99, 35Q35, 76D33)
— (*with* Chang, Hsueh-Chia; Demëkhin, E. A.) Iterated stretching of viscoelastic jets. (English summary) *Phys. Fluids* **11** (1999), *no.* 7, 1717–1737. 76A10

Kalamkar, V. A. (*with* Sreehari, M.) Modelling some stationary Markov processes and related characterizations. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 363–375. (Barry C. Arnold) **99f:62114** 62M10 (60J05)

Kalamkarov, Alexander L. (*with* Kolpakov, A. G.) ★ Analysis, design and optimization of composite structures. (English summary) *John Wiley & Sons, Ltd., Chichester*, 1997. *x*+356 *pp. ISBN* 0-471-97189-8 (Leonid V. Gibiansky) **99f:73007** 73B27 (49J20, 73K20, 73K40)

Kalandarov, U. (*with* Mirakhmedov, Sh. A.) The non-uniform bounds of remainder term in CLT for the sum of functions of uniform spacings. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 53–60. (Noël Veraverbeke) **99d:60027** 60F05 (62G30)

Kalantari, Iraj A bibliography of recursive algebra and recursive model theory. *Handbook of recursive mathematics, Vol.* 1, 515–581, *Stud. Logic Found. Math.*, 138, *North-Holland, Amsterdam*, 1998. (From the text) **99m:03067** 03C57 (00A15, 03–03)
— (*with* Welch, Lawrence) Point-free topological spaces, functions and recursive points; filter foundation for recursive analysis. I. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 125–151. (Summary) **99d:03041** 03D45 (03C57, 03D80, 54A20)

Kalantarov, Varga K. (*with* Çelebi, A. Okay; Tahamtani, Faramarz) Phragmén-Lindelöf type theorems for some semilinear elliptic and parabolic equations. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 43–54. (H. J. Kuiper) **99c:35054** 35J60 (35B05, 35K55)

Kalas, Josef Stability and asymptotic properties of a $2n$-dimensional system of differential equations. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 697–714. (Zvi Artstein) **99c:34105** 34D20
— Nonuniqueness results for ordinary differential equations. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 373–384. (Daniel C. Biles) **99f:34003** 34A12 (34A34)

Kalashnik, M. V. Formation of fronts and jet currents during geostrophic adjustment in a stratified fluid. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 247–251. (Yuri N. Skiba) **99a:76155** 76U05 (76V05, 86A05, 86A10)

Kalashnikov, A. S. Discretization and nonlinear effects in mathematical models of heat conduction theory. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 600–606; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 578–584. (Summary) **99e:80002** 80A20 (80–08)

Kalashnikov, V. V. *see* **Kalashnikov, Vyacheslav Vladimirovich**

Kalashnikov, Vladimir Calculation of reliability characteristics for regenerative models. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 525–546. (S. Kalpakam) **99b:60152** 60K15 (60K20)

Kalashnikov, Vyacheslav Vital'evich (*with* Bulavskiĭ, V. A.; Isac, George) Application of topological degree theory to complementarity problems. (English summary) *Multilevel optimization: algorithms and applications*, 333–358, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Author's review (G.I.)) **99g:90144** 90C33 (47H11, 47N10, 49J40)
— (*with* Bulavskiĭ, V. A.) A Newton-like approach to solving an equilibrium problem. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 115–128. (*see* **99b:90006**) 90C30 (65K05)

Kalashnikov, Vyacheslav Vladimirovich On the topological structure of integrable Hamiltonian systems that are close to a given system. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 98–105. (Peter J. Topalov) **99i:58076** 58F07 (58F05, 70H05)
— Generic integrable Hamiltonian systems on a four-dimensional symplectic manifold. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 2, 49–74; *translation in Izv. Math.* **62** (1998), *no.* 2, 261–285. (Peter J. Topalov) **99g:58052** 58F05 (58F07, 70H05)

Kalayci, J. (*with* Aliev, A. N.; Nutku, Y.) General minimal surface solution for gravitational instantons. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 2, 1332–1333. (Summary) **99d:83041** 83C45 (53A10, 53C80)

Kalb, G. (*with* Wernecke, K.-D.; Possinger, K.; Stein, Julia) Validating classification trees. (English summary) *Biom. J.* **40** (1998), *no.* 8, 993–1005. 62H30

Kälbermann, G. Soliton interacting as a particle. (English summary) *Phys. Lett. A* **252** (1999), *no.* 1-2, 37–42. 35Q51

Kaledin, D. (*with* Verbitsky, M.) Trianalytic subvarieties of generalized Kummer varieties. *Internat. Math. Res. Notices* **1998**, *no.* 9, 439–461. (Alexander E. Polishchuk) **99i:53047** 53C25 (14C05, 53C55)

Kalenda, Ondřej New examples of hereditarily τ-Baire spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 197–210. (Robert A. McCoy) **99e:54021** 54E52 (03E55, 28A33, 54C10)

Kalenova, B. S. (*with* Khisamiev, N. G.) On homogeneous abelian groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1098–1105, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 950–956. (A. I. Moskalenko) **99a:20060** 20K99 (03C60)
— Computability of the class of strongly constructivizable abelian p-groups. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 121–133. (O. V. Belegradek) **99i:03035** 03C57 (03D45, 20K10)

Kalevatykh, A. V. Estimation of the reliability of composite-connected methods for automatic image analysis. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 54–64; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1418–1426 (1997). (Summary) **99c:68258** 68U10

Kalf, Hubert Essential self-adjointness of Dirac operators under an integral condition on the potential. (English summary) *Lett. Math. Phys.* **44** (1998), *no.* 3, 225–232. (Volker Vogelsang) **99g:47048** 47B25 (35J99, 35P05, 47F05, 81Q15)
— (*with* Rofe-Beketov, F. S.) On the essential self-adjointness of Schrödinger operators with locally integrable potentials. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 95–106. (Günter Stolz) **99e:47063** 47F05 (35J10, 35P05, 47B25)

Kalfagianni, Efstratia Vassiliev invariants and orientation of pretzel knots. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 173–185. (Stephen F. Sawin) **99b:57009** 57M25
— (*with* Lin, Xiao Song^2) Milnor and finite type invariants of plat-closures. *Math. Res. Lett.* **5** (1998), *no.* 3, 293–304. (Daniel Matignon) **99h:57010** 57M25
— (*with* Lin, Xiao Song^2) The HOMFLY polynomial for links in rational homology 3-spheres. (English summary) *Topology* **38** (1999), *no.* 1, 95–115. (Nikolaos A. Askitas) **99h:57011** 57M25 (57N10)

Kalia, R. N. Fractional calculus and analytic functions. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 203–210. (R. K. Raina) **99b:26009** 26A33 (30C45, 30E20)
— (*with* Raina, Ravinder Krishna) Characterizations for subclasses of analytic functions connecting linear fractional calculus operators. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 4, 335–350. (H. M. Srivastava) **99k:30025** 30C45 (26A33)
— (*with* Kalia, Sneh) Integrals derivable from Feynman integrals, fractional calculus applications to the H-function, and certain Gaussian model in statistical mechanics. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 7, 19–24. (Summary) **99i:33016** 33C60

Kalia, Rajiv K. *see* **Computational and mathematical models of microstructural evolution, 99k:73002**

Kalia, Sneh (*with* Kalia, R. N.) Integrals derivable from Feynman integrals, fractional calculus applications to the H-function, and certain Gaussian model in statistical mechanics. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 7, 19–24. (Summary) **99i:33016** 33C60

Kaliaguine, V. *see* **Kalyagin, V. A.**

Kalies, William D. On the asymptotic behavior of a phase-field model for elastic phase transitions. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 2, 289–306. (John M. Ball) **99a:73021** 73B30 (35B40, 35Q72)
— (*with* Kwapisz, Jaroslaw; VanderVorst, R. C. A. M.) Homotopy classes for stable connections between Hamiltonian saddle-focus equilibria. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 337–371. (Patricio L. Felmer) **99g:34102** 34C37 (34C35, 58F05, 58F15, 70H05)
Kaliev, M. K. (*with* Khisamiev, N. G.) The category of numbered abelian groups. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 134–140. (Summary) **99h:20089** 20K40 (18B99)
Kalik, K. (*with* Quatember, R.; Wendland, Wolfgang L.) Interpolation, triangulation and numerical integration on closed manifolds. *Boundary element topics (Stuttgart, 1995)*, 395–417, *Springer, Berlin*, 1997. (Introduction) **99h:65037** 65D30 (65Y25)
Kalikow, Louis H. (*with* Gilbey, Julian D.) Parking functions, valet functions and priority queues. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 351–373. (Summary) **99m:05011** 05A19 (05C05)
Kalin, Dieter (*with* Zagst, Rudi) Portfolio optimization: volatility constraints versus shortfall constraints. (English and German summaries) *OR Spektrum* **21** (1999), *no.* 1-2, 97–122. (Summary) **99j:90011** 90A09
Kalin, Yu. F. (*with* Vulpe, N. I.) Affine-invariant conditions for the topological discrimination of quadratic Hamiltonian differential systems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 298–302, 428; *translation in Differential Equations* **34** (1998), *no.* 3, 297–301. (I. D. Iliev) **99k:34059** 34C05 (34A05, 34C20)
Kalina, Jerzy (*with* Dolbeault, Pierre; Ławrynowicz, Julian) Introduction to almost hyperbolic pseudodistances via intermediate dimensional-invariant measures. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 9–14. (Masaaki Suzuki) **99m:32025** 32H15 (32H99)
Kalina, Martin Derivatives and differentials within nonstandard models. (English summary) Real functions '94 (Liptovský Ján, 1994). *Tatra Mt. Math. Publ.* **8** (1996), 127–132. (Nigel J. Cutland) **99e:26024** 26E35 (03E70, 03H05)
Kalinchuk, V. V. (*with* Vorovich, I. I.; Belyankova, T. I.) On the problem of low-frequency resonances in the interaction of an elastic body with a semi-bounded medium. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 624–626; *translation in Dokl. Phys.* **43** (1998), *no.* 2, 113–115. (From the text) **99k:73060** 73D30 (73T05)
Kalinde, Albert K. On a perturbation theorem for m-accretive operators in Banach spaces. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 399–408. (A. I. Perov) **99c:47101** 47H15
— (*with* Mishra, Swami Nath) A note on an Ishikawa type iteration scheme. *Demonstratio Math.* **31** (1998), *no.* 3, 587–594. 54H25 (54E40)
Kalinin, A. I. (*with* Gribkovskaya, I. V.) An asymptotically optimal controller for a linear dynamical system that contains parameters of variable orders of smallness at the derivatives. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 78–82. 49K40 (93C70)
— (*with* Polevikov, Sergei V.) Asymptotic solution of the minimum force problem for linear singularly perturbed systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 625–630. (T. R. Gichev) **99f:49039** 49K40 (49M30)
Kalinin, A. V. (*with* Morozov, S. F.) The Cauchy problem for a nonlinear integro-differential transport equation. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 677–686; *translation in Math. Notes* **61** (1997), *no.* 5-6, 566–573. (Hana Petzeltová) **99c:35246** 35Q99 (45K05, 82C70)
Kalinin, Anatoly I. *see* **Kalinin, A. I.**
Kalinin, D. A. (*with* Aminova, A. V.) H-projective mappings of four-dimensional Kähler manifolds. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 3–14; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 1–11. (Valery Marenich) **99h:53093** 53C55 (53B35)
Kalinin, G. V. (*with* Borisov, N. V.; Il′inskiĭ, K. N.) New index formulas as a meromorphic generalization of the Chern-Gauss-Bonnet theorem. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 249–262. (Akira Asada) **99e:58173** 58G10 (81Q60)
Kalinovich, V. N. (*with* Mitropol′skiĭ, Yuriĭ Alekseevich; Samoĭlenko, Anatoliĭ Mikhaĭlovich; Onishchenko, S. M.; Polishchuk, A. N.) On the work of V. N. Koshlyakov in mechanics and its applications. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1444–1453; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1622–1631 (1998). 70E15 (01A70)
Kalinowski, Eva (*with* Holthaus, Martin; Kirsten, Klaus) Condensate fluctuations in trapped Bose gases: canonical vs. microcanonical ensemble. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 198–230. (Summary) **99h:82004** 82B05 (11Z05)
Kalinowski, M. W. (*with* Piechocki, W.) Prequantization of field theory. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 305–311. (Jaime Muñoz Masqué) **99c:81109** 81S10 (58F06, 70G50)
Kaliski, Burton S., Jr. *see* **Advances in cryptology—CRYPTO '97, 99a:94041**
Kaliszewski, Ignacy (*with* Michalowski, Wojtek; Kersten, Gregory) A hybrid interactive technique for the MCDM problems. (English summary) *Essays in decision making*, 48–59, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A05)
Kaliszewski, S. (*with* Echterhoff, Siegfried; Raeburn, Iain) Crossed products by dual coactions of groups and homogeneous spaces. (English summary) *J. Operator Theory* **39** (1998), *no.* 1, 151–176. (Yoshikazu Katayama) **99h:46124** 46L55 (22D25)
— (*with* Quigg, John) Imprimitivity for C^*-coactions of non-amenable groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 101–118. (Erik Bédos) **99a:46118** 46L55 (22D25)
Kalitin, B. S. (*with* Amel′kin, V. V.) An ideal "two-shock" model of a clock with an analytic strongly isochronic oscillator of free oscillations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 92–99; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 87–94. (Summary) **99d:70032** 70K25 (34C15)
— A dynamic market model of "effective competition" type. Nonnegative stability surplus. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1998**, *no.* 2, 41–45, 80. 90A60 (90A09)
Kalitkin, N. N. Optimal canceling of mutual debts of firms. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 11–21. 90A09
— (*with* Kuz′mina, L. V.; Maevskiĭ, E. V.) Rotationally invariant splines. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 583–586. 41A15
— (*with* Panchenko, S. L.) Optimal two-stage schemes for stiff systems. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 3, 307–310. 65L06
— (*with* Samarskiĭ, Aleksandr Andreevich; Chetverushkin, B. N.; Tishkin, V. F.; Gol′din, V. Ya.; Sobol′, I. M.) Boris Leonidovich Rozhdestvenskiĭ (on the occasion of his seventieth birthday). (Russian) *Mat. Model.* **10** (1998), *no.* 9, 123–124. 01A70
Kalitvin, A. S. (*with* Appell, J.; Zabreĭko, Petr Petrovich) Fixed point theorems in K-normed spaces and boundary values problems for nonlinear integro-differential equations of Barbashin type. (English summary) *Riv. Mat. Pura Appl. No.* 18 (1996), 31–44. (Da Jun Guo) **99b:47081** 47H10 (34K10, 45J05, 47N20)
— (*with* Appell, J.; Zabreĭko, Petr Petrovich) Partial integral operators in Orlicz spaces with mixed norm. *Colloq. Math.* **78** (1998), *no.* 2, 293–306. (Isaac V. Shragin) **99i:47090** 47G10 (46E30, 47B38)
— (*with* Chen, Chur-jen) On Uryson operators with partial integrals in Lebesgue spaces with mixed norm. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 3–8. (Isaac V. Shragin) **99b:47102** 47H30 (45P05, 47G10)
— Spectral properties of partial integral operators of Volterra and Volterra-Fredholm type. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 297–309. (Evgeniy I. Pustylnik) **99e:47066** 47G10 (45P05, 47A10)
Kalitzin, Stilyan (*with* ter Haar Romeny, Bart M.; Salden, Alfons H.; Nacken, Peter FM; Viergever, Max A.) Topological numbers and singularities in scalar images: scale-space evolution properties. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 3, 253–269. (Jayant M. Shah) **99m:68222** 68U10
Kalkbrener, Michael Algorithmic properties of polynomial rings. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 5, 525–581. (Alessandro Logar) **99k:13038** 13P10 (68Q40)
Kalkhoran, I. M. (*with* Smart, M. K.; Wang, Frank Young) Supersonic vortex breakdown during vortex/cylinder interaction. (English summary) *J. Fluid Mech.* **369** (1998), 351–380. (Summary) **99f:76080** 76J20 (76C05, 76L05)
Kalkkinen, J. (*with* Niemi, Antti J.) Supersymmetric structures in non-perturbative Yang-Mills theory. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 213–221, *PWN, Warsaw*, 1997. (Summary) **99c:81244** 81T60 (81T13)
Kall, Peter (*with* Mayer, János) On testing SLP codes with SLP-IOR. (English summary) *New trends in mathematical programming*, 115–135, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 90C15 (90–04)
— Bounds for and approximations to stochastic linear programs with recourse—tutorial. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 1–21, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99g:90075** 90C15 (90–02)
— (*with* Mayer, János) On solving stochastic linear programming problems. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 329–344, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90068** 90C15 (90–02)
— *see also* **Stochastic programming methods and technical applications, 99f:90007** *and* **Systems modelling and optimization, 99k:93007**
Kalla, Shyam L. (*with* Galué, Leda; Al Zamel, A.) Evaluation of fractional integrals involving hypergeometric functions. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 303–312. (J. P. Singhal) **99k:44001** 44A10 (33C20)
— (*with* El-Gabali, Magdi A.) Simple algorithms for approximations of generalized elliptic-type integrals. (English summary) *Transform methods & special functions, Varna '96*, 114–120, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 65D20 (33C20, 33E05)
— (*with* Khajah, H. G.) Radiation field integrals and their evaluation techniques. (English summary) *Transform methods & special functions, Varna '96*, 164–177, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 65D32 (41A30, 78A55)
— (*with* Ali, Ismail) Solution of a class of integro-differential equations by fractional calculus. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 2, 213–228. (R. K. Raina) **99m:45010** 45J05 (26A33)
— (*with* Virchenko, Nina; Tsarenko, V. N.) On some fractional order integral transforms generated by orthogonal polynomials. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 209–219. (K. C. Gupta) **99h:44007** 44A15 (26A33, 33C45, 44A20)
— (*with* Galué, Leda) Some recurrence relations for the generalized hypergeometric functions of the Gauss type. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 1, 49–62. (P. Anandani) **99k:33011** 33C20
— (*with* Boyadzhiev, L. I.; Dobner, Hans-Jürgen) A fractional integro-differential equation of Volterra type. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 10, 103–113. (Summary) **99i:45013** 45J05 (45L05, 78A60)
— (*with* Ali, Ismail; Khajah, H. G.) A partial differential equation related to a problem in atmospheric pollution. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 1–6. 35Q80 (76R50, 86A10)
van der Kallen, Wilberd (*with* van Geemen, Bert; Top, Jaap; Verberkmoes, Alain) Hecke eigenforms in the cohomology of congruence subgroups of SL(3, **Z**). (English summary) *Experiment. Math.* **6** (1997), *no.* 2, 163–174. (Joachim Schwermer) **99a:11059** 11F67 (11F75)
Kallenberg, Olav ★ Foundations of modern probability. (English summary) Probability and its Applications. *Springer-Verlag, New York*, 1997. xii+523 *pp. ISBN* 0-387-94957-7 (F. B. Knight) **99e:60001** 60–01
Kallenberg, Wilbert C. M. (*with* Albers, Willem; Otten, Gertjan D.) Accurate test limits under nonnormal measurement error. (English summary) *Metrika* **47** (1998), *no.* 1, 1–33. (Kailash C. Kapur) **99g:62147** 62N10 (62G10)
— (*with* Albers, Willem; Arts, Gerda R. J.) Test limits using correlated measurements. (English summary) *Statistics* **30** (1998), *no.* 4, 307–330. (Summary) **99k:62196** 62N10
Kallianpur, Gopinath (*with* Budhiraja, Amarjit) Two results on multiple Stratonovich integrals. (English summary) *Statist. Sinica* **7** (1997), *no.* 4, 907–922. (David Nualart) **99b:60067** 60H05
— (*with* Leadbetter, M. Ross) Stamatis Cambanis [1943–1995]—a glimpse of his life and work. *Stochastic processes and related topics, xi–xvi, Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99e:60007**) 01A70

— The Russian options. *Stochastic processes and related topics*, 231–252, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (Lorenzo Peccati) **99k:90031** 90A09 (60G99)

— (*with* Hu, Yao Zhong) Exponential integrability and application to stochastic quantization. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 3, 295–353. (Tu Sheng Zhang) **99c:60117** 60H10 (60G15, 81S20)

Kalligas, Dimitri (*with* Santiago, David I.; Wagoner, Robert V.) Scalar-tensor cosmologies and their late time evolution. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124005, 9 *pp.* 83D05

Kallio, Markku (*with* Rosa, Charles H.) Large-scale convex optimization via saddle point computation. (English summary) *Oper. Res.* **47** (1999), *no.* 1, 93–101. (Summary) **99m:90109** 90C25

Kallivokas, Loukas F. (*with* Bielak, Jacobo; MacCamy, Richard C.) Absorbing boundaries for acoustic wave propagation problems. *IUTAM Symposium on Computational Methods for Unbounded Domains (Boulder, CO, 1997)*, 43–51, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 65M60 (76Q05)

— (*with* Bielak, Jacobo; MacCamy, Richard C.) Absorbing boundary conditions of arbitrary shape for the three-dimensional wave equation. *IUTAM Symposium on Computational Methods for Unbounded Domains (Boulder, CO, 1997)*, 221–228, *Fluid Mech. Appl.*, 49, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:65004**) 76M10 (73K70, 76Q05)

Kallosh, Renata (*with* Behrndt, Klaus; Cardoso, Gabriel Lopes; de Wit, Bernard; Lüst, Dieter; Mohaupt, Thomas) Classical and quantum $N = 2$ supersymmetric black holes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 236–260. (Summary) **99f:83060** 83E30 (32J81, 81T30, 83C57)

— (*with* Ferrara, Sergio; Gibbons, Gary W.) Black holes and critical points in moduli space. (English summary) *Nuclear Phys. B* **500** (1997), *no.* 1-3, 75–93. (Summary) **99d:83057** 83C57 (83E50)

— (*with* Bergshoeff, E. A.; Ortín, Tomás; Papadopoulos, George J.) κ-symmetry, supersymmetry and intersecting branes. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 149–169. (Javier Borlaf González) **99a:81127** 81T30 (83E30)

— (*with* Linde, Andrei) Black hole superpartners and fixed scalars. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3509–3514. (Summary) **99d:83104** 83E50 (83C57)

— Volkov-Akulov theory and D-branes. (English summary) *Supersymmetry and quantum field theory (Kharkov, 1997)*, 49–58, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Summary) **99k:81311** 81T60 (81T30)

— (*with* Claus, Piet; Van Proeyen, Antoine; Kumar, Jason; Townsend, Paul K.) Conformal theory of M2, D3, M5 and "D1 + D5" branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 4, 27 *pp.* (*electronic*). (Sergey A. Cherkis) **99g:81154** 81T30 (83E30)

— (*with* Claus, Piet; Van Proeyen, Antoine) M 5-brane and superconformal $(0, 2)$ tensor multiplet in six dimensions. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 117–150. (Marco Spaans) **99g:81155** 81T30 (83E30)

— Quantization of p-branes, D-p-branes and M-branes. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 197–205. (Summary) **99g:81170** 81T30

— (*with* Rahmfeld, Joachim) The GS string action on $AdS_5 \times S^5$. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 143–146. (Summary) **99h:83056** 83E30 (81T30)

— Worldvolume supersymmetry. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, *R*3214–*R*3218. (Summary) **99k:81249** 81T30

— (*with* Kumar, Jason; Rajaraman, Arvind) Special conformal symmetry of worldvolume actions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6452–6454. (Summary) **99m:81198** 81T30 (81T20, 81T60)

— (*with* Rajaraman, Arvind) Vacua of M theory and string theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125003, 7 *pp.* (Summary) **99m:81199** 81T30 (83E30)

— (*with* Claus, Piet; Derix, Martijn; Kumar, Jason; Townsend, Paul K.; Van Proeyen, Antoine) Black holes and superconformal mechanics. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 21, 4553–4556. (Gil De Oliveira-Neto) **99k:83063** 83C57 (83E30)

Kallsen, Jan (*with* Taqqu, Murad S.) Option pricing in ARCH-type models. (English summary) *Math. Finance* **8** (1998), *no.* 1, 13–26. (Summary) **99f:90015** 90A09

Kalman, Rudolf E. (*with* Pincus, Steve) Not all (possibly) "random" sequences are created equal. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 8, 3513–3518. (Summary) **99d:68179** 68R05 (60A05, 68Q30)

Kalmbach, Gudrun ★ Quantum measures and spaces. (English summary) With contributions by Andreas Hermann, Pascal Hitzler, Zdenka Riečanová, David J. Foulis and Anatolij Dvurečenskij. Mathematics and its Applications, 453. *Kluwer Academic Publishers, Dordrecht*, 1998. *xiv*+343 *pp. ISBN* 0-7923-5288-2 (S. Gudder) **99j:81014** 81P10 (06C15, 46N50, 47N50)

— *see also* **Quantum structures, 99g:00049** *and* **Dvurečenskij, Anatolij, 99m:01053**

Kalmykov, M. Yu. (*with* Kazakov, Kirill A.; Pronin, Petr I.; Stepan′yants, K. V.) Detailed analysis of the dependence of 1-loop counter-terms on gauge and parametrization in Einstein gravity with a cosmological constant. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3777–3794. (Summary) **99g:83036** 83C45 (83–04)

— (*with* Pronin, Petr I.) The one-loop divergences of the linear gravity with the torsion terms in tetrad approach. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2827–2837. (Summary) **99h:83022** 83C45

Kalmykov, V. A. Energy transfer in the spectrum of surface gravity waves by resonance five wave-wave interactions. (English summary) *Nonlinear waves and weak turbulence*, 83–94, *Amer. Math. Soc. Transl. Ser.* 2, 182, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:76013** 76B15 (76M25)

Kalnins, E. G. (*with* Chung, Won Sang; Miller, Willard, Jr.) Tensor products of q-superalgebra representations and q-series identities. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7147–7166. (R. N. Kalia) **99h:33060** 33D80

— (*with* Williams, Graeme C.) Integrability conditions for the coupled electromagnetic-gravitational perturbation equations of the Kerr-Newman space-time. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1331–1338. (Brian Edgar) **99g:83056** 83C57 (83C25, 83C60)

— (*with* Joe, Stephen) Centrefold: Douglas Bridges. *New Zealand Math. Soc. Newslett. No.* 72 (1998), 14–15. (From the text) **99k:01063** 01A70

— (*with* Miller, Willard, Jr.) q-algebra and q-superalgebra tensor products and identities for special function. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1659–1665. (From the text) **99k:33057** 33D80 (17B99)

— (*with* Williams, Graeme C.; Miller, Willard, Jr.; Pogosyan, G. S.) Superintegrability in three-dimensional Euclidean space. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 708–725. (Ya. I. Granovskiĭ) **99m:81044** 81Q05 (35Q55, 81R05)

Kaloerov, S. A. (*with* Avdyushina, E. V.) Solution of the fundamental problems of elasticity theory for a multiconnected anisotropic half-plane. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 1, 1829–1839. (Summary) **99f:73023** 73C02 (73B40, 73V35)

— (*with* Avdyushina, E. V.) Stress concentration in an anisotropic half-plane with holes and cracks. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 1, 1840–1845. (Summary) **99f:73019** 73B50 (73B40, 73C02, 73V35)

Kalogeropoulos, Gr. (*with* Mitrouli, Marilena) Generalised linear discrete-time systems and matrix pencils algebraic duality. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 81–90. (Summary) **99h:93031** 93B25 (93C55)

— (*with* Grispos, E.) On the spectral representation of solutions for G. A. linear systems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 397–402, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34A09 (15A06, 15A22, 34A30)

— (*with* Arvanitis, Kostas G.) A matrix-pencil-based interpretation of inconsistent initial conditions and system properties of generalized state-space systems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 73–91. (John Maroulas) **99f:93074** 93C15 (93B25)

— (*with* Arvanitis, Kostas G.) Stability robustness to unstructured uncertainties of linear systems controlled on the basis of the multirate sampling of the plant output. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 241–268. (Abdelmoula El Bouhtouri) **99h:93074** 93D09 (93D15)

— (*with* Grispos, E.) The causality for generalised linear discrete-time dynamical systems. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 145–154. (Maria Letizia Corradini) **99k:93064** 93C55 (93B25, 93C35)

— (*with* Arvanitis, Kostas G.) Stability robustness of LQ optimal regulators based on multirate sampling of plant output. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 2, 299–337. (Summary) **99a:93076** 93D09 (93D21)

— (*with* Mitrouli, Marilena) A matrix pencil approach computing the elementary divisors of a matrix: numerical aspects and applications. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 627–644. (Jaroslav Zemánek) **99h:65085** 65F30

Kaloper, Nemanja (*with* Khuri, Ramzi R.; Myers, Robert C.) On generalized axion reductions. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 297–302. (Summary) **99b:83075** 83E50 (81T30, 81T60, 83E30)

— Entropy count for extremal three-dimensional black strings. (English summary) *Phys. Lett. B* **434** (1998), *no.* 3-4, 285–293. (Marco Spaans) **99f:83067** 83E30 (83C57)

— (*with* Kogan, Ian I.; Olive, Keith A.) Cosmological solutions in M and string theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7340–7353. (Summary) **99j:83067** 83E30 (81T30)

szirmay-Kalos, L. *see* **Szirmay-Kalos, L.**

Kaloshin, V. Yu. Some prevalent properties of smooth dynamical systems. (Russian) *Tr. Mat. Inst. Steklova* **213** (1997), *Differ. Uravn. s Veshchestv. i Kompleks. Vrem.*, 123–151. (B. V. Loginov) **99h:58100** 58F10 (34C35, 54H20, 58F25)

Kaloujnine, Léo *see* **Kaluzhnin, Lev Arkad′evich**

Kalouptsidis, N. (*with* Koutroumbas, K.) Neural network architectures for selecting the maximum input. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 1-2, 25–32. 68T05

Kaloust, J. (*with* Qu, Zhihua) Attenuation of nonlinearly state-dependent uncertainties: robust control design and its application to robotic manipulators. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 27–40. 93B36 (93C85)

Kálovics, Ferenc A continuation method for Chebyshev approximation. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1995), *no.* 1, 33–40. 65D15 (41A05)

— (*with* Mészáros, Gabriella) Equation fitting to given points by Chebyshev approximation. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 55–64. 65D15 (41A50)

Kalpakam, S. (*with* Sapna, K. P.) An (s, S) perishable system with arbitrarily distributed leadtimes. (English summary) *Opsearch* **33** (1996), *no.* 1, 1–19. (Summary) **99a:90087** 90B05 (90B22)

Kalpakides, Vassilios K. Isovector fields and similarity solutions of nonlinear thermoelasticity. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 10, 1103–1126. (Summary) **99e:73016** 73B30 (35Q72)

Kalpakis, K. (*with* Yesha, Yaacov) Upper and lower bounds on the makespan of schedules for tree dags on linear arrays. (English summary) *Algorithmica* **23** (1999), *no.* 2, 159–179. (Summary) **99i:68013** 68M20

Kalpana Bai, S. (*with* Durairajan, T. M.) Optimal equivariant estimator with respect to convex loss function. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 283–295. (Summary) **99c:62019** 62C15 (62F10)

— (*with* Durairajan, T. M.) Simultaneous equivariant estimation of the parameters of linear models. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 125–134. (Friedrich Liese) **99i:62004** 62A05 (62J05)

Kalpazidou, S. Cycle processes. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 369–389, *TEV, Vilnius*, 1994. (Summary) **99f:60125** 60J10

— Cycle representations of Markov processes: an application to rotational partitions. (English summary) *Stochastic processes and related topics*, 253–273, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (John Haigh) **99i:60138** 60J10 (05A18)

Kaltenbacher, Barbara (*with* Engl, Heinz W.) Regularization methods for nonlinear ill-posed problems with applications to phase reconstruction. *Inverse problems in medical imaging and nondestructive testing (Oberwolfach, 1996)*, 17–35, *Springer, Vienna*, 1997. (V. V. Vasin) **99g:65070** 65J20

— On Broyden's method for the regularization of nonlinear ill-posed problems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 807–833. (Hong Kun Xu) **99k:65050** 65J20 (47H17, 65J15, 65R30)

— A posteriori parameter choice strategies for some Newton type methods for the regularization of nonlinear ill-posed problems. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 501–528. (V. V. Vasin) **99f:65091** 65J20 (47H17, 65J15)

Kaltenbäck, Michael (*with* Hassi, Seppo; de Snoo, Hendrik S. V.) The sum of matrix Nevanlinna functions and self-adjoint extensions in exit spaces. (English summary) *Recent progress in operator theory (Regensburg, 1995)*, 137–154, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Vladimir Derkach) **99i:47043** 47B25 (47A45, 47E05)

— (*with* Hassi, Seppo; de Snoo, Hendrik S. V.) Generalized Kreĭn-von Neumann extensions and associated operator models. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 3-4, 627–655. (Abraham V. Strauss) **99m:47026** 47B15 (47A55, 47A57, 47A70, 47B25)

— Model spaces for compositions of Q-functions. (English summary) *Math. Nachr.* **195** (1998), 159–170. (Daniel Alpay) **99k:47081** 47B99 (46E22, 46E99, 47A45)

— (*with* Woracek, Harald) The Krein formula for generalized resolvents in degenerated inner product spaces. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 119–140. (Aad Dijksma) **99m:47044** 47B50 (47A57, 47B25)

Kaltofen, Erich (*with* Shoup, Victor) Subquadratic-time factoring of polynomials over finite fields. (English summary) *Math. Comp.* **67** (1998), *no.* 223, 1179–1197. (Summary) **99m:68097** 68Q40 (11Y16, 13P05)

Kalton, Nigel J. (*with* Godefroy, Gilles; Lancien, Gilles) L'espace de Banach c_0 est déterminé par sa métrique. (English and French summaries) [The Banach space c_0 is determined by its metric] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 817–822. (Summary) **99h:46007** 46B04 (46B20)

— (*with* Tzafriri, L.) The behaviour of Legendre and ultraspherical polynomials in L_p-spaces. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1236–1252. (Walter Schempp) **99k:33042** 33C55 (33C45, 42B05, 46E30)

— (*with* Casazza, Peter G.) Uniqueness of unconditional bases in Banach spaces. (English summary) *Israel J. Math.* **103** (1998), 141–175. (Paolo Terenzi) **99d:46007** 46B15 (46B45)

— Spectral characterization of sums of commutators. I. (English summary) *J. Reine Angew. Math.* **504** (1998), 115–125. (Oscar Blasco) **99g:47078** 47B47 (47A10, 47D50)

— (*with* Dykema, Kenneth J.) Spectral characterization of sums of commutators. II. (English summary) *J. Reine Angew. Math.* **504** (1998), 127–137. (Oscar Blasco) **99g:47079** 47B47 (47A10, 47D50)

— (*with* Casazza, Peter G.) Generalizing the Paley-Wiener perturbation theory for Banach spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 519–527. (Manuel González) **99c:47008** 47A53 (46B20, 47A55)

— (*with* Verbitskiĭ, I. Ė.) Nonlinear equations and weighted norm inequalities. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3441–3497. (C. A. Swanson) **99m:35073** 35J65 (31B10, 47H15, 47N20)

Kałuszka, Marek (*with* Bartos, Jerzy) Note on an improvement in two-stage sampling scheme. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 9, 2129–2139. (Issa Fakhre-Zakeri) **99c:62227** 62L12

— Influence of censorship on the minimax risk of decision procedures. (English summary) *Statistics* **29** (1997), *no.* 2, 169–178. (Eswar G. Phadia) **99b:62008** 62C20 (62C15, 62F10)

— On the Devroye-Györfi methods of correcting density estimators. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 3, 249–257. (Jian-Lun Xu) **99e:62049** 62G05

Kaluzhnin, Lev Arkad'evich Sur la structure des p-groupes de Sylow des groupes symétriques finis et de quelques généralisations infinies de ces groupes. [On the structure of Sylow p-groups of finite symmetric groups and of some infinite generalizations of these groups] *Séminaire Bourbaki, Vol. 1, Exp. No. 5*, 29–31, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 20D20

— *see also* **Algebra and combinatorics: interactions and applications**, **99e:00015** *and* **Sushchanskiĭ, V. I. et al.**, **99m:01091**

Kalvala, Sara (*with* Benini, Marco; Nowotka, Dirk) Program abstraction in a higher-order logic framework. (English summary) *Theorem proving in higher order logics (Canberra, 1998)*, 33–48, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99k:68171** 68T15 (68Q60)

Kalyagin, V. A. (*with* Beckermann, Bernhard) The diagonal of the Padé table and the approximation of the Weyl function of second-order difference operators. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 481–510. (Luis Verde-Star) **99h:39021** 39A70 (41A21, 65D15)

— (*with* Aptekarev, A. I.) Complex rational approximation and difference operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo (2) Suppl. No. 52, Vol. I* (1998), 3–21. (Summary) **99h:41019** 41A20 (35Q53, 39A70, 47B39)

Kalyakin, Leonid A. Asymptotic well-posedness for the problem of soliton perturbation. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 447–458 (1998). (Summary) **99a:35222** 35Q53 (35B20)

Kalyanasundaram, Bala (*with* Pruhs, Kirk) Fault-tolerant real-time scheduling. (English summary) *Algorithms—ESA '97 (Graz)*, 296–307, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68M20 (68M15)

— (*with* Pruhs, Kirk) On-line network optimization problems. *Online algorithms (Schloss Dagstuhl, 1996)*, 268–280, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68R10 (68M10, 90C35)

Kalybaeva, A. A. (*with* Rakhimberdiev, M. I.) Invariant sets and limit points of the discrete Boltzmann equation in the spatially homogeneous case. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 24–33. (A. D. Khon'kin) **99f:82054** 82C40

Kalyukh, Yu. I. Control of length in problems on nonlinear dynamics of flexible connections of variable length in a flow. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2489–2491. (Summary) **99h:73046** 73K12 (73V15)

— (*with* Selezov, I. T.) A method for wave decomposition in computations for nonlinear dynamical three-dimensional towing systems. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2492–2496. (Summary) **99g:76110** 76M25 (73K70)

Kalyuzhnyi, A. A. (*with* Berezanskiĭ, Yuriĭ Makarovich) ★ Harmonic analysis in hypercomplex systems. (English summary) Translated from the 1992 Russian original by P. V. Malyshev and revised by the authors. Mathematics and its Applications, 434. *Kluwer Academic Publishers, Dordrecht*, 1998. x+483 *pp.* *ISBN* 0-7923-5029-4 (Editors) **99d:43010** 43A62 (22D15, 43A20, 47B99)

Kam, Moshe (*with* Prosser, Joseph H.; Kwatny, Harry G.) Online supervisor synthesis for partially observed discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1630–1634. (Wende Chen) **99h:93067** 93C83 (93B07)

Kam, S.-M. (*with* Burns, Robert G.; Chau, T. C.) On the rank of intersection of subgroups of a free product of groups. (English summary) *J. Pure Appl. Algebra* **124** (1998), *no.* 1-3, 31–45. (B. H. Neumann) **99a:20025** 20E06 (20E07)

Kamada, Hiroyuki (*with* Machida, Yoshinori) Self-duality of metrics of type (2, 2) on four-dimensional manifolds. (English summary) *Tohoku Math. J. (2)* **49** (1997), *no.* 2, 259–275. (Yasuo Matsushita) **99b:53068** 53C25 (53C50)

Kamada, Kenji (*with* Fukumi, Toshio; Nagao, Hidemi; Ohta, Koji; Matsueda, Hideaki) Quantum calculations connected with path integrals. (Japanese) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 203–206. (*see* **99b:00018**) 81S40

Kamada, Masaru (*with* Enkhbat, Rentsen; Bazarsad, Yadam) Finite algorithm for maximizing convex quadratic functions over compact set. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 29–40. 90C20 (90C25)

Kamada, Seiichi Surfaces in 4-space: a view of normal forms and braidings. *Lectures at KNOTS '96 (Tokyo)*, 39–71, *Ser. Knots Everything*, 15, *World Sci. Publishing, River Edge, NJ*, 1997. (Daniel Silver) **99b:57048** 57Q45

— Standard forms of 3-braid 2-knots and their Alexander polynomials. *Michigan Math. J.* **45** (1998), *no.* 1, 189–205. (J. S. Birman) **99h:57048** 57Q45

Kamae, Teturo (*with* Keane, Michael S.) A simple proof of the ratio ergodic theorem. *Osaka J. Math.* **34** (1997), *no.* 3, 653–657. (Nathaniel F. G. Martin) **99c:28048** 28D05

— Linear expansions, strictly ergodic homogeneous cocycles and fractals. (English summary) *Israel J. Math.* **106** (1998), 313–337. (Run Sheng Yang) **99m:28041** 28D15 (28A80)

Kamakoti, V. (*with* Graf, Thorsten; Janaki Latha, N. S.; Pandu Rangan, C.) The colored sector search tree: a dynamic data structure for efficient high-dimensional nearest-foreign-neighbor queries. (English summary) *Computing and combinatorics (Taipei, 1998)*, 35–44, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68P05 (68U05)

Kamakura, Tomoo Nonlinear phenomena in ultrasonic waves. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 1–10. (*see* **99a:00032**) 76Q05 (35Q35)

Kamal, F. (*with* Dahleh, Mohammed A.) Robust stability of multivariable interval control systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 807–828. 93D09 (93C41)

Kamali, F. (*with* Kharaghani, H.) Dihedral Golay sequences. (English summary) *Australas. J. Combin.* **18** (1998), 139–145. (Summary) **99g:05040** 05B20

Kamali, Muhammet (*with* Mağden, Abdullah; Salimov, Arif A.) The Tachibana operator and transfer of lifts. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 109–117. (Vadim V. Shurygin) **99f:53017** 53B20

Kamaly, Amir (*with* Rakotondratsimba, Yves) Weighted inequalities for discrete and integral Hardy operators. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 183–188. (Kairat T. Mynbaev) **99d:26022** 26D10 (39B72)

— On certain inequalities for Fourier coefficients. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 91–103. (Hans P. Heinig) **99i:41012** 41A17 (26D10)

Kamalyan, A. G. Formulas of Gohberg-Lerer-Rodman type for partial indices of a matrix function. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 38–49 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 31–41. (I. Spitkovsky) **99f:47024** 47A68 (45E05, 47B35)

Kamalyan, R. R. (*with* Mirumyan, A. N.) Interval edge colorings of bipartite graphs of a certain class. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **97** (1997), *no.* 4, 3–5 (1998). 05C15

Kamaraj, M. (*with* Parvathi, M.) Signed Brauer's algebras. *Comm. Algebra* **26** (1998), *no.* 3, 839–855. (Fabio Gavarini) **99c:16028** 16S99 (16K20)

Kamareddine, Fairouz (*with* Barthe, Gilles; Ríos, Alejandro) Explicit substitutions for the $\lambda\Delta$-calculus. (English summary) *Algebraic and logic programming (Southampton, 1997)*, 209–223, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68N15 (03B40, 68Q55)

— (*with* Ríos, Alejandro) Extending a λ-calculus with explicit substitution which preserves strong normalisation into a confluent calculus on open terms. (English summary) *J. Funct. Programming* **7** (1997), *no.* 4, 395–420. (Vladimiro Sassone) **99g:03013** 03B40 (68N15, 68Q42)

Kamarujjama, M. (*with* Pathan, M. A.) Generating functions for general hypergeometric function of $(n+2)$ variables. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 243–252. (Summary) **99d:33021** 33C70

— (*with* Srivastava, Hari M.; Pathan, M. A.) Some unified presentations of the generalized Voigt functions. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 1, 49–64. (Summary) **99e:33026** 33E20 (85A25)

— (*with* Pathan, M. A.) On certain mixed generating functions. (English summary) *J. Anal.* **6** (1998), 1–6. (Summary) **99k:33031** 33C45 (33C65)

Kamath, Anil (*with* Palmon, Omri; Plotkin, Serge) Routing and admission control in general topology networks with Poisson arrivals. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 236–258. (Summary) **99c:68016** 68M10 (60K25, 90B12)

Kambayashi, Yahiko (*with* Iwama, Kazuo; Miyano, Eiji) New bounds for oblivious mesh routing. (English summary) *Algorithms—ESA '98 (Venice)*, 295–306, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68017** 68M10

Kambe, Tsutomu (*with* Suzuki, Katsuhiro; Watanabe, Yodai) Geometrical analysis of free rotation of a rigid body. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6073–6080. (Summary) **99e:70025** 70E15 (70K20)

— (*with* Hatakeyama, Nozomu) Statistical laws of random strained-vortices in turbulence. (English summary) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 131–139. (*see* **99e:76056**) 76F99 (76C05, 76M35)

— (*with* Nakano, Tohru; Takahashi, Naoya; Gotoh, Toshiyuki; Yamamoto, Kiyoshi) Conditional expectations and probability density distributions in turbulence. (Japanese) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998).

Sūrikaisekikenkyūsho Kōkyūroku No. 1051 (1998), 130–136. (*see* **99k:76004**) 76F99 (60E99, 76M35)

— (*with* Hatakeyama, Nozomu) Statistical rules that impart a random distribution to strain vortices. (Japanese. Japanese summary) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 146–155. (*see* **99k:76004**) 76F99 (76M35)

Kamber, Franz (*with* Bradlow, Steven; Glazebrook, James) A new look at the vortex equations and dimensional reduction. (English summary) *Geometry, topology and physics* (*Campinas*, 1996), 83–106, *de Gruyter, Berlin*, 1997. (Manfred Lehn) **99a:32040** 32L07 (53C07, 53C55)

Kamberov, Georgi I. (*with* Pedit, Franz; Pinkall, Ulrich) Bonnet pairs and isothermic surfaces. *Duke Math. J.* **92** (1998), *no.* 3, 637–644. (Luis J. Alías) **99h:53009** 53A10 (53A05)

— Prescribing mean curvature: existence and uniqueness problems. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 4–11 (*electronic*). (Rafael López) **99c:53066** 53C42 (53A05, 53A30)

Kambo, N. S. (*with* Handa, B. R.; Ravindranath, V.) Estimation of the smaller and larger of truncation parameters of two nonregular distributions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2439–2456. (I. D. Dhariyal) **99c:62052** 62F10

Kambour, E. L. (*with* Eubank, Randall L.; Kim, Jongtae; Klipple, K.; Reese, C. S.; Schimek, M.) Estimation in partially linear models. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 27–34. (Li-Xing Zhu) **99k:62074** 62G05 (62J02)

Kambourides, Miltos E. (*with* Yeşilyurt, Serhat; Patera, Anthony T.) Non-parametric-validated computer-simulation surrogates: a Pareto formulation. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 6, 971–1003. (Summary) **99e:90115** 90C90 (90C29)

Kambule, Matthew T. (*with* Bianco, Steven A.; Sadek, Ibrahim S.) Optimal control of a class of time-delayed distributed systems by orthogonal functions. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 8, 1477–1492. 49K20 (49M25, 93C20)

Kamburelis, Anastasis Dominating analytic families. (English summary) *Fund. Math.* **156** (1998), *no.* 1, 73–83. (Eva Coplakova) **99i:03056** 03E15 (06E10)

Kamchatnov, A. M. New approach to periodic solutions of integrable equations and nonlinear theory of modulational instability. (English summary) *Phys. Rep.* **286** (1997), *no.* 4, 199–270. (Woodford W. Zachary) **99c:35015** 35B10 (35Q51)

— (*with* Darmanyan, S.; Lederer, Falk) Optical shock waves in media with quadratic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R*4120–*R*4123. 78A60

Kameda, Tsunehiko (*with* Deng, Xiao Tie; Papadimitriou, Christos H.) How to learn an unknown environment. I. The rectilinear case. (English summary) *J. ACM* **45** (1998), *no.* 2, 215–245. (Luiz Henrique de Figueiredo) **99c:68120** 68Q25 (68U05)

— (*with* Kiniwa, Jun) Lookahead scheduling requests for efficient paging. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 27–34. (Summary) **99i:68023** 68N25

Kamefuchi, S. Some considerations on quantum mechanics—matter wave and probability wave. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 31–43. (R. L. Ingraham) **99d:81006** 81P05 (81P15, 81R30)

Kamei, Eizaburo (*with* Fujii, Masatoshi; Jiang, Jian Fei; Tanahashi, Kôtarô) A characterization of chaotic order and a problem. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 149–156. (From the introduction) **99k:47039** 47A63

— (*with* Jiang, Jian Fei; Fujii, Masatoshi) Operator functions associated with the grand Furuta inequality. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 2, 267–277. (Frank Hansen) **99c:47019** 47A63

— Monotonicity of the Furuta inequality on its complementary domain. (Japanese) Inequalities in operator theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1027 (1998), 33–38. (Takayuki Furuta) **99i:47032** 47A63

Kamejima, Kohji Invariant features associated with a conditional distribution induced by self-similar patterns. *Statistical methods in control and signal processing*, 499–524, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (Henk J. A. M. Heijmans) **99j:94009** 94A12 (28A80, 68U10)

el Kamel, J. *see* **El Kamel, J.**

Kamel, K. A. On existence of travelling waves for spatial system. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 13–20. (Yuzo Hosono) **99j:92025** 92D30 (34C37, 35Q80)

Kamen, E. W. (*with* Sills, J. A.) Matched filtering in the case of nonstationary interference. (English summary) *Current topics in nonstationary analysis* (*San Diego, CA*, 1995), 1–14, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99h:60089** 60G35 (93E11)

— (*with* Jerbi, A.) Robust adaptive control of discrete-time systems with arbitrary rate of variations. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 31 *pp.* (*electronic*). (Summary) **99e:93042** 93C40 (93B36)

Kamenetskiĭ, V. A. Parametric stabilization of nonlinear control systems with phase constraints. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 65–76; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 1, 1427–1435 (1997). (Éva Gyurkovics) **99e:93067** 93D15 (93C10)

— Approximation of a linear stabilization set. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 340–346, 429; *translation in Differential Equations* **33** (1997), *no.* 3, 337–343. (Valery I. Korobov) **99c:93087** 93D15 (34H05)

Kameneva, S. V. (*with* Lumel'skii, Ya. P.) The problem of testing hypotheses concerning the parameters of the Pólya distribution. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 795–799. (*see* **99b:62004**) 62F03

Kamenshchik, A. Yu. (*with* Esposito, Giampiero; Pollifrone, Giuseppe) ★ Euclidean quantum gravity on manifolds with boundary. (English summary) Fundamental Theories of Physics, 85. *Kluwer Academic Publishers Group, Dordrecht*, 1997. xiv+319 *pp. ISBN* 0-7923-4472-3 (Alfred Actor) **99e:81164** 81T20 (81–02, 83–02, 83C45)

— (*with* Khalatnikov, I. M.; Martellini, Maurizio) Remarks about UV regularization of basic commutators in string theories. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046005, 5 *pp.* 81T15 (81T30)

Kamenski, Michail *see* **Kamenskii, Mikhail**

Kamenskii, G. A. (*with* Myshkis, Anatolii) Mixed functional-differential equations. *Nonlinear Anal.* **34** (1998), *no.* 2, 283–297. (Lidia Skóra) **99f:35216** 35R10 (35K55)

Kamenskii, Mikhail (*with* Obukhovskiĭ, V. V.; Zecca, Pietro) Method of the solution sets for a quasilinear functional-differential inclusion in a Banach space. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 339–350. (Giovanni Colombo) **99h:34118** 34K30 (34A60, 47H04, 47H10, 47N20)

— (*with* Johnson, Russell A.; Nistri, Paolo) On the existence of periodic solutions of an hyperbolic equation in a thin domain. (English and Italian summaries) *Atti Accad. Naz. Lincei Cl. Sci. Fis. Mat. Natur. Rend. Lincei* (9) *Mat. Appl.* **8** (1997), *no.* 3, 189–195. (Summary) **99m:35164** 35L70 (35B10)

— On the investigation of the stability of periodic solutions for a new class of systems of quasilinear equations in a Banach space. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 1, 13–16. (From the introduction) **99e:34086** 34G20 (34D20, 47H09, 47N20)

— (*with* Obukhovskiĭ, V. V.; Zecca, Pietro) On the translation multioperator along the solutions of semilinear differential inclusions in Banach spaces. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 139–155. (Teresa Winiarska) **99m:34137** 34G20 (34A60, 47H15, 47N20)

— (*with* Johnson, Russell A.; Nistri, Paolo) Existence of periodic solutions of an autonomous damped wave equation in thin domains. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 409–424. (Pavel Krejčí) **99i:35101** 35L70 (35B10, 47H11, 47N20)

Kameyama, Megumi Indefeasible semantics and defeasible pragmatics. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 111–138, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

Kameyama, Michitaka (*with* Tamaki, Saneaki) Code assignment algorithm for highly parallel multiple-valued k-ary operation circuits using partition theory. (English summary) *Interdiscip. Inform. Sci.* **3** (1997), *no.* 1, 13–24. (Summary) **99c:68136** 68Q35 (94C05)

Kameyama, Yukiyoshi (*with* Sato, Masahiko) A classical catch/throw calculus with tag abstractions and its strong normalizability. (English summary) Type theory and its application to computer systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1023 (1998), 42–56. (Summary) **99e:68011** 68N15

Kamide, Norihiro (*with* Kashima, Ryo) A study on substructural logics with restricted exchange rules. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 35–67. (*see* **99a:03003**) 03F05 (03B20)

— (*with* Kashima, Ryo) A study on substructural logics with restricted exchange rules. II. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 187–205. (*see* **99d:03003**) 03B20 (03F05)

Kamienny, Sheldon (*with* Wetherell, Joseph L.) On torsion in abelian varieties. *Comm. Algebra* **26** (1998), *no.* 5, 1675–1678. (Juan-Carlos Naranjo) **99d:14045** 14K15 (11G10, 14G05)

— (*with* Wetherell, Joseph L.) A correction to: "Torsion in abelian varieties" [Comm. Algebra **26** (1998), no. 5, 1675–1678; MR 99d:14045]. *Comm. Algebra* **27** (1999), *no.* 3, 1499. 14K15 (11G10, 14G05)

Kamilya, S. (*with* Modak, B.; Biswas, Satyabrata) A Noether symmetry study in scalar-tensor theory. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4163–4171. 83D05

Kamimoto, Joe Asymptotic expansion of the Bergman kernel for weakly pseudoconvex tube domains in $\mathbf{C}^2$. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 51–85. (Gregor Herbort) **99j:32029** 32H10

— Singularities of the Bergman kernel for certain weakly pseudoconvex domains. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 1, 99–117. (Gregor Herbort) **99d:32029** 32H10 (32F15)

— On an integral of Hardy and Littlewood. *Kyushu J. Math.* **52** (1998), *no.* 1, 249–263. (Fritz Haslinger) **99c:58158** 58G18 (30D10, 30E15, 32F20, 33E15)

Kamimura, Kiyoshi (*with* Kuriki, Rie) Super-Weyl invariant 2D supergravity, anomaly and WZ action. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 535–545. (Ilya Shapiro) **99b:81225** 81T50 (81T70, 83E30)

— (*with* Hatsuda, Machiko) Covariant quantization of the super-D-string. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 493–512. (Summary) **99b:81193** 81T30 (81T70)

— (*with* Hatsuda, Machiko) Canonical formulation of IIB D-branes. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 381–401. (C. Gauthier) **99f:81166** 81T30

— (*with* Hatsuda, Machiko) Wess-Zumino actions for IIA D-branes and their supersymmetries. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 499–511. (Summary) **99i:81185** 81T30

— (*with* Igarashi, Yuji; Itoh, Katsumi) Self-duality in super D3-brane action. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 469–482. (Summary) **99i:81187** 81T30

Kamimura, Ryotaro Controlling α-entropy with a neural α-feature detector. (English summary) *Complex Systems* **11** (1997), *no.* 1, 1–30. (Summary) **99i:94022** 94A17 (68T05)

— Minimizing α-information for generalization and interpretation. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 173–197. (Summary) **99i:68104** 68T05 (94A17)

Kamimura, Yutaka An inverse problem of determining a nonlinear term in an ordinary differential equation. (English summary) Structure of functional equations and mathematical methods (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 984 (1997), 161–175. (Alfredo Lorenzi) **99a:34033** 34A55 (34B15, 45E10, 45G05, 47H15)

— Inverse problems of determining nonlinear terms in ordinary differential equations. *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 87–94, *Plenum, New York*, 1998. (Alfredo Lorenzi) **99g:34050** 34A55 (34A47, 34B15, 45D05, 45G10)

— Uniqueness of the nonlinear term of a boundary value problem from the first bifurcating branch. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 4, 53–56. (Alfredo Lorenzi) **99g:34051** 34B15 (34A47, 34A55, 45G10)

— On the determination of the heat conductivity from the heat flow. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 76–88. (Peter G. Danilaev) **99m:35264** 35R30 (35K05)

Kamin, Shoshana (*with* Bonnet, Alexis) A stationary flow in a strip. *Nonlinear Anal.* **35** (1999), *no.* 6, *Ser. A: Theory Methods*, 765–780. (Alberto Valli) **99m:35271** 35R35 (35Q35, 76S05, 86A05)

Kaminaga, Yasuhito (*with* Saito, Yoshio[1]; Yahiro, Masanobu) Gauge invariant description of chaos in 2D scalar-electrodynamics. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 301–305. (Summary) **99d:78014** 78A25 (58F13, 58F40)

Kaminker, Jerome (*with* Putnam, Ian; Spielberg, John S.) Operator algebras and hyperbolic dynamics. *Operator algebras and quantum field theory* (*Rome*, 1996), 525–532, *Internat. Press, Cambridge, MA*, 199?. (Berndt Brenken) **99b:46103** 46L55 (46L85, 54H20, 55P25, 58F15)

Kaminogo, Takashi Topological degree of solution mappings in functional and ordinary differential equations. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 527–535. (Jean Mawhin) **99a:34191** 34K15 (34C99, 47H04)

Kamińska, Anna On Musielak-Orlicz spaces isometric to L_2 or L_∞. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 563–569. (Irina U. Asekritova) **99a:46049** 46E30 (47B38)

— Indices, convexity and concavity in Musielak-Orlicz spaces. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 67–84. (Gianluca Vinti) **99m:46073** 46E30 (46B20)

— (*with* Cerdà, Joan; Hudzik, Henryk; Mastyło, Mieczysław) Geometric properties of symmetric spaces with applications to Orlicz-Lorentz spaces. (English summary) *Positivity* **2** (1998), *no.* 4, 311–337. (Alexander Mekler) **99m:46070** 46E30

Kamiński, Andrzej (*with* Perišić, D.; Pilipović, Stevan S.) On the convolution in the Gel′fand-Shilov spaces. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 83–96. (Hans-Jürgen Glaeske) **99e:46052** 46F10 (46F05)

— On the product of distributions. (English summary) *Transform methods & special functions, Varna* '96, 178–187, *Bulgarian Acad. Sci., Sofia*, 1998. (Bl. P. Damyanov) **99m:46101** 46F10

— Convolution of distributors and Renyi's theory of conditional probabilities. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 215–222. (*see* **99d:00009**) 60A05 (46F10)

— (*with* Burzyk, Józef) Operations on convergences. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 199–212. (Zbigniew Grande) **99i:54006** 54A20 (28A20, 54B10, 54D99)

Kamiński, Brunon (*with* Binkowska, M.) On finitary shifts. *J. Math. Soc. Japan* **49** (1997), *no.* 3, 487–500. (Dalibor Volný) **99e:28024** 28D05 (60G10)

— (*with* Kowalski, Zbigniew S.) On extremal and perfect σ-algebras for flows. (English summary) *Studia Math.* **129** (1998), *no.* 2, 179–183. (Pierre Liardet) **99f:28031** 28D20 (28D10)

— (*with* Park, Kyewon Koh) On the directional entropy for $\mathbf{Z}^2$-actions on a Lebesgue space. (English summary) *Studia Math.* **133** (1999), *no.* 1, 39–51. (Meir Smorodinsky) **99k:28024** 28D20 (28D15)

Kaminski, D. (*with* Paris, R. B.) Asymptotics via iterated Mellin-Barnes integrals: application to the generalised Faxén integral. (English summary) *Methods Appl. Anal.* **4** (1997), *no.* 3, 311–325. (Anatoly Kilbas) **99a:41048** 41A60 (30E15, 33E15)

Kaminski, Michael (*with* Cheng, Edward Y. C.) Context-free languages over infinite alphabets. (English summary) *Acta Inform.* **35** (1998), *no.* 3, 245–267. (J.-M. Autebert) **99a:68106** 68Q45

Kamīns′kiĭ, A. B. An extended stochastic calculus for Poisson random measures. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 90–102; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 93–105 (1998). (Summary) **99f:60090** 60G57 (60H10)

Kaminsky, Richard D. (*with* Djaferis, Theodore E.) Application of the finite inclusions theorem to robust analysis and synthesis. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 511–527. 93D09

Kamishima, Yoshinobu Geometric superrigidity of $(4n+3)$-manifolds with quaternionic hyperbolic fundamental groups. (English summary) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 143–152. (Raul Quiroga) **99i:53034** 53C20 (53C15, 53C25)

— Locally conformal Kähler manifolds with a family of constant curvature tensors. *Kumamoto J. Math.* **11** (1998), 19–41. (Liviu Ornea) **99g:53068** 53C55

Kamita, Atsushi (*with* Morita, Yoshiyuki; Tanisaki, Toshiyuki) Quantum deformations of certain prehomogeneous vector spaces. I. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 3, 527–540. (Shao-Ming Fei) **99i:17019** 17B37 (17B10, 20G05)

Kamiura, Naotake (*with* Hata, Yutaka; Yamato, Kazuharu) On concurrent tests of fuzzy controllers. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 356–361, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 93C42

Kamiya, K. (*with* Yasuda, Kimihiko) Experimental identification technique of nonlinear beams in time domain. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 2, 185–202. 73K50 (73K05)

Kamiya, N. *see* **Kamiya, Norio**

Kamiya, Noriaki (*with* Okubo, Susumu) A construction of Jordan superalgebras from triple systems. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 15–19, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 17C70

— A characterization of nontwisted affine Lie algebras from generalized structurable algebras. (English summary) *New frontiers in algebras, groups and geometries* (*Monteroduni*, 1995), 75–95, *Ser. New Front. Adv. Math. Ist. Ric. Base, Hadronic Press, Palm Harbor, FL*, 1996. (Summary) **99d:17026** 17B67

— (*with* Okubo, Susumu) Jordan-Lie superalgebra and Jordan-Lie triple system. (English summary) *J. Algebra* **198** (1997), *no.* 2, 388–411. (Alain D'Amour) **99a:17031** 17C70 (17B60, 17C50, 17C55)

— (*with* Okubo, Susumu) A construction of Jordan superalgebras from triple systems. *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 243–246, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 17C70 (17A40)

— On isotopies of algebras and triple systems. (English summary) *Transform methods & special functions, Varna* '96, 188–200, *Bulgarian Acad. Sci., Sofia*, 1998. (Cándido M. González) **99j:17006** 17A99 (17B60, 51P05)

— (*with* Okubo, Susumu) A construction of Jordan superalgebras from triple systems. *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 2-3, 89–92. 17C70 (17A40)

Kamiya, Norio (*with* Xu, Song Qing) Revised scheme for nonlinear analysis by boundary element method using computing points. (English summary) *Boundary element research in Europe* (*Southampton*, 1998), 103–111, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 65N38 (73V10)

— (*with* Xu, Song Qing) A formulation and solution for boundary element analysis of inhomogeneous-nonlinear problem. (English summary) *Comput. Mech.* **22** (1998), *no.* 5, 367–374. 65N38 (65N55)

— (*with* Kita, Eisuke; Iio, Takeyoshi) Application of direct Trefftz method to two-dimensional potential problem. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1870–1878. (Summary) **99d:65338** 65N38

Kamiya, Shigeyasu Discrete subgroups of PU(1, 2; **C**). Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 117–122. (*see* **99e:30001**) 30D05

Kamiya, Yuichi Zero density estimates of L-functions associated with cusp forms. *Acta Arith.* **85** (1998), *no.* 3, 209–227. (John B. Friedlander) **99j:11050** 11F66 (11M41)

Kamiyama, Yasuhiko Remarks on the topology of spatial polygon spaces. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 373–382. (Grigory B. Mikhalkin) **99j:55013** 55Q52 (55N22)

— Geometric approximation of the fibre of the Freudenthal suspension. *Bull. London Math. Soc.* **30** (1998), *no.* 6, 635–642. (Gregory Z. Arone) **99h:55007** 55P35 (55P42)

— The homology of singular polygon spaces. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 581–594. (Andrew Vince) **99g:14026** 14F99 (52B70, 57N65)

— (*with* Tezuka, Michishige; Toma, Tsuguyoshi) Homology of the configuration spaces of quasi-equilateral polygon linkages. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 4869–4896. (Donald W. Kahn) **99e:55030** 55R55 (55N99)

Kamlah, M. (*with* Tsakmakis, Ch.) Use of isotropic thermoelasticity laws in finite deformation viscoplasticity models. (English summary) *Contin. Mech. Thermodyn.* **11** (1999), *no.* 2, 73–88. (Summary) **99m:73035** 73E60 (73B30, 73E05, 73G20)

Kamlovskiĭ, O. V. (*with* Kuz′min, A. S.) Distribution of elements on cycles of linear recurrent sequences over Galois rings. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 149–150; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 392–393. (Igor E. Shparlinski) **99e:11022** 11B50

Kamm, Julie (*with* Nagy, James G.) A total least squares method for Toeplitz systems of equations. (English summary) *BIT* **38** (1998), *no.* 3, 560–582. (Israel Koltracht) **99m:65085** 65F30

— (*with* Nagy, James G.) Kronecker product and SVD approximations in image restoration. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 177–192. (*see* **99f:00025**) 65F30 (65F35)

Kämmerer, Lutz (*with* Hempel, Lorenz) The Towers of Hanoi and pileproblems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 84–89, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35

Kammeyer, Janet Whalen (*with* Rudolph, Daniel J.) Restricted orbit equivalence for ergodic $\mathbf{Z}^d$ actions. I. (English summary) *Ergodic Theory Dynam. Systems* **17** (1997), *no.* 5, 1083–1129. (B. Kamiński) **99c:28057** 28D15

Kamoi, Yuji (*with* Vogel, Wolfgang) On Buchsbaum algebras. (English summary) *J. Pure Appl. Algebra* **122** (1997), *no.* 3, 251–263. (J. Čižmár) **99b:13025** 13H10 (13P10)

— (*with* Herzog, Jürgen) Taylor complexes for Koszul boundaries. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 133–147. (Aron Simis) **99f:13014** 13D25 (13A30, 13D02)

Kamon, Mattan (*with* Silveira, L. Miguel; Elfadel, Ibrahim; White, Jacob) A coordinate-transformed Arnoldi algorithm for generating guaranteed stable reduced-order models of RLC circuits. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 377–389. 94C05 (65F30, 78–08)

Kamont, Anna (*with* Ciesielski, Zbigniew) Projections onto piecewise linear functions. (English summary) Dedicated to Roman Taberski on the occasion of his 70th birthday. *Funct. Approx. Comment. Math.* **25** (1997), 129–143. (Sarjoo Prasad Yadav) **99b:41024** 41A65 (41A35)

— (*with* Boufoussi, B.; Eddahbi, M'Hamed) Sur la dérivée fractionnaire du temps local brownien. (English summary) [On the fractional derivative of Brownian local time] *Probab. Math. Statist.* **17** (1997), *no.* 2, 311–319 (19*N*). (Philippe Biane) **99c:60167** 60J55

— (*with* Gevorkyan, Gegham) On general Franklin systems. (English summary) *Dissertationes Math.* (*Rozprawy Mat.*) **374** (1998), 59 *pp.* (P. Simon) **99d:42048** 42C10

— On formulae for box dimension of graphs of functions. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 541–564. (James E. Daly) **99k:42060** 42C15

Kamont, Z. (*with* Brandi, Primo; Salvadori, Anna) Difference methods for nonlinear first order partial differential equations with mixed initial boundary conditions. (English summary) *Math. Balkanica* (*N.S.*) **10** (1996), *no.* 2-3, 249–269. (V. D. Glushenkov) **99c:65154** 65M06 (65M12)

— (*with* Zubik-Kowal, Barbara) Numerical methods for impulsive partial differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 29–51. (Emil Ivanov Minchev) **99i:65087** 65M06 (35R10, 65Q05)

Kamornikov, S. F. A remark on the $\mathfrak{F}$-length of a finite solvable group. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 111–114, *Gomel. Gos. Univ., Gomel′*, 1992. (*see* **99g:20003**) 20D10

— On solvable groups of automorphisms of finite groups. (Russian. Russian summary) *Problems in algebra, No.* 6 (*Russian*), 45–51, 103, "*Universitet·skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D45

— $\mathfrak{F}$-reachability in factorizable groups. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 65–67, *Gomel. Gos. Univ., Gomel′*, 1995. (*see* **99g:20004**) 20D10

— (*with* Sel′kin, M. V.) On a property of $\mathfrak{F}$-attainable subgroups. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 71–90, *Gomel. Gos. Univ., Gomel′*, 1996. (Alexander N. Skiba) **99h:20028** 20D10

— (*with* Polyakov, L. Ya.) On some lattices of subgroups of finite groups. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 133–137, *Gomel. Gos. Univ., Gomel′*, 1996. (*see* **99g:20005**) 20D10

— Permutability of subgroups and $\mathfrak{F}$-subnormality. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1065–1080, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 936–949. (Ĭ. Ya. Subbotin) **99e:20022** 20D10

— (*with* Skiba, A. N.; Monakhov, V. S.; Sel'kin, M. V.) Leonid Aleksandrovich Shemetkov (on the occasion of his sixtieth birthday). (Russian) *Problems in algebra, No.* 11 (*Russian*), 3–5, *Gomel. Gos. Univ., Gomel'*, 1997. (*see* **99g:20007**) 01A70

— (*with* Vorobeĭ, L. A.) On complemented elements of a lattice of subgroup functors of a homomorph. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 74–77, *Gomel. Gos. Univ., Gomel'*, 1998. (*see* **99g:20008**) 20D99

Kamoun, Nouri Fonctions indéfiniment différentiables invariantes sur l'espace tangent d'un espace symétrique. (English and French summaries) [Infinitely differentiable invariant functions on the tangent space of a symmetric space] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 2, 293–311. (Ji Sheng Na) **99k:43012** 43A85 (22E60, 53C35)

Kamowitz, Herbert Endomorphisms of Banach algebras of infinitely differentiable functions. (English summary) *Banach algebras '97* (*Blaubeuren*), 273–285, *de Gruyter, Berlin*, 1998. (Summary) **99h:46099** 46J15 (47B38)

Kamp, L. P. J. (*with* Fehmers, G. C.; Sluijter, F. W.) An algorithm for quadratic optimization with one quadratic constraint and bounds on the variables. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 893–901. 90C20 (65K05)

— (*with* Montgomery, David C.; Bates, Jason W.) Toroidal flows in resistive magnetohydrodynamic steady states. (English summary) *Phys. Fluids* **10** (1998), *no.* 7, 1757–1766. (Summary) **99a:76164** 76W05

Kamphorst, Sylvie Oliffson (*with* Canale, Eduardo; Markarian, Roberto; Pinto de Carvalho, Sônia) A lower bound for chaos on the elliptical stadium. (English summary) *Phys. D* **115** (1998), *no.* 3-4, 189–202. (András Krámli) **99f:58121** 58F11 (58F13)

Kamps, Udo (*with* Gather, Ursula) Characteristic properties of generalized order statistics from exponential distributions. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 4, 383–391. (Summary) **99h:60020** 60E05 (62E10, 62G30)

— (*with* Cramer, Erhard) Maximum likelihood estimation with different sequential k-out-of-n systems. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 101–111, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:62118** 62N05 (62F10)

— Subranges of generalized order statistics from exponential distributions. (English summary) *Fasc. Math. No.* 28 (1998), 63–70. (Summary) **99e:62090** 62G30 (62E10)

— (*with* Cobbers, Henrik) A note on characterizations of the geometric distribution. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 187–190. (Summary) **99b:62011** 62E10 (62G30)

— On a class of premium principles including the Esscher principle. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 75–80. (Summary) **99a:62146** 62P05

Kamran, M. S. (*with* Mushtaq, Qaiser) LA-groups as quotients of left inverse quasigroups. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 132–138, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 20N05

Kamran, Niky (*with* Gardner, Robert Brown) Exterior differential systems and normal forms of parabolic systems. (English summary) *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 215–230, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (Ian M. Anderson) **99b:58013** 58A15 (35A30, 35K45, 58A17, 58G37)

— (*with* González-López, Artemio; Olver, Peter J.) Quasi-exact solvability in the real domain. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 58–70, *Univ. Montréal, Montreal, QC*, 1997. (Anjan Kundu) **99b:17029** 17B66 (15A21, 31A99, 35A30)

— (*with* Robart, Thierry) A compatible analytic manifold structure for Lie pseudogroups of infinite type. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 111–120, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Kazushige Ueno) **99g:58133** 58H05 (22E65)

— (*with* González-López, Artemio) The multidimensional Darboux transformation. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 202–226. (Irina Yehorchenko) **99j:58227** 58G35 (35A30)

Kamthan, Pawan Kumar *see* **Functional analysis, 99h:00036**

Kamvissis, Spyridon (*with* Miller, Peter D.) On the semiclassical limit of the focusing nonlinear Schrödinger equation. (English summary) *Phys. Lett. A* **247** (1998), *no.* 1-2, 75–86. (Summary) **99e:81058** 81Q20

Kamyabi-Gol, R. A. Topological center of dual Banach algebras associated to hypergroups. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part* 1 (*Tabriz*, 1997), 281–308, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Ajay Kumar) **99h:43013** 43A62 (43A10, 43A20, 43A22)

Kamynin, L. I. One-sided estimates for the solution of the second and third boundary value problems (with a directional derivative) for a second-order strongly dissipative parabolic equation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1081–1102, *ii–iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 950–969. (V. S. Rabinovich) **99i:35057** 35K20

— (*with* Khimchenko, B. N.) On a weak (algebraic) extremum principle for a second-order parabolic system. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 5, 35–62; *translation in Izv. Math.* **61** (1997), *no.* 5, 933–959. (Zi Qian Yan) **99c:35097** 35K50 (35B50)

Kamynin, V. L. Asymptotic behavior of solutions of linearized Navier-Stokes systems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **37** (1997), *no.* 8, 958–967; *translation in Comput. Math. Math. Phys.* **37** (1997), *no.* 8, 926–935. (Sergey Nikolaevich Alekseenko) **99c:76031** 76D05 (35Q30)

— (*with* Saroldi, M.) A nonlinear inverse problem for a higher-order parabolic equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1683–1691; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1615–1623. (Peter G. Danilaev) **99m:35265** 35R30 (35K55)

Kamyshova, G. N. Control of a differential system generated by the Loewner differential equation. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 565–566, 576; *translation in Differential Equations* **34** (1998), *no.* 4, 567–568. 93B03 (34H05)

— A variational method and optimal control in the solution of the Mocanu problem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 35–42; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 8, 33–40 (1999). (Olli Martio) **99j:49038** 49K15 (30C50)

Kan, Hai Bin Injective hulls, cogenerators and direct products on Doi-Hopf module categories. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 11, 1135–1141. 16W30

— (*with* Zhang, Mou-Cheng; Li, Yong Hua[2]) The conjugate hull of a Brandt semigroup. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 301–304. (Pedro V. Silva) **99g:20112** 20M18 (20M20)

Kan, I. D. (*with* Stechkin, B. S.; Sharkov, I. V.) On the Frobenius problem for three arguments. (Russian) *Mat. Zametki* **62** (1997), *no.* 4, 626–629; *translation in Math. Notes* **62** (1997), *no.* 3-4, 521–523 (1998). (Béla Uhrin) **99h:11022** 11D04

Kan, Ittai (*with* Kostelich, Eric J.; Grebogi, Celso; Ott, Edward; Yorke, James A.) Unstable dimension variability: a source of nonhyperbolicity in chaotic systems. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 81–90. (Remo Badii) **99a:58110** 58F12 (58F13, 58F15)

Kan, Jia Hai (*with* Shan, Zun) On the representation of a large even integer as the sum of a prime and an almost prime: the prime belongs to a fixed arithmetic progression. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 625–638. (Tian Ze Wang) **99e:11130** 11P32

Kan, Su-Jen On the rigidity of non-positively curved Grauert tubes. *Math. Z.* **229** (1998), *no.* 2, 349–363. (Matthew B. Stenzel) **99i:32011** 32C10 (32F07, 32F15, 32M05)

Kan, Yu. S. (*with* Mistryukov, A. A.) On the equivalence in stochastic programming with probability and quantile objectives. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 145–153, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (Summary) **99f:90069** 90C15

Kanada, Yasumasa (*with* Takahashi, Daisuke) Calculation of π to 51.5 billion decimal digits on distributed memory parallel processors. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 7, 2074–2083. (Summary) **99d:65063** 65D20 (11Y60)

— (*with* Katagiri, Takahiro) An unblocked Hessenberg reduction algorithm for distributed memory architecture parallel machines and its effectiveness. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 3065–3075. 65Y05 (65F30)

Kanade, Takeo (*with* Uenohara, Michihiro) Optimal approximation of uniformly rotated images: relationship between Karhunen-Loeve expansion and discrete cosine transform. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 1, 116–119. 94A12

— (*with* Morris, Daniel D.) Factorization methods for structure from motion. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1153–1173. (Henk J. A. M. Heijmans) **99f:68205** 68U10 (68T10)

Kanaev, A. V. (*with* McKinstrie, C. J.) Exact Green's function for a class of parametric instabilities. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4511–4514. (Summary) **99g:76158** 76X05 (78A99)

Kanaga Vel, S. (*with* Tamizhmani, Thamizharasi; Tamizhmani, K. M.) Wronskian and rational solutions of the differential-difference KP equation. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7627–7633. (Wen Xiu Ma) **99m:58115** 58F07 (35Q53)

Kanagawa, Shuya Convergence rates for the Euler-Maruyama type approximate solutions of stochastic differential equations. *Probability theory and mathematical statistics* (*Tokyo*, 1995), 183–192, *World Sci. Publishing, River Edge, NJ*, 1996. (Eckhard Platen) **99a:60058** 60H10 (65C05, 65U05)

— (*with* Takano, Seiji; Yoshihara, Ken-ichi) Convergence of changepoint estimators for weakly dependent data. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 4, 379–392. (Summary) **99c:62143** 62G20 (60F05)

— Confidence intervals of discretized Euler-Maruyama approximate solutions of SDE's. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4101–4104. (Eckhard Platen) **99a:60059** 60H10 (65C05)

— (*with* Tanaka, Satoru) The accuracy of testing methods for pseudorandom numbers and approximation methods for SDEs. (Japanese) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 21–45. (*see* **99f:65007**) 65C05 (11K45, 60H10)

Kanai, Masahiko Rigidity of group actions. *Séminaire de Théorie Spectrale et Géométrie, No.* 15, *Année* 1996–1997, 203–205, *Sémin. Théor. Spectr. Géom.*, 15, *Univ. Grenoble I, Saint-Martin-d'Hères*, 199?. (*see* **99b:53003**) 58D19 (22E40, 57R30, 57S25, 58A12, 58G32, 60H30)

Kanakis, L. (*with* Flytzanis, E.) Unimodular eigenvalues and invariant probabilities for some classes of linear operators. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 277–283, *TEV, Vilnius*, 1994. (Wojciech Bartoszek) **99g:47014** 47A35 (28D05)

Kananthai, Amnuay On the solutions of the n-dimensional ultra-hyperbolic operator. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 157–161, *Springer, Singapore*, 1997. (Summary) **99h:35148** 35L99

— Distribution solutions of the third order Euler equation. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 343–346, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99i:34002** 34A05 (34A25, 46F10)

— On the convolution equation related to the diamond kernel of Marcel Riesz. (English summary) *J. Comput. Appl. Math.* **100** (1998), *no.* 1, 33–39. (Summary) **99k:46065** 46F10 (35C99, 35L99)

Kanarek, Herbert Moduli spaces for endomorphisms of finite-dimensional vector spaces. (English summary) *Bol. Soc. Mat. Mexicana* (3) **4** (1998), *no.* 2, 183–187. (Philip A. Foth) **99k:14023** 14D22

Kanarek, Przemysława (*with* Czumaj, Artur; Kutyłowski, Mirosław; Loryś, Krzysztof) Fast generation of random permutations via networks simulation. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 2–20. (Summary) **99b:68091** 68Q22 (68R05)

Kanas, Stanisława (*with* Lecko, Adam) Univalence criteria connected with arithmetic and geometric means. II. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 49–59. (William Ma) **99h:30027** 30C80

— (*with* Lecko, Adam) Univalence criteria connected with arithmetic and geometric means. I. (English summary) *Transform methods & special functions, Varna* '96, 201–209, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 30C80

— (*with* Stankiewicz, Jan) Univalence of confluent hypergeometric functions. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 51–56. (R. K. Raina) **99m:30033** 30C55 (33C15)

— (*with* Srivastava, Hari M.) Some criteria for univalence related to Ruscheweyh and Sălăgean derivatives. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 3, 263–275. 30C55

Kanatani, Kenichi Statistical optimization and geometric inference in computer vision. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1303–1320. (Summary) **99b:68204** 68U10 (68T10)

Kanatchikov, Igor V. On field-theoretic generalizations of a Poisson algebra. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 225–234. (Jeffrey K. Lawson) **99a:58066** 58F05 (58F06, 70G50, 70H05)

— Toward the Born-Weyl quantization of fields. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 333–342. (Ivailo M. Mladenov) **99i:81119** 81S10 (81S05, 81T10)

Kanatnikov, A. N. (*with* Krishchenko, A. P.) Symmetry of affine systems. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 64–75. (José Basto Goncalves) **99i:93016** 93B25 (34H05, 93B29)

Kanaumi, Yoshihiko (*with* Yamakawa, Asuka; Ichihashi, Hidetomo; Miyoshi, Tetsuya) Simultaneous application of fuzzy clustering and correspondence analysis. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 191–198. 62H30 (68T10)

Kanaya, Fumio (*with* Muramatsu, Jun) Almost-sure variable-length source coding theorems for general sources. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 337–342. (Summary) **99k:94026** 94A29

Kanayama, Hiroshi (*with* Kikuchi, Fumio) 3-D eddy current computation using the Nedelec elements. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 37–45. (*see* **99h:65005**) 65N30 (65D15)

Kanazawa, Makoto ★ Learnable classes of categorial grammars. (English summary) Studies in Logic, Language and Information. *CSLI Publications, Stanford, CA*; *FoLLI: European Association for Logic, Language and Information, Amsterdam*, 1998. *viii*+184 *pp. ISBN* 1-57586-096-1 (From the preface) **99m:68157** 68S05 (68T05)

— *see also* **Quantifiers, deduction, and context, 99k:03029**

khe Kan Cher *see* **Khe Kan Cher**

Kanda, Takashi (*with* Fujikoshi, Yasunori) Some basic properties of the MLE's for a multivariate normal distribution with monotone missing data. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 161–190. (Summary) **99g:62076** 62H12

Kanda, Yutaka The classification of tight contact structures on the 3-torus. (English summary) *Comm. Anal. Geom.* **5** (1997), *no.* 3, 413–438. (John B. Etnyre) **99c:57054** 57R15 (53C15)

— On the Thurston-Bennequin invariant of Legendrian knots and nonexactness of Bennequin's inequality. (English summary) *Invent. Math.* **133** (1998), *no.* 2, 227–242. (Rostislav Matveyev) **99g:57030** 57R15 (57M25)

vasantha Kandasamy, W. B. *see* **Vasantha Kandasamy, W. B.**

Kandel, Abraham (*with* Zhang, Yan-Qing) Fuzzy moves. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 159–177. 90D40 (90C70)

— (*with* Zhang, Yan-Qing; Henne, Marlow) On use of fuzzy logic technology in operating systems. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 241–251. (Summary) **99e:68023** 68N25 (03B52, 03B70)

— (*with* Zhang, Yan-Qing) Intrinsic mechanisms and application principles of general fuzzy logic through yin-yang analysis. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 87–104. (Summary) **99f:03022** 03B52

— (*with* Luo, Yue Hu; Zhang, Yan-Qing) Stability analysis of fuzzy control systems. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 33–48. 93D05 (93C42)

— (*with* Ma, Ming; Friedman, Menahem) Numerical solutions of fuzzy differential equations. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 133–138. 65L06

— (*with* Friedman, Menahem; Ma, Ming) Solutions to fuzzy integral equations with arbitrary kernels. (English summary) *Internat. J. Approx. Reason.* **20** (1999), *no.* 3, 249–262. 65R20 (45A05)

Kandelaki, N. (*with* Chantladze, T.) On a class of covariance operators. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 415–424. (Aleksandr Koldobsky) **99i:60005** 60B11

— (*with* Chantladze, T.; Lomtadze, A.; Ugulava, D.) Professor Iotam Kartsivadze [1918–1997]. *Mem. Differential Equations Math. Phys.* **13** (1998), 154–158. 01A70

Kandelaki, T. K. On the universal C^*-algebra generated by a partial isometry. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 333–340. (Liang Sen Wu) **99i:46042** 46L05 (19K35, 46L80, 47D25)

Kandhai, D. (*with* Koponen, A.; Hoekstra, Alfons; Kataja, M.; Timonen, Jussi; Sloot, P. M. A.) Implementation aspects of 3D lattice-BGK: boundaries, accuracy, and a new fast relaxation method. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 482–501. (Summary) **99m:76093** 76M25

Kandil, Ali (*with* Gähler, Werner; Bayoumi, Fatma; Nouh, A. A.) The theory of global fuzzy neighborhood structures. I. The general case. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 225–254. (From the summary) **99h:54005** 54A40

— (*with* Gähler, Werner; Bayoumi, Fatma; Nouh, A. A.) The theory of global fuzzy neighborhood structures. II. Fuzzy topogenous orders. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 153–173. 54A40

— (*with* Gähler, Werner; Bayoumi, Fatma; Nouh, A. A.) The theory of global fuzzy neighborhood structures. III. Fuzzy uniform structures. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 175–199. 54A40

— (*with* Gähler, Werner; Abd-Allah, A. S.) Extended fuzzy topologies. I. On fuzzy stacks. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 1, 223–261. (Summary) **99a:54006** 54A40

— (*with* Gähler, Werner; Abd-Allah, A. S.) Extended fuzzy topologies. II. Characterizing notions. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 539–574. 54A40

— (*with* Gähler, Werner; Abd-Allah, A. S.) Extended fuzzy topologies. III. Closedness and compactness. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 575–608. 54A40

— (*with* Bayoumi, Fatma; Nouh, A. A.) On strong notions in fuzzy topological spaces. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 751–773. 54A40

— (*with* Nouh, A. A.; El-Sheikh, S. A.) Strong and ultra-separation axioms on fuzzy bitopological spaces. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 459–467. 54A40 (54E55)

— (*with* Abd-Allah, A. S.; Nouh, A. A.) Operations and its applications on L-fuzzy bitopological spaces. I. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 255–274. 54A40 (54E55)

Kandil, F. M. (*with* Zaghrout, Afaf A. S.) Competition between three microbial populations for a single limiting resource in continuous culture. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 271–281. (Summary) **99b:92051** 92D25

— Prey-predator dynamics in models of two patches environment. (English summary) *J. Fract. Calc.* **13** (1998), 71–76. (Summary) **99a:92027** 92D25 (34C11, 34D99)

— (*with* Zaghrout, Afaf A. S.) Model of competition in the chemostat with delayed nutrient recycling. (English summary) *J. Fract. Calc.* **13** (1998), 77–82. (Summary) **99a:92032** 92D25 (34K20)

— (*with* Zaghrout, Afaf A. S.) Model of competition in the chemostat with delayed nutrient recycling. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 106–110. (Summary) **99d:92033** 92D25

Kandilakis, Dimitrios A. An existence result for nonlinear evolution equations of second order. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 153–160. (Tzanko D. Donchev) **99g:34128** 34G20 (35G15)

— Pseudomonotonicity and nonlinear hyperbolic equations. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 463–469. (Tie Hu Qin) **99a:35183** 35L70 (34G20, 47H05, 47N20)

— (*with* Papageorgiou, Nikolaos S.) Nonlinear periodic parabolic problems with nonmonotone discontinuities. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 117–132. (Atsushi Yagi) **99a:35120** 35K55 (35R05, 47H05, 47N20)

— (*with* Papageorgiou, Nikolaos S.) Maximum and minimum solutions for nonlinear parabolic problems with discontinuities. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 2, 179–187. (Jianzhong Su) **99m:35104** 35K55 (35B99)

— (*with* Hu, Shouchuan; Papageorgiou, Nikolaos S.) Periodic solutions for nonconvex differential inclusions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 89–94. (Marian Mureşan) **99b:34034** 34A60 (34C25, 47H11, 47N20)

Kandilarov, Juri D. (*with* Braianov, Ilia A.) On the realization and stability of difference schemes for diffusion problems with localized reactions. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 201–209, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65N06

Kando, Hisashi (*with* Ukai, Hiroyuki) Design of reduced-order multirate observers and stabilizing multirate controllers via singular perturbation theory. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 435–445. 93B07 (93D15)

Kandori, Michihiro (*with* Matsushima, Hitoshi) Private observation, communication and collusion. (English summary) *Econometrica* **66** (1998), *no.* 3, 627–652. (Françoise Forges) **99d:90148** 90D10 (90A12, 90D20)

Kandri Rody, Abdelilah (*with* Maârouf, Hamid; Ssafini, Mohamed) Triviality and dimension of a system of algebraic differential equations. (English summary) *J. Automat. Reason.* **20** (1998), *no.* 3, 365–385. (Andrzej Nowicki) **99b:12005** 12H05 (12H20, 68Q40)

Kandulski, Maciej Nonassociative and commutative categorial grammars and their languages. *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 113–127, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (68Q45)

Kane, A. J. (*with* Evans, David John[1]) Systolic neural algorithms. (English summary) *Int. J. Comput. Math.* **70** (1999), *no.* 4, 617–647. 68T05

Kane, J. H. (*with* Ganguly, Snehasis; Layton, J. B.; Balakrishna, C.) A fully symmetric multi-zone Galerkin boundary element method. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 991–1009. 65N30 (65N38)

Kane, Jave O. (*with* Peters, Joseph G.) Line broadcasting in cycles. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 207–228. (Jian-Min Li) **99e:90036** 90B12 (05C38, 05C90, 68M10)

Kane, Richard *see* **Stable and unstable homotopy, 99a:55001**

Kaneda, Eiji (*with* Agaoka, Yoshio) Local isometric imbeddings of symplectic groups. (English summary) *Geom. Dedicata* **71** (1998), *no.* 1, 75–82. (Maria Luiza Leite) **99d:53062** 53C42 (53B25)

Kaneda, Kazufumi (*with* Hong, Mu; Sederberg, Thomas W.; Klimaszewski, Krzysztof S.) Triangulation of branching contours using area minimization. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 389–406. (Summary) **99d:68232** 68U05 (52B70)

Kaneda, Masaharu Based modules and good filtrations in algebraic groups. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 337–344. (Alla S. Detinko) **99f:20079** 20G30 (20G05)

— Some generalities on $\mathscr{D}$-modules in positive characteristic. (English summary) *Pacific J. Math.* **183** (1998), *no.* 1, 103–141. (Michel Van den Bergh) **99g:14018** 14F10

Kaneda, Yukio (*with* Ishihara, Takashi[2]) Fine-scale structure of thin vortical layers. (English summary) *J. Fluid Mech.* **364** (1998), 297–318. (Summary) **99b:76024** 76D05

Kanefuji, Koji (*with* Iwase, Kōsei) Estimation for a scale parameter with known coefficient of variation. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 377–388. (Summary) **99e:62023** 62F10 (62C15)

Kaneko, Akira On continuation of Gevrey class solutions of linear partial differential equations. (English summary) *Proceedings of the Seventh International Colloquium on Differential Equations* (*Plovdiv*, 1996), 197–204, *VSP, Utrecht*, 1997. (Todor V. Gramchev) **99a:35008** 35A20 (35B60, 35E20)

— On continuation of Gevrey class solutions of linear partial differential equations. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 551–593. (Paulo Domingos Cordaro) **99b:35015** 35B60 (35G05)

Kaneko, Atsushi (*with* Watanabe, Mamoru) String decompositions of graphs. (English summary) *Ars Combin.* **49** (1998), 225–236. (Summary) **99c:05152** 05C70

— (*with* Maehara, Hiroshi; Watanabe, Mamoru) On the number of acute triangles in a straight-line embedding of a maximal planar graph. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 110–115. (Summary) **99k:05066** 05C10

Kaneko, Hideaki (*with* Daffer, Peter Z.) On a variational principle of Ekeland. *Functional analysis*, 152–157, *Narosa, New Delhi*, 1998. (*see* **99h:00036**) 49K27 (47H10, 58E30)

— (*with* Noren, Richard D.; Padilla, Peter A.) Singularity preserving Galerkin method for Hammerstein equations with logarithmic kernel. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 363–376. (Summary) **99i:65148** 65R20 (45G05, 45L05)

— (*with* Daffer, Peter Z.) A new proof of a fixed point theorem of Edelstein. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 97–101 (*electronic*). 54H25

— (*with* Daffer, Peter Z.) Remarks on contractive-type mappings. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 125–131 (*electronic*). 54H25

Kaneko, Jyoichi Constant term identities of Forrester-Zeilberger-Cooper. (English summary) *Discrete Math.* **173** (1997), *no.* 1-3, 79–90. (Laurent Habsieger) **99d:33024** 33D20 (05A10, 05A19, 05A30, 11B65)

— The Gauss-Manin connection of the integral of the deformed difference product. *Duke Math. J.* **92** (1998), *no.* 2, 355–379. (Masaaki Yoshida) **99h:32024** 32G34 (14F40)

— A ${}_1\Psi_1$ summation theorem for Macdonald polynomials. (English summary) *Ramanujan J.* **2** (1998), *no.* 3, 379–386. (George E. Andrews) **99k:33050** 33D20

Kaneko, Kan Voronoi-algorithm expansion of a family with period length going to infinity. (English summary) *SUT J. Math.* **34** (1998), *no.* 1, 49–62. (Michel Olivier) **99g:11129** 11R16 (11R27)

Kaneko, Kunihiko Impact of high-dimensional chaos: a further step towards dynamical complexity. *The impact of chaos on science and society* (*Tokyo*, 1991), 176–189, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 58F13

— On the strength of attractors in a high-dimensional system: Milnor attractor network, robust global attraction, and noise-induced selection. (English summary) *Phys. D* **124** (1998), *no.* 4, 322–344. (Summary) **99i:58098** 58F12

Kaneko, M. *see* **Kaneko, Masanobu**

Kaneko, Makoto (*with* Sato, Enji) Notes on transference of continuity from maximal Fourier multiplier operators on $\mathbf{R}^n$ to those on T^n. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 1, 97–107. (Nakhlé Asmar) **99j:42016** 42B15 (43A20)

Kaneko, Mamoru Decision making in partially interactive games. I. Game-theoretic developments. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 163–177. (Manfred Kraft) **99k:90231** 90D40 (90A05)

— *see also* **Logic & foundation of the theory of games and decisions, 99m:03039**

Kaneko, Masanobu (*with* Zagier, Don) Supersingular j-invariants, hypergeometric series, and Atkin's orthogonal polynomials. *Computational perspectives on number theory* (*Chicago, IL*, 1995), 97–126, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (M. Ram Murty) **99b:11064** 11G20 (11F11, 11F33)

Kaneko, Yoshihiro A shortest path algorithm for ladder networks. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 5–10. (Introduction) **99k:68139** 68R10 (05C85)

Kanel', Ya. I. (*with* Kirane, Mokhtar) Pointwise a priori bounds for a strongly coupled system of reaction-diffusion equations with a balance law. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1227–1232. (Summary) **99d:35085** 35K57

Kanellakis, Paris C. (*with* Goldin, Dina Q.) On similarity queries for time-series data: constraint specification and implementation. (English summary) *Principles and practice of constraint programming—CP '95* (*Cassis*, 1995), 137–153, *Lecture Notes in Comput. Sci.*, 976, *Springer, Berlin*, 1995. (Summary) **99f:68049** 68P20

— (*with* Goldin, Dina Q.) Constraint query algebras. (English summary) *Constraints* **1** (1996), *no.* 1-2, 45–83. (Summary) **99a:68153** 68T20 (68N15, 68P15)

Kanellakopoulos, Ioannis (*with* Lin, Jung-Shan) Nonlinearities enhance parameter convergence in strict feedback systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 89–94. 93B52 (93C40)

Kanemitsu, Mitsuo (*with* Matsuda, Ryûki) On seminormal semigroups. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 43–47, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M99

Kanemitsu, Shigeru Some sums involving Farey fractions. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 14–22. (Gérald Tenenbaum) **99g:11099** 11M06 (11B57)

— (*with* Yoshimoto, Masami) Farey fractions and the Riemann hypothesis. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 81–91. (*see* **98c:11002**) 11M20 (11B57)

— (*with* Yoshimoto, Masami) Farey series and the Riemann hypothesis. III. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 363–378. (Andrzej Mądrecki) **99e:11118** 11M26 (11B57)

— (*with* Kuzumaki, T.) On a generalization of the Maillet determinant. *Number theory* (*Eger*, 1996), 271–287, *de Gruyter, Berlin*, 1998. (Kurt Girstmair) **99h:11122** 11R20 (11R29)

— (*with* Aliev, Iskander; Schinzel, Andrzej) On the metric theory of continued fractions. *Colloq. Math.* **77** (1998), *no.* 1, 141–146. (Marc Deléglise) **99d:11087** 11K50

Kanemitsu, Y. (*with* Matsuda, Koichi; Kijimoto, S.) A wave-based controller design for general flexible structures. (English summary) *J. Sound Vibration* **216** (1998), *no.* 2, 269–279. 93C20 (93B50)

Kanenaga, Masahiko (*with* Kirillov, A. I.; Mamakin, V. Yu.; Namiki, Mikio; Ohba, Ichiro; Polyachenko, E. V.; Zav'yalov, O. I.) On evaluation of path integrals for bottomless systems. (English summary) *Path integrals: Dubna '96*, 181–186, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

— (*with* Tanaka, Satoshi[1]; Namiki, Mikio; Ohba, Ichiro; Mizutani, Masashi; Komoike, Nobuyuki) Stochastic quantization of bottomless systems based on kerneled Langevin equation. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 2, 105–124 (1997). (Summary) **99b:82078** 82C31

— (*with* Namiki, Mikio) Possible origins of quantum fluctuations. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 145–152, *Plenum, New York*, 1998. (Summary) **99h:81025** 81P99

Kanenobu, Taizo Kauffman polynomials as Vassiliev link invariants. *KNOTS '96* (*Tokyo*), 411–431, *World Sci. Publishing, River Edge, NJ*, 1997. (Sergey S. Anisov) **99m:57005** 57M25 (57–04)

— Vassiliev-type invariants of a theta-curve. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 4, 455–477. (Simon Willerton) **99b:57010** 57M25

— (*with* Marumoto, Yoshihiko) Unknotting and fusion numbers of ribbon 2-knots. *Osaka J. Math.* **34** (1997), *no.* 3, 525–540. (Martin Scharlemann) **99h:57049** 57Q45

— (*with* Miyazawa, Yasuyuki) HOMFLY polynomials as Vassiliev link invariants. (English summary) *Knot theory* (*Warsaw*, 1995), 165–185, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99c:57024** 57M25

— Recursive calculation for an invariant of a ribbon knot. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 8, 1093–1105. (Summary) **99j:57006** 57M25

Kaņeps, Jānis (*with* Geidmanis, Dainis; Larfeldt, Tomas) Single-letter languages accepted by alternating and probabilistic pushdown automata. (English summary) *Randomized algorithms* (*Brno*, 1998), 12 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q45 (68Q68)

Kanesaka, Naohiro Hypersurface purely elliptic singularities of (0, 1)-type. CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 86–96. (Jan Stevens) **99k:32060** 32S25 (14B05, 32S05)

Kanet, John J. (*with* Balakrishnan, Nagraj; Sridharan, V.) Early/tardy scheduling with sequence dependent setups on uniform parallel machines. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 127–141. 90B35

Kaneta, Hitoshi (*with* Harada, Masaaki; Gulliver, T. Aaron) Classification of extremal double-circulant self-dual codes of length up to 62. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 127–136. (Summary) **99c:94045** 94B05

Kaneyuki, Soji (*with* Hou, Zi Xin; Deng, Shaoqiang) Dipolarizations in compact Lie algebras and homogeneous para-Kähler manifolds. *Tokyo J. Math.* **20** (1997), *no.* 2, 381–388. (O. Kowalski) **99a:53027** 53C15 (53C30)

— (*with* Gindikin, S. G.) On the automorphism group of the generalized conformal structure of a symmetric R-space. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 21–33. (O. Kowalski) **99a:53068** 53C35 (53C15)

— The Sylvester's law of inertia in simple graded Lie algebras. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 593–614. (Hiroshi Asano) **99f:17035** 17B70 (53C30)

Kanezashi, Fumiaki (*with* Lu, Xiaosong; Togashi, Atsushi) A derivation method of formal specifications from system requirements. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 310–321. 68Q60

Kang, B. G. *see* **Kang, Byung Gyun**

Kang, Byung Gai (*with* Cho, Sung-Jin) An application of ordering principle to fixed points of fuzzy mappings. (English summary) *Nonlinear Anal. Forum* **1** (1995), 43–52. 54H25 (54A40, 54C60)

Kang, Byung Gyun (*with* Anderson, D. D.; Park, Mi Hee) Anti-Archimedean rings and power series rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3223–3238. (Valentina Barucci) **99h:13023** 13F05 (13F25)

— (*with* Anderson, D. D.) Formally integrally closed domains and the rings $R((X))$ and $R\{\{X\}\}$. (English summary) *J. Algebra* **200** (1998), *no.* 1, 347–362. (Muhammad Zafrullah) **99a:13012** 13F25 (13A15)

Kang, Byung-Sik (*with* Song, Hyun-Jong) On the symmetric Sierpinski gaskets. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 157–163. (Summary) **99g:58067** 58F08 (28A80)

Kang, C. O. (*with* Kang, Shin Min; Cho, Yeol Je) Fixed points in fuzzy metric spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 57–77. 54H25 (54A40)

Kang, Eun-Hee (*with* Ki, U-Hang) Real hypersurfaces satisfying $\nabla_\xi S = 0$ of a complex space form. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 819–835. (Jürgen Berndt) **99j:53074** 53C40

Kang, Eun Sook (*with* Lee, Kyung Bai) Injective operations of homogeneous spaces. *Michigan Math. J.* **45** (1998), *no.* 3, 419–440. (Bruno Zimmermann) **99i:57057** 57S30 (57N15)

Kang, Gungwon (*with* Ho, Jeongwon) Superradiance and the statistical-mechanical entropy of rotating BTZ black holes. (English summary) *Phys. Lett. B* **445** (1998), *no.* 1-2, 27–35. (Summary) **99k:83071** 83C57

Kang, Gunseog (*with* Rawlings, John O.) Marginal curvatures for functions of parameters in nonlinear regression. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 467–476. (Summary) **99e:62114** 62J02

Kang, Hee-Jeong On asymptotic properties of bootstrap for autoregressive processes with regularly varying tail probabilities. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 31–45. (Somnath Datta) **99b:62134** 62M10 (62G09)

Kang, Hye-Jeong (*with* Athreya, Krishna B.) Some limit theorems for positive recurrent branching Markov chains. I, II. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 693–710, 711–722. (Rinaldo Schinazi) **99k:60188** 60J27 (60F10)

Kang, Hyeonbae (*with* Koo, Hyungwoon) Carleson measure characterizations of BMOA on pseudoconvex domains. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 279–291. (Miroljub Jevtić) **99f:32006** 32A37

Kang, Hyun-Chung (*with* Krone, Stephen M.; Neuhauser, Claudia) Stepping-stone models with extinction and recolonization. (English summary) *Ann. Appl. Probab.* **5** (1995), *no.* 4, 1025–1060. (Summary) **99a:92016** 92D10 (60K35, 92D40)

— (*with* Neuhauser, Claudia; Krone, Stephen M.) A note on the stepping stone model with extinction and recolonization. *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 299–307, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D25 (60J99)

Kang, Joo Ho (*with* Jo, Young Soo; Park, Kwang Sung) Isomorphisms of $\mathcal{B}_{\mathcal{L}_n}^{(n)}$. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 7–20. (Allan P. Donsig) **99k:47107** 47D25

Kang, Kab Seok (*with* Kwak, Do Y.) Convergence estimates for multigrid algorithms. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 15–22. (Ricardo G. Durán) **99a:65176** 65N55 (65N30)

— (*with* Lee, Sung Yun) New intergrid transfer operator in multigrid method for P_1-nonconforming finite element method. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 139–149. (Summary) **99k:65109** 65N30 (65F10, 65N55)

Kang, Kyehong (*with* Herdman, Terry L.) A structured reduced sequential quadratic programming and its application to a shape design problem. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 1, 81–100. 90C30 (49Q10)

Kang, Li Shan (*with* He, Qi Ming[2]; Evans, David John[1]) Convergence and stability of the finite difference scheme for nonlinear parabolic systems with time delay. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 129–153 (1998). (Petr N. Vabishchevich) **99d:65248** 65M06 (65M12)

— (*with* Huang, Jing Wei) A graph drawing algorithm for general undirected graphs based on genetic algorithms. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 68–72. 68U05 (68R10)

— (*with* He, Wei) An improved GA for combinational logic expressions. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 17–20. (Summary) **99c:92003** 92B05

— (*with* Wang, Baozhong; He, Wei) Investigation of CAM-Brain by using EQUnn model. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 2, 139–142. 68T05

Kang, Liying (*with* Shan, Erfang; Sun, Liang) Some results on domination number of products of graphs. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 103–108. (Anthony E. Barkauskas) **99b:05085** 05C35

Kang, Mee Kwang (*with* Im, Young Ho; Woo, Ki Mun) Codimension 2 fibrators that are closed under finite product. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 815–818. (Summary) **99h:57044** 57N15 (55R65)

Kang, Ming-chang (*with* Ahmad, Hamza; Hajja, Mowaffaq) Negligibility of projective linear automorphisms. (English summary) *J. Algebra* **199** (1998), *no.* 1, 344–366. (Frank D. Grosshans) **99c:13008** 13A50 (12F99, 15A72)

— Integral representations of cyclic groups of order p^2. (English summary) *J. Algebra* **207** (1998), *no.* 1, 82–126. (K. W. Roggenkamp) **99j:20006** 20C10

Kang, Pyung-Lyun (*with* Bae, Sunghan) Elliptic units and class fields of global function fields. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 385–394. (Ernst-Ulrich Gekeler) **99b:11063** 11G16 (11G09, 11R58)

— (*with* Lee, Dong Soo[2]) Genus numbers and ambiguous class numbers of function fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 37–43. (Martha Rzedowski-Calderón) **99i:11104** 11R58 (11R29, 11R37)

— (*with* Bae, Sunghan) A remark on the class number formulas over global function fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 553–560. (Martha Rzedowski-Calderón) **99j:11135** 11R58 (11G09, 11R29)

Kang, S. M. *see* **Kang, Shin Min**

Kang, Seok-Jin (*with* Tanisaki, Toshiyuki) Universal R-matrices and the center of the quantum generalized Kac-Moody algebras. (English summary) *Hiroshima Math. J.* **27** (1997), *no.* 2, 347–360. (Naihuan Jing) **99e:17024** 17B37

— (*with* Kim, Myung-Hwan[1]) Borcherds superalgebras and a monstrous Lie superalgebra. *Math. Ann.* **307** (1997), *no.* 4, 677–694. (From the introduction) **99g:17017** 17B10 (11F22, 17B67)

— Free Lie superalgebras and the generalized Witt formula. (English summary) *The Monster and Lie algebras (Columbus, OH, 1996)*, 207–219, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Saïd Benayadi) **99i:17004** 17B01

— Graded Lie superalgebras and the superdimension formula. (English summary) *J. Algebra* **204** (1998), *no.* 2, 597–655. (Georgia M. Benkart) **99f:17036** 17B70 (11F22, 17B01, 17B67)

— (*with* Hong, Jin; Miwa, Tetsuji; Weston, Robert) Mixing of ground states in vertex models. (English summary) *J. Phys. A* **31** (1998), *no.* 28, *L515–L525*. (Summary) **99e:82027** 82B23 (81R50)

— (*with* Benkart, Georgia; Melville, Duncan J.) Quantized enveloping algebras for Borcherds superalgebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3297–3319. (From the text) **99f:17014** 17B37 (17B67)

Kang, Seung-ho (*with* Klotz, Jerome) Limiting conditional distribution for tests of independence in the two way table. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2075–2082. (Truc Nguyen) **99j:62083** 62H17

Kang, Sheng Liang Singular perturbation solutions to the problem of nonlinear buckling of a truncated thin shallow shell of variable thickness with a large geometric parameter. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 206–216. (Summary) **99f:73057** 73K15 (73H05)

Kang, Shi-kun (*with* Zhang, Shi Sheng; Wang, Fan[1]) On the existence problems of solutions for nonlinear operator equations with probabilistic contractor in PN-spaces. (English and Chinese summaries) *J. Sichuan Union Univ. Eng. Sci. Ed.* **1** (1997), *no.* 1, 94–102. (S. L. Singh) **99e:47101** 47S50 (47H15, 47H40, 60H25)

Kang, Shin Min (*with* Kang, C. O.; Cho, Yeol Je) Fixed points in fuzzy metric spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 57–77. 54H25 (54A40)

— (*with* Pathak, H. K.; Cho, Yeol Je) Coincidence and fixed point theorems for nonlinear hybrid generalized contractions. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 2, 341–357. (Summary) **99b:54076** 54H25 (47H10, 54C60)

— (*with* Pathak, H. K.; Cho, Yeol Je; Madharia, B.) Compatible mappings of type (C) and common fixed point theorems of Greguš type. (English summary) *Demonstratio Math.* **31** (1998), *no.* 3, 499–518. 54H25 (54E45)

— (*with* Pathak, H. K.; Cho, Yeol Je) An application of fixed point theorems in best approximation theory. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 467–470. (Hideaki Kaneko) **99d:47055** 47H10 (41A65)

— (*with* Pathak, H. K.; Cho, Yeol Je) Common fixed points of biased maps of type (A) and applications. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 681–693. (Summary) **99f:54058** 54H25 (45G10)

— (*with* Zhang, Shi Sheng; Cho, Yeol Je; Lee, Byung Soo; Jung, Jong Soo) Iterative approximations of fixed points and solutions for strongly accretive and strongly pseudo-contractive mappings in Banach spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 149–165. (Charles Ejike Chidume) **99g:47146** 47H15 (47H06, 47H09, 47H17)

— (*with* Cho, Yeol Je; Fisher, Brian) Common fixed point theorems for Mann type iterations. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 385–390. (Charles Ejike Chidume) **99i:47101** 47H10 (47H17)

— (*with* Jung, Jong Soo; Zhang, Shi Sheng; Cho, Yeol Je; Lee, Byung Soo) Common fixed point theorems and variational principle in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 315–325. 54A40 (54C60, 54H25)

Kang, Shin-Soo (*with* Koehler, Kenneth J.) Maximum likelihood estimation of bivariate survival probabilities and its existence and uniqueness. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1961–1977. 62F10

Kang, Shixiang (*with* Wen, Guo Chun) Existence theorem and Riemann-Hilbert problem for general elliptic complex equations of third order. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 5, 14–21. (Wolfgang Tutschke) **99a:35100** 35J65 (30E25)

Kang, Soon-Ja Feynman integrals in white noise analysis. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 97–109. (Isamu Dôku) **99i:60133** 60H30 (46G12, 60G20, 60H05)

Kang, Suk-Bok (*with* Cho, Young-Suk) Bootstrap confidence intervals after bias correcting. (English summary) *Far East J. Theor. Stat.* **1** (1997), 31–38. (Summary) **99j:62057** 62G09

— (*with* Cho, Young-Suk) Jackknife and bootstrap estimation of reliability function in an exponential distribution. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 241–246. 62N05 (62G09, 90B25)

Kang, Sungkwon (*with* Kwon, Yong Hoon) A nonlinear Galerkin method for the Burgers equation. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 467–478. (Summary) **99k:65096** 65M60 (76D05, 76M25)

— (*with* Cho, Choon Kyung) A practical estimation method for groundwater level elevations. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 927–947. (From the introduction) **99a:86005** 86A32 (65U05)

Kang, Tae Ho (*with* Ki, U-Hang; Pak, Jin Suk) On the spectral geometry for the Jacobi operators of harmonic maps into product manifolds. (English summary) *Proceedings of the First International Workshop on Differential Geometry (Taegu, 1996)*, 13–30, *Kyungpook Natl. Univ., Taegu*, 1997. (Summary) **99e:58049** 58E20 (58G25)

— (*with* Kim, Hyun Suk) On the spectral geometry for the Jacobi operators of harmonic maps into a Sasakian or cosymplectic space form. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 373–382. (Novica Blažić) **99i:58149** 58G25 (53C15, 53C25, 58E20)

— (*with* Ki, U-Hang; Pak, Jin Suk) On the spectral geometry for the Jacobi operators of harmonic maps into product manifolds. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 483–500. (Summary) **99b:58232** 58G25 (58E20)

Kang, Tai (*with* Chen, Gouzhen) Modifications of Bellman-Giertz's theorem. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 349–353. (Claudi Alsina) **99j:03048** 03E72 (39B72)

Kang, Wei Extended controller form and invariants of nonlinear control systems with a single input. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 2, 25 *pp.* (*electronic*). (Feng-Sheng Tu) **99j:93051** 93C10 (93B52)

— Bifurcation and normal form of nonlinear control systems. I. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 193–212 (*electronic*). (Henk Nijmeijer) **99c:93054** 93C15 (34C23, 34H05, 93C10)

— Bifurcation and normal form of nonlinear control systems. II. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 1, 213–232 (*electronic*). (Henk Nijmeijer) **99c:93055** 93C15 (34C23, 34H05, 93C10)

Kang, Young Yug (*with* Jo, Young Soo; Park, Kwang Sung) Isomorphisms of Alg $\mathscr{L}_{2n+1(k)}$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 235–250. (Allan P. Donsig) **99j:47061** 47D25

Kang, Zheng Jiu (*with* Shi, Yi Ming; Hu, Bao Sheng) A parallel algorithm for recursive total least squares parameter estimation. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 3, 1–4. 93E10

Kangni, Kinvi (*with* Touré, Saliou) Transformation de Fourier sphérique de type δ. (English and French summaries) [Spherical Fourier transform of type δ] *Ann. Math. Blaise Pascal* **3** (1996), *no.* 2, 117–133. (Krishnan Parthasarathy) **99c:22007** 22D10 (43A90)

Kani, E. (*with* Schanz, W.) Modular diagonal quotient surfaces. *Math. Z.* **227** (1998), *no.* 2, 337–366. (Yoshinori Hamahata) **99a:14031** 14G35 (11F41, 11G18)

Kania-Bartoszyńska, Joanna (*with* Bullock, Doug; Frohman, Charles) Skein homology. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 140–144. (Daniel Ruberman) **99g:57006** 57M25 (55N35)

— (*with* Bullock, Doug; Frohman, Charles) Skein quantization and lattice gauge field theory. Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 811–824. (S. V. Duzhin) **99f:57006** 57M25 (81T25)

— *see also* **Knot theory**, **99c:57002**

Kaniadakis, G. (*with* Quarati, P.; Scarfone, A. M.) Nonlinear canonical quantum system of collectively interacting particles via an exclusion-inclusion principle. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5574–5585. (Summary) **99g:81118** 81S30

Kanibir, Alev (*with* Ganster, Maximilian; Reilly, Ivan L.) Two comments concerning certain topological spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 965–967. (Summary) **99j:54002** 54A05 (54D05)

Kaniecki, Leszek On differences of primes in short intervals under the Riemann hypothesis. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 121–124. (Hiroshi Mikawa) **99c:11116** 11N05 (11P32)

Kaniewski, J. (*with* Piotrowski, Zbigniew; Rose, David Alon) Ideal Banach category theorems. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 237–251. (Douglass L. Grant) **99k:54021** 54E52 (54G20)

Kanishauskas, V. Asymptotic estimation of the parameters of multivariate point processes. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 467–482; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 352–363 (1998). (M. E. Thompson) **99h:62109** 62M09 (60G55)

Kaniuth, Eberhard The Helson-Reiter theorem for a class of nilpotent discrete groups. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 1, 95–103. (Alan L. Carey) **99b:22011** 22D25

— (*with* Kutyniok, Gitta) Zeros of the Zak transform on locally compact abelian groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3561–3569. (Walter Schempp) **99b:43003** 43A32 (43A15, 43A40)

Kanjo, A. I. Improving estimates in regular group divisible designs. (English summary) *Arab J. Math. Sci.* **4** (1998), *no.* 2, 43–56. (Summary) **99k:62141** 62K10

Kankaanrinta, Marja (*with* Arone, Greg) A functorial model for iterated Snaith splitting with applications to calculus of functors. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 1–30, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:55009** 55P15

— (*with* Arone, Greg) The homology of certain subgroups of the symmetric group with coefficients in $\mathcal{L}ie(n)$. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 1–14. (Summary) **99c:57070** 57T10 (20J06, 55P15)

Kankainen, A. (*with* Ushakov, N. G.) A consistent modification of a test for independence based on the empirical characteristic function. (English summary) Stability problems for stochastic models, Part 1 (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1486–1494. (Summary) **99e:62080** 62G10

Kaňková, Vlasta Convexity, Lipschitz property and differentiability in two-stage stochastic nonlinear programming problems. (English summary) *Proceedings of the 3rd International Conference on Approximation and Optimization in the Caribbean* (*Puebla*, 1995), 17 *pp.* (*electronic*), *Benemérita Univ. Autón. Puebla, Puebla*, 1997. (Summary) **99h:90074** 90C15 (90C31)

— A note on multifunctions in stochastic programming. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 154–168, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (I. M. Stancu-Minasian) **99j:90053** 90C15 (90C31)

Kann, Viggo (*with* Amaldi, Edoardo) On the approximability of minimizing nonzero variables or unsatisfied relations in linear systems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 237–260. (Ding Zhu Du) **99m:68074** 68Q25 (90C08)

Kannan, D. (*with* Rushton, J. Nelson; Zhang, Qing[1]) Finite-dimensional exact filters for linear systems in mixed time. I. Filters. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 145–163. (Alexander I. Matasov) **99e:93080** 93E11 (60G35)

— (*with* Rushton, J. Nelson; Zhang, Qing[1]) Finite-dimensional exact filters for linear systems in mixed time. II. Parameter estimation. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 165–185. (Alexander I. Matasov) **99e:93081** 93E11 (60G35)

— (*with* Zhang, Hong) Functional limit theorems for degenerate Lévy processes. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 17–50. (Jia Gang Wang) **99c:60072** 60F17 (60J25, 60J35)

— (*with* Zhang, Qing[1]) Nonlinear filtering of an interactive multiple model with small observation noise: numerical methods. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 4, 631–659. (Jean Picard) **99d:60051** 60G35 (65U05)

— (*with* Dufour, François) Discrete time nonlinear filtering with marked point process observations. (English summary) *Stochastic Anal. Appl.* **17** (1999), *no.* 1, 99–115. (Sergey V. Lototsky) **99k:93089** 93E11 (60G35, 60G55, 60G57)

— (*with* Rushton, J. Nelson) Filtering for hybrid systems with Markovian and deterministic switching parameters. (English summary) *Stochastic Anal. Appl.* **17** (1999), *no.* 2, 191–217. (Fred Espen Benth) **99m:93103** 93E11 (60G35)

Kannan, Ravindran (*with* Lovász, László; Simonovits, Miklós) Random walks and an $O^*(n^5)$ volume algorithm for convex bodies. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 1, 1–50. (Mark R. Jerrum) **99h:68078** 68Q25 (52A20, 52A38, 60J15, 60J20)

— (*with* Nolte, Andreas) A fast random greedy algorithm for the component commonality problem. (English summary) *Algorithms—ESA '98* (*Venice*), 223–234, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90C15 (68Q20)

— (*with* Blum, Avrim L.; Frieze, Alan M.; Vempala, Santosh) A polynomial-time algorithm for learning noisy linear threshold functions. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 35–52. (Peter Auer) **99m:68158** 68T05 (68Q99)

senthamarai Kannan, S. *see* **Senthamarai Kannan, S.**

Kannan, Sampath K. (*with* Benham, Craig J.; Warnow, Tandy) Of chicken teeth and mouse eyes, or Generalized character compatibility. (English summary) *Combinatorial pattern matching* (*Espoo*, 1995), 17–26, *Lecture Notes in Comput. Sci.*, 937, *Springer, Berlin*, 1995. (Satoru Miyano) **99d:92020** 92D20 (68Q25)

— (*with* Warnow, Tandy) A fast algorithm for the computation and enumeration of perfect phylogenies. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 6, 1749–1763. (Summary) **99f:92012** 92D15 (05C05, 05C30, 05C85, 68Q20)

— (*with* Feigenbaum, Joan; Vardi, Moshe Y.; Viswanathan, Mahesh) Complexity of problems on graphs represented as OBDDs (extended abstract). (English summary) *STACS 98* (*Paris*, 1998), 216–226, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q25 (68R10)

— (*with* Cowen, Lenore J.; Feigenbaum, Joan) A formal framework for evaluating heuristic programs. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 193–206. (Summary) **99h:68154** 68T20 (68Q25)

— (*with* Dasgupta, Bhaskar[1]; Jiang, Tao[1]; Li, Ming[1]; Sweedyk, Elizabeth) On the complexity and approximation of syntenic distance. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 59–82. (Peter Clote) **99j:92011** 92D20 (68Q25, 68R99, 92D15)

— (*with* Proebsting, Todd) Register allocation in structured programs. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 223–237. (Summary) **99j:68018** 68N20 (68R10)

— (*with* Warnow, Tandy; Yooseph, Shibu) Computing the local consensus of trees. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1695–1724 (*electronic*). (Michael A. Steel) **99f:92013** 92D15 (05C05, 68Q25, 92B10)

Kannappan, Palaniappan On inner product spaces. IV. *Inner product spaces and applications*, 65–69, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (Alexandru Leonte) **99g:46018** 46C15 (39B52)

— (*with* Sahoo, Prasanna K.) Sum from distance measures between probability distributions and functional equations. (English summary) *Int. J. Math. Stat. Sci.* **6** (1997), *no.* 1, 91–105. (Wolfgang Sander) **99a:94011** 94A17 (39B22, 62B10)

— (*with* Riedel, Thomas; Sahoo, Prasanna K.) On a functional equation associated with Simpson's rule. (English summary) *Results Math.* **31** (1997), *no.* 1-2, 115–126. (Summary) **99g:39028** 39B22 (65D15, 65Q05)

— (*with* Zhong, Ju Kang; Sahoo, Prasanna K.) On second differences in product form. (English summary) *Aequationes Math.* **55** (1998), *no.* 1-2, 44–60. (Shigeru Haruki) **99a:39063** 39B52

— (*with* Zhong, Ju Kang; Sahoo, Prasanna K.) Corrigendum to: "On trigonometric functional equations of rectangular type" [Aequationes Math. **53** (1997), no. 1-2, 36–53; MR 98i:39009]. *Aequationes Math.* **56** (1998), *no.* 1-2, 199–200. (From the text) **99c:39038** 39B52

— On inner product spaces. III. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 1–4. (Alexandru Leonte) **99g:46017** 46C15 (39B52)

— (*with* Sahoo, Prasanna K.) On generalizations of the Popeiu functional equation. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 1, 117–124. (John A. Baker) **99b:39028** 39B22

Kannata, F. *see* **Cannata, Francesco**

Kannenberg, Lloyd C. *see* **Grassmann, Hermann Günther, 99e:01015**

Kanniappan, P. (*with* Pandian, P.) On generalized convex functions in optimization theory—a survey. (English summary) *Opsearch* **33** (1996), *no.* 3, 174–185. (Summary) **99a:90158** 90C26

— (*with* Thangavel, K.) Modified Fourier's method of solving linear programming problems. (English summary) *Opsearch* **35** (1998), *no.* 1, 45–56. (Summary) **99b:90078** 90C05

Kanno, Hiroaki (*with* Baulieu, Laurent; Singer, I. M.) Special quantum field theories in eight and other dimensions. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 149–175. (Marcos Mariño) **99k:58033** 58D29 (53C07, 53C25, 57R57, 58D27, 81T60, 81T70)

— (*with* Ohta, Yūji) Picard-Fuchs equation and prepotential of five-dimensional SUSY gauge theory compactified on a circle. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 73–98. (Summary) **99i:81241** 81T60 (14D05, 81T13)

Kanno, Mika (*with* Hirayama, Minoru; Ueno, Masataka; Yamakoshi, Hitoshi) Non-abelian Stokes theorem for loop variables associated with nontrivial loops. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 817–830. (Bogusław Broda) **99k:81183** 81T13 (58Z05)

Kanno, S. *see* **Kanno, Shokichi**

Kanno, Sachio On improvements of parameters of the SOR-like Durand-Kerner method. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 5–10. (*see* **99h:65005**) 65H05

Kanno, Shokichi (*with* Foong, S. K.) An introduction to a proof of Page's conjecture on the average entropy of a subsystem. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 221–224, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 81P05 (82B03)

Kano, Mikio (*with* Cai, Mao Cheng; Li, Yanjun) A $[k, k+1]$-factor containing given Hamiltonian cycle. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 933–938. (Summary) **99i:05160** 05C70 (05C45)

Kano, Yutaka[1] Beyond third-order efficiency. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 2, 179–197. (Lin-Cheng Zhao) **99k:62050** 62F12

Kânoğlu, Utku (*with* Synolakis, Costas Emmanuel) Long wave runup on piecewise linear topographies. (English summary) *J. Fluid Mech.* **374** (1998), 1–28. (Summary) **99g:86001** 86A05 (76B15)

Kanoh, Hitoshi (*with* Mizuno, Kazunori; Nishihara, Seiichi) Solving constraint satisfaction problems by an adaptive stochastic search method. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 8, 2413–2420. 68T20

Kan-on, Yukio A note on the propagation speed of travelling waves for a Lotka-Volterra competition model with diffusion. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 693–700. (Ying Guo Lei) **99b:92043** 92D25 (35K57, 35Q80)

— Bifurcation structure of stationary solutions of a Lotka-Volterra competition model with diffusion. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 424–436 (*electronic*). (N. F. Britton) **99h:35101** 35K57 (35B32, 35Q80, 92D40)

— (*with* Mimura, Masayasu) Singular perturbation approach to a 3-component reaction-diffusion system arising in population dynamics. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 6, 1519–1536 (*electronic*). (Siegfried Carl) **99e:35106** 35K57 (35B25, 35Q80, 92D40)

Kanoria, Mridula (*with* Mandal, Birendra Nath; Chakrabarti, Aloknath) The Wiener-Hopf solution of a class of mixed boundary value problems arising in surface water wave phenomena. (English summary) *Wave Motion* **29** (1999), *no.* 3, 267–292. (Summary) **99k:76028** 76B15 (45E10)

Kanovei, Vladimir Non-Glimm-Effros equivalence relations at second projective level. (English summary) *Fund. Math.* **154** (1997), *no.* 1, 1–35. (Philip D. Welch) **99j:03040** 03E15 (03E35, 03E40, 04A15)

— An Ulm-type classification theorem for equivalence relations in Solovay model. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1333–1351. (Ralf-Dieter Schindler) **99i:03063** 03E45

— (*with* Reeken, Michael) Mathematics in a nonstandard world. I. (English summary) *Math. Japon.* **45** (1997), *no.* 2, 369–408. (Miodrag D. Rašković) **99h:03044** 03H05 (03E70)

— (*with* Reeken, Michael) Mathematics in a nonstandard world. II. *Math. Japon.* **45** (1997), *no.* 3, 555–571. (Miodrag D. Rašković) **99h:03045** 03H05 (03E40, 03E70)

— When a partial Borel order is linearizable. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 301–309. (Wim Veldman) **99i:03057** 03E15 (04A15)

— (*with* Reeken, Michael) Elementary extensions of external classes in a nonstandard universe. (English summary) *Studia Logica* **60** (1998), *no.* 2, 253–273. (Pavol Zlatoš) **99j:03047** 03E70 (03H05)

Kanschat, G. A robust finite element discretization for radiative transfer problems with scattering. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 4, 265–272. (Summary) **99k:65116** 65R20 (45L05, 85–08, 85A25)

Kant, Elaine (*with* Akers, Robert L.; Baffes, Paul; Randall, Curt; Steinberg, Stanly; Young, Robert L.) Automatic synthesis of numerical codes for solving partial differential equations. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 3–22. (*see* **99a:00035**) 35–04

Kant, Goos A more compact visibility representation. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 197–210. (Summary) **99c:68248** 68U05 (52B55, 68R10)

Kant, Immanuel *see* **Bonsiepen, Wolfgang, 99e:00008**; **Shabel, Lisa, 99j:01010**; **Watkins, Eric, 99k:01022**; **Seidengart, Jean, (99g:01038)** *and* **Smirnova, E. D., (99m:03005)**

Kantabutra, Vitit Reaching a point with an unanchored robot arm in a square. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 6, 539–549. (Summary)

99g:70009 70B15 (68M05, 68Q25)

Kantariya, G. V. Hypotheses of informational logic. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 41–48. (Summary) **99g:68191** 68T27 (03B50)

— Optimal choice in informational logic. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 385–388. 03B50

Kantawala, P. S. On approximation of Nörlund mean of general orthogonal series. *J. Indian Acad. Math.* **18** (1996), *no.* 1, 47–52. (S. M. Mazhar) **99b:40001** 40D15 (40G05, 42C15)

Kantelhardt, Jan W. (*with* Bunde, Armin) Wave functions in the Anderson model and in the quantum percolation model: a comparison. (English summary) *Ann. Phys.* (8) **7** (1998), *no.* 5-6, 400–405. (Summary) **99i:82024** 82B44 (82B43)

Kanter, Marek Constrained quantum processes. (English summary) *Acta Appl. Math.* **47** (1997), *no.* 3, 351–373. (Editors) **99b:81120** 81S25 (60J99, 81P15)

ravi Kanth, K. V. *see* **Ravi Kanth, K. V.**

Kanti, P. (*with* Ellis, Jonathan Richard; Mavromatos, Nick E.; Winstanley, Elizabeth; Nanopoulos, Dimitri V.) Decoherent scattering of light particles in a D-brane background. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 4, 303–319. (Summary) **99e:81186** 81T30 (81U99)

— (*with* Mavromatos, Nick E.; Rizos, J.; Tamvakis, K.; Winstanley, Elizabeth) Dilatonic black holes in higher curvature string gravity. II. Linear stability. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6255–6264. (Summary) **99m:83116** 83C57 (83E30)

Kantor, B. E. (*with* Vereshchagin, B. M.) Weakly connected systems of elliptic Monge-Ampère equations, and the problem of the existence of a two-dimensional surface in E^{k+2} with given Killing-Lipschitz curvatures with respect to k normal fields. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 27–33. (Valery Marenich) **99a:53048** 53C21 (35J60, 53C40)

Kantor, I. L. A generalization of the Jordan approach to symmetric Riemannian spaces. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 221–234, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Harald Upmeier) **99i:17036** 17C36 (53C35)

Kantor, Jean-Michel Triangulations of integral polytopes and Ehrhart polynomials. *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 205–218. (Jesús A. de Loera) **99b:52024** 52B20

Kantor, Jeffrey C. (*with* Faitakis, Yannis E.) Residual generation and fault detection for discrete-time systems using an l_∞ technique. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 155–174. 93B36 (93B30)

— (*with* Faitakis, Yannis E.; Thapliyal, S.) An LMI approach to the evaluation of alarm thresholds. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 659–667. 93B30

Kántor, Sándor On the area of a polygon in the hyperbolic plane. *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 423–432. (A. C. Thompson) **99i:52015** 52B45 (51M09, 51M25, 52A38)

Kantor, William M. Simple groups in computational group theory. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 77–86 (*electronic*). (D. F. Holt) **99h:20002** 20–04 (20B40, 20D05, 68Q40)

— *see also* **Groups and geometries, 99c:51004**

Kantor, Yacov (*with* Farago, Oded) Pseudo-boundaries in discontinuous two-dimensional maps. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 445–451. (Summary) **99b:58208** 58F27

Kantorovich, L. V. ★ Selected works. Part I. (English summary) Descriptive theory of sets and functions. Functional analysis in semi-ordered spaces. Translated from the Russian by A. B. Sossinskiĭ [A. B. Sosinskiĭ]. With an introduction by I. M. Gelfand. Edited and with a preface by S. S. Kutateladze. Classics of Soviet Mathematics, 3. *Gordon and Breach Publishers, Amsterdam*, 1996. 374 *pp. ISBN* 2-88449-012-4 (Gabriel Debs) **99f:01030** 01A75 (04–03, 46–03)

Kantorovitz, Miriam Ruth A generalization of the Auslander-Nagata purity theorem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 71–78. (R. A. Wiegand) **99b:13008** 13B15

Kantowski, R. (*with* Diek, Adel) Some Clifford algebra history. (English summary) *Clifford algebras and spinor structures*, 3–12, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Karl-Heinz Schlote) **99i:01003** 01A05 (15–03, 15A66)

Kantz, Holger (*with* Olbrich, Eckehard; Hegger, Rainer) Analysing local observations of weakly coupled maps. (English summary) *Phys. Lett. A* **244** (1998), *no.* 6, 538–544. (Summary) **99c:58112** 58F13

Kanur, Hitesh (*with* Chandra, Prem) On the rate of convergence of Laguerre series. (English summary) *Vikram Math. J.* **14** (1994), 61–67. 41A58 (33C45)

Kanwal, Ram P. Delta series solutions of differential and integral equations. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 49–62. (Summary) **99e:34074** 34E20 (45E10, 46F10)

— (*with* Durán, Ana Lía; Estrada, Ricardo) Extensions of the Poisson summation formula. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 581–606. (Mridula Garg) **99a:46073** 46F10 (42A38)

— (*with* Estrada, Ricardo) Moment expansion analysis for time-domain asymptotics. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 489–499. (Todor Dimitrov Todorov) **99b:46057** 46F05 (34E05, 34K25, 65E05)

Kanwar, Pramod (*with* López-Permouth, Sergio R.) Cyclic codes over the integers modulo p^m. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 4, 334–352. (Patrick Fitzpatrick) **99c:11151** 11T71 (94B15)

— (*with* Barthwal, S.; Jain, Surender Kumar; López-Permouth, Sergio R.) Nonsingular semiperfect CS-rings. (English summary) *J. Algebra* **203** (1998), *no.* 2, 361–373. (Dinh Van Huynh) **99h:16002** 16D70 (16S50)

Kanzaki, Teruo Trace forms of algebras over a commutative ring with orderings. (English summary) *J. Fac. Sci. Eng. Kinki Univ. No.* 34 (1998), 1–7. (Ellen E. Kirkman) **99k:16035** 16H05 (15A66)

Kanzow, Christian (*with* Kleinmichel, Helmut) A new class of semismooth Newton-type methods for nonlinear complementarity problems. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 3, 227–251. (Giorgio Giorgi) **99i:90099** 90C33 (49J40, 90C30)

— (*with* Jiang, Houyuan) A continuation method for (strongly) monotone variational inequalities. (English summary) *Math. Programming* **81** (1998), *no.* 1, *Ser. A*, 103–125. (Summary) **99a:49016** 49J40

— (*with* Fukushima, Masao) Theoretical and numerical investigation of the D-gap function for box constrained variational inequalities. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 55–87. (Michael M. Kostreva) **99i:90100** 90C33 (49J40, 90C30)

— An inexact QP-based method for nonlinear complementarity problems. (English summary) *Numer. Math.* **80** (1998), *no.* 4, 557–577. (Jie Sun) **99h:90104** 90C33 (65K05)

— (*with* Fukushima, Masao) Solving box constrained variational inequalities by using the natural residual with D-gap function globalization. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 45–51. (Michael M. Kostreva) **99j:90098** 90C33

— (*with* Facchinei, Francisco; Fischer, Andreas[1]) Regularity properties of a semismooth reformulation of variational inequalities. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 850–869 (*electronic*). (Jie Sun) **99g:90145** 90C33 (49J40, 65K05)

— (*with* Facchinei, Francisco; Fischer, Andreas[1]) On the accurate identification of active constraints. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 14–32 (*electronic*). (Stefan Scholtes) **99k:90152** 90C30 (65K05)

Kao, Chiang (*with* Wong, J. Y.) Random number generators with long period and sound statistical properties. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 113–121. (Summary) **99c:65009** 65C10

— (*with* Tang, Hui-Chin) Several extensively tested multiple recursive random number generators. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 129–136. 65C10

Kao, Chihwa (*with* McCoskey, Suzanne) A residual-based test of the null of cointegration in panel data. (English summary) *Econometric Rev.* **17** (1998), *no.* 1, 57–84. (Summary) **99a:62158** 62P20

Kao, John (*with* Çinlar, Erhan) Spectral expansion of the occupation measure for birth and death on a flow. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 203–215. (Summary) **99h:60100** 60G57 (60H10, 60J80)

Kao, Ming-Yang (*with* Lam, Tak Wah; Sung, Wing Kin; Ting, Hing Fung) All-cavity maximum matchings. (English summary) *Algorithms and computation* (*Singapore*, 1997), 364–373, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05092** 05C70

— (*with* Chuang, Richie Chih-Nan; Garg, Ashim; He, Xin[1]; Lu, Hsueh-I) Compact encodings of planar graphs via canonical orderings and multiple parentheses. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 118–129, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68P99 (68R10)

— (*with* Wang, Jie[1]) Efficient minimization of numerical summation errors. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 375–386, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 65Y20 (68Q25)

— (*with* Ho, Ching-Tien) Efficient submesh permutations in wormhole-routed meshes. (English summary) *Inform. Sci.* **107** (1998), *no.* 1-4, 1–13. (Summary) **99b:68015** 68M10

— (*with* Ma, Yuan; Sipser, Michael; Yin, Yiqun) Optimal constructions of hybrid algorithms. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 142–164. (Evangelos Kranakis) **99i:68054** 68Q20

— (*with* Occhiogrosso, Neill; Teng, Shang-Hua) Simple and efficient graph compression schemes for dense and complement graphs. (English summary) *J. Comb. Optim.* **2** (1999), *no.* 4, 351–359. (Summary) **99k:05150** 05C85

— (*with* Tate, Stephen R.) On-line difference maximization. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 78–90 (*electronic*). (Summary) **99k:68080** 68Q25 (90A09, 90D15)

— *see also* **Computing and combinatorics, 99k:68008**

Kao, R. R. (*with* Roberts, M. G.) Quarantine-based disease control in domesticated animal herds. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 115–120. (Summary) **99b:92056** 92D30 (92D25)

Kao, Shin-Shin (*with* Caflisch, Russel E.) Steady buoyant droplets with circulation. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1891–1902. (Summary) **99d:76017** 76C05 (76M25)

Kapaev, Andrei A. (*with* It-s, A. R.) Connection formulae for the fourth Painlevé transcendent; Clarkson-McLeod solution. (English summary) *J. Phys. A* **31** (1998), *no.* 17, 4073–4113. (Yoshitsugu Takei) **99i:34007** 34A20 (34E20)

Kapanadze, D. V. An inverse problem of potential theory for piecewise-smooth domains. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 309–312 (1991). 31A15

Kapania, Rakesh K. (*with* Sosonkina, Maria; Watson, Layne T.; Walker, Homer F.) A new adaptive GMRES algorithm for achieving high accuracy. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 4, 275–297. (Summary) **99d:65110** 65F10 (65F50)

Kapelko, Rafał A multiplier theorem for the Hankel transform. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 281–288. (Summary) **99k:42024** 42B15

de doncker-Kapenga, Elise *see* **de Doncker-Kapenga, Elise**

Kaper, Hans G. (*with* Takáč, Peter) An equivalence relation for the Ginzburg-Landau equations of superconductivity. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 4, 665–675. (Summary) **99e:35211** 35Q55 (82D55)

— (*with* Wang, Bi Xiang; Wang, Shou Hong) Determining nodes for the Ginzburg-Landau equations of superconductivity. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 205–224. (Peter E. Zhidkov) **99d:35154** 35Q55 (58F39, 82D55)

— (*with* Fleckinger, Jacqueline; Takáč, Peter) Dynamics of the Ginzburg-Landau equations of superconductivity. *Nonlinear Anal.* **32** (1998), *no.* 5, 647–665. (Peter E. Zhidkov) **99c:35219** 35Q55 (35B30, 35B40, 58F39, 82D55)

— (*with* Takáč, Peter) Ginzburg-Landau dynamics with a time-dependent magnetic field. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 291–305. (Peter E. Zhidkov) **99c:35220** 35Q55 (35B40, 58F39, 82D55)

Kaper, Tasso J. (*with* Hayes, Michael G.; Kopell, Nancy; Ono, Kinya) On the application of geometric singular perturbation theory to some classical two-point boundary value problems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 189–209. (Summary) **99c:34119** 34E15 (34B05, 34B15)

— (*with* Harkin, Anthony; Nadim, Ali) On acoustic cavitation of slightly subcritical bubbles. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 274–287. (Summary) **99k:76017** 76B10

Kapila, Vikram (*with* Haddad, Wassim M.; Abdallah, Chaouki T.) Stabilization of linear and nonlinear systems with time delay. (English summary) *Stability and control of*

time-delay systems, 205–217, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

— (*with* Haddad, Wassim M.) Robust controller synthesis for systems with input nonlinearities: a trade-off between gain variation and parametric uncertainty. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 7, 567–583. (Takehiro Mori) **99f:93062** 93B50 (93D21)

— (*with* Haddad, Wassim M.) Mixed H_2/L_1 fixed-architecture controller design for multi-input/single-output systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 3, 435–448. (Summary) **99m:93091** 93D21 (93B36)

— (*with* Haddad, Wassim M.) Robust stabilization for systems with parametric uncertainty and time delay. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 3, 473–480. (Summary) **99m:93092** 93D21

Kapitaniak, T. (*with* Brindley, J.) Practical stability of chaotic attractors. (English summary) Applications of chaos (Inowłodz, 1996). *Chaos Solitons Fractals* **9** (1998), *no.* 1-2, 43–50. (Frederick R. Marotto) **99b:58162** 58F13 (34C35)

— (*with* Maĭstrenko, Yuriĭ L.; Stefanski, A.; Brindley, J.) Bifurcations from locally to globally riddled basins. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, *R*6253–*R*6256. (Pere Mumbrú) **99f:58140** 58F13 (58F14)

— (*with* Maĭstrenko, Yuriĭ L.) Multiple choice bifurcations as a source of unpredictability in dynamical systems. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5161–5163. (Summary) **99e:58126** 58F12

Kapitanova, M. B. (*with* Khristova, S. G.; Kostadinov, St. I.) Method of a small parameter for a class of nonautonomous systems of second order differential equations with impulses. *Rostock. Math. Kolloq.* **1997**, *no.* 50, 3–8. (From the text) **99a:34027** 34A37 (34C25)

Kapitonov, Boris V. (*with* Souza, Joel S.) Uniqueness theorem and exact boundary controllability for a class of distributed systems. (Portuguese summary) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 157–167. (Summary) **99h:93016** 93B05 (35K99, 93C20)

Kapitonov, V. S. (*with* Izergin, A. G.; Kitanin, N. A.) Simultaneous temperature correlators of the one-dimensional Heisenberg XY chain. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 173–206, 285. (Nicolae Angelescu) **99f:82011** 82B20

Kapitula, Todd Stability criterion for bright solitary waves of the perturbed cubic-quintic Schrödinger equation. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 95–120. (Summary) **99a:35238** 35Q55 (34C37, 78A60)

— (*with* Sandstede, Björn) Stability of bright solitary-wave solutions to perturbed nonlinear Schrödinger equations. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 58–103. (Summary) **99h:35199** 35Q55 (35B35, 78A60)

— Bifurcating bright and dark solitary waves for the perturbed cubic-quintic nonlinear Schrödinger equation. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 3, 585–629. (Arjen Doelman) **99g:35118** 35Q55 (34C37, 35B32, 78A60)

— The Evans function and generalized Melnikov integrals. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 273–297 (*electronic*). (Vladimir Tulovsky) **99m:35120** 35K57 (34C35, 34C37, 35P15)

Kaplan, A. A. (*with* Tichatschke, R.) Proximal penalty method for ill-posed parabolic optimal control problems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 169–182, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Walter Alt) **99e:49043** 49M37 (49J40, 65K10)

— (*with* Tichatschke, R.) Regularized penalty method for non-coercive parabolic optimal control problems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 5–27. (Fredi Tröltzsch) **99f:49051** 49M29 (49N10, 65K05, 90C48)

— (*with* Tichatschke, R.) Proximal point methods and nonconvex optimization. (English summary) Workshop on Global Optimization (Trier, 1997). *J. Global Optim.* **13** (1998), *no.* 4, 389–406. (Summary) **99k:90122** 90C26

— (*with* Tichatschke, R.) Proximal methods in view of interior-point strategies. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 399–429. (Tamás Terlaky) **99g:90123** 90C30 (65K05)

Kaplan, Abdullah (*with* Kültür, M. Nuri) A study on the Θ-theta functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 103–108. (Michael C. Berg) **99k:11066** 11F27

— (*with* Kültür, M. Nuri) A study on the kth-order general theta functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 167–171. (Michael C. Berg) **99c:11048** 11F27 (33E05)

— (*with* Işık, Ahmet) Fibonacci sequences in Hecke groups $\Gamma(\lambda_n)$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 79–81. 11B39 (11F06, 20F05)

Kaplan, David Significance and analyticity: a comment on some recent proposals of Carnap. (English summary) *Decline and obsolescence of logical empiricism*, 169–176, *Read. Philos., Garland, New York*, 1996. (*see* **99a:00006b**) 00A30 (03A05)

Kaplan, Haim (*with* Golumbic, Martin Charles) Cell flipping in permutation diagrams. (English summary) *STACS* 98 (*Paris*, 1998), 577–586, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68R10 (68Q25)

Kaplan, Lev (*with* Heller, Eric J.) Linear and nonlinear theory of eigenfunction scars. (English summary) *Ann. Physics* **264** (1998), *no.* 2, 171–206. (Julio Espinoza Ortiz) **99f:81058** 81Q50

— (*with* Heller, Eric J.) Weak quantum ergodicity. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 1–18. (Jens Marklof) **99k:81071** 81Q50 (58F11)

— *see also* **Zelditch, Steven, 99k:81072**

Kaplan, Mark ★ Decision theory as philosophy. (English summary) *Cambridge University Press, Cambridge*, 1996. *xvi*+227 *pp. ISBN* 0-521-47505-8 03B45 (03A05, 90A05)

Kaplan, N. L. (*with* Weir, B. S.) The use of linkage disequilibrium for estimating the recombination fraction between a marker and a disease gene. (English summary) *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 207–219, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D20 (92C50, 92D30)

Kaplan, Pierre Idéaux réduits, nombres réduits et équation $D = y^2 + 4xz$. [Reduced ideals, reduced numbers and the equation $D = y^2 + 4xz$] *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 5, 82–85. (Stéphane Louboutin) **99j:11124** 11R11 (11R29)

Kaplan, Samuel On unbounded order convergence. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 175–184. (Rodica-Mihaela Dănet) **99e:46006** 46A40 (06F20)

Kaplan, Samuel R. The collinear one-bumper, two-body problem with unequal masses. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 1, 27–54. (Josefina Casasayas) **99c:70016** 70F07 (34C28, 58F13, 70F05)

Kaplansky, Felix (*with* Rudi, Ülo) Time-dependent properties of a viscous vortex ring. (English and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **3** (1997), *no.* 3, 171–184. (Summary) **99f:76039** 76D05 (76C05)

Kaplansky, Irving (*with* Jagy, William C.; Schiemann, Alexander) There are 913 regular ternary forms. *Mathematika* **44** (1997), *no.* 2, 332–341. (Andrzej Sładek) **99a:11046** 11E12 (11E20)

Kaplitskiĭ, V. M. (*with* Kondakov, V. P.) Bases in weighted spaces of entire functions. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 85–90. (Fritz Haslinger) **99h:46033** 46E10 (46A11, 46A45)

— An integral equation on a segment with a difference matrix kernel. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 8, 59–66. (I. Spitkovsky) **99m:45005** 45E10 (47A68, 47G10)

Kaplunov, Yu. D. (*with* Kossovich, L. Yu.; Nolde, E. V.) ★ Dynamics of thin walled elastic bodies. (English summary) *Academic Press, Inc., San Diego, CA*, 1998. x+226 *pp. ISBN* 0-12-397590-5 (Juan M. Viaño Rey) **99a:73084** 73K10 (73K12)

Kaplunovsky, Vadim S. (*with* Caceres, Elena; Mandelberg, Michael) On the impossibility of a large radius compactification in realistic string theories. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 77–79, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* de Wit, Bernard; Louis, Jan; Lüst, Dieter) Duality symmetries and perturbative vectormultiplet couplings in $N = 2$ heterotic string vacua. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 488–500, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81206** 81T30

— (*with* Louis, Jan) Phenomenological aspects of F-theory. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 45–49. (Summary) **99j:81143** 81T30 (83E30)

Kapodanno, P. *see* **Capodanno, Pierre**

Kapoor, A. K. (*with* Chaturvedi, S.; Srinivasan, Venkatraman) A new orthogonalization procedure with an extremal property. (English summary) *J. Phys. A* **31** (1998), *no.* 19, *L*367–*L*370. (Summary) **99c:15014** 15A21 (65F25)

Kapoor, Ajai (*with* Conforti, Michele; Cornuéjols, Gérard; Vušković, Kristina) Even and odd holes in cap-free graphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 289–308. (Olivia M. Carducci) **99m:05155** 05C99 (05C75)

Kapoor, G. P. (*with* Guru Prem Prasad, M.) Dynamics of $(e^z - 1)/z$: the Julia set and bifurcation. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1363–1383. (Rich L. Stankewitz) **99j:58170** 58F23 (30D05)

Kapoor, Navneet (*with* Daoutidis, Prodromos) Stabilization of systems with input constraints. (English summary) *Internat. J. Control* **66** (1997), *no.* 5, 653–675. 93D15 (93C85)

— (*with* Teel, Andrew R.; Daoutidis, Prodromos) An anti-windup design for linear systems with input saturation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 559–574. (Summary) **99d:93026** 93B51 (93C05)

— (*with* Daoutidis, Prodromos) An observer-based anti-windup scheme for non-linear systems with input constraints. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 18–29. (Summary) **99k:93049** 93B50 (93B07)

Kapoor, Sanjiv (*with* Das, Gautam; Smid, Michiel H. M.) On the complexity of approximating Euclidean traveling salesman tours and minimum spanning trees. (English summary) *Algorithmica* **19** (1997), *no.* 4, 447–460. (P. F. Körner) **99b:90099** 90C27 (90C60)

Kaporin, I. E. The use of preconditioned Krylov subspaces in methods of conjugate-gradient type for solving a nonlinear least squares problem. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 26–31; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 20–25. 65H10 (65F35)

— (*with* Axelsson, Owe) Minimum residual adaptive multilevel finite element procedure for the solution of nonlinear stationary problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1213–1229 (*electronic*). (Fu Ming Ma) **99d:65171** 65J10 (65F10, 65H10, 65L60)

— (*with* Erëmin, A. Yu.) The influence of the largest eigenvalues on the numerical convergence of the conjugate gradient method. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **248** (1998), *Chisl. Metody i Vopr. Organ. Vychisl.* 13, 5–16, 247. 65F10

Kapouleas, Nicolaos Complete embedded minimal surfaces of finite total curvature. (English summary) *J. Differential Geom.* **47** (1997), *no.* 1, 95–169. (Rabah Souam) **99a:53008** 53A10

skorin-Kapov, Darko *see* **Skorin-Kapov, Darko**

skorin-Kapov, Jadranka *see* **Skorin-Kapov, Jadranka**

Kapovich, Michael (*with* Kleiner, Bruce; Leeb, Bernhard) Quasi-isometries and the de Rham decomposition. (English summary) *Topology* **37** (1998), *no.* 6, 1193–1211. (Raul Quiroga) **99g:53048** 53C23 (53C21, 53C22)

Kappel, F. *see* **Control and estimation of distributed parameter systems, 99b:49001**

Kappeler, Thomas (*with* Grébert, Benoît) Théorème de type KAM pour l'équation de Schrödinger non linéaire. (English and French summaries) [KAM theorem for the nonlinear Schrödinger equation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 473–478. (Dario Bambusi) **99j:58186** 58F27 (35Q55, 58F39)

— (*with* Mityagin, B.) Gap estimates of the spectrum of Hill's equation and action variables for KdV. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 619–646. (Spyridon Kamvissis) **99d:35141** 35Q53 (34A55, 34L40, 35J10, 58F19)

Kappert, Markus Eine Gradaussage für Posinome bester Approximation. (English summary) [A degree statement on least-squares approximation by posynomials] *Rostock. Math. Kolloq.* **1997**, *no.* 50, 65–70. (Dietrich Braess) **99b:41011** 41A29

Kappes, Martin Multi-bracketed contextual grammars. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 2, 85–103. (Summary) **99j:68071** 68Q50 (68Q45, 68S05)

Kapranov, Mikhail (*with* Getzler, Ezra) Modular operads. (English summary) *Compositio Math.* **110** (1998), *no.* 1, 65–126. (Alexandre I. Kabanov) **99f:18009** 18C15 (08A02,

14H10, 57M50)
— Operads and algebraic geometry. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 277–286 (*electronic*). (J. Stasheff) **99g:14033** 14H15 (11M41, 17A42, 18C10, 18C15, 55P99, 55U35)
— Heisenberg doubles and derived categories. *J. Algebra* **202** (1998), *no.* 2, 712–744. (Dieter Happel) **99i:16072** 16W30 (18E30)
— *see also* **Higher category theory, 99h:18002**
Kapsa, V. (*with* Skála, L.; Dvořák, Jan[1]) Analytic solutions of the Schrödinger equation for the modified quartic oscillator. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2953–2961. (M. Znojil) **99c:81034** 81Q05 (34L40)
Kaptsov, A. V. (*with* Kuznetsov, Sergeĭ Vladimirovich[2]) Spatially periodic fundamental solutions in the theory of vibrations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 525–527; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 489–491. (Summary) **99m:73030** 73D30 (73B40)
Kaptsov, O. V. Construction of exact solutions of the Boussinesq equation. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 3, 74–78. 35Q53 (76D33)
— Some classes of two-dimensional stationary vortex structures in an ideal fluid. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 50–53; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 524–527 (1999). (Summary) **99i:76028** 76C05 (76E99)
Kapur, Deepak Constructors can be partial, too. *Automated reasoning and its applications*, 177–210, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 68Q65
Kapur, J. N. ★ Inequalities: theory applications and measurements. (English summary) *Mathematical Sciences Trust Society, New Delhi*, 1997. vi+242 *pp.* (Gradimir V. Milovanović) **99f:26031** 26D15 (26–01)
— Estimation of missing values by using inequalities. (English summary) *Ranchi Univ. Math. J.* **28** (1997), 43–50. 26D15
Kapur, P. K. (*with* Garg, R. B.; Sehgal, V. K.; Jha, A. K.) Numerical and transient solutions of K out of N: G systems in discrete time with multiple repair facilities. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 1, 61–76. 60K10 (62N05)
Kapuria, S. (*with* Dumir, P. C.; Sengupta, S.) Three-dimensional axisymmetric piezothermoelastic solution of clamped circular elastic plate bonded to piezoceramic plate. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 2, 117–129. 73K10 (73R05)
Kapuścik, Edward Self-induced electrostatic fields. (English summary) Invited papers dedicated to Asim O. Barut, Part III. *Found. Phys.* **28** (1998), *no.* 5, 717–727. (Summary) **99h:78014** 78A30
Kapuściński, Roman (*with* Tayur, Sridhar) A capacitated production-inventory model with periodic demand. (English summary) *Oper. Res.* **46** (1998), *no.* 6, 899–911. (Summary) **99h:90036** 90B05
Kapustin, Anton (*with* Cherkis, Sergey A.) Singular monopoles and supersymmetric gauge theories in three dimensions. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 215–234. (David S. Berman) **99f:81193** 81T60 (81T13)
— Solution of $N = 2$ gauge theories via compactification to three dimensions. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 531–545. (Marco Spaans) **99k:81312** 81T60 (81T13, 81T30)
Kapustin, N. Yu. (*with* Moiseev, Evgeniĭ Ivanovich) On spectral problems with a spectral parameter in the boundary condition. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 115–119, 143; *translation in Differential Equations* **33** (1997), *no.* 1, 116–120. (Michael A. Perel′muter) **99a:35190** 35M10 (34L10, 35P10)
Kapustin, Yu. Yu. (*with* Il′inskiĭ, A. S.; Samokhin, A. B.) A mathematical model of the problem of diffraction by a nonhomogeneous cylindrical body. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1563–1571. (Summary) **99j:78022** 78A45 (78–08)
Kapustnikov, A. The effective actions on the solitonic moduli spaces. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 344–347, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:81144** 81T30 (58D27)
Kapustyan, V. E. (*with* Gorgo, Yu. N.) Asymptotic locally bounded control in a bisingular elliptic problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 5–14, 155. (Summary) **99f:49031** 49K20 (49M30)
Kar, Apurba (*with* Lebovitz, Norman R.; Lifschitz, Alexander E.) Solutions of the Euler equations near the Riemann ellipsoids. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 81–89, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:76145** 76U05 (76E20, 85A30)
Kar, C. C. (*with* Banerjea, Sudeshna) On waves due to a line source in front of a vertical wall with a gap. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 5, 917–926. (From the introduction) **99k:76021** 76B15
Kar, G. (*with* Ghosh, Sibasish; Sarkar, Debasis) Hardy's nonlocality for entangled states of three spin-$\frac{1}{2}$ particles. (English summary) *Phys. Lett. A* **243** (1998), *no.* 5-6, 249–255. (Summary) **99b:81011** 81P05
Kar, S. K. *see* **Kar, Sujit Kumar**
Kar, Sayan Generalised Raychaudhuri equations for strings and membranes. (English summary) *Classical and quantum aspects of gravitation and cosmology* (*Madras*, 1996), 131–141, *IMS Rep.*, 117, *Inst. Math. Sci., Madras*, 199?. (Summary) **99c:83095** 83E30 (53C80)
— (*with* Mahapatra, Swapna) Planetoid strings: solutions and perturbations. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1421–1436. (Marco Cavaglià) **99h:83057** 83E30 (81T30, 83C15)
Kar, Sujit Kumar On a general class of generating functions involving modified Bessel polynomials. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 5, 363–366. (Summary) **99e:33002** 33C10
— (*with* Basu, D. K.) An extension of a bilateral generating function for the Legendre polynomial $P_n(x)$ by group-theoretic method. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 447–450. (Summary) **99c:33017** 33C45
— (*with* Basu, D. K.) Lie-theoretic origins of certain generating functions for modified Jacobi polynomials. (English summary) *Gaṇita Sandesh* **10** (1996), *no.* 2, 93–96. (Summary) **99h:33041** 33C45
— (*with* Dube, P. P.) On some generating functions of Gegenbauer polynomials from the view point of local transformation of groups. (English summary) *Gaṇita Sandesh* **11** (1997), *no.* 1, 27–30. (Summary) **99g:33022** 33C45
Karaa, Samir Extremal eigenvalue gaps for the Schrödinger operator with Dirichlet boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2325–2332. (Summary) **99a:35192** 35P15 (35J10)
— Sharp estimates for the eigenvalues of some differential equations. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 5, 1279–1300 (*electronic*). (Bernard J. Harris) **99d:34162** 34L15 (34B05, 49R05)
Karabalis, D. L. (*with* Rizos, D. C.) A time domain BEM for 3-D elastodynamic analysis using the B-spline fundamental solutions. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 108–115. 73V10
Karaballi, A. A. Interpolation by quartic spline with periodic derivative on uniform meshes. (English and Arabic summaries) *Kuwait J. Sci. Engrg.* **25** (1998), *no.* 2, 263–273. (Summary) **99i:41008** 41A15
Karabegov, A. V. Strict deformation quantization on a pseudo-Kählerian orbit of a compact Lie group. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 66–68; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 51–53. (Wojciech Lisiecki) **99j:58084** 58F06 (22E46, 22E47)
— Cohomological classification of deformation quantizations with separation of variables. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 347–357. (Markus J. Pflaum) **99f:58086** 58F06 (81S10)
— On the canonical normalization of a trace density of deformation quantization. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 217–228. (Akira Yoshioka) **99f:58087** 58F06 (81S10)
Karabelli, Kh. (*with* Bogomolov, S. V.; Zamaraeva, A. A.; Kuznetsov, K. V.) A conservative particle method for a quasilinear transport equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1602–1607. (From the text) **99k:76106** 76M25 (76P05)
Karabis, A. (*with* Minchev, Emil; Rauh, A.) Finite-time singularities of solutions of a class of nonlinear Schrödinger equations. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1593–1606. (Summary) **99c:35223** 35Q55 (35B05)
Karabulut, Hasan (*with* Sibert, Edwin L., III) Distributed Gaussian polynomials and associated Gaussian quadratures. (English summary) *J. Math. Phys.* **38** (1997), *no.* 9, 4815–4831. (Summary) **99c:33018** 33C45 (92E10)
Karabut, E. A. An approximation for the highest gravity waves on water of finite depth. (English summary) *J. Fluid Mech.* **372** (1998), 45–70. (Summary) **99g:76015** 76B15 (76M25)
Karabutov, N. N. Formalization of constraints under uncertainty and constrained design of adaptive observers for dynamic systems. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 120–128. (*see* **99b:93002**) 93E10 (93B07)
Karaca, İsmet On the action of Steenrod operations on polynomial algebras. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 163–170. (Jin Kun Lin) **99j:55018** 55S10
— The nilpotence height of P_t^s for odd primes. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 547–558. (Richard John Steiner) **99d:55010** 55S10
Karaca, M. A. (*with* Arik, Metin) Quadratic q-oscillators. (English summary) *Symmetry methods in physics, Vol. 1* (*Dubna*, 1995), 30–34, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R50
Karacapilidis, N. I. (*with* Papadias, D.; Pappis, C. P.) Modeling negotiations in group decision support systems. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 163–176, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A05 (90A07)
Karachik, V. V. (*with* Bondarenko, B. A.; Tulyaganov, R. B.) Distribution of Eulerian and Stirling numbers mod p in arithmetical triangles. (Russian and Uzbek summaries) *Voprosy Vychisl. i Prikl. Mat. No.* 102 (1996), 133–140, 146. (Charles Laywine) **99c:05006** 05A10 (11B68, 11B73)
— On one set of orthogonal harmonic polynomials. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3513–3519. (Heinrich Begehr) **99g:33034** 33C50 (31B05, 33D45)
Karacuha, E. (*with* Sirenko, Yu. K.; Velychko, L. G.) Synthesis of perfectly conducting gratings with an arbitrary profile of slits. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 541–550. 78A45
Karadağ, H. Bayram (*with* Keleş, Sadık) Parallel projection area and Holditch's theorem. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 75–84 (1997). (Basil J. Papantoniou) **99b:53005** 53A04
Karageorghis, Andreas (*with* Sivaloganathan, S.) Conforming spectral approximations for non-conforming domain decompositions. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 299–308. (Summary) **99a:65177** 65N55
— (*with* Poullikkas, Andreas; Georgiou, Georgios C.; Ascough, John) The method of fundamental solutions for Stokes flows with a free surface. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 667–678. (Summary) **99f:76044** 76D07 (65N99, 76M25)
Karagrigoriou, Alexandros Asymptotic efficiency of the order selection of a non-Gaussian AR process. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 407–423. (Somnath Datta) **99f:62109** 62M10
Karagueuzian, Dikran (*with* Isaacs, I. M.) Conjugacy in groups of upper triangular matrices. (English summary) *J. Algebra* **202** (1998), *no.* 2, 704–711. (James E. Humphreys) **99b:20011** 20C15 (15A33, 20D15, 20G40)
— (*with* Adem, Alejandro; Milgram, R. James; Umland, Kristin) The cohomology of the Lyons group and double covers of alternating groups. *J. Algebra* **208** (1998), *no.* 2, 452–479. (David J. Green) **99m:20128** 20J06 (20D08)
— (*with* Isaacs, I. M.) Erratum: "Conjugacy in groups of upper triangular matrices" [J. Algebra **202** (1998), no. 2, 704–711; MR 99b:20011]. *J. Algebra* **208** (1998), *no.* 2, 722. (From the text) **99g:20021** 20C15 (15A33, 20D15, 20G40)
Karagulyan, G. A. (*with* Talalyan, Aleksandr Andraniki; Gevorkyan, Gegham) On some linear methods for the summation of Fourier series. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 5, 129–152; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 771–795. (J. Németh) **99i:42006** 42A24
Karaivanova, Aneta Adaptive Monte Carlo methods for numerical integration. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 391–406. (J. Spanier) **99k:65010**

65C05 (65D30)

— (*with* Dimov, Ivan T.; Yordanova, P. I.) Monte Carlo algorithms for calculating eigenvalues. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 205–220, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:65060** 65F15 (65C05)

— (*with* Dimov, Ivan T.) Error analysis of an adaptive Monte Carlo method for numerical integration. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 201–213. (Petru P. Blaga) **99h:65011** 65C05 (65D30)

— (*with* Dimov, Ivan T.) Parallel computations of eigenvalues based on a Monte Carlo approach. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 1, 33–52. (Summary) **99a:65013** 65C05 (65F15)

Karakas, H. I. (*with* Shakhmurov, V. B.; Yakubov, Sasun) Degenerate elliptic boundary value problems. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 155–174. (Summary) **99a:47072** 47F05 (34G10, 35J70)

Karakashian, Ohannes A. (*with* Jureidini, Wadi N.) A nonconforming finite element method for the stationary Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 93–120 (*electronic*). (Eun-Jae Park) **99d:65320** 65N30 (76D05, 76M10)

Karakin, A. V. Thin layer models of the crust and lithosphere. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 10, 30–50. 86A10 (73N20)

Karakostas, George (*with* Sficas, Yiannis) Stability of delay differential equations with amnesia and a sign-guiding factor. *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 204–223. (Peter Dormayer) **99b:34123** 34K20

Karakuş, Yusuf Best simultaneous L_p approximations. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 457–463. (Joseph M. Lambert) **99d:41032** 41A28 (41A50, 41A65)

Karakusevic, V. (*with* Gervasi, P.; Zsombor-Murray, P. J.) An algorithm for solving the inverse kinematics of a 6R serial manipulator using dual quaternions and Grassmannians. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 383–392, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99d:70006** 70B15

Karamancıoğlu, A. (*with* Dzhafarov, V.) A sectoring algorithm for exact computation of the frequency response of linear interval systems. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 4, 483–493. (Summary) **99c:93044** 93B40 (93B30)

Karampetakis, N. P. Comments on: "Computation of the inverse of a polynomial matrix and evaluation of its Laurent expansion" [Internat. J. Control **53** (1991), no. 2, 431–443; MR 92d:93060] by G. Fragulis, B. G. Mertzios and A. I. G. Vardulakis. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 563–565. 93B40 (15A09)

— (*with* Pugh, A. C.; Hayton, G. E.) Notes on a hierarchical theory of systems and applications. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 2, 185–201. (Introduction) **99c:93001** 93A13 (93A30)

— (*with* Mahmood, Suraiya J.; Pugh, A. C.) Solvability, reachability, controllability and observability of regular PMDs. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 617–630. (Summary) **99c:93022** 93B17 (93B40)

Karanasios, S. Full operators on reflexive Banach space. *Bull. Greek Math. Soc.* **36** (1994), 81–86. (From the text) **99f:47003** 47A05 (47A15)

Karanasos, M. A new method for obtaining the autocovariance of an ARMA model: an exact form solution. (English summary) *Econometric Theory* **14** (1998), *no.* 5, 622–640. (Summary) **99e:62158** 62M10

Karanda, Hussein M. ψ-cores of ψ-Bol loops. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 229–240. (Orin Chein) **99m:20161** 20N05

— A note on ψ-symmetric loops. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 475–482. (Jean-Pierre Soublin) **99h:20104** 20N05

Karandikar, Rajeeva L. (*with* Chaganty, Narasinga R.) Some properties of the Kullback-Leibler number. (English summary) *Sankhyā Ser. A* **58** (1996), *no.* 1, 69–80. (Philippe Barbe) **99m:60041** 60F10 (62G20)

Karáné, G. S. (*with* Sachs, Hans) Schallfronten an ebenen Kurven. II. (English summary) [Sonic wave fronts at plane curves. II] *Math. Pannon.* **9** (1998), *no.* 1, 17–31. (Z. Nádeník) **99e:53003** 53A04

Karanikas, C. Gibbs phenomenon in wavelet analysis. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 330–341. (Peter R. Massopust) **99h:42061** 42C15 (94A11, 94A12)

Karapetyan, A. O. Some identities for binomial coefficients. (Russian) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 96–101 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 79–83. (J. E. Cigler) **99m:05012** 05A19 (05A10)

Karapetyan, A. V. (*with* Stepanov, S. Ya.) On steady motions and relative equilibria of mechanical systems with symmetry. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 736–743; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 729–735. (Summary) **99c:70028** 70K20 (70H05, 70H33)

— First integrals, invariant sets and bifurcations in dissipative systems. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 75–80. (Igor Gashenenko) **99i:70031** 70K99 (34C30, 34D99, 70E15, 70H33)

— (*with* Naralenkova, I. I.) On the bifurcation of the equilibria of mechanical systems with symmetric potential. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 12–21; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 9–17. (Igor Gashenenko) **99g:70031** 70K99 (34C23, 70H05, 70K20)

Karapetyants, A. N. (*with* Nogin, V. A.) Characterization of functions in anisotropic spaces of complex order. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 24–30; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 5, 22–28. (L. I. Nikolova) **99j:46037** 46E35 (41A35)

Karapetyants, Nikolai K. (*with* Ginsburg, Anna I.) Lebesgue points for fractional integral. (English summary) *Integral Transform. Spec. Funct.* **3** (1995), *no.* 3, 201–210. (E. R. Love) **99d:26008** 26A33

— (*with* Ochirova, V. L.) Necessary conditions for the convergence of averages for large values of the parameter. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 165–167. (B. S. Rubin) **99f:42014** 42A32 (47G10)

Karasev, A. V. On the inductive dimension of subsets of some nonmetrizable manifolds. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 11–14, 72; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 11–13. (Valentin Gutev) **99b:54054** 54F45 (54A35)

Karasev, Mikhail Representation of the evolution operator in terms of membrane amplitudes. (Russian) *Mat. Zametki* **60** (1996), *no.* 6, 930–934; *translation in Math. Notes* **60** (1996), *no.* 5-6, 703–707 (1997). (Henryk Arodź) **99e:81114** 81S10 (81R30, 81S40)

— (*with* Vorob'ev, Yu. M.) Integral representations over isotropic submanifolds and equations of zero curvature. (English summary) *Adv. Math.* **135** (1998), *no.* 2, 220–286. (Frans Cantrijn) **99d:58073** 58F06 (58F05, 58G18, 81Q20)

— Advances in quantization: quantum tensors, explicit star-products, and restriction to irreducible leaves. (English summary) Symplectic geometry. *Differential Geom. Appl.* **9** (1998), *no.* 1-2, 89–134. (Akira Yoshioka) **99e:58085** 58F06 (58H15)

Karasëv, V. P. Polynomial Lie algebras $\mathrm{sl}_{\mathrm{pol}}(2)$ in action: smooth sl(2) mappings and approximations. (English summary) *Symmetry methods in physics, Vol. 1* (*Dubna*, 1995), 306–313, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99m:81074** 81R05 (17B81, 81R30)

— (*with* Derbov, Vladimir L.; Priyutova, O. M.; Vinitskiĭ, S. I.) Geometric phases of the generalized polarization coherent states in quantum optics. (English summary) *Symmetry methods in physics, Vol. 1* (*Dubna*, 1995), 314–319, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81R30 (81V80)

— Polynomial Lie algebras and associated pseudogroup structures in composite quantum models. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 235–244. (Ivailo M. Mladenov) **99i:81062** 81R05 (17B81, 81V70, 81V80)

Karasëva, G. L. A method for solving an optimal control problem with phase constraints and a mobile initial state. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 1, 48–52, 75. (Hans Benker) **99a:49030** 49K15 (49M05)

— An optimality criterion for a special multidimensional control problem. (Russian. English and Russian summaries) *Vestn. Belorussk. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997**, *no.* 3, 49–52, 77. 49K15

Karasik, David (*with* Davidson, Aharon) Quantum gravity of a brane-like universe. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2187–2192. (Summary) **99e:83027** 83C45

Karasözen, B. Runge-Kutta methods for Hamiltonian systems in non-standard symplectic two-form. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 113–122. (Summary) **99c:65136** 65L06 (92D30)

Karassiov, V. P. *see* **Karasëv, V. P.**

Karassiov, Valery P. *see* **Karasëv, V. P.**

Karasu, Atalay (*with* Gürses, Metin) Integrable coupled KdV systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2103–2111. (Sen Yue Lou) **99c:58070** 58F07 (35Q53)

Karátson, J. Direct gradient method for nonlinear integral equations. *Period. Math. Hungar.* **33** (1996), *no.* 3, 163–173. (Yury Petrovich Yatsenko) **99b:45007** 45L05 (65R20)

— The conjugate gradient method for a class of non-differentiable operators. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 121–130 (1998). (L. J. Lardy) **99e:65094** 65J10 (47H17, 65N99)

— The gradient method for non-differentiable operators in product Hilbert spaces and applications to elliptic systems of quasilinear differential equations. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 225–237. (A. M. Galperin) **99f:65089** 65J15 (35J45, 65N12)

Karatsuba, Anatoliĭ Alekseevich *see* **Bibliography: Karatsuba, Anatoliĭ Alekseevich, 99i:11001**; **Arkhipov, G. I., 99m:01038** *and* **Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday**

Karatzas, George P. (*with* Tucciarelli, Tullio; Pinder, George F.) A primal method for the solution of the groundwater quality management problem. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 463–473. 90C90

Karatzas, Ioannis Adaptive control of a diffusion to a goal and a parabolic Monge-Ampère-type equation. (English summary) *Asian J. Math.* **1** (1997), *no.* 2, 295–313. (Andrew James Heunis) **99a:93111** 93E20 (35K99, 60G35, 62M20, 93E11)

— *see also* **Stochastic processes and related topics, 99e:60007**

Karayannakis, Dimitri (*with* Lambrou, Michael S.; Magiropoulos, Manolis) Spectral decompositions of isometries on c_p. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 190–211. (From the introduction) **99i:47067** 47B49 (47A10, 47B10, 47D03)

Karayiannis, Nicolaos B. (*with* Pai, Pin-I; Zervos, Nicholas) Image compression based on fuzzy algorithms for learning vector quantization and wavelet image decomposition. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 8, 1223–1230. 94A12

Karazeeva, N. A. Global generalized solvability of an initial-boundary value problem with the periodicity condition for two-dimensional equations describing the motion of Maxwell fluids. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 111–117, 340. (Summary) **99c:76003** 76A10 (35Q35)

Karazeris, Panagis (*with* Drossos, Costas A.) Coupling an MV-algebra with a Boolean algebra. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 231–238. (Summary) **99h:03041** 03G20

— Gabriel topologies on coherent quantales. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 2, 177–192. (Peter Johnstone) **99e:18004** 18B35 (03G25, 06F05, 16W80)

Karbassi, S. M. (*with* Bell, D. J.) The effect of sampling period on the behaviour of systems incorporating state feedback. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 351–364. 93B51 (93C57)

— *see also* **Hagiwara, Tomomichi**

Karcanias, N. (*with* Mitrouli, Marilena; Koukouvinos, Christos) Numerical aspects for nongeneric computations in control problems and related applications. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 5–19. (Summary) **99b:65060** 65F35 (93B40)

— (*with* Mitrouli, Marilena) Approximate algebraic computations of algebraic invariants. *Symbolic methods in control system analysis and design*, 135–168, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93B25)

— (*with* Vafiadis, D.; Leventides, J.) Algebraic, algebrogeometric methods and symbolic computations in linear control problems. *Symbolic methods in control system analysis and design*, 273–294, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93C05)

Karch, Andreas More on $N = 1$ self-dualities and exceptional gauge groups. (English summary) *Phys. Lett. B* **405** (1997), *no.* 3-4, 280–286. (Summary) **99b:81240** 81T60 (81T13)
— (*with* Brunner, Ilka) Branes at orbifolds versus Hanany-Witten in six dimensions. (English summary) *J. High Energy Phys.* **1998**, *no.* 3, *Paper* 3, 25 *pp.* (*electronic*). (Angel Maria Uranga) **99d:81151** 81T60 (81T13, 81T30, 83E30)
— (*with* Lüst, Dieter; Smith, Douglas J.) Equivalence of geometric engineering and Hanany-Witten via fractional branes. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 348–372. (Angel Maria Uranga) **99i:81191** 81T30 (81T60)
— (*with* Brunner, Ilka) Matrix description of M-theory on T^6. (English summary) *Phys. Lett. B* **416** (1998), *no.* 1-2, 67–74. (Sergey A. Cherkis) **99e:81180** 81T30 (83E30)
— (*with* Lüst, Dieter; Zoupanos, George) Superconformal $N = 1$ gauge theories, β-function invariants and their behavior under Seiberg duality. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 254–263. (Summary) **99d:81159** 81T60 (81T13, 81T17)
Karch, Grzegorz Self-similar large time behavior of solutions to Korteweg-de Vries-Burgers equation. *Nonlinear Anal.* **35** (1999), *no.* 2, *Ser. A: Theory Methods*, 199–219. (Elena Medina Reus) **99h:35188** 35Q53 (35B40)
Karchava, T. On the absolute convergence of Fourier series. (English summary) *Georgian Math. J.* **4** (1997), *no.* 4, 333–340. (J. Németh) **99c:42005** 42A20 (42A28)
Karcher, H. Submersions via projections. (English summary) *Geom. Dedicata* **74** (1999), *no.* 3, 249–260. (Angela Farinola) **99m:53040** 53C05
Karchevskiĭ, A. L. Finite-difference coefficient inverse problem and properties of the misfit functional. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 431–452. (G. Albinus) **99m:65178** 65M30 (35R30)
Karczewicz, Marta (*with* Gabbouj, Moncef) Robust B-spline image modeling with application to image processing. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 912–917. 65T20
Karczmarczuk, Jerzy Generating power of lazy semantics. (English summary) Computer algebra (Saint-Louis, 1996). *Theoret. Comput. Sci.* **187** (1997), *no.* 1-2, 203–219. (Herbert J. Bernstein) **99d:68038** 68N15 (03D20, 68Q55)
Kardakov, V. B. (*with* Bukhgeĭm, A. L.) Stability for the inverse problem of finding the boundary condition. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 309–318. (Summary) **99h:35225** 35R30 (35J25)
Karelin, V. V. (*with* Dem'yanov, V. F.; Giannessi, Franco) Optimal control problems via exact penalty functions. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 215–223. (Marlies Borchardt) **99g:49031** 49M30 (65K10, 90C48)
Karevski, Dragi (*with* Iglói, F.; Rieger, H.) Random and aperiodic quantum spin chains: a comparative study. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **1** (1998), *no.* 4, 513–517. (Summary) **99g:82038** 82B44
— (*with* Henkel, Malte) Lattice two-point functions and conformal invariance. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2503–2507. (Summary) **99b:82029** 82B27
vtorov-Karevsky, Yan *see* **Vtorov-Karevsky, Yan**
Karga, A. V. (*with* Khutortsev, V. V.) The prediction model method in the theory of the control of observations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 71–75. 49K40 (93B50, 93C10)
Karger, Adolf Architecture singular parallel manipulators. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 445–454, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99j:70007** 70B15
— Classical geometry and computers. (English summary) *J. Geom. Graph.* **2** (1998), *no.* 1, 7–15. (Summary) **99f:51036** 51N20 (51–04)
von Karger, Burghard (*with* Berghammer, Rudolf) A relational model for temporal logic. (English summary) 2nd Workshop of the RelMiCS (Relational Methods in Computer Science) Group (Paraty, 1995). *Log. J. IGPL* **6** (1998), *no.* 2, 157–173. (From the introduction) **99a:68118** 68Q60 (03B45)
— Temporal algebra. (English summary) *Math. Structures Comput. Sci.* **8** (1998), *no.* 3, 277–320. (Summary) **99g:03017** 03B45 (06A15, 06A23, 68Q60)
Karger, David R. (*with* Koller, Daphne) (De)randomized construction of small sample spaces in NC. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 402–413. (Mark R. Jerrum) **99d:68076** 68Q10 (60C05, 68Q15, 68Q22, 68Q25)
— (*with* Engels, Daniel W.; Kolliopoulos, Stavros G.; Sengupta, Sudipta[2]; Uma, R. N.; Wein, Joel) Techniques for scheduling with rejection. (English summary) *Algorithms—ESA '98* (*Venice*), 490–501, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90B35
— (*with* Arora, Sanjeev; Grigni, Michelangelo; Klein, Philip N.; Woloszyn, Andrzej) A polynomial-time approximation scheme for weighted planar graph TSP. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 33–41, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)
— Better random sampling algorithms for flows in undirected graphs. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 490–499, *ACM, New York*, 1998. (Summary) **99f:90164** 90C35 (05C85, 90C60)
— (*with* Benczúr, András A.) Augmenting undirected edge connectivity in $\tilde{O}(n^2)$ time. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 500–509, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C35, 05C40, 68R10)
— Random sampling and greedy sparsification for matroid optimization problems. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 41–81. (Jesús A. de Loera) **99f:90097** 90C27 (68Q20)
— (*with* Nisan, Noam; Parnas, Michal) Fast connected components algorithms for the EREW PRAM. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1021–1034 (*electronic*). (Summary) **99m:68070** 68Q22 (05C40, 05C85, 68R10)
Karhumäki, Juhani (*with* Harju, Tero; Krob, Daniel) Remarks on generalized Post correspondence problem. (English summary) *STACS 96* (*Grenoble*, 1996), 39–48, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (P. Turakainen) **99a:03045** 03D35 (03B25, 03D03, 20M05, 68Q45)
— (*with* Lepistö, Arto; Plandowski, Wojciech) Locally periodic infinite words and a chaotic behaviour. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 421–430, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68107** 68Q45 (68R15)
— (*with* Mañuch, Ján; Plandowski, Wojciech) On defect effect of bi-infinite words. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 674–682, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R15
— (*with* Cassaigne, Julien) Examples of undecidable problems for 2-generator matrix semigroups. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 29–34. (Summary) **99f:03059** 03D35 (20M20, 68Q99)
Kari, Jarkko Cellular automata: an introduction. *Artificial life: grammatical models* (*Mangalia*, 1994), 33–39, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q80
— (*with* Culik, Karel, II; Valenta, Vladimir) Compression of silhouette-like images based on WFA. (English summary) *J.UCS* **3** (1997), *no.* 10, 1100–1113 (*electronic*). (Summary) **99f:68204** 68U10 (68Q45, 68Q68)
Kari, Lila (*with* Ito, Masami[1]; Thierrin, Gabriel) Two operators on languages related to shuffle products. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 34–38, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M35 (68Q45)
— (*with* Prusinkiewicz, Przemyslaw) Subapical L systems. *Artificial life: grammatical models* (*Mangalia*, 1994), 116–121, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q45 (92B05)
— (*with* Rozenberg, Grzegorz; Salomaa, Arto) L systems. *Handbook of formal languages, Vol.* 1, 253–328, *Springer, Berlin*, 1997. (From the introduction) **99h:68105** 68Q45 (03D05, 68Q50)
— (*with* Thierrin, Gabriel) Word insertions and primitivity. (English summary) *Util. Math.* **53** (1998), 49–61. (Véronique Bruyère) **99f:68165** 68R15 (68Q45)
— (*with* Freund, Rudolf J.; Păun, Gheorghe) DNA computing based on splicing: the existence of universal computers. (English summary) *Theory Comput. Syst.* **32** (1999), *no.* 1, 69–112. (Rani Siromoney) **99j:68029** 68Q05 (03D10)
Karia, Dinesh J. On quasitopological spaces. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 11–16. 54A99
— (*with* Bhatt, S. J.; Kulkarni, S. H.; Shimpi, M. E.) A note on the Gelfand-Mazur theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2999–3005. (M. S. Kassem) **99a:46088** 46H05 (46K05)
Karimi, Alireza (*with* Landau, Ioan Doré) Comparison of the closed-loop identification methods in terms of the bias distribution. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 159–167. 93E12 (93B30)
— (*with* Landau, Ioan Doré) A recursive algorithm for ARMAX model identification in closed loop. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 840–843. 93E12
Karimi, Masoud (*with* Tahani, Valiollah; Gazor, Saeed) Matrix interpolation: some control applications. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 174–192. 93B40 (41A30)
Karimipour, V. (*with* Mostafazadeh, Ali) Lattice topological field theory on nonorientable surfaces. (English summary) *J. Math. Phys.* **38** (1997), *no.* 1, 49–66. (Lowell Abrams) **99a:58026** 58D29 (57N05, 57R57, 81T25, 81T40)
— (*with* Alimohammadi, M.; Khorrami, Mohammad) Exact solution of a one-parameter family of asymmetric exclusion processes. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6370–6376. (Summary) **99c:82048** 82C22 (60K35)
— Multispecies asymmetric simple exclusion process and its relation to traffic flow. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part A*, 205–212. 82C22 (90B06)
Karimov, A. R. (*with* Lewis, H. Ralph) Nonlinear solutions of the Vlasov-Poisson equations. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 759–761. (Summary) **99k:76162** 76X05
Karimov, A. Z. On the polytope of all bistochastic quadratic operators and the description of the set of its vertices. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 42–52 (1996). (Béla Uhrin) **99j:52012** 52B11 (52B12)
— Generality of the position on the set of all quadratic topological automorphisms of a finite-dimensional simplex. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1998), 39–43. 52B11 (15A63, 55M99)
Karimov, U. Kh. On the approximation of some spaces by polyhedra. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 5, 270–274 (1992). (Sergey A. Antonjan) **99m:55001** 55M15 (54C56)
— (*with* Repovš, Dušan D.) On suspensions of noncontractible compacta of trivial shape. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 627–632. (Summary) **99c:54023** 54C56 (54C55, 55P10)
Karino, Kiyoshi Non-existence of elliptic curves with small conductors over imaginary quadratic fields. *Osaka J. Math.* **34** (1997), *no.* 3, 703–715. (Franck Leprévost) **99a:11071** 11G05
Karisch, Stefan E. (*with* Zhao, Qing; Rendl, Franz; Wolkowicz, Henry) Semidefinite programming relaxations for the quadratic assignment problem. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 71–109. (Yin Zhang) **99f:90103** 90C27 (90C26)
Kariya, Takeaki (*with* Kim, Peter T.) Finite sample robustness of tests: an overview. *Robust inference*, 645–660, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35
Kariyama, Kazutoshi Very cuspidal representations of p-adic symplectic groups. *J. Algebra* **207** (1998), *no.* 1, 205–255. (David Manderscheid) **99f:22029** 22E50
Karjalainen, Esa (*with* Izergin, A. G.; Kitanin, N. A.) Integrable equations for the partition function of a six-vertex model. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 207–215, 285. (Marek Biskup) **99e:82028** 82B23 (58F07, 82B20)
Karkishchenko, A. N. A model for the incomplete search of solutions with descending inference. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 128–138; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 2, 1638–1646 (1997). (Summary) **99c:68240** 68T35 (90B30)
Kärkkäinen, J. (*with* Sutinen, E.) Lempel-Ziv index for q-grams. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 137–154. (Summary) **99a:68081** 68Q20 (68P20)

Kärkkäinen, Kari T. (*with* Tiihonen, Timo) Free surfaces: shape sensitivity analysis and numerical methods. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 8, 1079–1098. (Summary) **99k:49091** 49Q15 (76B99)

Kärkkäinen, Tommi Error estimates for distributed parameter identification in linear elliptic equations. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 1, 20 *pp.* (*electronic*). (Summary) **99f:65169** 65N30 (65N99)

— Estimates of the rate of convergence for distributed parameter identification in linear parabolic problems. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 2, 34 *pp.* (*electronic*). (Yuri V. Zaika) **99h:93034** 93B30 (35K99, 35R30, 65M60)

Karl, F. (*with* Richardt, J.; Müller, C.) Connections between fuzzy theory, simulated annealing, and convex duality. (English summary) *Fuzzy Sets and Systems* **96** (1998), *no.* 3, 307–334. (Roman Słowiński) **99g:90162** 90C70 (68T05, 90C27, 90C29)

Karl, Stephen A. (*with* Jonoska, Nataša) A molecular computation of the road coloring problem. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 87–96, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05

— (*with* Jonoska, Nataša; Saito, Masahico) Creating 3-dimensional graph structures with DNA. (English summary) *DNA based computers III* (*Philadelphia, PA*, 1997), 123–135, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 48, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99m:68008**) 68Q05 (92E10)

Karlander, Karl On a property of the Fourier transform. *Math. Scand.* **80** (1997), *no.* 2, 310–312. (R. B. Burckel) **99a:42004** 42A38 (42A55, 46E15)

Karliğa, Baki Some geometric results of generalized stereographic projection. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 51–54 (1997). (Stere Ianus) **99f:53013** 53A30

Karlikov, V. P. (*with* Tolokonnikov, S. L.) On a vortex in a jet flowing along a wall with an angle. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 6, 25–29, 79. (Summary) **99e:76019** 76C05

Karlin, Anna R. On the performance of competitive algorithms in practice. *Online algorithms* (*Schloss Dagstuhl*, 1996), 373–384, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25

Karlin, Samuel (*with* Taylor, Howard M.) ★ An introduction to stochastic modeling. Third edition. *Academic Press, Inc., San Diego, CA*, 1998. *xii*+631 *pp. ISBN* 0-12-684887-4 (From the preface) **99c:60001** 60–01

Karliner, Marek (*with* Frishman, Yitzhak; Hanany, Amihay) On the stability of quark solitons in QCD. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 265–273, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V05

Karloff, Howard (*with* Călinescu, Gruia; Fernandes, Cristina G.; Finkler, Ulrich) A better approximation algorithm for finding planar subgraphs. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 269–302. (Summary) **99b:05130** 05C85 (68Q25, 68R10)

— (*with* Fiat, Amos; Foster, Dean P.; Rabani, Yuval; Ravid, Yiftach; Vishwanathan, Sundar) Competitive algorithms for layered graph traversal. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 448–463 (*electronic*). (Summary) **99g:68064** 68Q10 (05C85, 68Q25, 68R10)

Karlov, M. I. Chebyshev sets on manifolds. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 157–161, 375, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Jean-Claude Mitteau) **99a:53031** 53C20 (41A50, 41A63)

— Chebyshev layer of manifolds in a Hilbert space. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 235–248. (Zygmunt Wronicz) **99k:41047** 41A52 (41A65, 46C99)

Karlovich, A. Yu. Singular integral operators with piecewise continuous coefficients in reflexive rearrangement-invariant spaces. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 4, 436–481. (Vladimir M. Deundyak) **99k:47118** 47G10 (45E05, 47A53)

Karlovich, Yu. I. (*with* Böttcher, Albrecht) Algebra of singular integral operators on a closed Carleson curve. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 7–10. (I. Spitkovsky) **99d:47022** 47B35 (30E20, 45E05, 47D30, 47G10)

— (*with* Bastos, M. A.; Spitkovsky, Ilya M.; Tishin, P. M.) On a new algorithm for almost periodic factorization. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 53–74, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (A. Böttcher) **99g:47034** 47A68 (39A10, 42A75, 45E10, 47B35)

— (*with* Spitkovsky, Ilya M.) On the semi-Noethericity of singular integral operators with matrix semi-almost-periodic coefficients. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 10–12. (V. S. Pilidi) **99k:47119** 47G10 (45E05, 47A53)

— (*with* Ball, Joseph A.; Rodman, Leiba; Spitkovsky, Ilya M.) Sarason interpolation and Toeplitz corona theorem for almost periodic matrix functions. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 243–281. (A. Böttcher) **99k:47033** 47A57 (42A75, 47B35, 47B50)

— (*with* Bastos, M. A.; dos Santos, A. F.; Tishin, P. M.) The corona theorem and the existence of canonical factorization of triangular AP-matrix functions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 494–522. (A. Böttcher) **99f:47022a** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)

— (*with* Bastos, M. A.; dos Santos, A. F.; Tishin, P. M.) The corona theorem and the canonical factorization of triangular AP matrix functions—effective criteria and explicit formulas. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 2, 523–550. (A. Böttcher) **99f:47022b** 47A68 (15A23, 39A10, 45E10, 47A75, 47B35)

— (*with* Böttcher, Albrecht; Rabinovich, V. S.) Mellin pseudodifferential operators with slowly varying symbols and singular integrals on Carleson curves with Muckenhoupt weights. (English summary) *Manuscripta Math.* **95** (1998), *no.* 3, 363–376. (Ron Kerman) **99i:47093** 47G30 (35Sxx, 45E05)

Karls, Michael A. (*with* Gylys-Colwell, Frederick D.) Local properties of solutions of a differential equation via normed linear spaces. (English summary) *J. Interdiscip. Math.* **1** (1998), *no.* 1, 33–48. (Miguel Ramos) **99h:34002** 34A12 (34B15, 35J25, 47H10)

Karlsen, Kenneth Hvistendahl (*with* Brusdal, K.; Dahle, H. K.; Evje, S.; Lie, Knut-Andreas) The corrected operator splitting approach applied to a nonlinear advection-diffusion problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 3-4, 239–260. (Summary) **99j:76090** 76M25 (76R50)

— (*with* Lie, Knut-Andreas; Haugse, V.) Dimensional splitting with front tracking and adaptive grid refinement. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 627–648. (Svetozar D. Margenov) **99h:65159** 65M15 (65M12)

Karlsson, Anders (*with* Egorov, Igor; Rikte, Sten) Time-domain Green dyadics for temporally dispersive, simple media. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3219–3240. (Summary) **99d:78025a** 78A40

— (*with* Egorov, Igor; Rikte, Sten) Corrigenda: "Time-domain Green dyadics for temporally dispersive, simple media". *J. Phys. A* **31** (1998), *no.* 22, 5191. (Editors) **99d:78025b** 78A40

— (*with* Bourennane, Mohamed) Quantum teleportation using three-particle entanglement. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 6, 4394–4400. (Summary) **99k:81043** 81P99

Karlsson, Per W. Some formulas by W. N. Bailey, revisited. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 10, 1–6. (R. G. Buschman) **99h:33021** 33C20

Karma, O. On the calculations with the indexized sets of data. (English summary) *New trends in probability and statistics, Vol.* 3 (*Tartu/Pühajärve*, 1994), 325–334, *VSP, Utrecht*, 1995. (Summary) **99h:62070** 62H05

Karmannyĭ, R. V. Metrizability of partial topological products. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 4, 100–103; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 68–69. (Eliza Wajch) **99i:54035** 54E35 (54B10)

Karmanov, V. A. (*with* Carbonell, Jaume; Desplanques, B.; Mathiot, J.-F.) Explicitly covariant light-front dynamics and relativistic few-body systems. (English summary) *Phys. Rep.* **300** (1998), *no.* 5-6, 215–347. (Summary) **99c:81276** 81V25

Karmarkar, N. K. (*with* Lakshman, Y. N.) On approximate GCDs of univariate polynomials. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 653–666. (Thomas Garrity) **99j:68059** 68Q40 (12Y05, 13P05)

Karmeshu Stochastic models of innovation diffusion and technology substitution. *Math. Student* **65** (1996), *no.* 1-4, 117–142. (Anton S. Mureşan) **99f:90013** 90A08

Karn, Anil Kumar (*with* Vasudevan, R.) Matrix duality for matrix ordered spaces. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 1–18. (From the summary) **99f:46082** 46L05 (46B10, 46B40)

Karnakov, B. M. (*with* Belinskiĭ, V. A.; Mur, V. D.; Narozhnyĭ, N. B.) Does the Unruh effect exist? *JETP Lett.* **65** (1997), *no.* 12, 902–908; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **65** (1997), *no.* 12, 861–866 (*Russian*). (Guido Cognola) **99d:81097** 81T20 (83C47)

— (*with* Belinskiĭ, V. A.; Mur, V. D.; Narozhnyĭ, N. B.) Reply to: "Comment on the paper: 'Does the Unruh effect exist?' " [Pis'ma Zh. Èksper. Teoret. Fiz. **67** (1998), no. 1, 86; translated as JETP Lett. **67** (1998), no. 1, 95; MR 99d:81098] by A. A. Grib. *JETP Lett.* **67** (1998), *no.* 1, 96–97; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **67** (1998), *no.* 1, 87–88 (*Russian. Russian summary*). (Guido Cognola) **99d:81099** 81T20 (83C47)

— *see also* **Grib, A. A., 99d:81098**

Karnas, Siniša (*with* Ketov, Sergei V.) An action of $N = 8$ self-dual supergravity in ultra-hyperbolic harmonic superspace. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 597–626. (Ilya Shapiro) **99m:83203** 83E50

Karner, Georg (*with* Kuich, Werner) A characterization of abstract families of algebraic power series. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 327–336, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68093** 68Q45 (16W60, 68Q70)

Karner, Gunther On quantum twist maps and spectral properties of Floquet operators. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 2, 139–157. (Nariyuki Minami) **99h:81043** 81Q10 (34L40, 47E05, 47N50, 81Q50)

— The Schrödinger equation on non-stationary domains. (English summary) *Electron. J. Differential Equations* **1998,** *No.* 20, 20 *pp.* (*electronic*). (Alain Joye) **99f:47059** 47E05 (34L40, 35J10, 47N50, 81Q10)

Karni, Edi Impartiality: definition and representation. (English summary) *Econometrica* **66** (1998), *no.* 6, 1405–1415. (Maurice Salles) **99m:90016** 90A08

— (*with* Weymark, John A.) An informationally parsimonious impartial observer theorem. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 321–332. (Joseph D. Cole) **99i:90007** 90A05 (90A06, 90A08, 90A10)

Karni, Smadar A level-set capturing scheme for compressible interfaces. *Numerical methods for wave propagation* (*Manchester*, 1995), 253–273, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (From the introduction) **99i:76120** 76M25 (65M55, 76E99, 76N15)

Karniadakis, George Em (*with* Sherwin, Spencer J.; Warburton, Timothy C. E.) Spectral/*hp* methods for elliptic problems on hybrid grids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 191–216, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (B. Kellogg) **99h:65198** 65N30 (65N50)

— (*with* Lomtev, Igor; Quillen, C. B.) Spectral/*hp* methods for viscous compressible flows on unstructured 2D meshes. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 325–357. (Summary) **99c:76087** 76M25

— (*with* Lomtev, Igor) A discontinuous Galerkin method for the Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 5, 587–603. (Summary) **99k:76093** 76M10 (76D05, 76M25)

— (*with* Trujillo, James) A penalty method for the vorticity-velocity formulation. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 32–58. (Summary) **99j:76101** 76M25 (76D05)

Karno, Zbigniew Stably essential mappings onto disks. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 4, 311–323. (Summary) **99h:54031** 54C99 (55P99)

— On T-modifications of mappings into surfaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 4, 345–350. (Summary) **99i:57032** 57N05 (55Q05)

Káraný, Miroslav (*with* Šámal, Martin; Böhm, Josef) Rotation to physiological factors revised. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 2, 171–179. (Summary) **99c:92024** 92C55

Karol', A. I. Asymptotics of the parabolic Green function for an elliptic operator on a manifold with conical points. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 28–36; *translation in Math. Notes* **63** (1998), *no.* 1-2, 25–32. (G. V. Rozenblyum) **99e:58187** 58G18 (35J40, 58G11)

Karolinskiĭ, E. A. Symplectic leaves on Poisson homogeneous spaces of Poisson-Lie groups. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995),

no. 3-4, 306–311. (J. S. Joel) **99a:58067** 58F05 (22E60)
— Classification of Poisson homogeneous spaces of compact Poisson-Lie groups. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 13–15. (J. S. Joel) **99m:53091** 53C30 (58F05)
Károlyi, Gyula (*with* Pach, János; Tóth, Géza; Valtr, Pavel) Ramsey-type results for geometric graphs. II. (English summary) ACM Symposium on Computational Geometry (Nice, 1997). *Discrete Comput. Geom.* **20** (1998), *no.* 3, 375–388. (András Gyárfás) **99i:05145** 05C55 (52C10)
— (*with* Cochand, Maurice) On a graph colouring problem. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 249–252. (Summary) **99i:05077** 05C15
Karoński, Michał (*with* Hańćkowiak, Michał; Panconesi, Alessandro) On the distributed complexity of computing maximal matchings. *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 219–225, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C70, 05C85, 68Q10, 68R10)
Karotkin, Drora The network of weighted majority rules and weighted majority games. (English summary) *Games Econom. Behav.* **22** (1998), *no.* 2, 299–315. (Milan Mareš) **99c:90008** 90A05 (90D12)
Karoubi, Max Correspondance de Dold-Kan et formes differentielles. [Dold-Kan correspondence and differential forms] *J. Algebra* **198** (1997), *no.* 2, 618–626. (Richard John Steiner) **99e:55035** 55U15 (18G99)
Karoui, Abderrazek (*with* Vaillancourt, Rémi) Nonseparable biorthogonal wavelet bases of $L^2(\mathbf{R}^n)$. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 135–151, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Hans W. Volkmer) **99k:42061** 42C15 (94A12)
el Karoui, N. *see* **El Karoui, N.**
Karov, Kh. M. A condition for the solvability of a Kneser-type integral equation and its adjoint equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1543–1546, 1582; *translation in Differential Equations* **33** (1997), *no.* 11, 1547–1550 (1998). (Wojciech Mydlarczyk) **99m:45001** 45A05 (45B05)
Karowski, Michael (*with* Schrader, Robert; Vogt, Elmar) Invariants of three-manifolds, unitary representations of the mapping class group, and numerical calculations. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 317–352. (Summary) **99g:57020** 57N10 (17B37, 81R50)
— (*with* Babujian, H. M.; Zapletal, A.) Matrix difference equations and a nested Bethe ansatz. (English summary) *J. Phys. A* **30** (1997), *no.* 18, 6425–6450. (Summary) **99c:82023** 82B23 (39A10, 81R50)
— (*with* Links, Jon; Foerster, Angela) Bethe ansatz solution of a closed spin 1 *XXZ* Heisenberg chain with quantum algebra symmetry. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 726–735. (Andrey V. Tsiganov) **99k:82014** 82B20 (81R50, 82B23)
— (*with* Babujian, H. M.; Fring, Andreas; Zapletal, A.) Exact form factors in integrable quantum field theories: the sine-Gordon model. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 535–586. (Summary) **99j:81105** 81T10
Karp, Alan H. (*with* Markstein, Peter) High-precision division and square root. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 561–589. 65Y15
— Recent advances in the spherical harmonics method. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1551–1568. (Summary) **99i:85003** 85A25 (85-08)
Karp, Leon (*with* Peyerimhoff, Norbert) On the distribution of hypersurfaces equidistant from totally geodesic submanifolds in hyperbolic space. (English summary) *Analysis (Munich)* **18** (1998), *no.* 3, 217–225. (Rafael Oswaldo Ruggiero) **99k:58144** 58F17 (34C11, 35P99, 53C22)
Karp, Richard M. (*with* El-Yaniv, Ran) Nearly optimal competitive online replacement policies. (English summary) *Math. Oper. Res.* **22** (1997), *no.* 4, 814–839. (A. A. K. Majumdar) **99f:90040** 90B25 (68Q25, 90D40)
— (*with* Blömer, Johannes; Welzl, Emo) The rank of sparse random matrices over finite fields. (English summary) *Random Structures Algorithms* **10** (1997), *no.* 4, 407–419. (Jack W. Silverstein) **99b:15028** 15A52 (15A03)
— (*with* Jiang, Tao[1]) Mapping clones with a given ordering or interleaving. (English summary) *Algorithmica* **21** (1998), *no.* 3, 262–284. (Michael A. Steel) **99f:92015** 92D20 (68Q25)
— (*with* Gusfield, Dan; Wang, Lusheng; Stelling, Paul) Graph traversals, genes and matroids: an efficient case of the travelling salesman problem. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 167–180. (Victor P. Il'ev) **99k:90133** 90C27 (05B35, 05C25, 05C45, 90C35)
— *see also* **Blum, Lenore et al., 99a:68070**
Karpelevich, F. I. (*with* Sukhov, Yu. M.) A criterion of boundedness of discrete branching random walk. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 141–155, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (J. D. Biggins) **99c:60191** 60J80 (60K35)
— (*with* Sukhov, Yu. M.) Boundedness of one-dimensional branching Markov processes. (English summary) *J. Appl. Math. Stochastic Anal.* **10** (1997), *no.* 4, 307–332. (J. D. Biggins) **99c:60190** 60J80 (60K35)
— (*with* Pecherskiĭ, E. A.; Sukhov, Yu. M.) A phase transition for hyperbolic branching processes. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 627–642. (Luis G. Gorostiza) **99i:60159** 60J80 (60K35)
Karpenko, A. S. *see* **Logical investigations, 99m:03005**
Karpenko, D. Ya. (*with* Borgardt, A. A.) Fundamental solution of the Volkov problem (characteristic representation). (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 4, 357–363. (Henryk Arodź) **99k:81055** 81Q05
Karpenko, Nikita A. (*with* Izhboldin, Oleg T.) On the group $H^3(F(\varphi, D)/F)$. (English summary) *Doc. Math.* **2** (1997), 297–311 (*electronic*). (Detlev W. Hoffmann) **99b:11038** 11E81 (11E04, 12G05, 19E15)
— (*with* Izhboldin, Oleg T.) Isotropy of six-dimensional quadratic forms over function fields of quadrics. (English summary) *J. Algebra* **209** (1998), *no.* 1, 65–93. (Detlev W. Hoffmann) **99j:11039** 11E81 (12G05, 14C17, 19E15)
— Codimension 2 cycles on Severi-Brauer varieties. (English summary) *K-Theory* **13** (1998), *no.* 4, 305–330. (Jean-Pierre Tignol) **99b:16030** 16K20 (14C15, 19E15)
Karpeshina, Yu. E. (*with* McLaughlin, Joyce R.) Two methods of solution of the three-dimensional inverse nodal problem. (English summary) *Séminaire sur les Équations aux Dérivées Partielles, 1997–1998, Exp. No. I*, 9 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35R30 (35J25)
Karpinski, Marek (*with* Grigor'ev, D. Yu.; Vorob'ev, N. N., Jr.) Improved lower bound on testing membership to a polyhedron by algebraic decision trees. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 258–265, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (68Q40)
— (*with* Grigor'ev, D. Yu.; Meyer auf der Heide, Friedhelm; Smolensky, Roman) A lower bound for randomized algebraic decision trees. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 357–375. (Claus-Peter Schnorr) **99d:68107** 68Q25 (68Q15, 68Q40)
— (*with* Grigor'ev, D. Yu.; Smolensky, Roman) Randomization and the computational power of analytic and algebraic decision trees. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 4, 376–388. (Claus-Peter Schnorr) **99d:68108** 68Q25 (68Q15, 68Q40)
— (*with* Grigor'ev, D. Yu.; Odlyzko, Andrew M.) Short proofs for nondivisibility of sparse polynomials under the extended Riemann hypothesis. (English summary) To the memory of Prof. Helena Rasiowa. *Fund. Inform.* **28** (1996), *no.* 3-4, 297–301. (Joos Heintz) **99a:68087** 68Q25 (68Q40)
— (*with* Macintyre, Angus) Approximating the volume of general Pfaffian bodies. (English summary) *Structures in logic and computer science*, 162–173, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99c:68213** 68T05
— (*with* Zelikovsky, Alexander) New approximation algorithms for the Steiner tree problems. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 1, 47–65. (Yixun Lin) **99c:90147** 90C35 (05C05, 05C35)
— (*with* Rytter, Wojciech; Shinohara, Ayumi) An efficient pattern-matching algorithm for strings with short descriptions. (English summary) *Nordic J. Comput.* **4** (1997), *no.* 2, 172–186. (Summary) **99f:68080** 68Q20 (68Q25)
— (*with* Zelikovsky, Alexander) Approximating dense cases of covering problems. (English summary) *Network design: connectivity and facilities location (Princeton, NJ, 1997)*, 169–178, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:68126** 68Q25 (05C85, 68R10, 90C35)
— (*with* Ablaev, Farid M.; Mubarakzyanov, R. G.) On BPP versus NP ∪ coNP for ordered read-once branching programs. (English summary) *Randomized algorithms (Brno, 1998)*, 10 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q15 (68Q05)
— On the computation power of randomized branching programs. (English summary) *Randomized algorithms (Brno, 1998)*, 12 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q05 (68Q15, 68Q25)
— (*with* Grigor'ev, D. Yu.; Yao, Andrew Chi-Chih) An exponential lower bound on the size of algebraic decision trees for MAX. (English summary) *Comput. Complexity* **7** (1998), *no.* 3, 193–203. (Alexander I. Barvinok) **99m:68062** 68Q15 (68Q25, 68Q40)
— (*with* Dahlhaus, Elias) Matching and multidimensional matching in chordal and strongly chordal graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 79–91. (Summary) **99a:05109** 05C70 (05C85, 68Q25)
— (*with* Rytter, Wojciech) On a sublinear time parallel construction of optimal binary search trees. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 387–397. (Summary) **99h:68035** 68P05
— (*with* Goldmann, Mikael) Simulating threshold circuits by majority circuits. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 230–246 (*electronic*). (Christoph Meinel) **99a:68056** 68Q05 (68Q25)
— (*with* Grigor'ev, D. Yu.) Computing the additive complexity of algebraic circuits with root extracting. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 694–701 (*electronic*). (Joseph Ja'Ja') **99d:68129** 68Q40 (68Q15, 68Q25)
— (*with* Evdokimov, Sergei; Ponomarenko, I. N.) Compact cellular algebras and permutation groups. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 247–267. (Peter J. Cameron) **99k:20004** 20B05 (05C25, 20B25)
Karpman, V. I. Evolution of radiating solitons described by the fifth-order Korteweg-de Vries type equations. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 394–396. (Summary) **99c:35211** 35Q53
— Evolution of solitons described by higher-order nonlinear Schrödinger equations. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 397–400. (From the text) **99f:35191** 35Q55
— Radiation by weakly nonlinear shallow-water solitons due to higher-order dispersion. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5070–5080. (Summary) **99g:76018** 76B25 (76B15)
— Erratum to: "Lyapunov approach to the soliton stability in highly dispersive systems. II. KdV-type equations" [Phys. Lett. A **215** (1996), no. 5-6, 257–259; MR 97c:35171]. *Phys. Lett. A* **256** (1999), *no.* 5-6, 422. 35Q51 (35Q53)
Karpov, B. V. Algebro-geometric aspects of S-duality. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 164–178; *translation in Math. Notes* **61** (1997), *no.* 1-2, 133–145. (Alexander E. Polishchuk) **99g:14012** 14D20 (14J60, 17B10, 53C07)
— (*with* Nogin, D. Yu.) Three-block exceptional sets on del Pezzo surfaces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 3–38; *translation in Izv. Math.* **62** (1998), *no.* 3, 429–463. (Jarosław A. Wiśniewski) **99k:14069** 14J60 (14F05)
Karpovsky, Mark G. Spectral techniques for off-line testing and diagnosis of computer systems. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 55–72. (Summary) **99k:94076** 94C12 (68Q60)
— (*with* Chakrabarty, Krishnendu; Levitin, Lev B.) On a new class of codes for identifying vertices in graphs. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 599–611. (Theodore C. Enns) **99j:94076** 94B60 (05C70, 05C90, 94C12)
— (*with* Chakrabarty, Krishnendu; Levitin, Lev B.; Avreski, D. R.) On the covering of vertices for fault diagnosis in hypercubes. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 99–103. (Summary) **99k:68021** 68M15 (94C12)
Karpushkin, Vladimir Nikolaevich The number of components to the complement of the level hypersurface of a partially harmonic polynomial. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 831–835; *translation in Math. Notes* **62** (1997), *no.* 5-6, 697–700 (1998). (Eugenii Shustin) **99e:14065** 14P25 (57R45)
— Uniform estimates for oscillatory integrals with a phase of the series $\widetilde{R}_m$. (Russian) *Mat. Zametki* **64** (1998), *no.* 3, 468–469; *translation in Math. Notes* **64** (1998), *no.* 3-4, 404–406 (1999). (From the text) **99k:42034** 42B20 (58G18)
Karrakchou, Jamila (*with* Rachik, Mostafa) Optimal control of distributed stochastic systems with delays in the control. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 167–181. (Negash G. Medhin) **99k:93097** 93E20 (49K45)

— (*with* El Yacoubi, Samira; El Jaï, Abdelhak) Spreadability and spray actuators. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 367–379. (Summary) **99e:93007** 93B05 (92D40, 93C30)
— (*with* Lahmidi, F.; Namir, A.; Rachik, Mostafa) Stability, observers and compensators for discrete-time delay systems. *Systems modelling and optimization (Detroit, MI, 1997)*, 71–79, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C55 (93D15)
Kars, Jan-Willem (*with* Koren, Barry; Michielsen, Paul F. M.; Wesseling, Pieter) A computational method for high-frequency oleodynamics: application to hydraulic-shock-absorber designs. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 283–301. 76M25 (65M20, 76N10)
Karsai, János (*with* Graef, John R.) On irregular growth and impulses in oscillator equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 253–262, *Gordon and Breach, Amsterdam*, 1997. (Ch. G. Philos) **99e:34036** 34C10 (34C15)
— Attractivity criteria for intermittently damped second order nonlinear differential equations. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 25–42. (Kaiqi Xiong) **99h:34070** 34D05 (34C15, 34D20)
— (*with* Graef, John R.) Intermittant and impulsive effects in second order systems. Proceedings of the Second World Congress of Nonlinear Analysts, Part 3 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 3, 1561–1571. (O. S. Chernikova) **99m:34011** 34A37 (34C10, 34D99)
— (*with* Graef, John R.) On properties of nonlinear second order systems under nonlinear impulse perturbations. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 97–108 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Yuri V. Rogovchenko) **99k:34110** 34D20 (34A37, 34D05)
Karsanidze, T. V. (*with* Kul'ba, V. V.; Gabisoniya, V. E.) A methodology for determining the composition and characteristics of a new type of redundancy for databases of a structural-technological reserve. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 34–37. 68P15
Karsenti, Laurent (*with* Hotzel, Richard) Adaptive tracking strategy for a class of nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1272–1279. (Summary) **99d:93039** 93C40
Karshon, Yael Moment maps and non-compact cobordisms. (English summary) *J. Differential Geom.* **49** (1998), *no.* 1, 183–201. (Ágúst Sverrir Egilsson) **99h:58064** 58F05 (57R85, 57S15)
Kartalev, M. D. On the single-fluid modeling of mass-loaded plasma. (English summary) *Geophys. Astrophys. Fluid Dynam.* **88** (1998), *no.* 1-2, 131–164. (Summary) **99e:76128** 76W05 (85A30)
Kartasheva, L. V. (*with* Rardchenko, T. N.) The problem of the jump in the space of generalized functions on $\mathbf{R}_+$. (English summary) *Applications of mathematics in engineering (Sozopol, 1997)*, 83–84, *Heron Press, Sofia*, 1998. (*see* **99d:00013**) 46F10
Kartashov, G. D. (*with* Bogomolov, S. Yu.) Optimal experimental design to estimate the correlation coefficient in a Gaussian model. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 103–109. (*see* **99b:93002**) 62K05 (93E10)
Kartashov, N. V. ★ Strong stable Markov chains. *VSP, Utrecht; TBiMC Scientific Publishers, Kiev*, 1996. iv+138 *pp. ISBN* 90-6764-205-3 (Esa Nummelin) **99e:60150** 60J10 (60K25)
— Computation and estimation of the exponential ergodicity exponent for general Markov processes and chains with recurrent kernels. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 47–57; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 49–60. (Summary) **99e:60199** 60K20 (60J05, 60J25)
Kartashova, E. A. On large-scale dynamics of weakly nonlinear wavesystems. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 282–290, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76–05, 76C15)
— Wave resonances in systems with discrete spectra. *Nonlinear waves and weak turbulence*, 95–129, *Amer. Math. Soc. Transl. Ser.* 2, 182, *Amer. Math. Soc., Providence, RI*, 1998. (Min Ho Lee) **99c:35247** 35Q99 (11Z05, 76C20)
Karthikeyan, C. Bicompletion of quasi-bitopological near-rings and quasi-bitopological N-groups. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 211–220. 54E55 (16Y30)
Kartsatos, Athanassios G. (*with* Liang, Chunlong) Extending the class of pre-assigned responses in problems of K-controllability in general Banach spaces. *Nonlinear Anal.* **28** (1997), *no.* 2, 235–245. (M. Joshi) **99b:93009** 93B05 (47H15, 47N70, 93C25)
Kartsivadze, Iotam *see* **Chantladze, T. et al.**
Kartyshov, S. V. (*with* Aslanyan, M. A.) Modification of a numerical method for solving a nonlinear spectral problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 713–717; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 683–687. (K. Moszyński) **99k:65045** 65H10 (65F15, 65H17)
Karunakaran, V. (*with* Venugopal, T.) The Weierstrass transform for a class of generalized functions. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 508–527. (Arpad Takači) **99h:46072** 46F12 (44A05)
Karunamuni, Rohana J. (*with* Zhang, Shunpu) Empirical Bayes estimation for the continuous one-parameter exponential family with errors in variables. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 261–279. (Khursheed Alam) **99c:62018** 62C12 (62C25, 62F10, 62F12)
— (*with* Zhang, Shunpu) On kernel density estimation near endpoints. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 301–316. (Sh. A. Khashimov) **99k:62080** 62G05
Karuppan Chetty, C. S. (*with* Arulraj, S. Maria) Falsity of Wang's conjecture on stars. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 49–56. (Peter M. Gibson) **99g:15008** 15A15 (15A51)
Karwan, Lucjan (*with* Drelichowska, Maria) Professor Ernest Czogała: 1941–1998. *Int. J. Appl. Math. Comput. Sci.* **9** (1999), *no.* 1, 219–220. 01A70
Karwan, Mark H. *see* **Essays in decision making, 99f:90005**
Karwowski, Jacek Symmetric-group-based methods in quantum chemistry. (English summary) Girona 97 special issue. *J. Math. Chem.* **23** (1998), *no.* 1-2, 127–149. (Summary) **99e:81270** 81V55 (81R05)
Karwowski, Witold (*with* Koshmanenko, V.; Ôta, S.) Schrödinger operator perturbed by operators related to null sets. (English summary) *Positivity* **2** (1998), *no.* 1, 77–99. (Philippe Briet) **99k:47114** 47F05 (35J10, 47A55, 47B25)
Kar'yalaĭnen, E. *see* **Karjalainen, Esa**
Karypis, George (*with* Kumar, Vipin) A fast and high quality multilevel scheme for partitioning irregular graphs. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 359–392 (*electronic*). (Summary) **99f:68158** 68R10 (05C85, 65Y99)
Karzanov, A. V. (*with* McCormick, S. Thomas) Polynomial methods for separable convex optimization in unimodular linear spaces with applications. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 4, 1245–1275. (Gerald Hammer) **99b:90103** 90C27 (90B10)
— (*with* Ibaraki, Toshihide; Nagamochi, Hiroshi) A fast algorithm for finding a maximum free multiflow in an inner Eulerian network and some generalizations. (English summary) *Combinatorica* **18** (1998), *no.* 1, 61–83. (Mechthild Opperud) **99g:90096** 90C27 (05C85)
— On one maximum multiflow problem and related metrics. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 187–204. (Summary) **99i:05122** 05C38
— Minimum 0-extensions of graph metrics. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 71–101. (Zbigniew Palka) **99c:05057** 05C12
— (*with* Bampis, E.; Giannakos, A.; Manoussakis, Y.; Milis, I.) A parallel algorithm for finding a perfect matching in a planar graph. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 399–405. (Summary) **99g:68079** 68Q22 (05C70, 05C85, 68Q25)
Karzel, Helmut From nearrings and nearfields to K-loops. *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 1–20, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Hubert Kiechle) **99h:16070** 16Y30 (20N05)
— (*with* Marchi, Mario) Regular incidence permutation sets and incidence quasigroups. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 109–123. (Summary) **99h:51016** 51J10 (51J15)
— Geometric reflection structures and their corresponding loops. Combinatorics '98 (Mondello). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 53 (1998), 119–129. (Rolfdieter Frank) **99m:51022** 51F15 (20N05, 51F25)
Kasabov, Ognian *see* **Kassabov, Ognian T.**
Kasahara, Shoji (*with* Hasegawa, Toshiharu) Approximation of loss probability for multiplexing system with large number of on-off sources regulated by leaky bucket. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 21–34. (Summary) **99c:90047** 90B12
Kasahara, Yuji (*with* Kosugi, Nobuko) A limit theorem for occupation times of Gaussian processes. (English summary) *Trends in probability and related analysis (Taipei, 1996)*, 197–208, *World Sci. Publishing, River Edge, NJ*, 1997. (Simeon M. Berman) **99f:60046** 60F05 (60G15)
— (*with* Ogawa, Namiko) A note on the local time of fractional Brownian motion. (English summary) *J. Theoret. Probab.* **12** (1999), *no.* 1, 207–216. (Angelos Dassios) **99k:60197** 60J55 (60J60)
Kasai, Hironori (*with* Tsutsumi, Masayoshi) The Meissner effect and the Ginzburg-Landau equations in the presence of an applied magnetic field. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 311–321, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Yisong Yang) **99k:82080** 82D55 (35Q55, 78A99)
Kasajima, Tomomi 3-dimensional graphics representations of nonlinear programming problems through a computer algebra system. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 57–61. (*see* **99h:00034**) 90C30
Kasami, Tadao (*with* Sugita, Tsukasa; Fujiwara, Toru) The split weight (w_L, w_R) enumeration of Reed-Muller codes for $w_L + w_R < 2d_{\min}$. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 197–211, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94047** 94B05
— (*with* Morelos-Zaragoza, Robert; Fujiwara, Toru; Lin, Shu) Constructions of generalized concatenated codes and their trellis-based decoding complexity. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 725–731. (Summary) **99k:94051** 94B12
— (*with* Koumoto, Takuya; Takata, Toyoo; Lin, Shu) A low-weight trellis-based iterative soft-decision decoding algorithm for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 731–741. (Simon N. Litsyn) **99m:94059** 94B35
Kasana, H. S. (*with* Kumar, Devendra) Approximation of entire functions over Carathéodory domains. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 125–134, *New Age, New Delhi*, 1997. (Summary) **99d:30029** 30D15
Kasangian, Stefano (*with* Vigna, Sebastiano) The topos of labelled trees: a categorical semantics for SCCS. (English summary) *Fund. Inform.* **32** (1997), *no.* 1, 27–45. (Martin Hofmann) **99f:18007** 18B25 (03G30, 68Q10, 68Q55)
Kasch, Friedrich ★ Die Galoissche Theorie für Schiefkörper. (German) [The Galois theory of skew fields] Algebra Berichte [Algebra Reports], 72. *Verlag Reinhard Fischer, Munich*, 1994. *ii*+23 *pp. ISBN* 3-88927-144-8 (Introduction) **99a:12002** 12E15 (12F10)
— Verallgemeinerung der Sätze von Johnson und Utumi auf Hom. [Generalization of the theorems of Johnson and Utumi about Hom] *Period. Math. Hungar.* **31** (1995), *no.* 3, 209–217. (Birge Zimmermann-Huisgen) **99d:16007** 16D50 (16S90)
— (*with* Schneider, Wolfgang Manfred) Exchange properties and the total. (English summary) *Advances in ring theory (Granville, OH, 1996)*, 161–174, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (John Dauns) **99c:16002** 16D10
Kaschiev, M. S. (*with* Dimova, Stefka; Koleva, Milena; Vasileva, Daniela) Numerical analysis of radially nonsymmetric blow-up solutions of a nonlinear parabolic problem. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 81–97. (Erwin Schechter) **99j:65165** 65M60 (35B40, 35K55, 65M06)
Kascó, Daniela *see* **Popoviciu, Tiberiu, 99c:41012**
Kase, Wataru (*with* Mutoh, Yasuhiko; Okuno, Hideki) Design of exact model matching for multivariable systems with measurement or input noise and its application to

MRACS. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 33–49. (Summary) **99f:93036** 93B30 (93B51)

— A design of pole assignment control systems for a discrete-time plant with white noise. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 145–151. 93B55 (93E03)

— A design of pole assignment control systems for a discrete-time multivariable plant with measurement noise. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 3, 177–183. 93B55 (93C55)

Kasenally, Ebrahim M. (*with* Jaimoukha, Imad M.) Implicitly restarted Krylov subspace methods for stable partial realizations. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 3, 633–652. (Summary) **99c:93025** 93B20 (65F30, 93B40)

Kashaev, R. M. (*with* Sergeev, S. M.) On pentagon, ten-term, and tetrahedron relations. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 309–319. (Władysław Marcinek) **99k:81115** 81R50 (16W30, 17B37, 82B23)

— Quantization of Teichmüller spaces and the quantum dilogarithm. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 2, 105–115. (J. S. Joel) **99m:32021** 32G15 (57N10)

Kashchenko, S. A. (*with* Grigor′eva, E. V.; Mosekilde, E.) Parametric transverse patterns in broad aperture lasers. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 319–339. 78A60

Kashchitskiĭ, Yu. A. (*with* Kholpanov, L. P.; Zaporozhets, E. P.; Zibert, G. K.) ★ Математическое моделирование нелинейных термогидрогазодинамических процессов в многокомпонентных струйных течениях. (Russian. Russian summary) [Mathematical modeling of nonlinear thermohydro-gas-dynamic processes in multicomponent jet flows] *"Nauka", Moscow*, 1998. 320 *pp. ISBN* 5-02-005221-3 (Publisher's description) **99k:76125** 76N15 (76D25, 76M25, 80A20)

Kashevarov, A. V. The second Painlevé equation in electric probe theory. Some numerical solutions. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 992–1000; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 950–958. (Summary) **99g:34052** 34B15 (34E15, 35Q99, 65M99, 78A30)

Kashima, Ryo (*with* Yamaguchi, Takeshi) On the difficulty of writing out formal proofs in arithmetic. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 3, 328–332. (A. M. Dawes) **99d:03055** 03F30 (03D25, 03F20)

— (*with* Kamide, Norihiro) A study on substructural logics with restricted exchange rules. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 35–67. (*see* **99a:03003**) 03F05 (03B20)

— (*with* Kamide, Norihiro) A study on substructural logics with restricted exchange rules. II. (English summary) Investigations of nonclassical logics based on sequent calculus and Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 187–205. (*see* **99d:03003**) 03B20 (03F05)

Kashin, B. S. On the possibility of generalization of "correction" theorems. (Russian) *Mat. Zametki* **62** (1997), *no.* 6, 937–939; *translation in Math. Notes* **62** (1997), *no.* 5-6, 784–786 (1998). (S. Baron) **99i:42002** 42A05 (42C05, 42C15)

Kashina, Yevgenia On the order of the antipode of Hopf algebras in ${}^H_H\mathcal{YD}$. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1261–1273. (Juan Ramon García Rozas) **99m:16060** 16W30

Kashinov, V. V. On the set of particular necessary conditions for optimality in discontinuous problems of nonstationary filtering. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 177–178; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 2, 297–298. 93E11 (49K45)

Kashirin, V. V. Characterization of subspaces of some Dragilev type power Köthe spaces. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 80–84. (Plamen Dzhakov) **99f:46014** 46A45

— (*with* Vakulenko, A. V.) Subspaces and quotient spaces of spaces of power series of the first type. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 1, 3–9, 93. (Yu. A. Abramovich) **99g:46005** 46A45

Kashiwa, B. A. (*with* VanderHeyden, W. B.) Compatible fluxes for van Leer advection. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 1–28. (Summary) **99g:76096** 76M20 (65M99, 76D99)

Kashiwabara, Toshinobu (*with* Nakanishi, Masaki; Hamaguchi, Kiyoharu) Exponential lower bounds on the sizes of division representations by binary moment diagrams. (Japanese. Japanese summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 63–70. (*see* **99i:65003**) 68Q25 (68Q05, 68Q35)

Kashiwara, Masaki (*with* Saito, Yoshihisa) Geometric construction of crystal bases. *Duke Math. J.* **89** (1997), *no.* 1, 9–36. (Kailash C. Misra) **99e:17025** 17B37

— (*with* Akasaka, Tatsuya) Finite-dimensional representations of quantum affine algebras. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 5, 839–867. (H. H. Andersen) **99d:17017** 17B37 (17B10, 17B67)

— Semisimple holonomic $\mathscr{D}$-modules. *Topological field theory, primitive forms and related topics (Kyoto, 1996)*, 267–271, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (Andrea D'Agnolo) **99m:32013** 32C38 (14F32, 32S40)

— (*with* Tanisaki, Toshiyuki) On Kazhdan-Lusztig conjectures [translation of Sūgaku **47** (1995), no. 3, 269–285; MR 97k:17039]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 177–195. (*see* **99h:00040**) 17B67 (17B10, 20G05, 22E65)

— *see also* **Topological field theory, primitive forms and related topics, 99e:00029**

el Kashlan, A. *see* **El Kashlan, A.**

Kashmadze, G. Sh. (*with* Gachechiladze, T. G.) The β-entropy of finite fuzzy subsets. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 38–40. 94A17 (03E72)

— On evaluation of membership function of fuzzy set. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 220–221. 04A72

Kashtanov, V. A. Discrete distributions in control problems. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 267–274, *VSP, Utrecht*, 1997. (Summary) **99g:93077** 93E03 (60K15)

Kashu, A. I. ★ Функторы и кручения в категориях модулей. (Russian. English and Russian summaries) [Functors and torsions in categories of modules] *Akademiya Nauk Respubliki Moldova, Institut Matematiki, Chişinău*, 1997. *ii*+268 *pp.* (J. Jirásko) **99j:16020** 16S90 (16D90, 18A40, 18E35)

— The composition of dualities in a nondegenerate Morita context. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 143–149. (Weimin Xue) **99i:16015** 16D90

Kashyap, Praveen Geometric interpretation of continuity over triangular domains. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 773–786. (Summary) **99d:65045** 65D17 (65Y25, 68U05)

Kasif, Simon (*with* Salzberg, Steven; Waltz, David; Rachlin, John; Aha, David W.) A probabilistic framework for memory-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 287–311. 68T30 (68T27)

Kasimov, A. R. (*with* Il′inskiĭ, N. B.; Yakimov, N. D.) Analytical solutions of seepage theory problems. Inverse method, variational theorems, optimization and estimates (a review). *Fluid Dynam.* **33** (1998), *no.* 2, 157–168; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 3–19 (*Russian. Russian summary*). (Summary) **99h:76086** 76S05 (86A05)

mir-Kasimov, R. M. *see* **Mir-Kasimov, R. M.**

Kasimov, Sh. G. On the uniform convergence of spectral expansions corresponding to elliptic pseudodifferential operators of continuous functions in Liouville classes. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1371–1375, 1439; *translation in Differential Equations* **32** (1996), *no.* 10, 1368–1372 (1997). (B. Hellwig) **99f:35148** 35P10 (35J99, 35S30, 47F05, 47G30)

— Uniform convergence of means of spectral expansions corresponding to elliptic pseudodifferential operators for continuous functions in the Nikol′skiĭ-Besov classes. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 39–44. (Georgi E. Karadzhov) **99e:35163** 35P10 (35J99, 35S05, 46N20)

Kasim-Zade, O. M. Minimal coverings of a Boolean cube by centered antichains. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 3, 9–17, 81. (P. A. Biryukov) **99c:06005** 06A07 (06E30, 94C10)

— A general upper bound for the complexity of schemes in an arbitrary infinite complete basis. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 4, 59–61; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 4, 47–49. 94C10 (06E30, 68Q25)

Kasjan, Stanisław (*with* Simson, Daniel) A subbimodule reduction, a peak reduction functor and tame prinjective type. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 1, 89–107. (Summary) **99a:16009** 16G20 (16G60)

— Minimal bipartite algebras of infinite prinjective type with prin-preprojective component. *Colloq. Math.* **76** (1998), *no.* 2, 295–317. (V. V. Sergeĭchuk) **99b:16024** 16G60 (16G70)

Kasman, Alex Darboux transformations and the bispectral problem. (English summary) *The bispectral problem (Montreal, PQ, 1997)*, 81–91, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Xian Guo Geng) **99a:58137** 58F37 (34L99, 35Q53, 58F07)

— Spectral difference equations satisfied by KP soliton wavefunctions. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1481–1487. 35Q53

— (*with* Berest, Yu. Yu.) $\mathscr{D}$-modules and Darboux transformations. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 3, 279–294. (Stéphane Guillermou) **99b:13026** 13N10 (32C38)

Kasparian, Azniv When does a bounded domain cover a projective manifold? (Survey). (English summary) Conference on Geometry and Mathematical Physics (Zlatograd, 1995). *Serdica Math. J.* **23** (1997), *no.* 2, 165–176. (Akio Kodama) **99f:14019** 14E20 (32J99)

Kasparov, G. G. (*with* Higson, Nigel) Operator K-theory for groups which act properly and isometrically on Hilbert space. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 131–142 (*electronic*). (Vicumpriya S. Perera) **99e:46090** 46L80 (19K56)

— (*with* Higson, Nigel; Trout, Jody) A Bott periodicity theorem for infinite-dimensional Euclidean space. (English summary) *Adv. Math.* **135** (1998), *no.* 1, 1–40. (Evgeniĭ V. Troitskiĭ) **99j:19005** 19K35 (19L47, 46L80, 57R67, 58G12)

Kasper, Thomas (*with* Bockmayr, Alexander) Branch and Infer: a unifying framework for integer and finite domain constraint programming. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 287–300. (*see* **99e:90002**) 90C10 (90C27)

Kasperkovitz, P. (*with* Peev, M.) Dynamical self-interference in nonlinear integrable systems. (English summary) *Symmetry methods in physics, Vol.* 1 (*Dubna*, 1995), 320–328, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81006**) 81V80 (81S99)

— (*with* Peev, M.) Semiclassical mechanics of periodic motion. I. General scheme. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2197–2225. (Piotr Kosiński) **99g:81048** 81Q20 (81S30)

— (*with* Peev, M.) Semiclassical mechanics in one dimension. II. Approximate matrix elements. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2227–2239. (Piotr Kosiński) **99g:81049** 81Q20 (81R30, 81S30)

Kaspi, Haya (*with* Eisenbaum, Nathalie) On the Markov property of local time for Markov processes on graphs. *Stochastic Process. Appl.* **64** (1996), *no.* 2, 153–172. (Matthias Weber) **99c:60159** 60J40 (60J55, 60J60)

Kass, Robert E. (*with* Vos, Paul W.) ★ Geometrical foundations of asymptotic inference. (English summary) Wiley Series in Probability and Statistics: Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xii+355 *pp. ISBN* 0-471-82668-5 (C. R. Rao) **99b:62032** 62F12 (62A20)

Kassabov, Ognian T. A characterization of the extrinsic spheres in a Riemannian manifold. (Italian summary) *Riv. Mat. Univ. Parma* (5) **5** (1996), 15–21 (1997). (Introduction) **99c:53057** 53C40 (53A07)

— (*with* Falcitelli, M.; Farinola, A.) Almost Kähler manifolds whose antiholomorphic sectional curvature is pointwise constant. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 151–166. (Luis M. Hervella) **99g:53034** 53C15

Kassandrov, Vladimir V. Conformal mappings, hyperanalyticity and field dynamics. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 197–206. (A. K. Agarwal) **99b:30006** 30C20 (30G35, 78A25)

Kassara, K. (*with* El Jaï, Abdelhak; Cabrera, O.) Spray control. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 709–730. 93A30 (93C30)

Kassay, Gábor (*with* Illés, Tibor) Perfect duality for K-convexlike programming problems. (English and Romanian summaries) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 1, 69–78. (Summary) **99c:90090** 90C25 (49N15)

— (*with* Páles, Zsolt) A localized version of Ky Fan's minimax inequality. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 505–515. (George Isac) **99j:49012** 49J35 (47H10, 47H19, 49J40)

Kassebaum, James Near homeomorphisms and G-like continua. (English summary) *Topology Appl.* **79** (1997), *no.* 2, 129–141. (Wayne Lewis) **99b:54068** 54H20 (54F15)

Kassel, Christian (*with* Rosso, Marc; Turaev, Vladimir G.) ★Quantum groups and knot invariants. (English, French, German and Russian summaries) Panoramas et Synthèses [Panoramas and Syntheses], 5. *Société Mathématique de France, Paris*, 1997. vi+115 *pp. ISBN* 2-85629-055-8 (Ruth Lawrence) **99b:57011** 57M25 (16W60, 17B37, 18D10, 57N10)

— Quantum groups. (Spanish. English summary) *Algebra and operator theory* (*Tashkent*, 1997), 213–236, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alejandro Tiraboschi) **99j:17022** 17B37 (18D10, 81R50)

— (*with* Turaev, Vladimir G.) Chord diagram invariants of tangles and graphs. *Duke Math. J.* **92** (1998), *no.* 3, 497–552. (Sergei V. Chmutov) **99b:57012** 57M25 (57M15)

— (*with* Wambst, Marc) Algèbre homologique des N-complexes et homologie de Hochschild aux racines de l'unité. (English and French summaries) [Homology algebra of N-complexes and Hochschild homology at the roots of unity] *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 91–114. (Guillermo Cortiñas) **99d:18013** 18G60 (16E40, 18G25, 18G35, 19D55)

Kassels, C. G. M. (*with* Wesseling, Pieter; Segal, August; Bijl, Hester) Computing flows on general two-dimensional nonsmooth staggered grids. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 21–44. (Summary) **99f:76110** 76M25 (76D05)

— (*with* Wesseling, Pieter; Segal, August) Computing flows on general three-dimensional nonsmooth staggered grids. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 2, 333–362. (Summary) **99j:76102** 76M25

Kassem, Mohamed Abd El-Hady Stability of possibilistic multiobjective nonlinear programming problems without differentiability. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 239–246. (Summary) **99a:90172** 90C29 (90C31, 90C70)

— A study of fuzzy parametric on multiobjective nonlinear programming problems without differentiability. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 67–75. (Summary) **99f:90184** 90C70 (90C29)

— Stability of multiobjective nonlinear programming problems with random variables in the objective functions. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 247–252. 90C70 (90C29)

Kassibrakis, S. (*with* Benkadda, Sadruddin; White, Roscoe B.; Zaslavskiĭ, G. M.) Nonuniversality of transport for the standard map. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 403–438, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (Summary) **99g:58083** 58F13 (58F40)

— (*with* White, Roscoe B.; Benkadda, Sadruddin; Zaslavskiĭ, G. M.) Near threshold anomalous transport in the standard map. (English summary) *Chaos* **8** (1998), *no.* 4, 757–767. (Summary) **99h:58130** 58F13

Kassinos, S. C. (*with* Reynolds, W. C.) Linear dependencies in fourth-rank turbulence tensor models. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 79–83. 76F99 (35Q35)

Kassoy, David R. (*with* Norris, J. Adam) The effect of finite-rate heat release on the solidification of an undercooled pure liquid. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1977, 2347–2370. (Summary) **99f:80005** 80A22

Kast, Anton P. (*with* Chorin, Alexandre J.; Kupferman, Raz) Optimal prediction of underresolved dynamics. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 8, 4094–4098 (*electronic*). (Summary) **99a:65195** 65U05

Kastelewicz, Georg (*with* Rybin, Andrei; Timonen, Jussi; Bogolyubov, N. M.) The su(1, 1) Tavis-Cummings model. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4705–4723. (K. Wódkiewicz) **99e:81277** 81V80 (81R30)

Kastel'yanos, Orlando (*with* Mazhukin, V. I.; Samarskiĭ, Aleksandr Andreevich; Shapranov, A. V.) The dynamic adaptation method for nonstationary problems with large gradients. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 4, 32–56. 65M55

Kaštieľ, Matej (*with* Grešák, Pavol; Kateřiňák, Josef; Šedivý, Ondrej) A remark to the dimension equation for the intersection and union of two subspaces of an incidence space. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 19–23. 51A05

— (*with* Bálint, Vojtech; Grešák, Pavol; Kateřiňák, Josef) The proof of the isomorphism of the n-dimensional projective spaces defined axiomatically. (English summary) *Arch. Math.* (*Brno*) **34** (1998), *no.* 4, 477–482. (Summary) **99m:51003** 51A35

Kastler, Daniel (*with* Carminati, Lionel; Iochum, Bruno; Schücker, Thomas) On Connes' new principle of general relativity: can spinors hear the forces of spacetime? *Operator algebras and quantum field theory* (*Rome*, 1996), 359–373, *Internat. Press, Cambridge, MA*, 199?. (Raimar Wulkenhaar) **99h:58181** 58G11 (46L87, 58B30, 81V17, 83C99)

— (*with* Schücker, Thomas) The standard model à la Connes-Lott. (English summary) *J. Geom. Phys.* **24** (1997), *no.* 1, 1–19. (Raimar Wulkenhaar) **99b:81274** 81V22 (58B30, 81T13)

— (*with* Iochum, Bruno; Schücker, Thomas) On the universal Chamseddine-Connes action. I. Details of the action computation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 4929–4950. (S. I. Vacaru (Zbl 906.58004)) **99m:81285** 81V22 (58B30, 81T13)

Kästner, J. (*with* Borobia, Alberto; Dress, Andreas W. M.; Zylka, Ch.) Extremal majorizing and anti-majorizing matrices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 133–145. (Werner Kratz) **99f:15025** 15A39 (15A90)

Kastor, David (*with* Traschen, Jennie) Very effective string model? (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4862–4869. (Summary) **99m:83188** 83E30 (81T30, 83C57)

— (*with* Dowker, Fay; Traschen, Jennie) U duality, D-branes, and black hole emission rates: agreements and disagreements. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124025, 13 *pp.* (Summary) **99k:83118** 83E30 (83C57)

Kastritsa, O. A. (*with* Al'sevich, L. A.) Linear systems with an orthogonal reflection matrix. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1998**, *no.* 3, 61–63, 80. (Summary) **99k:34100** 34D05

Kastrup, H. A. On the quantum levels of an isolated black hole. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 262–266, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— Canonical quantum statistics of Schwarzschild black holes and Ising droplet nucleation. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 40–48. (Summary) **99b:81164** 81T20 (83C57)

Kasturi, P. (*with* Dupont, Pierre E.) Constrained optimal control of vibration dampers. (English summary) *J. Sound Vibration* **215** (1998), *no.* 3, 499–509. 49N55 (73K12, 73K50)

Kasturiwale, N. N. (*with* Bharambe, M. T.) Some practical experience with Karmarkar's algorithm. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 71–78. 90C05

Kasue, Atsushi (*with* Mendori, Atsuhiko) Riemannian submersions and isoperimetric inequalities. (English summary) *Geom. Dedicata* **70** (1998), *no.* 1, 27–47. (Alberto G. Setti) **99e:53051** 53C21 (58G30)

— *see also* **Kumura, Hironori**, **(99a:58003)**

Kasumov, A. K. On the determination of the stationary value of some functionals in the theory of elasticity. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **17** (1996), *no.* 1-3, *Mat. i Mekh.*, 204–211. (I. N. Molchanov) **99k:73119** 73V25

Kasumov, S. Yu. (*with* Dzhalilova, R. K.; Shirinov, K. F.) Application of the Lee theory to the study of a class of filtration processes. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 82–86 (1997). 35Q35 (76S05)

Kas'yanov, V. N. (*with* Evstigneev, V. A.) ★Деревья: основные понятия, свойства и алгоритмы. (Russian. Russian summary) [Trees: basic concepts, properties and algorithms] *Novosibirsk. Gos. Univ., Novosibirsk*, 1992. 80 *pp. ISBN* 5-230-13505-0 05C05 (68R10)

Kasymbekova, A. S. (*with* Dzhenaliev, M. T.; Smatov, K. S.) The problem of the control of coefficients with loaded summands for a parabolic equation. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 26–32. 49J20 (35K10, 49K20)

Kasymov, K. A. (*with* Abd Ėl'-Dzhafar, A.) Asymptotic solution of the Cauchy problem for singularly perturbed third-order differential equations. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1998**, *no.* 1, 13–21. 34E05 (34A12, 34E15)

Kasymov, N. Kh. Recursively separable algebras and universal Horn propositions. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 29–32. (Alexandre Ivanov) **99m:03068** 03C57

Kasymov, Sh. M. Solvability in representations of n-Lie algebras. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 329–332, *i–ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 289–291. (Summary) **99d:17014** 17B30 (17A42)

Kaszkurewicz, Eugenius (*with* Su, Yangfeng; Bhaya, Amit) A general asynchronous block iterative model with related convergence conditions. (English summary) *J. Comput. Appl. Math.* **91** (1998), *no.* 2, 261–273. (De Ren Wang) **99d:65383** 65Y10 (65H10, 65J15, 65Y05)

— (*with* Su, Yangfeng; Bhaya, Amit; Kozyakin, V. S.) Further results on convergence of asynchronous linear iterations. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 11–24. (W. Govaerts) **99h:65087** 65F30 (65F10)

— (*with* Bhaya, Amit) Diagonal stability in the large-scale system approach. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 143–152. (Norihiko Adachi) **99i:34071** 34D20 (93D05)

— *see also* **Liang, Xue Bin**, **99g:92006** *and* **Arik, Sabri**, **99g:92007**

Kasztenny, Bogdan (*with* Hatziadoniu, Constantine; Wiszniewski, Andrzej) A numerically simplified fuzzy logic controller. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 139–154. 93C42 (93C95)

Katafiasz, A. 1-improvable discontinuous functions. 24th Winter School on Abstract Analysis (Benešova Hora, 1996). *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 2, 29–35. (T. H. Steele) **99a:26002** 26A15

Katagiri, Hideki (*with* Ishii, Hiroaki[1]) Chance constrained bottleneck spanning tree with fuzzy random cost. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 83–91. (*see* **99h:90006**) 90C27 (90C70)

Katagiri, Minyo Estimate of singularities of the Yang-Mills gradient flow. *Functional analysis and global analysis* (*Quezon City*, 1996), 162–166, *Springer, Singapore*, 1997. (Ben Andrews) **99i:58037** 58E15 (53C07)

— On the uniqueness of a Weyl structure with prescribed Ricci curvature. *Tokyo J. Math.* **21** (1998), *no.* 2, 453–455. (Matthew B. Stenzel) **99j:53066** 53C25 (53C21)

— On deformations of Einstein-Weyl structures. *Tokyo J. Math.* **21** (1998), *no.* 2, 457–461. (Matthew B. Stenzel) **99j:53067** 53C25

Katagiri, Takahiro (*with* Kanada, Yasumasa) An unblocked Hessenberg reduction algorithm for distributed memory architecture parallel machines and its effectiveness. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 3065–3075. 65Y05 (65F30)

Kátai, Imre (*with* van Rossum-Wijsmuller, Marijke) On the iterates of the sum of unitary divisors. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 149–167. (Lutz Gerhard Lucht) **99a:11008** 11A25 (11N36)

— (*with* Subbarao, M. V.) The characterization of $n^{\prime\prime}$ as a multiplicative function. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 4, 349–353. (Armel Mercier) **99k:11009** 11A25

— (*with* Fehér, János; Bui Minh Phong) On multiplicative functions satisfying a special relation. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 49–57. (Péter Kiss) **99f:11007** 11A25 (11N64)

— (*with* Indlekofer, Karl-Heinz) On asymptotically correlated q-multiplicative functions. (English summary) *Math. Pannon.* **10** (1999), *no.* 1, 29–36. (Cécile Dartyge) **99m:11092** 11K65

Kataja, M. (*with* Kandhai, D.; Koponen, A.; Hoekstra, Alfons; Timonen, Jussi; Sloot, P. M. A.) Implementation aspects of 3D lattice-BGK: boundaries, accuracy, and a new fast relaxation method. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 482–501. (Summary) **99m:76093** 76M25

Katajainen, Jyrki (*with* Brodal, Gerth Stølting) Worst-case efficient external-memory priority queues. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 107–118, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68N25 (68P05)

Katajamäki, Kari Monomials of entire algebroid functions. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 32–40. (Alexander Ulanovskiĭ) **99k:30051** 30D35

Katanaev, M. O. (*with* Ertl, M. F.; Kummer, Wolfgang) Generalized supergravity in two dimensions. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 457–486. (Piret Kuusk) **99i:83102** 83E50 (83E30)

Katavolos, A. (*with* Barnes, Bruce A.) Corrigendum to: "Properties of quasinilpotents in some operator algebras" [Proc. Roy. Irish Acad. Sect. A **93** (1993), no. 2, 155–170; MR 96j:47042]. *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 249–250. (From the text) **99j:47060** 47D25

— (*with* Erdos, J. A.; Shulman, Viktor S.) Rank one subspaces of bimodules over maximal abelian selfadjoint algebras. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 554–587. (Allan P. Donsig) **99f:47054** 47D25 (47B10, 47D15)

— (*with* Stamatopoulos, C.) Commutators of quasinilpotents and invariant subspaces. (English summary) *Studia Math.* **128** (1998), *no.* 2, 159–169. (Wacław Szymański) **99b:46070** 46H10 (47A15, 47B47)

Katayama, Hitoshi (*with* Ichikawa, Akira) H_∞-control with output feedback for time-varying discrete systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1167–1178. 93B36 (93B52)

— (*with* Wanyoike, Gakio; Ichikawa, Akira) H_∞ control for systems with jumps. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 941–964. (Peng Shi) **99f:93053** 93B36 (93C57)

Katayama, Koji (*with* Ohtsuki, Makoto) On the multiple gamma-functions. *Tokyo J. Math.* **21** (1998), *no.* 1, 159–182. (Bruce C. Berndt) **99f:11115** 11M99 (11M41)

Katayama, Masaki (*with* Sugie, Jitsuro) Global asymptotic stability of a predator-prey system of Holling type. Nonlinear mathematics and functional equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1034 (1998), 142–158. (Stanisław Sędziwy) **99m:92040** 92D25 (34C99, 34D05)

Katayama, Shin-ichi On the class numbers of real quadratic fields of Richaud-Degert type. (English summary) *J. Math. Tokushima Univ.* **31** (1997), 1–6. (Franz Lemmermeyer) **99c:11136** 11R29 (11R11)

Katayama, Tohru (*with* Takaba, Kiyotsugu) Discrete-time H_∞ algebraic Riccati equation and parametrization of all H_∞ filters. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1129–1149. 93B36 (93E11)

— (*with* Takaba, Kiyotsugu) Stochastic properties of the H_∞ filter. *Statistical methods in control and signal processing*, 239–256, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (Katsuji Uosaki) **99j:93108** 93E11 (93B36)

— (*with* Takaba, Kiyotsugu) H^2 output feedback control for descriptor systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 841–850. (Michel Malabre) **99f:93052** 93B36 (93C20)

— *see also* **Statistical methods in control and signal processing, 99b:93004**

Katayama, Yoichi (*with* Konno, Kimiaki; Maeno, Mineki; Yamamoto, Takamitsu) Solitons in the brain: a model of α-waves. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 130–139. (*see* **99f:76003**) 35Q80 (35Q51, 92B05)

Katayama, Yoshikazu (*with* Takehana, Hiroaki) On automorphisms of generalized Cuntz algebras. Research on bimodules and quantum groups in operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1003 (1997), 81–93. (Michael Frank) **99d:46083** 46L40 (46H25, 46L05)

— (*with* Matsumoto, Kengo; Watatani, Yasuo) Simple C^*-algebras arising from β-expansion of real numbers. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 937–962. (Jonathan M. Rosenberg) **99m:46136** 46L05 (11K60, 19K14, 46L55, 46L80, 54H20, 58F03)

— (*with* Takehana, Hiroaki) On automorphisms of generalized Cuntz algebras. (English summary) *Internat. J. Math.* **9** (1998), *no.* 4, 493–512. (Claudia Pinzari) **99f:46083** 46L05 (46L40)

— (*with* Sutherland, Colin E.; Takesaki, Masamichi) The characteristic square of a factor and the cocycle conjugacy of discrete group actions on factors. *Invent. Math.* **132** (1998), *no.* 2, 331–380. (Claire Anantharaman-Delaroche) **99f:46096** 46L55 (46L40)

— The classification of amenable group action on approximately finite-dimensional factors [translation of Sūgaku **48** (1996), no. 1, 1–11; MR 97d:46081]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 163–175. (*see* **99h:00040**) 46L55 (46L05)

Katchalov, A. *see* **Kachalov, A. P.**

Katchalski, M. (*with* Last, H.) On geometric graphs with no two edges in convex position. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 399–404. (Pavel Valtr) **99d:52015** 52C10

Kateb, Djalil (*with* Lemarié-Rieusset, Pierre Gilles) The phase of the Daubechies filters. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 245–305. (David F. Walnut) **99d:42049** 42C10 (33C45, 33E20)

Katehakis, Michael N. (*with* Burnetas, Apostolos N.) Dynamic allocation policies for the finite horizon one armed bandit problem. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 811–824. (John C. Gittins) **99m:62123** 62L15 (90B80, 90C40)

Katehi, Linda P. B. (*with* Harvey, James F.; Tentzeris, Emmanouil) Time-domain analysis using multiresolution expansions. *Advances in computational electrodynamics*, 111–162, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (Philip Huddleston) **99j:78003** 78–08 (65M06, 78A45)

Kateri, Maria (*with* Ahmad, Rashid; Papaioannou, Takis) New features in the class of association models. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 2, 125–136. 62H17

Kateřiňák, Josef (*with* Grešák, Pavol; Kaštieľ, Matej; Šedivý, Ondrej) A remark to the dimension equation for the intersection and union of two subspaces of an incidence space. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 19–23. 51A05

— (*with* Bálint, Vojtech; Grešák, Pavol; Kaštieľ, Matej) The proof of the isomorphism of the n-dimensional projective spaces defined axiomatically. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 4, 477–482. (Summary) **99m:51003** 51A35

Katětov, Miroslav (*with* Simon, Petr) Origins of dimension theory. *Handbook of the history of general topology, Vol.* 1, 113–134, *Kluwer Acad. Publ., Dordrecht*, 1997. (Roman Duda) **99d:01019** 01A55 (01A60, 54–03, 54F45)

— *see also* **Simon, Petr, (99a:01001)**

Kath, I. $G^*_{2(2)}$-structures on pseudo-Riemannian manifolds. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 155–177. (Francisco M. Cabrera) **99i:53023** 53C10 (53C50)

Kathal, P. D. (*with* Bhatt, S. K.) The $(C, 1)$ $(E, 1)$ summability of a Fourier series and its conjugate series. *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 375–380. 42A24

Kathiresan, Km. (*with* Muthuvel, S.; Nagasubbu, V. N.) Consecutive labelings for two classes of plane graphs. (English summary) *Util. Math.* **55** (1999), 237–241. 05C78

Katirtzoglou, Eleni Type and cotype of Musielak-Orlicz sequence spaces. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 431–455. (Y. Benyamini) **99h:46029** 46B45

Kato, Akishi (*with* Douglas, Michael R.; Ooguri, Hirosi) D-brane actions on Kähler manifolds. (English summary) *Adv. Theor. Math. Phys.* **1** (1997), *no.* 2, 237–258. (David S. Berman) **99b:81187** 81T30 (32C81, 32J81, 81T60, 83E30)

Kato, Fumiharu Log smooth deformation theory. (English summary) *Tohoku Math. J.* (2) **48** (1996), *no.* 3, 317–354. (From the introduction) **99a:14012** 14D15 (14M25)

— The relative log Poincaré lemma and relative log de Rham theory. *Duke Math. J.* **93** (1998), *no.* 1, 179–206. (Claudio Pedrini) **99g:32015** 32C35 (14F40, 32J25)

— Functors of log Artin rings. (English summary) *Manuscripta Math.* **96** (1998), *no.* 1, 97–112. (D.-M. Popescu) **99f:14012** 14D15 (14B07, 14B12, 14B20)

Kato, Hisao (*with* Hosaka, Hiroshi) Continuous maps of trees and nonwandering sets. (English summary) *Topology Appl.* **81** (1997), *no.* 1, 35–46. (Louis Block) **99c:54058** 54H20 (54F50, 58F03)

— A note on indecomposability of chaotic continua on surfaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 1, 11–16. (Beverly Diamond) **99c:54047** 54F15 (54F50, 54H20)

— The depth of centres of maps on dendrites. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 44–53. (Summary) **99j:54040** 54H20 (54F50)

Kato, Junji Boundedness in functional-differential equations. *Finite- and infinite-dimensional dynamics* (*Kyoto*, 1988), 59–81, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (From the introduction) **99g:34140** 34K15 (34K20)

— (*with* Pan, Jiaqi) Stability domain of a chemostat system with delay. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 307–315, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:92033** 92D25 (34K20)

Kato, Kazuya Logarithmic structures of Fontaine-Illusie. *Algebraic analysis, geometry, and number theory* (*Baltimore, MD*, 1988), 191–224, *Johns Hopkins Univ. Press, Baltimore, MD*, 1989. (Adolfo Quirós) **99b:14020** 14F30 (14G20)

Kato, Keiichi (*with* Ogawa, Takayoshi) Single point singularity and analyticity for the Korteweg-de Vries equation. Regularity, blowup and related properties of solutions to nonlinear evolution equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1045 (1998), 45–52. (*see* **99h:35003**) 35Q53

Kato, Kiriko Cohen-Macaulay approximations from the viewpoint of triangulated categories. Research into the homological characteristics of graded commutative rings (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 964 (1996), 1–28. (Yuji Yoshino) **99e:13015** 13C14 (13D25)

Kato, Kosuke (*with* Sakawa, Masatoshi; Inuiguchi, Masahiro; Ikeda, Tomohiro) An interactive fuzzy satisficing method for multiobjective optimal control problems in linear distributed-parameter systems. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 237–246. 90C70 (93C42)

Kato, Mikio (*with* Takahashi, Yasuji) Clarkson and random Clarkson inequalities for $L_r(X)$. (English summary) *Math. Nachr.* **188** (1997), 341–348. (Barry Turett) **99c:46015** 46B20 (46E40)

— (*with* Takahashi, Yasuji; Hashimoto, Kazuo[1]) On n-th von Neumann-Jordan constants for Banach spaces. *Bull. Kyushu Inst. Technol. Pure Appl. Math. No.* 45 (1998), 25–33. (Wolfgang Lusky) **99m:46044** 46B20 (46B10)

— (*with* Takahashi, Yasuji) von Neumann-Jordan constant and uniformly non-square Banach spaces. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 155–169. (Wolfgang Lusky) **99m:46043** 46B20 (46B10)

— (*with* Maligranda, Lech; Takahashi, Yasuji) Von Neumann-Jordan constant and some geometrical constants of Banach spaces. Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 68–74. (*see* **99f:00024**) 46B20

— (*with* Takahashi, Yasuji) Geometry of Banach spaces and norms of ± 1 matrices. Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 165–169. (*see* **99i:00029**) 46B20

Kato, Nobuyuki (*with* Yamaguchi, Toshiyuki) Nonlinear nonlocal differential equations related to muscle contraction mechanism. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3909–3915. (Brian D. Sleeman) **99c:92015** 92C30 (35K55, 35Q80, 45K05)

Kato, Shin (*with* Umehara, Masaaki; Yamada, Kōtarō) General existence of minimal surfaces with prescribed flux. II. *Topics in complex analysis, differential geometry and mathematical physics* (*St. Konstantin*, 1996), 116–135, *World Sci. Publishing, River Edge, NJ*, 1997. (Rabah Souam) **99g:53012** 53A10

— Uniqueness of solutions of an elliptic singular boundary value problem. *Osaka J. Math.* **35** (1998), *no.* 2, 279–302. (John Urbas) **99j:58212** 58G20 (35J65)

Kato, Takao (*with* Keem, Changho; Ohbuchi, Akira) Variety of special linear systems on k-sheeted coverings. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 53–65. (Thomas Bauer) **99a:14009** 14C20 (14H45)

— (*with* Hayashi, Mikihiro) Point separation of a two-sheeted disc by bounded analytic functions. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 3, 553–565. (W. C. Royster) **99k:30060** 30D50

Kato, Toru The semantics of guarded Horn clauses for programs on distributed environments. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 362–373. (Summary) **99m:68032** 68N17 (68Q10, 68Q55)

Kato, Yasushi (*with* Takahashi, Kaoru; Sugawara, Kana; Ando, Toshihiko; Shiratori, Norio) Specification of a concurrent system based on propositional logic. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 322–332. (Summary) **99m:68124** 68Q60 (03B70)

Kato, Yoshifumi (*with* Aomoto, Kazuhiko) Derivation of q-difference equation from connection matrix for Selberg type Jackson integrals. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 3, 247–278. (Summary) **99e:33021** 33D60 (39A10)

Kato, Yoshio A remark on general free boundary problems for the heat equation. *Funkcial. Ekvac.* **41** (1998), *no.* 1, 55–65. (Galina I. Bizhanova) **99e:35247** 35R35 (35K05)

Kato, Yuriko (*with* Sugamoto, Akio; Nojiri, Shin'ichi) D0-brane description of the charged black hole. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3145–3150. (Summary) **99j:83046** 83C57 (83E30)

Kato, Yusuke (*with* Yamamoto, Takashi) Jack polynomials with prescribed symmetry and hole propagator of spin Calogero-Sutherland model. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9171–9184. (Kazuhiro Hikami) **99j:81210** 81V70 (33C80)

Katoen, Joost-Pieter (*with* Baier, Christel; Latella, Diego) Metric semantics for true concurrent real time. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 568–579, *Lecture Notes in Comput. Sci.*, **1443**, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q55 (68Q10)

Katoh, Naoki (*with* Dai, Yang) On computing new classes of optimal triangulations with angular constraints. *Computing and combinatorics* (*Taipei*, 1998), 15–24, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05

— (*with* Ibaraki, Toshihide) Resource allocation problems. *Handbook of combinatorial optimization, Vol.* 2, 159–260, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90B80)

Katok, A. (*with* Spatzier, R. J.) Differential rigidity of Anosov actions of higher rank abelian groups and algebraic lattice actions. (English summary) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 292–319. (Raul Quiroga) **99i:58118** 58F15 (22E40, 58F10)

— (*with* Spatzier, R. J.) Corrections to: "Invariant measures for higher-rank hyperbolic abelian actions" [Ergodic Theory Dynam. Systems **16** (1996), no. 4, 751–778; MR 97d:58116]. *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 503–507. (From the text) **99c:58093** 58F11

— (*with* Mezhirov, A.) Entropy and growth of expanding periodic orbits for one-dimensional maps. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 245–254. (Anthony Quas) **99g:58103** 58F20 (28D20)

— (*with* Guysinsky, M.) Normal forms and invariant geometric structures for dynamical systems with invariant contracting foliations. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 149–163. (Nantian Qian) **99b:58215** 58F36 (58F15)

Katona, Gyula O. H. (*with* Demetrovics, János; Miklós, D.; Seleznev, O. V.; Thalheim, Bernhard) The average length of keys and functional dependencies in (random) databases. (English summary) *Database theory—ICDT '95* (*Prague*), 266–279, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— A simple proof of a theorem of Milner. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 138–140. (Summary) **99c:05191** 05D05

— (*with* Demetrovics, János; Sali, Attila) Design type problems motivated by database theory. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 149–164. (Summary) **99h:68037** 68P15 (05D05, 68R05)

— (*with* Demetrovics, János; Miklós, D.; Seleznev, O. V.; Thalheim, Bernhard) Functional dependencies in random databases. *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 127–140. (Lawrence V. Saxton) **99m:68041** 68P15 (15A52)

— (*with* Demetrovics, János; Miklós, D.; Seleznev, O. V.; Thalheim, Bernhard) Asymptotic properties of keys and functional dependencies in random databases. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 151–166. (Summary) **99d:68063** 68P15

— *see also* **Congress: Mathematics**, **99e:00018**; **99e:00019** *and* **Graph theory and combinatorial biology**, **99k:00031**

Katona, Gyula Y. (*with* Kierstead, Hal A.) Hamiltonian chains in hypergraphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 205–212. (Martin Sonntag) **99k:05124** 05C65 (05C45)

Katriel, Guy Many periodic solutions for pendulum-type equations. *Nonlinear Anal.* **34** (1998), *no.* 5, 687–699. (Rafael Ortega) **99d:34072** 34C25

Katriel, Jacob (*with* Abdesselam, Boucif; Chakrabarti, Amitabha[1]) On the fundamental invariant of the Hecke algebra $H_n(q)$. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 182–189, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 20C99

— Stirling number identities: interconsistency of q-analogues. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3559–3572. (Jiang Zeng) **99g:33048** 33D20 (05A30, 11B65, 11B73)

Katriňák, Tibor *see* **Haviar, Miroslav**, **99m:01067**

Katritch, Vsevolod (*with* Bednar, Jan; Michoud, Didier; Scharein, Robert G.; Dubochet, Jacques; Stasiak, Andrzej) Geometry and physics of knots. (English summary) *Nature* **384** (1996), *no.* 6605, 142–145. (Summary) **99b:92032** 92D20 (57M25)

Kats, M. M. A criterion for the linear orderability of a partial automaton. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 37–43; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 10, 35–41 (1998). (I. Mezník) **99c:68176** 68Q68 (08A02)

Kats, Vladimir (*with* Levner, E. V.) A parametric critical path problem and an application for cyclic scheduling. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 149–158. (Summary) **99f:90168** 90C35 (68M20)

Katsaggelos, Aggelos K. (*with* Schuster, Guido M.) An optimal polygonal boundary encoding scheme in the rate distortion sense. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 1, 13–26. (Summary) **99j:94024** 94A29 (94A34)

Katsenelenbaum, B. Z. (*with* Mercader del Río, L.; Pereyaslavets, M.; Sorolla Ayza, M.; Thumm, M.) ★ Theory of nonuniform waveguides. (English summary) The cross-section method. IEE Electromagnetic Waves Series, 44. *Institution of Electrical Engineers* (*IEE*), *London*, 1998. *xvi*+249 *pp. ISBN* 0-85296-918-X (A. S. Silbergleit) **99f:78017** 78A50 (35Q99, 78A40)

Katsevich, Alexander Local tomography with nonsmooth attenuation. II. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 73–86, *Plenum, New York*, 1998. (Fritz Keinert) **99k:44003** 44A12 (65R10, 92C55)

— Local tomography with nonsmooth attenuation. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1947–1974. (Fritz Keinert) **99h:44005** 44A12 (65R10, 92C55)

Katsikadelis, J. T. (*with* Nerantzaki, M. S.) Solving inverse problems by use of the AEM. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 593–602, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 65N38

Katsikas, S. K. (*with* Lainiotis, D. G.; Giannakopoulos, P. K.) Estimation for linear systems with non-Gaussian initial state: centralized and decentralized partitioning algorithms. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 4, 479–499. 93E10 (93E11)

Katsnelson, Victor E. Sampling and interpolation for functions with multi-band spectrum: the mean periodic continuation method. (English summary) *Signal and image representation in combined spaces*, 525–553, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Ahmed I. Zayed) **99g:94004** 94A12 (42A15)

Katsoprinakis, E. S. (*with* Papadimitrakis, M.) Extensions of a theorem of Marcinkiewicz-Zygmund and of Rogosinski's formula and an application to universal Taylor series. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2083–2090. (L. Leindler) **99j:40013** 40G05 (42A28)

Katsoulis, E. G. Geometric aspects of the theory of nest algebras. *Operator algebras and applications* (*Samos*, 1996), 245–254, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 495, *Kluwer Acad. Publ., Dordrecht*, 1997. (From the introduction) **99g:47107** 47D25 (46B20, 46B28)

— (*with* Hudson, Timothy D.) Primitive triangular UHF algebras. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 1, 1–27. (Liang Sen Wu) **99m:46135** 46L05 (46K50, 47D25)

— (*with* Anoussis, M.) Factorisation in nest algebras. II. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 1, 165–183. (David R. Pitts) **99c:47064** 47D25 (47A68, 47C05)

Katsuda, Atsushi (*with* Urakawa, Hajime) The first eigenvalue of the discrete Dirichlet problem for a graph. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 217–225. (Summary) **99a:05100** 05C50

Katsumata, Katsurou Stability of a western boundary current with curvature. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 51–79. (Summary) **99a:76055** 76E20 (86A05)

Katsumori, Makoto Bohr's early complementarity argument. *Historia Sci.* (2) **8** (1998), *no.* 1, 1–19. (Dennis Dieks) **99k:01036** 01A60 (81–03)

Katsura, Masashi (*with* Kobayashi, Yuji; Otto, Friedrich) On cross-sections of finitely presented monoids. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 12–14, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M05

— Special maximal bands in finite full transformation semigroups. *Semigroups* (*Luino*, 1992), 152–166, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M20

— (*with* Dömösi, Pál; Ito, Masami[1]; Nehaniv, Chrystopher L.) A new pumping property of context-free languages. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 187–193, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Editors) **99g:68110** 68Q45

— (*with* Imreh, Balázs; Ito, Masami[1]) On shuffle closures of commutative regular languages. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 276–288, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68092** 68Q45

— (*with* Otto, Friedrich; Kobayashi, Yuji) Cross-sections for finitely presented monoids with decidable word problems. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 53–67, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Dragan Blagojević) **99d:68139** 68Q42 (20M35)

— (*with* Otto, Friedrich; Kobayashi, Yuji) Infinite convergent string-rewriting systems and cross-sections for finitely presented monoids. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 5, 621–648. (Yves Metivier) **99h:20093** 20M05 (68Q42)

Katsurada, Hidenori (*with* Hisasue, Masaki) A recursion formula of local densities with congruence conditions. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 47 (1997), 97–102. (Martin Epkenhans) **99c:11041** 11E08

— An explicit formula for the Fourier coefficients of Siegel-Eisenstein series. Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 55–69. (Hiroshi Saito) **99e:11055** 11F30 (11F46)

Katsurada, Masanori An application of Mellin-Barnes' type integrals to the mean square of L-functions. Analytic number theory (Japanese) (Kyoto, 1994). *Sūrikaisekikenkyūsho Kōkyūroku No.* 958 (1996), 141–151. (Matti Jutila) **99f:11107** 11M06

— Mellin-Barnes' type integrals and power series with the Riemann zeta-function in the coefficients. Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 92–102. (Andreas Guthmann) **99b:11096** 11M06 (11M35, 33C05)

— An application of Mellin-Barnes type of integrals to the mean square of L-functions. (English and Lithuanian summaries) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 98–112; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 1, 77–88. (Alessandro Languasco) **99k:11130** 11M06

— Power series and asymptotic series associated with the Lerch zeta-function. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 10, 167–170. (Minking Eie) **99m:11098** 11M35

Katsuura, Hidefumi From Euler to Fermat. *College Math. J.* **30** (1999), *no.* 2, 118–119. 11D41

Katsylo, Pavel (*with* Mikhailov, Dmitry) Ternary quartics and 3-dimensional commutative algebras. (English summary) *J. Lie Theory* **7** (1997), *no.* 2, 165–169. (R. K. Markanda) **99e:13007** 13A99 (14J25)

Kattan, A. K. A. Estimation in the truncated Gompertz distribution with unknown truncation points. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 93–103. 62F10

— Reliability computation for α-distributed strength and stress using Gaussian function. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 2, 159–165. 62N05

Katti, C. P. (*with* Goel, Savita) A parallel mesh chopping algorithm for a class of two-point boundary value problems. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 9, 121–128. (Summary) **99g:65084** 65L10 (65L12, 65Y05)

Kattis, M. A. (*with* Providas, E.) Two-phase potentials in anisotropic elasticity: antiplane deformation. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 7-8, 801–811. (Summary) **99d:73064** 73K20 (73B27, 73B40, 73V35)

Katulska, K. (*with* Ceranka, B.) Optimum chemical balance weighing designs under equal correlations of errors. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 3–9, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62087** 62K05

Katz, Daniel On the existence of maximal Cohen-Macaulay modules over pth root extensions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2601–2609. (Santiago Zarzuela Armengou) **99m:13018** 13C14 (13B22, 13H15)

Katz, Gabriel (*with* Farber, Michael; Levine, Jerome) Morse theory of harmonic forms. (English summary) *Topology* **37** (1998), *no.* 3, 469–483. (Alexander Fel'shtyn) **99i:58026** 58E05 (58A10)

Katz, I. Norman (*with* Guo, Xian Zhong) Performance enhancement of the multi-p preconditioner. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 1–8. (Summary) **99c:65054** 65F10 (65N22, 65N30)

— (*with* Hu, Ning[3]; Guo, Xian Zhong) Bounds for eigenvalues and condition numbers in the p-version of the finite element method. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1423–1450. (K. Najzar) **99a:65149** 65N30 (65F10, 65N22)

— (*with* Vyridis, D. G.; Panteliou, S. D.) An inverse convergence approach for arguments of Jacobian elliptic functions. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 21–26. 65D20 (33E05)

— (*with* Chuang, Luhan) Numerical methods for finding clustersolutions of optimal control problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 126–147 (*electronic*). (Naoki Yamada) **99g:49030** 49M25 (65K10, 65M06, 93B40)

Katz, J. *see* **Katz, Joseph**

Katz, Jerrold J. The problem in twentieth-century philosophy. *J. Philos.* **95** (1998), *no.* 11, 547–575. 03A05

Katz, Joseph (*with* Lynden-Bell, D.; Bičák, Jiří) Instantaneous inertial frames but retarded electromagnetism in rotating relativistic collapse. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3177–3194. (Summary) **99g:83045** 83C50 (83B05)

— (*with* Lynden-Bell, D.; Bičák, Jiří) On accelerated inertial frames in gravity and electromagnetism. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 1–22. (Jaume J. Carot) **99m:83087** 83C50 (78A40, 83A05)

— (*with* Liu, Shewen; Meneveau, Charles) Evolution and modelling of subgrid scales during rapid straining of turbulence. (English summary) *J. Fluid Mech.* **387** (1999), 281–320. 76F99

Katz, Matthew J. 3-D vertical ray shooting and 2-D point enclosure, range searching, and arc shooting amidst convex fat objects. (English summary) *Comput. Geom.* **8** (1997), *no.* 6, 299–316. (Summary) **99c:68249** 68U05 (52B55)

— (*with* de Berg, Mark; Overmars, Mark H.; van der Stappen, A. Frank; Vleugels, Jules) Models and motion planning. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 83–94, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

— (*with* Kedem, Klara; Segal, Michael) Constrained square-center problems. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 95–106, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

Katz, Mikhail G. (*with* Babenko, Ivan K.) Systolic freedom of orientable manifolds. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 6, 787–809. (Andrea Sambusetti) **99m:53083** 53C23

— (*with* Babenko, Ivan K.; Suciu, Alexander I.) Volumes, middle-dimensional systoles, and Whitehead products. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 461–471. (Athanase Papadopoulos) **99m:53084** 53C23 (53C20, 55Q15)

Katz, Nets Hawk Matrix valued paraproducts. Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 913–921. (María Cristina Pereyra) **99f:42046** 42B99 (46E40, 46G10, 47B38)

— (*with* Pereyra, Maria Cristina) On the two weights problem for the Hilbert transform. *Rev. Mat. Iberoamericana* **13** (1997), *no.* 1, 211–243. (C. Carton-Lebrun) **99c:47036** 47B38 (42A50, 44A15, 46E40)

Katz, Nicholas M. (*with* Tate, John) Bernard Dwork (1923–1998). *Notices Amer. Math. Soc.* **46** (1999), *no.* 3, 338–343. (From the text) **99m:01071** 01A70

Katz, Sheldon H. (*with* Qin, Zhenbo; Ruan, Yongbin) Enumeration of nodal genus-2 plane curves with fixed complex structure. *J. Algebraic Geom.* **7** (1998), *no.* 3, 569–587. (Andreas Gathmann) **99d:14058** 14N10 (14D20)

Katzarkov, Ludmil (*with* Ramachandran, Mohan) On the universal coverings of algebraic surfaces. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 525–535. (Philippe P. Eyssidieux) **99h:14015** 14E20 (14J99, 32E05, 32F05, 32J25)

— (*with* Bogomolov, Fedor A.) Complex projective surfaces and infinite groups. *Geom. Funct. Anal.* **8** (1998), *no.* 2, 243–272. (Alessio Corti) **99m:14032** 14E20 (14H25, 14H30)

— (*with* Borcherds, Richard Ewen; Pantev, Tony G.; Shepherd-Barron, N. I.) Families of $K3$ surfaces. *J. Algebraic Geom.* **7** (1998), *no.* 1, 183–193. (Mark Gross) **99d:14029** 14J28 (11F55, 14J05)

— (*with* Bogomolov, Fedor A.) Symplectic four-manifolds and projective surfaces. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 79–109. (Paolo Lisca) **99k:57055** 57R15 (14J99, 32J27)

Katzin, Gerald H. (*with* Rosenhaus, V.) Noether operator relation and conservation laws for partial differential equations. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 286–293, *World Sci. Publishing, River Edge, NJ*, 1996. (Irina Yehorchenko) **99c:35011** 35A30 (35L65, 35Q53, 58F35, 58G35)

Katzman, Mordechai The complexity of Frobenius powers of ideals. *J. Algebra* **203** (1998), *no.* 1, 211–225. (Irena Swanson) **99e:13003** 13A35 (13B30, 13P10)

— (*with* Aberbach, Ian; MacCrimmon, Brian) Weak F-regularity deforms in $\mathbf{Q}$-Gorenstein rings. *J. Algebra* **204** (1998), *no.* 1, 281–285. (Irena Swanson) **99d:13003** 13A35 (13H10)

Kauermann, Göran (*with* Tutz, Gerhard) Locally weighted least squares in categorical varying-coefficient models. (English summary) *Econometrics in theory and practice*, 119–130, *Physica, Heidelberg*, 1998. (*see* **99f:62007**) 62H17 (62J02, 62J12)

— (*with* Tutz, Gerhard) On model diagnostics using varying coefficient models. (English summary) *Biometrika* **86** (1999), *no.* 1, 119–128. 62J12

Kauffman, Louis H. Knots and complex systems. (English summary) *Complex systems and binary networks* (*Guanajuato*, 1995), 32–76, *Lecture Notes in Phys.*, 461, *Springer, Berlin*, 1995. (Sergei V. Chmutov) **99c:57025** 57M25

— (*with* Dang, Yumei) Hypercomplex fractal distance estimation. (English summary) *Fractal frontiers* (*Denver, CO*, 1997), 117–130, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99d:28012** 28A80 (30D05)

— Knots and electricity. (English summary) *KNOTS '96* (*Tokyo*), 213–230, *World Sci. Publishing, River Edge, NJ*, 1997. (L. Neuwirth) **99m:57006** 57M25 (94C15)

— Knots and diagrams. (English summary) *Lectures at KNOTS '96* (*Tokyo*), 123–194, *Ser. Knots Everything*, 15, *World Sci. Publishing, River Edge, NJ*, 1997. (From the introduction) **99h:57012** 57M25

— (*with* Crane, Louis; Yetter, David N.) State-sum invariants of 4-manifolds. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 2, 177–234. (Summary) **99c:57049** 57N13

— (*with* Carter, J. Scott; Saito, Masahico) Diagrammatics, singularities, and their algebraic interpretations. (English summary) 10th Brazilian Topology Meeting (São Carlos, 1996). *Mat. Contemp.* **13** (1997), 21–115. (Summary) **99d:57016** 57Q45 (57Q15)

— Spin networks and the bracket polynomial. (English summary) *Knot theory* (*Warsaw*, 1995), 187–204, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (Introduction) **99e:57014** 57M25 (83C27)

— Spin networks and topology. (English summary) *The geometric universe* (*Oxford*, 1996), 277–289, *Oxford Univ. Press, Oxford*, 1998. (Dirk Kreimer) **99i:57003** 57M15 (57M25, 83C27)

— (*with* Radford, David E.; Sawin, Stephen) Centrality and the KRH invariant. *J. Knot Theory Ramifications* **7** (1998), *no.* 5, 571–624. (Vyacheslav S. Krushkal) **99k:57017** 57M25 (16W30, 57N10)

— *see also* **Armel, Jack, 99c:83001**

Kauffmann, Barbara Bounded arithmetic: comparison of Buss' witnessing method and Sieg's Herbrand analysis. (English summary) *Proof complexity and feasible arithmetics* (*Rutgers, NJ*, 1996), 173–193, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 39, *Amer. Math. Soc., Providence, RI*, 1998. (Mariko Yasugi) **99c:03091** 03F30 (03F05)

Kaufherr, T. (*with* Aharonov, Y.; Popescu, Sandu; Reznik, B.) Quantum measurement backreaction and induced topological phases. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 10, 2023–2026. (Péter Pál Lévay) **99b:81018** 81P15 (81S99)

Kaufman, Edwin (*with* Angelos, James; Grossman, George W.; Lenker, Terry; Rakesh, Leela) Limit cycles for successive projections onto hyperplanes in $\mathbf{R}^n$. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 201–228. (E. G. D'yakonov) **99k:65041** 65F99

Kaufman, Howard (*with* Ozcelik, Selahattin) Design of robust direct adaptive controllers for SISO systems: time and frequency domain design conditions. (English summary) *Internat. J. Control* **72** (1999), *no.* 6, 517–530. (Summary) **99m:93059** 93C40 (93D21)

Kaufmann, Edgar (*with* Reiss, R.-D.) Approximation of the Hill estimator process. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 347–354. (Erich Haeusler) **99j:60067** 60G70 (60F15, 60F17, 62G30)

— (*with* Drees, Holger) Selecting the optimal sample fraction in univariate extreme value estimation. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 2, 149–172. (László Viharos) **99h:62034** 62G05

Kaufmann, Eric R. (*with* Henderson, Johnny) Multiple positive solutions for focal boundary value problems. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 1, 53–60. (Summary) **99a:34055** 34B15 (47H15, 47N20)

— (*with* Henderson, Johnny) Focal boundary value problems for singular difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 1–10. (Allan C. Peterson) **99k:39017** 39A10

— Multiple positive solutions for higher order boundary value problems. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1017–1028. (Maria Patrizia Pera) **99i:34036** 34B15 (47H10, 47N20)

Kaufmann, Matt (*with* Moore, J. Strother; Lynch, Thomas W.) A mechanically checked proof of the AMD5$_K$86^{TM} floating-point division program. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 9, 913–926. 68M07 (68T15)

Kaufmann, Michael (*with* Biedl, Therese C.) Area-efficient static and incremental graph drawings. (English summary) *Algorithms—ESA '97* (*Graz*), 37–52, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05 (68R10)

— (*with* Fößmeier, Ulrich) Solving rectilinear Steiner tree problems exactly in theory and practice. (English summary) *Algorithms—ESA '97* (*Graz*), 171–185, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68Q25 (90C27)

Kaufmann, Susanne (*with* Case, John; Jain, Sanjay[1]; Sharma, Arun; Stephan, Frank) Predictive learning models for concept drift. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 276–290, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q99)

Kaul, C. N. (*with* Gupta, D. K.) A modification of Krawczyk's algorithm. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 67–77. (Summary) **99c:65092** 65G10

Kaul, Gautam Predictable components in stock returns. *Statistical methods in finance*, 269–296, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62142** 62P20 (90A09)

Kaul, Helmut (*with* von Below, Joachim) Nonlinear degenerate elliptic equations and axially symmetric problems. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 41–51. (Toshio Horiuchi) **99j:35061** 35J65 (35J70)

Kaul, R. K. *see* **Kaul, Romesh K.**

Kaul, R. N. (*with* Bhatia, Davinder; Gupta, Pankaj) Tolerance approach to sensitivity analysis in quadratic programming problems. (English summary) *Opsearch* **36** (1999), *no.* 1, 1–9. 90C20 (90C31)

Kaul, Romesh K. (*with* Majumdar, Parthasarathi) Quantum black hole entropy. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 267–270. (Marco Cavaglià) **99j:83047** 83C57 (81T40)

— (*with* Suneeta, V.; Govindarajan, T. R.) BTZ black hole entropy from Ponzano-Regge gravity. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 5, 349–358. (Summary) **99k:83084** 83C57 (83C27)

Kaulakys, B. (*with* Ivanauskas, F.; Meškauskas, T.) Solution of the equations of dynamical chaos. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 467–474, *VSP, Utrecht*, 1997. (Summary) **99i:70030** 70K50 (34F05, 58F13)

Kaulke, Matthias (*with* Peschel, Ingo) A DMRG study of the q-symmetric Heisenberg chain. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 727–734. 82B20 (81R50)

— (*with* Peschel, Ingo; Legeza, Örs) Density-matrix spectra for integrable models. (English summary) *Ann. Phys.* (8) **8** (1999), *no.* 2, 153–164. (Summary) **99j:82027** 82B23 (82B20)

Kaup, André (*with* Aach, Til) Coding of segmented images using shape-independent basis functions. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 7, 937–947. (Summary) **99i:94011** 94A12

Kaup, B. (*with* Holmann, H.; Reiffen, Hans-Jörg) Singular holomorphic foliations with attractive leaves. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4,

625–658 (1998). (M. G. Soares) **99c:32043** 32L30 (58F18)

Kaup, D. J. (*with* Gerdzhikov, V. S.; Evstatiev, E. G.; Diankov, G. L.; Uzunov, I. M.) Stability and quasi-equidistant propagation of NLS soliton trains. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 323–328. (Summary) **99a:81198** 81V10

— (*with* Lakoba, T. I.; Matsuno, Yoshimasa) Perturbation theory for the Benjamin-Ono equation. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 215–240. (From the text) **99k:35156** 35Q53 (34L25, 76B25)

Kaup, Peter G. (*with* Dobson, David C.) Monitoring underground flows with electromagnetic methods. (English summary) *Inverse Problems* **15** (1999), *no.* 2, 597–613. (Summary) **99m:86002** 86A05 (78A55, 86A22)

Kaup, Wilhelm On spectral and singular values in JB*-triples. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 95–103. (Yaakov Friedman) **99f:46099** 46L70

Kaupynbaev, D. T. A boundary value problem for models of natural convection. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 3, 33–40. (Summary) **99d:35169** 35Q99 (76R10)

Kaur, M. M. (*with* Nath, Prem; Singh, Ranjit) Some derivations of the Shannon entropy. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 85–100. (Summary) **99i:94024** 94A17

Kausar, Imrana (*with* Husnine, S. M.; Majeed, Abdul) Behaviour of ambiguous and totally positive or negative elements of $\mathbf{Q}^*(\sqrt{n})$ under the action of the modular group. (English summary) *Punjab Univ. J. Math. (Lahore)* **30** (1997), 11–34. (W. Narkiewicz) **99k:11166** 11R04 (20H05)

— (*with* Husnine, S. M.; Majeed, Abdul) Action of the group $h = \langle t, y;\ t^3 = y^3 = 1\rangle$ on the quadratic field. (English summary) *Punjab Univ. J. Math. (Lahore)* **30** (1997), 47–66. (W. Narkiewicz) **99k:11167** 11R04 (20H05)

Kaushal, Kalika (*with* Gupta, Manjul) *o*-similarity. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 45–52. (R. Cristescu) **99e:46005** 46A40

— (*with* Gupta, Manjul) Order decompositions. *Functional analysis*, 193–202, *Narosa, New Delhi*, 1998. (Gerard Buskes) **99k:46010** 46A40

Kaushal, R. S. ★ Classical and quantum mechanics of noncentral potentials. (English summary) A survey of two-dimensional systems. *Springer-Verlag, Berlin; Narosa Publishing House, New Delhi*, 1998. *xvi+209 pp. ISBN* 3-540-64198-X (P. G. L. Leach) **99k:81003** 81–02 (70–02, 70H05, 81Q05)

— Construction of exact invariants for time dependent classical dynamical systems. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1793–1856. (P. G. L. Leach) **99m:70015** 70H99 (34A25, 58F05, 70H33, 81Q05)

— (*with* Pati, K. C.; Parashar, D.) Involutive automorphisms and Iwasawa decomposition of some hyperbolic Kac-Moody algebras. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 501–510. (Duncan J. Melville) **99j:17038** 17B67

Kaushik, Pushpa (*with* Verma, Alok; Sharma, Aradhana) On absolute Cesaro summability of ultraspherical series. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 336–340. (Summary) **99h:33051** 33C55 (40G05)

Kautonen, Anssi (*with* Leppänen, Ville; Penttonen, Martti) Thinning protocols for routing h-relations in complete networks. (English summary) *Randomized algorithms (Brno*, 1998), 9 *pp. (electronic), Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68M10

Kautschitsch, Hermann Pole assignability over commutative rings. (English summary) *Contributions to general algebra*, 10 (*Klagenfurt*, 1997), 215–221, *Heyn, Klagenfurt*, 1998. (Wiland Schmale) **99i:93025** 93B55 (93B25, 93C15)

— *see also* **Contributions to general algebra**, **99f:00014**

Kautz, Steven M. Resource-bounded randomness and compressibility with respect to nonuniform measures. (English summary) *Randomization and approximation techniques in computer science (Bologna*, 1997), 197–211, *Lecture Notes in Comput. Sci.*, 1269, *Springer, Berlin*, 1997. (Summary) **99a:68075** 68Q15

Kavalov, An. (*with* Iso, Satoshi) Breakdown of universality in random matrix models. (English summary) *Nuclear Phys. B* **501** (1997), *no.* 3, 670–684. (Boris A. Khoruzhenko) **99f:82034** 82B44 (82B41)

Kaveh, A. (*with* Roosta, G. R.) Substructuring and ordering: graph-theoretical methods. (English summary) *Sci. Iran.* **1** (1994), *no.* 2, 117–125. 73V20 (05C85, 05C90)

— (*with* Roosta, G. R.) Cycle bases of graphs and applications in structural mechanics. (English and Farsi summaries) *Iranian J. Sci. Tech.* **22** (1998), *no.* 3, *Trans. B Tech.*, 365–378, 400. (Summary) **99f:73060** 73K40 (05C38)

Kavei, G. (*with* Aliev, N. A.) An analytical method to the solution of the time-dependent Schrodinger equation using half cylinder space system. I. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 253–263. (M. Znojil) **99f:81039** 81Q05

Kavian, Masoud (*with* McLenaghan, R. G.; Geddes, K. O.) MapleTensor: a new system for performing indicial and component tensor calculations by computer. *The Sixth Canadian Conference on General Relativity and Relativistic Astrophysics (Fredericton, NB*, 1995), 269–272, *Fields Inst. Commun.*, 15, *Amer. Math. Soc., Providence, RI*, 1997. (Fernando D. Sasse) **99b:83001** 83–04 (83–08)

Kavian, O. (*with* Casas Rentería, Eduardo; Puel, Jean-Pierre) Optimal control of an ill-posed elliptic semilinear equation with an exponential nonlinearity. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 361–380 (*electronic*). (Tomáš Roubíček) **99k:49012** 49J20 (35J65, 49N60)

— (*with* Illner, R.; Lange, Horst R.) Stationary solutions of quasi-linear Schrödinger-Poisson systems. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 1–16. (Nakao Hayashi) **99d:35152** 35Q55 (82D99)

Kaviani, Kamran (*with* Ghezelbash, Amir M.; Parvizi, Shahrokh; Fatollahi, Amir H.) Interacting spinors-scalars and AdS/CFT correspondence. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 291–298. (From the text) **99m:81187** 81T30 (81T40, 83E30)

Kavianib, Kamran (*with* Parvizi, Shahrokh; Fatollahi, Amir H.) Interaction of branes at angles in M(atrix) model. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 271–276. (Summary) **99g:81171** 81T30

Kavli, Tom (*with* Weyer, Erik) Theoretical properties of the ASMOD algorithm for empirical modelling. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 767–789. 93A30 (93B40)

Kavraki, Lydia E. (*with* Hsu, David; Latombe, Jean-Claude; Motwani, Rajeev; Sorkin, Stephen) On finding narrow passages with probabilistic roadmap planners. (English summary) *Robotics: the algorithmic perspective (Houston, TX*, 1998), 141–153, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68T20)

— (*with* Latombe, Jean-Claude; Motwani, Rajeev; Raghavan, Prabhakar) Randomized query processing in robot path planning. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 50–60. (Summary) **99g:68209** 68U05

— *see also* **Robotics: the algorithmic perspective**, **99m:68012**

Kavranoğlu, Davut (*with* Aliev, Fikret A.; Larin, Vladimir B.) Factorization of a polynomial matrix with respect to the unit circle. *Arab. J. Sci. Eng. Sect. B Eng.* **23** (1998), *no.* 2, 319–323. (Petko Petkov) **99m:93080** 93D15 (15A23, 93B40)

— *see also* **Controller reduction and system approximation**, **99k:93005**

Kavranoğlyu, Davut (*with* Ezzine, Jelel) On almost-sure stabilization of discrete-time jump parameter systems: an LMI approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1129–1146. 93D15

Kavvadias, Dimitris (*with* Sideri, Martha) The inverse satisfiability problem. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 152–163 (*electronic*). (Summary) **99d:68111** 68Q25 (03B05, 68Q15, 68T30)

Kawa, Minako (*with* Kurumazaki, Hironobu; Nishitani, Yasuaki; Igarashi, Yoshihide) Some modifications of lockout-free mutual exclusion algorithms. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 19–26. (*see* **99i:65003**) 68Q10

Kawabe, Jun Weak convergence of tensor products of vector measures. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 1–5. (*see* **99i:00029**) 28B05 (28A20, 46G10)

Kawabe, Tatsuya On the properly discontinuous subgroups of affine motions. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 529–543. (Karel Dekimpe) **99f:20084** 20H15 (22E40)

Kawabe, Yoshinobu (*with* Ishii, Naohiro) On modularity of completeness in order-sorted term rewriting systems. (English summary) *Computing and combinatorics (Shanghai*, 1997), 331–342, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99a:68099** 68Q42

Kawachi, Takeshi (*with* Mašek, Vladimir) Reider-type theorems on normal surfaces. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 2, 239–249. (Marco Andreatta) **99f:14040** 14J17 (14C20, 14E05)

— On d-spannedness of the adjoint bundles on polarized manifolds. *Kodai Math. J.* **21** (1998), *no.* 2, 185–191. (Yoshiaki Fukuma) **99m:14009** 14C20 (14J40)

— *see also* **Fujita, Takao**, **99f:14041**

Kawada, Koichi (*with* Wooley, Trevor D.) Sums of fifth powers and related topics. *Acta Arith.* **87** (1998), *no.* 1, 27–65. (D. R. Heath-Brown) **99i:11092** 11P05 (11D79)

— A zero density estimate for Dedekind zeta functions of pure extension fields. *Tsukuba J. Math.* **22** (1998), *no.* 2, 357–369. (A. Perelli) **99k:11180** 11R42 (11N36)

Kawagishi, Masaki A higher order chain rule and Gevrey functions. *Bull. Dept. Gen. Ed. College Sci. Tech. Nihon Univ. No.* 62 (1997), 9–19. (From the introduction) **99m:26020** 26B05 (46E99)

Kawagoe, Kenichi On the skeins in the annulus and applications to invariants of 3-manifolds. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 2, 187–203. (Sergey S. Anisov) **99e:57029** 57N10 (57M25)

Kawaguchi, Akira (*with* Lieuwen, Daniel; Mumick, Inderpal Singh; Quass, Dallan; Ross, Kenneth Andrew) Concurrency control theory for deferred materialized views. (English summary) *Database theory—ICDT'97 (Delphi)*, 306–320, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68Q10)

Kawaguchi, Eiji (*with* Wakiyama, Masahiro; Noda, Hideki; Nozaki, Koichi) Computation algorithm of semantic difference measure in the SD-form semantics model. (English summary) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 3, 1065–1079. 68S05

Kawaguchi, Kimio (*with* Wada, Koichi; Chen, Wei[3]; Luo, Yu Pin) Optimal fault-tolerant ATM-routings for biconnected graphs. (English summary) *Graph-theoretic concepts in computer science (Berlin*, 1997), 354–367, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68026** 68M10 (68R10, 90C35)

— (*with* Chen, Wei[3]; Wada, Koichi; Chen, Danny Z.) Finding the convex hull of discs in parallel. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 3, 305–319. (Summary) **99b:68196** 68U05 (52B55, 68Q22)

— (*with* Wada, Koichi; Takaki, Akinari) Efficient algorithms for a mixed k-partition problem of graphs without specifying bases. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 233–248. (Summary) **99c:68202** 68R10 (68Q25)

Kawaguchi, Masayuki (*with* Kubo, Shiro) A mathematical and numerical study on regularization of an inverse boundary value problem in elasto-static field. (English summary) *Inverse problems in engineering mechanics (Nagano*, 1998), 353–361, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 73C02 (73V20)

Kawaguchi, Mayuka F. (*with* Miyakoshi, Masaaki) Composite fuzzy relational equations with non-commutative conjunctions. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 113–125. (Summary) **99f:03023** 03B52 (04A72)

Kawaguchi, Satoshi (*with* Mimura, Masayasu) Collision of travelling waves in a reaction-diffusion system with global coupling effect. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 920–941 (*electronic*). (Summary) **99j:35105** 35K57 (65C05)

Kawahara, Genta (*with* Kida, Shigeo; Tanaka, Mitsuru[2]; Yanase, Shinichiro) Wrap, tilt and stretch of vorticity lines around a strong thin straight vortex tube in a simple shear flow. (English summary) *J. Fluid Mech.* **353** (1997), 115–162. (Yuri N. Skiba) **99f:76040** 76D05 (76C05, 76F10)

Kawahara, Mutsuto (*with* Ding, Yan) Bifurcation analysis of brown tide in tidal flow using finite element method. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 195–213. (*see* **99b:76003**) 76M10 (86–08)

— (*with* Maruoka, Akira; Marin, Maxim) Optimal control in Navier-Stokes equations. (English summary) Third Japan-US Symposium on Finite Element Methods in Large-scale Computational Fluid Dynamics (1996). *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 3-4, 313–322. (*see* **99f:76004**) 49N55 (76D05, 76M10)

Kawahara, Takuji (*with* Araki, Keisuke; Toh, Sadayoshi) Stability of a modon structure: multipole expansion analysis. (English summary) *Wave Motion* **28** (1998), *no.* 1, 69–78. (Summary) **99a:76017** 76C05 (76C20, 76X05)

Kawahara, Yasuo (*with* Furusawa, Hitoshi) Crispness and representation theorem in Dedekind categories. Investigations of nonclassical logics based on sequent calculus and

Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1021 (1997), 63–69. (*see* **99d:03003**) 03G30 (03E72, 03G15)

— (*with* Furusawa, Hitoshi) An algebraic formalization of fuzzy relations. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 125–135. (Summary) **99i:03069** 03E72

Kawahara, Yukihito The mixed Hodge structure on the fundamental group of the fiber type 2-arrangement. (English summary) *Nagoya Math. J.* **147** (1997), 113–135. (Pedro Luis del Angel R.) **99b:14007** 14C30 (14F35, 52B30)

Kawahigashi, Yasuyuki Quantum doubles and orbifold subfactors. *Operator algebras and quantum field theory* (*Rome*, 1996), 271–283, *Internat. Press, Cambridge, MA*, 199?. (Carl Winsløw) **99e:46079** 46L37 (81R50, 81T40)

— (*with* Evans, David E.) ★ Quantum symmetries on operator algebras. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1998. *xvi*+829 *pp. ISBN* 0-19-851175-2 (Carl Winsløw) **99m:46148** 46L37 (19K99, 46L60, 46L80, 46N55, 82B10)

— Subfactors and paragroup theory. (English summary) *Operator algebras and operator theory* (*Shanghai*, 1997), 179–188, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99k:46110** 46L37

— Subequivalent systems of bimodules. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 61–62. (*see* **99d:46001**) 46L05 (46L37)

Kawai, Hajime (*with* Koyanagi, Junji) Optimal maintenance policies for servers with multiple terminals. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 194–199. (*see* **99b:90009**) 90B30 (90B05)

— (*with* Koyanagi, Junji) Optimal entry time for queues. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 92–97. (*see* **99h:90006**) 90B22

Kawai, Hikaru (*with* Fukuma, Masafumi; Kitazawa, Yoshihisa; Tsuchiya, Asato) String field theory from IIB matrix model. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 153–164. (Summary) **99d:81116** 81T30

— (*with* Aoki, Hajime; Iso, Satoshi; Kitazawa, Yoshihisa; Tada, Tsukasa) Space-time structures from IIB Matrix model. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 713–745. (Summary) **99f:81141** 81T30

Kawai, Shingo Isomonodromic deformation of Fuchsian-type projective connections on elliptic curves. Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 53–57. (V. V. Chueshev) **99h:14006** 14D05 (14B10, 14H52, 34A20, 58F07)

Kawai, Shinsuke (*with* Sakagami, Masa-aki; Soda, Jiro) Instability of 1-loop superstring cosmology. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 284–290. (Summary) **99f:83068** 83E30

Kawai, Takahiro (*with* Aoki, Takashi; Takei, Yoshitsugu) WKB analysis of Painlevé transcendents with a large parameter. II. Multiple-scale analysis of Painlevé transcendents. *Structure of solutions of differential equations* (*Katata/Kyoto*, 1995), 1–49, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexander Vladimirovich Kitaev) **99g:34120** 34E20 (34A20, 34A25, 34A34)

— (*with* Stapp, Henry P.) On infrared singularities. *New trends in microlocal analysis* (*Tokyo*, 1995), 117–123, *Springer, Tokyo*, 1997. (*see* **99d:00024**) 81U20

— (*with* Takei, Yoshitsugu) Can we find a new deformation of (SL_J)? Conjectures and supporting evidences. Exact WKB analysis and Fourier analysis in the complex domain (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1001 (1997), 39–63. (Andrei A. Kapaev) **99f:32031** 32G34 (34A20, 34A25)

— (*with* Takei, Yoshitsugu) Some problems in algebraic analysis of singular perturbations. Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 15–20. (*see* **99d:00021**) 34E15 (34A20, 34E20)

— (*with* Takei, Yoshitsugu) WKB analysis of Painlevé transcendents with a large parameter. III. Local reduction of 2-parameter Painlevé transcendents. *Adv. Math.* **134** (1998), *no.* 1, 178–218. (Alexander Vladimirovich Kitaev) **99g:34121** 34E20 (34A20, 34A25, 34A34)

Kawai, Toshiharu (*with* Sakane, Eisaku) Distributional energy-momentum densities of Schwarzschild space-time. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 1, 69–86. (Michael Kunzinger) **99h:83018** 83C40 (83C15)

— (*with* Sakane, Eisaku; Tojo, Takashi) Schwarzschild space-time in gauge theories of gravity. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 6, 971–992. (Gheorghe Zet) **99g:83068** 83D05

Kawai, Toshiya K3 surfaces, Igusa cusp forms, and string theory. (English summary) *Topological field theory, primitive forms and related topics* (*Kyoto*, 1996), 273–303, *Progr. Math.*, 160, *Birkhäuser Boston, Boston, MA*, 1998. (I. Dolgachev) **99j:11048** 11F55 (14J28, 81T30)

Kawakami, Akihiko (*with* Funakoshi, Mitsuaki) Elliptic vortices within a shear flow and the exterior flow. (Japanese) Nonlinearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 65–79. (*see* **99e:76056**) 76F10 (76C05, 76D99)

Kawakami, Norio (*with* Fujimoto, Satoshi) Exact Drude weight for the one-dimensional Hubbard model at finite temperatures. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 465–474. (Summary) **99b:82020** 82B20 (82B26)

— (*with* Fukui, Takahiro) Spectral flow of non-Hermitian Heisenberg spin chain with complex twist. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 715–733. (Summary) **99b:82021** 82B20 (82B26)

Kawakami, Tomohiro Exponentially Nash vector bundles with group action. Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 138–145. (Karl Heinz Dovermann) **99f:58005** 58A07

Kawamata, Yūjirō Subadjunction of log canonical divisors for a subvariety of codimension 2. (English summary) *Birational algebraic geometry* (*Baltimore, MD*, 1996), 79–88, *Contemp. Math.*, 207, *Amer. Math. Soc., Providence, RI*, 1997. (Alessio Corti) **99a:14024** 14E30 (14H10, 14J10)

— On Fujita's freeness conjecture for 3-folds and 4-folds. *Math. Ann.* **308** (1997), *no.* 3, 491–505. (From the introduction) **99c:14008** 14C20 (14J30, 14J35)

— The development and future prospects of the theory of complex manifolds. (Japanese) *Sūgaku* **50** (1998), *no.* 3, 307–314. 32-01

— Deformations of canonical singularities. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 85–92. (Gerhard Pfister) **99g:14003** 14B07 (14F17)

Kawamoto, Hiroshi A charge-density wave loop threaded by the Aharonov-Bohm flux. (English summary) Quantum probability theory and entropy analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1013 (1997), 152–158. (*see* **99b:00018**) 82D55 (82B27)

Kawamoto, Yusuke Certain unstable modular algebras over the mod p Steenrod algebra. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 343–350. (Donald M. Davis) **99g:55022** 55S10 (55P15)

Kawamuko, Hiroyuki (*with* Iwasaki, Katsunori) A combinatorial formula of Leibniz type with application to Gegenbauer's polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 29–33. (Summary) **99b:33018** 33C45 (05A19)

Kawamura, Katsuyuki (*with* Oh, Heung-Geun; Ishiwata, Shingo; Watanabe, Shinsuke) Higher-order approximations of the Burgers equation. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 35–45. (*see* **99a:00032**) 35Q53

Kawamura, Kazuhiro (*with* Tsuda, Kōichi) Universal spaces for finite-dimensional closed images of locally compact metric spaces. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 175–193. (V. J. Mancuso) **99c:54044** 54E40 (54C99, 54D30, 54F45, 54F65)

— (*with* Eda, Katsuya) The fundamental groups of one-dimensional spaces. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 163–172. (R. E. Stong) **99b:55022** 55Q07 (55Q52)

Kawamura, Takeshi (*with* Shima, Masasuke) Robust stability analysis of characteristic polynomials whose coefficients are polynomials of interval parameters. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 12 *pp.* (*electronic*). (Summary) **99g:93064** 93D09

— (*with* Shima, Masasuke) Monotonicity methods for stability analysis of the characteristic polynomials whose coefficients are polynomials. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 253–260, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 93D09 (34D10)

Kawamura, Tomomi The unknotting numbers of 10_{139} and 10_{152} are 4. *Osaka J. Math.* **35** (1998), *no.* 3, 539–546. (Olivier Collin) **99k:57018** 57M25

Kawamura, Yoshiaki Direct construction of LQ regulator based on orthogonalization of signals: dynamical output feedback. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 1–9. (Summary) **99a:93041** 93B51 (93D15)

Kawamura, Yoshiharu Model-independent analysis of soft masses in heterotic string models with anomalous U(1) symmetry. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 228–237. 81V22 (81T30)

Kawanabe, Motoaki (*with* Amari, Shun-ichi) Information geometry of estimating functions in semi-parametric statistical models. (English summary) *Bernoulli* **3** (1997), *no.* 1, 29–54. (C. R. Rao) **99a:62037** 62G05 (62F10)

Kawanago, Tadashi Stability estimate for strong solutions of the Navier-Stokes system and its applications. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 15, 23 *pp.* (*electronic*). (Marek Capiński) **99f:35162** 35Q30 (35B40, 76D05)

Kawano, Teruhiko Duality of $N = 1$ supersymmetric SO(10) gauge theory with matter in the spinorial representation. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 304–310, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81003**) 81T60 (81T13)

— (*with* Okuyama, Kazumi) String network and 1/4 BPS states in $\mathcal{N} = 4$ SU(N) supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 338–342. (Summary) **99c:81245** 81T60 (81T13, 81T30)

— (*with* Okuyama, Kazumi) Matrix theory on noncommutative torus. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 29–34. (Summary) **99j:81145** 81T30 (58B30)

Kawarada, Hideo (*with* Fujita, Hiroshi[1]) Variational inequalities for the Stokes equation with boundary conditions of friction type. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 15–33, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Jürgen Socolowsky) **99j:76028** 76D07 (35Q35, 49J40, 76M25, 76M30)

— (*with* Fujita, Hiroshi[1]; Suito, H.) Wave motion breaking upon the shore. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 145–159, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99h:86007** 86A05 (76M20, 86–08)

— (*with* Koshigoe, H.; Sawaguri, T.) Surface density of current observed on superconductive boundary by domain embedding method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 276–286, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:78013** 78A25 (35Q60, 47N20)

— (*with* Ohtomo, T.; Périaux, Jacques; Suito, H.) Multi-start fuzzy optimization method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 338–345, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 90C70

— (*with* Suito, H.) Vorticity reduction problem for the steady flow in a channel with a back step. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 360–373, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99j:76027** 76D05 (76M25, 90C70)

— *see also* **Kawarada, Hideo**, **99g:00054**

Kawasaki, Katsumasa (*with* Shimomura, Takashi; Fujii, Takao) Synthesis of strictly positive real $\mathcal{H}_2$ controllers with loop transfer recovery. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 1, 44–55. 93B36

Kawasaki, Kyozi Microscopic analyses of the dynamical density functional equation of dense fluids. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 527–546. (Richard K. Jordan) **99m:82031** 82C05 (82D15)

Kawasaki, Masahiro (*with* Yanagida, T.) Primordial black hole formation in supergravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 043512, 7 *pp.* 83C57 (83E50)

Kawasaki, Masumi (*with* Kuribayashi, Akikazu; Nakajo, Naoyuki) On the zero-maps and automorphism groups of a compact Riemann surface. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 1–13. (Antonio F. Costa) **99d:30042** 30F10 (20H10)

Kawasaki, Shu-Ji Weak-stationarity conditions for wavelet processes. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 813–826. (Summary) **99a:60039** 60G12

Kawasaki, Takesi On arithmetic Macaulayfication of certain local rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4385–4396. (Alberto Corso) **99m:13007** 13A30 (13H10)

Kawasaki, Toshiharu Order Lebesgue integration in vector lattices. (English summary) *Math. Japon.* **48** (1998), *no.* 1, 13–17. (M. M. Popov) **99g:46057** 46G12 (46A40, 46B42, 47B60)

Kawase, Shin (*with* Chen, Qihao) On fuzzy reasoning by Kóczy's linear rule interpolation. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 501–509. (Summary) **99b:03041** 03B52 (03B70, 68T27)

Kawashima, Konosuke *see* **Performance evaluation of information communication networks, 99a:90008**

Kawashima, Shuichi (*with* Hoshino, Hiroki) Exponentially decaying component of a global solution to a reaction-diffusion system. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 897–904. (Mark A. Peletier) **99j:35104** 35K57

— (*with* Nishibata, Shinya) Weak solutions with a shock to a model system of the radiating gas. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 119–130. (Summary) **99d:76087** 76N15 (35D99, 35Q35, 76L05)

— (*with* Nishibata, Shinya) Cauchy problem for a model system of the radiating gas: weak solutions with a jump and classical solutions. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 69–91. (Pavel Dubovskiĭ) **99m:35151** 35L65 (35Q35, 76N15)

— (*with* Nishibata, Shinya) Shock waves for a model system of the radiating gas. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 95–117 (*electronic*). (Ming Mei) **99h:35133** 35L67 (35Q35, 76L05, 76N15)

Kawashita, Mishio On exterior problems in elasiticy [elasticity]. Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1036 (1998), 88–100. (*see* **99f:35004**) 35Q72 (73D15, 73D25)

— The poles of the resolvent of the elasticity equations. (Japanese) Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 56–76. (*see* **99i:00030**) 35P05 (35Q72, 73D25)

Kawata, Hitomi (*with* Yamamura, Kiyotaka; Tokue, Ai) Interval solution of nonlinear equations using linear programming. (English summary) *BIT* **38** (1998), *no.* 1, 186–199. (Miodrag Petković) **99h:65100** 65G10 (65H10)

Kawata, Masakatsu (*with* Shimazu, Naomitsu; Inoue, Kazuo) An approximate realization of nonlinear $\mathscr{H}_\infty$ control based on the Hamilton-Jacobi equation. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 7, 401–410. 93B36 (49L20)

Kawata, Shigeto On Auslander-Reiten components and simple modules for finite group algebras. *Osaka J. Math.* **34** (1997), *no.* 3, 681–688. (Lidia Angeleri Hügel) **99d:16015** 16G70 (16S34, 20C05)

— (*with* Inoue, Takayuki) On Auslander-Reiten components and trivial modules for integral group rings of p-groups. *J. Algebra* **203** (1998), *no.* 2, 374–384. (D. Zacharia) **99f:16017** 16G70

Kawauchi, Akio Distance between links by zero-linking twists. *Kobe J. Math.* **13** (1996), *no.* 2, 183–190. (Mark E. Kidwell) **99b:57013** 57M25

— Floer homology of topological imitations of homology 3-spheres. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 41–60. (David E. Hurtubise) **99a:57015** 57N10 (57R57)

Kawazoe, Takashi (*with* Inoue, Masayoshi; Hata, Hiroki) Appearance of an invariant manifold and on-off intermittency in coupled-maps—application to a 3-valued neuron. (English summary) *Progr. Theoret. Phys.* **97** (1997), *no.* 3, 387–398. (Bruce B. Peckham) **99g:58082** 58F13 (39A10, 58F40)

Kawazoe, Takeshi Wavelet transforms associated to a principal series representation of semisimple Lie groups. I, II. *Proc. Japan Acad. Ser. A Math. Sci.* **71** (1995), *no.* 7, 154–157, 158–160. (From the introduction) **99a:22024** 22E46 (42C99)

Kawazu, Kiyoshi (*with* Tanaka, Hiroshi[1]) A diffusion process in a Brownian environment with drift. *J. Math. Soc. Japan* **49** (1997), *no.* 2, 189–211. (Wan Ding Ding) **99c:60170** 60J60 (60F05, 60F15, 60K35)

— (*with* Tanaka, Hiroshi[1]) Invariance principle for a Brownian motion with large drift in a white noise environment. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 129–137. (Wan Ding Ding) **99e:60174** 60J60 (60F17)

— Random walks and diffusion processes in a random environment [translation of Sūgaku **48** (1996), no. 2, 162–183; MR 98c:60088]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 1, 51–75. (*see* **99a:00057**) 60J15 (60J60, 82B41, 82B44)

Kawazumi, Nariya Certain cohomology classes on the automorphism groups of free groups. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 35–42. (*see* **99e:30001**) 20F36 (57M25)

— A generalization of the Morita-Mumford classes to extended mapping class groups for surfaces. (English summary) *Invent. Math.* **131** (1998), *no.* 1, 137–149. (Shigeyuki Morita) **99b:57054** 57R20 (14H15, 57M50)

Kawohl, Bernd (*with* Lang, Jan) Are some optimal shape problems convex? (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 353–361. (Summary) **99a:49046** 49Q10 (49J10, 73K40)

— (*with* Kutev, Nikolai) Image processing and anisotropic diffusion. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 191–199, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (*see* **99d:35003**) 94A12 (35K55, 35R30)

— (*with* Kutev, Nikolai) Strong maximum principle for semicontinuous viscosity solutions of nonlinear partial differential equations. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 470–478. (Summary) **99d:35022** 35B50 (35D05, 35J60, 49L25)

— Was ist eine runde Sache? [What constitutes rotundity?] *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 1, 43–56. (Nikolaus Bubner) **99i:00007** 00A69 (35B50, 35N05, 35Q99)

— (*with* Kutev, Nikolai) Maximum and comparison principle for one-dimensional anisotropic diffusion. *Math. Ann.* **311** (1998), *no.* 1, 107–123. (Achilles Tertikas) **99h:35110** 35K60 (35B05, 35B50)

— Symmetry or not? *Math. Intelligencer* **20** (1998), *no.* 2, 16–22. (From the text) **99e:00010** 00A69 (35J65)

— (*with* Cox, Steven J.; Uhlig, P. X.) On the optimal insulation of conductors. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 253–263. (Summary) **99k:49005** 49J10 (49Q10, 80A20)

Kawski, Matthias (*with* Sussmann, Héctor J.) Noncommutative power series and formal Lie-algebraic techniques in nonlinear control theory. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 111–128, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Andrei V. Sarychev) **99a:93021** 93B25 (34E05, 34H05, 93C10)

— Nonlinear control and combinatorics of words. (English summary) *Geometry of feedback and optimal control*, 305–346, *Monogr. Textbooks Pure Appl. Math.*, 207, *Dekker, New York*, 1998. (*see* **99b:93001**) 93C10 (93B29)

Kay, Bernard S. (*with* Cramer, Claes R.) Thermal and two-particle stress-energy must be ill defined on the two-dimensional Misner space chronology horizon. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 1052–1056. (Michael Keyl) **99c:83068** 83C75 (83C47)

Kaya, C. Yalçin (*with* Noakes, J. Lyle) A global control algorithm in the plane. (English summary) *Dynam. Control* **8** (1998), *no.* 4, 377–385. (Summary) **99f:93059** 93B40 (57R27, 93B50)

Kaya, Meryem (*with* Altın, Abdullah) Polynomial solutions for a class of singular partial differential equations. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 183–189 (1998). (Summary) **99c:35027** 35C10

Kaya, Rüstem (*with* Soytürk, Emine) On a Laguerre inversion. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 61–66 (1997). (Giorgio Faina) **99b:51004** 51B15

— (*with* Akça, Ziya) On the taxicab trigonometry. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 151–159. (Summary) **99c:51022** 51K99

— (*with* Hortaçsu, M.) Comparison of exact and perturbative results for two metrics. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 11, 1645–1654. (Michael L. Fil'chenkov) **99h:83016** 83C25 (83C15)

— (*with* Enginer, Y.; Hortascu, M.; Özdemir, N.; Ülker, K.; Yapiskan, B.) Quantum fluctuations of some gravitational waves. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1029–1048. 83C35 (83C47)

Kayama, Yasuyuki (*with* Ichinose, Ikuo) Low-energy excitations in two-leg and three-leg quantum spin ladders. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 3, 569–587. (Summary) **99c:82013** 82B20 (82B10)

Kaye, Richard William Infinitary definitions of equivalence relations in models of PA. Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 37–43. (Fuxing Shen) **99g:03039** 03C62 (03C57)

Kaykobad, M. (*with* Hoque, Md. Sanaul; Akbar, Md. Mostofa; Nath, Suman Kumar) An efficient preprocessor for solving systems of linear equations. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 309–315. (Summary) **99f:65044** 65F05

— (*with* Islam, Md. M.; Amyeen, M. E.; Murshed, M. M.) 3 is a more promising algorithmic parameter than 2. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 19–24. 68Q25 (68M07)

Kayll, P. Mark (*with* Kahn, Jeff) On the stochastic independence properties of hard-core distributions. (English summary) *Combinatorica* **17** (1997), *no.* 3, 369–391. (Summary) **99e:60034** 60C05 (05C65, 05C70, 52B12)

Kaymak, Uzay (*with* van Nauta Lemke, Hans R.) A sensitivity analysis approach to introducing weight factors into decision functions in fuzzy multicriteria decision making. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 169–182. 90C70 (90A05)

Kaymakçalan, B. (*with* Özgün, S. A.; Zafer, A.) Gronwall and Bihari type inequalities on time scales. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 481–490, *Gordon and Breach, Amsterdam*, 1997. (Kazimierz Nikodem) **99g:34100** 34C35 (26D10, 34A40)

— (*with* Zafer, A.; Özgün, S. A.) Asymptotic behavior of higher-order nonlinear equations on time scales. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 299–306. (Summary) **99h:39014** 39A10 (34A99)

Kaynak, M. O. (*with* Rudas, I. J.) Minimum and maximum fuzziness generalized operators. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 83–94. (Summary) **99d:03049** 03E72

Kayser, Daniel (*with* Mokhtari, Aïcha) Time in a causal theory. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 117–138. (Summary) **99a:68155** 68T27

Kayserilioğlu, U. (*with* Arik, Metin; Ünel, G.) Quantum-group description of decaying particles. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9117–9122. (Jacob Katriel) **99i:81087a** 81R50

— (*with* Arik, Metin; Ünel, G.) Corrigendum: "Quantum-group description of decaying particles". *J. Phys. A* **32** (1999), *no.* 3, 569. (Jacob Katriel) **99i:81087b** 81R50

Kayumov, I. R. (*with* Starkov, V. V.) An estimate for logarithmic coefficients of locally univalent functions [MR 98a:30020]. (Russian. English and Russian summaries) Translated from the English. *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 3 (1996), 88–96. 30C50

— On an extremal problem in airfoil theory. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 41–46. 49N55 (76B05)

— (*with* Bil'chenko, G. G.; Nasyrov, S. R.; Sadykov, M. F.) Branched coverings of nonorientable surfaces by orientable ones with a given projection of the boundary. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 292–294; *translation in Math. Notes* **63** (1998), *no.* 1-2, 252–255. (A. N. Bezen) **99g:57002** 57M12

Kayumov, O. R. (*with* Boretskiĭ, I. F.) Globally controllable systems of rigid bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 405–412; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 371–377. (Summary) **99m:70019** 70Q05 (70E99, 93B05, 93C15)

Kayvanfar, S. (*with* Moghaddam, Mohammad Reza R.) $\mathscr{Y}$-perfect groups. (English summary) *Indag. Math.* (*N.S.*) **8** (1997), *no.* 4, 537–542. (Martyn Quick) **99c:20026** 20E10 (20E22)

papantoni-Kazakos, P. *see* **Papantoni-Kazakos, P.**

Kazakov, A. L. (*with* Bautin, S. P.) A Cauchy problem with initial data on different surfaces for a system with a singularity. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 13–23; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 10, 11–21 (1998). (Henryk Kołakowski) **99a:35059** 35J55 (35F20)

Kazakov, Aleksandr Viktorovich (*with* Kuryachiĭ, A. P.) Linear stability of internal swirling flows. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1767–1773; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1695–1700. (Summary) **99f:76051** 76E10 (76N10)

Kazakov, D. I. Softly broken finite supersymmetric grand unified theory. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 228–233, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81V22 (81R40, 81T60)

— Softly broken finite supersymmetric grand unified theory. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 458–461, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81V22 (81R40)

— Finiteness of soft terms in finite $N = 1$ SUSY gauge theories. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 211–216. (Summary) **99b:81241** 81T60 (81T13)

— *see also* **Problems of quantum field theory, 99i:81005** *and* **Renormalization group '96, 99m:81155**

Kazakov, I. E. On the problem of the local synthesis of a quasi-optimal control in a stochastic nonlinear dynamical system. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 69–71. (Summary) **99k:49066** 49K45 (49N35, 93E20)

Kazakov, Kirill A. (*with* Kalmykov, M. Yu.; Pronin, Petr I.; Stepan′yants, K. V.) Detailed analysis of the dependence of 1-loop counter-terms on gauge and parametrization in Einstein gravity with a cosmological constant. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3777–3794. (Summary) **99g:83036** 83C45 (83-04)

— (*with* Pronin, Petr I.) Gauge and parametrization dependence in higher derivative quantum gravity. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064012, 13 *pp.* 83C45

Kazakov, Vladimir Aleksandrovich[1] A matrix model solution of the Hirota equation. (English summary) *New developments in quantum field theory (Zakopane, 1997)*, 97–112, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99j:58094** 58F07 (82B23)

— *see also* **Strings, branes and dualities, 99k:81009**

Kazakova-Frehse, N. Construction of a class of controls that guarantee asymptotic stability (the *n*-dimensional case). (Russian) *Dynamics of control systems, and computational processes (Russian)*, 29–37, *Yakut. sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 93D21

Kazama, Yoichi (*with* Jevicki, Antal; Yoneya, Tamiaki) Generalized conformal symmetry in D-brane matrix models. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 066001, 12 *pp.* (Summary) **99k:81247** 81T30 (81T60, 83E30)

Kazantsev, A. V. (*with* Aksent′ev, L. A.; Popov, Nikolaĭ Ivanovich) Uniqueness theorems for an exterior inverse boundary value problem in subclasses of univalent functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 8, 3–13; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 8, 1–11 (1999). (S. R. Nasyrov) **99m:30016** 30C45 (30E25)

Kazantsev, I. G. Tomographic reconstruction from arbitrary directions using ridge functions. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 635–645. (Sergey Egorovich Sysoev) **99j:44006** 44A12 (45B05, 92C55)

Kazantsev, S. G. (*with* Arbuzov, È. V.; Bukhgeĭm, A. L.) Two-dimensional problems in tomography, and the theory of A-analytic functions. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 6–20, 189, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Faizo A. Shamoyan) **99m:44003** 44A12 (30G20, 92C55)

— Generalized A-analytic functions in tomography problems. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 4, 449–451. (Vladislav V. Kravchenko) **99b:35045** 35J45 (30G20, 35R20, 44A12)

Kazantzis, Nikolaos (*with* Kravaris, Costas) System-theoretic properties of sampled-data representations of nonlinear systems obtained via Taylor-Lie series. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 997–1020. 93C57

— (*with* Kravaris, Costas) Nonlinear observer design using Lyapunov's auxiliary theorem. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 241–247. (Summary) **99e:93011** 93B07 (93B05)

Kazarian, K. S. *see* **Kazaryan, K. S.**

Kazarian, Levon A consistent bootstrapped GMM estimator for the linear model with arbitrary inequality constraints on parameters. *Statist. Papers* **39** (1998), *no.* 3, 325–333. (Lin-Cheng Zhao) **99k:62088** 62G09 (62J05)

Kazarian, M. È. *see* **Kazaryan, M. È.**

Kazarian, Maxim *see* **Kazaryan, M. È.**

Kazarin, Lev S. (*with* Zagorin, D. L.) Absence of abelian ABA-factorizations in sporadic simple groups and their automorphism groups. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 27–41, *Gomel. Gos. Univ., Gomel′*, 1997. (A. S. Kondrat′ev) **99h:20021** 20D08 (20D06, 20D40)

— (*with* Kurdachenko, Leonid A.; Subbotin, Igor Ya.) On groups saturated with abelian subgroups. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 4, 443–466. (Silvana Franciosi) **99j:20041** 20F22

— (*with* Amberg, Bernhard) On finite products of soluble groups. (English summary) *Israel J. Math.* **106** (1998), 93–108. (Franco Migliorini) **99m:20026** 20D10

Kazarinoff, N. D. (*with* Coutsias, E. A.) The approximate functional formula for the theta function and Diophantine Gauss sums. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 2, 615–641. (John H. Loxton) **99b:11091** 11L05 (11J25, 11L07)

Kazaryan, A. R. (*with* Khachatryan, I. G.) On the inverse scattering problem for higher-order differential operators with summable coefficients. I. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 50–75 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 42–63. (Vjacheslav A. Yurko) **99f:34120a** 34L25 (34A55, 47E05)

— (*with* Khachatryan, I. G.) On the inverse scattering problem for a differential operator of arbitrary order with coefficients summable on the entire axis. II. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 1, 39–65 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 1, 33–55. (Vjacheslav A. Yurko) **99f:34120b** 34L25 (34A55, 47E05)

— (*with* Khachatryan, I. G.) On the structure of the scattering matrix of a differential operator of arbitrary order with coefficients summable on the entire axis. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 1, 3–7 (1997). (Vjacheslav A. Yurko) **99j:34124** 34L25 (34A55, 47E05)

Kazaryan, G. G. On the localization at infinity of differential polynomials with constant coefficients. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 3, 62–77 (1996); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 3, 50–62. (Qing Yi Chen) **99h:35025** 35E20 (35B99)

Kazaryan, K. S. (*with* Zink, Robert E.) Some ramifications of a theorem of Boas and Pollard concerning the completion of a set of functions in L^2. (English summary) *Trans. Amer. Math. Soc.* **349** (1997), *no.* 11, 4367–4383. (D. Waterman) **99d:42050** 42C10 (41A30, 42C30, 46E30)

— (*with* Zink, Robert E.) Subsystems of the Schauder system that are quasibases for $L^p[0,1]$, $1 \le p < +\infty$. *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2883–2893. (M. M. Popov) **99a:46050** 46E30 (46B25)

Kazaryan, M. È. The Chern-Euler number of circle bundle via singularity theory. (English summary) Workshop on Real and Complex Singularities (São Carlos, 1996). *Mat. Contemp.* **12** (1997), 131–165. (Louis Funar) **99e:57048** 57R70 (57R20, 58C27)

— (*with* Habsieger, Laurent; Lando, Sergei) On the second number of Plutarch. *Amer. Math. Monthly* **105** (1998), *no.* 5, 446. (Paul Klingsberg) **99g:05012** 05A20 (03B05, 68R05)

— The Chern-Euler number of circle bundle via singularity theory. (English summary) *Math. Scand.* **82** (1998), *no.* 2, 207–236. (Toru Ohmoto) **99k:57064** 57R45 (57R20, 57R70)

Kazaryan, V. S. (*with* Gukasyan, A. A.) The problem of guaranteed control of a robot under incomplete information about the location of the target point. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **49** (1996), *no.* 2, 42–51. 70B15 (70Q05, 93C85)

Kazdan, Jerry L. Solving equations, an elegant legacy. *Amer. Math. Monthly* **105** (1998), *no.* 1, 1–21. (Alexander A. Samodurov) **99e:00002** 00A05 (34A05, 53A04)

Kazemi-Dehkordi, M. A. (*with* Elnagar, Gamal N.) Pseudospectral Chebyshev optimal control of constrained nonlinear dynamical systems. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 195–217. (Ludmila N. Polyakova) **99i:49037** 49M30 (49K15)

— (*with* Elnagar, Gamal N.) Pseudospectral Legendre-based optimal computation of nonlinear constrained variational problems. (English summary) *J. Comput. Appl. Math.* **88** (1998), *no.* 2, 363–375. (Summary) **99b:49030** 49M25 (65D32, 65K10)

— (*with* Burnap, Charles) Optimal control of a system governed by nonlinear Volterra integral equations with delay. (English summary) *IMA J. Math. Control Inform.* **16** (1999), *no.* 1, 73–89. (Manfred Goebel) **99k:49057** 49K22 (49K25)

Kazez, William H. (*with* Gabai, David) Group negative curvature for 3-manifolds with genuine laminations. (English summary) *Geom. Topol.* **2** (1998), 65–77 (*electronic*). (Lee Mosher) **99e:57023** 57M50

Kazhdan, David A. (*with* Etingof, Pavel) Quantization of Poisson algebraic groups and Poisson homogeneous spaces. *Symétries quantiques (Les Houches, 1995)*, 935–946, *North-Holland, Amsterdam*, 1998. (Benjamin David Enriquez) **99m:58105** 58F06 (58H99)

— (*with* Frenkel, Edward; Gaitsgory, D.; Vilonen, Kari) Geometric realization of Whittaker functions and the Langlands conjecture. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 2, 451–484. (Ernst-Wilhelm Zink) **99f:11148** 11R39 (11F70, 14H60, 22E50, 22E55)

Kazhikhov, A. V. (*with* Vaĭgant, V. A.) On the existence of global solutions of two-dimensional Navier-Stokes equations of a compressible viscous fluid. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 445–448. (From the text) **99c:35189** 35Q30 (76N10)

— (*with* Min, Lu; Ukai, Seiji) Global solutions to the Cauchy problem of the Stokes approximation equations for two-dimensional compressible flows. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 985–1006. (Benoît P. Desjardins) **99f:35166** 35Q30 (76N10)

— (*with* Min, Lu; Ukai, Seiji) Global solutions to the Cauchy problem of the Stokes approximation equations for two-dimensional compressible flow. (English summary) Proceedings of the Symposium on Applied Mathematics (Sakado, 1997). *Sci. Bull. Josai Univ.* **1998**, *Special issue no.* 5, 155–174. (Vladimir V. Shelukhin) **99d:76085** 76N10 (35Q30)

— (*with* Mamontov, A. E.) On a class of convex functions and exact classes of wellposedness of the Cauchy problem for the transport equation in Orlicz spaces. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 831–850, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 716–734. (Summary) **99h:35215** 35Q99 (35K55, 76N10)

Kazi, Kimio On the dynamical systems with one-sided Cauchy invariant measure. (Japanese. English summary) *Hiyoshi Rev. Natur. Sci. No.* 23 (1998), 5–8. 58F11

Kažić, Mila Kinematics of the particles subjected to rheonomic constraints. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 55–66. (A. Sumbatov) **99g:70019** 70F20 (70B05, 70G05)

Kazimir, Joseph (*with* Rosen, I. G.) A one-space theory for the uniform exponential convergence of an adaptive identification scheme for distributed parameter systems. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 245–283. (Jan Bialasiewicz) **99f:93037** 93B30 (93C25)

Kazimirov, G. N. (*with* Potapov, M. K.) On the approximation of functions that have a given order of kth generalized modulus of smoothness by algebraic polynomials. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 425–436; *translation in Math. Notes* **63** (1998), *no.* 3-4, 374–383. (Yuri V. Kryakin) **99d:41010** 41A10

— (*with* Potapov, M. K.) On the coincidence of certain classes of functions. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1998**, *no.* 1, 3–11, 79; *translation in Moscow Univ. Math. Bull.* **53** (1998), *no.* 1, 1–9. (Summary) **99c:41013** 41A10 (41A35)

Kazimirov, N. I. Local convergence in a scheme of arrays, and branching processes. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 85–96. (I. Rakhimov) **99g:60154** 60J80 (60F05)

Kazlauskas, Kazys High speed LMS adaptive filtering. (English and Lithuanian summaries) *Informatica (Vilnius)* **9** (1998), *no.* 2, 161–171. (Alexander I. Matasov) **99j:93104** 93E11 (93E35)

Kazmi, K. R. Some remarks on vector optimization problems. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 133–138. (Emil Iwanow) **99b:90109** 90C29

— (*with* Siddiqi, A. H.; Khan, Mohammad Firdosh) A perturbed Ishikawa iterative algorithm for generalized strongly nonlinear quasivariational inequalities. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 1–11. (Yuan Guo Zhu) **99b:49008** 49J40 (47H17, 47H19, 65K10)

Kaz'min, Yu. A. On an inequality. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 25–30, 111; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 24–28. (Summary) **99e:26019** 26D15

Ke, Ligang (*with* Marcellin, Michael W.) Near-lossless image compression: minimum-entropy, constrained-error DPCM. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 2, 225–228. (Summary) **99j:94010** 94A12 (94A29)

Ke, Qi Fa (*with* Wang, Li Xin; Ma, Song De) Design and application of multi-scale differential filters. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 234–244. 68U10

— (*with* Cong, Ke; Ma, Song De) Corner enhancement using a curvature scale space. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 348–356. 68U10 (53A04, 58E10)

Ke, W.-F. (*with* Beidar, K. I.; Fong, Yuen) On complemented radicals. (English summary) *J. Algebra* **201** (1998), *no.* 1, 328–356. (Edmund R. Puczyłowski) **99a:16015** 16N80 (16R20)

Ke, Xiaowu (*with* Han, Ji Ye) A class of nonmonotone trust region algorithms for unconstrained optimization problems. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 927–932. 90C30 (65K05)

Ke, Yun Quan A solution method using splines for a class of boundary value problems. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 13–18, 12. (Fu Ming Ma) **99d:65226** 65L10

Keane, Michael S. (*with* Kamae, Teturo) A simple proof of the ratio ergodic theorem. *Osaka J. Math.* **34** (1997), *no.* 3, 653–657. (Nathaniel F. G. Martin) **99c:28048** 28D05

— (*with* Harris, Matthew) Random coin tossing. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 1, 27–37. (Alexandre S. Gajrat) **99c:60086** 60G30 (60G42, 60K35)

— (*with* Murray, Rua; Young, Lai-Sang) Computing invariant measures for expanding circle maps. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 27–46. (Gary Froyland) **99a:58106** 58F11 (28D99, 65U05)

Kearfott, R. Baker On proving existence of feasible points in equality constrained optimization problems. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 89–100. (H. Ratschek) **99i:90085** 90C30 (65G10, 65K05)

Kearnes, Keith A. (*with* Szendrei, Ágnes) Projectivity and isomorphism of strictly simple algebras. (English summary) *Algebra Universalis* **39** (1998), *no.* 1-2, 45–56. (V. A. Artamonov) **99h:08012** 08B30 (08C05)

— (*with* Kiss, Emil W.) Modularity prevents tails. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 11–19. (Branimir Šešelja) **99m:08003** 08A05 (08A30, 08B10)

Kearney, Paul E. (*with* Corneil, Derek G.) Tree powers. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 111–131. (Summary) **99e:68128** 68R10 (05C85, 68Q25)

Kearns, John T. Propositional logic of supposition and assertion. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 3, 325–349. (David Makinson) **99f:03028** 03B60 (03B05)

Kearns, Michael (*with* Freund, Yoav; Mansour, Yishay; Ron, Dana; Rubinfeld, Ronitt; Schapire, Robert E.) Efficient algorithms for learning to play repeated games against computationally bounded adversaries. *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 332–341, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68T05 (90D20)

— (*with* Freund, Yoav; Ron, Dana; Rubinfeld, Ronitt; Schapire, Robert E.; Sellie, Linda) Efficient learning of typical finite automata from random walks. (English summary) *Inform. and Comput.* **138** (1997), *no.* 1, 23–48. (Rani Siromoney) **99f:68118** 68Q45 (68T05)

Kearsley, A. (*with* Macías, Jorge; Stephenson, D. B.) A basic reference state suitable for anomaly-coupled ocean-atmosphere climate models. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 21–24. 86A05 (86A10)

Kearton, C. (*with* Hillman, Jonathan A.) Algebraic invariants of simple 4-knots. (English summary) *J. Knot Theory Ramifications* **6** (1997), *no.* 3, 307–318. (J. P. Levine) **99b:57047** 57Q45

— (*with* Saeki, Osamu; Wilson, S. M. J.) Finiteness results for knots and singularities. (English summary) *Kobe J. Math.* **14** (1997), *no.* 2, 197–206. (J. P. Levine) **99e:57037** 57Q45 (32S55)

— (*with* Hillman, Jonathan A.) Simple 4-knots. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 907–923. (Washington Mio) **99k:57053** 57Q45

Keating, Jonathan P. Resummation and the turning points of zeta functions. (English summary) *Classical, semiclassical and quantum dynamics in atoms*, 83–93, *Lecture Notes in Phys.*, 485, *Springer, Berlin*, 1997. (*see* **99a:81002**) 11M36 (11Z05, 81Q50)

— (*with* Berry, M. V.; Prado, S. D.) Orbit bifurcations and spectral statistics. (English summary) *J. Phys. A* **31** (1998), *no.* 13, *L245–L254*. (Summary) **99a:81042** 81Q50 (81Q20)

— (*with* Connors, R. D.) Degeneracy moments for the square billiard. (English summary) *J. Phys. A* **32** (1999), *no.* 3, 555–562. (Jens Marklof) **99m:11043** 11E25 (11E45, 81Q50)

Keating, Kevin (*with* King, Jonathan L.) Signed tilings with squares. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 83–91. (Elizaveta Zamorzaeva) **99m:52025** 52C20 (05B45)

Kebekus, Stefan Simple models of quasihomogeneous projective 3-folds. (English summary) *Doc. Math.* **3** (1998), 15–26 (*electronic*). (Lucy Moser-Jauslin) **99g:14067** 14M17 (14L30)

Kececioglu, John D. (*with* Li, Ming[1]; Tromp, John) Inferring a DNA sequence from erroneous copies. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 3–13. (Satoru Miyano) **99e:92022** 92D20 (68Q30, 68T05)

— (*with* Zhang, Weiqing) Aligning alignments. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 189–208, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 92D20 (68Q25)

— (*with* Ravi, R.) Approximation algorithms for multiple sequence alignment under a fixed evolutionary tree. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 355–366. (Summary) **99j:92010** 92D15 (05C85)

Kechagias, Nondas E. Modular invariant theory, homology operations, and the transfer between rings of invariants of parabolic subgroups. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 79–88. (Summary) **99b:55035** 55S05 (13A50, 20J05, 55R12)

— The transfer between rings of modular invariants of subgroups of $GL(n, p)$. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 165–180, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Frank D. Grosshans) **99f:13003** 13A50 (18G10, 20G40, 55S10)

Kechichian, Jean Albert Coplanar two-impulse rendezvous in general elliptic orbit with drag. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 4, 391–409. (Summary) **99c:70035** 70M20 (70Q05)

— Motion in general elliptic orbit with respect to a dragging and precessing coordinate frame. (English summary) *J. Astronaut. Sci.* **46** (1998), *no.* 1, 25–45. (Summary) **99h:70035** 70M20 (70F05)

— The algorithm of the two-impulse time-fixed noncoplanar rendezvous with drag and oblateness effects. (English summary) *J. Astronaut. Sci.* **46** (1998), *no.* 1, 47–64. (Summary) **99h:70036** 70M20

Kechkin, Oleg (*with* Yurova, Maria) U(1, 1)-invariant generation of charges for Einstein-Maxwell–dilaton-axion theory. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 10, 1283–1293. (Summary) **99d:83026** 83C22 (83C40)

— (*with* Yurova, Maria) Sp(4, **R**)/GL(2, **R**) matrix structure of geodesic solutions for Einstein-Maxwell-dilaton-axion theory. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4357–4368. (Seth A. Major) **99f:83019** 83C22

— (*with* Yurova, Maria) Self-dual dyon in dilaton-axion gravity. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 6, 975–982. (Summary) **99a:83065** 83E30

— (*with* Yurova, Maria) Symplectic gravity models in four, three and two dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5446–5457. (Gagik T. Ter-Kazarian) **99j:83068** 83E30 (83C99)

— (*with* Yurova, Maria) BPS solutions in $D = 5$ dilaton-axion gravity. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 219–226. (Marco Spaans) **99k:83122** 83E30 (81T30)

— (*with* Herrera-Aguilar, Alfredo) Charging symmetries and linearizing potentials for Einstein-Maxwell dilaton-axion theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 23, 1907–1914. (Sergey Nikolaevich Roshchupkin) **99g:83021** 83C22

— (*with* Herrera-Aguilar, Alfredo) IWP solutions for heterotic string in five dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 24, 1979–1986. (Summary) **99d:83095** 83E30 (81T30)

— (*with* Herrera-Aguilar, Alfredo) Multi-dimensional IWP solutions for heterotic string theory. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 6, 1745–1753. 81T30 (83E30)

Kechris, Alexander S. (*with* Hjorth, Greg) Borel equivalence relations and classifications of countable models. (English summary) *Ann. Pure Appl. Logic* **82** (1996), *no.* 3, 221–272. (Summary) **99m:03073** 03C75 (03C15, 03E15, 54H05)

— Rigidity properties of Borel ideals on the integers. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 195–205. (Miroslav Repický) **99k:03040** 03E15 (28D15, 54H20)

Kečkić, Jovan D. (*with* Prešić, Slaviša B.) Reproductivity—a general approach to equations. Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 157–184. (Introduction) **99e:39090** 39B52 (15A24, 34A05)

— On possible commuting generalized inverses of matrices. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 19–23. (Summary) **99i:15005** 15A09

Kecs-Toma, Antoanela *see* **Toma, Antonela**

rom-Kedar, Vered *see* **Rom-Kedar, Vered**

Kedem, Benjamin (*with* Fokianos, Konstantinos) Prediction and classification of non-stationary categorical time series. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 277–296. (Mamikon S. Ginovian) **99k:62159** 62M10

Kedem, Klara (*with* Katz, Matthew J.; Segal, Michael) Constrained square-center problems. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 95–106, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (*see* **99k:68003**) 68U05

— (*with* Chew, L. Paul) Getting around a lower bound for the minimum Hausdorff distance. (English summary) *Comput. Geom.* **10** (1998), *no.* 3, 197–202. (Summary) **99b:68197** 68U05 (52B55, 68T10)

— (*with* Glozman, Alex; Shpitalnik, Gregory) On some geometric selection and optimization problems via sorted matrices. (English summary) *Comput. Geom.* **11** (1998), *no.* 1, 17–28. (Summary) **99c:65261** 65Y25 (65K10)

— (*with* Chew, L. Paul; Dor, D.; Efrat, Alon) Geometric pattern matching in d-dimensional space. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 257–274. (Ilya S. Molchanov) **99m:65262** 65Y25 (52B55, 68U05)

Kedlaya, Kiran S. (*with* Ng, Lenhard L.) The rook on the half-chessboard, or How not to diagonalize a matrix. *Amer. Math. Monthly* **105** (1998), *no.* 9, 819–824. (Wasin So) **99i:15014** 15A18

— Product-free subsets of groups. *Amer. Math. Monthly* **105** (1998), *no.* 10, 900–906. (Richard J. Friedlander) **99m:20042** 20D60 (22C05)

Keedwell, A. D. What is the size of the smallest Latin square for which a weakly completable critical set of cells exists? (English summary) *Ars Combin.* **51** (1999), 97–104. (Summary) **99j:05036** 05B15

Keefe, Rosanna Vagueness by numbers. (English summary) *Mind* **107** (1998), *no.* 427, 565–579. 03B65 (03B50, 03B60)

Keel, L. H. (*with* Bhattacharyya, Shankar Prashad) Robust stability of interval matrices: a computational approach. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1491–1506. 93D09

— (*with* Bhattacharyya, Shankar Prashad) Authors' reply to: "Comments on: 'Robust, fragile, or optimal?'" [IEEE Trans. Automat. Control **43** (1998), no. 9, 1265–1267; 1 640 171] by P. M. Mäkilä. *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1268. 93B36 (93D09)

— (*with* Bhattacharyya, Shankar Prashad) Robust control under parametric uncertainty. I. Analysis. *Symbolic methods in control system analysis and design*, 81–113, *IEE Control*

Eng. Ser., 56, *IEE, London*, 1999. (*see* **99h:93005**) 93–02 (93B36)
— (*with* Bhattacharyya, Shankar Prashad) Robust control under parametric uncertainty. II. Design. *Symbolic methods in control system analysis and design*, 203–226, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93–02 (93B36, 93D09)
— *see also* **Mäkilä, Pertti M.**

Keel, Markus Global existence for critical power Yang-Mills-Higgs equations in $\mathbf{R}^{3+1}$. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 7-8, 1161–1225. (David M. A. Stuart) **99b:58227** 58G16 (35L70, 58E15)
— (*with* Tao, Terence) Local and global well-posedness of wave maps on $\mathbf{R}^{1+1}$ for rough data. *Internat. Math. Res. Notices* **1998**, *no.* 21, 1117–1156. (Vladimir Tulovsky) **99k:58180** 58G16 (35L15)
— (*with* Rauch, Jeffrey B.) Lectures on geometric optics. *Hyperbolic equations and frequency interactions* (*Park City, UT*, 1995), 383–466, *IAS/Park City Math. Ser.*, 5, *Amer. Math. Soc., Providence, RI*, 1999. (Ya-Guang Wang) **99m:35146** 35L60 (35–01, 78A05)

Keel, Seán (*with* McKernan, James) Rational curves on quasi-projective surfaces. (English summary) *Mem. Amer. Math. Soc.* **140** (1999), *no.* 669, *viii*+153 *pp.* (Alessio Corti) **99m:14068** 14J26 (14B10, 14E20, 14E30)

Keeler, Stephen P. (*with* Nievergelt, Yves) Computing geodetic coordinates. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 300–309 (*electronic*). (Introduction) **99g:86003** 86A30 (65D99, 86–08)

Keeling, S. L. (*with* Fitzpatrick, Ben G.) On approximation in total variation penalization for image reconstruction and inverse problems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 941–958. (M. Z. Nashed) **99f:65092** 65J20 (49J20)

Keem, Changho (*with* Kato, Takao; Ohbuchi, Akira) Variety of special linear systems on k-sheeted coverings. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 53–65. (Thomas Bauer) **99a:14009** 14C20 (14H45)
— (*with* Ballico, Edoardo) Weierstrass multiple points on algebraic curves and ramified coverings. (English summary) *Israel J. Math.* **104** (1998), 335–348. (Letterio Gatto) **99d:14022** 14H55 (14H10)
— (*with* Ballico, Edoardo) Variety of linear systems on double covering curves. (English summary) *J. Pure Appl. Algebra* **128** (1998), *no.* 3, 213–224. (Montserrat Teixidor i Bigas) **99c:14042** 14H45 (14C20)
— (*with* Ballico, Edoardo; Martens, Gerriet; Ohbuchi, Akira) On curves of genus eight. *Math. Z.* **227** (1998), *no.* 3, 543–554. (Montserrat Teixidor i Bigas) **99b:14027** 14H40 (14C20)

Keen, Giles S. (*with* Blake, John R.; Tong, Robert P.; Wilson, Miles) Acoustic cavitation: the fluid dynamics of non-spherical bubbles. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 251–267. (Summary) **99m:76100** 76Q05 (76B10, 78A99)

Keen, Linda *see* **Bers, Lipman**, **99g:01041a** *and* **99g:01041b**

Keenan, Philip T. (*with* Arbogast, Todd; Dawson, Clint N.; Wheeler, Mary F.; Yotov, Ivan) Enhanced cell-centered finite differences for elliptic equations on general geometry. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 404–425 (*electronic*). (S. Galanis) **99j:65193** 65N30
— (*with* Dupont, Todd F.) Superconvergence and postprocessing of fluxes from lowest-order mixed methods on triangles and tetrahedra. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 4, 1322–1332 (*electronic*). (S. Galanis) **99k:65100** 65N12 (65N06)

Keener, Robert W. (*with* Robinson, John; Weber, Neville C.) Tail probability approximations for U-statistics. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 1, 59–65. (Miguel A. Arcones) **99b:60040** 60F10

Keeping, E. S. Twenty-one years of the Canadian Mathematical Congress. Dual English-French text. *Canadian Mathematical Society*. 1945–1995, *Vol.* 1, 91–127, *Canadian Math. Soc., Ottawa, ON*, 1995. (*see* **99m:01104**) 01A74

Keepler, M. Random evolutions processes induced by discrete time Markov chains. (English summary) *Portugal. Math.* **55** (1998), *no.* 4, 391–400. (Anatoly V. Swishchuk) **99k:60185** 60J25 (47D07, 60F05)

van Keer, Roger *see* **Van Keer, Roger**

Keerthi, S. Sathiya (*with* Phatak, Makarand S.) Gain optimization under control structure and stability region constraints. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 849–864. 93D09 (90C90)
— (*with* Sudarsan, R.) Numerical approaches for solution of differential equations on manifolds. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 153–193. (Benedict J. Leimkuhler) **99d:34004** 34A09 (65L06, 70–08, 70E15)
— (*with* Sudarsan, R.) An efficient approach for the numerical simulation of multibody systems. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 2-3, 195–218. (Benedict J. Leimkuhler) **99d:34003** 34A09 (65L06, 70–08, 70E15)

Kees, Christopher E. (*with* Tocci, Michael D.; Kelley, C. T.; Miller, Cass T.) Inexact Newton methods and the method of lines for solving Richards' equation in two space dimensions. (English summary) *Comput. Geosci.* **2** (1998), *no.* 4, 291–309 (99). 65H10 (65M20, 76M25, 76S05)

Keesling, James (*with* Dranishnikov, A. N.; Uspenskii, Vladimir V.) On the Higson corona of uniformly contractible spaces. (English summary) *Topology* **37** (1998), *no.* 4, 791–803. (Erik K. Pedersen) **99k:57049** 57N99 (19K35, 46L80, 54E99, 58G12)
— (*with* Block, Louis) On homeomorphisms of $(\mathbf{I}, f)$ having topological entropy zero. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 121–137. (Romeo F. Thomas) **99c:54054** 54H20 (54C70)

Kegel, Otto H. (*with* Gschwend, Th.) On the group of weak automorphisms of a family of equivalence relations. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 237–248, *Kluwer Acad. Publ., Dordrecht*, 1998. (Franco Migliorini) **99i:20005** 20B27
— Zur Einfachheit der multiplikativen Gruppe eines existentiell abgeschlossenen Schiefkörpers. (English summary) [On the simplicity of the multiplicative group of an existentially closed skew field] *Results Math.* **35** (1999), *no.* 1-2, 103–106. (Summary) **99m:12002** 12E15

Kegelmann, Mathias (*with* Jung, Achim; Moshier, M. Andrew) Multilingual sequent calculus and coherent spaces. (English summary) *Mathematical foundations of programming semantics* (*Pittsburgh, PA*, 1997), 18 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 6, *Elsevier, Amsterdam*, 1997. (S. Awodey) **99f:03036** 03B70 (03B22, 03F05, 68Q55)

Keh, Haun-Chao (*with* Lin, Jen-Chih) Mapping complete binary tree structures into a faulty supercube with unbounded expansion. (English summary) *Informatica* (*Ljubl.*) **22** (1998), *no.* 4, 491–498. (Summary) **99k:68140** 68R10 (68M10, 68M15)

Kehagias, Alexandros A. (*with* Partouche, H.) D-instanton corrections as (p, q)-string effects and nonrenormalization theorems. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 29, 5075–5092. (Summary) **99k:81250** 81T30 (81T15)
— (*with* Partouche, H.) The exact quartic effective action for the type IIB superstring. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 109–116. (Summary) **99a:81144** 81T30
— (*with* Floratos, E. G.) Eight-dimensional self-dual spaces. (English summary) *Phys. Lett. B* **427** (1998), *no.* 3-4, 283–290. (Luis Ugarte) **99h:53030** 53C07 (53C80, 81T13)
— (*with* Ferrara, Sergio; Partouche, H.; Zaffaroni, Alberto[1]) Membranes and fivebranes with lower supersymmetry and their AdS supergravity duals. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 42–48. (Summary) **99f:81159** 81T30 (83E30, 83E50)
— (*with* Ferrara, Sergio; Partouche, H.; Zaffaroni, Alberto[1]) AdS_6 interpretation of 5D superconformal field theories. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 57–62. (Summary) **99c:83098** 83E50 (81T30, 83E30)
— New type IIB vacua and their F-theory interpretation. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 337–342. (Summary) **99j:81146** 81T30 (32J81)
— (*with* Sfetsos, Konstadinos) On running couplings in gauge theories from type-IIB supergravity. (English summary) *Phys. Lett. B* **454** (1999), *no.* 3-4, 270–276. 81T13 (81T60)

Kehagias, John (*with* Voltis, George) Properties and applications of a modified stochastic integral part model. (English summary) *Bull. Greek Math. Soc.* **39** (1997), 85–94. (Summary) **99d:60013** 60E10

Kehayopulu, Niovi (*with* Tsingelis, Michael) The ideal extensions of ordered semigroups. (English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 89–93. (*see* **99a:00037**) 20M99
— On normal ordered semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 281–291. (Frank A. Smith) **99m:06028** 06F05 (20M99)
— Note on chains of simple semigroups in ordered semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 87–92. (Mark Verus Lawson) **99i:06016** 06F05
— (*with* Lepouras, George) On right regular and right duo poe-semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 281–285. (Mark Verus Lawson) **99d:06020** 06F05 (20M99)
— (*with* Alex, Stelios) The determination of finite non-isomorphic ordered semigroups using turbo Pascal 6.0. (English summary) *Sci. Math.* **1** (1998), *no.* 3, 283–286 (*electronic*). 06–04 (06F05)
— (*with* Tsingelis, Michael) On weakly commutative ordered semigroups. *Semigroup Forum* **56** (1998), *no.* 1, 32–35. (Juturu Hanumanthachari) **99b:06014** 06F05 (20M99)
— (*with* Tsingelis, Michael) On separative ordered semigroups. *Semigroup Forum* **56** (1998), *no.* 2, 187–196. (B. Pondělíček) **99c:06017** 06F05 (20M10)

Kehrbaum, S. (*with* Maddocks, John H.) Elastic rods, rigid bodies, quaternions and the last quadrature. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1732, 2117–2136. (Summary) **99j:73066** 73K05 (58F05, 70E15, 73K12)

Keidar, Idit (*with* Dolev, Danny) Increasing the resilience of distributed and replicated database systems. (English summary) 14th ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (San Jose, CA, 1995). *J. Comput. System Sci.* **57** (1998), *no.* 3, 309–324. (Summary) **99m:68042** 68P15

Keiding, Hans On the structure of the set of Nash equilibria of weakly nondegenerate bimatrix games. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 231–238. (Summary) **99i:90119** 90D05 (90A05)
— (*with* Fristrup, Peter) Minimal manipulability and interjacency for two-person social choice functions. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 3, 455–467. (Fouad T. Aleskerov) **99e:90008** 90A08

Keijsper, J. (*with* Pendavingh, R.) An efficient algorithm for minimum-weight bibranching. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 130–145. (T. R. S. Walsh) **99h:05111** 05C85 (68Q20, 68R10)
— (*with* Schrijver, Alexander) On packing connectors. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 184–188. (Summary) **99d:05054** 05C40
— An algorithm for packing connectors. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 397–404. (Gary Gordon) **99m:05126** 05C70 (05B35)

van Keilegom, Ingrid *see* **Van Keilegom, Ingrid**

Keilhauer, Guillermo G. R. (*with* Del Carmen Calvo, Maria) Tensor fields of type (0, 2) on the tangent bundle of a Riemannian manifold. (English summary) *Geom. Dedicata* **71** (1998), *no.* 2, 209–219. (Andrew Bucki) **99e:53038** 53C20 (53A55)

Keilis-Borok, V. I. The concept of chaos in the problem of earthquake prediction. (English summary) *The impact of chaos on science and society* (*Tokyo*, 1991), 243–254, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 86A15 (58F13)

Keilson, Julian (*with* Vasicek, O. A.) Monotone measures of ergodicity for Markov chains. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 283–288. (Summary) **99e:60151** 60J10
— Covariance and relaxation time in finite Markov chains. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 391–396. (M. M. Siddiqui) **99k:60189** 60J27

Keimel, Klaus *see* **Workshop: Computation and Approximation**, **99i:00013**

Keinert, Fritz (*with* Kwon, Soon-Geol) High accuracy reconstruction from wavelet coefficients. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 3, 293–316. (Ruud van Damme) **99a:42020** 42C15

Keirstead, William P. (*with* He, Hua; Rebholz, Joachim) Double lookbacks. (English summary) *Math. Finance* **8** (1998), *no.* 3, 201–228. (Summary) **99c:90020** 90A09

Keiser, James M. (*with* Beylkin, Gregory; Vozovoi, Lev) A new class of time discretization schemes for the solution of nonlinear PDEs. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 362–387. (Mu Sheng Wei) **99k:65079** 65M12

Keisler, H. Jerome (*with* Benedikt, Michael A.) Expressive power of unary counters. (English summary) *Database theory—ICDT '97* (*Delphi*), 291–305, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68050** 68P15 (03B70, 03C13, 03C80)

— Stochastic differential equations with extra properties. *Nonstandard analysis* (*Edinburgh*, 1996), 259–277, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (David Ross) **99m:60079** 60Hxx (03H05, 93E03)

— (*with* Benedikt, Michael A.) Expressive power of unary counters. (English summary) *Structures in logic and computer science*, 34–50, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Martin Weese) **99i:03041** 03C80 (03C13, 68P15)

Keisling, John D. Convergence speed for simple symmetric exclusion: an explicit calculation. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 1003–1013. (T. M. Liggett) **99b:60168** 60K35 (82C22)

Keizelman, Alexander (*with* Sadeh, Ilan; Zak, Michael) Universal voice compression algorithms based on approximate string matching. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 659–675. (Summary) **99c:68263** 68U30 (68P99)

Kekana, M. (*with* Mahomed, N.) An error estimator for adaptive mesh refinement analysis based on strain energy equalisation. (English summary) *Comput. Mech.* **22** (1998), *no.* 4, 355–366. (Summary) **99i:73070** 73V05 (65N15, 65N55, 76A05, 76M10)

matić-Kekić, Snežana *see* **Matić-Kekić, Snežana**

Kelanemer, Youcef Optimal control of fluid flow in soil. I. Deterministic case. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 373–401. 49N55 (49K20, 76S05)

— (*with* Gerke, Horst H.; Hornung, Ulrich; Slodička, Marián; Schumacher, Stephan) ★ Optimal control of soil venting: mathematical modeling and applications. (English summary) International Series of Numerical Mathematics, 127. *Birkhäuser Verlag, Basel*, 1999. *xvi+152 pp. ISBN* 3-7643-6041-0 (Publisher's description) **99m:49061** 49N55 (76S05, 86A99, 93C95)

Kelarev, Andrei V. Combinatorial properties of sequences in groups and semigroups. *Combinatorics, complexity, & logic* (*Auckland*, 1996), 289–298, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Jan Okniński) **99g:20121** 20M99 (20F99, 68R15)

— (*with* Cazaran, Jilyana) Generators and weights of polynomial codes. (English summary) *Arch. Math.* (*Basel*) **69** (1997), *no.* 6, 479–486. (Shojiro Sakata) **99b:94055** 94B60 (11T71)

— Semigroup rings in semisimple varieties. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 387–391. (Uno Kaljulaid) **99d:20104** 20M25

— An answer to a question of Kegel on sums of rings. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 79–80. (Summary) **99b:16032** 16N40

— (*with* Okniński, Jan) A combinatorial property and growth for semigroups of matrices. *Comm. Algebra* **26** (1998), *no.* 9, 2789–2805. (I. S. Ponizovskiĭ) **99g:20114** 20M20 (16P90)

— Semisimple rings graded by inverse semigroups. *J. Algebra* **205** (1998), *no.* 2, 451–459. (P. Wauters) **99h:16069** 16W50 (16N20, 16N40, 16N60)

— (*with* van der Merwe, Andries B.; van Wyk, Leon) The minimum number of idempotent generators of an upper triangular matrix algebra. (English summary) *J. Algebra* **205** (1998), *no.* 2, 605–616. (John Hannah) **99g:16036** 16S50 (16S15)

— Directed graphs and nilpotent rings. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 3, 326–332. (Edmund R. Puczyłowski) **99m:16034** 16N40

— Two ring constructions and sums of fields. (English summary) *New Zealand J. Math.* **28** (1999), *no.* 1, 43–46. 16W50 (20M25)

Kel'bert, M. Ya. (*with* Grigor'yan, Alexander) Range of fluctuation of Brownian motion on a complete Riemannian manifold. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 78–111. (Thierry Coulhon) **99c:58170** 58G32 (58G11, 60F15, 60G17)

Keldysh, Mstislav Vsevolodovich *see* **Grigor'yan, A. T.,** (**99g:01002**)

Kelemen, Jozef Artificial life: describing life-like behaviors in computational frameworks. (English summary) *Artificial life: grammatical models* (*Mangalia*, 1994), 1–21, *Black Sea Univ. Press, Bucharest*, 1995. (*see* **99d:68155**) 68Q50 (92B20)

Kelemenová, Alica (*with* Csuhaj-Varjú, Erzsébet) Team behaviour in eco-grammar systems. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 213–224. (Solomon Marcus) **99j:68066** 68Q45 (68Q50, 92D40)

Keleş, Sadık (*with* Karadağ, H. Bayram) Parallel projection area and Holditch's theorem. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **45** (1996), *no.* 1-2, 75–84 (1997). (Basil J. Papantoniou) **99b:53005** 53A04

Keleti, Tamás Periodic L_p functions with L_q difference functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 431–440. (Marek Balcerzak) **99h:28007** 28A20 (42B30, 43A15, 43A46)

— Periodic Lip^α functions with Lip^β difference functions. *Colloq. Math.* **76** (1998), *no.* 1, 99–103. (Marek Balcerzak) **99b:26004** 26A16 (39A70, 42A16)

— Difference functions of periodic measurable functions. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 15–32. (Marek Balcerzak) **99e:28007** 28A20 (26A16, 39A70, 43A46)

Kelevedjiev, Petio On the existence of solutions of boundary value problems for second order differential equations. *Nonlinear Anal.* **32** (1998), *no.* 4, 563–573. (Marlène Frigon) **99b:34044** 34B15

— Nonnegative solutions to some singular second-order boundary value problems. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 481–494. (Marlène Frigon) **99m:34035** 34B15

Kelkar, Vikram Dwarkanath (*with* Yamana, Shukichi; Ghoderao, Sudesh Bhaskar) Regular polygons easily made from a business envelope. (English and Japanese summaries) *Bull. Kyoto Univ. Ed. Ser. B No.* 90 (1997), 9–26. (Summary) **99f:51031** 51M15 (51M20)

Kellay, Karim (*with* El-Fallah, O.) Sous-espaces biinvariants pour certains shifts pondérés. (English and French summaries) [Bi-invariant subspaces for some weighted shifts] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 5, 1543–1558. (Hari Bercovici) **99k:47012** 47A15 (47B37)

— (*with* Zarrabi, Mohamed) Classes de fonctions non quasi-analytiques et existence de sous-espaces invariants. (English and French summaries) [Nonquasianalytic classes of functions and existence of invariant subspaces] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 793–796. (Hari Bercovici) **99k:47014** 47A15 (47A60)

— Existence de sous-espaces hyper-invariants. [Existence of hyperinvariant subspaces] *Glasgow Math. J.* **40** (1998), *no.* 1, 133–141. (Hari Bercovici) **99a:47011** 47A15

Kelle, Péter (*with* Barancsi, Éva; Bánki, Géza; Borlói, Rudolf; Chikán, Attila; Kulcsár, Tamás; Meszéna, György) ★ Inventory models. (English summary) Translated from the 1983 Hungarian original by B. Szőnyi and Kelle and revised by the authors. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 16. *Kluwer Academic Publishers, Dordrecht*, 1990. xii+419 *pp. ISBN* 0-7923-0494-2 (Heinz-Uwe Küenle) **99a:90085** 90B05 (90–02)

Keller, Alexander The quasi-random walk. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 277–291, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65368** 65R20 (65C05)

Keller, B. *see* **Keller, Bernhard**

Keller, Benjamin J. Alternatives in implementing noncommutative Gröbner basis systems. (English summary) *Symbolic rewriting techniques* (*Ascona*, 1995), 105–126, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Ralph W. Wilkerson) **99e:68075** 68Q40 (16–04)

Keller, Bernhard An overview of results on cyclic homology of exact categories. (English summary) *Algebras and modules, II* (*Geiranger*, 1996), 337–345, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Simson) **99j:18017** 18G60 (16E40, 18E10, 18E30)

— On the cyclic homology of ringed spaces and schemes. (English summary) *Doc. Math.* **3** (1998), 231–259 (*electronic*). (Kevin P. Knudson) **99i:16018** 16E40 (14F05, 18E30)

— Invariance and localization for cyclic homology of DG algebras. (English summary) *J. Pure Appl. Algebra* **123** (1998), *no.* 1-3, 223–273. (Dieter Happel) **99c:16009** 16E40 (18E30)

— On the cyclic homology of exact categories. (English summary) *J. Pure Appl. Algebra* **136** (1999), *no.* 1, 1–56. (Teimuraz Pirashvili) **99m:18012** 18G60 (18E10)

— *see also* **Dräxler, Peter et al., 99f:16001**

Keller, Gerhard A new estimator for information dimension with standard errors and confidence intervals. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 187–206. (Manfred Denker) **99e:62169** 62M99 (28D99)

— Mixing for finite systems of coupled tent maps. (English summary) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 320–326. (Volker Matthias Gundlach) **99d:58106** 58F11 (28D05)

— ★ Equilibrium states in ergodic theory. (English summary) London Mathematical Society Student Texts, 42. *Cambridge University Press, Cambridge*, 1998. *x+178 pp. ISBN* 0-521-59420-0; 0-521-59534-7 (B. M. Gurevich) **99e:28022** 28Dxx (58F11, 82C03, 82C05)

— (*with* Blank, Michael) Random perturbations of chaotic dynamical systems: stability of the spectrum. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1351–1364. (Gary Froyland) **99h:58145** 58F19 (58F11, 58F30)

Keller, Hannes (*with* Schmalfuß, Björn) Attractors for stochastic differential equations with nontrivial noise. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 43–54, 150, 153–154. (Peter E. Kloeden) **99k:60151** 60H10 (58F12)

Keller, Hans Arwed (*with* Ochsenius A., Herminia) An algebra of self-adjoint operators on a non-Archimedean orthomodular space. *p-adic functional analysis* (*Nijmegen*, 1996), 253–264, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (From the introduction) **99j:47108** 47S10 (47D30)

— (*with* Ochsenius A., Herminia) Residual spaces and operators on orthomodular spaces. (English summary) *p-adic functional analysis* (*Nijmegen*, 1996), 265–274, *Lecture Notes in Pure and Appl. Math.*, 192, *Dekker, New York*, 1997. (Summary) **99j:47109** 47S10 (47A10)

— (*with* Ochsenius A., Herminia) On the geometry of orthomodular spaces over fields of power series. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 85–92. (Bertin Diarra) **99f:47095** 47S10 (12J25, 46S10)

— Constructing orthomodular lattices by pasting projection lattices. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 123–132. (S. S. Holland, Jr.) **99m:06018** 06C15 (46C99, 81P10)

— *see also* **Orthogonal geometry in infinite-dimensional vector spaces, 99e:51001**

Keller, Jaime (*with* Gusiew-Czudżak, Magdalena) The twistor bundle: the Casimir operators of the Poincaré Lie algebra and the Dirac operator. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 419–438. (Waldyr Alves Rodrigues, Jr.) **99a:81064** 81R25 (15A66, 53A50)

— Twistors and Clifford algebras. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 161–173, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Waldyr Alves Rodrigues, Jr.) **99g:81074** 81R25 (15A66)

Keller, Jakob J. Inverse Euler equations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 3, 363–383. (Summary) **99c:76093** 76N10 (76M25)

— Inverse equations. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 513–520. (Summary) **99k:76040** 76C99 (76G25)

Keller, Jörg (*with* Rederlechner, Bernd) A note on correctness proofs for overflow detection logic in adders for d-th complement numbers. (English summary) *J.UCS* **3** (1997), *no.* 10, 1121–1125 (*electronic*). 68M07

Keller, Joseph B. (*with* King, Andrew C.; Merchant, Gregory) Surface tension. (English summary) *Of fluid mechanics and related matters* (*La Jolla, CA*, 1990), 161–168, *Scripps. Inst. Oceanogr. Ref. Ser.*, 91-24, *Scripps Inst. Oceanogr., San Diego, CA*, 1991. (John F. Harper) **99d:76029** 76D45 (76B45)

— (*with* Ryzhik, Leonid; Papanicolaou, George C.) Transport equations for waves in a half space. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1869–1910. (Vadim D. Kryakvin) **99e:35229** 35Q99 (35A25, 76Q05)

— (*with* Kuske, R.) Large deviation theory for stochastic difference equations. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 567–580. (Charles Tier) **99f:60060** 60F10 (39A10, 60H25)

— (*with* Nevard, J.) Homogenization of rough boundaries and interfaces. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1660–1686. (Patrizia Donato) **99d:35018** 35B27 (35J15, 35Q60, 76D30, 76D33)

— (*with* Givoli, Dan; Patlashenko, Igor) Discrete Dirichlet-to-Neumann maps for unbounded domains. (English summary) Exterior problems of wave propagation (Boulder, CO, 1997; San Francisco, CA, 1997). *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 1-2, 173–185. (Summary) **99i:65125** 65N30 (65N55)

— (*with* Grote, Marcus J.) Nonreflecting boundary conditions for Maxwell's equations. (English summary) *J. Comput. Phys.* **139** (1998), *no.* 2, 327–342. (Summary) **99a:78026** 78A45 (78–08)

— (*with* Ahluwalia, Daljit S.; Knessl, Charles) Advection-diffusion around a curved obstacle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3694–3710. (Summary)

99b:76081 76R50
— Surface tension force on a partly submerged body. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 3009–3010. (Summary) **99h:76033** 76D45 (76B45)
— (*with* Giladi, Eldar; Golub, Gene H.) Inner and outer iterations for the Chebyshev algorithm. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 300–319 (*electronic*). (Cs. J. Hegedűs) **99d:65106** 65F10
— Singularities at the tip of a plane angular sector. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 1087–1092. (Summary) **99k:35027** 35J05
— (*with* Mahadevan, L.) Periodic folding of thin sheets. (English summary) *SIAM Rev.* **41** (1999), *no.* 1, 115–131 (*electronic*). (Summary) **99k:73045** 73C50 (34B15, 65D07, 73H05, 73K99)
— *see also* **Concus, Paul, 99d:76030**
Keller, Karsten Julia equivalences and abstract Siegel disks. *Progress in holomorphic dynamics*, 86–101, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Fuyao Ren) **99k:58158** 58F23 (30D05)
Keller, Paweł Indefinite integration of oscillatory functions. (English summary) *Appl. Math. (Warsaw)* **25** (1998), *no.* 3, 301–311. (Summary) **99e:65039** 65D30 (65Q05)
Keller, Thomas Michael Orbit sizes and character degrees. (English summary) *Pacific J. Math.* **187** (1999), *no.* 2, 317–332. (V. A. Belonogov) **99m:20013** 20C20
Keller, Timothy P. Complex continued fractions: an undergraduate research problem proposal. *Missouri J. Math. Sci.* **10** (1998), *no.* 3, 147–152. 11A55
Keller, Wilfrid (*with* Dubner, Harvey) New Fibonacci and Lucas primes. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 417–427, *S1–S12*. (Samuel S. Wagstaff, Jr.) **99c:11008** 11A51 (11B39, 11Y05, 11Y11)
Kellerer, Hans^2 (*with* Pferschy, Ulrich; Speranza, Maria Grazia) An efficient approximation scheme for the subset-sum problem. (English summary) *Algorithms and computation (Singapore, 1997)*, 394–403, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25 (90C27)
— (*with* Kotov, Vladimir; Speranza, Maria Grazia; Tuza, Zsolt) Semi on-line algorithms for the partition problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 235–242. (Summary) **99c:90148** 90C35 (68Q25, 90B25)
— (*with* Pferschy, Ulrich) A new fully polynomial approximation scheme for the knapsack problem. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 123–134, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99m:90115** 90C27 (68Q25, 90C60)
— (*with* Burkard, Rainer E.; He, Yong[1]) A linear compound algorithm for uniform machine scheduling. (English summary) *Computing* **61** (1998), *no.* 1, 1–9. (Frank Werner) **99f:90044** 90B35 (68Q25, 90C27)
— (*with* Babel, Luitpold; Kotov, Vladimir) The k-partitioning problem. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 59–82. (Frank Werner) **99d:90090** 90C27 (90B35)
Kellerer, Hans G. Ambiguity in bounded moment problems. (English summary) *Distributions with fixed marginals and related topics (Seattle, WA, 1993)*, 142–161, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Antonio J. Durán) **99i:44009** 44A60 (28A99, 46G99)
— Representation of Markov kernels by random mappings under order conditions. (English summary) *Distributions with given marginals and moment problems (Prague, 1996)*, 143–160, *Kluwer Acad. Publ., Dordrecht*, 1997. (Rae M. Shortt) **99f:28007** 28A35 (60A10)
Kellerhals, Ruth Nichteuklidische Geometrie und Volumina hyperbolischer Polyeder. (German summary) [Non-Euclidean geometry and volumes of hyperbolic polyhedra] *Math. Semesterber.* **43** (1996), *no.* 2, 155–168. (Barry Monson) **99b:51014** 51M10
— Ball packings in spaces of constant curvature and the simplicial density function. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 189–203. (W. Kuperberg) **99b:52046** 52C17 (05B40)
— Volumes of cusped hyperbolic manifolds. (English summary) *Topology* **37** (1998), *no.* 4, 719–734. (Colin C. Adams) **99c:57039** 57M50
Kelley, C. T. Existence and uniqueness of solutions of nonlinear systems of conductive-radiative heat transfer equations. (English summary) *Transport Theory Statist. Phys.* **25** (1996), *no.* 2, 249–260. (N. L. Vulchanov) **99a:82084** 82C70 (45G10, 45K05)
— (*with* Bortz, D. M.) The simplex gradient and noisy optimization problems. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 77–90, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99e:90086** 90C30
— (*with* Tocci, Michael D.; Miller, Cass T.; Kees, Christopher E.) Inexact Newton methods and the method of lines for solving Richards' equation in two space dimensions. (English summary) *Comput. Geosci.* **2** (1998), *no.* 4, 291–309 (99). 65H10 (65M20, 76M25, 76S05)
— (*with* Sachs, Ekkehard W.) Local convergence of the symmetric rank-one iteration. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 1, 43–63. (A. M. Galperin) **99c:65103** 65H10
— (*with* Keyes, David E.) Convergence analysis of pseudo-transient continuation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 508–523 (*electronic*). (Aurél Galántai) **99d:65261** 65M12 (65M99)
— (*with* Banoczi, J. M.) A fast multilevel algorithm for the solution of nonlinear systems of conductive-radiative heat transfer equations. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 266–279 (*electronic*). (Summary) **99c:65243** 65R20 (45L05, 82C70)
— (*with* Miller, Cass T.; Tocci, Michael D.) Termination of Newton/chord iterations and the method of lines. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 280–290 (*electronic*). (Summary) **99c:65104** 65H10 (65M20, 65N40, 76M25, 76S05)
— (*with* Banoczi, J. M.) A fast multilevel algorithm for the solution of nonlinear systems of conductive-radiative heat transfer equations in two space dimensions. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 4, 1214–1228 (*electronic*). (Summary) **99k:45026** 45L05 (65J15, 80A20)
Kelley, Dean F. (*with* Du, Xiufeng; Wu, Weili) Approximations for subset interconnection designs. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 171–180. (Summary) **99h:68073** 68Q25 (68R10)
Kelley, Walter Spike layer phenomena for pairs of second-order equations. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 1, 91–108. (Eric Benoît) **99c:34120** 34E15 (34B15)
Kellogg, R. Bruce (*with* Kweon, Jae Ryong) Smooth solution of the compressible Navier-Stokes equations in an unbounded domain with inflow boundary condition. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 657–675. (Mariarosaria Padula) **99b:35169** 35Q30 (76N10)
Kellum, Kenneth R. Compositions of Darboux-like functions. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 211–216. (Summary) **99b:26003** 26A15
Kelly, A. (*with* Parkhouse, J. G.) The regular packing of fibres in three dimensions. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1889–1909. (Summary) **99d:73065** 73K20 (52C17)
Kelly, Annela R. (*with* Asmar, Nakhlé H.; Montgomery-Smith, Stephen J.) Vector-valued weakly analytic measures. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 2, 457–473. (Yuji Takahashi) **99h:43015** 43A65 (43A05, 43A70)
Kelly, Brian P. (*with* Asmar, Nakhlé H.) Distributional control for operators on vector-valued L^p-spaces. *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 61–84. (Yves Raynaud) **99g:47060** 47B38 (43A65, 46E40, 47A35, 47D03)
Kelly, D. W. (*with* Wang, Song; Sloan, Ian H.) Pointwise a posteriori upper error bounds for derivatives of a Neumann problem. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 771–778, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N15
Kelly, David L. (*with* Goenka, Aditya; Spear, Stephen E.) Endogenous strategic business cycles. (English summary) *J. Econom. Theory* **81** (1998), *no.* 1, 97–125. (Summary) **99m:90053** 90A60 (90D40)
Kelly, G. M. (*with* Carboni, A.; Verity, D.; Wood, R. J.) A 2-categorical approach to change of base and geometric morphisms. II. (English summary) *Theory Appl. Categ.* **4** (1998), *No.* 5, 82–136 (*electronic*). (R. H. Street) **99e:18007** 18D05 (18B10)
Kelly, J. M. (*with* Pettitt, Anthony N.; Gao, J. T.) Bias correction for censored data with exponential lifetimes. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 941–963. (Summary) **99e:62173** 62N05
Kelly, Jerry S. (*with* Campbell, Donald E.) Relaxing Pareto optimality in economic environments. (English summary) *Econom. Theory* **10** (1997), *no.* 1, 115–130. (Fouad T. Aleskerov) **99k:90013** 90A06 (90A08)
— (*with* Campbell, Donald E.) Quasitransitive social preference: why some very large coalitions have very little power. (English summary) *Econom. Theory* **12** (1998), *no.* 1, 147–162. (Summary) **99k:90017** 90A08
— (*with* Gensemer, Susan H.; Hong, Lu) Migration disequilibrium and specific division rules. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 201–209. (Summary) **99a:90078** 90A53
— (*with* Campbell, Donald E.) Incompatibility of strategy-proofness and the Condorcet principle. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 4, 583–592. (Summary) **99e:90006** 90A08
Kelly, Rafael (*with* Santibáñez, Víctor) Global regulation of elastic joint robots based on energy shaping. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1451–1456. 93C85 (93D21)
Kelly, Terrence K. (*with* Kupferschmid, Michael) Numerical verification of second-order sufficiency conditions for nonlinear programming. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 310–314 (*electronic*). (Summary) **99a:90190** 90C30 (65K05, 90C25)
Kelly-Lyth, D. Uniform lattice point estimates for co-finite Fuchsian groups. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 1, 29–51. (Jens Marklof) **99m:11114** 11P21 (11F72, 30F35)
Kelman, Antoine (*with* Yager, Ronald R.) Using priorities in aggregation connectives. (English summary) *Aggregation and fusion of imperfect information*, 73–97, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 90C70 (04A72)
Kelmans, Alexander K. On graphs with the maximum number of spanning trees. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 177–192. (Xiao Feng Guo) **99m:05048** 05C05 (05C35)
— (*with* Yong, Xue Rong) On the distribution of eigenvalues of graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 251–258. (Summary) **99m:05107** 05C50
Kelmanson, M. A. (*with* Maunder, S. B.) Modelling high-velocity impact phenomena using unstructured dynamically-adaptive Eulerian meshes. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 731–762. (Summary) **99k:73050** 73D05 (73E50, 73V15)
Kelnhofer, Gerald (*with* Hüffel, Helmuth) Nonperturbative stochastic quantization of the helix model. (English summary) *Ann. Physics* **266** (1998), *no.* 2, 417–453. (Constantin Syros) **99j:81086** 81S20 (60H30, 82C31)
Kelsey, John (*with* Hall, Christopher J.; Wagner, David A.; Schneier, Bruce) Building PRFs from PRPs. *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 370–389, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94047** 94A60
Kember, G. (*with* Fowler, Andrew C.) Singular systems analysis as a moving-window spectral method. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 55–79. (Summary) **99d:94003** 94A11 (94A12)
van Kemenade, Cees H. M. (*with* Eiben, A. E.) Diagonal crossover in genetic algorithms for numerical optimization. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 447–465. (*see* **99b:90008**) 90C27 (90C30)
van Kemenade, Vincent (*with* Canuto, Claudio; Russo, Alessandro) Stabilized spectral methods for the Navier-Stokes equations: residual-free bubbles and preconditioning. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 65–83. (Summary) **99i:76107** 76M25 (76D05)
Kemer, A. R. PI-algebras and nil algebras of bounded index. (English summary) *Trends in ring theory (Miskolc, 1996)*, 59–69, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (Amiram Braun) **99c:16021** 16R10 (16N40)
Kemin, Zhang *see* **Zhang, Ke Min[1]**
Kemkhadze, S. (*with* Rostomashvili, Z.) General geometric lattices. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 1, 14–17. 06C10 (06C05)
— Geometries which are connected with general geometric lattices. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 183–184. 51C05 (06A23)
Kemmoun, H. (*with* El Yacoubi, N.) J-diviseurs topologiques de zéro d'une algèbre de Jordan localement multiplicativement convexe. (English summary) [Topological

J-divisors of zero of a locally multiplicatively convex Jordan algebra] *Afrika Mat.* (3) **9** (1998), 19–26. (Khristo N. Boyadzhiev) **99b:46072** 46H70 (17C99)

Kemnitz, Arnfried (*with* Greger, Birte) A forbidden subdigraph condition implying an oriented graph to be Hamiltonian. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 127–131. (Summary) **99m:05101** 05C45 (05C20)

— (*with* Kolberg, Halka) Coloring of integer distance graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 113–123. (Hansjoachim Walther) **99j:05072** 05C15

Kemp, Adrienne W. Absorption sampling and the absorption distribution. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 489–494. (Summary) **99h:60021** 60E05 (60E10)

Kemp, Gary Meaning and truth-conditions. *Philos. Quart.* **48** (1998), *no.* 193, 483–493. 03A05

Kemp, Paula (*with* Abian, Alexander) A geometric proof of the Lebesgue differentiation theorem. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 8–17. 26A24

— (*with* Abian, Alexander) A special partition of the reals into nonmeasurable subsets. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 371–374. (Marek Balcerzak) **99k:28002** 28A05 (05A18)

— On fixed points theorems. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 515–519. (Summary) **99g:06003** 06A06

— (*with* Abian, Alexander) Sums of infinitely many sequences. *Octogon Math. Mag.* **6** (1998), *no.* 1, 37–39. 40A05

Kemp, Rainer On the expected number of nodes at level k in 0-balanced trees. (English summary) *STACS* 98 (*Paris*, 1998), 566–576, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68P05

— Generating words lexicographically: an average-case analysis. (English summary) *Acta Inform.* **35** (1998), *no.* 1, 17–89. (Peter B. Gibbons) **99f:68149** 68R05 (68Q25)

— On the joint distribution of the nodes in uniform multidimensional binary trees. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 261–283. (Robert P. Dobrow) **99j:60013** 60C05 (05C05)

Kemper, Gregor Lower degree bounds for modular invariants and a question of I. Hughes. (English summary) *Transform. Groups* **3** (1998), *no.* 2, 135–144. (Frank D. Grosshans) **99f:13004** 13A50 (15A72, 20C15)

— (*with* Malle, Gunter) Invariant rings and fields of finite groups. (English summary) *Algorithmic algebra and number theory* (*Heidelberg*, 1997), 265–281, *Springer, Berlin*, 1999. (Angelina Chin) **99m:13010** 13A50 (20G15)

Kemper, Ralf Epimorphisms of separated superconvex spaces. (English summary) *Appl. Categ. Structures* **5** (1997), *no.* 3, 217–228. (D. Pumplün) **99b:46114** 46M15 (18A20, 18B99, 18C20, 52A07)

— Positively convex spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 3, 333–344. (J. Wick Pelletier) **99m:46165** 46M15 (18B99, 46A99, 52A01, 52A07)

— Injective and epi-projective objects in categories of convex spaces. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 3, 345–354. (J. Wick Pelletier) **99m:46166** 46M15 (18B99, 46A99, 52A01, 52A07)

Kemperman, J. H. B. Bounding moments of an order statistic when each K-tuple is independent. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 291–304, *Kluwer Acad. Publ., Dordrecht*, 1997. (Erich Haeusler) **99e:62091** 62G30

— (*with* Cohen, Joel E.; Zbăganu, Gh.) ★ Comparisons of stochastic matrices. (English summary) With applications in information theory, statistics, economics, and population sciences. *Birkhäuser Boston, Inc., Boston, MA*, 1998. *viii*+158 *pp. ISBN* 0-8176-4082-7 (E. Seneta) **99m:15023** 15A51 (60J10, 90A16, 94A24)

Kempf, Achim (*with* Adler, Stephen L.) Corrections to the emergent canonical commutation relations arising in the statistical mechanics of Matrix models. (English summary) *J. Math. Phys.* **39** (1998), *no.* 10, 5083–5097. (Nicolaas P. Landsman) **99j:81076** 81S05 (82B05)

Kempfle, Siegmar Causality criteria for solutions of linear fractional differential equations. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 4, 351–364. (Summary) **99j:34010** 34A30 (26A33, 34C99)

Kemppainen, D. (*with* Cushman, Richard; Śniatycki, Jędrzej) A classical particle with spin realized by reduction of a nonlinear nonholonomic constraint. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 1, 133–142. (David Martín de Diego) **99e:70037** 70F25 (34A26, 58F05, 70E15)

Kempthorne, Oscar (*with* Harville, David A.) An alternative way to establish the necessity part of the classical result on the statistical independence of quadratic forms. (English summary) *Linear Algebra Appl.* **264** (1997), 205–215. (Goro Nagase) **99c:62155** 62H10

Kendall, Bruce E. (*with* Schaffer, W. M.; Tidd, C. W.; Olsen, Lars F.) The impact of chaos on biology: promising directions for research. (English summary) *The impact of chaos on science and society* (*Tokyo*, 1991), 190–218, *United Nations Univ. Press, Tokyo*, 1997. (*see* **99d:00006**) 92B05 (58F13)

Kendall, T. M. (*with* Zhou, Jigen; Adrian, R. J.; Balachandar, S.) Mechanisms for generating coherent packets of hairpin vortices in channel flow. (English summary) *J. Fluid Mech.* **387** (1999), 353–396. 76F99

Kendall, Wilfrid S. On some weighted Boolean models. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 105–120, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:60005**) 60D05 (60G55)

— (*with* Jost, Jürgen; Mosco, Umberto; Röckner, Michael; Sturm, Karl-Theodor) ★ New directions in Dirichlet forms. AMS/IP Studies in Advanced Mathematics, 8. *American Mathematical Society, Providence, RI; International Press, Cambridge, MA*, 1998. *xiv*+277 *pp. ISBN* 0-8218-1061-8 (Editors) **99e:31002** 31–06 (31C25, 60J35)

— From stochastic parallel transport to harmonic maps. *New directions in Dirichlet forms*, 49–115, *AMS/IP Stud. Adv. Math.*, 8, *Amer. Math. Soc., Providence, RI*, 1998. (Jean Picard) **99h:58203** 58G32 (58E20, 60G48, 60H30, 60J60)

— Perfect simulation for the area-interaction point process. (English summary) *Probability towards* 2000 (*New York*, 1995), 218–234, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (Summary) **99e:62144** 62M02 (60G55, 62M05)

— A diffusion model for Bookstein triangle shape. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 317–334. (Herbert Ziezold) **99i:60020** 60D05 (60H30, 62H30)

Kenderov, P. S. *see* **Proceedings: Conference on Mathematical Methods in Operations Research/Workshop on Well-posedness and Stability of Optimization Problems, 99k:49002**

Kendrick, David A. (*with* Amman, Hans M.) Computing the steady state of linear quadratic optimization models with rational expectations. (English summary) *Econom. Lett.* **58** (1998), *no.* 2, 185–191. (Summary) **99a:90063** 90A16 (49N10)

Kenessey, Zoltan Quetelet and the beginnings of international statistics. (English, French and Dutch summaries) Actualité et universalité de la pensée scientifique d'Adolphe Quetelet (Brussels, 1996). *Acad. Roy. Belg. Cl. Sci. Mém. Collect.* 8° (3) **13** (1997), 137–159. (*see* **99a:01002**) 01A55

Kenig, Carlos E. (*with* Ponce, Gustavo; Vega, Luis) Global solutions for the KdV equation with unbounded data. *J. Differential Equations* **139** (1997), *no.* 2, 339–364. (Vladislav G. Dubrovsky) **99a:35223** 35Q53 (58F07)

— Flatness of domains and doubling properties of measures supported on their boundary, with applications to harmonic measure. (English summary) Proceedings of the conference dedicated to Professor Miguel de Guzmán (El Escorial, 1996). *J. Fourier Anal. Appl.* **3** (1997), *Special Issue*, 923–931. (Vladimir Eiderman) **99c:31010** 31B05

— (*with* Caffarelli, Luis A.) Gradient estimates for variable coefficient parabolic equations and singular perturbation problems. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 391–439. (Alain Brillard) **99b:35081** 35K10 (35B05, 35B25, 35K60)

— (*with* Ponce, Gustavo; Vega, Luis) Smoothing effects and local existence theory for the generalized nonlinear Schrödinger equations. *Invent. Math.* **134** (1998), *no.* 3, 489–545. (Nakao Hayashi) **99k:35166** 35Q55

— (*with* Sagher, Yoram) Eugene B. Fabes 1937–1997. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, *viii–xii*. (Editors) **99k:01064** 01A70

— (*with* Pipher, Jill) The absolute continuity of elliptic measure revisited. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 463–468. (Steven George Krantz) **99j:31010** 31B25 (31B05, 31B20, 35J05)

— (*with* Wang, Wen Sheng[1]) Existence of local smooth solution for a generalized Zakharov system. *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 469–490. (R. Glassey) **99m:35233** 35Q55 (35L99, 35Q60, 76X05, 82D10)

— (*with* Christ, Michael; Sadosky, Cora; Weiss, Guido) Alberto Pedro Calderón (1920–1998). *Notices Amer. Math. Soc.* **45** (1998), *no.* 9, 1148–1153. (Editors) **99k:01054** 01A70

— (*with* Wang, Wen Sheng[1]) A note on boundary unique continuation for harmonic functions in non-smooth domains. (English summary) *Potential Anal.* **8** (1998), *no.* 2, 143–147. (Steven George Krantz) **99c:35048** 35J40 (31B05, 35B30, 35B37)

Kenmochi, Nobuyuki (*with* Damlamian, Alain) Evolution equations associated with non-isothermal phase transitions. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 62–77, *Springer, Singapore*, 1997. (Andrzej Chrzęszczyk) **99k:35171** 35Q72 (47H15, 47N20, 73B30, 80A22)

— (*with* Yamazaki, Noriaki; Ito, Akio) Global attractors of time-dependent double obstacle problems. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 288–301, *Springer, Singapore*, 1997. (Ioannis G. Stratis) **99m:35114** 35K55 (34G20, 35K85, 47H20, 58F39)

— (*with* Ito, Akio) Errata to: "Asymptotic behaviour of solutions to phase field models with constraints" [Funkcial. Ekvac. **39** (1996), no. 1, 123–142; MR 97g:80011]. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 483–484. (Si Ning Zheng) **99g:80008** 80A22 (35B40, 35Q99, 35R35)

— (*with* Shirakawa, K.; Ito, Akio; Yamazaki, Noriaki) Asymptotic stability for evolution systems associated with phase transition. (English summary) *Progress in partial differential equations, Vol.* 2 (*Pont-à-Mousson*, 1997), 104–115, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (Alp O. Eden) **99h:35019** 35B35 (35K99, 47N20, 80A22)

— (*with* Shirakawa, K.; Ito, Akio; Yamazaki, Noriaki) Asymptotic stability for evolution equations governed by subdifferentials. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 287–310, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Philippe Laurençot) **99m:34141** 34G20 (34D05, 35K99, 35R70, 80A22)

— (*with* Koyama, Tetsuya; Meyer, Gunter H.) Parabolic PDEs with hysteresis and quasivariational inequalities. *Nonlinear Anal.* **34** (1998), *no.* 5, 665–686. (Martin Brokate) **99e:35123** 35K85 (35K60, 47H30, 49J40)

— (*with* Damlamian, Alain) Evolution equations generated by subdifferentials in the dual space of $(H^1(\Omega))'$. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 269–278. (Summary) **99j:35093** 35K55 (34G20, 35R70)

Kenmoku, Masakatsu (*with* Kubotani, Hiroto; Takasugi, Eiichi; Yamazaki, Yuki) de Broglie-Bohm interpretation for the wave function of quantum black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4925–4934. (Summary) **99m:83117** 83C57 (83C47)

Kenna, R. Fisher zeros and singular behaviour of the two-dimensional Potts model in the thermodynamic limit. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9419–9427. 82B26 (82B20)

Kenne, J. P. (*with* Boukas, El-Kébir) Optimal control of failure prone manufacturing systems with corrective maintenance. *Systems modelling and optimization* (*Detroit, MI*, 1997), 468–476, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 90B25

Kennedy, G. J. (*with* McCartan, S. D.) Submaximality and supraconnectedness are complementary topological invariants. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 163–166 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (Summary) **99b:54003** 54A10 (54D25, 54F65)

Kennedy, Gary (*with* Ernström, Lars) Recursive formulas for the characteristic numbers of rational plane curves. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 1, 141–181. (Andreas Gathmann) **99d:14056** 14N10 (14D20)

Kennedy, Joanne On duality and the Spitzer-Pollaczek factorization for random walks. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 251–266. (Moshe Shaked) **99j:60106** 60J15

Kennedy, John W. (*with* Farrell, Edward J.; Quintas, Louis V.) Graph permanent, determinant and cycle polynomials. (English summary) *Bull. Inst. Combin. Appl.* **23**

(1998), 73–82. (Norbert Seifter) **99d:05061** 05C50 (15A15)
— (*with* Gargano, Michael L.; Quintas, Louis V.) Group weighted balanced digraphs and their duals. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 161–167. (Summary) **99j:05080** 05C20 (05C75)
Kennedy, Judy A. (*with* Yorke, James A.) The topology of stirred fluids. (English summary) *Topology Appl.* **80** (1997), *no.* 3, 201–238. (J. E. Keesling) **99b:54047** 54F15 (54F50, 58F12)
Kennedy, Lawrence A. (*with* Fridman, A. A.; Saveliev, A. V.) Superadiabatic combustion in porous media: wave propagation, instabilities, new type of chemical reactor. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 2, 1–26. 80A25 (76S05, 80A32)
Kennedy, Michael Peter (*with* Kolumbán, Géza; Chua, Leon O.) The role of synchronization in digital communications using chaos. II. Chaotic modulation and chaotic synchronization. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 11, 1129–1140. 93D15 (94A05, 94A12)
Kennedy, Robert E. (*with* Cooper, Curtis; Renberg, Milo) On certain sums of functions of base b expansions. *Fibonacci Quart.* **36** (1998), *no.* 5, 407–415. (Peter J. Grabner) **99k:11117** 11K16 (11A63)
— (*with* Cooper, Curtis) An explicit expression for large digit sums in base b expansions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 25–32. (Michael E. Mays) **99h:11009** 11A63
Kennedy, S. (*with* Cipra, B.; Dini, P.; Kolan, A.) Stability of one-dimensional inelastic collision sequences of four balls. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 183–200. (Summary) **99i:70018** 70F35
Kennedy, Thomas Garrett Phase separation in the neutral Falicov-Kimball model. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 829–843. (Summary) **99c:82029** 82B26
Kenney, Charles (*with* Hewer, Gary A.; Manjunath, B. S.) Variational image segmentation using boundary functions. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 9, 1269–1282. (Summary) **99h:94017** 94A12
— (*with* Laub, A. J.) A Schur-Fréchet algorithm for computing the logarithm and exponential of a matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 640–663 (*electronic*). (G. Maess) **99d:65129** 65F30 (15A24, 65D15)
— (*with* Laub, A. J.; Reese, M. S.) Statistical condition estimation for linear least squares. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 906–923 (*electronic*). (Hongyuan Zha) **99e:65072** 65F30 (15A12, 62J05)
Kennings, Andrew (*with* Vannelli, Anthony; Chin, Paulina) Interior point approaches for the VLSI placement problem. (English summary) *Interior point methods of mathematical programming*, 501–528, *Appl. Optim.*, 5, *Kluwer Acad. Publ., Dordrecht*, 1996. (*see* **99a:90005**) 90C35 (90C90)
Kennington, J. (*with* Apte, Aruna Uday; Jayasuriya, A.; Krass, I.; Mohamed, Ramadan Hamed; Sorensen, S.; Whitler, J.) Class scheduling algorithms for Navy training schools. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 533–551. 90B35 (90B90)
Kenno, S. (*with* Foong, S. K.) Path integral solution of telegrapher equation: application to restoring and designing waveforms. (English summary) *Path integrals: Dubna* '96, 354–358, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:35230** 35R30 (35Q99, 60J70, 65C05, 65M99, 94A12)
Kenny, Brian G. (*with* Dixon, Tony W.) Transition to criticality in circle maps at the golden mean. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5952–5963. (M. L. Blank) **99h:58169** 58F30 (58F13)
Kent, Adrian Reply to: "Comment on: 'Consistent sets yield contrary inferences in quantum theory' " [Phys. Rev. Lett. **81** (1998), no. 9, 1981; 1644140] by R. B. Griffiths and J. B. Hartle. *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1982. 81P05
— Entangled mixed states and local purification. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 14, 2839–2841. (Emanuel H. Knill) **99k:81044** 81P99
— *see also* **Griffiths, Robert B.**
Kent, C. M. (*with* Grove, E. A.; Ladas, G.) Lyness equations with variable coefficients. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 281–288, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:39007** 39A10
— (*with* Amleh, A. M.; Grove, E. A.; Ladas, G.) On some difference equations with eventually periodic solutions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 196–215. (Saber Elaydi) **99f:39002** 39A10
Kent, D. C. (*with* Richardson, Gary D.) Completions of probabilistic Cauchy spaces. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 399–407. (Summary) **99h:54043** 54E70 (54A05, 54A20)
Kent, John T. (*with* Wood, Andrew T. A.) Estimating the fractal dimension of a locally self-similar Gaussian process by using increments. (English summary) *J. Roy. Statist. Soc. Ser. B* **59** (1997), *no.* 3, 679–699. (Uttara V. Naik-Nimbalkar) **99a:62136** 62M99 (60G10, 60G15, 60G18)
— (*with* Mardia, Kanti V.; Goodall, Colin; Little, John Andrew) Corrections: "Kriging and splines with derivative information" [Biometrika **83** (1996), no. 1, 207–221; MR 98d:65017]. *Biometrika* **85** (1998), *no.* 2, 505. (From the text) **99f:65022** 65D10 (65D07)
Kenward, M. G. (*with* Molenberghs, Geert; Michiels, B.; Diggle, P. J.) Monotone missing data and pattern-mixture models. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 153–161. (Summary) **99h:62030** 62F99
— (*with* Molenberghs, Geert) Likelihood based frequentist inference when data are missing at random. (English summary) *Statist. Sci.* **13** (1998), *no.* 3, 236–247. 62A10
Kenyon, Claire M. (*with* Amoura, A. K.; Bampis, E.; Manoussakis, Y.) Scheduling independent multiprocessor tasks. (English summary) *Algorithms—ESA* '97 (*Graz*), 1–12, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68M20
— (*with* Rabani, Yuval; Sinclair, Alistair) Biased random walks, Lyapunov functions, and stochastic analysis of best fit bin packing. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 218–235. (Summary) **99f:60120** 60J05 (68Q25)
Kenyon, Richard (*with* Cannon, James W.; Floyd, William J.; Parry, Walter R.) Hyperbolic geometry. *Flavors of geometry*, 59–115, *Math. Sci. Res. Inst. Publ.*, 31, *Cambridge Univ. Press, Cambridge*, 1997. (Lee Mosher) **99c:57036** 57M50 (57N10)
— Local statistics of lattice dimers. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 5, 591–618. (Igor Rivin) **99b:82039** 82B41 (11L07, 52C20, 60C05, 82B26)
— (*with* Vershik, Anatoliĭ Moiseevich) Arithmetic construction of sofic partitions of hyperbolic toral automorphisms. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 357–372. (Anthony Quas) **99g:58092** 58F15 (11K16, 58F03)
— Tilings and discrete Dirichlet problems. (English summary) *Israel J. Math.* **105** (1998), 61–84. (Oded Schramm) **99m:52026** 52C20 (31C20, 60J45)
mcKenzie-Smith, J. J. *see* **McKenzie-Smith, J. J.**
Kepka, Tomáš (*with* Ježek, Jaroslav) Bijective reflexions and coreflexions of commutative unars. (English and Czech summaries) *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 1, 31–40. (Danica Jakubíková-Studenovská) **99h:08010** 08A60
— (*with* El Bashir, Robert) Modules commuting (via Hom) with some limits. (English summary) *Fund. Math.* **155** (1998), *no.* 3, 271–292. (Blas Torrecillas Jover) **99b:16002** 16D10
Kepler, Johannes *see* **Vanderburgh, William L., 99a:01011**
Keppeler, Stefan (*with* Bolte, Jens) Semiclassical time evolution and trace formula for relativistic spin-1/2 particles. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 10, 1987–1991. (Summary) **99d:81038** 81Q20
Kera, S. (*with* Trenčevski, K.) One conjecture concerning the permutation products on manifolds. *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 3-4, 425–429. 57S17
Kerayechian, Asghar On a certain finite difference scheme for a model for diffusion of biological populations. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 2, 353–363. 65M06 (92D25)
Kerbal, S. (*with* Ahmed, N. U.) Linear quadratic regulator for systems governed by B-evolutions. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 527–537. (Gabriel Dimitriu) **99k:49074** 49N10 (49K20, 93B52)
Kerber, Adalbert Anwendungsorientierte Theorie endlicher Strukturen. (English summary) [Application-oriented theory of finite structures] *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 305–330, *Brepols, Turnhout*, 1998. (Summary) **99m:05168** 05E20
— (*with* Betten, Anton; Laue, Reinhard; Wassermann, Alfred) Simple 8-designs with small parameters. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 5–27. (Sheng Jiang) **99g:05019** 05B05
Kerber, Manfred (*with* Kohlhase, Michael; Sorge, Volker) Integrating computer algebra into proof planning. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 327–355. 68T15 (68Q40)
Kérchy, László (*with* van Neerven, J. M. A. M.) Polynomially bounded operators whose spectrum on the unit circle has measure zero. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 551–562. (Srdjan Petrović) **99a:47007** 47A10 (47A11, 47A65, 47D03)
— Operators with regular norm-sequences. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 571–605. (Srdjan Petrović) **99i:47011** 47A15 (47A10, 47A20)
Kerckhoff, Steven P. (*with* Hodgson, Craig D.) Rigidity of hyperbolic cone-manifolds and hyperbolic Dehn surgery. *J. Differential Geom.* **48** (1998), *no.* 1, 1–59. (Athanase Papadopoulos) **99b:57030** 57M50 (53C21)
Kerdid, Nabil (*with* Mato Eiroa, Pilar) A finite element method for a model of not very regular shells. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 805–810, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73V05 (65N30, 73K15)
— (*with* Irago, Hipólito; Viaño Rey, Juan M.) Analyse asymptotique des modes de hautes fréquences dans les poutres minces. (English and French summaries) [Asymptotic analysis of high-frequency modes in thin rods] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1255–1260. (Summary) **99g:73070** 73K05 (73D30, 73K12)
— (*with* Mato Eiroa, Pilar) Approximation par éléments finis conformes d'un modèle de coques peu régulières. (English and French summaries) [Conforming finite element approximation for shells with little regularity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1335–1340. (From the text) **99g:73081** 73K15 (65N30, 73V05)
Keremedis, Kyriakos Some equivalents of AC in algebra. II. (English summary) *Algebra Universalis* **39** (1998), *no.* 3-4, 163–169. (N. C. A. da Costa) **99h:03028** 03E30 (03E25, 03G05, 04A25, 20A99)
— Extending independent sets to bases and the axiom of choice. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 1, 92–98. (Yehuda Rav) **99c:03071** 03E25 (04A25, 15A03)
— (*with* Howard, Paul E.; Rubin, Herman; Rubin, Jean E.) Versions of normality and some weak forms of the axiom of choice. (English summary) *MLQ Math. Log. Q.* **44** (1998), *no.* 3, 367–382. (N. H. Williams) **99h:03027** 03E25 (54D15)
Keren, Osnat (*with* Litsyn, Simon) Codes correcting phased burst erasures. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 416–420. (Summary) **99b:94053** 94B35
— (*with* Litsyn, Simon) More on the distance distribution of BCH codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 251–255. (Summary) **99k:94055** 94B15
Kergaravat, Y. (*with* Jacon, F.; Okong'o, Nora; Knight, Doyle D.) A fully-implicit 2-D Navier-Stokes algorithm for unstructured grids. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 2, 179–196. 76M20
Kergosien, Y. L. Developable surfaces with creases. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 223–230, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Bert Jüttler) **99j:53003** 53A05 (65D17)
Keribin, Christine Estimation consistante de l'ordre de modèles de mélange. (English and French summaries) [Consistent estimate of the order of mixture models] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 243–248. (Philippe Barbe) **99m:62030** 62F12
Kerimov, Azer Countable extreme Gibbs states in a one-dimensional model with unique ground state. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2815–2821. (Daniel Ueltschi) **99e:82009** 82B05 (82B20)
— A condition for the uniqueness of Gibbs states in one-dimensional models. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 183–202. (Introduction) **99k:82006** 82B05
Kerimov, G. A. (*with* Verdiev, Î. A.) Clebsch-Gordan problem for three-dimensional Lorentz group in the elliptic basis. I. Tensor product of continuous series. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3573–3593. (Edward G. Dunne) **99g:22013** 22E43 (81R05)
— (*with* Sezgin, M.) On scattering systems related to the SO(2, 1) group. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7901–7912. (Albert W. Sáenz) **99m:81279**

81U20

Kerimov, N. B. (*with* Mamedov, Kh. R.) On the Riesz basis property of root functions of some regular boundary value problems. (Russian. Russian summary) *Mat. Zametki* **64** (1998), *no.* 4, 558–563; *translation in Math. Notes* **64** (1998), *no.* 3-4, 483–487 (1999). (Summary) **99m:34193** 34L10 (34B24, 47E05)

Kerkendzhiya, M. G. A method for the approximation of unimodal and asymmetric probability distributions. (Georgian. English and Russian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 1, 28–31. 60E05

Kerkyacharian, Gérard (*with* Donoho, David L.; Johnstone, Iain M.; Picard, Dominique) Universal near minimaxity of wavelet shrinkage. (English summary) *Festschrift for Lucien Le Cam*, 183–218, *Springer, New York*, 1997. (Alexander G. Kukush) **99a:62044** 62G05 (62G20)

— (*with* Härdle, Wolfgang; Picard, Dominique; Tsybakov, A. B.) ★ Wavelets, approximation, and statistical applications. (English summary) Lecture Notes in Statistics, 129. *Springer-Verlag, New York*, 1998. *xviii+265 pp. ISBN* 0-387-98453-4 (José Rafael León) **99f:42065** 42C15 (41A30, 42–02, 62G07)

— (*with* Hall, Peter Gavin; Picard, Dominique) Block threshold rules for curve estimation using kernel and wavelet methods. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 922–942. (B. L. S. Prakasa Rao) **99k:62082** 62G07

Kerler, Thomas Equivalence of a bridged link calculus and Kirby's calculus of links on nonsimply connected 3-manifolds. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 155–162. (Yuanan Diao) **99j:57007** 57M25 (57N10)

Kermode, M. W. (*with* van Dijk, W.; Moszkowski, S. A.) Solvable separable nonlocal potential models. (English summary) *J. Phys. A* **31** (1998), *no.* 47, 9571–9577. (Summary) **99h:81230** 81V35

Kern, Albert (*with* Frame, Michael) An abstract Mandelbrot set algorithm for $z^n + c$. (English summary) *Fractals* **6** (1998), *no.* 1, 1–10. (Fuyao Ren) **99c:30052** 30D05 (58F23)

Kern, G. (*with* Maitz, A.) Normal form transformation and an application to a flutter-type of vibration. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 5, 741–751. (Summary) **99h:73047** 73K12 (70K99, 73K70)

Kern, Michel *see* **Lucquin-Desreux, Brigitte, 99f:65002**

Kern, Walter (*with* Faigle, Ulrich) Packing a bin online to maximize the total number of items. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 61–65, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27

— (*with* Faigle, Ulrich; Kuipers, Jeroen) Computing the nucleolus of min-cost spanning tree games is NP-hard. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 443–450. (Summary) **99j:90122** 90D12 (68Q25)

— (*with* Faigle, Ulrich; Fekete, Sándor P.; Hochstättler, Winfried) On approximately fair cost allocation in Euclidean TSP games. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 1, 29–37. (Hans Peters) **99h:90118** 90D06 (90C27, 90D12, 90D46)

Kerner, Otto Basic results on wild hereditary algebras. (English summary) *Trends in the representation theory of finite-dimensional algebras* (*Seattle, WA*, 1997), 215–225, *Contemp. Math.*, 229, *Amer. Math. Soc., Providence, RI*, 1998. (Zygmunt Pogorzały) **99m:16019** 16G20

Kerner, Richard Ternary structures and the Z_3-grading. (English summary) *Quantum groups* (*Karpacz*, 1994), 605–618, *PWN, Warsaw*, 1995. (Summary) **99g:17005** 17A40 (58B30)

— Ternary Z_3-graded algebras and new gauge theories. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 190–202, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81V25 (58B30, 81T13)

— Extensions of differential calculus with Z_N grading. (English summary) Geometrical structures for physical theories, II (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 4, 319–336. (Kevin P. Knudson) **99d:58015** 58A50 (58A10)

— (*with* Niemeyer, Bernd) Covariant q-differential calculus and its deformations at $q^N = 1$. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 2, 161–176. (Władysław Marcinek) **99f:58017** 58B30 (16E99, 16W50)

Kernévez, Jean-Pierre ★ The sentinel method and its application to environmental pollution problems. (English summary) Appendix written in collaboration with J. L. Lions. CRC Mathematical Modelling Series. *CRC Press, Boca Raton, FL*, 1997. xiv+204 *pp. ISBN* 0-8493-9630-1 (William J. Reed) **99c:92059** 92D40 (00A69, 86A05, 86A22, 90A30)

— Sentinels and images. (English summary) *Équations aux dérivées partielles et applications*, 591–596, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Enrique Zuazua) **99j:93056** 93C20 (93B05)

— (*with* Mansouri, N.) Estimation of parameters in nonlinear problems. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 333–343. 65L99 (65K10)

Kern-Isberner, Gabriele A note on conditional logics and entropy. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 231–246. (Jonathan Lawry) **99m:68185** 68T27 (03B48)

Keropyan, A. V. (*with* Sarkisyan, Vladimir Sarkisovich) On the solution of problems for elastic infinite bodies whose boundaries are reinforced by piecewise-homogeneous stringers glued to the bodies. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **48** (1995), *no.* 1, 42–48. 73T05

Kerov, Sergei Interlacing measures. (English summary) *Kirillov's seminar on representation theory*, 35–83, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Tord H. Ganelius) **99h:30034** 30E05 (60G57)

— (*with* Okun′kov, Andreĭ; Olshanskiĭ, Grigoriĭ) The boundary of the Young graph with Jack edge multiplicities. *Internat. Math. Res. Notices* **1998**, *no.* 4, 173–199. (Tim H. Baker) **99f:05120** 05E10 (20C30, 31C35, 33C80)

Kerr, Gilbert (*with* Melrose, G.; Tweed, John) Antiplane shear of a strip containing a periodic array of rigid line inclusions. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 4, 505–512. (Summary) **99h:73053** 73K20

Kerr, Megan M. New examples of homogeneous Einstein metrics. *Michigan Math. J.* **45** (1998), *no.* 1, 115–134. (McKenzie Y. Wang) **99d:53043** 53C25 (53C30)

Kerre, Etienne E. (*with* Onisawa, Takehisa; Cappelle, Bart; Gazdik, Igor) Reliability. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 391–420, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90B25 (04A72)

— (*with* Tsiporkova-Hristoskova, Elena; De Baets, Bernard) Continuity of fuzzy multivalued mappings. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 3, 335–348. (Osmo Kaleva) **99b:54008** 54A40 (26E50, 54C60)

— (*with* Liu, Yaxin) An overview of fuzzy quantifiers. I. Interpretations. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 1–21. (James Franklin) **99i:03026** 03B52

— (*with* Van de Walle, Bartel; De Baets, Bernard) A plea for the use of Łukasiewicz triplets in the definition of fuzzy preference structures. I. General argumentation. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 349–359. 90A06 (90C70)

— (*with* Tsiporkova-Hristoskova, Elena; De Baets, Bernard) On the structure of the classes of stable and pure fuzzy sets. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 225–240. (Summary) **99d:03050** 03E72 (54A40)

— (*with* De Baets, Bernard; Van de Walle, Bartel) A plea for the use of Łukasiewicz triplets in the definition of fuzzy preference structures. II. The identity case. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 303–310. (Summary) **99m:90013** 90A06 (90C70)

— (*with* Tsiporkova-Hristoskova, Elena) Composition, Cartesian and direct products of fuzzy multivalued mappings. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 325–346. (From the summary) **99m:03113** 03E72

— (*with* El Gayyar, M. K.; Ramadan, A. A.) Smooth pretopological spaces. (English summary) *J. Egyptian Math. Soc.* **6** (1998), *no.* 1, 9–26. 54A05

Kershaw, David S. (*with* Prasad, Manoj K.; Shaw, Michael J.; Milovich, Jose L.) 3D unstructured mesh ALE hydrodynamics with the upwind discontinuous finite element method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 1-2, 81–116. (From the summary) **99d:76060** 76M10 (76L05, 76M25)

Kershenbaum, Aaron (*with* Ziv-Ukelson, Michal) A dictionary matching algorithm fast on the average for terms of varying length. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 34–54, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (*see* **99h:68002**) 68Q25 (68U15)

Kersten, Gregory (*with* Kaliszewski, Ignacy; Michalowski, Wojtek) A hybrid interactive technique for the MCDM problems. (English summary) *Essays in decision making*, 48–59, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A05)

Kersten, Ina (*with* Rehmann, Ulf) Excellent algebraic groups. I. (English summary) *J. Algebra* **200** (1998), *no.* 1, 334–346. (Manuel Ojanguren) **99c:20063** 20G15 (15A63, 16K20)

— Noether's problem and normalization. *Jahresber. Deutsch. Math.-Verein.* **100** (1998), *no.* 1, 3–22. (James K. Deveney) **99h:12003** 12F10 (01A60, 12F20)

— *see also* **Witt, Ernst, 99i:01038**

Kersten, Martin L. (*with* Galindo-Legaria, César A.; Pellenkoft, Arjan) Uniformly-distributed random generation of join orders. (English summary) *Database theory—ICDT '95* (*Prague*), 280–293, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (Summary) **99c:68072** 68P15

Kerswell, R. R. Unification of variational principles for turbulent shear flows: the background method of Doering-Constantin and the mean-fluctuation formulation of Howard-Busse. (English summary) *Phys. D* **121** (1998), *no.* 1-2, 175–192. (Alp O. Eden) **99g:76074** 76F99 (35Q35, 76D05)

— Secondary instabilities in rapidly rotating fluids: inertial wave breakdown. (English summary) *J. Fluid Mech.* **382** (1999), 283–306. (Summary) **99m:76058** 76E10 (76U05)

Kertész, Viktor Coexistence of saddle-node and Poincaré-Andronov-Hopf bifurcations. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 267–288. (Douglas S. Shafer) **99j:34054** 34C23 (58F14)

Kervaire, Michel A. L'homotopie stable des groupes classiques d'après R. Bott. Applications. [Stable homotopy of the classical groups, after R. Bott. Applications] *Séminaire Bourbaki, Vol. 5, Exp. No.* 172, 51–60, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 55R45 (57R20, 57T20, 58E05)

— Le problème de Poincaré en dimensions élevées (d'après J. Stallings). [The Poincaré problem in higher dimensions (after J. Stallings)] *Séminaire Bourbaki, Vol. 6, Exp. No.* 208, 41–51, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 57Q25 (57R60)

— (*with* Eliahou, Shalom) Sumsets in vector spaces over finite fields. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 12–39. (Georges Grekos) **99d:11020** 11B75 (05D05, 11T99)

Kesarev, A. V. Characterization of conformal mappings of the upper half-plane on a domain of "comb" type. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 3-4, 290–307. (Georgi Dimkov) **99e:30004** 30C20

Kesavan, Srinivasan (*with* Saint Jean Paulin, Jeannine) Optimal control problems in homogenization. (English summary) *Équations aux dérivées partielles et applications*, 597–609, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Stanisław Migórski) **99h:49031** 49K20 (35B27, 49J20, 49J45)

— Homogenization and optimal control. *Functional analysis with current applications in science, technology and industry* (*Aligarh*, 1996), 103–117, *Pitman Res. Notes Math. Ser.*, 377, *Longman, Harlow*, 1998. (Patrizia Donato) **99c:35021** 35B27 (35J99, 49J10, 49J45)

Keselʹman, V. M. (*with* Zorich, V. A.) Conformal type and isoperimetric dimension of a Riemannian manifold. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 379–385; *translation in Math. Notes* **63** (1998), *no.* 3-4, 333–337. (Igor Belegradek) **99e:53044** 53C20 (53A30)

Kesh, Dipak (*with* Mukherjee, Debasis; Sarkar, Ashis Kumar; Roy, Amiya Bhusan) Ratio dependent predation: a bifurcation analysis. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 295–305. (Summary) **99c:92041** 92D25 (34K15)

edelstein-Keshet, Leah *see* **Edelstein-Keshet, Leah**

Keskin, Derya (D1)-modules with summands having local endomorphism rings. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 145–152. (John Dauns) **99k:16011** 16D80 (16L99)

— Finite direct sums of $(D1)$-modules. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 85–91. (Mamoru Kutami) **99f:16006** 16D70

Keskin, Refik On the parabolic class number of some subgroups of Hecke groups. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 199–205. (Peter J. Nicholls) **99j:11041** 11F06 (20H10)

Keski-Vakkuri, Esko (*with* Kraus, Per) Born-Infeld actions from Matrix theory. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 212–236. (Summary) **99c:81193** 81T30
— (*with* Kraus, Per) Short distance contributions to graviton-graviton scattering: Matrix theory versus supergravity. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 246–258. (Summary) **99e:83057** 83E30 (81T30, 83E50)
— (*with* Kraus, Per) M-momentum transfer between gravitons, membranes, and fivebranes as perturbative gauge theory processes. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 137–149. (Summary) **99f:81167** 81T30 (83E30)
Kesler, Morris P. (*with* Maloney, James G.) Analysis of periodic structures. *Advances in computational electrodynamics*, 345–407, *Artech House Antenna Lib., Artech House, Boston, MA*, 1998. (*see* **99c:78001**) 78–08
Kessar, Radha On blocks and source algebras for the double covers of the symmetric groups. *Representation theory of finite groups* (*Columbus, OH*, 1995), 93–100, *Ohio State Univ. Math. Res. Inst. Publ.*, 6, *de Gruyter, Berlin*, 1997. (Jorn B. Olsson) **99a:20006** 20C20
Kessler, Mathieu Estimation of an ergodic diffusion from discrete observations. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 2, 211–229. (Martin Jacobsen) **99c:62234** 62M05
Kessler, Neil H. (*with* Yang, Yuan Yuan) Modeling the blocking behavior of Clos networks. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 85–102, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99c:90049** 90B12 (60C05, 94C10)
Kessler, Peter Hausdorff topological fuzzy lattices. *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 3–7. 54A40 (06F30)
— Convergence in topological fuzzy lattices. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 9–14 (1994). 54A40 (54A20, 54H12)
— Compactness in topological fuzzy lattices. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 15–20 (1994). 54A40 (54D30, 54H12)
— (*with* Gherman, Rodica) A note on uniform fuzzy lattices. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 11–15 (1995). 54A40 (54H12)
— On some separation properties in topological fuzzy lattices. *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 16–17 (1995). 54A40 (54H12)
Kesten, Harry A universal form of the Chung-type law of the iterated logarithm. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1588–1620. (Endre Csáki) **99d:60082** 60J15 (60F15)
— (*with* Maller, R. A.) Random deletion does not affect asymptotic normality or quadratic negligibility. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 136–179. (Toshio Mori) **99c:60047** 60F05 (62E20)
— Distinguishing and reconstructing sceneries from observations along random walk paths. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 75–83, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Neal Madras) **99i:60141** 60J15 (28A99)
— (*with* Sidoravicius, V.; Zhang, Yu[1]) Almost all words are seen in critical site percolation on the triangular lattice. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 10, 75 *pp.* (*electronic*). (Rahul Roy) **99j:60155** 60K35
— (*with* Maller, R. A.) Random walks crossing power law boundaries. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 219–252. (N. H. Bingham) **99k:60180** 60J15 (60F15, 60G40)
Kesten, Yonit (*with* Pnueli, Amir; Raviv, Li-on) Algorithmic verification of linear temporal logic specifications. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 1–16, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B70)
— (*with* Pnueli, Amir) Modularization and abstraction: the keys to practical formal verification. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 54–71, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q60
Keswani, Navin Homotopy invariance of relative eta-invariants and C^*-algebra K-theory. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 18–26 (*electronic*). (Jonathan M. Rosenberg) **99b:19007** 19K56 (46L80, 57R57, 58G12)
Ketema, Yohannes (*with* Fosdick, Roger; Yu, Jang-Horng) A non-linear oscillator with history dependent force. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 447–459. (Summary) **99a:73072** 73F15 (70K99, 73K12)
— (*with* Fosdick, Roger; Yu, Jang-Horng) Dynamics of a viscoelastic spherical shell with a nonconvex strain energy function. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 2, 221–244. (Summary) **99a:73073** 73F15 (73G25, 73K12, 73K15)
Ketoja, Jukka A. (*with* Satija, Indubala I.) Harper equation, the dissipative standard map and strange nonchaotic attractors: relationship between an eigenvalue problem and iterated maps. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 70–80. (Summary) **99d:58123** 58F13 (39A10, 58F08)
Ketov, Sergei V. On $N = 4$ strings. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 285–286, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30 (81R10)
— Solitons, monopoles, and duality: from sine-Gordon to Seiberg-Witten. (English summary) *Fortschr. Phys.* **45** (1997), *no.* 3-4, 237–292. (Summary) **99b:81242** 81T60 (81T13, 81T17)
— (*with* Ivanov, Evgeniĭ Alekseevich[2]; Zupnik, B. M.) Induced hypermultiplet self-interactions in $N = 2$ gauge theories. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 1-2, 53–82. (Summary) **99k:81310** 81T60 (81T13)
— (*with* Karnas, Siniša) An action of $N = 8$ self-dual supergravity in ultra-hyperbolic harmonic superspace. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 597–626. (Ilya Shapiro) **99m:83203** 83E50
— (*with* Gates, S. James, Jr.) 2D (4, 4) hypermultiplets. I. Diversity for $N = 4$ models. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 111–118. (Summary) **99h:81209** 81T60
— (*with* Gates, S. James, Jr.) 2D (4, 4) hypermultiplets. II. Field theory origins of dualities. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 119–124. (From the introduction) **99h:81210** 81T60
— A manifestly $n = 2$ supersymmetric Born-Infeld action. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 7, 501–510. (Summary) **99m:81160** 81T20 (81T60)
— Dynamical generation of gauge and Higgs bosons in $N = 2$ supersymmetric non-linear sigma-models. (English summary) *Nuclear Phys. B* **544** (1999), *no.* 1-2, 181–217. (Summary) **99m:81253** 81T60 (81T30)
Kettani, Driss (*with* Moulin, Bernard) Route generation and description using a logical and an analogical framework. (English summary) Artificial intelligence and mathematics, VIII (Fort Lauderdale, FL, 1998). *Ann. Math. Artificial Intelligence* **24** (1998), *no.* 1-4, 155–179 (1999). (*see* **99m:68006**) 68T30
Kettani, Ossama (*with* Oral, Muhittin; Siskos, Yannis) A multiple criteria analysis model for real estate evaluation. (English summary) Recent developments in multiple objective optimization. *J. Global Optim.* **12** (1998), *no.* 2, 197–214. (*see* **99a:90011**) 90C29
Kettenring, J. R. (*with* Gnanadesikan, R.; Harvey, J. W.) Corrigenda: "Mahalanobis metrics for cluster analysis" [Sankhyā Ser. A **55** (1993), no. 3, 494–505; MR 96b:62101]. *Sankhyā Ser. A* **56** (1994), *no.* 2, 387. 62H30
Kettner, Lutz (*with* Welzl, Emo) Contour edge analysis for polyhedron projections. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 379–394, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65Y25 (52B70)
Keum, J. H. (*with* Choi, N. S.) The rings of invariants of finite abelian subgroups of $GL(2, \mathbf{C})$ of order ≤ 18. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 951–973. (Summary) **99f:13005** 13A50
— (*with* Lee, Man Keun) A basis of the space of meromorphic quadratic differentials on Riemann surfaces. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 127–134. (James N. Brawner) **99a:14042** 14H55 (14F10)
Keung, Yee Lo (*with* Zou, Jun) Numerical identifications of parameters in parabolic systems. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 83–100. (Julio Guacaneme Dix) **99a:65113** 65M30 (35R30)
Keunings, Roland (*with* Vanderstraeten, Denis) A parallel solver based on the dual Schur decomposition of general finite element matrices. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 23–46. 65M55 (65Y05, 76M10)
Keurentjes, A. (*with* Roslyĭ, A. A.; Smilga, A. V.) Isolated vacua in supersymmetric Yang-Mills theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 081701, 4 *pp.* (Summary) **99k:81313** 81T60 (81T13)
von Keviczky, Attila B. (*with* Hall, Richard L.; Saad, Nasser) Matrix elements for a generalized spiked harmonic oscillator. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6345–6352. (Luciano Canton) **99m:81043** 81Q05 (34L40)
Kevlahan, N. K.-R. (*with* Koster, F.; Griebel, Michael; Farge, M.; Schneider, Kai) Towards an adaptive wavelet-based 3D Navier-Stokes solver. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 339–364, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76123** 76M25 (76F99)
Kevlishvili, B. About minimax problem and mapping coincidence theorem. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 177–180. 49K35 (47H15)
Kevorchian, Cristian An approach to reasoning by analogy in deductively oriented data bases. *An. Univ. Craiova Ser. Mat. Inform.* **20** (1993), 56–71 (1995). 68T30 (68P15)
Key, J. D. (*with* Novick, Beth; Sullivan, Frances E.) Binary codes of structures dual to unitals. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 119–124. (Summary) **99d:94043** 94B60
— (*with* Mattson, H. F., Jr.) Edward F. Assmus, Jr. (1931–1998). *Bull. Inst. Combin. Appl.* **24** (1998), 13–19. 01A70
— (*with* Gao, Shu Hong) Bases of minimum-weight vectors for codes from designs. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 1–15. (J. W. P. Hirschfeld) **99k:94057** 94B25 (51E22)
Key, S. W. (*with* Dohrmann, C. R.) A transition element for uniform strain hexahedral and tetrahedral finite elements. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 12, 1933–1950. (Summary) **99m:73068** 73V05
Keyantuo, Valentin Integrated semigroups and related partial differential equations. (English summary) *J. Math. Anal. Appl.* **212** (1997), *no.* 1, 135–153. (Summary) **99e:47047** 47D06 (34G10, 35R20, 47D09, 47N20)
— (*with* Cioranescu, Ioana) C-semigroups: generation and analyticity. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 15–25. (Summary) **99g:47090** 47D06
— (*with* Vieten, P.) On analytic semigroups and cosine functions in Banach spaces. (English summary) *Studia Math.* **129** (1998), *no.* 2, 137–156. (Vladimir E. Fedorov) **99c:47052** 47D06 (47D09)
Keyes, David E. (*with* McInnes, Lois C.; Susan-Resiga, Romeo F.; Atassi, Hafiz M.) Additive Schwarz methods with nonreflecting boundary conditions for the parallel computation of Helmholtz problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 325–333, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65N30, 65Y05)
— (*with* Wu, Yunhai; Cai, Xiao-Chuan) Additive Schwarz methods for hyperbolic equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 468–476, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65M55 (65F10, 65N30)
— (*with* Kelley, C. T.) Convergence analysis of pseudo-transient continuation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 508–523 (*electronic*). (Aurèl Galántai) **99d:65261** 65M12 (65M99)
— (*with* Cai, Xiao-Chuan; Gropp, William D.; Melvin, Robin G.; Young, David P.) Parallel Newton-Krylov-Schwarz algorithms for the transonic full potential equation. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 246–265 (*electronic*). (Summary) **99b:65138** 65N30 (65H20, 65Y05, 76H05, 76M10)
Keyfitz, Barbara Lee (*with* Čanić, Sunčica) Quasi-one-dimensional Riemann problems and their role in self-similar two-dimensional problems. (English summary) *Arch. Rational Mech. Anal.* **144** (1998), *no.* 3, 233–258. (V. D. Sharma) **99j:35127** 35L60 (35M10, 76N10)
— (*with* Čanić, Sunčica) Riemann problems for the two-dimensional unsteady transonic small disturbance equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 636–665 (*electronic*). (Pavel Dubovskiĭ) **99f:35127** 35L65 (76H05, 76L05)
Ke-Ying, Guan *see* **Guan, Ke Ying**

Keyl, Michael On causal compatibility of quantum field theories and space-times. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 15–28. (Stephen J. Summers) **99j:81099** 81T05 (46N50, 81T20)

— How to describe the space-time structure with nets of C^*-algebras. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 375–385. (Rainer Verch) **99i:81138** 81T05 (46L05, 46L60, 81T20)

— *see also* **Proceedings: International Quantum Structures Association, 99e:81004**

Keyman, Ebru (*with* Fenn, Roger; Rourke, Colin P.) The singular braid monoid embeds in a group. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 7, 881–892. (Darren D. Long) **99k:57013** 57M25

Keynes, H. (*with* Madden, Kathleen M.; Markley, Nelson; Sears, M.) An overview of the construction of suspension flows using continuous cocycles. *Topological dynamics and applications* (*Minneapolis, MN*, 1995), 133–148, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (From the text) **99k:54034** 54H20

Kézdy, André E. (*with* Jacobson, Michael S.; Lehel, Jenő) Scenic graphs. I. Traceable graphs. (English summary) *Ars Combin.* **49** (1998), 79–96. (Arthur M. Hobbs) **99j:05132** 05C45 (05C38)

— (*with* Wang, Chi) Alternating walks in partially 2-edge-colored graphs and optimal strength of graph labeling. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 261–265. (Summary) **99g:05078** 05C15 (05C85)

Kezlan, Thomas P. (*with* Bell, Howard E.) On additive epimorphisms and commutativity of rings. II. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 139–146. (Summary) **99h:16048** 16U80

— Another commutativity theorem involving certain polynomial constraints. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 287–290. 16U80

Khabakhpasheva, T. I. (*with* Korobkin, A. A.) Approach of a shallow rigid body to the interface of two media. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 49–60; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 6, 857–867 (1998). (From the text) **99b:76007** 76B10

— (*with* Sturova, I. V.) Diffraction of internal waves by a submerged circular cylinder at forward speed in a two-layer fluid. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 3, 249–275. (Summary) **99g:76026** 76C10 (76V05)

Khabazi, M. On the boundedness and convergence of partial sums of Fourier series in the weighted Orlicz classes. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 342–344. 42A20

— Weighted norm inequalities for maximal functions in Orlicz spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 3, 348–350 (1997). 42B25

— Weighted norm inequalities for certain integral operators in Orlicz spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 361–362 (1999). 42B20

Khabibrakhmanov, A. F. A formal model of a distributed system. (Russian) *Probabilistic methods and cybernetics, No.* 25 (*Russian*), 130–139, *Izdat. Kazan. Univ., Kazan'*, 1993. (*see* **99h:00017**) 68Q10

Khabibrakhmanov, I. K. (*with* Summers, Danny) The use of generalized Laguerre polynomials in spectral methods for nonlinear differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 65–70. (Summary) **99d:65294** 65M70 (65L60, 65N35)

Khabibulin, R. (*with* Batyrshin, Ildar) On invariance of clustering algorithms. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 721–733. 62H30

Khabibullin, I. T. (*with* Svinolupov, S. I.) Integrable boundary conditions for multicomponent Burgers equations. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 888–901, 960; *translation in Math. Notes* **60** (1996), *no.* 5-6, 671–680 (1997). (Roman O. Popovich) **99e:35205** 35Q53 (35A30, 58F07)

Khachatrian, G. H. *see* **Khachatryan, G. G.**

Khachatrian, Levon H. (*with* Ahlswede, Rudolf) The diametric theorem in Hamming spaces—optimal anticodes. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 4, 429–449. (Zhen Zhang) **99b:05140** 05D05

— (*with* Ahlswede, Rudolf; Aïdinyan, A. K.) The intersection theorem for direct products. *European J. Combin.* **19** (1998), *no.* 6, 649–661. (Miklós Bóna) **99e:05122** 05D05

Khachatryan, A. A. (*with* Gasparyan, A. E.) Propagation of one-dimensional waves in an infinite micropolar medium in the presence of a magnetic field. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **49** (1996), *no.* 4, 70–76 (1997). 73D15 (73B25, 73R05)

— On a problem concerning the longitudinal oscillations of a rod made of a material with different moduli. (Russian. Russian and Armenian summaries) *Izv. Nats. Akad. Nauk Armen. Mekh.* **50** (1997), *no.* 3-4, 92–100. (Summary) **99g:73072** 73K05 (73D30, 73K12)

Khachatryan, A. Kh. (*with* Papoyan, K. V.) On an integral convolution equation in the kinetic theory of gases. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **32** (1997), *no.* 1, 84–92; *translation in J. Contemp. Math. Anal.* **32** (1997), *no.* 1, 77–85. (Introduction) **99f:45005** 45E10 (76P05, 82C40)

— (*with* Engibaryan, N. B.) On some integrable equations of convolution type in kinetic theory. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 466–482; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 452–467. (D. A. Shulaia) **99d:45004** 45E10 (76P05, 82C40)

Khachatryan, G. G. (*with* Martirosyan, S. S.) Code construction for the T-user noiseless adder channel. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1953–1957. (Summary) **99h:94030** 94A24

Khachatryan, I. G. (*with* Kazaryan, A. R.) On the inverse scattering problem for higher-order differential operators with summable coefficients. I. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **29** (1994), *no.* 5, 50–75 (1995); *translation in J. Contemp. Math. Anal.* **29** (1994), *no.* 5, 42–63. (Vjacheslav A. Yurko) **99f:34120a** 34L25 (34A55, 47E05)

— (*with* Kazaryan, A. R.) On the inverse scattering problem for a differential operator of arbitrary order with coefficients summable on the entire axis. II. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 1, 39–65 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 1, 33–55. (Vjacheslav A. Yurko) **99f:34120b** 34L25 (34A55, 47E05)

— (*with* Kazaryan, A. R.) On the structure of the scattering matrix of a differential operator of arbitrary order with coefficients summable on the entire axis. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 1, 3–7 (1997). (Vjacheslav A. Yurko) **99j:34124** 34L25 (34A55, 47E05)

Khachidze, M. Classification of complex systems described over fuzzy sets by use of the method of analytical heuristics. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 381–384. 68T35 (03E72)

Khachiyan, Leonid (*with* Porkolab, Lorant) Testing the feasibility of semidefinite programs. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 17–26, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Levent Tunçel) **99f:90132** 90C30 (68Q25, 68Q40)

Khachoyan, L. O. (*with* Nigiyan, S. A.) Interpretation and transformation of logic programs. (Russian. Armenian summary) *Dokl. Akad. Nauk Armen.* **96** (1996), *no.* 2-4, 32–37 (1997). 68N17

— (*with* Nigiyan, S. A.) On transformations of logic programs. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 6, 17–28; *translation in Program. Comput. Software* **23** (1997), *no.* 6, 302–309. (Summary) **99g:68039** 68N17 (68Q60)

nguyen Khac Viet *see* **Nguyen Khac Viet**

Khadem-Maboudi, A. A. (*with* Pourabdollah, Mohammad Ali) Almost periodic type function spaces on weighted semitopological semigroups. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 107–116. (Peter Mah) **99g:43009** 43A60 (22A20)

el Khadiri, Abdelhafed *see* **El Khadiri, Abdelhafed**

el Khadiri, Mohamed *see* **El Khadiri, Mohamed**

abo Khadra, A. A. *see* **Abo Khadra, A. A.**

Khadzhīlski, Vanya Kh. Distributions of zeros of a sequence of best rational approximants. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 5 5–8. (J. Szabados) **99g:30005** 30C15 (30E10, 41A20)

Khaidukov, V. G. (*with* Cheverda, V. A.; Clément, Francois; Kostin, V. I.) Linearized inversion of data of multi-offset data for vertically inhomogeneous background. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 453–484. (Jiří Nedoma) **99m:86015** 86A15 (35R30, 65D15, 73D50)

Khailov, E. N. On the solution of an optimal control problem with a terminal functional for a homogeneous bilinear system. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 26–30, 53; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 1, 33–39. (Andrzej Świerniak) **99d:49054** 49M05

— (*with* Domogat-skaya, V. B.) On the number of switchings of extremal controls for a class of bilinear systems with a nonsingular matrix. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 27–30, 52. (Alexander J. Zaslavski) **99j:49009** 49J30 (49K30)

Khaĭretdinov, È. F. (*with* Grigoryan, S. S.) Unsteady spreading of a thin layer of viscous fluid over a curved surface. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 151–161; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 145–154. (Summary) **99c:76042** 76D99

Khairullina, O. B. Modelling subsonic vortex gas flows in channels of complex geometries. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 191–218. (Summary) **99f:76077** 76G25 (76M25)

Khaĭtun, S. D. ★ Механика и необратимость. (Russian. English and Russian summaries) [Mechanics and irreversibility] "*Yanus*", *Moscow*, 1996. 447 *pp. ISBN* 5-88929-011-8 (Kirill L. Vaninsky) **99c:82002** 82–02 (58F40, 70H99, 82C35)

Khaĭze, V. *see* **Heise, Werner R.**

Khajah, H. G. Tau method approximation of the Gauss hypergeometric function. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 6, 13–16. (Summary) **99i:33001** 33C05

— (*with* Kalla, Shyam L.) Radiation field integrals and their evaluation techniques. (English summary) *Transform methods & special functions, Varna* '96, 164–177, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 65D32 (41A30, 78A55)

— (*with* Ali, Ismail; Kalla, Shyam L.) A partial differential equation related to a problem in atmospheric pollution. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 1–6. 35Q80 (76R50, 86A10)

— Tau method approximation of a generalized Epstein-Hubbell elliptic-type integral. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1615–1621. (Dumitru Acu) **99m:65044** 65D30 (33E05, 41A55)

Khakhanyan, V. Kh. Functional algebraic models for nonclassical set theory. (Russian. English summary) *Logical investigations, No.* 4 (*Russian*), 192–195, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03E70

— Independence of a special case of the axiom of choice in intuitionistic set theory. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 219–220; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 832–833. (Piotr Wojtylak) **99a:03060** 03F55 (03E25, 03E35, 03E70)

Khakimdjanov, Y. *see* **Khakimdzhanov, Yu. B.**

Khakimdjanov, Yu. *see* **Khakimdzhanov, Yu. B.**

Khakimdjanov, Yusupdjan *see* **Khakimdzhanov, Yu. B.**

Khakimdjanova, Kamola Espaces vectoriels différentiels. [Differential vector spaces] *Algebra and operator theory* (*Tashkent*, 1997), 117–126, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vichian Laohakosol) **99i:12005** 12H05 (15A03)

— Lie algebras with a given lattice of ideals. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 2, 291–297. (José María Ancochea Bermúdez) **99m:17007** 17B05

Khakimdzhanov, Yu. B. (*with* Goze, Michel) Some nilpotent Lie algebras and its applications. (English summary) *Algebra and operator theory* (*Tashkent*, 1997), 49–64, *Kluwer Acad. Publ., Dordrecht*, 1998. (Xanthippi S. Agrafiotou) **99g:17021** 17B30

— (*with* Gómez Martin, José Ramón; Jimenéz-Merchán, A.) Low-dimensional filiform Lie algebras. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 2, 133–158. (Dietrich Burde) **99f:17011** 17B30

— *see also* **Algebra and operator theory, 99d:00012**

Khakimullin, E. R. (*with* Enatskaya, N. Yu.) The limit distribution of the numbers of empty cells in the scheme of allocating grouped particles to grouped cells. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 189–198, *VSP, Utrecht*, 1997. (Summary) **99g:60015** 60C05 (60F05)

Khakimzyanov, G. S. (*with* Barakhnin, V. B.) Numerical modelling of fluid oscillations caused by an instantaneous slope of the reservoir base. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 271–278. 76M25 (76B10)

Khakmi, Kh. I. (*with* Sakhaev, I. I.) On strongly regular modules and rings. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 60–63; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 57–60. (Iuliu Crivei) **99e:16015** 16E50

Khalatnikov, I. M. (*with* Kamenshchik, A. Yu.; Martellini, Maurizio) Remarks about UV regularization of basic commutators in string theories. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046005, 5 *pp.* 81T15 (81T30)

abdel-Khalek, Khaled *see* **Abdel-Khalek, Khaled**

Khalfin, A. Yu. (*with* Vlasov, Yu. V.) Irrotational relativistic motion that depends on one space variable. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 3, 476–483; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 3, 378–383. (A. D. Popova) **99c:83041** 83C55 (76Y05)

Khalfin, L. A. (*with* Klebanov, Lev B.) On some problems of computerized tomography. (English summary) *Probability theory and mathematical statistics (St. Petersburg*, 1993), 201–208, *Gordon and Breach, Amsterdam*, 1996. (Fritz Keinert) **99m:92010** 92C55 (44A12, 60E99)

— CP-violation problem beyond the standard Lee-Oehme-Yang theory. (English summary) *Irreversibility and causality (Goslar*, 1996), 295–310, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Summary) **99d:81181** 81V35

Khalid, H. M. (*with* Ahmad, B.) Regular fuzzy ideals in BCI-algebras. (English summary) *J. Natur. Sci. Math.* **36** (1996), *no.* 2, 167–176. (Yishu Pu) **99m:06037** 06F35 (03G25, 04A72)

— (*with* Ahmad, B.) Fuzzy prime ideals in BCK-algebras. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 113–124. (Summary) **99e:06010** 06F35 (03E72)

— (*with* Ahmad, B.) Fuzzy H-ideals in BCI-algebras. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 153–158. 06F35

al-Khalidi, Hussein R. *see* **Al-Khalidi, Hussein R.**

Khalifa, M. E. (*with* Elsheikh, Mohamed G.; Gavdzinskiĭ, V. N.) The method of integral equation formulation and the unbounded solutions of elastic contact problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 33–39. (Summary) **99d:73083** 73T05 (45E05, 65R20)

Khalikova, T. M. (*with* Yumagulov, M. G.) Approximate solution of the von Kármán problem for a compressed-flexed rectangular plate with elastically fixed edges. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 6, 349–352 (1992). 73K10

Khalil, Abdelkarim Raffinement de la borne spectrale d'un faisceau de matrices. (English and French summaries) [Improvement of the spectral bound of a pencil of matrices] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 1, 101–105. (Alan L. Andrew) **99h:65079** 65F30 (15A22, 65N06)

Khalil, G. S. (*with* Valeev, K. G.) Investigation of the solutions of linear systems of difference equations with random coefficients. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 139–144. (Onésimo Hernández Lerma) **99g:60118** 60J10 (93E15)

Khalil, Hassan K. (*with* Mahmoud, Nazmi A.) Robust control for a nonlinear servomechanism problem. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 779–802. 93B35 (93D21)

— (*with* Lee, Kang Woong) Adaptive output feedback control of robot manipulators using high-gain observer. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 869–886. 93C85

Khalil, Idriss (*with* Akkouchi, Mohamed; Bakali, Allal) A class of functional equations on a locally compact group. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 694–705. (Walter R. Bloom) **99k:43015** 43A99 (39B22)

Khalil, Roshdi (*with* Hussain, M.) Uniformly dominated sets of p-summing operators. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 59–68. (A. Pietsch) **99e:47023** 47B10

— (*with* Grząślewicz, Ryszard) Compact exposed l^p-operators. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 617–619. (Nina M. Roy) **99f:47052** 47D20

Khalil, Shaaban (*with* Kobayashi, Tatsuo) Yukawa unification in moduli-dominant SUSY breaking. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 99–114. (Summary) **99f:81223** 81V22 (81R40, 81T60)

Khalil, Wisama (*with* Boyer, F.; Glandais, N.) Jacobian of a flexible manipulator undergoing large elastic displacements. (English summary) *Advances in robot kinematics: analysis and control (Salzburg*, 1998), 501–510, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Khaliq, A. Q. M. (*with* Sheng, Qin) A compound adaptive approach to degenerate nonlinear quenching problems. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 29–47. (Summary) **99h:65151** 65M06

Khalique, A. (*with* Tajuddin, I. H.) A test of symmetry based on sign statistic. (English summary) *Pakistan J. Statist.* **12** (1996), *no.* 3, 243–249. 62G10

Khallouf, H. (*with* Azaïez, Mejdi; Ben Belgacem, Faker; Grundmann, M.) Staggered grids hybrid-dual spectral element method for second-order elliptic problems. Application to high-order time splitting methods for Navier-Stokes equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 183–199. (Summary) **99j:76070** 76M10 (76D05)

Khamayseh, Ahmed (*with* Elnagar, Gamal N.) Numerical solution of non-stationary aero-autoelasticity integro-differential operator equations. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 6, 501–513. (Summary) **99m:49046** 49M25 (45L05, 65K10, 65N35, 73K70)

Khamdamov, I. M. (*with* Adirov, T. Kh.; Gafurov, M. U.) Asymptotic analysis of a Hill-type statistical estimator for the parameter of the generalized Weibull distribution. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 11–22. (Summary) **99f:62030** 62F10 (62G05)

al-Khamees, Yousif *see* **Al-Khamees, Yousif**

Khamis, S. M. (*with* Mokhlis, N.) An exact enumeration of the reliability of some linear & circular connected X-out-of-(n, m):F lattice systems. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 93–118. (Summary) **99k:68145** 68R10

al-Khamis, Talal M. *see* **Al-Khamis, Talal M.**

Khamisov, O. V. (*with* Apekina, E. V.) A modified method of simplex embeddings with the simultaneous introduction of several intersecting planes. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 12, 16–24; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 12, 14–22 (1998). (Knut Richter) **99a:90149** 90C25

Khamraev, Yu. Yu. (*with* Makarov, Vladimir L.) Difference schemes of a high-order of accuracy for degenerate systems of differential equations on nonuniform grids. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 410–415, 431; *translation in Differential Equations* **33** (1997), *no.* 3, 410–416. (Snezhana Gocheva-Ilieva) **99d:65229** 65L12 (65L10)

Khamsi, Mohamed A. (*with* Misane, Driss) Disjunctive signed logic programs. (English summary) *Fund. Inform.* **32** (1997), *no.* 3-4, 349–357. (Summary) **99g:68037** 68N17

Khamza, Buzhuf Topologies on n-ary semigroups defined by families of deviations. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 187–189, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20N15

— (*with* Mukhin, V. V.) On the embedding of n-ary abelian topological semigroups into n-ary topological groups. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 157–160, *Gomel. Gos. Univ., Gomel'*, 1996. (From the text) **99h:22002** 22A30

Khan, A. *see* **Khan, Ahmad**

khodadad Khan, A. F. M. *see* **Khodadad Khan, A. F. M.**

Khan, A. H. *see* **Khan, Abdul Hamid**

Khan, A. R. *see* **Khan, A. Rauf**

Khan, A. Raouf (*with* Pal Choudhury, Pabitra; Dihidar, K.; Verma, R.) Text compression using two-dimensional cellular automata. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 6, 115–127. 68Q80

Khan, A. Rauf (*with* Ahmad, Aqeel) Coincidence and fixed point theorem for hybrid contractions. (English summary) *Southeast Asian Bull. Math.* **22** (1998), *no.* 1, 11–15. 54H25 (54C60, 54E40)

Khan, Abdul Hamid (*with* Begum, Anjuman A.) Concomitants of order statistics from Gumbel's bivariate Weibull distribution. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 133–140. 62G30

— (*with* Zafar, Asim) Prediction and estimation in exponential failure model. (English summary) *IAPQR Trans.* **22** (1997), *no.* 1, 81–89. (Summary) **99k:62190** 62N05 (62G30)

— (*with* Ali, Md. Almech) Recurrence relations for the expectations of a function of single order statistic from general class of distributions. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 1–9. (Summary) **99e:62086** 62G30 (62E15)

— (*with* Ali, Md. Almech) Characterization of some types of distributions. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 2, 1–9. (Summary) **99e:62011** 62E10

— (*with* Begum, Anjuman A.) Concomitants of order statistics from bivariate Burr distribution. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 255–265. 62G30

— (*with* Ali, Md. Almech) Recurrence relations for expected values of certain functions of two order statistics. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 107–119. 62G30

Khan, Ahmad (*with* Zertaj, Sh.) Results concerning common fixed point in random normed spaces. (English summary) *Math. Balkanica (N.S.)* **12** (1998), *no.* 1-2, 5–12. (Xie Ping Ding) **99k:47184** 47S50 (47H10)

Khan, Akhtar A. (*with* Ahmad, Khalil) Solution of variational inequalities by operator method of regularization. *Functional analysis*, 140–151, *Narosa, New Delhi*, 1998. (R. Tichatschke) **99k:49019** 49J40 (47H17, 47H19, 65J20)

Khan, E. A. (*with* Khan, M. G. M.; Jahan, Nujhat) Determining the optimum number of strata. II. *Frontiers in probability and statistics (Calcutta*, 1994/1995), 215–225, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

Khan, F. M. (*with* Khan, Mushir A.) Matrix transformation of $w(p)$ and $\mathrm{ces}(p)$ into χ. (English summary) *Fourier analysis, approximation theory and applications (Aligarh*, 1993), 115–123, *New Age, New Delhi*, 1997. (Summary) **99h:40004** 40C05 (40J05)

— (*with* Rahman, M. F.) Infinite matrices and Cesàro sequence spaces. (Russian summary) *Anal. Math.* **23** (1997), *no.* 1, 3–11. (E. Jürimäe) **99j:40016** 40H05 (46A45)

— (*with* Khan, Mushir A.; Aiyub, M.) Matrix transformations and almost boundedness. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 35–42. (Summary) **99h:40005** 40C05 (40H05, 46A45)

Khan, Liaqat Ali² (*with* Liu, Philip L.-F.) Numerical analyses of operator-splitting algorithms for the two-dimensional advection-diffusion equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 3-4, 337–359. (Kai Tai Li) **99e:65141** 65M99 (76M25)

firdosh Khan, M. *see* **Firdosh Khan, M.**

Khan, M. A. *see* **Khan, Mumtaz Ahmad**

Khan, M. Ali (*with* Sun, Yeneng) Nonatomic games on Loeb spaces. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **93** (1996), *no.* 26, 15518–15521 (*electronic*). (Summary) **99b:90165** 90D10

— (*with* Rath, Kali P.; Sun, Yeneng) On the existence of pure strategy equilibria in games with a continuum of players. (English summary) *J. Econom. Theory* **76** (1997), *no.* 1, 13–46. (Summary) **99h:90126** 90D13

— (*with* Sun, Yeneng) The capital-asset-pricing model and arbitrage pricing theory: a unification. (English summary) *Proc. Nat. Acad. Sci. U.S.A.* **94** (1997), *no.* 8, 4229–4232. (Dave Furth) **99i:90017** 90A09 (03H05, 03H10)

— (*with* Khan, Wasim) A review of the travelling salesman problem. (English summary) *Proc. Pakistan Acad. Sci.* **35** (1998), *no.* 2, 133–145. 90C27 (90C35)

Khan, M. F. *see* **Khan, Mohammad Firdosh**

Khan, M. G. M. (*with* Khan, E. A.; Jahan, Nujhat) Determining the optimum number of strata. II. *Frontiers in probability and statistics (Calcutta*, 1994/1995), 215–225, *Narosa, New Delhi*, 1998. (*see* **99g:62003**) 62D05

Khan, M. S. *see* **Khan, Mohammad S.**

Khan, Mohammad Firdosh (*with* Siddiqi, A. H.; Ahmad, Rais) Generalized multivalued vector variational inequalities. (English summary) *Bull. Calcutta Math. Soc.* **88** (1996), *no.* 6, 471–476. (Summary) **99c:47114** 47H19 (49J40)

— (*with* Siddiqi, A. H.; Ahmad, Rais) Sensitivity analysis of generalized multivalued variational inequalities. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 125–128. 49K40 (90C31)

— (*with* Siddiqi, A. H.; Ahmad, Rais) An iterative scheme for general mixed multivalued mildly non-linear variational inequalities. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 583–588. 49J40 (65J15)

— (*with* Siddiqi, A. H.; Kazmi, K. R.) A perturbed Ishikawa iterative algorithm for generalized strongly nonlinear quasivariational inequalities. (English summary) *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 1–11. (Yuan Guo Zhu) **99b:49008** 49J40 (47H17, 47H19, 65K10)

— (*with* Siddiqi, A. H.; Ansari, Qamrul Hasan) Variational-like inequalities for multivalued maps. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 2, 161–166. 49J40 (90C48)

Khan, Mohammad K. (*with* Della Vecchia, B.; Fassih, A.) On the monotonicity of positive linear operators. (English summary) *J. Approx. Theory* **92** (1998), *no.* 1, 22–37. (Y. Sitaraman) **99a:41034** 41A36

— (*with* Fridy, John A.) Tauberian theorems via statistical convergence. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 73–95. (E. Omey) **99m:40007** 40E05 (40G05, 60F05)

Khan, Mohammad S. (*with* Pathak, H. K.) Coincidence points of fuzzy mappings under Chang-Peng type condition. *Panamer. Math. J.* **9** (1999), *no.* 1, 75–86. 54A40 (54H25)

Khan, Moharram A. (*with* Abujabal, H. A. S.) Commutativity for a certain class of rings. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 301–314. (A. Yaqub) **99f:16035** 16U80

— Commutativity of right s-unital rings with polynomial constraints. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **12** (1999), *no.* 1, 47–51. 16U80

Khan, Mohd Z. (*with* Singh, Surjeet) TAG-modules with complement submodules h-pure. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 801–814. (Theodore Faticoni) **99i:16005** 16D10

Khan, Mumtaz Ahmad (*with* Najmi, M.) On complex integrals of discrete functions. (English summary) *Math. Notae* **38** (1995/96), 113–135 (1997). (Tomasz Dubejko) **99e:30030** 30E25 (39A12)

— Expansions of discrete hypergeometric functions. II. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 149–156. (Summary) **99i:33022** 33D15 (39A12)

— Complete FORTRAN programs of certain important q-integrals. *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 157–158. 65D20 (33D45)

— On some mathematical observations. *Acta Cienc. Indica Math.* **22** (1996), *no.* 2, 167–170. 26A06

— (*with* Najmi, M.) On generalised q-Rice polynomials. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 3, 255–258. (Summary) **99f:33021** 33D45

— (*with* Shukla, Ajay Kumar) On Lagrange's polynomials of three variables. (English summary) *J. Bihar Math. Soc.* **17** (1996), 9–14. (Summary) **99j:33016** 33C50 (33C65)

— (*with* Shukla, Ajay Kumar) On Laguerre polynomials of several variables. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 155–164. (H. S. P. Shrivastava) **99h:33013** 33C10 (33C15, 33C45, 33C50)

— A study of q-Laguerre polynomials through the $T_{k,q,x}$-operator. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 619–626. (Summary) **99k:33051** 33D45

— (*with* Pathan, M. A.) On polynomials associated with Humbert's polynomials. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **62(76)** (1997), 53–62. (E. R. Love) **99d:33015** 33C55 (33E20)

— (*with* Shukla, Ajay Kumar) A note on Laguerre polynomials of m-variables. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 113–117. (Summary) **99k:33040** 33C50

— (*with* Ahmad, Khursheed) On a generalization of Bessel polynomials suggested by the polynomials $L_n^{\alpha,\beta}(x)$ of Prabhakar and Rekha. (English summary) *J. Anal.* **6** (1998), 151–161. (V. L. Deshpande) **99m:33006** 33C45 (33C15)

Khan, Mushir A. (*with* Khan, F. M.) Matrix transformation of $w(p)$ and $\mathrm{ces}(p)$ into χ. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 115–123, *New Age, New Delhi*, 1997. (Summary) **99h:40004** 40C05 (40J05)

— (*with* Aiyub, M.) A class of matrix transformations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 429–434. (Summary) **99j:40017** 40H05 (40C05)

— (*with* Khan, F. M.; Aiyub, M.) Matrix transformations and almost boundedness. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 35–42. (Summary) **99h:40005** 40C05 (40H05, 46A45)

Khan, Q. J. A. (*with* Bhatt, B. S.; Jaju, R. P.) Switching model with two habitats and a predator involving group defence. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 212–229. (Summary) **99d:92046** 92D40 (34C23)

Khan, Quddus (*with* Singh, Hukum) On a generalized r-recurrent Riemannian manifold. (English summary) *Ganita* **49** (1998), *no.* 2, 127–136. (Lovejoy S. K. Das) **99k:53019** 53B20

Khan, Rasul A. Monotonic expectations, Neyman-Pearson lemma, and some properties of the SPRT. (English summary) *J. Statist. Plann. Inference* **62** (1997), *no.* 2, 247–254. (Yukio Suzuki) **99a:62118** 62L10 (62F03)

Khan, S. U. (*with* Mudawi, Mohamed Hassan) A bibliography on the theory of queueing networks. *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 1–37. 60K25

— (*with* Maggu, P. L.; Mudawi, Mohamed Hassan) Scheduling of n items on three-machine in tandem involving transportation times and break-down of machines. (English summary) *J. Indian Soc. Statist. Oper. Res.* **16** (1995), *no.* 1-4, 55–64. 90B35

Khan, Shahjahan Marginal likelihood estimation and prediction distribution for some linear models with first order auto-correlation. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 103–116. (Summary) **99c:62252** 62M10 (62J05)

— (*with* Bhatti, M. Ishaq) Predictive inference on equicorrelated linear regression models. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 205–217. 62J05

— (*with* Saleh, A. K. Md. Ehsanes) Comparison of estimators of means based on p-samples from multivariate Student-t population. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 1, 193–210. (Summary) **99a:62023** 62F10 (62C15)

Khan, T. S. *see* **Han, Te Sun**

Khan, Tariq Mahmood Linearization and special asymptotic behaviour of the second Painlevé equation. (English summary) *J. Differential Equations* **145** (1998), *no.* 2, 242–251. (Andrei A. Kapaev) **99d:34008** 34A20 (34E10)

Khan, Wasim (*with* Khan, M. Ali) A review of the travelling salesman problem. (English summary) *Proc. Pakistan Acad. Sci.* **35** (1998), *no.* 2, 133–145. 90C27 (90C35)

— (*with* Taylor, David G.) Adaptive control of ac motor drives with inverter non-linearities. (English summary) *Internat. J. Control* **72** (1999), *no.* 9, 784–798. 93C90 (90C40)

Khanal, U. Further comments on the dynamics of extended objects. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 34, 2757–2761. 83E30

Khandani, Amir K. (*with* Banihashemi, Amir H.) An inequality on the coding gain of densest lattice packings in successive dimensions. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 198–204 (*electronic*). (Christine Bachoc) **99k:11103** 11H31 (52C07)

— (*with* Banihashemi, Amir H.) On the decoding complexity of lattices. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 205–218 (*electronic*). (Christine Bachoc) **99k:11099** 11H06 (11H31, 52C07)

— (*with* Banihashemi, Amir H.) An inequality on the coding gain of densest lattice packings in successive dimensions. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 207–212. (Summary) **99d:52019** 52C17

— (*with* Banihashemi, Amir H.) On the complexity of decoding lattices using the Korkin-Zolotarev reduced basis. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 162–171. (Summary) **99b:94006** 94A12 (94B35)

Khandekar, Dinkar C. (*with* Grothaus, Martin; da Silva, José L.; Streit, Ludwig) The Feynman integral for time-dependent anharmonic oscillators. (English summary) *J. Math. Phys.* **38** (1997), *no.* 6, 3278–3299. (T. Hida) **99c:46083** 46N50 (46G12, 60H99, 81S40)

Khandogin, V. A. A mixed problem in fracture theory for anti-plane deformation. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 3, 163–172. (Summary) **99g:73091** 73M25 (73C35)

Khanduja, Sudesh K. Valued function fields with given genus and residue field. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 115–121. (Dan Dăianu) **99c:12008** 12F20 (12J10)

— An independence theorem in simple transcendental extensions of valued fields. *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 243–248. (Jiří Močkoř) **99g:12008** 12J10 (12F20)

— (*with* Saha, Jayanti) The prime and maximal ideals in $R[X]$, R a one-dimensional Prüfer domain. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 12, 1275–1279. (R. K. Markanda) **99m:13041** 13F20 (13F05)

— Tame fields and tame extensions. (English summary) *J. Algebra* **201** (1998), *no.* 2, 647–655. (Joachim Schmid) **99a:12010** 12J10 (12J20)

— On Krasner's constant. (English summary) *J. Algebra* **213** (1999), *no.* 1, 225–230. (Joachim Gräter) **99m:12012** 12J20 (13A18)

do cong Khanh *see* **Do Cong Khanh**

Khaniev, Tahir A. (*with* Özdemir, Halim; Maden, Selahattin) Calculating the probability characteristics of a boundary functional of a semi-continuous random process with reflecting and delaying screens. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 2, 117–123. (Paul Embrechts) **99m:60137** 60K05 (90B05)

Khanin, K. M. Rigidity for circle homeomorphisms with a break-type singularity. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 176–179. (András Krámli) **99d:58107** 58F11

— (*with* Sinaĭ, Yakov Grigor'evich) Hyperbolicity of minimizing trajectories for two-dimensional Hamiltonian systems with random forcing. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 176–180. (J. S. Joel) **99f:58156** 58F15 (34F05, 70H05)

— (*with* Dzhalilov, A. A.) On the invariant measure for homeomorphisms of the circle with a break. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 11–21, 95; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 153–161 (1999). (András Krámli) **99j:58124** 58F11 (58F15)

Khanna, F. C. A unified description of collective states. *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 90–95, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 81V35

— (*with* Santana, A. E.; Takahashi, Yasushi) Galilei covariance and (4, 1)-de Sitter space. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 3, 327–336. (Summary) **99f:83029** 83C40

— *see also* **Field theory, integrable systems and symmetries, 99a:00027**

Khanna, I. K. (*with* Bhagavan, V. Srinivasa) Generating functions of Gegenbauer polynomials $C_n^{\nu}(x)$ from a viewpoint of Lie algebra. (English summary) *Proc. Math. Soc.* **12** (1996), 93–98 (1997). (Summary) **99g:33025** 33C45 (17B10)

Khanna, Mona (*with* Bhatnagar, K. B.) Existence and stability of libration points in the restricted three body problem when the smaller primary is a triaxial rigid body. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1011–1023. (Sergei G. Zhuravlev) **99j:70013** 70F07 (70F15, 70K20)

Khanna, Sanjeev (*with* Muthukrishnan, S.; Skiena, Steven S.) Efficient array partitioning. (English summary) *Automata, languages and programming (Bologna, 1997)*, 616–626, *Lecture Notes in Comput. Sci.*, 1256, *Springer, Berlin*, 1997. (Summary) **99c:68127** 68Q25 (68Q20)

— (*with* Muthukrishnan, S.; Paterson, Michael S.) On approximating rectangle tiling and packing. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 384–393, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05B45, 52B55, 68R05)

— (*with* Motwani, Rajeev; Wilson, Randall H.) On certificates and lookahead in dynamic graph problems. (English summary) *Algorithmica* **21** (1998), *no.* 4, 377–394. (Summary) **99b:68149** 68R10 (05C85)

Khanna, Saroj (*with* Thirwani, Deepa; Arora, Savita) An algorithm for solving fixed charge bi-criterion transportation problem with restricted flow. (English summary) *Optimization* **40** (1997), *no.* 2, 193–206. (Summary) **99a:90090** 90B06 (90C29)

Khapalov, Alexander Y. Exact controllability of second-order hyperbolic equations with impulse controls. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 223–238. (Summary) **99a:93051** 93C20 (35L10, 93B05)

Kharaghani, H. (*with* Craigen, R.; Holzmann, W. H.) On the asymptotic existence of complex Hadamard matrices. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 319–327. (Summary) **99e:05026** 05B20

— (*with* Kamali, F.) Dihedral Golay sequences. (English summary) *Australas. J. Combin.* **18** (1998), 139–145. (Summary) **99g:05040** 05B20

— (*with* Holzmann, W. H.) A D-optimal design of order 150. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 265–269. 05B05

— (*with* Holzmann, W. H.; Lavassani, M. T.) The excess problem and some excess inequivalent matrices of order 32. (English summary) R. C. Bose Memorial Conference

(Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 381–391. (Summary) **99g:05039** 05B20

Kharatishvili, Guram Revaz Gamkrelidze is 70. Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 1–7. (Editors) **99m:01072** 01A70

— (*with* Tadumadze, Tamaz) The problem of optimal control for nonlinear systems with variable structure, delays and piecewise continuous prehistory. (English and Georgian summaries) Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 67–88. (Stanisław Walczak) **99f:49034** 49K25 (34K35, 49K15)

Kharazishvili, A. B. On a problem of the uniformization of sets. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 245–248 (1991). 54E15 (04A20, 54B10)

— Measurable spaces with ideals, and selectors. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 35–40. 54E52 (54C65)

— On sections of analytic sets. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 2, 223–226. 54H05

— Γ-topology and the Baire property. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 1, 21–27. 54E52 (54H15)

— On nonseparable invariant measures with the uniqueness property. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 28–33. (Summary) **99f:28003** 28A12

— On a condensation principle for singularities. (Russian. English and German summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 193–198 (1995). (From the text) **99g:54015** 54C99

— On almost invariant subsets of the real line. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 9 (1997), 13–25. (Summary) **99a:28002** 28A05

— On almost rigid mathematical structures. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 9 (1997), 26–43. (M. Yasuhara) **99m:03065** 03C50 (06A05, 08A35)

— On Vitali construction for commutative groups with quasiinvariant measures. (English and Polish summaries) *Acta Univ. Lodz. Folia Math. No.* 9 (1997), 44–54. (Summary) **99a:28010** 28C10

— On the uniqueness of Lebesgue and Borel measures. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 49–66. (M. P. Eršov) **99k:28016** 28C10 (43A05)

— Sup-measurable and weakly sup-measurable mappings in the theory of ordinary differential equations. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 2, 211–223. (Zbigniew Grande) **99e:28003** 28A05 (28D05, 34A34)

— On countably generated invariant σ-algebras which do not admit measure type functionals. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 287–294. (Summary) **99b:28002** 28A05

— ★ Applications of point set theory in real analysis. (English summary) Mathematics and its Applications, 429. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii+236 pp. ISBN* 0-7923-4979-2 (Marek Balcerzak) **99c:28001** 28–02 (03E20, 28A05, 34A12, 54–02)

Kharchenko, V. K. (*with* Borowiec, Andrzej) Coordinate calculi on associative algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 231–241, *PWN, Warsaw*, 1995. (Andrzej Sitarz) **99i:58013** 58B30 (12H05, 16E99)

— An algebra of relatively primitive elements. (Russian. Russian summary) *Algebra i Logika* **37** (1998), *no.* 2, 181–223, 249; *translation in Algebra and Logic* **37** (1998), *no.* 2, 101–126. (V. A. Artamonov) **99m:16061** 16W30

Kharchev, S. (*with* Mironov, A. D.; Morozov, A. Yu.) Non-standard KP evolution and quantum τ-function. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 129–143; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 866–878 (1996). (Pavel Šťovíček) **99d:58083** 58F07 (81R50)

— (*with* Khoroshkin, Sergei; Lebedev, D. R.) Intertwining operators and Hirota bilinear equations. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 144–157; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 879–891 (1996). (Kazuhiro Hikami) **99h:58089** 58F07 (17B37, 35Q51, 81R50)

Khardon, Roni (*with* Roth, Dan) Defaults and relevance in model-based reasoning. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 169–193. (Summary) **99k:68187** 68T30 (03B70)

— (*with* Roth, Dan) Learning to reason. (English summary) *J. ACM* **44** (1997), *no.* 5, 697–725. (Petr Jirků) **99h:68142** 68T05 (03B70, 68T27)

Khare, Abhay (*with* Shrivastava, Rajesh) A fixed point theorem in d-complete L-space. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 128–130. 54H25

— (*with* Shrivastava, Rajesh) A fixed point theorem for compact spaces. (English summary) *Ultra Sci. Phys. Sci.* **10** (1998), *no.* 1, 139–140. 54H25

Khare, Avinash Singular solutions of KdV and MKdV equations. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 341–348, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 58F07 (35Q53)

— (*with* Mandal, Bhabani Prasad) Anti-isospectral transformations, orthogonal polynomials, and quasi-exactly solvable problems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3476–3486. (Tuncay Aktosun) **99h:81033** 81Q05 (33C80)

— (*with* Mandal, Bhabani Prasad) Do quasi-exactly solvable systems always correspond to orthogonal polynomials? (English summary) *Phys. Lett. A* **239** (1998), *no.* 4-5, 197–200. (Tuncay Aktosun) **99c:81026** 81Q05 (33C90)

— (*with* Sukhatme, Uday P.) Exact solution of a class of three-body scattering problems in one dimension. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 14–18. (Summary) **99b:70008** 70F10 (81U10)

— (*with* Ghosh, Pijush Kanti; Sivakumar, M.) Supersymmetry, shape invariance, and solvability of A_{N-1} and BC_N Calogero-Sutherland model. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 821–825. (Kazuhiro Hikami) **99g:81238** 81V70 (81Q60)

— (*with* Dey, Bishwajyoti) Stability of compacton solutions. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, *R2741–R2744*. (Summary) **99d:35159** 35Q58 (35B35)

Khare, Chandrashekhar A local analysis of congruences in the (p, p) case. I. (English summary) *Compositio Math.* **112** (1998), *no.* 3, 363–376. (Alexey A. Panchishkin) **99h:11046** 11F33 (11F32, 11F80, 11F85)

Khare, Mona Fuzzy σ-algebras and conditional entropy. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 287–292. (Summary) **99k:28025** 28E10 (28D20)

Khargonekar, Pramod P. (*with* Tikku, Ashok) Probabilistic search algorithms for robust stability analysis and their complexity properties. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 25–45, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93D09 (93B40)

— (*with* Yamamoto, Yutaka) From sampled-data control to signal processing. *Learning, control and hybrid systems* (*Bangalore*, 1998), 108–126, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C57 (94A12)

Kharibegashvili, Sergo On the solvability of a multidimensional version of the Goursat problem for a second order hyperbolic equation with characteristic degeneration. (English and Georgian summaries) Dedicated to Revaz Gamkrelidze. *Mem. Differential Equations Math. Phys.* **11** (1997), 89–103. (Herbert Koch) **99j:35148** 35L80 (35L35)

— (*with* Gvazava, D. K.) To the theory of boundary value problems for hyperbolic type equations and systems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 68–75. (Summary) **99d:35093** 35L20 (35L80)

— On some multidimensional versions of a characteristic problem for second-order degenerating hyperbolic equations. (English summary) *Georgian Math. J.* **5** (1998), *no.* 2, 139–156. (Hidetoshi Tahara) **99b:35121** 35L20 (35L80)

— On some boundary value problems for an ultrahyperbolic equation. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 341–360. (A. Borzymowski) **99i:35109** 35L99 (35L20)

Kharif, Christian (*with* Badulin, S.; Shrira, V. I.) Instabilities of finite amplitude short-crested free surface waves. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 291–299, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76E99)

— (*with* Dias, Frédéric) Nonlinear gravity and capillary-gravity waves. (English summary) *Annual review of fluid mechanics, Vol.* 31, 301–346, *Annu. Rev. Fluid Mech.*, 31, *Annual Reviews, Palo Alto, CA*, 1999. (Summary) **99k:76024** 76B15 (35Q35, 76B45, 76D33, 76D45, 76E99)

Kharin, Yu. S. (*with* Zhuk, E. E.) Asymptotic estimation of the risk for classification of dependent observations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 22–27, 139. 62H30

— (*with* Stalevskaya, S. N.) On the stability of multivariate linear regression forecasting. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 9–13, 139. (Summary) **99m:62085** 62H15

Kharitonov, Vladimir L. Robust stability of continuous-time difference systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 985–990. 93D09

— (*with* Atanassova, Lidiya Y.; Hinrichsen, Diederich) Convex directions for stable polynomials and quasipolynomials: a survey of recent results. (English summary) *Stability and control of time-delay systems*, 72–91, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D09 (34K20, 34K35, 93–02)

Kharitonov, Yu. I. (*with* Smirnov, Yu. F.) Quantum algebra $U_q(3)$: recent results. *Symmetries in science, X* (*Bregenz*, 1997), 365–382, *Plenum, New York*, 1998. (A. J. Coleman) **99m:81100** 81R50 (17B37, 33D80)

— (*with* Asherova, R. M.; Draayer, J. P.; Smirnov, Yu. F.) Extension of the Draayer-Akiyama procedure for the $u_q(3)$ algebra. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1816–1820. (Summary) **99i:81088** 81R50

Kharitonova, O. I. Analysis of the stability of a parametrically perturbed gyroscopic system. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 218–223, 257–258, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 34D99 (70K20)

Kharlamov, B. P. Uniform distribution surfaces for the first exit points of a multi-dimensional diffusion process. (English summary) *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 193–200, *Gordon and Breach, Amsterdam*, 1996. (Youngmee Kwon) **99m:60120** 60J60 (58G32, 60J25)

— Optimal prophylaxis policy for systems with partly observable parameters. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 265–278, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K10 (60K15)

Kharlamov, I. V. A relation between the uniform and composed mean probabilistic metrics. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 275–277, *VSP, Utrecht*, 1997. (Summary) **99g:60040** 60E15

— On the Monte-Carlo estimation of the distribution function of a functional of the Wiener process. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 279–284, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 65C10 (60J65)

Kharlamov, M. P. (*with* Ryabov, P. E.) Bifurcations of first integrals in the Kovalevskaya-Yehia case. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 2, 25–40. (Igor Gashenenko) **99k:70005** 70E15 (58F05, 70H05)

Kharlamov, Pavel V. Contradictions in the principles of mechanics. (Russian. Serbian summary) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, 163–168. (A. Sumbatov) **99e:70002** 70A05 (70–01)

— Causes of contradictions in the principles of mechanics (Galilei and Newton). (Russian. Serbian summary) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, 169–180. (A. Sumbatov) **99e:70003** 70A05

— Possibilities for removing contradictions in the principles of mechanics. (Russian. Serbian summary) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1996), *no.* 6, 181–187. (A. Sumbatov) **99e:70004** 70A05

— (*with* Kovalev, A. M.) Invariant relations method in multibody dynamics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3817–3828. (*see* **98h:00034**) 70E15 (34H05, 70E99, 70Q05)

Kharlamova, V. I. Description of finite groups with Sylow embedding into $\mathfrak{Z}$-subnormal subgroups. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 149–157, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 20D10

Kharlampovich, Olga (*with* Myasnikov, A. G.) Tarski's problem about the elementary theory of free groups has a positive solution. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 101–108 (*electronic*). (R. Stöhr) **99k:20051** 20E05 (03B25, 03C60, 20F10)

— (*with* Myasnikov, A. G.) Equations in a free Q-group. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 3, 947–974. (Jon M. Corson) **99j:20039a** 20F10 (03D40, 11U05)

— (*with* Myasnikov, A. G.) Description of fully residually free groups and irreducible affine varieties over a free group. *Summer School in Group Theory in Banff*, 1996, 71–80, *CRM*

Proc. Lecture Notes, 17, *Amer. Math. Soc., Providence, RI*, 1999. (Dennis Spellman) **99j:20032** 20E05 (20E26, 20F10)

— (*with* Lioutikova, E.; Myasnikov, A. G.) Equations in the **Q**-completion of a torsion-free hyperbolic group. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2961–2978. (Jon M. Corson) **99j:20039b** 20F10 (03D40, 11U05, 57M07)

— *see also* **School: Group Theory, 99h:20003**

mokhtar-Kharroubi, Mustapha *see* **Mokhtar-Kharroubi, Mustapha**

al-Kharsani, H. A. *see* **Al-Kharsani, H. A.**

Khartli, B. *see* **Hartley, Brian**

Khasaia, I. Problems of convergence multiple expansions in complex sphere for polynomial differential bundle with constant coefficients. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 1, 20–24. 34L10

— Some questions of convergency of spectral expansions. (English summary) *Bulletin of the Georgian Academy of Sciences* **154** (1996), *no.* 2, 169–173. (Summary) **99e:34118** 34L10

— About sufficient conditions of convergency of spectral expansions. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 2, 190–193. (Summary) **99f:34118** 34L10

Khashanah, Khaldoun A Douglis-Nirenberg elliptic operator in Biot theory. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 87–96. (Summary) **99a:35210** 35Q35 (73K70, 76Q05, 76S05)

Khashimov, A. R. (*with* Abdinazarov, S.) A nonlocal problem for a third-order equation with multiple characteristics. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1998), 3–7. 35K20

Khashimov, Sh. A. (*with* Azlarov, O. T.) On a projection estimate for the density of a distribution. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 91–99. (Serguei Yu. Novak) **99f:62053** 62G05

Khashyarmanesh, K. (*with* Salarian, Sh.; Zakeri, H.) Characterizations of filter regular sequences and unconditioned strong d-sequences. (English summary) *An. Ştiinţ. Univ. Ovidius Constanţa Ser. Mat.* **5** (1997), *no.* 2, 39–50. (Liam O'Carroll) **99a:13014** 13H10 (13D25, 13D45)

— (*with* Salarian, Sh.; Zakeri, H.) On the flat dimension of certain modules of generalized fractions. (English summary) *Math. J. Toyama Univ.* **20** (1997), 79–90. (H. F. Kreimer) **99d:13009** 13B30 (13D05, 13D25)

— (*with* Salarian, Sh.) General local cohomology modules and Koszul homology modules. *Colloq. Math.* **77** (1998), *no.* 2, 305–313. (Ngô Viêt Trung) **99f:13018** 13D45 (13D03)

— (*with* Salarian, Sh.) Filter regular sequences and the finiteness of local cohomology modules. *Comm. Algebra* **26** (1998), *no.* 8, 2483–2490. (Michinori Sakaguchi) **99h:13021** 13D45

— (*with* Salarian, Sh.; Zakeri, H.) Characterizations of filter regular sequences and unconditioned strong d-sequences. (English summary) *Nagoya Math. J.* **151** (1998), 37–50. (Editors) **99h:13030** 13H10 (13D25, 13D45)

Khasidashvili, Zurab (*with* Glauert, John) Minimal relative normalization in orthogonal expression reduction systems. (English summary) *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 238–249, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Summary) **99a:68098** 68Q42 (03B40)

— (*with* Ogawa, Mizuhito) Perpetuality and uniform normalization. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 240–255, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68Q42 (03B40)

— (*with* Glauert, John) Relating conflict-free stable transition and event models (extended abstract). (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 269–278, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q42

— *see also* **Pkhakadze, Sh., 99j:03006** *and* **Symposium: Logic, Language and Computation, 99m:03006**

Khasilev, Vladimir Optimal control of wave propagation governed by nonlinear partial differential equations. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 24–29, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 49J20 (49N55)

Khasminskii, Rafail Z. (*with* Ibragimov, Il'dar Abdulovich) Some estimation problems for stochastic partial differential equations. (Russian) *Dokl. Akad. Nauk* **353** (1997), *no.* 3, 300–302. (M. Arató) **99f:62103** 62M09 (35R60)

— (*with* Jankunas, Andrius) Estimation of parameters of linear homogenous stochastic differential equations. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 2, 205–219. (Shao Zhong Cheng) **99e:62146** 62M05 (60H10)

— (*with* Golubev, G. K.) Asymptotically optimal filtering for a hidden Markov model. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 192–209. (Mamikon S. Ginovian) **99m:62146** 62M20 (60G35)

— (*with* Moshchuk, N.) Moment Lyapunov exponent and stability index for linear conservative system with small random perturbation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 245–256 (*electronic*). (G. N. Mil'shteĭn) **99g:60100** 60H10 (93E15)

Khastgir, Anuruddha S. (*with* Srivastava, Arun Kumar[2]) On fuzzy sobriety. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 195–205. 54A40 (04A72)

Khastgir, S. Pratik S-matrices of non-simply laced affine Toda theories by folding. (English summary) *Nuclear Phys. B* **499** (1997), *no.* 3, 650–672. (Summary) **99g:81125** 81T10 (81T40, 81U20)

Khatamov, N. M. On periodic Gibbs distributions of the Ising model with nonzero periodic external magnetic fields on the Bethe lattice. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 90–101. (Roman Gielerak) **99h:82014** 82B20 (82B26)

chavosh Khatamy, R. *see* **Chavosh Khatamy, R.**

Khater, A. H. (*with* Ibrahim, R. S.; El-Kalaawy, O. H.; Callebaut, Dirk K.) Bäcklund transformations and exact soliton solutions for some nonlinear evolution equations of the ZS/AKNS system. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1847–1855. (Summary) **99i:35150** 35Q55 (58F37)

— (*with* Shamardan, A. B.; Farag, M. H.; Abel-Hamid, A. H.) Analytical and numerical solutions of a quasilinear parabolic optimal control problem. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 29–43. (Summary) **99d:49012** 49J20 (49M30, 65K10)

— (*with* Helal, M. A.; El-Kalaawy, O. H.) Bäcklund transformations: exact solutions for the KdV and the Calogero-Degasperis-Fokas mKdV equations. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 719–731. (Xian Guo Geng) **99d:35142** 35Q53 (35A30, 35C05)

— (*with* Callebaut, Dirk K.; El-Kalaawy, O. H.) Bäcklund transformations and exact soliton solutions for nonlinear Schrödinger-type equations. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 9, 1121–1130. 35Q55 (58F37)

Khatib, L. (*with* Wetprasit, Rattana; Sattar, Abdul) A generalised framework for reasoning with multi-point events. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 121–135, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68T27 (03B45)

Khatib, M. A. (*with* Mursaleen; Qamaruddin) On difference Cesàro sequence spaces of non-absolute type. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 4, 337–342. (Summary) **99g:40004** 40H05 (40D25, 40J05)

Khatskevich, V. A. (*with* Reich, Simeon; Shoikhet, David) Semi-complete holomorphic vector fields on homogeneous open unit balls in Banach spaces. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 143–148. (Summary) **99k:47176** 47H20 (58B12)

Khatskevich, V. L. The averaging principle for monotone differential inclusions. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 26–28. (Jan I. Seidler) **99a:34132** 34C29 (34A60, 34G20)

Khatskevich, Victor *see* **Khatskevich, V. A.**

Khatsymovsky, V. M. Rotating vacuum wormhole. (English summary) *Phys. Lett. B* **429** (1998), *no.* 3-4, 254–262. (Summary) **99c:83013** 83C15 (83E05)

Khattree, Ravindra On the estimation of σ and the process capability indices C_p and C_{pm}. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 2, 237–250. (Summary) **99m:90079** 90B25

Khavin, Viktor Petrovich (*with* Malinnikova, E. V.) Uniform approximation by harmonic differential forms. A constructive approach. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 6, 156–196; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 6, 1149–1180. (Nicolai N. Tarkhanov) **99g:58005** 58A10 (30E10, 41A52)

— (*with* Smirnov, S. K.) Approximation and extension problems for some classes of vector fields. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 3, 133–162. (Andrew Bucki) **99f:41046** 41A65 (49Q15, 58A10)

— *see also* **Commutative harmonic analysis, 99h:43002**

Khavinson, Dmitry A remark on a paper by T. Qian: "A holomorphic extension result" [Complex Variables Theory Appl. **32** (1997), no. 1, 59–77; MR 98f:42009]. *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 341–343. (Marius Mitrea) **99c:42021** 42B15 (30B40)

— (*with* Ebenfelt, Peter; Shapiro, Harold S.) Analytic continuation of Jacobi polynomial expansions. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 19–31. (Peter A. McCoy) **99e:42041** 42C10 (35A20)

— (*with* Stessin, Michael) Certain linear extremal problems in Bergman spaces of analytic functions. *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 933–974. (From the introduction) **99k:30080** 30H05 (46E15)

— (*with* Lance, T. L.; Stessin, Michael) Wandering property in the Hardy space. *Michigan Math. J.* **44** (1997), *no.* 3, 597–606. (D. Sarason) **99a:47012** 47A15 (47B35)

— (*with* Pérez-González, Fernando[2]; Shapiro, Harold S.) Approximation in L^1-norm by elements of a uniform algebra. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 401–410. (Yu. A. Brudnyĭ) **99d:41064** 41A65 (46J10)

— (*with* Ebenfelt, Peter; Shapiro, Harold S.) Extending solutions of holomorphic partial differential equations across real hypersurfaces. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 411–432. (Yûsaku Hamada) **99j:35014** 35B60 (32D15, 35A20, 35J15)

— *see also* **Khavinson, S. Ya., 99d:41004**

Khavinson, S. Ya. ★ Best approximation by linear superpositions (approximate nomography). (English summary) Translated from the Russian manuscript by D. Khavinson. Translations of Mathematical Monographs, 159. *American Mathematical Society, Providence, RI*, 1997. viii+175 *pp. ISBN* 0-8218-0422-7 (Bl. Sendov) **99d:41004** 41–02 (41A50)

al-Khayat, Isa A. *see* **Al-Khayat, Isa A.**

Khayaty, M. (*with* Hassani, A.) Transitive permutation groups which have bounded movement. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 309–310, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Cheryl E. Praeger) **99k:20005** 20B05

al-Khayyal, F. A. *see* **Al-Khayyal, F. A.**

el-Khazali, Reyad *see* **El-Khazali, Reyad**

Khazaradze, M. A. Some questions associated with a problem of Littlewood. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 20–22. 42B25

— Some questions associated with a problem of Littlewood. II. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 4, *Suppl.*, 694–696 (1996). 42A32

Khazhalia, I. Some properties of bases in Orlicz spaces. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 19–20. 42C30 (46E30)

Khazhomiya, S. M. On the determination of homotopy groups by means of chain complexes. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 212–215 (1996). 55Q05

— On Chogoshvili's cohomotopies. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 3, 445–448 (1996). 55P99

— (*with* Berikashvili, N.; Kadeishvili, T.; Makalatia, D.; Mikiashvili, M.; Saneblidze, S.) On the obstruction functor. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 2, 172–176. 55S35

Kha Zuĭ Bang *see* **Ha Huy Bang**

Khdir, A. M. *see* **Khidr, A. M.**

Khe, K. Ch. *see* **Khe Kan Cher**

Khechinashvili, Z. (*with* Glonti, O.) Financial (B, S)-market with Gaussian martingale. Mean square optimal hedging strategies. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **115** (1997), 33–43. (Summary) **99j:90010** 90A09 (60G44)

Khedr, F. H. (*with* Zeyada, F. M.; Sayed, O. R.) Fuzzy semi-continuity and fuzzy csemi-continuity in fuzzifying topology. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 105–124. 54A40

Khedrik, Dzh. K. *see* **Hedrick, J. Karl**

Kheĭfets, A. Ya. The abstract interpolation problem and applications. (English summary) *Holomorphic spaces (Berkeley, CA, 1995)*, 351–379, *Math. Sci. Res. Inst. Publ.*, 33, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99e:47021** 47A57 (47–02, 47A45)

Khe Kan Cher On nontrivial solutions of some homogeneous boundary value problems for the multidimensional hyperbolic Euler-Poisson-Darboux equation in an unbounded domain. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 133–135, 144; *translation in Differential Equations* **34** (1998), *no.* 1, 139–142. (Summary) **99j:35160** 35Q05 (35L80)

Khelemskiĭ, A. Ya. Projective homological classification of C^*-algebras. *Comm. Algebra* **26** (1998), *no.* 3, 977–996. (Robert S. Doran) **99c:46064** 46L05 (16E30, 46H25, 46M10, 46M15)

Khelif, Anatole Le passage d'un groupe libre à sa complétion profinie: étude logique. (English and French summaries) [Passage of a free group to its completion: a logical study] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 281–282. (Summary) **99f:03044** 03C60 (03C45, 03D35, 20A15)

— (*with* Coulbois, Thierry) Equations in free groups are not finitely approximable. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 963–965. (Summary) **99f:20037** 20E05 (03B25)

Kheruntsyan, K. V. Wigner function for a driven anharmonic oscillator. (English summary) *J. Opt. B Quantum Semiclass. Opt.* **1** (1999), *no.* 2, 225–233. 81S30

Kherwa, G. Ram (*with* Prasad, Jagdish; Bhagwandas) Balanced ternary designs from any (v, b, r, k) design. (English summary) *Ars Combin.* **51** (1999), 205–210. 05B05

Khesin, Boris A. (*with* Arnol'd, Vladimir Igorevich) ★ Topological methods in hydrodynamics. (English summary) Applied Mathematical Sciences, 125. *Springer-Verlag, New York*, 1998. *xvi+374 pp. ISBN* 0-387-94947-X (Nikolai K. Smolentsev) **99b:58002** 58–02 (35Q30, 58B25, 58D05, 76–02, 76M30)

Kheyfets, B. L. (*with* Primak, M. E.) Methods of centers for variational inequalities and linear programming. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 273–293. (Shinji Mizuno) **99g:90149** 90C33 (90C05)

Khibnik, A. I. (*with* Krauskopf, Bernd; Rousseau, Christiane) Global study of a family of cubic Liénard equations. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1505–1519. (F. Berezovskaya) **99i:58111** 58F14 (34C23)

— *see also* **Bazykin, A. D.**, **99k:92001**

Khidirov, Yu. E. Degree theory for variational inequalities in complementary systems. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 311–328. (Stefan Scholtes) **99g:90147** 90C33 (47H11, 47H19, 49J40)

Khidr, A. M. (*with* Radwan, Ahmed A. A.) Artificial order statistics. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 1–5. 62G30

— (*with* Alahmadi, Abdulhadi M.) Matching of artificial order statistics. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 7–17. 62G30

Khill, R. *see* **Hill, Richard Michael**

Khimchenko, B. N. (*with* Kamynin, L. I.) On a weak (algebraic) extremum principle for a second-order parabolic system. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **61** (1997), *no.* 5, 35–62; *translation in Izv. Math.* **61** (1997), *no.* 5, 933–959. (Zi Qian Yan) **99c:35097** 35K50 (35B50)

Khimshiashvili, G. N. Quadratic forms and polynomial equations over real closed fields. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 2, 219–222. 11E10 (14P99)

— (*with* Wegert, Elias; Spitkovsky, Ilya M.) Nonlinear transmission problems. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 223–230. (Summary) **99g:47058** 47B35 (30E25)

— Homotopy classes of elliptic transmission problems over C^*-algebras. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 453–468. (Evgeniĭ V. Troitskiĭ) **99m:46161** 46L85 (35J99, 47G10, 58B15)

Khin Aye Aye (*with* Dierolf, Susanne) On the spectra of elements in certain algebras of vector valued functions and sequences. *Extracta Math.* **13** (1998), *no.* 1, 35–40. (Krzysztof Jarosz) **99h:46058** 46E40 (46H05, 46J10)

Khirĭvs'kiĭ, Ĭ. V. Minimal growth of entire functions with a given sequence of zeros. (Ukrainian. English and Russian summaries) *Mat. Stud.* **3** (1994), 49–52, 120. 30D15

Khisamiev, A. N. Strong Δ_1-definability of a model in an admissible set. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 191–200, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 168–175. (Summary) **99d:03037** 03C70

Khisamiev, N. G. (*with* Kalenova, B. S.) On homogeneous abelian groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1098–1105, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 950–956. (A. I. Moskalenko) **99a:20060** 20K99 (03C60)

— (*with* Krykpaeva, A. A.) Effectively completely decomposable abelian groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1410–1412, *iv*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1227–1229. (Summary) **99c:20075** 20K15

— (*with* Kaliev, M. K.) The category of numbered abelian groups. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 1, 134–140. (Summary) **99h:20089** 20K40 (18B99)

Khisamutdinov, A. I. (*with* Shilova, S. O.) The nonlinear Boltzmann equation, methods with "continuous time", and some general constructions of Monte Carlo methods. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 456–473, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 398–414. (Summary) **99e:82091** 82C80 (65C05, 82C40)

— Unbiased non-simulation estimators in Monte Carlo methods and their applications in particle transport. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 303–316. (Sergei A. Nemnyugin) **99g:82078** 82C80 (65C05)

Khismatullin, D. B. (*with* Akhatov, I. Sh.; Vakhitova, N. K.; Galeeva, G. Ya.; Nigmatulin, R. I.) On weak oscillations of a gas bubble in a spherical volume of a compressible fluid. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 952–962; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 921–930 (1998). (Summary) **99c:76090** 76N10

Khlebnikov, D. G. (*with* Prokopishin, I. A.) Deformational and energy criteria for optimization of residual stresses in shells. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 72–82, 157–158. 73K40 (73K15, 90C90, 93C95)

Khludnev, A. M. On the contact of two plates, one of which contains a crack. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 882–894; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 851–862 (1998). (Summary) **99e:73092** 73T05 (35Q72, 49J40, 73C99, 73K10, 73K50, 73V25)

— (*with* Sokołowski, Jan) On solution existence for elastoplastic plates with cracks. *Progress in partial differential equations, Vol. 2 (Pont-à-Mousson, 1997)*, 1–11, *Pitman Res. Notes Math. Ser.*, 384, *Longman, Harlow*, 1998. (From the introduction) **99d:73048** 73E99 (35Q72, 73K10, 73V25)

— (*with* Brokate, Martin) Regularization and existence of solutions of three-dimensional elastoplastic problems. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 6, 551–564. (Mircea Sofonea) **99a:73038** 73C50 (35J85, 35Q72, 73C35, 73E99)

— (*with* Kovtunenko, V. A.; Leont'ev, A. N.) The problem of the equilibrium of a plate with an oblique cut. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 164–174. (Summary) **99h:73043** 73K10 (73T05, 73V25)

— Regularization and existence of solutions in the problem of the equilibrium of an elastoplastic plate. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 670–682, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 582–593. (Igor Albertovich Brigadnov) **99i:73042** 73E99 (35Q72, 73K10, 73V20)

Khludneva, E. Yu. Optimal control of external loads in the problem of the contact of viscoelastic plates with a rigid stamp. (Russian) *Algebra and mathematical analysis (Russian)*, 8–13, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 49N55 (73T05, 73V25)

Khmaladze, E. V. Goodness of fit tests for "chimeric" alternatives. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 1, 90–111. (Winfried Stute) **99b:62090** 62G30 (62G10)

Khmelëv, D. V. Reconstruction of linear index expressions for reducing programs to a linear class. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 3, 532–544; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 3, 513–525. (Summary) **99f:68033** 68N20 (68N05)

Khmeleva, L. E. (*with* Kislovskaya, N. M.) The additive group of the endomorphism ring of an abelian group. (Russian. Russian summary) *Algebras, groups and varieties (Russian)*, 38–48, 81, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 20K30

— (*with* Kislovskaya, N. M.) Splittable abelian groups. (Russian. Russian summary) *Algebras, groups and varieties (Russian)*, 49–58, 82, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 20K30

Khmel'nitskiĭ, D. E. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Khmelnitsky, Eugene (*with* Caramanis, Michael C.) One-machine n-part-type optimal setup scheduling: analytical characterization of switching surfaces. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1584–1588. 90B30 (93C95)

ha huy Khoai *see* **Ha Huy Khoai**

nguyễn Khoa So'n *see* **Nguyễn Khoa So'n**

Khobotov, E. N. The use of the extragradient method for solving multistep games of various types. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 83–88. 90D43

Khodadad Khan, A. F. M. (*with* Ahsanullah, T. M. G.) Net-convergence in fuzzy neighborhood spaces. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 197–203. (Summary) **99h:54009** 54A40

Khodalevich, A. D. Formation properties of nilpotent algebras. (Russian. English summary) *Problems in algebra, No. 7 (Russian)*, 76–85, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 08A30

— Minimal non-Σ-dispersive groups. (Russian. Russian summary) *Problems in algebra, No. 6 (Russian)*, 55–68, 103, "*Universitet-skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20D10

— Hereditary formations of universal algebras. (Russian. English summary) *Problems in algebra, No. 8 (Russian)*, 158–163, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 08A05

— Properties of centralizers of congruences of universal algebras. (Russian. English summary) *Problems in algebra, No. 10 (Russian)*, 144–152, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 08A30

ammar-Khodja, Farid *see* **Ammar-Khodja, Farid**

Khodkar, A. (*with* Hoffman, Dean G.) On the non-existence of Steiner $(v, k, 2)$ trades with certain volumes. (English summary) *Australas. J. Combin.* **18** (1998), 303–311. (Summary) **99f:05017** 05B05

— On smallest critical sets for the elementary abelian 2-group. (English summary) *Util. Math.* **54** (1998), 45–50. (Summary) **99f:05019** 05B15

— (*with* Bryant, Darryn E.) 5-cycle systems of $K_v - F$ with a hole. (English summary) *Util. Math.* **54** (1998), 59–73. (Summary) **99g:05020** 05B05 (05C38)

— (*with* Bryant, Darryn E.; El-Zanati, S. I.) Small embeddings for partial G-designs when G is bipartite. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 86–90. (Summary) **99m:05017** 05B05 (05C38)

— (*with* Adams, Peter; Bryant, Darryn E.) On the number of repeated triples in balanced ternary designs with index two. (English summary) *Util. Math.* **55** (1999), 55–64. (Summary) **99m:05016** 05B05

Khodzhaev, N. M. The problem of V. G. Sprindzhuk on the square-free part of the product of consecutive natural numbers. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 1, 3–7, 78; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 1, 1–5. (A. J. Hildebrand) **99a:11105** 11N25

Khodzhaev, Z. Sh. (*with* Israilov, M. I.) Effective improvement of a method for computing singular integrals. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1996), 23–28. 65R20 (45E05)

Khodzhibaev, V. R. Asymptotic representations for characteristics of exit from an interval for stochastic processes with independent increments. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 75–86. (D. V. Gusak) **99j:60113** 60J30

— On oscillating random walks with continuous time. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1997), 71–81. (Summary) **99e:60155** 60J15

— (*with* Lotov, Vladimir Ivanovich) On limit theorems for the first exit time from a strip for stochastic processes. I. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 90–113. (José Rafael León) **99k:60035** 60E07

lê hai Khôi *see* **Lê Hai Khôi**

bui Khoi Dam *see* **Bui Khoi Dam**

Khokhlov, A. R. *see* **Reminiscences about Il'ya Mikhaĭlovich Lifshits**

Khokhlov, Andreĭ Vladimirovich Stable subsets of modules and the existence of a unit in associative rings. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 596–611; *translation in Math. Notes* **61** (1997), *no.* 3-4, 495–509. (J. Jirásko) **99g:16040** 16U60

Khokhlov, Yu. E. (*with* Prokhorov, D. V.; Vasil'ev, A. Yu.) On geometrical properties of free boundaries in the Hele-Shaw flows moving boundary problem. *Lobachevskii J. Math.* **1** (1998), 3–12 (*electronic*). (Peter A. McCoy) **99m:76054** 76D99 (30C35, 35R35, 76S05)

Khokhlov, Yu. S. The law of the iterated logarithm for random vectors with an operator-stable limit law. (Russian) Numerical methods and their applications (Russian) (Moscow, 1993). *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 62–68. (*see* **99a:65005**) 60F15 (65U05)

Khokholov, V. B. (*with* Fedorova, A. T.) Cesàro means of Lagrange interpolation processes. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 76–82, *Yakut.sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 41A05

— Uniform convergence of Lagrange interpolation processes. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 82–96, *Yakut.sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 41A05

— *see also* **Dynamics of control systems, and computational processes, 99m:00021**

Kholevo, A. S. Covariant quantum dynamical semigroups: unbounded generators. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 67–81, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Lech Jakóbczyk) **99g:82054** 82C10 (47N55)

— (*with* Burnashev, Marat V.) On the reliability function for a quantum communication channel. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 3–15; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 97–107. (Summary) **99h:94039** 94A40 (81P99)

Kholmskaya, A. G. On a disk rolling within a sphere. (English and Russian summaries) *Regul. Khaoticheskaya Din.* **3** (1998), *no.* 1, 86–92. (Summary) **99h:70012** 70E15 (70F25, 70K20)

Kholmurodov, Kh. T. (*with* Puzynin, I. V.; Smirnov, Yu. S.) On one computational scheme solving the nonstationary Schrödinger equation with polynomial nonlinearity. *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 190–192, *Springer, Berlin*, 1997. (*see* **99g:00039**) 65N06

Kholodenko, A. L. (*with* Vilgis, T. A.) Some geometrical and topological problems in polymer physics. (English summary) *Phys. Rep.* **298** (1998), *no.* 5-6, 251–370. (E. J. Janse van Rensburg) **99e:82102** 82D60 (57M25, 82B41, 82B44)

Kholodnyi, Valery A. (*with* Price, John F.) ★ Foreign exchange option symmetry. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1998. *xx*+134 *pp. ISBN* 981-02-3362-0 (Christian Hipp) **99j:90012** 90A09

Kholodova, S. E. Atmospheric waves over an elevation of the Earth's surface. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 224–233, 258, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 76C15 (86A10)

Kholostova, O. V. On nonlinear oscillations of a satellite under third-order resonance. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 556–565; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 539–547. (Summary) **99e:70057** 70K30 (70H05, 70M20)

Kholpanov, L. P. (*with* Zaporozhets, E. P.; Zibert, G. K.; Kashchitskiĭ, Yu. A.) ★ Математическое моделирование нелинейных термогидрогазодинамических процессов в многокомпонентных струйных течениях. (Russian. Russian summary) [Mathematical modeling of nonlinear thermohydro-gas-dynamic processes in multicomponent jet flows] "*Nauka*", *Moscow*, 1998. 320 *pp. ISBN* 5-02-005221-3 (Publisher's description) **99k:76125** 76N15 (76D25, 76M25, 80A20)

Kholshchevnikova, N. N. On the structure of closed sets of uniqueness for the Walsh system. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 400–409. (Sergei F. Lukomskiĭ) **99j:42044** 42C25 (42C10)

el-Kholy, E. M. *see* **El-Kholy, E. M.**

Khoma, I. Yu. On the integration of equations of the equilibrium of transversally isotropic plates. (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 12, 82–88; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 12, 1002–1007 (1998). 73K15 (73B40)

Khomasuridze, N. Thermoelastic equilibrium of bodies in generalized cylindrical coordinates. (English summary) *Georgian Math. J.* **5** (1998), *no.* 6, 521–544. (Summary) **99i:73010** 73B30 (73B40, 73C02, 73T05)

Khomenko, O. M. (*with* Mazorchuk, Vladimir) Generalized Verma modules over the Lie algebra of type G_2. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 777–783. (William M. McGovern) **99m:17010** 17B10 (22E46)

Khomeriki, N. I. (*with* Komurdzhishvili, O. P.) On a method for constructing difference schemes. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 249–252 (1991). 65N06

Khomich, V. I. On the embeddability of some generalizations of pseudo-Boolean algebras. (Russian) *Dokl. Akad. Nauk* **350** (1996), *no.* 2, 174–177. (S. Rudeanu) **99c:03102** 03G10 (06D20)

Khonov, S. A. (*with* Ivchenko, G. I.) The exact and asymptotic maximum likelihood estimates of the structure of a stratified population. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 253–265, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 62D05 (60C05, 62F10)

— (*with* Ivchenko, G. I.; Ivanov, E. A.) An exact maximum likelihood estimator for the composition of a stratified population. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 216–222; *translation in Math. Notes* **62** (1997), *no.* 1-2, 181–185 (1998). (Summary) **99a:62012** 62D05

— (*with* Ivchenko, G. I.) On the Jaccard similarity test. (English summary) Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 789–794. (Summary) **99c:62041** 62F03 (62G10)

Khoo, B. C. (*with* Zhang, Yinglong; Yeo, K. S.; Chong, W. K.) Three-dimensional computation of bubbles near a free surface. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 105–123. (Summary) **99e:76078** 76M15

Khopteriev, Khristo (*with* Pavlov, E. V.) A CH-invariant curvature tensor field for a manifold with an almost-product structure. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 85–99. 53C15

Khorasani, K. (*with* Hashtrudi Zaad, K.) Control of non-minimum phase singularly perturbed systems with application to flexible-link manipulators. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 679–701. 93C85 (70B15, 70Q05)

— (*with* Yazdanpanah, M. J.; Patel, Rajnikant V.) Uncertainty compensation for a flexible-link manipulator using nonlinear H_∞ control. (English summary) *Internat. J. Control* **69** (1998), *no.* 6, 753–771. 93B36 (73K50, 93C85)

— (*with* Moallem, M.; Patel, Rajnikant V.) Inversion-based sliding control of a flexible-link manipulator. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 477–490. 93C85 (70B15, 70Q05)

Khorokhorin, I. I. (*with* Popov, Vladimir M.) Dyadic semantics for the systems of formal syllogistics C1 and C3. (Russian) *Logical investigations, No.* 4 (*Russian*), 134–136, "*Nauka*", *Moscow*, 1997. (*see* **99m:03005**) 03B20

Khoromskiĭ, B. N. (*with* Prössdorf, Siegfried) Fast computations with the harmonic Poincaré-Steklov operators on nested refined meshes. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 111–135. (Roger Pierre) **99f:65186** 65N50 (65N12, 65N22, 65N30)

— (*with* Schmidt, Gunther) A fast interface solver for the biharmonic Dirichlet problem on polygonal domains. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 577–596. (Serge Nicaise) **99a:65132** 65N12 (31A30, 65N30)

— (*with* Wittum, Gabriel) An asymptotically optimal Schur complement reduction for the Stokes equation. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 345–375. (Leonid K. Antanovskiĭ) **99m:65188** 65M60 (65F30, 65N30, 76D07, 76M10)

Khoroshkin, Sergei (*with* Tolstoĭ, V. N.) Twisting of quantized Lie (super)algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 63–84, *PWN, Warsaw*, 1995. (Ian M. Musson) **99g:17032** 17B37

— (*with* Kharchev, S.; Lebedev, D. R.) Intertwining operators and Hirota bilinear equations. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 144–157; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 879–891 (1996). (Kazuhiro Hikami) **99h:58089** 58F07 (17B37, 35Q51, 81R50)

— (*with* Schechtman, Vadim) Factorizable $\mathscr{D}$-modules. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 239–257. (Andy R. Magid) **99a:17020** 17B37 (18D99)

— (*with* Stolin, Alexander; Tolstoĭ, V. N.) Deformation of Yangian $Y(\mathrm{sl}_2)$. (English summary) *Comm. Algebra* **26** (1998), *no.* 4, 1041–1055. (Andrew Pressley) **99b:17013** 17B37

— (*with* Lebedev, D. R.; Pakulyak, S. Z.) Elliptic algebra $\mathscr{A}_{q,p}(\widehat{\mathrm{sl}}_2)$ in the scaling limit. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 597–627. (Naihuan Jing) **99e:17026** 17B37 (81R10, 81R50)

— (*with* Donin, J.; Gurevich, Dmitriĭ I.) Double quantization of $\mathbf{CP}^n$ type orbits by generalized Verma modules. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 384–406. (Andrei G. Bytsko) **99m:17016** 17B37 (58F06)

— (*with* Ding, Jintai) On the FRTS approach to quantized current algebras. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 4, 331–352. (Louis H. Kauffman) **99i:17015** 17B37 (81R50)

Khorrami, Farshad (*with* Jain, Sandeep; Fardanesh, B.) Decentralized control of large-scale power systems with unknown interconnections. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 591–608. 93A14

— (*with* Jain, Sandeep) Robust decentralized control of power systems utilizing only swing angle measurements. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 581–601. 93A14 (93B35)

— (*with* Bongiorno, J. J., Jr.; Lin, T. C.) A Wiener-Hopf approach to trade-offs between stability margin and performance in two- and three-degree-of-freedom multivariable control systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1337–1366. 93D09

Khorrami, Mohammad (*with* Aghamohammadi, A.; Rahimi Tabar, M. R.) Logarithmic conformal field theories with continuous weights. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 179–185. (Michael A. I. Flohr) **99j:81167** 81T40 (17B68, 81R10)

— (*with* Aghamohammadi, A.; Ghezelbash, Amir M.) Logarithmic $N = 1$ superconformal field theories. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 283–288. (Summary) **99g:81200** 81T40

— (*with* Alimohammadi, M.; Karimipour, V.) Exact solution of a one-parameter family of asymmetric exclusion processes. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6370–6376. (Summary) **99c:82048** 82C22 (60K35)

Khorunzhiĭ, A. M. Eigenvalue distribution of large random matrices with correlated entries. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **3** (1996), *no.* 1-2, 80–101. (Boris A. Khoruzhenko) **99e:82050** 82B44 (15A52)

— On smoothed density of states for Wigner random matrices. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 2, 147–162. (V. L. Girko) **99c:60077** 60F99

— (*with* Kirsch, Werner) Limit of infinite band width for product of two random matrices. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 325–336. (V. I. Serdobol'skiĭ) **99b:60050** 60F99

— On dilute unitary random matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4773–4784. (Ken Dykema) **99k:82034** 82B41 (15A52)

— (*with* Boutet de Monvel-Berthier, Anne-Marie) Limit theorems for random matrices. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 175–197. (Boris A. Khoruzhenko) **99k:60100** 60F99 (15A52, 82B44)

Khoruzhenko, Boris A. (*with* Fedorov, Ya. V.; Sommers, Hans-Jürgen) Universality in the random matrix spectra in the regime of weak non-Hermiticity. (English and French summaries) Classical and quantum chaos. *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 4, 449–489. (Alexei Khorunzhy) **99i:60080** 60F99 (15A52, 60B15, 82B41)

Khosaev, Kh. S. (*with* Muzaev, I. D.; Vazieva, L. T.) An efficient method for solving initial-boundary value problems of the transverse vibrations of a nonprismatic beam. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 4, 24–30, 103. 73D30 (93D15)

Khoshimov, A. R. A problem for a third-order equation with a nonlinear boundary condition. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 72–76 (1997). 35G30

Khoshnevisan, Davar Some polar sets for the Brownian sheet. *Séminaire de Probabilités, XXXI*, 190–197, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Zhan Shi) **99i:60155** 60J65 (60G60)

— (*with* Burdzy, Krzysztof) Brownian motion in a Brownian crack. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 708–748. (Zoran Vondraček) **99g:60147** 60J65 (60F17)

— (*with* Lewis, Thomas M.) A law of the iterated logarithm for stable processes in random scenery. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 89–121. (Mamoru Kanda) **99g:60131** 60J30 (60F15, 60J55)

— (*with* Berkes, István; Horváth, Lajos) Logarithmic averages of stable random variables are asymptotically normal. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 1, 35–51. (J. L. Mijnheer) **99j:60023** 60E07 (60F15, 60G50)

Khosla, H. K. (*with* Malik, S. K.) Chaotic transitions in magnetic fluids. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1962–1971. (Summary) **99e:76063** 76F20 (58F40, 76W05)

Khosravani, Azar (*with* Earnest, A. G.) Universal positive quaternary quadratic lattices over totally real number fields. *Mathematika* **44** (1997), *no.* 2, 342–347. (Andrzej Sładek) **99a:11045** 11E12 (11E25)

Khosroshvili, D. On the representation of numbers by positive diagonal quadratic forms with five variables of level 16. (English summary) *Georgian Math. J.* **5** (1998), *no.* 1, 91–100. (Rainer Schulze-Pillot) **99b:11034** 11E25 (11E45, 11F27)

Khosrovshahi, G. B. (*with* Torabi, R.) Maximal trades. (English summary) *Ars Combin.* **51** (1999), 211–223. (Summary) **99j:05022** 05B05

— (*with* Maysoori, Ch.) On the structure of higher incidence matrices. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 13–22. (Summary) **99h:05018** 05B20

Khot, P. G. (*with* Lunge, H. S.) Computational behaviour of improved methods of linear programming. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 37–42. 90C05

— (*with* Lichade, Vishal M.) Square of a number using a series. *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 125–127. 11Y99

Khoudeir, A. (*with* Parra, Y.) Duality in the Born-Infeld theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025010, 4 *pp.* (Summary) **99m:81143** 81T13

— *see also* **Pasti, Paolo et al., 99a:81104**

Khoudraji, Abdelhaq (*with* Ghoudi, Kilani; Rivest, Louis-Paul) Propriétés statistiques des copules de valeurs extrêmes bidimensionnelles. (English and French summaries) [Statistical properties of copulas of two-dimensional extrema] *Canad. J. Statist.* **26** (1998), *no.* 1, 187–197. (Summary) **99b:62091** 62H05 (62E10)

al-Khouja, E. A. *see* **Al-Khouja, E. A.**

Khouja, Moutaz (*with* Michalewicz, Zbigniew; Vijayaragavan, Poorani) Evolutionary algorithm for economic lot and delivery scheduling problem. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 113–123. 90B35 (90B30)

— (*with* Lamb, Reinhold P.) An optimal schedule for dollar cost averaging under different transaction costs. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 245–261. 90B35 (90C27)

Khoury, Raja Nicolas Closest matrices in the space of generalized doubly stochastic matrices. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 562–568. (Yiu Tung Poon) **99c:15043** 15A51

Khoussainov, B. *see* **Khusainov, B. M.**

Khoussainov, Bakhadyr *see* **Khusainov, B. M.**

Khovanov, Mikhail G. (*with* Frenkel, Igor B.) Canonical bases in tensor products and graphical calculus for $U_q(sl_2)$. *Duke Math. J.* **87** (1997), *no.* 3, 409–480. (Kailash C. Misra) **99a:17019** 17B37 (17B10)

Khovanskiĭ, A. G. ★ Малочлены. (Russian. Russian summary) [Fewnomials] Appendix A by Yu. S. Il′yashenko; Appendix B by Lu Van den Driz [Lou van den Dries]. Библиотека Математика [Mathematics Library], 2. *Izdatel′stvo FAZIS, Moscow*, 1997. *xii*+217 *pp. ISBN* 5-7036-0023-5 (Eugenii Shustin) **99f:14070** 14P05 (57R19, 58A17)

— On a lemma of Kontsevich. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 89–91; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 296–298 (1998). (J. S. Joel) **99a:58077** 58F06 (32C30)

— Newton polytopes, curves on toric surfaces, and inversion of Weil's theorem. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 113–142; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1251–1279. (I. Dolgachev) **99d:14055** 14M25 (12D10)

— Boundary indices of polynomial 1-forms with homogeneous components. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 3, 193–222. (Grigory B. Mikhalkin) **99e:52016** 52B20 (14P25, 58F14)

Khoze, Valentin V. (*with* Dorey, Nicholas; Mattis, Michael P.; Tong, David; Vandoren, Stefan) Instantons, three-dimensional gauge theory, and the Atiyah-Hitchin manifold. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 59–93. (Summary) **99a:81168** 81T60 (53C25, 58D27, 81T13)

— (*with* Dorey, Nicholas; Mattis, Michael P.) Multi-instantons, three-dimensional gauge theory, and the Gauss-Bonnet-Chern theorem. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 1-2, 94–106. (Summary) **99a:81169** 81T60 (53C25, 58D27, 81T13)

— (*with* Dorey, Nicholas; Mattis, Michael P.) Supersymmetry and the multi-instanton measure. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 3, 681–708. (Summary) **99h:81206a** 81T60 (58D20, 58D27)

— (*with* Dorey, Nicholas; Hollowood, Timothy J.; Mattis, Michael P.) Supersymmetry and the multi-instanton measure. II. From $N = 4$ to $N = 0$. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 470–482. (Summary) **99h:81206b** 81T60 (58D20, 58D27)

— (*with* Dorey, Nicholas; Mattis, Michael P.; Vandoren, Stefan) Yang-Mills instantons in the large-N limit and the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 145–151. (Summary) **99k:81302** 81T60 (81T13, 81T30)

— (*with* Mattis, Michael P.; Slater, Matthew J.) The instanton hunter's guide to supersymmetric SU(N) gauge theories. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 69–109. (Bernd J. Schroers) **99m:81254** 81T60 (14H45, 81T13)

Khramtsovsky, A. V. (*with* Goman, M. G.) Application of continuation and bifurcation methods to the design of control systems. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2277–2295. 93C85 (70Q05, 93B51)

Khrebtukov, D. B. (*with* Macek, J. H.) Harmonic oscillator Green functions. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2853–2868. (Peter N. Zhevandrov) **99c:81027** 81Q05

Khrennikov, Andrei Statistical modeling over p-adic number fields. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 4, 87–98. (Summary) **99k:81159** 81S99 (11S85)

— p-adic valued probability measures. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 3, 311–330. (S. Cobzaş) **99e:46103** 46S10 (28A12, 46G99, 60B05)

— p-adic analogues of the law of large numbers and the central limit theorem. *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 61–77. (Wim H. Schikhof) **99b:11085** 11K41 (12J25, 46S10, 60A99, 60F05)

— p-adic behavior of Bernoulli probabilities. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 839–845. (Summary) **99c:60015** 60C05 (11S85, 81P99)

— (*with* Albeverio, Sergio; Cianci, Roberto) A representation of the quantum field Hamiltonian in a p-adic Hilbert space. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **112** (1997), *no.* 3, 355–374; *translation in Theoret. and Math. Phys.* **112** (1997), *no.* 3, 1081–1096 (1998). (Eugen Belokolos) **99e:81125** 81S99 (46N50, 47N50)

— The Kolmogorov complexity of p-adic random sequences. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 531–539, *Brepols, Turnhout*, 1998. (Summary) **99k:60006** 60A99

— Non-Kolmogorov probabilistic models with p-adic probabilities and foundations of quantum mechanics. *Stochastic analysis and related topics, VI (Geilo, 1996)*, 275–303, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Eugen Belokolos) **99m:81035** 81P99 (46N50, 46S10, 60A99)

— (*with* Albeverio, Sergio) A regularization of quantum field Hamiltonians with the aid of p-adic numbers. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 3, 225–251. (Eugen Belokolos) **99f:81117** 81S99 (11S99, 11Z05, 46S10, 81T99)

— p-adic behaviour of Bernoulli probabilities. (English summary) *Statist. Probab. Lett.* **37** (1998), *no.* 4, 375–379. (Eugen Belokolos) **99d:11136** 11Z05 (11S85, 60C05)

Khriplovich, I. B. Quantization of black holes. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 19–21. (Summary) **99c:83055** 83C57 (83C47)

— Emission of charged particles by a charged black hole. *J. Experiment. Theoret. Phys.* **88** (1999), *no.* 5, 845–849; *translated from Zh. Èksper. Teoret. Fiz.* **115** (1999), *no.* 5, 1539–1548 (*Russian*). 83C57

Khriptan, M. D. Group-theoretic relationships between a generalization of Bessel functions and other special functions. (Russian) *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk*, 1996), 187–188, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 33C80 (20C15, 33C10)

Khripunov, A. P. (*with* Ushakov, V. N.) On the approximate construction of solutions in game-theoretic control problems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 413–421; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 401–408. (A. M. Tarasyev) **99d:49068** 49N35 (90D25)

Khristov, E. Kh. On the A-operators associated with two Sturm-Liouville problems on the semi-axis. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 647–660. (Mayumi Ohmiya) **99c:34199** 34L40 (34A55, 34B24)

Khristova, Miryana S. Separable commuting with the generalized Hardy-Littlewood operator for several complex variables. (English summary) *Math. Balkanica (N.S.)* **10** (1996), *no.* 4, 349–354. (Valentin Napalkov) **99b:47042** 47B38

Khristova, S. G. (*with* Kapitanova, M. B.; Kostadinov, St. I.) Method of a small parameter for a class of nonautonomous systems of second order differential equations with impulses. *Rostock. Math. Kolloq.* **1997**, *no.* 50, 3–8. (From the text) **99a:34027** 34A37 (34C25)

Khritonenko, N. V. (*with* Yatsenko, Yu. P.) Turnpike theorems in an integral dynamic model of economic restoration. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 2, 131–149, 190; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 2, 259–273. (Alexander J. Zaslavski) **99a:90066** 90A16 (49J15)

Khromov, A. I. Localization of plastic deformations and the fracture of ideal plastic-rigid bodies. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 202–205; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 587–590. 73E20 (73M25)

Khromova, G. V. On upper bounds for the norms of functions and their derivatives. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 44–46. (Jiří Rákosník) **99i:46022** 46E35 (34B05)

— Approximating properties of resolvents of differential operators in the problem of approximation of functions and their derivatives. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1106–1113; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1057–1064. (Summary) **99c:34189** 34L05 (41A30, 65J15)

Khruslov, Evgenii Ya. (*with* Boutet de Monvel, Louis) An averaged model of the diffusion of colored particles in domains with small obstacles. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **1** (1994), *no.* 1, 78–101. (Taras A. Mel′nyk) **99c:35020** 35B27 (35K99, 73B27)

— (*with* Boutet de Monvel, Louis; Chueshov, Igor D.) Homogenization of attractors for semilinear parabolic equations on manifolds with complicated microstructure. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 297–322. (Ioannis G. Stratis) **99e:35095** 35K55 (34G20, 35B27, 35B40, 47H20, 58G30)

— (*with* Boutet de Monvel, Louis) Averaging of a diffusion equation on Riemannian manifolds of complex microstructure. (Russian. Russian summary) *Tr. Mosk. Mat. Obs.* **58** (1997), 158–186; *translation in Trans. Moscow Math. Soc.* **1997**, 137–161. (Jürgen Eichhorn) **99j:58198** 58G11 (35B27, 35K15)

— (*with* Stephan, Holger) Splitting of some non-localized solutions of the Korteweg-de Vries equation into solitons. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 49–67. (Elena Medina Reus) **99d:35143** 35Q53

Khubedzhashvili, Sh. S. (*with* Sanikidze, D. G.; Mirianashvili, M. G.; Emel′yanenko, G. A.; Machavariani, A. I.) On a numerical solution of Lippman-Schwinger singular integral equations. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 261–263 (1991). 65R20

Khudalov, V. T. Approximation properties of the positive and negative parts of an element in ordered Banach spaces. (Russian) *Mat. Zametki* **60** (1996), *no.* 5, 793–798; *translation*

in Math. Notes **60** (1996), *no.* 5-6, 597–602 (1997). (R. Cristescu) **99d:46027** 46B40

Khudoleeva, O. I. Inverse and mixed additive problems with power asymptotics. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 116–123. (Ognian Trifonov) **99j:11107** 11N37

— (*with* Faĭnleĭb, A. S.) On the distribution of elements of normed free semigroups. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1996), 68–72 (1997). (Z. Kryžius) **99h:11105** 11N37 (11K65)

Khudyaev, S. I. On a class of integrable equations in problems of combustion and fluid dynamics. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 35–60. 80A25 (76N10)

Khudyakov, S. V. (*with* Dvoeglazov, V. V.) Gluonium as a bound state of massive particles of the $(1,0)\oplus(0,1)$ representation of the Lorentz group. (English summary) *Hadronic J.* **21** (1998), *no.* 5, 507–526. 81V25 (81R05)

nguyễn văn khuê *see* **Nguyễn Văn Khuê**

Khukhro, E. I. On a generalization of the Hughes subgroup. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1427–1430, *v*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1241–1243. (Summary) **99c:20017** 20D10

— ★ p-automorphisms of finite p-groups. (English summary) London Mathematical Society Lecture Note Series, 246. *Cambridge University Press, Cambridge*, 1998. *xviii+204 pp. ISBN* 0-521-59717-X (Andreas Caranti) **99d:20029** 20D15 (17B40, 20D45, 20F40)

— (*with* Smith, Howard) Locally finite groups with all subgroups normal-by-(finite rank). (English summary) *J. Algebra* **200** (1998), *no.* 2, 701–717. (Martyn R. Dixon) **99b:20063** 20F50

Khuller, Samir (*with* Guha, Sudipto) Greedy strikes back: improved facility location algorithms. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 649–657, *ACM, New York*, 1998. (*see* **99d:68011**) 90B80 (68Q25)

— (*with* Bhatia, Randeep; Guha, Sudipto; Sussmann, Yoram J.) Facility location with dynamic distance functions. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 199–217. (Horst W. Hamacher) **99k:90094** 90B80 (90C27)

le Khung Lan *see* **Le Khung Lan**

Khurana, Seema (*with* Suneja, S. K.; Lalitha, C. S.) Optimality and duality theorems for non-smooth multiobjective fractional programs. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 3, 243–257. 90C29 (49N15)

Khuri, André I. Multiresponse surface methodology. *Design and analysis of experiments*, 377–406, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99

— (*with* Mathew, Thomas[1]; Sinha, Bimal Kumar) ★ Statistical tests for mixed linear models. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+352 *pp. ISBN* 0-471-15653-1 (J. Kleffe) **99e:62123** 62J10 (62F03)

Khuri, Ramzi R. (*with* Duff, M. J.; Evans, Jonathan M.; Lu, Jian Xin; Minasian, Ruben) The octonionic membrane. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 281–287. (Sergey Nikolaevich Roshchupkin) **99a:83064** 83E30 (81T30, 83E50)

— Black holes and strings: the polymer link. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 17, 1407–1411. (Summary) **99c:83056** 83C57 (83E30)

— (*with* Duff, M. J.; Evans, Jonathan M.; Lu, Jian Xin; Minasian, Ruben) The octonionic membrane. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 295–302. (Summary) **99f:83065** 83E30 (81T30, 83E50)

— (*with* Kaloper, Nemanja; Myers, Robert C.) On generalized axion reductions. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 297–302. (Summary) **99b:83075** 83E50 (81T30, 81T60, 83E30)

Khuri, S. A. (*with* Deeba, Elias Y.) The solution of nonlinear compartmental models. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 5, 87–100. (Wolf-Jürgen Beyn) **99b:65079** 65L05 (92C45)

— (*with* Deeba, Elias Y.) On the solution of some forms of the Korteweg-de Vries equation. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 113–125. 65M99 (35Q53)

— On the solution of an integral equation arising in water waves theory. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 291–295. 45E10 (76B15)

— A new approach to the cubic Schrödinger equation: an application of the decomposition technique. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 251–254. 35Q55

— Biorthogonality condition for axisymmetric Stokes flow in a toroidal region. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 255–259. (Summary) **99f:76043** 76D07 (34L40)

Khuri-Makdisi, Kamal (*with* Chriss, Neil A.) On the Iwahori-Hecke algebra of a p-adic group. *Internat. Math. Res. Notices* **1998**, *no.* 2, 85–100. (Thomas M. Halverson) **99c:22023** 22E50 (20G05)

Khurodze, T. A. On the method of auxiliary relations in problems with continua of solutions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 38–41 (1996). 47H15 (47H17)

Khurshid, Anwer (*with* Sahai, Hardeo) On confidence intervals for the probability of success when sampling is without replacement. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 904–911. 62D05

Khusainov, A. A. On the global dimension of the category of commutative diagrams in an abelian category. (Russian) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1181–1194; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 1041–1051. (Daniel Simson) **99i:18015** 18G20 (18E10)

— Comparison of the dimensions of a small category. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1413–1426, *v*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1230–1240. (Andrew Borisovich Verëvkin) **99b:18002** 18A30 (18A25, 18A32, 18G60)

— On locally finite partially ordered sets of dimension 3. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 201–205, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 176–180. (From the text) **99b:18016** 18G20 (06A06)

Khusainov, B. M. (*with* Shore, Richard A.) Categoricity and Scott families. *Combinatorics, complexity, & logic (Auckland, 1996)*, 299–307, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 03C57 (03D45)

— (*with* Calude, Cristian S.; Calude, Elena) Deterministic automata: simulation, universality and minimality. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 263–276. (Leonid P. Lisovik) **99a:68125** 68Q68 (03D05)

— (*with* Nies, André; Shore, Richard A.) Computable models of theories with few models. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 165–178. (Alexandre Ivanov) **99c:03049** 03C15 (03C35, 03C57)

— (*with* Coles, Richard J.; Downey, Rodney G.) On initial segments of computable linear orders. (English summary) *Order* **14** (1997/98), *no.* 2, 107–124. (Victor Selivanov) **99m:03088** 03D45 (03C57, 06A05)

— (*with* Calude, Cristian S.; Hertling, Peter H.; Wang, Yongge) Recursively enumerable reals and Chaitin Ω numbers. (English summary) *STACS 98 (Paris, 1998)*, 596–606, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68089** 68Q30 (03D25)

— (*with* Ishihara, Hajime; Nerode, Anil) Decidable Kripke models of intuitionistic theories. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 115–123. (Leo Esakia) **99m:03075** 03C90 (03B20, 03C57)

— (*with* Shore, Richard A.) Computable isomorphisms, degree spectra of relations, and Scott families. (English summary) Computability theory. *Ann. Pure Appl. Logic* **93** (1998), *no.* 1-3, 153–193. (Summary) **99g:03046** 03D45 (03C57, 03D25)

— (*with* Ishihara, Hajime; Nerode, Anil) Computable Kripke models and intermediate logics. (English summary) *Inform. and Comput.* **143** (1998), *no.* 2, 205–230. (A. Yu. Muravitsky) **99m:03089** 03D45 (03B55, 03C57)

— (*with* Yakhnis, Alexander; Yakhnis, Vladimir) Games with unknown past. (English summary) *Math. Logic Quart.* **44** (1998), *no.* 2, 185–204. (Leonid P. Lisovik) **99i:03011** 03B25 (68Q60, 90D35)

— *see also* **Proceedings: Workshop on Logic in Computer Science, 99g:68006**

Khusainov, D. Ya. Stability investigation of solutions of functional-differential equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 343–354, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 34K20 (39A10)

— Application of the second Lyapunov method to stability investigation of differential equations with deviations. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math. (Brno)* **34** (1998), *no.* 1, 127–142. (Daoyi Xu) **99d:34149** 34K20 (34K35, 93D05)

Khusanbaev, Ya. M. (*with* Formanov, Sh. K.) On the sum of a random number of random variables with Markov switching. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1995), 102–105 (1996). 60J10 (60E10)

— (*with* Rakhimov, G. M.) On the convergence of a process associated with a difference scheme to a diffusion process. (Russian. Russian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 155–162; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 161–168. (V. G. Kolomiets) **99i:60142** 60J15 (60G42, 60H25, 60J80, 65U05)

— On the limit behavior of the sum of randomly selected partial sums. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 99–104. 60F05

Khusanov, D. Kh. (*with* Andreev, Aleksandr Sergeevich) Limit equations in the problem of the stability of a functional-differential equation. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 435–440, 572; *translation in Differential Equations* **34** (1998), *no.* 4, 431–436. (Arkadii V. Kim) **99m:34172** 34K20 (34K05)

Khuskivadze, G. A. (*with* Paatashvili, V. A.) On the inclusion of the Cauchy type integrals into the Smirnov's classes. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 71–79. (D. M. Israfilov) **99j:30042** 30E20

— (*with* Paatashvili, V. A.) On conformal mapping of simply connected domains with a piecewise smooth boundary. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **114** (1997), 81–88. (Anthony D. Thomas) **99f:30013** 30C35 (30C20)

— (*with* Paatashvili, V. A.) On the continuity of the Cauchy operator from the space $L_p(\Gamma)$ to $L_q(\Gamma)$ for $p > q \geq 1$. *Proc. A. Razmadze Math. Inst.* **114** (1997), 124–125. 47G10 (45E05, 47B38)

— (*with* Paatashvili, V. A.) On the conformal mapping of a circle onto a domain with an arbitrary piecewise smooth boundary. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **116** (1998), 123–132. (O. P. Ahuja) **99m:30011** 30C20 (30C35)

Khusnutdinov, N. R. (*with* Yul'met'ev, R. M.) The spectrum of the non-Markovity parameter for hydrodynamic systems. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 292–310; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1426–1441 (1996). (Daniel J. M. Schertzer) **99j:82052** 82C05 (76A02, 76M35, 82C35)

Khusnutdinova, K. R. (*with* Steudel, H.) Second harmonic generation: Hamiltonian structures and particular solutions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3754–3764. (Luigi Martina) **99e:58102** 58F07 (35Q53, 78A40)

Khusnutdinova, N. V. Separated flows in a boundary layer. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 3, 334–336; *translation in Dokl. Phys.* **43** (1998), *no.* 3, 185–188. (From the text) **99j:76034** 76D15 (76D10)

Khutortsev, V. V. (*with* Karga, A. V.) The prediction model method in the theory of the control of observations. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 71–75. 49K40 (93B50, 93C10)

— The use of bases of compactly supported functions in problems of filtering of a priori uncertain time processes in stochastic spatial fractals. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 86–97; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 169–179. (Alexander Veretennikov) **99k:60112** 60G35 (93E11, 94A12)

Khvatova, T. Yu. (*with* Shevlyakov, G. L.) On robust estimation of a correlation coefficient and correlation matrix. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design (Marseilles, 1998)*, 153–162, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62H12 (62F35)

Khvedelidze, A. M. (*with* Gogilidze, S. A.; Mladenov, D. M.; Pervushin, V. N.) On Hamiltonian framework for Bianchi IX cosmology. Abelianization of constraints. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 299–303, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 83C05 (83C20)

— (*with* Gogilidze, S. A.; Mladenov, D. M.; Pavel, H.-P.) Hamiltonian reduction of SU(2) Dirac-Yang-Mills mechanics. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7488–7500. (Summary) **99k:81132** 81S10 (58F05, 81T13)

— (*with* Gogilidze, S. A.; Pervushin, V. N.) Reduction in systems with local symmetry. *Phys. Particles Nuclei* **30** (1999), *no.* 1, 66–86; *translated from Fiz. Èlementar. Chastits i Atom. Yadra* **30** (1999), *no.* 1, 160–209 (*Russian. English and Russian summaries*). (Frans Cantrijn) **99m:58088** 58F05 (70G50, 70H05, 70H35, 81T13)

Khvedelidze, G. G. The Galerkin method with re-iteration for an equation of the second kind. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152**

(1995), *no.* 1, 34–37 (1996). 65M70 (47A50)

Khviengia, N. (*with* Khviengia, Z.; Lu, Hong[1]; Pope, C. N.) Towards a field theory of F-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 759–773. (Mario Trigiante) **99f:81168** 81T30 (83E30)

Khviengia, Z. (*with* Khviengia, N.; Lu, Hong[1]; Pope, C. N.) Towards a field theory of F-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 759–773. (Mario Trigiante) **99f:81168** 81T30 (83E30)

Khyng, D. V. *see* **Dang Van Hung**

Ki, Haseo (*with* Choi, Yun Sung; Kim, Sung Guen) Extreme polynomials and multilinear forms on l_1. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 467–482. (Ignacio Zalduendo) **99k:46077b** 46G20 (46B28)

Ki, U-Hang (*with* Kang, Tae Ho; Pak, Jin Suk) On the spectral geometry for the Jacobi operators of harmonic maps into product manifolds. (English summary) *Proceedings of the First International Workshop on Differential Geometry* (*Taegu*, 1996), 13–30, *Kyungpook Natl. Univ., Taegu*, 1997. (Summary) **99e:58049** 58E20 (58G25)

— (*with* Cho, Jong Taek) CR structures on real hypersurfaces of a complex projective space. (English summary) First Conference of Balkan Society of Geometers (Bucharest, 1996). *Balkan J. Geom. Appl.* **2** (1997), *no.* 1, 7–18. (Makoto Kimura) **99b:53079** 53C40 (53C15)

— (*with* Kon, Masahiro) Minimal CR submanifolds of a complex projective space with parallel section in the normal bundle. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 665–678. (Sorin Dragomir) **99h:53085** 53C42 (53C40)

— (*with* Kang, Tae Ho; Pak, Jin Suk) On the spectral geometry for the Jacobi operators of harmonic maps into product manifolds. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 2, 483–500. (Summary) **99b:58232** 58G25 (58E20)

— (*with* Cho, Jong Taek) Real hypersurfaces of a complex projective space in terms of the Jacobi operators. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 155–167. (Jürgen Berndt) **99f:53055** 53C40

— (*with* Maeda, Sadahiro) Notes on extrinsic spheres. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 433–439. (Bao Qiang Wu) **99j:53075** 53C40 (53C22, 53C55)

— (*with* Kang, Eun-Hee) Real hypersurfaces satisfying $\nabla_\xi S = 0$ of a complex space form. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 819–835. (Jürgen Berndt) **99j:53074** 53C40

— (*with* Choi, Soon Meen; Suh, Young Jin) Space-like surfaces with 1-type generalized Gauss map. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 315–330. (Qing Ming Cheng) **99d:53071** 53C50 (53C40)

— (*with* Cho, Jong Taek) Jacobi operators on real hypersurfaces of a complex projective space. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 145–156. (Makoto Kimura) **99f:53056** 53C40

— (*with* Choi, Soon Meen; Suh, Young Jin) On the Gauss map of null scrolls. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 273–279. (Christos Baikoussis) **99h:53090** 53C50 (53A40)

— *see also* **Dedicated to U-Hang Ki on the occasion of his 60th birthday, 99k:00040**

Kiasaleh, Kamran (*with* Huang, Dongjie) Routing strategy and performance evaluation of multiple-ring shufflenet topology for high speed wavelength-division multiplexed optical communications. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 273–293, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 90B12

Kibble, Rodger Modal subordination, focus and complement anaphora. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers* (*Gudauri*, 1995), 71–84, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 03B65 (03B45)

Kibble, T. W. B. (*with* Evans, T. S.; Steer, D. A.) Wick's theorem for nonsymmetric normal ordered products and contractions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5726–5738. (Lech Jakóbczyk) **99k:81125** 81S05 (81T99)

Kibler, Maurice Quadratic and nonquadratic forms: $\mathbf{R}^{2m} \to \mathbf{R}^{2m-n}$ transformations. (English summary) *Proceedings of the 3rd Catalan Days on Applied Mathematics* (*Lleida*, 1996), 125–138, *Univ. Lleida, Lleida*, 199?. (Philippe Revoy) **99e:15030** 15A63 (17A45, 55R05)

— (*with* Daoud, M.; Hassouni, Y.) The k-fermions as objects interpolating between fermions and bosons. *Symmetries in science, X* (*Bregenz*, 1997), 63–77, *Plenum, New York*, 1998. (Choo Hiap Oh) **99k:81107** 81R50

— (*with* Hakobyan, Ye. M.; Pogosyan, G. S.; Sisakyan, A. N.) Generalized oscillator: invariance algebra and interbasis expansions. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1782–1788. (Summary) **99i:81030** 81Q05 (81R05)

— (*with* Daoud, M.; Hassouni, Y.) Generalized supercoherent states. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1821–1824. (Summary) **99i:81079** 81R30

Kibria, B. M. Golam (*with* Ahmed, S. E.) Shrinkage estimation for the multicollinear observations in a regression model with multivariate t disturbances. (English summary) *J. Statist. Res.* **31** (1997), *no.* 1, 83–102. (Summary) **99c:62197** 62J07

— (*with* Haq, M. Safiul) Predictive inference for the elliptical linear model. (English summary) *J. Multivariate Anal.* **68** (1999), *no.* 2, 235–249. 62J05

Kibzun, A. I. (*with* Tret'yakov, G. L.) On the smoothness of the criterial function in the quantile optimization problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 69–80; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1459–1468 (1998). (Summary) **99c:90083** 90C15

— (*with* Uryas'ev, S. P.) Differentiability of probability function. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1101–1128. (M. Riedel) **99k:60032** 60E05 (62E30)

Kicey, Charles (*with* Goel, Sudhir) A series for $\ln k$. *Amer. Math. Monthly* **105** (1998), *no.* 6, 552–554. (From the text) **99f:33001** 33B10

Kichatinov, L. L. (*with* v. Rekowski, B.) Global flow symmetry breaking by the anisotropic kinetic alpha-effect. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 133–145. (Summary) **99b:76093** 76U05 (76E20, 76E25, 76V05, 76W05, 85A30)

Kichenassamy, Satyanad (*with* Rendall, Alan D.) Analytic description of singularities in Gowdy spacetimes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 5, 1339–1355. (Simonetta Frittelli) **99d:83077** 83C75 (83C15, 83C20)

— Instability of pole singularities for the Chazy equation. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2675–2690. (Andrei A. Kapaev) **99d:34009** 34A20 (34A25, 34D35)

Kiciński, Piotr Positivity of polarizations of n-positive maps. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 783–789. (Wacław Szymański) **99f:46084** 46L05

Kida, Masanari (*with* Kagawa, Takaaki) Nonexistence of elliptic curves with good reduction everywhere over real quadratic fields. *J. Number Theory* **66** (1997), *no.* 2, 201–210. (From the text) **99d:11060** 11G05

— Reduction of elliptic curves over certain real quadratic number fields. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1679–1685. (Ivica Gusić) **99m:11063** 11G05 (11R29)

Kida, Shigeo (*with* Kawahara, Genta; Tanaka, Mitsuru[2]; Yanase, Shinichiro) Wrap, tilt and stretch of vorticity lines around a strong thin straight vortex tube in a simple shear flow. (English summary) *J. Fluid Mech.* **353** (1997), 115–162. (Yuri N. Skiba) **99f:76040** 76D05 (76C05, 76F10)

— (*with* Segre, Enrico) Late states of incompressible 2D decaying vorticity fields. (English summary) *Fluid Dynam. Res.* **23** (1998), *no.* 2, 89–112. (Summary) **99a:76073** 76F99 (76C05)

— (*with* Goto, Susumu) Direct-interaction approximation and Reynolds-number reversed expansion for a dynamical system. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 191–214. (Summary) **99b:76043** 76F99

— (*with* Miura, Hideaki) Dynamics of vortex tubes in turbulence. (Japanese) Non-linearity of flows and statistical properties of turbulence (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1029 (1998), 121–130. (*see* **99e:76056**) 76F99 (76C05)

— (*with* Goto, Susumu) Conditions for the validity of the direct interaction approximation and its relationship to the Reynolds-number reversed expansion. (Japanese. Japanese summary) Dynamics of vortex fields and the mathematics of turbulence (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1051 (1998), 59–69. (*see* **99k:76004**) 76F99

— (*with* Shivamoggi, Bhimsen K.; Taylor, M. D.) On some mathematical aspects of the direct-interaction approximation in turbulence theory. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 639–658. (Roland Schiestel) **99m:76074** 76F99 (76M25)

Kida, Teruhiko (*with* Nakajima, Tomoya) Core spreading vortex methods in two-dimensional viscous flows. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 273–298. (Thomas Y. Hou) **99i:76121** 76M25 (76C05, 76D05)

Kidachi, Hideyuki (*with* Onogi, Hiroshi) Note on the stability of the nonlinear Mathieu equation. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 4, 755–773. (Summary) **99a:34110** 34C15 (34D20, 70K20)

Kidambi, Rangachari (*with* Newton, Paul K.) Motion of three point vortices on a sphere. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 143–175. (Summary) **99b:76017** 76C05 (58F40, 70H05)

Kider, Jihad R. (*with* Naoum, Adil G.) On the module of homomorphisms into projective modules and multiplication modules. *Period. Math. Hungar.* **33** (1996), *no.* 1, 55–63. (Satyagopal Mandal) **99b:13015** 13C10 (13C13)

Kiderlen, Markus (*with* Goodey, Paul; Weil, Wolfgang) Section and projection means of convex bodies. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 37–54. (Ilya S. Molchanov) **99d:52004** 52A20 (52A22, 52A39, 60D05)

Kiechle, Hubert K-loops from classical groups over ordered fields. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 105–127. (D. A. Robinson) **99a:20072** 20N05

Kiefer, Claus (*with* Barvinskiĭ, A. O.) Wheeler-DeWitt equation and Feynman diagrams. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 509–539. (Giampiero Esposito) **99h:83019** 83C45 (81T18)

— (*with* Louko, Jorma) Hamiltonian evolution and quantization for extremal black holes. (English summary) *Ann. Phys.* (8) **8** (1999), *no.* 1, 67–81. (Elizabeth Winstanley) **99m:83118** 83C57 (83C47)

Kiefer, Jörg (*with* Brunnett, Guido) Two variational models of fair curves. (English summary) *Creating fair and shape-preserving curves and surfaces* (*Kleinmachnow*, 1997), 55–65, *Teubner, Stuttgart*, 1998. (*see* **99g:65003**) 65D17 (93C85)

Kieffer, John C. (*with* Yang, En-hui) On the performance of data compression algorithms based upon string matching. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 47–65. (Francesco Fabris) **99e:94021** 94A29 (68P99, 94A34)

Kieffer, Jonathan Charles (*with* Bale, Ramesh) Walking viability and gait synthesis for a novel class of dynamically-simple bipeds. (English summary) *Informatica* (*Ljubl.*) **17** (1993), *no.* 2, 145–155. 70B15 (70Q05, 93B03)

Kieffer, M. (*with* Walter, Eric) Interval analysis for guaranteed nonlinear parameter estimation. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 115–125, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 93B30 (65G10)

Kielanowski, Piotr K^0–$\overline{K^0}$ system in the rigged Hilbert space quantum mechanics. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 311–319, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Summary) **99d:81182** 81V35 (47N50)

— (*with* Loewe, Mark) Exact fields of electrostatic and magnetostatic multipoles. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 1, 24–35. (Summary) **99a:78018** 78A30

— *see also* **Irreversibility and causality, 99b:81003**

Kielhöfer, Hansjörg Pattern formation of the stationary Cahn-Hilliard model. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1219–1243. (Naoki Yamada) **99b:35055** 35J60 (35B25, 35B32, 35K55, 58E05, 82B26)

Kiem, Youngjai (*with* Lee, Chang-Yeong; Park, Dahl) Exactly solvable charged dilaton gravity theories in two dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2973–2979. (Michael O. Katanaev) **99k:83102** 83C99 (81V25, 83C57)

— (*with* Hyun, Seungjoon; Shin, Hyeonjoon) Infinite Lorentz boost along the M-theory circle and nonasymptotically flat solutions in supergravities. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4856–4861. (Summary) **99k:83121** 83E30 (81T30, 83E50)

— (*with* Lee, Chang-Yeong; Park, Dahl) Thermodynamics of the doubly charged CGHS model and D1-D5-KK black holes of type IIB supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125002, 9 *pp.* (Summary) **99m:83204** 83E50 (81T30, 83C57, 83E30)

— (*with* Park, Dahl) BTZ black holes from the five-dimensional general relativity with a negative cosmological constant. (English summary) *Phys. Lett. B* **450** (1999), *no.* 1-3, 41–47. (Summary) **99m:83119** 83C57 (83E30)

— (*with* Hyun, Seungjoon; Shin, Hyeonjoon) Effective action for membrane dynamics in DLCQ M theory on a two-torus. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 2, 021901, 4 *pp.* 81T30

Kienzler, Peter Model of a joint measurement of different spin components. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 257–263. (*see* **99e:81004**) 81P15

Kierat, Władysław (*with* Skoŕnik, Krystyna) Remarks on convolution products of distributions. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 97–102. (Arpad Takači) **99a:46077** 46F12

— A remark about the infinitesimal operator of the Cauchy semigroup. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 3, 243–248. (Summary) **99a:46076** 46F12 (44A35, 46F10, 47D06)

— (*with* Sztaba, Urszula) The generalized Fourier transforms of slowly increasing functions. *Demonstratio Math.* **30** (1997), *no.* 2, 425–428. (Hans-Jürgen Glaeske) **99b:44006** 44A15 (46F12)

— (*with* Skoŕnik, Krystyna) On the application of Mikusiński's operational calculus to the controllability of dynamical systems. (English summary) *Transform methods & special functions, Varna* '96, 227–235, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 93B05 (34K35, 44A40)

— (*with* Cichocka, Anna) An application of the Wiener functions to the Dirichlet problem of the Laplace equation. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 13–20. (Summary) **99f:42064** 42C15 (35J05)

— (*with* Skoŕnik, Krystyna) An application of the Mikusiński operational calculus in the theory of controllability. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 159–162. (Summary) **99g:44010** 44A40

Kiers, Henk A. L. Joint orthomax rotation of the core and component matrices resulting from three-mode principal components analysis. (English summary) *J. Classification* **15** (1998), *no.* 2, 245–263. 62H25

Kierstead, Hal A. Coloring graphs on-line. *Online algorithms* (*Schloss Dagstuhl*, 1996), 281–305, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68R10 (05C15, 05C85)

— (*with* Quintana, Juan) Square Hamiltonian cycles in graphs with maximal 4-cliques. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 81–92. (Hansjoachim Walther) **99c:05125** 05C45

— On-line coloring k-colorable graphs. (English summary) *Israel J. Math.* **105** (1998), 93–104. (Kevin Lawrence McAvaney) **99g:05079** 05C15

— (*with* Katona, Gyula Y.) Hamiltonian chains in hypergraphs. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 205–212. (Martin Sonntag) **99k:05124** 05C65 (05C45)

Kierzenka, J. (*with* Shampine, L. F.) Solving DAE's with inconsistent initial conditions. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 513–520. 65L06 (34A09, 65L05)

Kiesel, Harry (*with* Wimp, Jet) Some properties of the Sobolev-Laguerre polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 401–412. (Tim H. Baker) **99k:33039** 33C45

Kiesel, Rüdiger Strong laws and summability for φ-mixing sequences of random variables. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 209–224. (Makoto Maejima) **99c:60069** 60F15 (60G10)

— (*with* Stadtmüller, Ulrich) Erdős-Rényi-Shepp laws for dependent random variables. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 253–259. (J. Steinebach) **99g:60066** 60F15 (60G50)

Kiessling, Michael K.-H. (*with* Lebowitz, Joel L.) The micro-canonical point vortex ensemble: beyond equivalence. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 43–58. (Emilio N. M. Cirillo) **99c:82019** 82B21 (35Q99, 76F99, 76M35)

Kifer, Michael (*with* Lausen, Georg; Wu, James) Logical foundations of object-oriented and frame-based languages. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 4, 741–843. (Summary) **99k:68043** 68P15 (03B70, 68N15, 68N17)

Kifer, Yuri The Burgers equation with a random force and a general model for directed polymers in random environments. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 1, 29–65. (Tu Sheng Zhang) **99k:60163** 60H15 (35Q53, 35R60, 60K35)

— Random dynamics and its applications. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 809–818 (*electronic*). (Volker Matthias Gundlach) **99k:58113** 58F11 (60F05, 60F15)

Kigami, Jun (*with* Barlow, Martin T.) Localized eigenfunctions of the Laplacian on p.c.f. self-similar sets. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 320–332. (Volker Vogelsang) **99b:35162** 35P20 (35J25)

— Distributions of localized eigenvalues of Laplacians on post critically finite self-similar sets. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 170–198. (Ben Hambly) **99g:35096** 35P20 (31C25, 35J99, 60J60)

Kiguradze, I. T. ★ Начальная и краевые задачи для систем обыкновенных дифференциальных уравнений. Том I. (Russian. Russian summary) [The initial value problem and boundary value problems for systems of ordinary differential equations. Vol. I] Линейная теория. [Linear theory] "*Metsniereba*", *Tbilisi*, 1997. 216 *pp.* (Alexander Haščák) **99a:34018** 34A30 (34A12, 34B05, 34C25, 34D20)

— (*with* Sokhadze, Z. P.) On the Cauchy problem for evolution singular functional-differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 48–59, 142; *translation in Differential Equations* **33** (1997), *no.* 1, 47–58. (Elena Litsyn) **99b:34128** 34K30

— (*with* Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Kudryavtsev, L. D.; Maksimov, V. P.; Shemyakina, T. K.) Nikolaĭ Viktorovich Azbelev (on the occasion of his seventy-fifth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 4, 435–439; *translation in Differential Equations* **33** (1997), *no.* 4, 433–438. (Editors) **99k:01062** 01A70

— On systems of ordinary differential equations and differential inequalities with multipoint boundary conditions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 646–652, 718; *translation in Differential Equations* **33** (1997), *no.* 5, 649–655 (1998). (Irena Rachůnková) **99e:34023** 34B10 (34A40)

— (*with* Půža, B.) On boundary value problems for functional-differential equations. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 106–113. (Summary) **99d:34120** 34K10

— (*with* Stavroulakis, I. P.) On the oscillation of solutions of higher order Emden-Fowler advanced differential equations. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 97–112. (Summary) **99h:34106** 34K15 (34C10)

— (*with* Sokhadze, Z. P.) On the structure of the set of solutions of the weighted Cauchy problem for evolution singular functional-differential equations. (English summary) *Fasc. Math. No.* 28 (1998), 71–92. (Elena Litsyn) **99j:34086** 34K05

— (*with* Došlá, Zuzana) On vanishing at infinity solutions of second order linear differential equations with advanced arguments. *Funkcial. Ekvac.* **41** (1998), *no.* 2, 189–205. (Alexander Haščák) **99k:34173** 34K25 (34E10, 34K15)

— (*with* Půža, B.) On the solvability of nonlinear boundary value problems for functional-differential equations. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 251–262. (Vladimir P. Maksimov) **99e:34092** 34K10

Kiguradze, Tariel On the correctness of periodic boundary value problems for linear hyperbolic equations. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **147** (1993), *no.* 1, 26–30. 35B20 (35B10)

— On periodic in the plane solutions of second order linear hyperbolic systems. (English summary) *Arch. Math.* (*Brno*) **33** (1997), *no.* 4, 253–272. (Pavel Krejčí) **99a:35157** 35L10 (35B10)

— On doubly periodic solutions of a class of nonlinear hyperbolic equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 238–245, 287; *translation in Differential Equations* **34** (1998), *no.* 2, 242–249. (Summary) **99k:35122** 35L70 (35B10)

Kihara, Shoichi On the rank of the elliptic curve $y^2 = x^3 + kx$. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 7, 115–116. (Hwasin Park) **99j:11062** 11G05

Kiiranen, Kalle (*with* Saar, Rein) General form of β-matrices of the first-order wave equations in 16-dimensional representation. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 2, 110–127. (Jorge Goncalves Cardoso) **99h:81072** 81R20

Kijima, Masaaki (*with* Ohnishi, Masamitsu) Comparative statics in relation to equilibrium price systems in certain perfect securities markets. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 75–87. (*see* **99b:90009**) 90A14 (90A60)

Kijimoto, S. (*with* Matsuda, Koichi; Kanemitsu, Y.) A wave-based controller design for general flexible structures. (English summary) *J. Sound Vibration* **216** (1998), *no.* 2, 269–279. 93C20 (93B50)

Kijowski, Jerzy (*with* Rudolph, Gerd; Rudolph, Michael) On the algebra of gauge invariants for one-flavour chromodynamics. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 131–142. (C. A. Hurst) **99b:81267** 81V05 (58Z05)

— (*with* Rudolph, Gerd) Lattice approximation of quantum electrodynamics. *New developments in quantum field theory* (*Zakopane*, 1997), 113–126, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Giovanni Morchio) **99k:81206** 81T25 (81T05, 81T13, 81V10)

— "True degrees of freedom" of a spherically symmetric, self-gravitating dust shell. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1001–1013. (Summary) **99m:83017** 83C05

— (*with* Rudolph, Gerd; Rudolph, Michael) Effective bosonic degrees of freedom for one-flavour chromodynamics. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **68** (1998), *no.* 3, 285–313. (Summary) **99c:81268** 81V05

— (*with* Magli, Giulio) Unconstrained Hamiltonian formulation of general relativity with thermo-elastic sources. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, 3891–3916. (Hans P. Künzle) **99k:83050** 83C55 (83C05)

— (*with* Chruściński, Dariusz) A gauge-invariant Hamiltonian description of the motion of charged test particles. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 1-2, 49–64. (Andrew Zardecki) **99h:78008** 78A02 (58F05, 70G50, 78A25, 78A35)

— (*with* Chruściński, Dariusz) Generation of multipole moments by external field in Born-Infeld nonlinear electrodynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 269–276. (Summary) **99a:78011** 78A25

— (*with* Rudolph, Gerd; Śliwa, C.) On the structure of the observable algebra for QED on the lattice. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 299–308. (Giovanni Morchio) **99e:81167** 81T25 (81R10, 81V10)

— (*with* Hájiček, Petr) Lagrangian and Hamiltonian formalism for discontinuous fluid and gravitational field. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 914–935. (Alexander N. Petrov) **99a:83007** 83C05 (83C55)

— Comment on: "Arrival time in quantum mechanics" [Phys. Rev. A (3) **56** (1997), no. 5, 3425–3435; 1668553] by V. Delgado and J. G. Muga and "Time of arrival in quantum mechanics" [ibid. **54** (1996), no. 6, 4676–4690; MR 98e:81017] by N. Grot, C. Rovelli, and R. S. Tate. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 897–899. (Summary) **99m:81023** 81P15

Kikkawa, Keiji (*with* Hotta, Kenji; Sakamoto, Michihiko) T duality and time development of a $(2 + 1)$-dimensional string universe. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1709–1721. (Summary) **99c:83091** 83E30 (81T30)

— *see also* **Physics in the 21st century, 99a:81004**

Kikkawa, S. (*with* Mukai, Juno; Takaba, D.) Cohomotopy sets of projective planes. (English summary) *J. Fac. Sci. Shinshu Univ.* **33** (1998), *no.* 1, 1–7. (Katsumi Shimomura) **99j:55010** 55Q05 (55Q55)

Kiknadze, N. (*with* Chechelashvili, G.; Dzhordzhadze, G. P.) Practical scheme of reduction to gauge-invariant variables. (English and Russian summaries) *Teoret. Mat. Fiz.* **109** (1996), *no.* 1, 90–106; *reprinted in Theoret. and Math. Phys.* **109** (1996), *no.* 1, 1316–1328 (1997). (Frans Cantrijn) **99a:58061** 58F05 (70G50, 70H35, 81T13)

Kikuchi, Fumio (*with* Kanayama, Hiroshi) 3-D eddy current computation using the Nedelec elements. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 37–45. (*see* **99h:65005**) 65N30 (65D15)

Kikuchi, Hiroaki (*with* Otake, Akihiro; Nakanishi, Shohachiro) Functional completeness of hierarchical fuzzy modeling. (English summary) *Inform. Sci.* **110** (1998), *no.* 1-2, 51–60. 68T05 (04A72)

Kikuchi, Hisashi (*with* Aoyama, Hideaki; Okouchi, Ikuo; Sato, Masatoshi; Wada, Shinya) Valleys in quantum mechanics. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 93–100. (Summary) **99b:81067** 81Q99 (81–08)

Kikuchi, Ken² (*with* Imai, Hideyuki; Miyakoshi, Masaaki) Unattainable solutions of a fuzzy relation equation. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 193–196. (From the summary) **99f:04004** 04A72

Kikuchi, Koji (*with* Negoro, Akira) On Markov process generated by pseudodifferential operator of variable order. *Osaka J. Math.* **34** (1997), *no.* 2, 319–335. (Niels Jacob) **99a:60078** 60J35 (35S05, 47D07)

Kikuchi, Makoto Kolmogorov complexity and the second incompleteness theorem. (English summary) *Arch. Math. Logic* **36** (1997), *no.* 6, 437–443. (Marius Zimand) **99d:03056** 03F30 (03D15, 68Q30)

Kikuchi, Masato Linear functionals on certain martingale Hardy spaces. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 1, 85–96. (Ferenc Weisz) **99j:60059a** 60G46 (42B30, 60B11)

— *see also* **Errata: "Linear functionals on certain martingale Hardy spaces", 99j:60059b**

Kikuchi, N. *see* **Kikuchi, Norio**

Kikuchi, Noboru (*with* Silva, Emílio C. Nelli; Fonseca, Jun S. Ono) Optimal design of periodic piezocomposites. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 1-2, 49–77. (Summary) **99e:73075** 73K40 (73B27, 73K20, 73R05)

— (*with* Nishiwaki, Shinji; Frecker, Mary I.; Min, Seungjae) Topology optimization of compliant mechanisms using the homogenization method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 535–559. (Summary) **99a:73011** 73B27 (73K40)

Kikuchi, Norio (*with* Haga, J.) On the existence of the harmonic variational flow subject to the two-sided conditions. (Russian summary) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 324–337, 343. (Martin Fuchs) **99e:58055** 58E30 (35D05, 35K40)

Kikuchi, Shigeki Immersion up to cobordism. (Japanese) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 81–84. (*see* **99a:00050**) 57R42

Kikukawa, Hiroyuki Graded Poincaré algebra, spin-vector gauge fields and gauge theory of gravity. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 5, 1209–1217. (Yu. N. Obukhov) **99i:83070** 83C60 (81T60)

Kikuta, K. (*with* Ruckle, W. H.) Accumulation games. I. Noisy Search. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 395–408. (Miroslav D. Ašić) **99c:90175** 90D26 (90D25)

Kilaru, Sambaiah Rational curves on moduli spaces of vector bundles. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 3, 217–226. (Nyshadham Raghavendra) **99m:14028** 14D20

Kilasoniya, N. A. On an algorithm for solving the vector optimization problem. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **141** (1991), *no.* 1, 65–68. 90C29

— On an algorithm for solving the vector optimization problem with ranked criteria. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 62–65 (1996). 90C29

Kilbas, A. A. (*with* Saigo, Megumi) Compositions of generalized fractional integration operators with the Fox H-function and a differential operator in axisymmetric potential theory. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 6, 12–17, 122. (V. S. Kiryakova) **99g:26016** 26A33 (33C60, 44A20, 47G10)

— (*with* Saigo, Megumi) On generalized fractional integration operators with Fox's H-function on spaces $F_{p,\mu}$ and $F'_{p,\mu}$. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 103–114. (P. G. Rooney) **99d:44001** 44A20 (26A33, 33C60)

— (*with* Saigo, Megumi) On Mittag-Leffler type function, fractional calculus operators and solutions of integral equations. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 4, 355–370. (V. S. Kiryakova) **99g:33058** 33E20 (26A33, 45D05, 45E05)

— (*with* Saigo, Megumi) Fractional calculus of the H-function. (English summary) *Fukuoka Univ. Sci. Rep.* **28** (1998), *no.* 2, 41–51. (Summary) **99h:26015** 26A33

— (*with* Saigo, Megumi) On Mittag-Leffler type function and applications. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 97–112. (Summary) **99i:26010** 26A33 (30D20, 33E20, 34A05)

— (*with* Glaeske, Hans-Jürgen) Bessel-type integral transforms on $\mathcal{L}_{\nu,\mu}$-spaces. (English summary) *Results Math.* **34** (1998), *no.* 3-4, 320–329. (N. Hayek Calil) **99m:44006** 44A15 (33C10, 42B10, 44A20, 47G10)

— (*with* Saigo, Megumi) On solution of nonlinear Abel-Volterra integral equation. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 41–60. (N. K. Karapetyants) **99m:45007** 45G05

Kilgore, Theodore An inequality relating algebraic and trigonometric derivatives. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 3, 175–184. (S. M. Mazhar) **99b:26028** 26D10 (41A17, 42A99)

— Some remarks on weighted interpolation. (English summary) *Approximation theory*, 343–351, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (Summary) **99b:41001** 41A05

Kilgus, Bernhard (*with* Schweigert, Dietmar) On the lattice of solid equational theories. *Contributions to general algebra*, 9 (*Linz*, 1994), 291–296, *Hölder-Pichler-Tempsky, Vienna*, 1995. (*see* **98g:00020**) 08B05 (03C05)

Kilian, Joe (*with* Feige, Uriel) Zero knowledge and the chromatic number. (English summary) Complexity 96—The Eleventh Annual IEEE Conference on Computational Complexity (Philadelphia, PA). *J. Comput. System Sci.* **57** (1998), *no.* 2, 187–199. (Summary) **99k:68076** 68Q25 (05C15, 68Q15, 68R10)

Kiliç, B. (*with* Arslan, Kadri) Product submanifolds and their types. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 125–134. (Bang-yen Chen) **99e:53074** 53C40

Kılıçman, Adem (*with* Fisher, Brian; Ault, J. C.) Generalizations of commutative neutrix convolution products of functions. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 2, 1–12. (Summary) **99h:46069** 46F10 (44A35)

— (*with* Fisher, Brian) An extension of a result on the neutrix convolution product of distributions. (English summary) *Transform methods & special functions, Varna* '96, 107–113, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 46F10

— (*with* Fisher, Brian; Nicholas, Joel D.) The commutative neutrix product of $B^{(r)}(x,n)$ and $\delta^{(s)}(x)$. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 397–403. (Summary) **99d:46056** 46F10 (33B15)

— (*with* Fisher, Brian; Nicholas, Joel D.) On the beta function and the neutrix product of distributions. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 35–42. 46F10

Kilizhekov, Yu. A. Error of approximation by interpolation polynomials of the first degree on n-simplices. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 504–510, 638; *translation in Math. Notes* **60** (1996), *no.* 3-4, 378–382 (1997). (Summary) **99a:41049** 41A63 (41A05)

Killgrove, R. (*with* Sternfeld, R.; Tamez, R.) Quadrangle completions and the anti-Desargues configuration. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 57–66. (Martin Funk) **99b:05026** 05B25 (05B15, 51A35, 51E20)

Killing, Wilhelm ★ Briefwechsel mit Friedrich Engel zur Theorie der Lie-Algebren. (German. German summary) [Correspondence with Friedrich Engel on the theory of Lie algebras] Zum 150. Geburtstag von Wilhelm Killing. [On the 150th anniversary of the birthday of Wilhelm Killing] With an introduction by W. Scharlau. Edited and with a foreword by Wolfgang Hein. Dokumente zur Geschichte der Mathematik [Documents on the History of Mathematics], 9. *Deutsche Mathematiker Vereinigung, Berlin; Friedr. Vieweg & Sohn, Braunschweig*, 1997. vi+247 *pp. ISBN* 3-528-06922-8 (J. S. Joel) **99e:01017** 01A55 (01A75, 17–03, 22–03)

Killingbeck, J. P. Subsequence summation and the m function. (English summary) *Phys. Lett. A* **253** (1999), *no.* 1-2, 28–32. 34B20 (34L40, 65D20, 65L99)

Killworth, Peter D. Eddy parameterisation in large scale flow. *Ocean modeling and parameterization* (*Les Houches*, 1998), 253–268, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:86001**) 86A05 (76C05)

Kilpatrick, Jeremy *see* **Mathematics education as a research domain: a search for identity, 99a:00011**

Kilpeläinen, Tero A remark on the uniqueness of quasi continuous functions. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 261–262. (S. K. Vodop'yanov) **99j:31016** 31C45 (31C15, 46E35)

Kim, A. V. On first integrals of functional-differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 347–350, 429; *translation in Differential Equations* **33** (1997), *no.* 3, 344–347. (Teresa Winiarska) **99c:34146** 34K05

— (*with* Pimenov, V. G.) Multistep numerical methods for functional-differential equations. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 377–384. (David R. Hill) **99f:65102** 65L05 (65L20)

Kim, Ann Chi (*with* Vesnin, Andrei) Cyclically presented groups and Takahashi manifolds. (English summary) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 200–212. (Summary) **99g:57001** 57M05 (20F34, 57M25, 57N10)

— (*with* Helling, H.; Mennicke, J. L.) A geometric study of Fibonacci groups. (English summary) *J. Lie Theory* **8** (1998), *no.* 1, 1–23. (Ronnie Lee) **99c:57005** 57M07 (20F34, 57M05, 57N10)

— (*with* Johnson, David Lawrence; O'Brien, E. A.) Certain cyclically presented groups are isomorphic. (English summary) *Comm. Algebra* **27** (1999), *no.* 7, 3531–3536. 20F05

Kim, B. M. *see* **Kim, Byeong Moon**

Kim, Beom Sool (*with* Cho, Chong-Man) A note on M-ideals of compact operators. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 683–687. (Summary) **99k:46026** 46B28 (46B20, 47D15)

Kim, Bok Ja (*with* Choi, Kun Wook; Jung, Il Bong) Direct integrals of dual operator algebras with properties $(A_{m,n})$. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 259–270. (Wing Suet Li) **99f:47058** 47D27 (46L45, 47A65)

Kim, Bong Jin (*with* Ryu, Kun Sik) An operator valued function space integral of functionals involving double integrals. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 293–303. (V. A. Romanov) **99g:28028** 28C20 (46G12)

Kim, Bumsig (*with* Batyrev, V. V.; Ciocan-Fontanine, Ionuţ; van Straten, Duco) Conifold transitions and mirror symmetry for Calabi-Yau complete intersections in Grassmannians. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 640–666. (Ralph Martin Kaufmann) **99m:14074** 14J32 (14D05, 14M25, 14N10, 32G20)

Kim, Byeong Moon (*with* Kim, Myung-Hwan[1]; Raghavan, Srinivasacharya) 2-universal positive definite integral quinary diagonal quadratic forms. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 333–337. (Andrzej Sładek) **99c:11042** 11E20 (11E12)

Kim, Byoung Soo *see* **Kim, Byung Soo[1]**

Kim, Byung-Doo (*with* Park, Hong-Suh; Park, Ha-Yong) On the Berwald connection of a Finsler space with a special (α,β)-metric. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 355–364. (Tadashi Aikou) **99f:53021** 53B40

Kim, Byung Hak (*with* Kim, In-Bae; Park, Hye Jeong) The rigidity for K-contact real hypersurfaces in a complex projective space. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 611–617. (Themis Koufogiorgos) **99m:53117** 53C42 (53C15)

— (*with* Kim, In-Bae; Lee, Sun Mi) Conharmonic transformation and critical Riemannian metrics. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 347–354. (Andrew Bucki) **99f:53036** 53C20 (58E11)

— (*with* Takagi, Ryoichi; Kim, In-Bae) The rigidity for real hypersurfaces in a complex projective space. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 531–536. (Jürgen Berndt) **99j:53085** 53C42 (53C30)

Kim, Byung Hwee (*with* Choi, Kuey Chung; Chang, In Hong) Bayes estimation in a hierarchical linear model. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 1–10. (Kurt Hoffmann) **99m:62097** 62J05 (62F15)

Kim, Byung-Il (*with* Kim, Young-Ho) A submartingale inequality. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 159–170. (Ferenc Weisz) **99c:60095** 60G42 (60E15)

Kim, Byung Moo Example and counterexamples in double integral and iterated integral. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 2, 127–132. 28A35 (26A42)

Kim, Byung Soo[1] (*with* Yoo, Il) Analytic Feynman integrable functions over paths in abstract Wiener space. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 319–336. (Kun Sik Ryu) **99k:28017** 28C20 (46G12, 60H05)

Kim, Byunghan (*with* Pillay, Anand) Simple theories. Joint AILA-KGS Model Theory Meeting (Florence, 1995). *Ann. Pure Appl. Logic* **88** (1997), *no.* 2-3, 149–164. (Bruno

Poizat) **99b:03049** 03C45

— (*with* Pillay, Anand) From stability to simplicity. *Bull. Symbolic Logic* **4** (1998), *no.* 1, 17–36. (Bruno Poizat) **99b:03050** 03C45 (03C60)

Kim, Byungsoo (*with* Cho, Sinsup) Durbin-Watson type unit root test statistics. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 57–66. (Summary) **99e:62159** 62M10

Kim, C. *see* **Kim, Chul**

Kim, Chang Bum Boolean geometry. II. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 771–782. (Introduction) **99i:05012** 05A15

— Boolean geometry. III. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 307–314. (Summary) **99c:05011** 05A15

Kim, Chang Heon (*with* Koo, Ja Kyung) Some notes on the genus of modular curve $X_0^0(N)$. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 17–25. (Chandrashekhar Khare) **99h:11064** 11G18

— (*with* Koo, Ja Kyung) Arithmetic of the modular function $j_{1,4}$. (English summary) *Acta Arith.* **84** (1998), *no.* 2, 129–143. (Chandrashekhar Khare) **99b:11042** 11F22 (11F03, 11F11)

Kim, Chang Ho (*with* Choi, U Jin) Spectral collocation methods for a partial integro-differential equation with a weakly singular kernel. (English summary) *J. Austral. Math. Soc. Ser. B* **39** (1998), *no.* 3, 408–430. (Summary) **99i:45020** 45L05 (45K05, 65R20)

Kim, Changhwa (*with* Lee, Mahnhoon) Computation of a (canonical) doubly perfect elimination ordering of a doubly chordal graph. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 287–294. (Summary) **99b:05133** 05C85 (68Q25, 68R10)

Kim, Changwook A hierarchy of eNCE families of graph languages. (English summary) *Theoret. Comput. Sci.* **186** (1997), *no.* 1-2, 157–169. (K. G. Subramanian) **99c:68162** 68Q50 (68R10)

Kim, Chihurn (*with* Choe, Geon Ho; Kim, Dong Han) Applications of ergodic theory to pseudorandom numbers. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 173–187. (Robert F. Tichy) **99d:11084** 11K45 (28D99, 65C10)

Kim, Chongmin Stochastic dominance, Pareto optimality, and equilibrium asset pricing. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 2, 341–356. (Summary) **99a:90057** 90A14 (90A09)

Kim, Choongrak (*with* Kim, Woo Chul) Some diagnostic results in nonparametric density estimation. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 291–303. (Summary) **99b:62059** 62G05

Kim, Chul (*with* Abdukhalikov, K. S.) Fuzzy multilinear mappings. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 861–871. 15A99

Kim, Chul Koo (*with* You, Sang Koo; Jeon, Kwang Joe; Nahm, Kyun) A new approximation scheme in quantum mechanics. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 179–186. (Summary) **99b:81051** 81Q15

— (*with* Kim, Dae Kwan) The O(N) nonlinear sigma model in the functional Schrödinger picture. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6029–6036. (Summary) **99c:81132** 81T10 (81T40)

Kim, Chung-Gook (*with* Lee, Dong Soo[2]) Fuzzy Lie ideals and fuzzy Lie subalgebras. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 101–107. (Summary) **99a:17029** 17B99

Kim, D. *see* **Kim, Dongsu**

Kim, D. G. *see* **Kim, Dong Geon**

Kim, D. H. *see* **Kim, Dal Ho**

Kim, D. S. *see* **Kim, Do Sang**

Kim, D. W. (*with* Ryu, W.; Jun, K. P.; Park, Byeong U.; Bae, H. D.) Waiting times in polling systems with Markov-modulated Poisson process arrival. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 355–363. (Summary) **99c:60204** 60K25

Kim, Dae Hong (*with* Kim, Jai Heui; Yun, Yong Sik) Non-symmetric Dirichlet forms for oblique reflecting diffusions. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 323–331. (Zhongmin Qian) **99b:60129** 60J60 (31C25, 60J35, 60J50)

Kim, Dae Kwan (*with* Kim, Chul Koo) The O(N) nonlinear sigma model in the functional Schrödinger picture. (English summary) *J. Phys. A* **31** (1998), *no.* 28, 6029–6036. (Summary) **99c:81132** 81T10 (81T40)

Kim, Dae Kyung (*with* Ahn, Mi Kyung; Park, Dong Ho) Bootstrap confidence interval for mean time between failures of a repairable system. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 53–64. 62G09

Kim, Dae San Gauss sums for O($2n+1, q$). (English summary) *Finite Fields Appl.* **4** (1998), *no.* 1, 62–86. (Charles Helou) **99a:11141** 11T23 (11T24, 20G40)

— Gauss sums for $U(2n, q^2)$. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 1, 79–95. (Charles Helou) **99a:11142** 11T23 (11T24, 20G40)

— Gauss sums for symplectic groups over a finite field. (English summary) *Monatsh. Math.* **126** (1998), *no.* 1, 55–71. (Charles Helou) **99e:11151** 11T23 (11T24, 20G40)

Kim, Dae Seoung (*with* Yoo, Kwan-Hee; Chwa, Kyung-Yong; Shin, Sung Yong) Efficient algorithms for computing a complete visibility region in three-dimensional space. (English summary) *Algorithmica* **20** (1998), *no.* 2, 201–225. (Summary) **99a:68171** 68U05 (52B55)

Kim, Dae Sig An isomorphism of the Cousin complexes. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 491–497. (Summary) **99f:13015** 13D25

Kim, Daeyeoul (*with* Park, Hwasin) A remark on the Dedekind $\eta(\tau)$-function and θ_3-series. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 611–622. (Marvin I. Knopp) **99c:11046** 11F20 (11F27, 33E05)

— A relation of modular discriminant $\Delta(\tau)$. (English summary) *Notes Number Theory Discrete Math.* **3** (1997), *no.* 4, 181–184. (Michael C. Berg) **99e:11053** 11F20 (11F11)

— (*with* Park, Joong Soo) q-expansion of the modular discriminant. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 637–650. (Marvin I. Knopp) **99i:11028** 11F20 (33E05)

— (*with* Park, Joong Soo) A study of Ramanujan $\tau(n)$ number and Dedekind eta-function. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 57–65. 11F20

Kim, Dai-Gyoung Wavelets on the unit interval with boundary treatment. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 427–456. (I. Ya. Novikov) **99g:65130** 65T20 (42C15)

Kim, Dal Ho (*with* Ghosh, Malay) Robust Bayes competitors of the ratio estimator. (English summary) *Statist. Decisions* **15** (1997), *no.* 1, 17–36. (Summary) **99d:62007** 62D05 (62F15)

— Bayesian robustness in small area estimation. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 89–103. (Marek Męczarski) **99g:62012** 62D05

Kim, Deok H. (*with* Kwon, Kil Hyun; Marcellán, Francisco; Park, S. B.) Sobolev-type orthogonal polynomials and their zeros. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 423–444. (Antonio J. Durán) **99h:33042** 33C45

Kim, Do Sang Optimality and duality for multiobjective variational problems with invexity. *Nonlinear Anal. Forum* **1** (1995), 21–30. 90C29 (49N15)

— (*with* Lee, Byung Soo; Lee, Gue Myung) Generalized vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 110–122. (George Isac) **99h:49012** 49J40 (47H19, 90C29)

— (*with* Lee, Gue Myung; Kuk, Hun) Duality for nonlinear multiobjective fractional variational problems. (English summary) *Nonlinear Anal. Forum* **2** (1996), 93–102. 90C29 (49N15)

— (*with* Kuk, Hun; Tanino, Tetsuzo) Sensitivity analysis in multiobjective optimization problems. Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 14–23. (*see* **99b:90009**) 90C29 (90C31)

— (*with* Lee, Gue Myung; Song, Young Ran) Symmetric duality for multiobjective nonconvex programs. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 347–350, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C29 (49N15)

— (*with* Lee, Gue Myung; Lee, Byung Soo; Chen, Guang Ya) Generalized vector variational inequality and its duality for set-valued maps. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 21–26. (Summary) **99c:47112** 47H19 (49J40)

— (*with* Lee, Byung Soo; Lee, Gue Myung; Cho, Sung-Jin) A common fixed point theorem for a pair of fuzzy mappings. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 133–136. 54H25 (54A40)

— (*with* Kuk, Hun; Lee, Gue Myung) Nonsmooth multiobjective programs with V-ρ-invexity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 405–412. (Summary) **99c:90107** 90C29 (49J52)

— (*with* Lee, Won Jung) Symmetric duality for multiobjective variational problems with invexity. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 34–48. (Gert Wanka) **99c:90106** 90C29 (49N15)

— (*with* Lee, Gue Myung; Kuk, Hun) Existence of solutions for vector optimization problems. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 90–98. (Summary) **99a:90174** 90C29

— (*with* Jo, Cheong Lai; Lee, Gue Myung) Optimality and duality for multiobjective fractional programming involving n-set functions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 1–13. (Summary) **99d:90102** 90C29 (49N15, 90C32)

— (*with* Lee, Gue Myung; Kuk, Hun) Duality for multiobjective fractional variational problems with generalized invexity. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 17–25. (Juan-Enrique Martínez-Legaz) **99e:49046** 49N15 (90C29, 90C32)

— (*with* Lee, Gue Myung; Lee, Byung Soo; Nguyễn Đông Yên) Vector variational inequality as a tool for studying vector optimization problems. *Nonlinear Anal.* **34** (1998), *no.* 5, 745–765. (Tetsuzo Tanino) **99h:90091** 90C29 (49J40)

— (*with* Lee, Won Jung; Song, Young Ran) Symmetric duality in nonlinear multiobjective fractional variational problems. *Nonlinear Anal. Forum* **3** (1998), 53–74. 49N15 (90C29)

— (*with* Lee, Gue Myung; Lee, Byung Soo; Nguyễn Đông Yên) On a strongly monotone vector variational inequality. *Nonlinear Anal. Forum* **3** (1998), 151–176. (Xie Ping Ding) **99i:49014** 49J40 (47H19, 90C33)

— (*with* Cho, Sung-Jin; Lee, Byung Soo; Lee, Gue Myung; Song, Yeoul-Ouk) Fubini theorem for generalized fuzzy number-valued integrals. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 177–179. 28E10 (28A35)

Kim, Dohan (*with* Chung, Soon-Yeong) A quasianalytic singular spectrum with respect to the Denjoy-Carleman class. (English summary) *Nagoya Math. J.* **148** (1997), 137–149. (Yoshifumi Ito) **99e:58171** 58G07 (35A20, 46F15)

— (*with* Chung, Jaeyoung; Chung, Soon-Yeong) Fourier analysis, distributions and hyperfunctions. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 151–160. (Summary) **99d:46052** 46F05 (46F12, 46F15)

— (*with* Cho, Jonggyu; Chung, Soon-Yeong) Bochner-Schwartz theorems for ultradistributions. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 166–180. (Stevan Pilipović) **99k:46064** 46Fxx

— (*with* Chung, Jaeyoung; Kim, Sung Ki) Fourier transform of exponential functions and Legendre transform. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 5, 629–635. (Summary) **99k:42010** 42A38

Kim, Dohyeon (*with* Kim, Youdan) Comments on: "Design of unknown input observers and robust fault detection filters" [Internat. J. Control **63** (1996), no. 1, 85–105] by J. Chen, R. J. Patton and H.-Y. Zhang. *Internat. J. Control* **67** (1997), *no.* 2, 305–306. 93E12 (93B50)

Kim, Dong Geon (*with* Hahn, Sang-Geun; Kim, Yong Soo) A decoding algorithm for orthogonal Latin square codes. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1235–1240. (Summary) **99d:94041** 94B35 (05B15)

Kim, Dong Han (*with* Choe, Geon Ho; Kim, Chihurn) Applications of ergodic theory to pseudorandom numbers. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 173–187. (Robert F. Tichy) **99d:11084** 11K45 (28D99, 65C10)

Kim, Dong-Hwa (*with* Jeong, Jin-Mun; Park, Jong Yeoul) Optimal initial functions for functional-differential system with delays. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 461–473. (Negash G. Medhin) **99d:49045** 49K25 (34K05)

Kim, Dong Kyue (*with* Kim, Yoo Ah; Park, Kunsoo) Constructing suffix arrays for multi-dimensional matrices. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 126–139, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99k:68070** 68Q20 (68P05)

— (*with* Lee, Jee-Soo; Park, Kunsoo; Cho, Yookun) Efficient algorithms for approximate string matching with swaps. (English summary) *J. Complexity* **15** (1999), *no.* 1, 128–147. (Summary) **99k:68081** 68Q25

Kim, Dong-Seo (*with* Byun, Chang-Ho) The index for the type III factors $\mathscr{W}^*(\mathscr{R}_G)$. *Honam Math. J.* **19** (1997), *no.* 1, 87–95. (Hisashi Choda) **99a:46108** 46L35 (46L37)

Kim, Dong-Soo (*with* Kim, Young Ho[1]) Null 2-type surfaces in pseudo-Euclidean 4-space with null mean curvature vector. (English summary) {Dedicated to U-Hang Ki on

the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 563–570. (Pascual Lucas Saorin) **99m:53116** 53C42 (53C50)
— (*with* Park, Seong-Hee) Totally umbilic hypersurfaces of a space form. *Honam Math. J.* **20** (1998), *no.* 1, 161–165. (Bang-yen Chen) **99e:53077** 53C40
Kim, Dong Wook (*with* Lee, Eun Jung; Kim, Myoung Ho; Lee, Yoon Joon) An efficient processing of range-MIN/MAX queries over data cube. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 223–237. 68P15
Kim, Dongsoo S. (*with* Du, Ding Zhu) Multirate broadcast switching networks nonblocking in a wide sense. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 59–74, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94065** 94C10 (05C90, 90B12)
— (*with* Du, Ding Zhu) Multirate multicast switching networks. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 219–228, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 90B12 (90C35)
— (*with* Du, Ding Zhu; Pardalos, Panos M.) On conflict-free channel set assignments for optical cluster-based hypercube networks. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 109–116, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99h:90043** 90B12 (05C90, 68M10, 94A05)
— Blocking behaviors of broadcast switching networks in random traffics. (English summary) *Randomization methods in algorithm design* (*Princeton, NJ*, 1997), 123–131, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 43, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:94002** 94A05 (05C90, 90B12)
Kim, Dongsu (*with* Ismail, Mourad E. H.; Stanton, Dennis W.) Lattice paths and positive trigonometric sums. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 69–81. (Summary) **99k:42007** 42A24 (05A15, 05A19, 05A20)
Kim, Dukwon (*with* Pardalos, Panos M.) A solution approach to the fixed charge network flow problem using a dynamic slope scaling procedure. (English summary) *Oper. Res. Lett.* **24** (1999), *no.* 4, 195–203. 90C35 (90B10)
Kim, Eun Sup (*with* Kim, Hae Sik; Lee, Dong-Soo[1]; Park, Young Soo) Some structures of seminear-rings. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 817–829. (David John) **99i:16080** 16Y30 (16Y99)
— (*with* Kim, Yun Jae; Park, Young Soo) Children ideals and children rings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 151–155. (H. H. Brungs) **99i:16006** 16D25 (16E50)
Kim, Eungab (*with* Van Oyen, Mark P.; Rieders, Maria) General dynamic programming algorithms applied to polling systems. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1197–1221. (Florica Luban) **99i:90055** 90B35 (90C39)
— (*with* Van Oyen, Mark P.) Beyong the $c\mu$ rule: dynamic scheduling of a two-class loss queue. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 17–36. (Srinivas Chakravarthy) **99k:60231** 60K25 (90B22)
— (*with* Van Oyen, Mark P.) Dynamic scheduling to minimize lost sales subject to set-up costs. (English summary) *Queueing Systems Theory Appl.* **29** (1998), *no.* 2-4, 193–229. (Summary) **99g:90058** 90B35 (60K30)
Kim, Euntai (*with* Park, Minkee; Ji, Seunghwan; Park, Mignon) A new approach to the identification of a fuzzy model. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 169–181. 93C41 (93A30)
Kim, Gang-Eun (*with* Takahashi, Wataru) Strong convergence of approximants to fixed points of nonexpansive nonself-mappings in Banach spaces. *Nonlinear Anal.* **32** (1998), *no.* 3, 447–454. (Simeon Reich) **99h:47063** 47H09 (47H10, 47H17)
— (*with* Kim, Tae Hwa) Iterative algorithms for approximating common fixed points of hemi-relaxed Lipschitz semigroups. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 81–88. (Behzad Djafari-Rouhani) **99i:47106** 47H10 (47H09, 47H20)
Kim, Gi-Ik (*with* Anderson, David F.; Park, Jeanam; Oh, Heung-Joon) Splitting multiplicative sets and elasticity. *Comm. Algebra* **26** (1998), *no.* 4, 1257–1276. (William W. Smith) **99c:13002** 13A05 (13B30, 13F15)
Kim, Gie-Whan Conditional large deviations for 1-lattice distributions. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 97–104. (Anatolii A. Pukhal′skiĭ) **99c:60056** 60F10 (62F05)
— Exact slopes of test statistics for the multivariate exponential family. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 387–406. (Jon Stene) **99h:62016** 62F03 (62H15)
— (*with* Truax, Donald R.) Conditional large deviations for density case. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 137–144. (N. R. Chaganty) **99e:60077** 60F10
Kim, Goansu (*with* Tang, Francis C. Y.) On generalized free products of residually finite p-groups. (English summary) *J. Algebra* **201** (1998), *no.* 1, 317–327. (Katalin Bencsath) **99a:20028** 20E26 (20E06, 20F05)
— (*with* Kim, Yangkok; Vesnin, Andrei) The knot 5_2 and cyclically presented groups. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 961–980. (Masahico Saito) **99k:57002** 57M12 (57M25, 57N10)
Kim, Gunky (*with* Armstrong, Grant F.; Cairns, Grant) Lie algebras of cohomological codimension one. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 709–714. (Sen Qiu) **99f:17024** 17B56
Kim, Gwang-Hee (*with* Hwang, Dae Sung) Wess-Zumino term and phase-space structure of the spin system through the path integral. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 223–228. (Summary) **99a:82028** 82B21 (81S40)
Kim, Gwang Hui (*with* Lee, Young Whan) Approximate Jordan mappings on noncommutative Banach algebras. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 69–73. (Summary) **99g:46062** 46H05
Kim, Gwang Il (*with* Chi, Dong Pyo) The measure of the uniformly hyperbolic invariant set of exact separatrix map. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 779–788. (Jürgen Scheurle) **99j:58153** 58F15 (34C35, 34C37, 70H05)
Kim, H. S. *see* **Kim, Hoi Sub**
Kim, Hae Sik (*with* Kim, Eun Sup; Lee, Dong-Soo[1]; Park, Young Soo) Some structures of seminear-rings. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 817–829. (David John) **99i:16080** 16Y30 (16Y99)
Kim, Haesook T. (*with* Truong, Young K.) Nonparametric regression estimates with censored data: local linear smoothers and their applications. (English and French summaries) *Biometrics* **54** (1998), *no.* 4, 1434–1444. 62G05
Kim, Han-Doo (*with* Kim, Jae-Gyeom) Some characterizations of fuzzy subgroups: via fuzzy p^*-subsets and fuzzy p^*-subgroups. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 327–332. (John Mordeson) **99m:20164** 20N25
Kim, Haug Bae (*with* Choi, Kiwoon; Muñoz, Carlos) Four-dimensional effective supergravity and soft terms in M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7521–7528. (Summary) **99k:83115** 83E30 (81T30, 83E50)
— (*with* Choi, Kiwoon; Kim, Hyung Do) Moduli stabilization in heterotic M-theory. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 2, 125–133. (Summary) **99k:81228** 81T30 (83E30)
Kim, Hea-Jung (*with* Han, Sung-Sil) A Bayesian test for first-order autocorrelations in regression analysis. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 97–111. (Summary) **99e:62116** 62J05 (62F15)
Kim, Hee Sik (*with* Ahn, Sun Shin) A note on Noetherian and Artinian BCK-algebras. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 1, 61–65. 06F35
— (*with* Dvurečenskij, Anatolij; Ahn, Sun Shin) The Ker-Coker sequence in BCI-algebras. *Demonstratio Math.* **30** (1997), *no.* 4, 843–850. (Yishu Pu) **99i:06020** 06F35
— (*with* Xin, Xiao Long; Meng, Jie; Jun, Young Bae) On free d-algebras. (English summary) *J. Natur. Sci. Math.* **37** (1997), *no.* 1-2, 155–163. (Introduction) **99g:06027** 06F35
— (*with* Hur, Chang Kyu) BCK-algebras of extended pogroupoid[s]. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 203–208. (C. S. Hoo) **99m:06039** 06F35 (03G25, 20N02)
— (*with* Hong, Sung-Min; Jun, Young Bae) Fuzzy ideals in near-rings. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 455–464. (Summary) **99h:16072** 16Y99
— (*with* Jun, Young Bae; Neggers, J.) On L-fuzzy ideals in semirings. I. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 669–675. (Udo Hebisch) **99k:16095** 16Y60
— (*with* Jun, Young Bae) Finite valued fuzzy ideals in semirings. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part II*, 185–189. 16Y60
— (*with* Neggers, J.; Jun, Young Bae) Extensions of L-fuzzy ideals in semirings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 131–135. 16Y60 (04A72)
— (*with* Dvurečenskij, Anatolij) Connections between BCK-algebras and difference posets. (English summary) *Studia Logica* **60** (1998), *no.* 3, 421–439. (A. B. Thaheem) **99j:06010** 06F35 (03G12, 03G25, 06A06, 81P10)
— (*with* Jun, Young Bae) Fuzzy implicative filters in implicative algebras. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 141–149. (Summary) **99m:03131** 03G25 (03E72)
Kim, Ho Il Moduli spaces of bundles mod Picard groups on some elliptic surfaces. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 119–125. (Kieran G. O'Grady) **99a:14064** 14J60 (14J28)
— Moduli spaces of stable vector bundles on Enriques surfaces. (English summary) *Nagoya Math. J.* **150** (1998), 85–94. (Philip A. Foth) **99e:14008** 14D20 (14J28, 14J60)
— *see also* **Proceedings: Workshop on Differential Geometry, 99b:53002**
Kim, Hoi Sub (*with* Kim, Hong Oh; Shin, Sung Yong) An efficient algorithm for determining the extreme vertices of a moving 3D convex polyhedron with respect to a plane. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 55–61. (Summary) **99f:68200** 68U05 (52A40, 65Y25)
Kim, Hong-Jong Elliptic differential operators and the theory of characteristic classes. (Korean. Korean summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1015–1021. (Jinsung Park) **99f:58184** 58G03 (53C05, 57R20)
Kim, Hong Kee (*with* Lee, Yang; Huh, Chan) Questions on 2-primal rings. *Comm. Algebra* **26** (1998), *no.* 2, 595–600. (R. L. Tangeman) **99d:16022** 16N40 (16N80)
Kim, Hong Oh (*with* Shim, Hong-Tae) On Gibbs' phenomenon for sampling series in wavelet subspaces. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 97–109. (Summary) **99b:42044** 42C15
— (*with* Kim, Hoi Sub; Shin, Sung Yong) An efficient algorithm for determining the extreme vertices of a moving 3D convex polyhedron with respect to a plane. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 55–61. (Summary) **99f:68200** 68U05 (52A40, 65Y25)
— (*with* Ahn, Y. J.) Curvatures of the quadratic rational Bézier curves. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 9, 71–83. (Yu Yu Feng) **99j:65021** 65D17 (65Y25)
Kim, Hongchul (*with* Gunzburger, Max D.) Existence of an optimal solution of a shape control problem for the stationary Navier-Stokes equations. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 895–909 (*electronic*). (Qin Xu) **99d:49011** 49J20 (35Q30, 49Q10, 76D05)
Kim, Hongsu Axionic wormholes: more on their classical and quantum aspects. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 311–341. (Guillermo A. Mena Marugán) **99f:83032** 83C45
— Classical and quantum wormholes in Einstein-Yang-Mills theory. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 1-2, 342–359. (Guillermo A. Mena Marugán) **99g:83037** 83C45 (81T13)
Kim, Hoonjoo (*with* Park, Sehie) Generalizations of the KKM type theorems on generalized convex spaces. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 2, 121–132. (Summary) **99b:54028** 54C60 (47H04, 47H10, 54H25)
— Fixed point theorems on generalized convex spaces. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 491–502. (V. V. Obukhovskiĭ) **99f:47079** 47H10 (47H04, 54C60, 54H25)
Kim, Hyang Sook (*with* Takagi, Ryoichi) Certain real hypersurfaces of a complex space form. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 591–606. (Jürgen Berndt) **99m:53105** 53C40
— (*with* Lee, Gil Sang; Pyo, Yong-Soo) Geodesics and circles on real hypersurfaces of type A and B in a complex space form. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 79–89. (Jürgen Berndt) **99i:53043** 53C22 (53C40)
— (*with* Pho, Yong Soo) Certain real hypersurfaces of a complex space form. II. *Nihonkai Math. J.* **8** (1997), *no.* 2, 155–170. (Makoto Kimura) **99f:53058** 53C40
Kim, Hye Kyung (*with* Lee, Jaeun; Sohn, Moo Young) A note on graphs with large girth and small minus domination number. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 299–303. (Summary) **99j:05109** 05C35

Kim, Hyeong-Chan Quantum field and uniformly accelerated oscillator. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064024, 8 *pp.* 81T20

Kim, Hyun-Joon *see* **Li, Han-Lin, 99k:90202**

Kim, Hyun Jung (*with* Chi, Dong Pyo; Kim, Won Kuk) On the existence of solutions of the heat equation for harmonic map. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 533–545. (Caio J. C. Negreiros) **99k:58044** 58E20

Kim, Hyun Jung (*with* Shin, Dong Wan) Semiparametric tests for double unit roots based on symmetric estimators. (English summary) *J. Bus. Econom. Statist.* **17** (1999), *no.* 1, 67–73. 62M10

Kim, Hyun Kwang (*with* Lee, Min Ho[1]) Generalized Eichler-Shimura isomorphisms for compact locally symmetric spaces. *Osaka J. Math.* **35** (1998), *no.* 2, 407–415. (T. C. Vasudevan) **99m:11060** 11F70 (22E46)

Kim, Hyun Soo (*with* Lee, Kun Chang) Fuzzy implications of fuzzy cognitive map with emphasis on fuzzy causal relationship and fuzzy partially causal relationship. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 303–313. (Summary) **99e:68155** 68T35 (03B52)

Kim, Hyun Suk (*with* Kang, Tae Ho) On the spectral geometry for the Jacobi operators of harmonic maps into a Sasakian or cosymplectic space form. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 373–382. (Novica Blažić) **99i:58149** 58G25 (53C15, 53C25, 58E20)

Kim, Hyung Do (*with* Choi, Kiwoon; Kim, Hang Bae) Moduli stabilization in heterotic M-theory. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 2, 125–133. (Summary) **99k:81228** 81T30 (83E30)

Kim, Hyunseok (*with* Seo, Jin Keun) Identification problems in linear elasticity. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 514–531. (Giovanni Crosta) **99a:73046** 73C99 (31B20, 35Q72, 35R30)

Kim, Ig Sung On the axiom of choice in a well-pointed topos. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 2, 131–139. 18B25 (03E25)

Kim, In-Bae (*with* Kim, Byung Hak; Park, Hye Jeong) The rigidity for K-contact real hypersurfaces in a complex projective space. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 611–617. (Themis Koufogiorgos) **99m:53117** 53C42 (53C15)

— (*with* Kim, Byung Hak; Lee, Sun Mi) Conharmonic transformation and critical Riemannian metrics. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 347–354. (Andrew Bucki) **99f:53036** 53C20 (58E11)

— (*with* Lee, Sung-Baik; Kim, Nam-Gil; Ahn, Seong Soo) A rigidity theorem for real hypersurfaces in a complex projective space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1007–1013. (Jürgen Berndt) **99g:53065** 53C42 (53C40)

— (*with* Takagi, Ryoichi; Kim, Byung Hak) The rigidity for real hypersurfaces in a complex projective space. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 531–536. (Jürgen Berndt) **99j:53085** 53C42 (53C30)

Kim, In Hwa (*with* Kwon, Oh Sang; Lee, Sang Keun; Cho, Nak Eun) Certain subclasses of meromorphic starlike functions. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 545–555. (G. Lakshma Reddy) **99g:30012** 30C45

— (*with* Cho, Nak Eun; Nunokawa, Mamoru; Owa, Shigeyoshi) Angular estimations of certain analytic functions. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 321–331. (Khalida Inayat Noor) **99k:30015** 30C45 (30C50)

— (*with* Cho, Nak Eun; Kim, J. A.) Angular estimations of certain integral operators. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 369–374. (Shigeyoshi Owa) **99c:30014** 30C45

— (*with* Cho, Nak Eun) Angular estimations of certain analytic functions. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 47–53. (R. Michael Porter) **99d:30014** 30C45

— (*with* Cho, Nak Eun) Angular estimates of certain integral operators. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 271–277. (Shigeyoshi Owa) **99k:30016** 30C45

Kim, In Hyoun (*with* Lee, Woo Young) On hyponormal Toeplitz operators with polynomial and symmetric-type symbols. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 216–233. (Takahiko Nakazi) **99j:47036** 47B35 (47B20)

Kim, In-Sook On orbits of the same type. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 187–197. (Henk P. Bruin) **99h:54059** 54H20 (58F10)

Kim, Inbo (*with* Yang, Hyun Seok; Lee, Bum-Hoon) Pointlike structure for super p-branes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085018, 10 *pp.* (Summary) **99k:81274** 81T30

Kim, Inchul (*with* Elghobashi, S. E.; Sirignano, William A.) On the equation for spherical-particle motion: effect of Reynolds and acceleration numbers. (English summary) *J. Fluid Mech.* **367** (1998), 221–253. 76T05 (76F99)

Kim, Inho Relative isoperimetric inequality and linear isoperimetric inequality for minimal submanifolds. (English summary) *Manuscripta Math.* **97** (1998), *no.* 3, 343–352. (Summary) **99i:49047** 49Q05 (49J10, 58E12)

Kim, Inkang Coordinates of the representation space in the semisimple Lie group of rank one. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 435–444. (Sadayoshi Kojima) **99j:57039** 57S20 (20F32, 51M10, 57M50)

Kim, J. A. (*with* Kwon, Oh Sang; Cho, Nak Eun; Owa, Shigeyoshi) Certain subclasses of meromorphically multivalent functions. (English summary) *J. Bihar Math. Soc.* **17** (1996), 1–8. (Summary) **99j:30010** 30C45

— (*with* Owa, Shigeyoshi; Cho, Nak Eun) Some properties for convolutions of generalized hypergeometric functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 92–109. (T. N. Shanmugam) **99h:30014** 30C45 (33C20)

— (*with* Cho, Nak Eun; Kim, In Hwa) Angular estimations of certain integral operators. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 369–374. (Shigeyoshi Owa) **99c:30014** 30C45

— (*with* Cho, Nak Eun) On a sufficient condition and an angular estimation for Φ-like functions. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 397–403. (R. Parvatham) **99j:30009** 30C45

Kim, J. H. *see* **Kim, Jeong Han**

Kim, J. K. *see* **Kim, Jong Kyu**

Kim, J.-R. *see* **Kim, Jeong-Ryeol**

Kim, J. W. *see* **Kim, Jang Whan**

Kim, Jae-Gyeom (*with* Kim, Han-Doo) Some characterizations of fuzzy subgroups: via fuzzy p^*-subsets and fuzzy p^*-subgroups. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 327–332. (John Mordeson) **99m:20164** 20N25

Kim, Jae Hee (*with* Cha, Hyung Koo) On p-hyponormal operators on a Hilbert space. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 109–114. (Masatoshi Fujii) **99k:47051** 47B20

Kim, Jae Woon A note on quasi-open maps. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 1–3. (Crump W. Baker) **99f:54015** 54C10

Kim, Jae-Young Large sample properties of posterior densities, Bayesian information criterion and the likelihood principle in nonstationary time series models. (English summary) *Econometrica* **66** (1998), *no.* 2, 359–380. (Summary) **99a:62031** 62F15 (62E20)

Kim, Jaehee H. (*with* Hart, Jeffrey D.) Tests for change in a mean function when the data are dependent. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 4, 399–424. (Yanhong Wu) **99k:62168** 62M10 (62G10, 62M15)

Kim, Jaeseok[2] (*with* Medasani, Swarup; Krishnapuram, Raghu) An overview of membership function generation techniques for pattern recognition. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 391–417. (Summary) **99g:68180** 68T10

Kim, Jai Heui On continuous additive functionals of zero energy. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 209–217, *World Sci. Publishing, River Edge, NJ*, 1997. (Wilhelm Stannat) **99e:60172** 60J55 (31C25, 60H10)

— (*with* Kim, Dae Hong; Yun, Yong Sik) Non-symmetric Dirichlet forms for oblique reflecting diffusions. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 323–331. (Zhongmin Qian) **99b:60129** 60J60 (31C25, 60J35, 60J50)

Kim, Jang Whan (*with* Bai, K. J.) A finite element method for two-dimensional water-wave problems. (English summary) *Internat. J. Numer. Methods Fluids* **30** (1999), *no.* 1, 105–121. (Summary) **99m:76018** 76B15 (76M10)

— (*with* Bai, K. J.; Dawson, C. W.; Wehausen, J. V.) Stagnation points in flows about solid bodies. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 119–134. (*see* **99k:76006**) 76B15 (76C05, 86A05)

Kim, Jeehoon (*with* Kim, Jinheum) Mean lifetime estimation with censored observations. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 299–308. (Summary) **99b:62060** 62G05 (62N05)

Kim, Jeong Han (*with* Kahn, Jeff) Random matchings in regular graphs. (English summary) *Combinatorica* **18** (1998), *no.* 2, 201–226. (J. Spencer) **99k:05131** 05C70 (05C65, 05C80, 60C05)

— (*with* Fishburn, Peter C.; Lagarias, Jeffrey C.; Wright, Paul E.) Interference-minimizing colorings of regular graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 15–40 (*electronic*). (Theodore C. Enns) **99c:05102** 05C35 (05C15)

— (*with* Du, Ding Zhu; Gao, Biao; Hwang, Frank K.) On multirate rearrangeable Clos networks. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 464–471 (*electronic*). (Summary) **99h:94093** 94C15 (05C90)

Kim, Jeong-Hoon An asymptotic limit law with a singularly perturbed drift and a random noise. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2660–2675. (Summary) **99b:60081** 60H10

Kim, Jeong-Ryeol (*with* Rachev, Svetlozar T.; Mittnik, Stefan) Time series with unit roots and infinite-variance disturbances. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 69–74. 62M10

— (*with* Mittnik, Stefan; Rachev, Svetlozar T.) Chi-square-type distributions for heavy-tailed variates. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 339–354. (Summary) **99b:62015** 62E15

Kim, Jeong-Sik (*with* Chung, Hei-Sun) On Einstein warped products with compact Riemannian base. *Honam Math. J.* **20** (1998), *no.* 1, 153–159. (Peter Bueken) **99e:53062** 53C25 (53C20)

Kim, Jewan (*with* Park, F. C.) A singularity classification for closed chains. (English summary) *Advances in robot kinematics: analysis and control* (*Salzburg*, 1998), 483–492, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Kim, Jihn E. (*with* Sul, Bookyung) Global symmetries in duals of supersymmetric $SU(N) \times SU(M)$ and application to composite axion. (English summary) *Phys. Lett. B* **422** (1998), *no.* 1-4, 141–148. (Summary) **99b:81243** 81T60 (81V05)

Kim, Jin H. *see* **Kim, Jin Hyung**

Kim, Jin Hong (*with* Chi, Dong Pyo) A Harnack inequality for the heat equation on a compact Riemannian manifold with non-convex boundary. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 387–395. (Alberto G. Setti) **99f:58191** 58G11 (35B45, 35K99)

Kim, Jin Hwan UTI warped product space-time and causal boundary of UTI space-time. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 45–54. (Paul E. Ehrlich) **99m:53124** 53C50 (53C80)

— (*with* Lee, Jaeun) Genus distributions for bouquets of dipoles. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 225–235. (Bojan Mohar) **99g:05063** 05C10

Kim, Jin Hyung (*with* Cho, Yonggun; Shin, Vladimir Ignat'evich) Data fusion of multisensor's estimates. (English summary) *Informatica* (*Ljubl.*) **22** (1998), *no.* 1, 75–83. (Summary) **99e:94009** 94A12

Kim, Jin Yong (*with* Birkenmeier, Gary F.; Park, Jae Keol) A characterization of minimal prime ideals. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 223–236. (Yasuyuki Hirano) **99g:16002** 16D30 (16N40)

Kim, Jin Young (*with* Lee, Hyung Won; Myung, Yun Soo; Park, DaeKil) Unstable propagation of black strings. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 9, 701–713. (Summary) **99c:83097** 83E30 (83C57)

— (*with* Lee, Hyung Won; Kim, N. J.; Myung, Yun Soo) Stability analysis and absorption cross section in three-dimensional black string. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7361–7368. 83E30 (83C57)

— (*with* Lee, Hyung Won; Myung, Yun Soo) Role of fixed scalars in scattering off a 5D black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104006, 11 *pp.* 83C57

Kim, Jinheum (*with* Kim, Jeehoon) Mean lifetime estimation with censored observations. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 3, 299–308. (Summary) **99b:62060** 62G05 (62N05)

— (*with* Lee, Seung-Yeoun) Two-sample goodness-of-fit tests for additive risk models with censored observations. (English summary) *Biometrika* **85** (1998), *no.* 3, 593–603. 62G10

— A confidence interval for median survival time in the additive risk model. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 359–368. (Summary) **99m:62151** 62N05

Kim, Jong Hae (*with* Jeung, Eun Tae; Park, Hong Bae) H^∞-output feedback controller design for linear systems with time-varying delayed state. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 971–974. (Summary) **99e:93029** 93B36 (93B50)

Kim, Jong Kyu (*with* Chun, Sung Ae) Asymptotic behavior of orbits of an asymptotically nonexpansive semigroup for a reversible semigroup in Banach spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 87–109. (Behzad Djafari-Rouhani) **99e:47097** 47H20 (47H09, 47H10)

— (*with* Jin, Byoung Jae) Existence of solutions for differential equations on closed subsets in a probabilistic normed space. (English summary) *Nonlinear Anal. Forum* **2** (1996), 83–92. (Summary) **99f:34091** 34G20 (34A12, 47H15, 47N20, 47S50)

— Asymptotic behavior of an asymptotically nonexpansive semigroup in Banach spaces with Opial's condition. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 237–250. (Behzad Djafari-Rouhani) **99g:47153** 47H20 (47H09)

— (*with* Jin, Byoung Jae) Existence and uniqueness of the solutions of nonautonomous delay equations. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 579–600. (Mary E. Parrott) **99c:34182** 34K30

— (*with* Pavel, N. H.) Existence and regularity of weak periodic solutions of the 2D wave equation. *Nonlinear Anal.* **32** (1998), *no.* 7, 861–870. (Eduard Feireisl) **99c:35131** 35L05 (35B10)

— (*with* Pavel, N. H.) L^∞-optimal control of the periodic 1-D wave equation with x-dependent coefficients. *Nonlinear Anal.* **33** (1998), *no.* 1, 25–39. (Enrique Zuazua) **99d:49013** 49J20 (35B10, 35L05, 49K20)

— (*with* Bobylev, N. A.; Korovin, S. K.; Piskarëv, S. I.) Semidiscrete approximations of semilinear periodic problems in Banach spaces. *Nonlinear Anal.* **33** (1998), *no.* 5, 473–482. (Kiyoko Furuya) **99f:34090** 34G20 (34A45, 47D06, 65J15, 65L99)

— (*with* Pavel, N. H.) Optimal control problem for the periodic one-dimensional wave equation. *Nonlinear Anal. Forum* **3** (1998), 89–110. (Shin-ichi Nakagiri) **99h:49032** 49K20 (35L05)

— (*with* Ume, Jeong-Sheok; Cho, Yeol Je) Some fixed point theorems in complete semi-metric spaces. (English summary) *Sci. Math.* **1** (1998), *no.* 1, 63–67 (*electronic*). 54H25

Kim, Jong Uhn On the regularity of the velocity potential in two-dimensional transonic flow. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 107–132. (Geno D. Dachev) **99c:35198** 35Q35 (35B65, 35M10, 76H05)

— A new regularity result in transonic gas dynamics. *Systems modelling and optimization* (*Detroit, MI*, 1997), 29–32, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 76H05 (35Q35)

— On a wave equation with a boundary condition associated with capillary waves. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 53–71 (*electronic*). (Bruno Scheurer) **99j:35121** 35L05 (35D05, 42A38, 76B15, 76B45)

Kim, Jongbae (*with* Park, Q-Han; Shin, Hyun-Jong) Conservation laws in higher-order nonlinear Schrödinger equations. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part B*, 6746–6751. (Summary) **99j:35203** 35Q55 (35L65)

Kim, Jongsu Conformal compactification of asymptotically Euclidean scalar-flat Kähler surfaces. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 1037–1048. (Massimiliano Pontecorvo) **99a:32037** 32J05 (32J27, 32L25, 53C25)

— Critical Kähler surfaces. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 421–431. (Santiago R. Simanca) **99h:58039** 58E11 (53C25, 53C55)

Kim, Jongtae (*with* Eubank, Randall L.; Kambour, E. L.; Klipple, K.; Reese, C. S.; Schimek, M.) Estimation in partially linear models. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 27–34. (Li-Xing Zhu) **99k:62074** 62G05 (62J02)

— (*with* Eubank, Randall L.) A simple second order smoother. (English summary) *J. Statist. Comput. Simulation* **61** (1998), *no.* 3, 271–285. (Summary) **99h:62046** 62G07

— A second order smoother. (Korean. English and Korean summaries) *Korean J. Appl. Statist.* **11** (1998), *no.* 2, 363–376. (Summary) **99i:62068** 62G05

Kim, Jun Kyo (*with* Hahn, Sang-Geun) A new upper bound for binary codes with minimum distance four. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 291–295. (Summary) **99c:94062** 94B65

— On highly factorable numbers. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 76–91. (Bruce Landman) **99j:11007** 11A51

Kim, June Gi (*with* Pahk, Dae Hyeon) Non-existence of positive solutions of the equation $-\Delta u = \lambda u + u|u|^{2^*-2}$. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 753–757. (Summary) **99k:35064** 35J65 (35B05)

— (*with* Oh, Hae Soo; Yum, Sang Sup) The weighted finite element method for elasticity equations on unbounded domains. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 259–280. (Michael Fröhner) **99d:73092** 73V05 (65N30)

Kim, Juyoung (*with* Feng, Rong-Quan; Kwak, Jin Ho; Lee, Jaeun) Isomorphism classes of concrete graph coverings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 265–272 (*electronic*). (Michael Hofmeister) **99k:05062** 05C10 (05C30, 57M15)

Kim, K. C. *see* **Kim, Kyung Chun**

Kim, K. H. *see* **Kim, Ki Hang**

Kim, K. W. *see* **Kim, Ki Wook**

Kim, Kang-Tae (*with* Krantz, Steven G.) A crash course in the function theory of several complex variables. (English summary) *Complex geometric analysis in Pohang* (1997), 3–37, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Eric Bedford) **99g:32002** 32–01 (32H02, 32H15)

— (*with* Spiro, Andrea F.) Moduli space of ramified holomorphic coverings of B^2. (English summary) *Complex geometric analysis in Pohang* (1997), 227–239, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Mario Landucci) **99m:32033** 32H35

— *see also* **Complex geometric analysis in Pohang, 99e:32002**

Kim, Kee-Eung (*with* Meuleau, Nicolas; Hauskrecht, Milos; Peshkin, Leonid; Kaelbling, Leslie Pack; Dean, Thomas; Boutilier, Craig) Solving very large weakly coupled Markov decision processes. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 165–172, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C40

Kim, Ki Hang (*with* Roush, F. W.) Free Z_p actions on subshifts. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 293–322. (Doris Fiebig) **99f:58066** 58F03 (54H20)

Kim, Ki Wook (*with* Collins, David[2]; Holton, W. C.) Deutsch-Jozsa algorithm as a test of quantum computation. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 3, *R*1633–*R*1636. (Summary) **99d:81024** 81P99

Kim, Kwon Wook Multiple positive solutions for pseudo-Laplacian equation with critical exponents. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 33–44. (Jean-Noël Corvellec) **99k:35050** 35J60

Kim, Kyu Hong (*with* Lee, Joon Ho; Rho, Oh Hyun) An improvement of AUSM schemes by introducing the pressure-based weight functions. (English summary) *Comput. & Fluids* **27** (1998), *no.* 3, 311–346. (Summary) **99b:76054** 76M20 (76K05)

Kim, Kyung Chun (*with* Adrian, R. J.) Very large-scale motion in the outer layer. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 417–422. (Summary) **99j:76061** 76F99

Kim, M.-H. *see* **Kim, Myung-Hwan[1]**

Kim, M.-Y. *see* **Kim, Mi-Young[2]**

Kim, Man-Cheol (*with* Jung, Hyung-Jo; Lee, In-Won) An improved subspace iteration method with shifting. (English summary) *Comput. & Structures* **70** (1999), *no.* 6, 625–633. 65F15 (65F30)

Kim, Mee-Kyoung Note on birational extensions in D-dimension. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 3, 153–158. (Eduard Bod'a) **99k:13001** 13A18 (13H05)

Kim, Meeyoung (*with* Sommese, Andrew J.) Two results on branched coverings of Grassmannians. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 21–27. (Harry Tamvakis) **99e:14059** 14M15 (14E20)

Kim, Mi-Young *see* **Kim, Mi-Young[2]**

Kim, Mi Young[1] (*with* Park, Eun-Jae) Characteristic finite element methods for diffusion epidemic models with age-structured populations. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 1, 55–70. (Summary) **99e:65123** 65M12 (92D30)

— Qualitative behavior of numerical solutions to an s-i-s epidemic model. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 317–337. (Summary) **99c:92053** 92D30

Kim, Mi-Young[2] (*with* Anița, Sebastian[2]; Iannelli, Mimmo; Park, Eun-Jae) Optimal harvesting for periodic age-dependent population dynamics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1648–1666 (*electronic*). (George Karakostas) **99k:92021** 92D25 (35Q80, 45K05, 49K20, 90A30)

— (*with* Iannelli, Mimmo; Park, Eun-Jae) Asymptotic behavior for an SIS epidemic model and its approximation. *Nonlinear Anal.* **35** (1999), *no.* 7, *Ser. A: Theory Methods*, 797–814. (V. N. Razzhevaikin) **99k:92042** 92D30 (35Q80)

Kim, Mihi Remarks on Volterra equations in Banach spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1039–1064. (Carlos Lizama) **99k:45006** 45D05 (45N05, 47D06, 47G10, 47N20)

Kim, Minhyong Purely inseparable points on curves of higher genus. *Math. Res. Lett.* **4** (1997), *no.* 5, 663–666. (From the text) **99k:11093** 11G30 (14H25)

— On reductive group actions and fixed points. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3397–3400. (Dennis Snow) **99a:14073** 14L30

Kim, Myoung Ho (*with* Kim, Dong Wook; Lee, Eun Jung; Lee, Yoon Joon) An efficient processing of range-MIN/MAX queries over data cube. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 223–237. 68P15

Kim, Myung Ho (*with* Oh, Phillial) Non-commutative integrable spin system and path integral quantization. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 169–174, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:82027** 82B23 (81S40)

Kim, Myung-Hwan[1] (*with* Kang, Seok-Jin) Borcherds superalgebras and a monstrous Lie superalgebra. *Math. Ann.* **307** (1997), *no.* 4, 677–694. (From the introduction) **99g:17017** 17B10 (11F22, 17B67)

— (*with* Kim, Byeong Moon; Raghavan, Srinivasacharya) 2-universal positive definite integral quinary diagonal quadratic forms. (English summary) International Symposium on Number Theory (Madras, 1996). *Ramanujan J.* **1** (1997), *no.* 4, 333–337. (Andrzej Sładek) **99c:11042** 11E20 (11E12)

Kim, Myung-Soo (*with* Lee, In-Kwon; Elber, Gershon) New approximation methods for planar offset and convolution curves. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 83–101, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65195** 65Y25 (65D17)

Kim, N. *see* **Kim, Namkwon**

Kim, N. J. (*with* Lee, Hyung Won; Myung, Yun Soo) Probing the BTZ black hole with test fields. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 83–88. (Summary) **99h:83037** 83C57

— (*with* Lee, Hyung Won; Myung, Yun Soo; Kim, Jin Young) Stability analysis and absorption cross section in three-dimensional black string. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7361–7368. 83E30 (83C57)

— (*with* Lee, Hyung Won; Myung, Yun Soo) Dynamical behavior of the BTZ black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084022, 4 *pp.* (Summary) **99m:83123** 83C57 (83E30)

Kim, Nakwoo (*with* Rey, Soo-Jong) M(atrix) theory on T_5/Z_2 orbifold and five-branes. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 155–182. (David S. Berman) **99k:81251** 81T30 (83E30)

— More on membranes in matrix theory. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 067901, 4 *pp.* (Summary) **99k:81252** 81T30

Kim, Nam-Gil (*with* Jung, Yoon-Tae; Kim, Seon-Bu) Jacobi tensor and scalar curvature. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 533–538. (Lieven Vanhecke) **99m:53066** 53C20 (53C22)

— (*with* Lee, Sung-Baik; Kim, In-Bae; Ahn, Seong Soo) A rigidity theorem for real hypersurfaces in a complex projective space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1007–1013. (Jürgen Berndt) **99g:53065** 53C42 (53C40)

Kim, Namkwon (*with* Debnath, Lokenath) Variational principle for nonlinear Rossby waves and conservation laws. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 103–108. (Summary) **99c:76025** 76C20 (35L65, 35Q35, 76M30)

Kim, Pan Soo (*with* Cho, Jung R.; Ito, Noboru) On Hadamard property of a certain class of finite groups. (English summary) *J. Algebra* **204** (1998), *no.* 2, 666–674. (Stephen D.

Smith) **99d:20033** 20D60

Kim, Paul (*with* Krause, Günter) Local bijective Gabriel correspondence and torsion-theoretic FBN rings. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 175–189, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (M. Teply) **99a:16016** 16P40 (16P60, 16S90)

Kim, Peter *see* **Kim, Peter T.**

Kim, Peter S. (*with* Pachter, Lior) Forcing matchings on square grids. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 287–294. (Summary) **99c:05156** 05C70

Kim, Peter T. (*with* Kariya, Takeaki) Finite sample robustness of tests: an overview. *Robust inference*, 645–660, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62F35

Kim, Philsu (*with* Lee, Sung Yun) A piecewise linear quadrature of Cauchy singular integrals. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 101–115. (Gennady S. Mishuris) **99h:65042** 65D32 (41A55)

Kim, R. E. On a nonlocal problem for a higher-order equation of mixed type. (Russian) *Algebra and mathematical analysis* (*Russian*), 126–129, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 35M10

Kim, S. *see* **Kim, Sunyoung**

Kim, S. G. *see* **Kim, So Gu**

Kim, S. J. *see* **Kim, Seon Jeong**

Kim, S.-L. *see* **Kim, Seong-Lyun**

Kim, S. M. *see* **Kim, Sang Mun²**

Kim, S. S. *see* **Kim, Seong Sik**

Kim, Sang Mun² (*with* Kim, Sang Wu) Proof procedures for an automated theorem-proving program. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 990, 1075–1078. 03B35

Kim, Sang Og Homotopy of projections in C^*-algebras. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 75–78. (Carla Farsi) **99k:46098** 46L05

Kim, Sang Pyo Quantum inflation in the Lorentzian, Euclidean, and tunneling universes. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 225–230, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 83C45

— Semiclassical quantization of matter fields in gravity. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 351–361. (Alejandro R. Corichi) **99c:83030** 83C45 (81T20)

— (*with* Kim, Sung-Won) Traversable wormhole with classical scalar fields. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087703, 4 *pp.* (Summary) **99k:83109** 83E05

Kim, Sang Wook (*with* Yun, Jae Heon) Generalized stationary iterative method for solving linear systems. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 341–349. (George D. Poole) **99d:65113** 65F10

— (*with* Yun, Jae Heon) Parallel block ILU preconditioners for a block-tridiagonal M-matrix. (English summary) *J. Korean Math. Soc.* **36** (1999), *no.* 1, 209–227. (George D. Poole) **99m:65092** 65F35 (65F05, 65F10)

Kim, Sang Wu (*with* Kim, Sang Mun²) Proof procedures for an automated theorem-proving program. (English summary) *Kybernetes* **27** (1998), *no.* 8-9, 990, 1075–1078. 03B35

Kim, Sang-Yoon (*with* Hu, Bambi) Critical behavior of period doublings in coupled inverted pendulums. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 6, *part A*, 7231–7242. 70K50 (58F13)

— Intermittency in coupled maps. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 2887–2901. (Volker Matthias Gundlach) **99m:58081** 58F03 (58F13, 58F19)

Kim, Sehun (*with* Kim, Seong-Lyun) Exact algorithm for the surrogate dual of an integer programming problem: subgradient method approach. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 363–375. (Summary) **99b:90082** 90C10

Kim, Seok Woo (*with* Choi, Hyeong In; Lee, Yong Hah) Rough isometry and the asymptotic Dirichlet problem. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 333–348. (Thierry Coulhon) **99j:58211** 58G20 (31C05, 31C20, 53C21)

Kim, Seon-Bu (*with* Jung, Yoon-Tae; Kim, Nam-Gil) Jacobi tensor and scalar curvature. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 533–538. (Lieven Vanhecke) **99m:53066** 53C20 (53C22)

— (*with* Ehrlich, Paul E.; Jung, Yoon-Tae) Volume comparison theorems for Lorentzian manifolds. (English summary) *Geom. Dedicata* **73** (1998), *no.* 1, 39–56. (Eduardo García-Río) **99k:53125** 53C50 (53C20)

Kim, Seon Jeong (*with* Ballico, Edoardo) Weierstrass points and ramification loci on singular plane curves. *Tsukuba J. Math.* **21** (1997), *no.* 3, 729–738. (R. F. Lax) **99b:14030** 14H55

— (*with* Song, Seok-Zun; Hong, Sung-Min; Jun, Young Bae) Linear operators that preserve Boolean ranks. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 131–138. (R. Piziak) **99m:15001** 15A03 (06E20, 15A04)

Kim, Seong-Lyun (*with* Kim, Sehun) Exact algorithm for the surrogate dual of an integer programming problem: subgradient method approach. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 2, 363–375. (Summary) **99b:90082** 90C10

Kim, Seong Sik (*with* Jung, Jong Soo) Strong convergence theorems for nonexpansive nonself-mappings in Banach spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 31–42. (Summary) **99g:47126** 47H09 (47H10)

— (*with* Elumalai, S.; Cho, Yeol Je) Best approximation sets in linear 2-normed spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 619–629. (Ioan Şerb) **99j:46003** 46A19 (41A65, 46B99)

— (*with* Jung, Jong Soo) Strong convergence theorems for nonexpansive nonself-mappings in Banach spaces. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 30–33, *World Sci. Publishing, River Edge, NJ*, 1998. (From the text) **99j:47078** 47H09 (47H10)

— (*with* White, Albert George, Jr.; Cho, Yeol Je) Heron's formula in inner product spaces. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 97–102. (From the text) **99e:46023** 46B20 (46C05, 46C50)

— (*with* Jung, Jong Soo) Strong convergence theorems for nonexpansive nonself-mappings in Banach spaces. *Nonlinear Anal.* **33** (1998), *no.* 3, 321–329. (K. Goebel) **99h:47068** 47H10 (47H09)

— (*with* Dragomir, Sever Silvestru; Cho, Yeol Je) Superadditivity and monotonicity of 2-norms generated by inner products and related results. (English summary) *Soochow J. Math.* **24** (1998), *no.* 1, 13–32. (Ioan Şerb) **99e:46029** 46C50 (46C05, 46C20)

Kim, Seongjai Domain decomposition iterative procedures for solving scalar waves in the frequency domain. (English summary) *Numer. Math.* **79** (1998), *no.* 2, 231–259. (Weimin Han) **99d:65349** 65N55 (65F10)

— On the use of rational iterations and domain decomposition methods for the Helmholtz problem. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 529–552. (Zheng Hui Xie) **99e:65175** 65N55

Kim, Seongtag Constant scalar curvature on open manifolds with finite volume. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 101–108. (Zhi Ren Jin) **99g:53044** 53C21

— Constant negative scalar curvature on open manifolds. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 195–201. (Zhi Ren Jin) **99c:53028** 53C21

Kim, Seonja On the Clifford sequence of a general k-gonal curve. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 2, 209–216. (Montserrat Teixidor i Bigas) **99d:14006** 14C20 (14H40)

Kim, Seung Jean (*with* Ha, In-Joong) A state-space approach to analysis of almost periodic nonlinear systems with sector nonlinearities. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 66–70. (Summary) **99j:93043** 93B52 (93D15)

Kim, Seung-Kook (*with* Kim, Yong-Wan; Park, Young-Jai) Lagrangian approach of the first-class constrained systems. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2653–2663. (Summary) **99h:81218** 81T70

Kim, Seung-Yeon (*with* Creswick, Richard J.) Yang-Lee zeros of the Q-state Potts model in the complex magnetic field plane. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 10, 2000–2003. (Summary) **99e:82035** 82B26 (82B20)

Kim, Seunghwan *see* **Proceedings: Workshop on Nonlinear Dynamics and Chaos, 99f:58003**

Kim, Si-Ju (*with* Choi, Taeg Young) A note on convertible $\{0, 1\}$ matrices. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 841–849. (Norbert Seifter) **99i:15009** 15A15

Kim, So Gu *see* **Morozov, Igor B., 99b:86002**

Kim, Son Ku (*with* Wang, Susheng) Linear contracts and the double moral-hazard. (English summary) *J. Econom. Theory* **82** (1998), *no.* 2, 342–378. (Summary) **99k:90055** 90A43 (90A46)

Kim, Soo Hwan (*with* Im, Young Ho) Approximate fibrations on PL manifolds. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 491–501. (R. J. Daverman) **99g:57025** 57N15 (55R65, 57N25)

Kim, Soo-Hyun (*with* Park, Kyihwan; Kwak, Yoon Keun) Adaptive control for time optimal tracking systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 951–964. 93C40 (49N35)

Kim, Sook-Yeon (*with* Kwon, Oh-Heum; Chwa, Kyung-Yong) Embeddings of butterflies into hypermeshes. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 337–350. (Summary) **99h:68133** 68R10 (05C10, 05C85, 68M10)

Kim, Suh-Ryung (*with* Cho, Han Hyuk; Nam, Yunsun) A sufficient condition for a tree belonging to $\mathcal{T}(2, 2, n)$. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **123** (1997), 43–53. (Summary) **99a:05029** 05C05

Kim, Sun-Chul On Prandtl-Batchelor theory of a cylindrical eddy: asymptotic study. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1394–1413 (*electronic*). (Summary) **99d:76023** 76D05 (76D10, 76D30)

Kim, Sung Guen An inequality concerning polynomial norms and their coefficients. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 277–283. (Ignacio Zalduendo) **99c:46047** 46G20 (46B20)

— (*with* Choi, Yun Sung) Extreme polynomials on c_0. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 983–989. (Ignacio Zalduendo) **99k:46077a** 46G20 (46B28)

— (*with* Choi, Yun Sung; Ki, Haseo) Extreme polynomials and multilinear forms on l_1. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 467–482. (Ignacio Zalduendo) **99k:46077b** 46G20 (46B28)

Kim, Sung Ki (*with* Chung, Jaeyoung; Kim, Dohan) Fourier transform of exponential functions and Legendre transform. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 5, 629–635. (Summary) **99k:42010** 42A38

— *see also* **Proceedings: Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories, 99d:58005**

Kim, Sung Kwon Constant-time RMESH algorithms for the range minima and co-minima problems. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 965–977. (Summary) **99c:65256** 65Y05 (65K10)

Kim, Sung-Ock Noether-Lefschetz locus. (English summary) *Proceedings of the First International Workshop on Differential Geometry* (*Taegu*, 1996), 69–77, *Kyungpook Natl. Univ., Taegu*, 1997. (Angelo Lopez) **99d:14025** 14J05 (14J10)

Kim, Sung-Won (*with* Kim, Sang Pyo) Traversable wormhole with classical scalar fields. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087703, 4 *pp.* (Summary) **99k:83109** 83E05

Kim, SungHo (*with* Jeong, MiSook; Jeong, Kwang Mo) Initial value selection in applying an EM algorithm for recursive models of categorical variables. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 25–55. (Jon Stene) **99k:62042** 62F10

Kim, Sungsoon Mots de longueur maximale dans une classe de conjugaison d'un groupe symétrique, vu comme groupe de Coxeter. (English and French summaries) [Words of maximal length in a conjugacy class of a symmetric group, viewed as a Coxeter group] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 617–622. (Meinolf Geck) **99k:20008** 20B30 (05E15)

Kim, Sunyoung Solving singular integral equations using Gaussian quadrature and overdetermined system. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 63–71. (Summary) **99b:65175** 65R20 (65D32)

Kim, Tae Hee (*with* Lee, Hung Hwan) The nets and packing dimensions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 271–278. (Claude Tricot) **99b:28009** 28A78 (28A80)

Kim, Tae Hwa (*with* Kirk, William A.) Fixed point theorems for Lipschitzian mappings in Banach spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 53–62. (Tomás

Domínguez Benavides) **99f:47080** 47H10 (47H09)
— Fixed point theorems of local power condensing mappings on metric spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 25–37. 54H25 (47H10)
— (*with* Jung, Jong Soo) Strong convergence theorems for multivalued nonexpansive mappings in Banach spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 49–55. (Tomás Domínguez Benavides) **99f:47070** 47H09 (47H04, 47H10)
— (*with* Jung, Jong Soo) Strong convergence of approximating fixed points for nonexpansive nonself-mappings in Banach spaces. (English summary) *Kodai Math. J.* **21** (1998), *no.* 3, 259–272. (Tomás Domínguez Benavides) **99k:47134** 47H09 (47H10)
— Fixed point theorems of local power condensing mappings on metric spaces. (English summary) *Nonlinear Anal. Forum* **3** (1998), 111–123. 54H25 (47H10)
— (*with* Kim, Gang-Eun) Iterative algorithms for approximating common fixed points of hemi-relaxed Lipschitz semigroups. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 81–88. (Behzad Djafari-Rouhani) **99l:47106** 47H10 (47H09, 47H20)
Kim, Tae Sik Hausdorff dimension of some sub-similar sets. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 397–408. (Miguel Angel Martín) **99j:28005** 28A78 (28A80)
Kim, Tae-Sung (*with* Seok, Eun-Yang) A functional central limit theorem for linearly positive quadrant dependent random fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 411–418. (José Rafael León) **99h:60073** 60F17 (60G60, 62H20)
— (*with* Seok, Eun-Yang) Maximal inequalities with an application to the weak convergence for 2-parameter arrays of positively dependent random variables. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 279–292. (Alexander V. Bulinskiĭ) **99e:60061** 60F05 (60E15)
— (*with* Seo, Hye-Young) On the strong law of large numbers for linearly positive quadrant dependent random variables. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 151–158. (Przemysław Matuła) **99b:60044** 60F15 (60E15)
Kim, Tae Yoon Central limit theorems for quadratic errors of nonparametric estimators. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 193–204. (Sh. A. Khashimov) **99i:62113** 62G20 (60F05, 62G05)
Kim, Taegeun (*with* Choi, Kyunghee; Jung, Gihyun; Jung, Seunhun) Real-time scheduling algorithm for minimizing maximum weighted error with $O(N \log N + cN)$ complexity. *Inform. Process. Lett.* **67** (1998), *no.* 6, 311–315. 68M20
Kim, Taegil (*with* Lee, Chang-Ock[2]) A parallel Gauss-Seidel method using NR data flow ordering. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 209–220. (Summary) **99h:65055** 65F10 (65N99, 65Y05)
Kim, Taenam (*with* Oh, Dukhwan; Lim, Eunki) A new parallel algorithm for rooting a tree. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 385–390. (Summary) **99c:68109** 68Q22 (68Q25)
Kim, Taesung (*with* Yannelis, Nicholas C.) Existence of equilibrium in Bayesian games with infinitely many players. (English summary) *J. Econom. Theory* **77** (1997), *no.* 2, 330–353. (Milan Mareš) **99a:90255** 90D13
Kim, Tong Chan (*with* Choi, Jae Ho; Owa, Shigeyoshi) Starlikeness and convexity of certain linear operators. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 4, 447–452. (Georgi Dimkov) **99m:30019** 30C45
Kim, Un Kyu (*with* Jun, Jae-Bok) On 4-dimensional almost Hermitian manifolds with pointwise constant holomorphic sectional curvature. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 649–656. (Hani Farran) **99m:53056** 53C15
— On 6-dimensional quasi-Kaehler manifolds with pointwise constant holomorphic sectional curvature. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 87–99. (Lieven Vanhecke) **99i:53048** 53C25 (53C15)
Kim, V. L. Self-consistency and two-sided random censoring. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 2 (1996), 44–52. (Summary) **99d:62037** 62G05 (62N05)
Kim, W. C. *see* **Kim, Woo Chul**
Kim, Wan Se (*with* Hirano, Norimichi) Multiplicity and stability result for semilinear parabolic equations. *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 14 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Arnaldo do Nascimento) **99b:35087** 35K55 (35B10, 47N20)
— Multiplicity result for semilinear parabolic equations. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 921–933. (Alexander A. Pankov) **99i:35064** 35K55 (35B10)
— Multiplicity results of doubly-periodic solutions for semilinear telegraph equations. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 543–560. (Pavel Krejčí) **99k:35123** 35L70 (35B10)
Kim, Won Kuk (*with* Chi, Dong Pyo; Kim, Hyun Jung) On the existence of solutions of the heat equation for harmonic map. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 533–545. (Caio J. C. Negreiros) **99k:58044** 58E20
Kim, Won Kyu (*with* Im, Sung Mo; Rim, Dong Il) New existence of equilibria via connectedness. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 315–319. (Summary) **99k:47141** 47H10 (47N10, 54C60, 54H25, 90A14)
— (*with* Yuan, Xian-Zhi) On a new existence of equilibrium in SSC. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 517–524. (Summary) **99k:90047** 90A14
Kim, Won Tae (*with* Ho, Jeongwon; Park, Young-Jai) Duality of quasilocal black-hole thermodynamics. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1437–1448. (Marco Cavaglià) **99f:83048** 83C57 (83E30)
Kim, Woo Chul (*with* Kim, Choongrak) Some diagnostic results in nonparametric density estimation. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 291–303. (Summary) **99b:62059** 62G05
— (*with* Park, Byeong U.; Huh, J.; Jeon, J. W.) Estimation of density via local polynomial regression. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 1, 91–100. (Summary) **99e:62055** 62G05
Kim, Y. C. *see* **Kim, Yeong Cheol[2]**
Kim, Y. J. *see* **Kim, Yong-Jihn**
Kim, Y. K. *see* **Kim, Yangkon**
Kim, Y. S. *see* **Kim, Yong Soo**
Kim, Yangkok (*with* Rhemtulla, Akbar H.) Groups with ordered structures. (English summary) *Groups—Korea* '94 (*Pusan*), 199–210, *de Gruyter, Berlin*, 1995. (Ian M. Chiswell) **99c:20052** 20F60 (06F15)
— (*with* Kim, Goansu; Vesnin, Andrei) The knot 5_2 and cyclically presented groups. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 961–980. (Masahico Saito) **99k:57002** 57M12 (57M25, 57N10)
Kim, Yangkon (*with* So, K. H.; Seo, G. S.; Park, D. Y.; Choi, Seul Hee) Some remarks on four kinds of points associated to Lie algebras. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 31–43. (Jörg Feldvoss) **99m:17025** 17B50 (17B20, 17B55)
Kim, Yangseon (*with* Qian, Hailong; Schmidt, Peter Joseph) Efficient GMM and MD estimation of autoregressive models. (English summary) *Econom. Lett.* **62** (1999), *no.* 3, 265–270. (Summary) **99m:62137** 62M10
Kim, Yeong Cheol[2] (*with* Choi, Bong Dae; Lee, Yong Wan) The $M/M/c$ retrial queue with geometric loss and feedback. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 41–52. (Summary) **99e:90040** 90B22
Kim, Yeong E. (*with* Zubarev, Alexander L.) The Hilbert-Schmidt theorem formulation of the R-matrix theory. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6483–6494. (Summary) **99e:81253** 81U20 (81V35)
Kim, Yeonok A certain subgroup of the Weyl group of some Kac-Moody algebras. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 149–155. (Dmitrii A. Timashëv) **99k:17042** 17B67 (20F55)
Kim, Yong Chan (*with* Choi, Jae Ho; Srivastava, Hari M.) Starlikeness and convexity of fractional calculus operators. (English summary) *J. Fract. Calc.* **10** (1996), 75–89. (R. K. Raina) **99b:30013** 30C45 (26A33)
— (*with* Nunokawa, Mamoru; Ikeda, Akira[2]; Koike, Naoya; Ota, Yoshiaki) On angular estimate of analytic functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 70–73. (*see* **99a:00033**) 30C45
— A note on linear operators and fractional calculus operators in the univalent function theory. (English summary) *Transform methods & special functions, Varna* '96, 264–272, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 30C45 (26A33)
— (*with* Lee, Jin Seop; Kwon, Ern Gun) On some radius results for normalized analytic functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 51–60. (Frode Rønning) **99b:30015** 30C45
— (*with* Lee, Jin Seop; Lee, Sang Hun) A certain subclass of analytic functions with negative coefficients for operators on Hilbert space. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 115–124. (Kazimierz Włodarczyk) **99b:30016** 30C45 (47A56)
— (*with* Cho, Nak Eun; Srivastava, Hari M.) Argument estimates for a certain class of analytic functions. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 3, 277–287. 30C45
Kim, Yong-Cheol Quasiradial Bochner-Riesz means for some nonsmooth distance functions. (English summary) *Indiana Univ. Math. J.* **46** (1997), *no.* 4, 1155–1180. (Shan Zhen Lu) **99i:42023** 42B25 (42B30)
Kim, Yong Il (*with* Chai, Y. D.) An estimate of the area of constant breadth curves. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 679–683. (Summary) **99h:52002** 52A10 (52A38)
— Integral formulas for strips. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 985–998. (Peter M. Gruber) **99k:52008** 52A22 (52A10)
— (*with* Chai, Y. D.) Inequalities for the area of constant relative breadth curves. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 15–23. (Summary) **99k:52016** 52A40
Kim, Yong-Jihn (*with* Kwon, Kil Hyun; Lee, Jeong Keun) Partial differential equations having orthogonal polynomial solutions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 239–253. (Summary) **99j:35007** 35A25 (33C45, 35C05)
Kim, Yong Ki A study on solutions of a class of higher order ordinary differential equations. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 156–162. (Ondřej Došlý) **99m:34073** 34C10 (34C11)
Kim, Yong Mal (*with* Yoo, Yoon Jae) Weighted Orlicz space integral inequalities for fractional maximal operators. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 225–236. (Michael B. Korey) **99b:42024** 42B25
— (*with* Yoo, Yoon Jae) Weighted Orlicz space integral inequalities of certain maximal operators on spaces of homogeneous type. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 369–380. (Michael T. Lacey) **99j:42026** 42B25 (47B38)
Kim, Yong Soo (*with* Hahn, Sang-Geun; Kim, Dong Geon) A decoding algorithm for orthogonal Latin square codes. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 9, 1235–1240. (Summary) **99d:94041** 94B35 (05B15)
Kim, Yong Sup (*with* Song, Hyeong Kee) On p-adic analogue of hypergeometric series. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 11–16. (Kaori Ota) **99m:11140** 11S80 (33C20)
— (*with* Lee, Chang Hyun) Some summation formulas for the series ${}_3F_2(1)$. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 5–12. (Summary) **99h:33022** 33C20 (33B15)
Kim, Yong-Wan (*with* Rothe, Klaus D.) Lagrangian approach to local symmetries and self-dual model in gauge invariant formulation. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 24, 4183–4194. (Summary) **99e:81251** 81T70 (81T13)
— (*with* Park, Young-Jai) Quantization of spontaneously broken gauge theory based on the BFT-BFV formalism. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 15, 1201–1212. (Summary) **99c:81256** 81T70 (81T13)
— (*with* Park, Young-Jai; Kim, Seung-Kook) Lagrangian approach of the first-class constrained systems. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2653–2663. (Summary) **99h:81218** 81T70
— (*with* Rothe, Klaus D.) BFT Hamiltonian embedding of non-abelian self-dual model. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 510–520. (Antonio González-Arroyo) **99a:81182** 81T70 (81T13)
Kim, Yongdai Mechanisms of symptom in Bartoszyński's virus model. (English summary) *Math. Biosci.* **153** (1998), *no.* 1, 63–78. (Summary) **99k:92011** 92C50 (92D30)
Kim, Yongkuk (*with* Im, Young Ho) Hopfian and strongly Hopfian manifolds. (English summary) *Fund. Math.* **159** (1999), *no.* 2, 127–134. (Summary) **99j:57023** 57N15 (54B15, 55R65)
Kim, Yongman (*with* Singh, Kesar) Sharpening estimators using resampling. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 121–146. (Zuzana Prášková)

99f:62063 62G09

Kim, Yonne Mi Carleman inequalities and strong unique continuation theorem for the Schrödinger operator. *Kyungpook Math. J.* **37** (1997), *no.* 2, 197–204. (Volker Vogelsang) **99b:35016** 35B60 (35J10)

Kim, Yoo Ah (*with* Kim, Dong Kyue; Park, Kunsoo) Constructing suffix arrays for multi-dimensional matrices. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 126–139, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99k:68070** 68Q20 (68P05)

Kim, Yoonbai Thirring model in lower dimensions: nonperturbative approaches. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 374–382, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99b:81143** 81T10

Kim, Youdan (*with* Kim, Dohyeon) Comments on: "Design of unknown input observers and robust fault detection filters" [Internat. J. Control **63** (1996), no. 1, 85–105] by J. Chen, R. J. Patton and H.-Y. Zhang. *Internat. J. Control* **67** (1997), *no.* 2, 305–306. 93E12 (93B50)

Kim, Young-Gil (*with* Vinck, Adrianus J.; Dolezal, Petr) Convolutional encoder state estimation. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1604–1608. 94B10

Kim, Young-Ho (*with* Kim, Byung-Il) A submartingale inequality. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 159–170. (Ferenc Weisz) **99c:60095** 60G42 (60E15)

Kim, Young Ho[1] (*with* Kim, Dong-Soo) Null 2-type surfaces in pseudo-Euclidean 4-space with null mean curvature vector. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 563–570. (Pascual Lucas Saorin) **99m:53116** 53C42 (53C50)

— (*with* Jang, Kyung-Ok) 2-type surfaces with 1-type Gauss map. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 79–86. (Ivko Dimitric) **99m:53033** 53B25 (53A05)

— A basic inequality for submanifolds. *Proceedings of the Second International Workshop on Differential Geometry* (*Taegu*, 1997), 91–98, *Kyungpook Natl. Univ., Taegu*, 1998. (C. S. Houh) **99d:53056** 53C40

— Null 2-type surfaces with constant mean curvature. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 459–472. (Pascual Lucas Saorin) **99m:53125** 53C50 (53C42)

— *see also* **Proceedings: Workshop on Differential Geometry, 99b:53002**

Kim, Young Ik (*with* Lee, Kwang Bok) Efficient plotting of closed polar curves with Mathematica. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 133–142. 65D17

Kim, Young Key (*with* Cho, Eui Whan; Shin, Chae Seob) Fuzzy semi-inner-product space. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **2** (1995), *no.* 2, 163–172. 46S40 (46C50)

— (*with* Byun, Hee-Young) F-proximal flows. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 131–136. (A. Pelczar) **99d:54022** 54H20

Kim, Young-One (*with* Lee, Jungseob) Positively expansive endomorphisms on subshifts of finite type. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 257–267. (Summary) **99f:58067** 58F03 (54H20, 58F11)

— (*with* Lee, Jungseob) The Gibbs measure and coboundary condition. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 433–447. (Bernard Schmitt) **99f:58127** 58F11

Kim, Young Sik (*with* Chang, Kun Soo; Yoo, Il) An L_p analytic Fourier-Feynman transform on abstract Wiener space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 579–595. (Roberto Luiz Soraggi) **99m:46105** 46F25 (28C20, 43A32, 46G12)

Kim, Young Suh (*with* Han, Daesoo; Noz, Marilyn E.) Jones-matrix formalism as a representation of the Lorentz group. (English summary) *J. Opt. Soc. Amer. A* **14** (1997), *no.* 9, 2290–2298. (Summary) **99m:22012** 22E43 (78A10)

— Does Lorentz boost destroy coherence? (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 713–723. (Summary) **99k:81339** 81V05 (81V25)

Kim, Young Wook On the Gromov-Hausdorff convergence of geodesics. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 189–193. (Andrea Sambusetti) **99a:53053** 53C22 (53C23)

Kim, Youngchan (*with* DeSarbo, Wayne S.; Fong, Duncan) A Bayesian multidimensional scaling procedure for the spatial analysis of revealed choice data. (English summary) *J. Econometrics* **89** (1999), *no.* 1-2, 79–108. (Summary) **99m:62082** 62H11 (62F15)

Kim, Yu. E. (*with* Astashkin, S. V.) Interpolation of bilinear operators in Marcinkiewicz spaces. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 4, 483–494, 638; *translation in Math. Notes* **60** (1996), *no.* 3-4, 363–371 (1997). (Irina U. Asekritova) **99f:46035** 46E30 (46M35)

Kim, Yun Jae (*with* Kim, Eun Sup; Park, Young Soo) Children ideals and children rings. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 151–155. (H. H. Brungs) **99i:16006** 16D25 (16E50)

Kim, Yun Kyong Strong law of large numbers for level-wise independent fuzzy random variables. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 769–778. 60F99

Kimball, J. C. States on the Sierpiński triangle. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 87–105. (Summary) **99e:82042** 82B28 (58F40)

Kimber, Alan (*with* Crowder, Martin) A score test for the multivariate Burr and other Weibull mixture distributions. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 3, 419–432. (Truc Nguyen) **99a:62137** 62N05 (62G10)

Kimberling, Clark Constructive systems in triangle geometry. *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 163–173. (E. J. F. Primrose) **99b:51015** 51M15

— A class of major centers of triangles. (English summary) *Aequationes Math.* **55** (1998), *no.* 3, 251–258. (J. A. Lester) **99k:51021** 51M04 (51N20)

— Triangle centers and central triangles. *Congr. Numer.* **129** (1998), *xxvi*+295 *pp.* 52A10 (51M04)

— Edouard Zeckendorf [1901–1983]. *Fibonacci Quart.* **36** (1998), *no.* 5, 416–418. 01A70

— *see also* **Errata: "Edouard Zeckendorf"**

Kimble, H. J. (*with* van Enk, S.; Cirac, J. I.; Zoller, Peter; Mabuchi, H.) Transmission of quantum information in a quantum network: a quantum optical implementation. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 689–695. (Summary) **99k:81042** 81P99 (81V80)

Kimm, Kyoungtae (*with* Cho, Yongmin) Monopoles in electroweak theory. (English summary) *Proceedings of International Workshop on Mathematical and Physical Aspects of Nonlinear Field Theories* (*Seoul*, 1998), 95–117, *Lecture Notes Ser.*, 42, *Seoul Nat. Univ., Seoul*, 1998. (Summary) **99d:81178** 81V15 (58E50)

Kimmel, E. (*with* Broday, D.) On the axial dispersion induced by vibrations of a flexible tube. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 7, 863–881. 73K70 (73D99)

Kimmel, Hans E. (*with* Smith, Donald Ray) Liquid hammer for the de-energized radial inflow turbine generator. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 2, 157–168. (Summary) **99e:76015** 76B99 (34C99)

Kimmel, Marek Quasistationarity in a branching model of division-within-division. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 157–164, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Annette Kopp-Schneider) **99c:60193** 60J80 (92D15)

— (*with* Swierniak, Andrzej; Polanski, Andrzej) Infinite-dimensional model of evolution of drug resistance of cancer cells. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 1–16. (J. N. Kapur) **99k:92012** 92C50

— (*with* Olofsson, Peter) Stochastic models of telomere shortening. (English summary) *Math. Biosci.* **158** (1999), *no.* 1, 75–92. 92C30 (92D10)

— *see also* **Advances in mathematical population dynamics—molecules, cells and man, 99d:92001**; **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**

Kimmel, Ron (*with* Sochen, Nir; Malladi, Ravikanth) A general framework for low level vision. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 3, 310–318. (Summary) **99k:94016** 94A12

— (*with* Sethian, James A.) Computing geodesic paths on manifolds. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 15, 8431–8435 (*electronic*). (Summary) **99d:65359** 65N99 (53C22)

Kimmerle, Wolfgang (*with* Bleher, Frauke M.; Geck, Meinolf) Automorphisms of generic Iwahori-Hecke algebras and integral group rings of finite Coxeter groups. *J. Algebra* **197** (1997), *no.* 2, 615–655. (Hiroshi Naruse) **99f:20010** 20C10 (20B25, 20C15, 20F55)

— On the characterization of finite groups by characters. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 119–138, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Alexander Zimmermann) **99g:20016** 20C05 (20C15)

Kimms, Alf (*with* Schmitz, Henning) Branch & cut methods for capacitated lot sizing. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 486–491, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C10 (90C90)

— (*with* Drexl, Andreas) Proportional lot sizing and scheduling: some extensions. (English summary) *Networks* **32** (1998), *no.* 2, 85–101. (Summary) **99e:90049** 90B35

Kimn, Ha-Jine (*with* Jeon, Youngmok) New boundary element formulas for plane elasticity. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 263–274. (Summary) **99d:73096** 73V10 (31A30, 65N99, 65R20)

de grande-de Kimpe, N. *see* **De Grande-De Kimpe, N.**

vũ Kim Tuấn *see* **Vũ Kim Tuấn**

Kimura, Hidenori (*with* Kongprawechnon, W.) J-lossless conjugation and factorization for discrete-time systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 867–884. 93C55 (93B29)

— (*with* Lee, Peng Hin; Soh, Yeng Chai) (J, J')-lossless conjugations, (J, J')-lossless factorizations and chain scattering approach to time-varying H^∞ control: one and two-block cases. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 177–198. 93B36 (93B25)

— (*with* Lee, Peng Hin; Soh, Yeng Chai) J-lossless conjugations and J-lossless factorizations of exponentially stable time-varying systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 199–212. 93B36 (93B25)

— (*with* Baramov, Lubomír) Nonlinear coprime factorizations and parametrization of a class of stabilizing controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 413–434. 93D15 (93B25)

— (*with* Lee, Peng Hin; Soh, Yeng Chai) Co-(J'', J)-lossless co-conjugations and co-(J'', J)-lossless factorizations of linear time-varying systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 731–752. 93B25 (93C60)

— (*with* Kongprawechnon, W.) J-lossless factorization and H^∞ control for discrete-time systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 423–446. (Summary) **99d:93021** 93B36 (93C55)

— (*with* Lee, Peng Hin; Soh, Yeng Chai) Chain scattering approach to H^∞ control for time-varying systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 195–218. (Peng Shi) **99h:93038** 93B36

— (*with* Yanagisawa, Masahiro) A control problem for Gaussian states. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 294–313, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93E12 (93A30)

— (*with* Hayakawa, Kisaburo; Matsumoto, Kenichiro; Yamashita, Masashi; Suzuki, Yoshiaki; Fujimori, Kazuo) Robust H^∞-output feedback control of decoupled automobile active suspension systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 392–396. 93B36 (93C95)

Kimura, Hideyuki Representations of automorphism groups of compact Riemann surfaces. (Japanese) Analysis of discrete groups, II (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1022 (1997), 27–34. (*see* **99e:30001**) 30F10

Kimura, Hironobu On rational de Rham cohomology associated with the generalized Airy function. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 2, 351–366. (Masaaki Yoshida) **99c:32030** 32G34 (32S40, 33C15)

Kimura, Iwao On class numbers of quadratic extensions over function fields. (English summary) *Manuscripta Math.* **97** (1998), *no.* 1, 81–91. (Martha Rzedowski-Calderón) **99e:11144** 11R58 (11R29, 11R45)

Kimura, Kazuhiro[1] (*with* Shiraishi, Jun'ichi; Uchiyama, Jun) A level-one representation of the quantum affine superalgebra $U_q(\widehat{\mathfrak{sl}}(M+1|N+1))$. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 367–378. (Naihuan Jing) **99a:17021** 17B37 (17B69, 81R50)

Kimura, Makoto A geometric interpretation of isoparametric hypersurfaces. Geometry of homogeneous spaces and submanifolds (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1044 (1998), 1–3. (*see* **99i:53001**) 53C42 (53C40)

Kimura, Masaomi (*with* Kobayashi, Hiroyuki; Tsutsui, Izumi) Hopf term, fractional spin and soliton operators in the O(3) non-linear sigma model. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 624–642. (Bernd J. Schroers) **99h:81219** 81T70

— Geometric quantization on a coset space G/H. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 3, 467–476. (Summary) **99j:58085** 58F06 (81S10)

Kimura, Seiji (*with* Nakao, Mitsuhiro T.; Yamamoto, Nobito) On the best constant in the error bound for the H_0^1-projection into piecewise polynomial spaces. (English summary) *J. Approx. Theory* **93** (1998), *no.* 3, 491–500. (Guido Walz) **99d:41035** 41A30 (41A44)

Kimura, Souichi (*with* Asano, Tetsuo; Shimazu, Shigeaki) Contour representation of an image with applications. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 12, 3242–3251. 68U10

Kimura, Takashi² (*with* Stasheff, James D.; Voronov, Alexander A.) Homology of moduli of curves and commutative homotopy algebras. *The Gelfand Mathematical Seminars*, 1993–1995, 151–170, *Gelfand Math. Sem., Birkhäuser Boston, Boston, MA*, 1996. (Andreas Gathmann) **99f:14029** 14H15 (32G81, 55U99)

— (*with* Voronov, Alexander A.; Zuckerman, Gregg J.) Homotopy Gerstenhaber algebras and topological field theory. (English summary) *Operads: Proceedings of Renaissance Conferences (Hartford, CT/Luminy, 1995)*, 305–333, *Contemp. Math.*, 202, *Amer. Math. Soc., Providence, RI*, 1997. (J. P. C. Greenlees) **99c:58028** 58D29 (14H10, 18D99, 55U35)

Kimura, Yutaka (*with* Sawasaki, Yoichi; Tanaka, Kensuke) Weak convergence for nonexpansive set-valued mappings. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 88–93. (*see* **99b:90009**) 49J52 (47H05)

— (*with* Liu, Jen-Chwan; Tanaka, Kensuke) Generalized fractional programming. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 1–13. (Joachim Käschel) **99m:90141** 90C32

— (*with* Sawasaki, Yoichi; Tanaka, Kensuke) A non-cooperative equilibrium of n-person game with fractional loss functions. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 215–220. (*see* **99h:90006**) 90D06

el Kinani, A. *see* **El Kinani, A.**

el Kinani, E. H. *see* **El Kinani, E. H.**

Kinateder, Kimberly K. J. (*with* McDonald, Patrick; Miller, David F.) Exit time moments, boundary value problems, and the geometry of domains in Euclidean space. (English summary) *Probab. Theory Related Fields* **111** (1998), *no.* 4, 469–487. (Ming Liao) **99h:60151** 60J60 (58G32, 60J65)

— (*with* McDonald, Patrick) Variational principles for average exit time moments for diffusions in Euclidean space. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2767–2772. (Fuqing Gao) **99m:60121** 60J60 (58G32)

Kinber, Efim (*with* Jain, Sanjay[1]; Wiehagen, Rolf) On learning and co-learning of minimal programs. (English summary) *Algorithmic learning theory (Sydney, 1996)*, 242–255, *Lecture Notes in Comput. Sci.*, 1160, *Springer, Berlin*, 1996. (From the introduction) **99a:68142** 68T05 (68Q99)

Kinch, L. F. (*with* Cheng, Raymond; Dasgupta, Abhijit; Ebanks, Bruce R.; Larson, L. M.; McFadden, Robert B.) When does $f^{-1} = 1/f$? *Amer. Math. Monthly* **105** (1998), *no.* 8, 704–717. (James Foran) **99h:39026** 39B22 (30C35, 39B32)

Kind, Christoph Remarks on the economic interpretation of Hopf bifurcations. (English summary) *Econom. Lett.* **62** (1999), *no.* 2, 147–154. (Summary) **99k:90049** 90A16 (34C23)

Kind, Jaakob (*with* Niessen, Thomas; Mathar, Rudolf) Theory of maximum packing and related channel assignment strategies for cellular radio networks. (English summary) *Math. Methods Oper. Res.* **48** (1998), *no.* 1, 1–16. (Imma J. Curiel) **99g:90046** 90B12 (90C27)

Kindelan, Manuel (*with* Bonilla, Luis L.; Moscoso, Miguel; Venakides, Stephanos) Periodic generation and propagation of traveling fronts in DC voltage biased semiconductor superlattices. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1588–1614. (J. W. Jerome) **99a:35217** 35Q40 (35B25, 35G25, 82D99)

Kindelán, U. (*with* Conde, Carlos; Francos, A.; Montes Cañete, Guillermo) Modelling two-dimensional thermohydraulic processes using second-order finite-volume methods. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 683–688, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76M25

Kinderlehrer, David (*with* Jordan, Richard; Otto, Felix) The route to stability through Fokker-Planck dynamics. *Differential equations and applications (Hangzhou, 1996)*, 108–126, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 82C35 (82C03)

— (*with* Jordan, Richard; Otto, Felix) Free energy and the Fokker-Planck equation. (English summary) Landscape paradigms in physics and biology (Los Alamos, NM, 1996). *Phys. D* **107** (1997), *no.* 2-4, 265–271. (Yurii Raikher) **99a:82068** 82C31

— Microstructural evolution and metastability in active materials. (English summary) *Computational and mathematical models of microstructural evolution (San Francisco, CA, 1998)*, 3–8, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73S10 (73B30)

— Stability of simulated magnetic systems. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 107–121, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99k:73106** 73R05 (73B27, 73S10, 73V25, 78A30, 82D40)

Kindler, Ekkart (*with* Weber, Michael) The dimensions of Petri nets: the Petri net cube. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 155–166. (Summary) **99f:68146** 68Q90

Kindler, Jürgen Intersection theorems, minimax theorems and abstract connectedness. *Minimax theory and applications (Erice, 1996)*, 105–120, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Xie Ping Ding) **99i:47095** 47H04 (46N10, 47N10, 49J35)

— Two-function topological minimax theorems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 312–325. (Sehie Park) **99g:49008** 49J35 (54C60, 54H25)

King, A. C. *see* **King, Andrew C.**

King, A. D. (*with* Newstead, Peter E.) On the cohomology ring of the moduli space of rank 2 vector bundles on a curve. (English summary) *Topology* **37** (1998), *no.* 2, 407–418. (Nyshadham Raghavendra) **99a:14019** 14D20 (14F25, 14H60)

King, Alexander H. The influence of anisotropic grain boundary energy on triple junction morphology and grain growth. (English summary) *Computational and mathematical models of microstructural evolution (San Francisco, CA, 1998)*, 9–14, *Mater. Res. Soc. Sympos. Proc.*, 529, *MRS, Warrendale, PA*, 1998. (*see* **99k:73002**) 73S10 (73B30)

King, Andrew *see* **King, Andrew Robert**

King, Andrew C. (*with* Keller, Joseph B.; Merchant, Gregory) Surface tension. (English summary) *Of fluid mechanics and related matters (La Jolla, CA, 1990)*, 161–168, *Scripps. Inst. Oceanogr. Ref. Ser.*, 91-24, *Scripps Inst. Oceanogr., San Diego, CA*, 1991. (John F. Harper) **99d:76029** 76D45 (76B45)

— (*with* Needham, D. J.; Scott, N. H.) The effects of weak hyperbolicity on the diffusion of heat. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1974, 1659–1679. (Mark A. Peletier) **99j:35013** 35B30 (35B25, 35K10, 35L10)

— *see also* **Concus, Paul, 99d:76030**

King, Andrew Malcolm (*with* Shen, Kish; Benoy, Florence) Lower-bound time-complexity analysis of logic programs. (English summary) *Logic programming (Port Washington, NY, 1997)*, 261–275, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68Q25)

King, Andrew Robert *see* **Tourrenc, Philippe, 99e:83001**

King, Andy *see* **King, Andrew Malcolm**

King, Belinda B. Modeling and control of a multiple component structure. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 36 *pp.* (*electronic*). (Vadim Komkov) **99i:93042** 93C85 (73K50, 93D15)

— (*with* Sachs, Ekkehard W.) Optimization techniques for stable reduced order controllers for partial differential equations. (English summary) *Optimal control (Gainesville, FL, 1997)*, 278–297, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:93038** 93C20 (90C90, 93B51)

— (*with* Burns, John A.; Rubio, Diana) Feedback control of a thermal fluid using state estimation. Flow control and optimization. *Int. J. Comput. Fluid Dyn.* **11** (1998), *no.* 1-2, 93–112. (*see* **99k:76005**) 93E11 (76D99)

— (*with* Burns, John A.) A note on the mathematical modelling of damped second order systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 12 *pp.* (*electronic*). (From the text) **99h:34080** 34G10 (34H05, 73K50, 93A30)

— (*with* Burns, John A.) A reduced basis approach to the design of low-order feedback controllers for nonlinear continuous systems. (English summary) *J. Vib. Control* **4** (1998), *no.* 3, 297–323. (Summary) **99a:93046** 93B52 (93C10)

— Nonuniform grids for reduced basis design of low order feedback controllers for nonlinear continuous systems. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1223–1241. (Summary) **99i:93033** 93C20 (65M55)

King, Brian (*with* Desmedt, Yvo; Kishimoto, Wataru; Kurosawa, Kaoru) A comment on the efficiency of secret sharing scheme over any finite abelian group. (English summary) *Information security and privacy (Brisbane, 1998)*, 391–402, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94042** 94A60

King, Chung-Ta (*with* Chen, Huey-Ling) Dynamic processor allocation in scalable multiprocessors using Boolean algebra. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 333–358. 68M20

King, David Anthony Astronomy and Islamic society: qibla, gnomonics and timekeeping. *Encyclopedia of the history of Arabic science, Vol.* 1–3, 128–184, *Routledge, London*, 1996. (*see* **99k:01001**) 01A30

King, Frederick W. (*with* Feldmann, D. Matthew; Pelzl, Paul J.) Resolution of some mathematical problems arising in the relativistic treatment of the S states of three-electron systems. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6262–6275. (A. Ventura) **99m:81290** 81V45

King, Irwin *see* **Theoretical aspects of neural computation, 99f:00027**

King, J. R. *see* **King, John Robert**

King, James R. *see* **Manin, Yuriĭ Ivanovich, 99e:32001**

King, Jeremy D. Embedding theorems for pro-p groups. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 217–226. (Thomas Weigel) **99b:20048** 20E18

King, John Robert (*with* Engineer, J. C.; Tew, R. H.) Diffraction by slender bodies. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 2, 129–158. (John A. DeSanto) **99e:76104** 76Q05 (78A45)

— (*with* Chapman, S. J.; Adams, K. L.) Exponential asymptotics and Stokes lines in nonlinear ordinary differential equations. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2733–2755. (Summary) **99e:34073** 34E20

— (*with* Hulshof, Josephus) Analysis of a Darcy flow model with a dynamic pressure saturation relation. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 318–346 (*electronic*). (Vladimir Grebenev) **99m:76109** 76S05 (35K70, 35Q35)

King, Jonathan L. (*with* Glasner, Eli) A zero-one law for dynamical properties. (English summary) *Topological dynamics and applications (Minneapolis, MN, 1995)*, 231–242, *Contemp. Math.*, 215, *Amer. Math. Soc., Providence, RI*, 1998. (B. Kamiński) **99d:28039** 28D15 (54E52, 54H05, 60F20)

— (*with* Keating, Kevin) Signed tilings with squares. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 83–91. (Elizaveta Zamorzaeva) **99m:52025** 52C20 (05B45)

King, Joy (*with* Wong, Weng Kee) Optimal minimax designs for prediction in heteroscedastic models. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 371–383. (Summary) **99c:62208** 62K05

King, Maxwell L. (*with* Singh, Sarjinder; Joarder, Anwarul H.) Regression analysis using scrambled responses. (English summary) *Austral. J. Statist.* **38** (1996), *no.* 2, 201–211. (David Birkes) **99c:62191** 62J05 (62D05)

— The likelihood ratio test of non-tested linear regression models. (English summary) *Applied statistical science, III*, 365–375, *Nova Sci. Publ., Commack, NY*, 1998. (*see* **99j:62001**) 62J05

— (*with* Strachan, Rodney; Singh, Sarjinder) Likelihood-based estimation of the regression model with scrambled responses. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 279–290. (Summary) **99i:62154** 62J05 (62D05)

— (*with* Laskar, Mizan R.) Estimation and testing of regression disturbances based on modified likelihood functions. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 75–92. (Summary) **99f:62034** 62F10 (62F03, 62M10)

King, Michael R. (*with* Leighton, David T., Jr.; McCready, Mark J.) Stability of oscillatory two-phase Couette flow: theory and experiment. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 833–844. 76E99 (76V05)

King, O. H. (*with* Cossidente, A.) On caps and cap partitions of Galois projective spaces. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 787–799. (Grazia Raguso) **99m:51015** 51E22

King, Paul John (*with* Simov, Kiril Ivanov) The automatic deduction of classificatory systems from linguistic theories (abridged). (English summary) *Logical aspects of computational linguistics (Nancy, 1996)*, 248–273, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (03B65)

King, R. B. Some aspects of the symmetry and topology of possible carbon allotrope structures. (English summary) Girona 97 special issue. *J. Math. Chem.* **23** (1998), *no.* 1-2, 197–227. (*see* **99c:92002**) 92E10

King, Robert G. (*with* Watson, Mark W.) The solution of singular linear difference systems under rational expectations. (English summary) Symposium on Forecasting and Empirical Methods in Macroeconomics and Finance. *Internat. Econom. Rev.* **39** (1998), *no.* 4, 1015–1026. (Summary) **99k:39019** 39A10 (90A16)

King, Ronald S. (*with* Cavanaugh, Charles D.) Data relatability dependencies and the decomposition of database relations. (English summary) *Texas J. Sci.* **50** (1998), *no.* 1, 57–74. (János Demetrovics) **99a:68043** 68P15

Kingan, S. R. Intersections of circuits and cocircuits in binary matroids. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 157–165. (Summary) **99h:05022** 05B35

Kings, Guido Higher regulators, Hilbert modular surfaces, and special values of L-functions. *Duke Math. J.* **92** (1998), *no.* 1, 61–127. (Jan Nekovář) **99b:11051** 11F67 (11F41, 11G18, 14G35, 19F27)

— Extensions of motives associated to K-theory elements for Hilbert modular forms. *J. Reine Angew. Math.* **503** (1998), 109–128. (Jan Nekovář) **99g:11078** 11G18 (11F41, 14G35, 19F27)

Kingsbury, Nick (*with* Magarey, Julian) Motion estimation using a complex-valued wavelet transform. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1069–1084. 94A12 (42C15)

Kingston, J. G. (*with* Sophocleous, Christodoulos) On form-preserving point transformations of partial differential equations. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1597–1619. (Ian M. Anderson) **99g:35010** 35A30 (58G35)

— (*with* Sophocleous, Christodoulos) Cyclic symmetries of one-dimensional non-linear wave equations. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 3, 531–543. (Summary) **99k:35130** 35L70 (35A30)

Kiniwa, Jun (*with* Kameda, Tsunehiko) Lookahead scheduling requests for efficient paging. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 27–34. (Summary) **99i:68023** 68N25

Kinjo, Yoshiyuki (*with* Miyagi, Yashushi) Complete noncommutative integration of Hamiltonian systems. (English summary) *Ryukyu Math. J.* **11** (1998), 17–24. (Frans Cantrijn) **99m:58090** 58F05 (70H05)

Kinnaert, Michel Design of redundancy relations for failure detection and isolation by constrained optimization. (English summary) *Internat. J. Control* **63** (1996), *no.* 3, 609–622. 93E12 (90C90)

Kinnear, D. (*with* Davidson, P. A.) Energy constraints in forced recirculating MHD flows. (English summary) *J. Fluid Mech.* **375** (1998), 319–343. (Summary) **99i:76148** 76W05

Kinnunen, Juha (*with* Zhou, Shu Lin[1]) A note on very weak p-harmonic mappings. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 25, 4 *pp.* (*electronic*). (P. Lindqvist) **99a:35070** 35J60 (35B45)

— The Hardy-Littlewood maximal function of a Sobolev function. (English summary) *Israel J. Math.* **100** (1997), 117–124. (Jeremy T. Tyson) **99a:30029** 30C65

— (*with* Lindqvist, Peter) The derivative of the maximal function. (English summary) *J. Reine Angew. Math.* **503** (1998), 161–167. (Maria J. Carro) **99j:42027** 42B25

— (*with* Grafakos, Loukas) Sharp inequalities for maximal functions associated with general measures. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 717–723. (Kenneth F. Andersen) **99g:42020** 42B25 (26D15)

— A stability result on Muckenhoupt's weights. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 153–163. (Alberto Fiorenza) **99e:42025** 42B20

Kinnunen, Liisa (*with* Laine, Ilpo; Rieppo, Jarkko) Remarks concerning $f'' + A(z)f = 0$ and some fields of meromorphic functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 309–315. (Summary) **99a:34010** 34A20 (12H05, 30D35)

— ★ Studies on the value distribution of meromorphic functions. (English summary) Dissertation, University of Joensuu, Joensuu, 1998. University of Joensuu, Department of Mathematics Report Series, 1. *University of Joensuu, Joensuu*, 1998. 26 *pp. ISBN* 951-708-605-9 (Walter Bergweiler) **99k:30052** 30D35

Kino, Issei (*with* Tanaka, Atsuhiro) Lumpability in LRU stack with Markovian page references. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 91–117. (Summary) **99b:68039** 68N25

— *see also* **Performance evaluation of information communication networks, 99a:90008**

Kinoshita, Eizo (*with* Nakanishi, Masatake) An application of the group decision making stress method to the group analytic hierarchy process. (Japanese. English and Japanese summaries) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 560–571. 90A05 (90C29)

Kinoshita, Tamotu On the Cauchy problem with small analytic data for nonlinear weakly hyperbolic systems. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 2, 397–420. (Sergio Spagnolo) **99d:35096** 35L60

— On the wellposedness in the Gevrey classes of the Cauchy problem for weakly hyperbolic systems with Hölder continuous coefficients in time. *Osaka J. Math.* **35** (1998), *no.* 4, 735–750. (Peter R. Popivanov) **99m:35139** 35L45

— Gevrey wellposedness of the Cauchy problem for the hyperbolic equations of third order with coefficients depending only on time. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 3, 249–270. (Hidetoshi Tahara) **99h:35120** 35L30 (35L80)

— On the wellposedness in the ultradifferentiable classes of the Cauchy problem for a weakly hyperbolic equation of second order. *Tsukuba J. Math.* **22** (1998), *no.* 1, 241–271. (Herbert Koch) **99i:35089** 35L15 (35A10, 35L70)

Kinoshita, Toshiharu (*with* Ando, Kazuaki; Shishibori, Masami; Aoe, Jun-ichi) An improvement of the Aho-Corasick machine. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 139–151. (Summary) **99f:68076** 68Q20 (68Q45)

Kinoshita, Yoshiki A bicategorical analysis of E-categories. *Math. Japon.* **47** (1998), *no.* 1, 157–169. (R. H. Street) **99b:18010** 18D05

Kinugasa, Tetsuya (*with* Osuka, Koichi; Ono, Toshiro) Motion control of legged robot Emu via nonlinear gain scheduling control. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 6, 341–355. 93C85 (93C95)

Kinyon, Michael K. (*with* Hopkins, Nora C.) Automorphism eigenspaces of quadratic differential equations and qualitative theory. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 2, 121–138. (David R. Finston) **99i:34017** 34A34 (34C25, 34C99)

— (*with* Walcher, Sebastian) On ordinary differential equations admitting a finite linear group of symmetries. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 1, 180–196. (L. M. Berkovich) **99c:34011** 34A34 (34A26, 58E40)

Kinzel, W. (*with* Schröder, M.) Limit cycles of a perceptron. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2967–2974. (Dimitri Petritis) **99e:82074** 82C32 (68T05, 92B20)

Kipnis, Aviad (*with* Shamir, Adi) Cryptanalysis of the oil and vinegar signature scheme. (English summary) *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 257–266, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99k:94037** 94A60

Kipnis, C. (*with* Saada, E.) Un lien entre réseaux de neurones et systèmes de particules: un modèle de rétinotopie. (French summary) [A connection between neural networks and particle systems: a model of retinotopy] *Séminaire de Probabilités, XXX*, 55–67, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Dominikus Noll) **99h:92013** 92C50 (92C30)

Kipriyanov, I. A. ★ Сингулярные эллиптические краевые задачи. (Russian. English and Russian summaries) [Singular elliptic boundary value problems] *Fizmatlit "Nauka", Moscow*, 1997. 204 *pp. ISBN* 5-02-014799-0 (Zinovi Sheftel) **99m:35088** 35J70

— (*with* Lyakhov, L. N.) Multipliers of the mixed Fourier-Bessel transform. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 449–451. (Boris Petrovich Osilenker) **99b:44007** 44A15 (33C10, 42B15)

Kipriyanova, N. I. A mean-value theorem for a B-polyharmonic equation. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 31–34; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 5, 29–32. 35J40 (31B30)

Kipshidze, Z. Sh. An arithmetic analogue of the Bose-Chaudhuri-Hocquenghem code. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 426–428 (1996). 94B40

Kira, E. (*with* Dorea, Chang Chung Yu; Galves, A.; Alencar, A. P.) Markovian modeling of the stress contours of Brazilian and European Portuguese. (English summary) *Rebrape* **11** (1997), *no.* 2, 161–173. (Summary) **99a:62124** 62M05

Király, Zoltán (*with* Gyárfás, András; Lehel, Jenő) On-line 3-chromatic graphs. II. Critical graphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 99–122. (Summary) **99e:05049** 05C15

Kirane, Mokhtar (*with* Guedda, M.) Diffusion terms in systems of reaction diffusion equations can lead to blow up. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 325–327. (Shuichi Jimbo) **99c:35110** 35K57 (35B05)

— (*with* Kanel', Ya. I.) Pointwise a priori bounds for a strongly coupled system of reaction-diffusion equations with a balance law. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 13, 1227–1232. (Summary) **99d:35085** 35K57

Kirby, Chris (*with* Harvey, Campbell R.) Instrumental variables estimation of conditional beta pricing models. (English summary) *Statistical methods in finance*, 35–60, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62140** 62P20 (90A09)

Kirby, David The invariance of the ideal core$(a_1, \cdots, a_n)$ of a set of homogeneous polynomials. (English summary) *Arab J. Math. Sci.* **3** (1997), *no.* 2, 1–12. (Jaime-Luis Garcia-Roig) **99c:13034** 13D25

— The resultant and the Koszul complex of a set of forms. *Mathematika* **44** (1997), *no.* 2, 348–356. (Rafael H. Villarreal) **99c:13035** 13D25 (13P99)

— A sequence of complexes generated by a finite set of homogeneous polynomials. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 81–96. (Jaime-Luis Garcia-Roig) **99h:13018** 13D25

— (*with* Rees, David) The multiplicity of a set of homogeneous polynomials over a commutative ring. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 97–105. (Jaime-Luis Garcia-Roig) **99h:13031** 13H15 (13D25)

Kirby, V. G. (*with* Benammar, M.; Bennewitz, C. W.; Beynon, M. J.; Brown, B. Malcolm; Dias, N. G. J.; Evans, William Desmond; Everitt, W. N.; Littlejohn, Lance L.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities (Niš, 1996)*, 127–160, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)

Kirchberg, Eberhard (*with* Wassermann, Simon) C^*-algebras generated by operator systems. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 2, 324–351. (Michael Frank) **99f:46085** 46L05 (46B28, 46L35)

Kirchei, I. I. Fractional-rational regularization of a system of linear equations over the skew-field of quaternions. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 5, 2398–2403. (Summary) **99e:65073** 65F30

Kirchgässner, Klaus (*with* Dangelmayr, Gerhard; Fiedler, Bernold; Mielke, Alexander) ★ Dynamics of nonlinear waves in dissipative systems: reduction, bifurcation and stability. (English summary) With a contribution by G. Raugel. Pitman Research Notes in Mathematics Series, 352. *Longman, Harlow*, 1996. vi+277 *pp. ISBN* 0-582-22929-4 (Arnd Scheel) **99d:58002** 58–02 (35L70, 35Q55, 58Fxx, 76B15, 76E30)

— (*with* Iooss, Gérard) Ondes progressives périodiques dans une chaîne d'oscillateurs non linéaires couplés. (English and French summaries) [Periodic travelling waves in a chain of linearly coupled nonlinear oscillators] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 855–860. (From the introduction) **99k:34177** 34K30 (35Q99, 70K99)

— *see also* **Proceedings: Symposium on Structure and Dynamics of Nonlinear Waves in Fluids, 99m:76003**

Kirchgraber, Urs Als Poincaré, Hadamard und Perron die invarianten Mannigfaltigkeiten entdeckten. (German summary) [When Poincaré, Hadamard and Perron discovered invariant manifolds] *Math. Semesterber.* **44** (1997), *no.* 2, 153–171. (Janusz Mierczyński) **99c:01014** 01A55 (01A60, 34C30, 58–03)
— (*with* Sigrist, Niklaus) Feigenbaum-Universalität: Beschreibung und Beweisskizze. (German summary) [Feigenbaum universality: description and sketch of proof] *Math. Semesterber.* **45** (1998), *no.* 1, 39–59. (Volker Matthias Gundlach) **99e:58061** 58F03 (34C23, 58F13, 58F14)
Kirchheimová, Hana *see* **Riečan, Beloslav, 99e:28001**
Kirchherr, W. (*with* Gocka, E.; Schmeichel, Edward) A note on the road-coloring conjecture. (English summary) *Ars Combin.* **49** (1998), 265–270. (Summary) **99c:05062** 05C15
Kirchner, Claude (*with* Ringeissen, Christophe) Higher-order equational unification via explicit substitutions. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 61–75, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (Summary) **99d:68218** 68T15 (03B35, 03B40, 68N17)
— (*with* Ringeissen, Christophe) Rule-based constraint programming. (English summary) *Fund. Inform.* **34** (1998), *no.* 3, 225–262. 68N17 (68T20)
— (*with* Hintermeier, Claus; Kirchner, Hélène) Dynamically typed computations for order-sorted equational presentations. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 4, 455–526. (Summary) **99b:68105** 68Q40 (68Q65)
— *see also* **Workshop: Rewriting Logic and its Applications, 99h:68014**
Kirchner, Hélène Orderings in automated theorem proving. (English summary) *Mathematical aspects of artificial intelligence* (*Orlando, FL*, 1996), 55–95, *Proc. Sympos. Appl. Math.*, 55, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68162**) 68T15 (03B35)
— (*with* Hintermeier, Claus; Kirchner, Claude) Dynamically typed computations for order-sorted equational presentations. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 4, 455–526. (Summary) **99b:68105** 68Q40 (68Q65)
— *see also* **Workshop: Rewriting Logic and its Applications, 99h:68014**
Kirchner, Helmut The force on an elastic singularity in a non-homogeneous medium. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 993–998. (From the text) **99k:73049** 73C99 (73B27, 73B40, 73M25)
Kirchner, R. (*with* Montvay, I.; Westphalen, J.; Luckmann, S.; Spanderen, K.) Evidence for discrete chiral symmetry breaking in $N = 1$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 209–215. 81R40 (81T13, 81T80)
Kirchner, T. (*with* Kroneisen, O. J.; Lüdde, H. J.; Dreizler, R. M.) The basis generator method: optimized dynamical representation of the solution of time-dependent quantum problems. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2141–2156. (Summary) **99k:81160** 81S99
Kirchsteiger, Georg (*with* Güth, Werner; Ritzberger, Klaus) Imperfectly observable commitments in n-player games. (English summary) *Games Econom. Behav.* **23** (1998), *no.* 1, 54–74. (Akira Okada) **99f:90191** 90D06 (90A35, 90D10)
Kireev, S. V. (*with* Vel′misov, Petr A.; Kuznetsov, A. O.) Stability and bifurcation of a plate in a supersonic gas flow. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 41–46, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73K70 (73H05, 76J20)
Kireĭtov, V. R. The Cauchy, the Dirichlet and some inverse problems for the single-velocity Peierls equation of radiative transfer theory in a homogeneously absorbing and scattering medium with isotropic sources. (Russian) *Dokl. Akad. Nauk* **352** (1997), *no.* 2, 176–179. (Giovanni Crosta) **99d:82062** 82C70 (35Q99, 47G10, 47N55, 85A25)
— The stationary translationally invariant Peierls equation in radiation transfer theory in the space of slowly growing distributions, and some properties of the Peierls potential. I. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 3, 533–550, i–ii; *translation in Siberian Math. J.* **38** (1997), *no.* 3, 455–470. (Summary) **99c:31013a** 31B20 (85A25)
— The stationary translationally invariant Peierls equation in radiative transfer theory in the space of slowly growing distributions, and some properties of the Peierls potential. II. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 807–824, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 699–714. (Summary) **99c:31013b** 31B20 (85A25)
Kirfel, Christoph (*with* Han, Shu-Ping; Nathanson, Melvyn B.) Linear forms in finite sets of integers. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 271–281. (Vsevolod F. Lev) **99h:11011** 11B13 (11B05, 11B75)
Kiriaki, Kiriakie (*with* Athanasiadis, Christodoulos; Stratis, Ioannis G.) Electromagnetic wave propagation in stratified media and an application to the magnetotelluric problem. (English summary) *Math. Japon.* **47** (1998), *no.* 3, 405–416. (From the introduction) **99g:78017** 78A40 (34L40, 47E05, 86A20)
— (*with* Athanasiadis, Christodoulos; Stratis, Ioannis G.) A spectral-theoretic approach for the solution of Maxwell's equations in stratified media. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 8, 685–700. (B. Belinskiy) **99b:78008** 78A40 (35Q60, 78A50)
— (*with* Argyropoulos, E.; Roach, G. F.) A modified Green's-function technique for the exterior Dirichlet problem in linear elasticity. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 275–295. (Igor Yu. Chudinovich) **99g:73020** 73C02 (35Q72, 73D30)
Kiriakidis, Kiriakos (*with* Grivas, Apostolos; Tzes, Anthony) Quadratic stability analysis of the Takagi-Sugeno fuzzy model. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 1–14. (Summary) **99j:90115** 90D05 (90C70)
Kirichenko, N. F. (*with* Matvienko, V. T.) Optimal synthesis of structures for linear control systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 162–171, 299. 49N35 (49K15)
— (*with* Bondar′, S. V.) Recurrence of pseudo-inversion in the adaptation of control algorithms. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 72–78, 155. 93E12
— (*with* Kutsenko, A. A.; Chekotun, K. M.) Identification of the geometrical-topological features of images by the method of autocorrelation transformations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 138–152, 156. (Summary) **99d:68242** 68U10
— (*with* Sopronyuk, F. O.; Lazorik, V. V.) Structural methods for CAD for robotic processes. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2532–2536. (*see* **99e:00033**) 93C85 (70B15)
Kirichenko, V. F. (*with* Arsen′eva, O. E.) Self-dual geometry of generalized Hermitian surfaces. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 1, 21–44; *translation in Sb. Math.* **189** (1998), *no.* 1-2, 19–41. (J. T. Davidov) **99i:53066** 53C50 (53C25, 53C55)
Kirichenko, V. V. (*with* Mashchenko, L. Z.; Yaremenko, Yu. V.) Decomposition theorems for associative rings. (Russian. English summary) *Problems in algebra, No.* 11 (*Russian*), 42–47, *Gomel. Gos. Univ., Gomel′*, 1997. (*see* **99g:20007**) 16N40
Kirichenova, O. V. On the stability of solutions of nonlinear almost periodic systems of difference equations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 45–48, *i*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 39–41. (Summary) **99e:39023** 39A10
Kiriki, Shin (*with* Nakajima, Masaki) Research announcements of a multi-dimensional Hénon family. *Res. Act. Fac. Sci. Engrg. Tokyo Denki Univ.* **20** (1998), *no.* 1, 15–20. 58F13 (58F15)
Kirilich, V. M. (*with* Beregova, G. Ĭ.) The hyperbolic Stefan problem in a curvilinear sector. (Ukrainian. English and Ukrainian summaries) *Ukrain. Mat. Zh.* **49** (1997), *no.* 12, 1684–1689; *translation in Ukrainian Math. J.* **49** (1997), *no.* 12, 1899–1906 (1998). (Summary) **99m:35270** 35R35 (35L60, 80A22)
Kirillov, A. A. *see* **Kirillov, Aleksandr Aleksandrovich**
Kirillov, A. I. Functional integrals: rigorous results and computer evaluations. (English summary) *Path integrals: Dubna '96*, 85–94, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:81103** 81T08 (81–08, 81S40)
— (*with* Kanenaga, Masahiko; Mamakin, V. Yu.; Namiki, Mikio; Ohba, Ichiro; Polyachenko, E. V.; Zav′yalov, O. I.) On evaluation of path integrals for bottomless systems. (English summary) *Path integrals: Dubna '96*, 181–186, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40
— Generalized differentiable product measures. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 37–55; *translation in Math. Notes* **63** (1998), *no.* 1-2, 33–49. (A. V. Uglanov) **99f:46064** 46G12 (28C20, 82B05)
Kirillov, Aleksandr Albertovich Billiards in cosmological models. (English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 13–22. (Edoh Amiran) **99i:58136** 58F40 (58F13, 83F05)
— Topology fluctuations in quantum gravity as a dark matter. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 271–275, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C45
Kirillov, Aleksandr Aleksandrovich (*with* Anantharaman-Delaroche, Claire) Sur les relations entre l'espace dual d'un groupe et la structure de ses sous-groupes fermés (d'après D. A. Kajdan). (French summary) [Relations between the dual space of a group and the structure of its closed subgroups (after D. A. Kazhdan)] *Séminaire Bourbaki, Vol.* 10, *Exp. No.* 343, 507–528, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 22E40
— Geometric approach to discrete series of unirreps for Vir. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 8, 735–746. (Tomasz Rybicki) **99h:17027** 17B68
Kirillov, Alexander A., Jr. Lectures on affine Hecke algebras and Macdonald's conjectures. *Bull. Amer. Math. Soc.* (*N.S.*) **34** (1997), *no.* 3, 251–292. (Summary) **99c:17015** 17B20 (05E05, 05E35, 33D80)
— (*with* Frenkel, Igor B.; Varchenko, A. N.) Canonical basis and homology of local systems. (English summary) *Internat. Math. Res. Notices* **1997**, *no.* 16, 783–806. (From the introduction) **99j:17019** 17B37 (17B10)
— (*with* Etingof, Pavel) On Cherednik-Macdonald-Mehta identities. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 43–47 (*electronic*). (Summary) **99c:05194** 05E05 (05E35, 17B37)
Kirillov, Alexandre *see* **Kirillov, Aleksandr Aleksandrovich**
Kirillov, Anatol N. (*with* Kuniba, Atsuo; Nakanishi, Tomoki) Skew Young diagram method in spectral decomposition of integrable lattice models. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 441–465. (Kailash C. Misra) **99f:17016** 17B37 (05E10, 17B10, 82B23)
— (*with* Noumi, Masatoshi) Affine Hecke algebras and raising operators for Macdonald polynomials. *Duke Math. J.* **93** (1998), *no.* 1, 1–39. (Mark D. Haiman) **99j:05189a** 05E05 (33C80, 33D80)
— (*with* Kuniba, Atsuo; Nakanishi, Tomoki) Skew Young diagram method in spectral decomposition of integrable lattice models. II. Higher levels. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 611–638. (Wen-li Yang) **99m:17018** 17B37 (05E10, 82B23)
Kirillov, Sergeĭ Aleksandrovich Some estimates for orthonormal systems from BMO. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 223–230. (L. Leindler) **99f:42009** 42A16 (46E30)
— On a theorem of Marcinkiewicz and Zygmund. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 386–390; *translation in Math. Notes* **63** (1998), *no.* 3-4, 338–341. (Summary) **99d:42051** 42C10
Kirillova, E. V. (*with* Glushkov, E. V.) A dynamic mixed problem for a packet of elastic layers. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 455–461; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 419–425. 73C35 (73D99)
Kirillova, F. M. (*with* Gabasov, R.; Kostina, E. A.) Closable feedback with respect to state for optimization of uncertain control systems. II. Multiply closed feedback. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 90–99; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 2, 1137–1145 (1997). (Summary) **99a:49043** 49N35 (93C42)
— (*with* Balashevich, N. V.; Gabasov, R.) Positional solution of a linear problem of optimal hierarchical control. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 3–15; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 155–165. (Ryszard Gessing) **99k:49080** 49N35 (93A13)
— (*with* Balashevich, N. V.; Gabasov, R.) Synthesis of optimal feedback and stabilization of systems with delay in the control. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 139–150; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 133–143. (Summary) **99d:49066** 49N35 (93D15)
— (*with* Gabasov, R.; Kostina, E. A.) A method for constructing local points of Nash equilibrium in a linear game-theoretic problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 912–917; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 875–880. (Summary) **99e:90118** 90D10
— (*with* Gabasov, R.; Kostina, E. A.) An adaptive method for solving l_1-extremal problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1461–1472. (Summary) **99k:90153** 90C30 (49M30)

Kirilov, L. (*with* Vasil′ev, Vasil S.; Genova, K.) A method for solving a class of multiple-criteria analysis problems. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 245–254. (*see* **99k:49002**) 90C29

Kirilyuk, V. S. On an optimal configuration of parallel-series systems with two failure modes. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 108–113. (D. Bobrowski) **99m:90080** 90B25

Kirin, A. N. Analysis of the stability of time-delay systems by discrete approximation. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 94–107, 246–247, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 34K20

Kirin, N. E. On the theory of estimation and control in dynamical systems. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 108–112, 247, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 93B30 (93C15)

Kiritsis, Elias (*with* Kounnas, Costas) Infrared-regulated string theory and loop corrections to coupling constants. (English summary) *Strings '95* (*Los Angeles, CA*, 1995), 287–308, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81192** 81T30 (81T15)

— (*with* Obers, Niels A.) Heterotic/type-I duality in $D < 10$ dimensions, threshold corrections and D-instantons. (English summary) *J. High Energy Phys.* **1997**, *no.* 10, *Paper* 4, 70 *pp.* (*electronic*). (Daniel N. Kabat) **99m:81200** 81T30 (11F11, 83E30)

— (*with* Kounnas, Costas; Petropoulos, P. M.; Rizos, J.) Universality properties of $N = 2$ and $N = 1$ heterotic threshold corrections. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 141–171. (Summary) **99b:81196** 81T30

— (*with* Kounnas, Costas) Perturbative and non-perturbative partial supersymmetry breaking: $N = 4 \to N = 2 \to N = 1$. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 117–156. (Summary) **99g:81172** 81T30 (11F27, 81R40)

— (*with* Pioline, Boris) On R^4 threshold corrections in type IIB string theory and (p, q)-string instantons. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 509–534. (Summary) **99c:81194** 81T30 (11F37, 11Z05)

— ★ Introduction to superstring theory. With a preface by R. Gastmans, W. Troost and A. Van Proeyen. Leuven Notes in Mathematical and Theoretical Physics. Series B: Theoretical Particle Physics, 9. *Leuven University Press, Leuven*, 1998. *vi*+315 *pp. ISBN* 90-6186-894-7 (Douglas J. Smith) **99d:81121** 81T30 (81–01, 83E30)

— (*with* Pioline, Boris) U-duality and D-brane combinatorics. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 61–69. (Summary) **99a:81150** 81T30 (83E30)

Kirjackis, Edward G. Some variational formulas in the class $\widetilde{K}_n(E)$ and their applications. *Demonstratio Math.* **31** (1998), *no.* 2, 265–274. (U. D'Ambrosio) **99m:30046** 30C70

Kirjner-Neto, C. (*with* Polak, Elijah) On the conversion of optimization problems with max-min constraints to standard optimization problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 887–915 (*electronic*). (V. F. Dem′yanov) **99i:90086** 90C30 (65K05)

Kirk, Colleen (*with* Burton, T. A.) A fixed point theorem of Krasnoselskii-Schaefer type. (English summary) *Math. Nachr.* **189** (1998), 23–31. (S. N. Askhabov) **99a:47081** 47H10 (34K15, 45G10)

Kirk, Paul (*with* Livingston, Charles) Type 1 knot invariants in 3-manifolds. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 305–331. (Swatee Naik) **99h:57013** 57M25 (57N10)

Kirk, William A. (*with* Kim, Tae Hwa) Fixed point theorems for Lipschitzian mappings in Banach spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 53–62. (Tomás Domínguez Benavides) **99f:47080** 47H10 (47H09)

— Remarks on approximation and approximate fixed points in metric fixed point theory. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 167–178. (Summary) **99k:47142** 47H10

— (*with* Yañez, Carlos Martinez; Shin, Sang Sik) Asymptotically nonexpansive mappings. *Nonlinear Anal.* **33** (1998), *no.* !, 1–12. (Brailey Sims) **99g:47128** 47H09 (46B20, 47H10)

— Hölder continuity and minimal displacement. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 71–79. (Anita Walker) **99d:47053** 47H10 (54H25)

Kirkire, P. D. (*with* Sreehari, M.) Generating non-normal stable variables. *Frontiers in probability and statistics* (*Calcutta*, 1994/1995), 361–364, *Narosa, New Delhi*, 1998. (From the introduction) **99j:62016** 62E15 (60E07)

Kirkland, Stephen J. (*with* Neumann, Michael; Shader, Bryan L.) Bounds on the subdominant eigenvalue involving group inverses with applications to graphs. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 1–20. (Thomas H. Foregger) **99b:15010** 15A18

— (*with* Neumann, Michael; Shader, Bryan L.) On a bound on algebraic connectivity: the case of equality. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 65–76. (E. Seneta) **99c:15034** 15A45 (15A51, 60J10)

— (*with* Neumann, Michael; Shader, Bryan L.) Applications of Paz's inequality to perturbation bounds for Markov chains. (English summary) *Linear Algebra Appl.* **268** (1998), 183–196. (E. Seneta) **99a:15007** 15A51 (15A12, 60J10)

— (*with* Fallat, Shaun M.) Perron components and algebraic connectivity for weighted graphs. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 2, 131–148. (Summary) **99j:05140** 05C50 (05C40)

— (*with* Neumann, Michael) The M-matrix group generalized inverse problem for weighted trees. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 226–234 (*electronic*). (Summary) **99d:05062** 05C50 (15A09, 15A57)

— (*with* Gregory, David A.) Singular values of tournament matrices. (English summary) *Electron. J. Linear Algebra* **5** (1999), 39–52 (*electronic*). (Wayne M. Dymacek) **99m:05106** 05C50 (05C20, 15A18)

— *see also* **Proceedings: Conference of the International Linear Algebra Society, 99a:00039**

Kirkman, T. P. *see* **Anderson, Ian**

Kirkpatrick, D. G. (*with* Madhukar Reddy, K.; Pandu Rangan, C.; Srinivasan, Anand) Partial and perfect path covers of cographs. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 143–153. (Michael E. Raines) **99m:05127** 05C70

Kirkpatrick, Kimberly S. (*with* Hoffman, Dean G.) G-designs of order n and index λ where G has 5 vertices or less. (English summary) *Australas. J. Combin.* **18** (1998), 13–37. (Chris Rodger) **99i:05054** 05B30

Kirkup, Stephen ★ The boundary element method in acoustics. (English summary) A development in Fortran. With 1 IBM-PC floppy disc (3.5 inch; HD). Integral Equation Methods in Engineering, 1. *Integrated Sound Software, Hebden Bridge*, 1998. *viii*+136+*Axii pp. ISBN* 0-9534031-0-6 76M15 (76–04, 76Q05)

— Fortran codes for computing the discrete Helmholtz integral operators. (English summary) *Adv. Comput. Math.* **9** (1998), *no.* 3-4, 391–409. 65–04 (65R20)

Kırlangıç, Alpay On covering number of a graph. (English and Turkish summaries) *J. Fac. Sci. Ege Univ. Fen. Fak. Derg. Ser. A-B* **20** (1997), *no.* 1-2, 63–67. 05C70

Kirnasovs′kiĭ, O. Yu. Properties of composite powers of the polynomial $x^2 - 2$ over arbitrary fields. (Ukrainian) *Mathematics today '94, No.* 9 (*Ukrainian*), 140–151, "*Vishcha Shkola*", *Kiev*, 1995. (Ivan V. Arzhantsev) **99d:11023** 11C08 (11A41)

Kirpichenkov, V. Ya. *see* **Reminiscences about Il′ya Mikhaĭlovich Lifshits**

Kirpichnikov, B. K. (*with* Malafeev, O. A.; Mash′yanov, G. B.) Dynamic programming in a renewal problem with gains. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 41–45, *Yakut.sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 90A09 (90C39)

Kirr, Eduard Existence and continuous dependence on data of the positive solutions of an integral equation from biomathematics. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 59–72. (George Karakostas) **99e:45006** 45G10 (92D30)

— Periodic solutions for perturbed Hamiltonian systems with superlinear growth and impulsive effects. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 55–65. (Anna Capietto) **99h:34064** 34C25 (34A37, 34B15, 58F22)

Kirsch, Andreas ★ An introduction to the mathematical theory of inverse problems. (English summary) Applied Mathematical Sciences, 120. *Springer-Verlag, New York*, 1996. x+282 *pp. ISBN* 0-387-94530-X (John Adam) **99c:34023** 34A55 (00A05, 00A69, 35R30, 47N20, 65M30)

— Characterization of the shape of a scattering obstacle using the spectral data of the far field operator. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1489–1512. (Alexander Yurjevich Chebotarev) **99k:35193** 35R30 (35J05, 65N12, 76Q05, 78A45)

— (*with* Päivärinta, Lassi) On recovering obstacles inside inhomogeneities. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 7, 619–651. (P. A. Mishnayevskiy) **99b:35214** 35R30 (35J05, 35P25)

— (*with* Monk, P. B.) Corrigendum: "A finite element/spectral method for approximating the time-harmonic Maxwell system in $\mathbf{R}^3$" [SIAM J. Appl. Math. **55** (1995), no. 5, 1324–1344; MR 96j:65124]. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 2024–2028 (*electronic*). (Summary) **99h:65192** 65N30 (78–08, 78A45)

— (*with* Ritter, Stefan) The Nyström method for solving a class of singular integral equations and applications in 3D-plate elasticity. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 2, 177–197. (Nikolay Y. Tikhonenko) **99k:65117** 65R20 (45L05, 73K10)

Kirsch, Werner (*with* Khorunzhiĭ, A. M.) Limit of infinite band width for product of two random matrices. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 4, 325–336. (V. I. Serdobol′skiĭ) **99b:60050** 60F99

— (*with* Stollmann, Peter; Stolz, Günter) Anderson localization for random Schrödinger operators with long range interactions. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 495–507. (Frédéric Klopp) **99e:82051** 82B44 (47B39, 47B80, 47N50, 81Q10)

— (*with* Stollmann, Peter; Stolz, Günter) Localization for random perturbations of periodic Schrödinger operators. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 3, 241–268. (Frédéric Klopp) **99c:82038** 82B44 (35J10, 35R60, 47B80, 47F05)

Kirschenhofer, Peter (*with* Prodinger, Helmut; Szpankowski, Wojciech) Analysis of a splitting process arising in probabilistic counting and other related algorithms. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 4, 379–401. (A. Ya. Olenko) **99c:05021** 05A99

— (*with* Prodinger, Helmut; Martínez, Conrado) Analysis of Hoare's FIND algorithm with median-of-three partition. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 143–156. (Jean-Luc Lambert) **99c:68063** 68P10

— (*with* Grabner, Peter J.; Prodinger, Helmut) The sum-of-digits function for complex bases. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 20–40. (M. Mendès France) **99e:11010** 11A63

Kirschner, Denise (*with* Morgan, J. J.) Solution of the asymmetric mixing problem. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 725–736 (*electronic*). (K. Gopalsamy) **99g:92027** 92D25 (45G10, 92D40)

Kirstein, Bernd (*with* Fritzsche, Bernd; Krug, Vera) On several types of resolvent matrices of nondegenerate matricial Carathéodory problems. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 137–170. (Daniel Alpay) **99h:47023** 47A57 (30E05)

müller-Kirsten, H. J. W. *see* **Müller-Kirsten, H. J. W.**

Kirsten, Klaus (*with* Holthaus, Martin; Kalinowski, Eva) Condensate fluctuations in trapped Bose gases: canonical vs. microcanonical ensemble. (English summary) *Ann. Physics* **270** (1998), *no.* 1, 198–230. (Summary) **99h:82004** 82B05 (11Z05)

— (*with* Bordag, M.; Vasilevich, D. V.) Path-integral quantization of electrodynamics in dielectric media. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2381–2389. (Summary) **99a:81197** 81V10 (81S40)

Kirtadze, A. P. (*with* Pantsulaya, G. R.) On uniquely definable extensions of invariant measures in the space $\mathbf{R}^N$. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 189–192 (1995). 28A12 (28D99)

Kirvalidze, V. The Dirichlet problem for Stokes equation in a domain exterior to an open surface. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1257–1269. (Rodolfo Salvi) **99a:35201** 35Q30 (35J25, 76D07)

— The Neumann problem for Stokes equation in a domain exterior to an open surface. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 1, 14–17. (Summary) **99g:76036** 76D05 (35Q30, 76D07)

Kirwan, Frances Momentum maps and reduction in algebraic geometry. (English summary) Symplectic geometry. *Differential Geom. Appl.* **9** (1998), *no.* 1-2, 135–171. (Michel Brion) **99e:58072** 58F05 (14D20, 14L30, 58F06)

Kiryakova, Virginia S. All the special functions are fractional differintegrals of elementary functions. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5085–5103. (Om P. Singh) **99d:33004** 33C20 (33C60)

— (*with* Saigo, Megumi; Owa, Shigeyoshi) Distortion and characterization theorems for starlike and convex functions related to generalized fractional calculus. New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 25–46. (H. M. Srivastava) **99f:30023** 30C45 (26A33)

— (*with* Dimovski, I. H.) Obrechkoff's generalization of the Laplace and Meijer transforms: origins and recent developments. (English summary) *Transform methods & special functions, Varna '96*, 557–576, *Bulgarian Acad. Sci., Sofia*, 1998. (P. P. Teodorescu) **99m:01024** 01A60 (44–03, 44A10)

— (*with* Al-Saqabi, Bader) Explicit solutions of fractional integral and differential equations involving Erdélyi-Kober operators. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 1–13. (Summary) **99b:34001** 34A05 (26A33, 34A25, 45D05)

— (*with* Saigo, Megumi; Srivastava, Hari M.) Some criteria for univalence of analytic functions involving generalized fractional calculus operators. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 1, 79–104. (R. K. Raina) **99k:30021** 30C45 (26A33)

— (*with* Ivanov, G. P.) Fractional calculus and Mittag-Leffler functions: some applications in control theory. (English summary) *Applications of mathematics in engineering (Sozopol*, 1998), 117–123, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 93B28

— *see also* **Transform methods & special functions, 99i:00031**

Kir'yatskis, E. *see* **Kirjackis, Edward G.**

Kiryushin, V. V. (*with* Gogosov, V. V.; Grishanina, O. A.; Simonovskii, A. Ya.) Theoretical description of the free surface shapes of a magnetic fluid, surrounding a magnetizable plate in an external magnetic field. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 1, 43–49. 76W05

Kis, Z. (*with* Janszky, J.; Adam, Peter) Star states. (English summary) Fundamental Problems in Quantum Theory Workshop (Baltimore, MD, 1997). *Fortschr. Phys.* **46** (1998), *no.* 6-8, 829–835. (*see* **99j:81007**) 81V80

Kisačanin, Branislav ★ Mathematical problems and proofs. Combinatorics, number theory, and geometry. The University Series in Mathematics. *Plenum Press, New York*, 1998. *xvi*+220 *pp. ISBN* 0-306-45967-1 (From the preface) **99j:00001** 00A05 (00A08, 05–01, 11–01)

Kisaka, Masashi On the connectivity of Julia sets of transcendental entire functions. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 189–205. (Zhuan Ye) **99a:30033** 30D05 (58F23)

Kisbye, N. P. (*with* Miatello, R. J.) On the residues and special values of Poincaré series. (English summary) *Indag. Math. (N.S.)* **9** (1998), *no.* 1, 35–53. (Jae-Hyun Yang) **99d:11040** 11F12 (11F11, 22E45)

Kischka, Peter *see* **Proceedings: Operations Research, 99d:90008**

Kise, Hiroshi (*with* Cheng, Jin-Liang) Optimal scheduling for a flexible manufacturing cell. (English summary) *J. Mong. Math. Soc. No.* 3 (1999), 55–64. 90B35

Kiselev, A. B. On the numerical integration of equations of the flow of a hardening elastoplastic medium. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995,** *no.* 4, 71–74, 113. (Summary) **99e:73101** 73V15 (73E05)

Kiselev, Aleksei P. Nondispersive edge modes. (English summary) *Wave Motion* **29** (1999), *no.* 2, 111–117. (Summary) **99k:78020** 78A40 (35L05)

Kiselev, Alexander (*with* Christ, Michael; Remling, Christian) The absolutely continuous spectrum of one-dimensional Schrödinger operators with decaying potentials. *Math. Res. Lett.* **4** (1997), *no.* 5, 719–723. (Günter Stolz) **99b:34139** 34L40 (47E05, 81Q10)

— (*with* Last, Yoram; Simon, Barry) Modified Prüfer and EFGP transforms and the spectral analysis of one-dimensional Schrödinger operators. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 1–45. (Günter Stolz) **99g:34167** 34L40 (39A70, 47B39, 47B80, 47E05, 81Q10)

— Stability of the absolutely continuous spectrum of the Schrödinger equation under slowly decaying perturbations and a.e. convergence of integral operators. *Duke Math. J.* **94** (1998), *no.* 3, 619–646. (Christian Remling) **99h:34124** 34L40 (42B25, 47E05, 47G10, 81Q10)

— (*with* Christ, Michael) Absolutely continuous spectrum for one-dimensional Schrödinger operators with slowly decaying potentials: some optimal results. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 4, 771–797. (Günter Stolz) **99g:34166** 34L40 (42B20, 81Q10, 81Q15)

— An interpolation theorem related to the a.e. convergence of integral operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1781–1788. (Luboš Pick) **99i:47055** 47B38 (34L05, 34L40, 42B25)

Kiselev, O. N. (*with* Le Khung Lan; Polyak, B. T.) Frequency characteristics under parametric uncertainty. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 4, 155–174; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 645–661. (Summary) **99d:93050** 93D09 (93C41, 93C80)

Kiselev, Oleg M. Asymptotic behavior of the solution of a system of Davey-Stewartson II equations in the soliton-free case. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 812–819, 863; *translation in Differential Equations* **33** (1997), *no.* 6, 815–823 (1998). (Vitaly B. Moroz) **99c:35224** 35Q55

— (*with* Zigangareeva, L. M.) On semi-infinite bodies of revolution that are streamlined at maximal critical Mach number. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 97–107; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 93–102. (Summary) **99b:76077** 76N15

— The interaction of a kink with a breather of small amplitude in the φ^4-model. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 1, 29–46 (1998). (Woodford W. Zachary) **99i:35132** 35Q40 (35C20, 81Q05)

Kiselev, V. G. (*with* Shnir, Ya. M.) Forced topological nontrivial field configurations. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5174–5183. 81T10

Kiselev, V. V. (*with* Borisov, A. B.) Vortex dipoles on a soliton lattice background: solution of the boundary-value problem by inverse spectral transform. (English summary) *Phys. D* **111** (1998), *no.* 1-4, 96–128. (Peter L. Christiansen) **99d:82078** 82D55 (35Q53)

Kiselëv, Yu. N. Analytic construction of controllers for nonlinear control systems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1997,** *no.* 2, 28–31, 48; *translation in Moscow Univ. Comput. Math. Cybernet.* **1997,** *no.* 2, 37–43. (From the introduction) **99f:49057** 49N35 (93B51)

— (*with* van den Berg, Hugo A.; Kooijman, S. A. L. M.; Orlov, M. V.) Optimal allocation between nutrient uptake and growth in a microbial trichome. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 28–48. (Summary) **99f:92006** 92C40 (49N55, 92D25)

— (*with* Orlov, M. V.) Optimal control problems with singular regimes for a model in microbiology. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998,** *no.* 3, 23–26, 52. (Summary) **99g:49036** 49N55 (92C40)

Kiseleva, E. M. (*with* Kuznetsov, K. A.) On the solution of the continuous stochastic problem of optimal partitioning with reconstruction of the objective function. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 6, 81–88, 151. (Summary) **99k:90156** 90C30 (90C15)

Kiseliev, V. V. *see* **Kiselev, V. V.**

Kiselman, Christer O. Duality of functions defined in lineally convex sets. (English and Esperanto summaries) *Univ. Iagel. Acta Math. No.* 35 (1997), 7–36. (Ragnar Sigurdsson) **99a:32013** 32F05 (32E99)

— A differential inequality characterizing weak lineal convexity. *Math. Ann.* **311** (1998), *no.* 1, 1–10. (Marshall A. Whittlesey) **99c:32016** 32E99 (32F15)

Kishi, Yasuhiro Characteristics of quadratic fields whose class numbers are divisible by 3. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 151–155. (*see* **99d:11001**) 11R11 (11R29)

Kishimoto, Akitaka (*with* Bratteli, Ola; Elliott, George A.; Evans, David E.) Homotopy of a pair of approximately commuting unitaries in a simple C^*-algebra. (English summary) *J. Funct. Anal.* **160** (1998), *no.* 2, 466–523. (Carla Farsi) **99m:46132** 46L05 (46L80)

— Automorphisms of AT algebras with the Rohlin property. (English summary) *J. Operator Theory* **40** (1998), *no.* 2, 277–294. (Yasuyuki Kawahigashi) **99j:46073** 46L40 (46L35, 46L55)

— (*with* Kumjian, Alex) The Ext class of an approximately inner automorphism. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4127–4148. (Beatriz Abadie) **99e:46081** 46L40 (46L80)

Kishimoto, Isao (*with* Sasakura, Naoki) M-theory description of BPS string in 7-brane background. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 305–309. (Summary) **99d:81122** 81T30 (53C80, 83E30)

Kishimoto, Iwao The Morse index theorem for Carnot-Carathéodory spaces. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 287–293. (Fernand Pelletier) **99j:58041** 58E05 (53C22, 58E10)

Kishimoto, Wataru (*with* Desmedt, Yvo; King, Brian; Kurosawa, Kaoru) A comment on the efficiency of secret sharing scheme over any finite abelian group. (English summary) *Information security and privacy (Brisbane*, 1998), 391–402, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94042** 94A60

Kishinevsky, Michael (*with* Cortadella, Jordi; Lavagno, Luciano; Yakovlev, Alexandre V.) Deriving Petri nets from finite transition systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 859–882. (Summary) **99e:68111** 68Q90 (68Q10)

Kishino, Hirohisa (*with* Bar-Hen, Avner) Maximum likelihood procedure adapted to sampling schemes. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 277–286. 62D05

Kishkis, K. *see* **Kiškis, Kęstutis**

Kisielewicz, Andrzej Easy planarity testing for ordered sets. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 151–156, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C35

— Austin identities. *Algebra Universalis* **38** (1997), *no.* 3, 324–328. (Katarzyna Hałkowska) **99j:03026** 03C05 (08B05)

— Symmetry groups of Boolean functions and constructions of permutation groups. (English summary) *J. Algebra* **199** (1998), *no.* 2, 379–403. (Peter M. Neumann) **99b:20002** 20B05 (06E30, 20B35)

— Unification in commutative semigroups. (English summary) *J. Algebra* **200** (1998), *no.* 1, 246–257. (Yves Metivier) **99g:20107** 20M14

Kisielewicz, Michał Some remarks on boundary value problem for differential inclusions. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 43–49. (Markus Kunze) **99k:34034** 34A60 (34B15, 54C65)

— Stochastic differential inclusions. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 51–65. (Summary) **99b:60099** 60H99 (34A60, 34F05, 93E03)

Kisil, Vladimir V. (*with* Prezhdo, Oleg V.) Mixing quantum and classical mechanics. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 1, 162–175. (Oleg Yu. Shvedov) **99j:81010** 81P05 (81S99)

— How many essentially different function theories exist? (English summary) *Clifford algebras and their application in mathematical physics (Aachen*, 1996), 175–184, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Igor M. Mitelman) **99g:30057** 30G35

— Relativistic quantization and improved equation for a free relativistic particle. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 1, 69–80. (Summary) **99c:81117** 81S30

Kisilevich, A. (*with* Golod, P. I.; Kondratyuk, S.) An orbit structure for integrable equations of homogeneous and principal hierarchies. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 343–352, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Stanislav Z. Pakuliak) **99c:58068** 58F07

Kisilevsky, H. Olga Taussky-Todd's work in class field theory. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997,** *Special Issue*, 219–224. (Kiyoshi Nagata) **99g:11134** 11R37 (11–03)

— A generalization of a result of Sinnott. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997,** *Special Issue*, 225–229. (Kuniaki Horie) **99d:11119** 11R23 (11R58)

Kisilyov, Yu. N. (*with* Avvakumov, S. N.) Solution of systems of nonlinear equations using a Chebyshev series. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 1–20. 65H05

Kisin, Mark Centralisers of Galois group actions. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 363–365. (Summary) **99a:12004** 12F10 (12E05)

— Analytic functions on Zariski open sets, and local cohomology. (English summary) *J. Reine Angew. Math.* **506** (1999), 117–144. (Reinhold Hübl) **99m:32012** 32C36 (32C35, 32P05)

Kisin, Vitaly *see* **Martynov, G. A., 99e:82001** *and* **Novikov, Igor D., 99i:83001**

Kiškis, Kęstutis (*with* Čiegis, Raimondas) On the stability of additive difference schemes with respect to boundary data. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **37** (1997), *no.* 4, 483–494; *translation in Lithuanian Math. J.* **37** (1997), *no.* 4, 364–373 (1998). (Meng Zhao Qin) **99g:65094** 65M12 (65M06)

Kislovskaya, N. M. (*with* Khmeleva, L. E.) The additive group of the endomorphism ring of an abelian group. (Russian. Russian summary) *Algebras, groups and varieties* (*Russian*), 38–48, 81, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 20K30
— (*with* Khmeleva, L. E.) Splittable abelian groups. (Russian. Russian summary) *Algebras, groups and varieties* (*Russian*), 49–58, 82, *Dal'nevostochn. Gos. Univ., Vladivostok*, 1992. (*see* **99k:00020**) 20K30
Kislyakov, S. V. Bourgain's analytic projection revisited. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3307–3314. (Oscar Blasco) **99a:46039** 46E15 (30D55)
Kiss, Attila (*with* Achs, Ágnes) A fuzzy extension of Datalog. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 111–138 (1999). (Summary) **99m:68028** 68N17 (03B52, 03B70)
Kiss, B. (*with* Krebsz, A.) On a Toeplitz representation of the $H^{1/2}$ norm. (English summary) *Period. Math. Hungar.* **34** (1997), *no.* 3, 201–210. (Zdeněk Dostál) **99d:65350** 65N55 (46E39, 46N40, 65F35)
Kiss, Emil W. An introduction to tame congruence theory. (English summary) *Algebraic model theory* (*Toronto, ON*, 1996), 119–143, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (S. Comer) **99d:03028** 03C05 (03B25, 03C60, 08–02, 08A30)
— (*with* Pálfy, P. P.) A lattice of normal subgroups that is not embeddable into the subgroup lattice of an abelian group. *Math. Scand.* **83** (1998), *no.* 2, 169–176. (Giovanni Zacher) **99m:20059** 20E15
— (*with* Kearnes, Keith A.) Modularity prevents tails. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 11–19. (Branimir Šešelja) **99m:08003** 08A05 (08A30, 08B10)
Kiss, K. The equivalence of P and P_1-matrices in a special case. (English summary) *Differential Equations Dynam. Systems* **6** (1998), *no.* 3, 303–308. (Summary) **99i:34072** 34D20 (92D25)
Kiss, Péter An approximation problem concerning linear recurrences. (English summary) *Number theory* (*Eger*, 1996), 289–293, *de Gruyter, Berlin*, 1998. (Robert F. Tichy) **99d:11089** 11K60 (11J86)
— (*with* Jones, James P.) Some new identities and congruences for Lucas sequences. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 39–47. (Lawrence Somer) **99g:11022** 11B39
Kiss, Tamás (*with* Leonhardt, U.; Bardroff, Patrick J.) State reconstruction of wave packets moving in time-dependent potentials and the existence of Wronskian pairs. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 411–418. 81Q99
Kissin, Edward (*with* Shulman, Viktor S.) ★ Representations on Krein spaces and derivations of C^*-algebras. (English summary) Pitman Monographs and Surveys in Pure and Applied Mathematics, 89. *Longman, Harlow*, 1997. xii+602 *pp. ISBN* 0-582-23157-4 (Aurelian Gheondea) **99d:46091** 46L57 (47B50, 47D20, 81S05)
— (*with* Shulman, Viktor S.) Differential Banach $*$-algebras of compact operators associated with symmetric operators. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 1, 1–29. (Geoffrey Price) **99h:47052** 47D25 (46K05, 46L57, 47B47, 47D40)
— Derivations of C^*-algebras and representations on deficiency spaces of skew-symmetric operators. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 2, 476–496. (Victor S. Shul'man) **99f:47045** 47B99 (46L57, 47B47, 47B50, 47E05)
Kistler, Werner M. (*with* van Hemmen, J. Leo) An analytically solvable model of collective excitation patterns in cortical tissue. *A perspective look at nonlinear media*, 244–270, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (*see* **99d:00025**) 92C15
Kistovich, A. V. (*with* Chashechkin, Yu. D.) Diffusion-induced transient boundary flows in a wedge-shaped trough. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 803–809; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 743–748 (1999). (Summary) **99m:76105** 76R50
— (*with* Chashechkin, Yu. D.) The exact stucture of boundary flows in media with diffusion and heat conduction. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 54–63; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 528–535 (1999). (Summary) **99j:76031** 76D10 (76Rxx)
Kistovich, Yu. V. (*with* Chashechkin, Yu. D.) Monochromatic internal waves in an arbitrarily stratified viscous fluid. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 112–115. 76V05 (76C10, 86A05)
— (*with* Chashechkin, Yu. D.) Localized and bulk internal waves in a stratified fluid bordering a mixed layer. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 257–262; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 237–241. (Summary) **99m:76040** 76C10 (76V05)
— (*with* Chashechkin, Yu. D.) Linear theory of the propagation of internal wave packets in an arbitrarily stratified fluid. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 5, 88–98. (Summary) **99m:76041** 76C10 (76V05)
Kisun'ko, A. G. (*with* Vshivtsev, A. S.; Klimenko, K. G.; Peregudov, D. V.) Phase structure of the Gross-Neveu model taking into account the influence of temperature and finite volume. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 29–45; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 113–128. (Summary) **99c:81146** 81T16 (11E45, 11Z05, 81T10)
Kisyński, Jan (*with* Chojnacki, Wojciech) On the Favard classes of semigroups associated with pseudo-resolvents. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 3-4, 681–696. (A. G. Baskakov) **99m:47046** 47D06 (46J10, 47A10)
Kit, G. S. (*with* Maksimuk, A. V.) The method of Volterra integral equations in contact problems for thin-walled structural elements. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 1, 1863–1864. 73T05
Kit, H. S. (*with* Kunets, Ya. I.; Emets, V. F.) Elastodynamic scattering from a thin-walled inclusion of low rigidity. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 3, 331–345. 73D25
Kita, Eisuke (*with* Kamiya, Norio; Iio, Takeyoshi) Application of direct Trefftz method to two-dimensional potential problem. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 6, 1870–1878. (Summary) **99d:65338** 65N38
Kita, Hiroō On maximal operator of partial sums of Fourier series in Orlicz spaces. *Acta Math. Hungar.* **77** (1997), *no.* 1-2, 1–13. (Alberto Fiorenza) **99b:42005** 42A20 (46E30)
— On interpolation of the Fourier maximal operator in Orlicz spaces. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 3, 175–193. (Javier Duoandikoetxea) **99j:42012** 42B05 (42B25, 46E30, 46M35)
— Integrability properties of the maximal operator on partial sums of Fourier series in Orlicz spaces. (English summary) *Math. Nachr.* **193** (1998), 57–74. (Alberto Fiorenza) **99g:42021** 42B25 (46E30)
Kita, Michitake (*with* Matsumoto, Keiji) Duality for hypergeometric functions and invariant Gauss-Manin systems. (English summary) *Compositio Math.* **108** (1997), *no.* 1, 77–106. (V. Leksin) **99k:33047** 33C80 (32G34, 33C65)
Kita, Naoyasu Existence and univalence of solutions to nonlinear Schrödinger equations with nonlinear terms containing derivatives. (Japanese) Spectral-scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1047 (1998), 77–98. (*see* **99i:00030**) 35Q55
Kitada, Hitoshi Quantum mechanics and relativity: their unification by local time. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 39–66, *Plenum, New York*, 1998. (Hiroshi Isozaki) **99e:81034** 81P99
Kitada, Toshiyuki (*with* Ebihara, Y.) On the behavior of explicit solutions of quasilinear hyperbolic-elliptic equations with convective term. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 1, 225–243. (Summary) **99d:35110** 35M10
— On the behavior of explicit solutions of quasilinear hyperbolic-elliptic equations with quadratic convection. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 81–93. (Summary) **99b:35156** 35M10 (35B40)
Kitaev, A. *see* **Kitaev, A. Yu.**
Kitaev, A. V. (*with* Vartanian, A. H.) Leading-order temporal asymptotics of the modified nonlinear Schrödinger equation: solitonless sector. (English summary) *Inverse Problems* **13** (1997), *no.* 5, 1311–1339. (Summary) **99g:35119** 35Q55 (34L25)
— (*with* Andreev, F. V.) On connection formulas for the asymptotics of some special solutions of the fifth Painlevé equation. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsii.* 28, 19–29, 338. (From the introduction) **99g:34013** 34A20 (34E05)
— (*with* Korotkin, D. A.) On solutions of the Schlesinger equations in terms of Θ-functions. *Internat. Math. Res. Notices* **1998**, *no.* 17, 877–905. (Emma Previato) **99j:14032** 14H42 (32G34, 33E05, 34A20, 58F07)
— (*with* Babujian, H. M.) Generalized Knizhnik-Zamolodchikov equations and isomonodromy quantization of the equations integrable via the inverse scattering transform: Maxwell-Bloch system with pumping. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2499–2506. (Dmitri Korotkin) **99c:81263** 81U40 (32G34, 33C90, 35Q60, 81V80)
Kitaev, A. Yu. (*with* Baladi, V.; Ruelle, David; Semmes, Stephen) Sharp determinants and kneading operators for holomorphic maps. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 193–235. (Alexander Fel'shtyn) **99f:58163** 58F19 (58F20)
— Quantum computations: algorithms and error correction. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 53–112; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1191–1249. (V. Ya. Kreinovich) **99a:68061** 68Q05 (81P99, 94B60)
Kitaev, Mikhail Yu. (*with* Frolov, G. A.) Improvement of accuracy in numerical methods for inverting Laplace transforms based on the Post-Widder formula. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 23–34. (Fritz Keinert) **99f:65198** 65R10
— (*with* Frolov, G. A.) A problem of numerical inversion of implicitly defined Laplace transforms. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 35–44. (Summary) **99d:65362** 65R10 (65R30)
Kitagaki, Kosei (*with* Liu, Yun-Hui; Arimoto, Suguru; Parra-Vega, Vicente) Decentralized adaptive control of multiple manipulators in co-operations. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 649–673. 93A14 (93C40)
Kitagawa, Genshiro (*with* Gersch, Will) General state space modeling. *Statistical methods in control and signal processing*, 37–81, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93A30 (93E03)
— (*with* Ishiguro, Makio; Sakamoto, Yosiyuki) Bootstrapping log likelihood and EIC, an extension of AIC. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 411–434. (Summary) **99c:62040** 62F03 (62G09)
— *see also* **Akaike, Hirotugu**, **99h:01040**
Kitagawa, Seinosuke (*with* Fukushima, Katsuhiko) A generalization of the Newton-Raphson method. (Japanese) *Sūgaku* **50** (1998), *no.* 2, 211–214. 65H05
Kitagawa, Takashi (*with* Nakata, Susumu; Hosoda, Yohsuke) A Tikhonov regularization method involving rank-revealing QR decomposition. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 212–219. (*see* **99i:00028**) 65H10
Kitahama, Akihiro (*with* Matsuzuka, Isamu; Nagasawa, Koji) A proposal for two-sided Laplace transforms and its application to electronic circuits. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 1–11. (Summary) **99h:44003** 44A10 (94C05)
Kitahara, Haruo ★ Some topics on Carnot-Caratheodory metrics. Revised reprint of the 1996 original. Lecture Notes Series, 36. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *ii*+81 *pp.* 53C22 (58E10)
— (*with* Pak, Hong Kyung) Notes on vanishing theorems on Riemannian manifolds with boundary. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 831–841. (De Tang Zhou) **99m:58190** 58G20
Kitahara, Kazuaki (*with* Kuri, Ken-ichi; Sakamori, Yasuhiro) On a characterization of Chebyshev polynomials. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 565–568. 41A10
Kitakado, Shinsaku (*with* Ikemori, Hitoshi; Nakatani, Hajime; Otsu, Hideharu; Sato, Toshiro[2]) Quantum mechanics on S^n and meron solution. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 1, 15–21. (Bernd J. Schroers) **99h:81101** 81S10 (81T10)
Kitamoto, Takuya Approximate algebra and its applications to the design of control systems. (Japanese. Japanese summary) *Systems Control Inform.* **42** (1998), *no.* 12, 668–676. 93B25 (93B40)
Kitamura, Yoshimi A note on maximal quotient rings of finite normalizing quasi-Frobenius extensions. (English summary) *Bull. Tokyo Gakugei Univ.* (4) **50** (1998), 29–31. (Summary) **99i:16038** 16L60 (16S20)
— Torsion theories of quasi-Frobenius extensions. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2191–2198. (M. M. Parmenter) **99c:16027** 16S90 (16L60)
Kitamura, Yuichi[2] Empirical likelihood methods with weakly dependent processes. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2084–2102. (Claudia Klüppelberg) **99a:62131** 62M10 (62E20, 62G10)

— (*with* Stutzer, Michael) An information-theoretic alternative to generalized method of moments estimation. (English summary) *Econometrica* **65** (1997), *no.* 4, 861–874. (Manfred Kraft) **99a:62024** 62F10 (62B10, 62P20)

Kitanin, N. A. (*with* Izergin, A. G.; Kapitonov, V. S.) Simultaneous temperature correlators of the one-dimensional Heisenberg XY chain. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 173–206, 285. (Nicolae Angelescu) **99f:82011** 82B20

— (*with* Izergin, A. G.; Karjalainen, Esa) Integrable equations for the partition function of a six-vertex model. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 207–215, 285. (Marek Biskup) **99e:82028** 82B23 (58F07, 82B20)

— Form factors of the q-boson model in the crystallization limit. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 231–246, 286–287. (Konstantin G. Selivanov) **99d:81055** 81R50 (81U40, 82B20)

— (*with* Bogolyubov, N. M.; Izergin, A. G.) Correlation functions for a strongly correlated boson system. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 501–528. (Marek Biskup) **99f:82017** 82B23 (82B20)

Kitanov, P. M. (*with* Plotnikov, V. A.) Continuous dependence of solutions of quasidifferential equations with impulses. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 1-2, 79–85. (Lidia Skóra) **99b:34026** 34A37 (34A12)

— (*with* Plotnikov, V. A.) Bogolyubov's theorem for quasidifferential equations with impulses. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1504–1511; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1688–1696 (1998). (Yuri V. Rogovchenko) **99m:34013** 34A37 (34C29)

— (*with* Plotnikov, V. A.) Continuous dependence of solutions of quasidifferential equations with non-fixed time of impulses. (English summary) *Serdica Math. J.* **24** (1998), *no.* 2, 153–162. (Summary) **99m:34014** 34A37 (34A12, 34A60)

Kitao, Takuhiro (*with* Ohta, Nobuyoshi; Zhou, Jian-Ge) Fermionic zero mode and string creation between D4-branes at angles. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 68–74. (Summary) **99c:81195** 81T30

Kitaoka, Keiichiro (*with* Kuroki, Nobuaki) The lower and the upper approximations in vector spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 261–282. (Rafael Canto) **99g:15003** 15A03 (15A04)

Kitaoka, Yoshiyuki (*with* Fujii, Akio) On plain [plane] lattice points whose coordinates are reciprocals modulo a prime. (English summary) *Nagoya Math. J.* **147** (1997), 137–146. (Werner Georg Nowak) **99a:11113** 11P21 (11L05)

Kitayama, Masashi Finsler spaces admitting a parallel vector field. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 29–36. (Tadashi Aikou) **99j:53018** 53B40

Kitazawa, Atsuhiro (*with* Nomura, Kiyohide) $SU(2)/Z_2$ symmetry of the BKT transition and twisted boundary condition. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7341–7362. (Summary) **99e:82037** 82B26

Kitazawa, Yoshihisa (*with* Fukuma, Masafumi; Kawai, Hikaru; Tsuchiya, Asato) String field theory from IIB matrix model. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 153–164. (Summary) **99d:81116** 81T30

— (*with* Aoki, Hajime; Iso, Satoshi; Kawai, Hikaru; Tada, Tsukasa) Space-time structures from IIB Matrix model. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 713–745. (Summary) **99f:81141** 81T30

Kitchatinov, L. L. *see* **Kichatinov, L. L.**

Kitchens, Bruce (*with* Adler, Roy; Shub, Michael) Errata to: "Stably ergodic skew products" [Discrete Contin. Dynam. Systems **2** (1996), no. 3, 349–350; MR 97d:58113]. *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 456. (From the text) **99k:58110** 58F11 (58F15)

Kitsmeĭ, T. P. (*with* Gritsyk, V. V.; Gurevich, I. B.; Palenichka, R. M.) Adaptive binary segmentation of images. (Russian. Russian summary) *Pattern recognition. Classification. Prediction* (*Russian*), 145–181, "*Nauka*", *Moscow*, 1992. (*see* **99k:68012**) 68U10

Kitsunezaki, Naofumi (*with* Nishimura, Jun) Unitary IIB Matrix model and the dynamical generation of the space-time. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 351–377. (Summary) **99h:81168** 81T30 (83E30)

Kittaneh, Fuad Inequalities for weighted means and applications to positive definite matrices. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 307–313. (Zsolt Páles) **99g:26044** 26D15 (15A45, 15A48)

— (*with* Bhatia, Rajendra; Li, Ren-Cang) Some inequalities for commutators and an application to spectral variation. II. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 207–219. (Fumio Hiai) **99f:47014** 47A30 (15A42, 15A60, 47B47, 65F99)

— (*with* Bhatia, Rajendra; Li, Ren-Cang) Eigenvalues of symmetrizable matrices. (English summary) *BIT* **38** (1998), *no.* 1, 1–11. (J. Segethová) **99d:65115** 65F15 (15A18)

Kittel, A. (*with* Parisi, Jürgen; Peinke, J.; Baier, Gerold; Klein, Michael; Rössler, Otto E.) Unifying iteration rule for fractal objects. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1887–1896. (Summary) **99a:39052** 39B12 (28A80)

Kittler, Josef (*with* Stoddart, Andrew J.; Petrou, Maria) On the foundations of probabilistic relaxation with product support. (English summary) *J. Math. Imaging Vision* **9** (1998), *no.* 1, 29–48. (Summary) **99c:68220** 68T10

Kiuchi, Isao (*with* Matsumoto, Kohji) The resemblance of the behaviour of the remainder terms $E_\sigma(t)$, $\Delta_{1-2\sigma}(x)$ and $R(\sigma+it)$. (English summary) *Sieve methods, exponential sums, and their applications in number theory* (*Cardiff*, 1995), 255–273, *London Math. Soc. Lecture Note Ser.*, 237, *Cambridge Univ. Press, Cambridge*, 1997. (Matti Jutila) **99e:11115** 11M06 (11N37)

— (*with* Tanigawa, Yoshio) The mean value theorem of the divisor problem for short intervals. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 6, 445–453. (Gennady Bachman) **99j:11108** 11N37

Kivinen, J. (*with* Warmuth, Manfred K.; Auer, Peter) The perceptron algorithm versus Winnow: linear versus logarithmic mistake bounds when few input variables are relevant. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 325–343. (Summary) **99k:68158** 68T05

Kivshar, Yu. S. (*with* Pelinovsky, Dmitry E.; Afanasjev, Vsevolod V.) Internal modes of envelope solitons. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 121–142. (Summary) **99a:35243** 35Q55 (35Q51)

— (*with* Braun, Oleg M.) Nonlinear dynamics of the Frenkel-Kontorova model. (English summary) *Phys. Rep.* **306** (1998), *no.* 1-2, 108 *pp.* (Summary) **99j:82050** 82C05 (82D99)

— (*with* Bang, Ole; Buryak, Alexander V.; De Rossi, Alfredo; Trillo, Stefano) Two-dimensional solitary waves in media with quadratic and cubic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5057–5069. (Summary) **99h:78023** 78A60 (35Q51)

— (*with* Iizuka, Takeshi) Optical gap solitons in nonresonant quadratic media. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 6, 7148–7151. 78A60

Kiwi, Marcos A. (*with* Bellare, Mihir; Coppersmith, Don; Håstad, Johan; Sudan, Madhu) Linearity testing in characteristic two. (English summary) *36th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 432–441, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25

— (*with* Hevia, Alejandro) Strength of two data encryption standard implementations under timing attacks. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 192–205, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (*see* **99d:68007**) 94A60

Kiwiel, Krzysztof C. A Bregman-projected subgradient method for convex constrained nondifferentiable minimization. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 26–30, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C30 (49J52)

— (*with* Łopuch, Bożena) Long-step surrogate subgradient methods for convex feasibility problems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 31–36, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C25

— (*with* Feltenmark, Stefan; Lindberg, Per-Olov) Solving unit commitment problems in power production planning. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 236–241, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B70 (90C90)

— (*with* Larsson, Torbjörn; Lindberg, Per-Olov) Convergent stepsize rules for subgradient optimization. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 62–67, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30

— Relaxation methods for strictly convex regularizations of piecewise linear programs. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 3, 239–259. (Alfredo N. Iusem) **99g:90084** 90C25 (65K05, 90C31)

— Generalized Bregman projections in convex feasibility problems. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 139–157. (Claudia A. Sagastizábal) **99c:90120** 90C30 (49J52, 90C26)

— Subgradient method with entropic projections for convex nondifferentiable minimization. (English summary) *J. Optim. Theory Appl.* **96** (1998), *no.* 1, 159–173. (Claudia A. Sagastizábal) **99c:90121** 90C30 (49J52)

Kiyama, Masaki (*with* Hohzaki, Ryusuke; Iida, Koji) Randomized look strategy for a moving target when a search path is given. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 374–386. (Teruhisa Nakai) **99k:90093** 90B40 (49K45, 90D25, 93E03)

Kiyashchenko, L. A. (*with* Grushup, A. I.) Synthesis of regulators from required transient processes in dynamic systems of one class. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2541–2546. (*see* **99e:00033**) 93B51 (93C05)

Kiyek, Karl-Heinz (*with* Schwarz, Friedrich) ★ Lineare Algebra. (German) [Linear algebra] Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1999. 320 *pp. ISBN* 3-519-02390-3 15–01

Kizilkaya, O. (*with* Inomata, Akira) Factorization, algebraization, and shape invariance. (English summary) *Found. Phys.* **28** (1998), *no.* 1, 107–124. (Jiu Qing Liang) **99g:81058** 81Q60 (81R99)

Kiziloğlu, F. Nurcan False lower knot is a mirror image of the knot with the number of 8_5. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 109–112. 57M25

Kjellgren, P. A semi-implicit fractional step finite element method for viscous incompressible flows. (English summary) *Comput. Mech.* **20** (1997), *no.* 6, 541–550. (Summary) **99a:76086** 76M10

Kjønsberg, Heidi (*with* Myrheim, Jan) Numerical study of charge and statistics of Laughlin quasiparticles. (English summary) *Internat. J. Modern Phys. A* **14** (1999), *no.* 4, 537–557. 81S05

Kjurkchiev, N. *see* **Kyurkchiev, Nikolaĭ V.**

Klaassen, Chris A. J. (*with* Bickel, Peter J.; Ritov, Ya'acov; Wellner, Jon A.) ★ Efficient and adaptive estimation for semiparametric models. (English summary) Reprint of the 1993 original. *Springer-Verlag, New York*, 1998. *xxii*+560 *pp. ISBN* 0-387-98473-9 (Editors) **99c:62076** 62G05 (62F10, 62F12, 62G20)

Klabjan, D. (*with* Mohar, Bojan) The number of matchings of low order in hexagonal systems. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 167–175. (Summary) **99a:05101** 05C50 (05C70)

— (*with* Nemhauser, George L.; Tovey, Craig A.) The complexity of cover inequality separation. (English summary) *Oper. Res. Lett.* **23** (1998), *no.* 1-2, 35–40. (Anton Volgenant) **99k:90200** 90C60 (90C10)

Kladko, K. (*with* Flach, Sergej) Moving discrete breathers? (English summary) *Phys. D* **127** (1999), *no.* 1-2, 61–72. (Summary) **99j:70029** 70K99 (35Q99)

Klafszky, Emil (*with* Terlaky, Tamás) On the ellipsoid method. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/98), *no.* 2, 269–280. 90C05 (65K05)

Klafter, J. (*with* Barkai, E.) Anomalous diffusion in the strong scattering limit: a Lévy walk approach. (English summary) *Chaos, kinetics and nonlinear dynamics in fluids and plasmas* (*Carry-Le Rouet*, 1997), 373–393, *Lecture Notes in Phys.*, 511, *Springer, Berlin*, 1998. (*see* **99d:00014**) 82C31

Klages, R. (*with* Gaspard, Pierre) Chaotic and fractal properties of deterministic diffusion-reaction processes. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 409–423. (Summary) **99d:58122** 58F13 (58F11, 58F40, 82C05)

Klain, Daniel A. Kinematic formulas for finite lattices. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 353–366. (Summary) **99c:05005** 05A05 (05A10, 52A22)

— Kinematic formulas for finite vector spaces. (English summary) *Discrete Math.* **179** (1998), *no.* 1-3, 121–132. (Summary) **99j:52007** 52A35 (05A30)

Klainerman, Sergiu (*with* Selberg, Sigmund) Remark on the optimal regularity for equations of wave maps type. *Comm. Partial Differential Equations* **22** (1997), *no.* 5-6, 901–918. (Vladimir Tulovsky) **99c:35163** 35L70 (58G16)

— Fourier analysis and nonlinear wave equations. *Recent advances in partial differential equations, Venice* 1996, 175–185, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc.*,

Providence, RI, 1998. (Petr Gurka) **99h:35142** 35L70 (35B45, 42A38)

— (*with* Machedon, Matei) On the algebraic properties of the $H_{n/2,1/2}$ spaces. (English summary) *Séminaire sur les Équations aux Dérivées Partielles, 1997–1998, Exp. No. VII, 9 pp., École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 46E35 (35L05, 46J99)

— On the work and legacy of Fritz John, 1934–1991. Dedicated to the memory of Fritz John. *Comm. Pure Appl. Math.* **51** (1998), *no.* 9-10, 991–1017. (Michael von Renteln) **99i:01034** 01A70

— (*with* Machedon, Matei) On the algebraic properties of the $H_{n/2,1/2}$ spaces. *Internat. Math. Res. Notices* **1998**, *no.* 15, 765–774. (Takahide Kurokawa) **99j:46038** 46E35 (46J99)

— *see also* **Bôcher prize, 99m:01100**

Klamka, Jerzy Controllability for partial differential equations. (English summary) *Advances in mathematical population dynamics—molecules, cells and man (Houston, TX, 1995)*, 809–814, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:93009** 93B05 (93C20)

— Controllability of 2-D systems: a survey. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 835–854. (Summary) **99c:93065** 93C30 (93–02, 93B05)

— Controllability of second-order semilinear infinite-dimensional dynamical systems. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 459–470. (Angelo Favini) **99j:93008** 93B05 (93C25)

Klamkin, M. S. On simultaneous Diophantine equations. (English summary) *Med. Konink. Acad. Wetensch. België* **57** (1995), *no.* 4, 139–146. (Nikos Tzanakis) **99c:11036** 11D72

Klapper, Isaac (*with* Hou, Thomas Yizhao; Si, Helen) Removing the stiffness of curvature in computing 3-D filaments. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 628–664. (From the text) **99c:76085** 76M25 (65N30, 73K05, 76C05)

Klar, Axel (*with* Siedow, N.) Boundary layers and domain decomposition for radiative heat transfer and diffusion equations: applications to glass manufacturing process. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 4, 351–372. (Summary) **99d:80002** 80A20 (80–08)

— (*with* Tiwari, Sudarshan) An adaptive domain decomposition procedure for Boltzmann and Euler equations. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 223–237. (Summary) **99c:76088** 76M25 (65M55, 76P05)

— An asymptotic-induced scheme for nonstationary transport equations in the diffusive limit. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 3, 1073–1094 (*electronic*). (Edward W. Larsen) **99d:82063** 82C70 (65M12, 82–08)

— Asymptotic-induced domain decomposition methods for kinetic and drift diffusion semiconductor equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 2032–2050 (*electronic*). (Summary) **99e:78005** 78–08 (65M55, 78A35, 82D99)

— A numerical method for nonstationary transport equations in diffusive regimes. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 653–666. (Summary) **99g:82076** 82C70 (82–08)

— Relaxation scheme for a lattice-Boltzmann-type discrete velocity model and numerical Navier-Stokes limit. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 416–432. (Summary) **99i:76122** 76M25

— (*with* Wegener, Raimund) A hierarchy of models for multilane vehicular traffic. I. Modeling. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 983–1001 (*electronic*). (Summary) **99m:90062** 90B06 (60K30)

— (*with* Wegener, Raimund) A hierarchy of models for multilane vehicular traffic. II. Numerical investigations. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 1002–1011 (*electronic*). (Summary) **99m:90063** 90B06 (60K30)

Klarbring, Anders (*with* Christensen, P. W.; Pang, Jong-Shi; Strömberg, N.) Formulation and comparison of algorithms for frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 1, 145–173. (David E. Stewart) **99c:73070** 73T05 (73V20)

— (*with* Pang, Jong-Shi) Existence of solutions to discrete semicoercive frictional contact problems. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 414–442 (*electronic*). (Meir Shillor) **99f:73076** 73T05 (49J40, 73V25)

Klarner, David A. *see* **Mathematical recreations, 99g:00014**

Klaschka, Jan (*with* Siciliano, Roberta; Antoch, Jaromír) Computational enhancements in tree-growing methods. (English summary) *Advances in data science and classification (Rome, 1998)*, 295–302, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Klasing, Ralf The relationship between the gossip complexity in vertex-disjoint paths mode and the vertex bisection width. (English summary) Network communications broadcasting and gossiping. *Discrete Appl. Math.* **83** (1998), *no.* 1-3, 229–246. (Summary) **99c:68017** 68M10 (05C85, 68R10)

— (*with* Lüling, Reinhard; Monien, Burkhard) Compressing cube-connected cycles and butterfly networks. (English summary) *Networks* **32** (1998), *no.* 1, 47–65. (Dominique Sotteau) **99g:68018** 68M10 (05C38)

— (*with* Hromkovič, Juraj; Pardubská, Dana; Waczulík, Juraj; Wagener, Hubert) Effective systolic algorithms for gossiping in cycles. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 197–205. (A. T. Amin) **99i:68011** 68M10 (68Q22)

Klaška, Jiří History of the number of finite posets. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 73–84. (Yehuda Rav) **99k:06001** 06–03 (01A99, 05A15, 06A06, 06A07)

Klasner, Norbert (*with* Fischer, Paul; Wegener, Ingo) On the cut-off point for combinatorial group testing. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 83–92. (Summary) **99k:62018** 62C99 (05B05, 62F03)

Klass, Michael J. (*with* Hahn, Marjorie G.) Approximation of partial sums of arbitrary i.i.d. random variables and the precision of the usual exponential upper bound. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1451–1470. (N. R. Chaganty) **99c:62039** 62E20 (60F05)

— (*with* Hahn, Marjorie G.) Optimal upper and lower bounds for the upper tails of compound Poisson processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 535–559. (Paul Embrechts) **99e:60052** 60E15 (60G50)

— (*with* Nowicki, Krzysztof) Order of magnitude bounds for expectations of Δ_2-functions of generalized random bilinear forms. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 4, 457–492. (Miguel A. Arcones) **99k:60042** 60E15

Klatte, Diethard Lower semicontinuity of the minimum in parametric convex programs. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 2, 511–517. (Summary) **99f:90144** 90C31 (90C34)

— (*with* Henrion, René) Regularity and stability in nonlinear semi-infinite optimization. (English summary) *Semi-infinite programming*, 69–102, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Hubertus Th. Jongen) **99f:90156** 90C34 (90–02, 90C31)

— (*with* Kummer, Bernd) Strong stability in nonlinear programming revisited. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 336–352. (Hubertus Th. Jongen) **99k:90171** 90C31

Klauber, Robert D. New perspectives on the relativistically rotating disk and non-time-orthogonal reference frames. *Found. Phys. Lett.* **11** (1998), *no.* 5, 405–443. (Abraham A. Ungar) **99j:83004** 83A05

Klauck, Hartmut On the size of probabilistic formulae. (English summary) *Algorithms and computation (Singapore, 1997)*, 243–252, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q25

— Lower bounds for computation with limited nondeterminism. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 141–152, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15 (68Q05, 68Q10)

Klaudel, Hanna (*with* Best, Eike; Frączak, Wojciech; Hopkins, Richard P.; Pelz, Elisabeth) M-nets: an algebra of high-level Petri nets, with an application to the semantics of concurrent programming languages. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 813–857. (Summary) **99i:68085** 68Q90 (68Q10, 68Q55)

Klauder, John R. Coherent state path integrals for systems with constraints. (English summary) *Path integrals: Dubna '96*, 51–60, *Joint Inst. Nuclear Res., Dubna*, 1996. (Jiu Qing Liang) **99k:81152** 81S40 (81R30, 81S10)

— Quantization of systems with constraints. *Symmetries in science, IX (Bregenz, 1996)*, 167–178, *Plenum, New York*, 1997. (Nicolaas P. Landsman) **99b:81125** 81S30 (81R30)

— (*with* Maraner, P.) Dynamics as shadow of phase space geometry. (English summary) *Ann. Physics* **253** (1997), *no.* 2, 356–375. (Nicolaas P. Landsman) **99b:81115** 81S10 (81S30)

— (*with* Sastry, Ramchander R.) Discontinuous perturbations. (English summary) *Found. Phys.* **27** (1997), *no.* 1, 81–91. (Summary) **99b:81050** 81Q15

— (*with* Shabanov, Sergei V.) Coordinate-free quantization of second-class constraints. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 3, 713–736. (George K. Savvidy) **99k:81324** 81T70 (81S40)

— (*with* Shabanov, Sergei V.) Path integral quantization and Riemannian-symplectic manifolds. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 343–349. (Takashi Miura) **99i:81127** 81S30 (81S40)

— (*with* Gazeau, Jean Pierre) Coherent states for systems with discrete and continuous spectrum. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 123–132. (Constantin Brif) **99m:81090** 81R30

Klaus, Bettina (*with* Peters, Hans) Maastricht in science from Minckelers to Debye: some historical notes. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 91–106, *Brepols, Turnhout*, 1998. (Wilfried Schröder) **99m:01108** 01A99 (01A70)

— (*with* Peters, Hans; Storcken, Ton) Strategy-proof reallocation of an infinitely divisible good. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 455–470, *Brepols, Turnhout*, 1998. (Summary) **99j:90005** 90A08 (90A15, 90A80)

— (*with* Peters, Hans; Storcken, Ton) Strategy-proof division with single-peaked preferences and individual endowments. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 297–311. (Summary) **99a:90022** 90A06

Klaus, Frank Viscoelasticity with hardening. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 2, 93–116. (Alain Brillard) **99b:73023** 73F15 (35Q72)

Klaus, Martin On the Riemann-Hilbert problem for the one-dimensional Schrödinger equation. (English summary) *Proceedings of the Third International Colloquium on Differential Equations (Plovdiv, 1992)*, 133–146, *VSP, Utrecht*, 1993. (From the introduction) **99e:34124** 34L25 (34L40, 81Q05)

— (*with* Aktosun, Tuncay; van der Mee, C. V. M.) Wave scattering in 1-D nonconservative media. (English summary) *Spectral and scattering theory (Newark, DE, 1997)*, 1–18, *Plenum, New York*, 1998. (Vyacheslav N. Pivovarchik) **99d:34163** 34L25 (34A55, 34L40, 35J10, 35P25)

— (*with* Aktosun, Tuncay; van der Mee, C. V. M.) Inverse scattering in one-dimensional nonconservative media. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 279–316. (Vyacheslav N. Pivovarchik) **99b:34136** 34L25 (34A55, 34L40)

— (*with* Aktosun, Tuncay; van der Mee, C. V. M.) Wave scattering in one dimension with absorption. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1957–1992. (Vyacheslav N. Pivovarchik) **99b:34137** 34L25 (34L40, 35P25, 81U05)

— (*with* Aktosun, Tuncay; van der Mee, C. V. M.) On the number of bound states for the one-dimensional Schrödinger equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4249–4256. (Summary) **99j:81026** 81Q05

— (*with* Fassari, Silvestro) Coupling constant thresholds of perturbed periodic Hamiltonians. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4369–4416. (Mihai Pascu) **99j:81040** 81Q15 (34L40, 35J10, 47A55, 47E05, 47F05)

Klavins, Eric (*with* Rounds, William C.; Zhang, Guo-Qiang) Experimenting with power default reasoning. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 846–852, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)

Klavžar, Sandi (*with* Jha, Pranava K.; Zmazek, Blaž) Isomorphic components of Kronecker product of bipartite graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 301–309. (Summary) **99d:05065** 05C60

— (*with* Jha, Pranava K.) Independence in direct-product graphs. (English summary) *Ars Combin.* **50** (1998), 53–63. (Summary) **99i:05113** 05C35

— (*with* Mulder, Henry Martyn; Škrekovski, Riste) An Euler-type formula for median graphs. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 255–258. (Summary) **99a:05040** 05C12

— (*with* Chepoĭ, V. D.) Distances in benzenoid systems: further developments. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 27–39. (Summary) **99h:92044** 92E10
— (*with* Imrich, Wilfried) A convexity lemma and expansion procedures for bipartite graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 677–685. (Hari Pulapaka) **99k:05072** 05C12
— On coding theory, linear codes and pictures from Mars. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 4, 97–106. 94B05
— (*with* Imrich, Wilfried; Mulder, Henry Martyn) Median graphs and triangle-free graphs. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 111–118 (*electronic*). (Summary) **99k:68137** 68R10 (05C12, 05C85, 68Q25)
Klawonn, Axel Additive domain decomposition algorithms for a class of mixed finite element methods. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 296–303, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (73V05)
— (*with* Pavarino, Luca F.) Overlapping Schwarz methods for mixed linear elasticity and Stokes problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **165** (1998), *no.* 1-4, 233–245. (Summary) **99h:65193** 65N30 (73V05)
— Block-triangular preconditioners for saddle point problems with a penalty term. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 172–184 (*electronic*). (W. C. Rheinboldt) **99f:65051** 65F10 (65F35, 65J10, 65N22, 73V20)
— An optimal preconditioner for a class of saddle point problems with a penalty term. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 540–552 (*electronic*). (I. N. Molchanov) **99d:65137** 65F35 (65N30, 73V05)
Klazar, Martin Extremal problems for colored trees and Davenport-Schinzel sequences. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 469–482. (Miklós Bóna) **99k:05004** 05A05 (05C05, 05C35)
Klebaner, Fima C. Density-dependent branching processes as randomly perturbed iterations of maps. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 391–399, *TEV, Vilnius*, 1994. (Summary) **99f:60150** 60J80
— Population and density dependent branching processes. (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 165–169, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Götz Kersting) **99d:60094** 60J80
— (*with* Lazar, Justin; Zeitouni, Ofer) On the quasi-stationary distribution for some randomly perturbed transformations of an interval. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 300–315. (Göran Högnäs) **99d:60095** 60J80 (60F10, 60J10, 92D25)
Klebanoff, Aaron (*with* Rickert, John) Studying the Cantor dust at the edge of Feigenbaum diagrams. *College Math. J.* **29** (1998), *no.* 3, 189–198. (Frederick R. Marotto) **99f:58068** 58F03 (54H20, 58F13)
Klebanov, Boris S. (*with* Filippov, V. V.) On the acyclicity of the solution set of the Cauchy problem for differential equations. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 836–842; *translation in Math. Notes* **62** (1997), *no.* 5-6, 701–706 (1998). (Philip Korman) **99d:34007** 34A12 (34C25)
— On the attraction and stability of sets with respect to solutions of ordinary differential equations. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 107–121. (Zvi Artstein) **99i:34073** 34D20 (34D45)
— On asymptotically autonomous differential equations in the plane. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 327–338. (Douglas S. Shafer) **99d:34083** 34C99
Klebanov, Igor R. (*with* Rajaraman, Arvind; Tseytlin, Arkady A.) Intermediate scalars and the effective string model of black holes. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 157–176. (Summary) **99a:83066** 83E30 (81T30, 83C57)
— (*with* Banks, Tom; Fischler, Willy; Susskind, Leonard) Schwarzschild black holes in matrix theory. II. (English summary) *J. High Energy Phys.* **1998**, *no.* 1, *Paper* 8, 16 *pp.* (*electronic*). (Summary) **99d:83089** 83E30 (81T30, 83C57)
— (*with* Gubser, Steven S.; Hashimoto, Akikazu; Krasnitz, Michael) Scalar absorption and the breaking of the world-volume conformal invariance. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 393–414. (Summary) **99f:81200** 81T60 (81R40, 81T30, 83E30)
— (*with* Gubser, Steven S.; Tseytlin, Arkady A.) Coupling constant dependence in the thermodynamics of $\mathcal{N} = 4$ supersymmetric Yang-Mills theory. (English summary) *Nuclear Phys. B* **534** (1998), *no.* 1-2, 202–222. (Summary) **99m:81249** 81T60 (81T13, 81T15, 81T30, 83C57)
— D-branes and production of strings. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 363–374. (Summary) **99c:81196** 81T30
— D-branes and creation of strings. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 140–152. (Summary) **99e:81199** 81T30
— (*with* Banks, Tom; Fischler, Willy) Evaporation of Schwarzschild black holes in Matrix theory. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 54–58. (Summary) **99b:81175** 81T30
— (*with* Gubser, Steven S.; Polyakov, A. M.) Gauge theory correlators from non-critical string theory. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 105–114. (Douglas J. Smith) **99e:81204b** 81T30 (81T60, 83E30)
— (*with* Gubser, Steven S.) Baryons and domain walls in an $\mathcal{N} = 1$ superconformal gauge theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125025, 7 *pp.* (Summary) **99m:81189** 81T30 (81T60)
— (*with* Witten, Edward) Superconformal field theory on threebranes at a Calabi-Yau singularity. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 199–218. (Douglas J. Smith) **99k:81253** 81T30 (81T60)
Klebanov, Lev B. (*with* Zinger, A. A.) Stability of the inverse Radon transform. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 401–404, *TEV, Vilnius*, 1994. (*see* **99e:60004**) 60E05 (44A12)
— (*with* Khalfin, L. A.) On some problems of computerized tomography. (English summary) *Probability theory and mathematical statistics* (*St. Petersburg*, 1993), 201–208, *Gordon and Breach, Amsterdam*, 1996. (Fritz Keinert) **99m:92010** 92C55 (44A12, 60E99)
— (*with* Rachev, Svetlozar T.) Sums of a random number of random variables and their approximations with ν-accompanying infinitely divisible laws. (English summary) *Serdica Math. J.* **22** (1996), *no.* 4, 471–496. (Tomasz J. Kozubowski) **99c:60025** 60E07 (60E10, 60F05)
Klee, Victor (*with* Lewis, Ted; Von Hohenbalken, B.) Appollonius revisited: supporting spheres for sundered systems. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 385–395. (Marilyn Breen) **99a:52002** 52A20
— (*with* Holt, F. B.) Many polytopes meeting the conjectured Hirsch bound. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 1, 1–17. (P. R. Goodey) **99e:52015** 52B05 (52B11)
— (*with* Gritzmann, Peter) Separation by hyperplanes in finite-dimensional vector spaces over Archimedean ordered fields. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 279–301. (J. Borwein) **99k:46012** 46A55 (12J15, 46A22, 90C25)
Kleemann, B. (*with* Dahmen, Wolfgang; Prössdorf, Siegfried; Schneider, Reinhold) Multiscale methods for the solution of the Helmholtz and Laplace equations. *Boundary element topics* (*Stuttgart*, 1995), 189–219, *Springer, Berlin*, 1997. (*see* **99e:00017**) 65N35 (65F50, 65T20)
Kleemeier, Ulrike ★ Gottlob Frege. (German. German summary) Kontext-Prinzip und Ontologie. [The principle of context and ontology] Symposion. Philosophische Schriftenreihe [Symposion. Philosophical Texts Series], 108. *Verlag Karl Alber, Freiburg*, 1997. 359 *pp. ISBN* 3-495-47858-2 (Charles F. Kielkopf) **99b:01017** 01A60 (00A30, 03-03, 03A05)
Kleeorin, N. (*with* Rogachevskii, I.) Anomalous scalings and dynamics of magnetic helicity. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 3, *part A*, 3008–3011. (Summary) **99k:76153** 76W05
Kleff, Silvia M. (*with* Hsu, Jong Ping) Generalized Møller-Wu-Lee transformation for accelerated frames. (English summary) *Chinese J. Phys.* **36** (1998), *no.* 6, 768–777. (Mary L. Boas) **99k:83004** 83A05
Kleibergen, Frank (*with* van Dijk, Herman K.) Bayesian simultaneous equations analysis using reduced rank structures. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 701–743. (Manfred Kraft) **99m:62163** 62P20 (62F15)
Kleidis, K. (*with* Giannakis, Ioannis; Kuiroukidis, A.; Papadopoulos, D. B.) Anisotropic null string cosmologies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3169–3177. (Summary) **99i:83090** 83E30
Kleihaus, Burkhard (*with* Kunz, Jutta; Tchrakian, D. H.) Interaction energy of 't Hooft-Polyakov monopoles. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2523–2529. (Summary) **99g:81131** 81T13
— (*with* Kunz, Jutta; Sood, Abha; Wirschins, Marion) Sequences of globally regular and black hole solutions in SU(4) Einstein-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084006, 16 *pp.* (Summary) **99m:83120** 83C57 (81T13)
Kleijn, B. (*with* Claus, Piet; de Wit, Bernard; Faux, M.; Siebelink, R.; Termonia, P.) $N = 2$ supergravity Lagrangians with vector-tensor multiplets. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 148–178. (Sergiu I. Vacaru) **99f:83072** 83E50
— (*with* De Jaegher, J.; de Wit, Bernard; Vandoren, Stefan) Special geometry in hypermultiplets. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 553–582. (Krzysztof Galicki) **99h:53057** 53C25 (53C55, 53C80, 81T60, 83E50)
Kleijn, H. C. M. (*with* Morin, Rémi; Rozoy, B.) Event structures for local traces. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS '98*) (*Nice*), 16 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q90)
Kleijn, M. J. (*with* Frenk, J. B. G.; Dekker, R.) On the marginal cost approach in maintenance. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 3, 771–781. (Stefanka Chukova) **99a:90095** 90B25
— (*with* Frenk, J. B. G.) On regenerative processes and inventory control. (English summary) Modern applied analysis (Ilieni, 1997). *Pure Math. Appl.* **9** (1998), *no.* 1-2, 61–94. (Sophia Kalpazidou) **99m:60147** 60K30 (90B05)
Kleiman, Steven L. (*with* Johnsen, Trygve) Toward Clemens' conjecture in degrees between 10 and 24. (English summary) Conference on Geometry and Mathematical Physics (Zlatograd, 1995). *Serdica Math. J.* **23** (1997), *no.* 2, 131–142. (Dag E. Sommervoll) **99g:14004** 14C05
— Bertini and his two fundamental theorems. (English summary) Studies in the history of modern mathematics, III. *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 55 (1998), 9–37. (I. Dolgachev) **99m:14001** 14-03 (01A55, 01A60, 01A70, 14C20)
Klein, A. A. *see* **Klein, Abraham A.**
Klein, Abel (*with* Figotin, Alexander) Midgap defect modes in dielectric and acoustic media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1748–1773 (*electronic*). (Anatoly M. Kamchatnov) **99f:78011** 78A40 (35Q99, 76Q05)
Klein, Abraham (*with* Greenberg, William R.; Zlatev, Ivaylo; Li, Ching-Teh) From Heisenberg matrix mechanics to semiclassical quantization: theory and first applications. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1820–1837. (Summary) **99c:81042** 81Q20
Klein, Abraham A. (*with* Bell, Howard E.) On central and noncentral zero divisors. *Comm. Algebra* **26** (1998), *no.* 4, 1277–1292. (Charles Lanski) **99a:16027** 16U99 (16U20)
— (*with* Borkut, L. A.) Gröbner-Shirshov bases for exceptional Lie algebras. I. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 51–57. (Gordon E. Brown) **99i:17010** 17B25
— (*with* Bell, Howard E.) Some noteworthy properties of zero divisors in infinite rings. II. *Math. Scand.* **83** (1998), *no.* 2, 161–168. (S. S. Page) **99m:16050** 16U99 (16N40)
Klein, André (*with* Spreij, Peter) On Fisher's information matrix of an ARMA process. (English summary) *Stochastic differential and difference equations* (*Győr*, 1996), 273–284, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 62B10 (62M10, 93E12)
sattler-Klein, Andrea *see* **Sattler-Klein, Andrea**
brüggemann-Klein, Anne *see* **Brüggemann-Klein, Anne**
Klein, Barbara E. (*with* Johnson, Richard A.; Sim, Songyong; Klein, Ronald) A multivariate multisample quantile test for ordered alternatives. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 807–818. (Subhash C. Kochar) **99g:62057** 62G10
Klein, Christian (*with* Richter, Olaf) The Ernst equation and the Riemann-Hilbert problem on hyperelliptic Riemann surfaces. (English summary) *J. Geom. Phys.* **24** (1997), *no.* 1, 53–60. (Dmitri Korotkin) **99c:83014b** 83C15 (14K20)

— (*with* Richter, Olaf) Explicit solution of Riemann-Hilbert problems for the Ernst equation. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 2, 857–862. (Dmitri Korotkin) **99c:83014a** 83C15 (14K20)

Klein, D. J. (*with* Zhu, Hongyao) Distances and volumina for graphs. (English summary) Girona 97 special issue. *J. Math. Chem.* **23** (1998), *no.* 1-2, 179–195. (R. C. Entringer) **99f:05032** 05C12 (92E10)

Klein, David Michael (*with* Collas, Peter; Schwebler, Hans-Peter) Convergence of Hamiltonian systems to billiards. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 466–474. (Rafael Oswaldo Ruggiero) **99h:58061** 58F05

Klein, Étienne (*with* Lachièze-Rey, Marc) ★ The quest for unity. (English summary) The adventure of physics. Translated from the French by Axel Reisinger. *Oxford University Press, New York*, 1999. *xiv*+158 *pp. ISBN* 0-19-512085-X (Lawrence Sklar) **99k:81002** 81-01 (00A79, 81-03)

Klein, Felix *see* **Ronga, Félice, 99d:01021; Siegmund-Schultze, Reinhard, 99k:01028; Tonietti, Tito M., (99a:00007) *and* Hachaj, Jadwiga, (99b:01001)**

Klein, John P. (*with* Andersen, Per Kragh; Knudsen, Kim M.; Tabanera y Palacios, René) Estimation of variance in Cox's regression model with shared gamma frailties. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1475–1484. (Jack Cuzick) **99f:62049** 62G05 (62N05)

Klein, John R. (*with* Golasiński, Marek) On maps into a co-H-space. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 321–327. (Richard John Steiner) **99e:55014** 55P45 (18C15)

— Structure theorems for homotopy pushouts. I. Contractible pushouts. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 2, 301–324. (Samuel B. Smith) **99a:55018** 55U35 (18G99, 55P65, 55R35)

Klein, Judy L. ★ Statistical visions in time. (English summary) A history of time series analysis, 1662–1938. *Cambridge University Press, Cambridge*, 1997. xx+345 *pp. ISBN* 0-521-42046-6 (Zeno G. Swijtink) **99h:01005** 01A05 (62-03)

Klein, M. *see* **Klein, Michael**

Klein, Matthias (*with* Louis, Jan) Singular Yukawa and gauge couplings in $d = 4$ heterotic string vacua. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 197–215. (From the text) **99k:81254** 81T30

— (*with* Louis, Jan) Quantum modified moduli spaces and field-dependent gauge couplings. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 163–180. (Summary) **99i:81242** 81T60 (81R40)

— (*with* Louis, Jan) Singularities in $d = 4$, $N = 1$ heterotic string vacua. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 40–47. (Gonzalo Violero) **99f:81169** 81T30 (32J81)

— (*with* Louis, Jan) Singularities in $d = 4$, $N = 1$ heterotic string vacua. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 319–326. (Christophe Grojean) **99j:81147** 81T30 (32J81)

Klein, Michael (*with* Kittel, A.; Parisi, Jürgen; Peinke, J.; Baier, Gerold; Rössler, Otto E.) Unifying iteration rule for fractal objects. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1887–1896. (Summary) **99a:39052** 39B12 (28A80)

Klein, Patrice (*with* Hua, Bach Lien; McWilliams, James C.) Lagrangian accelerations in geostrophic turbulence. (English summary) *J. Fluid Mech.* **366** (1998), 87–108. (Summary) **99c:76054** 76F99 (76U05, 86A10)

Klein, Philip N. (*with* Subramanian, Sairam) A randomized parallel algorithm for single-source shortest paths. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 205–220. (Fabrizio Luccio) **99a:68082** 68Q22 (05C38, 05C85, 68R10)

— Computing the edit-distance between unrooted ordered trees. (English summary) *Algorithms—ESA '98 (Venice)*, 91–102, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68Q20 (68Q25)

— (*with* Arora, Sanjeev; Grigni, Michelangelo; Karger, David R.; Woloszyn, Andrzej) A polynomial-time approximation scheme for weighted planar graph TSP. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 33–41, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Subramanian, Sairam) A fully dynamic approximation scheme for shortest paths in planar graphs. (English summary) *Algorithmica* **22** (1998), *no.* 3, 235–249. (Summary) **99h:68134** 68R10 (05C38, 05C85, 68Q25)

Klein, Reinhard (*with* Strasser, Wolfgang[1]) Generation of multiresolution models from CAD-data for real time rendering. (English summary) *Geometric modeling: theory and practice (Blaubeuren*, 1996), 324–334, *Focus Comput. Graph., Springer, Berlin*, 1997. (*see* **99d:65003**) 65D17

— *see also* **Geometric modeling: theory and practice, 99d:65003**

Klein, Rolf (*with* Hoffmann, Frank; Icking, Christian; Kriegel, Klaus) Moving an angle around a region. (English summary) *Algorithm theory—SWAT'98 (Stockholm)*, 71–82, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68192** 68U05

Klein, Ronald (*with* Johnson, Richard A.; Sim, Songyong; Klein, Barbara E.) A multivariate multisample quantile test for ordered alternatives. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 807–818. (Subhash C. Kochar) **99g:62057** 62G10

Klein, Rüdiger A knowledge representation perspective on geometric modeling. *Geometric modeling: theory and practice (Blaubeuren*, 1996), 175–196, *Focus Comput. Graph., Springer, Berlin*, 1997. (Tian-Xiao He) **99g:65138** 65Y25 (65D17, 68T30)

Klein, Rupert (*with* Geratz, Karl Josef; Terhoeven, Peter; Munz, Claus-Dieter; Roller, Sabine; Denet, Bruno; Searby, Geoffrey) Numerical techniques for multi-scale weakly compressible reactive flows. (English summary) *Numerical flow simulation, I (Marseille*, 1997), 242–259, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99j:76091** 76M25 (76N10, 80–08, 80A25)

Klein, Sulamita (*with* Everett, Hazel; Reed, Bruce A.) An optimal algorithm for finding clique-cross partitions. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 171–177. (Summary) **99k:05128** 05C70 (05C85)

— (*with* Campêlo, Manoel B.) Maximum vertex-weighted matching in strongly chordal graphs. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 71–77. (Summary) **99a:05108** 05C70 (05C85)

— (*with* Cerioli, Márcia R.; Everett, Hazel; de Figueiredo, Celina Miraglia Herrera) The homogeneous set sandwich problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 31–35. (Summary) **99e:68120** 68R10 (05C85)

Klein, Udo Kompakte multiplikative Operatoren auf uniformen Algebren. [Compact multiplicative operators and uniform algebras] *Mitt. Math. Sem. Giessen No.* 232 (1997), iv+120 *pp.* (John N. McDonald) **99b:47043** 47B38 (46E25, 46J10, 47B07)

Kleinberg, Jon M. Authoritative sources in a hyperlinked environment. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA*, 1998), 668–677, *ACM, New York*, 1998. (*see* **99d:68011**) 68U99

— (*with* Tardos, Éva) Approximations for the disjoint paths problem in high-diameter planar networks. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 61–73. (Qiao Li) **99i:68092** 68R10 (68M10)

— (*with* Goemans, Michel X.) An improved approximation ratio for the minimum latency problem. (English summary) Networks and matroids; Sequencing and scheduling. *Math. Programming* **82** (1998), *no.* 1-2, *Ser. B*, 111–124. (Alexander I. Barvinok) **99j:90065** 90C27 (90C35)

— (*with* Goemans, Michel X.) The Lovász theta function and a semidefinite programming relaxation of vertex cover. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 196–204 (*electronic*). (Summary) **99b:90104** 90C27 (05C85, 68Q25, 90C25)

Kleinberg, Robert D. (*with* Menasco, William W.) Train tracks and zipping sequences for pseudo-Anosov braids. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 793–809. (Robert Ghrist) **99h:57014** 57M25 (57N05)

Kleinbock, Dmitry Y. (*with* Margulis, Grigorii A.) Flows on homogeneous spaces and Diophantine approximation on manifolds. (English summary) *Ann. of Math.* (2) **148** (1998), *no.* 1, 339–360. (Alexander Starkov) **99j:11083** 11J83 (22E40)

— Flows on homogeneous spaces and Diophantine properties of matrices. *Duke Math. J.* **95** (1998), *no.* 1, 107–124. (Alexander Starkov) **99k:11107** 11J13 (22E40, 58F15)

— Nondense orbits of flows on homogeneous spaces. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 373–396. (Scot Adams) **99e:58122** 58F11 (22E40)

Kleine Büning, Hans (*with* Davydov, G. V.; Davydova, Inna) An efficient algorithm for the minimal unsatisfiability problem for a subclass of CNF. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 229–245. (Summary) **99i:68061** 68Q25 (03B05, 03D15)

Kleiner, Bruce (*with* Croke, Christopher B.) A rigidity theorem for simply connected manifolds without conjugate points. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 807–812. (Raul Quiroga) **99j:53035** 53C20

— (*with* Croke, Christopher B.) A rigidity theorem for manifolds without conjugate points. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 813–829. (Raul Quiroga) **99k:53077** 53C21 (53C22)

— (*with* Burago, D. Yu.) Separated nets in Euclidean space and Jacobians of bi-Lipschitz maps. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 2, 273–282. (Maciej Sablik) **99d:26018** 26B35 (26B12, 54E99)

— (*with* Kapovich, Michael; Leeb, Bernhard) Quasi-isometries and the de Rham decomposition. (English summary) *Topology* **37** (1998), *no.* 6, 1193–1211. (Raul Quiroga) **99g:53048** 53C23 (53C21, 53C22)

Kleiner, Israel From numbers to rings: the early history of ring theory. (German summary) *Elem. Math.* **53** (1998), *no.* 1, 18–35. (C. R. Fletcher) **99d:01020** 01A55 (01A60, 13–03, 16–03)

Kleiner, Mark (*with* Jagadeeshan, Shashidhar) Structure of projectively stable Artinian rings. *J. Algebra* **197** (1997), *no.* 1, 92–126. (Flávio Ulhoa Coelho) **99a:16011** 16G30 (16E60)

— Approximations and almost split sequences in homologically finite subcategories. *J. Algebra* **198** (1997), *no.* 1, 135–163. (Dieter Happel) **99b:16017** 16G10

Kleinert, Ernst Muß Mathematik angewandt werden? (German summary) [Is it necessary that mathematics be applied?] *Mitt. Dtsch. Math.-Ver.* **1998**, *no.* 4, 45–49. 00A35

— Über die Anschauung im mathematischen Denken. [On contemplation in mathematical thought] *Philos. Natur.* **35** (1998), *no.* 2, 309–331. (Eduard Glas) **99g:00025** 00A35 (00A30)

Kleinert, Hagen (*with* Pelster, Axel) Transformation properties of classical and quantum laws under some nonholonomic spacetime transformations. (English summary) *Path integrals: Dubna '96*, 187–191, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99j:81095** 81S99 (70G99)

— (*with* Janke, Wolfhard) Convergence behavior of variational perturbation expansions. (English summary) *Path integrals: Dubna '96*, 336–340, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81Q15

— (*with* Pelster, Axel) Novel geometric gauge invariance of autoparallels. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1015–1023. (Summary) **99m:83170** 83D05

— (*with* Shabanov, Sergei V.) Theory of Brownian motion of a massive particle in spaces with curvature and torsion. (English summary) *J. Phys. A* **31** (1998), *no.* 34, 7005–7009. (Summary) **99e:82067** 82C31

— (*with* Kürzinger, Werner; Pelster, Axel) Smearing formula for higher-order effective classical potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8307–8321. 81Q15 (82C10)

— (*with* Chervyakov, A.) Simple explicit formulas for Gaussian path integrals with time-dependent frequencies. (English summary) *Phys. Lett. A* **245** (1998), *no.* 5, 345–357. (Summary) **99e:81124** 81S40

— Solution of Coulomb path integral in momentum space. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 277–280. (Takashi Miura) **99m:81119** 81S40 (81Q99)

Kleinfeld, Erwin (*with* Kleinfeld, Margaret) On the nucleus of certain Lie admissible rings. *Comm. Algebra* **27** (1999), *no.* 3, 1313–1320. (Alberto Elduque) **99m:17041** 17D25

Kleinfeld, Margaret (*with* Kleinfeld, Erwin) On the nucleus of certain Lie admissible rings. *Comm. Algebra* **27** (1999), *no.* 3, 1313–1320. (Alberto Elduque) **99m:17041** 17D25

Kleinkauf, J.-M. (*with* Beyn, Wolf-Jürgen) The numerical computation of homoclinic orbits for maps. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 1207–1236. (Summary) **99d:58118** 58F13 (65L12, 65Q05)

Klein-Kreisler, Martin *see* **Symposium: High Energy Physics, 99d:81004**

Kleinman, Kenneth P. (*with* Ibrahim, Joseph G.) Semiparametric Bayesian methods for random effects models. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 89–114, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99d:62035** 62G05 (62F15, 62J12)

Kleinman, Ralph E. (*with* Dallas, Allan G.; Hsiao, George C.) Observations on the numerical stability of the Galerkin method. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 37–67. (Wojciech Mydlarczyk) **99m:65210** 65N30 (65N12, 65R20)

— (*with* Christiansen, Søren) Authors' reply to: "Comments on: 'On a misconception involving point collocation and the Rayleigh hypothesis'" [IEEE Trans. Antennas and Propagation **46** (1998), no. 11, 1765; 1665780] by A. B. Manenkov. *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 11, 1765–1766. 78–08 (78A45)

— (*with* Angell, Thomas S.; Vainberg, B. R.) Asymptotic methods for an optimal antenna problem. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 242–260 (*electronic*). (Summary) **99f:49058** 49N55 (35J05, 78A50)

— *see also* **Manenkov, A. B.**

Kleinmichel, Helmut (*with* Kanzow, Christian) A new class of semismooth Newton-type methods for nonlinear complementarity problems. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 3, 227–251. (Giorgio Giorgi) **99i:90099** 90C33 (49J40, 90C30)

Kleinschmidt, Peter *see* **Proceedings: Operations Research, 99d:90008**

Kleiss, Ronald (*with* van Hameren, André; Hoogland, Jiri) Gaussian limits for discrepancies. I. Asymptotic results. (English summary) *Comput. Phys. Comm.* **107** (1997), *no.* 1-3, 1–20. (Michael Mascagni) **99k:65009** 65C05 (11K36, 11K38)

— (*with* Hoogland, Jiri; James, Fred) Quasi-Monte Carlo, discrepancies and error estimates. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 266–276, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65070** 65D30 (65C05)

— (*with* van Hameren, André) Computer-aided analysis of Riemann sheet structures. (English summary) *Comput. Phys. Comm.* **116** (1999), *no.* 2-3, 311–318. 65E05 (65D99)

Kleitman, Daniel J. (*with* Leighton, Frank Thomson; Ma, Yuan) On the design of reliable Boolean circuits that contain partially unreliable gates. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 385–401. (Ronald E. Prather) **99g:94026** 94C10 (68M15, 68Q25)

— (*with* Pachter, Lior) Finding convex sets among points in the plane. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 405–410. (Summary) **99e:52021** 52C10

— (*with* Batzoglou, Serafim; Berger, Bonnie; Lander, Eric S.; Pachter, Lior) Recent developments in computational gene recognition. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 649–658 (*electronic*). (Summary) **99g:92022** 92D20 (92D10)

Klement, Erich Peter (*with* Navara, Mirko) A characterization of tribes with respect to the Łukasiewicz t-norm. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 689–700. (Dan Butnariu) **99c:28060** 28E10 (04A72, 28A20, 46S99)

— (*with* Mesiar, Radko; Pap, Endre) On some geometric transformation of t-norms. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 57–67. (Summary) **99c:04007** 04A72

— (*with* Navara, Mirko) A survey on different triangular norm-based fuzzy logics. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 241–251. (Summary) **99k:03019** 03B52

Klemeš, Ivo (*with* Reinhold, Karin) Rank one transformations with singular spectral type. (English summary) *Israel J. Math.* **98** (1997), 1–14. (Nathaniel Friedman) **99c:28049** 28D05

— (*with* Dooley, Anthony H.; Quas, Anthony N.) Product and Markov measures of type III. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 84–110. (N. N. Ganikhodzhaev) **99h:28039** 28D15 (28A35, 46L99)

Klemm, Albrecht Otto (*with* Mayr, Peter; Vafa, Cumrun) BPS states of exceptional non-critical strings. (English summary) Advanced quantum field theory (La Londe les Maures, 1996). *Nuclear Phys. B Proc. Suppl.* **58** (1997), 177–194. (Summary) **99a:81145** 81T30 (14J32, 32G81)

— (*with* Lian, Bong H.; Roan, Shi-shyr; Yau, Shing-Tung) Calabi-Yau four-folds for M- and F-theory compactifications. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 515–574. (Mark Gross) **99h:14042** 14J32 (14J35, 32J18, 81T30)

Klemm, Dietmar Topological black holes in Weyl conformal gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3195–3201. (Pankaj S. Joshi) **99i:83062** 83C57 (83D05)

— Rotating black branes wrapped on Einstein spaces. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 19, 11 *pp.* (*electronic*). (Marco Cavaglià) **99m:83189** 83E30 (83C57, 83E15)

— (*with* Moretti, Valter; Vanzo, Luciano) Rotating topological black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6127–6137. (Summary) **99m:83121** 83C57 (83C20)

— (*with* Vanzo, Luciano) Quantum properties of topological black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104025, 15 *pp.* (Summary) **99k:83073** 83C57 (81T20)

Klempien-Hinrichs, Renate Net refinement by pullback rewriting. (English summary) *Foundations of software science and computation structures* (*Lisbon*, 1998), 189–202, *Lecture Notes in Comput. Sci.*, 1378, *Springer, Berlin*, 1998. (*see* **99c:68005**) 68Q90 (68Q42, 68R10)

Klenke, Achim Multiple scale analysis of clusters in spatial branching models. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1670–1711. (Anton Wakolbinger) **99a:60091** 60J80 (60G57, 60K35)

— Clustering and invariant measures for spatial branching models with infinite variance. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1057–1087. (Luis G. Gorostiza) **99i:60160** 60J80 (60G57, 60K35)

Klepeis, J. L. (*with* Floudas, Christodoulos A.; Pardalos, Panos M.) Global optimization approaches in protein folding and peptide docking. (English summary) *Mathematical support for molecular biology*, 141–171, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 47, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:92020** 92D20 (90C90, 92C40)

Klepp, Horst J. On the kinetic state of a system with friction considering the material properties of several members. (English and German summaries) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 967–979. (Summary) **99h:70031** 70K99 (70E99, 73K12)

Kleppe, Jan O. The smoothness and the dimension of PGor(H) and of other strata of the punctual Hilbert scheme. *J. Algebra* **200** (1998), *no.* 2, 606–628. (A. A. Iarrobino, Jr.) **99k:14007** 14C05 (13H10, 14M05)

— (*with* Miró-Roig, Rosa M.) The dimension of the Hilbert scheme of Gorenstein codimension 3 subschemes. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 1, 73–82. (Vincenzo Di Gennaro) **99a:14002** 14C05 (14M05, 14M07)

Kleptsyna, M. L. (*with* Kloeden, Peter E.; Anh, Vo) Nonlinear filtering for processes with fractional Brownian motion. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 65–76; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 150–160. (Alexander Veretennikov) **99m:60069** 60G35 (93E11, 94A12)

de Klerk, E. (*with* Roos, Cornelis; Terlaky, Tamás) Infeasible-start semidefinite programming algorithms via self-dual embeddings. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 215–236, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Jos F. Sturm) **99b:90091** 90C25 (90C05)

— (*with* Roos, Cornelis; Terlaky, Tamás) A nonconvex weighted potential function for polynomial target following methods. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 3–14. (*see* **99b:90006**) 90C05

— (*with* Roos, Cornelis; Terlaky, Tamás) Polynomial primal-dual affine scaling algorithms in semidefinite programming. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 51–69. (Michael L. Dowling) **99e:90071** 90C26 (90C30)

— (*with* Quist, A. J.; Roos, Cornelis; Terlaky, Tamás) Copositive relaxation for general quadratic programming. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 185–208. (Summary) **99a:90145** 90C20

de Klerk, J. H. Solving singular integral equations. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 137–144, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65R20 (45L05)

Kleshchev, A. G. (*with* Derevtsov, E. Yu.; Sharafutdinov, Vladimir A.) Numerical solution of the emission 2D-tomography problem for a medium with absorption and refraction. (English summary) *J. Inverse Ill-Posed Probl.* **7** (1999), *no.* 1, 83–103. (Summary) **99m:65030** 65D17 (65Y25, 92C55)

Kleshchev, A. S. (*with* Artem'eva, I. L.; Gavrilova, T. L.) Systems of logical relations as models of object domains. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 27–28. 68P15

Kleshchev, Alexander S. Branching rules for symmetric groups and applications. *Algebraic groups and their representations* (*Cambridge*, 1997), 103–130, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (G. D. James) **99m:20015** 20C30 (20G05)

— Branching rules for modular representations of symmetric groups. IV. *J. Algebra* **201** (1998), *no.* 2, 547–572. (Christine Bessenrodt) **99d:20019** 20C30 (20C20, 20G05)

— (*with* Brundan, Jonathan; Suprunenko, Irina D.) Semisimple restrictions from GL(n) to GL($n-1$). (English summary) *J. Reine Angew. Math.* **500** (1998), 83–112. (Ben Ford) **99h:20069** 20G05 (20C20, 20G15)

— (*with* Baranov, Aleksandr A.) Maximal ideals in modular group algebras of the finitary symmetric and alternating groups. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 595–617. (Donald S. Passman) **99d:16028** 16S34 (20C05)

Klesov, Oleg (*with* Rosalsky, Andrew) On independence and conditional independence. (English summary) *J. Appl. Statist. Sci.* **6** (1997), *no.* 2-3, 121–124. (Summary) **99a:60002** 60A05

Kleß, Winfried (*with* Beyn, Wolf-Jürgen) Numerical Taylor expansions of invariant manifolds in large dynamical systems. (English summary) *Numer. Math.* **80** (1998), *no.* 1, 1–38. (Timothy Sauer) **99e:34054** 34C30 (34C05, 58F10, 65H17)

Klette, Tor Jakob (*with* Bjørn, Erik) Panel data with errors-in-variables: essential and redundant orthogonality conditions in GMM-estimation. (English summary) *Econom. Lett.* **59** (1998), *no.* 3, 275–282. 62P20

Kleva, Robert G. (*with* Guzdar, Parvez N.) Collisionless nonideal ballooning modes. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 116–121. 76W05

Klevchikhin, Yu. A. (*with* Frolov, N. N.) Multipliers of Hermite expansions in the spaces L^p. (Russian. English and Russian summaries) *Dal'nevost. Mat. Sb. No.* 2 (1996), 86–95, 199. (V. D. Koshmanenko) **99j:47024** 47A70 (46E30)

Kleyle, R. (*with* de Korvin, Andre) A note on fuzzy conditional expectation. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1005–1017. (Summary) **99f:60007** 60A10 (28E10)

Kleywegt, Anton J. (*with* Papastavrou, Jason D.) The dynamic and stochastic knapsack problem. (English summary) *Oper. Res.* **46** (1998), *no.* 1, 17–35. (Guntram Scheithauer) **99k:90134** 90C27 (90C15)

Kliakhandler, I. (*with* Kortsarts, Y.; Shtilman, L.; Sivashinsky, G. I.) Effects due to shear flow on the diffusive-thermal instability of premixed gas flames. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 401–412. (Summary) **99d:80010** 80A25

Klibanov, Michael V. Global convexity in diffusion tomography. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 247–265. (Alexander S. Denisjuk) **99e:92017** 92C55 (35Q80, 35R30, 44A12, 65M30)

Kliem, W. (*with* Pommer, C.; Stoustrup, Jakob) Stability of rotor systems: a complex modelling approach. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 644–655. (Summary) **99d:70030** 70J25 (34D20)

Kliemann, Wolfgang (*with* Colonius, Fritz) Control theory and dynamical systems. (English summary) *Six lectures on dynamical systems* (*Augsburg*, 1994), 121–161, *World Sci. Publishing, River Edge, NJ*, 1996. (Alexandr V. Pukhlikov) **99e:93001** 93-02 (34C35, 34H05, 58F40, 93C10)

— (*with* Colonius, Fritz; San Martin, Luiz A. B.) Asymptotic problems—from control systems to semigroups. *Positivity in Lie theory: open problems*, 21–43, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Kevin A. Grasse) **99k:58027** 58D07 (34C35, 34D05, 93D05)

— (*with* Colonius, Fritz) Topological, smooth, and control techniques for perturbed systems. (English summary) *Stochastic dynamics* (*Bremen*, 1997), 181–208, *Springer, New York*, 1999. (Klaus R. Schenk-Hoppé) **99m:58166** 58F30 (34C35, 58F14, 60H10, 93C10)

Kliger, Doron (*with* Levikson, Benny) Pricing insurance contracts—an economic viewpoint. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 243–249. (Wolf-Rüdiger Heilmann) **99m:62154** 62P05 (90A40, 90A46)

Klimaszewski, Krzysztof S. (*with* Hong, Mu; Sederberg, Thomas W.; Kaneda, Kazufumi) Triangulation of branching contours using area minimization. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 389–406. (Summary) **99d:68232** 68U05 (52B70)

Klimčík, C. (*with* Ševera, Pavol) T-duality and the moment map. (English summary) *Quantum fields and quantum space time* (*Cargèse*, 1996), 323–329, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Summary) **99h:81169** 81T30 (58F40, 58Z05)

— Poisson-Lie T-duality and (1, 1) supersymmetry. (English summary) *Phys. Lett. B* **414** (1997), *no.* 1-2, 85–91. (Yolanda Lozano) **99a:81146** 81T30 (81T60)

— (*with* Grosse, Harald; Prešnajder, P.) $N = 2$ superalgebra and non-commutative geometry. *Symétries quantiques* (*Les Houches*, 1995), 603–612, *North-Holland, Amsterdam*, 1998. (Jihad Mourad) **99m:58021** 58B30 (17B81, 81T99)

Klimek, J. (*with* Kraśkiewicz, W.; Weyman, Jerzy) A free resolution of a symplectic rank variety. *J. Algebra* **196** (1997), *no.* 2, 475–489. (José F. Andrade) **99b:13020** 13D25 (14M12)

Klimek, Małgorzata Noncanonical extension of classical and quantum mechanics. (English summary) *Quantum groups* (*Karpacz*, 1994), 531–538, *PWN, Warsaw*, 1995. (Marcelo R. Ubriaco) **99i:81103** 81R50 (81S05)

— The conservation laws for non-commutative and discrete models—Hermitian charges for certain discrete equations. (English summary) *New symmetries in the theories of fundamental interactions* (*Karpacz*, 1996), 299–306, *PWN, Warsaw*, 1997. (Andrzej Sitarz) **99f:58018** 58B30 (81R50, 81T99)

— Integrals of motion for some equations on q-Minkowski space. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1199–1206. (Mathias Pillin) **99c:81091** 81R50

— Conservation laws for linear equations on quantum Minkowski spaces. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 29–45. (Albert Jeu-Liang Sheu) **99b:81105** 81R50 (35L65, 46L89, 58B30, 70H35)

Klimek, Radosław Towards similarities of interpretations of temporal logic formulae. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 689–700. (Neculai Curteanu) **99g:03018** 03B45 (03B70, 68Q60, 68T27)

Klimek, Sławomir (*with* Leśniewski, Andrzej) Quantized Kronecker flows and almost periodic quantum field theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5605–5625. (H. Araki) **99h:46126** 46L60 (46L55, 82B10)

— (*with* Leśniewski, Andrzej) Ergodic theorems for quantum Kronecker flows. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 71–80, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Éric Leichtnam) **99b:11090** 11K55 (11Z05, 46L55, 47D03, 82B10)

— (*with* Leśniewski, Andrzej) Quantum maps. (English summary) *Perspectives on quantization* (*South Hadley, MA*, 1996), 81–90, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Dieter H. Mayer) **99f:81059** 81Q50 (46L55, 46L60, 58F11)

Klimenko, E. Ya. Two-generator discrete groups and hyperbolic orbifolds of infinite volume. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 174–175, 191, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (*see* **99a:00019**) 20H10 (30F40)

Klimenko, K. G. (*with* Vshivtsev, A. S.; Kisun′ko, A. G.; Peregudov, D. V.) Phase structure of the Gross-Neveu model taking into account the influence of temperature and finite volume. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 2, 29–45; *translation in Russian Phys. J.* **41** (1998), *no.* 2, 113–128. (Summary) **99c:81146** 81T16 (11E45, 11Z05, 81T10)

Klimenko, O. A. The emission tomography problem in a disk. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 7, 71–80. (Summary) **99b:44003** 44A12 (92C55)

Klimenko, Ye. V. (*with* Chikrii, Arkadii A.) Search methods for moving evaders. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **1** (1994), *no.* 4, 451–459. (O. A. Malafeyev) **99c:90176** 90D26 (49K15, 93C15)

Klimentenok, U. A. (*with* Korobitsyna, Zh. L.; Chernykh, G. G.) On the numerical realization of the Loĭtsyanskiĭ-Millionshchikov asymptotic solution. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 69–80. 65M99

Klimentov, D. S. (*with* Klimentov, S. B.; Markov, E. P.) On the concept of a covariant stochastic differential along the trajectory of a quasimartingale on a Riemannian manifold. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 1, 79–80, 88. 58G32 (60H10)

Klimentov, S. B. (*with* Klimentov, D. S.; Markov, E. P.) On the concept of a covariant stochastic differential along the trajectory of a quasimartingale on a Riemannian manifold. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 1, 79–80, 88. 58G32 (60H10)

— A stochastic analogue of the Gauss-Weingarten-Ricci formulas for n-dimensional submanifolds of an m-dimensional space of constant curvature. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 2, 17–20, 98. (Summary) **99e:58206** 58G32

Klimkin, V. M. (*with* Sribnaya, T. A.) Convergence of a sequence of weakly regular set functions. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 103–110; *translation in Math. Notes* **62** (1997), *no.* 1-2, 87–92 (1998). (Summary) **99m:28010** 28A20

Klimontovich, Yu. L. Chaoticity, degradation and self-organization in open systems. *Self-organization of complex structures* (*Berlin*, 1995), 37–50, *Gordon and Breach, Amsterdam*, 1997. (*see* **99k:92005**) 82C03 (92B05)

— Gas-liquid phase transition. The van der Waals model. (Russian. Russian summary) *Teoret. Mat. Fiz.* **115** (1998), *no.* 3, 437–458; *translation in Theoret. and Math. Phys.* **115** (1998), *no.* 3, 707–722. 82B26 (82D15)

Klimov, A. B. (*with* Chumakov, Sergey M.; Hellwig, Karl-Eberhard) The entropy of open finite-level systems. Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 471–479. (Matthew J. Donald) **99g:82052** 82C10 (47N55, 82C03)

Klimov, V. S. (*with* Pavlenko, A. N.) Nontrivial solutions of boundary value problems with strong nonlinearities. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1676–1682, 1727; *translation in Differential Equations* **33** (1997), *no.* 12, 1679–1685 (1998). (Summary) **99j:35023** 35G30

— Embedding theorems and outer transverse measures. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 21–27; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 7, 19–25. (N. Ya. Kruglyak) **99a:46060** 46E35 (46E30)

— A regularization method for evolution problems in the mechanics of viscoplastic media. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 483–493; *translation in Math. Notes* **62** (1997), *no.* 3-4, 405–413 (1998). (Mazen Mohamed Shahin) **99i:34085** 34G20 (34A60, 35Q72, 73E60)

— On the topological characteristics of Lipschitz functionals. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 86–88; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 137–139. 46G99 (46G05)

Klimova, O. V. Group-theoretic decomposition and fast parallel algorithms for the discrete Fourier transform. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 158–162. 65T20 (65Y05)

Klimyk, A. U. (*with* Burban, Ivan M.) P, Q-differentiation, P, Q-integration, and P, Q-hypergeometric functions related to quantum groups. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 1, 15–36. (Summary) **99f:33023** 33D80 (17B37, 81R50)

— (*with* Vilenkin, N. Ya.) ★ Representation of Lie groups and special functions. (English summary) Recent advances. Translated from the Russian manuscript by V. A. Groza and A. A. Groza. Mathematics and its Applications, 316. *Kluwer Academic Publishers Group, Dordrecht*, 1995. xvi+497 *pp. ISBN* 0-7923-3210-5 (P. D. F. Ion) **99f:33019** 33C80 (22–02, 33–02, 33D80)

— (*with* Schmüdgen, Konrad) ★ Quantum groups and their representations. (English summary) Texts and Monographs in Physics. *Springer-Verlag, Berlin*, 1997. xx+552 *pp. ISBN* 3-540-63452-5 (Ian M. Musson) **99f:17017** 17B37 (16W30, 17B81, 46L87, 58B30, 81R50)

— (*with* Gavrilik, A. M.; Iorgov, N. Z.) Nonstandard deformation $U_q'(\mathrm{so}_n)$: the imbedding $U_q'(\mathrm{so}_n) \subset U_q(\mathrm{sl}_n)$ and representations. *Symmetries in science, X* (*Bregenz*, 1997), 121–133, *Plenum, New York*, 1998. (Fabio Gavarini) **99j:81071** 81R50 (17B37)

— (*with* Havlíček, Miloslav; Pošta, S.) Representations of the cyclically symmetric q-deformed algebra $U_q(\mathrm{so}_3)$. (English summary) Quantum groups and integrable systems (Prague, 1998). *Czechoslovak J. Phys.* **48** (1998), *no.* 11, 1347–1353. (Michèle Irac-Astaud) **99m:81095** 81R50 (16W30, 17B37)

— Infinite-dimensional representations of quantum algebras and their applications. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1666–1673. (Władysław Marcinek) **99m:81096** 81R50 (17B37)

Klin, Mikhail (*with* Sushchanskiĭ, V. I.; Lazebnik, F. G.; Ustimenko, V. A.; Pöschel, R.; Vyshenskiĭ, V. A.) Lev Arkad′evich Kalužnin (1914–1990). Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 5–18. (Editors) **99m:01091** 01A70

— (*with* Muzychuk, Mikhail E.) On graphs with three eigenvalues. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 191–207. (Willem H. Haemers) **99k:05111** 05C50 (05E30)

— (*with* Betten, Anton; Laue, Reinhard; Wassermann, Alfred) Graphical t-designs via polynomial Kramer-Mesner matrices. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 83–109. (Summary) **99i:05027** 05B05 (20B30)

Klingen, Norbert ★ Arithmetical similarities. Prime decomposition and finite group theory. Oxford Mathematical Monographs. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1998. x+275 *pp. ISBN* 0-19-853598-8 (Manfred Lochter) **99k:11163** 11Rxx (20C15)

Klingenberg, Christian (*with* Lu, Yun-guang) The vacuum case in Diperna's paper. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 679–684. (Summary) **99d:35097** 35L60 (35Q35, 76N15)

Klingenberg, Wilhelm P. A. ★ Mathematik und Melancholie. (German) [Mathematics and melancholy] Von Albrecht Dürer bis Robert Musil [From Albrecht Dürer to Robert Musil]. Abhandlungen der Mathematisch-Naturwissenschaftlichen Klasse. Akademie der Wissenschaften und der Literatur in Mainz [Transactions of the Mathematical-Scientific Section. Academy of Sciences and Literature in Mainz], 97-1. *Franz Steiner Verlag Wiesbaden GmbH, Stuttgart*, 1997. 27 *pp. ISBN* 3-515-07184-9 (Eberhard Knobloch) **99a:01026** 01A80 (00A99, 01A40, 01A60, 01A70)

Klingenhöfer, F. (*with* Zähle, M.) Ordinary differential equations with fractal noise. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1021–1028. (Summary) **99f:60111** 60H10

Klinger, B. (*with* Grabner, Peter J.; Tichy, Robert F.) Discrepancies of point sequences on the sphere and numerical integration. (English summary) *Multivariate approximation* (*Witten-Bommerholz*, 1996), 95–112, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Gheorghe Coman) **99d:65069** 65D30 (65D15)

— Numerical integration of singular integrands using low-discrepancy sequences. (English summary) *Computing* **59** (1997), *no.* 3, 223–236. (Dumitru Acu) **99b:65024** 65D30 (11K45)

Klingler, Andrew New derivation of the Heisenberg kernel. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 2051–2060. (Chu Li Fu) **99h:35026** 35H05 (35R60, 58G11)

Klingler, Bruno Structures affines et projectives sur les surfaces complexes. [Affine and projective structures on complex surfaces] *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 441–477. (William Goldman) **99c:32038** 32J15 (57M50)

Klingler, Lee (*with* Feldvoss, Jörg) Tensor powers and projective modules for Hopf algebras. *Algebras and modules, II* (*Geiranger*, 1996), 195–203, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Vladislav K. Kharchenko) **99h:16058** 16W30 (17B10)

— (*with* Hindman, Peter; Odenthal, Charles J.) On the Krull-Schmidt-Azumaya theorem for integral group rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3743–3758. (Jeremy Haefner) **99i:16012** 16D70 (20C05, 20C10)

Klink, W. H. Quantum mechanics in noninertial reference frames and representations of the Euclidean line group. (English summary) *Symmetry in nonlinear mathematical*

physics, Vol. 1, 2 (*Kyiv*, 1997), 254–261, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81R05

Klinkhamer, F. R. Fermion zero-modes of a new constrained instanton in Yang-Mills-Higgs theory. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 142–160. (Summary) **99a:81103** 81T13

— *Z*-string global gauge anomaly and Lorentz non-invariance. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 233–241. (Summary) **99h:81199** 81T50

Klinkhammer, John J. On the Pompeiu problem in $\mathbf{R}^n$. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 153–165, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (José Bonet) **99a:46069** 46F05 (46E99)

Klinowski, Jacek (*with* Cvijović, Djurdje) An application for the Chebyshev polynomials. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 105–110. (Summary) **99k:33024** 33C45 (11M06, 33C90)

— (*with* Cvijović, Djurdje) Algebraic trigonometric numbers. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 11–14. (Richard T. Bumby) **99g:11023** 11B68 (12E10)

Klinz, Bettina (*with* Dudás, T.; Woeginger, Gerhard J.) The computational complexity of the k-minimum spanning tree problem in graded matrices. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 61–67. (Summary) **99e:68066** 68Q25 (05C05, 05C85, 68R10)

— (*with* Burkard, Rainer E.; Feldbacher, Karin; Woeginger, Gerhard J.) Minimum-cost strong network orientation problems: classification, complexity, and algorithms. (English summary) *Networks* **33** (1999), *no.* 1, 57–70. (K. G. Murty) **99k:90185** 90C35 (05C20, 90C27)

Kliorys, Constantine Applications of algebraic units. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 23–26, *VSP, Utrecht*, 1997. (W. Narkiewicz) **99g:11130** 11R27 (11R04, 11R16)

Klipple, K. (*with* Eubank, Randall L.; Kambour, E. L.; Kim, Jongtae; Reese, C. S.; Schimek, M.) Estimation in partially linear models. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 1, 27–34. (Li-Xing Zhu) **99k:62074** 62G05 (62J02)

Klir, George J. (*with* Harmanec, David) On information-preserving transformations. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 3, 265–290. (Summary) **99k:68186** 68T30 (90A05, 94A12)

— (*with* Wierman, Mark J.) ★ Uncertainty-based information. Elements of generalized information theory. Studies in Fuzziness and Soft Computing, 15. *Physica-Verlag, Heidelberg*, 1998. *xvi*+168 *pp. ISBN* 3-7908-1073-8 (Leandro Pardo) **99i:94019** 94A15 (04A72, 68T30, 94–02)

Klisch, Thomas Contact mechanics in multibody systems. (English summary) *Multibody Syst. Dyn.* **2** (1998), *no.* 4, 335–354. (Summary) **99h:70017** 70E99 (70F99)

Klitzing, R. (*with* Gähler, F.) The diffraction pattern of self-similar tilings. (English summary) *The mathematics of long-range aperiodic order* (*Waterloo, ON*, 1995), 141–174, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 489, *Kluwer Acad. Publ., Dordrecht*, 1997. (Mihail N. Kolountzakis) **99b:52054** 52C22 (82D25)

Klobučar, Davor On nonexistence of an integer regular polygon. (English and Croatian summaries) *Math. Commun.* **3** (1998), *no.* 1, 143–146. (Summary) **99g:51016** 51M20

Kloeden, Peter E. (*with* Yannios, N.) Time discretization solution of stochastic differential equations. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 823–830, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65U05 (34F05)

— (*with* Diamond, Phil; Krasnosel'skiĭ, A. M.; Pokrovskiĭ, A. V.) Bifurcation at infinity for equations in spaces of vector-valued functions. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 263–280. (Jean Mawhin) **99a:47094** 47H15 (34B15, 34C25, 47H11, 47H30)

— (*with* Al-Nayef, A. A.; Pokrovskiĭ, A. V.) Semi-hyperbolic mappings, condensing operators, and neutral delay equations. (English summary) *J. Differential Equations* **137** (1997), *no.* 2, 320–339. (Introduction) **99c:34185** 34K40 (34K15, 47H09, 47N20, 58F15)

— (*with* Diamond, Phil; Kozyakin, V. S.; Pokrovskiĭ, A. V.) A model for roundoff and collapse in computation of chaotic dynamical systems. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 163–185. (T. Erber) **99a:58114** 58F13 (34C35, 58F12, 65C20, 65L20)

— Lyapunov functions for cocycle attractors in nonautonomous difference equations. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 32–42, 150, 153. (Björn Schmalfuss) **99k:58109** 58F10 (39A10)

— (*with* Stonier, D. J.) Cocycle attractors in nonautonomously perturbed differential equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 2, 211–226. (Björn Schmalfuss) **99c:58101** 58F12 (34G20, 35B40, 47H20, 54H20)

— (*with* Diamond, Phil; Vladimirov, A. A.) Spikes, broken planes and the approximation of convex fuzzy sets. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 225–232. (Summary) **99e:54002** 54A40 (52A27)

— (*with* Diamond, Phil; Kozyakin, V. S.; Pokrovskiĭ, A. V.) Boundedness and dissipativity of truncated rotations on uniform planar lattices. (English summary) *Math. Nachr.* **191** (1998), 59–81. (Mark J. Friedman) **99f:52020** 52C05 (58F08, 68U20)

— (*with* Kleptsyna, M. L.; Anh, Vo) Nonlinear filtering for processes with fractional Brownian motion. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 2, 65–76; *translation in Problems Inform. Transmission* **34** (1998), *no.* 2, 150–160. (Alexander Veretennikov) **99m:60069** 60G35 (93E11, 94A12)

— (*with* Schmalfuß, Björn) Asymptotic behaviour of nonautonomous difference inclusions. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 275–280. (Olusola Akinyele) **99d:39006** 39A10

Kloek, T. Loss development forecasting models: an econometrician's view. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 3, 251–261. 62P05

Kloker, Markus J. A robust high-resolution split-type compact FD scheme for spatial direct numerical simulation of boundary-layer transition. (English summary) *Appl. Sci. Res.* **59** (1998), *no.* 4, 353–377. (Summary) **99g:76092** 76M20 (76F99)

Klokov, Yu. A. On the Bernstein-Nagumo conditions in Neumann boundary value problems for ordinary differential equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 184–188, 285; *translation in Differential Equations* **34** (1998), *no.* 2, 187–191. (Summary) **99j:34024** 34B15

— (*with* Sadyrbaev, F. Zh.) On the number of solutions of second-order boundary value problems with nonlinear asymptotics. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 471–479, 573; *translation in Differential Equations* **34** (1998), *no.* 4, 469–477. (Andrey Ponomaryov) **99m:34036** 34B15 (34L30)

Kloks, Ton (*with* Broersma, H. J.; Dahlhaus, Elias) Algorithms for the treewidth and minimum fill-in of HHD-free graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 109–117, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (*see* **99d:68005**) 68R10 (05C85, 68Q25)

— (*with* Kratsch, Dieter; Müller, Haiko) Asteroidal sets in graphs. *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 229–241, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68112** 68Q25 (05C85, 68R10)

— (*with* Broersma, H. J.; Huck, Andreas; Koppius, Otto; Kratsch, Dieter; Müller, Haiko; Tuinstra, Hilde) Degree-preserving forests. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 713–721, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q25)

— (*with* Müller, Haiko; Wong, Chiu-Kwong) Vertex ranking of asteroidal triple-free graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 201–206. (Summary) **99h:05112** 05C85 (68R10)

— (*with* Kratsch, Dieter; Müller, Haiko) Bandwidth of chain graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 313–315. (Summary) **99i:68093** 68R10 (05C85)

— (*with* Kratsch, Dieter; Wong, Chak Kuen) Minimum fill-in on circle and circular-arc graphs. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 272–289. (Hans L. Bodlaender) **99e:05118** 05C85

— (*with* Bodlaender, Hans L.; Kratsch, Dieter; Müller, Haiko) Treewidth and minimum fill-in on d-trapezoid graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 5, 23 *pp.* (*electronic*). (Xiao Tie Deng) **99d:05079** 05C85

— (*with* Kratsch, Dieter) Listing all minimal separators of a graph. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 605–613 (*electronic*). (Nigel Martin) **99d:68193** 68R10 (05C85)

— (*with* Bodlaender, Hans L.; Deogun, Jitender S.; Jansen, Klaus; Kratsch, Dieter; Müller, Haiko; Tuza, Zsolt) Rankings of graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 168–181 (*electronic*). (Peter Damaschke) **99b:68143** 68R10 (05C15, 05C78, 05C85)

Klop, Jan Willem (*with* Ariola, Zena M.) Lambda calculus with explicit recursion. (English summary) *Inform. and Comput.* **139** (1997), *no.* 2, 154–233. (Detlef Plump) **99c:68031** 68N15 (03B40)

— (*with* Bezem, Marc; van Oostrom, Vincent) Diagram techniques for confluence. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 172–204. (Klaus Madlener) **99e:68080** 68Q42 (03F50)

Klopotek, Mieczyslaw A. On (anti) conditional independence in Dempster-Shafer theory. (English summary) *Mathware Soft Comput.* **5** (1998), *no.* 1, 69–89. (Maria-Teresa Lamata) **99f:68193** 68T30

Klopp, Frédéric Band edge behavior of the integrated density of states of random Jacobi matrices in dimension 1. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 927–947. (Nariyuki Minami) **99d:82035** 82B44 (47B39, 47B80, 47N55)

Klose, Andreas (*with* Bruns, Arno) A "locate first—route second" heuristic for a combined location-routeing problem. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 49–54, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B80 (90C35)

Klosek-Dygas, M. M. (*with* Doering, Charles R.; Dontcheva, Lubomira A.) Constructive role of noise: fast fluctuation asymptotics of transport in stochastic ratchets. (English summary) *Chaos* **8** (1998), *no.* 3, 643–649. (Summary) **99e:70064** 70L05 (70K50)

Kloskowska, B. (*with* Barannik, L. F.; Mityushev, Vladimir) Invariant solutions of the multidimensional Boussinesq equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 62–69, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:35193** 35Q35

Klostermeyer, William F. An analogue of Camion's theorem in squares of cycles. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 205–218. (Summary) **99j:05133** 05C45

— (*with* Šoltés, Ľubomír) Hamiltonicity and reversing arcs in digraphs. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 13–30. (R. C. Entringer) **99g:05124** 05C45 (05C20)

— Pushing vertices and orienting edges. (English summary) *Ars Combin.* **51** (1999), 65–75. (Summary) **99j:05083** 05C20 (05C85)

— (*with* Dutton, Ronald D.) A faster algorithm for least deviant path. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 33–40. (Summary) **99m:05149** 05C85

Klotz, Jerome (*with* Kang, Seung-ho) Limiting conditional distribution for tests of independence in the two way table. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2075–2082. (Truc Nguyen) **99j:62083** 62H17

— A linked list for the Wilcoxon signed rank test. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 1, 87–93. (Summary) **99c:62135** 62G10

Klotz, L. (*with* Cheng, Raymond) Hardy spaces on products of halfplanes and prediction of homogeneous random fields. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 519–542. (Mohsen Pourahmadi) **99c:42036** 42B30 (32A35, 60G25, 60G60)

— Orthogonal projection and restricted subordination of Hilbert-Schmidt operator-valued stationary processes. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 557–563. (J. Hüsler) **99i:60085** 60G10 (47B10, 47N30, 60H25)

Klotzek, Benno Diskontinuierliche Bewegungsgruppen verschiedenen Grades in verschiedenen Geometrien. (English summary) [Discontinuous motion groups of varying degree in different geometries] *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol.* 2 (*Aachen*, 1995), 257–271, *Brepols, Turnhout*, 1998. (Summary) **99m:51023** 51F99 (57S30)

Klötzler, R. Strong duality for transportation flow problems. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 225–228. (Summary) **99a:90091** 90B10 (49J99, 49N15, 49Q99)

Klouček, Petr The computational modeling of nonequilibrium thermodynamics of the martensitic transformations. (English summary) *Comput. Mech.* **22** (1998), *no.* 3, 239–254. (Summary) **99g:73013** 73B30 (73S10, 73V20, 80–08)

— (*with* Toffoletto, Frank R.) The three-dimensional non-conforming finite element solution of the Chapman-Ferraro problem. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 549–560. (Summary) **99m:86009** 86A10 (86–08)

Kløve, Torleiv On codes satisfying the double chain condition. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 173–195. (Harold N. Ward) **99a:94046** 94B05

— (*with* Chen, Wen De) Weight hierarchies of linear codes satisfying the chain condition. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 47–66. (Giorgio Faina) **99m:94040** 94B05

— (*with* Anderson, Ross; Ding, Cunsheng; Helleseth, Tor) How to build robust shared control systems. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 111–124. (Summary) **99i:94039** 94A60

— (*with* Chen, Wen De) Weight hierarchies of extremal non-chain binary codes of dimension 4. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 276–281. (Summary) **99k:94045** 94B05

— (*with* Fu, Fang Wei; Shen, Shi-Yi) On the Hamming distance between two i.i.d. random n-tuples over a finite set. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 803–807. (Summary) **99k:94068** 94B65

Klucký, Dalibor (*with* Marková, Libuše) Coordinatization of projective planes by special planar ternary rings. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 53–62. (Maria Rosaria Enea) **99f:51005** 51A25 (20N10)

Klucznik, Michael Presentations of Schur complexes attached to row convex shapes. *Adv. Math.* **135** (1998), *no.* 1, 41–75. (Stuart Martin) **99b:20074** 20G05 (13D25)

Kluever, Craig A. Optimal low-thrust interplanetary trajectories by direct method techniques. (English summary) *J. Astronaut. Sci.* **45** (1997), *no.* 3, 247–262. (Summary) **99a:70041** 70M20 (49N55, 70Q05)

Klugerman, Michael (*with* Russell, Alexander; Sundaram, Ravi) On embedding complete graphs into hypercubes. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 289–293. (Summary) **99c:05054** 05C10

Klugman, Stuart A. (*with* Panjer, Harry H.; Willmot, Gordon E.) ★ Loss models. (English summary) From data to decisions. With the assistance of Gary G. Venter. Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. xvi+644 *pp. ISBN* 0-471-23884-8 (Jan Beirlant) **99b:62155** 62P05

Klümper, Andreas Thermodynamics of integrable quantum chains: free energy and correlation lengths. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin*, 1995), 203–210, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20

— (*with* Wehner, T.; Zittartz, J.) Thermodynamics of the quantum Perk-Schultz model. (English summary) *J. Phys. A* **30** (1997), *no.* 6, 1897–1912. (Aleksei P. Isaev) **99b:82014** 82B10 (82B20)

— (*with* Jüttner, G.; Suzuki, Junji) From fusion hierarchy to excited state TBA. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 581–600. (Deng Feng Wang) **99c:82014** 82B20

— *see also* **Field theoretical tools for polymer and particle physics, 99k:82001**

Klüners, Jürgen (*with* Daberkow, M.; Fieker, C.; Pohst, Michael E.; Roegner, K.; Schörnig, M.; Wildanger, K.) KANT V4. (English summary) Computational algebra and number theory (London, 1993). *J. Symbolic Comput.* **24** (1997), *no.* 3-4, 267–283. (Wieb Bosma) **99g:11150** 11Y40 (12Y05, 68Q40)

— (*with* Acciaro, Vincenzo) Computing automorphisms of abelian number fields. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1179–1186. (Michael E. Pohst) **99i:11099** 11R20 (11Y40)

Klüppelberg, Claudia (*with* Goldie, Charles M.) Subexponential distributions. (English summary) *A practical guide to heavy tails (Santa Barbara, CA*, 1995), 435–459, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 60E05 (60G70, 60J15, 60J30, 60K25, 62P05)

— (*with* Borkovec, Milan) Extremal behavior of diffusion models in finance. (English summary) *Extremes* **1** (1998), *no.* 1, 47–80. (Angelos Dassios) **99m:60130** 60J70 (60H30, 60J60, 90A09)

— (*with* Stadtmüller, Ulrich) Ruin probabilities in the presence of heavy-tails and interest rates. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 49–58. (Paul Embrechts) **99f:62121** 62P05 (60K30)

— (*with* Asmussen, Søren; Sigman, Karl) Sampling at subexponential times, with queueing applications. (English summary) *Stochastic Process. Appl.* **79** (1999), *no.* 2, 265–286. (Hanspeter Schmidli) **99k:60224** 60K25 (60G70, 60J25, 90B22)

Kluska, Jacek Robustness of fuzzy control with respect to plant parameters modifications—simulation results. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 125–138. 93C42 (93B36)

Kluwick, Alfred Interacting laminar and turbulent boundary layers. (English summary) *Recent advances in boundary layer theory (Udine*, 1997), 231–330, *CISM Courses and Lectures*, 390, *Springer, Vienna*, 1998. (Summary) **99j:76032** 76D10 (76F99, 76N20)

— (*with* Cox, E. A.) Nonlinear waves in materials with mixed nonlinearity. (English summary) *Wave Motion* **27** (1998), *no.* 1, 23–41. (Akira Tsutsumi) **99a:35165** 35L60 (76N10, 76Q05)

— *see also* **Recent advances in boundary layer theory, 99h:76004**

Klyachin, V. A. New examples of tubular minimal surfaces of arbitrary codimension. (Russian) *Mat. Zametki* **62** (1997), *no.* 1, 154–156; *translation in Math. Notes* **62** (1997), *no.* 1-2, 129–131 (1998). (Vladimir G. Tkachev) **99e:53008** 53A10

Klyachko, A. *see* **Klyachko, Aleksandr Anatol'evich**

Klyachko, A. A. *see* **Klyachko, Anton Alexandrovich**

Klyachko, Aleksandr Anatol'evich (*with* Duchamp, Gérard; Krob, Daniel; Thibon, Jean-Yves) Noncommutative symmetric functions. III. Deformations of Cauchy and convolution algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 159–216. (Arun Ram) **99m:05161** 05E05 (15A15, 20F36)

— (*with* Kurtaran, E.) Some identities and asymptotics for characters of the symmetric group. *J. Algebra* **206** (1998), *no.* 2, 413–437. (Vasily A. Chernecky) **99h:14033** 14H30 (14H55, 20C30, 30F10)

Klyachko, Anton Alexandrovich (*with* Prishchepov, M. I.) The descent method for equations over groups. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 90–93; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 56–58. (L. Bokut') **99g:20052** 20F05

— Asphericity tests. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 4, 415–431. (Summary) **99d:20059** 20F32 (20F05, 57M07)

Klyachko, S. D. Elastic plate in gas flow: reducing from anisotropy to orthotropy. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1231–1247. 73K70 (73F15, 73K10)

Klyatskin, V. I. (*with* Gryanik, N. V.; Gurarie, D.) Propagation and localization of Rossby waves over random topography (two-layer model). (English summary) *Wave Motion* **28** (1998), *no.* 4, 333–352. (From the text) **99g:76028** 76C20 (35Q35, 76M35, 76V05, 86A05)

Klyshko, D. N. Reduction of the wave function: an operational approach. (English summary) *Phys. Lett. A* **243** (1998), *no.* 4, 179–186. (Summary) **99b:81126** 81S30 (81P99)

Klyuchnikova, A. V. (*with* Elizarova, T. G.; Kalachinskaya, I. S.; Sheretov, Yu. V.) Application of quasi-hydrodynamic equations for modeling thermal convection at low Prandtl numbers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1732–1742; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1662–1671. (Summary) **99f:76089** 76M20 (76D45, 76R05)

Klyushin, D. A. (*with* Lyashko, S. I.; Palienko, L. I.) Modeling and generalized optimization in pseudo-hyperbolic systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 78–87, 155. 49K20 (93C20)

Klyushnikov, V. D. ★ Физико-математические основы прочности и пластичности. (Russian. Russian summary) [Mathematical-physical foundations of strength and plasticity] Элементы теории определяющих соотношений. [Elements of the theory of constitutive relations] *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1994. 191 *pp. ISBN* 5-211-03078-8 (Z. Mróz) **99i:73039** 73E05 (73B05, 73B30, 73M25)

Kmenta, Jan ★ Elements of econometrics. (English summary) Reprint of the 1986 second edition. *University of Michigan Press, Ann Arbor, MI*, 1997. xiv+786 *pp. ISBN* 0-472-10886-7 (Kajal Lahiri) **99m:62003** 62–01 (62P20)

Knabner, Peter (*with* Tapp, C.; Thiele, K.) Adaptive finite volume discretization of density driven flows in porous media. Proceedings of the Algoritmy'97 Conference on Scientific Computing (Zuberec). *Acta Math. Univ. Comenian. (N.S.)* **67** (1998), *no.* 1, 115–136. (Zhangxin Chen) **99j:65156** 65M55 (76M10, 76S05)

— (*with* Barrett, John W.) An improved error bound for a Lagrange-Galerkin method for contaminant transport with non-Lipschitzian adsorption kinetics. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1862–1882 (*electronic*). (Bruno Scheurer) **99h:65167** 65M60 (35K60, 76M25, 76R50, 76S05)

Knaepen, Bernard (*with* Henneaux, Marc; Schomblond, Christiane) Characteristic cohomology of p-form gauge theories. (English summary) *Comm. Math. Phys.* **186** (1997), *no.* 1, 137–165. (Henrik Aratyn) **99c:81255** 81T70 (58Z05, 81T13)

Knapek, S. Matrix-dependent multigrid homogeneization for diffusion problems. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 515–533 (*electronic*). (Pieter W. Hemker) **99f:65170** 65N30 (35B27, 65N55)

Knapp, A. W. Introduction to the Langlands program. *Representation theory and automorphic forms (Edinburgh*, 1996), 245–302, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Joe Repka) **99d:11123** 11R39 (11F70, 11S37, 22E55)

Knaster, Bronisław *see* **Charatonik, Janusz J., 99e:01023**

Knauf, Andreas The size of the shadow boundary projection. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 519–527. (Daniel Hug) **99c:52010** 52A38

Knebusch, Manfred On valuation spectra. *Singularities Symposium—Łojasiewicz* 70 (*Kraków*, 1996; *Warsaw*, 1996), 147–148, *Banach Center Publ.*, 44, *Polish Acad. Sci., Warsaw*, 1998. (*see* **99i:00035**) 13A18

Kneebone, G. T. (*with* Semple, J. G.) ★ Algebraic projective geometry. (English summary) Reprint of the 1979 edition. Oxford Classic Texts in the Physical Sciences. *The Clarendon Press, Oxford University Press, New York*, 1998. *viii*+404 *pp. ISBN* 0-19-850363-6 (Editors) **99h:14001** 14–01 (51–01)

Kneip, Alois (*with* Park, Byeong U.; Simar, Léopold) A note on the convergence of nonparametric DEA estimators for production efficiency scores. (English summary) *Econometric Theory* **14** (1998), *no.* 6, 783–793. (Summary) **99i:62069** 62G05 (62P20)

— Behavioral heterogeneity and structural properties of aggregate demand. (English summary) Aggregation. *J. Math. Econom.* **31** (1999), *no.* 1, 49–79. (*see* **99k:90003**) 90A40

— (*with* Hildenbrand, W.) Demand aggregation under structural stability. (English summary) Aggregation. *J. Math. Econom.* **31** (1999), *no.* 1, 81–109. (*see* **99k:90003**) 90A40

Knessl, Charles Integral representations and asymptotic expansions for Shannon and Renyi entropies. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 2, 69–74. (Summary) **99d:94013** 94A17

— (*with* Ahluwalia, Daljit S.; Keller, Joseph B.) Advection-diffusion around a curved obstacle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3694–3710. (Summary) **99b:76081** 76R50

— An explicit solution to a tandem queueing model. (English summary) *Queueing Systems Theory Appl.* **30** (1998), *no.* 3-4, 261–272. (O. K. Zakusilo) **99k:60223** 60K20 (60K25, 90B22)

— (*with* Tier, Charles) Heavy traffic analysis of a Markov-modulated queue with finite capacity and general service times. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 1, 257–323 (*electronic*). (Summary) **99g:60172** 60K25 (35Q99)

Knežević, Zoran (*with* Milani, Andrea) Asteroid mean elements: higher order and iterative theories. (English summary) *Celestial Mech. Dynam. Astronom.* **71** (1998/99), *no.* 1, 55–78. (Summary) **99k:70011** 70F15 (70–08)

Knežević Miljanović, Julka An asymptotic analysis of a linear differential equation. *Filomat No.* 11 (1997), 149–151. (W. J. Kim) **99c:34060** 34C10

Kniazeva, M. (*with* Yin, Gang George) Singularly perturbed multidimensional switching diffusions with fast and slow switchings. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 605–630. (Qing Zhang) **99m:60123** 60J60

Knickerbocker, C. J. (*with* Hendry, George R. T.; Lock, Patti Frazer; Sheard, Michael) Forbidden subgraphs of graphs uniquely Hamiltonian-connected from a vertex. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 281–290. (Summary) **99b:05093** 05C45

Knight, B. (*with* Duffy, Joseph; Crane, Carl D.; Rooney, J.) An investigation of a special motion of an octahedron manipulator using screw theory. (English summary) *Advances in robot kinematics: analysis and control (Salzburg*, 1998), 307–316, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:70002**) 70B15

Knight, Doyle D. (*with* Okong'o, Nora) Implicit unstructured Navier-Stokes simulation of leading edge separation over a pitching airfoil. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 269–308. 76M20

— (*with* Kergaravat, Y.; Jacon, F.; Okong'o, Nora) A fully-implicit 2-D Navier-Stokes algorithm for unstructured grids. (English summary) *Int. J. Comput. Fluid Dyn.* **9** (1998), *no.* 2, 179–196. 76M20

Knight, J. F. (*with* Ash, C. J.; Remmel, Jeffrey B.) Quasi-simple relations in copies of a given recursive structure. *Ann. Pure Appl. Logic* **86** (1997), *no.* 3, 203–218. (Rodney G. Downey) **99a:03046** 03D45

— (*with* Ash, C. J.) Possible degrees in recursive copies. II. (English summary) Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 151–165. (Marius Zimand) **99b:03060** 03D45

— Coding a family of sets. (English summary) Conference on Computability Theory (Oberwolfach, 1996). *Ann. Pure Appl. Logic* **94** (1998), *no.* 1-3, 127–142. (Cristian Calude) **99f:03061** 03D45 (03D55)

Knight, J. L. (*with* Maekawa, K.; Hisamatsu, H.) Finite sample comparisons of the distributions of the OLS and GLS estimators in regression with an integrated regressor and correlated errors. (English summary) *Econometric Rev.* **17** (1998), *no.* 4, 387–413. (Summary) **99j:62096** 62J05

Knight, John E. Finitely additive τ-smooth measures and the Wallman space. (English summary) *J. Math. Sci. (Calcutta)* **8** (1997), *no.* 2, 71–84. (Pedro Jiménez Guerra) **99c:28038** 28C15 (28A10, 28A12)

— Some remarks concerning finitely subadditive outer measures with applications. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 653–669. (K. P. S. Bhaskara Rao) **99h:28003** 28A12

Knight, Keith Limiting distributions for L_1 regression estimators under general conditions. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 755–770. (Gutti J. Babu) **99f:62037** 62F12 (60F05, 62J05)

— A "delta method" approach to Bahadur-Kiefer theorems. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 3, 555–568. (Miguel A. Arcones) **99g:60048** 60F05 (60F15, 62E20)

Knight, Peter L. Quantum fluctuations in optical systems. *Fluctuations quantiques (Les Houches, 1995)*, 1–78, *North-Holland, Amsterdam*, 1997. (*see* **99k:81356**) 81V80 (81-02, 81S30)

— (*with* Rathe, U. W.; Sanders, Peter) A case study in scalability: an ADI method for the two-dimensional time-dependent Dirac equation. (English summary) *Parallel Comput.* **25** (1999), *no.* 5, 525–533. 65F30 (65Y05)

Knight, Philip A. (*with* Grinfeld, Michael; Lamba, Harbir) On the periodically perturbed logistic equation. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8035–8040. (Summary) **99a:39014** 39A10 (58F13)

Knight, R. W. (*with* Gartside, P. M.; McIntyre, D. W.) All finite distributive lattices occur as intervals between Hausdorff topologies. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 167–172 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A10 (06D05, 54D80)

Knight, Thomas F., Jr. (*with* Frank, Michael Patrick; Margolus, Norm) Reversibility in optimally scalable computer architectures. (English summary) *Unconventional models of computation (Auckland, 1998)*, 165–182, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68M07 (68Q05)

— (*with* Sussman, Gerald Jay) Cellular gate technology. (English summary) *Unconventional models of computation (Auckland, 1998)*, 257–272, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 92C05 (68Q05)

bellamy-Knights, P. G. *see* **Bellamy-Knights, P. G.**

Knijnenburg, Peter M. W. (*with* Bik, Aart J. C.; Brinkhaus, J. H.; Wijshoff, Harry A. G.) The automatic generation of sparse primitives. (English summary) *ACM Trans. Math. Software* **24** (1998), *no.* 2, 190–225. 65F50 (65-04, 68N20)

Knill, Emanuel (*with* Bruno, W. J.; Torney, D. C.) Non-adaptive group testing in the presence of errors. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 261–290. (Ding Zhu Du) **99m:92021** 92D20

— (*with* Chuang, Isaac; Laflamme, R.) Effective pure states for bulk quantum computation. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3348–3363. (V. Ya. Kreinovich) **99k:81045** 81P99 (68Q75)

— (*with* Laflamme, R.; Zurek, Wojciech Hubert; Catasti, P.; Mariappan, S. V. S.) NMR Greenberger-Horne-Zeilinger states. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1941–1948. (V. Ya. Kreinovich) **99m:81036** 81P99 (68Q75, 81-05, 81P05)

— (*with* Viola, Lorenza; Lloyd, Seth) Dynamical decoupling of open quantum systems. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2417–2421. (Summary) **99k:81053** 81P99 (81V99)

— *see also* **Quantum coherence and decoherence, 99h:81007**

Knill, Oliver (*with* Reed, E.) Complexity growth in almost periodic fluids in the case of lattice gas cellular automata and Vlasov systems. (English summary) *Complex Systems* **10** (1996), *no.* 3, 219–227. (Summary) **99a:82079** 82C40 (82C20)

— A deterministic displacement theorem for Poisson processes. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **3** (1997), 110–113 (*electronic*). (B. M. Gurevich) **99a:58107** 58F11 (58F05, 60G55, 70H05, 82C22)

— On the dynamics of a general unitary operator. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 91–95. (Jan Kwiatkowski) **99f:47015** 47A35 (47D03, 47N50, 81Q50)

— Singular continuous spectrum and quantitative rates of weak mixing. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 33–42. (Mahendra G. Nadkarni) **99c:28050** 28D05 (28D15, 28D20, 58F11)

— On nonconvex caustics of convex billiards. (German summary) *Elem. Math.* **53** (1998), *no.* 3, 89–106. (Roberto Markarian) **99i:58122** 58F17 (58F13)

— A remark on quantum dynamics. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 3, 233–241. (Roberto Artuso) **99f:81040** 81Q05

Knio, Omar M. (*with* Ting, Lu) Vortical flow outside a sphere and sound generation. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 4, 972–981. (Rupert Klein) **99a:76024** 76C05 (76Q05)

— (*with* Najm, Habib N.; Wyckoff, Peter S.) A semi-implicit numerical scheme for reacting flow. I. Stiff chemistry. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 381–402. (Summary) **99b:80002** 80-08 (76M20, 80A32)

Knisley, Debra (*with* Haynes, Teresa W.) Generalized maximum degree and totally regular graphs. (English summary) *Util. Math.* **54** (1998), 211–221. (Summary) **99g:05111** 05C35

Knizhnerman, Leonid (*with* Druskin, Vladimir) Extended Krylov subspaces: approximation of the matrix square root and related functions. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 755–771 (*electronic*). (Larisa V. Maslovskaya) **99f:65063** 65F25 (65N99)

— (*with* Druskin, Vladimir; Greenbaum, A.) Using nonorthogonal Lanczos vectors in the computation of matrix functions. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 38–54 (*electronic*). (Zhenyue Zhang) **99e:65053** 65F10 (65F15)

Knoblauch, Vicki Order isomorphisms for preferences with intransitive indifference. (English summary) *J. Math. Econom.* **30** (1998), *no.* 4, 421–431. (Summary) **99k:90014** 90A06 (90A08)

Knobloch, E. *see* **Knobloch, Edgar**

Knobloch, Eberhard (*with* Pieper, Herbert; Pulte, Helmut) "... das Wesen der reinen Mathematik verherrlichen". (German summary) ["... to glorify the nature of pure mathematics"] *Math. Semesterber.* **42** (1995), *no.* 2, 99–132. (Detlef Laugwitz) **99c:01015** 01A55 (00A30)

— Mathematik an der TH/TU Berlin. [Mathematics at the TH/TU Berlin] *Mathematik aus Berlin*, 11–24, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A73

— Mathematics at the Prussian Academy of Sciences 1700–1810. *Mathematics in Berlin*, 1–8, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A74 (01A50)

— Mathematics at the Berlin Technische Hochschule/Technische Universität. *Mathematics in Berlin*, 161–167, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A73

— *see also* **Correspondence: Legendre, Adrien-Marie–Jacobi, Carl Gustav Jacob, 99i:01022** *and* **Beltrami, Eugenio, 99j:01011**

Knobloch, Edgar Rotating convection: recent developments. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1421–1450. (Summary) **99i:76053** 76E15

— (*with* Julien, Keith) Strongly nonlinear convection cells in a rapidly rotating fluid layer: the tilted f-plane. (English summary) *J. Fluid Mech.* **360** (1998), 141–178. (Summary) **99a:76058** 76E30 (76E15, 76E20, 76U05, 86A05, 86A10)

— (*with* Hirschberg, P.) A robust heteroclinic cycle in an $O(2) \times Z_2$ steady-state mode interaction. (English summary) *Nonlinearity* **11** (1998), *no.* 1, 89–104. (Ian Melbourne) **99b:58172** 58F14 (34C23, 34C37)

— (*with* Prat, Joana d'Arc; Mercader, Isabel) Resonant mode interactions in Rayleigh-Bénard convection. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 3145–3156. (Summary) **99f:76053** 76E15

— (*with* Moehlis, Jeff) Bursts. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 51–60, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 76E99 (34C23, 58F14)

Knobloch, Hans Wilhelm Variationsrechnung, Spieltheorie und "economic dynamics". [Calculus of variations, game theory and "economic dynamics"] *Mathematik aus Berlin*, 165–177, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A05 (49-03, 90-03)

Knobloch, J. Bifurcation of degenerate homoclinic orbits in reversible and conservative systems. (English summary) *J. Dynam. Differential Equations* **9** (1997), *no.* 3, 427–444. (Jörg M. Härterich) **99f:58147** 58F14 (34C23, 34C37)

Knockaert, Luc (*with* De Zutter, Daniel) An exponential truncation bound for analytic Fourier series. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 788–790. (Summary) **99h:42004** 42A16

Knoerr, Alan P. A dynamical proof of the method of Lagrange. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 941–944 (*electronic*). (Summary) **99g:90124** 90C30 (34A09, 58C15)

Knoll, D. A. (*with* McHugh, P. R.) Enhanced nonlinear iterative techniques applied to a nonequilibrium plasma flow. (English summary) Special issue on iterative methods (Copper Mountain, CO, 1996). *SIAM J. Sci. Comput.* **19** (1998), *no.* 1, 291–301 (*electronic*). (*see* **99a:65007**) 65N22 (65M99, 76M25, 76X05)

Knoop, Hans-Bernd (*with* Heckers, Erik; Zhou, Xinlong) Approximation by convolution operators. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 523–536. (Summary) **99g:41033** 41A35

Knoops, E. (*with* van der Vlugt, M.) On generalized Hamming weights of $\mathrm{BCH}(2)^{\perp}$. *Finite Fields Appl.* **4** (1998), *no.* 2, 175–184. (Michael Klemm) **99h:94061** 94B05

Knop, Friedrich (*with* Sahi, Siddhartha) Difference equations and symmetric polynomials defined by their zeros. *Internat. Math. Res. Notices* **1996**, *no.* 10, 473–486. (From the introduction) **99d:05086** 05E05 (39A10)

— Integrality of two variable Kostka functions. *J. Reine Angew. Math.* **482** (1997), 177–189. (Mark D. Haiman) **99j:05189c** 05E05 (33C80, 33D80)

— Some remarks on multiplicity free spaces. (English summary) *Representation theories and algebraic geometry (Montreal, PQ, 1997)*, 301–317, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (James E. Humphreys) **99i:20056** 20G05 (14L30, 16S32, 17B10, 22E46)

Knöpfel, Holger The restricted mean value property for sub-Laplacians. *Math. Ann.* **308** (1997), *no.* 3, 519–545. (Klaus Janssen) **99b:31011** 31D05 (35J70, 43A80, 60J50)

Knopfmacher, Arnold (*with* Ridley, J. N.; Mullen, Gary L.) Nets and sequences obtained from irreducible polynomials over finite fields. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **9** (1998), *no.* 3, 265–269. (Harald Niederreiter) **99m:11142** 11T06 (11K38)

— (*with* Prodinger, Helmut) On Carlitz compositions. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 579–589. (L. Bruce Richmond) **99j:05006** 05A15 (05A05)

— (*with* Grabner, Peter J.) Metric properties of Engel series expansions of Laurent series. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 233–243. (V. Drobot) **99m:11089** 11K55 (11T06)

— (*with* Mays, M. E.) The sum of distinct parts in compositions and partitions. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 66–78. (Summary) **99i:05016** 05A17 (05A15)

— On the degrees of irreducible factors of polynomials over a finite field. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 197–206. (Igor E. Shparlinski) **99i:11110** 11T06

Knopfmacher, John Asymptotic isomer enumeration in chemistry. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 61–69. (Summary) **99g:92045** 92E10 (11Z05)

Knopov, A. P. (*with* Knopov, P. S.) Some nonparametric estimates for a regression function. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 58–65; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 61–68. (Summary) **99e:62050** 62G05

Knopov, P. S. (*with* Knopov, A. P.) Some nonparametric estimates for a regression function. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 58–65; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 61–68. (Summary) **99e:62050** 62G05

Knopp, Marvin I. (*with* Bateman, Paul T.) Some new old-fashioned modular identities. (English summary) Paul Erdős (1913–1996). *Ramanujan J.* **2** (1998), *no.* 1-2, 247–269. (Ken Ono) **99e:11051** 11F11 (11F27)

Knops, R. J. (*with* Lupoli, C.) End effects for plane Stokes flow along a semi-infinite strip. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 905–920. (From the introduction) **99k:76044** 76D07 (35Q35, 76D10)

— (*with* Villaggio, Piero) Transverse decay of solutions in an elastic cylinder. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 6, 577–585. (Summary) **99h:73016** 73C02 (73C10)

Knops, Yolanda M. M. (*with* Nienhuis, Bernard; Blöte, Henk W. J.) The O(n) model on the triangular lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2941–2966. (Domingos H. U. Marchetti) **99e:82036** 82B26 (82-04, 82B20, 82B27)

Knorr, Wilbur Richard "Rational diameters" and the discovery of incommensurability. *Amer. Math. Monthly* **105** (1998), *no.* 5, 421–429. (C. R. Fletcher) **99f:01004** 01A20

— *see also* **Fowler, David, 99j:01020**

Knörrer, Horst (*with* Feldman, Joel S.; Sinclair, Robert; Trubowitz, Eugene) Superconductivity in a repulsive model. Papers honouring the 60th birthday of Klaus Hepp and of Walter Hunziker, Part II (Zürich, 1995). *Helv. Phys. Acta* **70** (1997), *no.* 1-2, 154–191. (Klaus Ziegler) **99a:82100** 82D55 (82B26)

Knoth, Oswald (*with* Wolke, Ralf) Implicit-explicit Runge-Kutta methods for computing atmospheric reactive flows. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 327–341. (Summary) **99g:65082** 65L06 (76M25, 86–08)

Knoth, Sven CUSUM schemes and Erlang distributions. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 323–339, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N10

— Exact average run lengths of CUSUM schemes for Erlang distributions. (English summary) *Sequential Anal.* **17** (1998), *no.* 2, 173–184. (Rasul A. Khan) **99h:62103** 62L10

Know, Oh Sang (*with* Cho, Nak Eun) On subclasses of strongly starlike functions defined by Reuscheweyh [Ruscheweyh] derivative. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 73–78. (Gerald Schmieder) **99k:30022** 30C45

Knowles, Ian A variational algorithm for electrical impedance tomography. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1513–1525. (Summary) **99i:65127** 65N30 (35J20, 35R30, 78A55)

Knowles, James K. (*with* Abeyaratne, Rohan) On an integrodifferential equation arising in a theory of phase transitions in solids. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 761–767. (Jaime E. Muñoz Rivera) **99a:73015** 73B30 (45J05)

Knudsen, Carsten (*with* Stauning, Ole) Exact numerical methods in dynamical systems theory. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1339–1358. (Summary) **99f:58141** 58F13 (58F40, 65H99, 65Q05)

Knudsen, Kim M. (*with* Andersen, Per Kragh; Klein, John P.; Tabanera y Palacios, René) Estimation of variance in Cox's regression model with shared gamma frailties. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1475–1484. (Jack Cuzick) **99f:62049** 62G05 (62N05)

Knudsen, Lars R. (*with* Preneel, Bart) Hash functions based on block ciphers and quaternary codes. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 77–90, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94036** 94A60

— (*with* Preneel, Bart) Fast and secure hashing based on codes. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 485–498, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94035** 94A60

— (*with* Lai, Xuejia; Preneel, Bart) Attacks on fast double block length hash functions. (English summary) *J. Cryptology* **11** (1998), *no.* 1, 59–72. (Summary) **99i:94046** 94A60

— (*with* Damgård, Ivan B.) Two-key triple encryption. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 209–218. (Summary) **99c:94028** 94A60

Knudsen, Thomas Skov Smoothness of the solution operator of stochastic differential equations with infinite-dimensional parameters. (English summary) *Stochastic analysis and related topics, VI* (*Geilo*, 1996), 305–318, *Progr. Probab.*, 42, *Birkhäuser Boston, Boston, MA*, 1998. (Alexander Veretennikov) **99m:60088** 60H10

Knudson, Kevin P. Congruence subgroups and twisted cohomology of $SL_n(F[t])$. *J. Algebra* **207** (1998), *no.* 2, 695–721. (Daniel K. Nakano) **99i:20059** 20G10

Knuiman, Matthew W. (*with* FitzGerald, Patrick E. B.) Interpretation of regressive logistic regression coefficients in analyses of familial data. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 909–920. 62P10

Knupp, Patrick M. Applications of mesh smoothing: copy, morph, and sweep on unstructured quadrilateral meshes. (English summary) *Internat. J. Numer. Methods Engrg.* **45** (1999), *no.* 1, 37–45. 65N55 (65F30)

Knüppel, Frieder (*with* Thomsen, Gerd) Involutions and commutators in orthogonal groups. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 1–36. (Alexander J. Hahn) **99m:20103** 20G15 (11E88)

Knuth, Donald E. (*with* Graham, Ronald L.; Patashnik, Oren) ★ Matematyka konkretna. (Polish. Polish summary) [Concrete mathematics] Translated from the 1994 English original by P. Chrząstowski [Piotr Chrząstowski-Wachtel], A. Czumaj, L. Gąsieniec and M. Raczunas. *Wydawnictwo Naukowe PWN, Warsaw*, 1996. 719 *pp. ISBN* 83-01-12124-6 (Editors) **99c:68001** 68–01 (00–01, 00A05, 05–01, 68Rxx)

— Irredundant intervals. (English summary) *ACM J. Exp. Algorithmics* **1** (1996), *approx.* 19 *pp.* (*electronic*). (Summary) **99f:68150** 68R05

— (*with* Janson, Svante) Shellsort with three increments. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 125–142. (Linda Pagli) **99b:68046** 68P10 (68Q25)

— (*with* Graham, Ronald L.; Patashnik, Oren) ★ Matematyka konkretna. (Polish. Polish summary) [Concrete mathematics] Translated from the second English (1994) edition by P. Chrząstowski, A. Czumaj, L. Gąsieniec and M. Raczunas. Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 719 *pp. ISBN* 83-01-12124-6 (Editors) **99m:68002** 68–01 (00–01, 00A05, 68Rxx)

Knutson, A. (*with* Hausmann, J.-C.) The cohomology ring of polygon spaces. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 281–321. (Michel Brion) **99a:58027** 58D99 (57N65, 58F05)

Knutt-Wehlau, Marcia E. (*with* Grisaru, Marcus T.; Siegel, Warren) A superspace normal coordinate derivation of the density formula. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 3, 663–679. (Ilya Shapiro) **99f:83075** 83E50 (81T60)

— (*with* Gates, S. James, Jr.; Grisaru, Marcus T.; Siegel, Warren) Component actions from curved superspace: normal coordinates and ectoplasm. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 203–210. (Ilya Shapiro) **99c:83099** 83E50 (81T30, 83E30)

— (*with* Mann, Robert B.) Super black hole from cosmological supergravity with a massive superparticle. (English summary) *Phys. Lett. B* **435** (1998), *no.* 1-2, 25–30. (Summary) **99e:83036** 83C57 (81T60, 83E50)

— (*with* Mann, Robert B.) Cosmological supergravity from a massive superparticle and super-cosmological black holes. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 3, 937–952. (Summary) **99k:83134** 83E50 (83C57)

Knyazev, Andreĭ Vladimirovich Preconditioned eigensolvers—an oxymoron? (English summary) Large scale eigenvalue problems (Argonne, IL, 1997). *Electron. Trans. Numer. Anal.* **7** (1998), 104–123 (*electronic*). (Summary) **99h:65068** 65F15 (65F35, 65N25)

Knyazhishche, L. B. (*with* Shavel′, N. A.) Nonmonotone Lyapunov functionals and estimates for solutions of differential equations with delay. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 205–211, 285; *translation in Differential Equations* **33** (1997), *no.* 2, 205–211. (Tatjana K. Plyshevskaya) **99d:34150** 34K20 (34K15)

— (*with* Shcheglov, V. A.) The use of nonmonotone functionals in the investigation of the boundedness of solutions of differential equations with delay. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 34–38, 123. (Summary) **99j:34098** 34K15 (34K20)

Ko, C. L. An accurate finite-difference iterative technique for solving nonlinear partial differential equations using clustered grid points. (English summary) *Indust. Math.* **46** (1996), *no.* 2, 83–118 (1997). (Severiano Gonzalez-Pinto) **99c:65156** 65M06 (65M12, 65M20)

Ko, Chun Wa (*with* Lee, Jon[2]; Wayne, K.) Comparison of spectral and Hadamard bounds for D-optimality. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 21–29, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62090** 62K05

Ko, Eungil A note on a finite triangular operator matrix. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 561–569. (Ameer Athavale) **99g:47042** 47B20 (47B40)

— (*with* Brown, Scott W.) Operators of Putinar type. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 49–57, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Jörg Eschmeier) **99h:47028** 47B20 (47A15)

— Remark on generalized k-quasihyponormal operators. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 701–707. (Summary) **99j:47030** 47B20 (47A15)

Ko, Hayi-Joo (*with* Im, Bokhee) Web loops and webs with reflections. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 62–73. (D. A. Robinson) **99c:20097** 20N05 (51F15)

Ko, Hyoung June (*with* Geramita, Anthony V.; Shin, Yong Su) The Hilbert function and the minimal free resolution of some Gorenstein ideals of codimension 4. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4285–4307. (Juan C. Migliore) **99m:13032** 13D40 (13D02, 14M10)

Ko, Jeonghwan (*with* Kurdila, Andrew J.; Oswald, Peter) Scaling function and wavelet preconditioners for second order elliptic problems. (English summary) *Multiscale wavelet methods for partial differential equations*, 413–438, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Robert Beauwens) **99d:65304** 65N22 (42C15, 65N30, 65N55)

— (*with* Kurdila, Andrew J.; Pilant, Michael S.) Triangular wavelet based finite elements via multivalued scaling equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 1-2, 1–17. (Summary) **99c:65205** 65N30 (76M10)

Ko, K.-I. *see* **In memoriam of Ronald V. Book**

Ko, Ki Hyoung (*with* Birman, Joan S.; Lee, Sang Jin) A new approach to the word and conjugacy problems in the braid groups. (English summary) *Adv. Math.* **139** (1998), *no.* 2, 322–353. (Yuji Kobayashi) **99m:20082** 20F36 (20F05, 20F10)

Ko, Kwan Pyo Error bounds for Gauss-Radau and Gauss-Lobatto rules of analytic functions. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 797–812. (G. A. Evans) **99f:65041** 65D32

Ko, Ming-Tat (*with* Peng, Shen Lung; Ho, Chin-Wen; Hsu, Tsan-sheng; Tang, Chuan Yi) A linear-time algorithm for constructing an optimal node-search strategy of a tree. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 279–288, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q25 (05C85, 68R10)

— (*with* Hsieh, Sun-Yuan; Ho, Chin-Wen; Hsu, Tsan-sheng; Chen, Gen-Huey) A new simple parallel tree contraction scheme and its application on distance-hereditary graphs. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 298–309, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (65Y10)

Ko, N. W. M. (*with* Chow, K. W.; Leung, R. C. K.; Tang, S. K.) Inviscid two-dimensional vortex dynamics and a soliton expansion of the sinh-Poisson equation. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1111–1119. (Summary) **99a:76020** 76C05 (35Q35, 35Q51)

Ko, Youngsang (*with* Ham, Yoon Mee) C-infinity interfaces of solutions for one-dimensional parabolic p-Laplacian equations. (English summary) *Electron. J. Differential Equations* **1999**, *No.* 1, 12 *pp.* (*electronic*). (Summary) **99i:35063** 35K55

Ko, YounHee The uniform asymptotic stability for functional-differential equations with infinite delay. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 59–71. (Zhanyuan Hou) **99f:34111** 34K20

Kobak, Piotr Z. (*with* Loo, Bonaventure) Moduli of quaternionic superminimal immersions of 2-spheres into quaternionic projective spaces. (English summary) *Ann.*

Global Anal. Geom. **16** (1998), *no.* 6, 527–541. (T. Arleigh Crawford) **99j:58034** 58D27 (32G13, 53C42, 53C56)

Kobara, Michihiko (*with* Xu, Hua; Mizukami, Koichi) Memoryless equilibrium strategies in multilevel decision processes of discrete-time descriptor systems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 81–103. (Krzysztof Malinowski) **99k:93008** 93A13 (90A14, 90D05)

Kobayashi, Hidetsune (*with* Suzuki, Hideo[3]) The possibility of deflation of a system of algebraic equations. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 8–16. (*see* **99h:00034**) 13P10

Kobayashi, Hiroto (*with* Hatano, Naomichi; Suzuki, Masuo) Goldberg's theorem and the Baker-Campbell-Hausdorff formula. (English summary) *Phys. A* **250** (1998), *no.* 1-4, 535–548. (Karl-Hermann Neeb) **99d:22011** 22E15

Kobayashi, Hiroyuki (*with* Tsutsui, Izumi; Tanimura, Shogo) Quantum mechanically induced Hopf term in the O(3) nonlinear sigma model. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 667–687. (Bernd J. Schroers) **99d:81075** 81T10

— (*with* Kimura, Masaomi; Tsutsui, Izumi) Hopf term, fractional spin and soliton operators in the O(3) non-linear sigma model. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 624–642. (Bernd J. Schroers) **99h:81219** 81T70

Kobayashi, Jun On Browder's degree for maximal monotone operators. *Functional analysis and global analysis* (*Quezon City*, 1996), 167–172, *Springer, Singapore*, 1997. (Vesa Mustonen) **99k:47154** 47H11 (47H05, 58C30)

Kobayashi, Kazushiro Curvature dimension of trivalent graphs. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 2, 157–162. (Wolfgang Kühnel) **99m:05051** 05C10 (53A04, 57M15)

Kobayashi, Kinko (*with* Ohura, Yoko; Onishi, Kazuei) A variational solution of the Cauchy problem in elastostatics. (English summary) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 106–113. (Summary) **99j:73022** 73C02 (65K10, 73V25)

Kobayashi, Kojiro The Kolmogorov complexity, universal distribution, and coding theorem for generalized length functions. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 3, 816–826. (William R. Nico) **99b:94017** 94A24 (62B10, 68Q30, 94A45)

— Transformations that preserve malignness of universal distributions. (English summary) Computing and combinatorics (Xi'an, 1995). *Theoret. Comput. Sci.* **181** (1997), *no.* 2, 289–306. (Summary) **99g:68074** 68Q15 (68Q25)

Kobayashi, Mahito Restoration of closed 4-manifolds from morning glory shaped singular value sets. (Japanese) Topology of real singularities and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1006 (1997), 85–95. (*see* **99a:00050**) 57N13

Kobayashi, Marcelo H. (*with* Pereira, José M. C.; Pereira, José C. F.) A conservative finite-volume second-order-accurate projection method on hybrid unstructured grids. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 40–75. (Summary) **99k:76112** 76M25

Kobayashi, Masako Orientation reversing dihedral group actions on 3-manifolds. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 2, 73–86. (Charles Livingston) **99h:57030** 57M60 (57N10)

Kobayashi, Masanori (*with* Kuo, Tzee-Char) On blow-analytic equivalence of embedded curve singularities. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 30–37, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Aleksandr G. Aleksandrov) **99d:58028** 58C27 (14P25, 58A07)

Kobayashi, Mei *see* **Wavelets and their applications**, **99h:00019**

Kobayashi, Minoru Extrinsic spheres in S-manifolds. *Tensor (N.S.)* **58** (1997), *no.* 1, 92–96. (Bang-yen Chen) **99a:53069** 53C40 (53C25)

Kobayashi, Naoki (*with* Sumii, Eijiro) A generalized deadlock-free process calculus. (English summary) *HLCL '98 3rd International Workshop on High-level Concurrent Languages* (*Nice*), 23 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 3, *Elsevier, Amsterdam*, 1998. (*see* **99g:68009**) 68Q10 (68Q55, 68Q60)

Kobayashi, Osamu Vertices of curves with complementary shells. (English summary) *Kobe J. Math.* **15** (1998), *no.* 1, 59–65. (Victor V. Pambuccian) **99i:57027** 57M50

Kobayashi, Satoshi[2] (*with* Head, Tom; Yokomori, Takashi) Locality, reversibility, and beyond: learning languages from positive data. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 191–204, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68Q45)

— (*with* Uemura, Yasuo; Hasegawa, Aki; Yokomori, Takashi) Tree adjoining grammars for RNA structure prediction. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 2, 277–303. (Itsuo Takanami) **99j:68076** 68Q50 (68Q45, 92D20)

Kobayashi, Shoshichi ★ Hyperbolic complex spaces. Grundlehren der Mathematischen Wissenschaften [Fundamental Principles of Mathematical Sciences], 318. *Springer-Verlag, Berlin*, 1998. *xiv*+471 *pp. ISBN* 3-540-63534-3 (William A. Cherry) **99m:32026** 32H20 (32H15, 32H25, 32H30)

Kobayashi, Takao Singular solutions and prolongation of holomorphic solutions to nonlinear differential equations. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 1, 43–63. (Henryk Kołakowski) **99c:35004** 35A20 (35Q35)

Kobayashi, Takayuki[2] On the exterior problem of compressible Navier-Stokes equation. Nonlinear evolution equations and their applications (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 966 (1996), 170–189. (Michael Wiegner) **99h:35160** 35Q30 (47N20, 76N10)

— (*with* Dan, Wakako; Shibata, Yoshihiro) On the local energy decay approach to some fluid flow in an exterior domain. *Recent topics on mathematical theory of viscous incompressible fluid* (*Tsukuba*, 1996), 1–51, *Lecture Notes Numer. Appl. Anal.*, 16, *Kinokuniya, Tokyo*, 1998. (José Luiz Boldrini) **99h:35157** 35Q30 (47D06, 76D05)

— (*with* Shibata, Yoshihiro) On the Oseen equation in the three-dimensional exterior domains. *Math. Ann.* **310** (1998), *no.* 1, 1–45. (Paolo Maremonti) **99e:76033** 76D05 (35Q30)

Kobayashi, Tatsuo (*with* Aizawa, Naruhiko; Sato, Haru-Tada) Notes on Curtright-Zachos deformations of osp(1, 2) and super Virasoro algebras. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5867–5883. (Summary) **99i:81086** 81R50 (17B68, 81R10)

— (*with* Khalil, Shaaban) Yukawa unification in moduli-dominant SUSY breaking. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 99–114. (Summary) **99f:81223** 81V22 (81R40, 81T60)

— (*with* Chaichian, Masud; Chen, Wen-Feng) Softly broken $N = 1$ supersymmetric QCD. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 120–127. (Summary) **99c:81234** 81T60 (81R40, 81T13, 81V05)

— (*with* Chaichian, Masud) Vacuum structure of softly broken $N = 1$ supersymmetric QCD. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 192–198. (Summary) **99j:81182** 81T60 (81R40, 81T13, 81V05)

Kobayashi, Teiichi (*with* Ito, Ken; Kotani, Yasusuke) Stable homotopy types of stunted lens spaces mod 2^r. II. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 29–33. (Paul Selick) **99b:55008** 55P10 (55P42)

Kobayashi, Toshihiro (*with* Fan, Jia-Chun) Adaptive stabilization of a class of semilinear parabolic distributed parameter systems in the case of collocated actuators and sensors. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 155–165. (Summary) **99h:93094** 93D21 (93C20)

— (*with* Fan, Jia-Chun) A simple adaptive PI controller for linear systems with constant disturbances. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 733–736. (Summary) **99a:93058** 93C40

Kobayashi, Toshiyuki L^p-analysis on homogeneous manifolds of reductive type and representation theory. *Proc. Japan Acad. Ser. A Math. Sci.* **73** (1997), *no.* 4, 62–66. (From the introduction) **99a:22020** 22E45 (22E30)

— Discrete decomposability of the restriction of $A_q(\lambda)$ with respect to reductive subgroups. II. Micro-local analysis and asymptotic K-support. (English summary) *Ann. of Math.* (2) **147** (1998), *no.* 3, 709–729. (Mark R. Sepanski) **99k:22020** 22E45 (22E46)

— (*with* Ørsted, Bent) Conformal geometry and branching laws for unitary representations attached to minimal nilpotent orbits. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 925–930. (Tuong Ton That) **99i:22016** 22E45 (22E46)

— (*with* Oda, Takayuki) A vanishing theorem for modular symbols on locally symmetric spaces. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 45–70. (O. V. Shvartsman) **99b:11052** 11F67 (22E40)

— Discrete decomposability of the restriction of $A_q(\lambda)$ with respect to reductive subgroups. III. Restriction of Harish-Chandra modules and associated varieties. (English summary) *Invent. Math.* **131** (1998), *no.* 2, 229–256. (Mark R. Sepanski) **99k:22021** 22E45

— Discrete series representations for the orbit spaces arising from two involutions of real reductive Lie groups. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 1, 100–135. (Nobukazu Shimeno) **99c:22012** 22E30

— Deformation of compact Clifford-Klein forms of indefinite-Riemannian homogeneous manifolds. *Math. Ann.* **310** (1998), *no.* 3, 395–409. (Raul Quiroga) **99b:53074** 53C30 (57S30, 58H15)

Kobayashi, Tsunehiro Physical equivalence based on observations and equivalence in terms of free ultra-filters in quantum mechanics on non-standard space. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 153–163, *Plenum, New York*, 1998. (Summary) **99h:81012** 81P05 (03H10, 81P10)

Kobayashi, Yasumaro (*with* Itaya, Nobutoshi) The Dirichlet problem for a certain degenerate parabolic equation. II. (English summary) With corrigenda to Part I. *J. Fac. Sci. Shinshu Univ.* **32** (1997), *no.* 2, 69–75. (Summary) **99c:35127** 35K65

Kobayashi, Yuji (*with* Katsura, Masashi; Otto, Friedrich) On cross-sections of finitely presented monoids. *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 12–14, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M05

— (*with* Otto, Friedrich) Repetitiveness of D0L-languages is decidable in polynomial time. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 337–346, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68094** 68Q45 (68Q42, 68R15)

— (*with* Otto, Friedrich; Katsura, Masashi) Cross-sections for finitely presented monoids with decidable word problems. (English summary) *Rewriting techniques and applications* (*Sitges*, 1997), 53–67, *Lecture Notes in Comput. Sci.*, 1232, *Springer, Berlin*, 1997. (Dragan Blagojević) **99d:68139** 68Q42 (20M35)

— Homotopy reduction systems for monoid presentations: asphericity and low-dimensional homology. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 2, 159–195. (Friedrich Otto) **99h:20101** 20M50 (20J06, 20M05, 55P99, 68Q42)

— (*with* Otto, Friedrich; Katsura, Masashi) Infinite convergent string-rewriting systems and cross-sections for finitely presented monoids. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 5, 621–648. (Yves Metivier) **99h:20093** 20M05 (68Q42)

Kobayashi, Yukio On a decomposition of a semigroup. (English summary) *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 3–6, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 20M99

Kobayasi, Kazuo C^1 approximations of inertial manifolds via finite differences. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1143–1150. (Alan V. Lair) **99f:35080** 35K55 (34G20, 47H20, 58F39, 65M06)

Kobbelt, Leif Fairing by finite difference methods. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 279–286, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 41A63 (65D15, 65Y25)

— Using the discrete Fourier transform to analyze the convergence of subdivision schemes. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 1, 68–91. (Manfred Tasche) **99c:65033** 65D17 (65T10, 65T20)

Kobe, Donald H. Eigenvalues $j(j+1)$ of $\mathbf{J}^2$ and the uncertainty principle. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 119–123. (Summary) **99c:81054** 81Q99 (81R05)

Kobel'kov, G. M. (*with* Staroverov, V. M.) On the limit behavior of solutions of equations of a weakly compressible generalized Newtonian fluid with two small parameters. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 29–33, 111; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 4, 25–29. (Summary) **99f:35010** 35B25 (35Q35, 76D07, 76N10)

Köbler, Johannes (*with* Schuler, Rainer) Average-case intractability vs. worst-case intractability. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 493–502, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15 (03D15)

— (*with* Messner, Jochen) Complete problems for promise classes by optimal proof systems for test sets. (English summary) *Thirteenth Annual IEEE Conference on Computational*

Complexity (Buffalo, NY, 1998), 132–140, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

— (*with* Lindner, Wolfgang) On the resource bounded measure of P/poly (extended abstract). (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 182–185, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

— (*with* Watanabe, Osamu²) New collapse consequences of NP having small circuits. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 311–324 (*electronic*). (Christoph Meinel) **99j:68043** 68Q15 (03D15)

Koblitz, Neal An elliptic curve implementation of the finite field digital signature algorithm. (English summary) *Advances in cryptology—CRYPTO '98 (Santa Barbara, CA, 1998)*, 327–337, *Lecture Notes in Comput. Sci.*, 1462, *Springer, Berlin*, 1998. (Summary) **99j:94052** 94A60 (11G20)

— (*with* Buhler, Joe) Lattice basis reduction, Jacobi sums and hyperelliptic cryptosystems. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 147–154. (Jean-Marc Couveignes) **99j:11145** 11T71 (11G20, 11Y40, 94A60)

— *see also* **Number theory**, **99a:11088a** *and* **Manin, Yurīĭ Ivanovich**, **99e:32001**

Kobotis, A. (*with* Barbari, P.) On derivations of nilpotent Lie algebras. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 1–7. 17B40 (17B30)

Kobryn, A. E. (*with* Omelyan, I. P.; Tokarchuk, M. V.) The modified group expansions for construction of solutions to the BBGKY hierarchy. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 973–994. (R. L. Ingraham) **99j:82053** 82C05 (82C40)

Kobylarz, T. (*with* Pachter, Meir; Houpis, C. H.) Literal Nyquist stability criterion for MIMO control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 55–65. (Summary) **99f:93106** 93D05 (93B60)

Kobza, Jiří (*with* Micula, Gheorghe; Blaga, Petru P.) Low order splines in solving neutral delay differential equations. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 2, 73–85. (Haydar Akça) **99d:65206** 65L05 (34A45, 34K40)

— Quartic interpolatory splines. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 33–50. (Summary) **99d:41017** 41A15 (65D07)

— (*with* Kučera, Radek) Spline toolbox in MATLAB. (English summary) *Summer Schools MATLAB 94, 95 Proceedings (Velké Karlovice, 1994; Čeřínek, 1995)*, 25–46, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99c:65020** 65D07 (41–04, 65–04)

— Quadratic and quartic splines in MATLAB. (English summary) *Summer Schools MATLAB 94, 95 Proceedings (Velké Karlovice, 1994; Čeřínek, 1995)*, 47–65, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99c:65021** 65D07 (41–04, 65–04)

— Local representations of quartic splines. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 63–78. (John B. Kioustelidis) **99h:65018** 65D07 (41A15)

— (*with* Ženčák, Pavel) Some algorithms for quartic smoothing splines. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 79–94. (John B. Kioustelidis) **99h:65019** 65D07 (41A15)

Koç, Çetin K. (*with* Acar, Tolga) Montgomery multiplication in GF(2^k). (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 57–69. (Summary) **99k:11189** 11T71 (94A60)

— (*with* Sunar, B.) Low-complexity bit-parallel canonical and normal basis multipliers for a class of finite fields. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 3, 353–356. (Summary) **99d:94001** 94Axx

Koçak, Hüseyin (*with* Coomes, Brian A.; Palmer, Kenneth J.) Long periodic shadowing. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 55–78. (Introduction) **99f:34061** 34C25 (34A45, 34C35, 58F22, 65L07)

Koçak, Mahmut (*with* Strauss, Dona Papert) Near ultrafilters and compactifications. *Semigroup Forum* **55** (1997), *no.* 1, 94–109. (Ronnie Levy) **99f:54034** 54E15 (54D35)

— Near ultrafilters and $\mathcal{SUB}$-compactification of real numbers. (English summary) *Turkish J. Math.* **21** (1997), *no.* 4, 453–459. (Summary) **99b:54033** 54D35 (54A20)

— (*with* Arvası, Zekeriya) z-filters and a family of compact Hausdorff spaces. (English summary) *Algebras Groups Geom.* **15** (1998), *no.* 1, 107–114. (Summary) **99m:54001** 54A05 (54D35)

— (*with* Arvası, Zekeriya) Crossed N-cubes and n-crossed complexes of commutative algebras. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 127–143. (Timothy Porter) **99m:18009** 18G30 (13D99, 55U35)

— (*with* Arvası, Zekeriya) Dold-Kan type theorems for n-types of simplicitial [simplicial] commutative algebras. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 171–184. (Timothy Porter) **99m:18010** 18G30 (13D99, 18G55, 55U35)

Koçak, Ş. (*with* Bilge, A. H.; Dereli, T.) The geometry of self-dual gauge fields. (English summary) *New symmetries in the theories of fundamental interactions (Karpacz, 1996)*, 277–288, *PWN, Warsaw*, 1997. (Luis Ugarte) **99i:53075** 53C80 (53C07, 81T13)

Kocan, Maciej (*with* Soravia, Pierpaolo) A viscosity approach to infinite-dimensional Hamilton-Jacobi equations arising in optimal control with state constraints. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1348–1375 (*electronic*). (Fabio Camilli) **99f:49045** 49L25 (34G20, 35R15, 49K20)

Kočandrle, P. (*with* Šika, Z.; Stejskal, V.) An investigation of properties of the forward displacement analysis of the generalized Stewart platform by means of general optimization methods. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 245–253. 70B15

Kocarev, Ljupčo (*with* Parlitz, Ulrich; Hu, Bambi) Lie deriatives and dynamical systems. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1359–1366. (Timothy Sauer) **99k:58119** 58F13 (58F40, 93B07)

Kocatepe, Mefharet (*with* Goncharov, A. P.) Isomorphic classification of the spaces of Whitney functions. *Michigan Math. J.* **44** (1997), *no.* 3, 555–577. (José Bonet) **99a:46038** 46E10 (46F05, 58C25)

Kocayusufoğlu, İsmail (*with* Johnson, David Lewis) Locally volume-minimizing codimension-one foliation of the solid torus. (English summary) *Turkish J. Math.* **22** (1998), *no.* 2, 207–222. (Costache Apreutesei) **99j:53027** 53C12 (49Q20, 57R30)

Koch, A. J. (*with* Bonnaz, D.) Stochastic model of evolving populations. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 417–429. (Summary) **99h:92022** 92D25

Koch, Alan Lifting Witt subgroups to characteristic zero. (English summary) *New York J. Math.* **4** (1998), 127–136 (*electronic*). (Guy Laffaille) **99f:14062** 14L05 (13K05)

Koch, Elke (*with* Fischer, Werner) Minimal surfaces with self-intersections along straight lines. I. Derivation and properties. (English summary) *Acta Cryst. Sect. A* **55** (1999), *no.* 1, 58–64. (Summary) **99m:53016** 53A10

halter-Koch, Franz *see* **Halter-Koch, Franz**

Koch, Giorgio (*with* Bruni, C.; Ferrante, L.) Identifiability of a stochastic model for cell debris in flow cytometry. (English summary) *J. Math. Biol.* **37** (1998), *no.* 4, 329–340. (Summary) **99i:92013** 92D20 (60K40)

Koch, H. *see* **Koch, Herbert**

Koch, Hans (*with* Abad, Juan J.; Wittwer, Peter) A renormalization group for Hamiltonians: numerical results. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1185–1194. (Rafael de la Llave) **99g:58110** 58F27 (70H05)

— (*with* Chandre, C.; Govin, M.; Jauslin, H. R.) Universality for the breakup of invariant tori in Hamiltonian flows. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6612–6617. (Summary) **99b:58206** 58F27 (70H05)

Koch, Helmut V. ★ Zahlentheorie. (German. German summary) [Number theory] Algebraische Zahlen und Funktionen. [Algebraic numbers and functions] Vieweg Studium: Aufbaukurs Mathematik [Vieweg Studies: Mathematics Course], 72. *Friedr. Vieweg & Sohn, Braunschweig*, 1997. *xii+344 pp. ISBN* 3-528-07272-5 (W. Narkiewicz) **99j:11123** 11Rxx (11–01)

— Gustav Peter Lejeune Dirichlet. *Mathematics in Berlin*, 33–39, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

— The Mathematical Institute of the Academy of Sciences of the GDR. *Mathematics in Berlin*, 177–181, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A74 (01A80)

— *see also* **Mathematics in Berlin**, **99k:01080**

Koch, Herbert On center manifolds. *Nonlinear Anal.* **28** (1997), *no.* 7, 1227–1248. (Boris Buffoni) **99m:34097** 34C30 (34G20, 35B40, 35K99)

— Classical solutions to phase transition problems are smooth. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 389–437. (Galina I. Bizhanova) **99g:35147** 35R35 (35B65, 35K05, 42B15, 46N20, 80A22)

— (*with* Bunke, Ulrich) The η-form and a generalized Maslov index. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 189–212. (Paul A. Kirk) **99b:58221** 58G10 (58F05)

walter-Koch, I. *see* **Walter-Koch, I.**

Koch, Inge (*with* Pope, Alun Lloyd) Asymptotic bias and variance of a kernel-based estimator for the location of a discontinuity. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 45–64. (Summary) **99i:62070** 62G05

Koch, Ingolf Semi-automatic generation of worst case instances. *Operations Research Proceedings 1997 (Jena)*, 102–107, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C27 (90C35)

Koch, Richard Kennzeichnungen von Minimalschraubflächen mittels Vertikalisophoten und Horizontalschattengrenzen. (English summary) [Characterization of minimal helicoidal surfaces via vertical isophotes and horizontal shadow boundaries] *J. Geom.* **62** (1998), *no.* 1-2, 176–189. (Hellmuth Stachel) **99g:53013** 53A10

— (*with* Engelhardt, Christoph) Closed space curves of constant curvature consisting of arcs of circular helices. (English summary) *J. Geom. Graph.* **2** (1998), *no.* 1, 17–31. (Hellmuth Stachel) **99m:53006** 53A04

de mello Koch, Robert *see* **de Mello Koch, Robert**

Koch, Thorsten (*with* Martin, Alexander) Solving Steiner tree problems in graphs to optimality. (English summary) *Networks* **32** (1998), *no.* 3, 207–232. 90C35 (05C05)

Koch, Ulrich (*with* Stolzenburg, Frieder; Höhne, Stephan; Volk, Martin) Constraint logic programming for computational linguistics. (English summary) *Logical aspects of computational linguistics (Nancy, 1996)*, 406–425, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (68N17)

Koch, Werner (*with* Ehrenstein, Uwe) Local dynamics near a nonsemisimple resonance in Blasius boundary-layer flow. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 209–215, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76D10 (76E99, 76F99)

Kochański, Piotr (*with* Wódkiewicz, Krzysztof) Operational measurements in quantum mechanics. (English summary) Quantizations, deformations and coherent states (Białowieża, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 2, 245–253. (Paul Busch) **99f:81028** 81P15

Kochar, Subhash (*with* Joag-dev, Kumar) A positive dependence paradox and aging distributions. (English summary) *J. Indian Statist. Assoc.* **34** (1996), *no.* 2, 105–112. (Yanhong Wu) **99b:62152** 62N05

— (*with* Dykstra, Richard L.; Rojo, Javier) Stochastic comparisons of parallel systems of heterogeneous exponential components. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 203–211. (Philip J. Boland) **99e:62041** 62G05 (60E15, 62N05)

— (*with* Hawkins, Doyle L.) Inference about the transition-point in NBUE-NWUE or NWUE-NBUE models. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 1, 117–132. (Summary) **99k:62189** 62N05 (62G05)

— (*with* Dykstra, Richard L.; Robertson, Tim) Restricted tests for testing independence of time to failure and cause of failure in a competing-risks model. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 57–68. (Summary) **99c:62141** 62G20 (62F10)

— (*with* Fernandez-Ponce, J. M.; Muñoz-Perez, J.) Partial orderings of distributions based on right-spread functions. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 221–228. (Moshe Shaked) **99d:60015** 60E15 (60K10, 62N05)

Kocharyan, G. S. On convergence in the mean. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 2, 76–84 (1997); *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 2, 62–69. (Valeri Kaliaguine) **99f:41015** 41A20 (41A50, 42B30)

Kochengin, S. A. (*with* Oliker, Vladimir I.; von Tempski, Oliver) On the design of reflectors with prespecified distribution of virtual sources and intensities. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 661–678. (I. Kay) **99g:78011** 78A05 (78A40)

— (*with* Oliker, Vladimir I.) Determination of reflector surfaces from near-field scattering data. II. Numerical solution. (English summary) *Numer. Math.* **79** (1998), *no.* 4, 553–568. (Summary) **99f:78013** 78A45 (65D99, 78A05)

— (*with* Caffarelli, Luis A.; Oliker, Vladimir I.) On the numerical solution of the problem of reflector design with given far-field scattering data. (English summary) *Monge*

Ampère equation: applications to geometry and optimization (*Deerfield Beach, FL*, 1997), 13–32, *Contemp. Math.*, 226, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:65098** 65M30 (78–08, 78A45)

Kocherlakota, Kathleen (*with* Kocherlakota, Subrahmaniam) Process capability indices for contaminated bivariate normal populations. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 173–186, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62N10

Kocherlakota, Subrahmaniam (*with* Kocherlakota, Kathleen) Process capability indices for contaminated bivariate normal populations. (English summary) *Quality improvement through statistical methods* (*Cochin*, 1996), 173–186, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62011**) 62N10

Kochetkov, Yu. Yu. Plane trees, cartographical groups, and Chebyshev polynomials. Algebra, 5. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 4, 545–558. (Jean-Marc Couveignes) **99c:14038** 14H30

Kochetov, E. A. *see* **Kochetov, Evgeniĭ**

Kochetov, Eduard A. (*with* Mazalov, Vladimir V.) A game with optimal stopping of random walks. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 820–826. (Alexander V. Gnedin) **99f:60085** 60G40

Kochetov, Evgeniĭ Quasiclassical dynamics in a generalized phase space: a path integral approach. (English summary) *Path integrals: Dubna* '96, 107–116, *Joint Inst. Nuclear Res., Dubna*, 1996. (Jiu Qing Liang) **99k:81134** 81S10 (81R30, 81S40)

— Quasiclassical path integral in coherent-state manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 19, 4473–4492. (Michael S. Marinov) **99d:81052** 81R30 (81S10, 81S40)

Kochetov, Yu. A. (*with* Pljasunov, Alexander) Efficient algorithm for a class of bilevel linear programming problems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 10–13, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C08

— (*with* Alexandrov, Dmitri) Simple plant location problem with partial external finance: lower bound, heuristic and exact solution. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 90–94, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B80 (90C09)

— (*with* Plyasunov, A. V.) A polynomially solvable class of two-level linear programming problems. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 2 **4** (1997), *no.* 2, 23–33, 63 (1998). (K. Zimmermann) **99j:90046** 90C08 (90C60)

— *see also* **Conference: Operations Research**

Kochikov, Igor V. (*with* Kuramshina, Gulnara M.; Yagola, A. G.) Applied nonlinear ill-posed problems and the variational approach for constructing of regularizing algorithms. *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 201–210, *Plenum, New York*, 1998. (*see* **99a:00030**) 65J20 (00A69, 35R25, 47A50)

— (*with* Kuramshina, Gulnara M.; Yagola, A. G.) Inverse problems of vibrational spectroscopy as nonlinear ill-posed problems. (English summary) *Surveys Math. Indust.* **8** (1998), *no.* 1, 63–94. (Summary) **99i:65059** 65J05 (70–08, 82D99)

Kochina, N. N. (*with* Polubarinova-Kochina, Pelageya Yakovlevna) On the oil-water boundary. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 972–977; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 953–957. (Summary) **99b:76086** 76S05

— (*with* Polubarinova-Kochina, Pelageya Yakovlevna) On the problem of an earth dam. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 515–516; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 477–478. 76S05

Kochina, P. Ya. *see* **Polubarinova-Kochina, Pelageya Yakovlevna**

polubarinova-Kochina, Pelageya Yakovlevna *see* **Polubarinova-Kochina, Pelageya Yakovlevna**

Kochloukova, Dessislava H. Finite generation of exterior and symmetric powers. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 1, 21–29. (J. R. J. Groves) **99i:20010** 20C07 (20C30)

Kochman, Stanley O. *see* **Stable and unstable homotopy, 99a:55001**

Kochmański, Martin S. Low-temperature asymptotics for the Ising model in an external magnetic field. (English summary) *J. Phys. A* **32** (1999), *no.* 7, 1251–1259. 82B20

Kochol, Martin Hypothetical complexity of the nowhere-zero 5-flow problem. (English summary) *J. Graph Theory* **28** (1998), *no.* 1, 1–11. (Václav Koubek) **99e:05119** 05C85 (68Q25, 68R10, 90B10, 90C35)

— Partial intersection theorem and flows in abstract networks. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 468–486 (*electronic*). (H. T. Lau) **99d:90046** 90B10 (05B35, 52B40)

Kochubeĭ, A. N. Limit theorems for sums of p-adic random variables. (English summary) *Exposition. Math.* **16** (1998), *no.* 5, 425–439. (H. Heyer) **99m:60016** 60B15 (11K99, 60E07, 60F05)

— Harmonic oscillator in characteristic p. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 11–20. (Yoshinori Hamahata) **99f:11155** 11S80 (11Z05, 46S10, 47N50, 47S10, 81S05)

Kocić, Ljubiša M. Fractals and Bernstein polynomials. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 3, 185–195. (Bl. Sendov) **99a:41035** 41A36 (28A80, 58F12, 65Y25)

— (*with* Occorsio, Donatella; Simoncelli, Alba Chiara) Comparison between two generalizations of Bézier curves. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 217–232. (Summary) **99f:65027** 65D17

— (*with* Simoncelli, Alba Chiara) Towards free-form fractal modelling. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 287–294, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65046** 65D17

— (*with* Simoncelli, Alba Chiara) Bézier curves via fractal algorithm. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 567–574. (Summary) **99e:65024** 65D17 (41A36)

Kocic, V. L. (*with* Grove, E. A.; Ladas, G.) Classification of invariants for certain difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 289–294, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39019** 39A10

Kočinac, Ljubiša D. A bitopological view of some cardinal invariants. (English summary) *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 219–228. (Summary) **99f:54008** 54A25 (54A10, 54D10, 54E55)

Kociński, M. Optimality of the replicating strategy for American options. (English summary) *Appl. Math.* (*Warsaw*) **26** (1999), *no.* 1, 93–105. (Summary) **99m:90028** 90A09

Köck, Bernhard The Grothendieck-Riemann-Roch theorem for group scheme actions. (English and French summaries) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 3, 415–458. (Allen B. Altman) **99f:14010** 14C40 (14L30, 19E08)

Kockelkoren, Julien (*with* Okkels, Fridolin; Jensen, Mogens H.) Chaotic behavior in shell models and shell maps. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 833–842. (Summary) **99i:76067** 76F20

Kocsis, I. (*with* Maksa, Gyula) The stability of a sum form functional equation arising in information theory. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 39–48. (P. N. Rathie) **99e:94017** 94A17 (39B22)

Kočvara, Michal (*with* Outrata, J. V.) On exterior penalties in equilibrium problems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 37–42, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C30 (90A14)

— (*with* Outrata, J. V.; Zowe, Jochem) ★ Nonsmooth approach to optimization problems with equilibrium constraints. (English summary) Theory, applications and numerical results. Nonconvex Optimization and its Applications, 28. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxii+273 pp. ISBN* 0-7923-5170-3 (Stephan Dempe) **99h:90002** 90–02 (49J40, 49J52, 90C31, 90D65)

— (*with* Zowe, Jochem) Free material optimization. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 707–716 (*electronic*). (Christian Zillober) **99h:73055** 73K40 (65K10, 73V20, 90C90)

— (*with* Zibulevsky, Michael; Zowe, Jochem) Mechanical design problems with unilateral contact. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 3, 255–281. (Anders Klarbring) **99e:73072** 73K40 (73T05, 73V20)

— (*with* Jarre, Florian; Zowe, Jochem) Optimal truss design by interior-point methods. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1084–1107 (*electronic*). (Summary) **99e:90091** 90C30

Koczan, Leopold Radii of convexity in some directions for the class of typically real functions. *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 57–62. (A. Z. Grinshpan) **99h:30011** 30C45

— (*with* Zaprawa, Paweł) Univalence problems in classes $\mathcal{F}(M)$. *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 63–74. (Dmitri Valentinović Prokhorov) **99f:30024** 30C45

Koczkodaj, W. W. (*with* Orłowski, M.) Computing a consistent approximation to a generalized pairwise comparisons matrix. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 79–85. 65F30

Koczyk, Henryk ★ Geometria wykreślna. (Polish. Polish summary) [Descriptive geometry] Metoda Monge'a i aksonometria. [The Monge method and axonometry] [Vol. 1] Teoria i zadania. [Theory and problems] [Vol. 2] Rozwiązania zadań. [Solutions of problems] Fifth edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. *Vol.* 1: 340 *pp.*; *Vol.* 2: 223 *pp. ISBN* 83-01-07388-8 51N05

Koda, Takashi (*with* Watanabe, Yoshiyuki) Infinitesimal models and homogeneous spaces. *Proceedings of the Second International Workshop on Differential Geometry* (*Taegu*, 1997), 35–42, *Kyungpook Natl. Univ., Taegu*, 1998. (O. Kowalski) **99i:53051** 53C30 (53C15, 53C55)

Kodaira, Kunihiko *see* **Hirzebruch, Friedrich, 99k:01060**

Kodaka, Kazunori Full projections and automorphisms of stable algebras of unital C^*-algebras. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 87–93. (*see* **99d:46001**) 46L40

Kodama, Hideo (*with* Mukohyama, Shinji; Seriu, Masafumi) Thermodynamics of entanglement in Schwarzschild spacetime. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064001, 11 *pp.* (Summary) **99k:83080** 83C57

— Canonical structure of locally homogeneous systems on compact closed 3-manifolds of types E^3, Nil and Sol. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 173–236. (Athanase Papadopoulos) **99c:53051** 53C30 (57M50, 58F05, 83C45)

Kodama, Shinzo (*with* Takai, Shigemasa) M-controllable subpredicates arising in state feedback control of discrete event systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 553–566. 93C83 (93B05)

— (*with* Takai, Shigemasa) Formulas for the extremal controllable sequences in timed-event graphs. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1465–1468. (Summary) **99e:93051** 93C83

— (*with* Takai, Shigemasa; Takae, Akiteru) The extremal languages arising in supervisory control for service specifications. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 161–175. (Keigo Watanabe) **99f:93101** 93C83 (68Q45)

— (*with* Takai, Shigemasa) Characterization of all M-controllable subpredicates of a given predicate. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 541–549. (Summary) **99c:93012** 93B05 (93C83)

— (*with* Ushio, Toshimitsu) The theory of discrete event systems—past and present. (Japanese) Special issue on new trends in discrete event systems (Japanese). *Systems Control Inform.* **42** (1998), *no.* 8, 415–420. (*see* **99g:93006**) 93C83 (93–02)

Kodama, Yuji Nonlinear pulse propagation in dispersion managed system. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 255–266. (*see* **99h:00031**) 78A60

Kodialam, Muralidharan S. (*with* Luss, Hanan) Algorithms for separable nonlinear resource allocation problems. (English summary) *Oper. Res.* **46** (1998), *no.* 2, 272–284. 90C30 (90C90)

— Effect of modeling uncertainty on some routing problems. (English summary) *J. Optim. Theory Appl.* **101** (1999), *no.* 1, 203–211. (Summary) **99m:90066** 90B10 (90B22, 90C35)

Koduvely, H. M. (*with* Evans, M. R.; Kafri, Y.; Mukamel, D.) Phase separation and coarsening in one-dimensional driven diffusive systems: local dynamics leading to long-range Hamiltonians. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 2764–2778. (Summary) **99e:82057** 82C05

Koehler, Gary J. New directions in genetic algorithm theory. (English summary) *Ann. Oper. Res.* **75** (1997), 49–68. (R. Shonkwiler) **99j:68117** 68T05

Koehler, J. R. (*with* Owen, A. B.) Computer experiments. *Design and analysis of experiments*, 261–308, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99 (62A99, 62M99)

Koehler, Kenneth J. (*with* Kang, Shin-Soo) Maximum likelihood estimation of bivariate survival probabilities and its existence and uniqueness. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1961–1977. 62F10

Koelink, H. Tjerk Eight lectures on quantum groups and q-special functions. (English summary) *Rev. Colombiana Mat.* **30** (1996), *no.* 2, 93–180. (Summary) **99g:33053** 33D80 (33D45)

— Some basic Lommel polynomials. (English summary) *J. Approx. Theory* **96** (1999), *no.* 2, 345–365. (K. Pan) **99m:33010** 33D15 (33D45, 41A10)

Koenderink, Jan J. Pictorial relief. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1071–1086. (*see* **99a:00034**) 92J30

Koenigsmann, Jochen Pro-p Galois groups of rank ≤ 4. (English summary) *Manuscripta Math.* **95** (1998), *no.* 2, 251–271. (Helmut Völklein) **99e:12004** 12F10 (12G05, 12J20)

Koenker, Roger Rank tests for linear models. *Robust inference*, 175–199, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G10 (62J05, 62P20)

— (*with* Machado, José A. F.) The Falstaff estimator. (English summary) *Econom. Lett.* **61** (1998), *no.* 1, 23–28. (Summary) **99h:62089** 62J05

Koepf, Wolfram (*with* Schmersau, Dieter) Weinstein's functions and the Askey-Gasper identity. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 227–246. (Shusen Ding) **99d:30021** 30C50 (30C45, 33C45)

— The algebra of holonomic equations. (English summary) *Math. Semesterber.* **44** (1997), *no.* 2, 173–194. (Hale F. Trotter) **99f:68113** 68Q40 (12H20)

— (*with* Foupouagnigni, M.; Ronveaux, André) Fourth-order difference equation for the associated classical discrete orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 103–108. (Summary) **99i:39006** 39A10 (33C45, 39A12)

— (*with* Foupouagnigni, M.; Ronveaux, André) Fourth order q-difference equation for the first associated of the q-classical orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 231–236. (Summary) **99j:33022** 33D45 (39A10)

Koepke, Peter (*with* Friedman, Sy D.) An elementary approach to the fine structure of L. (English summary) *Bull. Symbolic Logic* **3** (1997), *no.* 4, 453–468. (Ralf-Dieter Schindler) **99i:03062** 03E45

— Extenders, embedding normal forms, and the Martin-Steel-theorem. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 3, 1137–1176. (Miroslav Repický) **99g:03053** 03E55 (03E60)

Koerber, A. J. (*with* Forbes, Lawrence K.) Two-dimensional steady free surface flow into a semi-infinite mat sink. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2781–2785. (Summary) **99g:76016** 76B15

Koetsier, Teun (*with* van Mill, Jan) General topology, in particular dimension theory, in the Netherlands: the decisive influence of Brouwer's intuitionism. *Handbook of the history of general topology, Vol.* 1, 135–180, *Kluwer Acad. Publ., Dordrecht*, 1997. (Roman Duda) **99e:01021** 01A60 (54–03, 54F45)

Kofané, Timoléon C. (*with* Yomba, Emmanuel) On exact solutions of modified complex Ginzburg-Landau equation. (English summary) *Phys. D* **125** (1999), *no.* 1-2, 105–122. (Summary) **99j:35213** 35Q55 (35C05, 76E30)

Kofanov, V. A. (*with* Babenko, Vladislav F.; Pichugov, S. A.) On exact inequalities of Landau-Hadamard-Kolmogorov type for functions of several variables. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 1, 7–9. (Vladimir D. Stepanov) **99b:26027** 26D10 (47A30)

— (*with* Babenko, Vladislav F.; Pichugov, S. A.) Kolmogorov-type inequalities and the approximation of functional classes. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 11–16. (Yu. A. Brudnyĭ) **99m:41018** 41A17 (41A65)

— (*with* Babenko, Vladislav F.; Pichugov, S. A.) Inequalities for norms of intermediate derivatives of periodic functions and their applications. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 351–376. (Ha Huy Bang) **99f:41012** 41A17 (26D10)

— (*with* Babenko, Vladislav F.; Pichugov, S. A.) Additive inequalities for intermediate derivatives of differentiable mappings of Banach spaces. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 332–342; *translation in Math. Notes* **63** (1998), *no.* 3-4, 293–301. (Kazimierz Włodarczyk) **99j:46048** 46G05 (46G20, 58B10, 58C25)

— (*with* Babenko, Vladislav F.; Pichugov, S. A.) Inequalities of Kolmogorov type and some their applications in approximation theory. Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 223–237. (Gianluca Vinti) **99g:26035** 26D07 (26D10, 41A17)

Kofler, Helmut The topological consistence of path connectedness in regular and irregular structures. (English summary) *Advances in pattern recognition (Sydney*, 1998), 445–452, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68U10 (68T10)

Koga, Jun-ichirou (*with* Maeda, Kei-ichi) Equivalence of black hole thermodynamics between a generalized theory of gravity and the Einstein theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064020, 10 *pp.* (Summary) **99k:83074** 83C57 (83D05)

Koga, Yoshiyuki Commutation relations of vertex operators related with the spin representation of $U_q(D_n^{(1)})$. *Osaka J. Math.* **35** (1998), *no.* 2, 447–486. (Anjan Kundu) **99i:17032** 17B69 (17B37, 81R50)

Kogalovskiĭ, Sergei R. On congruence lattices of finitely generated algebras. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 3–11. (Manfred Armbrust) **99i:08001** 08A30 (06D05)

Kogan, Alexander *see* **Kogan, Alexander²**

Kogan, Alexander¹ (*with* Boros, Endre; Hammer, Peter L.; Ibaraki, Toshihide) Logical analysis of numerical data. (English summary) Lectures on mathematical programming (ismp97) (Lausanne, 1997). *Math. Programming* **79** (1997), *no.* 1-3, *Ser. B*, 163–190. (Béla Vizvári) **99c:90079** 90C09 (65Y20, 90C27)

— (*with* Boros, Endre; Čepek, Ondřej) Horn minimization by iterative decomposition. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 321–343. (Summary) **99i:68058** 68Q25 (68N17, 68T15)

Kogan, Alexander² Deformations of the classical W-algebras associated to D_n, E_6 and G_2. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 21–31. (From the text) **99h:17028** 17B68 (81R10)

Kogan, G. P. (*with* Il′ichev, A. P.; Shevchenko, V. N.) Polynomial algorithms for computing the permanents of some matrices. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 3, 96–100. (G. P. Egorychev) **99c:15009** 15A15

Kogan, Ian I. (*with* Caux, J.-S.; Lewis, Alexander S.; Tsvelik, Alexei M.) Logarithmic operators and dynamical extension of the symmetry group in the bosonic $SU(2)_0$ and SUSY $SU(2)_2$ WZNW models. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 469–484. (From the introduction) **99e:81221** 81T40 (81R10)

— (*with* Lewis, Alexander S.; Solov′ev, O. A.) Gauged Knizhnik-Zamolodchikov equation. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 154–158. (Conclusion) **99i:81214** 81T40

— Lectures on topological membranes. (English summary) *Particles and fields (Campos do Jordão*, 1997), 223–290, *World Sci. Publishing, River Edge, NJ*, 1998. (Kazuto Oshima) **99j:81168** 81T40 (81T13, 81T70)

— (*with* Lewis, Alexander S.) Origin of logarithmic operators in conformal field theories. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 687–704. (Summary) **99g:81201** 81T40 (81R10)

— (*with* Lewis, Alexander S.) Vacuum instability in Chern-Simons theory, null vectors and two-dimensional logarithmic operators. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 77–84. (Satoru Saito) **99g:81202** 81T40 (81R10)

— (*with* Solov′ev, O. A.) Gravitationally dressed RG flows and zigzag-invariant strings. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 136–144. (Summary) **99h:81170** 81T30 (81T17, 81T40)

— (*with* Kovner, Alex; Shifman, Mikhail) More on supersymmetric domain walls, N counting, and glued potentials. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5195–5213. 81V05 (81T60)

— (*with* Kaloper, Nemanja; Olive, Keith A.) Cosmological solutions in M and string theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7340–7353. (Summary) **99j:83067** 83E30 (81T30)

Kogan, Jacob Strict Hurwitzness of bivariate polynomials under polynomial perturbations. (English summary) *Multidimens. Systems Signal Process.* **8** (1997), *no.* 4, 469–479. (Geir E. Dullerud) **99c:93080** 93D09

— (*with* Naimark, Leonid; Leizarowitz, Arie; Zeheb, Ezra) On rational stabilizing controllers for interval delay systems. (English summary) *Stability and control of time-delay systems*, 184–204, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (93C30)

— (*with* Hocherman, Judith; Leizarowitz, Arie; Zeheb, Ezra) Robust stability of quasipolynomials with annular uncertainties. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 1, 77–92. (Summary) **99f:93110** 93D09

Kogan, Konstantin A continuous-time integrated model for discrete control of production flows in a multi-level bills of material environment. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 3, 263–273. 90B30 (93E03)

Kogan, L. A. Representation of numbers by quadratic forms. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 248–261. (Meinhard Peters) **99j:11037** 11E45 (11E12, 11E25)

Kogan, L. P. Wave propagation in a plane Earth-ionosphere waveguide with abrupt change in the low-side impedance. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 5, 567–580; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 5, 377–386. 78A40 (86A10)

Kogan, Mark M. A local approach to solving the inverse minimax control problem for discrete-time systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1437–1448. 93C55 (49K35)

— Solution of inverse problems of minimax and minimax-robust controls. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 3, 87–97; *translation in Automat. Remote Control* **59** (1998), *no.* 3, *part* 2, 375–383. (B. I. Anan′ev) **99m:93030** 93B36 (93B52)

— A game-theoretic approach to the synthesis of robust controllers. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 5, 142–151; *translation in Automat. Remote Control* **59** (1998), *no.* 5, *part* 2, 727–734. (Summary) **99m:93093** 93D21 (93D09)

— Optimality conditions for linear robust controllers. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 129–135. (*see* **99b:93002**) 49N10 (93B36)

— (*with* Neĭmark, Yu. I.) Does a system need to be completely identified? (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 136–146. (*see* **99b:93002**) 93B30

— When is a linear control system minimax? (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 2, 179–181. 93B36 (49N10, 93C05)

— Optimal robust laws for the control of linear continuous systems. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 178–180. 93B36 (93D09)

Kogan, Mikhail On completely integrable systems with local torus actions. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 543–553. (Ágúst Sverrir Egilsson) **99c:58075** 58F07 (58F05)

Kogan, Yakov A. (*with* Bayer, N.) Branching/queueing networks: their introduction and near-decomposability asymptotics. (English summary) *Queueing Systems Theory Appl.* **27** (1997), *no.* 3-4, 251–269 (1998). (Summary) **99a:60098** 60K25 (60J85, 90B22)

— (*with* Choudhury, Gagan L.; Susskind, Silvio) Exact and asymptotic solutions for models of new telecommunication services. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 393–407. (*see* **99a:90010**) 90B12 (90B22, 94A05)

— (*with* Coffman, E. G., Jr.; Gilbert, E. N.) Redialing policies: optimality and success probabilities. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 37–53. (Volker Schmidt) **99m:60143** 60K25

Kogiantis, Achilles G. (*with* Burrell, Anthony; Papantoni-Kazakos, P.) Detecting changes in acting stochastic models and model implementation via stochastic binary neural networks. *Statistical methods in control and signal processing*, 481–497, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 92B20

Kogure, Atsuyuki Effective interpolations for kernel density estimators. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 2, 165–195. (Summary) **99d:62038** 62G05

Kogure, Jun (*with* Izu, Tetsuya; Yokoyama, Kazuhiro) Mounting an improved Schoof algorithm according to Atkin, Elkies et al. (Japanese. Japanese summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 230–243. (*see* **99h:00034**) 11G05 (11Y16, 14G25)

Kogut, P. I. Variational S-convergence of minimization problems. I. Definitions and basic properties. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 29–42, 152. 49J45 (90C31)

— Variational S-convergence of minimization problems. II. Topological properties of S-limits. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 78–90, 156. 49J45 (49K40, 90C48)
— S-convergence of conditional minimization problems and its variational properties. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 64–79, 156. (Alexander A. Kovalevsky) **99h:49018** 49J45
— S-convergence in the theory of averaging optimal control problems. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1488–1498; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1671–1681 (1998). (Uldis Ē. Raitums) **99m:49018** 49J45 (49J27, 90C31)

Koh, E. L. (*with* Deeba, Elias Y.; de Korvin, Andre) On a fuzzy logistic difference equation. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 149–156. (Summary) **99g:39006** 39A10
— (*with* Deeba, Elias Y.; de Korvin, Andre) A fuzzy difference equation with an application. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 365–374. (Wolfgang Sander) **99b:39006** 39A10 (04A72)
— (*with* Deeba, Elias Y.; Sahoo, Prasanna K.; Xie, Shishen) On a distributional analog of a sum form functional equation. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 333–344. (Summary) **99a:39054** 39B22 (46F10)
— (*with* Ren, Gong) The Aczel-Chung equation in distributions. (English summary) *Integral Transform. Spec. Funct.* **7** (1998), *no.* 1-2, 65–74. (Summary) **99i:46028** 46F10 (39B52)
— (*with* Li, Chen-Kuan) The neutrix convolution product in $Z^r(m)$ and the exchange formula. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 695–700. (Summary) **99h:46070** 46F10 (46F12)

Koh, Jai Sang (*with* Shin, Yong Yeon) An algorithm for generating minimal cutsets of undirected graphs. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 681–693. (Summary) **99e:05120** 05C85 (94C15)

Koh, Jee Ideals generated by quadrics exhibiting double exponential degrees. (English summary) *J. Algebra* **200** (1998), *no.* 1, 225–245. (J. W. Brewer) **99b:13023** 13F20
— (*with* Lee, Kisuk) Some restrictions on the maps in minimal resolutions. (English summary) *J. Algebra* **202** (1998), *no.* 2, 671–689. (Mark R. Johnson) **99d:13017** 13D02

Koh, K. M. (*with* Chen, Chuan Chong; Jin, Guoping) Triangle-free graphs with large degree. (English summary) *Combin. Probab. Comput.* **6** (1997), *no.* 4, 381–396. (Vadim E. Zverovich) **99a:05121** 05C75
— (*with* Tay, E. G.) Optimal orientations of products of paths and cycles. (English summary) *Discrete Appl. Math.* **78** (1997), *no.* 1-3, 163–174. (J. Richard Lundgren) **99c:05080** 05C20 (05C38)
— (*with* Tay, E. G.) On optimal orientations of Cartesian products of graphs. I. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 115–136. (K. B. Reid) **99g:05089** 05C20
— (*with* Tay, E. G.) On optimal orientations of Cartesian products of even cycles. (English summary) *Networks* **32** (1998), *no.* 4, 299–306. (Summary) **99g:05090** 05C20 (05C38)

Koh, Liang-Khoon Ricci curvature and ends of Riemannian orbifolds. (English summary) *Mathematika* **45** (1998), *no.* 1, 135–144. (Joseph E. Borzellino) **99g:53045** 53C21 (53C20)

Koh, Sung-Eun A characterization of round spheres. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3657–3660. (Daniel Hug) **99b:53083** 53C40 (53C42)

Kohara, Tetsuya (*with* Iwasaki, Yoshimitsu) Matrix calculation algorithms for optimization of design of experiments. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 162–171. (*see* **99i:00028**) 65F30 (15-04, 90C90)

Kohaupt, L. Basis of eigenvectors and principal vectors associated with Gauss-Seidel matrix of $A = \text{tri diag}[-1\ 2\ -1]$. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 959–964 (*electronic*). (F. Szidarovszky) **99i:15015** 15A18 (65F15)

Kohayakawa, Y. Szemerédi's regularity lemma for sparse graphs. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 216–230, *Springer, Berlin*, 1997. (Summary) **99g:05145** 05C70 (05C80)
— (*with* Kreuter, Bernd) Threshold functions for asymmetric Ramsey properties involving cycles. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 245–276. (Andrzej Ruciński) **99g:05159** 05C80 (05C55)
— (*with* Fontes, L. R. G.; Isopi, M.; Picco, Pierre) The spectral gap of the REM under Metropolis dynamics. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 917–943. (Christian Maes) **99g:60184** 60K35 (82B44)
— (*with* Haxell, P. E.) Packing and covering triangles in tripartite graphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 1–10. (Michael E. Raines) **99e:05095** 05C70

Kohda, Tohru I.I.D. chaotic binary sequences. (English summary) Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 1–15. (Summary) **99c:65010** 65C10 (94A55)
— (*with* Oohama, Yasutada) Constructions of piecewise linear maps generating Markov sources. Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 16–24. (*see* **99a:00044**) 65C10 (58F13)
— (*with* Tsuneda, Akio) Chaotic binary sequences with their applications to communications. (English summary) Pseudorandom numbers and chaos (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1011 (1997), 89–106. (Summary) **99d:94018** 94A55 (65C10)
— (*with* Fujisaki, Hiroshi) The frequency distribution of i.i.d. two-valued strings. (Japanese. Japanese summary) Problems in stochastic numerical analysis, III (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1032 (1998), 142–147. (*see* **99f:65007**) 60E05

Kohl, Niklas (*with* Madsen, Oli B. G.) An optimization algorithm for the vehicle routing problem with time windows based on Lagrangian relaxation. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 395–406. (Summary) **99f:90165** 90C35 (90B06, 90C27)

Kohl, Timothy Classification of the Hopf Galois structures on prime power radical extensions. (English summary) *J. Algebra* **207** (1998), *no.* 2, 525–546. (Akira Masuoka) **99g:16049** 16W30 (12F10)

Kohlas, J. (*with* Anrig, Bernhard; Haenni, R.; Monney, Paul-André) Model-based diagnostics and probabilistic assumption-based reasoning. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 71–106. (Summary) **99h:68024** 68M15 (68T27)

Kohlenbach, Ulrich Elimination of Skolem functions for monotone formulas in analysis. (English summary) Logic Colloquium '95 (Haifa). *Arch. Math. Logic* **37** (1998), *no.* 5-6, 363–390. (Xiaokang Yu) **99m:03119** 03F35 (03B30)

Kohler, Achim (*with* Blümel, Reinhold) Weyl formulas for quantum ray-splitting billiards. (English summary) *Ann. Physics* **267** (1998), *no.* 2, 249–280. (Jens Bolte) **99f:81060** 81Q50

Köhler, Angela Enveloping semigroups for flows. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 179–191. (Ryszard Rudnicki) **99i:47056** 47B38 (47D03, 58F08, 58F13)
— Semigroup compactifications and chaotic flows. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 397–404. (N. Hindman) **99e:58062** 58F03 (22A15, 54H20, 58F13)

Kohler, Franz (*with* Dloussky, Georges) Classification of singular germs of mappings and deformations of compact surfaces of class VII_0. (English summary) Complex analysis and applications (Warsaw, 1997). *Ann. Polon. Math.* **70** (1998), 49–83. (Jesús Muciño-Raymundo) **99m:32036** 32J15 (32G05)

Köhler, Kai (*with* Roessler, Damien) Un théorème du point fixe de Lefschetz en géométrie d'Arakelov. (English and French summaries) [A Lefschetz fixed point theorem in Arakelov geometry] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 719–722. (Klaus Künnemann) **99m:14046** 14G40 (14C40, 14L30, 58G26)

Kohler, M. *see* **Kohler, Michael**

Kohler, Markus (*with* Müller, Heinrich Augustinus) Efficient calculation of subdivision surfaces for visualization. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 165–179, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)
— A meta scheme for iterative refinement of meshes. (English summary) *Mathematical visualization* (*Berlin*, 1997), 45–59, *Springer, Berlin*, 1998. (*see* **99k:65005**) 65Y25 (65M50, 65N50)

Kohler, Michael ★ Nichtparametrische Regressionsschätzung mit Splines. (German. German summary) [Nonparametric regression estimation with splines] Dissertation, Universität Stuttgart, Stuttgart, 1997. *Mathematisches Institut A der Universität Stuttgart, Stuttgart*, 1997. 127 *pp.* (Theo Gasser) **99i:62093** 62G07 (65D07, 65U05)
— On the universal consistency of a least squares spline regression estimator. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 3, 349–364. (Jian-Lun Xu) **99c:62102** 62G05 (62G20)
— Nonparametric regression function estimation using interaction least squares splines and complexity regularization. (English summary) *Metrika* **47** (1998), *no.* 2, 147–163. (Ewaryst Rafajłowicz) **99h:62048** 62G07
— (*with* Györfi, L.; Walk, H.) Weak and strong universal consistency of semi-recursive kernel and partitioning regression estimates. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 1–18. (Sidney J. Yakowitz) **99i:62112** 62G20 (62G07)

Köhler, P. On the error of quadrature formulae for Cauchy principal value integrals based on piecewise interpolation. (English summary) *Approx. Theory Appl.* (*N.S.*) **13** (1997), *no.* 3, 58–69. (Francesco Romani) **99i:65023** 65D32 (41A55)
— (*with* Förster, K.-J.; Nikolov, Geno P.) Monotonicity and stopping rules for compound Gauss-type quadrature formulae. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 55–74. (Summary) **99a:41044** 41A55 (65D32)

Kohlhase, Michael (*with* Kerber, Manfred; Sorge, Volker) Integrating computer algebra into proof planning. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 327–355. 68T15 (68Q40)

Kohlmann, Michael (*with* Boetius, Frederik) Connections between optimal stopping and singular stochastic control. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 253–281. (Ł. Stettner) **99g:93085** 93E20 (60G40, 62L15)

Kohlmann, Peter Characterization of metric balls in standard space forms via curvature. *Math. Z.* **227** (1998), *no.* 4, 729–746. (Daniel Hug) **99e:53108** 53C65 (52A20, 52A55)

Kohmoto, Mahito (*with* Hatsugai, Yasuhiro; Koma, Tohru; Wu, Yong Shi[1]) Mutual exclusion statistics in the exactly solvable model of the Mott metal-insulator transition. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 126–133, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82D35 (81V70)
— (*with* Hatsugai, Yasuhiro; Wu, Yong Shi[1]) Quantum group and the Hofstadter problem—explicit solutions of the Bethe ansatz equations for Bloch electrons in a magnetic field. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 134–141, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B20 (81R50)

Kohn, J. J. Hypoellipticity of some degenerate subelliptic operators. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 1, 203–216. (Marco Bramanti) **99m:35035** 35H05 (35B35, 35S99)

Kohn, Robert Jacob (*with* Smith, Michael Stanley) Nonparametric estimation of irregular functions with independent or autocorrelated errors. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 157–179, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (*see* **99a:62004**) 62G05

Kohn, Robert V. (*with* Levy, Ohad) Duality relations for non-Ohmic composites, with applications to behavior near percolation. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 159–189. (Summary) **99a:82097** 82D30 (78A25, 82B43)

Kohn, Walter *see* **Wigner, Eugene Paul, 99k:01089**

Kohnen, Winfried Asymptotic relations between eigenvalues and Fourier coefficients. Research on automorphic forms and zeta functions (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1002 (1997), 137–139. (*see* **99a:11005**) 11F46 (11F30, 11F60)
— Fourier coefficients and Hecke eigenvalues. (English summary) *Nagoya Math. J.* **149** (1998), 83–92. (Hiroshi Saito) **99e:11059** 11F60 (11F30, 11F46)
— A remark on the left-factorial hypothesis. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 51–53. (P. K. Subramanian) **99m:11005** 11A07

Kohnert, Axel (*with* Veigneau, Sébastien) Using Schubert basis to compute with multivariate polynomials. (English summary) *Adv. in Appl. Math.* **19** (1997), *no.* 1, 45–60. (Summary) **99e:05129** 05E15 (05E05)
— Multiplication of a Schubert polynomial by a Schur polynomial. (English summary) *Ann. Comb.* **1** (1997), *no.* 4, 367–375. (Summary) **99c:05195** 05E05

Kohno, Toshitake Elliptic KZ system, braid group of the torus and Vassiliev invariants. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967

(1996), 42–57. (Joanna Kania-Bartoszynska) **99m:57007** 57M25 (20F36, 57N10)

— Chern-Simons perturbative invariants. *Lectures at KNOTS '96 (Tokyo)*, 235–261, *Ser. Knots Everything*, 15, *World Sci. Publishing, River Edge, NJ*, 1997. (David H. Adams) **99b:57066** 57R57 (57M25, 57N10, 58D29, 58G18, 81Q30, 81T18)

— Topological quantum field theories with focus on their applications to 3-manifolds [translation of Sūgaku **44** (1992), no. 1, 29–43; MR 93k:57038]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 145–161. (*see* **99h:00040**) 57N10 (57M25, 81T40)

Kohno, Yoshifumi (*with* Uehara, Tsuyoshi) A congruence relation for generalized Fibonacci numbers and its formal-group-law interpretation. (English summary) *Rep. Fac. Sci. Engrg. Saga Univ. Math.* **26/27** (1998), *no.* 1, 1–10. (F. Beukers) **99f:11019** 11B39 (11A07)

Kohr, Gabriela Certain partial differential inequalities and applications for holomorphic mappings defined on the unit ball of $\mathbf{C}^n$. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 87–94. (Sheng Gong) **99a:32029** 32H02 (30C45, 32A30)

— (*with* Kohr-Ile, Mirela) On some subclasses of holomorphic mappings defined on the unit ball in $\mathbf{C}^n$. I. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 643–648. (T. J. Suffridge) **99g:32040** 32H02 (30C45)

— On some sufficient conditions of almost starlikeness of order 1/2 in $\mathbf{C}^n$. (English summary) *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 3, 51–55. (T. J. Suffridge) **99g:32041** 32H02 (30C45)

— (*with* Liczberski, Piotr) On some application of a generalization of Jack-Miller-Mocanu lemma in $\mathbf{C}^n$. (English summary) *J. Indian Math. Soc. (N.S.)* **63** (1997), *no.* 1-4, 77–81. (T. J. Suffridge) **99c:32032** 32H02

— On some differential inequalities for holomorphic mappings in several complex variables. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 75–85. (T. J. Suffridge) **99g:32042** 32H02

— Some sufficient conditions of starlikeness for mappings of C^1 class. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 1, 1–9. (Summary) **99g:32005** 32A30 (30C45)

— On some best bounds for coefficients of several subclasses of biholomorphic mappings in $\mathbf{C}^n$. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 3, 261–284. (Summary) **99k:32038** 32H02 (30C45, 32A30)

— On some alpha convex mappings on the unit ball of $\mathbf{C}^n$. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 209–222. (T. J. Suffridge) **99f:32036** 32H02

— Certain sufficient conditions of injectivity in $\mathbf{C}^n$. *Demonstratio Math.* **31** (1998), *no.* 2, 395–404. (T. J. Suffridge) **99g:32043** 32H02 (30C45)

Kohr-Ile, Mirela (*with* Lupu, Mircea) The Vâlcovici-Birkhoff's model for the axisymmetric compressible and ideal flow. *Mathematica* **38(61)** (1996), *no.* 1-2, 75–88. (A. Pozzi) **99a:76127** 76N10

— (*with* Kohr, Gabriela) On some subclasses of holomorphic mappings defined on the unit ball in $\mathbf{C}^n$. I. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 643–648. (T. J. Suffridge) **99g:32040** 32H02 (30C45)

— An integral method for interaction between a solid particle and a viscous drop in the half-space. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 87–102. (Summary) **99g:76050** 76D99

— Existence and uniqueness result for Stokes flows in a half-plane. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 4, 791–803. (Jürgen Socolowsky) **99m:76049** 76D07 (35Q30, 45B05)

Koide, Takeshi (*with* Shinmori, Shuichi; Ishii, Hiroaki[1]) A method of deriving a lower bound for all-terminal reliability that utilizes series-parallel graphs. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 128–134. (*see* **99h:90006**) 90B25

Koike, Kazutoshi On second socles of finitely cogenerated injective models. *Tsukuba J. Math.* **22** (1998), *no.* 2, 519–524. (Pere Ara) **99g:16004** 16D50 (16L60)

Koike, Ken-ichi A lower bound for the Bayes risk in the sequential case. (Japanese) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 80–90. (*see* **99a:62005**) 62C10 (62L10)

— (*with* Akahira, Masafumi) On the properties of statistical sequential decision procedures [translation of Sūgaku **48** (1996), no. 2, 184–195; MR 97e:62105]. Sugaku Expositions. *Sugaku Expositions* **11** (1998), *no.* 2, 197–213. (*see* **99h:00040**) 62L12 (62F12)

— Asymptotic efficiency in sequential estimation. (Japanese) Large deviation and statistical inference (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1055 (1998), 1–11. (*see* **99m:62007**) 62L12

Koike, Michio (*with* Itoyama, Hiroshi; Takashino, H.) $N = 2$ supermultiplet of currents and anomalous transformations in supersymmetric gauge theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1063–1069. (Summary) **99c:81243** 81T60 (81T13, 81T50)

Koike, Minoru Overdetermined systems of singular partial differential equations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3855–3865. (Angelo Favini) **99b:35160** 35N10 (35F20)

Koike, Naoya (*with* Nunokawa, Mamoru; Ikeda, Akira[2]; Ota, Yoshiaki) Sufficient condition for multivalently starlikeness. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 66–69. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Kim, Yong Chan; Ikeda, Akira[2]; Ota, Yoshiaki) On angular estimate of analytic functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 70–73. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Ikeda, Akira[2]; Ota, Yoshiaki) On meromorphic convex and starlike functions. (English summary) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 74–77. (*see* **99a:00033**) 30C45

— (*with* Nunokawa, Mamoru; Yamakawa, Rikuo; Ikeda, Akira[2]; Ota, Yoshiaki) Sufficient conditions for starlikeness of meromorphic functions. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 78–81. (*see* **99a:00033**) 30C45

Koike, Naoyuki Generalized helical immersions. *Tsukuba J. Math.* **22** (1998), *no.* 2, 407–425. (Victor Patrangenaru) **99i:53061** 53C42 (53C40)

— Generalized helical immersions of a Riemannian manifold all of whose geodesics are closed into a Euclidean space. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 3, 811–824. (Victor Patrangenaru) **99m:53118** 53C42 (53C40)

Koike, Satoshi A problem on partition of analytic functions. *Stratifications, singularities and differential equations, I (Marseille*, 1990; *Honolulu, HI*, 1990), 63–81, *Travaux en Cours*, 54, *Hermann, Paris*, 1997. (Toshizumi Fukui) **99b:58032** 58C27

— (*with* Fukui, Toshizumi; Kuo, Tzee-Char) Blow-analytic equisingularities, properties, problems and progress. *Real analytic and algebraic singularities (Nagoya/Sapporo/Hachioji*, 1996), 8–29, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Kevin Houston) **99a:32051** 32S15 (14P20, 58C27)

— (*with* Fukui, Toshizumi; Shiota, Masahiro) Modified Nash triviality of a family of zero-sets of real polynomial mappings. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 5, 1395–1440. (Laurenţiu Păunescu) **99m:14112** 14P20 (58A07, 58A35, 58C27)

Koike, Shigeaki A comparison result for the state constraint problem of differential games. *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon*, 1996), 8 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Pierpaolo Soravia) **99e:49033** 49L25 (35F20, 90D25)

Koike, Tatsuhiko (*with* Iguchi, Osamu; Hosoya, Akio) Renormalization group approach to the Einstein equation in cosmology. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3340–3350. (Summary) **99m:83016** 83C05 (81T17)

— (*with* Maeda, Kengo; Narita, Makoto; Ishibashi, Akihiro) Upper bound for entropy in asymptotically de Sitter space-time. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3503–3508. (Summary) **99m:83125** 83C57

Koike, Tatsuya Perturbation series of eigenvalues of anharmonic oscillators. (Japanese) Exact WKB analysis and Fourier analysis in the complex domain (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1001 (1997), 71–97. (Yoshitsugu Takei) **99e:34075** 34E20 (34L40, 81Q15, 81Q20)

Koiller, Jair (*with* Delgado Fernández, Joaquín) On efficiency calculations for nonholonomic locomotion problems: an application to microswimming. (English summary) Pacific Institute of Mathematical Sciences Workshop on Nonholonomic Constraints in Dynamics (Calgary, AB, 1997). *Rep. Math. Phys.* **42** (1998), *no.* 1-2, 165–183. (Summary) **99m:76050** 76D07 (76Z10, 93C10)

Koiran, Pascal Approximating the volume of definable sets. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI*, 1995), 134–141, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q05 (65C05, 68Q15)

— (*with* Cucker, Felipe; Smale, Stephen) A polynomial time algorithm for Diophantine equations in one variable. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 21–29. (Maurice Mignotte) **99i:11121** 11Y50 (11Y16, 68Q40)

— (*with* Moore, Cristopher) Closed-form analytic maps in one and two dimensions can simulate universal Turing machines. (English summary) *Theoret. Comput. Sci.* **210** (1999), *no.* 1, 217–223. (Summary) **99g:68058** 68Q05

Koiso, Miyuki Applications of the maximum principle to surfaces with constant mean curvature. (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 1–6. (*see* **99a:58003**) 53A10

— The stability and the vision number of surfaces with constant mean curvature. (English and Japanese summaries) *Bull. Kyoto Univ. Ed. Ser. B No.* 92 (1998), 1–11. (Karsten Grosse-Brauckmann) **99i:53005** 53A10

Koiter, W. T. *see* **Pignataro, Marcello**

Koizumi, Hirotaka (*with* Maruoka, Akira; Paterson, Michael S.) Consistency of natural relations on sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 3, 281–293. (A. N. Philippou) **99m:05015** 05A99

Kojima, Akira (*with* Uchida, Kenko; Fujita, Masayuki[1]) H_∞ control attenuating initial-state uncertainties. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 245–252. 93B36 (93C41)

— (*with* Song, Ri-yao; Ishijima, Shintaro) Stabilization of a class of nonlinear systems by a specific nonlinear observer. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **11** (1998), *no.* 3, 136–144. (Summary) **99b:93041** 93D15 (93C10)

— (*with* Ishijima, Shintaro) LQ preview synthesis: optimal control and worst case analysis. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 352–357. 93E20 (49N10)

Kojima, Hideo Almost minimal embeddings of quotient singular points into rational surfaces. *J. Math. Kyoto Univ.* **38** (1998), *no.* 1, 77–99. (R. V. Gurjar) **99e:14039** 14J17 (14J26)

Kojima, Masakazu (*with* Kojima, Sadayoshi; Hara, Shinji) Linear algebra for semidefinite programming. Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 1–23. (Florian Jarre) **99d:90131** 90C33 (90C25)

— (*with* Megiddo, Nimrod; Mizuno, Shinji) A conjugate direction method for approximating the analytic center of a polytope. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 2, 181–194. (Shu Zhong Zhang) **99m:90100** 90C08 (15A39, 52B55)

— (*with* Nakata, Kazuhide; Fujisawa, Katsuki) Using the conjugate gradient method in interior-points methods for semidefinite programs. (Japanese. English and Japanese summaries) *Proc. Inst. Statist. Math.* **46** (1998), *no.* 2, 297–316. 90C30 (90C08)

— (*with* Shida, Masayuki; Shindoh, Susumu) Existence and uniqueness of search directions in interior-point algorithms for the SDP and the monotone SDLCP. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 387–396 (*electronic*). (Jos F. Sturm) **99b:90140** 90C33 (90C05, 90C25)

Kojima, Sadayoshi Nonsingular parts of hyperbolic 3-cone-manifolds. (English summary) *Topology and Teichmüller spaces (Katinkulta*, 1995), 115–122, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:57028** 57M50 (57N10)

— (*with* Fujii, Michihiko) Flexible boundaries in deformations of hyperbolic 3-manifolds. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 71–82. (From the introduction) **99h:57026** 57M50 (57N10)

— (*with* Fujii, Michihiko) Flexible boundaries in deformations of hyperbolic 3-manifolds. *Osaka J. Math.* **34** (1997), *no.* 3, 541–551. (Darren D. Long) **99a:57013** 57N10 (57M50)

— (*with* Kojima, Masakazu; Hara, Shinji) Linear algebra for semidefinite programming. Linear matrix inequalities and positive semidefinite programming (Japanese) (Kyoto,

1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1004 (1997), 1–23. (Florian Jarre) **99d:90131** 90C33 (90C25)
— Hyperbolic 3-manifolds singular along knots. Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 765–777. (Wolfgang H. Heil) **99g:57018** 57M50 (57M25, 57N10)
— (*with* Nishi, Haruko; Yamashita, Yasushi) Configuration spaces of points on the circle and hyperbolic Dehn fillings. (English summary) *Topology* **38** (1999), *no.* 3, 497–516. (Daniel Matignon) **99m:57013** 57M50 (55R99)
— *see also* **Topology and Teichmüller spaces, 99g:00051**
Kojima, Takeo (*with* Korepin, Vladimir E.; Slavnov, Nikita) Determinant representation for dynamical correlation functions of the quantum nonlinear Schrödinger equation. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 657–689. (Mayumi Ohmiya) **99a:82058** 82C10 (35Q55)
— (*with* Korepin, Vladimir E.; Slavnov, Nikita) Completely integrable equation for the quantum correlation function of nonlinear Schrödinger equation. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 709–728. (Konstantin G. Selivanov) **99a:81100** 81T10 (45K05, 58F07, 81U40)
— Ground-state correlation functions for an impenetrable Bose gas with Neumann or Dirichlet boundary conditions. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 3-4, 713–743. (Alexandre S. Gajrat) **99d:82006** 82B05
Kojman, Menachem (*with* Goldstern, Martin) Rules and reals. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1517–1524. (W. W. Comfort) **99h:03029** 03E35 (03E50, 04A20, 20B27)
Kojo, Katsuya On the determinism of the distributions of multiple Markov non-Gaussian symmetric stable processes. (English summary) *Nagoya Math. J.* **150** (1998), 177–196. (Shigeo Takenaka) **99g:60032** 60E07 (60J25)
Kojo, Tomomi On solutions of degenerate pseudo-parabolic equations in a Hilbert space. *Functional analysis and global analysis* (*Quezon City*, 1996), 173–178, *Springer, Singapore*, 1997. (Piotr Biler) **99h:34087** 34G20 (35K70)
Kojok, Badrié (*with* Viry, Guy) Simplifications in the resolution of systems of algebraic equations. (English summary) *Afrika Mat.* (3) **8** (1997), 1–15. (Joachim Apel) **99a:13016** 13P10 (12D10)
Kojouharov, Hristo V. (*with* Chen-Charpentier, Benito) Nonstandard methods for the convective transport equation with nonlinear reactions. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 467–485. (Summary) **99c:76075** 76M20 (65M06, 76R05, 86A05)
de Kok, A. G. (*with* van der Heijden, Matthieu C.) Estimating stock levels in periodic review inventory systems. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 4-5, 179–182. 90B05
Kok, A. R. (*with* van Es, A. J.) Simple kernel estimators for certain nonparametric deconvolution problems. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 151–160. (Margaret P. Gessaman) **99m:62043** 62G05
Kok, Joost N. (*with* Bonsangue, Marcello M.) Specifying computations using hyper-transition systems. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 169–178, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (*see* **99d:68009**) 68Q60 (68Q55, 68Q68)
— (*with* Bäck, Thomas; de Graaf, Jeannette M.; Kosters, Walter A.) Theory of genetic algorithms. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 161–192. (R. Shonkwiler) **99g:68166** 68T05
de Kok, Ton *see* **de Kok, A. G.**
Kokado, Akira (*with* Konisi, Gaku; Saito, Takesi; Tada, Yutaka) Brans-Dicke theory from $M_4 \times Z_2$ geometry. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 293–303. (Jürgen Tolksdorf) **99d:83083** 83D05 (58B30)
Kökény, Tibor (*with* Caseau, Yves) An inventory management problem. (English summary) *Constraints* **3** (1998), *no.* 4, 363–373. 90B05 (90B30)
Kokilashvili, L. V. Criteria for weighted inequalities for strong maximal functions and multiple singular integrals in Orlicz classes. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 155–157. (From the text) **99k:42035** 42B20 (46E30, 47G10)
— On a certain boundary value problem for nonlinear ordinary differential equations. *Mem. Differential Equations Math. Phys.* **13** (1998), 145–147. 34B05
Kokilashvili, Vakhtang New aspects in the weight theory and applications. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 51–70, *Prometheus, Prague*, 1996. (From the introduction) **99k:42021** 42B10 (46E99, 47G10)
— (*with* Genebashvili, I. Z.; Gogatishvili, A. S.) Criteria for two-weight inequalities for integral transforms with a positive kernel and for maximal functions. (Russian) *Dokl. Akad. Nauk* **351** (1996), *no.* 4, 448–451. (Vladimir B. Vasilyev) **99c:42030** 42B20 (42B25, 47G10)
— (*with* Meskhi, A.) Two-weight inequalities for singular integrals defined on homogeneous groups. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **112** (1997), 57–90. (Dashan Fan) **99a:43006** 43A80 (42B25, 47B38, 47G10)
— (*with* Meskhi, A.) Two-weight inequalities for Hardy type transforms and singular integrals defined on homogeneous type spaces. *Proc. A. Razmadze Math. Inst.* **114** (1997), 119–123. 42B20 (42B25)
— (*with* Edmunds, David E.) Two-weight compactness criteria for potential type operators. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **117** (1998), 123–125. 42B20 (47B38, 47G10)
— (*with* Meskhi, A.) Two-weighted inequalities for integral operators in Lorentz spaces defined on homogeneous groups. (English summary) *Georgian Math. J.* **6** (1999), *no.* 1, 65–82. (Gerald B. Folland) **99m:42026** 42B20 (43A15, 47G10)
Kokkinis, B. (*with* Chryssoverghi, I.; Bacopoulos, Alexis; Coletsos, J.) Discrete approximation of nonconvex hyperbolic optimal control problems with state constraints. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 29–50. (Walter Alt) **99e:49040** 49M25 (49K20)
Kokkinos, Johannes ★ Das mathematische Inkommensurable und Irrationale bei Platon. (German. German summary) [The mathematically incommensurable and irrational according to Plato] Wiener Arbeiten zur Philosophie. Reihe A: Universitätsstudien [Vienna Studies on Philosophy. Series A: University Studies], 1. *Peter Lang, Frankfurt am Main*, 1997. 240 *pp. ISBN* 3-631-31491-4 (B. Artmann) **99f:01005** 01A20
Koko, Jonas Semi-analytical solutions for an orthotropic cylindrical shell problem with a prescribed radius. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 5, 865–879. (Summary) **99g:73082** 73K15 (73K20)
— (*with* Moukrim, Aziz) Parallel implementation of a generalized conjugate gradient algorithm. (English and Lithuanian summaries) *Informatica* (*Vilnius*) **9** (1998), *no.* 4, 437–448. 90C30 (65Y05)
— An orthotropic cylindrical shell problem with prescribed radius. (English summary) *Math. Engrg. Indust.* **7** (1998), *no.* 1, 57–70. (Summary) **99g:73083** 73K15 (73K20)
Kokolakis, George E. (*with* Papanicolaou, Vassilis G.; Boneh, Shahar) Asymptotics for the random coupon collector problem. (English summary) *J. Comput. Appl. Math.* **93** (1998), *no.* 2, 95–105. 90C05
Kokonendji, Célestin Clotaire Sur les familles exponentielles naturelles réelles de grand-Babel. (English and French summaries) [On the "grand-Babel" class of real natural exponential families] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 4, 763–800. (Gérard Letac) **99f:62024** 62E10
Kokoszka, Piotr (*with* Horváth, Lajos) The effect of long-range dependence on change-point estimators. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 57–81. (M. Hušková) **99c:62061** 62F12 (60G10, 60G18)
Kokotović, Petar V. (*with* Sepulchre, Rodolphe) Shape signifiers for control of a low-order compressor model. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1643–1648. 93C95 (93A30)
— (*with* Krstić, Miroslav; Fontaine, Dan; Paduano, James D.) Useful nonlinearities and global stabilization of bifurcations in a model of jet engine surge and stall. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1739–1745. 93D15 (93C95)
— (*with* Bazanella, Alexandre S.; e Silva, Aguinaldo S.) A dynamic extension for $L_g V$ controllers. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 93*b*52. 93D05
— (*with* Seron, M. M.; Braslavsky, J. H.; Mayne, D. Q.) Feedback limitations in nonlinear systems: from Bode integrals to cheap control. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 829–833. (Summary) **99m:93042** 93B52 (93C10)
Kokubu, Hiroshi (*with* Mischaikow, Konstantin; Nishiura, Yasumasa; Oka, Hiroe; Takaishi, Takeshi) Connecting orbit structure of monotone solutions in the shadow system. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 309–364. (Anibal Rodriguez-Bernal) **99e:35107** 35K57 (34C99, 35B99, 58F39)
Kol, Barak (*with* Rahmfeld, Joachim) BPS spectrum of 5-dimensional field theories, (p, q) webs and curve counting. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 6, 15 *pp.* (*electronic*). (Angel Maria Uranga) **99m:81201** 81T30 (81T60, 83E30)
— (*with* Bergman, Oren) String webs and 1/4 BPS monopoles. (English summary) *Nuclear Phys. B* **536** (1999), *no.* 1-2, 149–174. (Angel Maria Uranga) **99m:81172** 81T30 (81T60)
Kolaitis, Phokion *see* **Database theory—ICDT '97, 99a:68007**
Kolan, A. (*with* Cipra, B.; Dini, P.; Kennedy, S.) Stability of one-dimensional inelastic collision sequences of four balls. (English summary) *Phys. D* **125** (1999), *no.* 3-4, 183–200. (Summary) **99i:70018** 70F35
Kolaneci, F. The study of two evolutionary random nonlinear problems. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 87–111. (Stanisław Migórski) **99d:34111** 34G20 (34F05, 35Q99, 47H15, 60H99, 76D99)
Kolany, Adam A general method of solving Smullyan's puzzles. (English summary) *Logic Log. Philos. No.* 4 (1996), 97–103. 03B10
— Consequence operations based on hypergraph satisfiability. (English summary) *Studia Logica* **58** (1997), *no.* 2, 261–272. (Jan Bernert) **99a:03011** 03B22
Kolář, Ivan (*with* Virsik, George) Connections in first principal prolongations. (English summary) The Proceedings of the 15th Winter School "Geometry and Physics" (Srni, 1995). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 43 (1996), 163–171. (Summary) **99e:53023** 53C05 (58A20)
— (*with* Tomáš, Jiří) Gauge-natural transformations of some cotangent bundles. (English summary) *Acta Univ. Mathaei Belii Nat. Sci. Ser. Ser. Math. No.* 5 (1997), 3–9. (Vadim V. Shurygin) **99c:58005** 58A20 (53A55)
— (*with* Modugno, Marco) The Frölicher-Nijenhuis bracket on some functional spaces. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 97–106. (Vadim V. Shurygin) **99c:58009** 58B20 (53C05, 58A20)
— (*with* Janyška, Josef) Professor Karel Svoboda (1918–1997). *Arch. Math.* (*Brno*) **34** (1998), *no.* 2, *i–iii.* (Editors) **99m:01070** 01A70
— On generalized parallelisms. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 415–421. (Manuel de León) **99m:53041** 53C05 (73B10, 73B25)
— On holonomicity criteria in second order geometry. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 283–290. (Vadim V. Shurygin) **99h:58006** 58A20 (53C05, 53C10)
Kolasa, Lawrence A. Oscillatory integrals with nonhomogeneous phase functions related to Schrödinger equations. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 3, 306–317. (Christoph M. Thiele) **99f:35029** 35J10 (42B20, 47G30)
Kolassa, John E. Infinite parameter estimates in logistic regression, with application to approximate conditional inference. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 523–530. (Nancy Reid) **99e:62125** 62J12
— Uniformity of double saddlepoint conditional probability approximations. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 66–85. (Gábor J. Székely) **99e:62018** 62E17
Kolbanov, V. M. (*with* Mednitskiĭ, V. G.) Solution of problems of adjusting the manufacturing structure. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 139–143. (Summary) **99k:90041** 90A11 (49M30, 90C90)
Kolbe, Thomas (*with* Glesner, Sabine) Many-sorted logic in a learning theorem prover. (English summary) *KI-97: advances in artificial intelligence* (*Freiburg*, 1997), 75–86, *Lecture Notes in Comput. Sci.*, 1303, *Springer, Berlin*, 1997. (*see* **99d:68006**) 68T15 (03B35)
Kolberg, Halka (*with* Kemnitz, Arnfried) Coloring of integer distance graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 113–123. (Hansjoachim Walther) **99j:05072** 05C15
Kolchin, A. V. On the asymptotic behaviour of the number of hyperforests. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 285–294, *VSP, Utrecht*, 1997. (Summary) **99g:05105** 05C30 (05A16, 60C05)
Kolchin, V. F. Systems of random linear equations with small number of non-zero coefficients in finite fields. (English summary) *Probabilistic methods in discrete*

mathematics (*Petrozavodsk*, 1996), 295–304, *VSP, Utrecht*, 1997. (Summary) **99g:60019** 60C05
— *see also* **Probabilistic methods in discrete mathematics, 99f:60004**
Kolda, Tamara G. Partitioning sparse rectangular matrices for parallel processing. (English summary) *Solving irregularly structured problems in parallel* (*Berkeley, CA*, 1998), 68–79, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65F50 (65Y05)
— (*with* O'Leary, Dianne P.; Nazareth, J. L.) BFGS with update skipping and varying memory. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1060–1083 (*electronic*). (Summary) **99e:90092** 90C30 (65K05)
Koldobsky, Alexander Intersection bodies in $\mathbf{R}^4$. (English summary) *Adv. Math.* **136** (1998), *no.* 1, 1–14. (Summary) **99j:52013** 52B15 (44A12, 46B07)
— Second derivative test for intersection bodies. (English summary) *Adv. Math.* **136** (1998), *no.* 1, 15–25. (Summary) **99j:52014** 52B15 (44A12, 46B07)
— Intersection bodies, positive definite distributions, and the Busemann-Petty problem. (English summary) *Amer. J. Math.* **120** (1998), *no.* 4, 827–840. (Summary) **99i:52005** 52A20 (52B12)
— An application of the Fourier transform to sections of star bodies. (English summary) *Israel J. Math.* **106** (1998), 157–164. (Mihail N. Kolountzakis) **99k:42011** 42A38 (52A30)
Kolenko, T. (*with* Glogovac, B.; Jaklič, T.) An analysis of a heat transfer model for situations involving gas and surface radiative heat transfer. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 5, 349–365. 80A20
Kolesárová, Anna Similarity preserving t-norm-based additions of fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 215–229. (Summary) **99a:04008** 04A72
— (*with* Duchoň, Miloslav) Fourier transforms of vector measures on some semigroups. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 283–292. (Liliana Pavel) **99j:28021** 28E10 (28B05, 43A30)
Kolesnik, A. D. The equations of Markovian random evolution on the line. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 27–35. (Summary) **99h:60166** 60K35 (35L99, 60J60)
— (*with* Turbin, A. F.) The equation of symmetric Markovian random evolution in a plane. (English summary) *Stochastic Process. Appl.* **75** (1998), *no.* 1, 67–87. (Di He Hu) **99e:60159** 60J25
Kolesnikov, E. V. Diffusion and atomic components of a positive operator. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 333–342, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 292–300. (Yu. A. Abramovich) **99g:47085** 47B65
Kolesnikov, S. V. Sets of points of radial continuity of analytic functions. (Russian. English summary) *Anal. Math.* **23** (1997), *no.* 1, 13–23. (Shamil Makhmutov) **99i:30050** 30D40
— Some remarks on descriptive-metric characteristics of singular sets of analytic functions. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 56–61; *translation in Math. Notes* **63** (1998), *no.* 1-2, 50–54. (P. Caraman) **99i:31002** 31A20 (30C20, 30C85, 30D40)
Kolesov, A. Yu. A four-dimensional analogue of a classical Lyapunov problem on stability. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 612–615; *translation in Math. Notes* **60** (1996), *no.* 3-4, 459–462 (1997). (Sergei Mazanik) **99c:34106** 34D20
— (*with* Kolesov, Yu. S.; Rozov, Nikolaĭ Khristovich) Chaos of "broken torus" type in three-dimensional relaxation systems. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 11, 3–18; *translation in Sb. Math.* **188** (1997), *no.* 11, 1571–1586. (Peter Moson) **99c:34094** 34C99 (34E15, 58F13)
— (*with* Mishchenko, E. F.; Rozov, Nikolaĭ Khristovich) Relay with delay and its C^1-approximation. (Russian) *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 126–153. (Vladimir Sh. Burd) **99f:34113** 34K25 (34E15)
— Diffusion instability of a homogeneous cycle bifurcating from a separatrix loop. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 5, 697–708. (Summary) **99m:35128** 35K60 (34C23, 35B32, 58F14)
Kolesov, Yu. S. A nonlinear flutter in the classical telegraph problem with one nonclassical nonlinear boundary condition. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 464–466. (Peter A. Vel'misov) **99h:73060** 73K70 (35Q72)
— (*with* Kolesov, A. Yu.; Rozov, Nikolaĭ Khristovich) Chaos of "broken torus" type in three-dimensional relaxation systems. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 11, 3–18; *translation in Sb. Math.* **188** (1997), *no.* 11, 1571–1586. (Peter Moson) **99c:34094** 34C99 (34E15, 58F13)
— Parametric oscillations of a singularly perturbed telegraph equation with a pendulum nonlinearity. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 3, 69–82; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 383–397. (Andrej T. Il'ichev) **99c:35164** 35L70 (34B15, 34E15, 35B25)
Kolev, B. (*with* Pérouème, M.-C.) Recurrent surface homeomorphisms. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 161–168. (L. Guillou) **99j:58162** 58F22 (54H20)
Kolev, Dimitar (*with* Tokarev, D. D.) Riemann's invariants and GSC method. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol. 2* (*Plovdiv*, 1994), 88–93, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 35L60
— Wave propagation for quasilinear systems of PDEs. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 77–85. (Yu. G. Rykov) **99c:35142** 35L60
— Involutivity and simple waves in $\mathbf{R}^2$. (English summary) *Serdica Math. J.* **23** (1997), *no.* 3-4, 225–232. (Vyacheslav V. Chistyakov) **99k:35111** 35L40 (35F05)
Kolev, E. (*with* Hill, Raymond) An improved lower bound on the covering number $K_2(9,1)$. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 483–489. (Summary) **99i:05061** 05B40 (94B75)
Kolev, Lubomir V. A new method for global solution of systems of non-linear equations. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 125–146. (M. A. Wolfe) **99d:65146** 65G10 (65H10)
Koleva, Milena (*with* Dimova, Stefka; Kaschiev, M. S.; Vasileva, Daniela) Numerical analysis of radially nonsymmetric blow-up solutions of a nonlinear parabolic problem. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 81–97. (Erwin Schechter) **99j:65165** 65M60 (35B40, 35K55, 65M06)
Kolezhuk, A. K. (*with* Mikeska, H.-J.) Finitely correlated generalized spin ladders. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 23, 2325–2348. (Summary) **99g:82010** 82B20
Koliha, J. J. (*with* Dragomir, Sever Silvestru) The mapping $v_{x,y}$ in normed linear spaces with applications to inequalities in analysis. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 1, 37–55. (Ioan Şerb) **99m:46061** 46C50 (46B99)
— (*with* Mbekhta, Mostafa; Müller, Vladimir; Poon, Pak Wai) Corrigendum and addendum: "On the axiomatic theory of spectrum. II" [Studia Math. **119** (1996), no. 2, 129–147; MR 97c:47005] by Mbekhta and Müller. (English summary) *Studia Math.* **130** (1998), *no.* 2, 193–198. (Summary) **99d:47003** 47A10 (46H30, 47A05)
Kolikov, Kiril Kh. On the ideals of twisted group rings. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 43–46. 16S35
— Principal ideals of crossed products. (English summary) *Math. Balkanica* (*N.S.*) **11** (1997), *no.* 3-4, 383–389. (Pere Ara) **99m:16046** 16S35 (16S34)
Kolinko, M. O. (*with* Lavrenyuk, S. P.) The problem without initial data for linear Sobolev-Halpern system. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 25–32. (Stepan D. Ivasyshen) **99f:35111** 35K70
Kolk, Enno F-seminormed sequence spaces defined by a sequence of modulus functions and strong summability. (English summary) *Indian J. Pure Appl. Math.* **28** (1997), *no.* 11, 1547–1566. (Summary) **99g:40005** 40H05
— Corrigendum: "Matrix maps into the space of statistically convergent bounded sequences" [Proc. Estonian Acad. Sci. Phys. Math. **45** (1996), no. 2-3, 187–192; MR 97m:40005]. EUROMECH Colloquium 348 "Nonlinear Dynamics of Heterogeneous and Microstructured Solids" (Tallinn, 1996). *Proc. Estonian Acad. Sci. Phys. Math.* **46** (1997), *no.* 1-2, 150. (From the text) **99a:40007** 40H05 (40J05, 46A45)
Kolk, Johan A. C. (*with* Varadarajan, V. S.) On the transverse symbol of vectorial distributions and some applications to harmonic analysis. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 1, 67–96. (Robert S. Doran) **99d:22025** 22E46 (22E30, 46E40, 46F10)
Kolla, Sri R. Improved stability robustness bounds for digital control systems in state-space models. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 991–994. 93D09 (93C57)
Kollár, János Singularities of pairs. *Algebraic geometry—Santa Cruz* 1995, 221–287, *Proc. Sympos. Pure Math.*, 62, *Part* 1, *Amer. Math. Soc., Providence, RI*, 1997. (Alessio Corti) **99m:14033** 14E30 (14E15, 32S40)
— Low degree polynomial equations: arithmetic, geometry and topology. *European Congress of Mathematics, Vol. I* (*Budapest*, 1996), 255–288, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Alexandr V. Pukhlikov) **99m:14075** 14J45 (14–02)
— The Nash conjecture for threefolds. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 63–73 (*electronic*). (A. Tognoli) **99k:57038** 57N10 (14J30, 14P05)
Koller, Daphne (*with* Boutilier, Craig; Friedman, Nir; Goldszmidt, Moisés) Context-specific independence in Bayesian networks. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 115–123, *Morgan Kaufmann, San Francisco, CA*, 1996. (*see* **99a:68018**) 68T30
— (*with* Karger, David R.) (De)randomized construction of small sample spaces in NC. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 402–413. (Mark R. Jerrum) **99d:68076** 68Q10 (60C05, 68Q15, 68Q22, 68Q25)
— (*with* Friedman, Nir; Pfeffer, Avi) Structured representation of complex stochastic systems. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 157–164, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30
— (*with* Pfeffer, Avi) Probabilistic frame-based systems. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 580–587, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30
Kolliopoulos, Stavros G. (*with* Engels, Daniel W.; Karger, David R.; Sengupta, Sudipta[2]; Uma, R. N.; Wein, Joel) Techniques for scheduling with rejection. (English summary) *Algorithms—ESA '98* (*Venice*), 490–501, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 90B35
— (*with* Stein, Clifford) Finding real-valued single-source shortest paths in $o(n^3)$ expected time. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 125–141. (Nigel Martin) **99d:68194** 68R10 (05C85, 68Q25)
Kollmann, F. G. (*with* van der Giessen, Erik) On mathematical aspects of dual variables in continuum mechanics. II. Applications in nonlinear solid mechanics. (English and German summaries) *Z. Angew. Math. Mech.* **76** (1996), *no.* 9, 497–504. (Nicolae Boja) **99e:53014** 53A45 (70G99, 73B99, 73C50)
Kollmann, Michael (*with* Bountis, Tassos C.) A Mel'nikov approach to soliton-like solutions of systems of discretized nonlinear Schrödinger equations. (English summary) Fluctuations, nonlinearity and disorder (Crete, 1996). *Phys. D* **113** (1998), *no.* 2-4, 397–406. (B. M. Herbst) **99h:39019** 39A12
Kollo, Tõnu (*with* Neudecker, Heinz) The derivative of an orthogonal matrix of eigenvectors of a symmetric matrix. (English summary) *Linear Algebra Appl.* **264** (1997), 489–493. (Summary) **99g:62070** 62H05 (62H10)
— (*with* von Rosen, Dietrich) A unified approach to the approximation of multivariate densities. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 93–109. (Yasunori Fujikoshi) **99k:62108** 62H05 (62H10)
— *see also* **New trends in probability and statistics, 99g:62004**
Kolman, Oren The Baer-Specker group. *Irish Math. Soc. Bull. No.* 40 (1998), 9–23. (O. V. Belegradek) **99e:20068** 20K20 (03C75, 04A20, 04A30, 20A15)
Kolmanovskiĭ, Vladimir B. (*with* Shaĭkhet, L. E.) Asymptotic behavior of some discrete-time systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 58–66; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1735–1742 (1997). (Summary) **99e:39071** 39A12 (93E15)
— On the boundedness of some discrete systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 121–132; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 617–626. (Vladimir Sh. Burd) **99d:39017** 39A12 (34D20, 34D40)
— On the exponential stability of some Volterra difference equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 7, 185–194; *translation in Automat. Remote Control* **58** (1997), *no.* 7, *part* 2, 1216–1223. (V. G. Kurbatov) **99e:39064** 39A11 (47N20)
— (*with* Crisci, Maria Rosaria; Russo, Elvira; Vecchio, Antonia) Boundedness of discrete Volterra equations. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 106–130. (Sheldon P. Gordon) **99e:39010** 39A10 (34D10, 93D10)

— (*with* Crisci, Maria Rosaria; Russo, Elvira; Vecchio, Antonia) Stability of difference Volterra equations: direct Liapunov method and numerical procedure. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 77–97. (Fozi M. Dannan) **99k:39053** 39A11 (65R20)
— (*with* Mao, Xuerong; Matasov, A.) On approximate solving the mean-square filtering problem in hereditary systems. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 259–275. (Summary) **99c:93105** 93E11 (34F05)
— (*with* Myshkis, Anatolii) Stability in the first approximation of some Volterra difference equations. (English summary) *J. Differ. Equations Appl.* **3** (1998), *no.* 5-6, 563–569. (Summary) **99b:39017** 39A11
— (*with* Beretta, Edoardo; Shaĭkhet, L. E.) Stability of epidemic model with time delays influenced by stochastic perturbations. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 269–277. (K. Gopalsamy) **99k:92022** 92D25 (34K20, 34K50, 92D30)
— (*with* Tchangani, A. P.; Dambrine, M.; Richard, Jean-Pierre) Stability of nonlinear differential equations with distributed delay. *Nonlinear Anal.* **34** (1998), *no.* 7, 1081–1095. (T. A. Burton) **99d:34153** 34K20
— *see also* **Delay systems, 99a:93005**
Kolmogorov, A. N. Dimension linéaire des espaces vectoriels topologiques [MR **21** #3746]. [Linear dimension of topological vector spaces] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 165, 393, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 46A99
— On tables of random numbers. Reprinted from Sankhyā Ser. A **25** (1963), 369–376; MR **31** #2741. *Theoret. Comput. Sci.* **207** (1998), *no.* 2, 387–395. 60–02 (60A05, 65C10)
— *see also* **Mathematics of the 19th century, 99d:01022** *and* **Petrovskiĭ, Ivan Georgievich, 99m:01106a**
Kolmonen, P. (*with* Tervo, Jouko) Data fitting model for the kernel of integral operator from radiation therapy. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 3, 59–77. (Summary) **99k:92013** 92C50 (45G10)
Kolnogorov, A. V. On the optimal behavior of finite automata in a random medium. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 77–86; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 67–75. (Summary) **99h:94018** 94A12 (68Q68)
Kolodiĭ, A. M. On conditions for existence of solutions of integral equations with stochastic line integrals. (English summary) *Probability theory and mathematical statistics (Vilnius*, 1993), 405–422, *TEV, Vilnius*, 1994. (Summary) **99f:60118** 60H20
— On convergence of approximations of Ito-Volterra equations. *Stochastic differential and difference equations (Győr*, 1996), 157–165, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Shigetoku Kawabata) **99g:60101** 60H10
Kolodko, Anastasya A. (*with* Wagner, Wolfgang[1]) Convergence of a Nanbu type method for the Smoluchowski equation. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 4, 255–273. (Sergei A. Nemnyugin) **99a:82088** 82C80 (65C05)
— (*with* Sabelfeld, K. K.) Monte Carlo simulation of the coagulation processes governed by Smoluchowski equation with random coefficients. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 4, 275–311. (Sergei A. Nemnyugin) **99a:82089** 82C80 (65C05)
Kolodziej, Cezary (*with* Priemer, Roland) Stability analysis of fuzzy systems. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 5, 851–873. 93C42 (93D05)
Kołodziej, Sławomir (*with* Błocki, Zbigniew; Levenberg, Norman) Extremal functions and equilibrium measures for Borel sets. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 291–296. (W. Plesniak (Zbl 889.32018)) **99f:32022** 32F07 (32F05)
— The complex Monge-Ampère equation. *Acta Math.* **180** (1998), *no.* 1, 69–117. (M. Klimek) **99h:32017** 32F07 (32C17, 35J60)
— (*with* Cegrell, Urban; Levenberg, Norman) Two problems on potential theory for unbounded sets. *Math. Scand.* **83** (1998), *no.* 2, 265–276. (Eric Bedford) **99m:31015** 31C05 (30C85, 31C10, 32F05)
— A sufficient condition for solvability of the Dirichlet problem for the complex Monge-Ampère operator. (English summary) *Complex geometric analysis in Pohang* (1997), 241–243, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Yang Xing) **99i:32019** 32F07 (32F05)
Kołodziejczak, Barbara (*with* Szulc, Tomasz) Convex combinations of matrices—full rank characterization. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 215–222. (Ryszard Grząślewicz) **99m:15015** 15A30
Kołodziejczyk, Krzysztof The boundary characteristic and the volume of lattice polyhedra. (English summary) *Discrete Math.* **190** (1998), *no.* 1-3, 137–148. (Ren Ding) **99k:52022** 52B20 (11H06, 52B11)
Kolokol'nikova, G. A. A variational maximum principle for discontinuous trajectories of unbounded asymptotically linear control systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1631–1638, 1726; *translation in Differential Equations* **33** (1997), *no.* 12, 1633–1640 (1998). (Stanisław Walczak) **99k:49046** 49K15 (49M05)
Kolokol'tsov, V. N. (*with* Makarov, Konstantin A.) Asymptotic spectral analysis of a small diffusion operator and the life times of the corresponding diffusion process. (English summary) *Russian J. Math. Phys.* **4** (1996), *no.* 3, 341–360. (Elton Pei Hsu) **99b:58228** 58G18 (35P20, 58G32)
— A note on the long time asymptotics of the Brownian motion with application to the theory of quantum measurement. (English summary) *Potential Anal.* **7** (1997), *no.* 4, 759–764. (Philippe Biane) **99c:60179** 60J65 (81P15)
— (*with* Albeverio, Sergio; Smolyanov, Oleg G.) Continuous quantum measurement: local and global approaches. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 8, 907–920. (Michael B. Mensky) **99a:81015** 81P15 (81S40)
— Localization and analytic properties of the solutions of the simplest quantum filtering equation. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 6, 801–828. (Constantin Syros) **99h:60131** 60H30 (60J60, 81S25, 82C31)
Kolomeisky, Eugene B. (*with* Straley, Joseph P.) Phase diagram and correlation exponents for interacting fermions in one dimension. (English summary) *Rev. Modern Phys.* **68** (1996), *no.* 1, 175–214. (Summary) **99c:82008** 82B10 (82B21, 82B26)
Kolotilina, L. Yu. (*with* Gruzinov, F. A.; Erëmin, A. Yu.) Block SSOR preconditionings for high-order 3D FE systems. III. Incomplete BSSOR preconditionings based on *p*-partitionings. (English summary) *Numer. Linear Algebra Appl.* **4** (1997), *no.* 5, 393–423. (Beny Neta) **99b:65059** 65F35 (15A12, 65N30)
— (*with* Alpin, Yu. A.) Inequalities for the Perron root related to Levinger's theorem. (English summary) *Linear Algebra Appl.* **283** (1998), *no.* 1-3, 99–113. (Marc Artzrouni) **99i:15028** 15A48 (15A42, 15A45)
Kolovskiĭ, A. R. (*with* Glück, M.; Korsch, H. Jürgen) A truncated shift-operator technique for the calculation of resonances in Stark systems. (English summary) *J. Phys. A* **32** (1999), *no.* 4, *L49–L55*. 81Q05
Kołowska-Gawiejnowicz, Mirosława (*with* Buszkowski, Wojciech) Representation of residuated semigroups in some algebras of relations (the method of canonical models). (English summary) *Fund. Inform.* **31** (1997), *no.* 1, 1–12. (Libor Polák) **99g:06020** 06F05 (03G15, 20M99, 68S05)
Kolpakov, A. G. (*with* Kalamkarov, Alexander L.) ★ Analysis, design and optimization of composite structures. (English summary) *John Wiley & Sons, Ltd., Chichester*, 1997. *x*+356 *pp. ISBN* 0-471-97189-8 (Leonid V. Gibiansky) **99f:73007** 73B27 (49J20, 73K20, 73K40)
— (*with* Sheremet, I. G.) An asymptotic model of a membrane and a string. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 845–853; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 817–824 (1998). (I. Aganović) **99g:73008** 73B27 (35Q72, 73K03, 73K10)
— Variational representations for the rigidities of nonhomogeneous plates. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 43–45; *translation in Dokl. Phys.* **43** (1998), *no.* 3, 174–176. (Vadim Komkov) **99k:73087** 73K20 (73B27, 73K10, 73V25)
— Application of homogenization method to justification of 1-D model for beam of periodic structure having initial stresses. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 22, 2847–2859. (Summary) **99a:73009** 73B27 (73K05, 73K20)
— Variational principles for stiffnesses of a non-homogeneous beam. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 6, 1039–1053. (L. P. Lebedev) **99e:73065** 73K05 (73B27, 73V25)
— Variational principles and estimates for the rigidities of bodies with cavities. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 4, 148–154; *translation in J. Appl. Mech. Tech. Phys.* **39** (1998), *no.* 4, 611–617 (1999). (Alexander A. Kovalevsky) **99k:73014** 73B27 (73K20)
Kolpakov, Roman (*with* Kucherov, G. A.) Minimal letter frequency in *n*th power-free binary words. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 347–357, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68206** 68R15
Kolpin, Van (*with* Aadland, David) Shared irrigation costs: an empirical and axiomatic analysis. (English summary) Axiomatics of resource allocation, 1. *Math. Social Sci.* **35** (1998), *no.* 2, 203–218. (Summary) **99d:90035** 90A53
Kolsrud, Torbjörn (*with* Brandão, Augusto) Phase space transformations of Gaussian diffusions. (English summary) *Potential Anal.* **10** (1999), *no.* 2, 119–132. (Boualem Djehiche) **99m:60116** 60J60 (58G32, 60G15)
Kolster, Manfred (*with* Chinburg, Ted; Pappas, Georgios; Snaith, Victor P.) Quaternionic exercises in *K*-theory Galois module structure. (English summary) *Algebraic K-theory (Toronto, ON*, 1996), 1–29, *Fields Inst. Commun.*, 16, *Amer. Math. Soc., Providence, RI*, 1997. (Kenneth Kramer) **99b:11130** 11R70 (11R33, 19F27)
— (*with* Nguyen Quang Do, Thong) Syntomic regulators and special values of *p*-adic *L*-functions. (English summary) *Invent. Math.* **133** (1998), *no.* 2, 417–447. (Cornelius Greither) **99f:11151** 11R70 (11R34, 11R42, 19F27)
— (*with* Chinburg, Ted; Pappas, Georgios; Snaith, Victor P.) Galois structure of *K*-groups of rings of integers. (English summary) *K-Theory* **14** (1998), *no.* 4, 319–369. (Cornelius Greither) **99g:11140** 11R70 (11R34, 11S23, 19A31, 19F27)
— (*with* Laubenbacher, Reinhard C.) On higher class groups of orders. *Math. Z.* **228** (1998), *no.* 2, 229–246. (V. P. Snaith) **99i:19002** 19D50 (11R65, 19F27)
Koltchinskii, Vladimir I. Nonlinear transformations of empirical processes: functional inverses and Bahadur-Kiefer representations. (English summary) *Probability theory and mathematical statistics (Vilnius*, 1993), 423–445, *TEV, Vilnius*, 1994. (Summary) **99f:60047** 60F05 (62G30)
— (*with* Rao, Calyampudi Radhakrishna; Pathak, P. K.) Bootstrap by sequential resampling. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 257–281. (Alfredas Račkauskas) **99j:62059** 62G09 (62D05, 62L10)
— (*with* Li, Lang) Testing for spherical symmetry of a multivariate distribution. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 228–244. (Miguel A. Arcones) **99e:62105** 62H15 (62G09)
— Differentiability of inverse operators and limit theorems for inverse functions. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 645–699. (Miguel A. Arcones) **99e:60014** 60B10 (60F05, 62E20)
Koltracht, Israel Linear complexity algorithm for semiseparable matrices. (English summary) *Integral Equations Operator Theory* **29** (1997), *no.* 3, 313–319. (Snezhana Gocheva-Ilieva) **99a:65038** 65F05 (15A09, 65F50)
— (*with* Elsner, Ludwig; Han, Lu; Neumann, Michael; Zippin, M.) On a polygon equality problem. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 67–75. (Michael Felten) **99d:41024** 41A17 (46C99)
Kol'tsova, O. Yu. (*with* Lerman, L. M.) Transversal homoclinic Poincaré trajectories near a loop of a saddle center in a 2*N*-dimensional Hamiltonian system. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 4, 448–451. (J. S. Joel) **99m:58091** 58F05 (34C37)
Kolumbán, Géza (*with* Kennedy, Michael Peter; Chua, Leon O.) The role of synchronization in digital communications using chaos. II. Chaotic modulation and chaotic synchronization. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 11, 1129–1140. 93D15 (94A05, 94A12)
Kolumbán, Iosif (*with* Czách, L.; Sebestyén, Zoltán) On transported inclusions. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 69–74 (1998). (E. Tarafdar) **99m:47071** 47H15 (47N10)
— On the solvability of nonlinear inequality systems. *Ann. Univ. Sci. Budapest. Eötvös Sect. Math.* **40** (1997), 131–141 (1998). (Vaithilingam Jeyakumar) **99f:90181** 90C48 (90C31)
— *see also* **Breckner, Wolfgang W., 99k:01050**
Kolushov, A. V. (*with* Yudin, Vladimir Aleksandrovich) Extremal dispositions of points on the sphere. (Russian summary) *Anal. Math.* **23** (1997), *no.* 1, 25–34. (Carlo Bardaro) **99f:41039** 41A63 (52C07)
Kolwicz, Paweł (*with* Płuciennik, Ryszard) *P*-convexity of Musielak-Orlicz function spaces of Bochner type. (English summary) *Rev. Mat. Complut.* **11** (1998), *no.* 1, 43–57. (Cong

Xin Wu) **99f:46051** 46E40 (46E30)

Kolyada, A. A. (*with* Revinskiĭ, V. V.; Selyaninov, M. Yu.; Chernyavskiĭ, A. F.) Minimally redundant polynomial-scalar modular number systems. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 103–106, 143. 68M07

Kolyada, S. F. (*with* Snoha, Ľubomír) Some aspects of topological transitivity—a survey. (English summary) *Iteration theory (ECIT 94)* (*Opava*), 3–35, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 54H20 (58F08)

— (*with* Alsedà, Lluís; Llibre, Jaume; Snoha, Ľubomír) Entropy and periodic points for transitive maps. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1551–1573. (Frederick R. Marotto) **99f:58117** 58F11 (54H20, 58F20)

Kolyada, V. I. (*with* Leindler, László) BMO- and L_p-conditions for power series and Dirichlet series with positive coefficients. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 2, 79–89. (Shobha Madan) **99g:30001** 30B10 (30B50)

— Rearrangements of functions and embedding of anisotropic spaces of Sobolev type. Dedicated to P. L. Ul′yanov. *East J. Approx.* **4** (1998), *no.* 2, 111–199. (Henryk Hudzik) **99g:46043a** 46E35 (46E30)

— Erratum to: "Rearrangements of functions and embedding of anisotropic spaces of Sobolev type". *East J. Approx.* **4** (1998), *no.* 3, 431. (Henryk Hudzik) **99g:46043b** 46E35 (46E30)

Kolyang (*with* Mossakowski, Till; Krieg-Brückner, Bernd) Static semantic analysis and theorem proving for CASL. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 333–348, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

Koma, Tohru (*with* Hatsugai, Yasuhiro; Kohmoto, Mahito; Wu, Yong Shi[1]) Mutual exclusion statistics in the exactly solvable model of the Mott metal-insulator transition. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 126–133, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82D35 (81V70)

— (*with* Nachtergaele, Bruno) Interface states of quantum lattice models. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 133–144. (*see* **99f:00023**) 82B10 (82B20)

Komal, B. S. (*with* Gupta, Sunil) On operators of composition on generalised spaces of entire functions. (English summary) *Math. Today* (*Ahmedabad*) **14** (1996), 3–8. (John N. McDonald) **99g:47065** 47B38 (46E10)

— (*with* Singh, Nagesh) Non-Archimedean multiplication operators. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 2, 135–142. (Ann Verdoodt) **99c:47121** 47S10 (47B38)

— (*with* Shekhar, Chander) A characterization of composition operators induced by matrices. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 569–572. (Summary) **99a:47046** 47B38 (46E40)

— (*with* Raj, Kuldip; Gupta, Shally) Isometric and Fredholm weighted substitution operators on the generalized spaces of entire functions. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 25–35. (Shamil Makhmutov) **99g:47067** 47B38 (30D20)

— (*with* Raj, Kuldip) On operators of weighted substitution on the generalized spaces of entire functions. II. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 117–123. (John N. McDonald) **99g:47066** 47B38 (46E10)

Komar, Arthur Superluminal and gravitational behavior of nonlocal photons. (English summary) *Quantum gravity* (*Erice*, 1995), 199–212, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Charles A. Nelson) **99j:81202** 81V10 (78A25, 83C99)

— The physical reality of the quantum wave function. (English summary) *On Einstein's path* (*New York*, 1996), 275–281, *Springer, New York*, 1999. (S. Gudder) **99j:81009** 81P05 (81P15)

Komar, Włodzimierz *see* **Stewart, Ian N.**, **99f:00003**

Komatsu, Keiichi On the $\mathbf{Z}_3$-extension of a certain cubic cyclic field. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 10, 165–166. (Yuichiro Taguchi) **99k:11171** 11R23 (11R18)

— Vandiver's conjecture and normal bases. (Japanese) Algebraic number theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1026 (1998), 12–19. (*see* **99d:11001**) 11R23 (11R18)

— On the Iwasawa λ-invariants of quaternion extensions. *Acta Arith.* **87** (1999), *no.* 3, 219–221. (Gabriel D. Villa-Salvador) **99k:11172** 11R23

Komatsu, Makoto Weierstrass type expression of curves of genus two and modular forms. (English summary) Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 154–162. (Fernando Torres) **99m:14058** 14H45 (11F12, 14L30)

Komatsu, Yukie (*with* Kotani, Shin-ichi; Matsumura, Akitaka) A period-doubling bifurcation for the Duffing equation. *Osaka J. Math.* **34** (1997), *no.* 3, 605–627. (Sergei A. Dovbysh) **99a:34113** 34C23 (34C15, 34C25, 58F14, 70K40)

Kombarov, A. P. On F_σ-δ-normality and hereditary δ-normality. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 221–226. (Summary) **99i:54012** 54B10 (54B20, 54C35, 54D15, 54D30)

Komech, A. I. (*with* Dudnikova, Tat′yana V.) Ergodic properties of hyperbolic equations with mixing. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **41** (1996), *no.* 3, 505–519; *translation in Theory Probab. Appl.* **41** (1996), *no.* 3, 436–448 (1997). (Summary) **99d:60041** 60F15 (35L10, 35R60)

— (*with* Fleckinger, Jacqueline) On soliton-like asymptotics for 1D nonlinear reaction systems. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 3, 295–306 (1998). (Sergei A. Vakulenko) **99b:35093** 35K57 (34A34, 35Q51)

— (*with* Spohn, Herbert) Soliton-like asymptotics for a classical particle interacting with a scalar wave field. *Nonlinear Anal.* **33** (1998), *no.* 1, 13–24. (George Rowlands) **99e:35191** 35Q51 (70G50)

— On transitions to stationary states in Hamiltonian nonlinear wave equations. (English summary) *Phys. Lett. A* **241** (1998), *no.* 6, 311–322. (Dario Bambusi) **99e:35150** 35L70 (35Q99, 81T10)

Komeda, J. Non-Weierstrass numerical semigroups. *Semigroup Forum* **57** (1998), *no.* 2, 157–185. (R. F. Lax) **99g:14041** 14H55 (20M99)

Komineas, S. (*with* Papanicolaou, N.) Vortex dynamics in two-dimensional antiferromagnets. (English summary) *Nonlinearity* **11** (1998), *no.* 2, 265–290. (Summary) **99b:82068** 82C20 (82D40)

Kominek, Zygfryd Note on selection of Jensen set-valued functions. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 75–79. (Kazimierz Nikodem) **99j:39023** 39B52 (26E25, 54C60, 54C65)

Komiya, Hidetoshi K-K-M-S type theorems in infinite-dimensional spaces. (English summary) *Minimax theory and applications* (*Erice*, 1996), 121–134, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Bor-Luh Lin) **99h:49038** 49K35 (47N10, 90C48, 90D44)

Komiya, Katsuhiro Equivariant maps between representation spheres of a torus. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 3, 271–276. (Steven R. Costenoble) **99j:55002** 55M20 (19L47, 55N15, 55N91)

Komiya, Toru (*with* Mori, Masao[1]) A routing problem in surveillance operations at sea. (Japanese. English and Japanese summaries) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 455–469. 90B06 (90C35)

Komjáth, Péter A note on $\omega_1 \to \omega_1$ functions. *Combinatorics, geometry and probability* (*Cambridge*, 1993), 435–438, *Cambridge Univ. Press, Cambridge*, 1997. (Carlos A. Di Prisco) **99e:03034** 03E35 (03C55, 03E05, 03E55)

— (*with* Hajnal, András) A strongly non-Ramsey order type. *Combinatorica* **17** (1997), *no.* 3, 363–367. (Carlos A. Di Prisco) **99m:03093** 03E05 (03E35)

— Distinguishing two partition properties of ω_1. (English summary) *Fund. Math.* **155** (1998), *no.* 1, 95–99. (Otmar Spinas) **99b:03063** 03E05 (03E35, 04A20)

— Some remarks on universal graphs. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 259–265. (Summary) **99j:05183** 05C99

Komlós, János (*with* Sárközy, Gábor N.; Szemerédi, Endre) On the square of a Hamiltonian cycle in dense graphs. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 193–211. (Günter Schaar) **99f:05073** 05C45 (05C12)

— (*with* Sárközy, Gábor N.; Szemerédi, Endre) Blow-up lemma. (English summary) *Combinatorica* **17** (1997), *no.* 1, 109–123. (Lane Clark) **99b:05083** 05C35

— Covering odd cycles. (English summary) *Combinatorica* **17** (1997), *no.* 3, 393–400. (Ke Min Zhang) **99b:05114** 05C70 (05C35, 05C38)

— (*with* Sárközy, Gábor N.; Szemerédi, Endre) On the Pósa-Seymour conjecture. (English summary) *J. Graph Theory* **29** (1998), *no.* 3, 167–176. (Ralph Faudree) **99g:05125** 05C45 (05C35)

— (*with* Sárközy, Gábor N.; Szemerédi, Endre) An algorithmic version of the blow-up lemma. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 3, 297–312. (Mirosław Truszczyński) **99h:05113** 05C85 (68R10)

— (*with* Ma, Yuan; Szemerédi, Endre) Matching nuts and bolts in $O(n \log n)$ time. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 347–372 (*electronic*). (Summary) **99e:68071** 68Q25 (68P10, 68R10)

— (*with* Tusnády, G.) Pointwise bounded approximation. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 261–271. (Lajos Horváth) **99h:60062** 60F15 (60G50)

— (*with* Csákány, Rita) The smallest Ramsey numbers. (English summary) *Discrete Math.* **199** (1999), *no.* 1-3, 193–199. (Summary) **99k:05116** 05C55

Komlósi, Sándor (*with* Cambini, Riccardo) On the scalarization of pseudoconcavity and pseudomonotonicity concepts for vector valued functions. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 277–290, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99h:90089** 90C29 (49J52)

— (*with* Cambini, Alberto; Martein, Laura) Recent developments in second order necessary optimality conditions. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 347–356, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:90116** 90C30 (49J52)

— *see also* **New trends in mathematical programming**, **99c:90004**

Komoike, Nobuyuki (*with* Tanaka, Satoshi[1]; Namiki, Mikio; Ohba, Ichiro; Mizutani, Masashi; Kanenaga, Masahiko) Stochastic quantization of bottomless systems based on kerneled Langevin equation. (English summary) *Comm. Theoret. Phys.* (*Allahabad*) **5** (1996), *no.* 2, 105–124 (1997). (Summary) **99b:82078** 82C31

Komori, Satoru (*with* Kurose, Ryoichi) Drag and lift forces on a rotating sphere in a linear shear flow. (English summary) *J. Fluid Mech.* **384** (1999), 183–206. 76D99 (76U05)

Komori, Yasushi (*with* Hikami, Kazuhiro) Nonlinear Schrödinger model with boundary, integrability and scattering matrix based on the degenerate affine Hecke algebra. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 30, 5397–5410. (Andrey V. Tsiganov) **99a:81208** 81V70 (17B37, 81R50, 82B23)

— (*with* Hikami, Kazuhiro) Quantum integrability of the generalized elliptic Ruijsenaars models. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4341–4364. (Summary) **99g:81242** 81V70 (33D45)

— (*with* Hikami, Kazuhiro) Diagonalization of the elliptic Ruijsenaars model of type-BC. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 12, 4037–4044. (Kazuhiro Hikami) **99k:82021** 82B23 (39A99, 58F07, 81R50)

— (*with* Hikami, Kazuhiro) Affine R-matrix and the generalized elliptic Ruijsenaars models. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 4, 335–346. (Rinat M. Kashaev) **99g:81091** 81R50 (17B67, 33D80, 81V70, 82B23)

Komori, Yohei On the dynamics of bimodal real cubic maps. With the collaboration of K. Nishizawa and A. Nojri. Problems concerning complex dynamical systems (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 959 (1996), 84–89. (*see* **98b:58005**) 58F23

— Semialgebraic description of Teichmüller space. (English summary) *Publ. Res. Inst. Math. Sci.* **33** (1997), *no.* 4, 527–571. (Frank Herrlich) **99e:32030** 32G15 (14P10, 30F60)

— Monotonicity of entropy for some real quadratic rational maps. (English summary) Proceedings of the First Symposium on Non-linear Analysis (Sakado, 1996). *Sci. Bull. Josai Univ.* **1997**, *Special issue no.* 1, 115–126. (Feliks Przytycki) **99b:58081** 58F03 (28D20, 58F23)

— (*with* Series, Caroline) The Riley slice revisited. (English summary) *The Epstein birthday schrift*, 303–316 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (John R. Parker) **99m:30087** 30F40

Komoriya, Keishi Hydrodynamic limit for asymmetric mean zero exclusion processes with speed change. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 6, 767–797. (Giambattista Giacomin) **99k:60250** 60K35 (82C22)

Komornik, Vilmos (*with* Loreti, Paola; Zuazua, Enrique) On the control of coupled linear systems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 183–189, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Tsvetomir Tsachev) **99g:93044** 93C20 (35L05, 93B05, 93D15)

— (*with* Loreti, Paola) A constructive approach for the observability of coupled linear systems. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 171–179 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Tsvetomir Tsachev) **99m:93012** 93B07 (35L99, 93C20)

— Rapid boundary stabilization of Maxwell's equations. (English summary) *Équations aux dérivées partielles et applications*, 611–622, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Sergey V. Nikitin) **99i:93054** 93D15 (35Q60, 78A25, 93C20)

— (*with* Erdős, Paul[1]; Joó, István) On the sequence of numbers of the form $\varepsilon_0 + \varepsilon_1 q + \cdots + \varepsilon_n q^n$, $\varepsilon_i \in \{0, 1\}$. *Acta Arith.* **83** (1998), *no.* 3, 201–210. (D. Boyd) **99a:11022** 11B83 (11R06)

— (*with* Erdős, Paul[1]) Developments in non-integer bases. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 1-2, 57–83. (Christopher Smyth) **99e:11132** 11R06 (11A67)

— (*with* Loreti, Paola) Unique developments in non-integer bases. *Amer. Math. Monthly* **105** (1998), *no.* 7, 636–639. (Arnold Knopfmacher) **99k:11017** 11A67

— A simple proof of Farkas' lemma. *Amer. Math. Monthly* **105** (1998), *no.* 10, 949–950. 90C08

— (*with* Baiocchi, Claudio; Loreti, Paola) Théorèmes du type Ingham et application à la théorie du contrôle. (English and French summaries) [Ingham-type theorems and application to control theory] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 453–458. (Summary) **99g:93015** 93B07 (93C20)

— (*with* Loreti, Paola) Ingham-type theorems for vector-valued functions and observability of coupled linear systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 461–485 (*electronic*). (Sergei A. Avdonin) **99m:93013** 93B07 (35L99, 93C20)

— (*with* Alabau, Fatiha) Boundary observability, controllability, and stabilization of linear elastodynamic systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 521–542 (*electronic*). (Werner Horn) **99m:93050** 93C20 (35Q72, 73K50, 93D15)

Komorníková, Magda (*with* Mesiar, Radko) Triangular norm-based aggregation of evidence under fuzziness. (English summary) *Aggregation and fusion of imperfect information*, 11–35, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 04A72 (90C70)

Komorowski, Ryszard A. (*with* Tomczak-Jaegermann, Nicole) Erratum to: "Banach spaces without local unconditional structure" [Israel J. Math. **89** (1995), no. 1-3, 205–226; MR 96g:46007]. (English summary) *Israel J. Math.* **105** (1998), 85–92. (Summary) **99g:46008** 46B15 (46B20)

Kompaniets, L. A. Numerical simulation of wave transformation by two nonlinear-dispersive models. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 107–116. (Summary) **99h:76066** 76M20 (76B15)

Komrakov, B. P. (*with* Tchuryumov, Alexei) Micromodules. (English summary) *Lie groups and Lie algebras*, 181–198, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Floyd L. Williams) **99e:17008** 17B10 (17B20)

— (*with* Dubrov, B. M.) Symmetries of completely integrable distributions. (English summary) *Lie groups and Lie algebras*, 393–405, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Valentin V. Lychagin) **99e:58005** 58A30 (34A26, 58F35)

— (*with* Dubrov, B. M.) Symmetries of completely integrable distributions. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 2, 151–153. (J. S. Joel) **99m:58010** 58A15 (17B66, 53C10, 58A30, 58H05)

— *see also* **Lie groups and Lie algebras**, **99a:00013**

Komurdzhishvili, O. P. (*with* Khomeriki, N. I.) On a method for constructing difference schemes. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 249–252 (1991). 65N06

Komuro, Motomasa Homoclinic bifurcation equations of continuous piecewise linear vector fields. *Finite- and infinite-dimensional dynamics* (*Kyoto*, 1988), 83–113, *Lecture Notes Numer. Appl. Anal.*, 15, *Kinokuniya, Tokyo*, 1996. (Introduction) **99f:58148** 58F14 (34C23, 34C37)

Komuro, Naoto Semicontinuity of set valued mappings and duality formulas of integral functionals. Investigations on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 985 (1997), 22–34. (T. Zolezzi) **99j:49022** 49J45 (49K10, 49N15)

— (*with* Fujiwara, Takashi) Generalized supremum in partially ordered linear space and faces of the positive cone. (English summary) *J. Hokkaido Univ. Educ. Nat. Sci.* **49** (1998), *no.* 1, 5–9. (Summary) **99i:46003** 46A40

Kon, Mark A. (*with* Raphael, Louise A.) Characterizing convergence rates for multiresolution approximations. (English summary) *Signal and image representation in combined spaces*, 415–437, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Gilbert Walter) **99f:42067** 42C15 (41A25)

Kon, Masahiro (*with* Ki, U-Hang) Minimal CR submanifolds of a complex projective space with parallel section in the normal bundle. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 665–678. (Sorin Dragomir) **99h:53085** 53C42 (53C40)

Kon, Masamichi Efficient solutions for multicriteria location problems under the block norm. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 295–303. (Summary) **99a:90173** 90C29 (90B80)

Konakazawa, Seiji Radius problems for the family S. (Japanese) New developments in convolution (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1012 (1997), 47–55. (*see* **99a:00033**) 30C45

Konakov, V. (*with* Mammen, Enno) The shape of kernel density estimates in higher dimensions. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 4, 440–464 (1998). (Serguei Yu. Novak) **99b:62061** 62G05

Koncar, Vladan (*with* Vasseur, Christian) Nonlinear predictive control, robustness evaluation. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 37–48 (1998). 93D21 (93B36)

Konda, Vijaymohan R. (*with* Borkar, Vivek S.) The actor-critic algorithm as multi-time-scale stochastic approximation. (English summary) *Sādhanā* **22** (1997), *no.* 4, 525–543. (Onésimo Hernández Lerma) **99f:90178** 90C40 (62L20)

Kondah, Abdelaziz (*with* Maume, Véronique; Schmitt, Bernard) Vitesse de convergence vers l'état d'équilibre pour des dynamiques markoviennes non höldériennes. (English and French summaries) [Rate of convergence to equilibrium for non-Hölder Markov dynamics] *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 6, 675–695. (Manfred Denker) **99e:28032** 28D20 (58F11, 60F05)

Kondakov, V. P. (*with* Kaplitskiĭ, V. M.) Bases in weighted spaces of entire functions. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 85–90. (Fritz Haslinger) **99h:46033** 46E10 (46A11, 46A45)

Kondaurov, V. I. On the peculiarities of failure waves in highly homogeneous brittle materials. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 707–714; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 657–663. 73D99 (73M25)

Konderak, Jerzy J. Natural first order Lagrangians for immersions. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 207–215. (Eric Loubeau) **99k:58053** 58E30 (58D10)

Kondev, Jané (*with* Jacobsen, Jesper Lykke) Field theory of compact polymers on the square lattice. (English summary) *Nuclear Phys. B* **532** (1998), *no.* 3, 635–688. (Summary) **99f:82027** 82B27 (82B20, 82D60)

Kondo, Koichi (*with* Nakamura, Yoshimasa) Newton–Steffensen–Shanks. (Japanese. Japanese summary) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 28–38. (*see* **99c:00013**) 65H05

— (*with* Nakamura, Yoshimasa) An extension of the Steffensen iteration and its computational complexity. (English summary) *Interdiscip. Inform. Sci.* **4** (1998), *no.* 2, 129–138. (Klaus Ritter) **99j:65087** 65H05 (65Y20)

— (*with* Nakamura, Yoshimasa) A Steffensen iterative method with high-order convergence. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 228–236. (*see* **99i:00028**) 65H05 (65Q05)

Kondo, Michiro Duality theorem for p-semisimple BCI-algebra. (English summary) *Proceedings of the 20th Symposium on Semigroups, Languages and their Related Fields* (*Mito*, 1996), 20–23, *Res. Rep. Inf. Sci., Toho Univ., Chiba*, 199?. (*see* **99a:20001**) 06F35

— Conditions for $L(X)$ to be an ideal in BCI-algebras. (English summary) *Math. Japon.* **46** (1997), *no.* 2, 237–239. (A. B. Thaheem) **99a:06026** 06F35 (03G25)

— Duality theorem for p-semisimple BCI-algebra. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 497–501. (Summary) **99a:06027** 06F35

— Characterization theorem of 4-valued De Morgan logic. (English summary) *Mem. Fac. Sci. Eng. Shimane Univ. Ser. B Math. Sci.* **31** (1998), 73–80. (János Demetrovics) **99j:03019** 03B50 (03B25)

Kondō, Shigeyuki Niemeier lattices, Mathieu groups, and finite groups of symplectic automorphisms of $K3$ surfaces. With an appendix by Shigeru Mukai. *Duke Math. J.* **92** (1998), *no.* 3, 593–603. (Jong Hae Keum) **99i:14042** 14J28 (11H06, 14J50)

— The automorphism group of a generic Jacobian Kummer surface. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 3, 589–609. (Jong Hae Keum) **99i:14043** 14J28 (14J50, 51F15)

Kondrat'ev, Anatoliĭ Semenovich Finite linear groups of small degree. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 139–148, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Summary) **99f:20023** 20D06 (20H20)

Kondrat'ev, V. *see* **Kondrat'ev, Vyacheslav Vasil'evich**

Kondrat'ev, V. V. *see* **Kondrat'ev, Vyacheslav Vasil'evich**

Kondrat'ev, Vladimir (*with* Egorov, Yuriĭ Vladimirovich) On estimates of the first eigenvalue in some elliptic problems. (English summary) *Differential and integral operators* (*Regensburg*, 1995), 73–84, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Jan Bochenek) **99e:34121** 34L15 (34B24, 35J99, 35P15)

— (*with* Egorov, Yuriĭ Vladimirovich) Two theorems on blow-up solutions for semilinear parabolic equations of second order. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 1, 47–52. (Grzegorz Karch) **99h:35108** 35K60 (35B05)

— (*with* Egorov, Yuriĭ Vladimirovich) On the eigenvalues of the Dirichlet problem. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 4, 451–453. 35J20 (35P15)

— (*with* Egorov, Yuriĭ Vladimirovich; Oleĭnik, Ol'ga Arsen'evna) Asymptotic behavior of solutions of nonlinear elliptic and parabolic systems in cylindrical domains. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 3, 45–68; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 359–382. (Varga Kalantarov) **99e:35115** 35K60 (35B40, 35J65)

— (*with* Gerver, M. L.; Ibragimov, A. I.; Il'yashenko, Yu. S.) Evgenii Mikhailovich Landis [1921–1997]. *Appl. Anal.* **71** (1999), *no.* 1-4, 9–23. 01A70

— (*with* Egorov, Yuriĭ Vladimirovich) On asymptotic behavior in an infinite cylinder of solutions to an elliptic equation of second order. (English summary) *Appl. Anal.* **71** (1999), *no.* 1-4, 25–39. 35J25 (35B05, 35B40)

Kondrat'ev, Vyacheslav Vasil'evich (*with* Utrobin, V. A.; Balabanov, A.) Information model of decision making process for image recognition. (English summary) *Comput. Sci. J. Moldova* **5** (1997), *no.* 2, 123–145. 68U10

— (*with* Utrobin, V. A.) The symmetry of five-dimensional Euclidean space. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 178–181. (Z. Nádeník) **99d:51018** 51M05 (82D25)

— (*with* Bazhanov, Yu. S.) A stream approach to the structural-time coordination of digital computing devices and systems. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 604–606. 68Q10 (68M07)

Kondrat'ev, Yu. G. (*with* Grothaus, Martin; Streit, Ludwig) Complex Gaussian analysis and the Bargmann-Segal space. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 46–64. (Habib Ouerdiane) **99h:46073** 46F25 (46E50, 46G20, 60H99)

— (*with* Albeverio, Sergio; Röckner, Michael; Tsikalenko, T. V.) Uniqueness of Gibbs states for quantum lattice systems. (English summary) *Probab. Theory Related Fields* **108** (1997), *no.* 2, 193–218. (Summary) **99d:82009** 82B10 (60H30, 60K35, 82B31)

— (*with* Albeverio, Sergio; Kozitskiĭ, Yu. V.) Suppression of critical fluctuations by strong quantum effects in quantum lattice systems. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 493–512. (Roman Gielerak) **99m:82003** 82B10 (82B27)

— (*with* Streit, Ludwig; Westerkamp, Werner; Yan, Jia An) Generalized functions in infinite-dimensional analysis. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 213–260. (Nobuaki Obata) **99m:46106** 46F25 (46E50, 60H99)

— (*with* da Silva, José L.; Streit, Ludwig; Us, G. F.) Analysis on Poisson and gamma spaces. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 91–117. (Isamu Dôku) **99i:60100** 60G55 (47B38, 60H99)

— (*with* Albeverio, Sergio; Röckner, Michael) Analysis and geometry on configuration spaces. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 444–500. (David Nualart)

99d:58179 58G32 (60J60, 60J65)

— (*with* Albeverio, Sergio; Röckner, Michael) Analysis and geometry on configuration spaces: the Gibbsian case. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 1, 242–291. (Vladimir I. Bogachev) **99f:58219** 58G32 (31C25, 60H30, 60J60)

— (*with* Albeverio, Sergio; Minlos, R. A.; Rebenko, A. L.) Small-mass behavior of quantum Gibbs states for lattice models with unbounded spins. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1153–1172. (Summary) **99j:82008** 82B10

— (*with* Albeverio, Sergio; Röckner, Michael) Diffeomorphism groups and current algebras: configuration space analysis in quantum theory. (English summary) *Rev. Math. Phys.* **11** (1999), *no.* 1, 1–23. (A. L. Rebenko) **99m:81127** 81T08 (58D05, 60J99, 81R10)

Kondrat'eva, M. F. Generalized Bellman equation and flow problems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 355–362, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:90166** 90C35 (90B10)

Kondratiev, A. S. *see* **Kondrat'ev, Anatoliĭ Semenovich**

Kondratiev, A. Yu. (*with* Albeverio, Sergio; Rebenko, A. L.) Peierls argument and long-range order behavior of quantum lattice systems with unbounded spins. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1137–1152. (From the text) **99k:82008** 82B10 (82B26)

Kondratiev, V. *see* **Kondrat'ev, Vladimir**

Kondratiev, V. A. *see* **Kondrat'ev, Vladimir**

Kondratiev, Vladimir A. *see* **Kondrat'ev, Vladimir**

Kondratiev, Yu. G. *see* **Kondrat'ev, Yu. G.**

Kondratiev, Yuri *see* **Kondrat'ev, Yu. G.**

Kondratiev, Yuri G. *see* **Kondrat'ev, Yu. G.**

Kondratovich, Marina (*with* Zhiglyavskiĭ, A. A.) Comparison of independent and stratified sampling schemes in problems of global optimization. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 292–299, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:65005** 65C05

Kondratowicz, Piotr (*with* Podleś, Piotr) On representation theory of quantum $SL_q(2)$ groups at roots of unity. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 223–248, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Shlomo Gelaki) **99b:16059** 16W30 (17B37, 81R50)

Kondratyuk, A. A. (*with* Tarasyuk, Svyatoslav I.) Compact operators and normal families of subharmonic functions. *Function spaces, differential operators and nonlinear analysis* (*Paseky nad Jizerou*, 1995), 227–231, *Prometheus, Prague*, 1996. (Albert Baernstein, II) **99a:31003** 31B05 (30D45)

Kondratyuk, S. (*with* Golod, P. I.; Kisilevich, A.) An orbit structure for integrable equations of homogeneous and principal hierarchies. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 343–352, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Stanislav Z. Pakuliak) **99c:58068** 58F07

Konechny, Anatoly On asymptotic Hamiltonian for SU(N) Matrix theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 18, 12 *pp.* (*electronic*). (Summary) **99i:81193** 81T30

Koněnkov, A. N. The Green function of the first boundary value problem for a parabolic equation in domains with curvilinear lateral boundaries. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 8, 1139–1140, 1152; *translation in Differential Equations* **33** (1997), *no.* 8, 1147–1149 (1998). 35K20

— On the behavior of the derivative of a parabolic double-layer potential near the boundary. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2013–2027; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1933–1947. (Summary) **99j:65169** 65M60 (35B99, 35D99, 35K10)

Konev, Viktor (*with* Gal'chuk, L. I.) On sequential estimation of parameters in continuous-time stochastic regression. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 123–138, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99m:62135** 62M10 (62L10)

— (*with* Pergamenshchikov, S. M.) An estimation of a periodic trend under the autoregressive noise. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 205–227, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99h:62116** 62M10

— (*with* Pergamenshchikov, S. M.) On asymptotic minimaxity of fixed accuracy estimators for autoregression parameters. II. Purely explosive process. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 1, 27–59. (B. L. S. Prakasa Rao) **99k:62169** 62M10 (62C20)

Kong, Augustine (*with* Liu, Jun S.; Wong, Wing Hung) The properties of the cross-match estimate and split sampling. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2410–2432. (Miguel A. Arcones) **99c:62103** 62G05

Kong, De Xing (*with* Li, Da Qian) Global existence of solutions to a class of nonlinear systems of functional-differential equations. *Advances in nonlinear dynamics*, 349–353, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (R. D. Driver) **99d:34118** 34K05

— (*with* Li, Da Qian; Zhou, Yi[1]) Weak linear degeneracy and global existence of classical solutions for quasilinear hyperbolic systems. (English summary) *Nonlinear evolutionary partial differential equations* (*Beijing*, 1993), 283–291, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Ivan Straškraba) **99f:35124** 35L60 (35B05)

— (*with* Li, Da Qian) Initial value problem for general quasilinear hyperbolic systems with characteristics with constant multiplicity. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 299–322. (Jan Turo) **99a:35166** 35L60 (35L45)

— Cauchy problem for quasilinear hyperbolic systems with higher order dissipative terms. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **4** (1997), *no.* 4, 477–489. (Maria Elena Schonbek) **99b:35125** 35L60 (35L70, 76N10)

— (*with* Ni, Guangjiong) Exceptional quasilinear hyperbolic systems of conservation laws. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 2, 245–248. (Summary) **99c:35146** 35L65 (35B99)

— Maximum principle in nonlinear hyperbolic systems and its applications. *Nonlinear Anal.* **32** (1998), *no.* 7, 871–880. (Tie Hu Qin) **99f:35123** 35L60 (35B50)

— (*with* Hu, Hai-rong) Geometric approach for finding exact solutions to nonlinear partial differential equations. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 105–112. 35C05 (35A30)

— (*with* Zhang, Wei Guo[1]) Global classical solutions and explicit exact solutions to a kind of quasilinear partial differential equations. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 89–96. (Tie Hu Qin) **99a:35168** 35L60 (35L67)

Kong, Fan Hui[1] (*with* Slud, Eric) Robust covariate-adjusted logrank tests. (English summary) *Biometrika* **84** (1997), *no.* 4, 847–862. (Jan Beirlant) **99i:62106** 62G10

— (*with* Gu, Ming Gao[2]) A stochastic approximation algorithm with Markov chain Monte-Carlo method for incomplete data estimation problems. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 13, 7270–7274 (*electronic*). (Summary) **99c:62232** 62L20

— (*with* Huang, Weihua; Li, Xiaoming) Estimating survival curves under proportional hazards model with covariate measurement errors. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 4, 573–587. (Summary) **99k:62191** 62N05 (62G05)

Kong, Fan Jia (*with* Qiao, Bai You; Wang, Guang Xing) A new topological formula for computing SKT reliability of networks. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 3, 283–285. 90B12 (05C90, 94A05)

— (*with* Wang, Guang Xing) An algorithm for computing SKT reliability of networks. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 4, 335–337. 05C85

Kong, Fan Liang Strong and weak laws of large numbers for B-valued asymptotic martingales. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 667–672. (Summary) **99e:60085** 60F15 (60F05, 60G42)

Kong, Lingbin (*with* Jiang, Da Qing) Multiple positive solutions of a nonlinear fourth order periodic boundary value problem. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 3, 265–270. (Summary) **99j:34025** 34B15 (34C25, 47H15)

Kong, Mai Ying (*with* Xu, Cheng Xian) A stable solution method for large sparse matrix linear equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 28–34. 65F10

Kong, Otto C. W. (*with* Bisset, Mike; Macesanu, Cosmin; Orr, Lynne H.) A simple phenomenological parametrization of supersymmetry without R-parity. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 274–280. (Summary) **99c:81273** 81V22 (81T60)

Kong, Qingkai (*with* Erbe, Lynn H.) Some necessary and sufficient conditions for oscillation of neutral differential equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 1-2, 133–148. (Summary) **99a:34186** 34K15 (34K40)

— Oscillation results for linear differential systems of second order. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 2, 157–172. (Ondřej Došlý) **99k:34067** 34C10

— Oscillation criteria for second order half-linear differential equations. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 317–323, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (E. Müller-Pfeiffer) **99j:34048** 34C10

— Interval criteria for oscillation of second-order linear ordinary differential equations. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 258–270. (Ondřej Došlý) **99k:34068** 34C10

Kong, Shu Lan (*with* Yang, Ming Sheng[3]) Intrinsic rigidity of integral submanifolds of a Sasakian space form. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 47–50. (Chuan Yu Ma) **99k:53094** 53C25 (53C20, 53C40)

Kong, Xiang Dong (*with* Zhong, Wan Xie) A self-correcting algorithm for constraint errors of differential algebraic equations in nonlinear system dynamics. (Chinese. English and Chinese summaries) *J. Dalian Univ. Tech.* **39** (1999), *no.* 1, 22–25. 65L06 (65L12)

Kongas, O. Stability and torsion in the period doubling cascade. (English summary) *Phys. Lett. A* **241** (1998), *no.* 3, 163–167. (Peter Raith) **99d:58129** 58F14 (34C23, 34D08)

Kongprawechnon, W. (*with* Kimura, Hidenori) J-lossless conjugation and factorization for discrete-time systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 867–884. 93C55 (93B29)

— (*with* Kimura, Hidenori) J-lossless factorization and H^∞ control for discrete-time systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 3, 423–446. (Summary) **99d:93021** 93B36 (93C55)

Konguetsof, Leonidas Structures algébriques munies avec des lois de composition généralisées. Généralisations du produit scalaire. (French summary) [Algebraic structures equipped with generalized composition laws. Generalizations of the scalar product] Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 95–107. (H. Lausch) **99k:08006** 08A40 (15A63)

König, Dénes *see* **Franchella, Miriam, 99e:05001**

König, H. *see* **König, Hermann H.**

König, Heinz J. E. ★ Measure and integration. (English summary) An advanced course in basic procedures and applications. *Springer-Verlag, Berlin*, 1997. *xxii*+260 *pp. ISBN* 3-540-61858-9 (Z. Lipecki) **99h:28001** 28–02 (28–01)

König, Hermann H. (*with* Meyer, Mathieu; Pajor, A.) The isotropy constants of the Schatten classes are bounded. *Math. Ann.* **312** (1998), *no.* 4, 773–783. (Keith Ball) **99j:52003** 52A20 (46B28, 47B10, 52A38)

Konig, Jean-Claude (*with* Krumme, David W.; Lazard, Emmanuel) Diameter-preserving orientations of the torus. (English summary) *Networks* **32** (1998), *no.* 1, 1–11. (M. E. Watkins) **99g:05066** 05C12 (05C20)

— (*with* Rao, P. S.; Trystram, D.) Analysis of gossiping algorithms with restricted buffers. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 2, 117–133. 90B12 (65Y05)

— (*with* Bampis, E.; Delorme, Charles) Optimal schedules for d-D grid graphs with communication delays. (English summary) *Parallel Comput.* **24** (1998), *no.* 11, 1653–1664. (Summary) **99f:68020** 68M20

König, Steffen (*with* Xi, Changchang) Strong symmetry defined by twisting modules, applied to quasi-hereditary algebras with triangular decomposition and vanishing radical cube. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 2, 427–441. (Richard M. Green) **99h:16028** 16G20

Konijn, H. S. Certain inverse multivariate hypergeometric and multinomial distributions. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 2, 197–204. (Summary) **99c:62025** 62D05

van de Konijnenberg, J. A. (*with* Nielsen, A. H.; Rasmussen, Jens Juul; Stenum, B.) Shear-flow instability in a rotating fluid. (English summary) *J. Fluid Mech.* **387** (1999),

177–204. 76E99 (76U05)

Konik, Tadeusz The tangency relation of sets of the classes $A^*_{p,k}$ in generalized metric spaces. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 203–208. (W. Waliszewski) **99g:51013** 51L99

— On the compatibility and the equivalence of the tangency relations of sets of the classes $A^*_{p,k}$. (English summary) *J. Geom.* **63** (1998), *no.* 1-2, 124–133. (W. Waliszewski) **99m:54016** 54E35

— The compatibility of the tangency relations of sets in generalized metric spaces. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 17–22. (W. Waliszewski) **99g:51014** 51L99

Konikowska, Beata A logic for reasoning about similarity. (English summary) *Incomplete information: rough set analysis*, 462–491, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03B70 (03B45)

— *see also* **Hopcroft, John E., 99a:68001**

de Koninck, Jean-Marie *see* **De Koninck, Jean-Marie**

de Koning, W. L. (*with* Szajowski, K.) Discrete-time Markovian jump linear systems. (English summary) *Control Cybernet.* **27** (1998), *no.* 1, 63–80. (Ł. Stettner) **99e:93087** 93E20 (93C05, 93C55)

Konior, Jan ★ Budowa i lektura tekstu matematycznego. (Polish. English and German summaries) [Constructing and reading mathematical texts] Podstawy nauki czytania tekstów matematycznych w szkole. [Elements of the learning of mathematical texts in school] Prace Naukowe Uniwersytetu Śląskiego w Katowicach [Scientific Publications of the University of Silesia], 1672. *Wydawnictwo Uniwersytetu Śląskiego, Katowice*, 1998. 171 *pp. ISBN* 83-226-0752-0 00A35

Konishi, Hideo (*with* Le Breton, Michel; Weber, Shlomo) Pure strategy Nash equilibrium in a group formation game with positive externalities. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 161–182. (Makoto Yano) **99a:90244** 90D10 (90D35)

— (*with* Le Breton, Michel; Weber, Shlomo) Equilibrium in a finite local public goods economy. (English summary) *J. Econom. Theory* **79** (1998), *no.* 2, 224–244. (Summary) **99b:90035** 90A27 (90A14)

Konishi, Kenichi (*with* Carlino, Giuseppe; Maggiore, Nicola; Magnoli, Nicodemo) On the beta function in supersymmetric gauge theories. (English summary) *Phys. Lett. B* **455** (1999), *no.* 1-4, 171–178. 81T60 (81–02)

Konisi, Gaku (*with* Kokado, Akira; Saito, Takesi; Tada, Yutaka) Brans-Dicke theory from $M_4 \times Z_2$ geometry. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 2, 293–303. (Jürgen Tolksdorf) **99d:83083** 83D05 (58B30)

Konjevod, Goran (*with* Garg, Naveen; Ravi, R.) A polylogarithmic approximation algorithm for the group Steiner tree problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 253–259, *ACM, New York*, 1998. (*see* **99d:68011**) 68R10 (68Q25, 68Q35)

Kon′kov, A. A. The maximum principle for elliptic equations on smooth Riemannian manifolds. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 10–14, 111; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 9–12. (J. S. Joel) **99e:58170** 58G03 (35J60)

— On singular solutions of nonlinear ordinary differential equations. (Russian) *Mat. Zametki* **60** (1996), *no.* 4, 616–620; *translation in Math. Notes* **60** (1996), *no.* 3-4, 462–466 (1997). (Ondřej Došlý) **99d:34050** 34C10 (34A34)

— Growing solutions of nonlinear ordinary differential equations. (Russian) *Mat. Zametki* **62** (1997), *no.* 5, 792–795; *translation in Math. Notes* **62** (1997), *no.* 5-6, 664–667 (1998). (Božena Mihaliková) **99e:34040** 34C11

— On the behavior of solutions of quasilinear elliptic inequalities containing terms with lower-order derivatives. (Russian) *Mat. Zametki* **64** (1998), *no.* 6, 946–949. 35J60 (35B45, 35R45)

Kon′kova, T. Ya. (*with* Kublanovskaya, V. N.; Simonova, V. N.) On the development of certain ideas of D. K. Faddeev and V. N. Faddeeva in computational algebra. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1955–1961; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1877–1883. (Summary) **99h:65080** 65F30

Konno, Hiroshi (*with* Gao, Chenggang; Saitoh, Ichiroh) Cutting plane/tabu search algorithms for low rank concave quadratic programming problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 225–240. (Summary) **99g:90080** 90C20 (90C26)

Konno, Hitoshi An elliptic algebra $U_{q,p}(\widehat{\mathrm{sl}}_2)$ and the fusion RSOS model. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 2, 373–403. (Rinat Kedem) **99e:81079** 81R10 (17B37, 81R50, 82B23)

Konno, Kazuko The structure of the center of the universal enveloping algebra for the Lie superalgebra $\mathfrak{sl}(m,1)$. Representation theory of groups and homogeneous spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1008 (1997), 110–117. (Hedi Benamor) **99d:17016** 17B35

Konno, Kimiaki (*with* Imai, Koji; Kakuhata, Hiroshi) Solitons and ruled surfaces. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 192–199. (*see* **99a:00032**) 35Q51

— (*with* Imai, Koji; Kakuhata, Hiroshi) Direct connection among nonlinear evolution equations based on O(3) group. *J. Phys. Soc. Japan* **67** (1998), *no.* 12, 4300–4301. 35Q58 (35A30)

— (*with* Kakuhata, Hiroshi) Bilinearization of combined nondispersive equations. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 46–53. (*see* **99f:76003**) 35Q51 (35A25)

— (*with* Maeno, Mineki; Katayama, Yoichi; Yamamoto, Takamitsu) Solitons in the brain: a model of α-waves. (Japanese) Pattern formation and singularities in wave motion phenomena (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1030 (1998), 130–139. (*see* **99f:76003**) 35Q80 (35Q51, 92B05)

Konno, Kouichi (*with* Sone, Junji; Chiyokura, Hiroaki) Surface interpolation using NURBS boundary Gregory patch for non-four-sided area. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 2, 710–718. (Summary) **99m:68217** 68U05 (65D17)

Konno, T. (*with* Imai, Hitoshi; Shinohara, Yoshitane; Natori, Makoto; Zhou, Weidong; Ohnishi, Isamu; Nishiura, Yasumasa) Numerical computations of free boundary problems in quadruple precision arithmetic using an explicit method. (English summary) *Recent developments in domain decomposition methods and flow problems (Kyoto, 1996; Anacapri, 1996)*, 193–207, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (*see* **99g:00054**) 65L06 (65G05)

Konno, Tatsuo Killing vector fields on tangent sphere bundles. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 61–72. (José Carmelo González-Dávila) **99e:53042** 53C20

— (*with* Tanno, Shukichi) Geodesics and Killing vector fields on the tangent sphere bundle. (English summary) *Nagoya Math. J.* **151** (1998), 91–97. (Oguz C. Durumeric) **99k:53086** 53C22 (53C25)

Konno, Tsutomu (*with* Ishii, Hiroaki[1]) Two-machines scheduling problem with fuzzy allowable time constraint. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 487–491. 90B35 (90C70)

Konnov, Igor V. An inexact combined relaxation method for multivalued inclusions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 58–62. (R. Tichatschke) **99m:90160** 90C48 (65J15, 65K10, 90C26)

— On quasimonotone variational inequalities. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 165–181. (Wan Tao Fu) **99j:49016** 49J40 (47H19)

— A combined relaxation method for variational inequalities with nonlinear constraints. (English summary) *Math. Programming* **80** (1998), *no.* 2, *Ser. A*, 239–252. (E. A. Nurminski) **99b:90137** 90C33 (49J40)

— On the convergence of combined relaxation methods for variational inequalities. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 77–92. (Summary) **99a:49017** 49J40 (65K05)

Kono, Akira[1] (*with* Hamanaka, Hiroaki; Hara, Shin-Ichiro) Adjoint action of Lie groups on the loop spaces and cohomology of exceptional Lie groups. *Transformation group theory (Taejŏn, 1996)*, 44–50, *Korea Adv. Inst. Sci. Tech., Taejŏn*, 199?. (M. Mimura) **99a:57034** 57T10 (22E67)

Kôno, Norio The exact modulus of continuity for Gaussian processes taking values of a finite-dimensional normed space. (English summary) *Trends in probability and related analysis (Taipei, 1996)*, 219–232, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **98k:60004**) 60G15 (60G17)

Kono, Shinji Execution and verification of 2nd order interval temporal logic. (English summary) Concurrency theory and applications '96 (Kyoto). *Sūrikaisekikenkyūsho Kōkyūroku No.* 996 (1997), 162–180. (Summary) **99b:68120** 68Q60 (03B45, 03B70)

Kono, Yukio (*with* Watanabe, Masaji) Difference approximations in analysis of unsteady pipeline flows. (English summary) Industrial and applied mathematics (Okayama, 1997/1998). *Information* **2** (1999), *no.* 1, 105–111. (*see* **99h:65005**) 76M20 (65M06)

Kononenko, Alexey Vladimir (*with* Burago, D. Yu.; Ferleger, S.) Uniform estimates on the number of collisions in semi-dispersing billiards. *Ann. of Math.* (2) **147** (1998), *no.* 3, 695–708. (Nikolai Chernov) **99f:58120** 58F11 (58F99, 70F10, 70F35)

— (*with* Burago, D. Yu.; Ferleger, S.) A geometric approach to semi-dispersing billiards. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 303–319. (Nikolai Chernov) **99c:58091** 58F11 (58F20)

— (*with* Burago, D. Yu.; Ferleger, S.) Topological entropy of semi-dispersing billiards. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 791–805. (Valery Covachev) **99m:58146** 58F17 (58F22)

— Infinitesimal rigidity of boundary lattice actions. (English summary) *Ergodic Theory Dynam. Systems* **19** (1999), *no.* 1, 35–60. (Scot Adams) **99m:22010** 22E40

— *see also* **Lerman, L. M., 99b:58115**

Kononov, Aleksandr Veniaminovich Scheduling problems with linear increasing processing times. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 208–212, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B35

Konopelchenko, B. G. Gauss-Codazzi equations for generic surfaces: equivalence to the DS linear problem with constraint, linearizability and reductions. (English summary) *J. Phys. A* **30** (1997), *no.* 13, L437–L441. (Summary) **99f:53003** 53A05

— (*with* Bogdanov, L. V.) Analytic-bilinear approach to integrable hierarchies. I. Generalized KP hierarchy. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4683–4700. (Alexander V. Shapovalov) **99k:58082** 58F07 (58F37)

— (*with* Bogdanov, L. V.) Analytic-bilinear approach to integrable hierarchies. II. Multicomponent KP and 2D Toda lattice hierarchies. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4701–4728. (Alexander V. Shapovalov) **99k:58083** 58F07 (58F37)

— (*with* Beutler, R.) Surfaces of revolution via the Schrödinger equation: construction, integrable dynamics and visualization. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 1, 13–43. (Bert Jüttler) **99k:53002** 53A05 (35J10)

Konôpka, Martin (*with* Jex, I.) Exact solutions for nonlinear Hamiltonians. (English summary) *Czechoslovak J. Phys.* **48** (1998), *no.* 12, 1537–1553. (Summary) **99k:81355** 81V80

Konôpka, P. (*with* Haviar, Miroslav; Priestley, H. A.; Wegener, C. B.) Finitely generated free modular ortholattices. I. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2639–2660. (M. J. Mączyński) **99g:06012** 06C15 (06C20, 81P10)

— (*with* Haviar, Miroslav; Wegener, C. B.) Finitely generated free modular ortholattices. II. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 2661–2679. (M. J. Mączyński) **99g:06013** 06C15 (06C20, 81P10)

Konoplev, V. A. ★ Агрегативная механика систем твердых тел. (Russian. English and Russian summaries) [Aggregative mechanics for systems of rigid bodies] With an introduction in English. "*Nauka*" *S.-Peterburg. Otdel., St. Petersburg*, 1996. 167 *pp. ISBN* 5-02-024786-3 (Inna Sharf) **99e:70009** 70B15 (70–08, 70E15)

Konopleva, N. P. On the modern geometric ways in the gauge field theory. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 349–354, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 83E15 (81T13)

Konosevich, B. I. (*with* Ignat′ev, A. O.) On the Routh-Lyapunov-Salvadori stability criterion. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 78–79. (Summary) **99j:34071** 34D20 (70K20)

Konotop, V. V. (*with* De Lillo, S.) On an integrable stochastic Volterra lattice. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3831–3837. (Tuncay Aktosun) **99f:81213** 81U40 (35Q58)

Konovalova, D. S. (*with* Chebotarev, A. Yu.) Optimal starting control of the flow of a viscous fluid. (Russian. English and Russian summaries) *Dal′nevost. Mat. Sb. No.* 2 (1996), 110–119, 199. (Sergey V. Nikitin) **99i:49042** 49N55 (35Q30, 76D05)

Konovalyuk, T. P. Advection of fluid particles in the velocity field of plane vortices in their confluence. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 72–86. (Summary) **99e:76069** 76F99 (76C05)

Konovalyuk, V. S. (*with* Bratiĭchuk, N. S.) The queue length in a queueing system of type $GI/GI/1$. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 20–25. (Joseph Kreimer) **99m:90073** 90B22 (60K25)

Konrad, Karsten HOT: a concurrent automated theorem prover based on higher-order tableaux. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 245–261, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (*see* **99k:68014**) 03B35 (03B15, 68T15)

Konshteĭn, S. E. Supertraces on some deformations of Heisenberg superalgebra. *Supersymmetry and quantum field theory* (*Kharkov*, 1997), 305–311, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (Roberto Casalbuoni) **99k:81116** 81R50 (17B81)

Konstantinescu, I. *see* **Constantinescu, Ioana**

Konstantinidis, Stavros (*with* Jürgensen, Helmut) Codes. *Handbook of formal languages, Vol.* 1, 511–607, *Springer, Berlin*, 1997. (Dong Yang Long) **99a:94020** 94A45 (68Q45, 94–02, 94B99)

Konstantinov, A. B. (*with* Staroselsky, Ilya; Orszag, Steven A.; Yakhot, Victor) Renormalization group-based transport modeling of premixed turbulent combustion. I. Incompressible deflagration model. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 3, 229–252. (From the text) **99k:80009** 80A25 (76F99, 76M25, 76N99, 80–08)

— (*with* Orszag, Steven A.; Staroselsky, Ilya; Yakhot, Victor) Renormalization group-based transport modeling of premixed turbulent combustion. II. Finite density gradient and direct heat release. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 369–404. (Summary) **99k:80010** 80A25 (76F99, 76M25, 76N99, 80–08)

Konstantinov, M. M. (*with* Petkov, Petko Khr.; Gu, Da-Wei; Postlethwaite, Ian) Two-dimensional measures of reachability for linear time-invariant systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 195–215. 93B05 (93B40)

— (*with* Stanislavova, M. O.; Petkov, Petko Khr.) Perturbation bounds and characterisation of the solution of the associated algebraic Riccati equation. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 7–31. (Jaroslav Zemánek) **99m:15014** 15A24

Konstantinov, M. Yu. Some problems of topology change description in the theory of spacetime. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 1–17. (Robert J. Low) **99g:83072** 83E05 (53C80)

Konstantinov, R. V. On a differential game with incomplete information. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1502–1506, 1581; *translation in Differential Equations* **33** (1997), *no.* 11, 1508–1512 (1998). (O. A. Malafeyev) **99m:90176** 90D25

Konstantopoulos, Ioannis K. (*with* Antsaklis, Panos J.) Optimal design of robust controllers for uncertain discrete-time systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 71–91. 93B36 (93B51)

Konstantopoulos, Takis (*with* Lin, Si-Jian) Macroscopic models for long-range dependent network traffic. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 215–243. (Summary) **99b:60159** 60K25

— (*with* Anantharam, Venkat) A methodology for the design of optimal traffic shapers in communication networks. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 583–586. (Summary) **99m:90068** 90B12 (90B06)

Konstein, S. E. *see* **Konshteĭn, S. E.**

Kontogeorgis, Aristides I. The group of automorphisms of the function fields of the curve $x^n + y^m + 1 = 0$. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 110–136. (Pavlos Tzermias) **99f:11074** 11G20 (14E09, 14H05)

Kontogiannis, E. (*with* Munro, Neil) Robust stability conditions for MIMO systems with parametric uncertainty. *Symbolic methods in control system analysis and design*, 169–200, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93D09 (93C41)

Kontogiorgis, Spyridon (*with* Meyer, Robert R.) A variable-penalty alternating directions method for convex optimization. (English summary) *Math. Programming* **83** (1998), *no.* 1, *Ser. A*, 29–53. (E. A. Nurminski) **99k:90116** 90C25

Kontolatou, Angeliki Approximation theorems for ordered groups with quasi-divisors theory. (Greek. English summary) Proceedings of the 1st Panhellenic Algebra Conference (Athens, 1996). *Bull. Greek Math. Soc.* **38** (1996), 137–143. (*see* **99a:00037**) 20F60 (06F15)

— (*with* Stabakis, John) Some remarks on topologies induced by a G-valuation in a field. *Riv. Mat. Pura Appl. No.* 18 (1996), 45–61. (Francis J. Rayner) **99a:12011** 12J10 (12J25, 54H13)

Kontoleon, N. (*with* Wiltshire, D. L.) Operator ordering and consistency of the wave function of the Universe. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063513, 8 *pp.* 83C45

Kontorovich, V. M. (*with* Pimenov, S. F.) Exact solution of the Kompaneets equations for a strong point blast in a medium with a quadratic law of density decrease. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 6, 683–698; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 6, 457–468. (Summary) **99h:85001** 85A15 (76N10)

Kontoyiannis, Ioannis (*with* Algoet, P. H.; Sukhov, Yu. M.; Wyner, Abraham J.) Nonparametric entropy estimation for stationary processes and random fields, with applications to English text. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1319–1327. (Summary) **99c:94015** 94A29 (62G05, 68P99, 92K20)

— Asymptotic recurrence and waiting times for stationary processes. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 3, 795–811. (Vincent De Valk) **99e:60102** 60G10 (60F17)

Kontsevich, Maxim Lyapunov exponents and Hodge theory. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 318–332, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Boris Hasselblatt) **99b:58147** 58F11 (82C28)

— Product formulas for modular forms on $O(2, n)$ (after R. Borcherds). (English summary) Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 821, 3, 41–56. (I. Dolgachev) **99h:11048** 11F55 (11E45, 11F22, 11F37, 14J28, 17B67, 57R55)

— (*with* Manin, Yuriĭ Ivanovich) Relations between the correlators of the topological sigma-model coupled to gravity. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 2, 385–398. (Alexandre I. Kabanov) **99k:14040** 14H10 (14D15, 14D20, 14N10, 58D10)

— (*with* Barannikov, S. A.) Frobenius manifolds and formality of Lie algebras of polyvector fields. *Internat. Math. Res. Notices* **1998**, *no.* 4, 201–215. (Sergey Merkulov) **99b:14009** 14D07 (14J32, 17B66, 32G13, 58D29)

— *see also* **Taubes, Clifford Henry**, **99i:58002**; **Lepowsky, James et al.**, **99k:01066**; **Jackson, Allyn**; **Taubes, Clifford Henry**; **Rajan, C. S. et al.**; **Quirós, Adolfo**; **Shimizu, Yuji** *and* **Fukaya, Kenji**

Konvalina, John A note on a generalization of Waring's formula. (English summary) *Adv. in Appl. Math.* **20** (1998), *no.* 3, 392–393. (Bruce C. Berndt) **99f:11021** 11B57

— Generalized binomial coefficients and the subset-subspace problem. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 2, 228–240. (Joaquin O. Carbonara) **99g:05002** 05A10 (05A30, 05E05)

Konwent, Henryk (*with* Machnikowski, Paweł; Magnuszewski, Piotr; Radosz, Andrzej) Some properties of double-Morse potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7541–7559. (Summary) **99g:81037** 81Q05

Kónya, B. (*with* Lévai, G.; Papp, Zsoltan) Unified treatment of the Coulomb and harmonic oscillator potentials in D dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5811–5823. (Peter N. Zhevandrov) **99h:81034** 81Q05

Konyaev, S. I. Quadrature formulae invariant to the symmetry group of an n-dimensional simplex for a spherically symmetric weight function. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 359–369. (S. Dubuc) **99m:65047** 65D32

Konyaev, Yu. A. (*with* Fëdorov, Yu. S.) Asymptotic analysis of some classes of singularly perturbed problems on the half-axis. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 111–117; *translation in Math. Notes* **62** (1997), *no.* 1-2, 93–98 (1998). (Leonid V. Kalachev) **99d:34102** 34E10 (34E15)

— Singularly perturbed problems with a double singularity. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 494–501; *translation in Math. Notes* **62** (1997), *no.* 3-4, 414–419 (1998). (Leonid V. Kalachev) **99d:34103** 34E10 (34E15)

Konyagin, Sergeĭ (*with* Belov, A. S.) On an estimate for the free term of a nonnegative trigonometric polynomial with integer coefficients. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **60** (1996), *no.* 6, 31–90; *translation in Izv. Math.* **60** (1996), *no.* 6, 1123–1182. (Eduard Belinskiĭ) **99b:42002** 42A05

— On the recurrence of an integral of an odd conditionally periodic function. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 570–577; *translation in Math. Notes* **61** (1997), *no.* 3-4, 473–479. (N. G. Moshchevitin) **99f:11098** 11K41 (11K31, 34C27)

— (*with* Stechkin, Sergeĭ Borisovich) An estimate for the number of solutions of nth degree congruence with one unknown. (Russian) Dedicated to the memory of Professor Sergeĭ Borisovich Stechkin (Russian). *Tr. Mat. Inst. Steklova* **219** (1997), *Teor. Priblizh. Garmon. Anal.*, 249–257. (W. Narkiewicz) **99j:11109** 11N37 (11A07)

— (*with* Dubickas, Artūras) On the number of polynomials of bounded measure. *Acta Arith.* **86** (1998), *no.* 4, 325–342. (Christopher Smyth) **99m:11122** 11R09 (11C08, 12E05)

— (*with* Filaseta, Michael) On a limit point associated with the *abc*-conjecture. *Colloq. Math.* **76** (1998), *no.* 2, 265–268. (G. Greaves) **99b:11029** 11D75

— (*with* DeVore, Ronald A.; Temlyakov, V. N.) Hyperbolic wavelet approximation. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 1–26. (Amos Ron) **99d:42055** 42C15 (41A17, 41A63, 46E99)

Konysheva, V. M. On the convergence of the method of penalty functions in the presence of random noise. (Russian) *Dynamics of control systems, and computational processes* (*Russian*), 46–52, *Yakut·sk. Gos. Univ., Yakutsk*, 1991. (*see* **99m:00021**) 90C30 (49M30)

Konyukhova, N. B. (*with* Abramov, A. A.; Dyshko, A. L.; Levitina, T. V.) On numerical-analytic investigation of scalar scattering by ideal prolate spheroids and triaxial ellipsoids. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 9–15, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M06 (76Q05, 78A45)

— (*with* Abramov, A. A.; Dyshko, A. L.; Levitina, T. V.; Ul′yanova, V. I.) Methods for solving some multiparameter spectral problems in mathematical physics. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 293–299, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 35J25 (65N25)

— (*with* Voronov, N. A.; Dyshko, A. L.; Staroverova, I. B.) On some nonlinear singular problems in models of relativistic cosmology. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 304–310, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 83F05 (35Q75)

Konz, Stefan (*with* Hahmann, Stefanie) Fairing bicubic B-spline surfaces using simulated annealing. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 159–168, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D17 (65D07)

Koo, Gar Man (*with* Li, Shuo-Yen Robert; Li, Hui) An algorithm for the construction of concentrators from 2×2 sorters. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 197–219, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10

Koo, Hyungwoon (*with* Kang, Hyeonbae) Carleson measure characterizations of BMOA on pseudoconvex domains. (English summary) *Pacific J. Math.* **178** (1997), *no.* 2, 279–291. (Miroljub Jevtić) **99f:32006** 32A37

Koo, Ja Kyung (*with* Kim, Chang Heon) Some notes on the genus of modular curve $X_0^0(N)$. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 17–25. (Chandrashekhar Khare) **99h:11064** 11G18

— (*with* Kim, Chang Heon) Arithmetic of the modular function $j_{1,4}$. (English summary) *Acta Arith.* **84** (1998), *no.* 2, 129–143. (Chandrashekhar Khare) **99b:11042** 11F22 (11F03, 11F11)

Koo, Ja-Yong (*with* Chung, Han-Yeong) Log-density estimation in linear inverse problems. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 335–362. (Sidney J. Yakowitz) **99d:62039** 62G05

— Convergence rates for logspline tomography. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 367–384. (Margaret P. Gessaman) **99k:62083** 62G07 (62G20)

— (*with* Lee, Kee-Won) B-spline estimation of regression functions with errors in variable. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 57–66. (M. Hušková) **99j:62047** 62G05

Koo, Ki-Shik On the behaviour of orbits of stable points. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 139–147. (Jerzy Ombach) **99h:54060** 54H20 (58F15)

Koo, W. M. (*with* Ahn, Changrim) Boundary Yang-Baxter in the RSOS/SOS representation. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 3–12, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23

Koobus, Bruno (*with* Farhat, Charbel) Second-order time-accurate and geometrically conservative implicit schemes for flow computations on unstructured dynamic meshes. (English summary) *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 1-2, 103–129. (Summary) **99k:76101** 76M20 (73K70)

— (*with* Farhat, Charbel) On the implicit time integration of semi-discrete viscous fluxes on unstructured dynamic meshes. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 8, 975–996. 76M25

Kooi, B. W. (*with* Boer, M. P.; Kooijman, S. A. L. M.) Food chain dynamics in the chemostat. (English summary) *Math. Biosci.* **150** (1998), *no.* 1, 43–62. (Summary) **99d:92045** 92D40 (34C23, 92D25)

— (*with* Boer, M. P.; Kooijman, S. A. L. M.) Consequences of population models for the dynamics of food chains. (English summary) *Math. Biosci.* **153** (1998), *no.* 2, 99–124. 92D25 (92D40)

— (*with* Poggiale, J.-C.; Auger, Pierre M.) Aggregation methods in food chains. (English summary) Aggregation and emergence in population dynamics. *Math. Comput. Modelling* **27** (1998), *no.* 4, 109–120. (Summary) **99c:92042** 92D25

Kooij, B. J. (*with* Bakker, M. C. M.; Verweij, M. D.; Dieterman, H. A.) The traveling point load revisited. (English summary) *Wave Motion* **29** (1999), *no.* 2, 119–135. (Summary) **99j:73039** 73D15 (73D25)

Kooij, Robert E. Cubic systems with four line invariants, including complex conjugated lines. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 43–56. (Pavao Mardešić) **99h:34046** 34C05

— (*with* Zegeling, André) Qualitative properties of two-dimensional predator-prey systems. *Nonlinear Anal.* **29** (1997), *no.* 6, 693–715. 92D25 (34C05)

— (*with* Zegeling, André) Uniqueness of limit cycles in models for microparasitic and macroparasitic diseases. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 407–417. (Summary) **99d:92042** 92D30 (34C05)

— (*with* Zegeling, André) Limit cycles in quadratic systems with a weak focus and a strong focus. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 323–340. (I. D. Iliev) **99m:34065** 34C05 (58F21)

— *see also* **Planar nonlinear dynamical systems, 99g:00053**

Kooijman, S. A. L. M. (*with* van den Berg, Hugo A.; Kiselëv, Yu. N.; Orlov, M. V.) Optimal allocation between nutrient uptake and growth in a microbial trichome. (English summary) *J. Math. Biol.* **37** (1998), *no.* 1, 28–48. (Summary) **99f:92006** 92C40 (49N55, 92D25)

— (*with* Boer, M. P.; Kooi, B. W.) Food chain dynamics in the chemostat. (English summary) *Math. Biosci.* **150** (1998), *no.* 1, 43–62. (Summary) **99d:92045** 92D40 (34C23, 92D25)

— (*with* Kooi, B. W.; Boer, M. P.) Consequences of population models for the dynamics of food chains. (English summary) *Math. Biosci.* **153** (1998), *no.* 2, 99–124. 92D25 (92D40)

Koole, Ger (*with* Altman, Eitan) On submodular value functions and complex dynamic programming. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1051–1072. (Summary) **99g:90102** 90C29 (93E20)

— (*with* Righter, Rhonda) Optimal control of tandem reentrant queues. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 4, 337–347. (Nicole Bäuerle) **99f:90037** 90B22 (60K25)

Koolen, J. H. (*with* Hiraki, Akira) An improvement of the Ivanov bound. (English summary) *Ann. Comb.* **2** (1998), *no.* 2, 131–135. (Summary) **99m:05171** 05E30

— The distance-regular graphs with intersection number $a_1 \neq 0$ and with an eigenvalue $-1-(b_1/2)$. (English summary) *Combinatorica* **18** (1998), *no.* 2, 227–234. (Robert Beezer) **99j:05197** 05E30 (05C50)

— (*with* Moulton, Vincent L.; Tönges, Udo) The coherency index. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 205–222. (Summary) **99g:54027** 54E35

— (*with* Brouwer, Andries E.; Riebeek, Remko Juriën) A new distance-regular graph associated to the Mathieu group M_{10}. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 2, 153–156. (Summary) **99g:05184** 05E30 (20D08)

— (*with* Chen, Yue-Lan; Hiraki, Akira) On distance-regular graphs with $c_4 = 1$ and $a_1 \neq a_2$. *Kyushu J. Math.* **52** (1998), *no.* 2, 265–277. (Robert Beezer) **99g:05186** 05E30 (05C12)

Kooman, R. J. Asymptotic behaviour of solutions of linear recurrences and sequences of Möbius-transformations. (English summary) *J. Approx. Theory* **93** (1998), *no.* 1, 1–58. (C. Praagman) **99k:39020** 39A10 (11B37, 57S30)

Koomullil, G. P. (*with* Budd, C. J.; Stuart, Andrew M.) On the solution of convection-diffusion boundary value problems using equidistributed grids. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 591–618 (*electronic*). (André Nachbin) **99i:65100** 65M50 (65N50, 76M25, 76Rxx)

Koonin, S. E. (*with* Cerf, Nicolas J.) Monte Carlo simulation of quantum computation. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 143–152. (Summary) **99d:81023** 81P99 (65C05)

alikhani-Koopaei, Aliasghar *see* **Alikhani-Koopaei, Aliasghar**

Kooperberg, Charles (*with* Stone, Charles J.; Hansen, Mark H.; Truong, Young K.) Polynomial splines and their tensor products in extended linear modeling. (English summary) With discussion and a rejoinder by the authors and Jianhua Z. Huang. *Ann. Statist.* **25** (1997), *no.* 4, 1371–1470. (Summary) **99e:62060** 62G05 (62G07, 62J12)

Koopman, Siem Jan (*with* Sandmann, Gleb) Estimation of stochastic volatility models via Monte Carlo maximum likelihood. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 271–301. 62P20

Koornwinder, Tom H. Special functions and q-commuting variables. (English summary) *Special functions, q-series and related topics* (*Toronto, ON*, 1995), 131–166, *Fields Inst. Commun.*, 14, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99e:33024** 33D80 (33–02, 33Dxx)

— (*with* Schwartz, Alan L.) Product formulas and associated hypergroups for orthogonal polynomials on the simplex and on a parabolic biangle. (English summary) *Constr. Approx.* **13** (1997), *no.* 4, 537–567. (Eric Stade) **99b:33024** 33C50 (33C70, 43A62)

— Special functions associated with root systems: a first introduction for non-specialists. (English summary) *Special functions and differential equations* (*Madras*, 1997), 10–24, *Allied Publ., New Delhi*, 1998. (Summary) **99h:33056** 33C80 (33C50, 33D45)

— (*with* Stokman, J. V.) On some limit cases of Askey-Wilson polynomials. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 310–330. (Hans-Jürgen Glaeske) **99k:33052** 33D45 (42C05)

Koosis, Paul ★ Leçons sur le théorème de Beurling et Malliavin. (French) [Lessons on the Beurling-Malliavin theorem] *Université de Montréal, Les Publications CRM, Montreal, QC*, 1996. xii+230 *pp. ISBN* 2-921120-19-4 (M. Herve (Zbl 869.30023)) **99e:42023** 42B15

— ★ The logarithmic integral. I. (English summary) Corrected reprint of the 1988 original. Cambridge Studies in Advanced Mathematics, 12. *Cambridge University Press, Cambridge*, 1998. *xviii*+606 *pp. ISBN* 0-521-59672-6 (From the Notice) **99j:30001** 30–02

— (*with* Pedersen, Henrik L.) Lower bounds on the values of an entire function of exponential type at certain integers, in terms of a least superharmonic majorant. (English summary) *Algebra i Analiz* **10** (1998), *no.* 3, 31–44. (Summary) **99g:30034** 30D15

— A local estimate, involving the least superharmonic majorant, for entire functions of exponential type. *Algebra i Analiz* **10** (1998), *no.* 3, 45–64. (From the introduction) **99g:30035** 30D15

— A result on polynomials and its relation to another, concerning entire functions of exponential type. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 1-2, 68–86. (Timothy S. Norfolk) **99d:30005** 30C10 (30D15)

Kopachevskiĭ, Nikolai D. (*with* Pashkova, Yuliya S.) Small oscillations of a viscous fluid in a vessel bounded by an elastic membrane. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 459–472 (1998). (Vyacheslav N. Pivovarchik) **99a:73104** 73K70 (35Q35, 35Q72, 76D99)

Kopaliani, T. S. On some properties of the spaces $L_w^{p(x)}(E)$. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 183–184 (1995). 46E30

Kopamu, Samuel J. L. Varieties of structurally trivial semigroups. I. (English summary) *Semigroup Forum* **58** (1999), *no.* 2, 159–174. (Sheila Oates-Williams) **99k:20108** 20M07 (08B15)

Kopanev, È. V. (*with* Kryukov, S. V.; Sukhoruchkin, M. A.) Conserved currents in quantum integrable models. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 34–44; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1235–1243 (1998). (Konstantin G. Selivanov) **99d:81076** 81T10 (81R10, 81T40)

Kopanskiĭ, A. (*with* Bronshteĭn, I. U.) Smooth linearization near a three-dimensional saddle. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 15–20, 150, 153. (Patrick Bonckaert) **99m:58169** 58F36 (34C20)

Kopas′, Ī. M. (*with* Stanzhitskiĭ, A. N.) On invariant tori of stochastic systems on a plane. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **48** (1996), *no.* 8, 1125–1129; *translation in Ukrainian Math. J.* **48** (1996), *no.* 8, 1276–1281 (1997). (Summary) **99b:60084** 60H10

Kopeikin, S. M. Propagation of light in the stationary field of multipole gravitational lens. (English summary) *J. Math. Phys.* **38** (1997), *no.* 5, 2587–2601. (Summary) **99a:83011** 83C10

Kopeĭkin, Vladimir V. Description of the dispersive refraction effect by space-time ray method. (English summary) *Wave Motion* **27** (1998), *no.* 4, 307–319. (Summary) **99a:78033** 78A60 (35Q99)

Kopeĭkina, T. B. Relative observability of linear time-dependent singularly perturbed systems with delay. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 24–30, 141; *translation in Differential Equations* **34** (1998), *no.* 1, 22–28. (T. R. Gichev) **99m:93063** 93C70 (93B07)

Kopelevich, Yu. Kh. (*with* Yushkevich, A. P.) ★ Christian Goldbach. 1690–1764. (German) Translated from the Russian by Annerose Purkert and Walter Purkert. Vita Mathematica, 8. *Birkhäuser Verlag, Basel*, 1994. *xii*+248 *pp. ISBN* 3-7643-2678-6 (E. Knobloch (Zbl 786.01021)) **99f:01024** 01A70 (01A50)

Kopeliovich, Yaacov (*with* Fried, Michael D.) Applying modular towers to the inverse Galois problem. (English summary) *Geometric Galois actions*, 2, 151–175, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Akito Nomura) **99k:12008** 12F12 (11R58)

Kopell, Nancy (*with* Soto-Treviño, C.; Watson, Diana) Parabolic bursting revisited. (English summary) *J. Math. Biol.* **35** (1996), *no.* 1, 114–128. (Summary) **99a:92007** 92C20 (34C99, 34E15)

— (*with* Hayes, Michael G.; Kaper, Tasso J.; Ono, Kinya) On the application of geometric singular perturbation theory to some classical two-point boundary value problems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 2, 189–209. (Summary) **99c:34119** 34E15 (34B05, 34B15)

— (*with* Terman, David; Bose, Amitabha) Dynamics of two mutually coupled slow inhibitory neurons. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 241–275. (Joseph So) **99h:92010** 92C20 (34C25, 34D15)

— Networks of neurons as dynamical systems: from geometry to biophysics. Current and future challenges in the applications of mathematics (Providence, RI, 1997). *Quart. Appl. Math.* **56** (1998), *no.* 4, 707–718. (*see* **99i:00017**) 92C05 (34C35)

Koperski, Jeffrey Models, confirmation, and chaos. (English summary) *Philos. Sci.* **65** (1998), *no.* 4, 624–648. (Summary) **99k:00018** 00A71 (00A69, 58F13)

Kop′ev, V. F. (*with* Chernyshev, S. A.) Influence of mixing layer thickness on the stability characteristics of a supersonic jet. *Fluid Dynam.* **33** (1998), *no.* 2, 169–175; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 20–28 (*Russian. Russian summary*). (Summary) **99i:76080** 76J20 (76E99)

Kopf, Christoph Symbol sequences and invariant measures for piecewise linear transformations of the interval. (English summary) *Iteration theory* (*ECIT 94*) (*Opava*), 173–191, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F11 (58F03)

Kopf, Tomáš Spectral geometry and causality. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 15, 2693–2708. (Jürgen Tolksdorf) **99k:83103** 83C99 (58G25)

Kopfer, Herbert (*with* Mattfeld, Dirk C.; Bierwirth, Christian) A search space analysis of the job shop scheduling problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 441–453. (*see* **99k:90002**) 90B35 (90C35)

Kopfová, Jana Semigroup approach to the question of stability for a partial differential equation with hysteresis. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 272–287. (Nobuyuki Kenmochi) **99g:35070** 35K60 (35B35, 47H20, 47H30)

Kôpka, František Boolean D-posets as the factor spaces. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 93–101. (Josef Tkadlec) **99g:81015** 81P10 (03G12, 06A06)

— *see also* **Riečan, Beloslav, 99e:28001**

Koplatadze, R. (*with* Izyumova, D.) On oscillatory and Kneser-type solutions of the high order delay differential equations. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 169–171 (1994). 34K15

— (*with* Partsvaniya, N. L.) On the oscillation of solutions of two-dimensional linear differential systems with deviated arguments. *Mem. Differential Equations Math. Phys.* **13** (1998), 148–149. 34K15

Koponen, A. (*with* Kandhai, D.; Hoekstra, Alfons; Kataja, M.; Timonen, Jussi; Sloot, P. M. A.) Implementation aspects of 3D lattice-BGK: boundaries, accuracy, and a new fast relaxation method. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 2, 482–501. (Summary) **99m:76093** 76M25

Koponen, Sami (*with* Hou, Xiang-dong; Lahtonen, Jyrki T.) The Reed-Muller code $R(r,m)$ is not Z_4-linear for $3 \le r \le m-2$. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 798–799. (Summary) **99a:94045** 94B05

Kopotun, Kirill A. Approximation of k-monotone functions. (English summary) *J. Approx. Theory* **94** (1998), *no.* 3, 481–493. (Z. Ditzian) **99g:41022** 41A28 (41A10)

— (*with* Leviatan, D.) Degree of simultaneous coconvex polynomial approximation. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 150–155. (Marc Van Barel) **99e:41015** 41A29 (41A25)

— (*with* Leviatan, D.; Shevchuk, I. A.) The degree of coconvex polynomial approximation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 409–415. (L. G. Labsker) **99c:41010** 41A10 (41A25)

Kopp, P. Ekkehard Hyperfinite mathematical finance. *Nonstandard analysis* (*Edinburgh*, 1996), 279–307, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (Xiaoai Lin) **99m:90029** 90A09 (03H10)

Koppel, Moshe (*with* Argamon-Engelson, Shlomo) Tractability of theory patching. (English summary) *J. Artificial Intelligence Res.* **8** (1998), 39–65 (*electronic*). (M. I. Dekhtyar) **99f:68183** 68T27 (03B05, 68Q25)

Kopperman, Ralph (*with* Henriksen, Melvin; Mack, John E.; Somerset, D. W. B.) Joincompact spaces, continuous lattices, and C^*-algebras. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 289–323. (Jimmie D. Lawson) **99c:54004** 54A05 (06B35, 46L05, 54C05, 54D30, 54E55)

— (*with* Sünderhauf, Philipp; Flagg, Robert C.) Smyth completion as bicompletion. (English summary) *Topology Appl.* **91** (1999), *no.* 2, 169–180. (P. Fletcher) **99k:54020** 54E15 (54D35)

Koppinen, M. On dualization of double Frobenius algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3669–3690. (William H. Gustafson) **99i:16039** 16L60 (16W30, 20C15)

Koppitz, Jörg (*with* Denecke, Klaus; Wismath, Shelly L.) Maps between M-solid varieties of semigroups. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 91–104. (Libor Polák) **99j:20065** 20M07 (08B15, 08C10)

— M-solid subvarieties of some varieties of commutative semigroups. (English summary) *Serdica Math. J.* **23** (1997), *no.* 1, 25–34. (Celia L. Adair) **99c:20081** 20M07 (20M14)

— (*with* Denecke, Klaus; Marszałek, R.) Derived varieties and derived equational theories. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 2, 153–169. (Ewa Graczyńska) **99d:20099** 20M07 (08B15)

— (*with* Denecke, Klaus) Finite monoids of hypersubstitutions of type $\tau = (2)$. *Semigroup Forum* **56** (1998), *no.* 2, 265–275. (Shelly L. Wismath) **99c:08011** 08B15 (08A40, 20M99)

— (*with* Denecke, Klaus) M-solid monoids of hypersubstitutions of type $\tau = (2)$. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 430–434. (Grigori I. Žitomirskiĭ) **99k:20107** 20M07 (03C05, 08A40, 08B05)

Koppius, Otto (*with* Broersma, H. J.; Huck, Andreas; Kloks, Ton; Kratsch, Dieter; Müller, Haiko; Tuinstra, Hilde) Degree-preserving forests. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 713–721, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q25)

Kopriva, David A. A staggered-grid multidomain spectral method for the compressible Navier-Stokes equations. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 125–158. (Summary) **99a:76113** 76M25

Koptev, A. M. On the complexity of reliable probabilistic networks. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 1, 30–32, 53; *translation in Moscow Univ. Comput. Math. Cybernet.* **1998**, *no.* 1, 40–43. (Summary) **99h:94091** 94C12 (94C05)

— An algorithm for the synthesis of reliable probabilistic networks of minimal complexity. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 2, 34–37, 49. (Summary) **99h:94092** 94C12 (94C05)

Kopteva, N. V. The two-dimensional Sobolev inequality in the case of an arbitrary grid. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 596–599; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 574–577. (Summary) **99c:41063** 41A63 (41A17)

Koptyug, I. V. (*with* Kabanikhin, S. I.; Iskakov, K. T.; Sagdeev, R. Z.) Inverse problem for a quasi-linear equation of diffusion. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 335–351. (Hong Ming Yin) **99k:65085** 65M30 (35R30, 76R50)

Kopuzlu, Abdullah On 2-sheeted covering spaces of $K_{3,n}$-torus knots. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 131–135. (Summary) **99f:57008** 57M25 (57M12)

Kopych, M. (*with* Prykarpatsky, Y. A.; Samulyak, R. V.) Adiabatic invariants of a generalized Hénon-Heiles Hamiltonian system and the structure of chaotic motion. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 2, 32–36. (Jean-Pierre Marco) **99a:58136** 58F30 (58F05, 58F13, 70H05, 70K50)

Kopylov, Anatoliĭ Pavlovich On the stability of classes of conformal mappings in extra dimensions. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 11–15. (I. A. Aleksandrov) **99k:30009** 30C35

— On the stability of classes of conformal mappings. III. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 4, 825–842, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 4, 715–729. (Adam Lecko) **99b:30010** 30C35

— Stability in the C^1-norm of classes of harmonic mappings. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 49–66, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 42–56. (Vladimir Eiderman) **99i:31003** 31B05 (41A30)

— On the stability of classes of harmonic mappings in the C-norm. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 343–353, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 301–310. (Vladimir Eiderman) **99i:31004** 31B05 (41A30)

Kopylov, Ya. A. On the normal solvability of the exterior differentiation operator on a surface of revolution. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1300–1307, *ii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1130–1136. (V. Cruceanu) **99d:58010** 58A10 (53C07)

Korach, Ephraim (*with* Dor, Avner; Greenshtein, Eitan) Optimal and myopic search in a binary random vector. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 463–472. (Andor Dobó) **99f:90052** 90B40 (60E15)

Korányi, Adam (*with* Reimann, H. M.) Equivariant extension of quasiconformal deformations into the complex unit ball. *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 153–176. (Gerald B. Folland) **99g:32059** 32M15 (30C65)

— (*with* Dixmier, Jacques; Duflo, Michel; Hajnal, András; Kadison, Richard V.; Rosenberg, Jonathan M.; Vergne, Michèle) Lajos Pukánszky (1928–1996). (English summary) *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 492–499. (Editors) **99k:01056** 01A70

Koras, G. D. (*with* Gerostathis, T. P.; Kaklis, Panagiotis D.) Numerical experimentation with the Roulier-Rando fairness metrics. (English summary) Geometric modelling techniques (Anogia Academic Village, 1997). *Math. Engrg. Indust.* **7** (1999), *no.* 2, 195–209. (*see* **99i:65004**) 65Y25 (65D17)

Koras, M. (*with* Russell, Peter) Contractible threefolds and $\mathbf{C}^*$-actions on $\mathbf{C}^3$. (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 4, 671–695. (M. Miyanishi) **99e:14057** 14L30 (14J30)

Korb, Thomas (*with* Nakamura, Yukio[1]) On the Cohen-Macaulayness of multi-Rees algebras and Rees algebras of powers of ideals. *J. Math. Soc. Japan* **50** (1998), *no.* 2, 451–467. (Irena Swanson) **99c:13024** 13C14 (13A30, 13D45)

Korbut, A. A. (*with* Dyubin, G. N.) On the average behaviour of primal and dual greedy algorithms for the knapsack problem. *Operations Research Proceedings* 1996 (*Braunschweig*), 55–60, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C27

Korchemskiĭ, G. P. Integrable structures and duality in high-energy QCD. (English summary) *Nuclear Phys. B* **498** (1997), *no.* 1-2, 68–100. (Claus Montonen) **99a:81194** 81V05 (81T40, 81U20)

Korchmáros, Gábor (*with* Abatangelo, Vito) A generalization of a theorem of B. Segre on regular points with respect to an ellipse of an affine Galois plane. (Italian. English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 87–102. (J. W. P. Hirschfeld) **99g:51007** 51E21

— (*with* Hirschfeld, J. W. P.) On the number of rational points on an algebraic curve over a finite field. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 313–340. (Chao Ping Xing) **99e:11082** 11G20 (14G05, 14G15, 51E15, 51E20)

— (*with* Enea, Maria Rosaria) $\mathcal{F}$-transitive ovals in projective planes of odd order. (English summary) *J. Algebra* **208** (1998), *no.* 2, 604–618. (William Cherowitzo) **99j:51009** 51E21 (51A35)

Korczak, Wiesława (*with* Trajdos, Marianna) ★ Wektory, pochodne, całki. (Polish. Polish summary) [Vectors, derivatives, integrals] Second edition. *Wydawnictwo Naukowe PWN, Warsaw*, 1998. 77 *pp.* *ISBN* 83-01-12440-7 26–01

Korczyński, Waldemar On a model of concurrent systems. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 809–828. (Rüdiger Valk) **99c:68087** 68Q10 (68Q90)

— Petri nets and power graphs—a comparison of two concurrence-models. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 179–192. (Summary) **99b:68138** 68Q90 (05C85, 68Q10)

Korda, M. (*with* Crochemore, Maxime; Iliopoulos, C. S.) Two-dimensional prefix string matching and covering on square matrices. (English summary) *Algorithmica* **20** (1998), *no.* 4, 353–373. (Ding Zhu Du) **99f:68078** 68Q20 (68R15)

Kordecki, Wojciech Random matroids. *Dissertationes Math.* (*Rozprawy Mat.*) **367** (1997), 56 *pp.* (From the introduction) **99d:05017** 05B35 (60C05)

Kordonis, I.-G. E. (*with* Niyianni, N. T.; Philos, Ch. G.) On the behavior of the solutions of scalar first order linear autonomous neutral delay differential equations. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 6, 454–464. (Elena Litsyn) **99i:34099** 34K15 (34K20, 34K40)

— (*with* Philos, Ch. G.) Oscillation and nonoscillation in linear delay or advanced difference equations. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 7, 11–21. (E. Thandapani) **99d:39007** 39A10

— (*with* Philos, Ch. G.) Oscillation and nonoscillation in delay or advanced differential equations and in integrodifferential equations. (English summary) *Georgian Math. J.* **6** (1999), *no.* 3, 263–284. (István Győri) **99m:34160** 34K15 (45J05, 45M99)

Kordonskiĭ, V. È. (*with* Tevelëv, E. A.) Unstable linear actions of connected semisimple complex algebraic groups. (Russian. Russian summary) *Mat. Sb.* **186** (1995), *no.* 1, 107–118; *translation in Sb. Math.* **186** (1995), *no.* 1, 107–119. (Ivan V. Arzhantsev) **99h:14048** 14L30

Kordos, Marek *see* **Górnicki, Jarosław**

Kordula, Vladimír The essential Apostol spectrum and finite-dimensional perturbations. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 1, 105–109. (F.-H. Vasilescu) **99f:47004** 47A10 (47A55)

— On the defect spectrum of an extension of a Banach space operator. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 609–616. (W. Żelazko) **99j:47007** 47A10

Kordzakhiya, I. I. (*with* Avaliani, D. I.) Turbulence research with fractal structures. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 203–206 (1995). 76F05

Kordzaya, K. Multiplicative elements in Morava K-theory of BZ/p. *Math. J. Okayama Univ.* **38** (1996), 145–154 (1998). (Björn Schuster) **99i:55003** 55N20 (57T05)

Korec, Ivan Real-time generation of primes by a one-dimensional cellular automaton with 11 states. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 358–367, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68108** 68Q80 (11Y16)

— Theories of generalized Pascal triangles. Logic Colloquium '94 (Clermont-Ferrand). *Ann. Pure Appl. Logic* **89** (1997), *no.* 1, 45–52. (Ricardo Bianconi) **99c:11153** 11U05 (03B25, 03D35, 11U09)

— Undecidability and uniform definability in classes of structures related to Pascal triangles modulo n. (English summary) Number theory (Liptovský Ján, 1995). *Tatra Mt. Math. Publ.* **11** (1997), 129–146. (M. Yasuhara) **99a:03008** 03B10 (03B25, 03C62, 03D35, 11B65, 11U05)

— Elementary definability from Pascal's triangle modulo p and the set of eth powers. (English summary) *Number theory (Eger, 1996)*, 295–309, *de Gruyter, Berlin*, 1998. (Ricardo Bianconi) **99e:11152** 11U05 (03B25, 03C57, 03C62, 03F30, 11B65, 11U09)

— (*with* Bès, Alexis) Definability within structures related to Pascal's triangle modulo an integer. (English summary) *Fund. Math.* **156** (1998), *no.* 2, 111–129. (Bai Ying Shen) **99j:03007** 03B25 (03C62, 03D35, 03F30, 11B65, 11U05)

Koren, Barry (*with* Everaars, Kees) Using coordination to parallelize sparse-grid methods for 3-D CFD problems. (English summary) *Parallel Comput.* **24** (1998), *no.* 7, 1081–1106. (Summary) **99d:65273** 65M55 (65Y05)

— (*with* Michielsen, Paul F. M.; Kars, Jan-Willem; Wesseling, Pieter) A computational method for high-frequency oleodynamics: application to hydraulic-shock-absorber designs. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 283–301. 76M25 (65M20, 76N10)

— (*with* Venis, A. C. J.) A fed back level-set method for moving material-void interfaces. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 131–152. (Summary) **99j:76092** 76M25 (65M60, 76T05)

Koren, Gilad (*with* Amir, Amihood; Dar, Emanuel) The power of migration in multi-processor scheduling of real-time systems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 226–235, *ACM, New York*, 1998. (*see* **99d:68011**) 68M20

Korenblit, S. E. (*with* Vall, A. N.; Leviant, V. M.; Tanaev, A. B.) A dynamical mapping method in nonrelativistic models of quantum field theory. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 492–502. (Lech Jakóbczyk) **99b:81146** 81T10

Korenevskiĭ, D. G. (*with* Kaĭzer, K.) Algebraic coefficient conditions for the absolute stability of linear difference systems with continuous time and delay. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 22–27; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 17–21. (Summary) **99b:39016** 39A11 (34K20)

Korenjak-Černe, Simona (*with* Batagelj, Vladimir) Clustering large datasets of mixed units. (English summary) *Advances in data science and classification (Rome, 1998)*, 43–48, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Korenskiĭ, S. A. (*with* Vatul'yan, A. O.) The linearization method in geometric inverse problems of the theory of elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 4, 639–646; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 4, 619–625. (D. G. Natroshvili) **99e:73033** 73C02

Korepin, Vladimir E. (*with* It·s, A. R.) Probability of phase separation and two point temperature correlation functions for the Bose gas with delta interaction. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 174–181, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B26 (82B10)

— (*with* Kojima, Takeo; Slavnov, Nikita) Determinant representation for dynamical correlation functions of the quantum nonlinear Schrödinger equation. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 3, 657–689. (Mayumi Ohmiya) **99a:82058** 82C10 (35Q55)

— (*with* Kojima, Takeo; Slavnov, Nikita) Completely integrable equation for the quantum correlation function of nonlinear Schrödinger equation. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 709–728. (Konstantin G. Selivanov) **99a:81100** 81T10 (45K05, 58F07, 81U40)

— (*with* Slavnov, Nikita) The Riemann-Hilbert problem associated with the quantum nonlinear Schrödinger equation. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8241–8255. (Tuncay Aktosun) **99f:81041** 81Q05 (35Q55)

— (*with* Slavnov, Nikita) Normal ordering in the theory of correlation functions of exactly solvable models. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8623–8633. (M. Yu. Rasulova) **99j:82024** 82B23 (82C23)

— (*with* Slavnov, Nikita) Time and temperature dependent correlation functions of 1D models of quantum statistical mechanics. (English summary) *Phys. Lett. A* **236** (1997), *no.* 3, 201–205. (Nicolae Angelescu) **99f:82009** 82B10

— (*with* Slavnov, Nikita) The new identity for the scattering matrix of exactly solvable models. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 555–557. (Tuncay Aktosun) **99j:82025** 82B23 (82B20)

— (*with* EßIer, Fabian H. L.; Latrémolière, F. T.) Temperature corrections to conformal field theory. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 559–563. (Summary) **99i:82006** 82B10 (81T40)

— (*with* Oota, Takeshi) A determinant representation for a correlation function of the scaling Lee-Yang model. (English summary) *J. Phys. A* **31** (1998), *no.* 19, *L*371–*L*380. (Summary) **99b:82010** 82B05

— (*with* Slavnov, Nikita) The determinant representation for quantum correlation functions of the sinh-Gordon model. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9283–9295. (Summary) **99h:81130** 81T10

— *see also* **Exactly solvable models of strongly correlated electrons, 99a:82003**

Koretz, Jane F. (*with* Cook, Christopher A.) The geometric theory of accommodation and presbyopia: new results and new insights. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 1, 37–53. 92C10 (92C30, 92C50)

— (*with* Handelman, George H.) An analytic model of human visual accommodation. *Nova J. Math. Game Theory Algebra* **5** (1996), *no.* 1, 55–76. 92C10 (92C30, 92J10)

Korevaar, J. (*with* Bos, L. P.) Characterization of algebraic curves by Chebyshev quadrature. (English summary) *J. Anal. Math.* **75** (1998), 233–246. (Wiesław Pleśniak) **99k:41049** 41A55 (32F05)

Korevaar, Nicholas J. (*with* Schoen, Richard M.) Global existence theorems for harmonic maps to non-locally compact spaces. *Comm. Anal. Geom.* **5** (1997), *no.* 2, 333–387. (Raul Quiroga) **99b:58061** 58E20

Korey, Michael Brian Ideal weights: asymptotically optimal versions of doubling, absolute continuity, and bounded mean oscillation. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 4-5, 491–519. (Eduard Belinskii) **99m:42032** 42B25 (26B35)

Korf, Richard E. A complete anytime algorithm for number partitioning. (English summary) *Artificial Intelligence* **106** (1998), *no.* 2, 181–203. 68T20 (68Q20, 68Q25, 90C27)

Korff, Leila Ribeiro (*with* Ehrig, Hartmut; Heckel, Reiko; Korff, Martin; Löwe, Michael; Wagner, Annika; Corradini, Andrea) Algebraic approaches to graph transformation. II. Single pushout approach and comparison with double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 247–312, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Korff, Martin) True concurrency = interleaving concurrency + weak conflict. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q10

— Compatibility between syntax and semantics of graph grammars. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 35 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (Summary) **99j:68072** 68Q50 (68R10)

Korff, Martin (*with* Ehrig, Hartmut; Heckel, Reiko; Löwe, Michael; Korff, Leila Ribeiro; Wagner, Annika; Corradini, Andrea) Algebraic approaches to graph transformation. II. Single pushout approach and comparison with double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 247–312, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Korff, Leila Ribeiro) True concurrency = interleaving concurrency + weak conflict. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 10 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q10

Korfhage, Robert Roy *see* **Obituary: Korfhage, Robert Roy**

Korhonen, Pekka Reference direction approach to multiple objective linear programming: historical overview. (English summary) *Essays in decision making*, 74–92, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90C29 (90A05)

— (*with* Arbel, Ami) Generating interior search directions in multiple objective linear programming problems using aspiration levels. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 146–155, *Springer, Berlin*, 1997. (*see* **99d:90006**) 90C29 (90C05)

Korkmaz, Belgin A curvature property of complex contact metric structures. *Kyungpook Math. J.* **38** (1998), *no.* 2, 473–488. (David Blair) **99m:53057** 53C15 (53C55, 53C56)

Korkmaz, Mustafa First homology group of mapping class groups of nonorientable surfaces. *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 3, 487–499. (D. R. J. Chillingworth) **99i:57033** 57N05 (20F38)

Korlyukov, A. V. Representation of a five-multiple commutator as a product of four powers. (Russian. Russian summary) *Problems in algebra, No. 6 (Russian)*, 89–92, 104, "*Universitet-skoe*", *Minsk*, 1993. (*see* **99g:20002**) 20F12

Korman, Philip A global solution curve for a class of semilinear equations. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 119–127 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:35051** 35J60 (34B15, 47H15, 58E05)

— The global solution set for a class of semilinear problems. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 101–120. (Jacobo Pejsachowicz) **99h:34031** 34B15 (47H15, 47N20, 58E07)

— Uniqueness and exact multiplicity results for two classes of semilinear problems. *Nonlinear Anal.* **31** (1998), *no.* 7, 849–865. (Vasiliy I. Sedenko) **99e:35064** 35J65 (34B15, 35B05)

— (*with* Li, Yi²) On the exactness of an S-shaped bifurcation curve. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1011–1020. (Tetsutaro Shibata) **99f:34027** 34B15 (34C23)

Kormos, J. (*with* Pap, G.) Nearly unstable multidimensional AR processes. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 1–7. (M. Arató) **99g:62139** 62M10 (60G15)

Korn, Carsten (*with* Häussler-Combe, U.) An adaptive approach with the element-free-Galerkin method. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 203–222. (Summary) **99g:73113** 73V20 (65N30)

Korn, Edward L. (*with* Baumrind, Sheldon) Clinician preferences and the estimation of causal treatment differences. (English summary) With comments and a rejoinder by the authors. *Statist. Sci.* **13** (1998), *no.* 3, 209–235. 62P10

— (*with* Graubard, Barry I.) Variance estimation for superpopulation parameters. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1131–1151. 62D05

Korn, Ralf (*with* Kreer, Markus; Lenssen, Mark) Pricing of European options when the underlying stock price follows a linear birth-death process. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 647–662. (Summary) **99d:90019** 90A09 (60G44, 60G55)

— Value preserving portfolio strategies and the minimal martingale measures. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 169–179. (Summary) **99c:90014** 90A08 (60G99)

— (*with* Trautmann, Siegfried) Optimal control of option portfolios and applications. (English and German summaries) *OR Spektrum* **21** (1999), *no.* 1-2, 123–146. (Summary) **99j:90013** 90A09

Kornacki, Andrzej Stability of quadratically and linearly sufficient statistics in general Gauss-Markov model. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 51–56. (Summary) **99c:62183** 62J05

Korneenko, Nikolai *see* **Mel'nikov, O. I. et al., 99c:05001**

Korneev, V. A. Numerical construction of a generalized solution of the two-dimensional Hamilton-Jacobi equation. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 99–106. (Summary) **99m:49044** 49L25 (65K10)

Korneichuk, N. P. On complexity of approximation problems. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 251–273. (Stefan Heinrich) **99j:65257** 65Y20 (41A46)

Körner, J. G. (*with* Groote, S.; Pivovarov, A. A.) On the evaluation of sunset-type Feynman diagrams. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 515–547. (Summary) **99j:81125** 81T18

Körner, János (*with* Hollmann, Henk D. L.; Litsyn, Simon) Tiling Hamming space with few spheres. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 388–393. (Harold N. Ward) **99a:05025** 05B40 (51E23)

— On clique growth in products of directed graphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 25–36. (Pranava K. Jha) **99c:05081** 05C20 (05C90, 94A17)

— (*with* Orlitsky, Alon) Zero-error information theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2207–2229. (Summary) **99h:94034** 94A29 (94A15, 94A40)

Körner, Thomas William On the representation of functions by trigonometric series. (English summary) 100 ans après Th.-J. Stieltjes. *Ann. Fac. Sci. Toulouse Math.* (6) **1996**, *Special issue*, 77–119. (C. McGehee) **99b:42006** 42A20 (42A63)

— Butterfly hunting and the symmetry of mixed partial derivatives. *Amer. Math. Monthly* **105** (1998), *no.* 8, 756–758. 26B05

Kornerup, Peter (*with* Bajard, Jean-Claude; Didier, Laurent-Stéphane) An RNS Montgomery modular multiplication algorithm. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 766–776. (Summary) **99c:94023** 94A60

Kornev, K. (*with* Cummings, Linda Jane) Evolution of flat crystallisation front in forced hydrodynamic flow—some explicit solutions. (English summary) *Phys. D* **127** (1999), *no.* 1-2, 33–47. (Summary) **99k:80006** 80A22 (76M25, 76S05)

— (*with* Alimov, M. M.; Mukhamadullina, G.) Hysteretic effects in the problems of artificial freezing. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 387–410 (*electronic*). (Summary) **99g:80006** 80A22 (76S05, 80A20)

Kornev, N. V. (*with* Basin, M. A.) A way to split the Navier-Stokes equations in the context of the vortex method. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 4, 313–319. (Summary) **99a:76114** 76M25 (76D05)

— (*with* Basin, M. A.) Berücksichtigung der Reibung in der Wirbelmethode. (English and German summaries) [Consideration of viscosity of the vortex method] *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 5, 335–344. (Summary) **99b:76059** 76M25

Kornfeld, Isaac (*with* Krygin, Andrei) On the cohomology equivalence classes for non-singular mappings. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1385–1397. (Douglas P. Dokken) **99m:28037** 28D05 (58F11)

Kornfilt, J. (*with* Arik, Metin; Yıldız, Abdullah) Random sets, q-distributions and quantum groups. (English summary) *Phys. Lett. A* **235** (1997), *no.* 4, 318–322. (Pavel Šťovíček) **99a:81070** 81R50 (17B37, 81S99)

Kornienko, A. A. On the Jackson theorem in the space with convergence in measure. (English summary) *East J. Approx.* **4** (1998), *no.* 1, 15–24. (Inna Boricheva) **99i:42005** 42A10 (41A17, 41A50)

Kornienko, A. G. (*with* Barinova, E. G.; Frenkin, A. R.; Chizhov, G. A.) Singular solutions of nonlinear equations of Schrödinger type of a special form. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 1, 12–14. (Summary) **99b:35190** 35Q55

Kornilina, M. A. (*with* Volosevich, P. P.; Levanov, E. I.; Èdzhibia, G. V.) Self-similar and numerical solutions of equations of magnetohydrodynamics taking into account nonlinear bulk sources and sinks. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 2, 25–41. 76N15 (76W05)

Kornoukhov, A. K. (*with* Volkov, E. A.; Yakovleva, E. A.) Experimental investigation of the block method for solving the Laplace equation on polygons. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1544–1552. 65N30 (65N06)

Kornyak, Vladimir V. (*with* Gerdt, Vladimir P.) An implementation in C of an algorithm for construction of finitely presented Lie superalgebras. (English summary) *Comput. Sci. J. Moldova* **4** (1996), *no.* 3, 399–427. (Aleksandr A. Mikhalev) **99m:17001** 17–04 (16W55, 17B01, 68Q40)

— (*with* Gerdt, Vladimir P.) An algorithm for analysis of the structure of finitely presented Lie algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 217–228. (Hartmut Schlosser) **99e:17003** 17B01 (17–08, 17B65)

— (*with* Gerdt, Vladimir P.) A program for constructing a complete system of relations, basis elements and tables of commutators of finitely presented Lie algebras and superalgebras. (Russian. Russian summary) *Programmirovanie* **1997**, *no.* 3, 58–71; *translation in Program. Comput. Software* **23** (1997), *no.* 3, 164–172. (Andrej A. Zolotykh) **99g:17001** 17–04 (17B01)

Korobeĭnik, Yu. F. Countable definability of a family of domains that contain a connected set. Applications to spaces of analytic germs. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 3, 304–306. (Sergey V. Popënov) **99i:32016** 32C99 (46E10, 46J15)

— Surjective operators on connected sets. (English summary) Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 91–94. (Summary) **99f:46029** 46E10 (30D15, 47B38)

— On a relationship between the maximum modulus and Taylor coefficients of entire functions of several complex variables. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 238–258; *translation in Math. Notes* **62** (1997), *no.* 1-2, 198–215 (1998). (Alexander I. Kheyfits) **99j:32001** 32A15 (30D15, 32A22, 32A30)

— On the surjectivity of a convolution operator in spaces of analytic functions. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1308–1318, *ii*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1137–1145. (Sergey Georgievich Merzlyakov) **99f:30072** 30H05 (47B38)

— Letter to the editors: "Representing systems of exponentials and the Cauchy problem for partial differential equations with constant coefficients" [Izv. Ross. Akad. Nauk Ser. Mat. **61** (1997), no. 3, 91–132; MR 98h:35032]. (Russian) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 224; *translation in Izv. Math.* **62** (1998), *no.* 3, 649. (Nicolai N. Tarkhanov) **99h:35024** 35E15 (35A20)

Korobitsyna, Zh. L. (*with* Klimentenok, U. A.; Chernykh, G. G.) On the numerical realization of the Loĭtsyanskiĭ-Millionshchikov asymptotic solution. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 1, 69–80. 65M99

— (*with* Chernykh, G. G.; Kostomakha, V. A.) Numerical simulation of isotropic turbulence dynamics. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 173–182. (*see* **99e:76001**) 76M20 (76F05)

Korobkin, A. A. ★ Соударение жидких и твердых масс. (Russian. Russian summary) [Impact of liquid and solid masses] Edited and with a preface by V. M. Teshukov. *Izdatel'stvo Rossiĭskoĭ Akademii Nauk, Sibirskoe Otdelenie, Novosibirsk*, 1997. 200 *pp. ISBN* 5-7692-0023-5 (Natalya A. Vladimirova) **99k:76127** 76N99 (76B10)

— (*with* Khabakhpasheva, T. I.) Approach of a shallow rigid body to the interface of two media. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 49–60; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 6, 857–867 (1998). (From the text) **99b:76007** 76B10

Korobkin, V. V. (*with* Romanovskiĭ, M. Yu.) Laser thermonuclear fusion with force confinement of hot plasma. (Russian. English and Russian summaries) *Interaction of superhigh-intensity laser radiation with a plasma* (*Russian*), 3–33, 180, *Trudy IOFAN*, 50, *Fizmatlit "Nauka", Moscow*, 1995. (*see* **99a:82094**) 82D10 (76X05)

— *see also* **Interaction of superhigh-intensity laser radiation with a plasma**, **99a:82094**

Korobko, D. (*with* Uchaikin, V. V.) On the existence of a nonzero mass density for a fractal set of independent pointlike masses with a power-type distribution. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 4, 4097–4103. (Summary) **99k:85009** 85A40

Korobov, N. M. On finite continued fractions. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 167–168; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1302–1304. (Aleksander Grytczuk) **99a:11011** 11A55

Korogodskiĭ, L. I. (*with* Soĭbel'man, Ya. S.) ★ Algebras of functions on quantum groups. Part I. (English summary) Mathematical Surveys and Monographs, 56. *American Mathematical Society, Providence, RI*, 1998. $x+150$ *pp. ISBN* 0-8218-0336-0 (Władysław Marcinek) **99a:17022** 17B37 (16W30, 58F05, 81R50)

Korol, Ivan On the factorisation method for solving boundary value problems with variable parameters. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1995), *no.* 1, 41–47. 65M70

Korolëv, G. L. Flow separation and nonuniqueness of the solution of the equations of a turbulent boundary layer. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 1008–1016; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 965–972. (Summary) **99f:76048** 76D15 (76D10, 76F99)

— On a method for constructing solutions of equations of a periodic boundary layer. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2086–2095; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 2003–2011. (Summary) **99i:76040** 76D10 (76M20)

Korolev, V. G. (*with* Eleonskiĭ, V. M.; Kulagin, N. E.) On chaotic dynamics in "pseudobilliard" Hamiltonian systems with two degrees of freedom. (English summary) *Chaos* **7** (1997), *no.* 4, 710–730. (Roberto Markarian) **99c:58105** 58F13 (58F05)

— (*with* Eleonskiĭ, V. M.; Kulagin, N. E.) Pseudo-billiards. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 223–251. (Nikolai Chernov) **99a:58065** 58F05 (70H05, 70K20, 70K50)

— (*with* Eleonskiĭ, V. M.; Kulagin, N. E.) On Hamiltonian dynamical systems whose kinetic energy depends on the absolute magnitudes of the momenta. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 55–63. (Summary) **99d:58061** 58F05 (70H05)

— Isospectral problem: interplay between Liouville equations, Darboux transforms and McKean-Trubowitz flows. (English summary) *J. Phys. A* **31** (1998), *no.* 46, 9297–9307. (Tuncay Aktosun) **99j:58156** 58F19 (34L40)

Korolev, V. Yu. (*with* Bening, V. E.) Asymptotic behavior of generalized non-ordinary Cox processes. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 111–129, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60G55

— (*with* Shorgin, S. Ya.) On the absolute constant in the remainder term estimate in the central limit theorem for Poisson random sums. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 305–308, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60F05

— On the convergence of distributions of random sums of independent random variables to stable laws. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 818–820. (Zdzisław Rychlik) **99d:60024** 60F05

— (*with* Kruglov, V. M.) A criterion of convergence of nonrandomly centered random sums of independent identically distributed random variables. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1495–1506. (Summary) **99e:60062** 60F05 (60G50)

— (*with* Zhukov, Yu. V.) On the rate of convergence in the local limit theorem for densities. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2931–2941. (Makoto Maejima) **99j:60032** 60F05

— (*with* Bening, V. E.) Asymptotic behavior of compound nonordinary Cox processes with nonzero means. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part I (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 3, 3836–3856. (Jia Gang Wang) **99m:60075** 60G55 (60F05, 60G50)

— (*with* Bening, V. E.) On approximations to generalized Cox processes. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 2, 247–270. (Jia Gang Wang) **99m:60074** 60G55 (60F05, 60G50)

Korolyuk, Vladimir S. (*with* Borovskikh, Yu. V.) ★ Martingale approximation. *VSP, Utrecht*, 1997. *xii*+322 *pp. ISBN* 90-6764-271-1 (Pawel Hitczenko) **99f:60001** 60–01 (60G44)

— Stochastic models of systems in reliability problems. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 127–141, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K10

— (*with* Derzko, Nicolas A.; Korolyuk, Vladimir V.) Markovian repairman problems. Classification and approximation. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 143–151, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K10

Korolyuk, Vladimir V. (*with* Korolyuk, Vladimir S.; Derzko, Nicolas A.) Markovian repairman problems. Classification and approximation. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 143–151, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60K10

Koroński, Jan (*with* Barański, Feliks) Some remarks on Green functions and effective constructions of solutions to limit problems for differential equations. (Polish. English, German and Polish summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No.* 76 (1996), 9–22. 35A08

— The centenary of Professor S. Zaremba's circle of student mathematicians at Jagiellonian University. (Polish. English, German and Polish summaries) *Zeszyty Nauk. Politech. Śląsk. Mat.-Fiz. No.* 76 (1996), 93–121. (Krzysztof Ciesielski) **99k:01083** 01A74 (01A55, 01A60)

Korostil, A. M. (*with* Korostil, I. A.) Three-gap elliptic solutions of the KdV equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 353–358, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58F07 (35Q53)

— (*with* Belokolos, E. D.; Ènol′skiĭ, V. Z.) Two-phase nonlinear waves in the long Josephson junction. (English summary) *Phys. D* **116** (1998), *no.* 1-2, 253–269. (Summary) **99a:35247** 35Q60 (78A55, 82D55)

Korostil, I. A. (*with* Korostil, A. M.) Three-gap elliptic solutions of the KdV equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 353–358, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58F07 (35Q53)

Korotaeva, L. N. (*with* Trukhin, M. P.; Chentsov, A. G.) On the routing of connections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 12, 175–192. (Ignacy Kaliszewski) **99k:90192** 90C39 (90B12, 90C35)

— (*with* Zobnin, B. B.; Chentsov, A. G.) On a route optimization problem and its applications. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 70–87; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 346–361 (1998). (Summary) **99c:90152** 90C35 (90B10)

Korotkiĭ, A. I. On the reconstruction of the location and intensity of sources of disturbances. (Russian. English and Russian summaries) *Proceedings of the Institute of Mathematics and Mechanics, Vol.* 4 (*Russian*), 217–226, 376, *Ross. Akad. Nauk Ural. Otdel., Inst. Mat. Mekh., Ekaterinburg*, 1996. (Nassar H. S. Haidar) **99e:65187** 65R30 (35R30, 93C20)

— Reconstruction of a control set from measurements of the states of an evolution system. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 440–446; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 427–432. (Vyacheslav I. Maksimov) **99f:93038** 93B30 (93C25)

— Reconstruction of the controls and parameters of dynamical systems under incomplete information. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 11, 47–55. (Yuri V. Zaika) **99m:93022** 93B30 (93C41)

— (*with* Tsepelev, I. A.) On an inverse dynamic problem for Goursat-Darboux system. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 2, 19 *pp.* (*electronic*). (Guan Quan Zhang) **99j:35232** 35R30 (65M30)

— Reconstruction of controls under conditions of incomplete information about the dynamics of a system. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 566–575; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 529–536. (Summary) **99m:93023** 93B30 (49N50)

— (*with* Ismail-zade, A. T.; Naĭmark, B. M.; Suetov, A. P.; Tsepelev, I. A.) Realization of a three-dimensional hydrodynamic model of the evolution of sedimentary basins. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1190–1203; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1138–1151. (Summary) **99f:86008** 86A60 (76D05, 86–08)

Korotkin, D. A. (*with* Nicolai, Hermann; Samtleben, H.) Integrable classical and quantum gravity. *Quantum fields and quantum space time* (*Cargèse*, 1996), 203–243, *NATO Adv. Sci. Inst. Ser. B Phys.*, 364, *Plenum, New York*, 1997. (Guillermo A. Mena Marugán) **99b:83038** 83C45 (58F07, 83E50)

— (*with* Samtleben, H.) Quantization of coset space σ-models coupled to two-dimensional gravity. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 411–457. (Martin Schlichenmaier) **99e:81224** 81T40 (58D27)

— (*with* Kitaev, A. V.) On solutions of the Schlesinger equations in terms of Θ-functions. *Internat. Math. Res. Notices* **1998**, *no.* 17, 877–905. (Emma Previato) **99j:14032** 14H42 (32G34, 33E05, 34A20, 58F07)

— (*with* Babich, M. V.) Self-dual SU(2)-invariant Einstein metrics and modular dependence of theta functions. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 4, 323–337. (Vasily A. Chernecky) **99m:83040** 83C20 (11F27, 53C25)

— (*with* Samtleben, H.) Yangian symmetry in integrable quantum gravity. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 657–689. (Marco Cavaglià) **99g:83038** 83C45 (81R10, 83C47)

Korotkov, V. B. A nuclearity criterion for linear operators. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 3, 560–564, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 3, 484–487. (A. Böttcher) **99e:47067** 47G10 (47B10)

— On the nonintegrality of Fredholm resolvents of some integral operators. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 905–907, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 781–783. (Summary) **99f:47062** 47G10 (45P05, 46E30)

Korotov, Sergey ★ Variational crimes and equilibrium finite elements in three-dimensional space. Dissertation, University of Jyväskylä, Jyväskylä, 1997. Report, 74. *University of Jyväskylä, Department of Mathematics, Jyväskylä*, 1997. 111 *pp. ISBN* 951-39-0075-4 (Eun-Jae Park) **99b:65144** 65N30 (65–02, 65M60)

— (*with* Křížek, Michal; Neittaanmäki, Pekka) On the existence of strongly regular families of triangulations for domains with a piecewise smooth boundary. (English summary) *Appl. Math.* **44** (1999), *no.* 1, 33–42. (P. Rochus) **99m:65213** 65N30 (65N50, 65Y25)

Korotyaev, E. L. Estimates of periodic potentials in terms of gap lengths. (English summary) *Comm. Math. Phys.* **197** (1998), *no.* 3, 521–526. (Summary) **99h:34125** 34L40 (47E05)

Korovin, S. K. (*with* Bobylev, N. A.; Skalyga, V. I.) A homotopic method for studying multicriterial problems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 10, 168–178; *translation in Automat. Remote Control* **57** (1996), *no.* 10, *part* 2, 1513–1521 (1997). (A. Göpfert) **99d:90099** 90C29 (90C31)

— (*with* Arutyunov, A. V.; Bobylev, N. A.) One remark to Ekeland's variational principle. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 267–271. (Pando Georgiev) **99a:49022** 49J52 (49J50, 49K10)

— (*with* Il′in, A. V.; Fomichev, V. V.) Algorithms for the inversion of linear scalar dynamical systems: the controlled model method. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 329–339, 429; *translation in Differential Equations* **33** (1997), *no.* 3, 326–336. (Ülle Kotta) **99c:93043** 93B40 (93B17)

— (*with* Emel′yanov, S. V.; Bobylev, N. A.) On the robustness of stable dynamical systems. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 449–451. (János Karsai) **99e:34067** 34D20 (34D30)

— (*with* Bobylev, N. A.; Emel′yanov, S. V.) Estimates for perturbations of stable matrices. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 15–24; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 467–475. (Introduction) **99j:93074** 93D09 (15A42, 34D10)

— (*with* Bobylev, N. A.) Duality theorems in the theory of nonlinear oscillations. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 1–23. (Jean Mawhin) **99g:34088** 34C25 (34B15, 47H11, 47N20)

— (*with* Bobylev, N. A.; Kim, Jong Kyu; Piskarëv, S. I.) Semidiscrete approximations of semilinear periodic problems in Banach spaces. *Nonlinear Anal.* **33** (1998), *no.* 5, 473–482. (Kiyoko Furuya) **99f:34090** 34G20 (34A45, 47D06, 65J15, 65L99)

Korpalo, Olga *see* **Analytical philosophy and epistomology in Ukraine, 99k:03002**

Korsch, H. Jürgen (*with* Mirbach, B.) A generalized entropy measuring quantum localization. (English summary) *Ann. Physics* **265** (1998), *no.* 1, 80–97. (Summary) **99m:81065** 81Q50 (81P99)

— (*with* Thylwe, Karl-Erik) The "Ermakov-Lewis" invariants for coupled linear oscillators. (English summary) *J. Phys. A* **31** (1998), *no.* 14, *L*279–*L*285. (P. G. L. Leach) **99g:34029** 34A30 (34C20, 70J05)

— (*with* Glück, M.; Kolovskiĭ, A. R.) A truncated shift-operator technique for the calculation of resonances in Stark systems. (English summary) *J. Phys. A* **32** (1999), *no.* 4, *L*49–*L*55. 81Q05

Korsgaard, Inge Riis (*with* Andersen, Anders Holst) The additive genetic gamma frailty model. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 255–269. (Ramesh C. Gupta) **99i:62249** 62P10

Korsh, James F. (*with* LaFollette, Paul) Loopless generation of Gray codes for k-ary trees. (English summary) *Inform. Process. Lett.* **70** (1999), *no.* 1, 7–11. 68R05 (05C05)

Korshunov, A. D. On the asymptotics of the number of binary words with a given length of a maximal series. I. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **4** (1997), *no.* 4, 13–46, 115. (Serguei Yu. Novak) **99k:60016** 60C05 (05A16)

Korshunov, D. A. (*with* Borovkov, A. A.) Ergodicity in a sense of weak convergence, equilibrium-type identities and large deviations for Markov chains. *Probability theory and mathematical statistics* (*Vilnius*, 1993), 89–98, *TEV, Vilnius*, 1994. (*see* **99e:60004**) 60J05 (60F10)

— Tightness and continuity of a family of invariant measures of Markov chains depending on a parameter. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 832–850, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 730–746. (M. Iosifescu) **99g:60110** 60J05 (60B10)

Korsunskiĭ, S. V. Nonlinear waves propagation in dispersive systems with coupled modes. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 300–306, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 35Q53

— Long waves on a thin layer of conducting fluid flowing down an inclined plane in an electromagnetic field. (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 2, 295–313. (Summary) **99m:76122** 76W05 (76D10, 76D33, 76E25)

Korsunsky, Alexander M. Gauss-Chebyshev quadrature formulae for strongly singular integrals. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 461–472. (Summary) **99d:65080** 65D32

Korsunsky, S. *see* **Korsunskiĭ, S. V.**

Korsunsky, Sergei V. *see* **Korsunskiĭ, S. V.**

Kort, Peter M. (*with* Feichtinger, Gustav; Hartl, Richard F.; Haunschmied, Josef L.) Optimal enforcement policies (crackdowns) on an illicit drug market. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 169–184. 90A60 (49K15)

— Optimal R&D investments of the firm. (English and German summaries) *OR Spektrum* **20** (1998), *no.* 3, 155–164. 90A11 (90C90)

Kortanek, K. O. (*with* Moulin, Pierre) Semi-infinite programming in orthogonal wavelet filter design. (English summary) *Semi-infinite programming*, 323–360, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99b:90141**) 94A12 (90C34)

Kortelainen, Juha On the system of word equations $x_0 u_1^{i} x_1 u_2^{i} x_2 \cdots u_m^{i} x_m = y_0 v_1^{i} y_1 v_2^{i} y_2 \cdots v_n^{i} y_n$ $(i = 0, 1, 2, \cdots)$ in a free monoid. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 43–57. (Summary) **99k:68094** 68Q45 (20M05, 68R15)

— Remarks about commutative context-free languages. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 125–129. (Erkki Mäkinen) **99a:68110** 68Q45

Körtesi, Péter About some separation axioms in semitopological inverse semigroups. (English summary) *Ricerche Mat.* **44** (1995), *no.* 1, 11–17. (Franz Kinzl) **99b:22003** 22A15 (20M18, 54A20, 54F05, 54H11)

Kortezov, I. Spaces with finite separation index. *Questions Answers Gen. Topology* **16** (1998), *no.* 2, 161–164. 54A25 (54D99)

Korth, Henry F. (*with* Rastogi, Rajeev; Mehrotra, Sharad; Breitbart, Yuri; Silberschatz, Avi) On correctness of nonserializable executions. (English summary) *J. Comput. System Sci.* **56** (1998), *no.* 1, 68–82. (Armin Cremers) **99c:68074** 68P15 (68Q10)

Kortright, M. Eduardo (*with* Borie, Richard B.) Applying recursively decomposable graph techniques to non-graph problems. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 11–34. (Summary) **99k:68141** 68R10 (05C85)

— (*with* Gupta, Arobinda; Borie, Richard B.) Fast parallel algorithms for the balanced decomposition of series-parallel graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 193–218. (Summary) **99k:68142** 68R10 (05C85)

Kortsarts, Y. (*with* Kliakhandler, I.; Shtilman, L.; Sivashinsky, G. I.) Effects due to shear flow on the diffusive-thermal instability of premixed gas flames. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 401–412. (Summary) **99d:80010** 80A25

Kortsarz, Guy On the hardness of approximating spanners. (English summary) *Approximation algorithms for combinatorial optimization* (*Aalborg*, 1998), 135–146, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (Summary) **99k:68143** 68R10 (05C85, 68Q25)

— (*with* Bar-Noy, Amotz) Minimum color sum of bipartite graphs. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 339–365. (Gerard J. Chang) **99f:05105** 05C85 (05C15, 68Q25)

— (*with* Peleg, David) Generating low-degree 2-spanners. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1438–1456 (*electronic*). (Ding Zhu Du) **99f:90167** 90C35 (68Q25, 68R10, 90B12)

Korupolu, Madhukar R. (*with* Ramachandran, Vijaya) Quasi-fully dynamic algorithms for two-connectivity, cycle equivalence and related problems. (English summary)

Algorithms—ESA '97 (Graz), 326–340, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68R10 (68Q25)
— (*with* Plaxton, C. Greg; Rajaraman, Rajmohan) Analysis of a local search heuristic for facility location problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 1–10, *ACM, New York*, 1998. (Summary) **99e:90055** 90B80 (68Q25)
de Korvin, Andre (*with* Deeba, Elias Y.; Koh, E. L.) On a fuzzy logistic difference equation. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 2, 149–156. (Summary) **99g:39006** 39A10
— (*with* Deeba, Elias Y.; Koh, E. L.) A fuzzy difference equation with an application. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 365–374. (Wolfgang Sander) **99b:39006** 39A10 (04A72)
— (*with* Kleyle, R.) A note on fuzzy conditional expectation. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1005–1017. (Summary) **99f:60007** 60A10 (28E10)
Koryashkina, L. S. Methods for the optimal partition of sets for some control problems with a quadratic functional. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 39–49, 153–154. 49N10 (65K05)
Koryukin, A. N. Simplest algebraic dependences of skew derivations of prime rings. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 4, 407–421, 478–479; *translation in Algebra and Logic* **36** (1997), *no.* 4, 236–244. (Andrzej Nowicki) **99b:16054** 16W25 (16N60)
Korzhik, Vladimir P. An infinite series of surfaces with known 1-chromatic number. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 1, 80–90. (O. V. Borodin) **99h:05028** 05C10 (05C15)
Korzun, A. I. (*with* Duda, E. V.; Minchenko, O. Yu.) On the local controllability of discrete systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 4, 462–469, 573; *translation in Differential Equations* **33** (1997), *no.* 4, 461–468. (È. G. Al'brekht) **99d:93003** 93B05 (49K24, 93C55)
Korzyuk, V. I. The method of energy inequalities and of averaging operators. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1996**, *no.* 3, 55–71, 81. (A. O. Oganesyan) **99c:35136** 35L20 (35A25, 47F05)
— A boundary value problem for a third-order Mangeron equation. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 12, 1683–1690, 1727; *translation in Differential Equations* **33** (1997), *no.* 12, 1686–1694 (1998). (Summary) **99i:35165** 35Q99
Kosadinov, S. *see* **Kostadinov, St. I.**
Kosaka, Iku (*with* Swan, Colby C.) A symmetry reduction method for continuum structural topology optimization. (English summary) *Comput. & Structures* **70** (1999), *no.* 1, 47–61. (Summary) **99k:73092** 73K40 (73K12)
Kosaka, Keiji (*with* More, Richard M.) Wave-front curvature in geometrical optics. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part B*, 6127–6134. (Summary) **99a:78005** 78A05 (78A60, 81Q20)
Kosaki, Hideki Automorphisms arising from composition of subfactors. *Operator algebras and quantum field theory (Rome, 1996)*, 236–248, *Internat. Press, Cambridge, MA*, 199?. (Yasuyuki Kawahigashi) **99b:46096** 46L40 (46L37)
— ★ Type III factors and index theory. Lecture Notes Series, 43. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *ii*+96 *pp.* (Carl Winsløw) **99k:46107** 46L35 (46L10, 46L37, 46L55)
— Arithmetic-geometric mean and related inequalities for operators. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 429–451. (Takayuki Furuta) **99g:47032** 47A63 (47A30)
— Characteristic matrix of the tensor product of operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 2, 357–372. (Jin-Chuan Hou) **99j:47025** 47A80
Kosakowska, Justyna (*with* Simson, Daniel) On Tits form and prinjective representations of posets of finite prinjective type. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1613–1623. (Hans-Joachim von Höhne) **99d:16013** 16G20 (16G60)
Kosarew, Siegmund Nonabelian duality on Stein spaces. (English summary) *Amer. J. Math.* **120** (1998), *no.* 3, 637–648. (Kunio Takijima) **99d:32015** 32E10 (32C37)
Koschorke, Ulrich Complex and real vector bundle monomorphisms. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 259–271. (Summary) **99j:55020** 55S35 (57R22, 57R90)
Kościelny, Czesław Computing in GF(2^m) using GAP. (English summary) *Appl. Math. Comput. Sci.* **7** (1997), *no.* 3, 677–688. (Summary) **99i:68069** 68Q40
— Computing in the composite GF(q^m) of characteristic 2 formed by means of an irreducible binomial. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 671–680. (Summary) **99i:94047** 94A60
Kościelski, Antoni (*with* Pacholski, Leszek) Makanin's algorithm is not primitive recursive. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 145–156. (John P. Helm) **99c:03065** 03D40 (03D15, 03D80, 20F10, 68Q40)
Köse, İ. Emre (*with* Nguyen, Thanh; Jabbari, Faryar) A new characterization for positive real and $*$-norm controllers. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 215–230. (Kang-Zhi Liu) **99g:93033** 93B50 (93B40, 93B51)
— (*with* Jabbari, Faryar; Schmitendorf, W. E.) A direct characterization of L_2-gain controllers for LPV systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1302–1307. 93B36 (93C60)
— (*with* Jabbari, Faryar) Control of LPV systems with partly measured parameters. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 658–663. 93B35 (93B51)
Köse, Ömer (*with* Mağden, Abdullah) On the curves of constant breadth in E^4 space. (English and Turkish summaries) *Turkish J. Math.* **21** (1997), *no.* 3, 277–284. (Basil J. Papantoniou) **99b:53007** 53A04
— (*with* Akyar, B.) An algebraic approach to the mathematical methods in spatial kinematics. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 1–13. (Hans Sachs) **99f:53010** 53A17
Koseleff, Pierre-Vincent (*with* Jean, Frédéric) Elementary approximation of exponentials of Lie polynomials. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 174–188, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99e:17041** 17B70 (41A99, 65D99, 93B25)
— Relations among Lie-series transformations and isomorphisms between free Lie algebras. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 243–254. (Aleksandr A. Mikhalev) **99e:17004** 17B01
— (*with* Falbel, Elisha) The number of sides of a parallelogram. (English summary) *Discrete Math. Theor. Comput. Sci.* **3** (1999), *no.* 2, 33–42 (*electronic*). (Summary) **99j:20040** 20F18 (17B01)
— *see also* **Lie computations, 99a:00031**
Kosenko, I. I. Integration of the equations of the rotational motion of a rigid body in the quaternion algebra. The Euler case. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 206–214; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 193–200. (Summary) **99m:70005** 70E15
Koshaev, D. A. Comparison of lower bounds of accuracy in problems of nonlinear estimation. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 2, 62–65. 93E10
Koshan, Jeffrey W. Structure results for transitive, untwisted, superlinked finite covers. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 1, 1–32. (John T. Baldwin) **99f:03041** 03C35 (20B99)
Koshcheev, V. A. On partitions of compact spaces that admit T-systems of complex functions. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 2, 259–267; *translation in Math. Notes* **62** (1997), *no.* 1-2, 216–222 (1998). (Stoyan Nedev) **99e:54005** 54B15 (41A50, 54C35, 54F99)
Koshelev, Aleksandr Ivanovich (*with* Chelkak, S.) About the regularity of solutions for the nonstationary Navier-Stokes systems. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 43–63. (Alexander Yurjevich Chebotarev) **99f:35159** 35Q30 (35B65, 76D05)
— (*with* Chelkak, S.; Oganesyan, L.) Regular solutions of the Navier-Stokes system. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 33–41. (Summary) **99d:35122** 35Q30 (35B65, 76D05)
Koshelev, Alexey S. (*with* Aref'eva, Irina Ya.; Ferretti, Gabriele) Taming the non-abelian Born-Infeld action. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 30, 2399–2413. (Summary) **99j:81132** 81T30
— (*with* Aref'eva, Irina Ya.; Medvedev, P. B.) Chaos-order transition in Matrix theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2481–2493. (Yolanda Lozano) **99j:81133** 81T30
— (*with* Rytchkov, O. A.) Note on the massive Rarita-Schwinger field in the AdS/CFT correspondence. (English summary) *Phys. Lett. B* **450** (1999), *no.* 4, 368–376. (Summary) **99m:83190** 83E30 (81T30, 81T40, 83E50)
Koshelev, I. E. Numerical solution of the linear Fredholm equation of the first kind by the multigrid method. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 34–39; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 31–36. (A. V. Dzhishkariani) **99m:65124** 65J20 (45L05, 47A50, 65J10)
Koshelev, Misha Maximum entropy and acausal processes: astrophysical applications and challenges. (English summary) *Maximum entropy and Bayesian methods (Boise, ID, 1997)*, 253–262, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99m:85004** 85A40
— Towards the use of aesthetics in decision making: Kolmogorov complexity formalizes Birkhoff's idea. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 166–170. 68Q30 (90A05)
— (*with* Longpré, Luc; Taillibert, Patrick) Optimal enclosure of quadratic interval functions. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 351–360. (Robert Rihm) **99j:65083** 65G10 (65Y20)
— (*with* Kosheleva, Olga M.; Cabrera, Sergio D.; Gibson, Glenn A.) Fast implementations of morphological operations using fast Fourier transform (FFT). (English summary) *Geombinatorics* **8** (1999), *no.* 3, 86–92. 65T20 (68U10)
Koshelev, V. N. (*with* Stasevich, S. I.) On a matrix apparatus for elementary Markov fields. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 3, 71–90; *translation in Problems Inform. Transmission* **33** (1997), *no.* 3, 251–267 (1998). (Summary) **99k:60130** 60G60 (82B05)
Kosheleva, Olga M. (*with* Bouchon-Meunier, Bernadette; Kreinovich, Vladik; Nguyen, Hung T.) Fuzzy numbers are the only fuzzy sets that keep invertible operations invertible. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 155–163. (Summary) **99a:04006** 04A72
— Symmetry-group justification of maximum entropy method and generalized maximum entropy methods in image processing. (English summary) *Maximum entropy and Bayesian methods (Boise, ID, 1997)*, 101–113, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 94A12
— (*with* Wang, Wei[14]) Chromatic-number-type theorems are logically non-trivial. (English summary) *Geombinatorics* **8** (1998), *no.* 1, 169–174. (Miklós Bóna) **99d:05085** 05D99 (03B30, 03D35)
— (*with* Baral, Chitta; Gelfond, Michael) Expanding queries to incomplete databases by interpolating general logic programs. (English summary) *J. Logic Programming* **35** (1998), *no.* 3, 195–230. (Summary) **99b:68028** 68N17 (68P15)
— (*with* Vroegindeweij, Piet G.) When is the product of intervals also an interval? (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 179–190. (E. R. Hansen) **99d:65147** 65G10
— (*with* Brito, Alejandro E.) Interval + image = wavelet: for image processing under interval uncertainty, wavelets are optimal. (English summary) *Reliab. Comput.* **4** (1998), *no.* 3, 291–301. (Summary) **99e:94006** 94A12
— Hilbert problems (almost) 100 years later (from the viewpoint of interval computations). *Reliab. Comput.* **4** (1998), *no.* 4, 399–403. 01A60 (65–03, 65G10)
— (*with* Cabrera, Sergio D.; Gibson, Glenn A.; Koshelev, Misha) Fast implementations of morphological operations using fast Fourier transform (FFT). (English summary) *Geombinatorics* **8** (1999), *no.* 3, 86–92. 65T20 (68U10)
Kosheleva, T. M. (*with* Tovmasyan, N. E.) The Riemann-Hilbert problem for second-order improper elliptic equations. (Russian. English and Russian summaries) *Izv. Nats. Akad. Nauk Armenii Mat.* **30** (1995), *no.* 3, 60–75; *translation in J. Contemp. Math. Anal.* **30** (1995), *no.* 3, 52–66. (Summary) **99e:35043** 35J25
— (*with* Tovmasyan, N. E.) Exterior boundary value problems for second-order elliptic equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 256–259, 287; *translation in Differential Equations* **34** (1998), *no.* 2, 260–263. (Summary) **99j:35038** 35J25
Koshevoĭ, G. A. (*with* Mosler, Karl) Zonoid trimming for multivariate distributions. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 1998–2017. (Tonghui T. Wang) **99c:62151** 62H05 (52A22, 60F05)

— (*with* Mosler, Karl) Lift zonoids, random convex hulls and the variability of random vectors. (English summary) *Bernoulli* **4** (1998), *no.* 3, 377–399. (Richard A. Vitale) **99k:60021** 60D05 (60E15)
— Distributive lattices and products of capacities. *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 427–441. (Hisako Watanabe) **99i:06011** 06D05 (28A12, 31B15)
— The Lorenz zonotope and multivariate majorizations. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 1, 1–14. (Summary) **99b:15026** 15A51
Koshiba, Takeshi On a hierarchy of slender languages based on control sets. (English summary) *Fund. Inform.* **31** (1997), *no.* 1, 41–47. (Summary) **99b:68115** 68Q45
— (*with* Mäkinen, Erkki; Takada, Yuji²) Learning deterministic even linear languages from positive examples. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 63–79. (Summary) **99m:68168** 68T05 (68Q45)
Koshiba, Yôichi On compact open topology in the case of local fields. *Rep. Fac. Sci. Kagoshima Univ. No.* 30 (1997), 13–15. (H. Salzmann) **99f:54048** 54H13 (12J99)
Koshigoe, H. (*with* Sawaguri, T.; Kawarada, Hideo) Surface density of current observed on supraconductive boundary by domain embedding method. (English summary) *Recent developments in domain decomposition methods and flow problems* (*Kyoto*, 1996; *Anacapri*, 1996), 276–286, *GAKUTO Internat. Ser. Math. Sci. Appl.*, 11, *Gakkōtosho, Tokyo*, 1998. (Summary) **99i:78013** 78A25 (35Q60, 47N20)
— *see also* **Recent developments in domain decomposition methods and flow problems, 99g:00054**
Koshitani, Shigeo (*with* Külshammer, Burkhard) A splitting theorem for p-blocks of finite groups. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 27–29. (*see* **99a:00029**) 20D15
Koshkarov, A. L. Pass method for path integral. (English summary) *Path integrals: Dubna* '96, 166–170, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40
Koshkin, G. M. (*with* Vasil′ev, V. A.) Estimation of density functions of distributions from dependent observations. (Russian. Russian summary) *Problemy Peredachi Informatsii* **33** (1997), *no.* 4, 45–60; *translation in Problems Inform. Transmission* **33** (1997), *no.* 4, 324–338 (1998). (Summary) **99c:62115** 62G05
Koshkin, V. L. (*with* Gulyaev, V. I.; Zavrazhina, T. V.) Similarity rules for periodic motions of a satellite in an elliptic orbit in the transition to chaos. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 54–71. (Summary) **99e:70048** 70H05 (34C25, 58F13, 70K50, 70M20)
— (*with* Gulyaev, V. I.; Vasil′eva, A. L.) Chaotization of the oscillations of a double mathematical pendulum. (Russian. English summary) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 2, 87–103. (Jacek A. Tuszyński) **99e:70058** 70K50 (34C15, 58F13, 70K40)
Koshlukov, Plamen Finitely based ideals of weak polynomial identities. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3335–3359. (Vesselin Drensky) **99i:16048** 16R10 (15A66, 16R50, 17C05)
Koshlyakov, Vladimir Nikolaevich On structural transformations of dynamical systems with gyroscopic forces. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 774–780; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 751–756 (1998). (A. E. Zakrzhevskiĭ) **99e:70061** 70K99 (34A25, 34C29, 70E15)
— *see also* **Birthday: Koshlyakov, Vladimir Nikolaevich** *and* **Mitropol′skiĭ, Yuriĭ Alekseevich et al.**
Koshmanenko, V. (*with* Karwowski, Witold; Ôta, S.) Schrödinger operator perturbed by operators related to null sets. (English summary) *Positivity* **2** (1998), *no.* 1, 77–99. (Philippe Briet) **99k:47114** 47F05 (35J10, 47A55, 47B25)
Kosiński, Piotr (*with* Lukierski, Jerzy; Maślanka, Paweł; Sobczyk, Jan T.) Quantum deformation of the Poincaré supergroup. (English summary) *Quantum groups* (*Karpacz*, 1994), 353–357, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 81R50 (17B37)
— (*with* Majewski, Michał; Maślanka, Paweł) Representations of generalized oscillator algebra. (English summary) *J. Phys. A* **30** (1997), *no.* 11, 3983–3990. (From the introduction) **99e:81095** 81R50
— (*with* Gonera, Cezary; Maślanka, Paweł; Tarlini, M.) Projective representations of κ-Galilei group. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8473–8482. (Roberto Casalbuoni) **99h:81087** 81R50
— (*with* Brihaye, Yves) Quasi-exactly solvable radial Dirac equations. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 18, 1445–1452. (M. Znojil) **99h:81029** 81Q05 (34L40)
— (*with* Brihaye, Yves) Quasi-exactly solvable matrix models in sl(n). (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 43–47. (Violeta V. Tretynyk) **99h:81062** 81R05 (15A72, 17B10)
Kosiński, W. (*with* Gouin, H.) Boundary conditions for a capillary fluid in contact with a wall. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 5, 907–916. (R. Finn) **99k:76051** 76D45
Kosiuczenko, Piotr (*with* Wirsing, Martin) Timed rewriting logic for the specification of time-sensitive systems. (English summary) *Logic of computation* (*Marktoberdorf*, 1995), 229–264, *NATO Adv. Sci. Inst. Ser. F Comput. Systems Sci.*, 157, *Springer, Berlin*, 1997. (Summary) **99j:68061** 68Q42 (68Q65)
Koskas, Michel Complexités de suites de Toeplitz. (English and French summaries) [Complexities of Toeplitz sequences] *Discrete Math.* **183** (1998), *no.* 1-3, 161–183. (Jean-Paul Allouche) **99a:68139** 68R15 (11B85)
Koskela, Pekka (*with* Heinonen, Juha) Quasiconformal maps in metric spaces with controlled geometry. *Acta Math.* **181** (1998), *no.* 1, 1–61. (M. Yu. Vasil′chik) **99j:30025** 30C65 (46E99)
— (*with* Buckley, Stephen M.) New Poincaré inequalities from old. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 251–260. (Seng-Kee Chua) **99a:46057** 46E35
— Extensions and imbeddings. (English summary) *J. Funct. Anal.* **159** (1998), *no.* 2, 369–383. (H. Triebel) **99k:46056** 46E35
— (*with* Hajłasz, Piotr) Isoperimetric inequalities and imbedding theorems in irregular domains. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 2, 425–450. (W. P. Ziemer) **99m:46079** 46E35
— (*with* Bonk, Mario; Rohde, Steffen) Conformal metrics on the unit ball in Euclidean space. *Proc. London Math. Soc.* (3) **77** (1998), *no.* 3, 635–664. (Juha Heinonen) **99f:30033** 30C65
— (*with* MacManus, Paul) Quasiconformal mappings and Sobolev spaces. (English summary) *Studia Math.* **131** (1998), *no.* 1, 1–17. (M. Yu. Vasil′chik) **99e:46042** 46E35 (30C65)
Kosler, Karl A. Normalizing extensions and the second layer condition. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 191–210, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Allen D. Bell) **99b:16043** 16S20 (16P50, 16S36)
Koslicki, Kathrin Isolation and non-arbitrary division: Frege's two criteria for counting. (English summary) *Synthese* **112** (1997), *no.* 3, 403–430. (Summary) **99b:03009** 03A05
— The semantics of mass-predicates. *Noûs* **33** (1999), *no.* 1, 46–91. 03B65
Kosmachev, O. S. (*with* Lebedev, I. A.) The quaternion group and its extensions. I. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 6, 28–35 (1998). 16K20
Kosmann-Schwarzbach, Yvette Lie bialgebras, Poisson Lie groups and dressing transformations. (English summary) *Integrability of nonlinear systems* (*Pondicherry*, 1996), 104–170, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Summary) **99m:58092** 58F05 (17B99, 58F07)
— (*with* Bangoura, Momo) Équation de Yang-Baxter dynamique classique et algébroïdes de Lie. (English and French summaries) [The classical dynamical Yang-Baxter equation and Lie algebroids] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 541–546. (Fernando Alcalde-Cuesta) **99k:58198** 58H05 (17B99)
— *see also* **Integrability of nonlinear systems, 99b:58006**
Kosmodamianskiĭ, Aleksandr Sergeevich (*with* Neskorodev, N. M.) A relation between the equations of the two-dimensional theory of elasticity for anisotropic and isotropic bodies. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 344–346; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 319–321. (Summary) **99m:73014** 73C02 (73B40, 73V35)
— *see also* **Birthday: Kosmodamianskiĭ, Aleksandr Sergeevich**
Kosmodem′yanskiĭ, A. A., Jr. On the location of the maximum point for the solution of the Dirichlet problem for the Poisson equation. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 5, 603–604. 35J25 (35J05)
Kosorok, Michael R. (*with* Pan, Wei²; Chappell, Rick) On consistency of the monotone MLE of survival for left truncated and interval-censored data. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 49–57. (Summary) **99b:62086** 62G20 (62G05, 62N05)
Kospanov, È. Sh. On a relation between the computation time of a direct mapping and an inverse mapping. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 3, 40–46, 111. (Summary) **99a:94071** 94C10
Kossak, Roman Automorphisms of recursively saturated models of Peano arithmetic: fixed point sets. (English summary) *Log. J. IGPL* **5** (1997), *no.* 6, 787–794 (*electronic*). (Alexandra Shlapentokh) **99b:03052** 03C62 (03C57)
Kossakowski, A. On dynamical semigroups and open systems. *Irreversibility and causality* (*Goslar*, 1996), 59–66, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Lech Jakóbczyk) **99h:82051** 82C10 (47N55)
Kosseva, A. (*with* Petrov, G. I.; Kostadinov, St. I.) Impulse moving mirror model and impulse partial wave equation in a Hilbert space. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 59–68. (Florin Iacob) **99d:35173** 35R10 (34G20, 35L05, 35Q99)
— (*with* Petrov, G. I.; Kostadinov, St. I.) Impulse moving mirror and a differentiability of generalized solution of impulse partial wave equation in a Banach space. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 69–75. (Florin Iacob) **99d:35174** 35R10 (34G20, 35L05, 35Q99)
Kossioris, Georgios T. (*with* Izumiya, Shyuichi) Realization theorems of geometric singularities for Hamilton-Jacobi equations. *Comm. Anal. Geom.* **5** (1997), *no.* 3, 475–495. (V. M. Zakalyukin) **99b:58031** 58C27 (35F20)
Kössler, Wolfgang Rank tests in the two-sample scale problem with unequal and unknown locations. *Statist. Papers* **40** (1999), *no.* 1, 13–35. 62G10
Kossovich, L. Yu. (*with* Kaplunov, Yu. D.; Nolde, E. V.) ★ Dynamics of thin walled elastic bodies. (English summary) *Academic Press, Inc., San Diego, CA*, 1998. x+226 *pp. ISBN* 0-12-397590-5 (Juan M. Viaño Rey) **99a:73084** 73K10 (73K12)
Kossowski, Marek (*with* Chen, Yu⁸) Global differential geometry of 1-resolvable C^∞ curves in the plane. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 173–188. (Paul E. Ehrlich) **99k:53001** 53A04
Kostadinov, B. S. (*with* Dobrev, Vladimir K.) Noncommutative quantum conformal plane wave deformation. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 337–344. (Summary) **99g:81085** 81R50
Kostadinov, Georgi (*with* Mekerov, Dimit′r G.) On a four-dimensional generalized biaxial space. (English summary) *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 73–84. 53A20
— A class of invariant affine connections on the Stiefel manifolds. *Plovdiv. Univ. "Paisiĭ Khilendarski" Nauchn. Trud. Mat.* **32** (1995), *no.* 3, 101–104. 53C05
Kostadinov, St. I. (*with* Bainov, Drumi Dimitrov; Zabreĭko, Petr Petrovich) Stability of the notion of dichotomy of linear impulsive differential equations in a Banach space. (English summary) *Ital. J. Pure Appl. Math. No.* 1 (1997), 43–50 (1998). (Raúl M. Naulin) **99k:34017** 34A37 (34C11, 34D05, 34G10)
— (*with* Petrov, G. I.; Kosseva, A.) Impulse moving mirror model and impulse partial wave equation in a Hilbert space. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 59–68. (Florin Iacob) **99d:35173** 35R10 (34G20, 35L05, 35Q99)
— (*with* Petrov, G. I.; Kosseva, A.) Impulse moving mirror and a differentiability of generalized solution of impulse partial wave equation in a Banach space. (English summary) *J. Tech. Univ. Plovdiv Fundam. Sci. Appl. Ser. A Pure Appl. Math.* **5** (1997), 69–75. (Florin Iacob) **99d:35174** 35R10 (34G20, 35L05, 35Q99)
— (*with* Khristova, S. G.; Kapitanova, M. B.) Method of a small parameter for a class of nonautonomous systems of second order differential equations with impulses. *Rostock. Math. Kolloq.* **1997**, *no.* 50, 3–8. (From the text) **99a:34027** 34A37 (34C25)
— (*with* Georgieva, A.) $\mathfrak{L}_p$-equivalence of impulse differential equations. (English summary) *SUT J. Math.* **33** (1997), *no.* 2, 291–301. (O. S. Chernikova) **99b:34024** 34A37 (47H15, 47N20)
— (*with* Schneider, Klaus R.; Venkova, M.) Existence of integral manifolds for impulsive differential equation with small parameter. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 4, 299–308. (Yuri V. Rogovchenko) **99i:34020** 34A37 (34C30)

Kostädt, Peter (*with* Liu, Mario) Three ignored densities, frame-independent thermodynamics, and broken Galilean symmetry. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5535–5540. (Summary) **99g:82065** 82C35

Kostant, Bertram The graph of the truncated icosahedron and the last letter of Galois [Notices Amer. Math. Soc. **42** (1995), no. 9, 959–968; MR 96g:52024a]. (Catalan) Translated from the English by Enric Nart. *Butl. Soc. Catalana Mat.* **13** (1998), *no.* 1, 41–56. 52B15 (20B25, 20G40, 82D25)

— The set of abelian ideals of a Borel subalgebra, Cartan decompositions, and discrete series representations. *Internat. Math. Res. Notices* **1998**, *no.* 5, 225–252. (Mark R. Sepanski) **99c:17010** 17B05 (22E60)

— (*with* Chern, Shiing-Shen; Kailath, Thomas; Moore, Calvin C.; Tsao, Anna) Louis Auslander (1928–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 3, 390–395. (Editors) **99k:01053** 01A70

— (*with* Gross, Benedict H.; Ramond, Pierre; Sternberg, Shlomo) The Weyl character formula, the half-spin representations, and equal rank subgroups. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 15, 8441–8442 (*electronic*). (Summary) **99f:17007** 17B10

Kostelich, Eric J. (*with* Kan, Ittai; Grebogi, Celso; Ott, Edward; Yorke, James A.) Unstable dimension variability: a source of nonhyperbolicity in chaotic systems. (English summary) Physics and dynamics between chaos, order, and noise (Berlin, 1996). *Phys. D* **109** (1997), *no.* 1-2, 81–90. (Remo Badii) **99a:58110** 58F12 (58F13, 58F15)

— (*with* Smaoui, Nejib) Using chaos to shadow the quadratic map for all time. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 117–129. (Summary) **99j:65096** 65H17

— *see also* **Nusse, Helena E., 99f:58001**

Koster, F. (*with* Griebel, Michael; Kevlahan, N. K.-R.; Farge, M.; Schneider, Kai) Towards an adaptive wavelet-based 3D Navier-Stokes solver. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 339–364, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76123** 76M25 (76F99)

Koster, Maurice (*with* Tijs, Stef) General aggregation of demand and cost sharing methods. (English summary) Games and politics (Santiago de Compostela, 1996). *Ann. Oper. Res.* **84** (1998), 137–164. (Summary) **99i:90037** 90A40 (90D40)

Kosters, Walter A. (*with* Bäck, Thomas; de Graaf, Jeannette M.; Kok, Joost N.) Theory of genetic algorithms. *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 63 (1997), 161–192. (R. Shonkwiler) **99g:68166** 68T05

Kostić, Strahinja T. Contribution to the study of the universal equation of boundary layer of Saljnikov. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 85–98. (Murad Brutyan) **99g:76044** 76D10

Kostin, A. V. (*with* Amer, K. A.) On the asymptotic representation of solutions of a linear differential equation with small parameters multiplying highest derivatives and with slowly changing coefficients. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 400–404 (1996). 34E05

— (*with* Amer, K. A.) Asymptotic representations on the half-axis of solutions of linear homogeneous systems with small parameters multiplying the derivatives. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 1, 19–23 (1996). 34E05

— (*with* Skripnik, I. V.) On asymptotic expansions of o-solutions in the theory of quasilinear systems of difference equations. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 5, 672–677; *translation in Ukrainian Math. J.* **49** (1997), *no.* 5, 747–754 (1998). (V. G. Kurbatov) **99e:39072** 39A12 (34E05)

Kostin, Georgii V. (*with* Steinbach, Marc C.; Bock, Hans Georg; Longman, Richard W.) Mathematical optimization in robotics: towards automated high-speed motion planning. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 303–340. (Summary) **99c:70003** 70B15 (70E99, 70Q05, 90C90, 93C85)

Kostin, I. N. Relatively unstable invariant sets of nonlinear operators. (English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 131–137, 340. (Summary) **99b:58029** 58C07 (47H15, 58F12)

— Rate of attraction to a non-hyperbolic attractor. (English summary) *Asymptot. Anal.* **16** (1998), *no.* 3-4, 203–222. (Alexandre N. Carvalho) **99k:35084** 35K55 (34G20, 35B40, 47H20, 58F39)

Kostin, V. I. (*with* Cheverda, V. A.; Clément, Francois; Khaidukov, V. G.) Linearized inversion of data of multi-offset data for vertically inhomogeneous background. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 453–484. (Jiří Nedoma) **99m:86015** 86A15 (35R30, 65D15, 73D50)

Kostina, E. A. (*with* Gabasov, R.; Kirillova, F. M.) Closable feedback with respect to state for optimization of uncertain control systems. II. Multiply closed feedback. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 90–99; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 2, 1137–1145 (1997). (Summary) **99a:49043** 49N35 (93C42)

— (*with* Gabasov, R.; Kirillova, F. M.) A method for constructing local points of Nash equilibrium in a linear game-theoretic problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 6, 912–917; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 6, 875–880. (Summary) **99e:90118** 90D10

— (*with* Gabasov, R.; Kirillova, F. M.) An adaptive method for solving l_1-extremal problems. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1461–1472. (Summary) **99k:90153** 90C30 (49M30)

Kostiouchenko, Anatolii G. *see* **Kostyuchenko, A. G.**

Köstler, Claus (*with* Hellmich, Jürgen; Kümmerer, Burkhard) Stationary quantum Markov processes as solutions of stochastic differential equations. (English summary) *Quantum probability* (*Gdańsk*, 1997), 217–229, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99f:46093** 46L50 (60H07, 81S25)

Kostochka, A. V. (*with* Deuber, Walter A.; Sachs, Horst) A very short proof of Dirac's theorem on the number of edges in chromatically critical graphs. (Russian. Russian summary) *Diskret. Anal. Issled. Oper.* **3** (1996), *no.* 4, 28–34, 95. (Marek Kubale) **99d:05032** 05C15

— An intersection theorem for systems of sets. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 213–221. (H. L. Abbott) **99e:05125** 05D05 (05A05)

— (*with* Borodin, O. V.; Woodall, D. R.) List edge and list total colourings of multigraphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 184–204. (David E. Woolbright) **99d:05028** 05C15

— (*with* Borodin, O. V.; Woodall, D. R.) Total colorings of planar graphs with large maximum degree. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 53–59. (Summary) **99j:05064** 05C15

— The dimension of neighboring levels of the Boolean lattice. (English summary) *Order* **14** (1997/98), *no.* 3, 267–268. 06A07

— (*with* Rödl, Vojtěch) On large systems of sets with no large weak Δ-subsystems. (English summary) *Combinatorica* **18** (1998), *no.* 2, 235–240. (H. L. Abbott) **99k:05157** 05D05

— (*with* Borodin, O. V.; Nešetřil, Jaroslav; Raspaud, A.; Sopena, E.) On universal graphs for planar oriented graphs of a given girth. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 73–85. (Pavol Hell) **99e:05046** 05C15 (05C20)

— (*with* Glebov, N. I.) On the independent domination number of graphs with given minimum degree. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 261–266. (Summary) **99c:05103** 05C35

— (*with* Borodin, O. V.; Woodall, D. R.) On kernel-perfect orientations of line graphs. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 45–49. (Summary) **99f:05043** 05C20

— (*with* Stiebitz, M.) Colour-critical graphs with few edges. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 125–137. (Zhong Fu Zhang) **99g:05080** 05C15

— (*with* Mazurov, Viktor Danilovich; Savel'ev, L. Ya.) The number of q-ary words with restrictions on the length of a maximal series. (Russian. Russian summary) *Diskret. Mat.* **10** (1998), *no.* 1, 10–19; *translation in Discrete Math. Appl.* **8** (1998), *no.* 2, 109–118. (Nikolai Volodin) **99k:05009** 05A15

— (*with* Nešetřil, Jaroslav) Coloring relatives of intervals on the plane. I. Chromatic number versus girth. (English summary) *European J. Combin.* **19** (1998), *no.* 1, 103–110. (K. S. Sarkaria) **99a:05048** 05C15

— (*with* Rödl, Vojtěch) Partial Steiner systems and matchings in hypergraphs. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 335–347. (Summary) **99i:05153** 05C65 (05C70)

Kostoglotov, A. A. (*with* Taran, V. N.) Suboptimal estimation of the parameters of dynamical systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 85–94; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 1, 588–595. (Pham Tran Nhu) **99a:93105** 93E12 (34C35, 34D08, 93B30)

Kostomakha, V. A. (*with* Chernykh, G. G.; Korobitsyna, Zh. L.) Numerical simulation of isotropic turbulence dynamics. (English summary) Computational fluid dynamics in Russia. *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 2, 173–182. (*see* **99e:76001**) 76M20 (76F05)

— (*with* Chernykh, G. G.; Demenkov, A. G.) Numerical model of a swirling momentumless turbulent wake. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 279–288. 76F99 (76D25)

Kostomarov, D. P. (*with* Blagodat-skikh, V. I.) Academician Lev Semenovich Pontryagin (1908–1988). (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1998**, *no.* 3, 3–6. 01A70

Kostousova, E. K. State estimation for dynamic systems via parallelotopes: optimization and parallel computations. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 4, 269–306. 93E10 (90C90, 93B03)

Kostov, Ivan K. (*with* Staudacher, Matthias; Wynter, Thomas) Complex matrix models and statistics of branched coverings of 2D surfaces. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 283–298. (Vasily A. Chernecky) **99h:81193** 81T40 (30F10, 32B25, 81T25, 81T27)

Kostova, T. *see* **Epidemiology, cellular automata, and evolution, 99m:92001** *and* **Deterministic models with applications in population dynamics and other fields of biology, 99m:92002**

Kostova, Violeta At. On a generalization of Jackson's theorem in $\mathbf{R}^m$. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 109–118. (V. A. Baskakov) **99k:41014** 41A17 (41A50, 42A10)

Kostra, Juraj (*with* Jakubec, Stanislav) On the existence of a normal basis for an ambiguous ideal. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 1, 125–129. (Lawrence Washington) **99f:11147** 11R33 (11R20)

Kostreva, M. M. (*with* Chen, Xibin) Global convergence analysis of algorithms for finding feasible points in norm-relaxed MFD. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 287–309. (K. Schittkowski) **99m:90128** 90C30 (65K05)

Kostrikin, Alekseĭ Ivanovich (*with* Manin, Yuriĭ Ivanovich) ★ Linear algebra and geometry. (English summary) Translated from the second Russian (1986) edition by M. E. Alferieff. Revised reprint of the 1989 English edition. Algebra, Logic and Applications, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1997. $x+308$ *pp. ISBN* 90-5699-049-7 (From the preface) **99k:15001** 15-01

Kostrykin, V. (*with* Fring, Andreas; Schrader, Robert) Ionization probabilities through ultra-intense fields in the extreme limit. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8599–8610. (Radosław Szmytkowski) **99b:81281** 81V45 (81V80)

— (*with* Schrader, Robert) Cluster properties of one particle Schrödinger operators. II. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 5, 627–683. (Liu Yang) **99i:81038** 81Q10 (81U05)

— (*with* Schrader, Robert) Kirchhoff's rule for quantum wires. (English summary) *J. Phys. A* **32** (1999), *no.* 4, 595–630. (Radosław Szmytkowski) **99m:81280** 81U20

Kostyuchenko, A. G. (*with* Galaz Fontes, Fernando) Behaviour of eigenvalues related to the oscillation of an elastic tube conveying liquid. (English summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 125–144, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99i:34116** 34L05 (35P05, 47A56, 47E05, 73K70)

— (*with* Shkalikov, A. A.; Yurkin, M. Yu.) On the stability of a top with a cavity filled with viscous fluid. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 36–55, 95–96; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 100–113. (Summary) **99f:34086** 34G10 (70E99, 70K20, 76D99)

— (*with* Nursultanov, E. D.) Theory of the control of "catastrophes". (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 3(321), 199–200; *translation in Russian Math. Surveys* **53** (1998), *no.* 3, 628–629. (From the text) **99h:42026** 42B20

Kostyukova, O. I. Investigation of solutions of a family of linear optimal control problems that depend on a parameter. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 197–203, 286; *translation in Differential Equations* **34** (1998), *no.* 2, 200–207. (Ivan Ginchev) **99m:49059** 49N35 (49K15, 93B50)

— (*with* Prishchepova, S. V.) A finite algorithm for solving an optimal control problem with phase constraints at discrete moments of time. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 189–206; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 181–198. (O. V. Vasil′ev) **99d:49055** 49M05 (49K15)

Kostyukovsky, S. (*with* Olevskii, A.) Note on decreasing rearrangement of Fourier series. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 137–142. (L. Leindler) **99d:42064** 42C15 (42C20)

Kosub, Sven (*with* Schmitz, Heinz; Vollmer, Heribert) Uniformly defining complexity classes of functions. (English summary) *STACS* 98 (*Paris*, 1998), 607–617, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99j:68044** 68Q15

Kosuda, Masashi The HOMFLY invariant of closed tangles. (English summary) *Ryukyu Math. J.* **10** (1997), 1–22. (Summary) **99a:57007** 57M25

— Irreducible representations of the Hecke category. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 190–205. (Mitsuhiro Takeuchi) **99d:18006** 18D10 (57M25)

— Representation of q-analogue of rational Brauer algebras. *Tsukuba J. Math.* **21** (1997), *no.* 3, 707–728. (Arun Ram) **99b:20075** 20G05 (16S99)

— The irreducible representations of categories. (English summary) *Recent progress in algebra* (*Taejon/Seoul*, 1997), 151–167, *Contemp. Math.*, 224, *Amer. Math. Soc., Providence, RI*, 1999. (S. V. Duzhin) **99j:18007** 18D10 (20G05, 57M25)

Kosugi, Nobuko (*with* Kasahara, Yuji) A limit theorem for occupation times of Gaussian processes. (English summary) *Trends in probability and related analysis* (*Taipei*, 1996), 197–208, *World Sci. Publishing, River Edge, NJ*, 1997. (Simeon M. Berman) **99f:60046** 60F05 (60G15)

Kosyakov, B. P. Illusion of four-dimensionality. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 462–465, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83E15

— Exact solutions in the Yang-Mills-Wong theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5032–5048. (Summary) **99m:81282** 81V05 (81T13)

Koszmider, Piotr Forcing minimal extensions of Boolean algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3073–3117. (Péter Komjáth) **99m:03099** 03E35 (03E50, 06E15, 54A25, 54A35, 54G99)

Koszul, Jean-Louis Algèbres de Jordan. [Jordan algebras] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 31, 245–256, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 17C10

— Cohomologie des espaces fibrés différentiables et connexions. [Cohomology of differentiable fiber spaces and connections] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 38, 313–319, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 57T15 (53C05)

— Relations d'équivalence sur les courbes algébriques ayant des points multiples (d'après Maxwell Rosenlicht). [Equivalence relations on algebraic curves with multiple points (after Maxwell Rosenlicht)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 75, 247–254, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14H99

— Les variétés jacobiennes généralisées (d'après Maxwell Rosenlicht). [Generalized Jacobian varieties (after Maxwell Rosenlicht)] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 93, 391–397, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 14H40

— Formes hermitiennes canoniques des espaces homogènes complexes. [Canonical Hermitian forms of complex homogeneous spaces] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 108, 69–75, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 32C17 (53C55)

— Fibrés vectoriels sur les courbes elliptiques (d'après M. F. Atiyah) [MR **23** #A896]. [Vector bundles on elliptic curves (after M. F. Atiyah)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 154, 245–254, *errata p.* 216, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14H60 (14H52)

— Travaux de B. Kostant sur les groupes de Lie semi-simples. [Works of B. Kostant on semisimple Lie groups] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 191, 329–337, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 22E46

— Théorèmes de points fixes pour les groupes élémentaires (d'après A. Borel). [Fixed-point theorems for elementary groups (after A. Borel)] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 251, 139–144, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 57S15 (55M20, 57S25)

Kota, V. K. B. Transformation brackets between $U(N) \supset SO(N) \supset SO(N_a) \oplus SO(N_b)$ and $U(N) \supset U(N_a) \oplus U(N_b) \supset SO(N_a) \oplus SO(N_b)$. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6639–6647. (Summary) **99a:81054** 81R05

— Group theoretical aspects of and open problems in U(18), $U(6) \otimes U(20)$ and U(7) boson and boson-fermion symmetry schemes. (English summary) *Special functions and differential equations* (*Madras*, 1997), 235–244, *Allied Publ., New Delhi*, 1998. (Summary) **99i:81063** 81R05 (33C80, 81V35, 81V55)

— Spectra and $E2$ transition strengths for $N = Z$ even-even nuclei in IBM-3 dynamical symmetry limits with good s and d boson isospins. (English summary) *Ann. Physics* **265** (1998), *no.* 2, 101–133. (A. Ventura) **99e:81262** 81V35 (81R05)

Kotakemori, Hisashi (*with* Niki, Hiroshi; Okamoto, Naotaka) A generalization of the adaptive Gauss-Seidel method for Z-matrices. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 317–326. (Summary) **99g:65041** 65F10

Kotani, Keiko k-regular factors and semi-k-regular factors in graphs. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 177–193. (Martin Bača) **99c:05153** 05C70

Kotani, Shin-ichi Analytic approach to Yor's formula of exponential additive functionals of Brownian motion. *Itô's stochastic calculus and probability theory*, 185–195, *Springer, Tokyo*, 1996. (Kiyoshi Kawazu) **99c:60180** 60J65 (60J55)

— (*with* Komatsu, Yukie; Matsumura, Akitaka) A period-doubling bifurcation for the Duffing equation. *Osaka J. Math.* **34** (1997), *no.* 3, 605–627. (Sergei A. Dovbysh) **99a:34113** 34C23 (34C15, 34C25, 58F14, 70K40)

Kotani, Yasusuke (*with* Ito, Ken; Kobayashi, Teiichi) Stable homotopy types of stunted lens spaces mod 2^r. II. *Mem. Fac. Sci. Kochi Univ. Ser. A Math.* **19** (1998), 29–33. (Paul Selick) **99b:55008** 55P10 (55P42)

Kotarski, Wiesław Optimal control of a system governed by Petrowsky type equation with an infinite number of variables. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 73–82 (1997). (Urszula Ledzewicz) **99c:49021** 49K20 (35R15, 93C20)

Kotelenez, Peter (*with* Goncharuk, Nataliya Yu.) Fractional step method for stochastic evolution equations. (English summary) *Stochastic Process. Appl.* **73** (1998), *no.* 1, 1–45. (Ya. Ī. Bīlopol′s′ka) **99b:60090** 60H15

Kotel′nikov, G. A. New symmetries in mathematical physics equations. *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 358–363, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 58F35

Kothari, R. K. (*with* Singh, Awadhesh Kumar[2]) Some theorems on Kaehlerian s-recurrent spaces with H-curvature tensors. *Acta Cienc. Indica Math.* **22** (1996), *no.* 1, 1–6. (Liviu Ornea) **99h:53025** 53B35

— (*with* Singh, Awadhesh Kumar[2]) On Kaehlerian conharmonic s-recurrent and Kaehlerian conharmonic s-symmetric spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 367–374. 53C55

Kothe, Douglas B. (*with* Rider, William J.) Reconstructing volume tracking. (English summary) *J. Comput. Phys.* **141** (1998), *no.* 2, 112–152. (Summary) **99a:65200** 65Y25 (76M25)

Koti, R. *see* **Cauty, Robert**

Kotina, E. D. Construction of magnetic fields inducing given motions. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 113–117, 248, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 78A30

— On numerical solving of the problem of preassigned motions formation of charged particles in magnetic field. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 193–197, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 78–08 (78A35)

Kotlarski, Henryk (*with* Bamber, Nicholas) On interstices of countable arithmetically saturated models of Peano arithmetic. (English summary) *Math. Logic Quart.* **43** (1997), *no.* 4, 525–540. (Athanassios Tzouvaras) **99a:03040** 03C62 (03C50, 03H15)

Kotlov, Andrew Valeri (*with* Lovász, László; Vempala, Santosh) The Colin de Verdière number and sphere representations of a graph. (English summary) *Combinatorica* **17** (1997), *no.* 4, 483–521. (Joan Hutchinson) **99i:05068** 05C10 (05C50)

— Rank and chromatic number of a graph. (English summary) *J. Graph Theory* **26** (1997), *no.* 1, 1–8. (Summary) **99c:05065** 05C15 (05C50)

Kotlyar, B. D. A problem in packing theory. (Russian) *Mathematics today* '93, *No.* 8 (*Ukrainian*), 133–136, "*Vishcha Shkola*", *Kiev*, 1993. (Alexey R. Alimov) **99g:52037** 52C17 (51M20)

Koto, Toshiyuki NP-stability of Runge-Kutta methods based on classical quadrature. (English summary) *BIT* **37** (1997), *no.* 4, 870–884. (T. E. Simos) **99a:65088** 65L06

— Stability analysis of Runge-Kutta methods and linear systems theory. (Japanese) Research on algorithms for numerical computing (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1040 (1998), 31–38. (*see* **99i:00028**) 65L06

— Naimark-Sacker bifurcations in the Euler method for a delay differential equation. (English summary) *BIT* **39** (1999), *no.* 1, 110–115. (Yun Kang Liu) **99m:65130** 65L05 (34C23, 34K15, 65L20)

Kotochigov, A. M. (*with* Shirokov, N. A.) Interpolation in a neighborhood of a cusp point. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 4, 142–176. (Alexey L. Lukashov) **99m:41041** 41A36 (41A65)

— (*with* Shirokov, N. A.) Free interpolation in Hölder classes in quasiconformal domains. (English summary) Some questions of mathematical physics and function theory. *J. Math. Sci.* (*New York*) **92** (1998), *no.* 6, 4324–4337. (Lai Yi Zhu) **99m:30075** 30E05 (30C62, 46E15)

Kotočová, Margaréta (*with* Krajčoviech, Richard) Non-uniform time sharing in the concurrent execution of constraint solving. (English summary) *Artificial Intelligence* **109** (1999), *no.* 1-2, 161–185. 68T20

Kotov, A. Yu. On the Poisson (co)homology of $\mathbf{CP}^1$. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 151–152; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 394–395. (Alexandre I. Kabanov) **99k:58071** 58F05 (58H99)

Kotov, Vladimir (*with* Kellerer, Hans[2]; Speranza, Maria Grazia; Tuza, Zsolt) Semi on-line algorithms for the partition problem. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 235–242. (Summary) **99c:90148** 90C35 (68Q25, 90B25)

— (*with* Babel, Luitpold; Kellerer, Hans[2]) The k-partitioning problem. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 1, 59–82. (Frank Werner) **99d:90090** 90C27 (90B35)

Kotowicz, J. On the existence of a compactly supported L^p-solution for two-dimensional two-scale dilation equations. (English summary) *Appl. Math.* (*Warsaw*) **24** (1997), *no.* 3, 325–334. (From the introduction) **99e:39024** 39A10 (42C15)

Kotowski, R. (*with* Radzikowska, E.) Variational principle in thermo-electro-magneto-dynamics of micropolar media. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 2, 283–295. (Summary) **99i:73003** 73B25 (73B30, 73R05, 73V25, 78A25)

Kotschick, Dieter On the Gromov-Hitchin-Thorpe inequality. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 727–731. (Jimmy Petean) **99j:53068** 53C25

— Einstein metrics and smooth structures. (English summary) *Geom. Topol.* **2** (1998), 1–10 (*electronic*). (Matilde Marcolli) **99h:57060** 57R55 (53C25, 57R57)

— Signatures, monopoles and mapping class groups. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 227–234. (Liviu I. Nicolaescu) **99d:57023** 57R57 (55R40, 57R15, 57R20, 57R55, 58G10)

Kotsios, Stelios (*with* Feely, Orla) The model-matching problem for a special class of discrete systems with discontinuity. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 1, 93–104. (Toshio Saito) **99b:93022** 93B30 (93C55)

Kotsur, I. M. (*with* Kotsur, M. F.) Radii of n-valent convexity and starlikeness for some special classes of functions that are analytic in the disk. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 48–50; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 10, 46–48 (1998). (L. A. Aksent′ev) **99a:30016** 30C45

Kotsur, M. F. (*with* Kotsur, I. M.) Radii of n-valent convexity and starlikeness for some special classes of functions that are analytic in the disk. (Russian) *Izv. Vyssh. Uchebn.*

Zaved. Mat. **1997**, *no.* 10, 48–50; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 10, 46–48 (1998). (L. A. Aksent'ev) **99a:30016** 30C45

Kotta, Ülle (*with* Nijmeijer, Henk) Immersion of discrete-time nonlinear system by regular dynamic state feedback into a linear system. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 361–376. 93C55 (93C10)

— (*with* Aranda-Bricaire, Eduardo) Equivalence of discrete-time nonlinear systems to prime systems. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 12 *pp.* (*electronic*). (Allen Tannenbaum) **99m:93017** 93B17 (93B25, 93B27)

— Inversion algorithm for recursive nonlinear systems. (English and Estonian summaries) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 1, 3–18. (Mihail Voicu) **99c:93072** 93C55 (93B40)

— Ülo Jaaksoo 60. *Proc. Estonian Acad. Sci. Phys. Math.* **48** (1999), *no.* 2, 153–154. 01A70

Kötter, Ralf A fast parallel implementation of a Berlekamp-Massey algorithm for algebraic-geometric codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1353–1368. (Summary) **99h:94067** 94B27

— (*with* Hansen, Johan P.; Jensen, Helge Elbrønd) Determination of error values for algebraic-geometry codes and the Forney formula. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1881–1886. (Summary) **99h:94066** 94B27

Kottler, N. E. (*with* Tran, H. T.; Wessell, D. E.) A complete steady state model of solute and water transport in the kidney. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 6, 63–82. (Summary) **99m:92008** 92C35 (65L99)

Kottwitz, Robert E. Isocrystals with additional structure. II. (English summary) *Compositio Math.* **109** (1997), *no.* 3, 255–339. (Guy Rousseau) **99e:20061** 20G25 (11S25, 14F30, 14L05)

— (*with* Goresky, Mark; MacPherson, Robert D.) Discrete series characters and the Lefschetz formula for Hecke operators. *Duke Math. J.* **89** (1997), *no.* 3, 477–554. (Ernst-Wilhelm Zink) **99e:11064a** 11F75 (20G30, 20G35, 22E47)

— Harmonic analysis on semisimple p-adic Lie algebras. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 553–562 (*electronic*). (David Manderscheid) **99j:22015** 22E35 (11S37, 22E50)

— (*with* Goresky, Mark; MacPherson, Robert D.) Correction to: "Discrete series characters and the Lefschetz formula for Hecke operators". *Duke Math. J.* **92** (1998), *no.* 3, 665–666. (Ernst-Wilhelm Zink) **99e:11064b** 11F75 (20G30, 20G35, 22E47)

— (*with* Goresky, Mark; MacPherson, Robert D.) Equivariant cohomology, Koszul duality, and the localization theorem. *Invent. Math.* **131** (1998), *no.* 1, 25–83. (Roy Joshua) **99c:55009** 55N91 (14F25, 14F32, 16E99, 18G10, 55N33)

Kotukhov, M. P. (*with* Zhegalov, V. I.) On integral equations for the Riemann function. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 26–30; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 1, 24–28. (A. O. Oganesyan) **99b:35119** 35L10 (35L25, 45A05)

Kotulski, Z. A. (*with* Szczepański, Janusz) On two motions of a particle driven by equivalent ergodic and chaotic reflection laws. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 5, 865–875. (Summary) **99k:58122** 58F13 (58F11)

Kotz, Samuel (*with* Johnson, Norman Lloyd[2]; Balakrishnan, Narayanaswamy) ★ Discrete multivariate distributions. (English summary) Wiley Series in Probability and Statistics: Applied Probability and Statistics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xxii+299 *pp. ISBN* 0-471-12844-9 (D. N. Shanbhag) **99h:62014** 62E15 (60C05, 60E05, 62H05)

— (*with* Fang, Kai-Tai; Liang, Jia-Juan) On multivariate vertical density representation and its application to random number generation. (English summary) *Statistics* **30** (1997), *no.* 2, 163–180. (Summary) **99a:62006** 62–09 (62H05, 65C10)

— (*with* Balakrishnan, Narayanaswamy; Johnson, Norman Lloyd[2]) A note on relationships between moments, central moments and cumulants from multivariate distributions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 49–54. 62H05

— *see also* **Encyclopedia: Statistical sciences, 99a:62001a**; **99a:62001b**; **Leading personalities in statistical sciences, 99c:62002**; **Breakthroughs in statistics, 99d:62001** *and* **Encyclopedia: Statistical sciences, 99m:62001**

Kotzé, Wesley Fuzzy sobriety and fuzzy Hausdorff. (English summary) 16th Linz Seminar on Fuzzy Set Theory (1994). *Quaestiones Math.* **20** (1997), *no.* 3, 415–422. (*see* **99c:54002**) 54A40

— *see also* **Seminar: Fuzzy Set Theory, 99c:54002**

Kou, Hui The reflective and coreflective subcategories of the category of complete semilattices. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 495–499. (Summary) **99h:18006** 18B99 (06A12, 18A40)

Kou, Ji Song (*with* Li, Shu Quan; Li, Min Qiang) Random functional analysis for canonical genetic algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 97–101. 90C27 (90C90)

Kou, Shing-Gang (*with* Broadie, Mark; Glasserman, Paul) A continuity correction for discrete barrier options. (English summary) *Math. Finance* **7** (1997), *no.* 4, 325–349. (Summary) **99k:90023** 90A09 (60K40)

Kou, Xin Min (*with* Luo, Gong Liang; Chai, Tian You) A robust back propagation algorithm for identification of dynamical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 929–932. 93B30 (93B36)

Koua Brou, Jean-Claude Enlèvement de nœuds par différences divisées pour courbes B-spline. (English and French summaries) [Knot removal for B-spline curves: divided difference approach] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 211–215. (Summary) **99f:65017** 65D07

Kouadik, S. (*with* Kachkachi, M.) Proof of Polyakov conjecture on supercomplex plane. (English summary) *J. Math. Phys.* **38** (1997), *no.* 8, 4336–4342. (Alice Rogers) **99a:81162** 81T40 (14M30, 58A50, 81T60)

Kouatchou, Jules Asymptotic stability of a 9-point multigrid algorithm for convection-diffusion equations. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 153–161 (*electronic*). (Summary) **99a:76098** 76M20 (65N06, 65N22, 65N55, 76Rxx)

— (*with* Gupta, Murli M.) Symbolic derivation of finite difference approximations for the three-dimensional Poisson equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 593–606. (N. L. Vulchanov) **99h:65180** 65N06 (35–04, 68Q40)

Koubek, V. (*with* Sichler, J.) On full and faithful Kan extensions. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 3, 291–332. (M. Barr) **99i:18004** 18B15 (18A20, 18A22, 18A40)

— (*with* Sichler, J.) Equimorphy in varieties of distributive double p-algebras. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 473–544. (Vlad Boicescu) **99g:06014** 06D15 (06E15, 08A35, 08B99, 18B15, 54F05)

— (*with* Goralcik, P.) On the disjunctive set problem. (English and French summaries) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 99–118. (G. J. Lallement) **99e:20080** 20M35 (68Q25)

Koubi, Malik Croissance uniforme dans les groupes hyperboliques. (English and French summaries) [Uniform growth in hyperbolic groups] *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 5, 1441–1453. (Nadia Benakli) **99m:20080** 20F32 (57M07)

Koudou, Angelo Efoévi (*with* Barndorff-Nielsen, Ole E.) Trees with random conductivities and the (reciprocal) inverse Gaussian distribution. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 2, 409–424. (Edward C. Waymire) **99i:60017** 60B99 (60K99)

— Lancaster bivariate probability distributions with Poisson, negative binomial and gamma margins. (English summary) *Test* **7** (1998), *no.* 1, 95–110. (Moshe Shaked) **99i:62025** 62E15

Kouémou-Patcheu, Solange Decay estimates for some nonlinear damped Petrovsky system. (English summary) *Afrika Mat.* (3) **9** (1998), 27–40. (Summary) **99a:35188** 35L75 (35B45, 93C20)

Koufogiorgos, Themis (*with* Baikoussis, Christos) Helicoidal surfaces with prescribed mean or Gaussian curvature. *J. Geom.* **63** (1998), *no.* 1-2, 25–29. (Jaime B. Ripoll) **99i:53003** 53A10 (53C45)

Kouhestani, Nader (*with* Drici, Zahia; Vatsala, Aghalaya) Generalized quasilinearization for impulsive reaction-diffusion equations with fixed moments of impulses. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 245–257. (Lidia Skóra) **99e:35237** 35R10 (34A45, 35K57)

Kouibia, A. (*with* Pasadas, M.; Torrens, J. J.) Fairness approximation by modified discrete smoothing D^m-splines. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 295–302, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65047** 65D17 (65D07, 65D10)

Kouider, Mekkia (*with* Winkler, Peter M.) Erratum: "Mean distance and minimum degree" [J. Graph Theory **25** (1997), no. 1, 95–99; MR 98d:05049]. *J. Graph Theory* **30** (1999), *no.* 3, 243. 05C12 (05C35)

Koukiou, F. Directed polymers in random media and spin glass models on trees. (English summary) *Classical and modern branching processes (Minneapolis, MN, 1994)*, 171–179, *IMA Vol. Math. Appl.*, **84**, *Springer, New York*, 1997. (Summary) **99c:60150** 60J15 (60K35, 82D30, 82D60)

Koukkous, A. (*with* Gielis, G.; Landim, C.) Equilibrium fluctuations for zero range processes in random environment. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 187–205. (Timo Seppäläinen) **99g:60187** 60K35 (82C22)

Koukoutsis, E. (*with* Papaodysseus, C.; Halkias, C. C.; Roussopoulos, G.) A parallelizable recursive least squares algorithm for adaptive filtering, with very good tracking properties. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 275–292. (Summary) **99k:94014** 94A12

Koukouvinos, Christos (*with* Mitrouli, Marilena; Karcanias, N.) Numerical aspects for nongeneric computations in control problems and related applications. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 5–19. (Summary) **99b:65060** 65F35 (93B40)

— (*with* Mitrouli, Marilena) On the computation of the Smith normal form of compound matrices. (English summary) *Numer. Algorithms* **16** (1997), *no.* 2, 95–105 (1998). (Wasin So) **99d:15009** 15A21

— (*with* Mitrouli, Marilena; Seberry, Jennifer) Numerical algorithms for the computation of the Smith normal form of integral matrices. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 127–162. (Summary) **99j:15020** 15A21

— (*with* Mitrouli, Marilena; Seberry, Jennifer) Necessary and sufficient conditions for some two variable orthogonal designs in order 44. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 267–287. (Summary) **99k:05040** 05B15

— Some new three and four variable orthogonal designs in order 36. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 21–27. (Summary) **99i:62172** 62K15

Kouksov, Dmitri *see* **Kuksov, Dmitri**

Koul, Hira L. (*with* Schick, Anton) Efficient estimation in nonlinear autoregressive time-series models. (English summary) *Bernoulli* **3** (1997), *no.* 3, 247–277. (Adhir K. Basu) **99a:62132** 62M10

— (*with* Schick, Anton) Testing for the equality of two nonparametric regression curves. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 2, 293–314. (M. Hušková) **99g:62058** 62G10

— (*with* Giraitis, Liudas) Estimation of the dependence parameter in linear regression with long-range-dependent errors. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 2, 207–224. (Peter M. Robinson) **99b:62145** 62M15

— (*with* Stute, Winfried) Regression model fitting with long memory errors. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 35–56. (Alexander G. Kukush) **99m:62090** 62J02 (62F05)

— *see also* **Special Issue: Susarla, Vyaghreshwarudu, 99i:62003**

Koulamas, Christos (*with* Kyparisis, George J.) Open shop scheduling to minimize the number of late jobs. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 5, 525–532. (Summary) **99c:90067** 90B35

Koulibaly, Akry (*with* Pilabré, N. Boukary) Sur la dupliquée Lie admissible d'une algèbre. (English and French summaries) [On the Lie-admissible duplicate of an algebra] *Afrika Mat.* (3) **9** (1998), 73–85. (Alberto Elduque) **99e:17044** 17D25 (17D92)

Koulmann, Pascale Dimensions des matrices antisymétriques de polynôme minimal donné. [Dimensions of antisymmetric matrices with given minimal polynomial] *Comm. Algebra* **26** (1998), *no.* 10, 3361–3381. (Sophie Tarbouriech) **99i:15016** 15A18

Koumandos, Stamatis (*with* Brown, Gavin[1]) A new bound for the Fejér-Jackson sum. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 21–30. (Gradimir V. Milovanović) **99f:42003** 42A05 (42A32)
— Monotonic trigonometric sums and coefficients of Bloch functions. (English summary) *Illinois J. Math.* **43** (1999), *no.* 1, 100–112. (Tord H. Ganelius) **99j:30037** 30D45 (42A20)
Koumboulis, F. N. (*with* Kučera, Vladimír) Partial model matching via static feedback (the multivariable case). (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 386–392. 93B30 (93B52)
Koumoto, Takuya (*with* Takata, Toyoo; Kasami, Tadao; Lin, Shu) A low-weight trellis-based iterative soft-decision decoding algorithm for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 731–741. (Simon N. Litsyn) **99m:94059** 94B35
Kounadis, Anthony N. Double zero eigenvalues in regions of divergence in autonomous non-potential systems. (English and Serbian summaries) *Theoret. Appl. Mech.* **23** (1997), 83–104. 70K99 (73K12)
Kounchev, Ognyan I. Extremizers for the multivariate Landau-Kolmogorov inequality. (English summary) *Multivariate approximation (Witten-Bommerholz, 1996)*, 123–132, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (Summary) **99a:41011** 41A17 (41A63)
— (*with* Haußmann, Werner) Variational property of the Peano kernel for harmonicity differences of order p. *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 185–199, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (L. L. Schumaker) **99i:41031** 41A63 (41A15, 46E99, 46N20)
— (*with* Dryanov, Dimiter P.) Polyharmonically exact formula of Euler-Maclaurin, multivariate Bernoulli functions, and Poisson type formula. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 515–520. (G. A. Evans) **99j:65003** 65B15 (65D32)
Kouneiher, J. (*with* da Costa, Newton C. A.; Balan, A. P. M.) Continu et infinis: introduction à l'analyse pré- et antéréelle. (English summary) [The continuum and the infinite: introduction to pre- and ante-real analysis] *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 51–64 (1998). (W. A. J. Luxemburg) **99i:26031** 26E30 (03H05)
Kounnas, Costas (*with* Kiritsis, Elias) Infrared-regulated string theory and loop corrections to coupling constants. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 287–308, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81192** 81T30 (81T15)
— (*with* Kiritsis, Elias; Petropoulos, P. M.; Rizos, J.) Universality properties of $N = 2$ and $N = 1$ heterotic threshold corrections. (English summary) *Nuclear Phys. B* **483** (1997), *no.* 1-2, 141–171. (Summary) **99b:81196** 81T30
— (*with* Kiritsis, Elias) Perturbative and non-perturbative partial supersymmetry breaking: $N = 4 \to N = 2 \to N = 1$. (English summary) *Nuclear Phys. B* **503** (1997), *no.* 1-2, 117–156. (Summary) **99g:81172** 81T30 (11F27, 81R40)
— (*with* Kumar, Alok[2]) BPS states in $N = 3$ superstrings. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 216–242. (C. Gauthier) **99d:81123** 81T30
— (*with* D'Auria, Riccardo; Ferrara, Sergio) $N = (4, 2)$ chiral supergravity in six dimensions and solvable Lie algebras. (English summary) *Phys. Lett. B* **420** (1998), *no.* 3-4, 289–299. (Mario Trigiante) **99g:83081** 83E50 (17B30, 81T50)
Kountanis, Dionysios (*with* Ichishima, Rikio; Saba, Farrokh) Connectivity and topological properties of the Z-cube architecture. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 163–173. (Qiao Li) **99m:68153** 68R10
Kour, Kamaljeet (*with* Singh, Bhopinder) Dynamical systems on weighted spaces of continuous functions. (English summary) *Math. Today (Ahmedabad)* **14** (1996), 33–38. (Summary) **99d:47030** 47B38 (46E40, 47D03)
— (*with* Singh, Bhopinder) Composition operators on a locally convex space of continuous functions. (English summary) *Math. Forum* **11** (1997), 16–20. (Summary) **99i:47063** 47B38
Kouri, Donald J. (*with* Huang, Youhong; Hoffman, David K.) Time-independent wavepacket quantum mechanics. *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics (Minneapolis, MN, 1995)*, 83–101, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Vladimir Georgescu) **99g:81225** 81U05 (81Q15)
— (*with* Wei, Guo Wei[2]; Zhang, De Sheng; Althorpe, S. C.; Hoffman, David K.) Wavelet-distributed approximating functional method for solving the Navier-Stokes equation. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 18–24. (Summary) **99h:76077** 76M25 (65M70, 76D05)
Kourie, Derrick G. (*with* Oosthuizen, G. Deon) Lattices in machine learning: complexity issues. (English summary) *Acta Inform.* **35** (1998), *no.* 4, 269–292. (Summary) **99a:68143** 68T05 (06A15, 06B05)
Kouritzin, Michael A. (*with* Dawson, Donald A.) Invariance principles for parabolic equations with random coefficients. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 2, 377–414. (Hisao Watanabe) **99c:60128** 60H15 (35B25, 35K25, 35R60, 60F17)
— Stochastic processes and perturbation problems defined by parabolic equations with a small parameter. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4089–4099. (Hisao Watanabe) **99d:60070** 60H15 (35K99, 35R60)
— On exact filters for continuous signals with discrete observations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 709–715. (Summary) **99a:93100** 93E11
Kourogenis, Nikolaos C. (*with* Papageorgiou, Nikolaos S.) Periodic solutions for quasilinear vector differential equations with maximal monotone terms. (English summary) *Discuss. Math. Differential Incl.* **17** (1997), *no.* 1-2, 67–81. (Veli-Matti Hokkanen) **99e:34049** 34C25 (34A40, 47H15)
— (*with* Papageorgiou, Nikolaos S.) On nonlinear elliptic problems with discontinuities. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 323–334. (Ya Zhe Chen) **99d:35049** 35J60 (35J20)
— (*with* Papageorgiou, Nikolaos S.) On a class of quasilinear differential equations: the Neumann problem. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 3, 273–282. (Tetsutaro Shibata) **99m:34037** 34B15 (47H05, 47H15, 47N20)
Kourouklis, Stavros (*with* Iliopoulos, George) On improved interval estimation for the generalized variance. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 2, 305–320. (Summary) **99a:62034** 62F25
Kourouma, Moussa Harmonic sections of Riemannian fiber bundles. *Afrika Mat.* (3) **8** (1997), 17–37. (Yuan-Jen Chiang) **99d:58047** 58E20 (53C20, 58D15)
Koussoulas, Nick T. (*with* Demongodin, Isabel) Differential Petri nets: representing continuous systems in a discrete-event world. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 573–579. (*see* **99a:93006**) 93C83 (93C55)
ghorbani Koutanaee, A. *see* **Ghorbani Koutanaee, A.**
pietkiewicz-Koutny, Marta *see* **Pietkiewicz-Koutny, Marta**
Koutroumbas, K. (*with* Kalouptsidis, N.) Neural network architectures for selecting the maximum input. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 1-2, 25–32. 68T05
Koutsougeras, Leonidas C. A two-stage core with applications to asset market and differential information economies. (English summary) *Econom. Theory* **11** (1998), *no.* 3, 563–584. (Summary) **99b:90040** 90A60 (90D12)
Koutsoumbas, G. (*with* Ambjørn, Jan; Savvidy, George) Four-dimensional gonihedric gauge spin system. (English summary) *Europhys. Lett.* **46** (1999), *no.* 3, 319–325. (Summary) **99m:81272** 81T80 (82B80)
Koutsoupias, Elias (*with* Grigni, Michelangelo; Papadimitriou, Christos H.) An approximation scheme for planar graph TSP. (English summary) *36th Annual Symposium on Foundations of Computer Science (Milwaukee, WI, 1995)*, 640–645, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25
— (*with* Deng, Xiao Tie; MacKenzie, Philip D.) Competitive implementation of parallel programs. (English summary) *Algorithmica* **23** (1999), *no.* 1, 14–30. (Summary) **99h:68047** 68Q10 (68N20, 68Q22)
— (*with* Gafni, Eli) Three-processor tasks are undecidable. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 970–983 (*electronic*). (Summary) **99k:68071** 68Q22 (68Q10)
Kouvaritakis, B. (*with* Basilio, J. C.) Design of causal reversed-frame-normalizing controllers using bicausal expansions. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 1–14. 93D15 (93B51)
— (*with* Rossiter, J. A.; Ju, G. J.) Robust stable generalized predictive control. (English summary) *Internat. J. Control* **67** (1997), *no.* 3, 411–434. 93D21 (93B36)
— (*with* Gossner, J. R.; Rossiter, J. A.) Cautious stable predictive control: a guaranteed stable predictive control algorithm with low input activity and good robustness. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 675–697. 93D15 (93B30)
— (*with* Cannon, M.) Fast suboptimal predictive control with guaranteed stability. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 19–29. (Summary) **99e:93085** 93E20 (49K15)
— (*with* Cannon, M.; Rossiter, J. A.) Recent developments in generalized predictive control for continuous-time systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 2, 164–173. (De Xing Feng) **99m:93058** 93C40 (93E35)
Kouvatsos, Demetres D. (*with* Skianis, Charalabos A.) Arbitrary open queueing networks with server vacation periods and blocking. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 143–180. (Summary) **99b:90061** 90B22 (60K25)
— (*with* Awan, Irfan-Ullah) MEM for arbitrary closed queueing networks with RS-blocking and multiple job classes. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 231–269. (Summary) **99c:90053** 90B22 (60K25)
— *see also* **Queueing networks with blocking. 99a:90010**
Kouvelis, Panagiotis (*with* Yu, Gang[2]) ★ Robust discrete optimization and its applications. (English summary) Nonconvex Optimization and its Applications, 14. *Kluwer Academic Publishers, Dordrecht*, 1997. xvi+356 *pp. ISBN* 0-7923-4291-7 (Ignacy Kaliszewski) **99b:90002** 90–02 (90C10, 90C27)
— (*with* Vairaktarakis, George L.) Incorporation dynamic aspects and uncertainty in 1-median location problems. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 2, 147–168. 90B80 (90C90)
Kovac, Jeffrey Dynamics of polymers near the theta point. *Numerical methods for polymeric systems (Minneapolis, MN, 1996)*, 197–201, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60
Kovačević, Branko D. (*with* Filipović, Vojislav Ž.) On robustified adaptive minimum-variance controller. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 117–129. 93E12 (93B36)
— (*with* Đurović, Željko M.) Robust estimation with unknown noise statistics. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1292–1296. 93E10 (93E11)
Kovačević, Ilija On M_n subsets. (English summary) *Novi Sad J. Math.* **27** (1997), *no.* 1, 45–52. (Miguel Caldas Cueva) **99k:54014** 54D20 (54C10)
Kovačević, Jelena (*with* Bernardini, Riccardo) Local bases: theory and applications. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 153–180, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99k:94010** 94A12 (42C15, 94A29)
Kovacevic, R. (*with* Yao, Yi Xin; Zhang, Yu Ming[1]) Functional observer and state feedback for input time-delay systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 603–617. 93B07 (93C30)
Kovačević-Vujčić, V. V. (*with* Krčevinac, Slobodan) Jovan Petrić (1930–1997). *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, *iii*, 1–8. (Editors) **99m:01073** 01A70
— (*with* Čangalović, M. M.; Ašić, M. D.; Ivanović, L.; Dražić, M.) TABU search methodology in global optimization. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 125–133. (Summary) **99k:90157** 90C30 (65K05)
Kovacheva, R. K. (*with* Andrievskii, Vladimir V.; Blatt, H.-P.) Approximation on an unbounded interval. (English summary) *Analysis* **17** (1997), *no.* 2-3, 197–218. (D. J. Leeming) **99a:41014** 41A20 (31A15)
— An analogue of Montel's theorem to rational approximating sequences. *C. R. Acad. Bulgare Sci.* **50** (1997), *no.* 3, 9–12. (Lai Yi Zhu) **99e:30029** 30E10 (41A20)
Kovács, Attila Computer algebra in science and practice. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 181–202 (1999). 68Q40
Kovacs, Edith (*with* Halic, Gheorghe) Partial H-derivatives. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I (Arad, 1997)*, 71–76, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 26A24
— (*with* Halic, Gheorghe) Remarks on the "H-derivative" concept. (English and Romanian summaries) *Proceedings of the Scientific Communications Meeting of "Aurel*

Vlaicu" University, Vol. 14*A* (*Arad*, 1996), 77–80, "*Aurel Vlaicu*" *Univ. Arad, Arad*, 1997. (*see* **99i:00027**) 26A24

Kovács, Gábor Z. (*with* Hangos, Katalin M.) Notes on μ and l_1 robustness tests. (English summary) *Kybernetika* (*Prague*) **34** (1998), *no.* 5, 565–578. (Abdelmoula El Bouhtouri) **99j:93075** 93D09 (93B35, 93C05)

Kovács, L. G. Finite groups with trivial multiplicator and large deficiency. (English summary) *Groups—Korea '94* (*Pusan*), 211–225, *de Gruyter, Berlin*, 1995. (Colin M. Campbell) **99d:20043** 20F05

Kovács, László Solvability of a special assignment problem. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **36** (1996), *no.* 2, 77–86. 90C27 (90C35)

Kovacs, Stefano (*with* Bianchi, Massimo; Rossi, Giancarlo; Green, Michael B.) Instantons in supersymmetric Yang-Mills and D-instantons in IIB superstring theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 13, 35 *pp.* (*electronic*). (Daniel N. Kabat) **99m:81241** 81T60 (81T13, 81T30)

Kovács, Zoltán (*with* Hermann, Thomas[1]; Várady, Tamás) Special applications in surface fitting. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 14–31, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65021** 65D17 (65D10)

Koval', Gennadii V. On the exact solution of a many-fermion problem in the form of Maslov pairs. (English summary) *Russian J. Math. Phys.* **5** (1997), *no.* 4, 527–528 (1998). (Oleg Yu. Shvedov) **99e:81273** 81V70 (82D50)

— On the asymptotic limit of matrix elements of a canonical operator for a complex germ at a point. (Russian) *Mat. Zametki* **63** (1998), *no.* 3, 479–480; *translation in Math. Notes* 63 (1998), *no.* 3-4, 422–423. (Leonid B. Parnovskiĭ) **99m:58187** 58G15

Koval', M. Yu. (*with* Romanenko, V. D.) Sensitivity of multirate discrete control systems under conditions of uncertainty about the speeds of the separating motions. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 6, 96–107, 156–157. 93C55 (93C70)

Koval', T. L. An estimate for the rate of convergence in the central limit theorem foe martingale fields. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 103–106; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 107–110 (1998). 60F05 (60G60)

Koval', V. A. The law of the iterated logarithm for Gaussian sequences and its applications. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 66–71; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 69–75. (Sergei Utev) **99h:60063** 60F15 (60G15, 60H99)

— (*with* Schwabe, Rainer) Limit theorems for solutions of stochastic difference equations in Banach spaces with applications. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 149–158. (Michel Benaïm) **99m:60098** 60H25 (60B12, 60F15)

— (*with* Schwabe, Rainer) Exact bounds for the rate of convergence in general stochastic approximation procedures. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 501–515. (Jacek Koronacki) **99e:62142** 62L20

Koval', V. N. (*with* Kuk, Yu. V.) A test for many hypotheses by means of an optimal extended nonrandomized procedure. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1042–1054; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1169–1182 (1998). (J. A. Melamed) **99c:62042** 62F03

Koval', V. O. *see* **Koval', V. A.**

Koval, Valery *see* **Koval', V. A.**

Koval'chuk, P. S. (*with* Boyarshina, L. G.) On an approach to the computation of three-dimensional auto-oscillations of a rigid body with a cylindrical cavity partially filled with a liquid. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **34** (1998), *no.* 4, 85–93; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 4, 377–384. 70E15 (76B99)

Koval'chuk, S. M. Determination of the coefficient of thermal conductivity and heat capacity per unit volume in a multilayer medium. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 2042–2047. 35R30 (80A23)

— (*with* Ivanchov, M. Ĭ.) Inverse problems for the heat equation in a composite domain. (Ukrainian. English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 1, 53–69, 110. 35R30 (35K05)

Kovalenko, A. V. (*with* Skiba, A. N.) On solvable local formations of finite groups with a premaximal π-decomposable local subformation. (Russian. English summary) *Problems in algebra, No.* 7 (*Russian*), 94–102, *Gomel. Gos. Univ., Gomel'*, 1992. (*see* **99g:20003**) 20D10

Kovalenko, E. V. On an integral equation for mixed problems of mathematical physics with a change of boundary conditions on the annulus. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 1, 26–28. 65R20 (45A05)

Kovalenko, Igor N. A proof of a conjecture of David Kendall on the shape of random polygons of large area. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 3–10, 187; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 461–467 (1998). (V. K. Oganyan) **99c:60019** 60D05 (52A22)

— On certain random polygons of large areas. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 369–376. (Dietrich Stoyan) **99g:60021** 60D05

Kovalenko, N. S. (*with* Metel'skiĭ, V. M.) Organization of the synchronous execution of distributed competing processes. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 117–121, 143. 68M20

Kovalenko, S. M. (*with* Shkil', Nikolaĭ Ivanovich; Zavizion, G. V.) On a mixed problem for a system of differential equations of the hyperbolic type with rotation points. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 297–306, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Ya. A. Roĭtberg) **99c:35138** 35L20

Kovalenko, V. Ĭ. Some classes of finite groups with normal nonmetacyclic subgroups. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 17–20. 20D10

Kovalev, A. G. On the reduction of Yang-Mills instantons to Nahm's equations. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 165–166; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1305–1306. (Roger Bielawski) **99c:53016** 53C07 (58D27)

Kovalev, A. M. (*with* Shcherbak, Vladimir F.) Inverse problems of nonlinear control systems. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **2** (1997), *no.* 7, 241–253. (Sauro Longhi) **99f:93073** 93C10 (93B30)

— (*with* Kharlamov, Pavel V.) Invariant relations method in multibody dynamics. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3817–3828. (*see* **98h:00034**) 70E15 (34H05, 70E99, 70Q05)

— Criteria for functional controllability and invertibility of nonlinear systems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 110–120; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 103–113. (Stanisław Walczak) **99f:93012** 93B05 (49N50, 93B07)

Kovalev, L. V. On the problem of extremal partitioning with free poles on the circle. (Russian. English summary) *Dal'nevost. Mat. Sb. No.* 2 (1996), 96–98, 199. (Jan Stankiewicz) **99j:30028** 30C75 (30C55)

Kovalëv, M. Ya. (*with* Brucker, Peter; Shafranskiĭ, Ya. M.; Werner, Frank) Batch scheduling with deadlines on parallel machines. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 23–40. (Roman Słowiński) **99k:90082** 90B25 (65Y05, 68Q25)

— (*with* Shafranskiĭ, Ya. M.) Uniform machine scheduling of unit-time jobs subject to resource constraints. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 253–257. (Summary) **99b:90071** 90B35

— (*with* Cheng, T. C. Edwin; Janiak, Adam) Bicriterion single machine scheduling with resource dependent processing times. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 617–630. (Summary) **99a:90108** 90B35 (90C30)

Kovalev, P. A. (*with* Modebadze, T. A.) Optimal control of a nonlinear stationary heat-exchange process in a dispersive layer of pellets taking into account heat radiation. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 100–117, 155. 49K20 (49J20)

Kovalev, V. L. (*with* Krupnov, A. A.) Numerical investigation of an inviscid flow in a shock layer near blunt bodies by the global iteration method. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 85–90, 112–113. (Summary) **99e:76089** 76M25 (76J20, 76L05)

Kovaleva, A. S. Near-resonance motions in systems with random perturbation. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 49–55; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 43–49. (Summary) **99d:70034** 70K30 (34C99, 34E05, 34F05, 70L05)

— Asymptotic solution of the problem of the optimal control of nonlinear near-resonant oscillations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 6, 913–922. 49M30 (34H05, 70Q05)

Kovalevskaia, Sofia *see* **Kovalevskaya, Sof'ya Vasil'evna**

Kovalevskaya, È. I. Simultaneous approximations and an effective estimate of measures of sets with given Diophantine properties. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 14–17, 122. (Eugene M. Matveev) **99a:11089** 11J83

Kovalevskaya, Sof'ya Vasil'evna *see* **Bölling, Reinhard**, **99k:01047** *and* (**99k:01080**)

Kovalevskiĭ, A. A. G-compactness of a sequence of nonlinear elliptic high order operators corresponding to Neumann problems in variable domains. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 5, 21–24. (Gong Qing Zhang) **99e:35052** 35J60 (35B40)

— On strong G-convergence of nonlinear elliptic high order operators corresponding to Dirichlet problems in variable domains. (Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 6, 27–30. (Gong Qing Zhang) **99e:35053** 35J60 (35B40)

Kovalishina, I. V. Integral representation of functions of class $\mathcal{H}_a$. (English summary) *Topics in interpolation theory* (*Leipzig*, 1994), 351–359, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (Hendrik S. V. de Snoo) **99a:47024** 47A57

Kovalyov, M. Why singular solutions of KdV should not be ignored. *Differential equations and applications* (*Hangzhou*, 1996), 127–137, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 35Q53

— (*with* Agapov, V.) Linear spaces of solutions of KdV. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **5** (1997), *no.* 3, 313–318. (From the text) **99g:35114** 35Q53 (46E99, 46N20)

— Inverse scattering and infinite matrices. *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1159–1176. (Mayumi Ohmiya) **99c:34196** 34L25 (34A55, 35Q53, 35R30)

— Basic motions of the Korteweg-de Vries equation. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 599–619. (Eugene Schlereth) **99f:35177** 35Q53 (35C05, 35P25)

Kovalyov, Mikhail Y. *see* **Kovalëv, M. Ya.**

Kovár, Martin Maria On mutual compactificability and compactificability classes. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 173–178 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54D35

Kovar, Thomas (*with* Martin, Philippe André[1]) Scattering with a periodically kicked interaction and cyclic states. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 385–396. (Summary) **99a:81186** 81U05

Kovář, Tomáš On normal autometrics in commutative lattice ordered groups. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 1, 25–33. (Summary) **99b:06018** 06F20 (20F60)

Kovats, Jay Fully nonlinear elliptic equations and the Dini condition. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1911–1927. (Achilles Tertikas) **99h:35048** 35J60

Kovenock, Dan (*with* Roy, Suddhasatwa) Dynamic capacity choice in a Bertrand-Edgeworth framework. (English summary) *J. Math. Econom.* **29** (1998), *no.* 2, 135–160. (Summary) **99h:90009** 90A08 (90D10)

Kovner, Alex (*with* Rosenstein, Baruch) Strings and string breaking in $(2+1)$-dimensional nonabelian theories. (English summary) *J. High Energy Phys.* **1998**, *no.* 9, *Paper* 3, 25 *pp.* (*electronic*). (Christophe Grojean) **99k:81255** 81T30 (81T13)

— (*with* Kogan, Ian I.; Shifman, Mikhail) More on supersymmetric domain walls, N counting, and glued potentials. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5195–5213. 81V05 (81T60)

Kovrizhkin, O. G. (*with* Litvin, A. A.) Synthesis of relay controls in analytic form in the solution of the terminal optimization problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 97–103, 155–156. 49N35 (93B50)

— (*with* Litvin, A. A.) A numerical-analytic approach to the solution of the terminal optimization problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 70–77, 156. 49M05 (49K15)

Kovtun, Igor' Ivanovich A matrix-relational data model for representing and processing information in automated monitoring and control systems. (Russian) *Programmirovanie* **1997**, *no.* 6, 58–72; *translation in Program. Comput. Software* **23** (1997), *no.* 6, 331–341. 68P15 (93C95)

Kovtunenko, V. A. (*with* Leont'ev, A. N.; Khludnev, A. M.) The problem of the equilibrium of a plate with an oblique cut. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 164–174. (Summary) **99h:73043** 73K10 (73T05, 73V25)

— A variational and a boundary value problem with friction on the interior boundary. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 5, 1060–1073, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 5, 913–926. (Summary) **99e:35084** 35J85 (49M30, 73K10, 73T05, 73V25)

Kovyazina, E. M. Butler groups with one τ-adic relation. (Russian. Russian summary) *Mat. Zametki* **60** (1996), *no.* 6, 882–887, 959; *translation in Math. Notes* **60** (1996), *no.* 5-6, 666–670 (1997). (L. Bican) **99d:20086** 20K15

Kovzanadze, I. K. On sequentially mesocompact and boundedly sequentially mesocompact spaces. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzin. SSR* **140** (1990), *no.* 2, 253–256 (1991). 54D20

— On boundedly mesocompact and sequentially mesocompact spaces. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 194–196 (1996). 54D20

Kowada, Masashi The problem of measurement. I. (Japanese. English summary) *Bull. Nagoya Inst. Tech.* **50** (1998), 7–10 (1999). 00A79 (00A30)

— (*with* Igaki, Nobuko; Sumita, Ushio) On a generalized $M/G/1$ queue with service degradation/enforcement. (English summary) *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 3, 415–429. (K. M. Ramachandran) **99m:90075a** 90B22 (60K25)

— (*with* Igaki, Nobuko; Sumita, Ushio) Erratum: "On a generalized $M/G/1$ queue with service degradation/enforcement". *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 4, 646. (K. M. Ramachandran) **99m:90075b** 90B22 (60K25)

— (*with* Igaki, Nobuko) A parallel queueing system $GI/M/2$ with probabilistic branching. (English summary) *Math. Japon.* **48** (1998), *no.* 3, 461–470. (Yannis A. Phillis) **99k:90076** 90B22 (60K25, 68M20)

zubik-Kowal, Barbara *see* **Zubik-Kowal, Barbara**

Kowalczyk, Maciej Nonlinear analysis based on homogeneous incremental systems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 277–297. (Summary) **99a:73076** 73H05 (65H20, 73K99)

Kowalczyk, Teresa Properties of the standard concepts of monotone dependence based on separation curves. (English summary) *Discuss. Math. Algebra Stochastic Methods* **17** (1997), *no.* 2, 143–156. (Summary) **99b:62092** 62H05 (62H20)

Kowalenko, Victor (*with* Glasser, M. Lawrence) A method for evaluating Laplace transforms and other integrals. (English summary) *Integral Transform. Spec. Funct.* **5** (1997), *no.* 3-4, 161–184. (R. S. Dahiya) **99k:44002** 44A10 (44A20)

— Employing transform orthogonality in the determination of integral identities involving arbitrary functions. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 261–273, *VSP, Utrecht*, 1998. (Summary) **99g:44003** 44A10 (33C10, 44A20)

— (*with* Rawlinson, Andrew A.) Mellin-Barnes regularization, Borel summation and the Bender-Wu asymptotics for the anharmonic oscillator. (English summary) *J. Phys. A* **31** (1998), *no.* 38, *L*663–*L*670. (Summary) **99e:81041** 81Q05

łędzewicz-Kowalewska, Urszula *see* **Łędzewicz-Kowalewska, Urszula**

Kowalewskaja, Sofja *see* **Kovalevskaya, Sof'ya Vasil'evna**

Kowalewski, Adam (*with* Krakowiak, Anna) Time-optimal control of a parabolic system with multiple time-varying lags. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 471–489. (Ovidiu Cârjă) **99h:49036** 49K25 (34K35, 49J25)

— Optimal control of a distributed hyperbolic system with multiple time-varying lags. (English summary) *Internat. J. Control* **71** (1998), *no.* 3, 419–435. (Summary) **99h:49033** 49K20 (93C20)

Kowalska, Elżbieta (*with* Kowalski, Zbigniew S.) Eigenfunctions for quasi-Markovian transformations. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 303–311. (Bernard Schmitt) **99h:28035** 28D05 (05C38, 05C50)

Kowalski, Jeanne (*with* Tu, Xin M.; Day, Roger S.; Mendoza-Blanco, José R.) On the rate of convergence of the ECME algorithm for multiple regression models with t-distributed errors. (English summary) *Biometrika* **84** (1997), *no.* 2, 269–281. (Murray A. Jorgensen) **99a:62094** 62J05

Kowalski, Krzysztof (*with* Rembieliński, Jakub) Groups and nonlinear dynamical systems: chaotic dynamics on the SU(2) × SU(2) group. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 3, 437–448. (Summary) **99c:58107** 58F13 (34A34)

Kowalski, Lucjan (*with* Gawinecki, Jerzy) Mathematical aspects of the boundary initial value problems for thermoelasticity theory of non-simple materials with control for temperature. (English summary) *Stochastic programming methods and technical applications* (*Neubiberg/Munich*, 1996), 370–381, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (*see* **99f:90007**) 35Q72 (73B30)

Kowalski, Marian (*with* Hunter, Geoffrey[2]; Ecimovic, P.; Schlifer, I.; Walker, I. M.; Beamish, D.; Donev, S.; Arslan, S.; Heck, S.) Fermion quasi-spherical harmonics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 795–803. (Summary) **99j:81032** 81Q05 (33C55, 81R05)

Kowalski, Oldřich (*with* Sekizawa, Masami) Pseudo-symmetric spaces of constant type in dimension three—elliptic spaces. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 477–512. (Eric Boeckx) **99a:53032** 53C20 (53C21)

— (*with* Nikčević, Stana Ž.) Contact homogeneity and envelopes of Riemannian metrics. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 155–167. (Eric Boeckx) **99a:53033** 53C20 (53C25, 53C30)

— (*with* Vlášek, Zdeněk) Classification of Riemannian 3-manifolds with distinct constant principal Ricci curvatures. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 59–68. (Friedbert Prüfer) **99a:53058** 53C25 (53C21, 53C30)

— (*with* Sekizawa, Masami) Pseudo-symmetric spaces of constant type in dimension three—non-elliptic spaces. (English summary) *Bull. Tokyo Gakugei Univ.* (4) **50** (1998), 1–28. (Eric Boeckx) **99j:53040** 53C20 (53C21)

— (*with* Hájková, Vladimíra) Intrinsic characterization of completely ruled hypersurfaces. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 1-2, 55–62. (Andrew Bucki) **99k:53113** 53C42

Kowalski, Piotr (*with* Rychlik, Zdzisław) On the weak law of large numbers for randomly indexed partial sums for arrays. (English summary) *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 1, 109–119. (Allan Gut) **99e:60063** 60F05

— (*with* Rychlik, Zdzisław) Limit theorems for maximal random sums. (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 13–29, *North-Holland, Amsterdam*, 1998. (Lajos Horváth) **99j:60033** 60F05 (60B10)

Kowalski, Robert A. (*with* Kakas, Antonios C.; Toni, Francesca) The role of abduction in logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 235–324, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99c:68039** 68N17 (03B70, 68T27)

— (*with* Toni, Francesca; Wetzel, Gerhard) Executing suspended logic programs. (English summary) *Fund. Inform.* **34** (1998), *no.* 3, 203–224. 68N17

Kowalski, Tadeusz (*with* Sadkowski, Wawrzyniec) Applications of C-groups to existence of solutions of some mixed problems. *Demonstratio Math.* **31** (1998), *no.* 2, 477–484. (Uljana A. Anufrieva) **99h:47047** 47D06 (34Gxx, 47N20)

Kowalski, William P. (*with* Schücking, Engelbert L.; Epstein, Jerome; Lauro, Salvatore) What is space-time made of? (English summary) *Quantum gravity* (*Erice*, 1995), 342–365, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrzej M. Frydryszak) **99m:81289** 81V25 (51P05, 83E99)

Kowalski, Zbigniew S. (*with* Kowalska, Elżbieta) Eigenfunctions for quasi-Markovian transformations. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 303–311. (Bernard Schmitt) **99h:28035** 28D05 (05C38, 05C50)

— (*with* Kamiński, Brunon) On extremal and perfect σ-algebras for flows. (English summary) *Studia Math.* **129** (1998), *no.* 2, 179–183. (Pierre Liardet) **99f:28031** 28D20 (28D10)

Kowalski-Glikman, Jerzy (*with* Błaut, A.) The time evolution of quantum universes in the quantum potential picture. (English summary) *Phys. Lett. A* **245** (1998), *no.* 3-4, 197–202. (Summary) **99d:83044** 83C45

— Black hole solution of quantum gravity. (English summary) *Phys. Lett. A* **250** (1998), *no.* 1-3, 62–66. (Summary) **99i:83063** 83C57 (83C45)

— (*with* Jarvis, P. D.; van Holten, J. W.) Off-shell κ-symmetry of the superparticle and the spinning superparticle. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 47–52. (Summary) **99b:81239** 81T60

— *see also* **Maurin, Krzysztof, 99g:00007**

Kowalsky, Hans-Joachim Stufenfunktion für ultrafilter. (German summary) [Level function for ultrafilters] *Abh. Braunschweig. Wiss. Ges.* **47** (1996), 35–49 (1997). (Editors) **99m:04001** 04A20

Kowar, R. (*with* Kabanikhin, S. I.; Scherzer, Otmar) On the Landweber iteration for the solution of a parameter identification problem in a hyperbolic partial differential equation of second order. (English summary) Inverse problems of mathematical physics (Novosibirsk, 1998). *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 5, 403–430. (Wen Huan Yu) **99k:35192** 35R30 (35L10, 65M30, 93B30)

Koyama, Kenji (*with* Sekigawa, Hiroshi) Nonexistence conditions of a solution for the congruence $x_1^k + \cdots + x_s^k \equiv N \pmod{p^n}$. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1283–1297. (Hemar Godinho) **99i:11024** 11D79 (11D88, 11P05)

Koyama, Shin-ya Arithmetic quantum chaos and quantum ergodicity. (Japanese) Analytic number theory (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 961 (1996), 53–72. (Nariyuki Minami) **99f:11067** 11F72 (81Q50)

— Prime geodesic theorem for arithmetic compact surfaces. *Internat. Math. Res. Notices* **1998**, *no.* 8, 383–388. (Thomas R. Shemanske) **99k:11076** 11F72 (11M36)

Koyama, Tetsuya (*with* Kenmochi, Nobuyuki; Meyer, Gunter H.) Parabolic PDEs with hysteresis and quasivariational inequalities. *Nonlinear Anal.* **34** (1998), *no.* 5, 665–686. (Martin Brokate) **99e:35123** 35K85 (35K60, 47H30, 49J40)

Koyama, Yoshitaka Bosonization of admissible representations of $U_q(\widehat{\mathfrak{sl}}_2)$ at level $-\frac{1}{2}$ and q-vertex operators. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 13–29. (Summary) **99e:17027** 17B37 (81R50)

— (*with* Jing, Naihuan; Misra, Kailash C.) Bosonic realizations of $U_q(C_n^{(1)})$. (English summary) *J. Algebra* **200** (1998), *no.* 1, 155–172. (Jun'ichi Shiraishi) **99c:17028** 17B37 (81R50)

— (*with* Jing, Naihuan) Vertex operators of admissible modules of $U_q(C_n^{(1)})$. (English summary) *J. Algebra* **205** (1998), *no.* 1, 294–316. (Dražen Adamović) **99g:17051** 17B69 (17B37, 17B67)

Koyanagi, Junji (*with* Kawai, Hajime) Optimal maintenance policies for servers with multiple terminals. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 194–199. (*see* **99b:90009**) 90B30 (90B05)

— (*with* Kawai, Hajime) Optimal entry time for queues. (Japanese) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 92–97. (*see* **99h:90006**) 90B22

Kozachenko, Yu. V. (*with* Buldygin, V. V.) Bernstein functionals and exponential inequalities for distributions of sums of random variables. (Ukrainian) *Mathematics today* '94, *No.* 9 (*Ukrainian*), 55–79, "*Vishcha Shkola*", *Kiev*, 1995. (*see* **99a:00016**) 60E15 (60G50)

— (*with* Trigub, S. G.) Application of the Fourier method to boundary value problems with random initial conditions. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 72–81; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 77–86. (A. Ya. Olenko) **99e:35249** 35R60 (35L20, 60G35)

Kozae, A. M. (*with* Abd El-Monsef, M. E.; Abo Khadra, A. A.) Co-s-closed topologies. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 1–4. 54A10 (54C10, 54D10)

Kozák, I. Relative motion of continua and the principle of virtual work. (English and German summaries) *Publ. Univ. Miskolc Ser. D Nat. Sci. Math.* **37** (1997), 59–75. 73B99 (73V20)

Kozak, Jernej (*with* Feng, Yu Yu; Zhang, Ming[6]) On the dimension of the C^1 spline space for the Morgan-Scott triangulation from the blossoming approach. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 71–86, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41008** 41A15 (41A63)

— (*with* Feng, Yu Yu) On spline interpolation of space data. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 167–174, *Innov.*

Appl. Math., Vanderbilt Univ. Press, Nashville, TN, 1998. (Summary) **99e:41024** 41A63 (65D07)

Kozakevich, D. N. (*with* Martínez, José Mario; Santos, Sandra Augusta) Solving nonlinear systems of equations with simple constraints. (English and Portuguese summaries) *Mat. Apl. Comput.* **16** (1997), *no.* 3, 215–235. (E. Spedicato) **99m:65113** 65H10 (90C08)

Kozakiewicz, Erwin Conditions for the absence of positive solutions of a first order differential inequality with one continuously retarded argument. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 1, 43–48. (Qing Kai Kong) **99k:34155** 34K15

Kozameh, Carlos N. (*with* Frittelli, Simonetta; Newman, Ezra T.) Describing GR by characteristic surfaces. (English summary) *Quantum gravity* (*Erice*, 1995), 213–227, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Jörg Frauendiener) **99j:83009** 83C05

— (*with* Frittelli, Simonetta; Newman, Ezra T.) An unorthodox view of GR via characteristic surfaces. *The geometric universe* (*Oxford*, 1996), 317–323, *Oxford Univ. Press, Oxford*, 1998. (Jörg Frauendiener) **99j:83056** 83C99

— (*with* Dominguez, Alfredo E.; Ludvigsen, Malcolm) Superselection sectors in asymptotic quantization of gravity. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 337–346, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (*see* **99e:81005**) 83C30 (83C05)

— (*with* Frittelli, Simonetta; Newman, Ezra T.) Erratum: "On the dynamics of characteristic surfaces" [J. Math. Phys. **36** (1995), no. 11, 6397–6416; MR 96m:53072d]. *J. Math. Phys.* **40** (1999), *no.* 2, 1113. 53C50 (53C80, 83C60)

— (*with* Frittelli, Simonetta; Newman, Ezra T.) Erratum: "Lorentzian metrics from characteristic surfaces" [J. Math. Phys. **36** (1995), no. 9, 4975–4983; MR 96m:53072a]. *J. Math. Phys.* **40** (1999), *no.* 2, 1114. 53C50 (53C80, 83C60)

— (*with* Frittelli, Simonetta; Newman, Ezra T.) Erratum: "GR via characteristic surfaces" [J. Math. Phys. **36** (1995), no. 9, 4984–5004; MR 96m:53072b]. *J. Math. Phys.* **40** (1999), *no.* 2, 1115. 53C50 (53C80, 83C60)

— (*with* Frittelli, Simonetta; Newman, Ezra T.) Erratum: "Linearized Einstein theory via null surfaces" [J. Math. Phys. **36** (1995), no. 9, 5005–5022; MR 96m:53072c]. *J. Math. Phys.* **40** (1999), *no.* 2, 1116. 53C50 (53C80, 83C60)

Kozarzewski, B. Diffusion in periodic potential Langevin versus Fokker-Planck equation approach. (English summary) *Acta Phys. Polon. B* **29** (1998), *no.* 3, 513–527. (Summary) **99a:82069** 82C31

Kozek, Andrzej S. On minimum distance estimation using Kolmogorov-Lévy type metrics. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 3, 317–333. (Lajos Horváth) **99i:62071** 62G05 (60F17, 62G20)

— (*with* Leslie, Julian R.; Schuster, Eugene F.) On a universal strong law of large numbers for conditional expectations. (English summary) *Bernoulli* **4** (1998), *no.* 2, 143–165. (Winfried Stute) **99h:60064** 60F15 (62G07)

Kozen, Dexter C. ★ Automata and computability. (English summary) Undergraduate Texts in Computer Science. *Springer-Verlag, New York*, 1997. *xiv*+400 *pp. ISBN* 0-387-94907-0 (Cristian Calude) **99j:68001** 68–01 (03D05, 03D10, 68Q05, 68Q45)

— Set constraints and logic programming. (English summary) International Conference on Constraints in Computational Logics (Munich, 1994). *Inform. and Comput.* **142** (1998), *no.* 1, 2–25. (Summary) **99c:68040** 68N17

Kozhanov, A. I. Some classes of nonstationary equations with increasing lower terms. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 875–885, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 755–764. (Peter R. Popivanov) **99m:35165** 35L70 (35Q60)

Kozhegel′dinov, S. Sh. On basic Theonian triangles. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 4, 561–569; *translation in Math. Notes* **61** (1997), *no.* 3-4, 465–472. (Summary) **99c:52011** 52A38 (51M04)

Kozhevnikov, A. N. (*with* Lepskiĭ, O. V.) Power series solutions to basic stationary boundary value problems of elasticity. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 449–469. (Joseph J. Roseman) **99g:73025** 73C02 (35Q72)

— Analyticity of the semigroup generated by the operator of a viscous compressible fluid. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 1, 1–11. (Huicheng Yin) **99k:35149** 35Q35 (47D06, 47N20, 76N10)

Kozhevnikov, Yu. V. Adaptive approximation of functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1999**, *no.* 1, 18–24. (Summary) **99k:41029** 41A30

Kozhevnikova, I. A. (*with* Naidenov, V. I.) A test for adequacy of the regression model with application to data concerning the Caspian Sea. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 800–805. (*see* **99b:62004**) 62M15

Kozhevnikova, T. V. (*with* Bakanov, K. G.; Okulov, N. A.) On a variant of the weighted residual method. (Russian. English and Russian summaries) *Dal′nevost. Mat. Sb. No.* 2 (1996), 31–36, 197. 65M60 (65M70)

Kozhukhar′, E. P. On applications of the extremal words. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 1, 122–127, 133, 135. (Yuji Kobayashi) **99h:16046** 16U50 (16N40, 16R99)

Kozhukhar′, P. A. (*with* Stanescu, M. M.) On the spectrum of some integro-differential operators. (English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1997**, *no.* 3, 23–26, 105, 108–109. (Viorel Iftimie) **99b:47074** 47G20 (45J05)

Koziarz, Vincent Annulation de la cohomologie pour les fibrés semi-positifs. (English and French summaries) [Vanishing theorems for semipositive bundles] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 143–148. (Thierry Bouche) **99h:32035** 32L20

Kozioł, Krzysztof (*with* Kula, Mieczysław) Witt rings of infinite algebraic extensions of global fields. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 131–139. (Murray Marshall) **99m:11040** 11E12 (11E08, 11E81)

Kozitskiĭ, Yu. V. (*with* Albeverio, Sergio; Kondrat′ev, Yu. G.) Suppression of critical fluctuations by strong quantum effects in quantum lattice systems. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 493–512. (Roman Gielerak) **99m:82003** 82B10 (82B27)

Kozko, A. I. Analogues of Jackson-Nikol′skiĭ inequalities for trigonometric polynomials in spaces with a nonsymmetric norm. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 5, 687–699; *translation in Math. Notes* **61** (1997), *no.* 5-6, 574–584. (Geng Zhe Chang) **99e:41012** 41A17 (26D05, 46E35)

— The exact constants in the Bernstein-Zygmund-Szegö inequalities with fractional derivatives and the Jackson-Nikolskii inequality for trigonometric polynomials. (English summary) *East J. Approx.* **4** (1998), *no.* 3, 391–416. (S. M. Mazhar) **99k:41015** 41A17 (41A10)

Kozlov, Dmitry N. (*with* Alon, Noga) Coins with arbitrary weights. (English summary) *J. Algorithms* **25** (1997), *no.* 1, 162–176. (Richard J. Nowakowski) **99f:05011** 05A99 (68Q25)

— Order complexes of noncomplemented lattices are nonevasive. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3461–3465. (Hartmut Höft) **99m:06013** 06B05

Kozlov, R. I. (*with* Filatov, O. P.) Erratum to: "Generalized Carathéodory existence theorems for a system of ordinary differential equations" [Differentsial′nye Uravneniya **31** (1995), no. 6, 1098–1099, 1104; MR 96k:34020] by È. G. Shifrin. (Russian) *Differ. Uravn.* **33** (1997), *no.* 11, 1568; *translation in Differential Equations* **33** (1997), *no.* 11, 1577 (1998). (From the text) **99k:34011** 34A34

Kozlov, R. V. (*with* Bakirova, M. I.; Dorodnitsyn, V. A.) Symmetry-preserving difference schemes for some heat transfer equations. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8139–8155. (Wei Zhong Dai) **99d:39003** 39A10 (65M06)

Kozlov, S. D. (*with* Dronov, S. V.) On generators of σ- and π-classes. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 943–945; *translation in Math. Notes* **61** (1997), *no.* 5-6, 787–789. (Alena Vencovská) **99m:03108** 03E70

Kozlov, S. E. Geometry of real Grassmannian manifolds. I, II, III. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 84–107, 108–129, 197–198. (Andrew Bucki) **99d:53051** 53C35 (15A75)

— On quadrangles inscribed in an ellipse. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 130–140, 198. (Z. Nádenik) **99d:52003** 52A10 (51M05)

— Topology and Lorentz-invariant pseudo-Riemannian metric of the manifold of directions in the physical space. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 141–151, 198. (Andrew Bucki) **99d:53072** 53C50 (53C80, 83A05)

Kozlov, V. P. The influence of the degree of turbulence of an incident wave on the interaction between a rotating cylinder and a viscous gas. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 66–71, 113. 76F99

Kozlov, V. V. *see* **Kozlov, Valeriĭ V.**

Kozlov, V. Ya. *see* **Probabilistic methods in discrete mathematics, 99f:60004**

Kozlov, Valeriĭ V. (*with* Furta, S. D.) ★ Асимптотики решений сильно нелинейных систем дифференциальных уравнений. (Russian. Russian summary) [Asymptotic expansions of solutions of strongly nonlinear systems of differential equations] *Izdatel′stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1996. 244 *pp. ISBN* 5-211-03775-8 (Sergei A. Dovbysh) **99b:34084** 34D05 (34E05, 58F10)

— Symmetries and regular behavior of Hamiltonian systems. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **1** (1996), *no.* 1, 3–14. (Igor N. Nikitin) **99e:58073** 58F05 (70H05, 70H33)

— On the stabilization of unstable equilibria of charges by strong magnetic fields. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 390–397; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 377–384. (Summary) **99d:78023** 78A35 (70K20, 78A25)

— Closed orbits and the chaotic dynamics of a charge in a periodic electromagnetic field. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 3–12. (Summary) **99f:78009** 78A35 (58F13, 58F40, 70H05, 70K50)

— (*with* Moshchevitin, N. G.) Diffusion in Hamiltonian systems. (English summary) *Chaos* **8** (1998), *no.* 1, 245–247. (Dario Bambusi) **99a:58068** 58F05 (34C11, 58F27, 70H05, 70H15)

Kozlov, Vladimir Arkad′evich (*with* Maz′ya, Vladimir G.; Roßmann, Jürgen) Spectral properties of operator pencils generated by elliptic boundary value problems for the Lamé system. *Rostock. Math. Kolloq. No.* 51 (1997), 5–24. (Kamoliddin Kh. Boimatov) **99f:35141** 35P05 (35J25, 47F05, 73C02)

Kozlova, Irina (*with* Singh, Manmohan[2]; Easton, Alan K.; Cui, Gurong) Numerical study of the two-dimensional spruce budworm reaction-diffusion equation with density dependent diffusion. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Natur. Resource Modeling* **11** (1998), *no.* 2, 143–154. (Summary) **99d:92029** 92D25

Kozlova, T. V. Nonintegrability of a rotating elliptic billiard. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 1, 87–91; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 1, 81–85. (Nikolai Chernov) **99e:58074** 58F05 (58F07, 70H05)

Kozłowskiĭ, O. S. An integral formula for topological entropy of C^∞ maps. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 405–424. (Dieter H. Mayer) **99j:58126** 58F11 (28D20)

Kozlowski, Andrzej[2] (*with* Guest, Martin A.; Yamaguchi, Kohhei) Stable splitting of the space of polynomials with roots of bounded multiplicity. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 351–366. (R. E. Stong) **99k:55009** 55P42

— *see also* **Gorbatsevich, V. V. et al., 99c:22009**

Kozłowski, Krzysztof *see* **Recent developments in robotics, 99b:70004**

Kozlowski, Wojciech M. ★ Modular function spaces. (English summary) Monographs and Textbooks in Pure and Applied Mathematics, 122. *Marcel Dekker, Inc., New York*, 1988. x+252 *pp. ISBN* 0-8247-8001-9 (Yu. A. Abramovich) **99d:46043** 46E30 (46A80, 47H30)

Kozono, Hideo Uniqueness and regularity of weak solutions to the Navier-Stokes equations. *Recent topics on mathematical theory of viscous incompressible fluid* (*Tsukuba*, 1996), 161–208, *Lecture Notes Numer. Appl. Anal.*, 16, *Kinokuniya, Tokyo*, 1998. (Gerhard O. Ströhmer) **99h:35161** 35Q30 (35D05, 35D10, 76D05)

— (*with* Yamazaki, Masao) Exterior problem for the Navier-Stokes equations, existence, uniqueness and stability of stationary solutions. *Theory of the Navier-Stokes equations*, 86–98, *Ser. Adv. Math. Appl. Sci.*, 47, *World Sci. Publishing, River Edge, NJ*, 1998. (Chang Hao Lin) **99j:35166** 35Q30 (35B35, 76D05, 76E99)

— Removable singularities of weak solutions to the Navier-Stokes equations. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 949–966. (Rodolfo Salvi) **99g:35103** 35Q30 (35D10, 76D05)

— L^1-solutions of the Navier-Stokes equations in exterior domains. *Math. Ann.* **312** (1998), *no.* 2, 319–340. (Zhi Min Chen) **99m:35188** 35Q30 (76D05)

— (*with* Yamazaki, Masao) On a larger class of stable solutions to the Navier-Stokes equations in exterior domains. *Math. Z.* **228** (1998), *no.* 4, 751–785. (Zhi Min Chen) **99i:35126** 35Q30 (76D05)
— *see also* **Recent topics on mathematical theory of viscous incompressible fluid, 99a:35005**
Kozubowski, Tomasz J. Characterization of multivariate geometric stable distributions. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 397–416. (Jolanta K. Misiewicz) **99d:60012** 60E05
— (*with* Panorska, Anna K.) Weak limits for multivariate random sums. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 398–413. (Jerry Alan Veeh) **99j:60025** 60E07 (60E05, 62G30, 62H05)
— Mixture representation of Linnik distribution revisited. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 157–160. (Gwo Dong Lin) **99e:60043** 60E05 (60E10)
Kozyakin, V. S. (*with* Asarin, E. A.; Krasnosel'skiĭ, Mark Aleksandrovich; Kuznetsov, N. A.) ★ Анализ устойчивости рассинхронизованных дискретных систем. (Russian. English and Russian summaries) [Analysis of the stability of asynchronous discrete systems] "*Nauka*", *Moscow*, 1992. 408 *pp. ISBN* 5-02-006946-9 93D05 (39A11)
— (*with* Diamond, Phil; Kloeden, Peter E.; Pokrovskiĭ, A. V.) A model for roundoff and collapse in computation of chaotic dynamical systems. (English summary) *Math. Comput. Simulation* **44** (1997), *no.* 2, 163–185. (T. Erber) **99a:58114** 58F13 (34C35, 58F12, 65C20, 65L20)
— (*with* Su, Yangfeng; Bhaya, Amit; Kaszkurewicz, Eugenius) Further results on convergence of asynchronous linear iterations. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 11–24. (W. Govaerts) **99h:65087** 65F30 (65F10)
— (*with* Diamond, Phil; Kloeden, Peter E.; Pokrovskiĭ, A. V.) Boundedness and dissipativity of truncated rotations on uniform planar lattices. (English summary) *Math. Nachr.* **191** (1998), 59–81. (Mark J. Friedman) **99f:52020** 52C05 (58F08, 68U20)
Kozyrev, S. V. Free coherent states and distributions on p-adic numbers. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 349–355. (Eugen Belokolos) **99d:81053** 81R30 (11S85, 11Z05)
— (*with* Accardi, Luigi; Volovich, I. V.) The hot free algebra. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 1–18. (John E. Gough) **99j:81087** 81S25 (46N50)
Kra, Bryna A generalization of Furstenberg's Diophantine theorem. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 1951–1956. (Daniel Berend) **99j:11079** 11J71 (11K06)
Kra, Irwin (*with* Maskit, Bernard) Pinched 2-component Kleinian groups. *Analysis and topology*, 425–465, *World Sci. Publishing, River Edge, NJ*, 1998. (R. Michael Porter) **99m:20119** 20H10 (30F40)
— (*with* Farkas, Hershel M.) On the quintuple product identity. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 771–778. (Yaacov Kopeliovich) **99f:11056** 11F27 (11P82)
— *see also* **Bers, Lipman, 99g:01041a** *and* **99g:01041b**
Kraaikamp, Cor (*with* Dajani, Karma; Solomyak, Boris) The natural extension of the β-transformation. *Acta Math. Hungar.* **73** (1996), *no.* 1-2, 97–109. (Meir Smorodinsky) **99d:28029** 28D05 (11K55)
— (*with* Dajani, Karma) A note on the approximation by continued fractions under an extra condition. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference, June* 9–13, 1997, 69–80 (*electronic*). (Sanju L. Velani) **99f:11099** 11K50 (28D05)
— (*with* Meester, Ronald) Convergence of continued fraction type algorithms and generators. (English summary) *Monatsh. Math.* **125** (1998), *no.* 1, 1–14. (G. Ramharter) **99c:11087** 11J70 (11K50, 28D05)
— (*with* Dajani, Karma) A Gauss-Kusmin theorem for optimal continued fractions. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 2055–2079. (Wieb Bosma) **99h:11089** 11K50 (28D05)
Kraan, Thomas C. (*with* van Baal, Pierre) Exact T-duality between calorons and Taub-NUT spaces. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 268–276. (Summary) **99c:83096** 83E30 (81T30, 83C15)
Krabs, Werner ★ Dynamische Systeme: Steuerbarkeit und chaotisches Verhalten. (German. German summary) [Dynamical systems: controllability and chaotic behavior] *B. G. Teubner, Stuttgart*, 1998. 165 *pp. ISBN* 3-519-02638-4 (Fritz Colonius) **99i:93004** 93-02 (34C35, 34H05, 58F40, 93B05, 93C10)
— (*with* Bott, E.; Methfessel, M.; Schmidt, P. C.) Nonsingular Hankel functions as a new basis for electronic structure calculations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3393–3425. (Ashok Kumar Mishra) **99h:82075** 82D20 (33D55, 81–08, 81V55)
— (*with* Chi-Long, N.) On the controllability of a robot arm. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 1, 25–42. (Guenter Leugering) **99c:93008** 93B05 (70B15, 70Q05, 93C85)
— A convolution formula for time-invariant linear communication systems. (English summary) *Math. Methods Appl. Sci.* **22** (1999), *no.* 2, 171–176. (Gilbert Walter) **99k:42022** 42B10 (47B37, 94A05)
Krachkovskiĭ, A. P. (*with* Kravtsov, M. K.) An asymptotic approach to the solution of the multi-index axial transportation problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1133–1139; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1083–1089. (Summary) **99d:90073** 90C08
Kracht, Manfred (*with* Kreyszig, Erwin) On Hilbert space theory and kernel functions. *Inner product spaces and applications*, 70–114, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (F. Smithies) **99a:46001** 46–03 (01A60, 46E22, 46N20)
Kracht, Marcus Inessential features. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 43–62, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 03B65 (68S05)
— (*with* Michaelis, Jens) Semilinearity as a syntactic invariant. (English summary) *Logical aspects of computational linguistics* (*Nancy*, 1996), 329–345, *Lecture Notes in Comput. Sci.*, 1328, *Springer, Berlin*, 1997. (*see* **99d:03004**) 68S05 (68Q45)
— (*with* Wolter, Frank) Simulation and transfer results in modal logic—a survey. (English summary) *Studia Logica* **59** (1997), *no.* 2, 149–177. (George F. Schumm) **99a:03027** 03B45
— On extensions of intermediate logics by strong negation. (English summary) *J. Philos. Logic* **27** (1998), *no.* 1, 49–73. (Leo Esakia) **99m:03050** 03B55 (03G25, 06D20)
— *see also* **Advances in modal logic**
Kraenkel, R. A. (*with* Pereira, J. G.; de Rey Neto, E. C.) Linearizability of the perturbed Burgers equation. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part B*, 2526–2530. (Summary) **99e:35199** 35Q53
Krafft, O. (*with* Imhof, L.; Schaefer, Martin) D-optimal designs for polynomial regression with weight function $x/(1+x)$. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1271–1274. (Summary) **99i:62168** 62K05
Kraft, Hanspeter (*with* Howe, Roger) Principal covariants, multiplicity-free actions, and the K-types of holomorphic discrete series. (English summary) *Geometry and representation theory of real and p-adic groups* (*Córdoba*, 1995), 147–161, *Progr. Math.*, 158, *Birkhäuser Boston, Boston, MA*, 1998. (Michel Brion) **99a:22023** 22E46 (14L35)
Kraft, Rainer ★ Adaptive und linear unabhängige multilevel B-Splines und ihre Anwendungen. (German) [Adaptive and linear independent multilevel B-splines and their applications] Dissertation, Universität Stuttgart, Stuttgart, 1998. *Mathematisches Institut A der Universität Stuttgart, Stuttgart*, 1998. 119 *pp.* (Sven Ehrich) **99i:41009** 41A15 (41A63, 65D07)
Kraft, Roger L. A golden Cantor set. *Amer. Math. Monthly* **105** (1998), *no.* 8, 718–725. (Rotraut Goubau Cahill) **99i:26007** 26A30
Kraichnan, Robert H. (*with* Ching, Emily S. C.) Exact results for conditional means of a passive scalar in certain statistically homogeneous flows. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 787–795. (Summary) **99j:76058** 76F99 (76M35, 82C31)
— (*with* Gotoh, Toshiyuki) Steady-state Burgers turbulence with large-scale forcing. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2859–2866. (Summary) **99i:76073** 76F99 (76M35)
— (*with* Chen, Shiyi) Simulations of a randomly advected passive scalar field. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2867–2884. (Summary) **99h:76048** 76F99 (76M25)
Kraĭko, A. N. (*with* Pudovikov, D. E.) On the significance of length restriction in the construction of bodies of minimal drag. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 5, 822–837; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 5, 797–810 (1998). (Summary) **99d:76055** 76J20
— (*with* Pudovikov, D. E.) On the construction of symmetric profiles that are optimal in a supersonic and a hypersonic flow under arbitrary isoperimetric conditions. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 931–946; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 901–915 (1998). (Summary) **99c:76063** 76K05 (76J20, 76L05)
— Isoperimetric problem of profiling the optimum clearance of an infinite plane slider bearing. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 222–233; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 207–216. 76D08 (76M30)
Krajc, Bohumil (*with* Andres, Jan) Unified approach to bounded, periodic and almost periodic solutions of differential systems. (English summary) *Ann. Math. Sil. No.* 11 (1997), 39–53. (Mauro Marini) **99b:34042** 34B15 (34C11, 34C25, 34C27)
Krajčoviech, Richard (*with* Kotočová, Margaréta) Non-uniform time sharing in the concurrent execution of constraint solving. (English summary) *Artificial Intelligence* **109** (1999), *no.* 1-2, 161–185. 68T20
Krajíček, Jan (*with* Buss, Samuel R.; Impagliazzo, Russell; Pudlák, Pavel; Razborov, A. A.; Sgall, Jiří) Proof complexity in algebraic systems and bounded depth Frege systems with modular counting. (English summary) *Comput. Complexity* **6** (1996/97), *no.* 3, 256–298. (Mariko Yasugi) **99g:03060** 03F20
— Lower bounds for a proof system with an exponential speed-up over constant-depth Frege systems and over polynomial calculus. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 85–90, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:03038** 03F20
— (*with* Pudlák, Pavel) Some consequences of cryptographical conjectures for S_2^1 and EF. (English summary) *Inform. and Comput.* **140** (1998), *no.* 1, 82–94. (Roman Murawski) **99c:03092** 03F30 (03F20, 68P25, 68Q15, 94A60)
Krajka, Andrzej Estimators of g-monotone dependence functions. (English summary) *Appl. Math.* (*Warsaw*) **25** (1998), *no.* 3, 253–269. (Issa Fakhre-Zakeri) **99j:62033** 62F12 (62E20)
— On an example of sums of pairwise independent random variables for which the central limit theorem holds. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 2, 87–96. (Carlos Matrán) **99f:60048** 60F05
Krakhmalev, D. V. (*with* Zolotukhin, V. F.) An algorithm for the signs of the solution of the minimax transportation problem. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1998**, *no.* 1, 14–18, 93. 90C08
Krakowiak, Anna (*with* Kowalewski, Adam) Time-optimal control of a parabolic system with multiple time-varying lags. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 471–489. (Ovidiu Cârjă) **99h:49036** 49K25 (34K35, 49J25)
Král, Josef (*with* Medková, Dagmar) On the Neumann-Poincaré operator. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 4, 653–668. (Otto Fekete) **99k:30069** 30E20 (47B38)
— (*with* Medková, Dagmar) Essential norms of a potential-theoretic boundary integral operator in L^1. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 419–436. (D. H. Armitage) **99m:31009** 31B20 (31B10, 31B25)
Kraljević, H. *see* **Functional analysis, 99h:00028**
Krall, Allan M. A limit-point criterion for linear Hamiltonian systems. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 115–119. (Summary) **99a:34066** 34B20 (34B05)
— Singular left-definite boundary value problems. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 1, 29–36. (Christiane Tretter) **99a:34070** 34B24
— (*with* Baĭramov, È. M.; Çakar, Öner) Spectrum and spectral singularities of a quadratic pencil of a Schrödinger operator with a general boundary condition. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 252–267. (Christian Remling) **99k:34036** 34B05 (34L05, 34L40, 47E05)
— (*with* Baĭramov, È. M.; Çakar, Öner) An eigenfunction expansion for a quadratic pencil of a Schrödinger operator with spectral singularities. (English summary) *J. Differential Equations* **151** (1999), *no.* 2, 268–289. (Christian Remling) **99k:34037** 34B05 (34L05, 34L10, 34L40, 47E05)
Kramar, Edvard Invariant subspaces for some operators on locally convex spaces. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 635–644. (P. Rosenthal) **99a:47013** 47A15 (46A03)

Kramer, Dietrich Exact solutions and their interpretations. *Proceedings of the 14th International Conference on General Relativity and Gravitation (Florence, 1995)*, 419–428, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83C15 (83C20)
— The gravitational field of superposed light. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, *L31–L34*. (Volker Perlick) **99b:83015** 83C15
— (*with* von der Gönna, U.) A rotating pure radiation field of Kerr-Schild type. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 2017–2023. (Enric Verdaguer) **99k:83012** 83C15 (83C30)
— The gravitational field of two counter-propagating beams of light. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, *L73–L76*. (W. B. Bonnor) **99i:83014** 83C15
— (*with* von der Gönna, U.) Two counter-moving light beams. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 3, 349–356. (W. B. Bonnor) **99k:83013** 83C15
Kramer, H. G. (*with* Schmid, Wolfgang P.) On the average delay of control schemes. (English summary) *Advances in stochastic models for reliability, quality and safety (Schierke, 1997)*, 341–360, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62004**) 62N10
Krämer, Helmut Inversion of incidence mappings. (English summary) *Sém. Lothar. Combin.* **39** (1997), *Art. B39f*, 20 *pp.* (*electronic*). (Jian Long Chen) **99k:15005** 15A09
Kramer, Jürg Über den Beweis der Fermat-Vermutung. II. (German summary) [On the proof of the Fermat conjecture. II] *Elem. Math.* **53** (1998), *no.* 2, 45–60. (Andrew Bremner) **99d:11061** 11G05 (11D41, 11F80, 11G18, 11R34)
— (*with* Jorgenson, Jay) Towards the arithmetic degree of line bundles on abelian varieties. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 335–370. (Klaus Künnemann) **99h:11047** 11F46 (11G10, 14G40, 14K25)
— *see also* **Mathematics in Berlin, 99k:01080**
Kramer, Kenneth (*with* Diamond, Fred) Appendix: classification of $\overline{\rho}_{E,l}$ by the j-invariant of E. *Modular forms and Fermat's last theorem (Boston, MA, 1995)*, 491–498, *Springer, New York*, 1997. (*see* **99k:11004**) 11G05 (11F80)
Kramer, Linus Octonion Hermitian quadrangles. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 353–362. (Norbert Knarr) **99g:51003** 51E12 (17A35, 51H10)
Krämer, M. Propagation and damping of $m = +1$ and $m = -1$ helicon modes in an inhomogeneous plasma column. (English summary) *Phys. Plasmas* **6** (1999), *no.* 4, 1052–1058. 76X05
Kramer, Peter (*with* Lorente, Miguel) Discrete and continuous symmetry via induction and duality. (English summary) *Symmetries in science, X (Bregenz, 1997)*, 165–177, *Plenum, New York*, 1998. (Dan Radu Grigore) **99j:81050** 81R05 (20C35)
— (*with* Lorente, Miguel) Induced representation of the Poincaré group on the lattice: spin 1/2 and 1 case. (English summary) *Symmetries in science, X (Bregenz, 1997)*, 179–195, *Plenum, New York*, 1998. (Dan Radu Grigore) **99j:81051** 81R05 (20C35)
Kramer, W. *see* **Kramer, Wolfram**
Krämer, Walter Asymptotic equivalence of ordinary least squares and generalized least squares with trending regressors and stationary autoregressive disturbances. (English summary) *Econometrics in theory and practice*, 137–142, *Physica, Heidelberg*, 1998. (Summary) **99g:62091** 62J05 (62M10)
— (*with* Hassler, Uwe) Limiting efficiency of OLS vs. GLS when regressors are fractionally integrated. (English summary) *Econom. Lett.* **60** (1998), *no.* 3, 285–290. (Summary) **99g:62092** 62J05 (62P20)
— Fractional integration and the augmented Dickey-Fuller test. (English summary) *Econom. Lett.* **61** (1998), *no.* 3, 269–272. (Summary) **99j:62127** 62M10 (62P20)
— (*with* Jaeger, Andreas) A final twist on the equality of OLS and GLS. (English summary) *Statist. Papers* **39** (1998), *no.* 3, 321–324. (Shuangzhe Liu) **99j:62094** 62J05
Krämer, Walter Stephan (*with* Hofschuster, Werner) A computer oriented approach to get sharp reliable error bounds. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 239–248. (Summary) **99a:65062** 65G10
— A priori worst case error bounds for floating-point computations. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 750–756. (Summary) **99f:65210** 65Y10 (65G10, 68M07)
Kramer, Wolfram (*with* Semmelmann, U.; Weingart, G.) Quaternionic Killing spinors. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 63–87. (Hans-Bert Rademacher) **99c:53047** 53C25 (58G25)
— (*with* Semmelmann, U.; Weingart, G.) The first eigenvalue of the Dirac operator on quaternionic Kähler manifolds. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 2, 327–349. (Hans-Bert Rademacher) **99m:58195** 58G25 (53C25)
Kramer, Xenia H. (*with* Laubenbacher, Reinhard C.) Combinatorial homotopy of simplicial complexes and complex information systems. (English summary) *Applications of computational algebraic geometry (San Diego, CA, 1997)*, 91–118, *Proc. Sympos. Appl. Math.*, 53, *Amer. Math. Soc., Providence, RI*, 1998. (Tiong Seng Tay) **99d:05092** 05E99 (16S10, 19A15, 55U35)
— (*with* Hermiller, Susan M.; Laubenbacher, Reinhard C.) Monomial orderings, rewriting systems, and Gröbner bases for the commutator ideal of a free algebra. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 133–141. (Vesselin Drensky) **99m:16040** 16S15 (13P10, 68Q40, 68Q42)
Kramkov, D. O. (*with* Shiryaev, A. N.) Sufficient conditions of the uniform integrability of exponential martingales. *European Congress of Mathematics, Vol. I (Budapest, 1996)*, 289–295, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Paul McGill) **99g:60150** 60J65 (60J57)
Krammer, Werner (*with* Urbantke, Helmuth K.) K-loops, gyrogroups and symmetric spaces. (English summary) *Results Math.* **33** (1998), *no.* 3-4, 310–327. (Abraham A. Ungar) **99i:83003** 83A05 (51P05)
Kramosil, Ivan Dempster combination rule for signed belief functions. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 1, 79–102. (Maria-Teresa Lamata) **99e:68153** 68T30 (03B48, 28E10)
— Alternative definitions of conditional possibilistic measures. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 2, 137–147. (Summary) **99a:68164** 68T30 (60A99)
Kranakis, Evangelos (*with* Diks, Krzysztof; Pelc, Andrzej) Perfect broadcasting in unlabeled networks. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 33–47. (Summary) **99g:68015** 68M10
— (*with* Diks, Krzysztof; Dobrev, Stefan; Pelc, Andrzej; Ružička, Peter) Broadcasting in unlabeled hypercubes with a linear number of messages. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 181–186. (Summary) **99b:68013** 68M10
— (*with* Diks, Krzysztof; Pelc, Andrzej) Broadcasting in unlabeled tori. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 177–188. (Summary) **99f:68014** 68M10
— (*with* Krizanc, Danny; Pelc, Andrzej; Peleg, David) Approximate maxima finding of continuous functions under restricted budget. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 151–162. (Summary) **99h:68079** 68Q25 (05C35, 90C35)
Kranich, Laurence (*with* Ok, Efe A.) The measurement of opportunity inequality: a cardinality-based approach. (English summary) *Soc. Choice Welf.* **15** (1998), *no.* 2, 263–287. (Fouad T. Aleskerov) **99e:90009** 90A08
Kraniotis, G. V. (*with* Bailin, D.; Love, Alexander) The supersymmetric CP problem in orbifold compactifications. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 92–116. (Summary) **99b:81173** 81T30 (11Z05, 81R40)
— (*with* Bailin, D.; Love, Alexander) Sparticle spectrum and dark matter in M-theory. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 90–96. (Summary) **99c:81272** 81V22 (81T30)
— (*with* Bailin, D.; Love, Alexander) The effect of Wilson line moduli on CP-violation by soft supersymmetry breaking terms. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 343–352. (Summary) **99f:81143** 81T30 (11F46, 11Z05, 81R40)
— (*with* Bailin, D.; Love, Alexander) CP-violating phases in the CKM matrix in orbifold compactifications. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 323–330. (Summary) **99e:81171** 81T30
— (*with* Bailin, D.; Love, Alexander) Cosmological inflation with orbifold moduli as inflatons. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 111–120. (Summary) **99h:83063** 83F05
Krantz, Richard J. (*with* Douthett, Jack; Doty, Steven D.) Maximally even sets and the devil's-staircase phase diagram for the one-dimensional Ising antiferromagnet with arbitrary-range interaction. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4675–4682. (Emilio N. M. Cirillo) **99j:82031** 82B26 (82B20)
Krantz, Steven G. (*with* Fontana, Luigi; Peloso, Marco M.) Hodge theory in the Sobolev topology for the de Rham complex. (English summary) *Mem. Amer. Math. Soc.* **131** (1998), *no.* 622, viii+100 *pp.* (Jürgen Eichhorn) **99a:58155** 58G20 (35J25, 35N15, 35S05, 47F05, 58A14, 58G05)
— (*with* Isaev, A. V.) Hyperbolic Reinhardt domains in $\mathbf{C}^2$ with noncompact automorphism group. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 149–160. (John Bland) **99h:32003** 32A07 (32M05)
— (*with* Kim, Kang-Tae) A crash course in the function theory of several complex variables. (English summary) *Complex geometric analysis in Pohang* (1997), 3–37, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Eric Bedford) **99g:32002** 32–01 (32H02, 32H15)
— *see also* **Complex geometric analysis in Pohang, 99e:32002**
Krapivsky, P. L. (*with* Frachebourg, L.) Fixation in a cyclic Lotka-Volterra model. (English summary) *J. Phys. A* **31** (1998), *no.* 15, *L287–L293*. (Summary) **99b:92041** 92D25 (82C20)
— (*with* Ben-Naim, E.) Steady-state properties of traffic flows. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8073–8080. (Summary) **99e:90029** 90B06 (82C05)
Krarup, Jakob Steven Vajda, 1901–1995. *New trends in mathematical programming*, 1–4, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 01A70
— (*with* Jalal, Galina) Single-facility location problems with arbitrary weights. (English summary) *New trends in mathematical programming*, 101–114, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (Giovanni Andreatta) **99g:90062** 90B85 (65Y25, 90C90)
— (*with* Burkard, Rainer E.) A linear algorithm for the pos/neg-weighted 1-median problem on a cactus. (English summary) *Computing* **60** (1998), *no.* 3, 193–215. (Summary) **99d:90065** 90B80 (90C27, 90C35)
Krasauskas, Rimvydas Universal parameterizations of some rational surfaces. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 231–238, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:51014** 51N35 (65D17)
— (*with* Mäurer, Christoph) Joining cyclide patches along quartic boundary curves. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 359–366, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65395** 65Y25 (65D17)
Krasikov, Ilia (*with* Litsyn, Simon) Bounds on spectra of codes with known dual distance. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 285–297. (Ivan Landgev) **99c:94048** 94B05 (94B65)
— (*with* Litsyn, Simon) On the distance distribution of duals of BCH codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 247–250. (Summary) **99k:94070** 94B65
Krasil'nikov, A. N. On the semigroup nilpotency and Lie nilpotency of associative algebras. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 510–519; *translation in Math. Notes* **62** (1997), *no.* 3-4, 426–433 (1998). (M. Stefănescu) **99c:17018** 17B30
Krasil'nikov, P. S. On a Lagrange-Imshenetskiĭ theorem. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 34–39; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 31–36. (J. Chrastina) **99g:35026** 35F20 (35C05, 58A20, 70F15)
Krasil'shchik, I. S. Poincaré δ-lemma for smooth algebras. (English summary) Algebraic aspects of differential calculus. *Acta Appl. Math.* **49** (1997), *no.* 3, 249–255. (Kazushige Ueno) **99e:58209** 58H10 (58G05)
— Characteristics of linear differential operators over commutative algebras. (English summary) Algebraic aspects of differential calculus. *Acta Appl. Math.* **49** (1997), *no.* 3, 257–269. (J. Chrastina) **99b:35002** 35A30 (13N10)
— Algebras with flat connections and symmetries of differential equations. (English summary) *Lie groups and Lie algebras*, 407–424, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Valentin V. Lychagin) **99e:58210** 58H10 (58G35)
— Cohomology background in geometry of PDE. (English summary) *Secondary calculus and cohomological physics (Moscow, 1997)*, 121–139, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Kazushige Ueno) **99k:58201** 58H10 (35A30, 58G05)

— *see also* **Lie groups and Lie algebras, 99a:00013** *and* **Secondary calculus and cohomological physics, 99d:58007**

Krasinska, S. Application of the generalized Mikhaylov criterion. (English summary) *Transform methods & special functions, Varna '96*, 273–277, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 93D05

Krasiński, Andrzej Rotating dust solutions of Einstein's equations with 3-dimensional symmetry groups. I. Two Killing fields spanned on u^a and w^a. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 380–400. (Alicia M. Sintes) **99a:83014** 83C15 (83C20)

— Rotating dust solutions of Einstein's equations with 3-dimensional symmetry groups. II. One Killing field spanned on u^a and w^a. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 401–422. (Alicia M. Sintes) **99a:83015** 83C15 (83C20)

— Rotating dust solutions of Einstein's equations with three-dimensional symmetry groups. III. All Killing fields linearly independent of u^a and w^a. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2148–2179. (Shin-ichi Kitamura) **99k:83015** 83C15 (83C20)

— The ultimate extension of the Bianchi classification for rotating dust models. (English summary) *On Einstein's path* (*New York*, 1996), 283–298, *Springer, New York*, 1999. (Juan Antonio Sáez) **99k:83019** 83C20 (83C15)

Krasiński, Tadeusz (*with* Chądzyński, Jacek) A set on which the local Łojasiewicz exponent is attained. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 3, 297–301. (Arkadiusz Płoski) **99b:32051** 32S05

— (*with* Chądzyński, Jacek; Tworzewski, Piotr) On the intersection multiplicity of analytic curves in $\mathbf{C}^m$. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 163–169. (Rüdiger Achilles) **99a:32005** 32B10 (14C17)

Krasinskiĭ, A. Ya. (*with* Nagevich, Ya. P.) On a general solution of a class of problems of stabilization up to nonasymptotic stability. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1998), 27–33. 93D15 (34D05)

Kraśkiewicz, W. (*with* Klimek, J.; Weyman, Jerzy) A free resolution of a symplectic rank variety. *J. Algebra* **196** (1997), *no.* 2, 475–489. (José F. Andrade) **99b:13020** 13D25 (14M12)

Krasnansky, Kevin (*with* Murray, Laura) Embedding the dodecahedron in a mesh. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 48. (*see* **99i:05002**) 05C10

Krasner, Marc Les travaux récents de R. Brauer en théorie des groupes. [The recent works of R. Brauer in group theory] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 14, 83–88, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 20C20

— Généralisations non-abéliennes de la théorie locale des corps de classes. [Nonabelian generalizations of the local theory of class fields] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 47, 383–406, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 11S31

Krasnikov, S. V. A singularity-free WEC-respecting time machine. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 997–1003. (Eugen Paal) **99b:83058** 83C75

— Hyperfast travel in general relativity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4760–4766. (Summary) **99k:83094** 83C75

Krasnit·skiĭ, S. M. On some sufficient conditions for equivalence of Gaussian measures corresponding to generalized random fields. (English summary) *Methods Funct. Anal. Topology* **3** (1997), *no.* 2, 65–71. (M. M. Rao) **99k:60110** 60G20 (60G15, 62M15)

Krasnitz, Michael (*with* Gubser, Steven S.; Hashimoto, Akikazu; Klebanov, Igor R.) Scalar absorption and the breaking of the world-volume conformal invariance. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 393–414. (Summary) **99f:81200** 81T60 (81R40, 81T30, 83E30)

Krasnopolina, E. I. *see* **Functional analysis, 99k:00042**

Krasnosel'skiĭ, A. M. (*with* Krasnosel'skiĭ, Mark Aleksandrovich) Vector fields in the direct product of spaces, and applications to differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 60–67, 142; *translation in Differential Equations* **33** (1997), *no.* 1, 59–66. (Christian Fenske) **99c:47096** 47H11 (34B15, 34C25, 58C30)

— (*with* Diamond, Phil; Kloeden, Peter E.; Pokrovskiĭ, A. V.) Bifurcation at infinity for equations in spaces of vector-valued functions. (English summary) *J. Austral. Math. Soc. Ser. A* **63** (1997), *no.* 2, 263–280. (Jean Mawhin) **99a:47094** 47H15 (34B15, 34C25, 47H11, 47H30)

— (*with* Bliman, P.-A.) Periodic solutions of linear systems coupled with relay. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 687–696. (J. W. Macki) **99c:34079** 34C25

Krasnosel'skiĭ, Mark Aleksandrovich (*with* Asarin, E. A.; Kozyakin, V. S.; Kuznetsov, N. A.) ★ Анализ устойчивости рассинхронизованных дискретных систем. (Russian. English and Russian summaries) [Analysis of the stability of asynchronous discrete systems] "*Nauka*", *Moscow*, 1992. 408 *pp. ISBN* 5-02-006946-9 93D05 (39A11)

— (*with* Kuznetsov, N. A.; Rachinskiĭ, D. I.) Nonlinear potential systems with incomplete corrections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 7, 11–17; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 1, 918–924. (A. Ya. Dorogovtsev) **99c:47120** 47H99 (34D05, 39A11, 47N10)

— (*with* Kuznetsov, N. A.; Yumagulov, M. G.) Functionalization of the parameter and the asymptotics of cycles in the Hopf bifurcation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 22–28; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1548–1553 (1997). (L. Górniewicz) **99d:34063** 34C23

— (*with* Kuznetsov, N. A.; Yumagulov, M. G.) An operator method for analyzing the stability of cycles in the Hopf bifurcation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 12, 15–24; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1701–1708 (1997). (L. Górniewicz) **99d:34064** 34C23 (34D99, 47N20)

— (*with* Kuznetsov, N. A.; Rachinskiĭ, D. I.; Mèrts, R.) Iterative procedures with incomplete corrections, and the solution of nonlinear equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 46–56; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1285–1293 (1998). (A. M. Galperin) **99d:65164** 65H10 (47H17)

— (*with* Krasnosel'skiĭ, A. M.) Vector fields in the direct product of spaces, and applications to differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 60–67, 142; *translation in Differential Equations* **33** (1997), *no.* 1, 59–66. (Christian Fenske) **99c:47096** 47H11 (34B15, 34C25, 58C30)

— *see also* **Bobylev, N. A. et al., 99m:01042**

Krasnov, Kirill V. The area spectrum in quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, *L47–L53*. (Guillermo A. Mena Marugán) **99f:83033** 83C45 (83C57)

— On quantum statistical mechanics of a Schwarzschild black hole. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 53–68. (Summary) **99i:83064** 83C57 (81V17, 82B10)

— (*with* Baez, John C.) Quantization of diffeomorphism-invariant theories with fermions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1251–1271. (Viqar Husain) **99a:83030** 83C45 (58D20)

— (*with* Corichi, Alejandro) Ambiguities in loop quantization: area vs. electric charge. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 17, 1339–1346. (José A. Zapata) **99f:83030** 83C45 (81T13, 81V17)

— Quantum geometry and thermal radiation from black holes. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 2, 563–578. (Summary) **99i:83065** 83C57 (83C45)

Krasnov, V. A. On the Brauer group of a real algebraic surface. (Russian) *Mat. Zametki* **60** (1996), *no.* 6, 935–938; *translation in Math. Notes* **60** (1996), *no.* 5-6, 707–710 (1997). (Vyacheslav I. Yanchevskiĭ) **99b:14025** 14G27 (14P05)

— On orientable real algebraic M-surfaces. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 520–526; *translation in Math. Notes* **62** (1997), *no.* 3-4, 434–438 (1998). (Sergey M. Finashin) **99d:14063** 14P25 (14F99)

— Real algebraic GM-manifolds. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 3, 39–66; *translation in Izv. Math.* **62** (1998), *no.* 3, 465–491. (Alex Degtyarev) **99h:14054** 14P25

— Real algebraic GMZ-surfaces. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 4, 51–80; *translation in Izv. Math.* **62** (1998), *no.* 4, 695–721. (Zbigniew Szafraniec) **99k:14090** 14P25

— Picard and Lefschetz numbers of a real algebraic surface. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 6, 847–852. (Eugenii Shustin) **99m:14113** 14P25 (14J05)

Krasnyuk, I. B. Nonlinear boundary value problems for the Boltzmann equation: periodic solutions and their bifurcations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **110** (1997), *no.* 2, 323–333; *translation in Theoret. and Math. Phys.* **110** (1997), *no.* 2, 256–264. (A. D. Khon'kin) **99a:82080** 82C40 (45K05, 76P05)

Krasoń, Ewa The diameter of the reachability set for a 2-D continuous-discrete linear system with disturbances. (English summary) Recent developments in two-dimensional linear systems theory. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 4, 855–867. (T. Kaczorek) **99e:93004** 93B03 (93C30)

Krasoń, P. (*with* Banaszak, G.; Gajda, W.) On the map between homology of Henselization and completion of some local rings. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 3–8. (Kevin P. Knudson) **99h:19005** 19F27 (13B40, 20G10)

Krasovskiĭ, A. A. Scientific knowledge and the state of the modern theory of the control of engineering systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 6, 7–14. 93–03 (01A60)

Krasovskiĭ, N. N. (*with* Lukoyanov, N. Yu.) A conflict control problem with hereditary information. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 885–900; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 869–882. (N. N. Petrov) **99d:93041** 93C41 (49K15, 90D25)

Krass, I. (*with* Apte, Aruna Uday; Jayasuriya, A.; Kennington, J.; Mohamed, Ramadan Hamed; Sorensen, S.; Whitler, J.) Class scheduling algorithms for Navy training schools. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 6, 533–551. 90B35 (90B90)

Krassowska, Dorota (*with* Płuciennik, Ryszard) A note on property (H) in Köthe-Bochner sequence spaces. (English summary) *Math. Japon.* **46** (1997), *no.* 3, 407–412. (Barry Turett) **99d:46014** 46B20 (46B45, 46E40)

Krastanov, M. I. A necessary condition for small time local controllability. (English summary) *J. Dynam. Control Systems* **4** (1998), *no.* 3, 425–456. (Matthias Kawski) **99k:93022** 93B05 (93C10)

Krasucki, F. (*with* Geymonat, Giuseppe; Marini, Donatella; Vidrascu, Marina) A domain decomposition method for a bonded structure. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 8, 1387–1402. (Alain Brillard) **99m:73012** 73C02 (65N55, 73T05, 73V05)

Kratochvíl, Jan (*with* Hliněný, Petr) Computational complexity of the Krausz dimension of graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 214–228, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68110** 68Q25 (05C85, 68R10)

— (*with* Proskurowski, Andrzej; Telle, Jan Arne) Complexity of colored graph covers. I. Colored directed multigraphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 242–257, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68113** 68Q25 (05C85, 68R10)

— (*with* Dahlhaus, Elias; Manuel, Paul D.; Miller, Mirka) Transveral partitioning in balanced hypergraphs. (English summary) 4th Twente Workshop on Graphs and Combinatorial Optimization (Enschede, 1995). *Discrete Appl. Math.* **79** (1997), *no.* 1-3, 75–89. (Summary) **99a:05105** 05C65

— (*with* Mihók, Peter; Semanišin, Gabriel) Graphs maximal with respect to hom-properties. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 1, 77–88. (I. Broere) **99k:05092** 05C35

— (*with* Schiermeyer, Ingo) On the computational complexity of $(\mathcal{O}, \mathcal{P})$-partition problems. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 253–258. (Summary) **99b:05132** 05C85 (68Q15, 68Q25, 68R10)

— (*with* Proskurowski, Andrzej; Telle, Jan Arne) Covering regular graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 1, 1–16. (Michael Hofmeister) **99a:05035** 05C10 (90C35)

— (*with* Manuel, Paul D.; Miller, Mirka; Proskurowski, Andrzej) Disjoint and unfolding domination in graphs. (English summary) *Australas. J. Combin.* **18** (1998), 277–292. (Vadim E. Zverovich) **99j:05108** 05C35

— (*with* Tuza, Zsolt; Voigt, Margit) Complexity of choosing subsets from color sets. (English summary) Graph theory (Elgersburg, 1996). *Discrete Math.* **191** (1998), *no.* 1-3, 139–148. (Summary) **99d:05081** 05C85 (68Q25)

— (*with* Tuza, Zsolt; Voigt, Margit) Brooks-type theorems for choosability with separation. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 43–49. (Vasanti N. Bhat-Nayak) **99a:05049** 05C15

— (*with* Proskurowski, Andrzej; Telle, Jan Arne) Complexity of graph covering problems. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 3, 173–195. (Stanisław P. Radziszowski) **99m:68086** 68Q25 (05C70, 05C85, 68R10)

Kratsch, Dieter (*with* Kloks, Ton; Müller, Haiko) Asteroidal sets in graphs. *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 229–241, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68112** 68Q25 (05C85, 68R10)

— (*with* Broersma, H. J.; Huck, Andreas; Kloks, Ton; Koppius, Otto; Müller, Haiko; Tuinstra, Hilde) Degree-preserving forests. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 713–721, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C85, 68Q25)

— (*with* Kloks, Ton; Müller, Haiko) Bandwidth of chain graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 313–315. (Summary) **99i:68093** 68R10 (05C85)

— (*with* Kloks, Ton; Wong, Chak Kuen) Minimum fill-in on circle and circular-arc graphs. (English summary) *J. Algorithms* **28** (1998), *no.* 2, 272–289. (Hans L. Bodlaender) **99e:05118** 05C85

— (*with* Bodlaender, Hans L.; Kloks, Ton; Müller, Haiko) Treewidth and minimum fill-in on d-trapezoid graphs. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 5, 23 *pp.* (*electronic*). (Xiao Tie Deng) **99d:05079** 05C85

— (*with* Kloks, Ton) Listing all minimal separators of a graph. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 605–613 (*electronic*). (Nigel Martin) **99d:68193** 68R10 (05C85)

— (*with* Bodlaender, Hans L.; Deogun, Jitender S.; Jansen, Klaus; Kloks, Ton; Müller, Haiko; Tuza, Zsolt) Rankings of graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 168–181 (*electronic*). (Peter Damaschke) **99b:68143** 68R10 (05C15, 05C78, 05C85)

Krattenthaler, Christian (*with* Niederhausen, Heinrich) Lattice paths with weighted left turns above a parallel to the diagonal. Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **124** (1997), 73–80. (Ira Gessel) **99e:05008** 05A15

— Determinant identities and a generalization of the number of totally symmetric self-complementary plane partitions. (English summary) *Electron. J. Combin.* **4** (1997), *no.* 1, *Research paper*, 27, 62 *pp.* (*electronic*). (G. L. Alexanderson) **99c:05012** 05A15 (05A17)

— An alternative evaluation of the Andrews-Burge determinant. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 263–270, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (George E. Andrews) **99g:05011** 05A19 (05A10, 33C20)

— (*with* Okada, Soichi) The number of rhombus tilings of a "punctured" hexagon and the minor summation formula. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 381–404. (Maurice J. Ginocchio) **99j:05009** 05A15 (05A19)

— (*with* Prohaska, M.) A remarkable formula for counting nonintersecting lattice paths in a ladder with respect to turns. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1015–1042. (Aldo Conca) **99e:05009** 05A15 (13C40)

Krattenthaler, W. (*with* Hlawatsch, F.) Signal synthesis algorithms for bilinear time-frequency signal representations. (English summary) *The Wigner distribution*, 135–209, *Elsevier, Amsterdam*, 1997. (*see* **99k:94018**) 94A12

Kratz, Marie F. (*with* Rootzén, Holger) On the rate of convergence for extremes of mean square differentiable stationary normal processes. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 908–923. (J. Hüsler) **99b:60063** 60G70 (60F05, 60G15)

Kratz, Werner (*with* Borwein, David) A high indices Tauberian theorem. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 143–149. (E. Reimers) **99j:40009** 40E05 (40G99)

— Quadratic functionals: positivity, oscillation, Rayleigh's principle. (English summary) Equadiff 9 (Brno, 1997). *Arch. Math.* (*Brno*) **34** (1998), *no.* 1, 143–151. (Summary) **99c:34061** 34C10 (34A30, 34H05, 49K15, 93C15)

— An inequality for finite differences via asymptotics of Riccati matrix difference equations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 3, 229–246. (Summary) **99e:39025** 39A10 (39A12, 49N10)

— (*with* Bohner, Martin; Došlý, Ondřej) Inequalities and asymptotics for Riccati matrix difference operators. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 262–286. (Vladimir Sh. Burd) **99b:39024** 39A70 (34C10)

— An extremal problem related to the maximum modulus theorem for Stokes functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 599–613. (Jürgen Socolowsky) **99h:35162** 35Q30 (76D07)

Krätzel, Ekkehard (*with* Seibold, René) Die Verteilung der k-vollen and l-freien Zahlen. (English summary) [The distribution of k-full and l-free numbers] *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 305–320. (Y.-F. S. Pétermann) **99k:11140** 11N25

— (*with* Seibold, René) Exponentialsummen und unsymmetrische Teilerprobleme. (English summary) [Exponential sums and unsymmetric divisor problems] *Analysis* (*Munich*) **18** (1998), *no.* 2, 201–215. (Y.-F. S. Pétermann) **99b:11109** 11N37 (11L07)

Kraus, Alain Majorations effectives pour l'équation de Fermat généralisée. (French summary) [Effective upper bounds for the generalized Fermat equation] *Canad. J. Math.* **49** (1997), *no.* 6, 1139–1161. (Kenneth Kramer) **99g:11039** 11D41 (11F33, 11F80, 11G05)

— Sur l'équation $a^3 + b^3 = c^p$. (English and French summaries) [On the equation $a^3 + b^3 = c^p$] *Experiment. Math.* **7** (1998), *no.* 1, 1–13. (Andrew Granville) **99f:11040** 11D41 (11F11, 11F30, 11G05, 11G20)

— (*with* Halberstadt, Emmanuel) Sur les modules de torsion des courbes elliptiques. [On torsion modules of elliptic curves] *Math. Ann.* **310** (1998), *no.* 1, 47–54. (Toshihiro Hadano) **99a:11069** 11G05

— (*with* Halberstadt, Emmanuel) Une tordue de rang 4 d'une courbe elliptique de conducteur 15. (English summary) [A twist of rank 4 of an elliptic curve of conductor 15] *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 2, 36–38. (Abderrahmane Nitaj) **99b:11060** 11G05

Kraus, Per (*with* Keski-Vakkuri, Esko) Born-Infeld actions from Matrix theory. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 212–236. (Summary) **99c:81193** 81T30

— (*with* Keski-Vakkuri, Esko) Short distance contributions to graviton-graviton scattering: Matrix theory versus supergravity. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 246–258. (Summary) **99e:83057** 83E30 (81T30, 83E50)

— (*with* Keski-Vakkuri, Esko) M-momentum transfer between gravitons, membranes, and fivebranes as perturbative gauge theory processes. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 137–149. (Summary) **99f:81167** 81T30 (83E30)

— (*with* Balasubramanian, Vijay; Lawrence, Albion) Bulk versus boundary dynamics in anti-de Sitter spacetime. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046003, 16 *pp.* (Summary) **99m:83181** 83E30 (83C57)

Kraus, Sarit (*with* Shehory, Onn) Methods for task allocation via agent coalition formation. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 165–200. (Summary) **99i:90130** 90D12 (90B80)

— (*with* Argamon-Engelson, Shlomo; Sina, Sigalit) Utility-based on-line exploration for repeated navigation in an embedded graph. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 267–284. 68T20

— (*with* Sycara, Katia; Evenchik, Amir) Reaching agreements through argumentation: a logical model and implementation. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 1–69. (Summary) **99g:68192** 68T27 (90D12)

— (*with* Plotkin, Tatjana L.; Plotkin, Boris I.) Problems of equivalence, categoricity of axioms and states description in databases. (English summary) *Studia Logica* **61** (1998), *no.* 3, 347–366. (János Demetrovics) **99m:68043** 68P15 (03B70)

Krause, Décio Axioms for collections of indistinguishable objects. (English summary) Contemporary Brazilian research in logic. Part I. *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 153-154, 69–93. (R. Gylys) **99f:03073** 03E70 (81P10)

— (*with* Béziau, Jean-Yves; Bueno, Otávio) Structure in science. (Portuguese. English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 91–111 (1998). (Summary) **99g:00026** 00A35 (00A30)

— (*with* da Costa, Newton C. A.) An intensional Schrödinger logic. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 179–194. (Katalin Bimbó) **99i:03028** 03B60 (03B15, 03B30, 03B45)

Krause, Gerd M. (*with* Bhatia, Rajendra; Elsner, Ludwig) Spectral variation bounds for diagonalisable matrices. (English summary) *Aequationes Math.* **54** (1997), *no.* 1-2, 102–107. (J. M. Day) **99c:15028** 15A42

Krause, Günter (*with* Kim, Paul) Local bijective Gabriel correspondence and torsion-theoretic FBN rings. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 175–189, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (M. Teply) **99a:16016** 16P40 (16P60, 16S90)

Krause, Henning Stable equivalence and representation type. *Algebras and modules, II* (*Geiranger*, 1996), 387–391, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Eduardo do Nascimento Marcos) **99h:16022** 16G10 (16G60, 16P60)

— (*with* Saorín Castaño, M.) On minimal approximations of modules. *Trends in the representation theory of finite-dimensional algebras* (*Seattle, WA*, 1997), 227–236, *Contemp. Math.*, 229, *Amer. Math. Soc., Providence, RI*, 1998. (Iuliu Crivei) **99m:16002** 16D10 (18E10)

— On the nilpotency of the Jacobson radical for Noetherian rings. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 435–437. (J. K. Luedeman) **99e:16024** 16N20

— Functors on locally finitely presented additive categories. *Colloq. Math.* **75** (1998), *no.* 1, 105–132. (Jiří Rosický) **99d:18009** 18E05 (16B50, 18A35, 18B15)

— Exactly definable categories. *J. Algebra* **201** (1998), *no.* 2, 456–492. (Mike Prest) **99j:18010** 18E15 (03C60, 16D90, 18E10)

— Representation type and stable equivalence of Morita type for finite-dimensional algebras. *Math. Z.* **229** (1998), *no.* 4, 601–606. (William H. Gustafson) **99k:16024** 16G10 (16D90)

Krause, Jorge Quantum kinematic theory of the Poincaré group in two-dimensional spacetime. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 759–784. (Matej Pavšič) **99c:81102** 81S05 (81R20)

Krause, M. *see* **Krause, Martin**

Krause, M. Lynn (*with* Rüttimann, Gottfried T.) States on partial rings. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 609–621. (C. Martin Edwards) **99g:46101** 46L70 (17C50, 46L30, 81P10)

Krause, Martin Fredholm theory of interpolation morphisms. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 219–231, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Fernando Cobos) **99h:46136** 46M35 (47A53)

Krause, Matthias (*with* Pudlák, Pavel) On computing Boolean functions by sparse real polynomials. (English summary) 36*th Annual Symposium on Foundations of Computer Science* (*Milwaukee, WI*, 1995), 682–691, *IEEE Comput. Soc. Press, Los Alamitos, CA*, 1995. (*see* **99a:68010**) 68Q25 (06F30, 68Q15)

Krause, Ulrich A theorem of Poincaré type for non-autonomous nonlinear difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 363–369, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39026** 39A10

Krauskopf, Bernd (*with* Rousseau, Christiane) Codimension-three unfoldings of reflectionally symmetric planar vector fields. (English summary) *Nonlinearity* **10** (1997), *no.* 5, 1115–1150. (Rodrigo Bamon) **99c:58119** 58F14 (34C05, 34C23, 34C37)

— (*with* Kriete, Hartje) Approximating transcendental Julia sets. *Progress in holomorphic dynamics*, 116–138, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Zhuan Ye) **99j:30031** 30D05 (58F23)

— (*with* Osinga, Hinke) Globalizing two-dimensional unstable manifolds of maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 3, 483–503. (Michael Hurley) **99f:58155** 58F15 (58F10)

— (*with* Osinga, Hinke) Growing 1D and quasi-2D unstable manifolds of maps. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 404–419. (Joan Carles Tatjer) **99m:58122** 58F08 (58F13, 58F15)

— (*with* Khibnik, A. I.; Rousseau, Christiane) Global study of a family of cubic Liénard equations. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1505–1519. (F. Berezovskaya) **99i:58111** 58F14 (34C23)

— *see also* **Bazykin, A. D., 99k:92001**

Kraut, Peter Spinors, bispinors and almost complex structures. *Tensor* (*N.S.*) **58** (1997), *no.* 1, 8–17. (Hans-Bert Rademacher) **99a:53011** 53A50 (53C15)

Kräuter, Arnold R. (*with* Hwang, Suk-Geun) Comparison of permanental bounds of (0, 1)-matrices. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 133–144. (Jorma Kaarlo Merikoski) **99f:15006** 15A15 (33B15)

— (*with* Hwang, Suk-Geun; Michael, T. S.) An upper bound for the permanent of a nonnegative matrix. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 259–263. (Peter M. Gibson) **99k:15011** 15A15

Krauth, Joachim Upper bounds for the P-values of a scan statistic with a variable window. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 155–163, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62H30 (62P10)

Krauth, Werner (*with* Nicolai, Hermann; Staudacher, Matthias) Monte Carlo approach to M-theory. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 31–41. (Summary) **99c:81257** 81T80 (81T60)

— (*with* Staudacher, Matthias) Finite Yang-Mills integrals. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 350–355. (Summary) **99e:81148** 81T13 (81T80)

Kräutle, S. (*with* Borchers, W.; Forestier, M. Y.; Pasquetti, R.; Peyret, R.; Rautmann, R.; Ross, Nicole; Sabbah, Cyril) A parallel hybrid highly accurate elliptic solver for viscous flow problems. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 3–24, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76104** 76M25 (65N55)

Krautstengl, Alan (*with* Varga, Richard S.) On Geršgorin-type problems and ovals of Cassini. (English summary) *Electron. Trans. Numer. Anal.* **8** (1999), 15–20 (*electronic*). (F. Szidarovszky) **99k:15020** 15A18

Kravanja, Peter (*with* Van Barel, Marc) A fast block Hankel solver based on an inversion formula for block Loewner matrices. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 147–164 (1998). (Zdeněk Dostál) **99g:65035** 65F05 (15A09, 15A57)

— (*with* Cools, Ronald; Haegemans, A.) Computing zeros of analytic mappings: a logarithmic residue approach. (English summary) *BIT* **38** (1998), *no.* 3, 583–596. (Ch'êng Shêng Chien) **99j:65088** 65H05

— (*with* Van Barel, Marc) A fast Hankel solver based on an inversion formula for Loewner matrices. (English summary) *Linear Algebra Appl.* **282** (1998), *no.* 1-3, 275–295. (Zhenyue Zhang) **99i:65030** 65F05 (15A06, 15A09)

— (*with* Van Barel, Marc) A stabilized superfast solver for indefinite Hankel systems. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 335–355. (Summary) **99g:65057** 65F30 (65F10)

Kravaris, Costas (*with* Soroush, Masoud) A continuous-time formulation of nonlinear model predictive control. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 121–146. 93E10 (93E35)

— (*with* Kazantzis, Nikolaos) System-theoretic properties of sampled-data representations of nonlinear systems obtained via Taylor-Lie series. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 997–1020. 93C57

— (*with* Kazantzis, Nikolaos) Nonlinear observer design using Lyapunov's auxiliary theorem. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 241–247. (Summary) **99e:93011** 93B07 (93B05)

Kravarušić, Ratko An approach to the theory of perturbations for a semigroup of unbounded linear operators. (English summary) *Bull. Soc. Math. Banja Luka* **4** (1997), 23–32. (Walter Renger) **99e:47048** 47D06

Kravchenko, A. V. On the lattice complexity of quasivarieties of graphs and endographs. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 3, 273–281, 357; *translation in Algebra and Logic* **36** (1997), *no.* 3, 164–168. (Summary) **99i:08005** 08C15

Kravchenko, Arthur G. (*with* Moin, Parviz; Shariff, Karim) B-spline method and zonal grids for simulations of complex turbulent flows. (English summary) *J. Comput. Phys.* **151** (1999), *no.* 2, 757–789. 76M25 (76F99)

Kravchenko, N. N. Geometric analysis of the generalized Jacobi problem. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 69–73, 112. (Summary) **99e:70050** 70H05 (70F99)

— *see also* **Errata: "Geometric analysis of the generalized Jacobi problem"**

Kravchenko, Svetlana A. (*with* Brucker, Peter; Sot·skov, Yu. N.) Preemptive job-shop scheduling problems with a fixed number of jobs. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 41–76. (Edward J. Anderson) **99m:90084** 90B35 (90C60)

Kravchenko, V. F. (*with* Nesenenko, G. A.) Application of the method of boundary integral equations for determining the boundary-layer asymptotics of the solution of a nonlinear singularly perturbed boundary value problem of heat conduction. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1174–1180, 1293; *translation in Differential Equations* **33** (1997), *no.* 9, 1178–1183 (1998). (Summary) **99d:35069** 35K05 (35B25, 35C20)

— (*with* Sadovnichiĭ, V. A.; Dubrovskiĭ, V. V.; Kadchenko, S. I.) Computation of the first eigenvalues of a boundary value problem of the hydrodynamic stability of a flow between two parallel planes for small Reynolds numbers. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 5, 600–604. (Adelina Georgescu) **99i:76050** 76E05 (34B99, 34L15)

— (*with* Sadovnichiĭ, V. A.; Dubrovskiĭ, V. V.; Kadchenko, S. I.) Computation of the first eigenvalues of a boundary value problem on the hydrodynamic stability of a Poiseuille flow in a circular tube. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 50–53, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 49–53. (Summary) **99i:76051** 76E05 (34B99, 34L40)

— (*with* Sidel'nikov, G. L.) Diffraction of fundamental waves of a cylindrical waveguide by a system of annular cuts. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 2, 185–188; *translation in Dokl. Phys.* **43** (1998), *no.* 7, 408–411. 78A50

Kravchenko, V. V. (*with* Castillo P., R.) On the kernel of the Klein-Gordon operator. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 261–265. (Valdir B. Bezerra) **99i:81032** 81Q05 (47F05, 47N50, 81R20)

— On the Dirac operator with an electromagnetic potential. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 3, 549–556. (Stefano De Leo) **99j:81033** 81Q05 (35Q40, 47F05, 47N50)

Kravchenko, Yu. V. The semidirect product of polyadic multirings. (Russian. English summary) *Problems in algebra, No.* 10 (*Russian*), 190–198, *Gomel. Gos. Univ., Gomel'*, 1996. (*see* **99g:20006**) 20N15 (08B05)

— Formation subalgebras of polyadic multirings. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 47–58, *Gomel. Gos. Univ., Gomel'*, 1998. (İ. Ya. Subbotin) **99m:16073** 16Y99 (20D10)

Kravchishin, O. Z. (*with* Osadchuk, V. A.; Prokopovich, I. B.) The linearized equations of propagation of elastic perturbations in a body with free strains. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 2, 1972–1977. (Summary) **99f:73033** 73D15

Kravitsky, N. (*with* Apelblat, Alexander) Improper integrals associated with the inverse Laplace transforms of $[\ln(s^2+a^2)]^{-n}$, $n=1,2$. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 8, 565–571. (Summary) **99g:44002** 44A10

Kravtsevich, V. *see* **Krawcewicz, Wiesław**

Kravtsov, A. V. Asymptotic solution of the problem of free oscillations of a viscous stratified fluid. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 5, 807–812; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 5, 777–782. (Summary) **99c:76037** 76D30 (76V05)

Kravtsov, M. K. (*with* Yanushkevich, O. A.) On the solvability of a vector problem by means of the algorithm for a linear convolution of criteria. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 502–509; *translation in Math. Notes* **62** (1997), *no.* 3-4, 420–425 (1998). (Summary) **99h:90090** 90C29 (90C27)

— (*with* Yanushkevich, O. A.) A linear convolution of criteria in bicriterial optimization. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 12, 63–70. (Đinh Thế Luc) **99m:90123** 90C29

— (*with* Emelichev, V. A.; Podkopaev, D. P.) On the quasistability of trajectory problems of vector optimization. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 21–27; *translation in Math. Notes* **63** (1998), *no.* 1-2, 19–24. (Summary) **99c:90105** 90C29 (90C31)

— (*with* Krachkovskiĭ, A. P.) An asymptotic approach to the solution of the multi-index axial transportation problem. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1133–1139; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1083–1089. (Summary) **99d:90073** 90C08

Krawcewicz, Wiesław (*with* Wu, Jian Hong) Bifurcation of time-reversible systems. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 2, 75–85; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 2, 69–79. (B. V. Loginov) **99a:47095** 47H15 (34C23, 34K15, 58E09)

— (*with* Vivi, P.; Wu, Jian Hong) Hopf bifurcations of functional differential equations with dihedral symmetries. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 157–184. (Ian Melbourne) **99e:58134** 58F14 (34K15, 58F32)

Krawczyk, Hugo *see* **Advances in cryptology—CRYPTO '98, 99i:94059**

Krawczyk, Leszek (*with* Grandits, Peter) Closedness of some spaces of stochastic integrals. (English summary) *Séminaire de Probabilités, XXXII*, 73–85, *Lecture Notes in Math.*, 1686, *Springer, Berlin*, 1998. (Martin Schweizer) **99j:60070** 60H05 (90A09)

Krawiec, Krzysztof (*with* Słowiński, Roman; Vanderpooten, Daniel) Learning decision rules from similarity based rough approximations. (English summary) *Rough sets in knowledge discovery*, 2, 37–54, *Stud. Fuzziness Soft Comput.*, 19, *Physica, Heidelberg*, 1998. (*see* **99k:68189**) 68T05

Kraynik, Andrew M. (*with* Reinelt, Douglas A.) Elastic-plastic behavior of a Kelvin foam. (English summary) *Forma* **11** (1996), *no.* 3, 255–270. (Béla Uhrin) **99e:52033** 52B60

Krbec, Miroslav (*with* Fiorenza, Alberto) Indices of Orlicz spaces and some applications. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 3, 433–451. (Ha Huy Bang) **99b:46032** 46E30 (26A12, 42B20)

— (*with* Schott, Thomas[2]) Embeddings of weighted Sobolev spaces in the borderline case. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 395–420. (Maria A. Ragusa) **99f:46045** 46E35

Krčevinac, Slobodan (*with* Kovačević-Vujčić, V. V.) Jovan Petrić (1930–1997). *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, *iii*, 1–8. (Editors) **99m:01073** 01A70

Krčmar, M. (*with* Milošević, I.; Nikolić, B.; Damnjanović, M.) Irreducible representations of diperiodic groups. (English summary) *J. Phys. A* **31** (1998), *no.* 15, 3625–3648. (Jochen Gruber) **99d:20012** 20C15 (20C35, 82D25)

Krebsz, A. (*with* Kiss, B.) On a Toeplitz representation of the $H^{1/2}$ norm. (English summary) *Period. Math. Hungar.* **34** (1997), *no.* 3, 201–210. (Zdeněk Dostál) **99d:65350** 65N55 (46E39, 46N40, 65F35)

Krechet, V. G. (*with* Sadovnikov, D. V.) Cosmological aspects of the gravitational interaction of a scalar field in the affine-metric theory of gravity. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 39–50; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 433–441. 83D05 (83F05)

Kreck, Matthias (*with* Stolz, Stephan) A correction on: "Some nondiffeomorphic homeomorphic homogeneous 7-manifolds with positive sectional curvature" [J. Differential Geom. **33** (1991), no. 2, 465–486; MR 92d:53043]. *J. Differential Geom.* **49** (1998), *no.* 1, 203–204. (From the text) **99h:53069** 53C30 (53C21, 57R20, 57R55)

Krée, Paul Intégrales singulières. [Singular integrals] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 298, 309–321, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 42B20

— (*with* Carlen, Eric Anders) On martingale inequalities in non-commutative stochastic analysis. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 475–508. (John E. Gough) **99g:81111** 81S25 (46L50, 60G48)

Kreer, Markus (*with* Korn, Ralf; Lenssen, Mark) Pricing of European options when the underlying stock price follows a linear birth-death process. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 647–662. (Summary) **99d:90019** 90A09 (60G44, 60G55)

Kreher, D. L. (*with* Stinson, Douglas R.; Zhu, Lie[1]) On the maximum number of fixed points in automorphisms of prime order of 2-$(v,k,1)$ designs. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 227–243. (Giovanni Ferrero) **99d:05010** 05B05 (51A10)

Kreienmeyer, M. (*with* Brink, Ulrich; Stein, Erwin) Different methodologies for coupled BEM and FEM with implementation on parallel computers. *Boundary element topics* (*Stuttgart*, 1995), 317–337, *Springer, Berlin*, 1997. (*see* **99e:00017**) 65N38 (65N30, 65Y05)

Kreimendahl, Lothar *see* **Wolff, Christian, 99d:01042**

Kreimer, Dirk On the Hopf algebra structure of perturbative quantum field theories. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 2, 303–334. (Raimar Wulkenhaar) **99e:81156** 81T15 (16W30, 81T18)

— (*with* Connes, Alain) Hopf algebras, renormalization and noncommutative geometry. (English summary) *Comm. Math. Phys.* **199** (1998), *no.* 1, 203–242. (Raimar Wulkenhaar) **99h:81137** 81T15 (16W30, 46L87, 81T18)

— On knots in subdivergent diagrams. (English summary) *Eur. Phys. J. C Part. Fields* **2** (1998), *no.* 4, 757–767. (Lorenzo L. Salcedo) **99m:81156** 81T18 (57M25)

— (*with* Mielke, Eckehard W.) Chiral anomaly in Ashtekar's approach to canonical gravity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 4, 535–548. (José A. Zapata) **99f:81188** 81T50 (83C45, 83D05)

— Weight systems from Feynman diagrams. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 61–85. (Raimar Wulkenhaar) **99e:81161** 81T18 (57M25)
— (*with* Broadhurst, David J.) Feynman diagrams as a weight system: four-loop test of a four-term relation. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 339–346. (Summary) **99c:81150** 81T18 (57M25)
Kreĭn, Mark Grigor'evich Compact linear operators on functional spaces with two norms. (English summary) Translated from the Ukranian. Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 2, 140–162. (Miroslav Lvovich Gorbachuk) **99f:47028** 47B15 (47A10, 47A70)
— (*with* Nudelman, A. A.) An interpolation problem in the class of Stieltjes functions and its connection with other problems. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 3, 251–278. (Aad Dijksma) **99c:47015** 47A57 (30E05, 34L05, 44A60)
— *see also* **Dedicated to the memory of Mark Grigorievich Krein (1907–1989), 99a:00054; Gorbachuk, M. L., 99f:47001** *and* **Gohberg, Israel, 99m:01060**
Kreinovich, Vladik (*with* Bouchon-Meunier, Bernadette; Kosheleva, Olga M.; Nguyen, Hung T.) Fuzzy numbers are the only fuzzy sets that keep invertible operations invertible. (English summary) *Fuzzy Sets and Systems* **91** (1997), *no.* 2, 155–163. (Summary) **99a:04006** 04A72
— (*with* Nguyen, Hung T.; Zuo, Qiang) Interval-valued degrees of belief: applications of interval computations to expert systems and intelligent control. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **5** (1997), *no.* 3, 317–358. (Summary) **99f:68189** 68T27 (03B48, 03B70, 68T35)
— (*with* Lakeev, A. V.) NP-hard classes of linear algebraic systems with uncertainties. (English summary) *Reliab. Comput.* **3** (1997), *no.* 1, 51–81. (D. Bini) **99f:65211** 65Y20 (65F05, 65G10)
— (*with* Gates, Ann Q.; Longpré, Luc) Kolmogorov complexity justifies software engineering heuristics. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 150–154. 68Q30 (68N99)
— (*with* Türkşen, I. Burhan; Yager, Ronald R.) A new class of fuzzy implications. Axioms of fuzzy implication revisited. (English summary) *Fuzzy Sets and Systems* **100** (1998), *no.* 1-3, 267–272. (Summary) **99g:03025** 03B52 (68T27)
— (*with* Molchanov, Ilya S.) How to define an average of several sets? I. (English summary) *Geombinatorics* **7** (1998), *no.* 4, 123–131. (Herbert Ziezold) **99e:60039** 60D05 (52A22)
— (*with* Molchanov, Ilya S.) How to define an average of several sets? II. (English summary) *Geombinatorics* **8** (1998), *no.* 1, 160–165. (Herbert Ziezold) **99k:60022** 60D05 (03D15, 03F10, 28B20)
— (*with* Blass, Andreas; Gurevich, Yuri; Longpré, Luc) A variation on the zero-one law. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 29–30. (Summary) **99f:68066** 68Q15 (03D15, 68Q25)
— (*with* Nguyen, Hung T.; Wojciechowski, Piotr) Strict Archimedean t-norms and t-conorms as universal approximators. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 239–249. (Summary) **99h:03014** 03B52
— (*with* Scerri, Eric R.; Wojciechowski, Piotr; Yager, Ronald R.) Ordinal explanation of the periodic system of chemical elements. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 387–399. 81V55
— (*with* Alefeld, G. E.; Mayer, Günter) The shape of the solution set for systems of interval linear equations with dependent coefficients. (English summary) *Math. Nachr.* **192** (1998), 23–36. (Summary) **99c:15004** 15A06 (14Q99, 65G10)
— (*with* Dennis, David; Rump, Siegfried M.) Intervals and the origins of calculus. (English summary) *Reliab. Comput.* **4** (1998), *no.* 2, 191–197. (Niccolò Guicciardini) **99d:01016** 01A45 (01A99)
— (*with* Heindl, Gerhard; Lakeev, A. V.) Solving linear interval systems is NP-hard even if we exclude overflow and underflow. *Reliab. Comput.* **4** (1998), *no.* 4, 383–388. (Pavel S. Pankov) **99j:65082** 65G10 (65F99, 65Y20)
— (*with* Starks, Scott A.) Locating the whole pattern is better than locating its pieces: a geometric explanation of an empirical phenomenon. (English summary) *Geombinatorics* **8** (1999), *no.* 4, 116–121. (Summary) **99m:68178** 68T10 (52B55)
— *see also* **Proceedings: Conference on Interval Methods and their Applications on Global Optimization, 99m:65007**
Kreisel, G. Second thoughts around some of Gödel's writings: a non-academic option. Gödel, I. *Synthese* **114** (1998), *no.* 1, 99–160. (E. Mendelson) **99k:01037** 01A60 (03-03, 03A05)
klein-Kreisler, Martin *see* **Klein-Kreisler, Martin**
Kreiss, Gunilla (*with* Kreiss, Heinz-Otto) Stability of steady solutions of Burgers's equation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2329–2349 (*electronic*). (Anatoly M. Kamchatnov) **99j:35190** 35Q53 (35B35, 76N10)
— (*with* Kreiss, Heinz-Otto; Lorenz, Jens) On stability of conservation laws. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 401–430 (*electronic*). (Summary) **99j:35132** 35L65 (35B35)
Kreiss, Heinz-Otto Numerical solution of problems with different time scales. II. *Computational wave propagation* (*Minneapolis, MN*, 1994/1995), 97–127, *IMA Vol. Math. Appl.*, 86, *Springer, New York*, 1997. (Bernhard A. Schmitt) **99f:65103** 65L05 (34A45, 34E15)
— (*with* Kreiss, Gunilla) Stability of steady solutions of Burgers's equation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2329–2349 (*electronic*). (Anatoly M. Kamchatnov) **99j:35190** 35Q53 (35B35, 76N10)
— (*with* Jauslin, H. R.; Moser, Jürgen K.) On the forced Burgers equation with periodic boundary conditions. *Differential equations: La Pietra* 1996 (*Florence*), 133–153, *Proc. Sympos. Pure Math.*, 65, *Amer. Math. Soc., Providence, RI*, 1999. (Guido Schneider) **99m:35208** 35Q53 (34C27, 58F27)
— (*with* Kreiss, Gunilla; Lorenz, Jens) On stability of conservation laws. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 401–430 (*electronic*). (Summary) **99j:35132** 35L65 (35B35)
— (*with* Luo, Erding) Pseudospectral vs. finite difference methods for initial value problems with discontinuous coefficients. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 148–163 (*electronic*). (Rudolf Gorenflo) **99i:65113** 65M70 (65M06)
Kreiss, Jens-Peter (*with* Neumann, Michael H.) Regression-type inference in nonparametric autoregression. (English summary) *Ann. Statist.* **26** (1998), *no.* 4, 1570–1613. (B. L. S. Prakasa Rao) **99m:62062** 62G07 (62G05, 62M02)
Kreitz, Christoph (*with* Pientka, Brigitte) Instantiation of existentially quantified variables in inductive specification proofs. (English summary) *Artificial intelligence and symbolic computation* (*Plattsburgh, NY*, 1998), 247–258, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68Q60 (03B35)
— (*with* Schmitt, Stephan) Deleting redundancy in proof reconstruction. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 262–276, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35
Krejcar, R. (*with* Burdík, Č.; Navrátil, O.) Boson realization of Yangians $Y(B_2)$. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 100–103, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81R50
Krejčí, Pavel (*with* Brokate, Martin) On the wellposedness of the Chaboche model. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 67–79, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Mircea Sofonea) **99e:73047** 73E05 (47H30, 73E99)
— (*with* Sprekels, Jürgen) Temperature-dependent hysteresis in one-dimensional thermovisco-elastoplasticity. (English summary) *Appl. Math.* **43** (1998), *no.* 3, 173–205. (Martin Brokate) **99f:73045** 73F15 (35Q72, 47H30, 73B30)
— (*with* Sprekels, Jürgen) Hysteresis operators in phase-field models of Penrose-Fife type. (English summary) *Appl. Math.* **43** (1998), *no.* 3, 207–222. (Martin Brokate) **99f:47092** 47H30 (35R35, 73B30, 80A22)
— (*with* Sprekels, Jürgen) Global solutions to a coupled parabolic-hyperbolic system with hysteresis in 1-D magnetoelasticity. *Nonlinear Anal.* **33** (1998), *no.* 4, 341–358. (Martin Brokate) **99e:73086** 73R05 (35M10, 35Q72, 47H30, 47N20)
— (*with* Brokate, Martin) Wellposedness of kinematic hardening models in elastoplasticity. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 2, 177–209. (Mircea Sofonea) **99e:73048** 73E05 (73E50, 73E60)
— (*with* Sprekels, Jürgen) Strong solutions to equations of visco-thermo-plasticity with a temperature-dependent hysteretic strain-stress law. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 237–244, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99k:73022** 73B30 (35Q72, 73E50, 73F15)
Krejić, Nataša (*with* Martínez, José Mario) Inexact-Newton methods for semismooth systems of equations with block-angular structure. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 239–249. (Roxin Zhang) **99m:90098** 90C06 (65H10)
Kremen', E. V. Multiple orthogonal difference sweep for three-point difference equations of general form. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 51–56, 140. (Summary) **99d:65361** 65Q05 (65F99)
Kremenetsky, V. (*with* Bartulis, A.; Shcherbinin, E.) General method of constructing self-similar solutions for two-dimensional MHD flows. (English summary) *Magnetohydrodynamics* **34** (1998), *no.* 2, 89–104. (Summary) **99j:76130** 76W05
Kremer, G. M. (*with* Müller, Ingo) Thermal conductivity and dynamic pressure in extended thermodynamics of chemically reacting mixture of gases. (English and French summaries) *Ann. Inst. H. Poincaré Phys. Théor.* **69** (1998), *no.* 3, 309–334. (Summary) **99h:80014** 80A32 (76N15, 85A30)
— (*with* Marques, W., Jr.) Light scattering from extended kinetic models: monatomic ideal gases. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 319–329. 82C40
Kremer, Kurt (*with* Dünweg, Burkhard; Grest, Gary S.) Molecular dynamics simulations of polymer systems. (English summary) *Numerical methods for polymeric systems* (*Minneapolis, MN*, 1996), 159–195, *IMA Vol. Math. Appl.*, 102, *Springer, New York*, 1998. (*see* **99f:82001**) 82D60
Kremer, Philip Dunn's relevant predication, real properties and identity. (English summary) *Erkenntnis* **47** (1997), *no.* 1, 37–65. (Otávio Bueno) **99c:03008** 03A05 (03B46)
— Defining relevant implication in a propositionally quantified S4. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1057–1069. (P. C. Gilmore) **99i:03021** 03B46 (03B45)
— Propositional quantification in the topological semantics for S4. (English summary) *Notre Dame J. Formal Logic* **38** (1997), *no.* 2, 295–313. (Petr Jirků) **99d:03015** 03B45
Kremer, Ulrich Optimal and near-optimal solutions for hard compilation problems. (English summary) *Parallel Process. Lett.* **7** (1997), *no.* 4, 371–378. (From the summary) **99c:68052** 68N20 (68Q25)
Krempa, Jan (*with* Puczyłowski, Edmund R.) Adam Suliński (1928–1997). (Polish) *Wiadom. Mat.* **33** (1997), 209–212. (Editors) **99m:01074** 01A70
— On reduced rings and number theory. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 23–29. (W. Narkiewicz) **99m:16042** 16S34 (11A41)
Krener, Arthur J. Necessary and sufficient conditions for nonlinear worst case (H_∞) control and estimation. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 25 *pp.* (*electronic*). (Anton A. Stoorvogel) **99f:93046** 93B36 (93C10)
— (*with* Nikitin, S. V.) Generalized isoperimetric problem. (English summary) *J. Math. Systems Estim. Control* **7** (1997), *no.* 3, 15 *pp.* (*electronic*). (Vera Zeidan) **99k:49047** 49K15 (49K05, 58E30, 70F25)
— (*with* Humbert, J. Sean) Dynamics and control of entrained solutions in multi-mode Moore-Greitzer compressor models. (English summary) *Internat. J. Control* **71** (1998), *no.* 5, 807–821. 93A30 (93C95)
— Feedback linearization. (English summary) *Mathematical control theory*, 66–98, *Springer, New York*, 1999. (Valery I. Korobov) **99k:93035** 93B18 (93A30, 93B52)
Krenk, Steen Friction, dilation, and plastic flow potential. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 255–260, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99e:73003**) 73E99
Krenn, Günther (*with* Zeilinger, Anton) Entangled entanglement. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1793–1797. (Summary) **99b:81019** 81P15
— (*with* Zeilinger, Anton) Erratum: "Entangled entanglement" [Phys. Rev. A (3) **54** (1996), no. 3, 1793–1797; MR 99b:81019]. *Phys. Rev. A* (3) **55** (1997), *no.* 5, 3970. (From the text of erratum) **99b:81020** 81P15
— (*with* Zeilinger, Anton) Reply to: "Comment on: 'Entangled entanglement'" [Phys. Rev. A (3) **56** (1997), no. 5, 4335; MR 99b:81021] by R. L. Schafir. (English summary) *Phys. Rev. A* (3) **56** (1997), *no.* 5, 4336. (Summary) **99b:81022** 81P15
— (*with* Svozil, Karl) Stronger-than-quantum correlations. (English summary) *Found. Phys.* **28** (1998), *no.* 6, 971–984. (Emilio Santos) **99h:81013** 81P05 (81P10)
— *see also* **Schafir, R. L., 99b:81021**

Kreowski, Hans-Jörg (*with* Drewes, Frank; Habel, Annegret) Hyperedge replacement graph grammars. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 95–162, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C65, 05C85, 68R10)

— (*with* Ehrig, Hartmut; Orejas, Fernando) Correctness of horizontal and vertical composition for implementation concepts based on constructors and abstractors. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 365–387. (Eric G. Wagner) **99k:68112** 68Q65

— (*with* Andries, Marc; Engels, Gregor; Habel, Annegret; Hoffmann, Berthold; Kuske, Sabine; Plump, Detlef; Schürr, Andy; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Kreps, David M. *see* **Advances in economics and econometrics: theory and applications, 99d:90003**

Kresch, Andrew Associativity relations in quantum cohomology. *Adv. Math.* **142** (1999), *no.* 1, 151–169. (Andreas Gathmann) **99m:14104** 14N10

Kresch, Renato Extension of morphological operations to complete semilattices and its applications to image and video processing. (English summary) *Mathematical morphology and its applications to image and signal processing (Amsterdam, 1998)*, 35–42, *Comput. Imaging Vision*, 12, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99g:68217**) 68U10

Kresin, G. I. (*with* Maz'ya, Vladimir G.) On the maximum modulus principle for linear parabolic systems with zero boundary data. (English summary) *Funct. Differ. Equ.* **5** (1998), *no.* 1-2, 165–181. (Summary) **99m:35094** 35K20 (35B50)

mayer-Kress, Gottfried *see* **Mayer-Kress, Gottfried**

Kress, Moshe (*with* Manor, Gad) Optimality of the greedy shooting strategy in the presence of incomplete damage information. (English summary) *Naval Res. Logist.* **44** (1997), *no.* 7, 613–622. (Summary) **99e:90030** 90B06

Kress, Rainer (*with* Rundell, William) Inverse obstacle scattering with modulus of the far field pattern as data. *Inverse problems in medical imaging and nondestructive testing (Oberwolfach, 1996)*, 75–92, *Springer, Vienna*, 1997. (P. A. Mishnayevskiy) **99b:35215** 35R30 (35J05, 65N45)

— Numerical methods in inverse obstacle scattering. *Inverse problems of wave propagation and diffraction (Aix-les-Bains, 1996)*, 93–106, *Lecture Notes in Phys.*, 486, *Springer, Berlin*, 1997. (Paul Andrew Martin) **99d:65192** 65J20 (35J05, 35R30)

— (*with* Colton, David L.) ★ Inverse acoustic and electromagnetic scattering theory. (English summary) Second edition. Applied Mathematical Sciences, 93. *Springer-Verlag, Berlin*, 1998. *xii+334 pp. ISBN* 3-540-62838-X (From the preface) **99c:35181** 35P25 (35J05, 35Q60, 76Q05, 78A45)

— ★ Numerical analysis. (English summary) Graduate Texts in Mathematics, 181. *Springer-Verlag, New York*, 1998. *xii+326 pp. ISBN* 0-387-98408-9 (Ian Gladwell) **99c:65001** 65–01

— Numerical methods in inverse obstacle scattering with reduced data. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 34–43, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 65N30 (35J05, 35R30)

— (*with* Chapko, Roman; Yoon, Jeong-Rock) On the numerical solution of an inverse boundary value problem for the heat equation. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 853–867. (Summary) **99i:65099** 65M30 (35K10, 35R30)

— (*with* Rundell, William) Inverse obstacle scattering using reduced data. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 442–454 (*electronic*). (Summary) **99h:35029** 35J05 (35R30, 65R30, 76Q05)

Kretinsky, Mojmir *see* **Workshop: Concurrency, 99h:68010**

bertram-Kretzberg, Claudia *see* **Bertram-Kretzberg, Claudia**

Kreußler, B. Moishezon twistor spaces without effective divisors of degree one. (English summary) *J. Algebraic Geom.* **6** (1997), *no.* 2, 379–390. (Massimiliano Pontecorvo) **99c:32039** 32J17 (32L25)

— On the algebraic dimension for twistor spaces over the connected sum of four complex projective planes. (English summary) *Geom. Dedicata* **71** (1998), *no.* 3, 263–285. (Massimiliano Pontecorvo) **99m:32040** 32L25 (32J17)

Kreuter, Bernd Threshold functions for asymmetric Ramsey properties with respect to vertex colorings. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 3, 335–348. (Tomasz J. Łuczak) **99c:05178** 05C80 (05C55)

— (*with* Kohayakawa, Y.) Threshold functions for asymmetric Ramsey properties involving cycles. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 245–276. (Andrzej Ruciński) **99g:05159** 05C80 (05C55)

Kreutzberger, Eva (*with* Fan, Jianqing) Automatic local smoothing for spectral density estimation. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 2, 359–369. (Adhir K. Basu) **99i:62201** 62M10 (62G05)

Kreuzer, Alexander Central Bol loops. (English summary) *Nearrings, nearfields and K-loops (Hamburg, 1995)*, 301–310, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Huberta Lausch) **99b:20103** 20N05

— (*with* Kreuzer, Margarete) Zur Geschichte des Fluchtpunktes, des Fernpunktes und der projektiven Geometrie. [On the history of the vanishing point, of the point at infinity and of projective geometry] *Überblicke Mathematik* 1996/97, 126–134, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99d:00011**) 01A99 (00A69, 51–03)

— On isomorphisms of Grassmann spaces. (English summary) *Aequationes Math.* **56** (1998), *no.* 3, 243–250. (Hong Bo Li) **99g:51001** 51A45 (51A20, 51M35)

— Projective embedding of projective spaces. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 363–372. (Summary) **99h:51009** 51E20

— Charakterisierung harmonisch halbgeordneter Ebenen. (English summary) [Characterization of harmonically half-ordered planes] *J. Geom.* **61** (1998), *no.* 1-2, 128–140. (Franz B. Kalhoff) **99c:51021** 51G05

— Inner mappings of Bruck loops. (English summary) *Math. Proc. Cambridge Philos. Soc.* **123** (1998), *no.* 1, 53–57. (Raffaele Scapellato) **99a:20073** 20N05 (20N07)

— (*with* Maxson, Carl J.) Full ideals of polynomial rings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 4, 315–326. (Daniel D. Anderson) **99k:13029** 13F20

Kreuzer, Bettina (*with* Kreuzer, Martin) Extremal zero-dimensional subschemes of $\mathbf{P}^2$. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 159–177. (P. Schenzel) **99g:14061** 14M07 (13D40, 14C99)

Kreuzer, Edwin (*with* Guder, Rabbijah) Using generalized cell mapping to approximate invariant measures on compact manifolds. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2487–2499. (Jérôme Buzzi) **99g:58075** 58F11 (41A35, 65D99)

— Schwerpunkte der GAMM-Aktivitäten und organisatorische Entwicklungen der GAMM in den Jahren 1972–1997. [The focus of GAMM activities and organizational developments of the GAMM in the years 1972–1997] 75 Jahre GAMM. *Mitt. Ges. Angew. Math. Mech.* **20** (1997), *no.* 2, 51–58. (*see* **99f:01027**) 01A74

— (*with* Guder, Rabbijah) On the generalized cell mapping. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics (Ithaca, NY, 1997)*, 41–50, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 58F12

Kreuzer, M. *see* **Kreuzer, Maximilian**

Kreuzer, Margarete (*with* Kreuzer, Alexander) Zur Geschichte des Fluchtpunktes, des Fernpunktes und der projektiven Geometrie. [On the history of the vanishing point, of the point at infinity and of projective geometry] *Überblicke Mathematik* 1996/97, 126–134, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99d:00011**) 01A99 (00A69, 51–03)

Kreuzer, Martin ★ Beiträge zur Theorie der nulldimensionalen Unterschemata projektiver Räume. (German) [Contributions to the theory of zero-dimensional subschemes of projective spaces] Regensburger Mathematische Schriften [Regensburg Mathematical Publications], 26. *Universität Regensburg, Fakultät für Mathematik, Regensburg*, 1998. *xvi+128 pp. ISBN* 3-88246-198-5 (P. Schenzel) **99h:13029** 13F20 (13D40, 14C99, 14M05, 14N05)

— (*with* Kreuzer, Bettina) Extremal zero-dimensional subschemes of $\mathbf{P}^2$. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 159–177. (P. Schenzel) **99g:14061** 14M07 (13D40, 14C99)

Kreuzer, Maximilian (*with* Avram, A. C.; Mandelberg, Michael; Skarke, Harald) The web of Calabi-Yau hypersurfaces in toric varieties. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 625–640. (Dimitrios I. Dais) **99a:14056** 14J32 (14M25, 32G05)

— (*with* Skarke, Harald) Classification of reflexive polyhedra in three dimensions. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 4, 853–871. (Sandra Di Rocco) **99m:14100** 14M25 (14J30, 14J32)

— (*with* Skarke, Harald) Calabi-Yau 4-folds and toric fibrations. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 272–290. (Sławomir Cynk) **99f:14052** 14J32 (14M25, 32J18, 81T30)

van Kreveld, Marc (*with* Snoeyink, Jack) Linear-time reconstruction of Delaunay triangulations with applications. (English summary) *Algorithms—ESA '97 (Graz)*, 459–471, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05

— (*with* de Berg, Mark; Halperin, Dan; Overmars, Mark H.) Sparse arrangements and the number of views of polyhedral scenes. (English summary) *Internat. J. Comput. Geom. Appl.* **7** (1997), *no.* 3, 175–195. (Rephael Wenger) **99a:52014** 52B30 (52B55, 68U05)

— (*with* Agarwal, Pankaj K.; Suri, Subhash) Label placement by maximum independent set in rectangles. (English summary) International Workshop on Algorithms and Data Structures (Halifax, NS, 1997). *Comput. Geom.* **11** (1998), *no.* 3-4, 209–218. (Summary) **99m:68202** 68U05

— (*with* de Berg, Mark; Cheong, O.; Devillers, Olivier; Teillaud, M.) Computing the maximum overlap of two convex polygons under translations. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 613–628. (Summary) **99h:52015** 52B55 (68U05)

Kreweras, G. On the determinants extracted from the binomial array. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 102–104. (Ko-Wei Lih) **99j:15011** 15A15

Krey, U. (*with* Schottky, B.) Phase transitions in the generalization behaviour of multilayer perceptrons. II. The influence of noise. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8541–8571. (Dimitri Petritis) **99e:82073** 82C32 (92B20)

Kreyszig, Erwin Interaction between general topology and functional analysis. *Handbook of the history of general topology, Vol. 1*, 357–389, *Kluwer Acad. Publ., Dordrecht*, 1997. (F. Smithies) **99f:01016** 01A55 (01A60, 46–03, 54–03)

— (*with* Kracht, Manfred) On Hilbert space theory and kernel functions. *Inner product spaces and applications*, 70–114, *Pitman Res. Notes Math. Ser.*, 376, *Longman, Harlow*, 1997. (F. Smithies) **99a:46001** 46–03 (01A60, 46E22, 46N20)

— ★ Advanced engineering mathematics. Eighth edition. *John Wiley & Sons, Inc., New York*, 1999. *xvi+1156+A97+I20 pp. ISBN* 0-471-15496-2 00A06 (00–01)

Krichagina, E. V. (*with* Pukhal'skiĭ, A. A.) A heavy-traffic analysis of a closed queueing system with a GI/∞ service center. (English summary) *Queueing Systems Theory Appl.* **25** (1997), *no.* 1-4, 235–280. (Summary) **99f:60159** 60K25

Krichever, Igor Moiseevich (*with* Lipan, O.; Wiegmann, P. B.; Zabrodin, A. V.) Quantum integrable systems and classical discrete nonlinear dynamics. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 211–227, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (58F07, 81U40)

— (*with* Lipan, O.; Wiegmann, P. B.; Zabrodin, A. V.) Quantum integrable models and discrete classical Hirota equations. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 267–304. (Mayumi Ohmiya) **99c:58076** 58F07 (39A10, 82B23)

— (*with* Wiegmann, P. B.; Zabrodin, A. V.) Elliptic solutions to difference non-linear equations and related many-body problems. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 373–396. (Andrey V. Tsiganov) **99e:58103** 58F07 (14H42, 33C90, 39A10, 81V70)

Krichevskiĭ, Rafail Laplace's law of succession and universal encoding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 296–303. (Summary) **99e:94016** 94A15

Kriecherbauer, Thomas (*with* Deift, P.; McLaughlin, K. T.-R.; Venakides, Stephanos; Zhou, Xin) Asymptotics for polynomials orthogonal with respect to varying exponential weights. *Internat. Math. Res. Notices* **1997**, *no.* 16, 759–782. (Alexander Vladimirovich Kitaev) **99g:34038** 34A55 (15A52, 34L25, 35Q53, 82B44)

— (*with* Deift, P.; McLaughlin, K. T.-R.) New results for the asymptotics of orthogonal polynomials and related problems via the Lax-Levermore method. (English summary) *Recent advances in partial differential equations, Venice 1996*, 87–104, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Heinrich Begehr) **99c:31006** 31A99 (41A99, 60K99)

— (*with* Deift, P.; McLaughlin, K. T.-R.; Venakides, Stephanos; Zhou, Xin) Uniform asymptotics for orthogonal polynomials. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 491–501 (*electronic*). (V. Totik) **99m:42038** 42C05 (45E05, 81Q99)

— (*with* Brown, B. Malcolm; Eastham, Michael S. P.; Hinz, Andreas M.; McCormack, Daniel K. R.; Schmidt, Karl Michael) Welsh eigenvalues of radially periodic Schrödinger operators. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 347–357. (Carol Shubin) **99m:34196** 34L40 (35J10, 35P15)

Krieg, Aloys The Maaßspace for the non-trivial multiplier system over the Hurwitz quaternions. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 3, 211–218. (Rolf Berndt) **99d:11051** 11F55 (11R52)

— (*with* Walcher, Sebastian) Multiplier systems for the modular group on the 27-dimensional exceptional domain. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1409–1417. (Consuelo Martínez) **99c:17042** 17C40 (11F41)

— (*with* Görlich, E.; Nessel, R. J.; Stens, R. L.) Paul L. Butzer—five years as Professor Emeritus. Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 20–31. (Editors) **99m:01069b** 01A70 (47D06)

— *see also* **Charlemagne and his heritage. 1200 years of civilization and science in Europe**, **99i:00015**

Krieg, Daniela (*with* Mörters, Peter) Tangent measure distributions of hyperbolic Cantor sets. (English summary) *Monatsh. Math.* **126** (1998), *no.* 4, 313–328. (Emilia Petrisor) **99m:28017** 28A78 (28A80, 58F11, 58F15)

Krieg-Brückner, Bernd (*with* Mossakowski, Till; Kolyang) Static semantic analysis and theorem proving for CASL. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 333–348, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

Kriegel, Klaus (*with* Alt, Helmut; Fuchs, Ulrich) On the number of simple cycles in planar graphs. (English summary) *Graph-theoretic concepts in computer science* (*Berlin*, 1997), 15–24, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68181** 68R10 (05C35, 05C38, 68Q35)

— (*with* Hoffmann, Frank; Icking, Christian; Klein, Rolf) Moving an angle around a region. (English summary) *Algorithm theory—SWAT'98* (*Stockholm*), 71–82, *Lecture Notes in Comput. Sci.*, 1432, *Springer, Berlin*, 1998. (Summary) **99k:68192** 68U05

— (*with* Hoffmann, Frank; Wenk, Carola) An applied point pattern matching problem: comparing 2D patterns of protein spots. (English summary) 13th European Workshop on Computational Geometry CG'97 (Würzburg, 1997). *Discrete Appl. Math.* **93** (1999), *no.* 1, 75–88. (*see* **99k:00039**) 92D20 (68U05, 92C15)

Krieger, Abba M. (*with* Pfeffermann, Danny; Rinott, Yosef) Parametric distributions of complex survey data under informative probability sampling. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1087–1114. (Mahendra K. Sharma) **99m:62015** 62D05

Kriegsmann, G. A. The flanged waveguide antenna: discrete reciprocity and conservation. (English summary) *Wave Motion* **29** (1999), *no.* 1, 81–95. (Summary) **99h:76081** 76Q05 (78–08)

Kriegsmann, James J. (*with* Miksis, Michael J.; Vanden-Broeck, Jean-Marc) Pressure driven disturbances on a thin viscous film. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1249–1255. (Summary) **99a:76045** 76D45 (76D99)

Kriese, F. (*with* Bandt, Christoph; Hadeler, K. P.) Particle systems acting on undirected graphs. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 3-4, 571–586. (T. M. Liggett) **99f:60165** 60K35 (82C22)

Kriesell, Matthias On k-critical connected line graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 1–7. (I. Broere) **99m:05093** 05C40

— Contractible non-edges in 3-connected graphs. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 2, 192–201. (Akira Saito) **99j:05127** 05C40

Kriete, Hartje Herman's proof of the existence of critical points on the boundary of singular domains. *Progress in holomorphic dynamics*, 31–40, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Peter Petek) **99i:30042** 30D05 (30C20, 30C62, 58F23)

— (*with* Krauskopf, Bernd) Approximating transcendental Julia sets. *Progress in holomorphic dynamics*, 116–138, *Pitman Res. Notes Math. Ser.*, 387, *Longman, Harlow*, 1998. (Zhuan Ye) **99j:30031** 30D05 (58F23)

— *see also* **Progress in holomorphic dynamics**, **99d:58006**

Kriete, Thomas L., III Kernel functions and composition operators in weighted Bergman spaces. (English summary) *Studies on composition operators* (*Laramie, WY*, 1996), 73–91, *Contemp. Math.*, 213, *Amer. Math. Soc., Providence, RI*, 1998. (Miroslav Engliš) **99a:47047** 47B38 (30C40, 30H05, 46E20)

Krige, John *see* **Science in the twentieth century**, **99i:00012**

Krikhaar, R. L. (*with* Feijs, L. M. G.) Relation algebra with multi-relations. (English summary) *Int. J. Comput. Math.* **70** (1998), *no.* 1, 57–74. (Summary) **99j:68085** 68Q65

Krikorian, R. A. Note on Fermat's principle in general relativity. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 4, 537–541. (Volker Perlick) **99f:83008** 83C10

ter-Krikorov, A. M. *see* **Ter-Krikorov, A. M.**

Kriloff, C. (*with* Check, P.; Stephenson, D. R.) A classification of invertible subsets of affine root systems. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 133–142. (Duncan J. Melville) **99g:17019** 17B20 (17B67)

Krim, Hamid (*with* Schick, Irvin C.) Minimax description length for signal denoising and optimized representation. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 898–908. 94A12

Krinik, A. (*with* Böhm, Walter M.; Mohanty, S. G.) The combinatorics of birth-death processes and applications to queues. (English summary) *Queueing Systems Theory Appl.* **26** (1997), *no.* 3-4, 255–267. (B. R. K. Kashyap) **99a:60099** 60K25 (60J80, 90B22)

Krioukov, Alexei A. Kähler extensions of Riemannian manifolds. Proceedings of the Second World Congress of Nonlinear Analysts, Part 2 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 2, 819–824. (Yi Bing Shen) **99b:53030** 53B35 (53C55)

Kripfganz, Anita Solution branching of a general perimeter partition problem. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 447–459. 52A38 (90C31)

Kripke, Saul A. *see* **Michael, Michaelis**; **Macia, Josep**; **Strobach, Niko** *and* **Santos, Ernesto Perini F. da Mota**

Krir, Mohamed Défaut d'exactitude des modèles de Néron toriques sur un corps local. (English summary) [Exactness defect for toric Néron models over a local field] *Manuscripta Math.* **96** (1998), *no.* 1, 9–16. (Takeshi Ooe) **99k:14076** 14K15 (11G10, 14G20)

Krishchenko, A. P. (*with* Volkov, I. K.) Qualitative analysis of a population development model. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 11, 1457–1465, 1580; *translation in Differential Equations* **32** (1996), *no.* 11, 1452–1461 (1997). (Miklós Farkas) **99a:92031** 92D25 (34C05, 34C23, 34D99)

— (*with* Volkov, I. K.; Chebotarev, A. N.) Operation modes for a population with a possible nonequilibrium preservation of size. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 8, 156–167; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 2, 1364–1373 (1998). (D. O. Logofet) **99f:92027** 92D25

— (*with* Babloyantz, A.; Nosov, A. P.) Analysis and stabilization of nonlinear chaotic systems. (English summary) Computational tools of complex systems, I. *Comput. Math. Appl.* **34** (1997), *no.* 2-4, 355–368. (R. N. Mukherjee) **99c:93084** 93D15 (34C05, 34D05, 34H05, 58F13, 58F40)

— On the structure of attainability sets of affine systems. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 768–775, 862; *translation in Differential Equations* **33** (1997), *no.* 6, 771–778 (1998). (M. Krastanov) **99a:93009** 93B03 (93C10)

— (*with* Kanatnikov, A. N.) Symmetry of affine systems. Methods of analysis of nonlinear systems. *Comput. Math. Model.* **9** (1998), *no.* 1, 64–75. (José Basto Goncalves) **99i:93016** 93B25 (34H05, 93B29)

Krishen, Alok (*with* Das, Shubhabrata) Some bootstrap methods in nonlinear mixed-effect models. (English summary) The Seventh Eugene Lukacs Conference (Bowling Green, OH, 1997). *J. Statist. Plann. Inference* **75** (1999), *no.* 2, 237–245. (*see* **99k:62004**) 62G09

Krishna, S. V. (*with* Bhattacharyya, Saswati) Impulse effect on structured populations conditions for permanence and persistence. (English summary) *Nonlinear World* **4** (1997), *no.* 3, 227–245. (Peter Moson) **99h:92029** 92D25 (34A37, 45K05)

Krishna, T. Prasanna (*with* Murthy, M. S. Ramachandra) On a new type of slope rotatable central composite design. (English summary) *J. Indian Soc. Agricultural Statist.* **51** (1998), *no.* 1, 12–16. 62K10

Krishna, Vijay (*with* Sjöström, Tomas) On the convergence of fictitious play. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 479–511. (James Bergin) **99i:90120** 90D05 (90D10, 90D20)

Krishna Kumar, B. *see* **Kumar, B. Krishna**

Krishnamoorthi, R. (*with* Bhattacharya, Prabir B.) Color edge extraction using orthogonal polynomials based zero crossings scheme. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 51–65. (Summary) **99g:68214** 68U10

Krishnamoorthy, A. (*with* Lakshmy, B.; Iqbal Basha, R.) Stochastic analysis of a two commodity inventory problem with Markov dependent shift in demand. (English summary) *J. Math. Phys. Sci.* **30** (1996), *no.* 5, 237–252 (1998). 90B05

— (*with* Ushakumari, P. V.) The queueing system $M/M^{X(R)}/\infty$. (English summary) *Asia-Pacific J. Oper. Res.* **15** (1998), *no.* 1, 17–28. 60K25 (90B22)

— (*with* Rajagopalan, V.) $M(1,2)/G(1,2)/1/(L_1,L_2)$ queue with Markov dependent shift in service. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 1, 1–9. (Summary) **99b:90060** 90B22 (60K25)

— (*with* Raju, Narayana Pillai) (s,S) inventory with lead time—the N-policy. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 4, 45–52. (L. C. Thomas) **99m:90058** 90B05 (90A09)

— (*with* Ushakumari, P. V.) On the queueing system $GI_D^X/M_D^R/\infty$. (English summary) *Optimization* **43** (1998), *no.* 2, 157–168. (Summary) **99d:60106** 60K25 (90B22)

— (*with* Ushakumari, P. V.) On a bulk arrival bulk service infinite server queue. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 3, 585–595. (Summary) **99a:60110** 60K25 (90B22)

Krishnamoorthy, C. S. (*with* Mukherjee, S.) A weighted element patch based superconvergent stress extraction strategy. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 8, 731–749. (Summary) **99d:73091** 73V05

— (*with* Mukherjee, S.) A pollution controlled hybrid interior error estimator for linear elastostatics. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 3, 507–532. (Summary) **99f:73082** 73V05

Krishnamoorthy, Mohan (*with* Ernst, Andreas T.) An exact solution approach based on shortest-paths for p-hub median problems. (English summary) *INFORMS J. Comput.* **10** (1998), *no.* 2, 149–162. 90C27 (90B20)

— (*with* Ernst, Andreas T.) Solution algorithms for the capacitated single allocation hub location problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 141–159. (*see* **99k:90002**) 90B80 (90C90)

Krishnamoorthy, Mukkai S. (*with* Doğrusöz, Uğur) VLSI algorithms for finding a fundamental set of cycles and a fundamental set of cutsets of a graph. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 46–65 (*electronic*). (*see* **99f:68006**) 68Q35

— (*with* Lawson, Nancy) Bridge obstructions to circular-three gate matrix layout. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 143–153. (Summary) **99c:68195** 68R10 (05C85)

Krishnamurthy, Balachander (*with* Cohen, Edith; Rexford, Jennifer) Evaluating server-assisted cache replacement in the web. (English summary) *Algorithms—ESA '98* (*Venice*), 307–319, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68U99

Krishnamurthy, E. V. Computational power of quantum machines, quantum grammars and feasible computation. (English summary) *Internat. J. Modern Phys. C* **9** (1998), *no.* 2, 213–241. (Frank Antonsen) **99b:81030** 81P99

Krishnamurthy, R. S. (*with* Sherali, Hanif D.; Al-Khayyal, F. A.) Enumeration approach for linear complementarity problems based on a reformulation-linearization technique. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 2, 481–507. (Romesh Saigal) **99k:90180** 90C33

Krishnamurthy, Vikram (*with* Evans, Jamie) Exact filters for doubly stochastic AR models with conditionally Poisson observations. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 794–798. (Summary) **99m:93101** 93E11 (62M10)

Krishnamurty, V. S. (*with* Shyy, Wei) Erratum: "Study of compressibility modifications to the k-ϵ turbulence model" [Phys. Fluids **9** (1997), no. 9, 2769–2788;; MR 98f:76036]. *Phys. Fluids* **9** (1997), *no.* 12, 3938. 76F05 (76N10)

Krishnan, P. (*with* Vitter, Jeffrey Scott) Optimal prediction for prefetching in the worst case. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1617–1636 (*electronic*). (Summary) **99d:68049** 68N25 (60J20, 68P20, 68Q25)

— (*with* Long, Philip M.; Vitter, Jeffrey Scott) Adaptive disk spindown via optimal rent-to-buy in probabilistic environments. (English summary) *Algorithmica* **23** (1999), *no.* 1, 31–56. (Summary) **99i:68063** 68Q25 (68T05)

Krishnan, Padmanabhan (*with* Hopkins, Jane) A process algebraic view of linear logic. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 308–320, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68046** 68Q10 (03B70, 03F50)

Krishnan, Shankar (*with* Pattekar, Amol; Lin, Ming C.; Manocha, Dinesh) Spherical shell: a higher order bounding volume for fast proximity queries. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 177–190, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68P10, 68T20)

Krishnan, V. K. A gap Tauberian theorem connecting Borel and Cesàro summabilities. (English summary) *J. Anal.* **5** (1997), 9–24. (Włodzimierz Łenski) **99m:40008** 40E05 (40G05, 40G10, 42A24)

Krishnaprasad, P. S. (*with* Manikonda, Vikram; Hendler, James) Languages, behaviors, hybrid architectures, and motion control. (English summary) *Mathematical control theory*, 199–226, *Springer, New York*, 1999. (Summary) **99i:93036** 93C30 (70Q05, 93C83, 93C85)

Krishnapuram, Raghu (*with* Medasani, Swarup; Kim, Jaeseok[2]) An overview of membership function generation techniques for pattern recognition. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 391–417. (Summary) **99g:68180** 68T10

Krishna Rao, J. *see* **Rao, J. Krishna**

Krishna Rao, M. R. K. (*with* Sattar, Abdul) Learning from entailment of logic programs with local variables. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 143–157, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05 (68N17)

— Modular aspects of term graph rewriting. (English summary) Rewriting techniques and applications (New Brunswick, NJ, 1996). *Theoret. Comput. Sci.* **208** (1998), *no.* 1-2, 59–86. (Summary) **99h:68097** 68Q42 (68R10)

Krishna Reddy, G. V. (*with* Nadarajan, R.; Arumuganathan, R.) Analysis of a bulk queue with N-policy multiple vacations and setup times. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 957–967. (Nicole Bäuerle) **99e:90042** 90B22 (60K25)

— (*with* Anitha, R.) Markovian bulk service queue with delayed vacations. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 12, 1159–1166. 60K25

Kristek, Jozef (*with* Moczo, Peter; Lucká, Mária; Kristeková, Miriam) 3D displacement finite differences and a combined memory optimization. (English summary) *Bull. Seismol. Soc. Amer.* **89** (1999), *no.* 1, 69–79. (Summary) **99j:86004** 86–08 (86A15)

Kristeková, Miriam (*with* Moczo, Peter; Lucká, Mária; Kristek, Jozef) 3D displacement finite differences and a combined memory optimization. (English summary) *Bull. Seismol. Soc. Amer.* **89** (1999), *no.* 1, 69–79. (Summary) **99j:86004** 86–08 (86A15)

Kristensen, Jan Lower semicontinuity of quasi-convex integrals in BV. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 3, 249–261. (Jean-Pierre Raymond) **99h:49019** 49J45 (49J10)

— On the non-locality of quasiconvexity. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **16** (1999), *no.* 1, 1–13. (Fabián Flores-Bazán) **99k:49006** 49J10 (49J45, 90C26)

Kristensson, Gerhard (*with* Wall, David J. N.) Inverse problems associated with simple nonlinear wave equations. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 254–258, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35R30 (35L05)

— (*with* Wall, David J. N.) Direct and inverse scattering for transient electromagnetic waves in nonlinear media. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 113–137. (A. S. Silbergleit) **99b:78012** 78A45 (35Q60)

— (*with* Rikte, Sten; Sihvola, Ari) Mixing formulas in the time domain. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1411–1422. (Summary) **99a:78014** 78A25

— (*with* Ochs, R. L., Jr.) Using local differential operators to model dispersion in dielectric media. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 8, 2208–2215. (Summary) **99c:78011** 78A25

Kristiansen, Lars A jump operator on honest subrecursive degrees. (English summary) *Arch. Math. Logic* **37** (1997), *no.* 2, 105–125. (John P. Helm) **99m:03079** 03D20

Kristjansen, Charlotte F. (*with* Ambjørn, Jan; Anagnostopoulos, Konstantinos N.; Jurkiewicz, Jerzy Władysław) The concept of time in 2D gravity. (English summary) *J. High Energy Phys.* **1998**, *no.* 4, *Paper* 16, 14 *pp.* (*electronic*). (Summary) **99b:83028** 83C45 (82B20)

— (*with* Eynard, Bertrand; Guitter, E.) Hamiltonian cycles on a random three-coordinate lattice. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 3, 523–532. (Saburo Higuchi) **99j:82040** 82B41 (05C45)

Kristoffersen, Kåre (*with* Behrmann, Gerd; Larsen, Kim Guldstrand) Context-dependent minimization of state/event systems. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 3, 216–228. (Summary) **99e:68102** 68Q60

Krisztin, Tibor (*with* Wu, Jian Hong) Asymptotic behaviors of solutions of scalar neutral functional-differential equations. (English summary) Differential equations—theory, methods and applications (Hyderabad, 1995). *Differential Equations Dynam. Systems* **4** (1996), *no.* 3-4, 351–366. (Hal Leslie Smith) **99j:34099** 34K15 (34K40)

— Convergence and periodicity in difference equations arising in compartmental systems. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 371–380, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39027** 39A10 (39A11, 92B05)

Krithivasan, Kamala (*with* Lahorani, Sumeet) Intersection removal for simple polygons. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 211–223. (Summary) **99d:68234** 68U05

— (*with* Radhakrishnan, Viswanathan; Chakaravarthy, Venkatesan T.) Pattern matching in matrix grammars. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 59–72. (Summary) **99j:68075** 68Q50 (68Q45, 68Q52)

Kritskov, L. V. On the ordered spectral representation of the space $L_2(\mathbf{R})$ with respect to the Stark-effect Hamiltonian of regular type. II. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 3, 351–357, 429–430; *translation in Differential Equations* **33** (1997), *no.* 3, 348–354. (Victor S. Rykhlov) **99b:34140** 34L40 (34L10, 47E05, 81Q10)

— A lower bound for the Fourier images in the system of fundamental functions of the one-dimensional Schrödinger operator with a summable potential. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1321–1328, 1437; *translation in Differential Equations* **33** (1997), *no.* 10, 1327–1334 (1998). (Victor S. Rykhlov) **99j:34126** 34L40 (34L05)

Kritz, M. V. On relations between wp-graphs and data structures. (English summary) Contemporary Brazilian research in logic. Part I. *Logique et Anal.* (*N.S.*) **39** (1996), *no.* 153-154, 153–164. (Summary) **99b:68043** 68P05

Krivan, William (*with* Price, Richard H.) Initial data for superposed rotating black holes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104003, 9 *pp.* (Summary) **99k:83075** 83C57 (83–08)

— (*with* Price, Richard H.) Formation of a rotating black hole from a close-limit head-on collision. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 7, 1358–1361. 83C57

Krivelevich, Michael Perfect fractional matchings in random hypergraphs. (English summary) *Random Structures Algorithms* **9** (1996), *no.* 3, 317–334. (Zbigniew Palka) **99c:05179** 05C80

— On the minimal number of edges in color-critical graphs. (English summary) *Combinatorica* **17** (1997), *no.* 3, 401–426. (W. G. Brown) **99c:05066** 05C15 (05C35)

— (*with* Alon, Noga; Sudakov, Benjamin) Finding a large hidden clique in a random graph. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 594–598, *ACM, New York*, 1998. (Summary) **99e:68114** 68R10 (05C35, 05C80, 68Q25)

— (*with* Sudakov, Benjamin) Coloring random graphs. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 71–74. (Summary) **99e:05108** 05C80 (05C15)

— (*with* Sudakov, Benjamin) The chromatic numbers of random hypergraphs. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 4, 381–403. (Tomasz J. Łuczak) **99f:05102** 05C80 (05C15, 05C65)

— (*with* Alon, Noga; Sudakov, Benjamin) Finding a large hidden clique in a random graph. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 457–466. (Mark R. Jerrum) **99k:05144** 05C80 (05C85, 60C05, 68Q25, 68R10)

Krivenko, M. M. (*with* Alekseev, V. B.) On the complexity of the recognition of the completeness of systems of functions in the class P_3^*. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 3, 6–9, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 5–8. (Summary) **99i:03046** 03D15 (03B50, 68Q25)

benyash-Krivets, V. V. *see* **Benyash-Krivets, V. V.**

Krivoĭ, S. L. On the computation of congruent closures on terms. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 121–133, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 555–564 (1998). (Miroslav Haviar) **99c:08002** 08A30

Krivonos, S. (*with* Bonora, Loriano) Hamiltonian structure and coset construction of the supersymmetric extensions of $N = 2$ KdV hierarchy. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 39, 3037–3049. (Manuel Mañas) **99b:58107** 58F07

— (*with* Bonora, Loriano; Sorin, A. S.) The $N = 2$ supersymmetric matrix GNLS hierarchies. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 63–79. (Nikolai A. Kostov) **99j:58088** 58F07

Krivskiĭ, I. Yu. (*with* Simulik, V. M.) Fermionic symmetries of the Maxwell equations with gradient-like sources. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 475–482, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:81061** 81R05 (78A25)

— (*with* Simulik, V. M.) Bosonic symmetries of the massless Dirac equation. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 69–82. (Waldyr Alves Rodrigues, Jr.) **99m:81089** 81R20 (15A66)

Krivulin, N. K. Unbiased estimation of the gradient in problems of the optimization of dynamical systems with discrete events. (Russian. Russian summary) *Vychisl. Tekhn. Vopr. Kibern. No.* 28, *Mat. Model. Diskretn. Sist.* (1995), 199–219, 226. 93E23

Kriz, Igor Morava K-theory of classifying spaces: some calculations. (English summary) *Topology* **36** (1997), *no.* 6, 1247–1273. (W. Stephen Wilson) **99a:55016** 55T20 (19M05, 55N15, 55N20)

lin-Kriz, Y. *see* **Lin-Kriz, Y.**

Krizanc, Danny (*with* Kranakis, Evangelos; Pelc, Andrzej; Peleg, David) Approximate maxima finding of continuous functions under restricted budget. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 151–162. (Summary) **99h:68079** 68Q25 (05C35, 90C35)

Križanič, F. *see* **Suhadolc, Anton**

Křížek, Michal (*with* Hlaváček, Ivan) A posteriori error estimates for three-dimensional axisymmetric elliptic problems. (English summary) *Finite element methods* (*Jyväskylä*, 1997), 147–154, *Lecture Notes in Pure and Appl. Math.*, 196, *Dekker, New York*, 1998. (I. N. Mokhanov) **99d:65317** 65N30

— (*with* Liu, Li Ping[2]) Finite element approximation of a nonlinear heat conduction problem in anisotropic media. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 387–397. (J. D. P. Donnelly) **99h:80005** 80A20 (65N30, 80–08)

— (*with* Korotov, Sergey; Neittaanmäki, Pekka) On the existence of strongly regular families of triangulations for domains with a piecewise smooth boundary. (English summary) *Appl. Math.* **44** (1999), *no.* 1, 33–42. (P. Rochus) **99m:65213** 65N30 (65N50, 65Y25)

Krnić, Izedin On the regularization of the problem of the minimization of a quadratic functional on an ellipsoid. (Russian. Russian summary) *Math. Montisnigri* **8** (1997), 67–77. (Johannes Terno) **99c:90122** 90C30 (90C31)

— (*with* Jaćimović, Milojica) On some classes of regularization methods for minimization problem of quadratic functional on a half-space. (English summary) *Hokkaido Math. J.* **28** (1999), *no.* 1, 57–69. (V. V. Vasin) **99m:49054** 49M40 (65J20, 65K05)

Krob, Daniel (*with* Harju, Tero; Karhumäki, Juhani) Remarks on generalized Post correspondence problem. (English summary) *STACS* 96 (*Grenoble*, 1996), 39–48, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (P. Turakainen) **99a:03045** 03D35 (03B25, 03D03, 20M05, 68Q45)

— (*with* Duchamp, Gérard; Klyachko, Aleksandr Anatol'evich; Thibon, Jean-Yves) Noncommutative symmetric functions. III. Deformations of Cauchy and convolution algebras. (English summary) Lie computations (Marseille, 1994). *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 159–216. (Arun Ram) **99m:05161** 05E05 (15A15, 20F36)

— (*with* Thibon, Jean-Yves) Noncommutative symmetric functions. IV. Quantum linear groups and Hecke algebras at $q = 0$. (English summary) *J. Algebraic Combin.* **6** (1997), *no.* 4, 339–376. (Jian Yi Shi) **99c:05196** 05E05 (17B37, 20C30)

— *see also* **STACS 98, 99f:68011**

Krob, J. (*with* von Weizsäcker, Heinrich) On the rate of information gain in experiments with a finite parameter set. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 281–294. (I. Vajda) **99f:62015** 62B10 (94A17)

Krog, Lars A. (*with* Olhoff, Niels) Topology and reinforcement layout optimization of disk, plate, and shell structures. (English summary) *Topology optimization in structural mechanics*, 237–322, *CISM Courses and Lectures*, 374, *Springer, Vienna*, 1997. (Bernard Rousselet) **99d:73066** 73K40 (73B27, 73K20)

— (*with* Cherkaev, Andrej V.; Kucuk, Ismail) Stable optimal design of two-dimensional elastic structures. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 265–282. (Summary) **99k:73089** 73K40 (49Q10)

Kröger, Helmut (*with* Golse, G.; Jirari, H.; Moriarty, K. J. M.) Generalized Aharonov-Bohm effect. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 67–74, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 81P05

Kröger, Pawel On explicit bounds for the spectral gap on compact manifolds. (English summary) *Soochow J. Math.* **23** (1997), *no.* 3, 339–344. (Feng-Yu Wang) **99c:58161** 58G25

— On the ranges of eigenfunctions on compact manifolds. *Bull. London Math. Soc.* **30** (1998), *no.* 6, 651–655. (Stig I. Andersson) **99j:58191** 58G03 (35P15, 58G25)

— On upper bounds for high order Neumann eigenvalues of convex domains in Euclidean space. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1665–1669. (Julian Edward) **99i:35118** 35P15 (34L15, 35J25)

Krogh, Bruce H. (*with* Cury, José E. R.; Niinomi, Toshihiko) Synthesis of supervisory controllers for hybrid systems based on approximating automata. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 564–568. (*see* **99a:93006**) 93B50 (93C30)

— (*with* Cury, José E. R.) Robustness of supervisors for discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 376–379. (Summary) **99i:93040** 93C83 (68Q45)

Krogh, Christen (*with* Jones, Andrew J. I.) Protocol breaches and violation flaws. (English summary) *Norms, logics and information systems* (*Bologna*, 1998), 265–274, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 68P25 (68T27, 94A60)

Krogh, Morten (*with* Lee, Sangmin) String network from M-theory. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 241–254. (Claudio A. Scrucca) **99d:81124** 81T30

— (*with* Cheung, Yeuk-Kwan E.; Ganor, Ori J.) Correlators of the global symmetry currents of 4D and 6D superconformal theories. (English summary) *Nuclear Phys. B* **523** (1998), *no.* 1-2, 171–192. (Summary) **99h:81160** 81T30 (81T40)

— A matrix model for heterotic Spin(32)/Z_2 and type I string theory. (English summary) *Nuclear Phys. B* **541** (1999), *no.* 1-2, 87–97. (Summary) **99m:81202** 81T30 (81T60)

Królak, Andrzej (*with* Beem, John K.) Cauchy horizon end points and differentiability. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6001–6010. (Piotr T. Chruściel) **99h:83032** 83C57 (53C80, 83C75)

Królak, Ilona Measures connected with Bargmann's representation of the q-commutation relation for $q > 1$. (English summary) *Quantum probability* (*Gdańsk*, 1997), 253–257, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Roberto Casalbuoni) **99h:81095** 81S05 (81R50)

łojczyk-Królikiewicz, Irena *see* **Łojczyk-Królikiewicz, Irena**

Królikowski, Wiesław Quaternionic mappings and harmonicity. I. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **24** (1997), 99–116. (John C. Wood) **99d:58048** 58E20 (53C10)

Kroll, James M. (*with* Phamdo, Nam C.) Analysis and design of trellis codes optimized for a binary symmetric Markov source with MAP detection. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2977–2987. 94B12

Kroll, Jochen (*with* Heusener, Michael) Deforming abelian SU(2)-representations of knot groups. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 480–498. (Darren D. Long) **99g:57008** 57M25

Krommer, Arnold R. (*with* Ueberhuber, Christoph W.) ★ Computational integration. (English summary) *Society for Industrial and Applied Mathematics* (*SIAM*), *Philadelphia, PA*, 1998. *xx*+445 *pp. ISBN* 0-89871-374-9 (John P. Coleman) **99g:65027** 65D30 (65–02, 65Y05)

Kröncke, Thorsten Extremal perturbations of semi-Fredholm operators. (English summary) *Studia Math.* **129** (1998), *no.* 3, 253–264. (Summary) **99k:47027** 47A53 (47A55)

Krone, Stephen M. (*with* Kang, Hyun-Chung; Neuhauser, Claudia) Stepping-stone models with extinction and recolonization. (English summary) *Ann. Appl. Probab.* **5** (1995), *no.* 4, 1025–1060. (Summary) **99a:92016** 92D10 (60K35, 92D40)

— (*with* Neuhauser, Claudia; Kang, Hyun-Chung) A note on the stepping stone model with extinction and recolonization. *Progress in population genetics and human evolution* (*Minneapolis, MN*, 1994), 299–307, *IMA Vol. Math. Appl.*, 87, *Springer, New York*, 1997. (*see* **99h:92016**) 92D25 (60J99)

Kronecker, Leopold *see* **Edwards, Harold M., (99k:01080)**

Kroneisen, O. J. (*with* Lüdde, H. J.; Kirchner, T.; Dreizler, R. M.) The basis generator method: optimized dynamical representation of the solution of time-dependent quantum problems. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2141–2156. (Summary) **99k:81160** 81S99

Kröner, Dietmar (*with* Wierse, Monika; Geßner, Thomas) Numerical methods, simulations and visualization for compressible flows. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 347–356, *Springer, Berlin*, 1997. (*see* **99g:68212**) 76M25

— Finite volume schemes in multidimensions. (English summary) *Numerical analysis* 1997 (*Dundee*), 179–192, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65133** 65M60 (65N30, 76M25)

— (*with* Egelja, Aleksandra; Schwörer, R.; Lanson, N.; Mancip, M.; Vila, Jean-Paul) Combined finite volume and smoothed particle method. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 50–74, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76109** 76M25 (76X05)

Kröner, E. In memoriam Professor Eric Reissner (5. Januar 1913–1. November 1996). (German) *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 1, 9–14. 01A70

Krongauz, Y. (*with* Belytschko, Ted) A Petrov-Galerkin diffuse element method (PG DEM) and its comparison to EFG. (English summary) *Comput. Mech.* **19** (1997), *no.* 4, 327–333. (Summary) **99f:65171** 65N30 (65M60)

— (*with* Belytschko, Ted; Dolbow, J.; Gerlach, C.) On the completeness of meshfree particle methods. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 5, 785–819. (Summary) **99h:73084** 73V20 (76M25)

Kroó, András (*with* Pritsker, I. E.) A sharp version of Mahler's inequality for products of polynomials. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 3, 269–278. (D. Boyd) **99m:30008** 30C10 (11C08)

ten Kroode, A. P. E. (*with* Smit, D.-J.; Verdel, A. R.) A microlocal analysis of migration. (English summary) *Wave Motion* **28** (1998), *no.* 2, 149–172. (Nassar H. S. Haidar) **99j:73046** 73D50 (35A27, 35R30, 86A15)

valiente-Kroon, Juan Antonio *see* **Valiente-Kroon, Juan Antonio**

Kroon, Juan Antonio Valiente *see* **Valiente-Kroon, Juan Antonio**

Kroon, Leo G. (*with* Salomon, Marc; Van Wassenhove, Luk N.) Exact and approximation algorithms for the tactical fixed interval scheduling problem. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 624–638. (Summary) **99g:90059** 90B35 (90C27)

— (*with* Bart, Harm; Zuidwijk, R. A.) Quasicomplete factorization and the two machine flow shop problem. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 195–219. (Jacek Błażewicz) **99j:90036** 90B35

Kroopnick, Allan Bounded and L^p-solutions to a generalized Lienard equation with integrable forcing term. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 1, 15–19. (Dušan Mamrilla) **99a:34103** 34C11

Kropatsch, Walter (*with* Pták, Pavel) The path-connectedness in Z^2 and Z^3 and classical topologies. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 181–189, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68U10 (68T10)

Kropholler, Peter H. (*with* Mislin, Guido) Groups acting on finite-dimensional spaces with finite stabilizers. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 1, 122–136. (Olympia Talelli) **99f:20086** 20J05 (55P91)

— (*with* Cornick, Jonathan) Homological finiteness conditions for modules over group algebras. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 49–62. (J. R. J. Groves) **99k:20105** 20J05

Kropinski, Mary Catherine (*with* Greengard, Leslie) An integral equation approach to the incompressible Navier-Stokes equations in two dimensions. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 318–336 (*electronic*). (Summary) **99f:76101** 76M25 (65M99, 65R20, 76D05)

Krori, K. D. (*with* Bhowmik, B. B.) Inflationary Kaluza-Klein cosmology with variable G and Λ and diminishing anisotropy. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 10, 1067–1072. 83E15

Kroschel, Brenda K. (*with* Johnson, Charles Royal; Lundquist, Michael) The totally nonnegative completion problem. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 97–107, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Shu An Hu) **99c:15040** 15A48 (90C08)

— (*with* Johnson, Charles Royal; Wolkowicz, Henry) An interior-point method for approximate positive semidefinite completions. (English summary) *Comput. Optim. Appl.* **9** (1998), *no.* 2, 175–190. (Michael L. Dowling) **99a:90154** 90C25 (90C20)

Kroshko, N. V. (*with* Sushchanskiĭ, V. I.) Direct limits of symmetric and alternating groups with strictly diagonal embeddings. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 173–182. (Maria S. Lucido) **99f:20048** 20E18 (20D30)

Krotov, V. G. A sharp estimate for the boundary behavior of functions from Hardy-Sobolev classes in the critical case. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 4, 527–539; *translation in Math. Notes* **62** (1997), *no.* 3-4, 439–448 (1998). (Miroljub Jevtić) **99g:32008** 32A40 (46E35)

Krötz, Bernhard (*with* Neeb, Karl-Hermann; Ólafsson, Gestur) Spherical representations and mixed symmetric spaces. (English summary) *Represent. Theory* **1** (1997), 424–461 (*electronic*). (Jacques Faraut) **99a:22031** 22E47 (22E15, 53C35)

— On Hardy and Bergman spaces on complex Ol'shanskiĭ semigroups. *Math. Ann.* **312** (1998), *no.* 1, 13–52. (Kyo Nishiyama) **99h:22009** 22E30 (22E45, 32H10)

Krouk, E. *see* **Kruk, E. A.**

Krousgrill, C. M. *see* **Van Dooren, R.**

Krsteska, Biljana Fuzzy SP-irresolute mappings. (English and Macedonian summaries) *Mat. Bilten No.* 21 (1997), 67–80. 54A40 (54C10)

— Fuzzy strongly preopen sets and fuzzy strong precontinuity. (English summary) *Mat. Vesnik* **50** (1998), *no.* 3-4, 111–123. 54A40

Krstić, Miroslav (*with* Deng, Hua) ★ Stabilization of nonlinear uncertain systems. (English summary) Communications and Control Engineering Series. *Springer-Verlag London, Ltd., London*, 1998. *xii*+193 *pp. ISBN* 1-85233-020-1 (John Tsinias) **99h:93001** 93–02 (93C10, 93C41, 93D21)

— (*with* Fontaine, Dan; Kokotović, Petar V.; Paduano, James D.) Useful nonlinearities and global stabilization of bifurcations in a model of jet engine surge and stall. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1739–1745. 93D15 (93C95)

— (*with* Deng, Hua) Output-feedback stochastic nonlinear stabilization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 328–333. 93E15 (93D21)

— (*with* Tsiotras, Panagiotis) Inverse optimal stabilization of a rigid spacecraft. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1042–1049. 93D15 (93C95)

Krstić, Sava (*with* McCool, James) The non-finite presentability of the automorphism group of the free Z-group of rank two. *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 264–274. (S. Andreadakis) **99a:20035** 20F28 (20E06)

— (*with* Gutiérrez, Mauricio) Normal forms for basis-conjugating automorphisms of a free group. *Internat. J. Algebra Comput.* **8** (1998), *no.* 6, 631–669. (Stephen P. Humphries)

99m:20077 20F28 (20E05, 20F32)

Kruch, Serge (*with* Chaboche, Jean-Louis; Pottier, Thibaud) Micromechanics versus macromechanics: a combined approach for metal matrix composite constitutive modelling. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 6, 885–908. (Summary) **99k:73086** 73K20 (73B30, 73E60, 73M25, 73S10)

Kruchek, M. M. (*with* Zaika, Yu. V.) Suboptimal integral observation operators in dynamical systems with delay. (Russian. English and Russian summaries) *Tr. Petrozavodsk. Gos. Univ. Ser. Mat. No.* 4 (1997), 62–75. (Summary) **99d:93042** 93C41 (34K35)

Krueger, Robert (*with* Harris, Bennette; Trench, William F.) Trench's canonical form for a disconjugate nth-order linear difference equation. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 3, 55–71. (I. P. Stavroulakis) **99k:39016** 39A10 (39A12)

Krug, B. Reweighted loglikelihood method in robust estimation in a mixed unbalanced model. (English summary) *Statist. Neerlandica* **52** (1998), *no.* 2, 185–199. (Xuming He) **99i:62148** 62J05 (62G35)

Krug, Vera (*with* Fritzsche, Bernd; Kirstein, Bernd) On several types of resolvent matrices of nondegenerate matricial Carathéodory problems. (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 137–170. (Daniel Alpay) **99h:47023** 47A57 (30E05)

Kruger, A. Ya. On the calculus of strict ε-semi-differentials. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 4, 34–39, 124. (Marcin Studniarski) **99b:49018** 49J52

— Strict ε-semidifferentials and the differentiation of multivalued mappings. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 6, 38–43, 123. (Andrei V. Dmitruk) **99c:49017** 49J52 (46G05, 47N10, 90C30)

— Strict ε-semidifferentials and extremality conditions. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 3, 21–26, 123. (Andrei V. Dmitruk) **99c:49018** 49J52 (46G05, 47N10, 90C30)

Krüger, Heinz The electron as a selfinteracting lightlike pointcharge: classification of lightlike curves in spacetime under the group of SO(1, 3) motions. (English summary) The theory of the electron (Cuautitlán Izcalli, 1995). *Adv. Appl. Clifford Algebras* **7** (1997), *suppl.*, 145–162. (Jorge Goncalves Cardoso) **99e:53112** 53C80 (81R05)

— (*with* Scheuermann, Gerik; Hagen, Hans) An interesting class of polynomial vector fields. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 429–436, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 65D17 (41A63)

Kruger, S. E. (*with* Hegna, C. C.; Callen, J. D.) Generalized reduced magnetohydrodynamic equations. (English summary) *Phys. Plasmas* **5** (1998), *no.* 12, 4169–4182. (Summary) **99i:76149** 76W05

Krüger, Tyll (*with* Blanchard, Ph.; Cessac, B.) A dynamical system approach to SOC models of Zhang's type. (English summary) *J. Statist. Phys.* **88** (1997), *no.* 1-2, 307–318. (András Krámli) **99b:58138** 58F11 (58F15, 82C41)

Kruglikov, B. S. Exact smooth classification of Hamiltonian vector fields on two-dimensional manifolds. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 179–200; *translation in Math. Notes* **61** (1997), *no.* 1-2, 146–163. (Sergej V. Matveev) **99f:58078** 58F05 (70H05)

— Obstacles to the construction of pseudoholomorphic mappings. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 3(315), 167–168; *translation in Russian Math. Surveys* **52** (1997), *no.* 3, 611–612. (Vsevolod V. Shevchishin) **99a:53028** 53C15 (58A20)

Kruglikov, V. I. Cluster sets of a sequence of functions. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 1, 16–18. (Shamil Makhmutov) **99b:30051** 30D40

Krugljak, N. *see* **Kruglyak, N. Ya.**

Kruglov, S. I. (*with* Lü, Jingfa; Zhao, Xueqing) [A] wave equation for anyons and its exact solutions in external fields. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1103–1109. (Summary) **99c:81283** 81V70 (35Q40)

Kruglov, S. P. (*with* Bronnikov, A. M.) Simplified conditions for the adaptability of a control system with an identifier and a reference model. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 107–117; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 993–1001. 93C40 (93E35)

Kruglov, V. M. (*with* Korolev, V. Yu.) A criterion of convergence of nonrandomly centered random sums of independent identically distributed random variables. (English summary) Stability problems for stochastic models, Part I (Moscow, 1996). *J. Math. Sci.* (*New York*) **89** (1998), *no.* 5, 1495–1506. (Summary) **99e:60062** 60F05 (60G50)

— Strong law of large numbers for weighted sums. (English summary) Stability problems for stochastic models, Part II (Moscow, 1996). *J. Math. Sci.* (*New York*) **91** (1998), *no.* 3, 2942–2948. (J. Hüsler) **99k:60084** 60F15

Kruglyak, N. Ya. (*with* Matveev, E. R.) Onesided approximation and real interpolation. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 619–634. (Mario Milman) **99h:46064** 46E99 (41A29, 46M35)

Krugova, E. P. On shifts of convex measures. (Russian. Russian summary) *Mat. Sb.* **188** (1997), *no.* 2, 57–66; *translation in Sb. Math.* **188** (1997), *no.* 2, 227–236. (M. P. Eršov) **99m:28032** 28C20 (46G12, 60B11)

Kruk, E. A. (*with* Kabatyanskiĭ, G. A.; Smeets, Bernard J. M.) A digital signature scheme based on random error-correcting codes. (English summary) *Cryptography and coding* (*Cirencester*, 1997), 161–167, *Lecture Notes in Comput. Sci.*, 1355, *Springer, Berlin*, 1997. (Summary) **99h:94047** 94A60 (94B05)

Kruk, Serge (*with* Wolkowicz, Henry) SQ^{2}P, sequential quadratic constrained quadratic programming. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 177–204, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99f:90128** 90C30 (65K05)

Krukovskii, A. Yu. (*with* Benattar, R.; Zakharov, S. V.; Nikiforov, A. F.; Novikov, V. G.; Gasilov, V. A.; Zakharov, V. S.) Influence of magnetohydrodynamic Rayleigh-Taylor instability on radiation of imploded heavy ion plasmas. (English summary) *Phys. Plasmas* **6** (1999), *no.* 1, 175–187. 76X05

Krumke, Sven O. (*with* Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, R.; Ravi, S. S.) Network improvement problems. (English summary) *Network design: connectivity and facilities location* (*Princeton, NJ*, 1997), 247–268, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90147** 90C35 (05C90, 68M10)

— (*with* Wirth, Hans-Christoph) On the minimum label spanning tree problem. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 81–85. (Summary) **99b:68150** 68R10 (05C15, 68Q25)

— (*with* Schwarz, S.) On budget-constrained flow improvement. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 6, 291–297. (Summary) **99c:68131** 68Q25 (90C35)

— (*with* Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, R.; Ravi, S. S.) Approximation algorithms for certain network improvement problems. (English summary) *J. Comb. Optim.* **2** (1998), *no.* 3, 257–288. (András Faragó) **99k:90188** 90C35 (05C90, 90B10)

— (*with* Drangmeister, Kay U.; Marathe, Madhav V.; Noltemeier, Hartmut; Ravi, S. S.) Modifying edges of a network to obtain short subgraphs. (English summary) Graph-theoretic concepts in computer science (Cadenabbia, 1996). *Theoret. Comput. Sci.* **203** (1998), *no.* 1, 91–121. (Summary) **99d:68189** 68R10 (05C85, 68Q25)

Krumme, David W. (*with* Konig, Jean-Claude; Lazard, Emmanuel) Diameter-preserving orientations of the torus. (English summary) *Networks* **32** (1998), *no.* 1, 1–11. (M. E. Watkins) **99g:05066** 05C12 (05C20)

— An optimal disjoint pair of additive spanners for the 3D grid. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 251–258. (Summary) **99f:68159** 68R10

— *see also* **Proceedings: Conference on Computing and Information, 99d:68010** *and* **Proceedings: Conference of Computing and Information, 99f:68006**

Krummenauer, Frank (*with* Hommel, Gerhard) Improvements and modifications of Tarone's multiple test procedure for discrete data. (English and French summaries) *Biometrics* **54** (1998), *no.* 2, 673–681. (Summary) **99d:62011** 62F03

— Representation of multivariate discrete distributions by probability generating functions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 4, 327–331. 60E05 (60E10, 62E15)

— A note on Rüger's test for discrete data. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 347–351. 62G10

— Conservativeness of global tests for bivariate binomial and Poisson data. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 4, 407–412. 62G10

Krupa, G. Convergence of unbounded multivalued supermartingales in the Mosco and slice topologies. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 187–198. (Christian Hess) **99j:60057** 60G42 (49J45, 60G48)

— Ergodic theorems for subadditive superstationary families of random sets with values in Banach spaces. (English summary) *Studia Math.* **131** (1998), *no.* 3, 289–302. (Idris Assani) **99j:28015** 28D05 (47A35)

Krupchatnikov, V. N. Simulation of CO_2 exchange processes in the atmosphere-surface biomes system by the climatic model ECSib. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 6, 479–492. 92B05

Krupka, Demeter Variational sequences in mechanics. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 6, 557–583. (Ian M. Anderson) **99b:58071** 58E30 (58A20, 70H99)

— (*with* Grigore, Dan Radu) Invariants of velocities and higher-order Grassmann bundles. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 3, 244–264. (Jan Slovák) **99d:58014** 58A20 (53A55)

Krupka, Michal Anti-holonomic jets and the Lie bracket. (English summary) *Arch. Math. (Brno)* **34** (1998), *no.* 2, 311–319. (Vadim V. Shurygin) **99h:58007** 58A20 (53A55)

Krupková, Olga Noether theorem and first integrals of constrained Lagrangean systems. (English summary) *Math. Bohem.* **122** (1997), *no.* 3, 257–265. (Juan Carlos Marrero Gonzalez) **99b:58095** 58F05 (58F35, 70H33, 70H35)

Krupnik, Ilya (*with* Lancaster, Peter) Minimal pencil realizations of rational matrix functions with symmetries. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 178–186. (E. R. Tsekanovs'kiĭ) **99f:93023** 93B15 (15A22, 15A23)

— (*with* Lancaster, Peter) H-selfadjoint and H-unitary matrix pencils. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 307–324 (*electronic*). (Bo Kågström) **99i:15019** 15A21 (15A22, 47A56)

Krupnik, Mark (*with* McDonald, Judith J.) Hereditary properties of matrices with cut-points. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 1, 1–17. (Summary) **99h:05084** 05C50 (15A03, 15A18)

Krupnik, Naum Symmetrization of the symbol in Banach algebras generated by idempotents. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 470–481. (Vladimir M. Deundyak) **99i:46036** 46H35 (45E05, 47D30, 47G10)

— (*with* Spigel, Efim) Critical points of essential norms of singular integral operators in weighted spaces. (English summary) *Integral Equations Operator Theory* **33** (1999), *no.* 2, 211–220. (V. S. Pilidi) **99k:47120** 47G10 (45E05, 45P05)

Krupnov, A. A. (*with* Kovalev, V. L.) Numerical investigation of an inviscid flow in a shock layer near blunt bodies by the global iteration method. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 4, 85–90, 112–113. (Summary) **99e:76089** 76M25 (76J20, 76L05)

Krüppel, Manfred On the nearest point projection in Hilbert spaces with application to nonlinear ergodic theory. (English summary) *Rostock. Math. Kolloq.* **1997**, *no.* 50, 89–94. (Simeon Reich) **99h:47062** 47H09 (41A50)

— (*with* Berg, Lothar) On the solution of an integral-functional equation with a parameter. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 159–181. (Muhammad Islam) **99b:45001** 45D05

— (*with* Berg, Lothar) Cantor sets and integral-functional equations. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 997–1020. (Roland Girgensohn) **99m:45003** 45D05 (34K15, 39B22, 45L05)

Krupski, Paweł Homogeneity and the disjoint arcs property. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1873–1876. (Wayne Lewis) **99i:54047** 54F15 (54F65, 57N05)

Kruse, Hans Peter (*with* Mahalov, Alex; Marsden, Jerrold E.) On the Hamiltonian structure and three-dimensional instabilities of rotating liquid bridges. (English summary) *Fluid Dynam. Res.* **24** (1999), *no.* 1, 37–59. (M. E. R. de Sousa Dias) **99j:76052** 76E99 (58F40, 76M99, 76U05)

Kruse, Michael Beyond Bayesianism: comments on G. Hellman's "Bayes and beyond" [Philos. Sci. **64** (1997), no. 2, 191–221]. (English summary) *Philos. Sci.* **66** (1999), *no.* 1, 165–174. 03B48

Kruse, Rudolf (*with* Gebhardt, Jörg; Gil, María Angeles) Fuzzy set-theoretic methods in statistics. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 311–347, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 62A99 (04A72, 62C99)

— (*with* Nauck, Detlef) Neuro-fuzzy systems for function approximation. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 261–271. (*see* **99k:93004**) 65D15 (93C42)

Krushkal, Samuel L. Quasireflections and holomorphic functions. (English summary) *Analysis and topology*, 467–481, *World Sci. Publishing, River Edge, NJ*, 1998. (V. G. Sheretov) **99m:30037** 30C62 (30E10, 30F60)

Kruskal, M. D. (*with* Joshi, Nalini; Halburd, R.) Analytic and asymptotic methods for nonlinear singularity analysis: a review and extensions of tests for the Painlevé property. (English summary) *Integrability of nonlinear systems* (*Pondicherry*, 1996), 171–205, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Summary) **99g:34031** 34A34 (34A20, 34E05, 35Q53, 58F07)

Kruszewski, Paul A note on the Horton-Strahler number for random binary search trees. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 47–51. (Summary) **99j:68096** 68R05 (68P05, 68Q25)

Krutitskiĭ, P. A. On initial-boundary value problems for the equation of a stratified rotating fluid. (Russian) *Algebra and mathematical analysis* (*Russian*), 40–50, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 76V05 (35Q35, 76U05)

— An initial-boundary value problem for the evolutionary PDE of composite type with the mixed boundary condition. (English summary) *Appl. Anal.* **61** (1996), *no.* 3-4, 209–217. (Summary) **99a:76030** 76C10 (35M20, 76U05, 76V05)

— Wave propagation in a 2-D external domain with cuts. (English summary) *Appl. Anal.* **62** (1996), *no.* 3-4, 297–309. (Summary) **99a:73053** 73D25 (35J25)

— A mixed problem for the Laplace equation outside cuts on the plane. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1181–1190, 1293; *translation in Differential Equations* **33** (1997), *no.* 9, 1184–1193 (1998). (M. Yu. Vasil'chik) **99h:35030** 35J05 (35J25)

— (*with* Malysheva, G. Yu.) Unsteady planetary waves in semibounded channels spreading along the meridian. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 6, 975–982; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 6, 941–947 (1998). (Summary) **99c:76026** 76C20 (76U05, 86A05)

— (*with* Logginova, K. A.) On a boundary value problem that describes the Hall effect in a semiconductor with a periodic system of electrodes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 6, 23–27. (Summary) **99c:78019** 78A99 (30E25, 35Q60)

— The Dirichlet problem for the dissipative Helmholtz equation in a plane domain bounded by closed and open curves. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 1, 149–168. (Youri G. Smirnov) **99d:35040** 35J25 (45B05, 78A45)

— On the electric current from electrodes in a magnetized semiconductor film. (English summary) *IMA J. Appl. Math.* **60** (1998), *no.* 3, 285–297. (Summary) **99h:78026** 78A99 (35Q60)

— The Neumann problem on wave propagation in a 2-D external domain with cuts. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 439–451. (Serge Nicaise) **99m:35046** 35J25

— The 2-dimensional Dirichlet problem in an external domain with cuts. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 2, 361–378. (Heinrich Begehr) **99f:35036** 35J25 (30E25, 31A05, 35J05, 45E05)

Krutova, I. N. Generation of an algorithm for the control of the iterative process of parameter adjustment in a system with a simplified reference model. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 72–84; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 213–223. 93C40 (93B36)

Kruzhkov, Stanislav N. Effect of infinite speed of propagation in the nonlocal theory of conservation laws. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 122–136, *World Sci. Publishing, River Edge, NJ*, 1998. (Christophe Cheverry) **99h:35128** 35L65

Kružík, Martin (*with* Roubíček, Tomáš) On the measures of DiPerna and Majda. (English summary) *Math. Bohem.* **122** (1997), *no.* 4, 383–399. (Michel Valadier) **99c:49043** 49Q20 (46N10)

— Numerical approach to double well problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1833–1849 (*electronic*). (John M. Ball) **99g:65076** 65K10 (49J35, 73C50, 73V25)

Kryazhimskii, Arkadii V. (*with* Maksimov, V. I.; Solov'ev, Aleksandr Anatol'evich; Chentsov, A. G.) On a probabilistic approach to the quantitative description of the dynamics of natural processes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 192–210, 300. 93A30 (93C95)

— (*with* Maksimov, V. I.; Samarskaya, E. A.) On the reconstruction of inputs in parabolic systems. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 3, 51–72. (Summary) **99i:93034** 93C20 (35R30, 65M30, 76S05)

— (*with* Maksimov, V. I.) An iterative procedure for solving a control problem with phase constraints. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1484–1489. (Ludmila N. Polyakova) **99m:49055** 49M99 (49J15)

— Convex optimization via feedbacks. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 278–302 (*electronic*). (Anatoly S. Antipin) **99j:90058** 90C25 (34A60, 34H05, 93B52)

Kryczka, Andrzej (*with* Kuczumow, Tadeusz) The Denjoy-Wolff-type theorem for compact k_{B_H}-nonexpansive maps on a Hilbert ball. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **51** (1997), *no.* 2, 179–183. (Introduction) **99k:47143** 47H10 (46G20)

Krygin, Andrei (*with* Kornfeld, Isaac) On the cohomology equivalence classes for non-singular mappings. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1385–1397. (Douglas P. Dokken) **99m:28037** 28D05 (58F11)

Krykpaeva, A. A. (*with* Khisamiev, N. G.) Effectively completely decomposable abelian groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1410–1412, *iv*; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1227–1229. (Summary) **99c:20075** 20K15

Krylenko, A. V. (*with* Malinkovskiĭ, Yu. V.) Queueing systems with instantaneously served customers. II. Models with customers of several types. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 2, 62–71; *translation in Automat. Remote Control* **59** (1998), *no.* 2, *part* 1, 204–212. 60K25

— (*with* Malinkovskiĭ, Yu. V.) Closed queueing networks with bypassing of nodes and with several classes of customers. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 106–110, 143. 90B22 (60K25)

— Invariance of the stationary distribution of closed queueing systems with bypassing of nodes, nonexponential servicing, and several types of customers. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 3, 118–122, 144. 90B22 (60K25)

Krylov, G. N. A problem in the theory of electromagnetic wave propagation (a problem with an oblique derivative). (Russian. Russian summary) *Problems in the diffraction and propagation of waves, No.* 27 (*Russian*), 230–234, 320–321, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1997. (*see* **99g:78002**) 78A40

Krylov, George (*with* Robnik, Marko) On the Green function of linear evolution equations for a region with a boundary. (English summary) *J. Phys. A* **32** (1999), *no.* 7, 1261–1267. 35K10 (35A08)

Krylov, Nicolai V. On one-dimensional SPDEs with constant coefficients on the positive half axis. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 243–251, *World Sci. Publishing, River Edge, NJ*, 1997. (Björn Schmalfuss) **99j:60092** 60H15 (35F05)

— On SPDE's and superdiffusions. (English summary) *Ann. Probab.* **25** (1997), *no.* 4, 1789–1809. (Michael A. Kouritzin) **99f:60117** 60H15 (35R60, 60G57)

— (*with* Bogachev, Vladimir I.; Röckner, Michael) Elliptic regularity and essential self-adjointness of Dirichlet operators on $\mathbf{R}^n$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 3, 451–461. (Vladimir B. Vasilyev) **99c:35037** 35J10 (47F05)

— Fully nonlinear second order elliptic equations: recent development. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 569–595 (1998). (Dian K. Palagachev) **99m:35061** 35J60

— Hölder continuity and L_p estimates for elliptic equations under general Hörmander's condition. (English summary) *Topol. Methods Nonlinear Anal.* **9** (1997), *no.* 2, 249–258. (Zi Qian Yan) **99b:35077** 35J70 (35B65, 35H05)

— ★ Лекции по эллиптическим и параболическим уравнениям в пространствах Гёльдера. (Russian. Russian summary) [Lectures on elliptic and parabolic equations in Hölder spaces] Translated from the 1996 English original by T. N. Rozhkovskaya. Translation edited and with a preface by N. N. Ural'tseva. Университетская Серия [University Series], 2. *Nauchnaya Kniga* (*NII MIOONGU*), *Novosibirsk*, 1998. *xviii*+177 *pp. ISBN* 5-88119-016-5 (Editors) **99g:35002** 35-01 (35Jxx, 35Kxx)

— An analytic approach to SPDEs. *Stochastic partial differential equations: six perspectives*, 185–242, *Math. Surveys Monogr.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Sergey V. Lototsky) **99j:60093** 60H15 (35R60)

— (*with* Lototskiĭ, S. V.) A Sobolev space theory of SPDEs with constant coefficients on a half line. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 298–325 (*electronic*). (Björn Schmalfuss) **99k:60164** 60H15 (35E99, 35R60, 46N20)

Krym, V. R. Causal structures in linear spaces. (English summary) *Southwest J. Pure Appl. Math.* **1997**, *no.* 2, 1–11 (*electronic*). (Summary) **99e:51014** 51J15 (51P05, 54F05, 83A05)

— Linear spaces of kinematic type. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **246** (1997), *Geom. i Topol.* 2, 152–173, 198–199. (Summary) **99d:51024** 51P05 (51G05, 51H10)

Krynicki, Michał (*with* Szczerba, Lesław W.) On the logic with rough quantifier. (English summary) *Incomplete information: rough set analysis*, 601–613, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 03C80

Krys'ko, V. A. (*with* Kuznetsov, Valentin Nikolaevich; Polyakova, S. V.) Operator approach to a geometrically nonlinear problem of static stability of plates and shells. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 40–46; *translation in Russian Math.* (*Iz. VUZ*) **42** (1998), *no.* 2, 37–43. (From the text) **99e:73069** 73K15 (35Q72, 73H05)

Krysta, Piotr (*with* Pacholski, Leszek) The STO problem is NP-complete. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 207–219. (Summary) **99m:68098** 68Q40 (68Q25)

Kryszewski, Wojciech Remarks to the Vietoris theorem. *Topol. Methods Nonlinear Anal.* **8** (1996), *no.* 2, 383–405 (1997). 55S37 (55M20, 55N20, 55Q20)

— Graph-approximation of set-valued maps on noncompact domains. (English summary) *Topology Appl.* **83** (1998), *no.* 1, 1–21. (Zvonko Čerin) **99c:54024** 54C60

— On a semilinear Schrödinger equation. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 219–222. (*see* **99f:58002**) 35Q55 (35J10)

Kryszkiewicz, Marzena Rough set approach to incomplete information systems. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 39–49. 68T30 (04A72)

Kryuchkov, A. F. (*with* Sirenek, V. A.) On numerical-probabilistic methods for solving a three-dimensional hyperbolic diffusion equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 1, 107–114. (Reinhard Redlinger) **99b:65003** 65C05 (65M99)

Kryuchkov, N. I. Injective and projective objects in the category of locally compact modules over the ring of integers of a global field. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 1, 118–123; *translation in Math. Notes* **62** (1997), *no.* 1-2, 99–103 (1998). (Mihail Ursul) **99f:13025** 13J99 (13C10, 13C11)

Kryukov, S. V. Integrals of motion of the classical lattice sine-Gordon system. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **105** (1995), *no.* 2, 214–224; *translation in Theoret. and Math. Phys.* **105** (1995), *no.* 2, 1359–1368 (1996). (Andrey V. Tsiganov) **99b:58114** 58F07 (81R50, 81U40)

— (*with* Kopanev, È. V.; Sukhoruchkin, M. A.) Conserved currents in quantum integrable models. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **113** (1997), *no.* 1, 34–44; *translation in Theoret. and Math. Phys.* **113** (1997), *no.* 1, 1235–1243 (1998). (Konstantin G. Selivanov) **99d:81076** 81T10 (81R10, 81T40)

Kryukova, Elena P. *see* **Bazykin, A. D., 99k:92001**

ewert-Krzemieniewski, Stanisław *see* **Ewert-Krzemieniewski, Stanisław**

Krznaric, Drago (*with* Levcopoulos, Christos; Nilsson, Bengt J.) Minimum spanning trees in d dimensions. (English summary) *Algorithms—ESA '97* (*Graz*), 341–349, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05 (68Q25)

— (*with* Levcopoulos, Christos) Optimal algorithms for complete linkage clustering in d dimensions. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 368–377, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68233** 68U05

— (*with* Levcopoulos, Christos) Quasi-greedy triangulations approximating the minimum weight triangulation. (English summary) 7th Annual ACM-SIAM Symposium on

Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 303–338. (Editors) **99d:68235** 68U05 (05C85, 52B55)

— (*with* Levcopoulos, Christos) Computing a threaded quadtree from the Delaunay triangulation in linear time. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 1, 1–18. (Ruth Silverman) **99c:68250** 68U05

Krzyśka, S. (*with* Kubiaczyk, Ireneusz) Fixed point theorems for upper semicontinuous and weakly-weakly upper semicontinuous multivalued mappings. *Math. Japon.* **47** (1998), *no.* 2, 237–240. (Adrian Petruşel) **99b:47084** 47H10

Krzyśko, Mirosław (*with* Wołyński, Waldemar) Linear discriminant functions for stationary time series. (English summary) *Biometrical J.* **39** (1997), *no.* 8, 955–973. (Summary) **99b:62097** 62H30 (62M10)

Krzysztofowicz, Roman Generic utility: measurements of risk functions and their robustness. *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 133–142, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A43 (90A05)

Krzywicki, Andrzej Hilbert's Twentieth Problem. (Polish. English summary) *Hilbert's Problems* (*Polish*) (*Międzyzdroje*, 1993), 237–245, *Polsk. Akad. Nauk, Warsaw*, 1997. (*see* **99b:01001**) 35–03 (01A60)

— (*with* Bilke, S.; Burda, Zdzisław; Petersson, B.; Tabaczek, J.; Thorleifsson, Gudmar) 4d simplicial quantum gravity: matter fields and the corresponding effective action. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 279–286. (Summary) **99d:83030** 83C27 (83C45)

Krzyż, J. G. (*with* Partyka, Dariusz) Harmonic extensions of quasisymmetric mappings. (English summary) *Complex Variables Theory Appl.* **33** (1997), *no.* 1-4, 159–176. (Summary) **99a:30022** 30C55 (30C62, 30C75, 31A05)

Krzyżewski, Karol *see* **Dedicated to the memory of Wiesław Szlenk**

Ksasov, Boris I. *see* **Kvasov, Boris I.**

Kschischang, Frank R. The trellis structure of maximal fixed-cost codes. (English summary) Codes and complexity. *IEEE Trans. Inform. Theory* **42** (1996), *no.* 6, *part* 1, 1828–1838. (Wende Chen) **99a:94049** 94B12

Kshirsagar, Anant M. A non-testable linear hypothesis and its effective equivalent. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 9, 2117–2122. 62J05

Ksir, Brahim Asymptotic results for the failure time of consecutive k-out-of-n systems. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 243–248, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (*see* **99h:60004**) 60F15 (60K10, 62N05)

Ku, Hsu-Tung (*with* Ku, Mei-Chin; Zhang, Xin-Min) Isoperimetric inequalities on surfaces of constant curvature. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1162–1187. (A. Florian) **99i:51020** 51M25 (52A40)

— (*with* Ku, Mei-Chin; Zhang, Xin-Min) Generalized power means and interpolating inequalities. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 145–154. (Darko Veljan) **99b:26036** 26D15

Ku, Long-Poe (*with* Garabedian, P. R.) Quasiaxially symmetric stellarators with three field periods. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 645–648. (Summary) **99k:76161** 76X05

Ku, Mei-Chin (*with* Ku, Hsu-Tung; Zhang, Xin-Min) Isoperimetric inequalities on surfaces of constant curvature. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1162–1187. (A. Florian) **99i:51020** 51M25 (52A40)

— (*with* Ku, Hsu-Tung; Zhang, Xin-Min) Generalized power means and interpolating inequalities. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 145–154. (Darko Veljan) **99b:26036** 26D15

Ku, Simon F. Limited distribution of sample partial autocorrelations: a matrix approach. (English summary) *Stochastic Process. Appl.* **72** (1997), *no.* 1, 121–143. (Juan Carlos Abril) **99c:62253** 62M10 (62E20)

— (*with* Seneta, E.) Practical estimation from the sum of AR(1) processes. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 4, 981–998. 62M10

Kuan, Chung-Ming (*with* Hsu, Chih-Chiang) Change-point estimation of fractionally integrated processes. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 6, 693–708. (Summary) **99j:62128** 62M10

Kuan, Wen-Chi The critical mass of compressible viscous gas-stars. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 369–381. (Themistocles M. Rassias) **99j:85001** 85A15

Kuang, Ji Chang Riesz mean operators on multidimensional weighted special atomic spaces. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 6–10. (Summary) **99c:42015** 42B08

Kuang, Jiaoxun (*with* Qiu, Lin; Yang, Biao) The NGP-stability of Runge-Kutta methods for systems of neutral delay differential equations. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 451–459. (Yun Kang Liu) **99j:65124** 65L06

Kuang, Yang (*with* Beretta, Edoardo) Global qualitative analysis of a ratio-dependent predator-prey system. (English summary) *J. Math. Biol.* **36** (1998), *no.* 4, 389–406. (H. A. DeKleine) **99i:92022** 92D25 (34C05)

— (*with* Beretta, Edoardo) Modeling and analysis of a marine bacteriophage infection. (English summary) *Math. Biosci.* **149** (1998), *no.* 1, 57–76. (Summary) **99i:92028** 92D30 (34C25)

— (*with* Beretta, Edoardo) Global analyses in some delayed ratio-dependent predator-prey systems. *Nonlinear Anal.* **32** (1998), *no.* 3, 381–408. (K. Gopalsamy) **99h:92020** 92D25 (34K20)

— Rich dynamics of Gause-type ratio-dependent predator-prey system. (English summary) *Differential equations with applications to biology* (*Halifax, NS*, 1997), 325–337, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99i:92030** 92D40 (34C05, 92D25)

Kuang, Zhen-Bang Some remarks on thermodynamic theory of viscous elastoplastic media. (English summary) *IUTAM Symposium on Rheology of Bodies with Defects* (*Beijing*, 1997), 87–98, *Solid Mech. Appl.*, 64, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99i:73001**) 73E60 (73B30)

Kuang, Zheng (*with* Li, Yun Hui; Cui, Ming Gen) Wavelet fractional filter. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 353–358. 42C15 (65T20)

Kuang, Zhifeng (*with* Yang, Ming Zhu; Zhu, Guang Tian) Optimal control applications in transport theory. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part II (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 5-7, 691–700. (Edward W. Larsen) **99j:82071** 82D75 (49N55, 82C70)

Kuang, Zhiquan (*with* Gao, Sijie; Liang, Canbin) "Clock rate synchronizable" reference frames in curved space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2862–2865. (Robert J. Low) **99d:83078** 83C99 (53C80)

Kuba, G. On the circle problem with linear weight. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 117–124. (Ulrich Rausch) **99k:11156** 11P21 (11N37)

Kubáček, Lubomír Criterion for an approximation of variance components in regression models. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **34** (1995), 91–108. (Summary) **99b:62109** 62J10 (62J05)

— (*with* Kubáčková, Ludmila) Estimation in multiepoch regression models with different structures for studying recent crustal movements. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 83–102 (1997). (C. R. Rao) **99c:62184** 62J05 (62H15)

— Some statistical properties of MINQUE. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 67–78, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (C. R. Rao) **99g:62093** 62J05 (62F10)

— Notice on the Chipman generalization of the matrix inverse. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 95–98. (Summary) **99b:65054** 65F20

— (*with* Kubáčková, Ludmila) Ferrero formula and triangle misclosures revisited. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 99–116. (Donald Myers) **99j:62095** 62J05 (86A30)

Kubáčková, Ludmila (*with* Kubáček, Lubomír) Estimation in multiepoch regression models with different structures for studying recent crustal movements. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 83–102 (1997). (C. R. Rao) **99c:62184** 62J05 (62H15)

— Efficient transformation of data influenced by systematic effects. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings* (*Velké Karlovice*, 1994; *Čeřínek*, 1995), 79–94, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99d:62068** 62J05

— (*with* Kubáček, Lubomír) Ferrero formula and triangle misclosures revisited. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 99–116. (Donald Myers) **99j:62095** 62J05 (86A30)

Kubale, Marek (*with* Głazek, Włodzimierz; Manuszewski, K.) The quest for small benchmarks for the chromatic sum problem. (English summary) *Arch. Control Sci.* **6** (1997), *no.* 3-4(42), 249–260. (Michael O. Albertson) **99j:05069** 05C15 (68R10)

— (*with* Jajszczyk, Andrzej) Repackable networks—the concept and applications. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 75–83, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10 (94A40)

Kubanskaya, A. P. On the uniqueness of the solution of the first mixed problem with a two-dimensional nonlinear parabolic equation. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **248** (1998), *Chisl. Metody i Vopr. Organ. Vychisl.* 13, 60–69, 248. 35K60

Kubenko, Veniamin Dmitrievich Shock interaction of bodies with a medium (a survey). (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 12, 3–29; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 12, 933–957 (1998). 73D05

— *see also* **Birthday: Kubenko, Veniamin Dmitrievich**

Kuber, M. M. (*with* Dharmadhikari, A. D.; Ghosh, Jayanta K.) On NBUE property of one component system supported by an inactive standby and a repair facility. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 1–8. (Fabio L. Spizzichino) **99f:62119** 62N05

Kubesov, N. A. Asymptotic behavior of the solution of a mixed problem with large initial velocity for a singularly perturbed equation that degenerates into a parabolic equation. (Russian) *Vestnik Nats. Akad. Respub. Kazakhstan* **1994**, *no.* 1, 71–74. (A. V. Perzhan) **99e:35128** 35L20 (35B25)

Kubiaczyk, Ireneusz (*with* Cichoń, Mieczysław) Existence theorem for the Hammerstein integral equation. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 171–177. (Nguyễn Hồng Thái) **99k:45015** 45G10 (47H10, 47H15, 47N20)

— (*with* Ali, Nasr Mostafa) On the existence of weak solutions of the Darboux problem for the hyperbolic partial differential equations in Banach spaces. (English summary) *Fasc. Math. No.* 28 (1998), 93–99. (Summary) **99f:35219** 35R20 (35L70)

— (*with* Krzyśka, S.) Fixed point theorems for upper semicontinuous and weakly-weakly upper semicontinuous multivalued mappings. *Math. Japon.* **47** (1998), *no.* 2, 237–240. (Adrian Petruşel) **99b:47084** 47H10

Kubiak, Tomasz (*with* de Prada Vicente, María Angeles) On internal characterizations of completely L-regular spaces. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 179–187 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A40 (54D15)

— (*with* de Prada Vicente, María Angeles) Hereditary normality plus extremal disconnectedness and insertion of a continuous function. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 188–190 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54G05 (54C45, 54D15)

— (*with* de Prada Vicente, María Angeles) On internal characterizations of completely L-regular spaces. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 581–592. (T. Thrivikraman) **99d:54003** 54A40 (54D10)

— (*with* de Prada Vicente, María Angeles) Lim-inf convergence in completely L-regular spaces. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 233–238. (Summary) **99j:54011** 54A40 (54A20, 54D15)

— The fuzzy Brouwer fixed-point theorem. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 62–66. (Summary) **99c:54063** 54H25 (54A40)

Kubiak, Wieslaw (*with* Gordon, V. S.) Single machine scheduling with release and due date assignment to minimize the weighted number of late jobs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 153–159. (Summary) **99g:90056** 90B35

— (*with* van de Velde, Steef) Scheduling deteriorating jobs to minimize makespan. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 5, 511–523. (Summary) **99e:90050** 90B35

— (*with* Dror, Moshe; Finke, Gerd; Gravier, Sylvain) On the complexity of a restricted list-coloring problem. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 103–109. (Summary) **99h:05109** 05C85 (05C15, 68Q25)

Kubicki, Grzegorz (*with* Henning, Michael A.) Real domination in graphs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 147–160. (Anthony E. Barkauskas) **99c:05105** 05C35

Kubierschky, Max (*with* Flum, Jörg; Ludäscher, Bertram) Total and partial well-founded Datalog coincide. (English summary) *Database theory—ICDT '97 (Delphi)*, 113–124, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99c:68071** 68P15 (03B70, 68N17)

Kubilius, Jonas On some inequalities in the probabilistic number theory. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 345–356, *VSP, Utrecht*, 1997. (A. J. Hildebrand) **99k:11127** 11K65 (11N37)

— *see also* **Probability theory and mathematical statistics, 99e:60004** *and* **New trends in probability and statistics, 99f:11003**

Kubilius, K. Rate of convergence in the functional central limit theorem for one-dimensional semimartingales. (English summary) *Probability theory and mathematical statistics (Vilnius*, 1993), 447–456, *TEV, Vilnius*, 1994. (Summary) **99e:60092** 60F17 (60G48)

Kublanovskaya, V. N. Solution of a system of nonlinear algebraic equations in three variables. Methods and algorithms. III. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **229** (1995), *Chisl. Metody i Voprosy Organ. Vychisl.* 11, 159–190, 323–324; *translation in J. Math. Sci. (New York)* **89** (1998), *no.* 6, 1694–1714. (Gerd Pönisch) **99c:65105** 65H10 (65F15)

— Methods and algorithms for solving spectral problems for polynomial and rational matrices. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **238** (1997), *Chisl. Metody i Vopr. Organ. Vychisl.* 12, 329 *pp.* (L. Rodman) **99e:65045** 65Fxx (15A22, 15A54, 47A56)

— (*with* Kon′kova, T. Ya.; Simonova, V. N.) On the development of certain ideas of D. K. Faddeev and V. N. Faddeeva in computational algebra. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1955–1961; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1877–1883. (Summary) **99h:65080** 65F30

— D. K. Faddeev's contribution to the development of computational methods in linear algebra. (Russian) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 2, 183–186. 65–03 (01A70)

Kublanovskiĭ, S. I. On varieties of associative algebras with local finiteness conditions. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 4, 119–174; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 4, 763–813. (Vesselin Drensky) **99a:16017** 16R10 (08B05, 16R40, 16S15)

Kubo, A. (*with* Tanaka, Shōtarō; Sato, N.) The fan problem and its history in the Japanese mathematics. (English summary) *Gurukula Kangri Vijñāna Patrikā Āryabhaṭa* **1** (1998), 15–24. (Andrea Bréard) **99m:01008** 01A27

Kubo, Akisato On the existence of a global classical solution of the boundary value problem for $\Box u - \mu u + au^m = 0$ in the interior domain. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 9, 781–795. (Nickolai A. Lar′kin) **99e:35151** 35L70 (35B35)

— Global existence in time and decay property of solutions of boundary value problems for semilinear hyperbolic equations of second order in the interior domain. *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 1, 75–89. (Nickolai A. Lar′kin) **99c:35165** 35L70 (35B40, 35L80)

Kubo, Fujio Finite-dimensional simple Leibniz pairs and simple Poisson modules. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 21–29. (Aleksandr Panov) **99b:16050** 16S99 (16D80)

Kubo, Harunobu (*with* Awata, Hidetoshi; Odake, Satoru; Shiraishi, Jun'ichi) Virasoro-type symmetries in solvable models. (English summary) Discretizations of integrable systems: theory and applications (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1005 (1997), 37–71. (Naihuan Jing) **99g:17048** 17B68 (58F07)

Kubo, Izumi Non-isotropic Ornstein-Uhlenbeck process and white noise analysis. *Stochastic differential and difference equations (Győr*, 1996), 167–182, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Akio Noda) **99h:60113** 60H07 (46F25, 46G12, 60G15, 60J60)

Kubo, Masahiro (*with* Maki, Ziro; Nakahara, Mikio; Saito, Takesi) Grand unification from gauge theory in $M_4 \times Z_N$. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 1, 165–177. (Andrzej Sitarz) **99m:81286** 81V22 (46L87, 58B30, 81P99, 81T13)

Kubo, Mikio (*with* Fujisawa, Katsuki) The life span method—a new variant of local search. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 363–393. (Horst W. Hamacher) **99k:90135** 90C27 (90C10, 90C20)

Kubo, Reijiro (*with* Ogura, Waichi; Saito, Takesi; Yasui, Yukinori) The Gauss-Knörrer map for the Rosochatius dynamical system. (English summary) *Phys. Lett. A* **251** (1999), *no.* 1, 6–12. (Jair Koiller) **99m:58111** 58F07 (58F05, 70H05, 70H15)

Kubo, Shiro (*with* Takahashi, Tomokazu; Ohji, Kiyotsugu) Characterization of the Tikhonov regularization for numerical analysis of inverse boundary value problems by using the singular value decomposition. (English summary) *Inverse problems in engineering mechanics (Nagano*, 1998), 337–344, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 65J15 (65N30)

— (*with* Kawaguchi, Masayuki) A mathematical and numerical study on regularization of an inverse boundary value problem in elasto-static field. (English summary) *Inverse problems in engineering mechanics (Nagano*, 1998), 353–361, *Elsevier, Oxford*, 1998. (*see* **99k:80001**) 73C02 (73V20)

Kubo, T. *see* **Kubo, Tomohiro**

Kubo, Tetsuo (*with* Kuroda, Mitsuru[2]; Kuragano, Tetsuzou) Logarithmic spiral spline interpolant with curvature continuity. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 602–609. (Summary) **99b:65016** 65D17 (68U07)

Kubo, Tomohiro (*with* Shimemura, Etsujiro) Exponential stabilization of systems with time-delay by optimal memoryless feedback. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 319–328. (Summary) **99c:93088** 93D15

— (*with* Shimemura, Etsujiro) Gain and phase margin of optimal memoryless regulator of systems with time-delay. (English summary) *Internat. J. Control* **72** (1999), *no.* 5, 404–410. (Summary) **99k:93050** 93B50 (49N10, 93C30)

Kubokawa, Atsushi Nonlinear Rossby waves and the structure of oceanic circulation. (Japanese) Mathematics of nonlinear phenomena of wave motion and its applications (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 993 (1997), 220–230. (*see* **99a:00032**) 86A05 (76C20)

Kubokawa, Tatsuya (*with* Srivastava, Muni S.) Double shrinkage estimators of ratio of variances. (English summary) *Multidimensional statistical analysis and theory of random matrices (Bowling Green, OH*, 1996), 139–154, *VSP, Utrecht*, 1996. (Nabendu Pal) **99a:62028** 62F12 (62C15)

— The Stein phenomenon in simultaneous estimation: a review. (English summary) *Applied statistical science, III*, 143–173, *Nova Sci. Publ., Commack, NY*, 1998. (Summary) **99k:62015** 62C15 (62H12)

— Double shrinkage estimation of common coefficients in two regression equations with heteroscedasticity. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 169–189. (Kurt Hoffmann) **99k:62016** 62C15 (62J05)

Kuboki, Hisataka Reference priors for prediction. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 295–317. (Summary) **99k:62059** 62F15

Kubosawa, Hitoshi (*with* Takeuchi, Nobuko) A parametrization of a torus which contains six circles through each point. (English summary) *Bull. Tokyo Gakugei Univ.* (4) **50** (1998), 33–36. 51M04

Kubota, Koichi (*with* Iri, Masao) A general numerical approach to sensitivity analysis and error analysis with adjoint systems. (English summary) *Yugosl. J. Oper. Res.* **8** (1998), *no.* 1, 75–92. (Summary) **99a:90202** 90C31 (65G05)

Kubota, Takahiro (*with* Yokoi, Naoto) Renormalization group flow near the superconformal points in $N = 2$ supersymmetric gauge theories. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 423–436. (Summary) **99h:81141** 81T17 (81T13, 81T60)

Kubota, Tomio On the system of equations involved in the cyclotomy. (Japanese. English summary) *Rep. Fac. Sci. Technol. Meijo Univ. No.* 38 (1998), 31–35. (H. Yokoi) **99d:11118** 11R21 (11R11, 11T22)

Kubota, Yôto Abstract treatment of integration. (English summary) *Math. J. Ibaraki Univ.* **29** (1997), 41–54. (Š. Schwabik) **99b:26013** 26A39

Kubotani, Hiroto (*with* Kenmoku, Masakatsu; Takasugi, Eiichi; Yamazaki, Yuki) de Broglie-Bohm interpretation for the wave function of quantum black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4925–4934. (Summary) **99m:83117** 83C57 (83C47)

Kubrusly, Carlos S. (*with* Costa, O. L. V.) State feedback H_∞-control for discrete-time infinite-dimensional stochastic bilinear systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 2, 32 *pp.* (*electronic*). (Summary) **99h:93097** 93E03 (93B36)

— (*with* Costa, O. L. V.) Quadratic optimal control for discrete-time infinite-dimensional stochastic bilinear systems. (English summary) *IMA J. Math. Control Inform.* **14** (1997), *no.* 4, 385–399. (Patrizio Colaneri) **99a:93109** 93E20 (49N10)

— Equivalent invariant subspace problems. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 323–328. (László Kérchy) **99d:47006** 47A15 (47A45)

Kubyshin, Yu. Exact renormalization group approach in scalar and fermionic theories. (English summary) *Internat. J. Modern Phys. B* **12** (1998), *no.* 12-13, 1321–1341. (Summary) **99b:81158** 81T17

Kubyshkin, V. A. On the maximum value of a determinant whose column vectors take values in given sets. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 4, 95–101. 93D09 (65F30)

— Optimal mobile control in closed-loop systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 6, 78–85. 49N35 (93B52)

Kuc, Tae-Yong (*with* Park, B. H.; Lee, Jin S.) Adaptive learning control of uncertain robotic systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 725–744. 93E35 (70Q05)

Kučera, Antonín (*with* Jančar, Petr; Mayr, Richard) Deciding bisimulation-like equivalences with finite-state processes. (English summary) *Automata, languages and programming (Aalborg*, 1998), 200–211, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68Q60)

Kučera, Milan (*with* Eisner, Jan) Spatial patterns for reaction-diffusion systems with conditions described by inclusions. (English summary) *Appl. Math.* **42** (1997), *no.* 6, 421–449. (Summary) **99g:35063** 35K57 (47H15, 47N20)

— Bifurcation of solutions to reaction-diffusion systems with conditions described by inequalities and inclusions. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3683–3694. (Si Ning Zheng) **99g:35065** 35K57 (35B32)

Kučera, Radek (*with* Kobza, Jiří) Spline toolbox in MATLAB. (English summary) *Summer Schools MATLAB* 94, 95 *Proceedings (Velké Karlovice*, 1994; *Čeřinek*, 1995), 25–46, *Folia Fac. Sci. Natur. Univ. Masaryk. Brun. Math.*, 5, *Masaryk Univ., Brno*, 1997. (Summary) **99c:65020** 65D07 (41–04, 65–04)

Kučera, Vladimír (*with* Picard, Pascal; Lafay, J. F.) Model matching for linear systems with delays and 2D systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 183–191. (Heide Gluesing-Luerssen) **99b:93017** 93B15 (93B30)

— (*with* Hench, J. J.; He, Chun Yang; Mehrmann, Volker) Dampening controllers via a Riccati equation approach. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1280–1284. (Summary) **99d:93056** 93D15 (93C40)

— (*with* Söderström, Torsten; Ježek, Jan) An efficient and versatile algorithm for computing the covariance function of an ARMA process. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1591–1600. (Summary) **99j:65253** 65U05 (62M10)

— (*with* Koumboulis, F. N.) Partial model matching via static feedback (the multivariable case). (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 386–392. 93B30 (93B52)

— *see also* **Cao, Yong-Yan et al., 99e:93061**

Kuchanov, S. I. (*with* Aliev, M. A.) Correlation functions in a one-dimensional kinetic Ising model. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8479–8496. (Muthusamy Lakshmanan) **99c:82046** 82C20 (82C23)

Kuchař, Karel V. Quantum gravity. *Proceedings of the 14th International Conference on General Relativity and Gravitation (Florence*, 1995), 511–514, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 83C45

Kucharz, Wojciech (*with* Rusek, Kamil) Approximation of smooth maps by real algebraic morphisms. (English summary) *Canad. Math. Bull.* **40** (1997), *no.* 4, 456–463. (Digen

Zhang) **99b:14062** 14P99 (14G27)
— (*with* Bochnak, J.; Silhol, Robert) Morphisms, line bundles and moduli spaces in real algebraic geometry. *Inst. Hautes Études Sci. Publ. Math. No.* 86 (1997), 5–65 (1998). (A. R. Shastri) **99h:14055** 14P99 (14D20)
— (*with* Bochnak, J.) The Weierstrass approximation theorem and a characterization of the unit circle. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1571–1574. (Alessandro Tancredi) **99i:14067** 14P05
Küchenhoff, Helmut *see* **Econometrics in theory and practice, 99f:62007**
Kucher, O. V. (*with* Plichko, A. N.) On strict singularity of locally integral operators on Banach function spaces. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 549–561. (M. M. Popov) **99i:47057** 47B38 (46E30, 47G10)
Kucherenko, V. V. (*with* Maslov, V. P.) Normal forms of quadratic Bose operators. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 1, 69–90; *translation in Math. Notes* **61** (1997), *no.* 1-2, 58–75. (Lech Jakóbczyk) **99c:81103** 81S05 (47N50)
— (*with* Maslov, V. P.) On the spectrum of finite-dimensional quadratic Bose operators. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 6, 835–854; *translation in Math. Notes* **61** (1997), *no.* 5-6, 700–716. (Lech Jakóbczyk) **99d:81061** 81S05 (47N50)
— (*with* Gurevich, Yu. G.) New formulas for magnetoresistance. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 181–183; *translation in Dokl. Phys.* **43** (1998), *no.* 9, 534–536. 78A30
Kucherov, A. B. (*with* Oleĭnik, E. Yu.) Direct methods for solving large sparse systems of equations based on a block two-by-two decomposition of a matrix. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 2, 66–81. 65F50 (65F30)
Kucherov, G. A. (*with* Grebinski, Vladimir) Optimal reconstruction of graphs under the additive model. (English summary) *Algorithms—ESA '97 (Graz)*, 246–258, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (Summary) **99g:68146** 68R05 (05C60, 90C35)
— (*with* Kolpakov, Roman) Minimal letter frequency in nth power-free binary words. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 347–357, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68206** 68R15
— (*with* Grebinski, Vladimir) Reconstructing a Hamiltonian cycle by querying the graph: application to DNA physical mapping. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 147–165. (Xue Liang Li) **99j:05130** 05C45 (05C90, 92D20)
Kuchibhatla, Maragatha (*with* Hart, Jeffrey D.) Smoothing-based lack-of-fit tests: variations on a theme. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 1–22. (Summary) **99a:62068** 62G10
Kuchiev, M. Yu. Can gravity appear due to polarization of instantons in SO(4) gauge theory? (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 7, 1895–1913. (Seth A. Major) **99g:83069** 83D05 (81T13)
Kuchkarov, A. Sh. (*with* Ibragimov, Gafurzhan I.) Optimality of pursuit time in a differential game in a half-space with integral constraints. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 1 (1996), 15–22. (Summary) **99g:90172** 90D25
— (*with* Satimov, N. Yu.) On the oscillation of solutions of a class of hyperbolic equations. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1998), 50–54. 35L10 (35B05)
muci-Küchler, K. H. *see* **Muci-Küchler, K. H.**
Küchler, Uwe (*with* Föllmer, Hans) Richard von Mises. *Mathematics in Berlin*, 111–116, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70
— (*with* Sørensen, Michael) On exponential families of Markov processes. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 3–19. (Valeri Stefanov) **99g:62145** 62M99
Küchlin, Wolfgang (*with* Amrhein, Beatrice; Bündgen, Reinhard) Parallel completion techniques. (English summary) *Symbolic rewriting techniques (Ascona*, 1995), 1–34, *Progr. Comput. Sci. Appl. Logic*, 15, *Birkhäuser, Basel*, 1998. (Summary) **99b:68107** 68Q42 (68Q40)
Kuchment, Peter (*with* Agranovskiĭ, M. L.; Berenstein, Carlos A.) Approximation by spherical waves in L^p-spaces. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 3, 365–383 (1997). (Paşc Găvruţa) **99c:41038** 41A30 (44A12, 46E99)
— (*with* Vainberg, B. R.) On embedded eigenvalues of perturbed periodic Schrödinger operators. (English summary) *Spectral and scattering theory* (*Newark, DE*, 1997), 67–75, *Plenum, New York*, 1998. (Evgeni L. Korotyaev) **99e:35032** 35J10 (35P05, 47F05, 47N50, 81Q10)
— (*with* Figotin, Alexander) Spectral properties of classical waves in high-contrast periodic media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 2, 683–702 (*electronic*). (Peter D. Hislop) **99f:47061** 47F05 (35P05, 35Q60, 73D15, 76Q05, 78A40)
Kuchminskaya, Kh. I. (*with* Bodnar, D. I.) Branched continued fractions (30th anniversary of the first publication). (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2324–2333. (Summary) **99e:40002** 40A15
— The element sets and value sets of two-dimensional continued fractions. (English summary) *J. Math. Sci.* (*New York*) **90** (1998), *no.* 5, 2368–2373. (Summary) **99e:40003** 40A15
Kuchta, Dorota (*with* Chanas, Stefan) Discrete fuzzy optimization. (English summary) *Fuzzy sets in decision analysis, operations research and statistics*, 249–280, *Handb. Fuzzy Sets Ser.*, 1, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99h:90001**) 90C27 (04A72, 90C70)
— (*with* Chanas, Stefan) An algorithm for solving bicriterial linear programming problems with parametrical coefficients in the objective functions. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 63–71. (*see* **99b:90006**) 90C08 (90C31)
— (*with* Chanas, Stefan) Fuzzy integer transportation problem. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 291–298. 90C70 (90C08)
Kuchta, Milan (*with* Bobok, Jozef) The X-minimal patterns and the forcing relation. *Iteration theory* (*ECIT '94*) (*Opava*), 69–76, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F03 (54H20)
— (*with* Bobok, Jozef) X-minimal patterns and a generalization of Sharkovskiĭ's theorem. (English summary) *Fund. Math.* **156** (1998), *no.* 1, 33–66. (James Andrew Walsh) **99d:58057** 58F03 (26A18, 54H20)
Kucia, Anna (*with* Baron, Karol) On regularity of functions connected with orthogonal additivity. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 19–24. (Summary) **99m:39022** 39B52 (26A15, 46C99)
— Some results on Carathéodory selections and extensions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 302–318. (J. R. Isbell) **99f:54025** 54C65
— (*with* Nowak, Andrzej S.) Optimal measurable selections via Marczewski function. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 261–267. (Summary) **99g:28025** 28B20 (54C65)
Kucuk, Ahmet The fundamental group of bordered surfaces. (English summary) *Bull. Pure Appl. Sci. Sect. E Math. Stat.* **16** (1997), *no.* 2, 101–106. 57M05
Kucuk, Ismail (*with* Cherkaev, Andrej V.; Krog, Lars A.) Stable optimal design of two-dimensional elastic structures. (English summary) Recent advances in structural modelling and optimization. *Control Cybernet.* **27** (1998), *no.* 2, 265–282. (Summary) **99k:73089** 73K40 (49Q10)
Küçük, Y. (*with* Zorlutuna, İ.) Almost weakly continuous and almost H-continuous fuzzy multifunctions. (English summary) *Hacet. Bull. Nat. Sci. Eng. Ser. B* **27** (1998), 1–12. 54A40 (54C10, 54C60)
Kuczmaszewska, Anna (*with* Szynal, Dominik) On complete convergence for randomly indexed sums for a case without identical distributions. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 773–782. (Allan Gut) **99c:60070** 60F15 (60G40, 60G50)
Kuczumow, Tadeusz (*with* Kryczka, Andrzej) The Denjoy-Wolff-type theorem for compact k_{B_H}-nonexpansive maps on a Hilbert ball. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 2, 179–183. (Introduction) **99k:47143** 47H10 (46G20)
— Opial's modulus and fixed points of semigroups of mappings. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2671–2678. (Tomás Domínguez Benavides) **99m:47064** 47H10 (46B20, 47H09, 47H20)
Kudin, V. I. (*with* Pavlova, V. V.) Procedures for analyzing linear programming models at pre-optimization and post-optimization stages. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 43–50, 152. 90C05 (90C08)
Kudinov, Maxime (*with* Moreno, Enrique Francisco; Orland, Peter) Potential topography and mass generation. *New developments in quantum field theory* (*Zakopane*, 1997), 315–327, *NATO Adv. Sci. Inst. Ser. B Phys.*, 366, *Plenum, New York*, 1998. (Summary) **99g:81229** 81V05 (81T99)
Kudinov, O. V. Compressed systems of finite approximations for sets in the class Σ^0_2 [translation of *Proceedings of the Institute of Mathematics, 30* (Russian), 111–113, Izdat. Ross. Akad. Nauk, Sibirsk. Otdel., Inst. Mat., Novosibirsk, 1996]. (English summary) Siberian Advances in Mathematics. *Siberian Adv. Math.* **7** (1997), *no.* 3, 87–90. (Roman Murawski) **99c:03066** 03D55
Kudinov, Yu. I. Fuzzy models of inference in expert systems. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1997**, *no.* 5, 75–83. 68T35
Kudishin, P. M. An equiconvergence theorem for higher-order differential operators with a singularity. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 1, 41–50; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 1, 39–48. (Zoran Kadelburg) **99a:34222** 34L10 (47E05)
— Errata: "An equiconvergence theorem for higher-order differential operators with a singularity" [Izv. Vyssh. Uchebn. Zaved. Mat. **1998**, no. 1, 41–50; MR 99a:34222]. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. 34L10 (47E05)
Kudla, Stephen S. Central derivatives of Eisenstein series and height pairings. *Ann. of Math.* (2) **146** (1997), *no.* 3, 545–646. (Martin L. Karel) **99j:11047** 11F46 (11F30, 11G18, 14G40)
Kudlaev, E. M. On the most powerful location and scale invariant tests based on an incomplete set of order statistics. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 806–813. (Georg Neuhaus) **99g:62059** 62G10 (62G30)
Kudlek, Manfred (*with* Andrei, Ştefan) Morphological grammars. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform. (N.S.)* **5/6** (1996/97), 85–113 (1998). (Summary) **99c:68148** 68Q45 (68S05)
Kudo, N. (*with* Honjo, Y.) Matching objective and subjective information in geotechnical inverse analysis based on entropy minimization. (English summary) *Inverse problems in engineering mechanics* (*Nagano*, 1998), 263–271, *Elsevier, Oxford*, 1998. (Summary) **99k:86010** 86A32
Kudou, Kenji (*with* Yagita, Nobuaki) Modulo odd prime homotopy normality for H-spaces. (English summary) *J. Math. Kyoto Univ.* **38** (1998), *no.* 4, 643–651. (Samuel B. Smith) **99m:55012** 55P45 (55P60)
Kudrolli, A. (*with* Pier, Benoît; Gollub, J. P.) Superlattice patterns in surface waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 99–111. (Summary) **99i:76015** 76B15 (76-05, 76E99)
Kudryavtsev, A. E. (*with* Piette, B. M. A. G.; Zakrzewski, Wojciech J.) Skyrmions and domain walls in $(2+1)$ dimensions. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 783–795. (Summary) **99b:58074** 58E50 (81T10)
Kudryavtsev, L. D. (*with* Kutasov, A. D.; Chekhlov, V. I.; Shabunin, M. I.) ★ Сборник задач по математическому анализу. (Russian. Russian summary) [A collection of problems in mathematical analysis] Функции нескольких переменных. [Functions of several variables] *Fizmatlit "Nauka", Moscow*, 1995. 496 *pp. ISBN* 5-02-013953-X (Publisher's description) **99h:00004** 00A07 (26-01, 46-01)
— (*with* Izobov, N. A.; Il'in, Vladimir Aleksandrovich[1]; Kiguradze, I. T.; Maksimov, V. P.; Shemyakina, T. K.) Nikolaĭ Viktorovich Azbelev (on the occasion of his seventy-fifth birthday). (Russian) *Differ. Uravn.* **33** (1997), *no.* 4, 435–439; *translation in Differential Equations* **33** (1997), *no.* 4, 433–438. (Editors) **99k:01062** 01A70
— Traces of functions defined by series of second differences. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 194–220. (V. I. Polovinkin) **99f:46046** 46E35 (46E39)
— On the expansion with respect to Steklov means of the second differences of functions. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 2, 91–109. (Jaromír Šimša) **99f:26018** 26B40
Kudryavtsev, S. N. Best accuracy of the reconstruction of functions of finite smoothness from their values at a given number of points. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 1, 21–58; *translation in Izv. Math.* **62** (1998), *no.* 1, 19–53. (Petru P. Blaga) **99e:41020** 41A46 (41A63)

Kudryavtsev, V. V. Expressibility and completeness conditions for bundles of logic functions. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 16–18. 03B50

Kudryavtseva, E. A. (*with* Gerver, M. L.) A new proof of theorems on a universal sequence and extremal properties of discrete measures. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 6(318), 153–154; *translation in Russian Math. Surveys* **52** (1997), *no.* 6, 1298–1299. (V. Totik) **99g:44014** 44A99 (73D50)

Kueh, Ka-Lam Instability of overcompressive shock waves for rotationally invariant systems of viscous conservation laws. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1039–1054. (Hermano Frid) **99i:35092** 35L65 (35B35, 76L05, 76N10)

Kuelbs, James (*with* Li, Wenbo V.) Some shift inequalities for Gaussian measures. (English summary) *High dimensional probability* (*Oberwolfach*, 1996), 233–243, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Werner Linde) **99k:60106** 60G15 (60B12, 60E15)

— (*with* Ledoux, Michel) On convex limit sets and Brownian motion. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 461–492. (Davar Khoshnevisan) **99c:60181** 60J65

Kuerten, J. G. M. *see* **Celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics, 99d:76001** *and* **Floating, flowing, flying**

Kuester, Edward F. (*with* Schwengler, Thomas) Residual error bounds in various norms for solutions of a Fredholm integral equation of the first kind. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 186–190, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 65R20 (45L05)

Kufner, Alois (*with* Drábek, Pavel) ★ Integralgleichungen. (German) [Integral equations] Mathematik für Ingenieure und Naturwissenschaftler. [Mathematics for Engineers and Natural Scientists] *B. G. Teubner Verlagsgesellschaft mbH, Stuttgart*, 1996. 170 *pp. ISBN* 3-8154-2089-X (J. Weidmann) **99j:45001** 45–01 (45Lxx, 65R20)

— (*with* Heinig, Hans P.; Persson, Lars-Erik) Some generalisations and refinements of the Hardy inequality. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 271–288, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tatjana Ostrogorski) **99e:26018** 26D15 (46E30)

— (*with* Leinfelder, Herbert) On overdetermined Hardy inequalities. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 279–293. (B. Crstici) **99g:26039** 26D10

— (*with* Persson, Lars-Erik) Some difference inequalities with weights and interpolation. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 3, 437–444. (Javier Soria) **99e:46036** 46E30 (26D15, 46M35)

Kugi, Andreas (*with* Schlacher, Kurt; Scheidl, Rudolf) Tensor analysis based symbolic computation for mechatronic systems. (English summary) 2nd IMACS Symposium on Mathematical Modelling (Vienna, 1997). *Math. Comput. Simulation* **46** (1998), *no.* 5-6, 517–525. (Summary) **99d:70001** 70–04 (70E15, 70F25, 78A55, 94C05)

Kugler, L. D. (*with* Althoen, S. C.; Hansen, K. D.) Four-dimensional real algebras satisfying left or right C-associativity. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 565–587. (Sebastian Walcher) **99c:17002** 17A35

Kugo, Taichiro Supersymmetric nonlinear realization. (English summary) *Perspectives of strong coupling gauge theories* (*Nagoya*, 1996), 311–326, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81003**) 81T60

— (*with* Takahashi, Tomohiko) Unoriented open-closed string field theory. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 4, 649–689. (Hitoshi Nishino) **99k:81256** 81T30 (83E30)

— (*with* Asakawa, Tsuguhiko; Takahashi, Tomohiko) On the generalized gluing and resmoothing theorem. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 2, 437–454. (Summary) **99m:81167** 81T30

— (*with* Asakawa, Tsuguhiko; Takahashi, Tomohiko) BRS invariance of unoriented open-closed string field theory. (English summary) *Progr. Theoret. Phys.* **100** (1998), *no.* 4, 831–879. (Ion V. Vancea) **99m:81168** 81T30 (81T70)

Kugurakov, V. S. On the symmetry of a class of codes. (Russian) *Probabilistic methods and cybernetics*, *No.* 25 (*Russian*), 91–99, *Izdat. Kazan. Univ., Kazan'*, 1993. (From the text) **99m:94046** 94B05 (94B15)

Kuh, Ernest S. *see* **Memorial Issue: Darlington, Sidney, 99m:94001**

Kuhara, Satoru (*with* Akutsu, Tatsuya; Maruyama, Osamu; Miyano, Satoru) Identification of gene regulatory networks by strategic gene disruptions and gene overexpressions. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 695–702, *ACM, New York*, 1998. (*see* **99d:68011**) 92D10 (68T05, 92D20)

al-Kūhī, Abū Sahl Waijan ibn Rustam *see* **Rashed, Roshdi**

Kuhl, U. (*with* Barth, Michael; Stöckmann, Hans-Jürgen) Global versus local billiard level dynamics: the limits of universality. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 10, 2026–2029. 58F13 (81Q50)

Kühleitner, Manfred (*with* Nowak, Werner Georg; Schoissengeier, J.; Wooley, Trevor D.) On sums of two cubes: an Ω_+-estimate for the error term. *Acta Arith.* **85** (1998), *no.* 2, 179–195. (D. R. Heath-Brown) **99g:11119** 11P21

— On a generalization of a formula of Sierpinski. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 91–101. (Lutz Gerhard Lucht) **99m:11107** 11N37

— On a generalization of a formula of Sierpinski. II. (English summary) *Math. Pannon.* **9** (1998), *no.* 2, 267–279. (Lutz Gerhard Lucht) **99m:11108** 11N37

Kuhlman, Doug The minimum distance of the [83, 42] ternary quadratic residue code. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 282. (Summary) **99k:94056** 94B15

Kuhn, Günther (*with* Partheymüller, P.) Analysis of 3D elastoplastic notch and crack problems using boundary element method. *Boundary element topics* (*Stuttgart*, 1995), 99–119, *Springer, Berlin*, 1997. (Xiaoguang Allan Zhong) **99j:73107** 73V10 (65N38, 73E05, 73M25)

Kuhn, Heinrich (*with* Tetzlaff, Ulrich A. W.) Performance evaluation of repair systems with priorities. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 242–247, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B05

Kuhn, Michael The application of coupled BE/FE formulations in technical magnetic field computations. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 193–204. (Summary) **99d:78003** 78–08

— (*with* Carstensen, Carsten; Langer, Ulrich[1]) Fast parallel solvers for symmetric boundary element domain decomposition equations. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 321–347. (Jiří Nedoma) **99d:65336** 65N38 (65Y05, 73V10)

Kühn, Michael Rigid hypertableaux. (English summary) *KI-97: advances in artificial intelligence* (*Freiburg*, 1997), 87–98, *Lecture Notes in Comput. Sci.*, 1303, *Springer, Berlin*, 1997. (Ralph W. Wilkerson) **99g:03012** 03B35

Kuhn, Nicholas J. Invariant subspaces of the ring of functions on a vector space over a finite field. (English summary) *J. Algebra* **191** (1997), *no.* 1, 212–227. (Summary) **99a:20046** 20G40 (16D90)

— Computations in generic representation theory: maps from symmetric powers to composite functors. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4221–4233. (Kathryn P. Hess) **99a:55015** 55S10 (20G05, 55S12)

Kühn, Reimer (*with* Horner, Heinz) Neural networks. *Intelligence and artificial intelligence*, 125–161, *Springer, Berlin*, 1998. (*see* **99d:68211**) 68T05 (92B20)

Kuhn, Thomas Samuel *see* **Heilbron, J. L.**

Kühn, Ulf Generalized arithmetic intersection numbers. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 283–288. (Yuichiro Takeda) **99j:14026** 14G40 (11G30)

Kühn, Ulrich Local calculation of Voronoi diagrams. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 6, 307–312. (Summary) **99i:68122** 68U05

Kühn, Wolfgang Zonotope dynamics in numerical quality control. (English summary) *Mathematical visualization* (*Berlin*, 1997), 125–134, *Springer, Berlin*, 1998. (*see* **99k:65005**) 58F40 (65G99)

— Rigorously computed orbits of dynamical systems without the wrapping effect. (English summary) *Computing* **61** (1998), *no.* 1, 47–67. (Robert Rihm) **99h:65096** 65G10 (65L05)

Kühnau, Reiner Der konforme Modul von Vierecken. (English and German summaries) [The conformal modulus of quadrilaterals] *Analysis and topology*, 483–495, *World Sci. Publishing, River Edge, NJ*, 1998. (D. Gaier) **99k:30010** 30C35

— Ersetzungssätze bei quasikonformen Abbildungen. (English summary) [Replacement theorems in quasiconformal mappings] Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 65–72. (H. Renelt) **99m:30039** 30C62

— Zum lokalen quasikonformen Spiegelungskoeffizienten einer stückweis glatten Jordankurve. [On the local quasiconformal reflection coefficient of a piecewise smooth Jordan curve] *Mitt. Math. Sem. Giessen No.* 235 (1998), 43–48. (Adam Lecko) **99m:30038** 30C62

Kühnel, Wolfgang (*with* Banchoff, Thomas F.) Tight submanifolds, smooth and polyhedral. (English summary) *Tight and taut submanifolds* (*Berkeley, CA*, 1994), 51–118, *Math. Sci. Res. Inst. Publ.*, 32, *Cambridge Univ. Press, Cambridge*, 1997. (Summary) **99d:53063** 53C42

— Equilibrium decompositions of 4-manifolds, and abstract regular 5-polytopes. (English summary) *Mathematika* **44** (1997), *no.* 1, 100–112. (Summary) **99d:57013** 57N13 (52B70, 57Q15)

— (*with* Rademacher, Hans-Bert) Asymptotically Euclidean manifolds and twistor spinors. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 67–76. (Uwe Semmelmann) **99h:53060** 53C25 (53C21, 58G25, 58G30)

— Topological aspects of twofold triple systems. (English summary) *Exposition. Math.* **16** (1998), *no.* 4, 289–332. (Mirko Horňák) **99j:05027** 05B07 (05C10, 52B70, 57N05)

Kühnle, Klaus Pentangram—a new puzzle. *Math. Intelligencer* **21** (1999), *no.* 2, 15–17. 00A08

Kühnlein, Stefan Torsion classes in cohomology and Galois representations. (English summary) *J. Number Theory* **70** (1998), *no.* 2, 184–190. (Ian Kiming) **99e:11065** 11F75 (11F80)

— (*with* Grunewald, Fritz) On the proof of Humbert's volume formula. (English summary) *Manuscripta Math.* **95** (1998), *no.* 4, 431–436. (Kerry N. Jones) **99h:11044** 11F06 (11H06, 11M41, 11R42)

Kuibin, P. A. (*with* Alekseenko, S. V.; Okulov, V. L.; Shtork, S. I.) Helical vortices in swirl flow. (English summary) *J. Fluid Mech.* **382** (1999), 195–243. (Summary) **99m:76034** 76C05 (76–05, 76D99)

Kuich, Werner (*with* Karner, Georg) A characterization of abstract families of algebraic power series. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 327–336, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68093** 68Q45 (16W60, 68Q70)

— Cones and abstract families of elements. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 897–906. (J.-M. Autebert) **99d:68147** 68Q45 (68Q70)

Kuijlaars, A. B. J. (*with* Gautschi, Walter) Zeros and critical points of Sobolev orthogonal polynomials. (English summary) *J. Approx. Theory* **91** (1997), *no.* 1, 117–137. (Leonid B. Golinskiĭ) **99a:42016** 42C05 (33C45)

— (*with* Van Assche, Walter) A problem of Totik on fast decreasing polynomials. (English summary) *Constr. Approx.* **14** (1998), *no.* 1, 97–112. (V. Totik) **99b:26026** 26D05 (31A99)

— Best constants in one-sided weak-type inequalities. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 1, 95–108. (C. Carton-Lebrun) **99h:42014** 42A50 (41A20)

— (*with* Van Assche, Walter) A contact problem in elasticity related to weighted polynomials on the real line. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 575–587. (Summary) **99g:73098** 73T05 (41A10, 42C05)

— (*with* Dragnev, P. D.) Equilibrium problems associated with fast decreasing polynomials. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1065–1074. (Wiesław Pleśniak) **99f:31003** 31A15 (30C10)

Kuijpers, Bart (*with* Paredaens, Jan; Van den Bussche, Jan) On topological elementary equivalence of spatial databases. (English summary) *Database theory—ICDT '97* (*Delphi*), 432–446, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99a:68044** 68P15 (03B70)

— Degrees of monotonicity of spatial transformations. (English summary) *Database programming languages* (*Estes Park, CO*, 1997), 60–77, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15

Kuijt, Frans (*with* van Damme, Ruud) Smooth interpolation by a convexity preserving nonlinear subdivision algorithm. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 219–224, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65005**) 41A29

— (*with* van Damme, Ruud) Convexity preserving interpolatory subdivision schemes. (English summary) *Constr. Approx.* **14** (1998), *no.* 4, 609–630. (D. Leviatan) **99f:65028** 65D17 (41A29)

— (*with* van Damme, Ruud) Monotonicity preserving interpolatory subdivision schemes. (English summary) *J. Comput. Appl. Math.* **101** (1999), *no.* 1-2, 203–229. (D. Leviatan) **99m:65034** 65D17 (41A25, 41A29, 65D05)

Kuiken, H. K. A free-convection boundary-layer model for the centrifugal etching of an axisymmetric cavity. (English summary) A celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics. *J. Engrg. Math.* **34** (1998), *no.* 1-2, 181–200. (*see* **99d:76001**) 76D10 (76R10)

— *see also* **Celebration of the sixty-fifth anniversary of Pieter J. Zandbergen: teacher and research leader in applied mathematics, 99d:76001** *and* **Floating, flowing, flying**

Kuiper, C. R. (*with* Zwart, H. J.) Connections between the algebraic Riccati equation and the Hamiltonian for Riesz-spectral systems. (English summary) *J. Math. Systems Estim. Control* **6** (1996), *no.* 4, 48 *pp.* (*electronic*). (Martin Weiss) **99k:47037** 47A62 (47N70, 93B27)

Kuiper, Hendrik J. (*with* Castro, Alfonso) On the number of radially symmetric solutions to Dirichlet problems with jumping nonlinearities of superlinear order. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1919–1945. (C. A. Swanson) **99h:35059** 35J65 (34B15, 34C10, 35B32)

Kuipers, Benjamin J. (*with* Clancy, Daniel J.) Qualitative simulation as a temporally-extended constraint satisfaction problem. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 240–247, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T20 (65H10)

Kuipers, Jeroen (*with* Faigle, Ulrich; Kern, Walter) Computing the nucleolus of min-cost spanning tree games is NP-hard. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 3, 443–450. (Summary) **99j:90122** 90D12 (68Q25)

— Bin packing games. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 3, 499–510. (Summary) **99g:90168** 90D12 (90D46)

Kuipers, Theo A. F. The Carnap-Hintikka programme in inductive logic. *Knowledge and inquiry: essays on Jaakko Hintikka's epistemology and philosophy of science*, 87–99, *Poznań Stud. Philos. Sci. Humanities*, 51, *Rodopi, Amsterdam*, 1997. (David W. Miller) **99c:03030** 03B48

— The dual foundation of qualitative truth approximation. (English summary) With a comment by Thomas Mormann and a reply by the author. *Erkenntnis* **47** (1997), *no.* 2, 145–192. (Otávio Bueno) **99j:03002** 03A05

Kuiroukidis, A. Strings in anisotropic cosmological spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 7, 1075–1097. (Sergiu I. Vacaru) **99i:83020** 83C20 (83E30)

— (*with* Giannakis, Ioannis; Kleidis, K.; Papadopoulos, D. B.) Anisotropic null string cosmologies. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 39, 3169–3177. (Summary) **99i:83090** 83E30

— (*with* Papadopoulos, D. B.) String-driven anisotropy damping in Kasner spacetime. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 131–137. (Summary) **99h:83066** 83F05 (83C15, 83E30)

Kujumdzieva-Nikoloska, M. (*with* Dimitrovski, Dragan; Stefanovska, L.) Every Riccati equation can be solved by quadratures in a wider sense. (English summary) *Math. Balkanica (N.S.)* **11** (1997), *no.* 3-4, 221–228. (Summary) **99g:34003** 34A05

Kuk, Hun (*with* Kim, Do Sang; Lee, Gue Myung) Duality for nonlinear multiobjective fractional variational problems. (English summary) *Nonlinear Anal. Forum* **2** (1996), 93–102. 90C29 (49N15)

— (*with* Kim, Do Sang; Tanino, Tetsuzo) Sensitivity analysis in multiobjective optimization problems. Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 14–23. (*see* **99b:90009**) 90C29 (90C31)

— (*with* Lee, Gue Myung; Kim, Do Sang) Nonsmooth multiobjective programs with V-ρ-invexity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 405–412. (Summary) **99c:90107** 90C29 (49J52)

— (*with* Lee, Gue Myung; Kim, Do Sang) Existence of solutions for vector optimization problems. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 90–98. (Summary) **99a:90174** 90C29

— (*with* Kim, Do Sang; Lee, Gue Myung) Duality for multiobjective fractional variational problems with generalized invexity. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 17–25. (Juan-Enrique Martínez-Legaz) **99e:49046** 49N15 (90C29, 90C32)

Kuk, Yu. V. (*with* Koval′, V. N.) A test for many hypotheses by means of an optimal extended nonrandomized procedure. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 8, 1042–1054; *translation in Ukrainian Math. J.* **49** (1997), *no.* 8, 1169–1182 (1998). (J. A. Melamed) **99c:62042** 62F03

Kukavica, Igor Quantitative uniqueness for second-order elliptic operators. *Duke Math. J.* **91** (1998), *no.* 2, 225–240. (Philip W. Schaefer) **99a:35046** 35J15

— (*with* Grujić, Zoran) Space analyticity for the Navier-Stokes and related equations with initial data in L^p. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 2, 447–466. (Rodolfo Salvi) **99b:35168** 35Q30 (35B65, 76D05)

Kukharchik, Peter D. (*with* Rubanov, Nikolai S.; Bovbel′, E. I.; Bodrov, Vitaly J.) The modified number-theoretic transform over the direct sum of finite fields to compute the linear convolution. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 3, 813–817. 94A12

Kukin, G. P. (*with* Demisenov, B. N.) On subalgebras of a Lie algebra with one defining relation. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 5, 1051–1057, ii; *translation in Siberian Math. J.* **38** (1997), *no.* 5, 910–914. (Alexander N. Rudyĭ) **99a:17007** 17B01 (17B05)

Kuksenko, B. V. On the shape of a nonextensible thread in quasi-steady-state stretching through a resisting medium. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 4, 478–480; *translation in Dokl. Phys.* **43** (1998), *no.* 4, 229–231. (From the text) **99j:73079** 73K99

Kuksin, Sergei B. Elements of a qualitative theory of Hamiltonian PDEs. Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 819–829 (*electronic*). (Introduction) **99j:58075** 58F05 (35Bxx, 58F39)

Kuksov, Dmitri On rationality of the cogrowth series. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2845–2847. (Fabio Scarabotti) **99a:20031** 20F05

Kukush, A. G. (*with* Fazekas, István) Asymptotic properties of an estimator in nonlinear functional errors-in-variables models with dependent error terms. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 10, 23–39. (Wilfried Grossmann) **99d:62066** 62J02

— (*with* Fazekas, István) Asymptotic properties of estimators in nonlinear functional errors-in-variables with dependent error terms. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part I (Hajdúszoboszló, 1997). *J. Math. Sci. (New York)* **92** (1998), *no.* 3, 3890–3895. (Summary) **99i:62142** 62J02

Kukushkin, N. S. Fixed point theorems for systems of decreasing functions with additive aggregation. (Russian) *Dokl. Akad. Nauk* **362** (1998), *no.* 2, 158–160. (V. V. Obukhovskiĭ) **99m:90039** 90A14 (90D44)

Kula, Mieczysław (*with* Kozioł, Krzysztof) Witt rings of infinite algebraic extensions of global fields. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 131–139. (Murray Marshall) **99m:11040** 11E12 (11E08, 11E81)

— Counting Witt rings. (English summary) *J. Algebra* **206** (1998), *no.* 2, 568–587. (Murray Marshall) **99m:11050** 11E81 (05A15)

Kulagin, N. E. (*with* Eleonskiĭ, V. M.; Korolev, V. G.) On chaotic dynamics in "pseudobilliard" Hamiltonian systems with two degrees of freedom. (English summary) *Chaos* **7** (1997), *no.* 4, 710–730. (Roberto Markarian) **99c:58105** 58F13 (58F05)

— (*with* Eleonskiĭ, V. M.; Korolev, V. G.) Pseudo-billiards. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 223–251. (Nikolai Chernov) **99a:58065** 58F05 (70H05, 70K20, 70K50)

— (*with* Eleonskiĭ, V. M.; Korolev, V. G.) On Hamiltonian dynamical systems whose kinetic energy depends on the absolute magnitudes of the momenta. (Russian. English and Russian summaries) *Regul. Khaoticheskaya Din.* **2** (1997), *no.* 1, 55–63. (Summary) **99d:58061** 58F05 (70H05)

Kulatunga, D. D. Sarath (*with* Sasabuchi, Syoichi; Saito, Hiroyuki) Comparison of powers of some tests for testing homogeneity under order restrictions in multivariate normal means. (English summary) MSI-2000, Vol. IV (Honolulu, HI, 1995). *Amer. J. Math. Management Sci.* **18** (1998), *no.* 1-2, 131–158. (*see* **99f:62009**) 62F30 (62H15)

Kul′ba, V. V. (*with* Gabisoniya, V. E.; Karsanidze, T. V.) A methodology for determining the composition and characteristics of a new type of redundancy for databases of a structural-technological reserve. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 34–37. 68P15

Kul′chinovskiĭ, V. B. Ordered differential fields. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2491–2521. (Juan José Morales Ruiz) **99i:12006** 12H05 (12J15, 12J25)

Kul′chitskiĭ, O. Yu. (*with* Ivanov, V. M.; Arsen′ev, D. G.) Adaptive-statistical methods for the control of complicated computational processes. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 102–111, 156. 93C95 (93C40)

Kul′chitskiĭ-Zhigaĭlo, R. D. (*with* Evtushenko, A. A.) Steady frictional heating from the axisymmetric sliding contact of a thermosensitive sphere and a rigid heat-insulated base. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **40** (1999), *no.* 1, 174–183. 73T05 (73B30)

Kulcsár, Tamás (*with* Barancsi, Éva; Bánki, Géza; Borlói, Rudolf; Chikán, Attila; Kelle, Péter; Meszéna, György) ★ Inventory models. (English summary) Translated from the 1983 Hungarian original by B. Szőnyi and Kelle and revised by the authors. Theory and Decision Library. Series B: Mathematical and Statistical Methods, 16. *Kluwer Academic Publishers, Dordrecht*, 1990. xii+419 *pp. ISBN* 0-7923-0494-2 (Heinz-Uwe Küenle) **99a:90085** 90B05 (90–02)

Kulczycki, Tadeusz Intrinsic ultracontractivity for symmetric stable processes. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 325–334. (Yoichi Ôshima) **99j:60115** 60J45 (47D07, 60E07, 60J30)

Kuldaev, È. M. Separable statistics in a scheme for allocating a finite set consisting of distinguishable and indistinguishable particles into various cells. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 137–149. (Summary) **99b:60014** 60C05

Kulemin, I. V. (*with* Meshkov, A. G.) To the classification of integrable systems in $1+1$ dimensions. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 115–121, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 58F07 (35Q58)

Kulenović, M. R. S. (*with* Hadžiomerspahić, S.) Existence of nonoscillatory solution of second order linear neutral delay equation. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 2, 436–448. (A. F. Ivanov) **99j:34100** 34K15

— (*with* Ladas, G.; Sizer, W. S.) On the recursive sequence $x_{n+1} = (\alpha x_n + \beta x_{n-1})/(\gamma x_n + \delta x_{n-1})$. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 5, 1–16. (Ulrich Krause) **99g:39008** 39A10

Kuleshov, N. I. Characterization of finite supersolvable groups with abelian Sylow subgroups. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 68–80, *Gomel. Gos. Univ., Gomel′*, 1995. (*see* **99g:20004**) 20F16

— (*with* Vedernikov, V. A.) Characterization of finite supersolvable groups. (Russian. English summary) *Problems in algebra, No.* 9 (*Russian*), 107–113, *Gomel. Gos. Univ., Gomel′*, 1996. (Summary) **99h:20057** 20F16 (20D20)

Kuleshov, S. A. Exceptional and rigid sheaves on surfaces with anticanonical class without base components. (English summary) Algebraic geometry, 2. *J. Math. Sci. (New York)* **86** (1997), *no.* 5, 2951–3003. (Jean-Marc Drezet) **99c:14028** 14F05 (14J60)

— On the moduli variety of stable bundles on a quadric. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 6, 843–864; *translation in Math. Notes* **62** (1997), *no.* 5-6, 707–725 (1998). (Vasily A. Chernecky) **99k:14019** 14D20 (14J60)

— Rigid sheaves on rational surfaces. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 1, 16–18. (Alexander E. Polishchuk) **99b:14044** 14J60 (14F05, 14J26)

Kulesz, Leopoldo Courbes algébriques de genre ≥ 2 possédant de nombreux points rationnels. [Algebraic curves of genus ≥ 2 with many rational points] *Acta Arith.* **87** (1998), *no.* 2, 103–120. (Colin Stahlke) **99k:11094** 11G30 (14G05)

Kulesza, John S. (*with* Gruenhage, Gary; Le Donne, Attilio) Connectifications of metrizable spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 171–179. (A. H. Stone) **99a:54014** 54D05 (54D35, 54E35, 54G20)

— The dimensional of a subset of l_p as p varies. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 253–258. (V. Kannan) **99e:54026** 54F45 (46B99, 54G20)

Kulhánek, J. Quantum-mechanical systems as dynamical systems on SL(2, **R**). (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1205–1217. (Dan Radu Grigore) **99k:58164** 58F35 (81Q99)

Kulibanov, V. N. Methods for the computation of nonlinear networks. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 41–47; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 1, 488–493. (Summary) **99j:65094** 65H10 (90B10)

Kulick, Seth (*with* Joshi, Aravind K.) Implementational aspects of a categorial grammar based on partial proof trees. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers* (*Gudauri*, 1995), 213–233, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 68S05 (03B65)

Kulieva, A. S. On the distribution of some moments for a semi-Markov walk process. (Russian. English and Azerbaijani summaries) *Izv. Akad. Nauk Azerb. Ser. Fiz.-Tekh. Mat. Nauk* **16** (1995), *no.* 5-6, *Inform. i Probl. Upr.*, 97–100 (1997). 60K15

Kulik, A. M. Regular Gaussian random operators and the Stroock-Varadhan theorem for symmetric stochastic equations of Fredholm type. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 2, 262–273; *translation in Theory Probab. Appl.* **42** (1997), *no.* 2, 244–253 (1998). (Constantin Tudor) **99d:60073** 60H20 (60H25)

Kulik, B. A. Representation of logical systems in a probability space based on cortege algebra. I. Principles of cortege algebra. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 1, 126–136; *translation in Automat. Remote Control* **58** (1997), *no.* 1, *part* 2, 102–110. (Introduction) **99f:68196a** 68T99 (03B70)

— (*with* Naumov, M. V.) Representation of logic systems in a probability space on the basis of the cortege algebra. II. Measurable logic systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 2, 169–179; *translation in Automat. Remote Control* **58** (1997), *no.* 2, *part* 2, 290–298. (Introduction) **99f:68196b** 68T99 (03B70)

Kulik, Lars (*with* Eschenbach, Carola) An axiomatic approach to the spatial relations underlying left-right and in front of-behind. (English summary) *KI-97: advances in artificial intelligence* (*Freiburg*, 1997), 207–218, *Lecture Notes in Comput. Sci.*, 1303, *Springer, Berlin*, 1997. (*see* **99d:68006**) 68T99 (03B30)

Kulik, V. L. (*with* Samoĭlenko, Anatoliĭ Mikhaĭlovich) On the properties of matritsants that affect the regularity of linear extensions of dynamical systems on a torus. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 5, 684–688, 719; *translation in Differential Equations* **33** (1997), *no.* 5, 687–691 (1998). (Rimma A. Prokhorova) **99d:34078** 34C35 (34D99)

Kulikov, G. Yu. Revision of the theory of symmetric one-step methods for ordinary differential equations. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 3, 579–600. (G. Vanden Berghe) **99g:65085** 65L15 (65L70)

— On a way to control error for Runge-Kutta methods. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1651–1653; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1580–1582. 65M06

Kulikov, V. E. On the mean value of the estimate for the variance of an asymptotically stationary random process of bounded duration. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 28–32. (Summary) **99m:93105** 93E15 (93E10)

Kulikov, Valentin S. ★ Mixed Hodge structures and singularities. (English summary) Cambridge Tracts in Mathematics, 132. *Cambridge University Press, Cambridge*, 1998. *xxii*+186 *pp. ISBN* 0-521-62060-0 (Gerhard Pfister) **99d:14009** 14D07 (14C30, 32J25, 32S35)

Kulikova, I. V. (*with* Martynenko, A. V.) Construction of an equiresistant configuration of elastic bodies under constraints on the displacement vector. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 11, 51–56. 73K40

Kulikovskiĭ, A. G. (*with* Gvozdovskaya, N. I.) Electromagnetic shock waves and their structure in anisotropic magnets. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 139–148; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 135–143. (From the summary) **99e:78024** 78A40

— (*with* Gvozdovskaya, N. I.) Investigation of electromagnetic shock-wave structure in anisotropic ferromagnets with easy axis. (English summary) *Wave Motion* **29** (1999), *no.* 1, 23–34. (Summary) **99j:78015** 78A40

Kulīnīch, G. L. On invariant sets of second-order systems of Itô stochastic differential equations. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 35–39. (Yu. S. Mishura) **99m:60089** 60H10 (60H30, 60J60)

— (*with* Pereguda, O. V.) Phase picture of the diffusion processes with the degenerate diffusion matrices. (English summary) *Random Oper. Stochastic Equations* **5** (1997), *no.* 3, 203–216. (Summary) **99b:60130** 60J60 (60H10)

Kulinskaya, E. V. (*with* Dollinger, Michael B.; Staudte, Robert G.) When is a p-value a good measure of evidence? (English summary) *Robust statistics, data analysis, and computer intensive methods* (*Schloss Thurnau*, 1994), 119–134, *Lecture Notes in Statist.*, 109, *Springer, New York*, 1996. (Summary) **99c:62004** 62A15 (62F03, 62F15)

Kulisch, Ulrich Computer, Arithmetik und Numerik—ein Memorandum. [Computers, arithmetic and numerics—a memorandum] *Überblicke Mathematik* 1998, 19–54, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99a:00018**) 00A69

— *see also* **Surveys on mathematics**, **99a:00018** *and* **Surveys of mathematics**, **99d:00011**

Kulish, P. P. (*with* Stolin, Alexander) Deformed Yangians and integrable models. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1207–1212. (Peter Prešnajder) **99g:81092** 81R50 (58F07)

— (*with* Bibikov, P. N.) Dirac operators on the quantum group $SU_q(2)$ and the quantum sphere. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **245** (1997), *Vopr. Kvant. Teor. Polya i Stat. Fiz.* 14, 49–65, 283. (Andrei G. Bytsko) **99f:58013** 58B30 (16W30, 17B37, 46L87, 81R50)

— (*with* Celeghini, Enrico) Twist deformation of the rank-one Lie superalgebra. (English summary) *J. Phys. A* **31** (1998), *no.* 4, *L79–L84*. (Władysław Marcinek) **99d:17018** 17B37 (16W30, 81R50)

Kulish, Victor V. Hierarchic theory of oscillations and waves and its application to nonlinear problems of relativistic electrodynamics. (English summary) *Causality and locality in modern physics* (*Toronto, ON*, 1997), 97–103, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99j:81005**) 78A40 (78A25)

Kulkarni, Ravi Problems on geometrical methods for physics. *Geometry, fields and cosmology* (*Pune*, 1989), 269–288, *Fund. Theories Phys.*, 88, *Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **99a:83002**) 53-02 (58-02)

Kulkarni, Rekha P. (*with* Alam, Rafikul; Limaye, Balmohan V.) Accelerated spectral approximation. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1401–1422. (Alan L. Andrew) **99a:47026** 47A58 (47A10, 47A75, 65B99, 65J99)

Kulkarni, S. H. (*with* Agrawal, Sushama) Some applications of a special theorem for a normal operator on a real Hilbert space. (English summary) *Math. Today* (*Ahmedabad*) **16** (1998), 65–76. (Thomas Hoover) **99k:47049** 47B15 (46L99)

— (*with* Bhatt, S. J.; Karia, Dinesh J.; Shimpi, M. E.) A note on the Gelfand-Mazur theorem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2999–3005. (M. S. Kassem) **99a:46088** 46H05 (46K05)

Kulkarni, S. R. *see* **Kulkarni, Sanjeev R.**

Kulkarni, Sandeep S. (*with* Arora, Anish) Multitolerance in distributed reset. (English summary) *Chicago J. Theoret. Comput. Sci.* **1998**, *Article* 4, 46 *pp.* (*electronic*). (Summary) **99g:68021** 68M15 (68Q10)

Kulkarni, Sanjeev R. (*with* Bartlett, Peter L.; Posner, S. E.) Covering numbers for real-valued function classes. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 5, 1721–1724. (Vikram Jha) **99b:26014** 26A45 (94A15)

— (*with* Wang, I-Jeng; Chong, Edwin K. P.) Weighted averaging and stochastic approximation. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 1, 41–60. (Summary) **99c:62233** 62L20

— (*with* Hocherman, Judith; Ramadge, Peter J.) Controller switching based on output prediction errors. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 596–607. (Jacek Kabziński) **99d:93045** 93C57 (93D15)

— (*with* Lugosi, Gábor; Venkatesh, Santosh S.) Learning pattern classification—a survey. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2178–2206. (Summary) **99i:68108** 68T10 (62F15, 68T05)

— (*with* Bartlett, Peter L.) The complexity of model classes, and smoothing noisy data. (English summary) Learning theory. *Systems Control Lett.* **34** (1998), *no.* 3, 133–140. (Summary) **99f:93138** 93E14 (68T05, 93A30)

— (*with* Hocherman, Judith; Ramadge, Peter J.) Controller switching based on output predictions. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 135–149, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93C30 (93C83)

— (*with* Posner, S. E.) Universal output prediction and nonparametric regression for arbitrary data. (English summary) *Learning, control and hybrid systems* (*Bangalore*, 1998), 254–268, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93E12 (62G07)

— (*with* Posner, S. E.) Nonparametric output prediction for nonlinear fading memory systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 29–37. (Summary) **99j:93097** 93E10

— (*with* Chong, Edwin K. P.; Wang, I-Jeng) Noise conditions for prespecified convergence rates of stochastic approximation algorithms. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 810–814. (Pham Dinh Tuan) **99m:62125** 62L20

Kulkarni, Shripad Rajaram (*with* Naik, U. H.; Srivastava, Hari M.) A certain class of meromorphically p-valent quasi-convex functions. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 1, 57–64. (S. Ponnusamy) **99c:30017** 30C45

Kulli, Veerabhadrappa R. (*with* Janakiram, Bidarahalli) The nonbondage number of a graph. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 14–16. (*see* **99g:05001**) 05C35

— (*with* Janakiram, Bidarahalli) The split domination number of a graph. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 16–19. (*see* **99k:05003**) 05C35

— (*with* Janakiram, Bidarahalli) On common minimal dominating graphs. New York Graph Theory Day, 34 (1997). *Graph Theory Notes N. Y.* **34** (1998), 9–10. (*see* **99h:05003**) 05C35

— (*with* Janakiram, Bidarahalli; Iyer, Radha R.) Split bondage numbers of a graph. (English summary) *J. Discrete Math. Sci. Cryptography* **1** (1998), *no.* 1, 79–84. (Summary) **99e:05074** 05C35

Kullmann, Oliver Worst-case analysis, 3-SAT decision and lower bounds: approaches for improved SAT algorithms. (English summary) *Satisfiability problem: theory and applications* (*Piscataway, NJ*, 1996), 261–313, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 35, *Amer. Math. Soc., Providence, RI*, 1997. (Summary) **99m:68087** 68Q25 (03B05, 03D15, 03F20, 68R05)

Kulpa, W. The Schauder fixed point theorem. (English summary) *Acta Univ. Carolin. Math. Phys.* **38** (1997), *no.* 2, 39–44. (Józef Banaś) **99b:54074** 54H25 (47H10)

Kulperger, R. J. (*with* Benn, A. G.) A remark on a Fourier bounding method of proof for convergence of sums of periodograms. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 187–202. (A. Ya. Olenko) **99c:62274** 62M40 (60G60)

— (*with* Lockhart, R. A.) Tests of independence in time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 165–185. (Raúl Pedro Mentz) **99g:62140** 62M10

Külshammer, Burkhard (*with* Koshitani, Shigeo) A splitting theorem for p-blocks of finite groups. (Japanese) Hopf algebras and quantum groups (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 997 (1997), 27–29. (*see* **99a:00029**) 20D15

— (*with* Robinson, Geoffrey R.) On the number of conjugacy classes of π-elements in a finite group. *J. Algebra* **205** (1998), *no.* 1, 326–332. (Wujie Shi) **99h:20041** 20D20

Kulshreshtha, Usha Chiral Schwinger model with the Faddeevian regularization in the light-front frame: construction of the gauge-invariant theory through the Stueckelberg term, Hamiltonian and BRST formulations. (English summary) *Helv. Phys. Acta* **71** (1998), *no.* 4, 353–378. (José Luis López) **99g:81134** 81T15 (81T70)

Kulsrud, Russell M. Magnetic reconnection in a magnetohydrodynamic plasma. (English summary) 39th Annual Meeting of the Division of Plasma Physics of the American Physical Society (Pittsburgh, PA, 1997). *Phys. Plasmas* **5** (1998), *no.* 5, *part* 2, 1599–1606. (Summary) **99d:76099** 76W05 (76X05, 85A30)

Kultina, Marya Game-theoretic model of the board election. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 127–138. (Hans Peters) **99h:90031** 90A28 (90D20, 90D40)

Kultti, Klaus (*with* Salonen, Hannu) Iterated dominance in quasisupermodular games with strict single crossing property. (English summary) *Internat. J. Game Theory* **27** (1998), *no.* 2, 305–309. (Summary) **99j:90118** 90D06

— Equivalence of auctions and posted prices. (English summary) *Games Econom. Behav.* **27** (1999), *no.* 1, 106–113. 90A60

Kültür, M. Nuri (*with* Kaplan, Abdullah) A study on the Θ-theta functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 2, 103–108. (Michael C. Berg) **99k:11066** 11F27

— (*with* Kaplan, Abdullah) A study on the kth-order general theta functions. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **10** (1997), *no.* 3, 167–171. (Michael C. Berg) **99c:11048** 11F27 (33E05)

— (*with* Dikici, Ramazan) Formation of an equation involving squares of θ-theta functions. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 221–227. (Michael C. Berg) **99j:11045** 11F27

Kultyshev, S. Yu. (*with* Kultysheva, L. M.) On the identification of functional-differential systems with aftereffect. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 16–27; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 3, 13–24. (Zbigniew Bartosiewicz) **99c:93032** 93B30 (34K35, 93C10)

Kultysheva, L. M. (*with* Kultyshev, S. Yu.) On the identification of functional-differential systems with aftereffect. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 3, 16–27; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 3, 13–24. (Zbigniew Bartosiewicz) **99c:93032** 93B30 (34K35, 93C10)

Kum, Sangho A counter example on implicit variational inequalities. *Nonlinear Anal. Forum* **2** (1996), 79–81. (Vy Khoi Le) **99h:47079** 47H19 (49J40)

— (*with* Park, Sehie) An application of a Browder-type fixed point theorem to generalized variational inequalities. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 519–526. (George Isac) **99a:47106** 47H19 (49J40)

— An example of generalized quasi-variational inequality. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 253–258. (Summary) **99h:90105** 90C33 (47H19, 49J40)

— (*with* Lee, Gue Myung) Vector variational inequalities in a Hausdorff topological vector space. (English summary) *Nonlinear Anal. Forum* **3** (1998), 137–149. (Xie Ping Ding) **99i:49013** 49J40 (47H19)

Kumada, Toshihiro Isometric embeddings of metric $\mathbf{Q}$-vector spaces into $\mathbf{Q}^N$. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 701–706. (Summary) **99f:15003** 15A03 (15A63)

Kumagai, Sadatoshi Representation of discrete event processes via Petri nets. (Japanese) Discrete integrable systems and discrete analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1020 (1997), 160–164. (*see* **99c:00013**) 68Q90

— (*with* Doi, Shinji; Inoue, Junko[2]) Spectral analysis of stochastic phase lockings and stochastic bifurcations in the sinusoidally forced van der Pol oscillator with additive noise. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 5-6, 1107–1127. (Summary) **99a:34109** 34C15 (34C23, 34F05, 70K40, 70L05)

Kumagai, Takashi Percolation on pre-Sierpinski carpets. (English summary) *New trends in stochastic analysis (Charingworth, 1994)*, 288–304, *World Sci. Publishing, River Edge, NJ*, 1997. (Agoston Pisztora) **99m:60153** 60K35

— (*with* Hambly, B. M.) Heat kernel estimates and homogenization for asymptotically lower-dimensional processes on some nested fractals. (English summary) *Potential Anal.* **8** (1998), *no.* 4, 359–397. (Volker Metz) **99g:60139** 60J60 (31C25)

— (*with* Hambly, B. M.) Transition density estimates for diffusion processes on post critically finite self-similar fractals. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 2, 431–458. (Owen Jones) **99m:60118** 60J60 (28A80)

Kumahara, Keisaku On non-unitary induced representations of a generalized Heisenberg group. (English summary) *Math. Japon.* **46** (1997), *no.* 1, 5–14. (T. Sund) **99a:22013** 22E27

Kumamaru, Kousuke (*with* Hu, Jinglu; Inoue, Katsuhiro; Söderström, Torsten) Statistical methods for robust change detection in dynamical systems with model uncertainty. *Statistical methods in control and signal processing*, 453–479, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E12

Kumamoto, Akira (*with* Ito, Hidetaka) Locating periodic orbits and bifurcation points using subspace shooting. (English summary) *Tech. Rep. Kansai Univ. No.* 40 (1998), 41–54. (Summary) **99b:65095** 65L99 (34C23, 34C25)

Kumano-go, Naoto A proof of H. Kumano-go–Taniguchi theorem for multi-products of Fourier integral operators. *Osaka J. Math.* **35** (1998), *no.* 2, 357–380. (Luigi Rodino) **99h:47057** 47G30 (35S30)

— (*with* Fujiwara, Daisuke; Taniguchi, Kazuo) A simple proof of the Kumano-go–Taniguchi theorem. (Japanese) Investigations on the structure of solutions to partial differential equations (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1056 (1998), 59–67. (*see* **99m:35003**) 35S30

Kumar, A. *see* **Kumar, Anil[1]**

Kumar, Abhay On balanced (circled) extension of a set. (English summary) *Math. Ed. (Siwan)* **33** (1999), *no.* 1, 15–16. 46A99

Kumar, Ajay (*with* Chaturvedi, Ajit; Chauhan, Pramila) Robustness of a sequential test for the mean of an inverted gamma distribution. (English summary) *J. Indian Statist. Assoc.* **36** (1998), *no.* 1, 13–25. 62L10

Kumar, Ajay[1] (*with* Sinclair, Allan M.) Equivalence of norms on operator space tensor products of C^*-algebras. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 5, 2033–2048. (Christian Le Merdy) **99a:46103** 46L05 (46B28)

Kumar, Alok[2] (*with* Kounnas, Costas) BPS states in $N = 3$ superstrings. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 216–242. (C. Gauthier) **99d:81123** 81T30

— (*with* Biswas, Anindya K.; Sengupta, Gautam[2]) Oscillating D-strings from type IIB Matrix theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5141–5149. (Summary) **99m:81174** 81T30

— (*with* Bhattacharyya, Sandip; Mukhopadhyay, Subir) String network and U duality. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 4, 754–757. (Summary) **99c:81165** 81T30

Kumar, Anand[1] On the structure of vortex breakdown on a delta wing. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1968, 89–110. (Summary) **99d:76018** 76C05 (76G25, 76M25)

Kumar, Anil (*with* Jha, Kamal Kant) On topological tensor products of strict inductive limits of locally convex spaces. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 1–6. (K. Floret) **99e:46003** 46A13 (46A32, 46M05)

Kumar, Anil[1] (*with* Agarwal, J. P.) Duality in nondifferentiable programming involving invexity. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 151–152. 49N15 (90C26)

— Duality in nondifferentiable programming over cone domain. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 2, 165–166. 49N15 (90C25)

— (*with* Ghosh, S.) On duality with pseudoinvexity. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 149–150. 49N15 (90C29)

— (*with* Ojha, B. K.; Rout, R. N.) Duality in nondifferentiable programming involving pseudoinvexity. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 175–177. 90C29 (49N15)

Kumar, Arun (*with* Mishra, Bandana) Sūlb-conversion method for circle-square problem. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 211–214. 01A32

Kumar, Arvind (*with* Srivastava, G. S.) Spaces of functions analytic in a half plane. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 113–120. (Dragan Vukotić) **99d:46036** 46E15 (30B50, 30H05)

Kumar, B. *see* **Kumar, Bidyapati**

Kumar, B. Krishna (*with* Vijayakumar, Arunachalam; Thilaka, B.) On semi-Markov compartmental models with branching particles under the influence of disasters. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1101–1122. (Summary) **99b:60149** 60J85

Kumar, Bidyapati (*with* Chaudhury, S. R.) Finite inhomogeneous shearing deformations of a transversely isotropic incompressible material. (English summary) *J. Elasticity* **51** (1998), *no.* 1, 81–87. (Summary) **99h:73022** 73C50 (73B40)

Kumar, C. Satheesh (*with* Moothathu, T. S. K.) On bivariate generalized hypergeometric probability distributions. (English summary) *J. Indian Statist. Assoc.* **35** (1997), *no.* 1-2, 51–59. 62E15

Kumar, Devendra (*with* Kasana, H. S.) Approximation of entire functions over Carathéodory domains. (English summary) *Fourier analysis, approximation theory and applications (Aligarh, 1993)*, 125–134, *New Age, New Delhi*, 1997. (Summary) **99d:30029** 30D15

Kumar, Jason (*with* Claus, Piet; Van Proeyen, Antoine; Kallosh, Renata; Townsend, Paul K.) Conformal theory of M2, D3, M5 and "D1 + D5" branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 6, *Paper* 4, 27 *pp.* (*electronic*). (Sergey A. Cherkis) **99g:81154** 81T30 (83E30)

— (*with* Kallosh, Renata; Rajaraman, Arvind) Special conformal symmetry of worldvolume actions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6452–6454. (Summary) **99m:81198** 81T30 (81T20, 81T60)

— (*with* Claus, Piet; Derix, Martijn; Kallosh, Renata; Townsend, Paul K.; Van Proeyen, Antoine) Black holes and superconformal mechanics. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 21, 4553–4556. (Gil De Oliveira-Neto) **99k:83063** 83C57 (83E30)

Kumar, K. (*with* Pradeep, S.) Strategies for three-dimensional deployment of tethered satellites. *Mech. Res. Comm.* **25** (1998), *no.* 5, 543–550. 70M20

Kumar, Krishna Comments on KdV solitons in dissipative systems. Proceedings of the Seminar on Continuum Mechanics (Calcutta, 1996). *Rev. Bull. Calcutta Math. Soc.* **5** (1997), *no.* 2, 101–106. (From the introduction) **99m:76052** 76D33 (35Q53)

Kumar, Krishna (*with* Abello, James) On the complexity of some synthetic problems in combinatorial geometry. (English summary) *J. Comput. Inf.* **1** (1995), *no.* 2, 92–110 (*electronic*). (Summary) **99f:68101** 68Q25 (05E10, 51E24)

veera Kumar, M. K. R. S. *see* **Veera Kumar, M. K. R. S.**

prasanna Kumar, N. *see* **Prasanna Kumar, N.**

Kumar, Narender (*with* Bhatia, Davinder; Budhraja, R. K.) Duality for nonsmooth multiobjective fractional programs under generalized (F, ρ)-convexity. (English summary) *Opsearch* **35** (1998), *no.* 2, 115–126. 90C29 (49N15)

Kumar, Narinder (*with* Kumar, Virender; Mehta, Gobind P.) A note on whether the selected population is the best: the scale parameter case. (English summary) *South African Statist. J.* **30** (1996), *no.* 1, 15–26. (Summary) **99j:62023** 62F07

Kumar, Nishit (*with* Kumar, Vineet; Deo, Narsingh) Parallel generation of random trees and connected graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 7–18. (Summary) **99j:05179** 05C85 (05C05, 05C80, 68Q22)

Kumar, P. R. *see* **Kumar, Panganamala Ramana**

Kumar, P. Sreenivasa (*with* Veni Madhavan, C. E.) Minimal vertex separators of chordal graphs. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 155–168. (Ioan Tomescu) **99j:05161** 05C75 (05C85)

Kumar, P. Vijay (*with* Helleseth, Tor; Yang, Kyeongcheol) An infinite family of 3-designs from Preparata codes over Z_4. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 2, 175–181. (Vladimir D. Tonchev) **99i:05030** 05B05 (94B05)

— (*with* Shanbhag, Abhijit G.; Helleseth, Tor) An upper bound for the extended Kloosterman sums over Galois rings. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 3, 218–238. (Charles Helou) **99g:11146** 11T23 (11L07, 94B27)

Kumar, Panganamala Ramana (*with* Morrison, James R.) On the guaranteed throughput and efficiency of closed re-entrant lines. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 33–54. (Summary) **99b:90058** 90B22 (60K25)

— (*with* Kumar, Sunil[1]; Srikant, R.) Bounding blocking probabilities and throughput in queueing networks with buffer capacity constraints. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 55–77. (Summary) **99b:60160** 60K25

— (*with* Campi, M. C.) Adaptive linear quadratic Gaussian control: the cost-biased approach revisited. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1890–1907 (*electronic*). (Bożenna Pasik-Duncan) **99f:93141** 93E20 (49K45, 93B40)

— (*with* Campi, M. C.) Learning dynamical systems in a stationary environment. (English summary) Learning theory. *Systems Control Lett.* **34** (1998), *no.* 3, 125–132. (Summary) **99f:93146** 93E35 (68T05)

Kumar, R. *see* **Kumar, Rajesh[1]**

Kumar, Rajeev (*with* Sharma, Srikant) Invariance of the countability axioms under locally convex tensor product. (English summary) *Math. Ed. (Siwan)* **33** (1999), *no.* 1, 6–8. 46A32 (46A03, 46M05)

Kumar, Rajesh *see* **Kumar, Rajesh[2]**

Kumar, Rajesh[1] Non-distributivity of the lattice of fuzzy ideals of a ring. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 393–394. 16D25

Kumar, Rajesh[2] (*with* Bhargava, R. R.) Two equal symmetric circular arc cracks in an elastic medium—the Dugdale approach. (English summary) *J. Engrg. Math.* **34** (1998), *no.* 4, 359–368. 73M25 (73E99)

Kumar, Rajneesh (*with* Singh, Baljeet) Reflection of plane waves from the flat boundary of a micropolar generalized thermoelastic half-space with stretch. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 657–669. 73B30 (73D25)

— (*with* Miglani, A.; Debnath, Lokenath) Radial displacements of an infinite liquid saturated porous medium with cylindrical cavity. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 7, 117–123. 73N20 (76S05)

Kumar, Ramesh[2] (*with* Rani, Dinesh; Chugh, Renu) Some fixed point theorems in Hausdorff spaces. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 429–438. 54H25

Kumar, Ratnesh (*with* Shayman, Mark A.) Formulae relating controllability, observability, and co-observability. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 211–215. (George Fragulis) **99i:93041** 93C83 (68Q60, 93B05)

Kumar, Rohtash (*with* Meena, A. S.) Various types of reflexivity and the dual of a locally convex space. *Math. Student* **66** (1997), *no.* 1-4, 233–241. (D. N. Zarnadze) **99m:46005** 46A20

sampath Kumar, S. *see* **Sampath Kumar, S.**

Kumar, S. Ravi (*with* Russell, Alexander; Sundaram, Ravi) Approximating Latin square extensions. (English summary) *Algorithmica* **24** (1999), *no.* 2, 128–138. (Summary) **99m:68088** 68Q25 (05B15)

Kumar, Santosh[3] (*with* Das, Rabindra Nath[1]; Prasad, Lallu) On certain spaces of normalized analytic mappings. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 2, 76–80. 30C45

Kumar, Shrawan Infinite Grassmannians and moduli spaces of G-bundles. *Vector bundles on curves—new directions (Cetraro, 1995)*, 1–49, *Lecture Notes in Math.*, 1649, *Springer, Berlin*, 1997. (Francesco Bottacin) **99g:14013** 14D20 (14F05, 17B67)

— (*with* Nori, Madhav V.) Positivity of the cup product in cohomology of flag varieties associated to Kac-Moody groups. *Internat. Math. Res. Notices* **1998**, *no.* 14, 757–763. (Niels Lauritzen) **99i:14061** 14M17 (14C17)

Kumar, Sunil (*with* Singh, Shambhoo Nath) On the Wronskian associated with a system of simultaneous differential equations. (English summary) *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 128–129. 34A30

Kumar, Sunil[1] (*with* Srikant, R.; Kumar, Panganamala Ramana) Bounding blocking probabilities and throughput in queueing networks with buffer capacity constraints. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 55–77. (Summary) **99b:60160** 60K25

dinesh Kumar, U. *see* **Dinesh Kumar, U.**

Kumar, U. Dinesh *see* **Dinesh Kumar, U.**

Kumar, V. *see* **Kumar, Vijay**[5]

prasanna Kumar, V. K. *see* **Prasanna Kumar, V. K.**

Kumar, Vijay *see* **Kumar, Vijay**[5]

Kumar, Vijay[3] Approximating circular arc colouring and bandwidth allocation in all-optical ring networks. (English summary) *Approximation algorithms for combinatorial optimization (Aalborg, 1998)*, 147–158, *Lecture Notes in Comput. Sci.*, 1444, *Springer, Berlin*, 1998. (*see* **99i:68002**) 68Q25 (68M10, 68M20)

— Bandwidth allocation algorithms for tree and ring networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 33–42, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99h:90042** 90B10 (90B12)

Kumar, Vijay[5] (*with* Desai, J. P.; Zefran, Milos) A geometric approach to second and higher order kinematic analysis. (English summary) *Advances in robot kinematics: analysis and control (Salzburg, 1998)*, 365–374, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:70006** 70B15

— (*with* Howard, Stamps; Zefran, Milos) On the 6×6 Cartesian stiffness matrix for three-dimensional motions. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 4, 389–408. (Summary) **99i:70005** 70B15

Kumar, Vineet (*with* Deo, Narsingh; Kumar, Nishit) Parallel generation of random trees and connected graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 7–18. (Summary) **99j:05179** 05C85 (05C05, 05C80, 68Q22)

Kumar, Vinod *see* **Kumar, Vinod**[3]

Kumar, Vinod[2] (*with* Bector, C. R.; Chandra, Suresh) Fenchel duality in generalized fractional programming. *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 373–386, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Dorel Duca) **99k:90174** 90C32 (49N15)

Kumar, Vinod[3] (*with* Gautam, Vishvajit V. S.) Remarks on Banaschewski-Fomin-Shanin extensions. (English summary) *Proc. Indian Acad. Sci. Math. Sci.* **108** (1998), *no.* 1, 23–30. (Worthen Hunsaker) **99b:54022** 54C10 (54C20)

Kumar, Vipin (*with* Grama, Ananth; Sameh, Ahmed H.) Parallel hierarchical solvers and preconditioners for boundary element methods. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 337–358 (*electronic*). (Summary) **99e:65165** 65N38 (65F35, 65Y05)

— (*with* Karypis, George) A fast and high quality multilevel scheme for partitioning irregular graphs. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 359–392 (*electronic*). (Summary) **99f:68158** 68R10 (05C85, 65Y99)

Kumar, Virender (*with* Kumar, Narinder; Mehta, Gobind P.) A note on whether the selected population is the best: the scale parameter case. (English summary) *South African Statist. J.* **30** (1996), *no.* 1, 15–26. (Summary) **99j:62023** 62F07

Kumaresan, K. (*with* Mannepalli, V. L.) Γ-semigroup with an involution. (English summary) *Bull. Calcutta Math. Soc.* **89** (1997), *no.* 3, 191–198. (M. K. Sen) **99f:20108** 20M99

Kumaresan, S. (*with* Prajapat, Jyotshana) Serrin's result for hyperbolic space and sphere. *Duke Math. J.* **91** (1998), *no.* 1, 17–28. (V. Raghavendra) **99a:35088** 35J65 (35B05)

Kumari, Achlesh (*with* Quadri, Murtaza A.; Ali, Asma) Structure of rings with some polynomial constraints. (English summary) *Indian J. Math.* **40** (1998), *no.* 2, 177–182. 16U80

Kumari, Arti On convergence of infinite products. *Math. Ed. (Siwan)* **32** (1998), *no.* 3, 158–159. 40A20

sowjanya Kumari, I. *see* **Sowjanya Kumari, I.**

Kumari, Mahesh (*with* Nath, G. Baikunth) Development of flow and heat transfer of a viscous fluid in the stagnation-point region of a three-dimensional body with a magnetic field. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 1–12. (Summary) **99m:76123** 76W05 (76D10, 80A22)

Kumar Patel, Anil New bilinear generating function involving the hypergeometric function. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 117–122. 33C60

Kumbaro, Anela (*with* Ghidaglia, Jean-Michel; Le Coq, Gérard; Tajchman, Marc) A finite volume implicit method based on characteristic flux for solving hyperbolic systems of conservation laws. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 50–65, *World Sci. Publishing, River Edge, NJ*, 1997. (Miloslav Feistauer) **99m:65184** 65M60 (35L65)

Kumbhat, R. K. (*with* Bhandari, Anjana) Some special functions of matrix arguments. (English summary) *Gaṇita Sandesh* **11** (1997), *no.* 1, 15–20. (Summary) **99h:33023** 33C20

— (*with* Sharma, Sunil) An inversion formula for an integral transform. (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 1–12. (Summary) **99i:44001** 44A05

Kumbhojkar, H. V. (*with* Ziaie, S. A.; Mashinchi, M.) On cardinality of the truth-value set of a fuzzy subgroup. (English summary) *Sci. Iran.* **3** (1996), *no.* 1-3, 97–103. (John Mordeson) **99h:20109** 20N25

Kumchev, Angel On the Piatetski-Shapiro-Vinogradov theorem. (English and French summaries) *J. Théor. Nombres Bordeaux* 9 (1997), *no.* 1, 11–23. (S. W. Graham) **99a:11114** 11P32

— (*with* Nedeva, Todorka Nedeva) On an equation with prime numbers. *Acta Arith.* **83** (1998), *no.* 2, 117–126. (S. W. Graham) **99g:11122** 11P32 (11L20)

Kume, Takahiro Calculation of traces of theta series by means of the Weil representation. *J. Math. Kyoto Univ.* **38** (1998), *no.* 3, 453–473. (Rolf Berndt) **99k:11071** 11F46 (11F27)

Kumjian, Alex Notes on C^*-algebras of graphs. (English summary) *Operator algebras and operator theory (Shanghai, 1997)*, 189–200, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (Michael Frank) **99m:46137** 46L05 (05C20, 46L55, 46L80)

— (*with* Pask, David; Raeburn, Iain) Cuntz-Krieger algebras of directed graphs. (English summary) *Pacific J. Math.* **184** (1998), *no.* 1, 161–174. (Berndt Brenken) **99i:46049** 46L35 (05C20, 22A22)

— (*with* Kishimoto, Akitaka) The Ext class of an approximately inner automorphism. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 10, 4127–4148. (Beatriz Abadie) **99e:46081** 46L40 (46L80)

Kumkov, S. S. (*with* Patsko, V. S.) Parallel algorithm for construction of singular surfaces in linear differential games. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 275–284, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 90D26

Kummer, Bernd (*with* Klatte, Diethard) Strong stability in nonlinear programming revisited. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 336–352. (Hubertus Th. Jongen) **99k:90171** 90C31

Kummer, Ernst Eduard *see* **Edwards, Harold M.**, (**99k:01080**)

Kummer, Martin Walter (*with* Beigel, Richard; Gasarch, William I.; Martin, Georgia; McNicholl, Timothy; Stephan, Frank) On the query complexity of sets. (English summary) *Mathematical foundations of computer science* 1996 (*Cracow*), 206–217, *Lecture Notes in Comput. Sci.*, 1113, *Springer, Berlin*, 1996. (Summary) **99b:03057** 03D15 (03D30)

— (*with* Fortnow, Lance; Freivalds, Rūsiņš; Gasarch, William I.; Kurtz, Stuart A.; Smith, Carl H.; Stephan, Frank) On the relative sizes of learnable sets. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 139–156. (Philip Ross Watson) **99c:68210** 68T05 (03D25, 03D80, 68Q99)

Kummer, Wolfgang (*with* Bandos, Igor A.) A polynomial first-order action for the Dirichlet 3-brane. (English summary) *Phys. Lett. B* **413** (1997), *no.* 3-4, 311–321. (Summary) **99a:81126a** 81T30

— (*with* Ertl, M. F.; Katanaev, M. O.) Generalized supergravity in two dimensions. (English summary) *Nuclear Phys. B* **530** (1998), *no.* 1-2, 457–486. (Piret Kuusk) **99i:83102** 83E50 (83E30)

— (*with* Bandos, Igor A.) Erratum: "A polynomial first order action for the Dirichlet 3-brane". *Phys. Lett. B* **420** (1998), *no.* 3-4, 405. (Editors) **99a:81126b** 81T30

— (*with* Tieber, G.) Universal conservation law and modified Noether symmetry in 2D models of gravity with matter. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044001, 10 *pp.* (Summary) **99m:83058** 83C40 (83C57)

Kümmerer, Burkhard (*with* Hellmich, Jürgen; Köstler, Claus) Stationary quantum Markov processes as solutions of stochastic differential equations. (English summary) *Quantum probability (Gdańsk, 1997)*, 217–229, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99f:46093** 46L50 (60H07, 81S25)

łuczak-Kumorek, Elżbieta *see* **Łuczak-Kumorek, Elżbieta**

Kumpulainen, M. (*with* Heikkilä, Seppo; Seikkala, S.) Uniqueness and comparison results for implicit differential equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 2, 237–244. (Alberto Cabada) **99c:34002** 34A09 (34A12)

Kumura, Hironori Surface bubbling and convergence of heat kernels (joint work with Atsushi Kasue). (Japanese) Geometry of harmonic maps and submanifolds (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 995 (1997), 40–50. (*see* **99a:58003**) 58E12 (58G11)

Kumykova, S. K. (*with* Shogenov, V. Kh.; Shkhanukov, M. Kh.) The generalized transport equation and fractional derivatives. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 47–54. 35Q99 (26A33, 82C70)

Kun, Li Yong Periodic solution of a periodic neutral delay equation. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 11–21. (Antonio R. Tineo) **99j:34101** 34K15 (34K40)

Kuna, Maciej (*with* Czachor, Marek; Leble, Sergei B.) Nonlinear von Neumann-type equations: Darboux invariance and spectra. (English summary) *Phys. Lett. A* **255** (1999), *no.* 1-2, 42–48. 35Q40

Kunakovskaya, O. V. On smooth partitions of unity on Banach manifolds. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 10, 51–58; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 10, 49–55 (1998). (Liliana Maxim-Răileanu) **99b:58017** 58B10 (46G05)

Kunderová, Pavla On one multivariate linear model with nuisance parameters. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **36** (1997), 131–139.

(Summary) **99b:62103** 62J05

Kündgen, André Covering cliques with spanning bicliques. (English summary) *J. Graph Theory* **27** (1998), *no.* 4, 223–227. (László Pyber) **99c:05154** 05C70

Kundu, Debasis Asymptotic theory of the least squares estimators of sinusoidal signal. (English summary) *Statistics* **30** (1997), *no.* 3, 221–238. (Summary) **99c:62172** 62J02 (62C05)

— (*with* Mitra, Amit) Different methods of estimating sinusoidal frequencies: a numerical comparison. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 9–27. (Summary) **99k:62170** 62M10

— (*with* Mitra, Amit) Estimating the parameters of the linear compartment model. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 317–334. 62J02 (62F10)

Kundu, Malay K. (*with* Mitra, Suman K.; Murthy, C. A.) A study on partitioned iterative function systems for image compression. (English summary) *Fund. Inform.* **34** (1998), *no.* 4, 413–428. (Summary) **99k:68201** 68U10 (94A12)

— (*with* Mitra, Suman K.; Murthy, C. A.) Technique for fractal image compression using genetic algorithm. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 4, 586–593. (Summary) **99j:94011** 94A12 (94A29)

Kundu, Prabir Kumar (*with* Saha, N. K.) On the scattering of water waves by a submerged slender barrier. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1998), *no.* 2, 171–189. (Summary) **99j:76010** 76B15

Kundu, Subiman (*with* Raha, A. B.) Addendum: "The bounded-open topology and its relatives" [Rend. Istit. Mat. Univ. Trieste **27** (1995), no. 1-2, 61–77; MR 98a:54011]. (English summary) *Rend. Istit. Mat. Univ. Trieste* **29** (1997), *no.* 1-2, 163–166 (1998). 54C35 (03E50, 46E25, 46J10, 54D30, 54D60, 54G10)

Kundu, Sukhamay (*with* Chen, Jianhua) Fuzzy logic or Łukasiewicz logic: a clarification. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 3, 369–379. (Jonathan Lawry) **99g:03022** 03B52 (03B50, 04A72, 68T27)

— Preference relation on fuzzy utilities based on fuzzy leftness relation on intervals. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 183–191. 90C70 (90A10)

— The correct form of a recent result on level-subgroups of a fuzzy group. Comment on: "Generalisations of some results of Das" [Fuzzy Sets and Systems **71** (1995), no. 2, 251–253] by S. Sebastian and S. Babu Sundar. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 261–263. 20N25 (04A72)

Kunen, Kenneth A completeness result for linked resolution. *Automated reasoning and its applications*, 13–22, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 03B35 (68T15)

— Alternative loop rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 2, 557–564. (Harry F. Smith) **99a:17032** 17D05 (20N05)

— (*with* Dijkstra, Jan J.; van Mill, Jan) Hausdorff measures and two point set extensions. (English summary) *Fund. Math.* **157** (1998), *no.* 1, 43–60. (Vladimir Eiderman) **99e:28010** 28A78 (54G99)

Kunert, J. On the analysis of circular balanced crossover designs. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 359–370. (Summary) **99g:62115** 62K10 (62J10)

Küneth, Torsten (*with* Georgii, Hans-Otto) Stochastic comparison of point random fields. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 868–881. (Olle Häggström) **99c:60101** 60G55 (82B31)

Kunets, Ya. I. (*with* Kit, H. S.; Emets, V. F.) Elastodynamic scattering from a thin-walled inclusion of low rigidity. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 3, 331–345. 73D25

Kung, Fan-Chu (*with* Yan, Jun-Juh; Tsai, Jason Sheng Horng) Robust stabilization of large-scale systems with nonlinear uncertainties via decentralized state feedback. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 5, 951–961. (Summary) **99b:93046** 93D21 (93A14)

— (*with* Yan, Jun-Juh; Tsai, Jason Sheng Horng) Robust stability analysis of interval systems with multiple time-varying delays: evolutionary programming approach. (English summary) *J. Franklin Inst.* **336** (1999), *no.* 4, 711–720. 93D09

Kung, Joseph P. S. The subset-subspace analogy. *Gian-Carlo Rota on combinatorics*, 277–283, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05A30

— Rings associated with the cyclotomic identity. *Gian-Carlo Rota on combinatorics*, 397–399, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05A19

— (*with* Chen, William Y. C.) The combinatorics of symmetric functions. *Gian-Carlo Rota on combinatorics*, 458–467, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05E05

— The geometric approach to matroid theory. *Gian-Carlo Rota on combinatorics*, 604–622, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05B35

— (*with* Bonin, Joseph E.) The number of points in a combinatorial geometry with no 8-point-line minors. (English summary) *Mathematical essays in honor of Gian-Carlo Rota* (*Cambridge, MA*, 1996), 271–284, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Laura M. Anderson) **99g:51002** 51D20 (05B25, 05B35, 52B40)

— *see also* **Gian-Carlo Rota on combinatorics, 99b:01027**

Kung, Sidney H. A generalization of Fermat's problem revisited. *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 6, 895–903. 51M16

Kungurtseva, A. V. (*with* Ushakov, V. I.; Kuznetsov, G. A.) ★ Функции многих переменных. (Russian. Russian summary) [Functions of several variables] Предел, непрерывность, дифференцируемость. [Limit, continuity, differentiability] *Chelyabinsk. Gos. Univ., Chelyabinsk*, 1997. 88 *pp. ISBN* 5-230-19982-2 26–01

Kunhardt, E. E. (*with* Nerses, A.) Solitary excitations of a two-dimensional electron gas. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6392–6402. (A. K. Rajagopal) **99j:82069** 82D10 (76X05)

Kunhardt, Walter On infravacua and superselection theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3589–3599. (Stephen J. Summers) **99h:81125** 81T05 (46N55)

— On infravacua and the localization of sectors. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6353–6363. (Jens Böckenhauer) **99j:81100** 81T05

Kuniba, Atsuo Quantum Jacobi-Trudi formula and analytic Bethe ansatz. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 228–235, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 17B37 (82B23)

— Quantum Jacobi Trudi formula and analytic Bethe ansatz. Algebraic combinatorics (Japanese) (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 962 (1996), 97–105. (From the introduction) **99f:82022** 82B23 (05E05)

— (*with* Kirillov, Anatol N.; Nakanishi, Tomoki) Skew Young diagram method in spectral decomposition of integrable lattice models. (English summary) *Comm. Math. Phys.* **185** (1997), *no.* 2, 441–465. (Kailash C. Misra) **99f:17016** 17B37 (05E10, 17B10, 82B23)

— (*with* Misra, Kailash C.; Okado, Masato; Takagi, Taichiro; Uchiyama, Jun) Crystals for Demazure modules of classical affine Lie algebras. (English summary) *J. Algebra* **208** (1998), *no.* 1, 185–215. (Ben Lewis Cox) **99h:17008** 17B10 (17B67)

— (*with* Misra, Kailash C.; Okado, Masato; Takagi, Taichiro; Uchiyama, Jun) Characters of Demazure modules and solvable lattice models. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 555–576. (Yasmine B. Sanderson) **99m:17019** 17B37 (81R50, 82B23)

— (*with* Sakai, Kazumitsu; Suzuki, Junji) Continued fraction TBA and functional relations in *XXZ* model at root of unity. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 3, 597–626. (Rinat M. Kashaev) **99k:82022** 82B23 (17B37, 81R50)

— (*with* Kirillov, Anatol N.; Nakanishi, Tomoki) Skew Young diagram method in spectral decomposition of integrable lattice models. II. Higher levels. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 611–638. (Wen-li Yang) **99m:17018** 17B37 (05E10, 82B23)

Kunicki, Catherine Commutativity-preserving and normal-preserving linear transformations on $\mathscr{L}_2$. (English summary) *Linear and Multilinear Algebra* **45** (1999), *no.* 4, 341–347. 15A04 (15A27)

Kunifuji, Susumu (*with* Murakawa, Yoshihiko; Tojo, Satoshi) Imperfect information flow of agents communication in arrow logic. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1266–1281 (*electronic*). (*see* **99g:68006**) 68T27 (03B45, 03B70)

Kunihiro, Teiji Uses of envelopes for global and asymptotic analysis; geometrical meaning of renormalization group equation. (English summary) Geometric methods in asymptotic analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1014 (1997), 118–132. (*see* **99d:00021**) 81T17

Kunik, Matthias (*with* Dreyer, Wolfgang) Maximum entropy principle revisited. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 6, 331–347. (Carlo Cercignani) **99k:82061** 82C40 (76N10, 76P05)

— (*with* Dreyer, Wolfgang) Reflections of Eulerian shock waves at moving adiabatic boundaries. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 231–252. (Summary) **99j:76067** 76L05 (35L67, 35Q35, 76M25, 76N99, 76P05)

— (*with* Dreyer, Wolfgang; Sabelfeld, K. K.; Simonov, Nikolai A.; Wilmański, Krzysztof) Iterative procedure for multidimensional Euler equations. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 3, 253–271. (Sergei A. Nemnyugin) **99m:65206** 65N22 (65C05)

Kunimatsu, Noboru (*with* Sano, Hideki) Stability analysis of heat-exchanger equations with boundary feedbacks. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 4, 317–330. (Summary) **99i:93060** 93D20 (35K99)

Kunin, B. I. (*with* Doedel, Eusebius; Friedman, M. J.) Successive continuation for locating connecting orbits. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 103–124. (Alan R. Champneys) **99c:34089** 34C37 (34A45, 34B15, 58F14, 65J15)

Kunisch, Karl (*with* Chavent, Guy) Regularization of linear least squares problems by total bounded variation. (English summary) *ESAIM Control Optim. Calc. Var.* **2** (1997), 359–376 (*electronic*). (V. V. Vasin) **99b:65071** 65J10 (49M99, 49N99)

— (*with* Bergounioux, Maïtine) Augmented Lagrangian algorithms for state constrained optimal control problems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 33–48, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (William W. Hager) **99m:49052** 49M29 (49J20)

— (*with* Casas Renteria, Eduardo; Pola, C.) Some applications of BV functions in optimal control and calculus of variations. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 83–96 (*electronic*), *ESAIM Proc.*, **4**, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:49046** 49K20 (35J99, 49M30)

— (*with* Hinze, Michael) Suboptimal control of fluid flows. *Operations Research Proceedings* 1997 (*Jena*), 182–187, *Springer, Berlin*, 1998. (*see* **99d:90008**) 93C20 (49K20)

— (*with* Chavent, Guy) State-space regularization: geometric theory. (English summary) *Appl. Math. Optim.* **37** (1998), *no.* 3, 243–267. (Summary) **99m:35260** 35R30 (49J45, 49K20)

— (*with* Peichl, G. H.) Shape optimization for mixed boundary value problems based on an embedding domain method. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 439–478. (Pekka Neittaanmäki) **99f:49068** 49Q10 (35J99)

— *see also* **Control and estimation of distributed parameter systems, 99b:49001**

Kunita, Hiroshi Asymptotic self-similarity and short time asymptotics of stochastic flows. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 3, 595–619. (Rémi Léandre) **99c:60118** 60H10 (60B15, 60G18, 60J30)

— Infinitesimal generators of nonhomogeneous convolution semigroups on Lie groups. *Osaka J. Math.* **34** (1997), *no.* 1, 233–264. (Gyula Pap) **99e:60027** 60B15 (22E30, 60J30)

Kunitomo, H. *see* **Physics in the 21st century, 99a:81004**

Kunitsyn, A. L. (*with* Dzhumabaeva, A. A.) On the stability of periodic Hamiltonian systems under multiple fourth-order resonance. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 5, 756–761; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 5, 699–703 (1999). (Summary) **99m:70010** 70H05 (58F05, 58F10, 70K20)

Kunitzsch, Paul Traces of a tenth-century Spanish-Arabic astrolabe. *Z. Gesch. Arab.-Islam. Wiss.* **12** (1998), 113–120. 01A30

Kunka, M. D. (*with* Foster, M. R.; Tanveer, S.) Dendritic crystal growth for weak undercooling. II. Surface energy effects on nonlinear evolution. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 1, *part B*, 673–710. (Summary) **99m:80014** 80A22

Kunkel, Peter (*with* Mehrmann, Volker) The linear quadratic optimal control problem for linear descriptor systems with variable coefficients. (English summary) *Math. Control Signals Systems* **10** (1997), *no.* 3, 247–264. (Summary) **99f:49054** 49N10 (49K15)

Kun-Lun, Zhang *see* **Zhang, Kun Long**

Künnemann, Klaus Projective regular models for abelian varieties, semistable reduction, and the height pairing. *Duke Math. J.* **95** (1998), *no.* 1, 161–212. (Antoine Chambert-Loir) **99m:14043** 14G25 (11G10, 14C25, 14K15)

— The Kähler identity for bigraded Hodge-Lefschetz modules and its application in non-Archimedean Arakelov geometry. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 4, 651–672. (David Harari) **99i:14029** 14G40 (14C15)

Kuno, Takahito (*with* Yamamoto, Yoshitsugu) A finite algorithm for globally optimizing a class of rank-two reverse convex programs. (English summary) *J. Global Optim.* **12** (1998), *no.* 3, 247–265. (Ştefan Ţigan) **99f:90080** 90C25

Kunoth, Angela (*with* Dahmen, Wolfgang; Urban, Karsten) Wavelets in numerical analysis and their quantitative properties. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 93–130, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Andreas Rieder) **99j:65246** 65T99 (42C15, 65N99)

— (*with* Dahmen, Wolfgang; Urban, Karsten) Biorthogonal spline wavelets on the interval—stability and moment conditions. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 2, 132–196. (Gilbert Walter) **99m:42046** 42C15 (41A15)

Künsch, Hans R. (*with* Hürzeler, Markus) Monte Carlo approximations for general state-space models. (English summary) *J. Comput. Graph. Statist.* **7** (1998), *no.* 2, 175–193. (Summary) **99e:65004** 65C05 (93E11)

Kunst, Robert M. Fourth-order moments of augmented ARCH processes. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 6, 1425–1441. (Francesco Battaglia) **99b:62135** 62M10

Kunstatter, G. (*with* Louis-Martinez, D.) Quantum mechanics and thermodynamics of charged black holes in generic 2-D dilaton gravity. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 96–108, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83050** 83C57 (81T20)

— (*with* Barvinskiĭ, A. O.) Mass spectrum for black holes in generic 2-D dilaton gravity. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 210–215, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— (*with* Gegenberg, J.; Strobl, Thomas) Statistical mechanical entropy of two-dimensional black holes. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 254–257, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 83C57

— (*with* Gegenberg, J.; Strobl, Thomas) Edge states and entropy of two-dimensional black holes. (English summary) *Phys. Rev. D* (3) **55** (1997), *no.* 12, 7651–7665. (Summary) **99c:83052** 83C57

— (*with* Petryk, R.; Shelemy, S.) Hamiltonian thermodynamics of black holes in generic 2D dilaton gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3537–3547. (Summary) **99m:83122** 83C57 (83C47)

— (*with* Gegenberg, J.) Geometrodynamics of sine-Gordon solitons. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124010, 11 *pp.* (Summary) **99m:83172** 83E05 (83C57)

Kunstmann, Peer Christian Heat kernel estimates and L^p spectral independence of elliptic operators. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 3, 345–353. (Vitali A. Liskevich) **99k:47093** 47D06 (35P05, 47F05)

— Distribution semigroups and abstract Cauchy problems. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 837–856. (Eugenio Sinestrari) **99d:47036** 47D06 (34G10, 46F10)

Kuntsevich, V. M. (*with* Pshenichnyĭ, B. N.) Ivariant and stationary sets of nonlinear discrete systems under bounded perturbations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 35–45, 296. 93B03 (93C41)

— (*with* Pshenichnyĭ, B. N.) Minimal invariant sets of discrete dynamical systems with a stable linear part. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 81–91, 155. (Summary) **99d:93048** 93D05 (93B03, 93C55)

Kunyavskiĭ, Boris È. (*with* Borovoi, Mikhail) On the Hasse principle for homogeneous spaces with finite stabilizers. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 3, 481–497. (David Harari) **99b:11068** 11G35 (14G25, 20G30)

— *see also* **Voskresenskiĭ, V. E., 99g:20090**

Kunz, Ernst Differentially closed prime ideals. (English summary) *Comm. Algebra* **26** (1998), *no.* 11, 3759–3763. (Andrzej Nowicki) **99i:13012** 13B10 (13N05)

— (*with* Hübl, R.) On the intersection of algebraic curves and hypersurfaces. *Math. Z.* **227** (1998), *no.* 2, 263–278. (Amnon Yekutieli) **99h:14019** 14F10 (14C17)

Kunz, Hervé ★ Matrices aléatoires en physique. (French. French summary) [Random matrices in physics] Cahiers de Physique [Physics Texts], 3. *Presses Polytechniques et Universitaires Romandes, Lausanne*, 1998. viii+84 *pp. ISBN* 2-88074-373-7 (C. van den Broeck) **99h:82040** 82B41 (60–02)

— (*with* Berglund, N.) Memory effects and scaling laws in slowly driven systems. (English summary) *J. Phys. A* **32** (1999), *no.* 1, 15–39. (Sergei A. Dovbysh) **99m:34078** 34C15 (34E05, 70K05, 70K10, 70K50, 76E15, 78A99)

Kunz, Jutta (*with* Kleihaus, Burkhard; Tchrakian, D. H.) Interaction energy of 't Hooft-Polyakov monopoles. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 31, 2523–2529. (Summary) **99g:81131** 81T13

— (*with* Brihaye, Yves; Hartmann, Betti) Gravitating dyons and dyonic black holes. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 77–82. (Summary) **99h:83033** 83C57 (83C15)

— (*with* Kleihaus, Burkhard; Sood, Abha; Wirschins, Marion) Sequences of globally regular and black hole solutions in SU(4) Einstein-Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084006, 16 *pp.* (Summary) **99m:83120** 83C57 (81T13)

Kunze, H. (*with* Siegel, David) A graph theoretical approach to monotonicity with respect to initial conditions. II. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 1–20. (Hal Leslie Smith) **99g:34032** 34A34 (34C11)

Kunze, Markus (*with* Monteiro Marques, Manuel D. P.) Existence of solutions for degenerate sweeping processes. (English summary) *J. Convex Anal.* **4** (1997), *no.* 1, 165–176. (Luc Doyen) **99c:34135** 34G20 (34A60, 35K99, 35R70, 49J24, 73E99)

— (*with* Monteiro Marques, Manuel D. P.) BV solutions to evolution problems with time-dependent domains. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 1, 57–72. (Giovanni Colombo) **99c:34026** 34A60 (34G20)

— Instability of the periodic motion of a particle interacting with a scalar wave field. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 509–523. (Dario Bambusi) **99k:58181** 58G16 (35P99, 78A35)

— (*with* Schlüchtermann, Georg) Strongly generated Banach spaces and measures of noncompactness. (English summary) *Math. Nachr.* **191** (1998), 197–214. (Józef Banaś) **99d:46015** 46B20 (34G20, 47A99)

— (*with* Monteiro Marques, Manuel D. P.) On the discretization of degenerate sweeping processes. (English summary) *Portugal. Math.* **55** (1998), *no.* 2, 219–232. (Giovanni Colombo) **99c:34027** 34A60 (34G20)

— (*with* Monteiro Marques, Manuel D. P.) Degenerate sweeping processes. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 301–307, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Giovanni Colombo) **99k:34035** 34A60 (34G20, 73E50)

Künzi, Hans-Peter A. (*with* Junnila, Heikki J. K.) Characterizations of absolute $F_{\sigma\delta}$-sets. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 55–64. (Salvador Romaguera) **99b:54040** 54E35 (54E15, 54E50, 54H05)

— (*with* Wajch, Eliza) On σ-discrete Borel mappings via quasi-metrics. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 3, 439–455. (Oleg G. Okunev) **99i:54036** 54E35 (28A05, 54H05)

— (*with* Wajch, Eliza) An internal characterization of sets of functions determining minimal compactifications. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 279–295. (K. D. Magill, Jr.) **99a:54017** 54D35 (54D30, 54D40)

— (*with* Romaguera, Salvador) Well-quasi-ordering and the Hausdorff quasi-uniformity. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 207–218. (G. D. Dimov) **99f:54035** 54E15 (06A06, 54B20, 54D30)

— (*with* Cao, Jiling; Reilly, Ivan L.; Romaguera, Salvador) Quasi-uniform hyperspaces of compact subsets. (English summary) *Topology Appl.* **87** (1998), *no.* 2, 117–126. (J. R. Isbell) **99c:54014** 54B20 (54E15)

— Perfect preimages having G_δ-diagonals of quasi-metrizable spaces. (English summary) *Indian J. Math.* **41** (1999), *no.* 1, 33–37. (Summary) **99i:54029** 54E15 (54C10, 54E35)

Künzi, Urs-Martin *see* **Orthogonal geometry in infinite-dimensional vector spaces, 99e:51001**

Kunzinger, M. (*with* Hörmann, G.) Nonlinearity and self-interaction in physical field theories with singularities. (English summary) Generalized functions—linear and nonlinear problems (Novi Sad, 1996). *Integral Transform. Spec. Funct.* **6** (1998), *no.* 1-4, 205–214. (Summary) **99d:35168** 35Q99 (35D99, 46F10, 78A25)

Kuo, Biing-Shen Test for partial parameter instability in regressions with I(1) processes. (English summary) *J. Econometrics* **86** (1998), *no.* 2, 337–368. (Kajal Lahiri) **99j:62146** 62P20

Kuo, Cheng-Ming (*with* Yeh, Tzuoo-Hawn; Lei, Chin-Laung; Yen, Hsu-Chun) Competitive source routing on tori and meshes. (English summary) *Algorithms and computation* (*Singapore*, 1997), 82–91, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10

— (*with* Yeh, Tzuoo-Hawn; Lei, Chin-Laung; Yen, Hsu-Chun) Competitive analysis of on-line disk scheduling. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 491–506. (Summary) **99e:68074** 68Q25 (68N25)

Kuo, Chung-Cheng (*with* Shaw, Sen-Yen) C-cosine functions and the abstract Cauchy problem. I, II. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 632–646, 647–666. (Dieter Lutz) **99c:47063** 47D09 (34G10, 47N20)

— (*with* Ha, Chung-Wei) On the solvability of a two-point boundary value problem at resonance. II. *Topol. Methods Nonlinear Anal.* **11** (1998), *no.* 1, 159–168. (From the introduction) **99g:34049** 34B15 (47H15, 47N20)

Kuo, H. *see* **Kuo, Hsi**

Kuo, H.-H. *see* **Kuo, Hui-Hsiung**

Kuo, Hsi (*with* Sun, Jie) Applying a Newton method to strictly convex separable network quadratic programs. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 728–745 (*electronic*). (Summary) **99b:90150** 90C35 (90B10, 90C30)

Kuo, Hui-Hsiung (*with* Cochran, W. George; Sengupta, Ambar N.) A new class of white noise generalized functions. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 43–67. (Habib Ouerdiane) **99d:46062** 46F25 (46G12)

— (*with* Xiong, Jie) Stochastic differential equations in white noise space. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 611–632. (Ya. Ī. Bīlopol′s′ka) **99m:60090** 60H10 (35R15, 35R60, 46G12)

Kuo, Hung-Chi (*with* Leou, Tzay-Ming; Williams, R. T.) A study on the high-order Smolarkiewicz methods. (English summary) *Comput. & Fluids* **28** (1999), *no.* 6, 779–799. (Summary) **99m:76094** 76M25

Kuo, Kung-Hwang (*with* Chang, Tong-Huei; Huang, Young-Ye; Jeng, Jyh-Chung) On S-KKM property and related topics. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 212–227. (Carlo Bardaro) **99m:47063** 47H10

Kuo, Sy-Yen (*with* Yuan, Shih-Yi) A new technique for optimization problems in graph theory. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 2, 190–196. (Summary) **99b:90153** 90C35 (05C85, 68T05)

— (*with* Leu, Yuh-Rong) Distributed fault-tolerant ring embedding and reconfiguration in hypercubes. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 81–88. 68M10 (68R10)

— (*with* Tsai, Jichiang; Wang, Yi-Min) Evaluations of domino-free communication-induced checkpointing protocols. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 31–37. 68Q10

Kuo, T. K. (*with* Cheng, Geng) Condition on the symmetry-breaking solution of the Schwinger-Dyson equation. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6119–6125. (George K. Savvidy) **99c:81270** 81V10 (81Q40, 81R40)

Kuo, Te-Son (*with* Hu, Shao-Chung; Fong, I-Kong) Multivariable pi-sharing theory and its application on the Lur′e problem. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1501–1505. 93E12 (90C90)

Kuo, Tsang-Hai (*with* Tsai, Chiung-Chiou) Second order quasilinear elliptic problems in a ball. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 2, 101–110. (Summary) **99d:35057** 35J65

Kuo, Tzee-Char (*with* Fukui, Toshizumi; Koike, Satoshi) Blow-analytic equisingularities, properties, problems and progress. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996), 8–29, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Kevin Houston) **99a:32051** 32S15 (14P20, 58C27)

— (*with* Kobayashi, Masanori) On blow-analytic equivalence of embedded curve singularities. *Real analytic and algebraic singularities* (*Nagoya/Sapporo/Hachioji*, 1996),

30–37, *Pitman Res. Notes Math. Ser.*, 381, *Longman, Harlow*, 1998. (Aleksandr G. Aleksandrov) **99d:58028** 58C27 (14P25, 58A07)

Kupeli, Demir N. (*with* García-Río, Eduardo) On affine Riemannian maps. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 1, 71–79. (John C. Wood) **99k:53066** 53C20 (58E20)

— Semi-Riemannian transversal maps. (English summary) *Demonstratio Math.* **31** (1998), *no.* 2, 345–354. (Luis M. Hervella) **99m:53048** 53C12 (53C50)

— (*with* García-Río, Eduardo) Some splitting theorems for stably causal spacetimes. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 1, 35–44. (Paul E. Ehrlich) **99g:53067** 53C50 (53C80)

Kuperberg, Anna *see* **Borsuk, Karol**, (**99a:01001**)

Kuperberg, Greg An exploration of the permanent-determinant method. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 46, 34 *pp.* (*electronic*). (Charles H. C. Little) **99j:05141** 05C50 (05C70)

— (*with* Fejes Tóth, Gábor; Kuperberg, Włodzimierz) Highly saturated packings and reduced coverings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 127–145. (Uwe Schnell) **99a:52028** 52C17

— Another low-technology estimate in convex geometry. (English summary) *Convex geometric analysis (Berkeley, CA, 1996)*, 117–121, *Math. Sci. Res. Inst. Publ.*, 34, *Cambridge Univ. Press, Cambridge*, 1999. (Summary) **99k:52006** 52A21 (46B07)

Kuperberg, Krystyna Counterexamples to the Seifert conjecture. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 831–840 (*electronic*). (Robert Ghrist) **99j:58163** 58F22 (57R30, 58F15)

— Bihomogeneity and Menger manifolds. (English summary) Proceedings of the International Conference on Set-theoretic Topology and its Applications, Part 2 (Matsuyama, 1994). *Topology Appl.* **84** (1998), *no.* 1-3, 175–184. (Klaas Pieter Hart) **99b:54048** 54F15 (54F35, 54F45, 54G20)

— *see also* **Borsuk, Karol**, (**99a:01001**)

Kuperberg, Włodzimierz (*with* Bezdek, András) Circle covering with a margin. (English summary) 3rd Geometry Festival: an International Conference on Packings, Coverings and Tilings (Budapest, 1996). *Period. Math. Hungar.* **34** (1997), *no.* 1-2, 3–16. (Summary) **99a:52026** 52C15

— (*with* Fejes Tóth, Gábor; Kuperberg, Greg) Highly saturated packings and reduced coverings. (English summary) *Monatsh. Math.* **125** (1998), *no.* 2, 127–145. (Uwe Schnell) **99a:52028** 52C17

Kuperin, Yu. A. (*with* Levin, S. B.; Mel'nikov, Yu. B.[1]; Pavlov, Boris S.) Quantum Lorentz gas: effective equations and spectral analysis. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 599–612. (András Krámli) **99b:82065** 82C10 (81Q10, 82C40)

Kupershmidt, Boris A. Hamiltonian formalism in quantum mechanics. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 162–180. (A. K. Prykarpat·skiĭ) **99e:81113** 81S05 (70H05)

— Quantum differential forms. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 3, 245–288. (Andreas Cap) **99m:58024** 58B30 (16W25, 17B35)

Kupfer, C. (*with* Fischer, B.; Friedrich, Jochen; Müller, Georg; Vizman, D.) Experimental and numerical analysis of the influence of a rotating magnetic field on convection in Rayleigh-Bénard configurations. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows (Aussois, 1997)*, 279–294, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:76007**) 76W05 (76–05, 76E15, 76E25)

Kupferman, Orna (*with* Alur, Rajeev; Henzinger, Thomas A.; Vardi, Moshe Y.) Alternating refinement relations. (English summary) *CONCUR'98: concurrency theory (Nice)*, 163–178, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (Summary) **99m:68116** 68Q60 (68Q10)

— (*with* Vardi, Moshe Y.) Freedom, weakness, and determinism: from linear-time to branching-time. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 81–92, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68Q60

— (*with* Vardi, Moshe Y.) Verification of fair transition systems. (English summary) *Chicago J. Theoret. Comput. Sci.* **1998**, *Article* 2, 37 *pp.* (*electronic*). (Robert P. Kurshan) **99c:68173** 68Q60 (68Q25, 68Q68)

Kupferman, Raz Simulation of viscoelastic fluids: Couette-Taylor flow. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 1, 22–59. (Summary) **99h:76067** 76M20 (76A10)

— (*with* Chorin, Alexandre J.; Kast, Anton P.) Optimal prediction of underresolved dynamics. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 8, 4094–4098 (*electronic*). (Summary) **99a:65195** 65U05

— A numerical study of the axisymmetric Couette-Taylor problem using a fast high-resolution second-order central scheme. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 858–877 (*electronic*). (Summary) **99g:76093** 76M20 (65M06, 76E99, 76U05)

Kupferschmid, Michael (*with* Kelly, Terrence K.) Numerical verification of second-order sufficiency conditions for nonlinear programming. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 310–314 (*electronic*). (Summary) **99a:90190** 90C30 (65K05, 90C25)

Kupiainen, Antti (*with* Gawędzki, Krzysztof) Universality in turbulence: an exactly solvable model. *Low-dimensional models in statistical physics and quantum field theory (Schladming, 1995)*, 71–105, *Lecture Notes in Phys.*, 469, *Springer, Berlin*, 1996. (Dieter H. Mayer) **99f:76069** 76F05 (76–02, 76M35, 82D15)

— (*with* Bricmont, J.) Renormalization group for fronts and patterns. (English summary) *European Congress of Mathematics, Vol. I (Budapest, 1996)*, 121–130, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Summary) **99f:82050** 82C28 (35A30)

— (*with* Bricmont, J.; Lefevere, R.) Renormalization group pathologies and the definition of Gibbs states. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 359–388. (Emilio N. M. Cirillo) **99j:82035** 82B28

— (*with* Baladi, V.; Degli Esposti, Mirko; Isola, S.; Järvenpää, Esa) The spectrum of weakly coupled map lattices. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 539–584. (Volker Matthias Gundlach) **99c:58127** 58F19 (58F11, 82B20)

— (*with* Bernard, Denis; Gawędzki, Krzysztof) Slow modes in passive advection. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 519–569. (Roland Schiestel) **99e:76065** 76F99 (76M35, 82D15)

Kupin, Stas (*with* Yuditskiĭ, P. M.) Analogs of the Nehari and Sarason theorems for character-automorphic functions and some related questions. (English summary) *Topics in interpolation theory (Leipzig, 1994)*, 373–390, *Oper. Theory Adv. Appl.*, 95, *Birkhäuser, Basel*, 1997. (M. Hasumi) **99d:47016** 47A57 (30E05, 30F35, 46E99)

Kupka, Ivan Topological conditions for the existence of fixed points. (English summary) *Math. Slovaca* **48** (1998), *no.* 3, 315–321. 54H25 (54C60)

— A generalised uniform convergence and Dini's theorem. (English summary) *New Zealand J. Math.* **27** (1998), *no.* 1, 67–72. (Constantin Zălinescu) **99f:54007** 54A20 (26A15, 54C08)

— A strong type of continuity natural for compact spaces. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 17–27. (Summary) **99g:54007** 54C05 (54C10)

Kuppe, Markus (*with* Speer, Thomas; Hoschek, Josef) Global reparametrization for curve approximation. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 869–877. (Summary) **99g:65021** 65D17 (41A30)

Küpper, Tassilo (*with* Wu, Bai Sheng) Computation of Hopf branches bifurcating from a Hopf/pitchfork point for problems with Z_2-symmetry. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 403–416. (Ian Melbourne) **99j:58045** 58E09 (47H15, 47H17, 65H17)

— (*with* You, Jiangong) Existence of quasiperiodic solutions and Littlewood's boundedness problem of Duffing equations with subquadratic potentials. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 549–559. (Dmitry V. Treshchëv) **99i:34064** 34C27 (34C11, 58F27)

Kuprikov, Yu. E. On moduli of continuity of functions in Waterman classes. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997**, *no.* 5, 59–62; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 5, 46–49. (Hans Benker) **99e:41013** 41A17

Kupsch, Joachim (*with* Smolyanov, Oleg G.) On models of the symmetric Fock algebra. (Russian) *Mat. Zametki* **60** (1996), *no.* 6, 939–942; *translation in Math. Notes* **60** (1996), *no.* 5-6, 710–713 (1997). (Lech Jakóbczyk) **99d:81062** 81S05

— (*with* Smolyanov, Oleg G.) Functional representations for Fock superalgebras. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 285–324. (Andrzej Łuczak) **99i:81140** 81T08 (46N50, 81S99)

Kuragano, Tetsuzou (*with* Kuroda, Mitsuru[2]; Higashi, Masatake; Saitoh, Tsuyoshi; Watanabe, Yumiko) Interpolating curve with B-spline curvature function. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 303–310, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65048** 65D17 (65D05, 65D07)

— (*with* Kuroda, Mitsuru[2]; Kubo, Tetsuo) Logarithmic spiral spline interpolant with curvature continuity. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 602–609. (Summary) **99b:65016** 65D17 (68U07)

Kurakin, V. L. The exponent of the congruence subgroup of a finite commutative chain ring. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 6, 657–674, 722; *translation in Algebra and Logic* **36** (1997), *no.* 6, 378–388. (O. V. Shvartsman) **99i:20068** 20H05 (15A33)

Kuramoto, Yoshiki (*with* Mori, Hazime) ★ Dissipative structures and chaos. (English summary) Translated from the second Japanese edition by Glenn C. Paquette. *Springer-Verlag, Berlin*, 1998. *xx*+299 *pp. ISBN* 3-540-62744-8 (A. K. Prykarpat·skiĭ) **99h:58126** 58F13 (34C35, 35Q35, 76Exx, 76F20)

— *see also* **Proceedings: Workshop on Nonlinear Dynamics and Chaos**, **99f:58003**

Kuramshina, Gulnara M. (*with* Kochikov, Igor V.; Yagola, A. G.) Applied nonlinear ill-posed problems and the variational approach for constructing of regularizing algorithms. *Inverse problems, tomography, and image processing (Newark, DE, 1997)*, 201–210, *Plenum, New York*, 1998. (*see* **99a:00030**) 65J20 (00A69, 35R25, 47A50)

— (*with* Kochikov, Igor V.; Yagola, A. G.) Inverse problems of vibrational spectroscopy as nonlinear ill-posed problems. (English summary) *Surveys Math. Indust.* **8** (1998), *no.* 1, 63–94. (Summary) **99i:65059** 65J05 (70–08, 82D99)

Kuranishi, Masatake CR structures and tubular complex neighborhoods. *Geometric complex analysis (Hayama, 1995)*, 371–383, *World Sci. Publishing, River Edge, NJ*, 1996. (From the introduction) **99h:32008** 32C16

— Recent development in CR embedding theorem. *Structure of solutions of differential equations (Katata/Kyoto, 1995)*, 253–265, *World Sci. Publishing, River Edge, NJ*, 1996. (From the introduction) **99h:32008** 32C16

— On a priori estimate on a manifold with singularity on the boundary. *Multidimensional complex analysis and partial differential equations (São Carlos, 1995)*, 155–168, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (From the text) **99g:32031** 32F40 (35B45, 58G99)

Kurano, Masami (*with* Yoshida, Yuji; Yasuda, Masami; Nakagami, Jun-ichi) On a property of fuzzy stopping times. (English summary) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 176–182. (*see* **99b:90009**) 90C70

— (*with* Yoshida, Yuji; Yasuda, Masami; Nakagami, Jun-ichi) A limit theorem in dynamic fuzzy systems with a monotone property. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 109–119. (Summary) **99b:54009** 54A40 (54H20)

— (*with* Song, Jinjie; Hosaka, Masanori; Huang, Youqiang) Controlled Markov set-chains with discounting. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 293–302. (D. Kalin) **99g:90157** 90C40

— (*with* Song, Jinjie; Hosaka, Masanori) Controlled Markov set-chains under average criteria. (English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 169–177. (*see* **99h:90006**) 90C40 (90C39)

— (*with* Yoshida, Yuji; Yasuda, Masami; Nakagami, Jun-ichi) The optimal stopping problem for fuzzy random sequences. Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 178–183. (*see* **99h:90006**) 60G40

— (*with* Nakagami, Jun-ichi; Huang, Youqiang) Constrained Markov decision processes with compact state and action spaces: the average case. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 1–12. (Summary) **99k:90196** 90C40 (90C39)

— (*with* Kadota, Yoshinobu; Yasuda, Masami) Stopped decision processes with general utility. (English summary) Dynamic decision systems in uncertain environments

(Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 13–25. (O. L. V. Costa) **99m:90159** 90C40 (60G40, 62L15)

— (*with* Yasuda, Masami; Nakagami, Jun-ichi; Yoshida, Yuji) A fuzzy relational equation in dynamic fuzzy systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 439–443. 93C42 (49L20)

Kurasov, P. (*with* Albeverio, Sergio) Pseudo-differential operators with point interactions. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 1, 79–92. (Vladimir Ryzhov) **99a:47075** 47G30 (35S05, 47A40, 47B25, 81Q10, 81U10)

— Energy dependent boundary conditions and the few-body scattering problem. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 7, 853–906. (Igor Yurievich Popov) **99a:81189** 81U10 (34L25, 47B25, 47F05, 47N50)

— (*with* Albeverio, Sergio; Dąbrowski, Ludwik) Symmetries of Schrödinger operators with point interactions. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 1, 33–47. (Alexander A. Kiselev) **99f:34121** 34L40 (47A55, 47E05, 81Q10)

— (*with* Albeverio, Sergio) Finite rank perturbations and distribution theory. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1151–1161. (Hendrik S. V. de Snoo) **99m:47012** 47A55 (34L40, 46F10, 47B25, 47E05)

Kurata, Hiroshi A generalization of Rao's covariance structure with applications to several linear models. (English summary) *J. Multivariate Anal.* **67** (1998), *no.* 2, 297–305. (R. Kala) **99m:62102** 62J05 (62F10)

Kurata, Kazuhiro (*with* Matsuda, Kazuyuki) On some symmetry property of solutions to the scalar curvature equation. *Functional analysis and global analysis* (*Quezon City*, 1996), 179–184, *Springer, Singapore*, 1997. (*see* **99g:00040**) 35J60

— (*with* Matsuda, Kazuyuki) Existence of non-topological solutions to a nonlinear elliptic equation arising in self-dual Chern-Simons-Higgs theory. Variational problems and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1025 (1998), 66–74. (Gabriella Tarantello) **99m:58074** 58E50 (35Q60)

Kurata, Masahiro Structures of Lyapunov regular sets with non-zero exponents. Problems on complex dynamical systems (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1042 (1998), 143–146. (*see* **99h:58002**) 58F11 (58F03)

Kurata, Toshihiko A type theoretical view of Böhm-trees. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 231–247, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **99a:03019** 03B40 (68Q55)

Kuratsuji, Hiroshi (*with* Tochishita, Teruyuki; Mizui, Masayuki) Quantum mechanics of guiding center motion in strong magnetic field (coherent state path integral approach). (English summary) Conference on Geometry and Mathematical Physics (Zlatograd, 1995). *Serdica Math. J.* **23** (1997), *no.* 2, 177–186. (Jiu Qing Liang) **99g:81078** 81R30 (81S40)

— (*with* Yabu, Hiroyuki) Force on a vortex in ferromagnet model and the properties of vortex configurations. (English summary) *J. Phys. A* **31** (1998), *no.* 2, *L61–L65*. (Summary) **99d:82046** 82C21 (82D50)

Kurazono, Ichiji (*with* Matumoto, Takao) Classification of closed oriented 4-manifolds modulo connected sum with simply connected manifolds. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 207–212. (Darryl McCullough) **99f:57023** 57N13 (55M30, 57M50)

Kurbanbaev, O. O. A numerical-analytic method for a problem with two-point nonlinear boundary conditions. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 4 (1997), 44–50. 65L05 (34A45)

Kurbanmuradov, O. (*with* Sabelfeld, K. K.) One-particle stochastic Lagrangian model for turbulent dispersion in horizontally homogeneous turbulence. (English summary) *Monte Carlo Methods Appl.* **4** (1998), *no.* 2, 127–140. (Summary) **99e:76072** 76F99 (76M35, 76R50)

Kurbanov, I. O. On the solvability of nonlinear boundary value problems of electrodynamics with memory. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 6, 337–342 (1992). 35Q60 (78A25)

Kurbanov, V. M. On the Bessel property and the unconditional basis property of systems of root vector functions of the Dirac operator. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1608–1617, 1724; *translation in Differential Equations* **32** (1996), *no.* 12, 1601–1610 (1997). (Victor S. Rykhlov) **99a:34223** 34L10 (34L40)

Kurbatskii, Konstantin A. (*with* Tam, Christopher K. W.; Fang, Jun) Non-homogeneous radiation and outflow boundary conditions simulating incoming acoustic and vorticity waves for exterior computational aeroacoustics problems. (English summary) *Internat. J. Numer. Methods Fluids* **26** (1998), *no.* 9, 1107–1123. (Summary) **99a:73106** 73K70 (73V15, 76M20)

Kurbonov, O. T. On the solvability of the Cauchy problem for an odd-order equation with multiple characteristics. (Russian. English and Uzbek summaries) *Uzbek. Mat. Zh. No.* 3 (1998), 33–38. 35G10 (35A05)

Kurc, W. Monotonicity, order smoothness and duality for convex functionals. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 635–655. (Jacques F. Bair) **99b:46005** 46A40 (46G05, 46N10, 49K27)

— (*with* Hudzik, Henryk) Monotonicity properties of Musielak-Orlicz spaces and dominated best approximation in Banach lattices. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 353–368. (Evgeniy I. Pustylnik) **99k:46044** 46E30 (41A65, 46B42)

Kurchan, Jorge Fluctuation theorem for stochastic dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 16, 3719–3729. (Paul Krapivsky) **99d:82038** 82C05

Kurdachenko, Leonid A. (*with* Smith, Howard) Groups with the weak minimal condition for non-subnormal subgroups. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 299–312. (Silvana Franciosi) **99e:20044** 20F22 (20F16)

— (*with* Franciosi, Silvana; de Giovanni, Francesco) Groups with finite conjugacy classes of non-subnormal subgroups. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 169–181. (H. Heineken) **99b:20061** 20F24 (20E15)

— (*with* De Falco, Maria; Subbotin, Igor Ya.) Groups with only abnormal and subnormal subgroups. *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *no.* 2, 435–442. (Gunnar Traustason) **99m:20058** 20E15 (20D35)

— (*with* Kazarin, Lev S.; Subbotin, Igor Ya.) On groups saturated with abelian subgroups. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 4, 443–466. (Silvana Franciosi) **99j:20041** 20F22

— (*with* Subbotin, Igor Ya.) Groups whose proper quotients are hypercentral. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 2, 224–237. (J. R. J. Groves) **99h:20060** 20F19

— (*with* Petrenko, B. V.; Subbotin, Igor Ya.) Direct decompositions in Artinian modules over FC-hypercentral groups. (English summary) Algebra Meeting (Rio de Janeiro, 1996). *Mat. Contemp.* **14** (1998), 89–99. (B. Amberg) **99k:20009** 20C07 (20F17, 20F24)

— (*with* Otal, Javier) Some Noetherian modules and non-monolithic just non-CC-groups. *J. Group Theory* **2** (1999), *no.* 1, 53–64. (D. J. S. Robinson) **99k:20072** 20F24

Kurdics, J. Engel properties of group algebras. II. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 179–196. (E. Jespers) **99m:16043** 16S34 (16U60, 20F45)

Kurdila, Andrew J. (*with* Ko, Jeonghwan; Oswald, Peter) Scaling function and wavelet preconditioners for second order elliptic problems. (English summary) *Multiscale wavelet methods for partial differential equations*, 413–438, *Wavelet Anal. Appl.*, 6, *Academic Press, San Diego, CA*, 1997. (Robert Beauwens) **99d:65304** 65N22 (42C15, 65N30, 65N55)

— (*with* Ko, Jeonghwan; Pilant, Michael S.) Triangular wavelet based finite elements via multivalued scaling equations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **146** (1997), *no.* 1-2, 1–17. (Summary) **99c:65205** 65N30 (76M10)

Kurdyka, Krzysztof (*with* Coste, Michel) Le discriminant d'un morphisme de variétés algébriques réelles. [The discriminant of a morphism of real algebraic varieties] *Topology* **37** (1998), *no.* 2, 393–399. (A. Tognoli) **99a:14083** 14P25

— (*with* Gwoździewicz, Janusz; Parusiński, Adam) On the number of solutions of an algebraic equation on the curve $y = e^x + \sin x$, $x > 0$, and a consequence for o-minimal structures. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1057–1064. (Detlef Laugwitz) **99f:03046** 03C62 (14P15, 26E05)

Kurdyumov, S. P. (*with* Malinetskiĭ, G. G.; Potapov, A. B.) Nonstationary structures, dynamic chaos, cellular automata. News of synergetics. *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 5-6, 75–133. (Remo Badii) **99j:58110** 58F08 (58F13, 68Q80)

Kurek, Jan (*with* Doupovec, Miroslav) Liftings of 1-forms to some non-product preserving bundles. (English summary) Proceedings of the 17th Winter School "Geometry and Physics" (Srní, 1997). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 54 (1998), 25–32. (Vadim V. Shurygin) **99k:58008** 58A20 (53A55)

Kureš, M. Some properties of connections on iterated tangent bundles. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 459–466. (I. Kolář) **99j:53022** 53C05 (58A20)

Kuresh, S. W. (*with* Jun, Young Bae) Anti-fuzzy ordered filters in adjoint semigroups of BCK-algebra. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 2, 461–466. (Summary) **99a:06028** 06F35

Kurgan, E. A boundary element solution of the inhomogeneous magnetostatic problems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 343–358. (Summary) **99f:78002** 78–08 (65N38)

Kurganov, Alexander (*with* Goodman, Jonathan; Rosenau, Philip) Breakdown in Burgers-type equations with saturating dissipation fluxes. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 247–268. (Summary) **99j:35185** 35Q53 (65M99)

Kuri, J. (*with* Sharma, Vinod) Stability and performance analysis of rate-based feedback flow controlled ATM networks. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part I (Hajdúszoboszló, 1997). *J. Math. Sci.* (*New York*) **92** (1998), *no.* 3, 3930–3939. (Summary) **99k:90073** 90B12

Kuri, Ken-ichi (*with* Kitahara, Kazuaki; Sakamori, Yasuhiro) On a characterization of Chebyshev polynomials. (English summary) *East J. Approx.* **4** (1998), *no.* 4, 565–568. 41A10

Kuriakose, V. C. (*with* Bindu, S. G.) Nonlinear wave propagation through cold plasma. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 149–158. (Summary) **99a:76168** 76X05

— (*with* Suresh, P. K.) Squeezed state representation of quantum fluctuations and semiclassical theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 165–172. 83C47 (81T20)

Kuribayashi, Akikazu (*with* Nakajo, Naoyuki; Kawasaki, Masumi) On the zero-maps and automorphism groups of a compact Riemann surface. Analysis of discrete groups (Kyoto, 1995). *Sūrikaisekikenkyūsho Kōkyūroku No.* 967 (1996), 1–13. (Antonio F. Costa) **99d:30042** 30F10 (20H10)

Kuribayashi, Katsuhiko (*with* Yamaguchi, Toshihiro) The vanishing problem of the string class with degree 3. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 129–142. (Haynes R. Miller) **99h:57054** 57R20 (55P35, 57T35)

Kurihara, Hiroyuki (*with* Takagi, Ryoichi) A note on the type number of real hypersurfaces in $\mathbf{P}_n(\mathbf{C})$. *Tsukuba J. Math.* **22** (1998), *no.* 3, 795–804. (Hiroo Naitoh) **99m:53106** 53C40

Kurihara, Masahito[1] (*with* Numazawa, Masanobu; Ohuchi, Azuma) Meta-computation in a conditional term rewriting system-based language. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 11, 3035–3043. 68N15 (68Q42)

Kurihara, Masato The exponential homomorphisms for the Milnor K-groups and an explicit reciprocity law. (English summary) *J. Reine Angew. Math.* **498** (1998), 201–221. (Manfred Kolster) **99i:19001** 19D45 (11S70)

Kuriki, Rie (*with* Endo, Rika; Sugamoto, Akio; Nojiri, Shin'ichi) A rule of thumb derivation of Born-Infeld action for D-branes. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 16, 1309–1317. (Summary) **99c:81179** 81T30

— (*with* Kamimura, Kiyoshi) Super-Weyl invariant 2D supergravity, anomaly and WZ action. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 535–545. (Ilya Shapiro) **99b:81225** 81T50 (81T70, 83E30)

Kuriki, Satoshi (*with* Takemura, Akimichi) Weights of $\overline{\chi}^2$ distribution for smooth or piecewise smooth cone alternatives. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2368–2387. (Shyamal D. Peddada) **99c:62156** 62H10 (52A39, 62H15)

— (*with* Takemura, Akimichi) Weights of $\overline{\chi}^2$ distribution for smooth or piecewise smooth cone alternatives. (English summary) Research into the structure of irregular estimator theory (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1007 (1997), 11–34. (*see* **99a:62005**) 62H15

Kuřil, Martin A multiplication of e-varieties of regular E-solid semigroups by inverse semigroup varieties. (English summary) *Arch. Math.* (*Brno*) **33** (1997), *no.* 4, 279–299.

(Dragan Blagojević) **99d:20100** 20M07 (20M18)

Kurilenko, Yu. V. (*with* Borisov, V. M.) Computation of steady supersonic three-dimensional flows with a head shock wave by the method of characteristics. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 659–668; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 634–643. (Summary) **99f:76087** 76M20 (76J20, 76L05)

— On the stability of the numerical method of pseudo-characteristics for three-dimensional steady supersonic flows. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1774–1779; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1701–1706. (Summary) **99f:76091** 76M20 (76J20)

Kurilić, Miloš S. Topological ultraproducts: when is the quotient mapping closed? (English summary) *Topology Appl.* **87** (1998), *no.* 2, 89–95. (Nobuyuki Kemoto) **99h:54012** 54B10 (54B15, 54C10)

Kuri M., Angel A nonsupervised learning method using genetic order algorithms. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition (Spanish) (México City*, 1998), 431–443, *Inst. Cibern. Mat. Fís., Havana*, 1998. (*see* **99k:68016**) 68T05

Kurīnnīĭ, G. Ch. Congruences and quasi-identities in a unar. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 6, 852–856; *translation in Ukrainian Math. J.* **49** (1997), *no.* 6, 953–959 (1998). (Danica Jakubíková-Studenovská) **99b:08001** 08A60 (08A30, 08B05)

Kuriyama, Atsushi (*with* da Providência, João; Tsue, Yasuhiko; Yamamura, Masatoshi) Modification of the conventional Holstein-Primakoff boson representation for the su(1, 1)-algebra and its classical counterpart. (English summary) *Progr. Theoret. Phys.* **99** (1998), *no.* 5, 819–829. (Dennis Bonatsos) **99m:81075** 81R05 (20C35, 22E70)

Kuriyama, Kazuko (*with* Moritsugu, Shuichi) A calculation method for converting a matrix from rational normal form to Jacobson normal form through computer algebra. (Japanese) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 17–22. (*see* **99h:00034**) 15A21

Kůrka, Petr (*with* Blanchard, François; Formenti, Enrico) Cellular automata in the Cantor, Besicovitch, and Weyl topological spaces. (English summary) *Complex Systems* **11** (1997), *no.* 2, 107–123. (Michael Hurley) **99j:58108** 58F08 (68Q80)

— (*with* Blanchard, François; Maass, Alejandro) Topological and measure-theoretic properties of one-dimensional cellular automata. (English summary) Lattice dynamics (Paris, 1995). *Phys. D* **103** (1997), *no.* 1-4, 86–99. (Fernanda Botelho) **99c:58086** 58F08 (68Q80, 82C20)

— (*with* Blanchard, François) Language complexity of rotations and Sturmian sequences. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 179–193. (Véronique Bruyère) **99m:68104** 68Q45 (68R15)

Kurkalova, L. A. (*with* Stetsenko, V. Ya.) Indecomposable generalized eigenvalue problems. (Russian. Tajiki summary) *Dokl. Akad. Nauk Tadzhik. SSR* **34** (1991), *no.* 5, 274–278 (1992). 15A18 (90C08)

Kurke, Herbert Mathematics in Berlin at the Humboldt University: from 1953 until now. *Mathematics in Berlin*, 170–176, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A73 (01A80)

Kurkin, A. A. (*with* Petrov, V. V.) Hamiltonian description of barotropic Rossby waves. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **39** (1996), *no.* 9, 1067–1074; *translation in Radiophys. and Quantum Electronics* **39** (1996), *no.* 9, 711–716 (1997). (Summary) **99b:76021** 76C20 (76U05)

Kurkin, O. M. (*with* Ignatov, I. M.) A lower bound for transition time in a multidimensional time-optimality problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 11, 17–21; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1544–1547 (1997). (Introduction) **99a:49007** 49J15 (49K40)

Kurkova, I. A. (*with* Malyshev, V. A.) Martin boundary and elliptic curves. (English summary) *Markov Process. Related Fields* **4** (1998), *no.* 2, 203–272. (Mamoru Kanda) **99h:60149** 60J50 (14H52, 30F10, 31C35, 60J15)

Kurlandzki, J. Energy conservation law for linear electromagneto-gravitation and Mach principle. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 3, 575–587. (H. Treder) **99a:83041** 83C50 (78A25)

— Galilean invariance of generalized Dirac equations. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 4, 647–662. (Jorge Goncalves Cardoso) **99b:81084** 81R20

— Complex equations of motion of a particle in a Dirac field. (English summary) *J. Tech. Phys.* **38** (1997), *no.* 4, 663–677. (Jorge Goncalves Cardoso) **99b:81085** 81R20

Kurnosenko, N. M. On the factorization of finite groups by supersolvable and nilpotent subgroups. (Russian. English summary) *Problems in algebra, No.* 12 (*Russian*), 113–122, *Gomel. Gos. Univ., Gomel'*, 1998. (V. A. Belonogov) **99j:20030** 20D40 (20F16)

Kurochkin, Yu. A. (*with* Bogush, A. A.) Cayley-Dickson procedure, relativistic wave equations and supersymmetric oscillators. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 121–129. (Summary) **99c:81070** 81R20 (17A35)

— (*with* Bogush, A. A.; Otchik, V. S.) Algebra of conserved operators for the Kepler-Coulomb problem in spaces of constant curvature. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 10, 1778–1781. (Summary) **99i:81027** 81Q05 (70F05)

Kuroda, Go (*with* Hagiwara, Tomomichi; Araki, Mituhiko) Popov-type criterion for stability of nonlinear sampled-data systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 671–682. (Vasile Drăgan) **99f:93113** 93D10 (93C57)

Kuroda, Koji (*with* Manaka, Hiroko) Limit theorem related to an interface of three-dimensional Ising model. (English summary) *Kobe J. Math.* **15** (1998), *no.* 1, 17–39. (Hans-Otto Georgii) **99h:82015** 82B20 (60F17, 82B26)

Kuroda, Mitsuru² (*with* Higashi, Masatake; Saitoh, Tsuyoshi; Watanabe, Yumiko; Kuragano, Tetsuzou) Interpolating curve with B-spline curvature function. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer*, 1997), 303–310, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:65048** 65D17 (65D05, 65D07)

— (*with* Kuragano, Tetsuzou; Kubo, Tetsuo) Logarithmic spiral spline interpolant with curvature continuity. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **39** (1998), *no.* 3, 602–609. (Summary) **99b:65016** 65D17 (68U07)

Kuroda, S. T. (*with* Nagatani, Hiroshi) $\mathscr{F}_{-2}$-construction and Hamiltonians with interactions of various type. (Japanese) Spectral and scattering theory and related topics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 994 (1997), 155–167. (*see* **99a:00049**) 47E05 (34L40, 47A55, 47N50, 81Q10, 81Q15)

Kuroda, Tadashi Julia set of the function $z\exp(z+\mu)$. Complex dynamical systems and related areas (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 988 (1997), 132–144. (Stefano Marmi) **99g:30031** 30D05 (58F23)

— (*with* Jang, Cheol Min) Julia set of the function $z\exp(z+\mu)$. II. (English summary) *Tohoku Math. J.* (2) **49** (1997), *no.* 4, 577–584. (I. N. Baker) **99b:30032** 30D05 (58F23)

Kuroda, Tomoko (*with* Hiwatashi, Osamu; Nagisa, Masaru; Yoshida, Hiroaki) Distribution functions of free random variables. (Japanese) Research on applied functional analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1039 (1998), 53–63. (*see* **99i:00029**) 46L50

— (*with* Hiwatashi, Osamu; Nagisa, Masaru; Yoshida, Hiroaki) The free analogue of noncentral chi-square distributions and symmetric quadratic forms in free random variables. *Math. Z.* **230** (1999), *no.* 1, 63–77. (Dimitri Y. Shlyakhtenko) **99m:46155** 46L50 (60F99)

Kuroiwa, Daishi The natural criteria in set-valued optimization. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 85–90. (*see* **99f:00024**) 90C29

— On natural criteria in set-valued optimization. (English summary) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 86–92. (Summary) **99j:90071** 90C29 (49N15)

Kurokawa, Keiko (*with* Ban, Masashi; Hirota, Osamu) Cut-off rate for quantum communication channels with entangled measurement. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 2, *L*7–*L*12. (Summary) **99a:81019** 81P99 (94A05, 94A40)

Kuroki, Gen (*with* Takebe, Takashi) Twisted Wess-Zumino-Witten models on elliptic curves. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 1–56. (Naihuan Jing) **99g:81070** 81R10 (14H52, 17B81, 32G34, 81T40)

Kuroki, Nobuaki (*with* Kitaoka, Keiichiro) The lower and the upper approximations in vector spaces. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 261–282. (Rafael Canto) **99g:15003** 15A03 (15A04)

Kurokiba, Masaki (*with* Kusano, Takaši; Wang, Jingfa) Positive solutions of second-order quasilinear differential equations with singular nonlinearities. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1630–1637, 1725; *translation in Differential Equations* **32** (1996), *no.* 12, 1623–1629 (1997). (Marie-Françoise Bidaut-Véron) **99a:34005** 34A12 (34C11, 35B05, 35J60)

— (*with* Tokiwa, Y.) On parabolic equations with quadratic nonlinear terms. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 101–113. (Maura Ughi) **99d:35075** 35K55

— On the Neumann problem for second order elliptic equations in annular domains. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 375–385. (Summary) **99a:35089** 35J65 (34B15)

Kúronya, A. (*with* de Graaf, W. A.; Ivanyos, Gábor; Rónyai, Lajos) Computing Levi decompositions in Lie algebras. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 4, 291–303. (Andrej A. Zolotykh) **99a:17001** 17–04 (16–04, 17B05)

Kurosaki, Satoru (*with* Aizawa, Yoji) Breakup process and geometrical structure of high-dimensional KAM tori. (English summary) *Progr. Theoret. Phys.* **98** (1997), *no.* 4, 783–793. (Ugo Locatelli) **99h:58165** 58F27 (70H05, 70K50)

Kurosawa, Kaoru (*with* Satoh, Takashi) Generalization of higher order SAC to vector output Boolean functions. (English summary) *Advances in cryptology—ASIACRYPT '96 (Kyongju)*, 218–231, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99h:94048** 94A60

— (*with* Satoh, Takashi; Yamamoto, Kentaro) Highly nonlinear t-resilient functions. (English summary) *J.UCS* **3** (1997), *no.* 6, 721–729 (*electronic*). (Summary) **99h:94049** 94A60

— (*with* Desmedt, Yvo; King, Brian; Kishimoto, Wataru) A comment on the efficiency of secret sharing scheme over any finite abelian group. (English summary) *Information security and privacy (Brisbane*, 1998), 391–402, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (Summary) **99j:94042** 94A60

— (*with* Okada, Koji; Saido, Hajime; Stinson, Douglas R.) New combinatorial bounds for authentication codes and key predistribution schemes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 87–100. (Andrea Sgarro) **99m:94032** 94A60 (05B05, 05B15)

— (*with* Yamada, Isao; Hasegawa, Hiroshi; Sakaniwa, Kohichi) Algebraic multidimensional phase unwrapping and zero distribution of complex polynomials—characterization of multivariate stable polynomials. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 6, 1639–1664. (Summary) **99m:93045** 93B60 (93D09, 94A12)

— (*with* Ogata, Wakaha) Some basic properties of general nonperfect secret sharing schemes. (English summary) *J.UCS* **4** (1998), *no.* 8, 690–704 (*electronic*). (Summary) **99h:94052** 94A60

Kurosawa, Shigeru (*with* Yoshimoto, Minoru; Nagashima, Hiroyuki) Effect of noise on chaos in a one-dimensional map. (English summary) *J. Phys. Soc. Japan* **67** (1998), *no.* 6, 1924–1929. (Summary) **99c:58114** 58F13

Kurose, Hideki (*with* Nakagami, Yoshiomi) Compact Hopf *-algebras, quantum enveloping algebras and dual Woronowicz algebras for quantum Lorentz groups. (English summary) *Internat. J. Math.* **8** (1997), *no.* 7, 959–997. (Aldo J. Lazar) **99b:46111** 46L89 (16W30)

— Complexification of quantum algebras and quantum doubles. (Japanese) Profound development of operator algebras (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1024 (1998), 48–54. (*see* **99d:46001**) 46L60 (16W30, 46L05)

Kurose, Ryoichi (*with* Komori, Satoru) Drag and lift forces on a rotating sphere in a linear shear flow. (English summary) *J. Fluid Mech.* **384** (1999), 183–206. 76D99 (76U05)

Kurose, Yoshinori (*with* Yamasaki, Susumu) Soundness of abductive proof procedure with respect to constraint for non-ground abducibles. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 257–281. (Summary) **99i:68021** 68N17 (03B70)

Kurpita, B. I. (*with* Murasugi, Kunio) On the Tutte polynomial. (English summary) *KNOTS '96 (Tokyo)*, 173–183, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:57004** 57M15

— (*with* Murasugi, Kunio) Knots and graphs. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 623–643. (Kouki Taniyama)

99k:57003 57M15 (05C10, 57M25)

— (*with* Murasugi, Kunio) A graphical approach to the Melvin-Morton conjecture. I. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 297–316. (Mark R. Woodard) **99d:57003** 57M25

Kursov, V. V. Crossed products of simple algebras. (Russian. English summary) *Problems in algebra, No.* 8 (*Russian*), 81–92, *Gomel. Gos. Univ., Gomel'*, 1995. (*see* **99g:20004**) 16S35

— Generalized crossed products of algebras. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser.* 1 *Fiz. Mat. Inform.* **1998**, *no.* 1, 47–49, 77. 16S35

Kurtaran, E. (*with* Klyachko, Aleksandr Anatol'evich) Some identities and asymptotics for characters of the symmetric group. *J. Algebra* **206** (1998), *no.* 2, 413–437. (Vasily A. Chernecky) **99h:14033** 14H30 (14H55, 20C30, 30F10)

Kürten, Karl E. (*with* Nicolis, Grégoire) Moment equations and closure schemes in chaotic dynamics. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7331–7340. (Summary) **99f:82042** 82C05 (58F13)

Kurth, Alexandre Equivariant polynomial automorphisms of Θ-representations. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 378–400. (Haruhisa Nakajima) **99g:20080** 20G05 (14L27, 17B70)

Kurth, Dan A solution of Zeno's paradox of motion—based on Leibniz' concept of a contiguum. (German summary) *Studia Leibnitiana* **29** (1997), *no.* 2, 146–166. (Summary) **99m:01005** 01A20 (01A45)

Kurths, Jürgen (*with* Pikovskiĭ, A. S.; Rozenblyum, M. G.) Synchronization transitions in coupled chaotic oscillators. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 39–46, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 70K50 (58F13)

— (*with* Zaks, Mikhail A.; Pikovskiĭ, A. S.) Symbolic dynamics behind the singular continuous power spectra of continuous flows. (English summary) *Phys. D* **117** (1998), *no.* 1-4, 77–94. (Summary) **99b:58083** 58F03 (58F25)

— (*with* Ziehmann, Christine; Smith, Leonard A.) The bootstrap and Lyapunov exponents in deterministic chaos. (English summary) *Phys. D* **126** (1999), *no.* 1-2, 49–59. (Summary) **99j:58145** 58F13

— (*with* Witt, Annette; Braun, Robert; Feudel, Fred; Grebogi, Celso) Tracer dynamics in a flow of driven vortices. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 2, *part A*, 1605–1614. 76F20 (76D05)

Kurtonina, Natasha (*with* de Rijke, Maarten) Expressiveness of concept expressions in first-order description logics. (English summary) *Artificial Intelligence* **107** (1999), *no.* 2, 303–333. (Summary) **99k:68181** 68T27

Kurtz, David C. (*with* Pelka, Jennifer L.) Classification of self-complementary degree sequences. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 117–120. (Summary) **99j:05184** 05C99

Kurtz, Michael J. (*with* Henson, Michael A.) Feedback linearizing control of discrete-time nonlinear systems with input constraints. (English summary) *Internat. J. Control* **70** (1998), *no.* 4, 603–616. (Summary) **99c:93023** 93B18 (93C55, 93D05)

Kurtz, Stuart A. (*with* Mahaney, Stephen R.; Royer, James S.; Simon, Janos) Biological computing. (English summary) *Complexity theory retrospective, II*, 179–195, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q05 (92D20)

— (*with* Fortnow, Lance; Freivalds, Rūsiņš; Gasarch, William I.; Kummer, Martin Walter; Smith, Carl H.; Stephan, Frank) On the relative sizes of learnable sets. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 139–156. (Philip Ross Watson) **99c:68210** 68T05 (03D25, 03D80, 68Q99)

— (*with* Mahaney, Stephen R.; Royer, James S.; Simon, Janos) Active transport in biological computing. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 171–179, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99f:68055** 68Q05 (68Q25)

Kurtz, Thomas G. (*with* Ethier, S. N.) Coupling and ergodic theorems for Fleming-Viot processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 533–561. (Xue Lei Zhao) **99f:60074** 60F99 (60G10, 60G57, 60J60)

— Martingale problems for conditional distributions of Markov processes. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 9, 29 *pp.* (*electronic*). (Amarjit Budhiraja) **99k:60186** 60J25 (60G25, 60G44, 60J35)

— (*with* Stockbridge, Richard H.) Existence of Markov controls and characterization of optimal Markov controls. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 2, 609–653 (*electronic*). (Jean-Pierre Lepeltier) **99b:93051** 93E20 (60G35, 60J25)

Kurumai, Hiroko (*with* Ohtani, Kazuhiro) The exact distribution and density functions of a pre-test estimator of the error variance in a linear regression model with proxy variables. (English summary) *Statist. Papers* **39** (1998), *no.* 2, 163–177. (Summary) **99b:62104** 62J05 (62E15)

Kurumazaki, Hironobu (*with* Kawa, Minako; Nishitani, Yasuaki; Igarashi, Yoshihide) Some modifications of lockout-free mutual exclusion algorithms. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 19–26. (*see* **99i:65003**) 68Q10

Kuruoğlu, Nuri (*with* Aydemir, İsmail; Tosun, Murat) Properties of 2-dimensional space-like ruled surfaces in the Minkowski space $\mathbf{R}^4_1$. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 93–101 (1998). (Alan S. McRae) **99h:53023** 53B30 (53A25, 53A40)

— (*with* Tosun, Murat) On $(K+1)$-dimensional time-like ruled surface in the Minkowski space $\mathbf{R}^4_1$. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 1–9. (V. Oproiu) **99h:53016** 53A35 (53A25)

— (*with* Sarioğlugil, Ayhan) On the characteristic properties of the hyperpedal surfaces in the $(n+1)$-dimensional Euclidean space E^{n+1}. (English summary) *Pure Appl. Math. Sci.* **47** (1998), *no.* 1-2, 23–29. (Hans Sachs) **99g:53009** 53A07 (51N20)

Kuryachiĭ, A. P. (*with* Kazakov, Aleksandr Viktorovich) Linear stability of internal swirling flows. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1767–1773; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1695–1700. (Summary) **99f:76051** 76E10 (76N10)

Kurylev, Yaroslav (*with* Starkov, A. S.) Directional moments in the acoustic inverse problem. *Inverse problems in wave propagation* (*Minneapolis, MN*, 1995), 295–323, *IMA Vol. Math. Appl.*, 90, *Springer, New York*, 1997. (I. Kay) **99b:35216** 35R30 (35J05, 35K05, 35L05, 76Q05)

— (*with* Kachalov, A. P.) Multidimensional inverse problem with incomplete boundary spectral data. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 55–95. (Ghias Hachem) **99b:35213** 35R30 (35J15, 58G25)

Kurz, Ludwik (*with* Boukerrou, Kamel) Suppression of "salt and pepper" noise based on Youden designs. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 217–235. 68U10 (62K10)

Kurz, Thomas (*with* Ohl, Claus-Dieter; Geisler, Reinhard; Lindau, Olgert; Lauterborn, Werner) Bubble dynamics, shock waves and sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 269–294. (*see* **99k:76002**) 76D99 (76L05, 76Q05, 78A99)

Kürzinger, Werner (*with* Kleinert, Hagen; Pelster, Axel) Smearing formula for higher-order effective classical potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 41, 8307–8321. 81Q15 (82C10)

Kurzweil, Jaroslav The set of primitives of Henstock-Kurzweil integrable functions as a convergence vector space. (English summary) Real functions (Liptovský Ján, 1996). *Tatra Mt. Math. Publ.* **14** (1998), 29–37. (Yôto Kubota) **99h:26016** 26A39

Kuś, Marek (*with* Haake, Fritz; Zaitsev, Dmitri; Huckleberry, Alan) Level dynamics for conservative and dissipative quantum systems. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8635–8651. (Alexei Khorunzhy) **99e:82088** 82C41 (15A52)

— (*with* Poźniak, Marcin; Życzkowski, Karol) Composed ensembles of random unitary matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 3, 1059–1071. (Alexei Khorunzhy) **99g:82032** 82B41 (15A52, 60G57, 65U05)

— (*with* Gnutzmann, Sven) Coherent states and the classical limit on irreducible SU_3 representations. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9871–9896. (Apostolos Vourdas) **99m:81091** 81R30 (22E70, 81R05)

Kusaba, Toshio A note on the Riemann-Roch theorem for elliptic curves over **C**. *Proc. Sch. Sci. Tokai Univ.* **33** (1998), 1–4. (James N. Brawner) **99g:14009** 14C40 (14H52)

Kusainova, L. K. On the interpolation of weighted Sobolev spaces. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 5, 33–51. (Irina U. Asekritova) **99f:46047** 46E35 (46M35)

Kusakabe, Koichi (*with* Deguchi, Tetsuo; Yue, Ruihong) A gapless charge mode induced by the boundary states in the half-filled Hubbard open chain. (English summary) *J. Phys. A* **31** (1998), *no.* 36, 7315–7330. (Summary) **99e:82096** 82D35 (82B20)

Kusakari, Yoshiyuki (*with* Nishizeki, Takao) An algorithm for finding a region with the minimum total L_1 from prescribed terminals. (English summary) *Algorithms and computation* (*Singapore*, 1997), 324–333, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99g:68210** 68U05

Kusano, Takaši (*with* Kurokiba, Masaki; Wang, Jingfa) Positive solutions of second-order quasilinear differential equations with singular nonlinearities. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1630–1637, 1725; *translation in Differential Equations* **32** (1996), *no.* 12, 1623–1629 (1997). (Marie-Françoise Bidaut-Véron) **99a:34005** 34A12 (34C11, 35B05, 35J60)

— (*with* Furusho, Yasuhiro) A supersolution-subsolution method for nonlinear biharmonic equations in $\mathbf{R}^N$. *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 749–768. (Introduction) **99g:35033** 35J30 (35B45, 35J60)

— (*with* Naito, Manabu) A singular eigenvalue problem for second order linear ordinary differential equations. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 122–130. (Summary) **99e:34022** 34B05 (34B24, 34C10)

— (*with* Hoshino, Hiroki; Imabayashi, R.; Tanigawa, T.) On second-order half-linear oscillations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 199–216. (E. Müller-Pfeiffer) **99c:34059** 34C10

— (*with* Elbert, Árpád) Principal solutions of non-oscillatory half-linear differential equations. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 745–759. (Ondřej Došlý) **99h:34055** 34C10

— (*with* Naito, Manabu) A singular eigenvalue problem for the Sturm-Liouville equation. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 3, 303–312, 428; *translation in Differential Equations* **34** (1998), *no.* 3, 302–311. (Summary) **99i:34039** 34B24 (34C10, 34L40)

— (*with* Furusho, Yasuhiro) Positive entire solutions to nonlinear biharmonic equations in the plane. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 161–173. (Summary) **99a:35064** 35J60 (35B05)

Kuschel, Norbert (*with* Rackwitz, Rüdiger) Two basic problems in reliability-based structural optimization. (English summary) Structural reliability and stochastic structural optimization. *Math. Methods Oper. Res.* **46** (1997), *no.* 3, 309–333. (Summary) **99a:90099** 90B25 (90C90)

Kushary, Debashis (*with* Bagui, Subhash C.) Minimax classification rule for tail contaminated models. (English summary) *Statist. Decisions* **15** (1997), *no.* 4, 357–364. (Margaret P. Gessaman) **99b:62096** 62H30 (62F15)

— (*with* Cohen, Arthur) Universal admissibility of maximum likelihood estimators in constrained spaces. (English summary) *Statist. Decisions* **16** (1998), *no.* 2, 131–146. (Sam Gutmann) **99i:62041** 62F10 (62C15)

— A note on universal admissibility of scale parameter estimators. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 59–67. (Summary) **99d:62016** 62F10 (62C15)

Kushilevitz, Eyal (*with* Mansour, Yishay) Randomness in private computations. (English summary) *SIAM J. Discrete Math.* **10** (1997), *no.* 4, 647–661. (Summary) **99i:94048** 94A60 (68R05)

— (*with* Mansour, Yishay) Computation in noisy radio networks. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 236–243, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (68M15, 90B10)

— (*with* Mansour, Yishay) An $\Omega(D\log(N/D))$ lower bound for broadcast in radio networks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 3, 702–712 (*electronic*). (Summary) **99b:68018** 68M10

— (*with* Ostrovsky, Rafail; Rosén, Adi) Log-space polynomial end-to-end communication. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1531–1549 (*electronic*). (Summary) **99c:68018** 68M10 (68Q22, 68Q25)

— (*with* Mansour, Yishay; Rabin, Michael O.; Zuckerman, David) Lower bounds for randomized mutual exclusion. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6,

1550–1563 (*electronic*). (Julian Padget) **99h:68066** 68Q22 (60J10, 68Q10, 68Q25)

Kushimoto, Shigeru (*with* Kuwano, Hiroaki) On α-optimal solutions to fuzzy linear programming problems. (Japanese) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 33–36. (*see* **99i:90002**) 90C70 (90C08)

Kushnarenko, Olga (*with* Pinchinat, Sophie) Intensional approaches for symbolic methods. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 14 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q55, 68Q60)

shabanov-Kushnarenko, S. Yu. *see* **Shabanov-Kushnarenko, S. Yu.**

shabanov-Kushnarenko, Yu. P. *see* **Shabanov-Kushnarenko, Yu. P.**

Kushner, H. B. Optimal repeated measurements designs: the linear optimality equations. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2328–2344. (Summary) **99g:62108** 62K05 (62K10)

— Correction: "Optimal repeated measurements designs: the linear optimality equations" [Ann. Statist. **25** (1997), no. 6, 2328–2344; MR 99g:62108]. *Ann. Statist.* **26** (1998), *no.* 5, 2081. 62K05 (62K10)

— Optimal and efficient repeated-measurements designs for uncorrelated observations. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1176–1187. (Weng Kee Wong) **99m:62110** 62K05 (65D30)

— Errata: "Optimality and efficiency of two-treatment repeated measurement designs" [Biometrika **84** (1997), no. 2, 455–468; MR 98k:62134]. *Biometrika* **86** (1999), *no.* 1, 234. 62K05

Kushner, Harold J. Domain decomposition methods for large Markov chain control problems and nonlinear elliptic-type equations. (English summary) *SIAM J. Sci. Comput.* **18** (1997), *no.* 5, 1494–1516. (Min Sun) **99a:65178** 65N55 (65K10, 93E25)

— On closed-loop adaptive noise cancellation. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1103–1107. (Bożenna Pasik-Duncan) **99f:93139** 93E15 (93C90, 93D15)

— Heavy traffic analysis of controlled multiplexing systems. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 79–107. (Leonardo Pasini) **99d:90051** 90B22 (60K25)

— (*with* Budhiraja, Amarjit) Robustness of nonlinear filters over the infinite time interval. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1618–1637 (*electronic*). (O. A. Glonti) **99f:93133** 93E11 (60H10)

Kushner, Paul J. (*with* Held, Isaac M.) Potential vorticity thickness fluxes and wave-mean flow interaction. (English summary) *J. Atmospheric Sci.* **56** (1999), *no.* 7, 948–958. (Summary) **99j:86010** 86A10 (76C15)

Kushnir, A. O. A study of a highly reliable system with protection by the Rényi theorem. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 117–124; *translation in Theory Probab. Math. Statist. No.* 55 (1997), 121–128 (1998). (Summary) **99e:60195** 60K10

Kushnirevich, V. A. (*with* Daletskiĭ, Yurīĭ L'vovich) Formal differential geometry and Nambu-Takhtajan algebra. *Quantum groups and quantum spaces* (*Warsaw*, 1995), 293–302, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Miguel A. Rodríguez) **99b:17036** 17B70

Kushpel', A. K. (*with* Levesley, Jeremy; Light, W. A.) Approximation of smooth functions by sk-splines. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 155–180, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41010** 41A15 (41A63)

— (*with* Gomes, Sônia M.; Levesley, Jeremy; Ragozin, David L.) sk-spline interpolation on the torus using number-theoretic knots. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 143–149, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:41017** 41A15 (65D07)

— (*with* Levesley, Jeremy; Wilderotter, K.) On the asymptotically optimal rate of approximation of multiplier operators from L_p into L_q. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 169–185. (Sorin Gheorghe Gal) **99a:41040** 41A46 (42A45, 47B06)

Kūshyār ibn Labbān *see* **Van Brummelen, Glen, 99h:01013**

Kuske, Dietrich (*with* Shortt, Rae Michael) Topology for computations of concurrent automata. (English summary) *Internat. J. Algebra Comput.* **8** (1998), *no.* 3, 327–362. (Wiesław Zielonka) **99g:68066** 68Q10 (18B20, 68Q55, 68Q70)

Kuske, R. (*with* Keller, Joseph B.) Large deviation theory for stochastic difference equations. (English summary) *European J. Appl. Math.* **8** (1997), *no.* 6, 567–580. (Charles Tier) **99f:60060** 60F10 (39A10, 60H25)

Kuske, Sabine (*with* Andries, Marc; Engels, Gregor; Habel, Annegret; Hoffmann, Berthold; Kreowski, Hans-Jörg; Plump, Detlef; Schürr, Andy; Taentzer, Gabriele) Graph transformation for specification and programming. (English summary) *Sci. Comput. Programming* **34** (1999), *no.* 1, 1–54. 68Q60 (68Q50, 68R10)

Kusner, Robert B. (*with* Sullivan, John M.) Comparing the Weaire-Phelan equal-volume foam to Kelvin's foam. *Forma* **11** (1996), *no.* 3, 233–242. (Béla Uhrin) **99e:52031** 52C22 (49Q05, 53A10)

— (*with* Francis, George K.; Sullivan, John M.; Brakke, Ken A.; Hartman, Chris; Chappell, Glenn) The minimax sphere eversion. (English summary) *Visualization and mathematics* (*Berlin-Dahlem*, 1995), 3–20, *Springer, Berlin*, 1997. (*see* **99g:68212**) 53–04 (53A05)

— (*with* Große-Brauckmann, Karsten; Sullivan, John M.) Constant mean curvature surfaces with cylindrical ends. (English summary) *Mathematical visualization* (*Berlin*, 1997), 107–116, *Springer, Berlin*, 1998. (*see* **99k:65005**) 53A10 (53–04)

— (*with* Sullivan, John M.) On distortion and thickness of knots. *Topology and geometry in polymer science* (*Minneapolis, MN*, 1996), 67–78, *IMA Vol. Math. Appl.*, 103, *Springer, New York*, 1998. (Kazushi Ahara) **99i:57019** 57M25

Kusnezov, Dimitri (*with* Bulgac, Aurel; Dang, Giu Do) Quantum diffusion and tunneling with parametric banded random matrix Hamiltonians. (English summary) *Chaos Solitons Fractals* **8** (1997), *no.* 7-8, 1149–1168. (Jacobus Verbaarschot) **99d:82030** 82B44 (82B35)

Kusraev, A. G. (*with* Kutateladze, S. S.) ★ Subdifferentials: theory and applications. (English summary) Translated from the Russian. Mathematics and its Applications, 323. *Kluwer Academic Publishers Group, Dordrecht*, 1995. x+398 *pp. ISBN* 0-7923-3389-6 (Diethard Pallaschke) **99c:46001** 46–02 (46G05, 46N10, 47H99, 49J52, 58C20)

Kusse, Bruce (*with* Westwig, Erik) ★ Mathematical physics. (English summary) Applied mathematics for scientists and engineers. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xii*+668 *pp. ISBN* 0-471-15431-8 (From the preface) **99g:00011** 00A06

Kussin, Dirk Factorial algebras, quaternions and preprojective algebras. *Algebras and modules, II* (*Geiranger*, 1996), 393–402, *CMS Conf. Proc.*, 24, *Amer. Math. Soc., Providence, RI*, 1998. (Lidia Angeleri Hügel) **99m:16020** 16G20 (14H60)

— Graded factorial algebras of dimension two. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 2, 123–128. (David F. Anderson) **99d:13025** 13F15 (13A02)

Küssner, Martin (*with* Reese, St.; Reddy, B. D.) A new stabilization technique for finite elements in non-linear elasticity. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 11, 1617–1652. (Summary) **99m:73071** 73V05 (73C50)

Kussul', N. N. Investigation of the convergence of a fuzzy observation algorithm for multidimensional dynamical systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 54–60, 157. 93C42 (93B07)

— (*with* Bakan, G. M.) A fuzzy ellipsoid algorithm for filtering the states of a static object. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 77–92, 153. 93E11 (93C41)

Kustermans, J. (*with* Van Daele, Alfons) C^*-algebraic quantum groups arising from algebraic quantum groups. (English summary) *Internat. J. Math.* **8** (1997), *no.* 8, 1067–1139. (Tomasz Brzeziński) **99a:46130** 46L89 (16W30, 17B37, 46L05)

Kusuba, Takanori (*with* Hayashi, Takao) Twenty-one algebraic normal forms of Citrabhānu. (English, Chinese and Japanese summaries) *Historia Math.* **25** (1998), *no.* 1, 1–21. (Victor J. Katz) **99d:01012** 01A32

Kusuda, Masaharu Crossed products of co-C^*-algebras and their applications. (Japanese) Exact C^*-algebras and related topics (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1046 (1998), 29–35. (*see* **99i:46001**) 46L55

Kusunoki, Yoshiyuki (*with* Gunji, Yukio-Pegio; Ito, Keisuke) Formal model of internal measurement: alternate changing between recursive definition and domain equation. (English summary) *Phys. D* **110** (1997), *no.* 3-4, 289–312. (Summary) **99b:03082** 03G30 (18B25)

Kusuoka, Shigeo (*with* Ikeda, Nobuyuki) Short time asymptotics for fundamental solutions of heat equations with boundary conditions. (English summary) *New trends in stochastic analysis* (*Charingworth*, 1994), 182–219, *World Sci. Publishing, River Edge, NJ*, 1997. (Kazuaki Taira) **99k:35076** 35K20 (35A08, 35B40)

— (*with* Zhou, Xian Yin) Waves on fractal-like manifolds and effective energy propagation. (English summary) *Probab. Theory Related Fields* **110** (1998), *no.* 4, 473–495. (Ben Hambly) **99i:58148** 58G16 (35L05, 58G32, 60J60, 73D99)

— *see also* **New trends in stochastic analysis, 99f:60003**

Kutami, Mamoru The property special (DF) for unit-regular rings. *Math. J. Okayama Univ.* **38** (1996), 1–11 (1998). (Weimin Xue) **99e:16014** 16E50

— (*with* Tsunashima, Hironobu) On some properties of simple unit-regular rings. *Comm. Algebra* **26** (1998), *no.* 11, 3821–3835. (Weimin Xue) **99h:16019** 16E50

Kutasov, A. D. (*with* Kudryavtsev, L. D.; Chekhlov, V. I.; Shabunin, M. I.) ★ Сборник задач по математическому анализу. (Russian. Russian summary) [A collection of problems in mathematical analysis] Функции нескольких переменных. [Functions of several variables] *Fizmatlit "Nauka"*, *Moscow*, 1995. 496 *pp. ISBN* 5-02-013953-X (Publisher's description) **99h:00004** 00A07 (26–01, 46–01)

Kutasov, David (*with* Elitzur, Shmuel; Giveon, Amit; Tsabar, David) Branes, orientifolds and chiral gauge theories. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 251–268. (David S. Berman) **99f:81196** 81T60 (81T13)

— Brane dynamics and gauge theory. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 310–318. (Joan Simón Soler) **99g:81211** 81T60 (81T13, 81T30)

Kutateladze, S. S. (*with* Kusraev, A. G.) ★ Subdifferentials: theory and applications. (English summary) Translated from the Russian. Mathematics and its Applications, 323. *Kluwer Academic Publishers Group, Dordrecht*, 1995. x+398 *pp. ISBN* 0-7923-3389-6 (Diethard Pallaschke) **99c:46001** 46–02 (46G05, 46N10, 47H99, 49J52, 58C20)

— *see also* **Kantorovich, L. V., 99f:01030** *and* **Sobolev, Sergeĭ L'vovich, 99g:65029b**

Kutbay, Ü. (*with* Janssen, H. K.; Oerding, K.) Equation of state for directed percolation. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1809–1817. 82B43 (82B28)

Kutev, Nikolai (*with* Kawohl, Bernd) Image processing and anisotropic diffusion. *Progress in partial differential equations, Vol.* 1 (*Pont-à-Mousson*, 1997), 191–199, *Pitman Res. Notes Math. Ser.*, 383, *Longman, Harlow*, 1998. (*see* **99d:35003**) 94A12 (35K55, 35R30)

— (*with* Kawohl, Bernd) Strong maximum principle for semicontinuous viscosity solutions of nonlinear partial differential equations. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 470–478. (Summary) **99d:35022** 35B50 (35D05, 35J60, 49L25)

— (*with* Tomi, F.) Existence and nonexistence for the exterior Dirichlet problem for the minimal surface equation in the plane. *Differential Integral Equations* **11** (1998), *no.* 6, 917–928. (Zhi Ren Jin) **99m:35062** 35J60 (49Q05, 58E12)

— (*with* Kawohl, Bernd) Maximum and comparison principle for one-dimensional anisotropic diffusion. *Math. Ann.* **311** (1998), *no.* 1, 107–123. (Achilles Tertikas) **99h:35110** 35K60 (35B05, 35B50)

Kutkut, Mahmoud Some results on the class of 2-quasinormal operator. (English summary) *J. Fract. Calc.* **14** (1998), 113–121. (S. J. Bernau) **99j:47031** 47B20

Kutlu, K. On homogeneous Riemann boundary value problem. (English and Turkish summaries) *Turkish J. Math.* **20** (1996), *no.* 3, 399–411. (Sergeĭ Grudskiĭ) **99c:30070** 30E25

Kutluay, S. (*with* Bahadir, A. R.; Özdeş, A.) Numerical solution of one-dimensional Burgers equation: explicit and exact-explicit finite difference methods. (English summary) *J. Comput. Appl. Math.* **103** (1999), *no.* 2, 251–261. (Summary) **99k:65075** 65M06

Kutoyants, Yurii On density estimation by the observations of ergodic diffusion processes. (English summary) *Statistics and control of stochastic processes* (*Moscow*, 1995/1996), 253–274, *World Sci. Publishing, River Edge, NJ*, 1997. (P. S. Knopov) **99m:62128** 62M09 (62G05)

— Efficiency of the empirical distribution for ergodic diffusion. (English summary) *Bernoulli* **3** (1997), *no.* 4, 445–456. (Marianne Huebner) **99d:62055** 62G20 (62M05)

— (*with* Dietz, Hans M.) A class of minimum-distance estimators for diffusion processes with ergodic properties. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 211–227.

(Věra Lánská) **99b:62126** 62M05 (60J60, 62F12)
— ★ Statistical inference for spatial Poisson processes. (English summary) Lecture Notes in Statistics, 134. *Springer-Verlag, New York*, 1998. *viii+276 pp. ISBN* 0-387-98562-X (Paul I. Nelson) **99k:62149** 62M09 (62G05)
Kutrib, Martin (*with* Buchholz, Thomas) On time computability of functions in one-way cellular automata. (English summary) *Acta Inform.* **35** (1998), *no.* 4, 329–352. (Summary) **99k:68115** 68Q80 (03D05, 03D15)
Kutscher, Tuvia (*with* Cohen, Nir) On spherical convergence, convexity, and block iterative projection algorithms in Hilbert space. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 2, 271–291. (Dan Butnariu) **99i:47113** 47H17 (47H06, 47H09, 65J15)
von Kutschera, Franz T × W completeness. (English summary) *J. Philos. Logic* **26** (1997), *no.* 3, 241–250. (G. Mirkowska) **99j:03012** 03B45
Kutsenko, A. A. (*with* Kirichenko, N. F.; Chekotun, K. M.) Identification of the geometrical-topological features of images by the method of autocorrelation transformations. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 1, 138–152, 156. (Summary) **99d:68242** 68U10
Kutsenko, I. A. (*with* Garashchenko, F. G.) Practical stability of discrete processes, estimates, and their optimization. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 50–60, 154. (Summary) **99e:93057** 93D10 (93C55)
Kutten, Shay (*with* Blundo, Carlo; De Santis, Alfredo; Herzberg, Amir; Vaccaro, Ugo; Yung, Moti) Perfectly secure key distribution for dynamic conferences. (English summary) *Inform. and Comput.* **146** (1998), *no.* 1, 1–23. (Luis Hernández Encinas) **99j:94039** 94A60
— (*with* Peleg, David) Fast distributed construction of small k-dominating sets and applications. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 40–66. (Summary) **99b:68151** 68R10 (68Q25)
— (*with* Garay, Juan A.; Peleg, David) A sublinear time distributed algorithm for minimum-weight spanning trees. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 302–316 (*electronic*). (Summary) **99b:68148** 68R10 (05C05, 05C85, 68Q22, 68Q25)
— (*with* Peleg, David) Fault-local distributed mending. (English summary) *J. Algorithms* **30** (1999), *no.* 1, 144–165. 68M10 (90C35)
— (*with* Awerbuch, Baruch; Cidon, Israel; Mansour, Yishay; Peleg, David) Optimal broadcast with partial knowledge. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 512–525 (*electronic*). (Summary) **99d:90048** 90B12 (68Q22, 94A05)
Kuttler, J. R. (*with* Cureton, L. M.) Eigenvalues of the Laplacian on regular polygons and polygons resulting from their dissection. (English summary) *J. Sound Vibration* **220** (1999), *no.* 1, 83–98. (Summary) **99j:35025** 35J05 (35J25, 65N25, 73D30, 76Q05, 78A40)
Kuttler, Kenneth L. (*with* Frémond, Michel; Nedjar, Boumediene; Shillor, Meir) One-dimensional models of damage. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 541–570. (Ramon Quintanilla) **99k:35172** 35Q72 (73B05, 73K05, 73M25)
— (*with* Frémond, Michel; Shillor, Meir) Existence and uniqueness of solutions for a dynamic one-dimensional damage model. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 271–294. (Alain Brillard) **99k:73071** 73F15 (35Q72)
golenishcheva-Kutuzova, Maria I. *see* **Golenishcheva-Kutuzova, Maria I.**
Kutyłowski, Mirosław (*with* Wanka, Rolf) Playing Tetris on meshes and multi-dimensional Shearsort. (English summary) *Algorithms and computation* (*Singapore*, 1997), 32–41, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99f:68102** 68Q25 (68P10, 68Q22)
— (*with* Ďuriš, Pavol; Jurdziński, Tomasz; Loryś, Krzysztof) Power of cooperation and multihead finite systems. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 896–907, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68100** 68Q42 (68Q05)
— (*with* Czumaj, Artur; Kanarek, Przemysława; Loryś, Krzysztof) Fast generation of random permutations via networks simulation. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 2–20. (Summary) **99b:68091** 68Q22 (68R05)
— (*with* Loryś, Krzysztof; Oesterdiekhoff, B.) Periodic merging networks. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 551–578. (Summary) **99d:68054** 68P10 (68M10)
Kutyniok, Gitta (*with* Kaniuth, Eberhard) Zeros of the Zak transform on locally compact abelian groups. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3561–3569. (Walter Schempp) **99b:43003** 43A32 (43A15, 43A40)
Kutz, J. Nathan (*with* Mielke, Alexander; Holmes, Philip J.) Global existence and uniqueness for an optical fibre laser model. (English summary) *Nonlinearity* **11** (1998), *no.* 6, 1489–1504. (Summary) **99f:35194** 35Q55 (78A60)
Kutzarova, Denka (*with* Nikolova, Lyudmila I.; Prus, Stanisław) Infinite-dimensional geometric properties of real interpolation spaces. (English summary) *Math. Nachr.* **191** (1998), 215–228. (Yu. I. Petunin) **99e:46100** 46M35 (46B20, 46B70)
— (*with* Aleksandrov, G. A.; Plichko, A. N.) A separable space with no Schauder decomposition. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2805–2806. (Summary) **99m:46020** 46B15
Kutzko, Philip C. (*with* Bushnell, Colin J.; Henniart, Guy M.) Correspondance de Langlands locale pour GL_n et conducteurs de paires. (English and French summaries) [Local Langlands correspondence for GL_n and conductors for pairs] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 4, 537–560. (Rebecca Herb) **99h:22011** 22E40 (22E35)
— (*with* Pantoja, José) Character formulas for supercuspidal representations of the groups GL_2, SL_2. *Comm. Algebra* **26** (1998), *no.* 6, 1679–1697. (Ajay Kumar) **99h:22023** 22E50 (22E35)
— (*with* Bushnell, Colin J.; Henniart, Guy M.) Local Rankin-Selberg convolutions for GL_n: explicit conductor formula. *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 703–730. (Roman Bezrukavnikov) **99h:22022** 22E50 (11F70, 11S37)
Kutzschebauch, Frank (*with* Derksen, Harm) Nonlinearizable holomorphic group actions. *Math. Ann.* **311** (1998), *no.* 1, 41–53. (Dennis Snow) **99d:32043** 32M05 (14L30)
— Compact and reductive subgroups of the group of holomorphic automorphisms of $\mathbf{C}^n$. Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 81–93. (Dennis Snow) **99k:32054** 32M05 (14L30)
Kuusik, Rein Extracting of all maximal cliques: monotone system approach. (English, Russian and Estonian summaries) *Proc. Est. Acad. Sci. Eng.* **1** (1995), *no.* 2, 113–138. (Marek Kubale) **99k:05151** 05C85 (68R10)
Kuusk, P. (*with* Paal, Eugen) Some applications of geodesic loops and nonlinear geometric algebra in the theory of gravity. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 67–76. (Vladislav Goldberg) **99a:83053** 83C99 (20N05, 22A30, 53C22)
Kuvshinov, B. N. (*with* Pegoraro, F.; Rem, J.; Schep, T. J.) Drift-Alfvén vortices with finite ion gyroradius and electron inertia effects. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 713–728. (Summary) **99k:76163** 76X05
Kuvshinov, V. I. (*with* Ermolaev, E. A.; Zhestkov, S. V.) Classes of exactly solvable degenerate systems of universal nonlinear partial differential equations. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 6, 845–846, 864; *translation in Differential Equations* **33** (1997), *no.* 6, 849–851 (1998). (Florin Iacob) **99d:35011** 35A25 (35C05, 35E15, 35F20)
Kuwae, Kazuhiro (*with* Uemura, Toshihiro) Weak convergence of symmetric diffusion processes. II. (English summary) *Probability theory and mathematical statistics* (*Tokyo*, 1995), 266–275, *World Sci. Publishing, River Edge, NJ*, 1996. (Zhen-Qing Chen) **99e:60176** 60J60 (31C25, 60F17)
— Recurrence and conservativeness of symmetric diffusion processes by Girsanov transformations. *J. Math. Kyoto Univ.* **37** (1997), *no.* 4, 735–756. (Tu Sheng Zhang) **99g:60141** 60J60 (31C25)
— (*with* Uemura, Toshihiro) Weak convergence of symmetric diffusion processes. (English summary) *Probab. Theory Related Fields* **109** (1997), *no.* 2, 159–182. (Zhen-Qing Chen) **99e:60175** 60J60 (31C25, 60F17)
— Functional calculus for Dirichlet forms. *Osaka J. Math.* **35** (1998), *no.* 3, 683–715. (Niels Jacob) **99h:31014** 31C25 (47B99, 60H05)
Kuwahara, Kunio (*with* Kwak, Ho Sang; Hyun, Jae Min) Symmetric flow of a modified Hadley cell model with a free surface. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 81–109. (Summary) **99c:76048** 76E20 (76M25, 76R05, 86A10)
— *see also* **Gustafson, Karl, 99b:00008**
Kuwamura, Masataka A case study on the reduction theory of non-linear PDE. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 73–80, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:00026**) 35A30 (35Q35, 76D05)
Kuwano, Hiroaki (*with* Maeda, Takashi[2]) Inverse problems in fuzzy linear programming problems. (Japanese) Optimization theory in discrete and continuous mathematics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1015 (1997), 183–193. (*see* **99b:90009**) 90C70 (90C05)
— (*with* Kushimoto, Shigeru) On α-optimal solutions to fuzzy linear programming problems. (Japanese) Dynamic decision systems in uncertain environments (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1048 (1998), 33–36. (*see* **99i:90002**) 90C70 (90C08)
Kuwert, Ernst (*with* Duzaar, Frank) Minimization of conformally invariant energies in homotopy classes. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 4, 285–313. (Martin Fuchs) **99d:58045** 58E20
Kuypers, Heinrich (*with* Rössler, Otto E.; Parisi, Jürgen) Gravitational slowing down of clocks implies proportional size increase. (English summary) *A perspective look at nonlinear media*, 370–372, *Lecture Notes in Phys.*, 503, *Springer, Berlin*, 1998. (Summary) **99d:83080** 83C99 (83A05, 83C57)
Kuyucak, Serdar (*with* Hoyles, Matthew; Chung, Shin-Ho) Solutions of Poisson's equation in channel-like geometries. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 1, 45–68. 65N55 (65–04)
Kuzenko, Sergei M. N-extended local supersymmetry of massless particles in spaces of constant curvature. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 466–469, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T60
— (*with* Bukhbinder, I. L.) On the off-shell massive hypermultiplets. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, L157–L162. (Summary) **99f:81191** 81T60 (81T13)
— (*with* Dragon, Norbert) The Higgs mechanism in $N = 2$ superspace. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 1-2, 229–244. (Ilya Shapiro) **99b:81233** 81T60 (81T13)
— (*with* Bukhbinder, I. L.) ★ Ideas and methods of supersymmetry and supergravity. (English summary) Or a walk through superspace. Revised edition. Studies in High Energy Physics Cosmology and Gravitation. *IOP Publishing, Ltd., Bristol*, 1998. *xx+656 pp. ISBN* 0-7503-0506-1 (From the preface) **99g:81208** 81T60 (53C80, 58C50, 81–02, 81T13, 83E50)
— (*with* Bukhbinder, E. I.; Ivanov, Evgeniĭ Alekseevich[2]; Bukhbinder, I. L.) Central charge as the origin of holomorphic effective action in $N = 2$ gauge theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 13, 1071–1082. (Piet Termonia) **99h:81204** 81T60 (81T13, 81T15)
— (*with* Bukhbinder, I. L.) Comments on the background field method in harmonic superspace: non-holomorphic corrections in $N = 4$ SYM. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 20, 1623–1635. (Ilya Shapiro) **99f:81192** 81T60
— (*with* Dragon, Norbert; Ivanov, Evgeniĭ Alekseevich[2]; Sokatchev, E.; Theis, U.) $N = 2$ rigid supersymmetry with gauged central charge. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 411–450. (Ilya Shapiro) **99k:81303** 81T60 (81T13)
— (*with* Bukhbinder, E. I.; Bukhbinder, I. L.) Non-holomorphic effective potential in $N = 4$ SU(n) SYM. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 216–223. (Summary) **99i:81223** 81T60 (81T13, 81T15)
Kuzenkov, O. A. Optimal cooling of a section of a solid body. (English summary) Nonlinear dynamical systems: qualitative analysis and control, No. 3. *Comput. Math. Model.* **7** (1996), *no.* 4, 393–398. (N. L. Vulchanov) **99a:35105** 35K05 (49N55, 80A20)
— Optimal separation of a specified harmonic using feedback in the presence of phase constraints. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 147–152. (*see* **99b:93002**) 93B52 (93C20)
Kuzhel', S. A. On the form of a scattering matrix for p-perturbations of an abstract wave equation. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 34–38. (Dmitriy S. Kalyuzhniy) **99k:47020** 47A40 (47B25, 47N20)

Kuzin, I. (*with* Pokhozhaev, Stanislav Ivanovich) ★ Entire solutions of semilinear elliptic equations. (English summary) Progress in Nonlinear Differential Equations and their Applications, 33. *Birkhäuser Verlag, Basel*, 1997. vi+250 *pp. ISBN* 3-7643-5323-6 (Alexandra Kurepa) **99d:35050** 35J60 (35B05)

Kuzmanović, D. (*with* Vukobrat, M.) The conservation laws in theory of rods. (English and Serbian summaries) *Theoret. Appl. Mech.* **24** (1998), 155–165. 73K05

Kuz′min, A. S. (*with* Nechaev, A. A.) Formal duality of linearly presentable codes over a Galois field. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 263–276, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99g:94020** 94B05

— (*with* Nechaev, A. A.) Trace-function on a Galois ring in coding theory. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 277–290, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Giorgio Faina) **99m:94049** 94B05 (94B27)

— (*with* Kamlovskiĭ, O. V.) Distribution of elements on cycles of linear recurrent sequences over Galois rings. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 2(320), 149–150; *translation in Russian Math. Surveys* **53** (1998), *no.* 2, 392–393. (Igor E. Shparlinski) **99e:11022** 11B50

Kuzmin, Yevgeniy (*with* Daniel, Marc) Curves on surfaces for computer graphics: theoretical results. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 239–246, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65241** 65Y25 (65D17)

Kuz′min, Yu. V. (*with* Semenov, Yu. S.) On the homology of a free nilpotent group of class 2. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 4, 49–82; *translation in Sb. Math.* **189** (1998), *no.* 3-4, 527–560. (Phạm Anh Minh) **99e:20065** 20J05 (20D15)

Kuz′mina, G. V. Methods of the geometric theory of functions. II. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 5, 1–50; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 5, 889–930. (S. R. Nasyrov) **99c:30047a** 30C70 (30C25, 30C75)

— In memory of Gennadiĭ Mikhaĭlovich Goluzin (1906–1952). (Russian) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov.* (*POMI*) **237** (1997), *Anal. Teor. Chisel i Teor. Funkts.* 14, 5–10; *translation in J. Math. Sci.* (*New York*) **95** (1999), *no.* 3, 2175–2177. 01A70

— Erratum: "Methods of the geometric theory of functions. I, II" [Algebra i Analiz **9** (1997), no. 3, 41–103; MR 98h:30041; ibid. **9** (1997), no. 5, 1–50; MR 99c:30047a]. (Russian) *Algebra i Analiz* **10** (1998), *no.* 3, 223. (S. R. Nasyrov) **99c:30047b** 30C70 (30C25, 30C75)

Kuz′mina, L. V. (*with* Kalitkin, N. N.; Maevskiĭ, E. V.) Rotationally invariant splines. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 5, 583–586. 41A15

Kuz′minov, V. I. (*with* Shvedov, I. A.) Normal solvability of the exterior differentiation operator on warped products. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 2, 324–337, ii; *translation in Siberian Math. J.* **37** (1996), *no.* 2, 276–287. (Jürgen Eichhorn) **99b:58012** 58A12 (58G05)

— (*with* Shvedov, I. A.) L_p-theory of differential forms on warped products. (Russian. Russian summary) *Algebra, geometry, analysis and mathematical physics* (*Russian*) (*Novosibirsk*, 1996), 110–120, 190, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1997. (Józef Dodziuk) **99e:58002** 58A12 (58G05)

— (*with* Shvedov, I. A.) L_p-theory of differential forms on warped products [translation of *Algebra, geometry, analysis and mathematical physics (Russian) (Novosibirsk, 1996)*, 110–120, 190, Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk, 1997; MR 99e:58002]. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 74–89. 58A12 (58G05)

— (*with* Shvedov, I. A.) On orthogonal direct sum decomposition of de Rham complexes of warped products of Riemannian manifolds. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 2, 354–368, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 2, 311–322. (Jürgen Eichhorn) **99k:58168** 58G05 (58A12)

Kuz′minykh, A. V. On mappings preserving only some distances. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 225–234, *Brepols, Turnhout*, 1998. (Summary) **99m:51026** 51K05

— On a partition of sets into homothetic parts. *Geombinatorics* **8** (1998), *no.* 2, 50–54. (Satgur Prasad Khare) **99j:05015** 05A18

Kuz′minykh, V. A. On the global regularization of orbits of relative motion in a variant of the *n*-body problem. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 1, 75–79; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 1, 71–74. (Summary) **99b:70009** 70F10

Kuznetsov, A. O. (*with* Vel′misov, Petr A.; Kireev, S. V.) Stability and bifurcation of a plate in a supersonic gas flow. (English summary) *Applications of mathematics in engineering* (*Sozopol*, 1998), 41–46, *Heron Press, Sofia*, 1999. (*see* **99m:00024**) 73K70 (73H05, 76J20)

Kuznetsov, E. B. Transformation of equations with retarded argument to the best argument. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 62–68; *translation in Math. Notes* **63** (1998), *no.* 1-2, 55–60. (Summary) **99c:34147** 34K05

— On an approach to the integration of Euler kinematic equations. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1806–1813; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1732–1738. (Summary) **99i:70002** 70-08 (34A45, 70B10)

Kuznetsov, Evgeniĭ Alekseevich Sharply 2-transitive permutation groups. I. (English summary) *Quasigroups Related Systems* **2** (1995), *no.* 1, 83–100. (Johannes Siemons) **99b:20005** 20B22 (20M20, 20N05)

Kuznetsov, G. A. (*with* Ushakov, V. I.; Kungurtseva, A. V.) ★ Функции многих переменных. (Russian. Russian summary) [Functions of several variables] Предел, непрерывность, дифференцируемость. [Limit, continuity, differentiability] *Chelyabinsk. Gos. Univ., Chelyabinsk*, 1997. 88 *pp. ISBN* 5-230-19982-2 26-01

Kuznetsov, K. A. (*with* Kiseleva, E. M.) On the solution of the continuous stochastic problem of optimal partitioning with reconstruction of the objective function. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997,** *no.* 6, 81–88, 151. (Summary) **99k:90156** 90C30 (90C15)

Kuznetsov, K. V. (*with* Bogomolov, S. V.) The particle method for a system of equations of gas dynamics. (Russian. English and Russian summaries) *Mat. Model.* **10** (1998), *no.* 7, 93–100. 76M25 (76N15)

— (*with* Bogomolov, S. V.; Zamaraeva, A. A.; Karabelli, Kh.) A conservative particle method for a quasilinear transport equation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 9, 1602–1607. (From the text) **99k:76106** 76M25 (76P05)

Kuznetsov, M. I. (*with* Benkart, Georgia; Gregory, Thomas) On graded Lie algebras of characteristic three with classical reductive null component. (English summary) *The Monster and Lie algebras* (*Columbus, OH*, 1996), 149–164, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Saeid Azam) **99i:17033** 17B70 (17B10, 17B20)

Kuznetsov, M. V. (*with* Maslennikova, V. N.) Solution of the stationary flow problem in the Stokes formulation in the spaces $L^2_p(\Omega)$. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 908–930, *iii*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 784–805. (Vladimir V. Shelukhin) **99j:35167** 35Q30 (76D07)

Kuznetsov, Michael I. *see* **Kuznetsov, M. I.**

Kuznetsov, N. *see* **Kuznetsov, N. G.**

Kuznetsov, N. A. (*with* Asarin, E. A.; Kozyakin, V. S.; Krasnosel′skiĭ, Mark Aleksandrovich) ★ Анализ устойчивости рассинхронизованных дискретных систем. (Russian. English and Russian summaries) [Analysis of the stability of asynchronous discrete systems] "*Nauka*", *Moscow*, 1992. 408 *pp. ISBN* 5-02-006946-9 93D05 (39A11)

— (*with* Krasnosel′skiĭ, Mark Aleksandrovich; Rachinskiĭ, D. I.) Nonlinear potential systems with incomplete corrections. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 7, 11–17; *translation in Automat. Remote Control* **57** (1996), *no.* 7, *part* 1, 918–924. (A. Ya. Dorogovtsev) **99c:47120** 47H99 (34D05, 39A11, 47N10)

— (*with* Krasnosel′skiĭ, Mark Aleksandrovich; Yumagulov, M. G.) Functionalization of the parameter and the asymptotics of cycles in the Hopf bifurcation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 11, 22–28; *translation in Automat. Remote Control* **57** (1996), *no.* 11, *part* 1, 1548–1553 (1997). (L. Górniewicz) **99d:34063** 34C23

— (*with* Krasnosel′skiĭ, Mark Aleksandrovich; Yumagulov, M. G.) An operator method for analyzing the stability of cycles in the Hopf bifurcation. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996,** *no.* 12, 15–24; *translation in Automat. Remote Control* **57** (1996), *no.* 12, *part* 1, 1701–1708 (1997). (L. Górniewicz) **99d:34064** 34C23 (34D99, 47N20)

— (*with* Krasnosel′skiĭ, Mark Aleksandrovich; Rachinskiĭ, D. I.; Mèrts, R.) Iterative procedures with incomplete corrections, and the solution of nonlinear equations. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997,** *no.* 8, 46–56; *translation in Automat. Remote Control* **58** (1997), *no.* 8, *part* 1, 1285–1293 (1998). (A. M. Galperin) **99d:65164** 65H10 (47H17)

Kuznetsov, N. G. (*with* Linton, C. M.) Non-uniqueness in two-dimensional water wave problems: numerical evidence and geometrical restrictions. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2437–2460. (Frédéric Dias) **99e:76010** 76B15 (35Q35, 76M25)

— (*with* McIver, P.) On uniqueness and trapped modes in the water-wave problem for a surface-piercing axisymmetric body. (English summary) *Quart. J. Mech. Appl. Math.* **50** (1997), *no.* 4, 565–580. (Summary) **99j:76011** 76B15 (35Q35)

— (*with* Porter, Richard; Evans, D. V.; Simon, M. J.) Uniqueness and trapped modes for surface-piercing cylinders in oblique waves. (English summary) *J. Fluid Mech.* **365** (1998), 351–368. (Summary) **99d:76011** 76B15 (35Q35)

— (*with* Motygin, O. V.) On the resistanceless statement of the two-dimensional Neumann-Kelvin problem for a surface-piercing tandem. (English summary) *IMA J. Appl. Math.* **62** (1999), *no.* 1, 81–99. (F. Ursell) **99m:76019** 76B15 (35Q35)

Kuznetsov, S. A. *see* **Chebotarev Research Institute of Mathematics and Mechanics, 99k:01085**

Kuznetsov, S. V. *see* **Kuznetsov, Sergeĭ Vladimirovich²**

Kuznetsov, Sergei E. (*with* Dynkin, E. B.) Natural linear additive functionals of superprocesses. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 640–661. (John Verzani) **99c:60168a** 60J60 (60J45, 60J55, 60J80)

— (*with* Dynkin, E. B.) Nonlinear parabolic P.D.E. and additive functionals of superdiffusions. (English summary) *Ann. Probab.* **25** (1997), *no.* 2, 662–701. (John Verzani) **99c:60168b** 60J60 (35K55, 60J55, 60J80)

— σ-moderate solutions of $Lu = u^\alpha$ and fine trace on the boundary. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1189–1194. (Summary) **99g:35032** 35J25 (35B05)

— Polar boundary sets for superdiffusions and removable lateral singularities for nonlinear parabolic PDEs. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 3, 303–340. (Ross Pinsky) **99c:35111** 35K57 (60J80)

— (*with* Dynkin, E. B.) Fine topology and fine trace on the boundary associated with a class of semilinear differential equations. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 8, 897–936. (Kazuaki Taira) **99f:35046** 35J60 (31B35, 35B05, 60J45)

— Removable lateral singularities of semilinear parabolic PDEs and Besov capacities. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 366–383. (Jiří Rákosník) **99m:35095** 35K20 (31B35, 46E35)

— (*with* Dynkin, E. B.) Trace on the boundary for solutions of nonlinear differential equations. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4499–4519. (Ren Ming Song) **99a:60084** 60J60 (35J60, 60J45, 60J80)

— (*with* Dynkin, E. B.) Solutions of nonlinear differential equations on a Riemannian manifold and their trace on the Martin boundary. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4521–4552. (John Verzani) **99c:60168c** 60J60 (35J60, 58G32, 60J80)

Kuznetsov, Sergeĭ Vladimirovich² Some singular solutions in the theory of elasticity. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 5, 877–879; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 5, 863–865. (Summary) **99c:73014** 73C02 (73B40)

— (*with* Kaptsov, A. V.) Spatially periodic fundamental solutions in the theory of vibrations. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 3, 525–527; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 3, 489–491. (Summary) **99m:73030** 73D30 (73B40)

Kuznetsov, V. N. *see* **Kuznetsov, Valentin Nikolaevich**

Kuznetsov, V. V. *see* **Kuznetsov, Viktor Vasil′evich**

Kuznetsov, Vadim B. ${}_3F_2(1)$ hypergeometric function and quadratic R-matrix algebra. (English summary) *Symmetries and integrability of difference equations* (*Estérel, PQ*, 1994), 185–197, *CRM Proc. Lecture Notes*, 9, *Amer. Math. Soc., Providence, RI*, 1996. (V. Leksin) **99a:33002; EA 99m** 33C05 (17B35, 33C55, 39A70)

— (*with* Nijhoff, Frank; Sklyanin, E. K.) Separation of variables for the Ruijsenaars system. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 3, 855–877. (V. A. Golubeva) **99a:58092** 58F07 (33C80, 33C90, 70F10, 81U40, 81V70)

— (*with* Sklyanin, E. K.) On Bäcklund transformations for many-body systems. (English summary) *J. Phys. A* **31** (1998), *no.* 9, 2241–2251. (Kazuhiro Hikami) **99d:81187** 81V70 (58F37)

Kuznetsov, Valentin Nikolaevich (*with* Krys'ko, V. A.; Polyakova, S. V.) Operator approach to a geometrically nonlinear problem of static stability of plates and shells. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 40–46; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 37–43. (From the text) **99e:73069** 73K15 (35Q72, 73H05)

Kuznetsov, Viktor Vasil'evich (*with* Levyakov, S. V.) Multiple branching of solutions in the theory of kinematic groups. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 6, 772–774; *translation in Phys. Dokl.* **42** (1997), *no.* 12, 705–708. (Stan Chiriţă) **99a:73077** 73H05

— (*with* Levyakov, S. V.) Multivalued solutions of three-dimensional problems of nonlinear deformation of thin curvilinear rods. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 141–149. (Summary) **99h:73041** 73K05 (73C50, 73H05, 73V05)

— (*with* Levyakov, S. V.) Analysis of nonlinear solutions with several singular points in problems of three-dimensional deformation of rods. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 6, 148–153. (Summary) **99m:73044** 73K05 (73H05)

Kuznetsov, Yu. *see* **Kuznetsov, Yurīĭ Alekseevich**[1]

Kuznetsov, Yu. A. *see* **Kuznetsov, Yurīĭ Alekseevich**[1]

Kuznetsov, Yu. I. The new analytic tools of the space $\mathbf{R}^n$. (English summary) *Computational modelling and computing in physics (Dubna, 1996)*, 203–209, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65F30

Kuznetsov, Yurīĭ Alekseevich[1] (*with* Achdou, Yves; Abdulaev, G. S.; Hontand, Jean-Claude; Pironneau, Olivier; Prud'homme, Christophe) Nonmatching grids for fluids. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 3–22, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76103** 76M25 (65M50, 65N50)

— (*with* Glowinski, Roland) On the solution of the Dirichlet problem for linear elliptic operators by a distributed Lagrange multiplier method. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 693–698. (Summary) **99f:65165** 65N30 (65F35)

— (*with* Hoppe, Ronald H. W.; Iliash, Yu.; Vasilevskiĭ, Yu. V.; Wohlmuth, Barbara I.) Analysis and parallel implementation of adaptive mortar element methods. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 223–248. (Dao Qi Yang) **99m:65237** 65N55

— Overlapping domain decomposition with non-matching grids. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 4, 299–308. (Summary) **99i:65141** 65N55

— (*with* Heikkola, Erkki; Neittaanmäki, Pekka; Toivanen, Jari) Fictitious domain methods for the numerical solution of two-dimensional scattering problems. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 89–109. (Summary) **99d:65347** 65N55

— (*with* Hebeker, F. K.) Unsteady convection and convection-diffusion problems via direct overlapping domain decomposition methods. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 3, 387–406. (Lutz Tobiska) **99j:65155** 65M55 (76M25, 76Rxx)

— (*with* Lipnikov, K. N.) 3D Helmholtz wave equation by fictitious domain method. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 371–387. (G. W. Hedstrom) **99i:76124** 76M25 (65N22, 76Q05)

Kuznetsova, N. A. Asymptotic behavior on the half-axis of solutions of a second-order degenerate differential equation with a parameter. (Russian) *Algebra and mathematical analysis (Russian)*, 3–8, *Novosibirsk. Gos. Univ., Novosibirsk*, 1990. (*see* **99m:00019**) 34E05

Kuznetsova, O. I. On a class of N-dimensional trigonometric series. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 3, 402–406; *translation in Math. Notes* **63** (1998), *no.* 3-4, 352–356. (Summary) **99d:42014** 42B05 (42A16)

Kuznetsova, O. V. On the history of the many-worlds interpretation of quantum mechanics. (Russian) *Studies in the history of physics and mechanics*, 1991–1992 (*Russian*), 66–77, "*Nauka*", *Moscow*, 1997. (Ė. S. Kryachko) **99j:81004** 81–03 (81P05)

Kuzumaki, T. (*with* Kanemitsu, Shigeru) On a generalization of the Maillet determinant. *Number theory (Eger*, 1996), 271–287, *de Gruyter, Berlin*, 1998. (Kurt Girstmair) **99h:11122** 11R20 (11R29)

Kuzuoglu, Mustafa (*with* Mittra, Raj) Finite element solution of electromagnetic problems over a wide frequency range via the Padé approximation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 263–277. 78–08 (78A40)

Kuzutin, Denis V. Stability of solutions in conflict dynamical systems. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 124–132, 249, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 90D10 (90D40)

— (*with* Osokina, Olga P.; Romanenko, Irene A.) On the consistency of optimal behavior in extensive games. *Game theory and applications, III*, 65–76, *Nova Sci. Publ., Commack, NY*, 1997. (*see* **98g:90008**) 90D06

— (*with* Osokina, Olga P.; Romanenko, Irene A.) On the consistency of optimal behavior in extensive games. *Int. J. Math. Game Theory Algebra* **7** (1998), *no.* 2-3, 139–150. (H. Abou-Kandil) **99f:90196** 90D10 (90D12)

Kuzyutin, V. F. (*with* Zhuk, V. V.) ★ Аппроксимация функций и численное интегрирование. (Russian. Russian summary) [Approximation of functions and numerical integration] *Izdatel'stvo Sankt-Peterburgskogo Universiteta, St. Petersburg*, 1995. 352 *pp. ISBN* 5-288-01072-2 (Bl. Sendov) **99j:41001** 41–02 (41A55, 65D15, 65D32)

— Analysis of five-point quadratures based on estimates of their errors. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes (Russian)*, 118–123, 248–249, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 65D32

Kvamsdal, Trond (*with* Okstad, Knut Morten) Error estimation based on superconvergent patch recovery using statically admissible stress fields. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 443–472. (Summary) **99a:73124** 73V05

Kvanvig, J. L. Truth and superassertibility. *Philos. Stud.* **93** (1999), *no.* 1, 1–19. 03A05

Kvasov, Boris I. Shape preserving spline approximation via local algorithms. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme*, 1995), 181–196, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41026** 41A29 (41A15, 65D17)

— (*with* Sattayatham, Pairote) Generalized tension B-splines. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc*, 1996), 247–254, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D07 (65D10)

— Shape preserving C^2 spline interpolation. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 430–438, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 41A29 (41A15)

— (*with* Sattayatham, Pairote) GB-splines of arbitrary order. (English summary) *J. Comput. Appl. Math.* **104** (1999), *no.* 1, 63–88. (Peter Alfeld) **99m:41013** 41A15 (41A29)

Kvatadze, Z. A. Limit theorems for conditionally m-dependent random variables. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 1, 29–32 (1995). (Dalibor Volný) **99m:60033** 60F05 (60G10)

Kvernadze, George Determination of the jumps of a bounded function by its Fourier series. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 167–190. (Naza Tanović-Miller) **99m:42005** 42A10 (41A10, 42C10)

Kvinikadze, George On some boundary value problems for high order ordinary differential equations. (English and Georgian summaries) *Mem. Differential Equations Math. Phys.* **13** (1998), 99–118. (Joseph E. Paullet) **99d:34036** 34B15

Kvirikashvili, T. G. The fundamental theorem of affine geometry over rings. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 196–197 (1994). 51A99 (13C10)

— On a generalization of the fundamental theorem of projective geometry. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 1, 42–48 (1996). 51A05 (13C13)

— (*with* Lashkhi, A. A.) Perspective maps of modules. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 3, 328–330. 16D40

Kwack, Myung H. (*with* Joseph, James E.) Families of Bloch functions on higher-dimensional complex spaces. (English summary) *Complex Variables Theory Appl.* **32** (1997), *no.* 4, 299–319. (Summary) **99d:32003** 32A37 (32C15)

— (*with* Joseph, James E.) The arithmetic-mean–geometric-mean inequality derived from closed polynomial functions. *Missouri J. Math. Sci.* **11** (1999), *no.* 2, 103–106. 26D15

Kwai, Ding-Ming (*with* Parhami, Behrooz) Pruned three-dimensional toroidal networks. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 4, 179–183. 68M10

Kwak, Do Y. (*with* Kang, Kab Seok) Convergence estimates for multigrid algorithms. (English summary) *Comput. Math. Appl.* **34** (1997), *no.* 9, 15–22. (Ricardo G. Durán) **99a:65176** 65N55 (65N30)

— (*with* Chen, Zhangxin) $\mathscr{V}$-cycle Galerkin-multigrid methods for nonconforming methods for nonsymmetric and indefinite problems. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 17–35. (Stephen W. Brady) **99j:65226** 65N55 (65N30)

— (*with* Chou, So-Hsiang) A covolume method based on rotated bilinears for the generalized Stokes problem. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 494–507 (*electronic*). (Bruce A. Finlayson) **99d:65302** 65N15 (76D07, 76M25)

— (*with* Chou, So-Hsiang; Vassilevski, Panayot S.) Mixed covolume methods for elliptic problems on triangular grids. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 1850–1861 (*electronic*). (Robert Beauwens) **99k:65105** 65N30 (65F10, 65N22)

— (*with* Chen, Zhangxin; Yon, Yoon J.) Multigrid algorithms for nonconforming and mixed methods for nonsymmetric and indefinite problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 2, 502–515 (*electronic*). (Summary) **99b:65140** 65N30 (65F10, 65N22)

Kwak, Dong Je (*with* Anderson, D. D.; Chapman, Scott T.) Integral domains with highly nonunique factorization. (English summary) *Results Math.* **33** (1998), *no.* 1-2, 22–29. (Muhammad Zafrullah) **99b:13002** 13A05 (13G05, 20M14)

Kwak, Ho Sang (*with* Kuwahara, Kunio; Hyun, Jae Min) Symmetric flow of a modified Hadley cell model with a free surface. (English summary) *Geophys. Astrophys. Fluid Dynam.* **87** (1998), *no.* 1-2, 81–109. (Summary) **99c:76048** 76E20 (76M25, 76R05, 86A10)

Kwak, Jin Ho (*with* Lee, Jaeun) Isomorphism classes of bipartite cycle permutation graphs. (English summary) *Ars Combin.* **50** (1998), 139–148. (Summary) **99i:05147** 05C60 (05C25)

— (*with* Lee, Jaeun) Distribution of branched $\mathbf{D}_p$-coverings of surfaces. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 193–212. (Allan Edmonds) **99e:57006** 57M12 (57M15, 57M60)

— (*with* Feng, Rong-Quan; Kim, Juyoung; Lee, Jaeun) Isomorphism classes of concrete graph coverings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 265–272 (*electronic*). (Michael Hofmeister) **99k:05062** 05C10 (05C30, 57M15)

Kwak, Minkyu (*with* Baek, Jeong-Seon) A degenerate parabolic equation with absorption. II. Uniqueness of the very singular solution. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference (Taejon*, 1996), 13 *pp., Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Summary) **99g:35073** 35K65 (35B99)

— A porous media equation with absorption. I. Long time behaviour. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 96–110. (Vladimir Grebenev) **99e:35096a** 35K55 (35Q35, 76S05)

— A porous media equation with absorption. II. Uniqueness of the very singular solution. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 111–125. (Vladimir Grebenev) **99e:35096b** 35K55 (35Q35, 76S05)

— A semilinear heat equation with singular initial data. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 745–758. (Summary) **99e:35097** 35K55

Kwak, Sehoon (*with* Pozrikidis, C.) Adaptive triangulation of evolving, closed, or open surfaces by the advancing-front method. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 61–88. 65D17 (65N30, 76D99, 76M25)

Kwak, Yoon Keun (*with* Park, Kyihwan; Kim, Soo-Hyun) Adaptive control for time optimal tracking systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 951–964. 93C40 (49N35)

Kwakernaak, Huibert Frequency domain solution of the $\mathscr{H}_\infty$ problem for descriptor systems. (English summary) *Learning, control and hybrid systems (Bangalore*, 1998), 317–336, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B36 (93–02)

Kwan, C.-M. Robust adaptive control of induction motors. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 539–552. 93C95 (93D21)

— Author's reply to: "Comments and further results regarding: 'On variable structure output feedback controllers'" [IEEE Trans. Automat. Control **43** (1998), no. 9, 1338–1340] by L. Hsu and F. Lizarralde. *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1340. 93B12 (93B52)

— *see also* **Hsu, Liu**

Kwan, Yum K. Asymptotic Bayesian analysis based on a limited information estimator. (English summary) *J. Econometrics* **88** (1999), *no.* 1, 99–121. (Summary) **99m:62034** 62F15 (62P20)

Kwapień, Stanisław (*with* Hitczenko, Paweł; Li, Wenbo V.; Schechtman, Gideon; Schlumprecht, Thomas; Zinn, Joel) Hypercontractivity and comparison of moments of iterated maxima and minima of independent random variables. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 2, 26 *pp.* (*electronic*). (From the text) **99k:60008** 60B11 (52A21, 60E07, 60E15, 60G15)

Kwapisz, Jaroslaw On quotient-convergence factors. *J. Math. Anal. Appl.* **209** (1997), *no.* 1, 299–307. (B. G. Pachpatte) **99k:39021** 39A10 (47N20)

— (*with* Kalies, William D.; VanderVorst, R. C. A. M.) Homotopy classes for stable connections between Hamiltonian saddle-focus equilibria. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 337–371. (Patricio L. Felmer) **99g:34102** 34C37 (34C35, 58F05, 58F15, 70H05)

— (*with* Swanson, Richard) Asymptotic entropy, periodic orbits, and pseudo-Anosov maps. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 2, 425–439. (Konstantin Athanassopoulos) **99e:58123** 58F11 (58F15, 58F20)

— Monotonicity of rotation set for toroidal chaos of a resonantly kicked linear oscillator. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 547–555. (Peter Ashwin) **99h:58094** 58F08 (54H20, 70K40, 78A35)

Kwapisz, Marian On difference equations concerning the problem of capital deposits. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 381–389, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:90012** 90A09 (39A10)

— The power of a matrix. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 703–705 (*electronic*). 15A99 (39A10)

Kwasik, Sławomir (*with* Schultz, Reinhard E.) On h-cobordisms of spherical space forms. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1525–1532. (C. B. Thomas) **99h:57063** 57R80 (57S25)

Kwaśniewski, A. K. (*with* Jaroszewski, I.) On a dynamics of the Möbius mapping and Clifford numbers. (English summary) *Adv. Appl. Clifford Algebras* **6** (1996), *no.* 2, 183–192. (Michael V. Shapiro) **99c:39024** 39B12 (30G35)

— (*with* Jaroszewski, I.) Some extensions of properties of the sequence of reciprocal Fibonacci polynomials. *Fibonacci Quart.* **36** (1998), *no.* 4, 348–353. 11B39

Kwatny, Harry G. (*with* Chang, Bor Chin) Constructing linear families from parameter-dependent nonlinear dynamics. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1143–1147. 93B18 (93C10)

— (*with* Prosser, Joseph H.; Kam, Moshe) Online supervisor synthesis for partially observed discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1630–1634. (Wende Chen) **99h:93067** 93C83 (93B07)

— (*with* Blankenship, G. L.) Computational methods for control of dynamical systems. *Symbolic methods in control system analysis and design*, 353–387, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93–02)

Kwee, B. On Mercerian sets for $(\overline{N}, p_n)$ means. *J. Nat. Acad. Math. India* **10** (1992/96), 23–29 (1997). (S. M. Mazhar) **99e:40006** 40E05 (40C05)

Kwek, L. C. (*with* Oh, Choo-Hiap) Solving higher simplex equations using computer algebra. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 410–415, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (16S99, 81R50)

— (*with* Oh, Choo-Hiap) The general q-oscillator algebra and its coherent states. (English summary) Quantum groups and integrable systems (Prague, 1998). *Czechoslovak J. Phys.* **48** (1998), *no.* 11, 1423–1428. (Shao-Ming Fei) **99m:81097** 81R50 (81R30)

— (*with* Wang, Xiang-bin; Oh, Choo-Hiap) General approach to functional forms for the exponential quadratic operators in coordinate-momentum space. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4329–4336. (Summary) **99c:81080** 81R30

Kwek, S. (*with* Pitt, Leonard) PAC learning intersections of halfspaces with membership queries. (English summary) *Algorithmica* **22** (1998), *no.* 1-2, 53–75. (Summary) **99h:68143** 68T05 (68Q99)

Kweon, Jae Ryong (*with* Kellogg, R. Bruce) Smooth solution of the compressible Navier-Stokes equations in an unbounded domain with inflow boundary condition. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 657–675. (Mariarosaria Padula) **99b:35169** 35Q30 (76N10)

— A stability result for the compressible Stokes equations using discontinuous pressure. (English summary) *J. Korean Math. Soc.* **36** (1999), *no.* 1, 159–171. (Long An Ying) **99m:65214** 65N30 (65N15, 76M10, 76N10)

Kwiat, Paul G. (*with* Weinfurter, Harald) Embedded Bell-state analysis. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 4, *R*2623–*R*2626. (Summary) **99f:81014** 81P05 (81P15)

Kwiatkowska, M. Z. (*with* Norman, G. J.) A testing equivalence for reactive probabilistic processes. (English summary) *Fifth International Workshop on Expressiveness in Concurrency* (*EXPRESS* '98) (*Nice*), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 16, *No.* 2, *Elsevier, Amsterdam*, 1998. (*see* **99f:68013**) 68Q10 (68Q60)

— (*with* Norman, G. J.) A fully abstract metric-space denotational semantics for reactive probabilistic processes. (English summary) *Third Workshop on Computation and Approximation* (*Comprox III*) (*Birmingham*, 1997), 33 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 13, *Elsevier, Amsterdam*, 1998. (Summary) **99m:68114** 68Q55

— (*with* Baier, Christel) On the verification of qualitative properties of probabilistic processes under fairness constraints. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 2, 71–79. (Summary) **99c:68168** 68Q60 (68Q10)

— *see also* **Workshop: Computation and Approximation, 99i:00013**

Kwiatkowski, Jan Inverse limit of M-cocycles and applications. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 261–276. (Mahesh Nerurkar) **99h:28036** 28D05 (54H05)

Kwiecińska, Grażyna Approximately continuous multivalued functions in abstract spaces. *Proceedings of the Eighth Prague Topological Symposium* (1996), 191–197 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54A10 (54C05, 54C60)

— (*with* Ślęzak, W.) On complete measurability of multifunctions defined on product spaces. *Acta Math. Univ. Comenian.* (*N.S.*) **66** (1997), *no.* 2, 293–305. (O. Lipovan) **99g:54011** 54C60 (26E25, 28B20)

Kwieciński, Michał MacPherson's graph construction. *Algebraic geometry* (*Ankara*, 1995), 135–155, *Lecture Notes in Pure and Appl. Math.*, 193, *Dekker, New York*, 1997. (A. Sinan Sertöz) **99a:14065** 14J60 (14F05)

— Flatness and fibred powers. (English summary) *Manuscripta Math.* **97** (1998), *no.* 2, 163–173. (P. Abellanas) **99h:14017** 14E99 (13C11)

— Remarks on the local geometry of analytic maps. (English summary) Singularities and complex analytic geometry (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1033 (1998), 140–147. (A. Sinan Sertöz) **99j:32008** 32C18

— A complex map with complex topology. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 397–399. (Summary) **99c:14026** 14E40

Kwiesielewicz, M. A note on the fuzzy extension of Saaty's priority theory. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 161–172. (Summary) **99a:90014** 90A05 (03B52)

Kwok, Sau Fa Note on generalization of Shannon theorem and inequality. (English summary) *J. Phys. A* **31** (1998), *no.* 40, 8159–8164. (Summary) **99i:94023** 94A17

Kwon, Ern Gun (*with* Kim, Yong Chan; Lee, Jin Seop) On some radius results for normalized analytic functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 51–60. (Frode Rønning) **99b:30015** 30C45

— Properties of a sequence space $l(s,t)$. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 269–280. (Summary) **99k:40011** 40H05 (46A45)

— Weighted subspaces of Hardy spaces and area integrals. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 253–260. (S. Norvidas (Zbl 907.30041)) **99k:30065** 30D55 (46E15)

— (*with* Lee, Sang Keun; Shon, Kwang Ho) A Rado type refinement of Minkowski's and Hölder's inequality. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 245–250. (Lucio Renato Berrone) **99m:26030** 26D15 (28A35)

— (*with* Shon, Kwang Ho; Lee, Sang Keun) Pseudoconvexity of Riemann domains over a product of complex planes. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 347–352. (Marek Jarnicki) **99i:32022** 32F15 (46E99)

Kwon, Hwang-hyun (*with* Green, Michael B.; Gutperle, Michael) Sixteen-fermion and related terms in M-theory on T^2. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 149–161. (Summary) **99a:81139** 81T30

Kwon, Hyo T. (*with* Park, Sung Hyun) Slope-rotatable designs with equal maximum directional variance for second order response surface models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 11, 2837–2851. (Summary) **99j:62108** 62K05

Kwon, Jae-Hoon (*with* Hong, Jin) Decomposition of free Lie algebras into irreducible components. (English summary) *J. Algebra* **197** (1997), *no.* 1, 127–145. (Hartmut Laue) **99c:17006** 17B01

Kwon, Joong-Sung Probability inequalities for product of symmetrized Poisson processes and their applications. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 725–741. (Małgorzata Majsnerowska) **99j:60026** 60E15 (60G17, 60G55)

— (*with* Jang, Lee-Chae) A note on law of large numbers for fuzzy numbers in a Banach space. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 77–81. (Summary) **99f:46111** 46S40 (46B09)

— (*with* Jang, Lee-Chae) A uniform strong law of large numbers for partial sum processes of fuzzy random variables indexed by sets. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 97–103. 60F99

— On the limits of sums of fuzzy numbers. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 153–161. (Osmo Kaleva) **99f:04005** 04A72 (60F99)

— (*with* Jang, Lee-Chae) A uniform strong law of large numbers for partial sum processes of Banach space-valued random sets. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 21–25. (Summary) **99c:60068** 60F15 (60D05)

Kwon, Jung-Hwan (*with* Cho, Kwan-Ho; Sohn, Won-Ho) Cosymplectic conformal curvature tensor and spectrum of the Laplacian in cosymplectic manifolds. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 333–346. (Novica Blažić) **99i:58150** 58G25 (53C15)

— (*with* Suh, Young Jin) On semi-Riemannian submersions of codimension one. (English summary) *Math. J. Toyama Univ.* **20** (1997), 15–35. (João Lucas Marques Barbosa) **99c:53073** 53C50

— (*with* Pak, Jin Suk) CR-submanifolds of $(n-1)$ CR-dimension in a complex projective space. (English summary) *Saitama Math. J.* **15** (1997), 55–65. (Sorin Dragomir) **99d:53057** 53C40 (53C15)

— (*with* Choi, Soon Meen; Suh, Young Jin) A Liouville-type theorem for complete Riemannian manifolds. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 301–309. (Qing Ming Cheng) **99d:53033** 53C20 (53C40, 53C42)

— On some CR-submanifolds of $(n-1)$ CR-dimension in a complex projective space. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 85–94. (Bang-yen Chen) **99a:53070** 53C40

— An integral formula on contact CR-submanifolds of an odd-dimensional unit sphere. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 79–86. (Mukut Mani Tripathi) **99m:53107** 53C40 (53C25)

— (*with* Suh, Young Jin) A new characterization of homogeneous real hypersurfaces in complex space forms. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 77–90. (Jürgen Berndt) **99e:53078** 53C40

Kwon, Kil Hyun (*with* Littlejohn, Lance L.; Yoo, B. H.) New characterizations of classical orthogonal polynomials. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 2, 199–213. (M. E. Muldoon) **99g:33026** 33C45 (34A99, 42C05)

— (*with* Jung, Il Hyo; Lee, Dong Won[1]) Markov type inequalities for difference operators and discrete classical orthogonal polynomials. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 335–342, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:33009** 33C45 (39A70)

— (*with* Everitt, W. N.; Littlejohn, Lance L.; Wellman, R.) On the spectral analysis of the Laguerre polynomials $\{L_n^{-k}(x)\}$ for positive integers k. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems* (*Knoxville, TN*, 1996), 251–283, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Hans W. Volkmer) **99b:33016** 33C45 (34B30, 34L10, 34L40, 47E05)

— (*with* Jung, Il Hyo; Lee, Jeong Keun) Sobolev orthogonal polynomials relative to $\lambda p(c)q(c) + \langle \tau, p'(x)q'(x)\rangle$. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 603–617. (Peter A. McCoy) **99f:42050** 42C05 (33C45)

— (*with* Han, S. S.; Jung, Il Hyo; Lee, Jeong Keun) A non-standard class of Sobolev orthogonal polynomials. (English summary) *Commun. Korean Math. Soc.* **12** (1997),

no. 4, 935–950. (Leonid B. Golinskiĭ) **99h:42044** 42C05

— (*with* Park, S. B.) Two-point masses perturbation of regular moment functionals. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 1, 79–93. (Pascal Maroni) **99d:42044** 42C05

— (*with* Lee, Dong Won[1]; Park, S. B.) New characterizations of discrete classical orthogonal polynomials. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 156–171. (Summary) **99c:42045** 42C05

— (*with* Jung, Il Hyo; Yoon, G. J.) Differential equations of infinite order for Sobolev-type orthogonal polynomials. (English summary) *J. Comput. Appl. Math.* **78** (1997), *no.* 2, 277–293. (Summary) **99f:33012** 33C45 (34A35, 42C05)

— (*with* Lee, Dong Won[1]; Littlejohn, Lance L.) Differential equations having orthogonal polynomial solutions. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 1–16. (Hussain S. Nur) **99d:33009** 33C45 (34A30, 34B99)

— (*with* Yoon, G. J.) Symmetrizability of differential equations having orthogonal polynomial solutions. (English summary) *J. Comput. Appl. Math.* **83** (1997), *no.* 2, 257–268. (Hans W. Volkmer) **99b:33019** 33C45 (34A99)

— (*with* Littlejohn, Lance L.) Classification of classical orthogonal polynomials. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 973–1008. (Hans W. Volkmer) **99k:33028** 33C45 (34B30, 42C15)

— (*with* Kim, Deok H.; Marcellán, Francisco; Park, S. B.) Sobolev-type orthogonal polynomials and their zeros. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 423–444. (Antonio J. Durán) **99h:33042** 33C45

— (*with* Jung, H. S.) Convergence of a quadrature formula for variable-signed weight functions. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 275–288. (De Hui Chen) **99d:65079** 65D32 (41A55)

— (*with* Jung, H. S.) Mean convergence of Hermite-Fejér and Hermite interpolation for Freud weights. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 219–238. (Saulius Norvidas) **99m:41009** 41A10 (42C05)

— (*with* Kim, Yong-Jihn; Lee, Jeong Keun) Partial differential equations having orthogonal polynomial solutions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 239–253. (Summary) **99j:35007** 35A25 (33C45, 35C05)

— (*with* Lee, Dong Won[1]; Park, S. B.; Yoo, B. H.) Discrete classical orthogonal polynomials. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 145–162. (Summary) **99g:33027** 33C45 (39A10, 39A12)

Kwon, Oh-Heum (*with* Kim, Sook-Yeon; Chwa, Kyung-Yong) Embeddings of butterflies into hypermeshes. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 3, 337–350. (Summary) **99h:68133** 68R10 (05C10, 05C85, 68M10)

Kwon, Oh Sang (*with* Kim, J. A.; Cho, Nak Eun; Owa, Shigeyoshi) Certain subclasses of meromorphically multivalent functions. (English summary) *J. Bihar Math. Soc.* **17** (1996), 1–8. (Summary) **99j:30010** 30C45

— (*with* Lee, Sang Keun; Kim, In Hwa; Cho, Nak Eun) Certain subclasses of meromorphic starlike functions. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 545–555. (G. Lakshma Reddy) **99g:30012** 30C45

— (*with* Cho, Nak Eun) Hadamard products of certain meromorphic univalent functions. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 297–307. (Alan D. Gluchoff) **99b:30017** 30C45

— (*with* Cho, Nak Eun) Generalizations of Hadamard products of certain analytic functions. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 3, 1–8. (K. S. Padmanabhan) **99d:30017** 30C45

Kwon, Pyung Seong (*with* Park, Eun Kyung) Negative energy and unusual compactification in $M_4 \times T^D$ Kaluza-Klein theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 124004, 6 *pp.* (Summary) **99m:83178** 83E15

Kwon, Soon-Geol (*with* Keinert, Fritz) High accuracy reconstruction from wavelet coefficients. (English summary) *Appl. Comput. Harmon. Anal.* **4** (1997), *no.* 3, 293–316. (Ruud van Damme) **99a:42020** 42C15

— Quadrature formulas for wavelet coefficients. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 911–925. (Don Hong) **99d:65081** 65D32 (42C15)

— Wavelet representation of derivative operators: alternative derivation. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 629–640. (Summary) **99k:42062** 42C15 (41A35)

Kwon, Soun-Hi (*with* Park, Young Ho) Determination of all non-quadratic imaginary cyclic number fields of 2-power degree with relative class number ≤ 20. *Acta Arith.* **83** (1998), *no.* 3, 211–223. (Stéphane Louboutin) **99a:11125** 11R29

— (*with* Chang, Ku-Young) Class number problem for imaginary cyclic number fields. (English summary) *J. Number Theory* **73** (1998), *no.* 2, 318–338. (Franz Lemmermeyer) **99i:11102** 11R29 (11R18)

Kwon, Wook Hyun (*with* Moon, Young Soo; Ahn, Sang Chul) Bounds in algebraic Riccati and Lyapunov equations: a survey and some new results. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 377–389. 93C05 (93B40)

— (*with* Lee, Jae-Won[1]; Lee, Joon Hwa) Receding horizon H^∞ tracking control for time-varying discrete linear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 385–399. 93B36 (93C55)

— (*with* Park, Byung-Gun; Lee, Jae-Won[1]) Robust one-step receding horizon control for constrained systems. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 7, 381–395. 93B35 (93C55)

Kwon, Yong Hoon (*with* Kang, Sungkwon) A nonlinear Galerkin method for the Burgers equation. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 467–478. (Summary) **99k:65096** 65M60 (76D05, 76M25)

— (*with* Cho, Chung-Ki; Guo, Ben Yu) A new approach for numerical identification of conductivity. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 265–283. (Summary) **99k:34025** 34A55 (34B05, 65L99, 76M25, 76S05)

Kwon, Young In (*with* Lee, Sang Keun) Some special elements in ordered Γ-semigroups. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}. *Kyungpook Math. J.* **35** (1996), *no.* 3, *Special Issue*, 679–685. (Friedrich Wehrung) **99m:06029** 06F05

— (*with* Lee, Sang Keun) On characterizations of right [left] semiregular po-semigroups. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 507–511. (Mark Verus Lawson) **99g:06021** 06F05 (20M12)

— (*with* Lee, Sang Keun) On the left right weakly prime ideals of po-Γ-semigroups. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 77–84. (Elias Deeba) **99m:06040** 06F35 (03G25, 20M12)

— (*with* Lee, Sang Keun) On completely regular and quasi-completely regular ordered semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 247–251. (Juturu Hanumanthachari) **99k:06009** 06F05 (20M99)

Kwon, Youngmee On reflected diffusion with discontinuous coefficient. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 419–425. (Jörg-Uwe Löbus) **99i:60150** 60J60 (60G44)

— Reflected diffusion with jump and oblique reflection. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 269–278. (Elton Pei Hsu) **99i:60151** 60J60

Kwong, R. H. (*with* Down, D.) Generalized minimum variance adaptive control and parameter convergence for stochastic systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 1, 147–160. 93E35

— (*with* Hashtrudi Zad, S.; Wonham, W. M.) Supremum operators and computation of supremal elements in system theory. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 3, 695–709 (*electronic*). (Bart De Schutter) **99m:93046** 93B99 (47A99, 68Q20)

Kwong, S. (*with* Man, K. F.; Tang, K. S.) ★ Genetic algorithms. (English summary) Concepts and designs. With 1 IBM-PC floppy disk (3.5 inch; HD). Advanced Textbooks in Control and Signal Processing. *Springer-Verlag London, Ltd., London*, 1999. *xii*+344 *pp. ISBN* 1-85233-072-4 (Publisher's description) **99m:90001** 90–02 (65K05, 90C27, 90C90)

Kwong, Y. R. (*with* Johnson, N. F.; Jarvis, S.; Jonson, R.; Cheung, Ping; Hui, Pak-ming) Volatility and agent adaptability in a self-organizing market. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 230–236. 90A60

Kwun, Young-Chel (*with* Park, Jong Yeoul; Jeong, Jin-Mun) Regularity and controllability for semilinear control system. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 3, 239–252. (Angelo Favini) **99e:34114** 34K30 (34K35, 93B05)

— (*with* Park, Jong Yeoul; Han, Hyo-Keun) Approximate controllability of second order integrodifferential systems. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 9, 941–950. (Vasile Drăgan) **99k:93025** 93B05 (34K35, 93C25)

— (*with* Park, Jong Yeoul; Jeong, Jin-Mun) Optimal problem of regular cost function for retarded system. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 115–126. (Florin Iacob) **99a:49032** 49K25 (34K35)

— (*with* Balachandran, Krishnan; Park, Dong Gun) Nonlinear integrodifferential equations of Sobolev type with nonlocal conditions in Banach spaces. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 223–231. (P. P. Zabreĭko) **99k:45021** 45J05 (34K30, 47N20)

nguyễn xuân Kỳ *see* **Nguyễn Xuân Kỳ**

Kỳ, Nguyen Xuan *see* **Nguyễn Xuân Kỳ**

phạm Kỳ Anh *see* **Phạm Kỳ Anh**

Kyatkin, Alexander B. (*with* Chirikjian, Gregory S.) Fourier methods on groups: applications in robot kinematics and motion planning. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 363–373, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 93C85 (65T20, 70B15)

— (*with* Chirikjian, Gregory S.) Regularized solutions of a nonlinear convolution equation on the Euclidean group. (English summary) *Acta Appl. Math.* **53** (1998), *no.* 1, 89–123. (Summary) **99i:43008** 43A30 (45L05, 65R20)

Kyaw, Aung (*with* Min Aung) Maximal trees with bounded maximum degree in a graph. (English summary) *Graphs Combin.* **14** (1998), *no.* 3, 209–221. (Jenő Lehel) **99h:05067** 05C35 (05C05)

Kyburg, Henry E., Jr. Uncertain inferences and uncertain conclusions. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 365–372, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99a:68156** 68T27 (03B60)

— Quantities, magnitudes, and numbers. (English summary) *Philos. Sci.* **64** (1997), *no.* 3, 377–410. (Philip L. Quinn) **99b:03021** 03B30 (03A05)

— Approximate validity. (English summary) *Learning and reasoning with complex representations* (*Cairns*, 1996), 61–77, *Lecture Notes in Comput. Sci.*, 1359, *Springer, Berlin*, 1998. (*see* **99f:68003**) 03B60 (68T27)

Kyncl, Jan Dominant eigenvalue problem for positive integral operators and its solution by Monte Carlo method. (English summary) *Appl. Math.* **43** (1998), *no.* 3, 161–171. (Summary) **99b:65004** 65C05 (65J10)

Kyoda, Yoshiaki (*with* Imai, Keiko; Takeuchi, Fumihiko; Tajima, Akira) A branch-and-cut approach for minimum weight triangulation. (English summary) *Algorithms and computation* (*Singapore*, 1997), 384–393, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68U05

Kyparisis, George J. (*with* Koulamas, Christos) Open shop scheduling to minimize the number of late jobs. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 5, 525–532. (Summary) **99c:90067** 90B35

Kyriannakis, Efthimios (*with* Tzafestas, Spyros G.; Anthopoulos, Yiannis) Model-based predictive control of large-scale systems using a neural estimator. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 585–598. 93B30 (93C40)

Kyriazidou, Ekaterini Testing for serial correlation in multivariate regression models. (English summary) *J. Econometrics* **86** (1998), *no.* 2, 193–220. (Yuzo Hosoya) **99m:62138** 62M10 (62P20)

Kyriazis, G. C. (*with* DeVore, Ronald A.; Wang, P.) Multiscale characterizations of Besov spaces on bounded domains. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 273–292. (H. Wallin) **99e:46040** 46E35 (41A17, 41A63)

— Maximal functions and smoothness spaces in $L_p(\mathbf{R}^d)$. (English summary) *Studia Math.* **128** (1998), *no.* 3, 219–241. (Weixing Zheng) **99i:42024** 42B25 (46E35)

Kythe, Prem K. ★ Computational conformal mapping. (English summary) *Birkhäuser Boston, Inc., Boston, MA*, 1998. *xvi*+462 *pp. ISBN* 0-8176-3996-9 (Matti Vuorinen) **99k:65027** 65E05 (30C30, 65–00)

Kytmanov, A. M. (*with* Myslivets, S. G.) On the holomorphicity of functions representable by the logarithmic residue formula. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 2, 351–361, iii; *translation in Siberian Math. J.* **38** (1997), *no.* 2, 302–311. (Harold P. Boas) **99b:32011** 32D15 (32A25, 32A27)

— (*with* Tsikh, I. A.) On the holomorphic continuation of CR-hyperfunctions into a fixed domain. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **38** (1997), *no.* 6, 1319–1334,

iii; *translation in Siberian Math. J.* **38** (1997), *no.* 6, 1146–1159. (Sergey Ivashkovich) **99e:32015** 32D15 (32A45)

— (*with* Myslivets, S. G.) On an application of the Bochner-Martinelli operator. (English summary) *Operator theory for complex and hypercomplex analysis* (*Mexico City*, 1994), 133–136, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Harold P. Boas) **99b:32012** 32D15 (32A25)

— (*with* Myslivets, S. G.) On the holomorphic continuation of functions along complex curves. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 3, 302–304. (Marek Jarnicki) **99c:32012** 32D15

Kyung, Sung Nae Chapman-Robbins-type and Bayesian lower bounds based on diffusivity for median-unbiased estimators. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 4, 445–452. (Chris A. J. Klaassen) **99g:62024** 62F10

Kyung-Joon, Cha *see* **Cha, Kyung-Joon**

Kyurkchan, A. G. (*with* Manenkov, S. A.) A new method for solving the problem of diffraction by a compact obstacle in a plane-layered medium. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Radiofiz.* **41** (1998), *no.* 7, 874–888; *translation in Radiophys. and Quantum Electronics* **41** (1998), *no.* 7, 589–599 (1999). (Summary) **99f:78014** 78A45

Kyurkchiev, Nikolaĭ V. ★ Initial approximations and root finding methods. (English summary) Mathematical Research, 104. *Wiley-VCH Verlag Berlin GmbH, Berlin*, 1998. 180 *pp. ISBN* 3-527-40132-6 (Miodrag Petković) **99h:65002** 65–02 (65H05)

— (*with* Zheng, Shi-ming; Marinov, P.) Parallel iteration for splitting factors of polynomials. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 201–210. 65H05 (65Y05)

Kyurkchiev, Vesselin N. On the optimal fast calculation of the solution of an elliptic equation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 4, 565–574. (Stephen W. Brady) **99a:65184** 65N99

Kzaz, M. Gaussian quadrature and acceleration of convergence. (English summary) *Numer. Algorithms* **15** (1997), *no.* 1, 75–89. (Klaus-Jürgen Förster) **99c:41058** 41A55 (65B05, 65D30)

— Convergence acceleration of the Gauss-Laguerre quadrature formula. (English summary) *Appl. Numer. Math.* **29** (1999), *no.* 2, 201–220. (G. A. Evans) **99j:65035** 65D32

–L–

La, Rémy (*with* Guély, Francois; Siarry, Patrick) Fuzzy rule base learning through simulated annealing. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 353–363. 68T05

van Laak, O. (*with* Möllers, Th.) On the global approximation and interpolation of locally described real-valued functions. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 1–10. (R. Franke) **99e:65016** 65D15

Laake, Petter (*with* Anderson, T. W.) Exact and approximate distributions of the maximum likelihood estimate in a simple factor analysis model. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 39–51. (Imbi Traat) **99e:62094** 62H10 (62H12, 62H25)

Laali, J. Regularity and irregularity of multiplication in the circle algebra. (English summary) *Proceedings of the 28th Annual Iranian Mathematics Conference, Part 1* (*Tabriz*, 1997), 311–318, *Tabriz Univ. Ser.*, 377, *Tabriz Univ., Tabriz*, 1997. (Summary) **99a:46094** 46J05 (43A10)

van der Laan, Gerard (*with* Talman, A. J. J.; Yang, Zaifu) Cooperative games in permutational structure. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 427–442. (Milan Mareš) **99c:90165** 90D12

— (*with* van den Brink, René) Axiomatization of a class of share functions for N-person games. (English summary) *Theory and Decision* **44** (1998), *no.* 2, 117–148. (Frank Thuijsman) **99j:90124** 90D12

— (*with* Talman, A. J. J.; Yang, Zaifu) Existence and approximation of robust solutions of variational inequality problems over polytopes. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 333–352 (*electronic*). (Summary) **99h:90106** 90C33 (49J40)

van der Laan, Mark J. (*with* McKeague, Ian W.) Efficient estimation from right-censored data when failure indicators are missing at random. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 164–182. (Niels Keiding) **99c:62104** 62G05 (62F12, 62P10)

— (*with* Robins, James M.) Locally efficient estimation with current status data and time-dependent covariates. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 693–701. (Summary) **99c:62284** 62P10

— The two-interval line-segment problem. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 163–186. (Chris A. J. Klaassen) **99g:62042** 62G05

van der Laan, Paul (*with* van Eeden, Constance) On using a loss function in selecting the best of two gamma populations in terms of their scale parameters. (English summary) *Statistics* **28** (1996), *no.* 4, 355–370. (Neeraj Misra) **99b:62026** 62F07

Laas, Tõnu (*with* Mankin, Romi; Tammelo, Risto) Higher-order fundamental solutions of second-order wave equations on a curved spacetime. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1595–1605. (Valter Moretti) **99e:58184** 58G16 (81T20)

— (*with* Mankin, Romi) Diversors and higher-order fundamental solutions of covariant wave equations. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 3, 229–242. (R. Schimming) **99h:58192** 58G16 (35L05)

Łaba, I. Multiparticle quantum systems in constant magnetic fields. (English summary) *Multiparticle quantum scattering with applications to nuclear, atomic and molecular physics* (*Minneapolis, MN*, 1995), 147–215, *IMA Vol. Math. Appl.*, 89, *Springer, New York*, 1997. (Peter D. Hislop) **99c:81261** 81U10 (47N50, 81Q10)

Labahn, George (*with* Heidrich, Wolfgang; Bartels, Richard H.) Fitting uncertain data with NURBS. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 177–184, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D10 (90C30)

— (*with* Beckermann, Bernhard) When are two numerical polynomials relatively prime? (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 677–689. (Summary) **99h:65091** 65F99 (13P99)

Labahn, R. *see* **Network communications broadcasting and gossiping, 99a:68012**

Labarca, Rafael Transition from contracting to expanding singular cycles: the one-dimensional case. (English summary) *Dynamical systems and chaos, Vol. 1* (*Hachioji*, 1994), 145–152, *World Sci. Publishing, River Edge, NJ*, 1995. (Rodrigo Bamon) **99b:58190** 58F21 (58F14)

— A note on one-dimensional dynamics associated to singular cycles. *International Conference on Dynamical Systems* (*Montevideo*, 1995), 46–55, *Pitman Res. Notes Math. Ser.*, 362, *Longman, Harlow*, 1996. (Feliks Przytycki) **99a:58057** 58F03 (58F12)

Labarta, Javier Hypervolume on Banach spaces. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 323–335 (1997). (Anatolij M. Plichko) **99e:46013** 46B15

Labastida, J. M. F. (*with* Alvarez, Marcos; Pérez, Esther) Vassiliev invariants for links from Chern-Simons perturbation theory. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 3, 677–718. (Summary) **99a:58152** 58G18 (57M25, 81Q30, 81T13, 81T15, 81T18)

— (*with* Lozano, Carlos) Mathai-Quillen formulation of twisted $N = 4$ supersymmetric gauge theories in four dimensions. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 741–790. (Matilde Marcolli) **99d:58033** 58D29 (57R57, 81T13, 81T60)

kūshyār ibn Labbān *see* **Kūshyār ibn Labbān**

Labbas, Rabah (*with* de Malafosse, Bruno) An application of the sum of linear operators in infinite matrix theory. (English summary) *Commun. Fac. Sci. Univ. Ank. Sér. A1 Math. Stat.* **46** (1997), *no.* 1-2, 191–210 (1998). (Ioana Ciorănescu) **99k:47023** 47A50 (47N20)

— (*with* de Malafosse, Bruno) On some Banach algebra of infinite matrices and applications. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 153–168. (From the introduction) **99b:47038** 47B37 (46H99, 47A50, 47N40, 65N99)

Labbé, C. (*with* Reblewski, F.; Vincent, Jean-Marc) Performance evaluation of high speed network protocols by emulation on a versatile architecture. (English and French summaries) Performance evaluation (Versailles, 1996). *RAIRO Rech. Opér.* **32** (1998), *no.* 3, 253–270. (*see* **99e:90004**) 90B25

Labbé, Martine (*with* Hamacher, Horst W.; Nickel, Stefan) Pareto locations on networks. *Operations Research Proceedings* 1997 (*Jena*), 132–137, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B80

— (*with* Laporte, Gilbert; Soriano, Patrick) Covering a graph with cycles. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 6, 499–504. (László Pyber) **99m:05151** 05C85 (05C38, 05C70)

— (*with* Hamacher, Horst W.; Nickel, Stefan) Multicriteria network location problems with sum objectives. (English summary) *Networks* **33** (1999), *no.* 2, 79–92. (S.-C. Fang) **99k:90072** 90B10 (90C29, 90C35)

Labbé, Stéphane (*with* Leca, Pierre) Résolution rapide des équations de Maxwell quasi-stationnaires: matrices Toeplitz multi-niveaux. Application au micromagnétisme. (English and French summaries) [Fast solver for the quasistatic Maxwell equations: block-Toeplitz matrices. Application to micromagnetism] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 415–420. (Summary) **99g:78006** 78–08 (65M06, 78A30)

Labbé Morales, Gustavo Riemann surface with cyclic automorphisms group. (English summary) *Proyecciones* **16** (1997), *no.* 1, 49–65. (Summary) **99g:30053** 30F10 (14H55, 30F35)

Labbi, Mohammed-Larbi Actions des groupes de Lie presque simples et positivité de la p-courbure. (English and French summaries) [Actions of almost simple Lie groups and positivity of p-curvature] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 2, 263–276. (Raul Quiroga) **99e:53052** 53C21 (53C20)

Labean, Thomas H. (*with* Schultes, Erik; Hraber, Peter T.) A parameterization of RNA sequence space. (English summary) *Complexity* **4** (1999), *no.* 4, 61–71. 92D20

Labella, Anna Categories and logic. (Italian) *Epistemology of mathematics*. 1992–1993 *Seminars* (*Italian*) (*Siena/Bologna/Pavia*), 97–109, *Form. Aggiorn. Mat. Insegn.*, 14, *CNR, Rome*, 1994. (*see* **99a:00007**) 03G30 (18A15)

— (*with* De Nicola, Rocco) Tree morphisms and bisimulations. (English summary) *MFCS'98 Workshop on Concurrency* (*Brno*, 1998), 19 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q10 (68Q55)

— (*with* Bottoni, Paolo; Mussio, Piero; Păun, Gheorghe) Pattern control on derivations in context-free rewriting. (English summary) *J. Autom. Lang. Comb.* **3** (1998), *no.* 1, 3–28. (Summary) **99h:68108** 68Q50 (68Q45)

Labelle, Gilbert (*with* Hetyei, Gábor; Leroux, Pierre) Cubical species and nonassociative algebras. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 499–546. (Volkmar Welker) **99j:05005** 05A15 (05E15)

Labelle, Jacques Self-avoiding walks and polyominoes in strips. (English summary) *Bull. Inst. Combin. Appl.* **23** (1998), 88–98. (Neal Madras) **99f:05005** 05A15 (05B50, 60J15, 82B41)

LaBerge, Tim (*with* Grubb, D. J.) Additivity of quasi-measures. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3007–3012. (Robert F. Wheeler) **99a:28011** 28C15 (03E35, 54D30)

— A space with normal countable-to-one regular preimages. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 227–232. (Summary) **99j:54015** 54C05 (03E35, 54A35, 54D15, 54G20)

Laborde, Patrick (*with* Ben Belgacem, Faker; Hild, Patrick) The mortar finite element method for contact problems. (English summary) Recent advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 263–271. (Summary) **99f:73072** 73T05 (73V05)

— About the mathematical modeling of irreversibility problems. *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 309–316, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Introduction) **99m:73009** 73B99 (73B30, 73V05)

— (*with* Ben Belgacem, Faker; Hild, Patrick) Extension of the mortar finite element method to a variational inequality modeling unilateral contact. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 2, 287–303. (Pierre Alart) **99m:73066** 73V05 (65N30, 73T05, 73V25)

Labourdette, Jean-François (*with* Skorin-Kapov, Jadranka) On minimum congestion routing in broadcast optical networks with regular and arbitrary topologies. (English summary) *Multichannel optical networks: theory and practice* (*Piscataway, NJ*, 1998), 143–155, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 90B12

de La Bourdonnaye, Armel (*with* Farhat, Charbel; Macedo, Antonini P.; Magoulès, Frédéric; Roux, François-Xavier) A non-overlapping domain decomposition method for the exterior Helmholtz problem. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 42–66, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99f:65190** 65N55 (65Y05)

Labourie, François (*with* Bismut, Jean-Michel) Formules de Verlinde pour les groupes simplement connexes et géométrie symplectique. (English and French summaries) [Verlinde formulas for simply connected groups and symplectic geometry] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1009–1014. (Jonathan A. Poritz) **99e:58032** 58D29 (14D20, 58G10)

— Problèmes de Monge-Ampère, courbes holomorphes et laminations. (English summary) [Monge-Ampère problems, holomorphic curves and laminations] *Geom. Funct. Anal.* **7** (1997), *no.* 3, 496–534. (Jean-Claude Sikorav) **99e:58027** 58D10 (53C42)

— (*with* Feres, R.) Topological superrigidity and Anosov actions of lattices. (English summary) *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 5, 599–629. (Alexander Starkov) **99k:58112** 58F11 (22E40, 58F15)

— Large groups actions on manifolds. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 371–380 (*electronic*). (Dave Witte) **99k:53069** 53C20 (22E40, 57S30, 58F15)

Labovskiĭ, A. S. On the dimension of the group of biholomorphic automorphisms of real-analytic hypersurfaces. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 3, 349–358; *translation in Math. Notes* **61** (1997), *no.* 3-4, 287–294. (S. Dimiev) **99f:32023** 32F25

Labra, Alicia (*with* Andrade, Raul; Basso, Ivo) Derivations in some Bernstein algebras of order 2. (English summary) *Algebras Groups Geom.* **14** (1997), *no.* 1, 31–40. (Santos González) **99m:17042** 17D92 (17A36)

— (*with* Correa, Iván; Suazo, Avelino) A characterization of a class of power associative train algebras. (English summary) *Int. J. Math. Game Theory Algebra* **8** (1998), *no.* 1, 47–58. (Ernest Stitzinger) **99i:17002** 17A30 (17A05)

vilca-Labra, F. *see* **Vilca-Labra, F.**

ramírez-Labrador, José *see* **Ramírez-Labrador, José**

Labreuche, Christophe Uniqueness and stability of the recovery of a sound soft obstacle from a knowledge of its scattering resonances. *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1719–1748. (Yongzhi Xu) **99k:35194** 35R30 (35L05, 76Q05)

— Purely imaginary resonant frequencies for a lossy inhomogeneous medium. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 725–742 (*electronic*). (Vadim D.

Kryakvin) **99k:35028** 35J05 (35P20)

Labrieu, Michel Inclusions de Volterra. (English and French summaries) [Volterra integral inclusions] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 559–562. (Marlène Frigon) **99g:45007** 45G10 (34A60, 34K99)

Labudovich, T. An algorithm for translating SQL queries into relational algebra expressions with a logical optimization of the relational algebra expressions. (Russian. Russian summary) *Math. Montisnigri* **8** (1997), 79–93. (Summary) **99a:68045** 68P15

Laburta, M. P. Initializers for implicit equations of the Gaussian Runge-Kutta methods. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 10 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65L06

— (*with* Calvo Pinilla, Manuel; Montijano, J. I.; Rández, L.) Numerical solution of unit flows by the Runge-Kutta method. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 623–628, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L06

— Starting algorithms for implicit Runge-Kutta-Nyström methods. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 233–251. (V. R. Ibragimov) **99f:65116** 65L06

— Construction of starting algorithms for the RK-Gauss methods. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 2, 239–261. (Iulian Coroian) **99d:65215** 65L06

Labutin, D. A. Integral representation of functions and the embedding of Sobolev spaces on domains with zero angles. (Russian. Russian summary) *Mat. Zametki* **61** (1997), *no.* 2, 201–219; *translation in Math. Notes* **61** (1997), *no.* 1-2, 164–179. (Luboš Pick) **99b:46043** 46E35

— Extension of functions in the BMO space from domains with zero angles. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 221–233. (Stanislav Ponomarev) **99i:46023** 46E35

Laca, Marcelo Semigroups of *-endomorphisms, Dirichlet series, and phase transitions. (English summary) *J. Funct. Anal.* **152** (1998), *no.* 2, 330–378. (Summary) **99f:46097** 46L55 (11M41, 46L40, 82B26)

garcía lópez de Lacalle, Jesús *see* **García López de Lacalle, Jesús**

La Camera, M. (*with* Agnese, A. G.) Geometrical features of $4 + d$ gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087504, 4 *pp.* (Summary) **99m:83175** 83E15

Lacarbonara, Walter Direct treatment and discretizations of non-linear spatially continuous systems. (English summary) *J. Sound Vibration* **221** (1999), *no.* 5, 849–866. (Summary) **99m:73047** 73K12 (73V20)

— (*with* Nayfeh, Ali Hasan; Chin, Char-Ming) Nonlinear normal modes of buckled beams: three-to-one and one-to-one internal resonances. (English summary) *Nonlinear Dynam.* **18** (1999), *no.* 3, 253–273. 73K12 (73H05, 73K05)

lópez Lacasta, Carlos *see* **López Lacasta, Carlos**

Lacava, Francesco Quasilocal Łukasiewicz algebras. (Italian. English summary) *Boll. Un. Mat. Ital. B* (7) **11** (1997), *no.* 4, 961–972. (S. Rudeanu) **99c:03105** 03G25

Lacey, Andrew A. (*with* Bebernes, Jerrold) Global existence and finite-time blow-up for a class of nonlocal parabolic problems. (English summary) *Adv. Differential Equations* **2** (1997), *no.* 6, 927–953. (Summary) **99a:35113** 35K55 (35B05, 35J60)

— (*with* Dold, J. W.; Galaktionov, V. A.; Vázquez, Juan Luis) Rate of approach to a singular steady state in quasilinear reaction-diffusion equations. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 663–687. (Andreas Unterreiter) **99m:35116** 35K57 (35K65)

— (*with* Herrero, Miguel A.; Velázquez, Juan J. L.) Global existence for reaction-diffusion systems modelling ignition. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 219–251. (Alexander L. Gladkov) **99h:35099** 35K57 (80A25)

— Diffusion models with blow-up. (English summary) *J. Comput. Appl. Math.* **97** (1998), *no.* 1-2, 39–49. 35K55 (35B05)

— (*with* Ockendon, J. R.; Sabina, José C.) Multidimensional reaction diffusion equations with nonlinear boundary conditions. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1622–1647 (*electronic*). (Si Ning Zheng) **99g:35066** 35K57 (35C20, 41A60)

Lacey, Michael T. Bourgain's entropy criteria. *Convergence in ergodic theory and probability (Columbus, OH, 1993)*, 249–261, *Ohio State Univ. Math. Res. Inst. Publ., 5, de Gruyter, Berlin*, 1996. (Michel Weber) **99c:28051** 28D05 (47A35, 47B38, 60G15)

— The return time theorem fails on infinite measure-preserving systems. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **33** (1997), *no.* 4, 491–495. (Manfred Denker) **99d:28040** 28D15 (47A35)

— (*with* Thiele, Christoph M.) L^p estimates on the bilinear Hilbert transform for $2 < p < \infty$. *Ann. of Math.* (2) **146** (1997), *no.* 3, 693–724. (Loukas Grafakos) **99b:42014** 42A50 (42B20)

— The bilinear Hilbert transform is pointwise finite. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 411–469. (Hans P. Heinig) **99j:42009** 42A50 (44A15)

— On the bilinear Hilbert transform. (English summary) Proceedings of the International Congress of Mathematicians, Vol. II (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. II*, 647–656 (*electronic*). (Kenneth F. Andersen) **99h:42015** 42A50 (44A15)

— (*with* Thiele, Christoph M.) On Calderón's conjecture for the bilinear Hilbert transform. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 9, 4828–4830 (*electronic*). (Kenneth F. Andersen) **99e:42013** 42A50 (44A15)

Lachal, Aimé Some martingales related to the integral of Brownian motion. Applications to the passage times and transience. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 1, 127–156. (Paul McGill) **99f:60146** 60J65 (60G40)

Lachand-Robert, Thomas (*with* Peletier, Mark A.) Minimisation de fonctionnelles dans un ensemble de fonctions convexes. (English and French summaries) [Minimizing functionals on a set of convex functions] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 8, 851–855. (W. W. Breckner) **99a:49004** 49J10 (49Q20)

— (*with* Peletier, Mark A.) Extremal points of a functional on the set of convex functions. (English and French summaries) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1723–1727. (Bianca Stroffolini) **99i:49004** 49J10 (49J30, 49K10)

Lachapelle, J. (*with* Legaré, M.) Super-matrix KdV and super-generalized NS equations from self-dual Yang-Mills systems with supergauge groups. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 195–202. (Oktay K. Pashaev) **99i:58077** 58F07 (35Q53, 35Q55, 81T13)

Lachaud, Gilles Klein polygons and geometric diagrams. (English summary) *Number theory (Tiruchirapalli, 1996)*, 365–372, *Contemp. Math., 210, Amer. Math. Soc., Providence, RI*, 1998. (Christoph Baxa) **99a:11086** 11J70 (11H06)

Lachièze-Rey, Marc (*with* Klein, Étienne) ★ The quest for unity. (English summary) The adventure of physics. Translated from the French by Axel Reisinger. *Oxford University Press, New York*, 1999. *xiv*+158 *pp. ISBN* 0-19-512085-X (Lawrence Sklar) **99k:81002** 81–01 (00A79, 81–03)

Lachlan, Alistair H. Stable finitely homogeneous structures: a survey. *Algebraic model theory (Toronto, ON, 1996)*, 145–159, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci., 496, Kluwer Acad. Publ., Dordrecht*, 1997. (*see* **98e:03026**) 03C45 (03–02, 03C50)

— (*with* Soare, Robert I.) Models of arithmetic and subuniform bounds for the arithmetic sets. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 59–72. (Marat M. Arslanov) **99i:03038** 03C62 (03C57)

Lachout, Petr Weak convergence in Hoffmann-Jørgensen sense. (English summary) *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 1, 3–10. (Alexander G. Kukush) **99f:60008** 60B05 (28C15, 60B10)

Lachowicz, Miroslaw (*with* Arlotti, Luisa) Euler and Navier-Stokes limits of the Uehling-Uhlenbeck quantum kinetic equations. (English summary) *J. Math. Phys.* **38** (1997), *no.* 7, 3571–3588. (Summary) **99a:82073** 82C40 (35Q30, 76D05)

Lack, Stephen A note on the exact completion of a regular category, and its infinitary generalizations. (English summary) *Theory Appl. Categ.* **5** (1999), *No.* 3, 70–80 (*electronic*). (R. H. Street) **99j:18004** 18A35 (18A40, 18E10, 18F20)

Lackenby, Marc Upper bounds in the theory of unknotting operations. *Topology* **37** (1998), *no.* 1, 63–73. (Katura Miyazaki) **99f:57009** 57M25 (57N10)

Lackey, Bradley C. *see* **Theory of Finslerian Laplacians and applications, 99i:58003**

Lacomba, Ernesto A. (*with* Bhaskara, H. K.; Rama, K. K.; Tulczyjew, Włodzimierz Marek) Generating functions, Morse families and characteristics of resistive nonlinear branch networks. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 213–223. (Summary) **99c:94066** 94C05 (58F05, 58F40)

— (*with* Hernández, Gerardo) Contact Riemannian geometry and thermodynamics. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 205–216. (Ryszard Mrugała) **99g:53035** 53C15 (53C80, 80A10)

— (*with* Ibort, Luis Alberto; de León, Manuel; Marrero, Juan Carlos; Martín de Diego, David; Pitanga, Paulo) Geometric formulation of mechanical systems subjected to time-dependent one-sided constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2655–2674. (Frans Cantrijn) **99d:70021** 70F30 (58F05, 70F25)

Lacombe, Daniel Logique du premier ordre avec quantificateur cardinalisé. [First-order logic with a cardinality quantifier] *Séminaire Bourbaki, Vol. 10, Exp. No. 328*, 237–260, *Soc. Math. France, Paris*, 1995. (*see* **99f:00042**) 03C80

— Théorèmes de non-décidabilité [MR 31 #62]. [Undecidability theorems] *Séminaire Bourbaki, Vol. 8, Exp. No. 266*, 323–363, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 03D35

Lacombe, Gilles (*with* Hirsch, Francis) ★ Elements of functional analysis. (English summary) Translated from the 1997 French original by Silvio Levy. Graduate Texts in Mathematics, 192. *Springer-Verlag, New York*, 1999. *xiv*+393 *pp. ISBN* 0-387-98524-7 (Editors) **99j:46001** 46–01 (47–01)

Lacorre, Ph. Some remarks on correlations between conflict and instability. (English summary) *Internat. J. Gen. Systems* **26** (1997), *no.* 4, 385–419. (Summary) **99g:58014** 58C28 (58F10)

Lacoste, D. (*with* van Tiggelen, B. A.; Rikken, G. L. J. A.; Sparenberg, A.) Optics of a Faraday-active Mie sphere. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 6, 1636–1642. (Summary) **99b:78005** 78A10 (78A05)

Lacour, Catherine Non-conforming domain decomposition method for plate and shell problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 304–310, *Contemp. Math., 218, Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99h:73079** 73V05 (65F30, 65M60, 73K10, 73K15)

— (*with* Maday, Yvon) La méthode des éléments avec joint appliquée aux méthodes d'approximations discrete Kirchhoff triangles. (English and French summaries) [On the convergence of discrete Kirchhoff triangle approximation for the mortar method] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1237–1242. (Summary) **99f:65191** 65N55 (65N30, 73V05)

— (*with* Farhat, Charbel; Rixen, Daniel J.) Incorporation of linear multipoint constraints in substructure based iterative solvers. I. A numerically scalable algorithm. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 6, 997–1016. (Summary) **99f:73080** 73V05

La Cour, Lisbeth *see* **la Cour, Lisbeth**

Lacroix, Alain Hegel et les mathématiques. [Hegel and mathematics] *Les philosophes et les mathématiques*, 125–149, *Ellipses, Paris*, 1996. (*see* **99g:01038**) 01A70 (00A30)

Lacroix, Y. On strong uniform distribution. II. The infinite-dimensional case. (English summary) *Acta Arith.* **84** (1998), *no.* 3, 279–290. (Yann Bugeaud) **99c:11104** 11K55 (11K06, 28D05)

— (*with* Downarowicz, Tomasz) Merit factors and Morse sequences. (English summary) *Theoret. Comput. Sci.* **209** (1998), *no.* 1-2, 377–387. (Mariusz Lemańczyk) **99i:11015** 11B85 (11B75, 28D05, 54H20)

Lacruz-Martín, Miguel Local uniqueness of vector matrices related to exponential sums. (English summary) *Quaestiones Math.* **20** (1997), *no.* 4, 729–745. (Matti Jutila) **99e:11113** 11L07

Laczkovich, Miklós ★ Conjecture and proof. (English summary) *TypoTEX Kft. Elektronikus Kiadó, Budapest*, 1998. 100 *pp. ISBN* 963-7546-88-X (Dennis F. Almeida) **99c:00007** 00A35 (00A05)

— Tilings of polygons with similar triangles. II. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 411–425. (Richard Kenyon) **99f:52025** 52C20

Lad, Frank How big is your mathematics? (English summary) *Australas. J. Combin.* **18** (1998), 267–273. (Hsien-Kuei Hwang) **99j:60014** 60C05 (05A05, 60–01)

Lada, Tom (*with* Barnich, Glenn; Fulp, R.; Stasheff, James D.) The sh Lie structure of Poisson brackets in field theory. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 3, 585–601. (Friedemann Brandt) **99j:17030** 17B55 (18G35, 58F05)

— Commutators of A_∞ structures. *Higher homotopy structures in topology and mathematical physics (Poughkeepsie, NY, 1996)*, 227–233, *Contemp. Math.*, **227**, *Amer. Math. Soc., Providence, RI*, 1999. (Teimuraz Pirashvili) **99j:18014** 18G35 (16S99, 18C10, 55U15)

Ladas, G. (*with* Qian, Chuanxi; Yan, Ju Rang) Oscillation of difference equations with oscillating coefficients. (English and Serbo-Croatian summaries) *Rad. Mat.* **8** (1992/96), *no.* 1, 55–65. (Guang Zhang) **99a:39027** 39A10 (39A11)

— (*with* DeVault, R.; Schultz, S. W.) On the recursive sequence $x_{n+1} = A/x_n^p + B/x_{n-1}^q$. (English summary) *Advances in difference equations (Veszprém, 1995)*, 125–136, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39013** 39A10

— (*with* Grove, E. A.; Kent, C. M.) Lyness equations with variable coefficients. (English summary) *Advances in difference equations (Veszprém, 1995)*, 281–288, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99f:39007** 39A10

— (*with* Grove, E. A.; Kocic, V. L.) Classification of invariants for certain difference equations. (English summary) *Advances in difference equations (Veszprém, 1995)*, 289–294, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39019** 39A10

— (*with* Janowski, E. J.; Valicenti, S.) Lyness-type equations with period two coefficients. (English summary) *Advances in difference equations (Veszprém, 1995)*, 327–334, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39022** 39A10

— (*with* Amleh, A. M.; Hoag, Jeffrey T.) A difference equation with eventually periodic solutions. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 401–404. (Summary) **99j:39002** 39A10

— A problem from the Putnam exam. *J. Differ. Equations Appl.* **4** (1998), *no.* 5, 497–499. (Péter Kiss) **99j:11013** 11B37

— (*with* Amleh, A. M.; Grove, E. A.; Kent, C. M.) On some difference equations with eventually periodic solutions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 196–215. (Saber Elaydi) **99f:39002** 39A10

— (*with* Kulenović, M. R. S.; Sizer, W. S.) On the recursive sequence $x_{n+1} = (\alpha x_n + \beta x_{n-1})/(\gamma x_n + \delta x_{n-1})$. (English summary) *Math. Sci. Res. Hot-Line* **2** (1998), *no.* 5, 1–16. (Ulrich Krause) **99g:39008** 39A10

— (*with* DeVault, R.; Schultz, S. W.) On the recursive sequence $x_{n+1} = A/x_n + 1/x_{n-2}$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3257–3261. (Summary) **99a:39009** 39A10

— *see also* **Advances in difference equations, 99d:39001**

Laddha, R. K. On the multidimensional generalized Weyl fractional calculus and the H-function transform. (English summary) *Acta Cienc. Indica Math.* **24** (1998), *no.* 2, 167–172. 33C60

Ladevèze, Pierre A modelling error estimator for dynamic structural model updating. (English summary) *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 135–151, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99d:73098** 73V20 (73K99, 73V05)

— (*with* Moës, Nicolas) A posteriori constitutive relation error estimators for nonlinear finite element analysis and adaptive control. *Advances in adaptive computational methods in mechanics (Cachan, 1997)*, 231–256, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (Summary) **99d:73090** 73V05 (65N30, 73E60)

— (*with* Dureisseix, David) A 2-level and mixed domain decomposition approach for structural analysis. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 238–245, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Introduction) **99h:73087** 73V20 (65N55)

— (*with* Moës, Nicolas) A new a posteriori error estimation for nonlinear time-dependent finite element analysis. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 45–68. (Mark Ainsworth) **99e:73095** 73V05 (73E60)

— (*with* Simmonds, J. G.) New concepts for linear beam theory with arbitrary geometry and loading. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 3, 377–402. (Cornelius O. Horgan) **99f:73049** 73K05 (73C10)

— (*with* Chouaki, Amar) Application of a posteriori error estimation for structural model updating. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 49–58. (Summary) **99j:73070** 73K12 (73K99, 73V05)

— *see also* **Advances in adaptive computational methods in mechanics, 99d:73001**

Ladha, R. K. (*with* Raina, Ravinder Krishna) A note on certain classes of transformation formulas involving several variables. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 517–524. (Summary) **99k:33014** 33C20 (33C60)

Ladikov, Yu. P. (*with* Samoĭlenko, L. I.) Structural optimization of controlling media. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 101–108, 297. 49N55 (90C90)

Ladizhansky, Karina (*with* Geigant, Edith; Mogilner, Alexander) An integrodifferential model for orientational distributions of F-actin in cells. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 787–809 (*electronic*). (Summary) **99j:92005** 92C40 (45K05, 92C15)

Ladner, Richard E. (*with* LaMarca, Anthony) The influence of caches on the performance of heaps. (English summary) *ACM J. Exp. Algorithmics* **1** (1996), *approx.* 32 *pp.* (*electronic*). 68Q20 (68P10)

— (*with* Fix, James D.) Sorting by parallel insertion on a one-dimensional subbus array. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 11, 1267–1281. (Summary) **99h:68065** 68Q22 (68P10)

— (*with* LaMarca, Anthony) The influence of caches on the performance of sorting. (English summary) *J. Algorithms* **31** (1999), *no.* 1, 66–104. (Summary) **99k:68037** 68P10 (68Q25)

Ladopoulos, E. G. Collocation-approximation methods for nonlinear singular integrodifferential equations in Banach spaces. (English summary) *J. Comput. Appl. Math.* **79** (1997), *no.* 2, 289–297. (Summary) **99a:65190** 65R20 (45J05, 45L05)

Ladra González, Manuel (*with* Casas Miras, José Manuel) The actor of a crossed module in Lie algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2065–2089. (Graham J. Ellis) **99f:17021** 17B40 (18G55)

— (*with* R.-Grandjeán L.-Valcárcel, Alfredo) On totally free crossed modules. *Glasgow Math. J.* **40** (1998), *no.* 3, 323–332. (Graham J. Ellis) **99k:18019** 18G99

LaDuke, Jeanne (*with* Green, Judy; Mac Lane, Saunders; Merzbach, Uta C.) Mina Spiegel Rees (1902–1997). *Notices Amer. Math. Soc.* **45** (1998), *no.* 7, 866–873. (Michael A. B. Deakin) **99h:01036** 01A70

Ladyman, James (*with* French, Steven) Superconductivity and structures: revisiting the London account. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **28** (1997), *no.* 3, 363–393. (M. Lawrence Glasser) **99d:82002** 82–03 (00A79, 01A60, 82D55)

Ladyzhenskaya, O. A. (*with* Ivochkina, N. M.) Estimation of the second derivatives on the boundary for surfaces evolving under the action of their principal curvatures. (Russian. Russian summary) *Algebra i Analiz* **9** (1997), *no.* 2, 30–50; *translation in St. Petersburg Math. J.* **9** (1998), *no.* 2, 199–217. (J. S. Joel) **99c:35091** 35K20 (35K50, 58E12)

— (*with* Arkhipova, Arina) On inhomogeneous incompressible fluids and reverse Hölder inequalities. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 1-2, 51–67 (1998). (Benoît P. Desjardins) **99m:35193** 35Q35 (76D05)

— (*with* Serëgin, G. A.) On the smoothness of solutions of systems describing the flow of generalized Newtonian fluids and the estimation of the dimensions of their attractors. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 5, 590–592. (Woodford W. Zachary) **99a:35211** 35Q35 (35B65, 47H20, 76A05)

— On the global unique solvability of two-dimensional problems for water solutions of polymers. (Russian. English and Russian summaries) *Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. (POMI)* **243** (1997), *Kraev. Zadachi Mat. Fiz. i Smezh. Vopr. Teor. Funktsiĭ.* 28, 138–153, 340–341. (Vasiliy I. Sedenko) **99f:76007** 76A05 (35Q35)

— (*with* Serëgin, G. A.) On the smoothness of systems describing flows of generalized Newtonian fluids, and on the estimation of the dimensions of their attractors. (Russian. Russian summary) *Izv. Ross. Akad. Nauk Ser. Mat.* **62** (1998), *no.* 1, 59–122; *translation in Izv. Math.* **62** (1998), *no.* 1, 55–113. (Igor D. Chueshov) **99g:35107** 35Q35 (35B40, 47H20, 58F12, 76A99, 76D99)

— *see also* **Dedicated to Olga Ladyzhenskaya**

Laedke, E. W. (*with* Friedel, H.; Spatschek, K. H.) Dynamics of surface waves in the Faraday experiment. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 223–229, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76B15 (76B25, 76E99)

Laeremans, Ann (*with* Jacobs, Philippe) Complex arrangements whose complement has Euler characteristic ± 1. (English summary) *Indag. Math. (N.S.)* **8** (1997), *no.* 3, 399–404. (Luis Paris) **99c:52017** 52B30

— (*with* Denef, Jan; Sargos, P.) On the largest nontrivial pole of the distribution $|f|^s$. Research on prehomogeneous vector spaces (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 999 (1997), 1–9. (Willem Veys) **99g:11101** 11M41

Laevskiĭ, K. Yu. (*with* Il'in, Valeriĭ Pavlovich) Generalized compensation principle in incomplete factorization methods. (English summary) *Russian J. Numer. Anal. Math. Modelling* **12** (1997), *no.* 5, 399–420. (Dimitrios Noutsos) **99b:65035** 65F10

Laevskiĭ, Yu. M. On domain decomposition methods for grid parabolic problems. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 389–403. (Tsorng-Whay Pan) **99k:65090** 65M55 (65M06, 65M12)

Laface, Antonio A very ampleness result. (English summary) *Matematiche (Catania)* **52** (1997), *no.* 2, 431–442 (1998). (Marino Palleschi) **99i:14007** 14C20

Lafay, J. F. (*with* Picard, Pascal; Kučera, Vladimír) Model matching for linear systems with delays and 2D systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 2, 183–191. (Heide Gluesing-Luerssen) **99b:93017** 93B15 (93B30)

— (*with* Picard, Pascal; Sename, O.) Weak controllability and controllability indices for linear neutral systems. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 223–233. (Summary) **99c:93009** 93B05 (34K40, 93C25)

Laffey, Thomas J. Inverse eigenvalue problems for matrices. (English summary) The mathematical heritage of Sir William Rowan Hamilton (Dublin, 1993). *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *suppl.*, 81–88. (Jorma Kaarlo Merikoski) **99h:15011** 15A18

— (*with* Meehan, Eleanor) A refinement of an inequality of Johnson, Loewy and London on nonnegative matrices and some applications. (English summary) *Electron. J. Linear Algebra* **3** (1998), 119–128 (*electronic*). (Linda J. Patton) **99f:15031** 15A48 (05C50, 15A18, 15A45)

— Expressing unipotent matrices over rings as products of involutions. *Irish Math. Soc. Bull. No.* 40 (1998), 24–30. (From the text) **99e:16042** 16U99 (15A30, 16S50)

— Extreme nonnegative matrices. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 349–357. (Gong Ning Chen) **99g:15022** 15A48

— Some aspects of Olga Taussky's work in algebra. (English summary) Special issue in memory of Olga Taussky Todd. *Linear Algebra Appl.* **280** (1998), *no.* 1, 51–57. (*see* **99c:01028**) 01A70

— *see also* **Mathematical heritage of Sir William Rowan Hamilton, 99e:00020**

Lafforgue, Laurent Chtoucas de Drinfeld et conjecture de Ramanujan-Petersson. [Drinfel'd shtukas and the Ramanujan-Petersson conjecture] *Astérisque No.* 243 (1997), ii+329 *pp.* (David Goss) **99c:11072** 11G09 (11R39)

Lafforgue, Vincent Une démonstration de la conjecture de Baum-Connes pour les groupes réductifs sur un corps p-adique et pour certains groupes discrets possédant la propriété (T). (English and French summaries) [A proof of the Baum-Connes conjecture for reductive p-adic groups and for some discrete groups satisfying property (T)] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 439–444. (Paul Jolissaint) **99k:19004** 19K99 (22E50, 58G12)

— Compléments à la démonstration de la conjecture de Baum-Connes pour certains groupes possédant la propriété (T). (English and French summaries) [Complements to the proof of the Baum-Connes conjecture for some groups satisfying property (T)] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 203–208. (Paul Jolissaint) **99m:19003** 19K35 (58G12)

Lafitte, Olivier The wave diffracted by a wedge with mixed boundary conditions. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO*, 1998), 355–359, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (78A45)

Laflamme, Claude (*with* Szalkai, István) Counting simplexes in $\mathbf{R}^3$. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 40, 11 *pp.* (*electronic*). (Maurice J. Ginocchio) **99g:05008** 05A15

— (*with* Zhu, Jian Ping[1]) The Rudin-Blass ordering of ultrafilters. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 584–592. (Žarko Mijajlović) **99m:04002** 04A20 (03E05, 54D40, 54F15)

Laflamme, R. (*with* Knill, Emanuel; Chuang, Isaac) Effective pure states for bulk quantum computation. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, 3348–3363. (V. Ya. Kreinovich) **99k:81045** 81P99 (68Q75)
— (*with* Knill, Emanuel; Zurek, Wojciech Hubert; Catasti, P.; Mariappan, S. V. S.) NMR Greenberger-Horne-Zeilinger states. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1743, 1941–1948. (V. Ya. Kreinovich) **99m:81036** 81P99 (68Q75, 81–05, 81P05)
— *see also* **Quantum coherence and decoherence, 99h:81007**
LaFollette, Paul (*with* Korsh, James F.) Loopless generation of Gray codes for k-ary trees. (English summary) *Inform. Process. Lett.* **70** (1999), *no.* 1, 7–11. 68R05 (05C05)
Lafont, Yves Interaction combinators. (English summary) *Inform. and Comput.* **137** (1997), *no.* 1, 69–101. (Summary) **99c:68079** 68Q05 (03B40, 03B70)
— The finite model property for various fragments of linear logic. *J. Symbolic Logic* **62** (1997), *no.* 4, 1202–1208. (R. Gylys) **99m:03121** 03F50 (03B25, 03B70, 68Q55)
— *see also* **Logic and models of computation, 99h:03001**
Laforgia, Andrea (*with* Elbert, Árpád) Asymptotic expansion for zeros of Bessel functions and of their derivatives for large order. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 685–695. (Summary) **99h:33012** 33C10
— (*with* Giordano, Carla; Pečarić, Josip) Unified treatment of Gautschi-Kershaw type inequalities for the gamma function. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 167–175. (P. Anandani) **99k:33004** 33B15
— (*with* Elbert, Árpád) An upper bound for the zeros of the cylinder function $C_\nu(x)$. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 105–111. (F. W. J. Olver) **99c:33005** 33C10 (41A60)
Laforgue, Jacques G. L. (*with* O'Malley, Robert E., Jr.; Ward, Michael J.) Metastable travelling-wave solutions of singularly-perturbed reaction-diffusion equations. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 4, 397–416. (Matthias Wilhelm Winter) **99h:80011** 80A22 (35K57, 80–08)
LaForte, Geoffrey L. (*with* Arslanov, Marat M.; Slaman, Theodore A.) Relative enumerability in the difference hierarchy. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 411–420. (Wen Qi Huang) **99f:03057** 03D30
Lafortune, Stéphane (*with* Sampath, Meera; Teneketzis, Demosthenis) Active diagnosis of discrete-event systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 908–929. (Li Yi Dai) **99j:90035** 90B25 (93E03)
— (*with* Ramani, A.; Grammaticos, B.) Schlesinger transformations for linearizable equations. (English summary) *Lett. Math. Phys.* **46** (1998), *no.* 2, 131–145. (Alexey V. Samokhin) **99k:34015** 34A34 (34A25, 39A10, 58F37)
Lafuente, Julio P. (*with* Jiménez-Seral, Paz) On complemented nonabelian chief factors of a finite group. (English summary) *Israel J. Math.* **106** (1998), 177–188. (Bernd Baumann) **99i:20032** 20D30 (20E15)
Lafuerza Guillén, Bernardo (*with* Rodríguez Lallena, José Antonio; Sempi, Carlo) Some classes of probabilistic normed spaces. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 2, 237–252. (S. N. Mishra) **99d:46103** 46S50 (46B99, 46E30)
— (*with* Rodríguez Lallena, José Antonio; Sempi, Carlo) Probabilistic norms for linear operators. *J. Math. Anal. Appl.* **220** (1998), *no.* 2, 462–476. (Xi Lin) **99f:47096** 47S50 (47A30, 47D15)
Lagally, Max G. (*with* Liu, Qinghua; Guo, Zhen[2]; Fei, Zhengdong; Condon, Anne E.; Corn, Robert M.; Smith, Lloyd M.) A surface-based approach to DNA computation. (English summary) *DNA based computers, II* (*Princeton, NJ*, 1996), 123–132, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (92D20)
Lagarias, Jeffrey C. (*with* Prabhu, Nagabhushana; Reeds, James A.) The parameter space of the d-step conjecture. *Foundations of software technology and theoretical computer science* (*Hyderabad*, 1996), 52–63, *Lecture Notes in Comput. Sci.*, 1180, *Springer, Berlin*, 1996. (Jesús A. de Loera) **99b:52023** 52B12 (68U05)
— (*with* Shallit, Jeffrey) Linear fractional transformations of continued fractions with bounded partial quotients. (English and French summaries) *J. Théor. Nombres Bordeaux* **9** (1997), *no.* 2, 267–279. (Christoph Baxa) **99c:11088** 11J70 (11A55, 11J06)
— (*with* Dolbilin, Nikolai; Senechal, Marjorie) Multiregular point systems. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 477–498. (Summary) **99i:52027** 52C22 (82D25)
— (*with* Fishburn, Peter C.; Kim, Jeong Han; Wright, Paul E.) Interference-minimizing colorings of regular graphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 1, 15–40 (*electronic*). (Theodore C. Enns) **99c:05102** 05C35 (05C15)
— Geometric models for quasicrystals I. Delone sets of finite type. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 161–191. (Summary) **99m:52029** 52C22
— (*with* Reeds, James A.; Wright, Margaret H.; Wright, Paul E.) Convergence properties of the Nelder-Mead simplex method in low dimensions. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 112–147 (*electronic*). (John J. Dinkel) **99j:90081** 90C30 (65K05)
— (*with* Geoghegan, Ross; Melville, Robert C.) Threading homotopies and dc operating points of nonlinear circuits. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 159–178 (*electronic*). (T. Y. Li) **99j:65098** 65H20 (94C05)
lamnabhi-Lagarrigue, Françoise *see* **Lamnabhi-Lagarrigue, Françoise**
Lagasquie-Schiex, M.-C. (*with* Cayrol, C.; Schiex, Thomas) Nonmonotonic reasoning: from complexity to algorithms. (English summary) *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 3-4, 207–236. (Summary) **99h:68160** 68T27 (03B45, 03B60, 03B70, 03D15, 68Q25)
Lage, C. (*with* Hackbusch, Wolfgang; Sauter, Stefan A.) On the efficient realization of sparse matrix techniques for integral equations with focus on panel clustering, cubature and software design aspects. *Boundary element topics* (*Stuttgart*, 1995), 51–75, *Springer, Berlin*, 1997. (From the introduction) **99h:65204** 65N38
Lagergren, Jens (*with* Fernández-Baca, David) A polynomial-time algorithm for near-perfect phylogeny. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 670–680, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (Satoru Miyano) **99a:92002** 92B10 (68Q25, 92D15)
— Hypothesis testing in perfect phylogeny for a bounded number of characters. (English summary) *STACS 96* (*Grenoble*, 1996), 605–616, *Lecture Notes in Comput. Sci.*, 1046, *Springer, Berlin*, 1996. (Summary) **99a:92018** 92D15 (92B10)
— (*with* Håstad, Johan; Ivansson, Lars) Fitting points on the real line and its application to RH mapping. (English summary) *Algorithms—ESA '98* (*Venice*), 465–476, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (Summary) **99m:68084** 68Q25 (92D20)
— Upper bounds on the size of obstructions and intertwines. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 1, 7–40. (Kathryn Fraughnaugh) **99d:05047** 05C35
Laget, B. (*with* Bretto, A.) Helly property associated with the discrete planes. (English summary) *Southwest J. Pure Appl. Math.* **1998**, *no.* 1, 56–63 (*electronic*). (Joseph Zaks) **99m:52005** 52A35 (05C65, 52B40, 52C05)
Laghchim-Lahlou, Mohammed The C^r-fundamental splines of Clough-Tocher and Powell-Sabin types of Lagrange interpolation on a three direction mesh. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 353–366. (Hans Strauss) **99j:65015** 65D07 (65D05, 65N30)
Laghdir, M. (*with* Monteiro Marques, Manuel D. P.) Measure-differential inclusions in percussional dynamics. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 381–393. (Markus Kunze) **99a:34028** 34A37 (34A60, 70F99)
Lagnese, J. E. Modelling and controllability of plate-beam systems. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 1, 47 *pp.* (*electronic*). (Summary) **99h:93017** 93B05 (73K05, 73K10, 73K50, 93C20)
Lagno, Viktor Ivanovich Symmetry reduction and exact solution of the SU(2) Yang-Mills equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 313–320, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Ian A. B. Strachan) **99c:53017** 53C07 (81T13)
— A $\widetilde{P}(1,3)$-invariant reduction of the Yang-Mills equations to systems of ordinary differential equations. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 21–26. (Stanislav V. Spichak) **99e:58208** 58G35 (35A30, 35Q40, 81T13)
— On new Galilei-invariant equations in two-dimensional spacetime. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8511–8519. (Violeta V. Tretynyk) **99j:58228** 58G35 (22E60, 35A30, 35Q99)
— (*with* Zhdanov, Renat) Conditional symmetry of a porous medium equation. (English summary) *Phys. D* **122** (1998), *no.* 1-4, 178–186. (Summary) **99g:76143** 76S05 (35K99, 35Q35, 76M99)
do Lago, Alair Pereira Maximal groups in free Burnside semigroups. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 65–75, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (P. M. Higgins) **99f:20093** 20M05 (20E28)
dal Lago, Walter *see* **Dal Lago, Walter**
Lagoa, C. M. (*with* Shcherbakov, P. S.; Barmish, B. R.) Probabilistic enhancement of classical robustness margins: the unirectangularity concept. (English summary) *Systems Control Lett.* **35** (1998), *no.* 1, 31–43. (B. T. Polyak) **99g:93065** 93D09
Lagoda, O. A. (*with* Dorogovtsev, A. Ya.) On bounded solutions of a difference equation in a Banach space. (Russian) *Mathematics today '95, No.* 10 (*Russian*), 55–59, *Nauchn. Izdat. "TViMS", Kiev*, 1995. (*see* **99a:00017**) 39A10
lópez Lagomasino, G. *see* **López Lagomasino, G.**
Lagona, Francesco Linear structural dependence of degree one among data: a statistical model. (English summary) *Matrices and graphs* (*Brescia*, 1993/1995), 223–232, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99j:62106** 62J99 (05C90)
— (*with* Griffith, Daniel A.) On the quality of likelihood-based estimators in spatial autoregressive models when the data dependence structure is misspecified. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 153–174. (Stephen L. Rathbun) **99k:62178** 62M30
Lagorce, Jean-Bernard (*with* Stočkus, Arūnas; Waller, Emmanuel) Object-oriented database evolution. (English summary) *Database theory—ICDT '97* (*Delphi*), 379–393, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15
Lagouanelle, Jean-Louis (*with* Messine, Frédéric) Algorithme d'encadrement de l'optimum global d'une fonction différentiable. (English and French summaries) [An inclusion algorithm for finding the global optimum of a multivariate differentiable function] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 5, 629–632. (Summary) **99e:90093** 90C30 (65G10)
— (*with* Messine, Frédéric) Enclosure methods for multivariate differentiable functions and application to global optimization. (English summary) *J.UCS* **4** (1998), *no.* 6, 589–603 (*electronic*). (Summary) **99i:90090** 90C30 (65G10)
Lagoudas, Dimitris C. (*with* Bhattacharyya, A.) On the correspondence between micromechanical models for isothermal pseudoelastic response of shape memory alloys and the Preisach model for hysteresis. (English summary) *Math. Mech. Solids* **2** (1997), *no.* 4, 405–440. (Martin Brokate) **99d:73079** 73S10 (47H30, 73B05)
— (*with* Ding, Zhong Hai) Numerical computation of metal oxidation problems on bounded domains. (English summary) *Internat. J. Engrg. Sci.* **36** (1998), *no.* 4, 367–381. (Summary) **99a:80004** 80A22 (80–08)
— (*with* Edelen, D. G. B.) Matching the inner and outer solutions in the continuum theory of dislocations. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 1, 59–73. (Andrzej Trzęsowski) **99k:73013** 73B27 (73C99, 73S10)
— (*with* Ding, Zhong Hai) Transient heat transfer behavior of one-dimensional symmetric thermoelectric SMA actuators. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 1, 33–55. (Summary) **99i:80005** 80A20 (78A25)
Lagraa, M. (*with* Touhami, N.) Lie-algebraic structure from inhomogeneous Hopf algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 5007–5014. (Władysław Marcinek) **99g:81093** 81R50 (16W30, 17B37)
Lagrange, Joseph-Louis *see* **Pulte, Helmut, 99g:01022**
Laguna, Manuel (*with* Glover, Fred) Tabu search. *Handbook of combinatorial optimization, Vol.* 3, 621–757, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C27 (90–02, 90C10)
Lagunoff, Roger (*with* Matsui, Akihiko) Asynchronous choice in repeated coordination games. *Econometrica* **65** (1997), *no.* 6, 1467–1477. (Sylvain Sorin) **99c:90169** 90D20
Lagvilava, E. (*with* Ephremidze, L.; Janashia, G.) On the factorization of unitary matrix-functions. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **116** (1998), 101–106. (Mihály Bakonyi) **99j:47023** 47A68 (15A23, 35Q15)
Laha, Radha Govinda (*with* Kagan, Abram; Rohatgi, V.) Independence of the sum and absolute difference of independent random variables does not imply their normality.

(English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 263–265. (J. A. Melamed) **99a:62016** 62E10

Lahaye, D. J. P. (*with* Maggio, F.; Quarteroni, A.) Hybrid finite element–spectral element approximation of wave propagation problems. (English summary) *East-West J. Numer. Math.* **5** (1997), *no.* 4, 265–289. (Mohammad Asadzadeh) **99d:65263** 65M15 (65M60, 65M70, 73D30, 73V05, 76M10, 76Q05)

La Haye, Roberta Some explicit bounds in groups with a finite number of non-normal subgroups. (English summary) *Comm. Algebra* **25** (1997), *no.* 12, 3803–3821. (Silvana Franciosi) **99a:20034** 20F24

Lahdelma, Risto (*with* Makkonen, Simo) Stochastic simulation in risk analysis of energy trade. (English summary) *Trends in multicriteria decision making* (*Cape Town*, 1997), 149–159, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A46 (90A05)

Lahiri, Avijit (*with* Bridges, Thomas J.; Furter, J. E.) Instability and bifurcation near the symplectic 1:4 resonance. (English summary) *Dynam. Stability Systems* **12** (1997), *no.* 4, 271–292. (Jörg M. Härterich) **99d:58127** 58F14 (34C23, 34C25, 70H05, 70K99)

— (*with* Bhowal, Ajanta; Roy, Tarun K.) Resonant collisions in four-dimensional reversible maps: a description of scenarios. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 95–116. (Mikhail B. Sevryuk) **99b:58173** 58F14 (34C35, 58F30, 70K30)

Lahiri, B. K. (*with* Bhattacharyya, Sukes Kumar) A note on rearrangements of series. *Math. Student* **64** (1995), *no.* 1-4, 141–145 (1996). (From the text) **99h:40013** 40J05

— (*with* Tiwary, Kalishankar) Fixed point theorem for set-valued mappings in reflexive Banach spaces. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 107–111. (E. Tarafdar) **99k:47144** 47H10 (47H04)

— (*with* Banerjee, Dibyendu) Relative fix points of entire functions. (English summary) *J. Indian Acad. Math.* **19** (1997), *no.* 1, 87–97. (I. N. Baker) **99b:30033** 30D05

— (*with* Chakrabarti, Sadasiv) Approximately continuous functions in a measure space. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 1, 59–64. (Elżbieta Wagner) **99a:28004** 28A20

— (*with* Das, Pratulananda) Weakly Borel measures in bitopological spaces. (English summary) *Bull. Calcutta Math. Soc.* **90** (1998), *no.* 2, 139–146. 54E55 (54H05)

— (*with* Das, Pratulananda) Measures in bitopological spaces. II. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 5, 473–485. (Summary) **99f:28020** 28C15 (28A12, 54E55)

— (*with* Majumdar, Pradip Kumar; Dasgupta, H.) History of topology in India (period 1947–1960). (English summary) *J. Indian Acad. Math.* **20** (1998), *no.* 1, 61–75. (Summary) **99c:54001** 54–03 (01A60)

Lahiri, Indrajit Uniqueness of meromorphic functions. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 77–83. (Pei-Chu Hu) **99b:30043** 30D35

— Uniqueness of meromorphic functions sharing the same 1-points. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 375–385. (Hong Xun Yi) **99g:30041** 30D35 (30D30)

— (*with* Bhattacharjee, Nil Ratan) Functions of L-bounded index and of nonuniform L-bounded index. (English summary) *Indian J. Math.* **40** (1998), *no.* 1, 43–57. (Fred Gross) **99i:30044** 30D20 (30D15)

— On uniqueness of meromorphic functions. (English summary) *Math. Balkanica* (*N.S.*) **12** (1998), *no.* 1-2, 119–125. (Hong Xun Yi) **99m:30061** 30D35 (30D30)

— Differential polynomials and uniqueness of meromorphic functions. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 31–38. (Hong Xun Yi) **99g:30042** 30D35 (30D30)

Lahiri, Kajal (*with* Wang, Jiazhuo G.) Interest rate spreads as predictors of business cycles. *Statistical methods in finance*, 297–315, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:90016** 90A09 (90A16, 90A19, 90A70)

Lahiri, Maya (*with* Satyanarayana, Bavanari) Discrete and pseudo orthogonality for a class of generalized hypergeometric functions. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 325–332. (Summary) **99e:33010** 33C45 (33C20, 39A12)

Lahiri, Parthasarathi (*with* Arora, Vipin; Mukherjee, Kanchan) Empirical Bayes estimation of finite population means from complex surveys. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1555–1562. (Kun He) **99i:62014** 62D05 (62C12)

Lahiri, Somdeb A reduced game property for the egalitarian choice function. (English summary) New directions in applied mathematics (Hyderabad, 1995). *Differential Equations Dynam. Systems* **6** (1998), *no.* 1-2, 103–111. (Summary) **99k:90011** 90A05 (90D80)

Lahiri, Soumendra Nath On two-term Edgeworth expansions and bootstrap approximations for Studentized multivariate M-estimators. (English summary) *Sankhyā Ser. A* **56** (1994), *no.* 2, 201–226. (Nancy Reid) **99j:62019** 62E20 (62F35)

— On inconsistency of the jackknife-after-bootstrap bias estimator for dependent data. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 1, 15–34. (Gutti J. Babu) **99b:62062** 62G05 (62G20)

— (*with* Athreya, Krishna B.; Wu, Wei[4]) Inference for heavy tailed distributions. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 61–75. (Lajos Horváth) **99d:62027** 62G05 (62G30)

— (*with* Hall, Peter Gavin; Jing, Bing-Yi) On the sampling window method for long-range dependent data. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1189–1204. (Somnath Datta) **99m:62045** 62G05

laghchim-Lahlou, Mohammed *see* **Laghchim-Lahlou, Mohammed**

Lahmidi, F. (*with* Karrakchou, Jamila; Namir, A.; Rachik, Mostafa) Stability, observers and compensators for discrete-time delay systems. *Systems modelling and optimization* (*Detroit, MI*, 1997), 71–79, *Chapman & Hall/CRC Res. Notes Math.*, 396, *Chapman & Hall/CRC, Boca Raton, FL*, 1999. (*see* **99k:93007**) 93C55 (93D15)

Lahno, Halyna Representations of subalgebras of a subdirect sum of the extended Euclid algebras and invariant equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 206–210, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 81R05 (22E70)

Lahno, V. I. *see* **Lagno, Viktor Ivanovich**

Lahno, Victor *see* **Lagno, Viktor Ivanovich**

Lahorani, Sumeet (*with* Krithivasan, Kamala) Intersection removal for simple polygons. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 211–223. (Summary) **99d:68234** 68U05

Lahti, Pekka J. (*with* Mączyński, Maciej) Coherent states and number-phase uncertainty relations. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 265–272. (R. L. Ingraham) **99i:81081** 81R30 (47N50, 81S05)

— (*with* Pulmannová, Sylvia; Ylinen, Kari) Coexistent observables and effects in a convexity approach. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6364–6371. (D. J. Foulis) **99j:81020** 81P15

— (*with* Mączyński, Maciej; Ylinen, Kari) The moment operators of phase space observables and their number margins. (English summary) *Rep. Math. Phys.* **41** (1998), *no.* 3, 319–331. (Constantin Syros) **99m:81118** 81S30 (28B99, 47N50)

Lahtonen, Jyrki T. (*with* Hou, Xiang-dong; Koponen, Sami) The Reed-Muller code $R(r,m)$ is not Z_4-linear for $3 \le r \le m-2$. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 798–799. (Summary) **99a:94045** 94B05

Lai, C. D. (*with* Bebbington, M. S.) A generalized negative binomial and applications. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 10, 2515–2533. 62E15 (62N10)

— (*with* Xie, Min[1]) On reliability bounds via conditional inequalities. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 1, 104–114. (G. Sankaranarayanan) **99g:60041** 60E15 (60K10)

Lai, Choi-Hong (*with* Chen, Ke[1]) Solutions of boundary element equations by a flexible elimination process. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 311–317, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65R20 (65F05, 65Y05)

— (*with* Crann, Diane; Davies, Alan J.; Leong, Swee H.) Time domain decomposition for European options in financial modelling. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 486–491, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 90A09 (65M55)

— (*with* Djambazov, Georgi S.; Pericleous, Koulis A.) Efficient computation of aerodynamic noise. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 500–506, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 76M10 (65M60)

— (*with* Palansuriya, Charaka J.; Ierotheou, Constantinos S.; Pericleous, Koulis A.) A domain decomposition based algorithm for non-linear 2D inverse heat conduction problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 515–522, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 80–08 (65M55)

Lai, Dejian (*with* Chen, Guanrong) Feedback anticontrol of discrete chaos. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 7, 1585–1590. 93B52 (58F13, 93B10)

Lai, Hang Chin (*with* Lee, Jin Chirng) Upper limit of sets and continuous mapping. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 505–514. (Summary) **99b:54017** 54C05 (54A20, 54E40)

— (*with* Liu, Jen-Chwan) Optimality conditions for multiobjective programming with generalized $(\mathfrak{I}, \rho, \theta)$-convex set functions. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 443–460. (Summary) **99b:90110** 90C29 (49N15)

— Integral functional and Euler-Lagrange inclusion. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 14–28. (Maria do Rosário de Pinho) **99j:49052** 49K25

— (*with* Liu, Jen-Chwan) Duality for a minimax programming problem containing n-set functions. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 587–604. (Summary) **99j:90072** 90C29 (90C31)

— (*with* Liu, Jen-Chwan; Tanaka, Kensuke) Necessary and sufficient conditions for minimax fractional programming. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 311–328. (Eugenia Duca) **99m:90140** 90C32 (49N15)

Lai, Hong-Jian (*with* Chen, Zhi-Hong) Super-Eulerian graphs and the Petersen graph. II. (English summary) *Ars Combin.* **48** (1998), 271–282. (Summary) **99c:05123** 05C45

— (*with* Chen, Zhi-Hong; Zhang, Xiankun; Xu, Lei[2]) Group coloring and group connectivity of graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **134** (1998), 123–130. (Summary) **99j:05068** 05C15 (05C25, 05C40)

— Eulerian subgraphs containing given vertices and Hamiltonian line graphs. (English summary) *Discrete Math.* **178** (1998), *no.* 1-3, 93–107. (Lane Clark) **99b:05094** 05C45

— (*with* Hennayake, Kamal P.; Xu, Lei[2]) The strength and the l-edge-connectivity of a graph. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 58–70. (Summary) **99m:05092** 05C40

Lai, King F. (*with* Eie, Minking) On Bernoulli identities and applications. (English summary) *Rev. Mat. Iberoamericana* **14** (1998), *no.* 1, 167–213. (Bruce C. Berndt) **99h:11017** 11B68 (11M41)

Lai, Ming-Jun (*with* Schumaker, Larry L.) Scattered data interpolation using C^2 supersplines of degree six. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 3, 905–921. (Summary) **99a:41009** 41A15 (41A63, 65D10)

— (*with* Wenston, Paul) Bivariate spline method for numerical solution of Navier-Stokes equations in stream function formulation. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 245–277, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99m:76095** 76M25 (65M60, 76D05)

— (*with* He, Wenjie) Construction of bivariate compactly supported biorthogonal box spline wavelets with arbitrarily high regularities. (English summary) *Appl. Comput. Harmon. Anal.* **6** (1999), *no.* 1, 53–74. (Charles K. Chui) **99k:42058** 42C15 (41A15)

— (*with* Schumaker, Larry L.) On the approximation power of splines on triangulated quadrangulations. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 143–159 (*electronic*). (Peter Alfeld) **99h:41014** 41A15 (41A25, 41A63, 65D07)

Lai, Qinsheng The sharp maximal function on spaces of generalized homogeneous type. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 1, 75–100. (Mario Milman) **99f:42041** 42B25 (42B20, 42B30)

Lai, Shan Tao (*with* Palting, Pancracio; Chiu, Ying Nan; Letelier, Jorge Ricardo) Harmonic oscillator tensors. III. Efficient algorithms for evaluating matrix elements of vibrational operators. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 31–49. (Summary) **99i:81064** 81R05

— (*with* Palting, Pancracio; Chiu, Ying Nan; Silverstone, Harris J.) On the summations involving Wigner rotation matrix elements. (English summary) *J. Math. Chem.* **24** (1998), *no.* 1-3, 123–132. (Summary) **99g:81062** 81R05 (81V35)

Lai, Shang-Hong (*with* Vemuri, Baba C.) Sherman-Morrison-Woodbury-formula-based algorithms for the surface smoothing problem. (English summary) *Linear Algebra Appl.* **265** (1997), 203–229. (Menachem Dishon) **99b:65011** 65D10 (15A24, 65D07, 68U10)
— (*with* Vemuri, Baba C.) Generalized capacitance matrix theorems and algorithm for solving linear systems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 1024–1045 (*electronic*). (Xinguo Liu) **99d:65130** 65F30 (65F10)
Lai, Shao Yong The Sobolev exponent for semilinear wave equations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 28–31. (Yun Mei Chen) **99e:35152** 35L70 (35B30)
— The asymptotic theory of solutions for the Rayleigh wave equation. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 113–116. 35L70 (35C20)
— Global and local C^2-solution for nonlinear wave equations in three space dimensions. (English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 277–282, 292. (Summary) **99i:35102** 35L70
Lai, Sheng Han (*with* Yang, Zi Qiang) A leaping subsequence algorithm for exact inference of contingency tables. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 1, 9–21. 62H17
Lai, Tony W. (*with* Wood, Derick) Adaptive heuristics for binary search trees and constant linkage cost. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1564–1591 (*electronic*). (Summary) **99b:68044** 68P05 (68P10, 68Q25)
Lai, Tze Leung Information bounds and quick detection of parameter changes in stochastic systems. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2917–2929. (Summary) **99i:62188** 62L99
Lai, Uei-Tseng (*with* Chang, Horng-Jinh) Empirical comparison between two k-shortest path methods for the generalized assignment problem. (English summary) *J. Inform. Optim. Sci.* **19** (1998), *no.* 2, 153–171. 90C27 (90C35)
Laĭ, V. *see* **Lay, Wolfgang**
Lai, W. C. *see* **Lai, Wing Chiu Derek**
Lai, Wan Cai (*with* Wu, Ze Min) Quasisymmetric boundary correspondence and Grötzsch problem. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 12, 992–994. 30C62
— (*with* Wu, Ze Min) Quasisymmetric boundary correspondences and Grötzsch's problem. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 7, 704–706. 30C62
Lai, Wei Kuang (*with* Hwang, Chuang-Chi; Hsiao, Wen Jiunn) A proportional feedback scheme for ATM networks. (English summary) *Inform. Sci.* **110** (1998), *no.* 3-4, 237–253. 93B51 (90B12)
Lai, Wing Chiu Derek (*with* Chow, K. W.; Shek, C. K.; Tso, K.) Positon-like solutions of nonlinear evolution equations in $(2+1)$ dimensions. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1901–1912. (Summary) **99i:35135** 35Q53
Lai, Xue Jian (*with* Liu, Jia Kun) The converse of the mean value theorem for harmonic functions and harmonic measures. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 90–94. (Summary) **99b:31003** 31B05 (31A05, 60J45)
Lai, Xuejia (*with* Knudsen, Lars R.; Preneel, Bart) Attacks on fast double block length hash functions. (English summary) *J. Cryptology* **11** (1998), *no.* 1, 59–72. (Summary) **99i:94046** 94A60
Lai, Yan Lian (*with* Zhu, Jian Qing; Guo, Wen Ying) A superlinearly convergent algorithm for generalized gradient projection. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 55–63. (Summary) **99c:65115** 65K05
— (*with* Gao, Ziyou; He, Guoping) A generalized projection quasi-Newton method for nonlinear optimization problems. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 353–362. (*see* **99m:90004**) 90C30
Lai, Ying-Cheng (*with* Grebogi, Celso; Yorke, James A.) Intermingled basins and riddling bifurcation in chaotic dynamical systems. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 138–163, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:58108** 58F13 (58F14)
— Classical and quantum chaotic scattering. (English summary) *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 211–234, *Lecture Notes in Phys., 457, Springer, Berlin*, 1995. (Summary) **99b:81059** 81Q50 (58F13)
Lai, Yu Ting A model-theoretic proof of the zero-point theorem for Cayley-Dickson algebras. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 106–107. 03C60
Laih, Chi-Sung (*with* Yang, Ching-Nung) DC_m codes for constructing t-EC/AUED codes. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 4, 492–495. (Summary) **99b:94056** 94B60
Laihonen, Tero (*with* Ding, Cunsheng; Renvall, Ari) Linear multisecret-sharing schemes and error-correcting codes. (English summary) *J.UCS* **3** (1997), *no.* 9, 1023–1036 (*electronic*). (Kanat S. Abdukhalikov) **99k:94033** 94A60 (94B05)
— (*with* Litsyn, Simon) On upper bounds for minimum distance and covering radius of non-binary codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 71–80. (Antoine Lobstein) **99g:94022** 94B65 (94B75)
Lain, L. (*with* Torre, Alicia) Traces of pth-order reduced density matrices: symmetric group approach. (English summary) *J. Phys. A* **31** (1998), *no.* 27, 5811–5817. 81V70
schmidt-Lainé, Claudine *see* **Schmidt-Lainé, Claudine**
Laine, Ilpo (*with* Kinnunen, Liisa; Rieppo, Jarkko) Remarks concerning $f'' + A(z)f = 0$ and some fields of meromorphic functions. (English summary) International Workshop on Value Distribution Theory and Its Applications (Hong Kong, 1996). *Bull. Hong Kong Math. Soc.* **1** (1997), *no.* 2, 309–315. (Summary) **99a:34010** 34A20 (12H05, 30D35)
— (*with* Wu, Shengjian) Removable sets in the oscillation theory of complex differential equations. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 233–244. (Enid M. Steinbart) **99h:34004** 34A20 (30D35, 34C10)
— (*with* Chiang, Yik-Man) Some oscillation results for linear differential equations in the complex plane. *Japan. J. Math. (N.S.)* **24** (1998), *no.* 2, 367–402. (Enid M. Steinbart) **99k:34004** 34A20
Laing, Carlo R. Rotating waves in rings of coupled oscillators. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 4, 305–318. (Summary) **99i:34056** 34C15 (34C23, 58F14, 70K99)
Lainiotis, D. G. (*with* Giannakopoulos, P. K.; Katsikas, S. K.) Estimation for linear systems with non-Gaussian initial state: centralized and decentralized partitioning algorithms. (English summary) *Neural Parallel Sci. Comput.* **6** (1998), *no.* 4, 479–499. 93E10 (93E11)
Lair, Alan V. (*with* Shaker, Aihua W.) Entire large solutions of semilinear elliptic problems. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 164–175, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99c:35061** 35J60 (35B05)
— (*with* Oxley, Mark E.) A necessary and sufficient condition for global existence for a degenerate parabolic boundary value problem. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 338–348. (Summary) **99a:35143** 35K60
Lair, C. Sur le genre d'esquissabilité des catégories modelables (accessibles) possédant un objet terminal. [Sketchability type of modelizable (accessible) categories that have a terminal object] *Diagrammes* **35** (1996), 3–23. (Peter Johnstone) **99a:18002a** 18C10 (18A35)
— Sur le genre d'esquissabilité des catégories modelables (accessibles) possédant les produits de deux. [Sketchability type of modelizable (accessible) categories that have binary products] *Diagrammes* **35** (1996), 25–52. (Peter Johnstone) **99a:18002b** 18C10 (18A35)
— Sur les genres d'esquissabilité des catégories modelables (accessibles) possédant les limites d'indexations finies [resp. finies et non vides, finies et connexes, finies et connexes et non vides]. [Sketchability types of modelizable (accessible) categories that have finite [resp., finite and nonempty, finite and connected, finite, connected and nonempty] index limits] *Diagrammes* **35** (1996), 53–90. (Peter Johnstone) **99a:18002c** 18C10 (18A35)
— Sur le profil d'esquissabilité des catégories modelables (accessibles) possédant les noyaux. [Sketchability profile of modelizable (accessible) [Makkai-Paré] categories that have kernels] *Diagrammes* **38** (1997), 19–78. (From the introduction) **99m:18005** 18C10
Laita, Luis M. (*with* Roanes-Lozano, Eugenio; Roanes-Macías, Eugenio) A polynomial model for multi-valued logics with a touch of algebraic geometry and computer algebra. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 83–99. (János Bagyinszki) **99j:03022** 03B50 (68Q40)
Laitadze, G. L. On some problems in the theory of multivalued mappings. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **148** (1993), *no.* 2, 193–195 (1994). 54C60
— Some fixed point theorem for multi-valued mappings. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 25–27. 54H25 (54C60)
— On Lefshetz fixed point theorem for multi-valued maps. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 3, 395–397 (1995). 55M20 (54C60, 54H25)
— On some problems of the coincidence of mappings. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 3, 397–399 (1996). 54H25 (54C60)
Laitila, Thomas Adaptation of Honda's one-sided test of random effects to repeated measurements experiments. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 3015–3033. (Summary) **99i:62158** 62J10
Laitinen, Erkki (*with* Morimoto, Masaharu) Finite groups with smooth one fixed point actions on spheres. (English summary) *Forum Math.* **10** (1998), *no.* 4, 479–520. (C. B. Thomas) **99k:57078** 57S17 (57R67, 57R85, 57S25)
— (*with* Pawałowski, Krzysztof) Smith equivalence of representations for finite perfect groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 297–307. (Karl Heinz Dovermann) **99b:57070** 57S17 (55M35, 57S25)
Lajkó, Károly On a functional equation of Alsina and García-Roig. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 507–515. (Claudi Alsina) **99e:39084** 39B22
Lajos, Sándor (*with* Jun, Young Bae) Γ-filters and semilattice Γ-congruences in po-Γ-semigroups. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 275–280. (Mark Verus Lawson) **99i:06015** 06F05 (20M99)
Lakaev, Saidachmat (*with* Albeverio, Sergio; Makarov, Konstantin A.) The Efimov effect and an extended Szegő-Kac limit theorem. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 73–85. (Estelle L. Basor) **99e:47031** 47B35 (47N50, 81S99)
Lakatos, Imré *see* **Corfield, David, 99b:00003**
Lakatos, L. On a simple discrete cyclic-waiting queueing problem. (English summary) Proceedings of the 18th Seminar on Stability Problems for Stochastic Models, Part II (Hajdúszoboszló, 1997). *J. Math. Sci. (New York)* **92** (1998), *no.* 4, 4031–4034. (Summary) **99j:60143** 60K25
Lakatos, Piroska On constructions of some classes of quasi-hereditary algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 5, 1567–1576. (V. Dlab) **99g:16026** 16P10 (16E60)
Lake, Kayll (*with* Santosuosso, Kevin; Pollney, Denis; Pelavas, Nicos; Musgrave, Peter) Invariants of the Riemann tensor for class B warped product space-times. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 381–394. (Emil Zakhary) **99k:83021** 83C20 (83–04)
— (*with* Delgaty, M. S. R.) Physical acceptability of isolated, static, spherically symmetric, perfect fluid solutions of Einstein's equations. (English summary) *Comput. Phys. Comm.* **115** (1998), *no.* 2-3, 395–415. (Alicia M. Sintes) **99m:83029** 83C15 (83C20)
Lakeev, A. V. (*with* Kreinovich, Vladik) NP-hard classes of linear algebraic systems with uncertainties. (English summary) *Reliab. Comput.* **3** (1997), *no.* 1, 51–81. (D. Bini) **99f:65211** 65Y20 (65F05, 65G10)
— (*with* Heindl, Gerhard; Kreinovich, Vladik) Solving linear interval systems is NP-hard even if we exclude overflow and underflow. *Reliab. Comput.* **4** (1998), *no.* 4, 383–388. (Pavel S. Pankov) **99j:65082** 65G10 (65F99, 65Y20)
Lakemeyer, Gerhard Relevance from an epistemic perspective. (English summary) *Artificial Intelligence* **97** (1997), *no.* 1-2, 137–167. (Frans Voorbraak) **99e:68150** 68T27 (03B46, 03B70, 68T30)
Lakes, Roderic Elastic freedom in cellular solids and composite materials. (English summary) *Mathematics of multiscale materials (Minneapolis, MN, 1995–1996)*, 129–153, *IMA Vol. Math. Appl., 99, Springer, New York*, 1998. (*see* **99c:73001**) 73K20
Lakey, J. D. Constructive decomposition of functions of finite central mean oscillation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2375–2384. (U. B. Tewari) **99j:42018** 42B20 (42B30)
Lakeyev, Anatoly V. *see* **Lakeev, A. V.**
Lakhal, A. (*with* Bayada, Guy; Chambat, Michèle) A dynamic contact problem with regularized friction law. Application to impact problems. (English summary) Recent

advances in contact mechanics. *Math. Comput. Modelling* **28** (1998), *no.* 4-8, 67–85. (Summary) **99f:73071** 73T05

Lakhin, V. P. (*with* Schep, T. J.; Westerhof, E.) Current-vortex filament model of nonlinear Alfvén perturbations in a finite-pressure plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3833–3848. (Summary) **99f:76135** 76X05

Lakhnech, Yassine (*with* Mikk, Erich; Siegel, Michael) Hierarchical automata as model for statecharts (extended abstract). (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 181–196, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (68Q68)

Lakhno, V. D. Path integral method for excitations in Coulomb systems. (English summary) *Path integrals: Dubna '96*, 245–248, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Lakhtin, A. S. (*with* Subbotin, A. I.) Multivalued solutions of first-order partial differential equations. (Russian. Russian summary) *Mat. Sb.* **189** (1998), *no.* 6, 33–58; *translation in Sb. Math.* **189** (1998), *no.* 5-6, 849–873. (Andrzej Swiech) **99k:49067** 49L25 (35F20)

Lakic, Nikola (*with* Earle, Clifford J.; Gardiner, Frederick P.) Vector fields for holomorphic motions of closed sets. (English summary) *Lipa's legacy* (*New York*, 1995), 193–225, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Yoichi Imayoshi) **99f:30069** 30F60 (30C62, 32G15)

— Strebel points. *Lipa's legacy* (*New York*, 1995), 417–431, *Contemp. Math.*, 211, *Amer. Math. Soc., Providence, RI*, 1997. (Pablo Arés Gastesi) **99c:32027** 32G15 (30C62, 30C75, 30F60)

Lakić, Slobodan A one parameter method for the matrix inverse square root. (English summary) *Appl. Math.* **42** (1997), *no.* 6, 401–410. (Zahari Zlatev) **99b:65036** 65F10

— On the computation of the matrix kth root. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 3, 167–172. (George D. Poole) **99c:65058** 65F10 (15A24)

— (*with* Petković, Miodrag S.) On the matrix square root. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 3, 173–182. (George D. Poole) **99c:65059** 65F10 (15A24)

Lakner, Peter Optimal trading strategy for an investor: the case of partial information. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 1, 77–97. (Summary) **99e:90013** 90A09

Lakoba, T. I. (*with* Kaup, D. J.; Matsuno, Yoshimasa) Perturbation theory for the Benjamin-Ono equation. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 215–240. (From the text) **99k:35156** 35Q53 (34L25, 76B25)

guezane-Lakoud, Assia *see* **Guezane-Lakoud, Assia**

Lakrad, F. (*with* Belhaq, M.) Bifurcation of homoclinic orbits in autonomous systems and in chaotic blue sky catastrophe. *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 93–100, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 34C23 (34C37, 58C28, 58F14)

Lakser, H. (*with* Grätzer, G.; Schmidt, E. T.) Congruence representations of join-homomorphisms of distributive lattices: a short proof. (English summary) *Math. Slovaca* **46** (1996), *no.* 4, 363–369. (Thanjavur V. Swaminathan) **99e:06005** 06B10 (06D05)

— (*with* Berman, Joel D.) The probability of triviality. (English summary) *Algebra Universalis* **38** (1997), *no.* 4, 422–449. (R. Sh. Grigolia) **99m:08023** 08B20 (08B05)

Lakshman, Y. N. (*with* Karmarkar, N. K.) On approximate GCDs of univariate polynomials. (English summary) Symbolic numeric algebra for polynomials. *J. Symbolic Comput.* **26** (1998), *no.* 6, 653–666. (Thomas Garrity) **99j:68059** 68Q40 (12Y05, 13P05)

Lakshmanan, M. Bifurcations, chaos, controlling and synchronization of certain nonlinear oscillators. (English summary) *Integrability of nonlinear systems* (*Pondicherry*, 1996), 206–255, *Lecture Notes in Phys.*, 495, *Springer, Berlin*, 1997. (Summary) **99d:70036** 70K50 (58F13)

— Nonlinear physics: integrability, chaos and beyond. (English summary) Visions of nonlinear science in the 21st century (Sevilla, 1996). *J. Franklin Inst. B* **334** (1997), *no.* 5-6, 909–969. (B. V. Loginov) **99c:58001** 58–02 (00A79, 35Q58, 58Fxx)

— (*with* Senthil Velan, M.) Invariance analysis of the $(2+1)$-dimensional long dispersive wave equation. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 251–260. (Irina Yehorchenko) **99g:35098** 35Qxx (17B67, 35A30)

— (*with* Myrzakulov, R.; Vijayalakshmi, S.; Syzdykova, R. N.) On the simplest $(2+1)$-dimensional integrable spin systems and their equivalent nonlinear Schrödinger equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2122–2140. (Ian A. B. Strachan) **99j:58100** 58F07 (35Q55, 58F40, 82B21)

— (*with* Myrzakulov, R.; Vijayalakshmi, S.; Danlybaeva, A. K.) Motion of curves and surfaces and nonlinear evolution equations in $(2+1)$ dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3765–3771. (Anders Linnér) **99h:53004** 53A05 (58F07)

— (*with* Senthil Velan, M.) Lie symmetries, Kac-Moody-Virasoro algebras and integrability of certain $(2+1)$-dimensional nonlinear evolution equations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 190–211. (Ian A. B. Strachan) **99e:58160** 58F35 (17B68, 35A30, 35Q55, 58F07)

— (*with* Radha, R.; Vijayalakshmi, S.) Explode-decay dromions in the non-isospectral Davey-Stewartson I (DSI) equation. (English summary) *J. Nonlinear Math. Phys.* **6** (1999), *no.* 2, 120–126. 35Q55

Lakshmibai, Venkatramani (*with* Gonciulea, N.) Schubert varieties, toric varieties, and ladder determinantal varieties. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1013–1064. (E. Akyıldız) **99a:14078** 14M25 (14M12, 14M15)

— (*with* Littelmann, Peter; Magyar, Peter) Standard monomial theory and applications. (English summary) Notes by Rupert W. T. Yu. *Representation theories and algebraic geometry* (*Montreal, PQ*, 1997), 319–364, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michel Brion) **99j:20050** 20G05 (14M15, 14M17, 17B37)

— (*with* Magyar, Peter) Degeneracy schemes, quiver schemes, and Schubert varieties. *Internat. Math. Res. Notices* **1998**, *no.* 12, 627–640. (Dan Edidin) **99g:14065** 14M15 (14M05)

— (*with* Mehta, V. B.; Parameswaran, A. J.) Frobenius splittings and blow-ups. *J. Algebra* **208** (1998), *no.* 1, 101–128. (Harry Tamvakis) **99i:14059** 14M15 (20G10)

— (*with* Magyar, Peter) Standard monomial theory for Bott-Samelson varieties of $GL(n)$. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 3, 229–248. (Aigli Papantonopoulou) **99j:14049** 14M17 (05E15, 14M15, 20G05)

Lakshmibala, S. (*with* Seshadri, Sampath; Balakrishnan, Venkataramanan) Ladder operators for isospectral oscillators. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 838–847. (Marcelo R. Ubriaco) **99a:81069** 81R30 (81R50)

Lakshmikantham, V. Advances in UAS for functional-differential equations. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 131–134. (Summary) **99e:34107** 34K20

— (*with* Deo, S. G.) ★ Method of variation of parameters for dynamic systems. Series in Mathematical Analysis and Applications, 1. *Gordon and Breach Science Publishers, Amsterdam*, 1998. *viii*+317 *pp. ISBN* 90-5699-160-4 (P. W. Eloe) **99g:34001** 34–02 (45–02, 47N20)

— (*with* Vatsala, Aghalaya) ★ Generalized quasilinearization for nonlinear problems. (English summary) Mathematics and its Applications, 440. *Kluwer Academic Publishers, Dordrecht*, 1998. *x*+276 *pp. ISBN* 0-7923-5038-3 (Naseer Shahzad) **99k:34013** 34A34 (34A45, 34B15, 34G20, 34K05, 39A10)

— Proximal methods and differential inequalities with applications. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 39–44, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C10 (34A40, 34H05)

— (*with* Sivasundaram, S.) Stability of moving invariant sets and uncertain dynamic systems on time scales. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 339–346. (Tzanko D. Donchev) **99k:93070** 93D05 (34D99, 34H05, 39A11, 93C41)

— (*with* Liu, Xinzhi) Impulsive hybrid systems and stability theory. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 1–9. (O. S. Chernikova) **99b:34025** 34A37 (34D20)

— (*with* Drici, Zahia) Positivity and boundedness of solutions of impulsive reaction-diffusion equations. (English summary) Positive solutions of nonlinear problems. *J. Comput. Appl. Math.* **88** (1998), *no.* 1, 175–184. (Ludwik Byszewski) **99c:35112** 35K57 (35R10)

— Uniform asymptotic stability criteria for functional-differential equations in terms of two measures. *Nonlinear Anal.* **34** (1998), *no.* 1, 1–6. (Introduction) **99d:34151** 34K20 (45J05)

— (*with* Drici, Zahia; Walter, Wolfgang L.) Convex dependence of solutions of differential equations in a Banach space relative to initial time. *Nonlinear Anal.* **34** (1998), *no.* 5, 629–635. (Introduction) **99d:34110** 34G20 (34A12)

— (*with* Vatsala, Aghalaya) The origin of mathematics. *Nonlinear Stud.* **5** (1998), *no.* 2, 255–257. 01A05

Lakshminarayanan, Vasudevan (*with* Varadharajan, Srinivasa) Approximate solutions to the scalar wave equation: the decomposition method. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 5, 1394–1400. (Summary) **99a:78019** 78A40

— (*with* Sridhar, Raghavendra; Jagannathan, Ramaswamy) Lie algebraic treatment of dioptric power and optical aberrations. (English summary) *J. Opt. Soc. Amer. A* **15** (1998), *no.* 9, 2497–2503. (Summary) **99i:78011** 78A10

Lakshmy, B. (*with* Krishnamoorthy, A.; Iqbal Basha, R.) Stochastic analysis of a two commodity inventory problem with Markov dependent shift in demand. (English summary) *J. Math. Phys. Sci.* **30** (1996), *no.* 5, 237–252 (1998). 90B05

Laksov, Dan (*with* Thorup, Anders) These are the differentials of order n. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1293–1353. (Reinhold Hübl) **99f:13026** 13N05 (14F10)

Lakusta, L. M. (*with* Petrishin, R. Ĭ.) On the integral manifolds of oscillating systems with slowly changing frequencies. (Ukrainian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **50** (1998), *no.* 1, 87–93; *translation in Ukrainian Math. J.* **50** (1998), *no.* 1, 100–107. (Summary) **99m:34098** 34C30 (34C29)

Lal, A. K. (*with* Ramakrishnan, B.) On exceptions of integral quadratic forms. (English summary) *Number theory* (*Tiruchirapalli*, 1996), 151–170, *Contemp. Math.*, 210, *Amer. Math. Soc., Providence, RI*, 1998. (Rainer Schulze-Pillot) **99a:11055** 11F30 (11E45, 11F11, 11F27)

— (*with* Bhandari, M. C.; Chanduka, K. K. P.) On lower bounds for covering codes. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 237–243. (Summary) **99i:94074** 94B65

— Inequalities for the q-permanent. II. (English summary) *Linear Algebra Appl.* **274** (1998), 1–16. (Natalia Bebiano) **99b:15006** 15A15 (15A45)

Lal, P. K. (*with* Lal, R. N.) Probabilisation of a fuzzy n-metric lattice. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 361–373. 54A40 (54E70)

Lal, R. N. (*with* Lal, P. K.) Probabilisation of a fuzzy n-metric lattice. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 361–373. 54A40 (54E70)

Lal, Shyam A theorem on absolute summability methods. (English summary) *Acta Cienc. Indica Math.* **22** (1996), *no.* 4, 413–420. (Summary) **99h:40006** 40F05

Lal, Sunder The story of linear programming. (English summary) *Math. Ed.* **10** (1993), *no.* 2, 100–105. 01A60 (90–03)

Lala, Archana Dual integral equations involving generalised Hermite polynomials. II. *Ganita Sandesh* **10** (1996), *no.* 1, 1–4. (A. S. Silbergleit) **99g:45005** 45F10 (33C45)

Lalak, Zygmunt Anomalous D-term, dynamical supersymmetry breaking and dynamical gauge couplings. (English summary) *Nuclear Phys. B* **521** (1998), *no.* 1-2, 37–57. (Summary) **99d:81125** 81T30 (81R40, 81V22)

— (*with* Lukas, André; Ovrut, Burt A.) Soliton solutions of M-theory on an orbifold. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 59–70. (Summary) **99b:81197** 81T30 (83E30)

Lalee, Marucha (*with* Nocedal, Jorge; Plantenga, Todd) On the implementation of an algorithm for large-scale equality constrained optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 682–706 (*electronic*). (Riho Lepp) **99e:65102** 65K05 (90C30)

Lalitha, C. S. (*with* Suneja, S. K.; Khurana, Seema) Optimality and duality theorems for non-smooth multiobjective fractional programs. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 3, 243–257. 90C29 (49N15)

Lallement, Gérard J. The word problem for semigroups presented by one relation. *Semigroups* (*Luino*, 1992), 167–173, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M05

rodríguez Lallena, José Antonio *see* **Rodríguez Lallena, José Antonio**

Lalley, Steven P. Percolation on Fuchsian groups. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 2, 151–177. (Olle Häggström) **99g:60190** 60K35 (20H10, 82B43)
— (*with* Sellke, Tom) Limit set of a weakly supercritical contact process on a homogeneous tree. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 644–657. (T. M. Liggett) **99f:60170** 60K35
— Random series in powers of algebraic integers: Hausdorff dimension of the limit distribution. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 629–654. (D. Boyd) **99k:11124** 11K55 (28A78)
Lalli, B. S. (*with* Chen, Ming-Po; Yu, Jian She) Oscillation and global attractivity in a multiplicative delay logistic equation. (English summary) *Differential Equations Dynam. Systems* **5** (1997), *no.* 1, 75–83. (Summary) **99i:34096** 34K15 (34K20)
Lalonde, François J-holomorphic curves and symplectic invariants. (English summary) With notes by Daniel Gatien. *Gauge theory and symplectic geometry* (*Montreal, PQ*, 1995), 147–174, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 488, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99f:58026** 58D10 (58F05)
— Energy and capacities in symplectic topology. *Geometric topology* (*Athens, GA*, 1993), 328–374, *AMS/IP Stud. Adv. Math.*, 2.1, *Amer. Math. Soc., Providence, RI*, 1997. (Margaret F. Symington) **99d:58064** 58F05 (53C15, 57R15)
— (*with* McDuff, Dusa; Polterovich, Leonid) On the flux conjectures. (English summary) *Geometry, topology, and dynamics* (*Montreal, PQ*, 1995), 69–85, *CRM Proc. Lecture Notes*, 15, *Amer. Math. Soc., Providence, RI*, 1998. (Miguel T. Abreu) **99e:58025** 58D05 (58F05)
— *see also* **Geometry, topology, and dynamics, 99a:58004**
Laloux, Laurent (*with* Le Doussal, Pierre) Aging and diffusion in low-dimensional environments. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6296–6326. (Summary) **99d:82039** 82C05
Lalović, D. (*with* Davidović, D. M.) Quantum states which behave classically. (English summary) *J. Phys. A* **31** (1998), *no.* 10, 2281–2285. (Summary) **99c:81123** 81S99
Lalović, Ljubica R. Approximation of generalized solutions of the third boundary value problem for elliptic equation with variable coefficients. (English and Serbo-Croatian summaries) *Zb. Rad. (Kragujevac) No.* 19 (1997), 53–65. (Igor Yu. Chudinovich) **99e:35040** 35J25 (35A35, 35D05, 65N06, 65N12)
Lam, Chin-Hung (*with* Elmallah, Ehab S.) An $O(N^{1.695})$ permutation routing algorithm on augmented data manipulators. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 235–243, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10
Lam, Clement Wing Hong (*with* Ding, Yuan; Houghten, Sheridan; Smith, Suzan; Thiel, Larry; Tonchev, Vladimir D.) Quasi-symmetric 2-(28, 12, 11) designs with an automorphism of order 7. (English summary) *J. Combin. Des.* **6** (1998), *no.* 3, 213–223. (Mohan S. Shrikhande) **99a:05011** 05B05
Lam, James (*with* Yang, Guang-Hong) Balanced model reduction of symmetric composite systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 6, 1031–1043. 93B11 (93B15)
— (*with* Tso, H. K.; Tsing, N. K.) Robust deadbeat regulation. (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 587–602. (Summary) **99m:93094** 93D21 (93B35)
— (*with* Zhang, Qing Ling; Dai, Guan Zhong; Zhang, Li Qian[2]; de la Sen, Manuel) Asymptotic stabiiity and stabilization of descriptor systems. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 208–211. 93D20 (93D15)
— (*with* Yang, Guang-Hong; Wang, Jianliang) Reliable H_∞ control for affine nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1112–1116. 93B36
— (*with* Yang, Guang-Hong; Zhang, Si Ying; Wang, Jianliang) Reliable control using redundant controllers. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1588–1593. (Summary) **99g:93034** 93B50 (90B25)
— (*with* Yan, Wei Yong) On computation of the stability radius for nonlinearly structured perturbations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 273–280. 93D09 (93B40)
— (*with* Yang, Guang-Hong; Wang, Jianliang; Soh, Cheong Boon) Decentralized H_∞-controller design for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 578–583. 93B36 (93A14)
— (*with* Cao, Yong-Yan; Sun, You Xian) Simultaneous stabilization via static output feedback and state feedback. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1277–1282. 93D15
— (*with* Zhang, Li Qian[2]) Optimal weighted L_2 model reduction of delay systems. (English summary) *Internat. J. Control* **72** (1999), *no.* 1, 39–48. (Krishnan Balachandran) **99j:93018** 93B11 (93C30)
Lam, K. *see* **Lam, Kin**
Lam, Kee Yuen (*with* Randall, Duane) Projectivity of Im J, cospherical classes and geometric dimension. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 181–186, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Donald M. Davis) **99b:55025** 55Q50 (55R50, 55S25)
Lam, Kin (*with* Yu, Philip L. H.) Analysis of duplicate bridge tournament data. (English summary) *Scand. J. Statist.* **23** (1996), *no.* 4, 621–633. (Summary) **99d:62058** 62G99
— A class of tests for the equality of k cause-specific hazard rates in a competing risks model. (English summary) *Biometrika* **85** (1998), *no.* 1, 179–188. (Georg Neuhaus) **99h:62058** 62G10
— (*with* Chong, K. S.) Applying POS(i) rules to communication problems. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 3, 762–769. (Robert P. Dobrow) **99k:68036** 68P10 (60G35, 60J10)
Lam, Kwok Yan (*with* Yi, Xun; Han, Yongfei) Differential cryptanalysis of a block cipher. (English summary) *Information security and privacy* (*Brisbane*, 1998), 58–67, *Lecture Notes in Comput. Sci.*, 1438, *Springer, Berlin*, 1998. (*see* **99i:94060**) 94A60
Lam, Monica S. (*with* Lim, Amy W.) Maximizing parallelism and minimizing synchronization with affine partitions. (English summary) *Parallel Comput.* **24** (1998), *no.* 3-4, 445–475. (Summary) **99c:68110** 68Q22 (68N20)
Lam, Peter Che Bor (*with* Shiu, Wai Chee; Gutman, Ivan M.) Wiener number of hexagonal parallelograms. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 21–25. (*see* **99g:05001**) 05C12
— (*with* Shiu, Wai Chee; Gutman, Ivan M.) Wiener number of hexagonal bitrapeziums and trapeziums. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 9–25. (N. Trinajstić) **99a:05044** 05C12 (05C90)
— (*with* Shiu, Wai Chee) Wiener numbers of pericondensed benzenoid molecule systems. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **126** (1997), 113–124. (Summary) **99b:92065** 92E10 (05C12, 05C90)
— (*with* Shiu, Wai Chee; Tong, Chong Sze) Wiener number of some polycyclic graphs. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 10–15. (Summary) **99m:05054** 05C12 (05C90)
— On number of leaves and bandwidth of trees. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 193–196. (Summary) **99f:05100** 05C78 (68R10)
— (*with* Shiu, Wai Chee; Lee, Sin-Min) Edge-magicness of the composition of a cycle with a null graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 9–18. (*see* **99i:00022**) 05C78
Lam, S. H. On Lagrangian dynamics and its control formulations. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 259–284. (Andrew D. Lewis) **99d:70026** 70H35 (49N55, 70F25, 70Q05, 93C15)
Lam, T. K. (*with* Chan, Onn) Hook immanantal inequalities for trees explained. (English summary) *Linear Algebra Appl.* **273** (1998), 119–131. (Summary) **99b:15005** 15A15
Lam, T. Y. (*with* Leroy, André; Matczuk, J.) Primeness, semiprimeness and prime radical of Ore extensions. *Comm. Algebra* **25** (1997), *no.* 8, 2459–2506. (J. F. Watters) **99a:16023** 16S36 (16N60)
— A theorem of Burnside on matrix rings. *Amer. Math. Monthly* **105** (1998), *no.* 7, 651–653. (P. M. Cohn) **99e:20011** 20C15 (16S50)
— A fantasia on quaternions and near-fields. *Exposition. Math.* **16** (1998), *no.* 1, 85–93. (Günter Pilz) **99b:12002** 12E15 (12K05)
— (*with* Jain, Surender Kumar; Leroy, André) On uniform dimensions of ideals in right nonsingular rings. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 117–139. (J. L. García Hernández) **99k:16063** 16S90 (16D10, 16E50, 16N60)
— Representations of finite groups: a hundred years. I. *Notices Amer. Math. Soc.* **45** (1998), *no.* 3, 361–372. (Peter M. Neumann) **99e:01018a** 01A55 (01A60, 20-03, 20C15)
— Representations of finite groups: a hundred years. II. *Notices Amer. Math. Soc.* **45** (1998), *no.* 4, 465–474. (Peter M. Neumann) **99e:01018b** 01A55 (01A60, 20-03, 20C15)
— ★ Lectures on modules and rings. (English summary) Graduate Texts in Mathematics, 189. *Springer-Verlag, New York*, 1999. *xxiv+557 pp. ISBN* 0-387-98428-3 (Jonathan Golan) **99i:16001** 16-01
Lam, Tak Wah (*with* Kao, Ming-Yang; Sung, Wing Kin; Ting, Hing Fung) All-cavity maximum matchings. (English summary) *Algorithms and computation* (*Singapore*, 1997), 364–373, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (Summary) **99h:05092** 05C70
— (*with* Yue, Fung Ling) Optimal edge ranking of trees in linear time. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 436–445, *ACM, New York*, 1998. (Summary) **99d:68196** 68R10 (05C85, 68Q25)
— (*with* Chong, Ka Wong) Approximating biconnectivity in parallel. (English summary) *Algorithmica* **21** (1998), *no.* 4, 395–410. (Summary) **99b:68144** 68R10 (05C40, 05C85, 68Q22)
— (*with* Yue, Fung Ling) Edge ranking of graphs is hard. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 1, 71–86. (Irena C. Rusu) **99h:68080** 68Q25 (05C85)
— (*with* Lee, Ka Hing) An improved scheme for set equality testing and updating. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 85–97. (Summary) **99b:68045** 68P05
Lamar, Bruce W. (*with* Bell, Gavin J.; Wallace, Chris A.) Capacity improvement, penalties, and the fixed charge transportation problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 4, 341–355. (Summary) **99m:90061** 90B06
LaMarca, Anthony (*with* Ladner, Richard E.) The influence of caches on the performance of heaps. (English summary) *ACM J. Exp. Algorithmics* **1** (1996), *approx.* 32 *pp.* (*electronic*). 68Q20 (68P10)
— (*with* Ladner, Richard E.) The influence of caches on the performance of sorting. (English summary) *J. Algorithms* **31** (1999), *no.* 1, 66–104. (Summary) **99k:68037** 68P10 (68Q25)
Lamari, M. (*with* Fernandez de la Vega, Wenceslao) The module allocation problem: an average case analysis. (English summary) *Parallel algorithms for irregularly structured problems* (*Santa Barbara, CA*, 1996), 307–312, *Lecture Notes in Comput. Sci.*, 1117, *Springer, Berlin*, 1996. (Summary) **99h:68025** 68M20
Lamarque, C.-H. (*with* Malasoma, J.-M.; Ouarzazi, M. N.) Chaos in the convective flow of a fluid mixture in a porous medium. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 1, 83–102. (Summary) **99a:76068** 76F20 (58F13, 58F40, 76S05)
Lamarque, Peter V. *see* **Encyclopedia: Philosophy of language, 99f:00005**
Lamata, Maria Teresa Aggregation in decision making with belief structures. (English summary) *Aggregation and fusion of imperfect information*, 106–117, *Stud. Fuzziness Soft Comput.*, 12, *Physica, Heidelberg*, 1998. (*see* **99e:04005**) 90C70 (90A05)
Lamb, C. J. (*with* Fearn, D. R.; McLean, D. R.; Ogden, R. R.) The influence of differential rotation on magnetic instability, and nonlinear magnetic instability in the magnetostrophic limit. (English summary) *Geophys. Astrophys. Fluid Dynam.* **86** (1997), *no.* 3-4, 173–200. (Summary) **99j:76045** 76E25 (76U05, 76W05, 86A25)
Lamb, Jeroen S. W. On the canonical projection method for one-dimensional quasicrystals and invertible substitution rules. (English summary) *J. Phys. A* **31** (1998), *no.* 18, *L*331–*L*336. (Richard Kenyon) **99d:82075** 82D25 (52C99)
— (*with* Wijnands, Frank) From multi-site to on-site transfer matrix models for self-similar chains. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 261–284. (Jean-Paul Allouche) **99a:82019** 82B20 (11B85)
— k-symmetry and return maps of spacetime symmetric flows. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 601–629. (Mikhail B. Sevryuk) **99c:58140** 58F35 (58F14, 58F22, 58F36)
— (*with* Roberts, John A. G.) Time-reversal symmetry in dynamical systems: a survey. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996).

Phys. D **112** (1998), *no.* 1-2, 1–39. (Mikhail B. Sevryuk) **99b:58174** 58F14 (34C23, 34C25, 34C37, 58F22, 58F35, 58F36)

— (*with* Nicol, Matthew) On symmetric attractors in reversible dynamical systems. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 281–297. (Ian Melbourne) **99a:58111** 58F12 (34C35, 58E40)

Lamb, John D. Efficient optimal equation formulation in lumped power-conserving systems. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 239–249. (Summary) **99c:90095** 90C27 (90B35)

— (*with* Yamaguchi, Tadashi; Foulds, Leslie R.) Central cycles in graphs. (English and Japanese summaries) *Mem. Muroran Inst. Technol. No.* 48 (1998), 93–99. (Summary) **99g:05069** 05C12

Lamb, Kevin G. (*with* Wan, Bangjun) Conjugate flows and flat solitary waves for a continuously stratified fluid. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 2061–2079. (Summary) **99e:76022** 76C10 (76V05)

— Are solitary internal waves solitons? (English summary) *Stud. Appl. Math.* **101** (1998), *no.* 3, 289–308. (Xian Guo Geng) **99j:35180** 35Q51 (76B25, 76C10)

Lamb, Reinhold P. (*with* Khouja, Moutaz) An optimal schedule for dollar cost averaging under different transaction costs. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 2, 245–261. 90B35 (90C27)

Lamb, Wilson (*with* McLaughlin, D. J.; McBride, A. C.) Existence results for non-autonomous multiple-fragmentation models. (English summary) *Math. Methods Appl. Sci.* **20** (1997), *no.* 15, 1313–1323. (Pavel Dubovskiĭ) **99b:45006** 45K05 (35Q99, 47D06, 80A99, 86A10)

— (*with* McLaughlin, D. J.; McBride, A. C.) A semigroup approach to fragmentation models. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1158–1172. (Hassan Emamirad) **99i:35166** 35Q99 (35F10, 45K05, 47D06, 47N20, 80A30)

— (*with* McLaughlin, D. J.; McBride, A. C.) An existence and uniqueness result for a coagulation and multiple-fragmentation equation. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 5, 1173–1190. (Hassan Emamirad) **99i:35167** 35Q99 (35F25, 45K05, 47D06, 47N20, 80A30)

— (*with* McLaughlin, D. J.; McBride, A. C.) Existence and uniqueness results for the non-autonomous coagulation and multiple-fragmentation equation. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 11, 1067–1084. (Hassan Emamirad) **99i:35168** 35Q99 (35F10, 45K05, 47N20, 80A30)

Lamba, Harbir (*with* Grinfeld, Michael; Knight, Philip A.) On the periodically perturbed logistic equation. (English summary) *J. Phys. A* **29** (1996), *no.* 24, 8035–8040. (Summary) **99a:39014** 39A10 (58F13)

— (*with* Stuart, Andrew M.) Convergence results for the MATLAB ODE23 routine. (English summary) *BIT* **38** (1998), *no.* 4, 751–780. 65L07 (34–04, 65L20)

Lambadarie, Dan Stabilization of bilinear systems by means of a priori bounded controls. *Bul. Ştiinţ. Univ. Baia Mare Ser. B* **14** (1998), *no.* 2, 173–178. 93D15

Lambe, Larry (*with* Radford, David E.) Solutions to the quantum Yang-Baxter equation having certain bialgebras as their reduced FRT construction. *Illinois J. Math.* **42** (1998), *no.* 4, 630–654. (Nicolás Andruskiewitsch) **99k:16082** 16W30 (17B37)

Lambert, A. (*with* Evans, David John[2]; Milne, A. M.; Taylor, S.) A study of transmission and reflection characteristics of an aircraft antenna using INGRID. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations (Oxford,* 1995), 363–373, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York,* 1998. (*see* **99a:00020**) 78–08 (78A50)

Lambert, Alan Measurable majorants in L^1. *Glasgow Math. J.* **39** (1997), *no.* 2, 183–192. (F. Sukochev (Zbl 890.46019)) **99g:28031** 28D05 (28A20, 46E30, 46L99, 46N30)

— L^p multipliers and nested sigma-algebras. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 147–153, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Alexander Mekler) **99g:46033** 46E30 (47B38)

— (*with* Burnap, Charles) Controlling and supporting sets in operator algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1357–1362. (Martin Mathieu) **99h:46103** 46L05 (46H20, 47B47, 47D25)

Lambert, Dominique L'efficacité des mathématiques est-elle déraisonnable? [Is the effectiveness of mathematics unreasonable?] *Acad. Roy. Belg. Bull. Cl. Sci.* (6) **8** (1997), *no.* 1-6, 161–178. (I. Grattan-Guinness) **99h:00005** 00A30

— La géométrie non-commutative: vers une nouvelle physique? [Noncommutative geometry: toward a new physics?] *Rev. Questions Sci.* **168** (1997), *no.* 1, 19–48. (Andreas Cap) **99d:58026** 58B30 (17B37, 46L87, 81R50)

Lambert, Francois (*with* Pelinovsky, Dmitry E.; Springael, Johan; Loris, Ignace) On modified NLS, Kaup and NLBq equations: differential transformations and bilinearization. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8705–8717. (Summary) **99a:35242** 35Q55 (58F07)

Lambert, Karel Fixing Quine's theory of predication. *Dialectica* **52** (1998), *no.* 2, 153–160. 03B65

Lambert, N. D. (*with* Hewson, S. F.) Potentials and T-duality. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 201–206. (Yolanda Lozano) **99b:81194** 81T30

— (*with* Howe, Paul S.; West, P. C.) The self-dual string soliton. (English summary) *Nuclear Phys. B* **515** (1998), *no.* 1-2, 203–216. (Jihad Mourad) **99c:81188** 81T30 (83E30)

— D-brane bound states and the generalised ADHM construction. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 214–224. (C. Gauthier) **99e:81200** 81T30 (53C07, 58D27)

— (*with* West, P. C.) Gauge fields and M-fivebrane dynamics. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 141–158. (David S. Berman) **99e:81240** 81T60 (81T13, 81T30, 83E30)

— (*with* Howe, Paul S.; West, P. C.) Classical M-fivebrane dynamics and quantum $N = 2$ Yang-Mills. (English summary) *Phys. Lett. B* **418** (1998), *no.* 1-2, 85–90. (Jihad Mourad) **99e:81197** 81T30 (81T13, 81T60)

— (*with* Howe, Paul S.; West, P. C.) The threebrane soliton of the M-fivebrane. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 79–83. (Sergey Nikolaevich Roshchupkin) **99c:81189** 81T30

— (*with* West, P. C.) $N = 2$ superfields and the M-fivebrane. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 281–287. (Summary) **99c:81246** 81T60 (81T13, 81T30)

Lamberti, Paola (*with* Dagnino, Catterina) Numerical integration of 2-D integrals based on local bivariate C^1 quasi-interpolating splines. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 1-2, 19–31. (S. Dubuc) **99e:65042** 65D32

Lamberti, Pedro W. (*with* Prato, Domingo P.; Matsuda, Hiroaki) An alternative approach to the Terwiel cumulants expansion in disordered media. (English summary) *J. Phys. A* **32** (1999), *no.* 22, 4027–4034. 82B44

Lamberton, Damien (*with* Lapeyre, Bernard) ★ Introduction au calcul stochastique appliqué à la finance. (French) [Introduction to stochastic calculus applied to finance] Second edition. *Ellipses, Édition Marketing, Paris*, 1997. 176 *pp. ISBN* 2-7298-4782-0 (From the preface) **99b:90022** 90A09 (60G44, 60H99)

— Error estimates for the binomial approximation of American put options. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 206–233. (Angelos Dassios) **99g:90027** 90A09 (60G40)

Lambiase, G. q-deformation of Weyl-Heisenberg algebra and quantum field theory in Rindler space-time. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 7, 887–892. (Roberto Casalbuoni) **99g:81094** 81R50 (81T20)

— (*with* Papini, G.) Exact gravitational gauge structures and the Dirac equation. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 8, 1047–1052. (Péter Pál Lévay) **99m:81161** 81T20 (83C47)

— (*with* Capozziello, S.; Capaldo, R.) String dilaton fluid cosmology. (English summary) *Internat. J. Modern Phys. D* **8** (1999), *no.* 2, 213–227. 83E30 (83F05)

Lambre, T. (*with* Alev, J.) Comparaison de l'homologie de Hochschild et de l'homologie de Poisson pour une déformation des surfaces de Klein. (English summary) [Comparison of the Hochschild homology and the Poisson homology for a Klein surface deformation] *Algebra and operator theory (Tashkent,* 1997), 25–38, *Kluwer Acad. Publ., Dordrecht,* 1998. (Summary) **99h:16013** 16E40 (13A50, 19D55)

Lambrecht, Matthias (*with* Miehe, Christian) Two non-associated isotropic elastoplastic hardening models for frictional materials. (English summary) *Acta Mech.* **135** (1999), *no.* 1-2, 73–90. (Summary) **99m:73034** 73E05 (73Q05)

Lambrechts, Pascal Analytic properties of Poincaré series of spaces. (English summary) *Topology* **37** (1998), *no.* 6, 1363–1370. (Yves Félix) **99e:55011** 55P35 (55P62)

Lambropoulou, Sofia (*with* Rourke, Colin P.) Markov's theorem in 3-manifolds. (English summary) Special issue on braid groups and related topics (Jerusalem, 1995). *Topology Appl.* **78** (1997), *no.* 1-2, 95–122. (Summary) **99e:57015** 57M25 (57N10)

Lambrou, Michael S. (*with* Karayannakis, Dimitri; Magiropoulos, Manolis) Spectral decompositions of isometries on c_p. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 190–211. (From the introduction) **99i:47067** 47B49 (47A10, 47B10, 47D03)

— (*with* Erdos, J. A.; Spanoudakis, N. K.) Block strong M-bases and spectral synthesis. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 1, 183–195. (Paolo Terenzi) **99e:46012** 46B15 (47A15, 47B07)

Lamèche-Gérardin, Khyra Inverse for the shuffle for algebraic series. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 1, 1–27. (From the summary) **99m:13042** 13F25 (16W60)

Lam-Estrada, Pablo (*with* Barrera-Mora, Fernando; Villa-Salvador, Gabriel Daniel) On Kneser extensions. (English summary) *J. Algebra* **201** (1998), *no.* 2, 703–717. (T. Albu) **99c:12004** 12F05 (12F10)

salguero Lamillar, Francisco J. *see* **Salguero Lamillar, Francisco J.**

Lamiraux, F. (*with* Laumond, Jean-Paul; Sekhavat, S.) Guidelines in nonholonomic motion planning for mobile robots. *Robot motion planning and control*, 1–53, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (Bert Jüttler) **99a:70009** 70B15 (70F25, 70Q05, 93C85)

Lamken, E. R. The existence of $KS_3(v; 2, 4)$. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 195–216. (W. D. Wallis) **99e:05031** 05B30

— (*with* Mills, William H.; Rees, Rolf S.) Resolvable minimum coverings with quadruples. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 431–450. (G. H. J. Van Rees) **99k:05055** 05B40

Lamma, Evelina (*with* Brogi, Antonio; Mancarella, Paolo; Mello, Paola) A unifying view for logic programming with non-monotonic reasoning. (English summary) *Theoret. Comput. Sci.* **184** (1997), *no.* 1-2, 1–59. (Summary) **99g:68031** 68N17 (03B60, 03B70, 68T27)

— (*with* Mello, Paola; Milano, Michela; Riguzzi, Fabrizio) A system for abductive learning of logic programs. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY,* 1997), 102–122, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68033** 68N17 (68T05)

— (*with* Milano, Michela; Mello, Paola) Extending constraint logic programming for temporal reasoning. (English summary) Temporal representation and reasoning (1996). *Ann. Math. Artificial Intelligence* **22** (1998), *no.* 1-2, 139–158. (Summary) **99a:68031** 68N17 (68T20)

— (*with* Mello, Paola; Milano, Michela; Riguzzi, Fabrizio) Integrating induction and abduction in logic programming. (English summary) *Inform. Sci.* **116** (1999), *no.* 1, 25–54. (Summary) **99k:68029** 68N17

— (*with* Milano, Michela; Mello, Paola) Reasoning on constraints in CLP(FD). (English summary) *J. Logic Programming* **38** (1999), *no.* 1, 93–110. 68N17 (68T20)

Lammering, Birger (*with* Falconer, Kenneth J.) Fractal properties of generalized Sierpiński triangles. (English summary) *Fractals* **6** (1998), *no.* 1, 31–41. (Miguel Angel Martín) **99d:28013** 28A80 (28A78)

Lämmerzahl, Claus Minimal coupling and the equivalence principle in quantum mechanics. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1057–1070. (Summary) **99k:81020** 81P05 (83D05)

— (*with* García Díaz, Alberto; Hehl, Friedrich W.; Macías, Alfredo; Socorro, José) Plebański-Demiański-like solutions in metric-affine gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1793–1799. (Serguey M. Pokas') **99d:83082** 83D05

— (*with* Socorro, José; Macías, Alfredo; Mielke, Eckehard W.) Multipole-like solutions in metric-affine gravity. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 317–323. (Mark D. Roberts) **99e:83046** 83D05 (83E30)

— (*with* García Díaz, Alberto; Macías, Alfredo; Mielke, Eckehard W.; Socorro, José) Colliding waves in metric-affine gravity. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3457–3462. 83D05

Lamnabhi-Lagarrigue, Françoise (*with* Ahmed-Ali, Tarek) Dynamical robust adaptive tracking for uncertain nonlinear systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 921–939. (B. I. Anan'ev) **99g:93050** 93C40 (93C41)

— (*with* Ahmed-Ali, Tarek) Sliding observer-controller design for uncertain triangular nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6,

1244–1249. 93B50 (93B12)

hernández Lamoneda, Luis *see* **Hernández Lamoneda, Luis**

Lamontagne, Érick (*with* Marchand, Éric) On a surprising covariance identity. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **30** (1999), *no.* 1, 142–146. (Aart J. Stam) **99k:60049** 60E99 (62E15)

Lamos, Henry Numerical methods for the solution of an inverse problem for a nonlinear system of partial differential equations. (Spanish. English summary) *Rev. Integr. Temas Mat.* **14** (1996), *no.* 2, 85–97 (1997). (Summary) **99d:65269** 65M30

LaMotte, Lynn Roy (*with* Volaufová, Júlia) A note on invariant quadratics. *Linear Algebra Appl.* **264** (1997), 247–253. (Summary) **99g:62005** 62A05 (62H05)

— On limits of uniquely best linear estimators. (English summary) *Metrika* **45** (1997), *no.* 3, 197–211. (Summary) **99c:62185** 62J05 (62C15)

Lamour, René (*with* März, Roswitha; Winkler, Renate) How Floquet theory applies to index 1 differential algebraic equations. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 372–394. (Vladimir A. Danilov) **99f:34001** 34A09 (34C25, 34D05, 34D20)

Lampe, Bernhard P. (*with* Rozenvasser, E. N.; Polyakov, Konstantin Yu.) Optimal discrete filtering for time-delayed systems with respect to mean-square continuous-time error criterion. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 389–406. (Summary) **99c:93107** 93E11 (93C55)

— (*with* Rozenvasser, E. N.; Polyakov, Konstantin Yu.) Application of Laplace transformation for digital redesign of continuous control systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 883–886. 93C57 (93B51)

Lamphear, S. P. (*with* Majerus, J. N.; Mimnagh, M. L.; Jannone, J. A.; Tenney, D. A.) Blending hierarchical economic decision matrices (EDM) with FE and stochastic modeling. II. Detailing EDM. (English summary) *Finite Elem. Anal. Des.* **30** (1998), *no.* 3, 219–234. 73K25 (73K15)

Lamping, John (*with* Dalrymple, Mary; Pereira, Fernando; Saraswat, Vijay) A deductive account of quantification in LFG. *Quantifiers, deduction, and context* (*Stanford, CA*, 1993), 33–57, *CSLI Lecture Notes*, 57, *CSLI Publ., Stanford, CA*, 1996. (*see* **99k:03029**) 03B65

Lampis, Maria (*with* Cercignani, Carlo; Struckmeier, Jens) New models for the differential cross section of a polyatomic gas in the frame of the scattering kernel theory. *Mech. Res. Comm.* **25** (1998), *no.* 3, 231–236. (Anne Nouri) **99c:82058** 82C40 (76P05)

Lamport, Leslie (*with* Cohen, Ernie) Reduction in TLA. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 317–331, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10)

— Proving possibility properties. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 341–352. (From the introduction) **99g:68131** 68Q60

Lamprecht, Erich (*with* Jehne, Wolfram) Helmut Hasse, Hermann Ludwig Schmid and their students in Berlin. *Mathematics in Berlin*, 143–149, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

Lamy, Stéphane L'alternative de Tits pour Aut[$\mathbf{C}^2$]. (English and French summaries) [The Tits alternative for Aut[$\mathbf{C}^2$]] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 537–540. (Kamil Rusek) **99j:14012** 14E07 (20E08, 32H50)

Lamzyuk, V. D. (*with* Sotnikova, S. D.) A plane problem in elasticity theory for a half-strip with given normal displacement at the base. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci.* (*New York*) **90** (1998), *no.* 6, 2459–2463. (Summary) **99g:73026** 73C02

nguyen thanh Lan *see* **Nguyen Thanh Lan**

Lan, C. W. (*with* Liang, M. C.; Chen, Ming-Kuan) Bifurcation and stability analyses for a two-phase Rayleigh-Benard problem in a cavity. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1329–1343. (Summary) **99b:76035** 76E15 (76M25, 76T05, 80A22)

Lan, Kang (*with* Zhao, Yushen; Lin, Weigan) A hybrid finite-difference method in time-domain. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 394–397. 65M06

Lan, Kunquan (*with* Webb, Jeffrey R. L.) Positive solutions of semilinear differential equations with singularities. *J. Differential Equations* **148** (1998), *no.* 2, 407–421. (Miguel Ramos) **99g:34053** 34B15 (35J60, 45G10, 47H10, 47H30)

— (*with* Webb, Jeffrey R. L.) Variational inequalities and fixed point theorems for PM-maps. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 102–116. (Xie Ping Ding) **99g:47149** 47H19 (47H10, 49J40)

Lan, Yu-Feng (*with* Chen, Hon Chan; Wang, Yue-Li) A memory-efficient and fast Huffman decoding algorithm. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 3, 119–122. (Summary) **99k:68033** 68P05

Lancaster, Kirk (*with* Jin, Zhiren) A comparison principle for quasilinear elliptic equations and its application. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 279–294. (Siegfried Carl) **99d:35056** 35J65 (35B05)

Lancaster, Peter (*with* Krupnik, Ilya) Minimal pencil realizations of rational matrix functions with symmetries. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 178–186. (E. R. Tsekanovs'kiĭ) **99f:93023** 93B15 (15A22, 15A23)

— (*with* Krupnik, Ilya) H-selfadjoint and H-unitary matrix pencils. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 307–324 (*electronic*). (Bo Kågström) **99i:15019** 15A21 (15A22, 47A56)

— (*with* Zizler, P.) On the stability of gyroscopic systems. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 2, 519–522. (Alexander P. Seyranian) **99g:34112** 34D99 (70J25)

— (*with* Guo, Chun-Hua) Iterative solution of two matrix equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1589–1603. (Jin Xi Zhao) **99m:65061** 65F10

Lance, E. Christopher The compact quantum group $SO(3)_q$. (English summary) *J. Operator Theory* **40** (1998), *no.* 2, 295–307. (Summary) **99h:46134** 46L89 (17B37, 46L60)

Lance, T. L. (*with* Khavinson, Dmitry; Stessin, Michael) Wandering property in the Hardy space. *Michigan Math. J.* **44** (1997), *no.* 3, 597–606. (D. Sarason) **99a:47012** 47A15 (47B35)

Lancellotta, R. (*with* Foti, S.) A note on finite deformation consolidation models. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 1, 1–7. (Summary) **99e:73026** 73B99 (73C99, 73G99, 76S05)

Lancewicki, R. (*with* Parodi, P.; Vijh, A.; Tsotsos, J. K.) Empirically-derived estimates of the complexity of labeling line drawings of polyhedral scenes. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 47–75. (Evangelos Kranakis) **99i:68065** 68Q25 (68T99)

Lanchares, Víctor (*with* Elipe Sánchez, Antonio C.) Two equivalent problems: gyrostats in free motion and parametric quadratic Hamiltonians. *Mech. Res. Comm.* **24** (1997), *no.* 6, 583–590. (Igor Gashenenko) **99e:70023** 70E15 (70H05)

Lancia, Giuseppe (*with* Ben-Dor, Amir; Perone, Jennifer; Ravi, R.) Banishing bias from consensus sequences. (English summary) *Combinatorial pattern matching* (*Aarhus*, 1997), 247–261, *Lecture Notes in Comput. Sci.*, 1264, *Springer, Berlin*, 1997. (Summary) **99b:92022** 92D10 (68Q25, 92D20)

— (*with* Wu, Bang Ye; Bafna, Vineet; Chao, Kun-Mao; Ravi, R.; Tang, Chuan Yi) A polynomial time approximation scheme for minimum routing cost spanning trees. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 21–32, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10, 90C27)

— (*with* Perlin, Mark) Genotyping of pooled microsatellite markers by combinatorial optimization techniques. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 291–314. (Summary) **99h:92018** 92D20 (90C27, 92C40)

Lancia, M. R. (*with* Marchi, Maria Vittoria) Liouville theorems for Fuchsian-type operators on the Heisenberg group. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 653–668. (Marco Bramanti) **99b:35004** 35B05 (22E30, 35J70, 43A80)

— (*with* Bassanini, Piero; Casciola, C. M.; Piva, R.) Uniqueness of the bounded flow solution in aerodynamics. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 12–18. (Summary) **99e:76073** 76G25

— (*with* Bassanini, Piero; Casciola, C. M.; Piva, R.) A theoretical model for multiply connected wings. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 6, 607–634. (Summary) **99k:76015** 76B05 (35Q35, 76C05, 76G25)

Lancien, Florence (*with* Lancien, Gilles; Le Merdy, Christian) A joint functional calculus for sectorial operators with commuting resolvents. (English summary) *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 387–414. (Jörg Eschmeier) **99h:47025** 47A60 (47D06)

Lancien, Gilles (*with* Godefroy, Gilles; Kalton, Nigel J.) L'espace de Banach c_0 est déterminé par sa métrique. (English and French summaries) [The Banach space c_0 is determined by its metric] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 817–822. (Summary) **99h:46007** 46B04 (46B20)

— (*with* Le Merdy, Christian) A generalized H^∞ functional calculus for operators on subspaces of L^p and application to maximal regularity. *Illinois J. Math.* **42** (1998), *no.* 3, 470–480. (Ian Raymond Doust) **99i:47029** 47A60 (34G10, 47D06)

— (*with* Lancien, Florence; Le Merdy, Christian) A joint functional calculus for sectorial operators with commuting resolvents. (English summary) *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 387–414. (Jörg Eschmeier) **99h:47025** 47A60 (47D06)

van Lancker, P. *see* **Van Lancker, P.**

Lanconelli, E. (*with* Lascialfari, F.) A boundary value problem for a class of quasilinear operators of Fokker-Planck type. (English and Italian summaries) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1996), *suppl.*, 65–84 (1997). (Maurice Gaultier) **99a:35144** 35K60 (35K65, 35Q99)

— (*with* Uguzzoni, Francesco) On the Poisson kernel for the Kohn Laplacian. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 659–677 (1998). (Marco Bramanti) **99h:35027** 35H05 (35B05, 35B45, 35J99, 58G03)

— (*with* Uguzzoni, Francesco) Asymptotic behavior and non-existence theorems for semilinear Dirichlet problems involving critical exponent on unbounded domains of the Heisenberg group. (Italian summary) *Boll. Unione Mat. Ital. Sez. B Artic. Ric. Mat.* (8) **1** (1998), *no.* 1, 139–168. (Chu Li Fu) **99d:35058** 35J65 (22E25, 22E30, 35B05)

Land, M. *see* **Land, Matthias**

Land, M. C. Pre-Maxwell electrodynamics. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1479–1487. (Summary) **99k:78011** 78A25 (81V10)

— The classical Coulomb problem in pre-Maxwell electrodynamics. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1489–1497. (Summary) **99k:78012** 78A25 (81V10)

— Pre-Maxwell quantum electrodynamics. (English summary) Parametrized relativistic quantum theory, Part 1 (Houston, TX, 1998). *Found. Phys.* **28** (1998), *no.* 9, 1499–1506. (*see* **99k:81005**) 81V10

Land, Matthias (*with* Gefeller, Olaf) A game-theoretic approach to partitioning attributable risks in epidemiology. (English summary) *Biometrical J.* **39** (1997), *no.* 7, 777–792. (Summary) **99c:92054** 92D30 (90D40)

— (*with* Gefeller, Olaf) A multiplicative approach to partitioning the risk of disease. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 73–80, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62P10 (92D30)

florens-Landais, Danielle *see* **Florens-Landais, Danielle**

Landau, Gad M. (*with* Amir, Amihood; Lewenstein, Moshe; Lewenstein, Noa) Efficient special cases of pattern matching with swaps. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 209–220, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68048** 68Q25

— (*with* Amir, Amihood; Lewenstein, Moshe; Lewenstein, Noa) Efficient special cases of pattern matching with swaps. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 125–132. (Summary) **99h:68071** 68Q25

— (*with* Myers, Eugene W.; Schmidt, Jeanette P.) Incremental string comparison. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 557–582 (*electronic*). (Erkki Mäkinen) **99b:68087** 68Q20

Landau, Ioan Doré (*with* Karimi, Alireza) Comparison of the closed-loop identification methods in terms of the bias distribution. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 159–167. 93E12 (93B30)

— (*with* Karimi, Alireza) A recursive algorithm for ARMAX model identification in closed loop. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 840–843. 93E12

Landau, Susan $\sqrt{2}+\sqrt{3}$: four different views. *Math. Intelligencer* **20** (1998), *no.* 4, 55–60. (Thomas C. Craven) **99g:12002** 12D05 (13P05)

Lander, Eric S. (*with* Batzoglou, Serafim; Berger, Bonnie; Kleitman, Daniel J.; Pachter, Lior) Recent developments in computational gene recognition. (English summary) Proceedings of the International Congress of Mathematicians, Vol. I (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. I*, 649–658 (*electronic*). (Summary) **99g:92022** 92D20 (92D10)

Landers, D. (*with* Rogge, L.) Best φ-approximants for bounded loss functions. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 255–260. (Dominikus Noll) **99i:62226** 62M20 (41A50, 62C05)
— (*with* Rogge, L.) Nonstandard characterization of convergence in law for $D[0, 1]$-valued random variables. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 199–203. (Summary) **99b:60011** 60B12 (03H05)
Landgev, Ivan N. Optimal linear codes of dimension 4 over GF(5). (English summary) *Applied algebra, algebraic algorithms and error-correcting codes (Toulouse, 1997)*, 212–220, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (Summary) **99c:94049** 94B05
— The nonexistence of some optimal ternary codes of dimension five. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 3, 245–258. (Bram van Asch) **99m:94047** 94B05
— (*with* Honold, Thomas) All Reed-Muller codes are linearly representable over the ring of dual numbers over Z_2. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 700–701. (Summary) **99j:94066** 94B05
Landi, Giovanni Large finite approximations and large noncommutative geometry. (English summary) *11th Italian Conference on General Relativity and Gravitational Physics (Trieste, 1994)*, 321–328, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:58019** 58B30 (46L87)
— ★ An introduction to noncommutative spaces and their geometries. (English summary) Lecture Notes in Physics. New Series m: Monographs, 51. *Springer-Verlag, Berlin*, 1997. xii+200 *pp. ISBN* 3-540-63509-2 (Jacek Brodzki) **99b:58028** 58B30 (46L87, 81T13, 81T25)
— Bundles over noncommutative lattices. (English summary) *General relativity and gravitational physics (Rome, 1996)*, 323–327, *World Sci. Publishing, River Edge, NJ*, 1997. (Yuri A. Kordyukov) **99e:46094** 46L89 (19K56, 46L80)
— (*with* Balachandran, A. P.; Bimonte, G.; Lizzi, Fedele; Teotonio-Sobrinho, Paulo) Lattice gauge fields and noncommutative geometry. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 353–385. (Eli J. Hawkins) **99b:58022** 58B30 (06B35, 81T25)
— (*with* Rovelli, Carlo) Gravity from Dirac eigenvalues. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 6, 479–494. (Ion V. Vancea) **99m:83074** 83C45 (58B30, 58G40)
— (*with* Ercolessi, Elisa; Teotonio-Sobrinho, Paulo) Noncommutative lattices and the algebras of their continuous functions. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 439–466. (Yuri A. Kordyukov) **99k:46128** 46L89 (06A06, 46L05, 54C35)
Landim, C. (*with* Olla, Stefano; Volchan, S. B.) Driven tracer particle and Einstein relation in one-dimensional symmetric simple exclusion process. (English summary) *Resenhas* **3** (1997), *no.* 2, 173–209. (Ellen Saada) **99h:60167** 60K35 (82C22)
— (*with* Olla, Stefano; Volchan, S. B.) Driven tracer particle in one-dimensional symmetric simple exclusion. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 2, 287–307. (T. M. Liggett) **99b:60169** 60K35 (82C22)
— (*with* Carmona, S. C.; Lopes, Artur Oscar; Lopes, Silvia) A level 1 large-deviation principle for the autocovariances of uniquely ergodic transformations with additive noise. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 395–421. (Christian Maes) **99g:60056** 60F10
— (*with* Olla, Stefano; Yau, Horng-Tzer) Convection-diffusion equation with space-time ergodic random flow. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 2, 203–220. (Timo Seppäläinen) **99j:35084** 35K10 (35R60, 60H15, 73B27, 76M35, 76R50)
— (*with* Gielis, G.; Koukkous, A.) Equilibrium fluctuations for zero range processes in random environment. (English summary) *Stochastic Process. Appl.* **77** (1998), *no.* 2, 187–205. (Timo Seppäläinen) **99g:60187** 60K35 (82C22)
Landis, Evgenii Mikhailovich (*with* Ibragimov, A. I.) Behavior of the solution of a mixed problem for elliptic equations in neighborhoods of a singular point and at infinity. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 19–20. 35J25 (35B45)
— *see also* **Gerver, M. L.**
Landjev, Ivan *see* **Landgev, Ivan N.**
Landjev, Ivan N. *see* **Landgev, Ivan N.**
Landman, Bruce M. Monochromatic sequences whose gaps belong to $\{d, 2d, \cdots, md\}$. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 93–101. (T. C. Brown) **99e:05126** 05D10
— Ramsey functions for quasi-progressions. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 131–142. (Pavel Valtr) **99i:05198** 05D10
Lando, Sergei (*with* Habsieger, Laurent; Kazaryan, M. È.) On the second number of Plutarch. *Amer. Math. Monthly* **105** (1998), *no.* 5, 446. (Paul Klingsberg) **99g:05012** 05A20 (03B05, 68R05)
Landowne, E. I. (*with* Pan, Victor Y.; Tabanjeh, M. Abu; Chen, Zhao Qin; Sadikou, A.) New transformations of Cauchy matrices and Trummer's problem. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 12, 1–5. (Summary) **99c:65078** 65F30
Landreau, Bernard (*with* Deshouillers, Jean-Marc; Hennecart, François) Sums of powers: an arithmetic refinement to the probabilistic model of Erdős and Rényi. (English summary) *Acta Arith.* **85** (1998), *no.* 1, 13–33. (A. J. Hildebrand) **99h:11114** 11P05 (11K65)
Landrock, Peter (*with* Brandt, Jørgen[1]; Damgård, Ivan B.; Pedersen, Torben) Zero-knowledge authentication scheme with secret key exchange. (English summary) *J. Cryptology* **11** (1998), *no.* 3, 147–159. (Summary) **99c:94026** 94A60
Landsberg, J. M. On a conjecture of Kontsevich and variants of Castelnuovo's lemma. (English summary) *Compositio Math.* **115** (1999), *no.* 2, 231–239. (M. Kh. Gizatullin) **99m:14101** 14N05 (15A03)
Landsberg, Peter T. (*with* Vedral, Vlatko) Distributions and channel capacities in generalized statistical mechanics. (English summary) *Phys. Lett. A* **247** (1998), *no.* 3, 211–217. (Summary) **99h:82002** 82B03 (94A17)
— *see also* **Menon, V. J., 99c:83038**
Landscheid, Ulf ★ Sätze über den Satz. (German. German summary) [Sentences about the sentence] Eine Theorie der Satzbedeutung und ihre Anwendung auf die Logik. [A theory on the meaning of sentences and its application to logic] Studia Philosophica et Historica, 22. *Peter Lang, Frankfurt am Main*, 1997. 211 *pp. ISBN* 3-631-32039-6 (Marcus Kracht) **99c:03009** 03A05 (03B65)
Landshoff, P. V. Introduction to thermal field theory. (English summary) *Particles and fields (Campos do Jordão, 1997)*, 389–401, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99j:81193** 81T99 (81V05, 82B10)
Landsman, N. P. Simple new axioms for quantum mechanics. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 343–348. (S. Gudder) **99g:81008** 81P05 (81P10)
— Essay review: *Quantum mechanics on phase space* [Kluwer Akad. Publ., Dordrecht, 1996; MR 97j:81004] by F. E. Schroeck, Jr. *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **30** (1999), *no.* 2, 287–305. 81–02 (46N50, 47N50)
Landsman, Zinoviy M. (*with* Makov, Udi E.) Exponential dispersion models and credibility. (English summary) *Scand. Actuar. J.* **1998**, *no.* 1, 89–96. (Klaus D. Schmidt) **99h:62129** 62P05 (62F15)
Landstad, M. B. (*with* Raeburn, Iain) Equivariant deformations of homogeneous spaces. (English summary) *J. Funct. Anal.* **148** (1997), *no.* 2, 480–507. (Judith A. Packer) **99b:22012** 22D25 (46L05)
Landsteiner, Karl (*with* Lopez, Esperanza; Lowe, David A.) $N = 2$ supersymmetric gauge theories, branes and orientifolds. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 197–226. (Douglas J. Smith) **99e:81241** 81T60 (81T13, 81T30)
— (*with* Del Cima, Oswaldo M.; Schweda, M.) Twisted $N = 4$ SUSY algebra in topological models of Schwarz type. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 289–300. (Summary) **99g:81221** 81T70 (81T60)
— String corrections to the Hawking-Page phase transition. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 5, 379–385. 83E30 (83C57)
Landucci, Mario Γ-invariant polynomials and proper maps. (English summary) *Complex geometric analysis in Pohang (1997)*, 245–251, *Contemp. Math.*, 222, *Amer. Math. Soc., Providence, RI*, 1999. (Eric Bedford) **99h:32029** 32H35
Landvoy, Ryan A. The Jones polynomial of pretzel knots and links. (English summary) *Topology Appl.* **83** (1998), *no.* 2, 135–147. (Yongwu Rong) **99g:57009** 57M25
Landweber, Laura F. *see* **DNA based computers, 99f:68002**
Lane, John A. (*with* Willett, Roger J.) Optimal smoothing of accounting earnings. (English summary) *IMA J. Math. Appl. Bus. Indust.* **10** (1999), *no.* 1, 1–14. (Summary) **99i:90018** 90A09
mac Lane, Saunders *see* **Mac Lane, Saunders**
Lane-Serff, Gregory F. (*with* Baines, Peter G.) Eddy formation by dense flows on slopes in a rotating fluid. (English summary) *J. Fluid Mech.* **363** (1998), 229–252. (Summary) **99b:86001** 86A05 (76–05, 76C05, 76U05, 86–05)
Lang, Bruno Efficient algorithms for reducing banded matrices to bidiagonal and tridiagonal form. (English summary) *High performance algorithms for structured matrix problems*, 75–89, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65F15
Lang, Christine (*with* Balasko, Yves) Manifolds of golden rule and balanced steady state equilibria. (English summary) *Econom. Theory* **11** (1998), *no.* 2, 317–330. (Carmen Pagliari) **99a:90056** 90A14
Lang, J. *see* **Lang, Jérôme**
Lang, Jan (*with* Nekvinda, Aleš) A difference between continuous and absolutely continuous norms in Banach function spaces. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 2, 221–232. (Summary) **99a:46051** 46E30
— (*with* Kawohl, Bernd) Are some optimal shape problems convex? (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 353–361. (Summary) **99a:49046** 49Q10 (49J10, 73K40)
— (*with* Evans, William Desmond; Harris, D. J.) Two-sided estimates for the approximation numbers of Hardy-type operators in L^∞ and L^1. (English summary) *Studia Math.* **130** (1998), *no.* 2, 171–192. (Luboš Pick) **99b:47072** 47G10 (47B06)
Lang, Jens (*with* Fröhlich, Jochen) Two-dimensional cascadic finite element computations of combustion problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **158** (1998), *no.* 3-4, 255–267. (Summary) **99b:80001** 80–08 (80A25)
Lang, Jérôme (*with* Benferhat, Salem; Dubois, Didier; Prade, Henri; Saffiotti, A.; Smets, P.) Reasoning under inconsistency based on implicitly-specified partial qualitative probability relations: a unified framework. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 121–126, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B70)
— (*with* Marquis, Pierre) Two forms of dependence in propositional logic: controllability and definability. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI*, 1998), 268–273, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (03B05, 03B70, 03D15, 68Q15)
— (*with* Sabbadin, Régis; Fargier, Hélène) Towards qualitative approaches to multi-stage decision making. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 441–471. (Summary) **99g:90017** 90A05 (90C90)
Lang, Johann (*with* Rassi, Hannes; Röschel, Otto) GC^1-continuity of integral Bézier-patches—another approach. (English summary) *Beiträge zur Geometrie*, 43–54, *Grazer Math. Ber.*, 332, *Karl-Franzens-Univ. Graz, Graz*, 1997. (Summary) **99g:65019** 65D17
— (*with* Gfrerrer, Anton) Equiform bundle motions in E_3 with spherical trajectories. I, II. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 307–316, 317–328. (Hellmuth Stachel) **99m:53024** 53A17
Lang, Joseph (*with* Meeden, Glen; Geyer, Charles J.; Funo, Eiichiro) The admissibility of the maximum likelihood estimator for decomposable log-linear interaction models for contingency tables. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 473–493. (Summary) **99c:62021** 62C15 (62F10, 62H17)
Lang, Li (*with* Ning, Hai Chun; Zhao, Song; Sun, Tai Yi) A linearization method for a nonlinear system with disturbances. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 50–53. 93B18 (93C41)
Lang, Mong Lung Transitive groups of degree $2p + k$. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 5, 337–340. (J. D. Dixon) **99c:20002** 20B20
— (*with* Chan, Heng Huat) Ramanujan's modular equations and Atkin-Lehner involutions. (English summary) *Israel J. Math.* **103** (1998), 1–16. (Liang-Cheng Zhang) **99f:11053** 11F11
Lang, Pascal (*with* Ben Abdelaziz, F.; Nadeau, R.) Distributional unanimity in multiobjective stochastic linear programming. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 225–236, *Springer, Berlin*, 1997. (Summary) **99d:90097** 90C29 (90C15)
Lang, Reinhard Über die Bestimmung von Leitfähigkeiten durch Oberflächenmessungen. (German summary) [On the determination of conductivity through surface measurements] *Elem. Math.* **52** (1997), *no.* 2, 60–70. (Olga A. Hachay) **99f:78022** 78A99 (31B10, 35R30, 86A20, 86A22)

— Die Anziehung einer Kugel nach Newton. (German summary) [The attraction of a sphere according to Newton] *Elem. Math.* **53** (1998), *no.* 1, 1–17. (Lí. G. Chambers) **99a:70001** 70–03 (01A45, 70D99)
— On some connections between potential theory and excursions of reflecting Brownian motion. (English summary) *Math. Nachr.* **193** (1998), 75–91. (Hrvoje Šikić) **99m:60114** 60J45 (31C99, 60J65)
Lang, Serge Familles algébriques de jacobiennes (d'après J. Igusa) [MR **21** #5640]. [Algebraic families of Jacobians (after J. Igusa)] *Séminaire Bourbaki, Vol.* 4, *Exp. No.* 155, 255–263, *Soc. Math. France, Paris*, 1995. (*see* **99f:00036**) 14H40
— Le théorème d'irréductibilité de Hilbert. [Hilbert's irreducibility theorem] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 201, 451–463, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 12E25
— L'équivalence homotopique tangentielle. [Tangential homotopy equivalence] *Séminaire Bourbaki, Vol.* 6, *Exp. No.* 222, 277–286, *Soc. Math. France, Paris*, 1995. (*see* **99f:00038**) 57R22 (55R99, 57R99)
— Fonctions implicites et plongements riemanniens (d'après J. Nash et J. Moser). [Implicit functions and Riemannian embeddings (after J. Nash and J. Moser)] *Séminaire Bourbaki, Vol.* 7, *Exp. No.* 237, 245–254, *Soc. Math. France, Paris*, 1995. (*see* **99f:00039**) 58D17 (53C40)
— Les formes bilinéaires de Néron et Tate [MR **31** #1252]. [The bilinear forms of Néron and Tate] *Séminaire Bourbaki, Vol.* 8, *Exp. No.* 274, 435–445, *Soc. Math. France, Paris*, 1995. (*see* **99f:00040**) 14G25 (14K15)
— Corps de fonctions méromorphes sur une surface de Riemann (d'après Iss'sa). [Meromorphic function fields on a Riemann surface (after Iss'sa)] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 292, 231–232, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 30F99
— Nombres transcendants. [Transcendental numbers] *Séminaire Bourbaki, Vol.* 9, *Exp. No.* 305, 407–414, *Soc. Math. France, Paris*, 1995. (*see* **99f:00041**) 11J81
— ★ Complex analysis. (English summary) Fourth edition. Graduate Texts in Mathematics, 103. *Springer-Verlag, New York*, 1999. *xiv*+485 *pp. ISBN* 0-387-98592-1 (Editors) **99i:30001** 30–01
— ★ Fundamentals of differential geometry. (English summary) Graduate Texts in Mathematics, 191. *Springer-Verlag, New York*, 1999. *xviii*+535 *pp. ISBN* 0-387-98593-X (Man Chun Leung) **99m:53001** 53–01 (58–01)
Lang, W. Christopher Fractal multiwavelets related to the Cantor dyadic group. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 307–314. (Gerlind Plonka) **99b:42030** 42C05 (28A80, 43A70)
Lang, Wolfdieter On sums of powers of zeros of polynomials. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 2, 237–256. (Summary) **99f:30010** 30C15 (33C45, 34B30)
Lang, Zi-Qiang (*with* Billings, S. A.) Output frequency characteristics of nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 1049–1067. 93C10 (93C80)
— (*with* Billings, S. A.) A bound for the magnitude characteristics of nonlinear output frequency response functions. I. Analysis and computation. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 309–328. 93C10
— (*with* Billings, S. A.) A bound for the magnitude characteristics of nonlinear output frequency response functions. II. Practical computation of the bound for systems described by the nonlinear autoregressive model with exogenous input. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 365–384. 93C10
— (*with* Billings, S. A.) Output frequencies of nonlinear systems. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 713–730. 93C80 (93C10)
— (*with* Billings, S. A.) Truncation of nonlinear system expansions in the frequency domain. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 1019–1042. 93C80 (93C30)
Langa, José A. (*with* Caraballo Garrido, Tomás; Robinson, James Cooper) Upper semicontinuity of attractors for small random perturbations of dynamical systems. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 9-10, 1557–1581. (M. L. Blank) **99i:58133** 58F39 (34C35, 34G20, 35B40, 35R60, 58F12, 76D05)
Langacker, Paul Structure of the standard model. *VIII J. A. Swieca Summer School on Particles and Fields* (*Rio de Janeiro*, 1995), 174–195, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:81003**) 81V22
— *see also* **SUSY '97, 99b:81006**
Lange, Ehler (*with* Allouche, Jean-Paul; von Haeseler, Fritz; Petersen, Antje; Skordev, Gencho S.) Linear cellular automata and automatic sequences. (English summary) Cellular automata (Gießen, 1996). *Parallel Comput.* **23** (1997), *no.* 11, 1577–1592. (Valérie Berthé) **99a:11023** 11B85 (11T06, 12Y05, 68Q80)
— (*with* Peitgen, Heinz-Otto; Skordev, Gencho S.) Fractal patterns in Gaussian and Stirling number tables. (English summary) *Ars Combin.* **48** (1998), 3–26. (Jean-Paul Allouche) **99f:11023** 11B65 (11B85, 28A80, 58F08)
Lange, H. *see* **Lange, Horst R.**
Lange, Herbert (*with* Birkenhake, Christina) Parameter spaces for complex tori with endomorphism structure. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 2, 153–159. (Ş. A. Basarab) **99e:14051** 14K10 (32G13, 32M15)
— A vector bundle of rank 2 on $\mathbf{P}_1 \times \mathbf{P}_3$. *J. London Math. Soc.* (2) **57** (1998), *no.* 3, 583–598. (Laura Costa) **99m:14077** 14J60
— (*with* Brambila Paz, Leticia) A stratification of the moduli space of vector bundles on curves. Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 173–187. (William Oxbury) **99e:14007** 14D20 (14H60)
Lange, Horst R. (*with* Zweifel, Paul F.) Mixed boundary-value problems for the two-dimensional Schrödinger-Poisson system. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 3, 283–297. (Reinhard Illner) **99a:82059** 82C10 (35Q55)
— (*with* Illner, R.; Kavian, O.) Stationary solutions of quasi-linear Schrödinger-Poisson systems. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 1–16. (Nakao Hayashi) **99d:35152** 35Q55 (82D99)
Lange, Kenneth ★ Mathematical and statistical methods for genetic analysis. (English summary) Statistics for Biology and Health. *Springer-Verlag, New York*, 1997. xii+265 *pp. ISBN* 0-387-94909-7 (Ivar Heuch) **99k:92015** 92D10 (60G35, 62P10, 92D20)
— (*with* Zhao, Hongyu; Speed, Terence P.) The Poisson-skip model of crossing-over. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 2, 299–313. (P. R. Parthasarathy) **99b:92024** 92D10 (60K05)
Lange, Klaus-Jörn (*with* Reinhardt, Klaus) Set automata. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 321–329, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99e:68095** 68Q45 (68N15, 68Q25)
Lange, Marc Laws, counterfactuals, stability, and degrees of lawhood. (English summary) *Philos. Sci.* **66** (1999), *no.* 2, 243–267. 03B45
Lange, Steffen (*with* Grieser, Gunter; Jantke, Klaus P.) Towards the validation of inductive learning systems. (English summary) *Algorithmic learning theory* (*Otzenhausen*, 1998), 409–423, *Lecture Notes in Comput. Sci.*, 1501, *Springer, Berlin*, 1998. (*see* **99m:68005**) 68T05
— (*with* Nessel, Jochen; Wiehagen, Rolf) Learning recursive languages from good examples. (English summary) ALT 94 and AII 94 (Reinhardsbrunn Castle). *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 1-2, 27–52. (Sanjay Jain) **99k:68159** 68T05 (68Q99)
— (*with* Grieser, Gunter; Jantke, Klaus P.) Towards TCS concepts for characterizing expertise in learning systems validation. (English summary) Algorithms and theory of computing (Japanese) (Kyoto, 1998). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1041 (1998), 103–110. (Summary) **99i:68103** 68T05 (68Q99)
Langemann, B. (*with* Guiard, V.) Generalization of a lemma of Kiefer and Weiss for the case of sequentially planned decision problems with more than two hypotheses. (English summary) *Sequential Anal.* **16** (1997), *no.* 2, 189–204. (Albrecht Irle) **99c:62220** 62L10
Langenbach, Arno Über lokale Eigenschaften von Lipschitz-Abbildungen. [On local properties of Lipschitz mappings] *Math. Nachr.* **194** (1998), 127–137. (A. H. Stone) **99j:26020** 26E15 (26A16, 26B10, 54E40)
Langer, Adrian Fano 4-folds with scroll structure. (English summary) *Nagoya Math. J.* **150** (1998), 135–176. (Marco Andreatta) **99h:14043** 14J45 (14J35)
— On twistor curves of small degree. *Quart. J. Math. Oxford Ser.* (2) **49** (1998), *no.* 193, 43–58. (Massimiliano Pontecorvo) **99d:32034** 32J17 (14J45, 32L25)
Langer, Andreas 0-cycles on the elliptic modular surface of level 4. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 2, 291–302. (Claudio Pedrini) **99k:14009** 14C10 (11G35, 14C25, 14J27)
Länger, H. *see* **Länger, Helmut**
Langer, Heinz (*with* Tretter, Christiane) Spectral properties of the Orr-Sommerfeld problem. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **127** (1997), *no.* 6, 1245–1261. (Hendrik S. V. de Snoo) **99e:34119** 34L10 (47E05, 76E05)
— (*with* Woracek, Harald) Resolvents of symmetric operators and the degenerated Nevanlinna-Pick problem. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 233–261, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Daniel Alpay) **99h:47043** 47B50 (30E05, 47A57)
— (*with* Winkler, Henrik) Direct and inverse spectral problems for generalized strings. (English summary) Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 409–431. (Hendrik S. V. de Snoo) **99m:34190** 34L05 (34A55)
— (*with* Tretter, Christiane) Spectral decomposition of some nonselfadjoint block operator matrices. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 339–359. (Vladimir Derkach) **99d:47004** 47A10 (34B05, 47B25)
Länger, Helmut (*with* Dorninger, Dietmar; Mączyński, Maciej) On ring-like structures occurring in axiomatic quantum mechanics. (English summary) *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 279–289 (1998). (Décio Krause) **99m:81017** 81P10 (03G12, 08A55)
— Generalizations of the correspondence between Boolean algebras and Boolean rings to orthomodular lattices. (English summary) Quantum structures, II (Liptovský Ján, 1998). *Tatra Mt. Math. Publ.* **15** (1998), 97–105. (John Harding) **99m:06019** 06C15 (08A62)
Langer, J. S. Nonequilibrium physics and the origins of complexity in nature. (English summary) *Physics in the 21st century* (*Nishinomiya*, 1996), 39–51, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99a:81004**) 82C03
— (*with* Lobkovsky, Alexander E.) Critical examination of cohesive-zone models in the theory of dynamic fracture. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 9, 1521–1556. (Summary) **99h:73064** 73M25
Langer, Joel (*with* Perline, Ron) Curve motion inducing modified Korteweg-de Vries systems. (English summary) *Phys. Lett. A* **239** (1998), *no.* 1-2, 36–40. (Antoni Sym) **99g:53003** 53A04 (35Q53, 58F07)
Langer, Ulrich[1] (*with* Carstensen, Carsten; Kuhn, Michael) Fast parallel solvers for symmetric boundary element domain decomposition equations. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 321–347. (Jiří Nedoma) **99d:65336** 65N38 (65Y05, 73V10)
Langermann, Y. Tzvi Peurbach in the Hebrew tradition. *J. Hist. Astronom.* **29** (1998), *no.* 2, 137–150. (Jens Høyrup) **99h:01019** 01A35 (01A40)
Langevin, André (*with* Mbaraga, Pontien; Laporte, Gilbert) Two exact algorithms for the vehicle routing problem on trees. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 75–89. (Summary) **99h:90111** 90C35 (90C27)
Langevin, Philippe (*with* Hou, Xiang-dong) Results on bent functions. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 232–246. (Ryoh Fuji-Hara) **99b:05025** 05B20
— Weights of abelian codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 3, 239–245. (Summary) **99h:94063** 94B15
— (*with* Solé, Patrick) Kernels and defaults. (English summary) *Finite fields: theory, applications, and algorithms* (*Waterloo, ON*, 1997), 77–85, *Contemp. Math.*, 225, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99h:94079** 94B75
Langevin, R. (*with* Bonatti, Ch.) Difféomorphismes de Smale des surfaces. (English and French summaries) [Smale diffeomorphisms of surfaces] With the collaboration of E. Jeandenans. *Astérisque No.* 250 (1998), *viii*+235 *pp.* (Athanase Papadopoulos) **99m:58123** 58F09 (58F10, 58F15)
Langham, M. (*with* Dolan, Louise) Partition functions, duality and the tube metric. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 235–256. (Daniel N. Kabat) **99m:81179** 81T30 (81T40)
Langholm, Tore A strong version of Herbrand's theorem for introvert sentences. *J. Symbolic Logic* **63** (1998), *no.* 2, 555–569. (Henri Volken) **99f:03006** 03B10
Langholz, Bryan (*with* Xiang, Anny Hui) Comparison of case-control to full cohort analyses under model misspecification. (English summary) *Biometrika* **86** (1999), *no.* 1, 221–226. (Summary) **99m:62157** 62P10

Langlais, Michel (*with* Fitzgibbon, William E.) Diffusive SEIR models with logistic population control. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 3, 1–16. (Summary) **99d:92037** 92D30 (35Q80)

— (*with* Busenberg, Stavros) Global behaviour in age structured S.I.S. models with seasonal periodicities and vertical transmission. *J. Math. Anal. Appl.* **213** (1997), *no.* 2, 511–533. (K. Gopalsamy) **99f:92035** 92D30 (45K05)

Langlands, Robert P. (*with* Saint-Aubin, Yvan) Aspects combinatoires des équations de Bethe. [Combinatorial aspects of the Bethe equations] *Advances in mathematical sciences: CRM's 25 years* (*Montreal, PQ*, 1994), 231–301, *CRM Proc. Lecture Notes*, 11, *Amer. Math. Soc., Providence, RI*, 1997. (V. A. Golubeva) **99h:32025** 32G34 (14E05, 82B23)

— Where stands functoriality today? *Representation theory and automorphic forms* (*Edinburgh*, 1996), 457–471, *Proc. Sympos. Pure Math.*, 61, *Amer. Math. Soc., Providence, RI*, 1997. (Joe Repka) **99c:11140** 11R39 (22E55)

— Representations of abelian algebraic groups. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 231–250. (Volker J. Heiermann) **99b:11125** 11R39 (22E55)

Langley, J. K. (*with* Zheng, Jian-Hua) On the fixpoints, multipliers and value distribution of certain classes of meromorphic functions. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 1, 133–150. (Walter Bergweiler) **99b:30044** 30D35 (30D05)

— Quasiconformal modifications and Bank-Laine functions. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 3, 233–239. (F. W. Stallmann) **99e:34004** 34A20 (30D35)

— On the zeros of $f^{(k)}/f$. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 385–394. (Summary) **99m:30062** 30D35

— (*with* Shea, Dan) On multiple points of meromorphic functions. (English summary) *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 371–384. (N. Toda) **99g:30043** 30D35

— Permutable entire functions and Baker domains. (English summary) *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 2, 199–202. (Zhuan Ye) **99m:30053** 30D05 (58F23)

Langlois, David (*with* Carter, Brandon) Relativistic models for superconducting-superfluid mixtures. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 478–504. (Summary) **99j:83041** 83C55 (82D50, 82D55)

— (*with* Deruelle, Nathalie; Uzan, Jean-Philippe) Erratum: "Cosmological perturbations seeded by topological defects: setting the initial conditions" [Phys. Rev. D (3) **56** (1997), no. 12, 7608–7620; MR 98j:83109]. *Phys. Rev. D* (3) **58** (1998), *no.* 8, 089901, 1 *p.* 83F05

Langlois, Philippe (*with* Nativel, Fabrice) Réduction et majoration de l'erreur d'arrondi en arithmétique à virgule flottante. (English and French summaries) [Reduction and bounding of the rounding error in floating point arithmetic] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 781–786. (Summary) **99h:65094** 65G05 (65G10, 65Y99)

Langmach, H. (*with* Bruckner, Gottfried; Handrock-Meyer, S.) An inverse problem from 2D ground-water modelling. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 835–851. (Summary) **99d:35177** 35R30 (35J25, 76S05)

Langmann, Edwin (*with* Grosse, Harald; Raschhofer, Ernst) Introduction to simple integrable models of quantum field theory. (English summary) *Conformal field theories and integrable models* (*Budapest*, 1996), 126–150, *Lecture Notes in Phys.*, 498, *Springer, Berlin*, 1997. (Summary) **99i:82005** 82B05 (81T10, 82B23)

Langmann, Klaus Unlösbarkeit der Gleichung $x^n - y^2 = az^m$ bei kleinem $\mathrm{ggT}(n, h(-a))$. (German summary) [Unsolvability of the equation $x^n - y^2 = az^m$ for small $\gcd(n, h(-a))$] *Arch. Math.* (*Basel*) **70** (1998), *no.* 3, 197–203. (A. Pethő) **99b:11024** 11D41 (11R11, 11R29)

Langsrud, Øyvind (*with* Næs, Tormod) A unified framework for significance testing in fractional factorials. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 413–431. (Summary) **99i:62173** 62K15

Langsteiner, Herbert (*with* Fermüller, Christian G.) Tableaux for finite-valued logics with arbitrary distribution modalities. (English summary) *Automated reasoning with analytic tableaux and related methods* (*Oisterwijk*, 1998), 156–171, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B45)

Langston, Michael A. (*with* Govindan, Rajeev; Yan, Xudong) Approximating the pathwidth of outerplanar graphs. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 1, 17–23. (Summary) **99f:68156** 68R10 (05C85, 68Q25)

— (*with* Booth, Heather D.; Govindan, Rajeev; Ramachandramurthi, Siddharthan) Fast algorithms for K_4 immersion testing. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 344–378. (Hans L. Bodlaender) **99m:68147** 68R10 (05C10, 05C85, 68Q25)

Langtangen, Hans Petter (*with* Pedersen, Geir) Computational models for weakly dispersive nonlinear water waves. (English summary) *Comput. Methods Appl. Mech. Engrg.* **160** (1998), *no.* 3-4, 337–358. 76M25 (76B15)

— (*with* Cai, Xing; Nielsen, Bjørn Fredrik; Tveito, Aslak) A finite element method for fully nonlinear water waves. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 544–568. (Summary) **99b:76049** 76M10 (76B15)

Langtry, T. N. Some bounds on the figure of merit of a lattice rule. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 308–320, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99e:65040** 65D30 (65C05)

Languasco, A. A note on primes and Goldbach numbers in short intervals. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 3, 191–206. (Daniel A. Goldston) **99g:11104** 11N05 (11P32)

Lankarani, Hamid M. (*with* Hutchinson, John J.; Kaiser, Mark J.) The head injury criterion (HIC) functional. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 1–16. (Summary) **99d:92015** 92C50

Lann, Avital (*with* Mosheiov, Gur; Rinott, Yosef) Asymptotic optimality in probability of a heuristic schedule for open shops with job overlaps. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 63–68. (Summary) **99g:90060** 90B35 (60K30)

Lannes, André Phase calibration on interferometric graphs. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 3, 443–454. 78A55

Lannes, David Dispersive effects for nonlinear geometrical optics with rectification. (English summary) *Asymptot. Anal.* **18** (1998), *no.* 1-2, 111–146. (Hidetoshi Tahara) **99m:35142** 35L60 (35B40, 35C20)

Lannes, Jean *see* **Sjöstrand, Johannes, 99g:35097**

Lanski, Charles The cardinality of the center of a PI ring. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 81–85. (Summary) **99b:16040** 16R20 (16N60)

Lanson, N. (*with* Egelja, Aleksandra; Kröner, Dietmar; Schwörer, R.; Mancip, M.; Vila, Jean-Paul) Combined finite volume and smoothed particle method. (English summary) *Numerical flow simulation, I* (*Marseille*, 1997), 50–74, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76109** 76M25 (76X05)

Lansun, Chen *see* **Chen, Lan Sun**

Lanteri, Antonio Ample vector bundles with sections vanishing on surfaces of Kodaira dimension zero. (English summary) *Matematiche* (*Catania*) **51** (1996), *suppl.*, 115–125 (1997). (Wei-Ping Li) **99a:14066** 14J60 (14J28, 14J45)

— Ample bundles and special varieties. (Italian. English summary) *Geometry Seminars, 1996–1997* (*Italian*) (*Bologna*), 137–154, *Univ. Stud. Bologna, Bologna*, 1998. (Luca Chiantini) **99f:14058** 14J60

— (*with* Turrini, Cristina) Elliptic surfaces with a nef line bundle of genus two. (English summary) Dedicated to the memory of Fernando Serrano. *Collect. Math.* **49** (1998), *no.* 2-3, 361–381. (Yoshiaki Fukuma) **99m:14010** 14C20 (14J27)

— (*with* D'Ambros, Paola) Two comparison theorems for special varieties. *Kyushu J. Math.* **52** (1998), *no.* 2, 403–412. (Gian Mario Besana) **99g:14056** 14J99 (14C20)

— (*with* Occhetta, Gianluca) Double covers of some Fano manifolds as hyperplane sections. (English summary) *Math. Nachr.* **193** (1998), 93–110. (Jarosław A. Wiśniewski) **99f:14055** 14J45 (14C20)

— (*with* de Fernex, Tommaso) Ample vector bundles and del Pezzo manifolds. (English summary) *Kodai Math. J.* **22** (1999), *no.* 1, 83–98. (Gian Mario Besana) **99m:14076** 14J60 (14J45)

Lantéri, S. (*with* Abgrall, Rémi; Sonar, Thomas) ENO approximations for compressible fluid dynamics. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 3–28. (Claus-Dieter Munz) **99k:76116** 76M25 (76N10)

Lantuéjoul, C. Conditional simulation of object-based models. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 271–288, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:60022** 60D05 (60J25)

Lantz, David (*with* Heinzer, William J.; Wiegand, Roger) The residue fields of a zero-dimensional ring. (English summary) *J. Pure Appl. Algebra* **129** (1998), *no.* 1, 67–85. (Marco Fontana) **99g:13009** 13B30 (14A05)

Lanusse, Patrick (*with* Oustaloup, Alain; Sabatier, Jocelyn) From fractal robustness to the CRONE control. (English summary) *Fract. Calc. Appl. Anal.* **2** (1999), *no.* 1, 1–30. 93D09 (26A33)

Lanz, L. (*with* Melsheimer, O.) Time scale, objectivity and irreversibility in quantum mechanics. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 345–358, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Adonai S. Sant'Anna) **99h:81014** 81P05

— (*with* Vacchini, B.) Time scales in quantum mechanics by a scattering map. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 545–553. (R. L. Ingraham) **99f:82047** 82C10 (81P15, 81V70)

Lanza, V. (*with* Bertero, Mario; Bindi, D.; Boccacci, Patrizia; Cattaneo, M.; Eva, C.) A novel blind-deconvolution method with an application to seismology. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 815–833. 86A22 (86A15)

Lanza de Cristoforis, Massimo A functional decomposition theorem for the conformal representation. *J. Math. Soc. Japan* **49** (1997), *no.* 4, 759–780. (S. K. Vodop'yanov) **99d:47074** 47H30 (30C20)

— Differentiability properties of the autonomous composition operator in Sobolev spaces. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 631–651. (From the introduction) **99m:47084** 47H30 (46E35)

collini Lanzi, Tiziana *see* **Collini Lanzi, Tiziana**

Lanzinger, Hartmut An almost sure limit theorem for moving averages of random variables between the strong law of large numbers and the Erdős-Rényi law. (English summary) *ESAIM Probab. Statist.* **2** (1998), 163–183 (*electronic*). (J. Steinebach) **99i:60071** 60F15 (40G05, 60F10)

— A Baum-Katz theorem for random variables under exponential moment conditions. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 2, 89–95. (N. H. Bingham) **99k:60085** 60F15

Lanzmann, Emmanuel (*with* Gorelik, Maria) The annihilation theorem for the Lie superalgebra $\mathrm{osp}(1,2l)$. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 237–242. (Hedi Benamor) **99h:17007** 17B10

— *see also* **Joseph, Anthony, 99k:17022**

Laohakosol, Vichian Bases for integer-valued polynomials in a Galois field. *Acta Arith.* **87** (1998), *no.* 1, 13–26. (Robin J. Chapman) **99m:11145** 11T55 (11C08, 11T06, 13B25)

Laouadi, M. (*with* Ammari, Habib; Nédélec, Jean-Claude) Low frequency behavior of solutions to electromagnetic scattering problems in chiral media. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 1022–1042 (*electronic*). (Ioannis G. Stratis) **99c:35239** 35Q60 (35B40, 35C15, 45B05, 78A45)

Lapa de Souza, Maria Luiza L'interprétation de la classe de Maslov dans la K-théorie hermitienne et dans la théorie relative de Chern-Weil. (English summary) [Interpretation of the Maslov class in Hermitian K-theory and in relative Chern-Weil theory] *K-Theory* **13** (1998), *no.* 4, 347–361. (Aleksy Tralle) **99g:19004** 19E20 (19G38, 55N15, 57R20, 58F05)

La Paz, Claudio (*with* Balibrea Gallego, Francisco) Turbulence, chaoticity and ω-limit sets. (English summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 4 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Summary) **99j:58139** 58F13

— (*with* Balibrea Gallego, Francisco) Cantor sets as ω-limits in discrete dynamical systems. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 183–188, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Summary) **99d:26006** 26A30 (28A05)

Lapeyre, Bernard (*with* Lamberton, Damien) ★ Introduction au calcul stochastique appliqué à la finance. (French) [Introduction to stochastic calculus applied to finance] Second edition. *Ellipses, Édition Marketing, Paris*, 1997. 176 *pp. ISBN* 2-7298-4782-0 (From the preface) **99b:90022** 90A09 (60G44, 60H99)

— (*with* Pardoux, Étienne; Sentis, Rémi) ★ Méthodes de Monte-Carlo pour les équations de transport et de diffusion. (French. French summary) [Monte Carlo methods for transport and diffusion equations] Mathématiques & Applications [Mathematics & Applications], 29. *Springer-Verlag, Berlin*, 1998. $x+176$ *pp. ISBN* 3-540-63393-6 (Mohammad Asadzadeh) **99e:65006** 65C05 (60J70, 76M35, 76P05, 82C70, 82C80)

Lapid, Erez M. A note on the global Langlands conjecture. (English summary) *Doc. Math.* **3** (1998), 285–296 (*electronic*). (Stephen Gelbart) **99m:11133** 11R39 (11F70, 22E50, 22E55)
— (*with* Rogawski, Jonathan) On twists of cuspidal representations of GL(2). (English summary) *Forum Math.* **10** (1998), *no.* 2, 175–197. (Volker J. Heiermann) **99d:11055** 11F70 (11F72, 11R39, 22E55)
— (*with* Jacquet, Hervé; Rogawski, Jonathan) Periods of automorphic forms. *J. Amer. Math. Soc.* **12** (1999), *no.* 1, 173–240. (Jiandong Guo) **99c:11056** 11F67 (11F70, 11F72, 22E55)
Lapidoth, Amos (*with* Telatar, İ. Emre) The compound channel capacity of a class of finite-state channels. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 973–983. (Summary) **99d:94016** 94A40
— (*with* Narayan, Prakash) Reliable communication under channel uncertainty. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2148–2177. (Summary) **99h:94040** 94A40
Lapin, A. V. Generalized solution of the problem of nonlinear filtration of a fluid in a porous medium. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 2, 158–160. 35K55 (35D05, 35Q35, 76S05)
Lapina, O. N. (*with* Glushkov, E. V.; Glushkova, Natalya) Diffraction of normal modes in composite and stepped elastic waveguides. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 2, 297–303; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 2, 275–280. 73D25
— (*with* Glushkov, E. V.; Glushkova, Natalya) 3-D elastic stress singularity at polyhedral corner points. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 8, 1105–1128. (Summary) **99j:73083** 73M25 (73B50, 73V20)
Laplace, P. S. *see* **Saraiva, Luis M. R., 99a:01012**
Laplante, Sophie (*with* Fortnow, Lance) Nearly optimal language compression using extractors. (English summary) *STACS* 98 (*Paris*, 1998), 84–93, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99h:68090** 68Q30 (68Q15)
— (*with* Feigenbaum, Joan; Fortnow, Lance; Naik, Ashish V.) On coherence, random-self-reducibility, and self-correction. (English summary) *Comput. Complexity* **7** (1998), *no.* 2, 174–191. (Uwe Schöning) **99j:68041** 68Q15
Lapointe, Luc (*with* Vinet, Luc) Creation operators for the Calogero-Sutherland model. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 109–119, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:81290** 81V70 (33D80)
— (*with* Vinet, Luc) Rodrigues formulas for the Macdonald polynomials. (English summary) *Adv. Math.* **130** (1997), *no.* 2, 261–279. (Edward E. Allen) **99e:05128** 05E05 (33D45)
— (*with* Vinet, Luc) Creation operators for the Macdonald and Jack polynomials. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 269–286. (Summary) **99f:05130** 05E35 (33C45, 81V70)
— (*with* Vinet, Luc) A short proof of the integrality of the Macdonald (q,t)-Kostka coefficients. *Duke Math. J.* **91** (1998), *no.* 1, 205–214. (Tim H. Baker) **99d:05087** 05E05
— (*with* Floreanini, Roberto; Vinet, Luc) The dynamical algebra of the three-body Calogero model. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 229–236. (Kazuhiro Hikami) **99c:81279** 81V70 (82B21)
Lapoire, Denis (*with* Courcelle, Bruno) Facial circuits of planar graphs and context-free languages. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 616–624, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q45)
— Recognizability equals monadic second-order definability for sets of graphs of bounded tree-width. (English summary) *STACS* 98 (*Paris*, 1998), 618–628, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Wolfgang Thomas) **99m:68108** 68Q45 (03C85, 68R10)
Laporte, Éric Lexical disambiguation with fine-grained tagsets. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers* (*Gudauri*, 1995), 203–210, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 68S05
Laporte, Gilbert (*with* Gendreau, Michel; Semet, Frédéric) The covering tour problem. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 568–576. (Rainer Burkard) **99j:90104** 90C35 (90C10, 90C27)
— (*with* Gendreau, Michel; Hertz, Alain) An approximation algorithm for the traveling salesman problem with backhauls. (English summary) *Oper. Res.* **45** (1997), *no.* 4, 639–641. (Summary) **99h:90083** 90C27 (90C35)
— (*with* Labbé, Martine; Soriano, Patrick) Covering a graph with cycles. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 6, 499–504. (László Pyber) **99m:05151** 05C85 (05C38, 05C70)
— (*with* Gendreau, Michel; Semet, Frédéric) A branch-and-cut algorithm for the undirected selective traveling salesman problem. (English summary) *Networks* **32** (1998), *no.* 4, 263–273. (P. F. Körner) **99j:90064** 90C27 (90B10, 90C35)
— (*with* Hertz, Alain; Hugo, Pierrette Nanchen) Improvement procedures for the undirected rural postman problem. (English summary) *INFORMS J. Comput.* **11** (1999), *no.* 1, 53–62. 90C27 (90C35)
— (*with* Mbaraga, Pontien; Langevin, André) Two exact algorithms for the vehicle routing problem on trees. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 75–89. (Summary) **99h:90111** 90C35 (90C27)
La Poutré, Johannes A. (*with* Westbrook, Jeffery R.) Dynamic 2-connectivity with backtracking. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 10–26 (*electronic*). (Peter B. Gibbons) **99d:68195** 68R10 (68P05, 68Q20, 68Q25)
Lapp, Krista (*with* Molenberghs, Geert; Lesaffre, Emmanuel) Models for the association between ordinal variables. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 387–411. 62H17
Lappan, Peter (*with* Chen, Huaihui) Products of spherical derivatives and normal functions. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 2, 231–246. (L. R. Sons) **99g:30047** 30D45
Lappas, Dionyssios Metric covering spaces and applications. (English summary) *New developments in differential geometry, Budapest* 1996, 213–220, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99k:53070** 53C20 (54H15)
de La Pradelle, Arnaud (*with* Feyel, Denis) On the approximate solutions of the Stratonovitch equation. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 7, 14 *pp.* (*electronic*). (Marco Ferrante) **99j:60075** 60H07 (60G17)
Lapshin, A. L. (*with* Valeev, K. G.) Optimizations of solutions of a linear control system. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 10, 1429–1431; *translation in Ukrainian Math. J.* **49** (1997), *no.* 10, 1607–1609 (1998). 93E20 (49K45)
Lapshin, A. V. The mean number of solutions of a system of random congruences. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 309–312, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60C05 (05A16)
— Estimation of the distribution of a summand on the base of observations of sums of two random summands in a finite abelian group. (English summary) *Probabilistic methods in discrete mathematics* (*Petrozavodsk*, 1996), 313–319, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60B15 (20P05, 60C05)
Lapteev, G. G. A priori estimates and the existence of strong solutions of semilinear parabolic systems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 518–522, 574; *translation in Differential Equations* **34** (1998), *no.* 4, 516–521. (Summary) **99k:35078** 35K35 (35B45)
Laptev, A. Dirichlet and Neumann eigenvalue problems on domains in Euclidean spaces. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 2, 531–545. (Günter Berger) **99a:35027** 35G15 (35Jxx, 35P15)
— (*with* Birman, M. Sh.; Solomyak, M. Z.) On the eigenvalue behaviour for a class of differential operators on semiaxis. (English summary) *Math. Nachr.* **195** (1998), 17–46. (Christiane Tretter) **99m:34194** 34L20 (47E05)
— (*with* Robert, Didier; Safarov, Yu.) Remarks on the paper of V. Guillemin and K. Okikiolu: "Subprincipal terms in Szegő estimates" [Math. Res. Lett. **4** (1997), no. 1, 173–179; MR 97k:58169]. *Math. Res. Lett.* **5** (1998), *no.* 1-2, 57–61. (Leonid Friedlander) **99g:58126** 58G25 (35P20, 58G15, 58G18)
Laptinskiĭ, V. N. On periodic solutions of nonlinear matrix differential equations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 14–18, 139. (Summary) **99i:34061** 34C25 (34A45)
— (*with* Zhestkov, S. V.) Existence and stability of periodic solutions of a class of nonlinear wave partial differential systems. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 5–10, 138. 35L70 (35B10)
palencia de Lara, C. *see* **Palencia de Lara, C.**
Lara, Luis (*with* Castagnino, Mario A.; Diener, Roberto; Puccini, Gabriel) Rigged Hilbert spaces and time asymmetry: the case of the upside-down simple harmonic oscillator. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2349–2369. (J.-P. Antoine) **99f:81043** 81Q10 (47A70, 47N50, 82B05)
Lara, Martín (*with* Ferrer, S.; Palacián, J.; San Juan, J. F.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. I. Periodic orbits near the origin. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1199–1213. (Summary) **99k:58155a** 58F22 (58F05, 70F15, 70H05, 70K99)
— (*with* Ferrer, S.; Palacián, J.; San Juan, J. F.; Viartola, A.; Yanguas, P.) The Hénon and Heiles problem in three dimensions. II. Relative equilibria and bifurcations in the reduced system. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1215–1229. (Summary) **99k:58155b** 58F14 (58F05, 70F15, 70H05, 70K99)
cohen de Lara, Michel *see* **Cohen de Lara, Michel**
neumann-Lara, Víctor *see* **Neumann-Lara, Víctor**
Laradji, Abdallah On a problem of Wenzel on equational compactness of modules. (English summary) *Algebra Universalis* **38** (1997), *no.* 3, 221–225. (Kirill M. Filippov) **99j:08001** 08A45 (08B05, 16P99)
— On a weak form of equational compactness. (English summary) *Algebra Universalis* **39** (1998), *no.* 1-2, 71–80. (Ewa Graczyńska) **99m:08012** 08A45 (13C99)
pérez Laraudogoitia, Jon *see* **Pérez Laraudogoitia, Jon**
Larcher, Gerhard On the distribution of digital sequences. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 109–123, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:11083** 11K41 (11K38, 65C05)
— (*with* Pirsic, Gottlieb; Wolf, Reinhard Karl) Quasi-Monte Carlo integration of digitally smooth functions by digital nets. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 321–329, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65071** 65D30 (65C05)
— Digital point sets: analysis and application. *Random and quasi-random point sets*, 167–222, *Lecture Notes in Statist.*, 138, *Springer, New York*, 1998. (Robert F. Tichy) **99m:11085** 11K38 (11K31, 11K45)
— A bound for the discrepancy of digital nets and its application to the analysis of certain pseudo-random number generators. *Acta Arith.* **83** (1998), *no.* 1, 1–15. (Peter J. Hellekalek) **99j:11086** 11K38 (11K31, 11K45, 65C10)
— *see also* **Monte Carlo and quasi-Monte Carlo methods, 1996**, **99d:65005** *and* **Random and quasi-random point sets, 99g:11003**
Larcombe, P. J. (*with* Wilson, P. D. C.) On the trail of the Catalan sequence. (English summary) *Math. Today* (*Southend-on-Sea*) **34** (1998), *no.* 4, 114–117. (Summary) **99f:01017** 01A55 (05A10)
— (*with* Brown, I. C.) A survey of customised computer algebra programs for multibody dynamic modelling. *Symbolic methods in control system analysis and design*, 53–78, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93A30 (70–04, 70B15, 70E15)
— On pre-Catalan Catalan numbers: Kotelnikow (1766). Addenda: "On the trail of the Catalan sequence" [Math. Today (Southend-on-Sea) **34** (1998), no. 4, 114–117; MR 99f:01017] by Larcombe and P. D. C. Wilson. *Math. Today* (*Southend-on-Sea*) **35** (1999), *no.* 1, 25. 01A55 (05A10)
Larecki, W. Symmetric forms of the equations of heat transport in a rigid conductor of heat with internal state variables. I. Analysis of the model and thermodynamic restrictions via the "main dependency relation". (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 2, 143–173. (Summary) **99i:80007** 80A20
— Symmetric forms of the equations of heat transport in a rigid conductor of heat with internal state variables. II. Alternative symmetric systems. (English summary) *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 2, 175–205. (Summary) **99i:80008** 80A20
Larez, Gladys (*with* Mago, Pedro J.; Villarroel, Felicia) Bipartite graph degree sequence. (Spanish. English and Spanish summaries) *Acta Cient. Venezolana* **49** (1998), *no.* 2, 98–101. (Summary) **99i:05196** 05C99

Larfeldt, Tomas (*with* Geidmanis, Dainis; Kaņeps, Jānis) Single-letter languages accepted by alternating and probabilistic pushdown automata. (English summary) *Randomized algorithms* (*Brno*, 1998), 12 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68Q45 (68Q68)

Large, William G. Modeling and parameterizing the ocean planetary boundary layer. *Ocean modeling and parameterization* (*Les Houches*, 1998), 81–120, *NATO Sci. Ser. C Math. Phys. Sci.*, 516, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99f:86001**) 86A05 (76D99, 86A10)

Larget, Bret A canonical representation for aggregated Markov processes. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 313–324. (Martin Jacobsen) **99k:60190** 60J27

Lari, Isabella (*with* Maravalle, Maurizio; Simeone, Bruno) A linear programming based heuristic for a hard clustering problem on trees. (English summary) *Advances in data science and classification* (*Rome*, 1998), 161–170, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30 (90C08)

— (*with* Becker, Ronald; Lucertini, Mario; Simeone, Bruno) Max-min partitioning of grid graphs into connected components. (English summary) *Networks* **32** (1998), *no.* 2, 115–125. (Summary) **99e:05112** 05C85 (68Q25)

Larichev, O. I. Measurement of differences in preferences expressed by a simple additive rule. (English summary) *Essays in decision making*, 168–184, *Springer, Berlin*, 1997. (*see* **99f:90005**) 90A06

— (*with* Sternin, M. Yu.) Man-machine methods for solving a multicriterial assignment problem. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 135–156; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 2, 1016–1031. 90C29 (90A05, 90C90)

Larimore, Wallace E. Canonical variate analysis in control and signal processing. *Statistical methods in control and signal processing*, 83–119, *Elec. Engrg. Electron.*, 103, *Dekker, New York*, 1997. (*see* **99b:93004**) 93E10

Larin, D. V. A degenerate quasilinear Dirichlet problem for domains with a fine-grained boundary. (Russian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 39–43. (Summary) **99j:35079** 35J70 (35B27, 35J65)

Larin, M. R. (*with* Axelsson, Owe) An algebraic multilevel iteration method for finite element matrices. (English summary) *J. Comput. Appl. Math.* **89** (1998), *no.* 1, 135–153. (Summary) **99c:65085** 65F50 (65F10, 65N22)

— An algebraic multilevel iterative method of incomplete factorization for Stieltjes matrices. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1059–1074; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1011–1025. (Summary) **99d:65138** 65F35 (65F10)

Larin, Vladimir B. On stabilizing and antistabilizing solutions of the algebraic Riccati equation. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 109–119, 298. 93D15 (93C05)

— Problems of the control of a manipulator. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 4, 5–18, 156. 93C85 (70B15)

— (*with* Aliev, Fikret A.; Kavranoğlu, Davut) Factorization of a polynomial matrix with respect to the unit circle. *Arab. J. Sci. Eng. Sect. B Eng.* **23** (1998), *no.* 2, 319–323. (Petko Petkov) **99m:93080** 93D15 (15A23, 93B40)

— Asymptotic expansion of the stabilizing solution of the algebraic Riccati equation. (Russian) *Dokl. Akad. Nauk* **358** (1998), *no.* 5, 591–593. (M. M. Konstantinov) **99m:93086** 93D15 (15A24, 93B40)

— Stabilization of linear systems with indeterminate parameters. (Russian. English and Ukrainian summaries) *Prikl. Mekh.* **34** (1998), *no.* 2, 92–99; *translation in Internat. Appl. Mech.* **34** (1998), *no.* 2, 188–195. 93D21 (93C41)

— Control algorithms of manipulators. (English summary) *Stab. Control Theory Appl.* **1** (1998), *no.* 1, 73–81. 93C85 (70B15, 70Q05, 93C40)

Larina, I. N. (*with* Rykov, V. A.) A numerical method for computing axisymmetric flows of a rarefied gas. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 8, 1391–1403. (Summary) **99k:76102** 76M20 (65M55, 76P05)

— (*with* Rykov, V. A.) A method for computing axisymmetric rotational flows of a rarefied gas at small Knudsen numbers. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1936–1942; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1859–1865. (Summary) **99i:76098** 76M20 (76N99, 76P05, 76U05)

Lario, Joan-C. (*with* Gonzàlez Rovira, Josep) Rational and elliptic parametrizations of Q-curves. (English summary) *J. Number Theory* **72** (1998), *no.* 1, 13–31. (Ivica Gusić) **99f:11070** 11G05 (11F11, 11G18, 14G35)

— (*with* Cardona, G.; Gonzàlez Rovira, Josep; Rio, Anna) On curves of genus 2 with Jacobian of GL_2-type. (English summary) *Manuscripta Math.* **98** (1999), *no.* 1, 37–54. (Dino J. Lorenzini) **99j:11068** 11G10 (14H40)

ongay-Larios, Fausto *see* **Ongay-Larios, Fausto**

Larkin, Matthew P. (*with* Rennó, Nilton O.; Burkett, Matthew L.) A simple thermodynamical theory for dust devils. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 21, 3244–3252. (Summary) **99h:86014** 86A10 (76C05)

Lar'kin, N. A. (*with* Cousin, A. T.) A nonlinear unilateral problem for the Timoshenko coupled system. (English summary) *Adv. Math. Sci. Appl.* **7** (1997), *no.* 2, 555–568. (Summary) **99i:73037** 73D35 (35Q72, 73K05, 73K12, 73K50, 93C20)

— (*with* Cousin, A. T.; Frota, C. L.; Medeiros, Luis Adauto) On the abstract model of the Kirchhoff-Carrier equation. (English summary) *Commun. Appl. Anal.* **1** (1997), *no.* 3, 389–404. (From the introduction) **99b:34105** 34G20 (35Q99, 47N20)

— (*with* Cousin, A. T.; Frota, C. L.) Regular solutions and stability for the nonlinear thermoviscoelastic system with nonlinear damping on the boundary. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations* (*Plovdiv*, 1997), 119–125, *VSP, Utrecht*, 1998. (Summary) **99f:35206** 35Q72 (35B35, 73B30, 73F15)

— (*with* Doronin, G. G.; de Souza, Aparecido Jesuino) A hyperbolic problem with nonlinear second-order boundary damping. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 28, 10 *pp.* (*electronic*). (Takashi Narazaki) **99h:35139** 35L70

— (*with* Cavalcanti, M. M.; Soriano, J. A.) On solvability and stability of solutions of nonlinear degenerate hyperbolic equations with boundary damping. (English summary) *Funkcial. Ekvac.* **41** (1998), *no.* 2, 271–289. (Summary) **99h:35147** 35L80 (35B35, 35L70)

— (*with* Cousin, A. T.; Frota, C. L.) Regular solutions and energy decay for the equation of viscoelasticity with nonlinear damping on the boundary. *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 273–296. (Ming Mei) **99e:73058** 73F15 (35B40, 35Q72)

— (*with* Frota, C. L.) On a variational inequality for the nonhomogeneous degenerated Kirchhoff equation with a frictional damping. (English summary) *Portugal. Math.* **55** (1998), *no.* 3, 277–291. (Vyacheslav N. Pivovarchik) **99i:35159** 35Q72 (73C50, 73D35, 73K03)

Larman, David G. (*with* Bárány, Imre) The convex hull of the integer points in a large ball. *Math. Ann.* **312** (1998), *no.* 1, 167–181. (J. M. Wills) **99i:52014** 52B20 (11P21, 52A27)

— (*with* Zong, C.) On the kissing numbers of some special convex bodies. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 2, 233–242. (Sándor Szabó) **99k:52030** 52C17

Larmore, Lawrence L. (*with* Bradford, Phillip G.; Golin, Mordecai J.; Rytter, Wojciech) Optimal prefix-free codes for unequal letter costs: dynamic programming with the Monge property. (English summary) *Algorithms—ESA '98* (*Venice*), 43–54, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 94A45 (68P10, 68Q25)

— (*with* Chrobak, Marek) Metrical task systems, the server problem and the work function algorithm. *Online algorithms* (*Schloss Dagstuhl*, 1996), 74–96, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 68Q25

— (*with* Przytycka, Teresa M.) The optimal alphabetic tree problem revisited. (English summary) *J. Algorithms* **28** (1998), *no.* 1, 1–20. (Summary) **99c:68128** 68Q25

— (*with* Rytter, Wojciech) Almost optimal sublinear time parallel recognition algorithms for three subclasses of context free languages. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 189–201. (Maxime Crochemore) **99f:68120** 68Q45 (68Q22, 68Q52)

Laroque, Guy (*with* Demange, Gabrielle) Long-sighted principal and myopic agents. (English and French summaries) *J. Math. Econom.* **30** (1998), *no.* 2, 119–146. (Summary) **99k:90025** 90A09

Larose, Benoit (*with* Laviolette, François; Tardif, Claude) On normal Cayley graphs and hom-idempotent graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 867–881. (Marston Conder) **99h:05100** 05C75 (05C25)

Larrazabal, J. M. *see* **Colloquium: Logic '96, 99i:03002**

Larrión, Francisco (*with* Raggi-Cárdenas, Alberto; Salmerón, Leonardo) ★ Rudimentos de mansedumbre y salvajismo en teoría de representaciones. (Spanish. Spanish summary) [Rudiments of tameness and wildness in representation theory] Aportaciones Matemáticas: Textos [Mathematical Contributions: Texts], 5. *Sociedad Matemática Mexicana, México*, 1995. x+239 *pp. ISBN* 968-36-4618-2 (Flávio Ulhoa Coelho) **99j:16006** 16G20

— (*with* Neumann-Lara, Víctor) Clique divergent graphs with unbounded sequence of diameters. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 491–501. (Summary) **99i:05179** 05C75

Larrosa, Javier (*with* Meseguer, Pedro; Schiex, Thomas; Verfaillie, Gérard) Reversible DAC and other improvements for solving Max-CSP. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 347–352, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C35

— (*with* Meseguer, Pedro; Schiex, Thomas) Maintaining reversible DAC for Max-CSP. (English summary) *Artificial Intelligence* **107** (1999), *no.* 1, 149–163. 68T20

Larsen, Arne Lykke (*with* Sánchez, Norma) Strings and multi-strings in black hole and cosmological spacetimes. (English summary) *Quantum gravity* (*Erice*, 1995), 303–341, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:83079** 83E30 (83C57)

— (*with* Sánchez, Norma) Strings and multi-strings in black hole and cosmological spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 175–213, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83C15, 83C57)

— (*with* de Vega, H. J.; Sánchez, Norma) Circular strings and multi-strings in de Sitter and anti-de Sitter spacetimes. (English summary) *String theory in curved space times* (*Paris*, 1996), 281–300, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30)

— Cosmic strings and black holes. (English summary) *String theory in curved space times* (*Paris*, 1996), 394–424, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83C57 (83E30)

— (*with* Aldabe, Fermin) The SO(32) heterotic and type IIB membranes. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 12, 9 *pp.* (*electronic*). (Summary) **99i:81165** 81T30 (81T50)

— (*with* Dąbrowski, Mariusz P.) Strings in homogeneous background spacetimes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5108–5117. (Summary) **99m:83186** 83E30

— (*with* de Vega, H. J.; Sánchez, Norma) Quantum string dynamics in the conformal invariant SL(2, **R**) WZWN background: anti-de Sitter space with torsion. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 026001, 13 *pp.* (Summary) **99m:81211** 81T30 (81T20, 83E30)

— (*with* Sánchez, Norma) From the WZWN model to the Liouville equation: exact string dynamics in a conformally invariant AdS background. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 126002, 8 *pp.* (Summary) **99m:81222** 81T40 (81T30)

Larsen, Christopher J. A new proof of regularity for two-shaded image segmentations. (English summary) *Manuscripta Math.* **96** (1998), *no.* 2, 247–262. (Agnieszka Kałamajska) **99e:49022** 49K10 (49N60, 49Q10)

— Quasiconvexification in $W^{1,1}$ and optimal jump microstructure in BV relaxation. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 823–848 (*electronic*). (Pablo Pedregal) **99b:49010** 49J45 (49N60, 73C50, 73V25)

Larsen, Edward W. (*with* Ueki, Taro) A kinetic theory for nonanalog Monte Carlo particle transport algorithms: exponential transform with angular biasing in planar-geometry anisotropically scattering media. (English summary) *J. Comput. Phys.* **145** (1998), *no.* 1, 406–431. (Summary) **99d:82069** 82C80 (65C20, 82C70)

Larsen, Eric P. (*with* Brown, Jack B.; Darji, Udayan B.) Nowhere monotone functions and functions of nonmonotonic type. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 173–182. (Yu. V. Trubnikov) **99b:26015** 26A48

Larsen, Finn (*with* Balasubramanian, Vijay; Gopakumar, Rajesh) Gauge theory, geometry and the large-*N* limit. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 415–431. (Marco Spaans) **99h:81149** 81T30 (83E30)

— (*with* Balasubramanian, Vijay) Near-horizon geometry and black holes in four dimensions. (English summary) *Nuclear Phys. B* **528** (1998), *no.* 1-2, 229–237. (Jeremy Michelson) **99i:83086** 83E30 (81T30, 83C57)

— (*with* Cvetič, Mirjam) Near horizon geometry of rotating black holes in five dimensions. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 239–255. (Jeremy Michelson) **99m:83108** 83C57 (83E30)

— (*with* Cvetič, Mirjam) Black hole horizons and the thermodynamics of strings. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 443–453. (Summary) **99c:83050** 83C57 (81T30, 83E30)

— (*with* Cvetič, Mirjam) Black hole horizons and the thermodynamics of strings. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 55–65. (Summary) **99e:83052** 83E30 (83C57)

— (*with* Balasubramanian, Vijay; Leigh, Robert G.) Branes at angles and black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3509–3528. (Summary) **99k:81216** 81T30 (83C57, 83E30)

— (*with* Cvetič, Mirjam) Greybody factors for black holes in four dimensions: particles with spin. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6297–6310. (Summary) **99m:83109** 83C57

Larsen, Kim Guldstrand (*with* Behrmann, Gerd; Kristoffersen, Kåre) Context-dependent minimization of state/event systems. (English summary) *Proc. Estonian Acad. Sci. Phys. Math.* **47** (1998), *no.* 3, 216–228. (Summary) **99e:68102** 68Q60

— *see also* **Automata, languages and programming, 99m:68007**

Larsen, Kim S. (*with* Boyar, Joan; Fagerberg, Rolf) Amortization results for chromatic search trees, with an application to priority queues. (English summary) *J. Comput. System Sci.* **55** (1997), *no.* 3, 504–521. (Ricardo Baeza-Yates) **99b:68041** 68P05 (68Q10, 68Q25)

— Partially persistent search trees with transcript operations. (English summary) *STACS 98* (*Paris*, 1998), 309–319, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68P05 (68P15)

— Amortized constant relaxed rebalancing using standard rotations. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 859–874. (Ranjan Chaudhuri) **99i:68024** 68P05

— (*with* Høyer, Peter) Parametric permutation routing via matchings. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 2, 105–114. (Sudhangshu B. Karmakar) **99g:68017** 68M10 (05C70, 90B12)

Larsen, Michael (*with* Cohn, Henry; Propp, James Gary) The shape of a typical boxed plane partition. (English summary) *New York J. Math.* **4** (1998), 137–165 (*electronic*). (David M. Bressoud) **99j:60011** 60C05 (05A16, 60K35)

Larsen, Mikael (*with* Jacob, Birgit; Zwart, H. J.) Corrections and extensions of: "Optimal control of linear systems with almost periodic inputs" [SIAM J. Control Optim. **25** (1987), no. 4, 1007–1019; MR 88i:93042] by G. Da Prato and A. Ichikawa. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1473–1480 (*electronic*). (Summary) **99d:49064** 49N20 (93C15)

Larson, D. J. *see* **Larson, Delbert J.**

Larson, David R. (*with* Hadwin, Donald W.) Strong limits of similarities. (English summary) *Nonselfadjoint operator algebras, operator theory, and related topics*, 139–146, *Oper. Theory Adv. Appl.*, 104, *Birkhäuser, Basel*, 1998. (Summary) **99e:47040** 47B49 (47A99)

— (*with* Dai, Xingde; Speegle, Darrin M.) Wavelet sets in $\mathbf{R}^n$. II. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 15–40, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Eugenio Hernández) **99d:42054** 42C15 (46N20, 47D25)

— (*with* Ionascu, Eugen J.; Pearcy, Carl M.) On the unitary systems affiliated with orthonormal wavelet theory in n-dimensions. (English summary) *J. Funct. Anal.* **157** (1998), *no.* 2, 413–431. (Steen Pedersen) **99g:47086** 47B99 (42C15, 47A99)

Larson, Delbert J. A derivation of Maxwell's equations from a simple two-component solid-mechanical aether. (English summary) *Phys. Essays* **11** (1998), *no.* 4, 524–530. 78A25

Larson, Jean A. (*with* Mitchell, William John) On a problem of Erdős and Rado. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 245–252. (Sheshayya A. Choudum) **99f:05080** 05C55 (05C20, 06A07)

— An ordinal partition from a scale. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 109–125, *Kluwer Acad. Publ., Dordrecht*, 1998. (Pierre Matet) **99j:03036** 03E05 (03E10)

— A picaresque approach to set theory genealogy. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 127–155, *Kluwer Acad. Publ., Dordrecht*, 1998. (E. Mendelson) **99d:01031** 01A70 (01A55, 01A60, 01A80, 03-03, 04-03)

Larson, Kate (*with* Sandholm, Tuomas; Andersson, Martin; Shehory, Onn; Tohmé, Fernando) Anytime coalition structure generation with worst case guarantees. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 46–53, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90B12

Larson, L. M. (*with* Cheng, Raymond; Dasgupta, Abhijit; Ebanks, Bruce R.; Kinch, L. F.; McFadden, Robert B.) When does $f^{-1} = 1/f$? *Amer. Math. Monthly* **105** (1998), *no.* 8, 704–717. (James Foran) **99h:39026** 39B22 (30C35, 39B32)

Larson, R. G. *see* **Larson, Richard Gustavus**

Larson, Rebecca N. Embeddings of finite distributive lattices into products of chains. *Semigroup Forum* **56** (1998), *no.* 1, 70–77. (Josef Niederle) **99a:06014** 06D05

Larson, Richard Gustavus Topological Hopf algebras and braided monoidal categories. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 2, 139–150. (Sorin Dăscălescu) **99d:18007** 18D10 (16W30)

Larson, Suzanne f-rings in which every maximal ideal contains finitely many minimal prime ideals. *Comm. Algebra* **25** (1997), *no.* 12, 3859–3888. (R. Raphael) **99c:06020** 06F25

Larsson, Jan-Åke Necessary and sufficient detector-efficiency conditions for the Greenberger-Horne-Zeilinger paradox. (English summary) *Phys. Rev. A* (3) **57** (1998), *no.* 5, *R*3145–*R*3149. (Summary) **99b:81023** 81P15

Larsson, Jonas The Hamiltonian-adjoint equation and perturbation theory. (English summary) *Phys. Scripta* **58** (1998), *no.* 2, 97–101. (Summary) **99e:76132** 76X05 (58F40, 76M30)

Larsson, N. J. (*with* Andersson, Arne; Swanson, Kurt) Suffix trees on words. (English summary) *Algorithmica* **23** (1999), *no.* 3, 246–260. (Ricardo Baeza-Yates) **99k:68032** 68P05 (68P20)

Larsson, Rolf On the asymptotic expectations of some unit root tests in a first order autoregressive process in the presence of trend. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 3, 585–599. (Juan Carlos Abril) **99c:62254** 62M10 (62E20)

— The order of the error term for moments of the log likelihood ratio unit root test in an autoregressive process. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 29–48. (M. M. Rao) **99b:62136** 62M10 (62F12)

— Bartlett corrections for unit root test statistics. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 4, 425–438. (Summary) **99j:62129** 62M10

Larsson, Stig (*with* Bakaev, Nikolai Yu.; Thomée, V.) Long time behaviour of backward difference type methods for parabolic equations with memory in Banach space. (English summary) *East-West J. Numer. Math.* **6** (1998), *no.* 3, 185–206. (Wei Zhong Dai) **99j:65143** 65M12 (34K30)

— (*with* Eriksson, Kenneth; Johnson, Claes) Adaptive finite element methods for parabolic problems. VI. Analytic semigroups. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1315–1325 (*electronic*). (Erwin Schechter) **99d:65281** 65M60 (47D06, 65M15)

— (*with* Sanz Serna, J. M.) A shadowing result with applications to finite element approximation of reaction-diffusion equations. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 55–72. (Chuan Miao Chen) **99f:65142** 65M60 (58F39)

Larsson, Torbjörn (*with* Kiwiel, Krzysztof C.; Lindberg, Per-Olov) Convergent stepsize rules for subgradient optimization. (English summary) *Operations Research Proceedings 1997* (*Jena*), 62–67, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30

— (*with* Patriksson, Michael; Strömberg, A.-B.) Ergodic convergence in subgradient optimization. (English summary) *Optim. Methods Softw.* **9** (1998), *no.* 1-3, 93–120. (Summary) **99c:90123** 90C30 (49J52, 65K05)

Lárusson, Finnur Holomorphic neighbourhood retractions of ample hypersurfaces. *Math. Ann.* **307** (1997), *no.* 4, 695–703. (G. K. Sankaran) **99f:32028** 32G10 (32C18)

— Compact quotients of large domains in complex projective space. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 1, 223–246. (Yoichi Imayoshi) **99d:32035** 32J18 (32C10, 32J17)

— (*with* Lassere, Patrice; Sigurdsson, Ragnar) Convexity of sublevel sets of plurisubharmonic extremal functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 267–273. (Evgeny A. Poletsky) **99d:32018** 32F05 (30D50, 31C10)

— (*with* Sigurdsson, Ragnar) Plurisubharmonic functions and analytic discs on manifolds. *J. Reine Angew. Math.* **501** (1998), 1–39. (Evgeny A. Poletsky) **99e:32020** 32F05 (31C10, 32E10)

La Scala, Massimo (*with* Iavernaro, Felice; Mazzia, Francesca) Boundary values methods for time-domain simulation of power system dynamic behavior. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 1, 50–63. (Summary) **99b:65094** 65L99 (34A45, 65Y05, 94A05)

La Scala, Roberto (*with* Stillman, Michael) Strategies for computing minimal free resolutions. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 4, 409–431. (Anna Guerrieri) **99k:13039** 13P10 (13D02, 68Q40)

Lascar, Bernard (*with* Lascar, Richard) FBI transforms in Gevrey classes. (English summary) *J. Anal. Math.* **72** (1997), 105–125. (A. Bove (Zbl 898.35069)) **99j:35008** 35A27

Lascar, D. *see* **Colloquium: Logic '96, 99i:03002**

Lascar, Richard (*with* Lascar, Bernard) FBI transforms in Gevrey classes. (English summary) *J. Anal. Math.* **72** (1997), 105–125. (A. Bove (Zbl 898.35069)) **99j:35008** 35A27

Lascialfari, F. (*with* Lanconelli, E.) A boundary value problem for a class of quasilinear operators of Fokker-Planck type. (English and Italian summaries) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1996), *suppl.*, 65–84 (1997). (Maurice Gaultier) **99a:35144** 35K60 (35K65, 35Q99)

— (*with* Morbidelli, D.) A boundary value problem for a class of quasilinear ultraparabolic equations. *Comm. Partial Differential Equations* **23** (1998), *no.* 5-6, 847–868. (Stepan D. Ivasyshen) **99f:35110** 35K70

Lascoux, Alain Ordonner le groupe symétrique: pourquoi utiliser l'algèbre de Iwahori-Hecke? (English summary) [Why use the Iwahori-Hecke algebra to order the symmetric group?] Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 355–364 (*electronic*). (Hiroshi Naruse) **99m:20016** 20C30 (05E10)

Lasdon, Leon (*with* Plummer, John; Waren, Allan D.) Nonlinear programming. *Mathematical programming for industrial engineers*, 385–485, *Indust. Engrg.*, 20, *Dekker, New York*, 1996. (*see* **99g:90006**) 90C30 (90-02)

Lasenby, Anthony N. (*with* Challinor, Anthony; Doran, C. J. L.; Gull, Stephen) Massive, non-ghost solutions for the Dirac field coupled self-consistently to gravity. (English summary) *Gen. Relativity Gravitation* **29** (1997), *no.* 12, 1527–1544. (Seth A. Major) **99d:83011** 83C15

— (*with* Ashdown, M. A. J.; Somaroo, Shyamal S.; Gull, Stephen; Doran, C. J. L.) Multilinear representations of rotation groups within geometric algebra. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1566–1588. (Stefano De Leo) **99c:81069** 81R20 (15A66, 20G05)

— (*with* Doran, C. J. L.; Challinor, Anthony; Gull, Stephen) Effects of spin-torsion in gauge theory gravity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3303–3321. (Yu. N. Obukhov) **99i:83077** 83D05 (83C10, 83C60)

— (*with* Lasenby, Joan) Estimating tensors for matching over multiple views. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1267–1282. (Summary) **99b:68205** 68U10 (68T10)

Lasenby, Joan (*with* Lasenby, Anthony N.) Estimating tensors for matching over multiple views. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1267–1282. (Summary) **99b:68205** 68U10 (68T10)

— *see also* **New geometric techniques in computer vision, 99a:00034**

Lasheras, Juan C. (*with* Clanet, Christophe) Transition from dripping to jetting. (English summary) *J. Fluid Mech.* **383** (1999), 307–326. (Summary) **99m:76030** 76B45 (76D45)

Lashkarizadeh Bami, Mahmood Representations of certain topological semigroups. *Proceedings of the 26th Annual Iranian Mathematics Conference, Vol. 2* (*Kerman*, 1995), 201–207, *Shahid Bahonar Univ. Kerman, Kerman*, 1995. (Nakhlé Asmar) **99d:43002** 43A15 (22A25)

— The existence of faithful continuous representations on certain topological semigroups. (English summary) *J. Sci. Univ. Tehran Int. Ed.* **2** (1997), *no.* 1, 23–28. (Nakhlé Asmar) **99e:22009** 22A25 (43A15)
— Function algebras on weighted topological semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 217–227. (Peter Mah) **99c:43009** 43A60 (22A20, 46J99)
— Ideals of $M(S)$ as ideals of $\mathrm{LUC}(S)^*$ of a compactly cancellative topological semigroup S. *Math. Japon.* **48** (1998), *no.* 3, 363–366. (Summary) **99i:43004** 43A20 (22A20, 46H99)
— On a conjecture on the uniform convergence of a sequence of weighted bounded positive definite functions on foundation semigroups. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 1, 87–95. (Liliana Pavel) **99c:43006** 43A35 (43A10)
Lashkevich, M. Yu. Scaling limit of the six-vertex model in the framework of free field representation. (English summary) *J. High Energy Phys.* **1997**, *no.* 10, *Paper* 3, 18 *pp.* (*electronic*). (Marek Biskup) **99c:82026** 82B23 (82B20, 82B27)
— (*with* Pugai, Yaroslav) Free field construction for correlation functions of the eight-vertex model. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 3, 623–651. (Murray T. Batchelor) **99g:82019** 82B23 (82B20)
— (*with* Pugai, Yaroslav) Nearest-neighbor two-point correlation function of the Z-invariant eight-vertex model. *JETP Lett.* **68** (1998), *no.* 3, 257–262; *translated from Pis'ma Zh. Èksper. Teoret. Fiz.* **68** (1998), *no.* 3, 243–247 (*Russian. Russian summary*). (Takeo Kojima) **99j:82018** 82B20 (82B23)
Lashkhi, A. A. D-geometrical lattices and their embedding. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 1, 9–12. (Summary) **99m:06016** 06C05 (06C10, 06C15, 51D99)
— The fundamental theorem of projective geometry in Lie algebras. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **149** (1994), *no.* 2, 185–188 (1995). 17B99 (51A99)
— (*with* Gelashvili, T. M.) The fundamental theorem for affine geometry in Lie algebras. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **151** (1995), *no.* 2, 189–193 (1996). 17B30
— (*with* Kvirikashvili, T. G.) Perspective maps of modules. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 3, 328–330. 16D40
Lashkia, Vaktang (*with* Nozaki, Akihiro) A finite basis of the set of all monotone partial functions defined over a finite poset. (English summary) *28th IEEE International Symposium on Multiple-valued Logic* (*Fukuoka*, 1998), 380–382, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99i:03025**) 06A06
Lasiecka, Irena Local and global compact attractors arising in nonlinear elasticity: the case of noncompact nonlinearity and nonlinear dissipation. (English summary) *J. Math. Anal. Appl.* **196** (1995), *no.* 1, 332–360. (Igor D. Chueshov) **99g:34129a** 34G20 (35Q72, 47H20, 58F39, 73C50, 73D35)
— (*with* Avalos, George) Exponential stability of a thermoelastic system without mechanical dissipation. (English summary) Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 1–28 (1997). (Reinhard Racke) **99b:73007** 73B30 (34G10, 35Q72, 47D06, 47N20)
— (*with* Triggiani, Roberto; Yao, Peng-Fei) Exact controllability for second-order hyperbolic equations with variable coefficient-principal part and first-order terms. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 111–122. (Florin Iacob) **99a:35158** 35L10 (35B37, 93B05, 93C20)
— (*with* Triggiani, Roberto) Analyticity, and lack thereof, of thermo-elastic semigroups. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 199–222 (*electronic*), *ESAIM Proc.*, **4**, *Soc. Math. Appl. Indust., Paris*, 1998. (Birgit Jacob) **99m:35243** 35Q72 (47D06, 49Q20, 73B30, 93C20)
— (*with* Avalos, George) Uniform decays in nonlinear thermoelastic systems. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 1–23, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Sergey V. Nikitin) **99f:93075** 93C20 (35Q72, 73B30, 73H10, 73K10, 73K50, 93D15)
— (*with* Ji, Guangcao) Energy decay in $H^2 \times L_2$ for semilinear plates with nonlinear boundary dissipation acting via moments only. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 224–249, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Peregrina Quintela Estévez) **99g:35128** 35Q72 (73D35, 73K10, 73K50, 93C20)
— (*with* Avalos, George) Exponential stability of an uncontrolled thermoelastic system with varying boundary conditions. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 31–49. (Summary) **99b:73008** 73B30 (35Q72, 73C99, 73H10)
— Weak, classical and intermediate solutions to full von Karman system of dynamic nonlinear elasticity. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 121–145. (Summary) **99a:35253** 35Q72 (35D05, 73C50, 73D35)
— (*with* Avalos, George) Uniform decay rates for solutions to a structural acoustics model with nonlinear dissipation. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 2, 287–312. (Sergei A. Avdonin) **99g:93039** 93C20 (35L05)
— (*with* Ji, Guangcao) Partially observed analytic systems with fully unbounded actuators and sensors-FEM algorithms. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 111–136. (Vadim Komkov) **99h:93058** 93C25 (49K27, 93B07)
— (*with* Marchand, Richard) Riccati equations arising in acoustic structure interactions with curved walls. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 269–292. (Sergey V. Nikitin) **99c:93060** 93C20 (73K70, 93D15)
— Addendum: "Local and global compact attractors arising in nonlinear elasticity: the case of noncompact nonlinearity and nonlinear dissipation". *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 272–273. (Igor D. Chueshov) **99g:34129b** 34G20 (35Q72, 47H20, 58F39, 73C50, 73D35)
— (*with* Chang, Sung Kag; Triggiani, Roberto) Finite element compensators for thermoelastic systems with boundary controls and point observations. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 1, 115–130. (Kirsten Anna Morris) **99h:73007** 73B30 (65N30, 73K50, 73V05, 93C20)
— (*with* Bradley, Mary E.) Exact boundary controllability of a nonlinear shallow spherical shell. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 927–955. (Mary Ann Horn) **99g:93010** 93B05 (73K15, 73K50)
— Mathematical control theory in structural acoustic problems. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1119–1153. (Mary Ann Horn) **99j:93057** 93C20 (73K12, 73K50, 93–02)
— (*with* Avalos, George) The strong stability of a semigroup arising from a coupled hyperbolic/parabolic system. (English summary) *Semigroup Forum* **57** (1998), *no.* 2, 278–292. (Zhuangyi Liu) **99h:35117** 35K99 (35L99, 47D06, 47N20, 73K70)
— Uniform stabilizability of a full von Karman system with nonlinear boundary feedback. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 4, 1376–1422 (*electronic*). (Vilmos Komornik) **99g:93045** 93C20 (35Q72, 93D15)
— (*with* Ji, Guangcao) Nonlinear boundary feedback stabilization for a semilinear Kirchhoff plate with dissipation acting only via moments-limiting behavior. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 452–479. (R. F. Datko) **99m:93085** 93D15 (35L75, 93C20)
— Boundary stabilization of a 3-dimensional structural acoustic model. (English summary) *J. Math. Pures Appl.* (9) **78** (1999), *no.* 2, 203–232. (Mary Ann Horn) **99m:93054** 93C20 (35Q72, 73K50, 76Q05, 93D15)
— *see also* **Systems modelling and optimization, 99k:93007**
jona Lasinio, G. *see* **Jona Lasinio, G.**
Lasjaunias, Alain Continued fractions for algebraic formal power series over a finite base field. (English summary) *Finite Fields Appl.* **5** (1999), *no.* 1, 46–56. (Takashi Harase) **99k:11115** 11J99 (11A55, 13F25)
Laskar, Mizan R. (*with* King, Maxwell L.) Estimation and testing of regression disturbances based on modified likelihood functions. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 75–92. (Summary) **99f:62034** 62F10 (62F03, 62M10)
Laskar, Renu C. (*with* Hattingh, Johannes H.) On weak domination in graphs. (English summary) *Ars Combin.* **49** (1998), 205–216. (Summary) **99c:05104** 05C35
— (*with* Ghoshal, J.; Jacobs, David P.; Pillone, D.) Partitions in tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 145–155. (Summary) **99j:05081** 05C20 (05C85)
Laskowska, Anna (*with* Odyniec, Włodzimierz; Powołocki, Abram) ★ Konstruowanie funkcji elementarnych. (Polish. Polish summary) [Construction of elementary functions] Translated and revised from the 1995 Russian original. *Wyższa Szkoła Pedagogiczna im. Tadeusza Kotarbińskiego* (*WSP*), *Zielona Góra*, 1998. 125 *pp. ISBN* 83-86832-50-9 26–01
Laskowski, Michael C. (*with* Hart, Bradd) A survey of the uncountable spectra of countable theories. *Algebraic model theory* (*Toronto, ON*, 1996), 107–118, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 496, *Kluwer Acad. Publ., Dordrecht*, 1997. (Bruno Poizat) **99c:03053** 03C45
Laslo, Grațiela (*with* Fărcaș, Gh.) Distributive noncommutative lattices of type (G). *Mathematica* **38(61)** (1996), *no.* 1-2, 105–109. (Joel Berman) **99f:06013** 06B99 (06D99)
— (*with* Cozac, Ion) On noncommutative generalizations of lattices. (English and Romanian summaries) *25 years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 63–70, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 06A99
— (*with* Fărcaș, Gh.) On non-commutative distributive lattices of type (G). *Mathematica* **39(62)** (1997), *no.* 2, 239–243. (M. E. Adams) **99f:06016** 06D05
Lasota, Andrzej (*with* Myjak, Józef) Markov operators and fractals. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 2, 197–210. (M. Iosifescu) **99a:47016** 47A35 (28A80, 47B38, 60J05)
— (*with* Myjak, Józef) Semifractals on Polish spaces. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 179–196. (Irene Hueter) **99e:28013** 28A80 (60J05)
— Fractals and semifractals. Proceedings of the Conference "Topological Methods in Differential Equations and Dynamical Systems" (Kraków-Przegorzały, 1996). *Univ. Iagel. Acta Math. No.* 36 (1998), 33–40. (Yimin Xiao) **99k:58059** 58F03 (28A80)
Lasota, Sławomir Partial-congruence factorization of bisimilarity induced by open maps. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 91–102, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q10 (68Q55, 68Q60)
— Open maps as a bridge between algebraic observational equivalence and bisimilarity. (English summary) *Recent trends in algebraic development techniques* (*Tarquinia*, 1997), 285–299, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65 (68Q10, 68Q60)
de Las Peñas Cabrera, Inmaculada *see* **De Las Peñas Cabrera, Inmaculada**
Lassak, Marek Covering a three-dimensional convex body by smaller homothetic copies. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 259–262. (Summary) **99f:52023** 52C17
— Approximation of convex bodies by centrally symmetric bodies. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 63–68. (Summary) **99f:52008** 52A27 (52A20)
Laššák, Miroslav (*with* Jakubec, Stanislav) Congruence of Ankeny-Artin-Chowla type modulo p^2. (English summary) Number theory (Cieszyn, 1998). *Ann. Math. Sil. No.* 12 (1998), 75–91. (Peter Stevenhagen) **99m:11127** 11R29 (11R18)
Lassalle, Michel Quelques conjectures combinatoires relatives à la formule classique de Chu-Vandermonde. [Some combinatorial conjectures associated with the classical Chu-Vandermonde formula] *Adv. in Appl. Math.* **21** (1998), *no.* 3, 457–472. (Renzo Sprugnoli) **99i:05019** 05A19 (05A10, 11P81)
Lassas, Matti The impedance imaging problem as a low-frequency limit. (English summary) *Inverse Problems* **13** (1997), *no.* 6, 1503–1518. (Rainer Picard) **99d:35161** 35Q60 (35R30, 78A25)
— Inverse boundary spectral problem for non-selfadjoint Maxwell's equations with incomplete data. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 629–648. (Summary) **99c:35174** 35P05 (35Q60, 35R30, 78A25)
— (*with* Somersalo, Erkki) On the existence and convergence of the solution of PML equations. (English summary) *Computing* **60** (1998), *no.* 3, 229–241. (Summary) **99a:65133** 65N12 (78–08, 78A45)
— (*with* Cheney, Margaret; Uhlmann, Gunther) Uniqueness for a wave propagation inverse problem in a half-space. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 679–684. (Gustavo Perla Menzala) **99f:35224** 35R30 (35J10)
— The essential spectrum of the nonself-adjoint Maxwell operator in a bounded domain. *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 201–217. (Rainer Picard) **99j:35215** 35Q60 (35P05, 47F05, 78A25)
Lassaut, M. (*with* Fabre de la Ripelle, M.) Transformation of a three-body interaction into a sum of pairwise potentials: application to the quark-string-junction and the Urbana potentials. (English summary) *Few-Body Systems* **23** (1997), *no.* 1-2, 75–86. (A. Ventura) **99b:81277** 81V35 (81V25)

— (*with* Bulboaca, I.; Lombard, R. J.) The eikonal phase of supersymmetric Coulomb partners. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7801–7808. 81Q20

Lassen, S. B. Action semantics reasoning about functional programs. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 557–589. (Summary) **99k:68103** 68Q55 (03B70, 68N15)

Lasser, D. (*with* Stüttgen, T.) Interior improvement of piecewise linear interpolants defined over Delaunay triangulations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 21–36. (Summary) **99c:65016** 65D05

Lassere, Patrice (*with* Lárusson, Finnur; Sigurdsson, Ragnar) Convexity of sublevel sets of plurisubharmonic extremal functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 267–273. (Evgeny A. Poletsky) **99d:32018** 32F05 (30D50, 31C10)

Lasserre, Jean B. (*with* Hernández-Lerma, Onésimo) Linear programming approximations for Markov control processes in metric spaces. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 2, 123–139. (Nikolai K. Krivulin) **99f:93143** 93E20 (90C05, 90C40)

— (*with* Hernández-Lerma, Onésimo) Ergodic theorems and ergodic decomposition for Markov chains. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 1, 99–119. (M. Iosifescu) **99m:60104** 60J05 (28D99, 47A35)

— Homogeneous functions and conjugacy. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 397–403. (Juan-Enrique Martínez-Legaz) **99k:49075** 49N15 (26B25, 90C25)

— A Lyapunov criterion for invariant probabilities with geometric tail. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 387–391. (Onésimo Hernández Lerma) **99g:60115** 60J10

— Weak convergences of probability measures: a uniform principle. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3089–3096. (Nickolai A. Denis′evskiĭ) **99a:60004** 60B10 (28A33, 46E99)

— (*with* Hernández-Lerma, Onésimo) Existence and uniqueness of fixed points for Markov operators and Markov processes. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 711–736. (Richard Isaac) **99f:60119** 60J05 (47A35, 47B38)

— (*with* Hernández-Lerma, Onésimo) Approximation schemes for infinite linear programs. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 973–988 (*electronic*). (Edward J. Anderson) **99e:90112** 90C48 (90C05)

— Integration and homogeneous functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 3, 813–818. (Summary) **99f:65036** 65D30

Lasserre, Virginie (*with* Guihenneuc-Jouyaux, Chantal; Richardson, Sylvia) Convergence assessment in latent variable models: application to the longitudinal modelling of a marker of HIV progression. *Discretization and MCMC convergence assessment*, 147–160, *Lecture Notes in Statist.*, 135, *Springer, New York*, 1998. (*see* **99m:65012**) 60J20 (62P10)

Lassez, Catherine Programming with constraints: some aspects of the mathematical foundations. (English summary) *Mathematical aspects of artificial intelligence* (*Orlando, FL*, 1996), 97–138, *Proc. Sympos. Appl. Math.*, 55, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68162**) 68T20 (68N17)

Lassig, C. (*with* Broadbridge, Philip; Fulford, G. R.; Fowkes, N. D.; Chan, D. Y. C.) Bubbles in wet, gummed wine labels. (English summary) *SIAM Rev.* **41** (1999), *no.* 2, 363–372 (*electronic*). (Summary) **99m:76051** 76D08 (73H05, 76S05)

bowers Lassiter, Julie *see* **Bowers Lassiter, Julie**

Lassonde, Marc Hahn-Banach theorems for convex functions. (English summary) *Minimax theory and applications* (*Erice*, 1996), 135–145, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (S. Simons) **99f:46008** 46A22 (46N10, 47N10, 49K27)

Lassoued, Lotfi (*with* Lefter, Cătălin) On a variant of the Ginzburg-Landau energy. *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 39–51. (Patricio L. Felmer) **99b:58062** 58E20 (35Q55, 49Q99)

— A remark on the weak topology and the degree. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 171–176. (Christian Fenske) **99g:58031** 58E15 (47H11, 58C30)

Lassowsky, Oksana Semitopological semigroups satisfying $S^2 = S$ on finite trees are topological. *Semigroup Forum* **58** (1999), *no.* 1, 1–4. (From the text) **99i:22006** 22A15

Last, Günter (*with* Schassberger, R.) On the distribution of the spherical contact vector of stationary germ-grain models. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 36–52. (M. Zähle) **99d:60009** 60D05 (60G57)

— (*with* Szekli, Ryszard) Stochastic comparison of repairable systems by coupling. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 348–370. (Philip J. Boland) **99i:60162** 60K10 (62N05)

— (*with* Foss, S. G.) On the stability of greedy polling systems with general service policies. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 1, 49–68. (Muhammad El-Taha) **99e:60203** 60K25 (60K30, 90B22)

Last, H. (*with* Katchalski, M.) On geometric graphs with no two edges in convex position. (English summary) Dedicated to the memory of Paul Erdős. *Discrete Comput. Geom.* **19** (1998), *no.* 3, *Special Issue*, 399–404. (Pavel Valtr) **99d:52015** 52C10

Last, Yoram (*with* Kiselev, Alexander; Simon, Barry) Modified Prüfer and EFGP transforms and the spectral analysis of one-dimensional Schrödinger operators. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 1–45. (Günter Stolz) **99g:34167** 34L40 (39A70, 47B39, 47B80, 47E05, 81Q10)

— (*with* Jitomirskaya, Svetlana Ya.) Anderson localization for the almost Mathieu equation. III. Semi-uniform localization, continuity of gaps, and measure of the spectrum. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 1, 1–14. (Jean-Michel Ghez) **99j:81038** 81Q10 (47B39, 47N50, 82B44)

— (*with* Simon, Barry) Modified Prüfer and EFGP transforms and deterministic models with dense point spectrum. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 2, 513–530. (Günter Stolz) **99f:81048** 81Q10 (34L40, 39A12)

Lastaria, Federico G. Lie subalgebras of real and complex orthogonal groups in dimension four. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 449–453. 17B20

Lasunskiĭ, A. V. On the theory of stability of linear systems of difference equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 567–569, 576; *translation in Differential Equations* **34** (1998), *no.* 4, 569–572. (Binggen Zhang) **99k:39022** 39A10 (39A11)

László, Ákos Time-constants for the quadratic Lyapunov-functions. (Hungarian. English summary) *Alkalmaz. Mat. Lapok* **18** (1994/98), 11–21 (1999). 93D05 (34D05)

László, Lajos Upper bounds for the best normal approximation. (English summary) *Math. Pannon.* **9** (1998), *no.* 1, 121–129. 15A45 (15A60)

Laszlo, Yves Linearization of group stack actions and the Picard group of the moduli of SL_r/μ_s-bundles on a curve. (English and French summaries) *Bull. Soc. Math. France* **125** (1997), *no.* 4, 529–545. (Zhenbo Qin) **99h:14008** 14D20 (14H60)

— About G-bundles over elliptic curves. *Ann. Inst. Fourier* (*Grenoble*) **48** (1998), *no.* 2, 413–424. (P. E. Newstead) **99c:14016** 14D20 (14F05, 14H52)

— (*with* Beauville, Arnaud; Sorger, Christoph) The Picard group of the moduli of G-bundles on a curve. (English summary) *Compositio Math.* **112** (1998), *no.* 2, 183–216. (Jean-Marc Drezet) **99i:14011** 14D20 (14C22)

Latal, H. *see* **Perturbative and nonperturbative aspects of quantum field theory, 99d:81177**

Latala, Rafał On the almost sure boundedness of norms of some empirical operators. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 2, 177–182. (Evarist Giné) **99i:60072** 60F15

Latecki, Longin Jan (*with* Conrad, Christopher; Gross, Ari) Preserving topology by a digitization process. (English summary) *J. Math. Imaging Vision* **8** (1998), *no.* 2, 131–159. (Gilbert Crombez) **99a:68178** 68U10

Latella, Diego (*with* Baier, Christel; Katoen, Joost-Pieter) Metric semantics for true concurrent real time. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 568–579, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q55 (68Q10)

Laterveer, Robert Algebraic varieties with small Chow groups. *J. Math. Kyoto Univ.* **38** (1998), *no.* 4, 673–694. (Tamás Szamuely) **99k:14013** 14C25 (14C30, 14E10, 14J45)

pushpa Latha, L. *see* **Pushpa Latha, L.**

janaki Latha, N. S. *see* **Janaki Latha, N. S.**

Latham, G. A. An adaptive EMS algorithm for positive linear systems. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 441–446, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65F30 (65N30)

— Best L^2 Tikhonov analogue for Landweber iteration. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1527–1537. (A. M. Galperin) **99j:65048** 65F10

Latham, S. (*with* Anderssen, Robert S.) Computational alternatives for depth-averaged modelling of flow. *Computational techniques and applications: CTAC95* (*Melbourne*, 1995), 447–454, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (76B15, 86–08)

Lathrop, Daniel P. (*with* Hogrefe, J. Errett; Peffley, Nicholas L.; Goodridge, Christopher L.; Shi, William T.; Hentschel, H. George E.) Power-law singularities in gravity-capillary waves. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 183–205. (*see* **99h:00031**) 76D33 (76–05, 76D45)

Latif, Abdul (*with* Beg, Ismat) Geometric fixed points for single and multivalued mappings. (English summary) *Demonstratio Math.* **30** (1997), *no.* 4, 791–800. (Ada Bottaro Aruffo) **99h:54062** 54H25 (47H04, 47H10)

— (*with* Tweddle, Ian) Some results on coincidence points. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 111–117. 54H25 (54C60, 54E40)

Latif, Raja Mohammad Semitopologies. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 1, 83–86. 54A05

— S-semi-open neighborhoods. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 2, 117–119. 54A99

— S-bases and S-subbases. (English summary) *J. Inst. Math. Comput. Sci. Math. Ser.* **11** (1998), *no.* 3, 175–176. 54A10

Latifi, Shahram (*with* Azevedo, M. M.; Bagherzadeh, N.; Dowd, Martin J.) Average distance and routing algorithms in the star-connected cycles interconnection network. (English summary) *Sci. Iran.* **3** (1997), *no.* 4, 175–187. (Summary) **99g:68011** 68M10 (68R10)

— (*with* Srimani, Pradip K.) Wormhole broadcast in star graph networks. (English summary) *Parallel Comput.* **24** (1998), *no.* 8, 1263–1276. (Summary) **99e:68007** 68M10

Latiri-Grouz, C. (*with* Ammari, Habib) Approximate boundary conditions for thin periodic coatings. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 297–301, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Qxx (78A45)

Latombe, Jean-Claude (*with* Brafman, Ronen I.; Moses, Yoram; Shoham, Yoav) Applications of a logic of knowledge to motion planning under uncertainty. (English summary) *J. ACM* **44** (1997), *no.* 5, 633–668. (I. M. Havel) **99b:68182** 68T30 (03B70, 68Q60, 68U05)

— (*with* Hsu, David; Kavraki, Lydia E.; Motwani, Rajeev; Sorkin, Stephen) On finding narrow passages with probabilistic roadmap planners. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 141–153, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68T20)

— (*with* Guibas, Leonidas J.; Halperin, Dan; Hirukawa, Hirohisa; Wilson, Randall H.) Polyhedral assembly partitioning using maximally covered cells in arrangements of convex polytopes. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 2, 179–199. (Rephael Wenger) **99d:68229** 68U05 (52B55, 70B15)

— (*with* Kavraki, Lydia E.; Motwani, Rajeev; Raghavan, Prabhakar) Randomized query processing in robot path planning. (English summary) 27th Annual ACM Symposium on the Theory of Computing (STOC'95) (Las Vegas, NV). *J. Comput. System Sci.* **57** (1998), *no.* 1, 50–60. (Summary) **99g:68209** 68U05

Latorre, José I. (*with* Forte, Stefano) A proof of the irreversibility of renormalization group flows in four dimensions. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 3, 709–728. (Manfred Salmhofer) **99m:81153** 81T17 (81T50)

— (*with* Pascual de Sans, Pedro; Tarrach, Rolf) Minimal optimal generalized quantum measurements. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 7, 1351–1354. (Summary) **99d:81017** 81P15

La Torre, Salvatore (*with* Napoli, Margherita) Representing hyper-graphs by regular languages. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 571–579, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (68Q45)

— (*with* Napoli, Margherita; Parente, Domenico) Synchronization of a line of identical processors at a given time. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 103–128. (Summary) **99h:68125** 68Q80

Latouche, G. (*with* Pearce, C. E. M.; Taylor, Peter G.) Invariant measures for quasi-birth-and-death processes. (English summary) Special issue in honor of Marcel

F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 443–460. (Erik A. van Doorn) **99b:60102** 60J10 (60J80)

Latour, Vera (*with* Dahlke, Stephan; Gröchenig, Karlheinz) Biorthogonal box spline wavelet bases. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 83–92, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:42056** 42C15 (41A15)

— (*with* Müller, Jürgen[4]; Nickel, Werner) Stationary subdivision for general scaling matrices. *Math. Z.* **227** (1998), *no.* 4, 645–661. (A. Bultheel) **99c:65027** 65D15

Latrach, Khalid (*with* Jeribi, Aref) Sur une équation de transport intervenant en dynamique des populations. (English and French summaries) [On a transport equation arising in growing cell populations] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 10, 1087–1090. (Atsushi Yagi) **99d:35167** 35Q80 (45K05, 47N60, 92D25)

Latrémolière, F. T. (*with* Eßler, Fabian H. L.; Korepin, Vladimir E.) Temperature corrections to conformal field theory. (English summary) *Eur. Phys. J. B Condens. Matter Phys.* **5** (1998), *no.* 3, 559–563. (Summary) **99i:82006** 82B10 (81T40)

Lattanzi, Marina B. W_{n+1}-algebras with an additional operation. (English summary) *Proceedings of the Fourth "Dr. Antonio A. R. Monteiro" Congress on Mathematics* (*Spanish*) (*Bahía Blanca*, 1997), 155–166, *Univ. Nac. del Sur, Bahía Blanca*, 1997. (Summary) **99a:03064** 03G25 (06D99)

Lattanzio, Corrado (*with* Marcati, Pierangelo) The relaxation to the drift-diffusion system for the 3-D isentropic Euler-Poisson model for semiconductors. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 449–455. (J. W. Jerome) **99m:35251** 35Q99 (35L99, 76X05, 82D99)

Lattès, Robert Application de la théorie des semi-groupes à l'intégration d'équations aux dérivées partielles. [Application of semigroup theory to the integration of partial differential equations] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 81, 295–303, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 47F05 (35K22, 47D06)

Latteux, Michel (*with* Prieur, Christophe; Choffrut, Christian) Constructing sequential bijections. (English summary) *Structures in logic and computer science*, 308–321, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Siniša Crvenković) **99i:68083** 68Q70 (20M35)

— (*with* Simplot, David; Terlutte, Alain) Iterated length-preserving rational transductions (extended abstract). (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 286–295, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q45 (68Q70)

— (*with* Bruyère, Véronique; Derencourt, Denis) The meet operation in the lattice of codes. (English summary) *Theoret. Comput. Sci.* **191** (1998), *no.* 1-2, 117–129. (Dong Yang Long) **99c:68150** 68Q45 (20M05, 68R15)

Lattimer, T. R. B. (*with* Fitt, A. D.) Unsteady slot suction from a high-Reynolds-number cross-flow. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 3, 293–310. (Summary) **99b:76030** 76D99

— (*with* Howell, P. D.) Modelling bristle bending in brush seals. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 349–359. 73K99

Latushkin, Yu. D. (*with* Randolph, T.; Schnaubelt, Roland) Exponential dichotomy and mild solutions of nonautonomous equations in Banach spaces. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 489–510. (Janusz Mierczyński) **99g:34123** 34G10 (34C35, 34D05, 47D06)

Latypov, A. F. (*with* Aul′chenko, S. M.; Nikulichev, Yu. V.) A method for the numerical integration of systems of ordinary differential equations using Hermite interpolation polynomials. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1665–1670; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1595–1601. (Summary) **99f:65098** 65L05

— (*with* Aul′chenko, S. M.; Nikulichev, Yu. V.) Construction of curves by means of parametric polynomials. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 1967–1972; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1888–1893. (Summary) **99h:65023** 65D17 (65Y25)

Latyshev, Anatoliĭ Vasil′evich (*with* Slobodskoĭ, G. V.; Yushkanov, A. A.) A boundary value problem for the kinetic equation in a layer with mirror boundary conditions. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 32–40; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 6, 842–849 (1998). (Alexander Orlov) **99e:82081** 82C40 (45K05, 76P05)

— (*with* Moiseev, A. V.) A boundary value problem for the radiation transfer equation with combined Rayleigh and isotropic scattering. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 4, 638–650; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 4, 614–626. (Summary) **99f:85001** 85A25 (30E25, 45E05, 45J05)

Latyshev, V. N. (*with* Belov, A. Ya.; Borisenko, V. V.) Monomial algebras. Algebra, 4. *J. Math. Sci.* (*New York*) **87** (1997), *no.* 3, 3463–3575. (Vesselin Drensky) **99f:16022** 16R10 (08B05, 16G60, 16P90, 16R20, 16S15, 68Q45)

Latz, Arnulf (*with* Dorfman, J. R.; van Beijeren, Henk) Bogoliubov-Born-Green-Kirkwood-Yvon hierarchy methods for sums of Lyapunov exponents for dilute gases. (English summary) Chaos and irreversibility (Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 444–454. (András Krámli) **99k:82003** 82B05 (82B21)

— (*with* van Beijeren, Henk; Dorfman, J. R.) Chaotic properties of dilute two- and three-dimensional random Lorentz gases: equilibrium systems. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 4, 4077–4094. (Summary) **99c:82040** 82C05 (58F13, 58F40, 82C40)

Lau, Anthony To-Ming (*with* Ghahramani, Fereidoun) Multipliers and modulus on Banach algebras related to locally compact groups. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 478–497. (V. Losert) **99h:43003** 43A10 (46H25, 46J99, 47B38)

— (*with* Baker, John Walter; Pym, John) Module homomorphisms and topological centres associated with weakly sequentially complete Banach algebras. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 1, 186–208. (Summary) **99h:46081** 46H05 (43A15)

— (*with* Shioji, Naoki; Takahashi, Wataru) Existence of nonexpansive retractions for amenable semigroups of nonexpansive mappings and nonlinear ergodic theorems in Banach spaces. (English summary) *J. Funct. Anal.* **161** (1999), *no.* 1, 62–75. (Summary) **99j:47079** 47H09 (47H10, 47H20)

— (*with* Losert, Viktor) Ergodic sequences in the Fourier-Stieltjes algebra and measure algebra of a locally compact group. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 417–428. (J. W. Baker) **99e:43001** 43A05 (43A35)

Lau, Dietlinde Die maximalen Klassen von $\mathrm{Pol}_3\{\rho|\rho \in Q\}$ für $Q \subseteq \mathfrak{P}(\{0,1,2\})$. I. [The maximal classes of $\mathrm{Pol}_3\{\rho|\rho \in Q\}$ for $Q \subseteq \mathfrak{P}(\{0,1,2\})$. I] *Rostock. Math. Kolloq. No.* 51 (1997), 111–126. (Klaus Denecke) **99g:03021** 03B50 (08A40)

Lau, K. *see* **Lau, Karen K. M.**

Lau, Ka-Sing (*with* Ma, Mang-Fai) The regularity of L^p-scaling functions. (English summary) *Asian J. Math.* **1** (1997), *no.* 2, 272–292. (Lars F. Villemoes) **99c:42065** 42C15 (39B22)

— (*with* Fan, Ai Hua) Asymptotic behavior of multiperiodic functions $G(x) = \prod_{n=1}^{\infty} g(x/2^n)$. (English summary) *J. Fourier Anal. Appl.* **4** (1998), *no.* 2, 129–150. (Kirill A. Kopotun) **99j:41054** 41A63 (28A80)

— (*with* Lawson, Jimmie D.; Zeng, Wei-Bin) Embedding locally compact semigroups into groups. *Semigroup Forum* **57** (1998), *no.* 2, 151–156. (V. V. Mukhin) **99f:22004** 22A15

— (*with* Ngai, Sze-Man) L^q-spectrum of the Bernoulli convolution associated with the golden ratio. (English summary) *Studia Math.* **131** (1998), *no.* 3, 225–251. (Lars Olsen) **99f:28008** 28A75 (28A80)

— (*with* Ma, Mang-Fai) On the L^p-Lipschitz exponents of the scaling functions. (English summary) *Spline functions and the theory of wavelets* (*Montreal, PQ*, 1996), 181–192, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99i:65005**) 42C15 (41A30)

— *see also* **Advances in wavelets, 99m:42002**

Lau, Karen K. M. (*with* Womersley, R. S.) Portfolio optimisation problems. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 795–802, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 90C90 (90A09)

Lau, Kung-Kiu (*with* Ornaghi, Mario; Tärnlund, Sten-Åke) Steadfast logic programs. (English summary) *J. Logic Programming* **38** (1999), *no.* 3, 259–294. (Summary) **99j:68014** 68N17

Lau, Rynson W. H. (*with* Ma, Lizhuang; Li, Frederick; Peng, Qun Sheng) Surface reconstruction with quartic triangular patches. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 54–62. 65D17

Lau, Tak Wing Edward (*with* Lee, Loo Hay; Ho, Yu Chi) Explanation of goal softening in ordinal optimization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 94–99. 90C15 (93E20)

Laub, A. J. (*with* Erickson, M. A.; Smith, Roy S.) Power methods for calculating eigenvalues and eigenvectors of spectral operators on Hilbert spaces. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1117–1128. 93B60 (93B40)

— (*with* Kenney, Charles) A Schur-Fréchet algorithm for computing the logarithm and exponential of a matrix. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 3, 640–663 (*electronic*). (G. Maess) **99d:65129** 65F30 (15A24, 65D15)

— (*with* Kenney, Charles; Reese, M. S.) Statistical condition estimation for linear least squares. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 906–923 (*electronic*). (Hongyuan Zha) **99e:65072** 65F30 (15A12, 62J05)

Laubenbacher, Reinhard C. (*with* Kramer, Xenia H.) Combinatorial homotopy of simplicial complexes and complex information systems. (English summary) *Applications of computational algebraic geometry* (*San Diego, CA*, 1997), 91–118, *Proc. Sympos. Appl. Math.*, 53, *Amer. Math. Soc., Providence, RI*, 1998. (Tiong Seng Tay) **99d:05092** 05E99 (16S10, 19A15, 55U35)

— (*with* Kolster, Manfred) On higher class groups of orders. *Math. Z.* **228** (1998), *no.* 2, 229–246. (V. P. Snaith) **99i:19002** 19D50 (11R65, 19F27)

— (*with* Pengelley, David) ★ Mathematical expeditions. (English summary) Chronicles by the explorers. Undergraduate Texts in Mathematics. Readings in Mathematics. *Springer-Verlag, New York*, 1999. $x+275$ *pp.* *ISBN* 0-387-98433-X (E. J. Barbeau) **99i:01005** 01A05

— (*with* Hermiller, Susan M.; Kramer, Xenia H.) Monomial orderings, rewriting systems, and Gröbner bases for the commutator ideal of a free algebra. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 2, 133–141. (Vesselin Drensky) **99m:16040** 16S15 (13P10, 68Q40, 68Q42)

deLaubenfels, Ralph (*with* Lei, Yansong) Regularized functional calculi, semigroups, and cosine functions for pseudodifferential operators. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 121–136. (Atsushi Yagi) **99b:47024** 47A60 (35S05, 47D06, 47D09)

— (*with* Wang, Sheng Wang) Spectral conditions guaranteeing a nontrivial solution of the abstract Cauchy problem. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3271–3278. (Valentina Ivanivna Gorbachuk) **99k:34129** 34G10 (47D06, 47N20)

— Similarity to a contraction, for power-bounded operators with finite peripheral spectrum. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 8, 3169–3191. (Christian Le Merdy) **99a:47001** 47A05 (47A10, 47A25, 47A60)

— (*with* Jazar, Mustapha) Functional calculi, regularized semigroups and integrated semigroups. (English summary) *Studia Math.* **132** (1999), *no.* 2, 151–172. (S. Kantorovitz) **99k:47036** 47A60 (47B15, 47D03, 47D06)

Laubie, F. (*with* Saïne, M.) Ramification of some automorphisms of local fields. (English summary) *J. Number Theory* **72** (1998), *no.* 2, 174–182. (Gabriel D. Villa-Salvador) **99h:11135** 11S15 (11S20)

Laubin, Pascal High order convergence for collocation of second kind boundary integral equations on polygons. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 107–140. (Timothy Nigel Phillips) **99b:65156** 65N38 (45L05, 65N35, 65R20)

— (*with* Bastin, F.) A walk in the theory of wavelets from $L^2(\mathbf{R})$ to $H^s(\mathbf{R})$. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. I (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. I* (1998), 239–252. (Albert Cohen) **99f:42061** 42C15

— (*with* Baiwir, Marc) Spline collocation for a boundary integral equation on polygons with cuts. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 4, 1452–1472 (*electronic*). (Summary) **99a:65165** 65N35 (45B05, 45L05, 65R20)

Laucelli Meana, Marco (*with* Osorio, M. A. R.; Puente Peñalba, Jesús) Finite temperature Matrix theory. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 613–640. (Summary) **99g:81176** 81T30 (83C57)

— (*with* Puente Peñalba, Jesús) Matrix strings, compactification scales and Hagedorn transition. (English summary) *Phys. Lett. B* **447** (1999), *no.* 1-2, 59–66. (Summary) **99j:81148** 81T30

Läuchli, Peter ★ Matroide. (German. German summary) [Matroids] Eine Einführung für Mathematiker und Informatiker. [An introduction for mathematicians and information scientists] vdf Lehrbuch Mathematik. [vdf Textbook for Mathematics] *Verlag der*

Fachvereine, Zürich, 1998. *viii*+136 *pp. ISBN* 3-7281-2470-2 (From the preface) **99k:05052** 05B35

Laud, Purushottam W. (*with* Damien, Paul; Smith, Adrian F. M.) Bayesian nonparametric and covariate analysis of failure time data. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 213–225, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (Summary) **99e:62028** 62F15 (65G99)

Laudenbach, François Trois constructions en topologie symplectique. (English and French summaries) [Three constructions in symplectic topology] *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 697–709. (Summary) **99f:57032** 57R15 (58F05)

Lauder, Alan G. B. Polynomials with odd orthogonal multiplicity. (English summary) *Finite Fields Appl.* **4** (1998), *no.* 4, 453–464. (Jeffrey O. Shallit) **99h:11020** 11C08 (11T06, 13B25)

Laudisa, Federico Non-locality: a defence of widespread beliefs. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 3, 297–313. (Jos Uffink) **99d:81012** 81P10

— Still in defence: a short reply on non-locality and widespread beliefs: "Can we escape from Bell's conclusion that quantum mechanics describes a non-local reality?" [Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys. **27** (1996), no. 3, 315–330; MR 99d:81013] by W. M. de Muynck. (English summary) *Stud. Hist. Philos. Sci. B Stud. Hist. Philos. Modern Phys.* **27** (1996), *no.* 3, 331–335. (Jos Uffink) **99d:81014** 81P10

— Context independence as a statistical property of hidden variable theories. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 443–448. (Summary) **99f:81015** 81P05

— *see also* **de Muynck, Willem M., 99d:81013**

Laue, Reinhard (*with* Betten, Anton; Kerber, Adalbert; Wassermann, Alfred) Simple 8-designs with small parameters. (English summary) *Des. Codes Cryptogr.* **15** (1998), *no.* 1, 5–27. (Sheng Jiang) **99g:05019** 05B05

— (*with* Betten, Anton; Klin, Mikhail; Wassermann, Alfred) Graphical t-designs via polynomial Kramer-Mesner matrices. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 83–109. (Summary) **99i:05027** 05B05 (20B30)

— (*with* Betten, Anton; Wassermann, Alfred) New t-designs and large sets of t-designs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 111–121. (Summary) **99k:05023** 05B05

— (*with* Betten, Anton; Wassermann, Alfred) Simple 7-designs with small parameters. (English summary) *J. Combin. Des.* **7** (1999), *no.* 2, 79–94. (T. S. Griggs) **99k:05022** 05B05

Lauer, Susan D. Positive solutions of a boundary value problem for second order nonlinear difference equations. (English summary) *Comm. Appl. Nonlinear Anal.* **4** (1997), *no.* 3, 103–115. (Summary) **99a:39018** 39A10

— Multiple solutions to a boundary value problem for an nth order nonlinear difference equation. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 129–136 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Allan C. Peterson) **99m:39008** 39A10

Lauf, Wolfgang On the boundary behaviour of functions of bounded turning. (English summary) *Analysis (Munich)* **18** (1998), *no.* 1, 41–47. (Ch. Pommerenke) **99g:30013** 30C45

Laufer, Alexander The exponential map of GL(N). (English summary) *J. Phys. A* **30** (1997), *no.* 15, 5455–5470. (Joachim Hilgert) **99a:22011** 22E10

Läufer, Konstantin (*with* Colby, Christopher; Jategaonkar, Lalita; Jagadeesan, Radha; Puchol, Carlos) The semantics of Triveni: a process-algebraic API for threads + events. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 27 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68Q10 (68Q55, 68Q90)

Laugesen, Richard Snyder Eigenvalues of the Laplacian on inhomogeneous membranes. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 305–344. (Julian Edward) **99b:35161** 35P15 (35J25, 58G11, 58G25)

Laugwitz, Detlef ★ Bernhard Riemann 1826–1866. (German. German summary) Wendepunkte in der Auffassung der Mathematik. [Turning points in the conception of mathematics] Vita Mathematica, 10. *Birkhäuser Verlag, Basel*, 1996. 346 *pp. ISBN* 3-7643-5189-6 (Craig G. Fraser) **99b:01012** 01A55 (00A30, 01A60, 01A70)

— Als Assistent in Oberwolfach 1955/56. [As an assistant in Oberwolfach 1955–1956] *Überblicke Mathematik* 1996/97, 144–150, *Überbl. Math., Vieweg, Braunschweig*, 1997. (*see* **99d:00011**) 01A70 (01A74)

— On the historical developement of infinitesimal mathematics. II. The conceptual thinking of Cauchy. Translated from the German by Abe Shenitzer with the editorial assistance of Hardy Grant. *Amer. Math. Monthly* **104** (1997), *no.* 7, 654–663. (Joseph W. Dauben) **99c:01016** 01A55 (00A30, 01A70, 03H05)

Laumen, Manfred A comparison of numerical methods for optimal shape design problems. (English summary) *Optim. Methods Softw.* **10** (1999), *no.* 3, 497–537. 49Q10 (90C90)

Laumond, Jean-Paul (*with* Hindry, Marc; Duby, Jean-Jacques; Châtelet, Gilles; Risler, Jean-Jacques; Schapira, Pierre; Bourguignon, Jean Pierre) Le rôle des mathématiques. [The role of mathematics] *Gaz. Math. No.* 74 (1997), 5–25. (Editors) **99g:00021** 00A30 (01A80)

— (*with* Sekhavat, S.; Lamiraux, F.) Guidelines in nonholonomic motion planning for mobile robots. *Robot motion planning and control*, 1–53, *Lecture Notes in Control and Inform. Sci.*, 229, *Springer, London*, 1998. (Bert Jüttler) **99a:70009** 70B15 (70F25, 70Q05, 93C85)

Launay, G. (*with* Bonnard, B.) Time minimal control of batch reactors. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 407–467 (*electronic*). (Andrei V. Sarychev) **99j:49077** 49N55 (49K15, 49N35, 80A32, 93B29)

Launder, B. E. An introduction to single-point closure methodology. *Numerical methods in fluid mechanics*, 119–170, *CRM Proc. Lecture Notes*, 16, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99b:76002**) 76Fxx (76M25)

Laura, Roberto Scattering and intrinsic irreversibility. (English summary) Proceedings from the Workshop on Cosmology and Time Asymmetry (Peyresq, 1996). *Internat. J. Theoret. Phys.* **36** (1997), *no.* 11, 2315–2334. (Robert Alicki) **99b:81262** 81U20 (47N50)

Laurençot, Philippe Weak solutions to a phase-field model with non-constant thermal conductivity. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 739–760. (Jing Xue Yin) **99a:35261** 35Q99 (35D05, 80A22)

— (*with* Dupaix, C.; Hilhorst, D.) Upper-semicontinuity of the attractor for a singularly perturbed phase field model. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 115–143. (Alan V. Lair) **99f:35009** 35B25 (34G20, 35J25, 35K20, 47H20, 58F39)

— (*with* Wrzosek, Dariusz) The Becker-Döring model with diffusion. I. Basic properties of solutions. *Colloq. Math.* **75** (1998), *no.* 2, 245–269. (Si Ning Zheng) **99b:35202** 35Q99 (35K55, 82C99)

— Compact attractor for weakly damped driven Korteweg-de Vries equations on the real line. (English summary) *Czechoslovak Math. J.* **48(123)** (1998), *no.* 1, 85–94. (Eduard Feireisl) **99a:35224** 35Q53 (35B40, 47H20, 58F39)

— (*with* Wrzosek, Dariusz) The Becker-Döring model with diffusion. II. Long time behavior. (English summary) *J. Differential Equations* **148** (1998), *no.* 2, 268–291. (Si Ning Zheng) **99h:35216** 35Q99 (35K55, 82C99)

— (*with* Colli, Pierluigi) Existence and stabilization of solutions to the phase-field model with memory. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 2, 169–194. (Galina I. Bizhanova) **99i:45016** 45K05 (35K55, 35R70, 73B30, 80A22)

— Weak solutions to a Penrose-Fife model with Fourier law for the temperature. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 2, 331–343. (Jing Xue Yin) **99g:35076** 35K99 (35D10, 35Q99, 80A22, 82C26)

— (*with* Colli, Pierluigi) Uniqueness of weak solutions to the phase-field model with memory. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 3, 459–476. (Toyohiko Aiki) **99j:35221** 35Q99 (35D05, 45K05, 73B30, 80A22)

— (*with* Simondon, F.) Long-time behaviour for porous medium equations with convection. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 315–336. (Vladimir Grebenev) **99f:35108** 35K65 (35B40, 35Q35, 76S05)

— (*with* Benachour, Said) "Solutions très singulières" d'une équation parabolique non linéaire avec absorption. (English and French summaries) [Very singular solutions to a nonlinear parabolic equation with absorption] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 215–220. (Summary) **99k:35080** 35K55 (35B99)

— (*with* Colli, Pierluigi; Gilardi, Gianni; Novick-Cohen, Amy) Uniqueness and long-time behavior for the conserved phase-field system with memory. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 375–390. (Nobuyuki Kenmochi) **99k:73020** 73B30 (35Q72, 45K05, 80A22)

— Singular behaviour of finite approximations to the addition model. (English summary) *Nonlinearity* **12** (1999), *no.* 2, 229–239. (Summary) **99k:82073** 82C99 (34A34)

Laurent, Béatrice Estimation of integral functionals of a density and its derivatives. (English summary) *Bernoulli* **3** (1997), *no.* 2, 181–211. (Stergios B. Fotopoulos) **99c:62144** 62G20 (62G05)

Laurent, Dominique (*with* Phan Luong, V.; Spyratos, Nicolas) The use of deleted tuples in database querying and updating. (English summary) *Acta Inform.* **34** (1997), *no.* 12, 905–925. (János Demetrovics) **99b:68057a** 68P15

— (*with* Phan Luong, V.; Spyratos, Nicolas) Erratum: "The use of deleted tuples in database querying and updating". *Acta Inform.* **35** (1998), *no.* 6, 541. (János Demetrovics) **99b:68057b** 68P15

Laurent, M. *see* **Laurent, Monique**

Laurent, Michel New methods in algebraic independence. (English summary) *Number theory (Eger, 1996)*, 311–330, *de Gruyter, Berlin*, 1998. (Damien Roy) **99e:11100** 11J85

— (*with* Roy, Damien) Criteria of algebraic independence with multiplicities and interpolation determinants. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1845–1870. (Yann Bugeaud) **99h:11080** 11J85

— *see also* **Waldschmidt, Michel, 99a:11092**

Laurent, Monique A tour d'horizon on positive semidefinite and Euclidean distance matrix completion problems. (English summary) *Topics in semidefinite and interior-point methods (Toronto, ON, 1996)*, 51–76, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Hugo Jan Woerdeman) **99c:05135** 05C50 (15A48, 15A57, 52B12, 90C27)

— (*with* Bandelt, Hans-Jürgen; Chepoĭ, V. D.) Embedding into rectilinear spaces. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 4, 595–604. (Dušan Repovš) **99d:51017** 51K05 (54C25, 54E35)

Laurent, Pierre-Jean (*with* Mazure, Marie-Laurence) Marsden identity, blossoming and de Boor-Fix formula. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 227–242, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99f:41040** 41A63 (65D15)

— (*with* Mazure, Marie-Laurence; Morin, Géraldine) Shape effects with polynomial Chebyshev splines. (English summary) *Curves and surfaces with applications in CAGD (Chamonix–Mont-Blanc, 1996)*, 255–262, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (L. Leindler) **99j:41019** 41A15 (41A29, 65D07)

— (*with* Pai, Devidas) On simultaneous approximation. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1045–1064. (Joseph M. Lambert) **99h:41027** 41A29 (41A65)

— (*with* Mazure, Marie-Laurence) Nested sequences of Chebyshev spaces and shape parameters. (English and French summaries) *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 6, 773–788. (Antonio López-Carmona) **99i:65015** 65D17 (41A29)

— *see also* **Advanced topics in multivariate approximation, 99f:41002**

Laurent-Bonvalot, Françoise (*with* Castelle, Nathalie) Strong approximations of bivariate uniform empirical processes. (English and French summaries) *Ann. Inst. H. Poincaré Probab. Statist.* **34** (1998), *no.* 4, 425–480. (Endre Csáki) **99h:60071** 60F17 (60F15, 62G30)

Laurent-Thiébaut, C. (*with* Leiterer, J.) The Andreotti-Vesentini separation theorem and global homotopy representation. *Math. Z.* **227** (1998), *no.* 4, 711–727. (Harold P. Boas) **99m:32019** 32F10 (32A25, 32L99)

Lauret, Jorge Homogeneous nilmanifolds of dimensions 3 and 4. (English summary) *Geom. Dedicata* **68** (1997), *no.* 2, 145–155. (Introduction) **99d:53047** 53C30

— Commutative spaces which are not weakly symmetric. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 1, 29–36. (Ewa Damek) **99a:22016** 22E30 (22E25, 43A20, 43A85, 53C30)

— (*with* Dotti Miatello, Isabel G.) Curvature properties of solvable extensions of H-type groups. (English and Italian summaries) *Rend. Mat. Appl.* (7) **18** (1998), *no.* 1, 167–179.

(Jürgen Berndt) **99e:53067** 53C30 (22E25)

Lauri, Josef (*with* Scapellato, Raffaele) A note on graphs all of whose edges are pseudosimilar. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 11–13. (*see* **99i:05002**) 05C60

— (*with* Sciriha, Irene; Fiorini, Stanley) Minimal basis for a vector space with an application to singular graphs. (English summary) New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 21–24. (Summary) **99i:05142** 05C50

Laurie, C. (*with* Power, S. C.) On the C^*-envelope of approximately finite-dimensional operator algebras. (English summary) *Math. Scand.* **80** (1997), *no.* 1, 107–124. (Timothy D. Hudson) **99b:46084** 46L05 (46K50, 47D25)

Laurinčikas, Antanas On limit theorems for the Riemann zeta-function in some spaces. (English summary) *Probability theory and mathematical statistics (Vilnius, 1993)*, 457–483, *TEV, Vilnius*, 1994. (D. R. Heath-Brown) **99f:11108** 11M06

— On limit distribution of the Matsumoto zeta function. II. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **36** (1996), *no.* 4, 464–485; *translation in Lithuanian Math. J.* **36** (1996), *no.* 4, 371–387 (1997). (Wolfgang Schwarz) **99c:11113** 11M41 (11K65, 60F17)

— On limit distribution of the Lerch zeta-function. (English summary) *New trends in probability and statistics, Vol.* 4 (*Palanga*, 1996), 135–148, *VSP, Utrecht*, 1997. (Matti Jutila) **99i:11077** 11M35 (11K99)

— (*with* Garunkštis, R.) A limit theorem with weight for the Lerch zeta function in the space of analytic functions. (Russian) Dedicated to Professor Anatoliĭ Alekseevich Karatsuba on the occasion of his 60th birthday (Russian). *Tr. Mat. Inst. Steklova* **218** (1997), *Anal. Teor. Chisel i Prilozh.*, 109–121. (Matti Jutila) **99h:11100** 11M35

— On the Matsumoto zeta-function. *Acta Arith.* **84** (1998), *no.* 1, 1–16. (Matti Jutila) **99m:11100** 11M41

— (*with* Kačėnas, A.) On Dirichlet series associated with some parabolic forms. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 82–97; *translation in Lithuanian Math. J.* **38** (1998), *no.* 1, 64–76. (Matti Jutila) **99j:11049** 11F66

— On the Lerch zeta function with rational parameters. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 1, 113–124; *translation in Lithuanian Math. J.* **38** (1998), *no.* 1, 89–97. (Matti Jutila) **99j:11098** 11M35

— On zeros of linear combinations of the Matsumoto zeta functions. (Russian. Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 2, 185–204; *translation in Lithuanian Math. J.* **38** (1998), *no.* 2, 144–159 (1999). (Matti Jutila) **99j:11102** 11M41

— (*with* Matsumoto, Kohji) Joint value-distribution theorems on Lerch zeta-functions. (Lithuanian summary) *Liet. Mat. Rink.* **38** (1998), *no.* 3, 312–326; *reprinted in Lithuanian Math. J.* **38** (1998), *no.* 3, 238–249 (1999). (Matti Jutila) **99j:11099** 11M35

— A limit theorem in the theory of finite abelian groups. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 517–533. (Gautami Bhowmik) **99m:11101** 11M41 (11K65, 20K27)

— *see also* **New trends in probability and statistics, 99f:11003**

Lauritsen, Morten B. (*with* Rostgaard, Morten; Poulsen, Niels K.) GPC using a delta-domain emulator-based approach. (English summary) *Internat. J. Control* **68** (1997), *no.* 1, 219–232. 93C40 (93E10)

Lauro, Giuliana (*with* Borgioli, G.; Gerasimenko, V. I.; Monaco, Roberto) A discrete velocity model of a gas: global in time solutions of the BBGKY hierarchy. (English summary) Proceedings of the XXIX Symposium on Mathematical Physics (Toruń, 1996). *Rep. Math. Phys.* **40** (1997), *no.* 3, 431–442. (Carlo Cercignani) **99e:82078** 82C40 (76P05)

— (*with* Zweifel, Paul F.) Some comments on Case eigenfunctions. (English summary) *Transport Theory Statist. Phys.* **26** (1997), *no.* 6, 727–735. (Summary) **99a:82086** 82C70 (45E05)

— (*with* Totaro, Silvia) A semilinear Cauchy problem with a time dependent source on the boundary. (English summary) Proceedings of the Fifteenth International Conference on Transport Theory, Part I (Göteborg, 1997). *Transport Theory Statist. Phys.* **27** (1998), *no.* 3-4, 317–331. (Edward W. Larsen) **99j:82063** 82C40 (35Q99)

Lauro, Salvatore (*with* Schücking, Engelbert L.; Epstein, Jerome; Kowalski, William P.) What is space-time made of? (English summary) *Quantum gravity* (*Erice*, 1995), 342–365, *Sci. Cult. Ser. Phys.*, 10, *World Sci. Publishing, River Edge, NJ*, 1996. (Andrzej M. Frydryszak) **99m:81289** 81V25 (51P05, 83E99)

Lauron, Philippe (*with* Bálint, Vojtech) Some inequalities for the (r, q)-structures. (English summary) *Stud. Univ. Žilina Math. Phys. Ser.* **11** (1997), 3–18. 51E30 (05A05, 05A20)

lópez Laurrabaquio, G. *see* **López Laurrabaquio, G.**

Laursen, Kjeld B. (*with* Aiena, Pietro) On Riesz theory of multipliers in commutative Banach algebras. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 185–193. (A. G. Myasnikov) **99g:46068** 46J05 (47B06, 47B48)

— The Browder spectrum through local spectral theory. (English summary) *Banach algebras '97* (*Blaubeuren*), 287–301, *de Gruyter, Berlin*, 1998. (Jaroslav Zemánek) **99m:47001** 47A11 (47A53)

Laursen, T. A. (*with* Chawla, V.) Energy consistent algorithms for frictional contact problems. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 5, 799–827. (Summary) **99c:73069** 73T05 (73V05)

Lausch, Hans (*with* Pallaschke, Diethard; Rolewicz, Stefan) Universal derivations in spaces of functions with values in non-commutative Banach algebras. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 115–120. (K. B. Laursen) **99b:46074** 46H99 (16W25, 46E40)

Lausen, Georg (*with* Kifer, Michael; Wu, James) Logical foundations of object-oriented and frame-based languages. (English summary) *J. Assoc. Comput. Mach.* **42** (1995), *no.* 4, 741–843. (Summary) **99k:68043** 68P15 (03B70, 68N15, 68N17)

Laussel, Didier (*with* Le Breton, Michel) Efficient private production of public goods under common agency. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 194–218. (Summary) **99h:90030** 90A27 (90D10)

Lauster, M. (*with* Neumaier, M.; Lippig, V.; Waibel, R.; Straub, Dieter) The Duhem-Hadamard hypothesis in thermofluiddynamics. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 993–1012. (Summary) **99b:76004** 76A02 (76–05, 80A20)

Laustsen, Niels J. (*with* Haagerup, Uffe) Weak amenability of C^*-algebras and a theorem of Goldstein. (English summary) *Banach algebras '97* (*Blaubeuren*), 223–243, *de Gruyter, Berlin*, 1998. (Vladimir Manuilov) **99k:46096** 46L05 (46L10, 46L57)

Lautemann, Clemens (*with* Durand, Arnaud; Schwentick, Thomas) Subclasses of binary NP. (English summary) *J. Logic Comput.* **8** (1998), *no.* 2, 189–207. (Bruno Poizat) **99m:03059** 03C13 (03D15, 68Q15)

Lautenschleguer, I. J. (*with* Batista, E.; Gomes, J. F.) Hamiltonian reduction and the construction of q-deformed extensions of the Virasoro algebra. (English summary) *J. Phys. A* **31** (1998), *no.* 29, *L537–L542*. (Zoltán Bajnok) **99g:81067** 81R10 (17B68, 81R50, 81T40)

Lauter, Kristin A formula for constructing curves over finite fields with many rational points. *J. Number Theory* **74** (1999), *no.* 1, 56–72. (R. F. Lax) **99k:11088** 11G20 (11R37)

Lauter, Robert On Ψ^*- and C^*-algebras of pseudodifferential operators on manifolds with conical singularities. (English summary) *Banach algebras '97* (*Blaubeuren*), 303–324, *de Gruyter, Berlin*, 1998. (Yu. V. Egorov) **99i:58147** 58G15 (35S05, 46L99, 47G30)

— An operator theoretical approach to enveloping Ψ^*- and C^*-algebras of Melrose algebras of totally characteristic pseudodifferential operators. (English summary) *Math. Nachr.* **196** (1998), 141–166. (Boris A. Plamenevsky) **99j:58201** 58G15 (35S05, 46H99, 46L99, 47D40, 47G30)

Lauterbach, Reiner (*with* Gatermann, Karin) Automatic classification of normal forms. *Nonlinear Anal.* **34** (1998), *no.* 2, 157–190. (Ian Melbourne) **99e:58161** 58F36 (34C20, 34C35, 58C27, 58F14)

Lauterborn, Werner (*with* Ohl, Claus-Dieter; Kurz, Thomas; Geisler, Reinhard; Lindau, Olgert) Bubble dynamics, shock waves and sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 269–294. (*see* **99k:76002**) 76D99 (76L05, 76Q05, 78A99)

Lauwers, Luc Topological aggregation, the case of an infinite population. (English summary) Topological social choice. *Soc. Choice Welf.* **14** (1997), *no.* 2, 319–332. (T. S. Ravisankar) **99c:90015** 90A08

Lavagno, Luciano (*with* Cortadella, Jordi; Kishinevsky, Michael; Yakovlev, Alexandre V.) Deriving Petri nets from finite transition systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 8, 859–882. (Summary) **99e:68111** 68Q90 (68Q10)

LaValle, Irving H. (*with* Fishburn, Peter C.) Linear lexicographic state-dependent utility. (English summary) *Decision making under risk and uncertainty* (*Durham, NC*, 1990), 83–91, *Theory Decis. Lib. Ser. B Math. Statist. Methods*, 22, *Kluwer Acad. Publ., Dordrecht*, 1992. (*see* **99a:90003**) 90A43

LaValle, Steven M. Numerical computation of optimal navigation functions on a simplicial complex. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 339–350, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 93C85 (70B15)

Lavallée, P.-F. (*with* Sadkane, Miloud) Pseudospectra of linear matrix pencils by block diagonalization. (English summary) *Computing* **60** (1998), *no.* 2, 133–156. (Dao Sheng Zheng) **99e:65062** 65F15 (15A22, 65F30)

LaValley, Michael P. (*with* Akritas, Michael G.) Statistical analysis with incomplete data: a selective review. *Robust inference*, 551–632, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62G05

Lavassani, M. T. (*with* Holzmann, W. H.; Kharaghani, H.) The excess problem and some excess inequivalent matrices of order 32. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 381–391. (Summary) **99g:05039** 05B20

Lavatelli, Carolina Algebraic interpretation of lambda calculus with resources. (English summary) *CONCUR '96: concurrency theory* (*Pisa*), 422–437, *Lecture Notes in Comput. Sci.*, 1119, *Springer, Berlin*, 1996. (Summary) **99a:03020** 03B40 (68N15, 68Q55)

Lavenda, B. H. The analogy between coding theory and multifractals. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5651–5660. (Summary) **99j:94018** 94A17 (28A80, 94B99)

— (*with* Dunning-Davies, J.) Problems with the entropy concept in modern applications of thermodynamics. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 3, 375–385. (Summary) **99i:80003** 80A10 (80A05, 85A40)

Laver, Richard Implications between strong large cardinal axioms. (English summary) *Ann. Pure Appl. Logic* **90** (1997), *no.* 1-3, 79–90. (Douglas R. Burke) **99c:03074** 03E55 (03E35)

— Adding dominating functions mod finite. (English summary) *Period. Math. Hungar.* **35** (1997), *no.* 1-2, 35–41. (Miroslav Repický) **99m:03100** 03E35 (03E40, 03E50)

— (*with* Darby, Carl) Countable length Ramsey games. (English summary) *Set theory* (*Curaçao*, 1995; *Barcelona*, 1996), 41–46, *Kluwer Acad. Publ., Dordrecht*, 1998. (Douglas R. Burke) **99b:03062** 03E05 (90D44)

Laverde, Diego (*with* Binder, P.-M.) Observation of structure in the Lorenz map. (English summary) *Chaos* **9** (1999), *no.* 1, 206–207. 58F13 (65L06)

Laverde Pérez, Pedro P. A sufficient condition for a system of ordinary differential equations to be technically contractively stable. (Spanish. English and Spanish summaries) IX Conference of the Venezuelan Mathematical Association (Spanish) (Maracaibo, 1996). *Divulg. Mat.* **5** (1997), *no.* 1-2, 11–20 (1998). (Dirk Aeyels and Patrick De Leenheer) **99j:34076** 34D99 (34D20)

Lavergne, Pascal Selection of regressors in econometrics: parametric and nonparametric methods. (English summary) *Econometric Rev.* **17** (1998), *no.* 3, 227–273. (Summary) **99e:62180** 62P20 (62G10, 62J05)

— (*with* Vuong, Quang H.) An integral estimator of residual variance and a measure of explanatory power of covariates in nonparametric regression. (English summary) *J. Nonparametr. Statist.* **9** (1998), *no.* 4, 363–380. (Summary) **99e:62065** 62G07

Lavers, Peter Generalising tautological entailment. *Logique et Anal.* (*N.S.*) **37** (1994), *no.* 147-148, 367–377. (Robert K. Meyer) **99b:03034** 03B46

Lavers, T. G. Presentations of general products of monoids. (English summary) *J. Algebra* **204** (1998), *no.* 2, 733–741. (N. R. Reilly) **99d:20094** 20M05

Lávička, Roman The Lévy-Laplacian and differential operators of 2nd order in Hilbert spaces. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 115–135. (A. V. Uglanov) **99d:46064** 46G05 (35R15)

Lavignac, Stéphane (*with* Irges, Nikolaos) A guide to flat direction analysis in anomalous U(1) models. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 293–304. (Summary) **99b:81224** 81T50 (81T13)

Lavila-Vidal, Olga On the Cohen-Macaulay property of diagonal subalgebras of the Rees algebra. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 47–58. (Alberto Corso) **99i:13006** 13A30 (13H10)

Laville, Guy (*with* Ramadanov, Ivan-Pierre) Fonctions holomorphes cliffordiennes. (English and French summaries) [Cliffordian holomorphic functions] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 3, 307–310. (Wolfgang Sprössig) **99m:30098** 30G35

Lavín, Víctor (*with* Castro, Jorge; Guijarro, David) Learning nearly monotone k-term DNF. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 2, 75–79. (Summary) **99c:68209** 68T05 (68Q99)

deLa Vina, Ermelinda *see* **DeLa Vina, Ermelinda**

Laviolette, François (*with* Larose, Benoit; Tardif, Claude) On normal Cayley graphs and hom-idempotent graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 7, 867–881. (Marston Conder) **99h:05100** 05C75 (05C25)

— (*with* Polat, Norbert) Spanning trees of countable graphs omitting sets of dominated ends. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 151–172. (Jozef Širáň) **99i:05063** 05C05

Lavis, D. A. (*with* Southern, B. W.; Wilde, I. F.) The inverse of a semi-infinite symmetric banded matrix. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7229–7241. (Jaroslav Zemánek) **99b:47050** 47B39 (39A70, 47B35, 82B20)

Lavoie, Alain (*with* Ferland, Jacques A.; Hertz, Alain) An object-oriented methodology for solving assignment-type problems with neighborhood search techniques. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 347–359. (Summary) **99k:90131** 90C27 (90C35)

Lavoisier, A. L. *see* **Saraiva, Luis M. R., 99a:01012**

Lavrač, Nada Inductive logic programming for relational knowledge discovery. (English summary) *Logic programming (Manchester, 1998)*, 7–22, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68T05)

— *see also* **Inductive logic programming, 99b:68007**

Lavrelashvili, G. V. (*with* Breitenlohner, Peter; Maison, Dieter) Mass inflation and chaotic behaviour inside hairy black holes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 427–443. (Summary) **99c:83048** 83C57

— Quadratic action of the Hawking-Turok instanton. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 063505, 5 *pp.* (Summary) **99m:83075** 83C45

Lavrenjuk, S. P. *see* **Lavrenyuk, S. P.**

Lavrenov, A. N. On Askey-Wilson algebra. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1213–1219. (Summary) **99c:33024** 33C80

Lavrent'ev, I. M. (*with* Šćepanović, Radoje) On the solvability of nonlinear equations in a Banach space. (Russian. Russian summary) *Math. Montisnigri* **8** (1997), 95–100. (Yu. V. Trubnikov) **99d:47063** 47H15

Lavrent'ev, M. M. *see* **Lavrent'ev, Mikhail Mikhaĭlovich**

Lavrent'ev, M. M., Jr. (*with* Broadbridge, Philip; Goard, Joanna M.) Degenerate nonlinear diffusion with an initially sharp front. *Stud. Appl. Math.* **99** (1997), *no.* 4, 377–391. (Zhuo Qun Wu) **99a:35149** 35K65 (35B99, 35Q35, 76R50, 76S05)

Lavrent'ev, Mikhail Mikhaĭlovich Problems of integral geometry with perturbation on the plane. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 851–857, *ii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 747–752. (R. G. Mukhometov) **99i:53073** 53C65

— Operator Volterra equations and integral geometry problems. (English summary) *J. Inverse Ill-Posed Probl.* **6** (1998), *no.* 4, 353–359. (Alexander S. Denisjuk) **99h:45002** 45D05 (44A12, 45N05)

— (*with* et al.) Sergeĭ L'vovich Sobolev (1908–1989). (Russian) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 723–729. (Editors) **99m:01075** 01A70

— *see also* **Algebra and mathematical analysis, 99m:00019**

Lavrentiev, M., Jr. *see* **Lavrent'ev, M. M., Jr.**

Lavrenyuk, S. P. Parabolic variational inequalities without initial conditions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1396–1400, 1439; *translation in Differential Equations* **32** (1996), *no.* 10, 1393–1397 (1997). (Ján Lovišek) **99e:35124** 35K85 (49J40)

— (*with* Kolinko, M. O.) The problem without initial data for linear Sobolev-Halpern system. (English summary) *Demonstratio Math.* **31** (1998), *no.* 1, 25–32. (Stepan D. Ivasyshen) **99f:35111** 35K70

— On the uniqueness of a solution of a mixed problem for one degenerated evolutional system. (English and Russian summaries) *Mat. Stud.* **9** (1998), *no.* 1, 21–28, 110. 35L80 (35K65)

Lavrič, Boris Continuity of order-preserving functions. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 645–655. (M. K. Nayak) **99g:26031** 26B05

— Convergence of certain bounded sequences. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 1–10. (Richard D. Hill) **99g:15023** 15A48 (15A39)

— Compatible lattice orders and linear operators on $\mathbf{R}^n$. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 189–200. (K. Chandrasekhara Rao) **99i:15003** 15A04 (47B60)

— Order convergence of order bounded sequences in Riesz spaces. (English summary) *Tamkang J. Math.* **29** (1998), *no.* 1, 41–45. (Summary) **99d:46004** 46A45 (06F20, 40A05)

— $\mathscr{S}$-subinvariant norms. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 199–210. (Sing Cheong Ong) **99m:15027** 15A60

Lavrinenko, I. V. (*with* Lu, Hong[1]; Pope, C. N.) Fibre bundles and generalized-dimensional reductions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2239–2256. (Sergey Nikolaevich Roshchupkin) **99h:83061** 83E50 (83E30)

Lavrinovich, K. K. ★ Friedrich Wilhelm Bessel. 1784–1846. (German. German summary) Translated from the 1989 Russian original by Katja Hansen-Matyssek and Heinz Matyssek. Vita Mathematica, 9. *Birkhäuser Verlag, Basel*, 1995. *xii*+315 *pp. ISBN* 3-7643-5113-6 (Editors) **99d:01032** 01A70 (01A55)

Lavrov, Petr M. Superfield BRST quantization of gauge theories. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 470–473, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 81T70

— (*with* Falkenberg, Sven; Geyer, Bodo; Moshin, P.) On the structure of quantum gauge theories with external fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 23, 4077–4089. (Mohamed Kachkachi) **99g:81130** 81T13 (81T08, 81T70)

Lavrovskiĭ, È. K. (*with* Formal'skiĭ, A. M.) On the stabilization of the position of a circular membrane. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 3, 457–465; *translation in J. Appl. Math. Mech.* **61** (1997), *no.* 3, 443–450. (Summary) **99c:73057** 73K50 (73K10, 93C20)

Law, Chun-Kong (*with* Bassom, Andrew P.; Clarkson, Peter A.; McLeod, J. Bryce) Application of uniform asymptotics to the second Painlevé transcendent. (English summary) *Arch. Rational Mech. Anal.* **143** (1998), *no.* 3, 241–271. (Andrei A. Kapaev) **99g:34122** 34E20 (34A30, 34A34)

— (*with* Yang, Ching-Fu) Reconstructing the potential function and its derivatives using nodal data. (English summary) *Inverse Problems* **14** (1998), *no.* 2, 299–312. (Vjacheslav A. Yurko) **99b:34029a** 34A55 (34B24, 34L40)

— (*with* Yang, Ching-Fu) Addendum: "Reconstructing the potential function and its derivatives using nodal data". (English summary) *Inverse Problems* **14** (1998), *no.* 3, 779–780. (Vjacheslav A. Yurko) **99b:34029b** 34A55 (34B24, 34L40).

— (*with* Cheung, Leung-Fu; Leung, Man Chun; McLeod, J. Bryce) Entire solutions of quasilinear differential equations corresponding to p-harmonic maps. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 701–715. (Caio J. C. Negreiros) **99g:58033** 58E20 (34B15)

— (*with* Huang, Yu-Ling) Eigenvalue ratios and eigenvalue gaps of Sturm-Liouville operators. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 2, 337–347. (Karl-Josef Witsch) **99c:34193** 34L15 (34B24, 35J25, 35P15)

Law, K. H. (*with* Zhang, Tong[2]; Golub, Gene H.) Eigenvalue perturbation and generalized Krylov subspace method. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 185–202. (J. Segethová) **99i:65044** 65F15 (65F30)

— (*with* Zhang, Tong[2]; Golub, Gene H.) On the homotopy method for perturbed symmetric generalized eigenvalue problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1625–1645 (*electronic*). (Heike Faßbender) **99e:65065** 65F15 (15A18, 65F50)

al-Lawatia, Mohamed *see* **Al-Lawatia, Mohamed**

Lawler, Eugene L. *see* **Networks and matroids; Sequencing and scheduling, 99b:00026** *and* **Lenstra, Jan Karel**

Lawler, Gregory F. Loop-erased walks intersect infinitely often in four dimensions. (English summary) *Electron. Comm. Probab.* **3** (1998), 35–42 (*electronic*). (Thomas Polaski) **99e:60156** 60J15

Lawler, K. (*with* Ling, M.; McBain, N.; Moscardini, A.) Optimization of advertising resources over time: a strategic analysis. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 85–96. (*see* **99k:49002**) 90B60 (90A80)

Lawless, Jerald F. (*with* Hu, X. Joan) Estimation from truncated lifetime data with supplementary information on covariates and censoring times. (English summary) *Biometrika* **83** (1996), *no.* 4, 747–761. (Summary) **99c:62279** 62N05

— (*with* Hu, X. Joan) Pseudolikelihood estimation in a class of problems with response-related missing covariates. (English and French summaries) *Canad. J. Statist.* **25** (1997), *no.* 2, 125–142. (Summary) **99m:62028** 62F10 (62G05)

— (*with* Hu, X. Joan; Suzuki, Kazuyuki) Nonparametric estimation of a lifetime distribution when censoring times are missing. (English summary) *Technometrics* **40** (1998), *no.* 1, 3–13. (Summary) **99a:62051** 62G05 (62N05)

Lawrence, Albion The target space geometry of $N = (2, 1)$ string theory. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 2, 309–338. (Summary) **99b:81198** 81T30 (83E30)

— (*with* Nekrasov, Nikita) Instanton sums and five-dimensional gauge theories. (English summary) *Nuclear Phys. B* **513** (1998), *no.* 1-2, 239–265. (Marcos Mariño) **99e:81201** 81T30 (32J81, 81T60, 83E30)

— (*with* Balasubramanian, Vijay; Kraus, Per) Bulk versus boundary dynamics in anti-de Sitter spacetime. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 046003, 16 *pp.* (Summary) **99m:83181** 83E30 (83C57)

Lawrence, Bonita A. (*with* Datta, Anjali) Smooth dependence on boundary matrices for first order differential equations. (English summary) *Panamer. Math. J.* **8** (1998), *no.* 4, 59–66. (Summary) **99h:34026** 34B10 (34B15)

Lawrence, Douglas A. A general approach to input-output pseudolinearization for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1497–1501. (Ülle Kotta) **99i:93014** 93B18 (93B52, 93C10)

Lawrence, John W. (*with* Willard, Ross) On finitely based groups and nonfinitely based quasivarieties. (English summary) *J. Algebra* **203** (1998), *no.* 1, 1–11. (Sheila Oates-Williams) **99g:20047** 20E10 (18C15)

— Rank and abelian rank of systems of equations over the free group. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 217–223. (Colin M. Campbell) **99f:20039** 20E05

Lawrence, Nigel (*with* Chen, Yang[1]) On the linear statistics of Hermitian random matrices. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1141–1152. (Alexei Khorunzhy) **99i:82022** 82B44 (15A52)

Lawrencenko, Serge (*with* Chen, Beifang) Structural characterization of projective flexibility. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 233–238. (John G. Ratcliffe) **99e:57007** 57M15 (05C10, 57Q15)

Lawrie, J. B. (*with* Abrahams, I. David) Scattering of fluid loaded elastic plate waves at the vertex of a wedge of arbitrary angle. I. Analytic solution. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 1–23. (Summary) **99a:73054** 73D25 (73K70, 76Q05)

Lawry, J. A voting mechanism for fuzzy logic. (English summary) *Internat. J. Approx. Reason.* **19** (1998), *no.* 3-4, 315–333. (Summary) **99g:03023** 03B52

— (*with* Baldwin, J. F.; Martin, T. P.) The application of generalised fuzzy rules to machine learning and automated knowledge discovery. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 5, 459–487. 68T05 (03B52, 03B70)

Ławrynowicz, Julian (*with* Rodrigues, Waldyr Alves, Jr.; Wojtczak, Leszek) Clifford-algebraical approach to particle lifetimes. (English and Polish summaries) *Bull. Soc. Sci. Lett. Łódź Sér. Rech. Déform.* **21** (1996), 57–63. (Bertfried Fauser) **99c:83078** 83E15

— (*with* Suzuki, Osamu) Hurwitz duality theorems for Fueter and Dirac equations. (English summary) *Adv. Appl. Clifford Algebras* **7** (1997), *no.* 2, 113–132. (Bernd A. Schmeikal) **99g:15038** 15A66 (30G35, 81R20)

— Type-changing transformations of pseudo-Euclidean Hurwitz pairs, Clifford analysis, and particle lifetimes. (English summary) *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 217–226, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Bertfried Fauser) **99h:15029** 15A66 (30G35, 81R25)

— (*with* Suzuki, Osamu) The twistor theory of the Hermitian Hurwitz pair $(\mathbf{C}^4(I_{2,2}), \mathbf{R}^8(I_{2,3}))$. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 147–179. (J. T. Davidov) **99j:32035** 32L25 (15A66, 81R25)

— (*with* Dolbeault, Pierre; Kalina, Jerzy) Introduction to almost hyperbolic pseudodistances via intermediate dimensional-invariant measures. (English summary) Dedicated to Professor Eligiusz J. Złotkiewicz. *Ann. Univ. Mariae Curie-Skłodowska Sect. A* **52** (1998), *no.* 1, 9–14. (Masaaki Suzuki) **99m:32025** 32H15 (32H99)

Ławrynowicz, Kasimir *see* **Lavrinovich, K. K.**

Laws, Edward ★ Mathematical methods for oceanographers. (English summary) An introduction. *John Wiley & Sons, Inc., New York*, 1997. xiv+343 *pp. ISBN* 0-471-16221-3 (From the text) **99m:86001** 86–01 (00A06, 86A05, 86A32)

Lawson, H. Blaine, Jr. (*with* Friedlander, Eric M.) Moving algebraic cycles of bounded degree. *Invent. Math.* **132** (1998), *no.* 1, 91–119. (Claudio Pedrini) **99k:14011** 14C25 (14C15)

— (*with* Lima-Filho, P.; Michelsohn, M.-L.) On equivariant algebraic suspension. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 4, 627–650. (Andrzej Kozłowski) **99m:14016** 14C25

Lawson, Jimmie D. Spaces of maximal points. (English summary) Logic, domains, and programming languages (Darmstadt, 1995). *Math. Structures Comput. Sci.* **7** (1997), *no.* 5, 543–555. (A. Pultr) **99c:06010** 06B35 (54E35, 54E50)

— Universal objects in Lie semigroup theory. *Positivity in Lie theory: open problems*, 121–132, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (Karl-Hermann Neeb) **99i:22007** 22A15 (22E15)

— Semigroups in Möbius and Lorentzian geometry. (English summary) *Geom. Dedicata* **70** (1998), *no.* 2, 139–180. (Karl-Hermann Neeb) **99e:22006** 22A15 (22E43, 51N25, 57S20)

— (*with* Lau, Ka-Sing; Zeng, Wei-Bin) Embedding locally compact semigroups into groups. *Semigroup Forum* **57** (1998), *no.* 2, 151–156. (V. V. Mukhin) **99f:22004** 22A15

— Computation on metric spaces via domain theory. (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 247–263. (Klaas Pieter Hart) **99c:54043** 54E35 (06B35, 28C15, 54F05)

— Geometric control and Lie semigroup theory. (English summary) *Differential geometry and control (Boulder, CO*, 1997), 207–221, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Henk Nijmeijer) **99j:93025** 93B27 (93B03, 93C10)

— *see also* **Domain theory, 99c:00009** *and* **Problems: Positivity in Lie theory, 99f:22001**

Lawson, Mark V. The Möbius inverse monoid. (English summary) *J. Algebra* **200** (1998), *no.* 2, 428–438. (Pedro V. Silva) **99c:20088** 20M18 (20H10, 20M20, 30C35)

Lawson, Nancy (*with* Krishnamoorthy, Mukkai S.) Bridge obstructions to circular-three gate matrix layout. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 143–153. (Summary) **99c:68195** 68R10 (05C85)

Lawther, R. *see* **Lawther, Ross Ian**

Lawther, Ray On the bracing of structures, and the special theory of relativity. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 33, 4369–4379. (Summary) **99f:73046** 73H05 (83A05)

Lawther, Ross Ian Correction to: "Jordan block sizes of unipotent elements in exceptional algebraic groups" [Comm. Algebra **23** (1995), no. 11, 4125–4156; MR 96h:20084]. *Comm. Algebra* **26** (1998), *no.* 8, 2709. (From the text) **99f:20073** 20G15 (20G05)

— (*with* Liebeck, Martin W.) On the diameter of a Cayley graph of a simple group of Lie type based on a conjugacy class. *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 118–137. (R. W. Carter) **99k:20036** 20D06 (05C25, 20G40)

— The action of $F_4(q)$ on cosets of $B_4(q)$. (English summary) *J. Algebra* **212** (1999), *no.* 1, 79–118. (Julianne G. Rainbolt) **99m:20022** 20D06 (20C33)

Lawton, Wayne (*with* Micchelli, Charles A.) Construction of conjugate quadrature filters with specified zeros. (English summary) *Numer. Algorithms* **14** (1997), *no.* 4, 383–399. (Summary) **99b:41021** 41A55 (41A30, 42C15)

— Conditional ellipticity and constrained optimization. (English summary) *Advances in computational mathematics (Guangzhou*, 1997), 279–297, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Gustaf Gripenberg) **99j:90112** 90C48 (42C15, 49K27, 65K10)

— (*with* Raghavan, Raghu; Ranjan, S. R.; Viswanathan, R. Raju) Ribbons and groups: a thin rod theory for catheters and filaments. (English summary) *J. Phys. A* **32** (1999), *no.* 9, 1709–1735. (Summary) **99k:73077** 73K05 (73P20, 73V05, 92C50)

Lawvere, F. William (*with* Schanuel, Stephen H.) ★ Conceptual mathematics. (English summary) A first introduction to categories. Reprint of the 1991 original. *Cambridge University Press, Cambridge*, 1997. xvi+358 *pp. ISBN* 0-521-47249-0; 0-521-47817-0 (Andreas Blass) **99e:18001** 18–01

Lax, Peter D. ★ Linear algebra. (English summary) Pure and Applied Mathematics. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1997. xvi+250 *pp. ISBN* 0-471-11111-2 (From the preface) **99c:15001** 15–01 (47–01)

— On the discriminant of real symmetric matrices. (English summary) *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1387–1396. (Jorma Kaarlo Merikoski) **99i:15010** 15A15 (15A18)

— The beginnings of applied mathematics after the Second World War. Current and future challenges in the applications of mathematics (Providence, RI, 1997). *Quart. Appl. Math.* **56** (1998), *no.* 4, 607–615. (*see* **99i:00017**) 01A60

— (*with* Harten, Amiram; Levermore, C. David; Morokoff, William J.) Convex entropies and hyperbolicity for general Euler equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2117–2127 (*electronic*). (Denis Serre) **99j:76107** 76N15 (35L65, 65M12)

— *see also* **Differential equations: La Pietra, 99g:35004** *and* **Sarnak, Peter, 99m:35001**

Lax, R. F. (*with* Fitzgerald, Jeannie W.) Decoding affine variety codes using Gröbner bases. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 2, 147–158. (Stefan Dodunekov) **99m:94064** 94B60 (13P10)

Laxton, Douglas (*with* Juillard, Michel; McAdam, Peter; Pioro, Hope) An algorithm competition: first-order iterations versus Newton-based techniques. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1291–1318. (F. Szidarovszky) **99m:90052** 90A58 (62P20, 65F10)

Lay, Wolfgang (*with* Seeger, Alfred; Slavyanov, Sergei Yu.) Confluence of second-order Fuchsian differential equations. (Russian. English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 2, 233–247; *translation in Theoret. and Math. Phys.* **104** (1995), *no.* 2, 950–960 (1996). (Andreĭ Bolibrukh) **99b:34012** 34A20

— (*with* Slavyanov, Sergei Yu.) The central two-point connection problem for the Heun class of ODEs. (English summary) *J. Phys. A* **31** (1998), *no.* 18, 4249–4261. (Summary) **99a:34011** 34A20 (34E05)

— (*with* Bay, K.; Slavyanov, Sergei Yu.) Asymptotic and numeric study of eigenvalues of the double confluent Heun equation. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8521–8531. (Summary) **99g:34020** 34A20 (34B05, 34E05, 65L15)

Lay, Yat-Lo A special quantum group. (English summary) *Quantum groups (Karpacz*, 1994), 85–91, *PWN, Warsaw*, 1995. (Ludwig Pittner) **99f:81094** 81R50 (17B37)

Laydi, Mohamed Rachid Une méthode de pénalisation pour la résolution d'équations aux dérivées partielles avec conditions de périodicité. (English and French summaries) [A penalty method for solving partial differential equations with periodic boundary conditions] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 3, 339–342. (N. Gass) **99c:65167** 65M12 (65M15, 65M60)

— Convergence d'algorithme itératif: une méthode nodale totalement explicite pour les problèmes de diffusion. (English and French summaries) [Convergence of the iterative algorithm: a totally explicit nodal method for diffusion problems] *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 4, 497–511. (Viorel Arnautu) **99i:65128** 65N30 (65N12)

— (*with* Lenczner, Michel) Équations de Navier-Stokes dans un domaine mince avec viscosité évanescente. (English and French summaries) [Navier-Stokes equations in a thin domain with vanishing viscosity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 127–130. (Summary) **99e:35176** 35Q30 (76D05, 76D30)

— Convergence d'un schéma itératif explicite. (English and French summaries) [Convergence of an explicit iterative scheme] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 511–514. (Summary) **99d:65321** 65N30

— (*with* Aoubiza, Boujemaa) A penalty method for solving partial differential equations with periodic boundary condition: application to the homogenization theory. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 5, 749–760. (Stephen W. Brady) **99j:65191** 65N30 (73B27)

— (*with* Ghilani, Mustapha) A general finite volume scheme for an elliptic-hyperbolic system using a variational approach. (English and French summaries) *Z. Angew. Math. Phys.* **49** (1998), *no.* 4, 630–643. (So-Hsiang Chou) **99f:65155** 65N12

Layek, A. K. Intersection properties of directional essential cluster sets. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 2, 757–766. (George L. Csordas) **99f:30052** 30D40

Layton, H. E. (*with* Arthurs, Kayne M.; Moore, Leon C.; Peskin, Charles S.; Pitman, E. Bruce) Modeling arteriolar flow and mass transport using the immersed boundary method. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 402–440. 76M25 (76Z05, 92C35)

Layton, J. B. (*with* Ganguly, Snehasis; Balakrishna, C.; Kane, J. H.) A fully symmetric multi-zone Galerkin boundary element method. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 7, 991–1009. 65N30 (65N38)

Layton, Richard A. ★ Principles of analytical system dynamics. (English summary) Mechanical Engineering Series. *Springer-Verlag, New York*, 1998. *xiv+155 pp. ISBN* 0-387-98405-4 (Michael Hanke) **99i:70001** 70–02 (34A09, 34H05, 70Fxx, 93A30)

Layton, William J. (*with* Ervin, Vincent J.; Maubach, Joseph M.) An adaptive defect correction approach for convection dominated, convection diffusion problems. *Computational techniques and applications: CTAC95 (Melbourne*, 1995), 287–294, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76M25 (65M55)

— (*with* Drager, Lance D.) Initial value problems for nonlinear nonresonant delay differential equations with possibly infinite delay. (English summary) *Electron. J. Differential Equations* **1997**, *No.* 24, 20 *pp.* (*electronic*). (Sjoerd M. Verduyn Lunel) **99c:34144** 34K05

— (*with* Meir, A. J.; Schmidt, Paul Günter) A two-level discretization method for the stationary MHD equations. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 198–210 (*electronic*). (Magdi M. Shoucri) **99c:76067** 76M10 (65N50, 76W05)

— (*with* Tobiska, Lutz) A two-level method with backtracking for the Navier-Stokes equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 5, 2035–2054 (*electronic*). (Françoise Brossier) **99g:65115** 65N30 (76D05, 76M10)

— (*with* Maubach, Joseph M.; Rabier, Patrick J.) Robustness of an elementwise parallel finite element method for convection-diffusion problems. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 6, 1870–1891 (*electronic*). (Summary) **99d:65322** 65N30 (76M10)

— (*with* Ervin, Vincent J.) A robust and parallel relaxation method based on algebraic splittings. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 1, 91–110. (Petr N. Vabishchevich) **99m:65198** 65N06 (35B25, 65N12)

— (*with* Lee, Hyesuk Kwon; Peterson, Janet S.) Numerical solution of the stationary Navier-Stokes equations using a multilevel finite element method. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 1–12 (*electronic*). (Summary) **99d:65323** 65N30 (76D05, 76M10)

Laywine, Charles F. (*with* Mullen, Gary L.) ★ Discrete mathematics using Latin squares. (English summary) Wiley-Interscience Series in Discrete Mathematics and Optimization. A Wiley-Interscience Publication. *John Wiley & Sons, Inc., New York*, 1998. *xviii+305 pp. ISBN* 0-471-24064-8 (J. Dénes) **99k:05041** 05B15

Lazakovich, N. V. (*with* Stashulenok, S. P.) Solutions, associated in the sense of Itô, of differential equations in the direct product of algebras of generalized random processes. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 32–38, 139. 60G20 (60H05, 60H10)

Lazar, Aurel A. (*with* Jelenković, Predrag R.) Subexponential asymptotics of a Markov-modulated random walk with queueing applications. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 325–347. (Noël Veraverbeke) **99f:60129** 60J15 (60K25)

Lazar, Justin (*with* Klebaner, Fima C.; Zeitouni, Ofer) On the quasi-stationary distribution for some randomly perturbed transformations of an interval. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 300–315. (Göran Högnäs) **99d:60095** 60J80 (60F10, 60J10, 92D25)

Lazar, Nicole (*with* Mykland, Per Aslak) An evaluation of the power and conditionality properties of empirical likelihood. (English summary) *Biometrika* **85** (1998), *no.* 3, 523–534. (Summary) **99i:62005** 62A10

Lazard, Emmanuel (*with* Konig, Jean-Claude; Krumme, David W.) Diameter-preserving orientations of the torus. (English summary) *Networks* **32** (1998), *no.* 1, 1–11. (M. E. Watkins) **99g:05066** 05C12 (05C20)

Lazard, Michel Groupes analytiques en caractéristique 0. [Analytic groups of characteristic 0] *Séminaire Bourbaki, Vol. 2, Exp. No. 76, 255–262, Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 22E05
— Lois de groupes et analyseurs. [Group laws and analyzers] *Séminaire Bourbaki, Vol. 3, Exp. No. 109, 77–91, Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 14L05 (22E05)
Lazarev, K. P. (*with* Pokornyĭ, Yu. V.; Gareeva, T. M.) On the spectral properties of some nonlocal boundary value problems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 45–49, 142; *translation in Differential Equations* **34** (1998), *no.* 1, 44–48. (From the text) **99k:34038** 34B05 (34B27, 34L05)
Lazarides, G. (*with* Dvali, Gia; Shafi, Q.) μ problem and hybrid inflation in supersymmetric $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$. (English summary) *Phys. Lett. B* **424** (1998), *no.* 3-4, 259–264. (Summary) **99b:81272** 81V22 (81T60)
Lazaridis, Emmanuel N. A Bayesian evaluation of fuzzy logic in a classification problem. (English summary) *Comm. Statist. Stochastic Models* **15** (1999), *no.* 3, 461–483. 03B52
Lázaro, J. Tomás (*with* Delshams, Amadeu) Convergence of the step to normal form in reversible systems. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995), 9 pp. (electronic), Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 58F36 (34C20)
de sam Lazaro, José *see* **De Sam Lazaro, José**
Lazaroiu, C. I. (*with* Bershadsky, Michael; Chiang, Ti-Ming; Greene, Brian R.; Johansen, Andrei) F-theory and linear sigma models. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 531–570. (Harald Skarke) **99g:81150** 81T30 (14J32, 32J81)
Lazarov, Raïcho D. (*with* Ewing, Richard E.; Pasciak, Joseph E.; Vassilev, A. T.) Mathematical modeling, numerical techniques, and computer simulation of flows and transport in porous media. *Computational techniques and applications: CTAC95 (Melbourne, 1995), 13–30, World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76S05 (76M25)
— (*with* Bramble, James H.; Pasciak, Joseph E.) Least-squares for second-order elliptic problems. (English summary) Symposium on Advances in Computational Mechanics, Vol. 5 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 1-2, 195–210. (Pekka Neittaanmäki) **99a:65145** 65N30
— (*with* Chen, Hongsen; Ewing, Richard E.) Superconvergence of mixed finite element methods for parabolic problems with nonsmooth initial data. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 495–521. (Mark Ainsworth) **99c:65180** 65M60
Lazarsfeld, Robert (*with* Ein, Lawrence; Nakamaye, Michael) Zero-estimates, intersection theory, and a theorem of Demailly. *Higher-dimensional complex varieties (Trento, 1994), 183–207, de Gruyter, Berlin*, 1996. (Takao Fujita) **99c:14006** 14C20 (14C17, 32L10)
Lazarus, V. (*with* Leblond, Jean-Baptiste) Three-dimensional crack-face weight functions for the semi-infinite interface crack. I. Variation of the stress intensity factors due to some small perturbation of the crack front. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 489–511. (From the summary) **99d:73073a** 73M25
— (*with* Leblond, Jean-Baptiste) Three-dimensional crack-face weight functions for the semi-infinite interface crack. II. Integrodifferential equations on the weight functions and resolution. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 513–536. (From the summary) **99d:73073b** 73M25
— (*with* Leblond, Jean-Baptiste) Erratum: "Three-dimensional crack-face weight functions for the semi-infinite interface crack. II. Integrodifferential equations on the weight functions and resolution" [J. Mech. Phys. Solids, **46** (1998), no. 3, 513–536; MR 99d:73073b]. *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 463. 73M25
Lazebnik, A. I. (*with* Tsallagova, O. N.) Construction of the convex hulls of functions in the realization of the branch and bound method. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 4, 143–151; *translation in Automat. Remote Control* **59** (1998), *no.* 4, *part* 2, 575–580. (Summary) **99i:90072** 90C25 (90C35)
Lazebnik, F. G. (*with* Wang, Ping[1]) On the structure of extremal graphs of high girth. (English summary) *J. Graph Theory* **26** (1997), *no.* 3, 147–153. (Donald W. Vanderjagt) **99d:05026** 05C12
— (*with* Sushchanskiĭ, V. I.; Ustimenko, V. A.; Klin, Mikhail; Pöschel, R.; Vyshenskiĭ, V. A.) Lev Arkad′evich Kalužnin (1914–1990). Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 5–18. (Editors) **99m:01091** 01A70
— (*with* Fiorini, Gene) An extremal characterization of the incidence graphs of projective planes. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 257–260. (Summary) **99i:05109** 05C35 (05B25)
— (*with* Ustimenko, V. A.; Woldar, Andrew J.) Polarities and $2k$-cycle-free graphs. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 503–513. (Summary) **99i:05123** 05C38
Lazer, Alan C. (*with* Choi, Yung Sze; McKenna, P. J.) Some remarks on a singular elliptic boundary value problem. *Nonlinear Anal.* **32** (1998), *no.* 3, 305–314. (Andrea Colesanti) **99a:35085** 35J65 (34B15)
— (*with* Ahmad, Shair) Necessary and sufficient average growth in a Lotka-Volterra system. *Nonlinear Anal.* **34** (1998), *no.* 2, 191–228. (Stanisław Sędziwy) **99e:34058** 34D05 (34C99, 92D25)
Lazhari, M. N. Paley-Wiener theorems for the Schrodinger operator on **R**. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 2, 227–235. (Vjacheslav A. Yurko) **99k:34185** 34L05 (34B24, 47E05)
— (*with* Rachdi, L. T.; Trimèche, Khélifa) Asymptotic expansion and generalized Schläfli integral representation for the eigenfunction of a singular second-order differential operator. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 1, 263–292. (Christiane Tretter) **99a:34225** 34L20 (33C45, 34B30, 34E05)
Łazińska, A. On some classes of holomorphic functions in the half-plane. (English summary) *Transform methods & special functions, Varna '96, 278–287, Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99m:30020** 30C45
Lazo, Dimov A. *see* **Dimov, Lazo A.**
Lazo Cortés, Manuel (*with* Alba Cabrera, Eduardo) A global solution for the use of testers in pattern recognition problems. (Spanish. Spanish summary) *III Ibero-American Workshop on Pattern Recognition (Spanish) (México City, 1998), 209–218, Inst. Cibern. Mat. Fis., Havana*, 1998. (*see* **99k:68016**) 68T10
— (*with* Ruiz-Shulcloper, José) Mathematical algorithms for the supervised classification based on fuzzy partial precedence. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 4, 111–119. 68T10
— *see also* **Workshop: Pattern Recognition, 99k:68016**
Lazopoulos, K. A. Non-classical solutions for the eversion of incompressible elastic cylinders in finite elasticity with non-smooth internal strain. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 37–41. (Summary) **99j:73030** 73C50
Lazorik, V. V. (*with* Kirichenko, N. F.; Sopronyuk, F. O.) Structural methods for CAD for robotic processes. (English summary) Dynamical systems, Vol. 12. *J. Math. Sci. (New York)* **90** (1998), *no.* 6, 2532–2536. (*see* **99e:00033**) 93C85 (70B15)
Lazrieva, N. (*with* Mania, M.; Shervashidze, T.; Torondzhadze, T. A.) In memory of Professor R. Chitashvili. *Proc. A. Razmadze Math. Inst.* **115** (1997), 3–15. (Editors) **99m:01076** 01A70
— (*with* Torondzhadze, T. A.) Robust estimators in discrete time statistical models. Contiguous alternatives. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **115** (1997), 59–96. (M. P. Moklyachuk) **99m:62037** 62F35 (62C20)
— (*with* Torondzhadze, T. A.) Influence functionals for discrete time statistical models. Weakly contiguous alternatives. (English and Georgian summaries) *Proc. A. Razmadze Math. Inst.* **115** (1997), 97–120. (Summary) **99i:62058** 62F35
Lazutkin, V. F. Semiclassical asymptotics of eigenfunctions [MR 91g:35196]. *Partial differential equations, V*, 133–171, 241–247, *Encyclopaedia Math. Sci., 34, Springer, Berlin*, 1999. (*see* **99i:35002**) 35P20 (35J10, 58F11)
Lazzari, Barbara (*with* Amendola, Giovambattista) Stability and energy decay rates in linear thermoelasticity. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 19–33. (Summary) **99i:73006** 73B30
Lazzari, Claudio Symmetries and exponential smallness of bifurcation functions of a class of singular reversible systems. *Nonlinear Anal.* **33** (1998), *no.* 7, 759–772. (Mikhail B. Sevryuk) **99g:34103** 34C37 (34C23, 34E15, 58F15)
— (*with* Battelli, Flaviano) Homoclinic bifurcation in N-dimensional noninvertible maps having a semi-hyperbolic fixed point. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **6** (1999), *no.* 1, 1–24. (Michal Fečkan) **99m:58136** 58F14 (34C23, 34C37, 58F15)
Lazzarini, Serge Flat complex vector bundles, the Beltrami differential and W-algebras. (English summary) *Lett. Math. Phys.* **41** (1997), *no.* 3, 207–225. (Gregorio Falqui) **99c:32024** 32G08 (32G81, 32L10, 81R10, 81T40)
— Integrating the chirally split diffeomorphism anomaly on a compact Riemann surface. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 73–83. (Rie Kuriki) **99j:81176** 81T50 (81T40)
Lazzizzera, Ignazio (*with* Ferrari, Franco) Perturbative analysis of Chern-Simons field theory in the Coulomb gauge. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 11, 1773–1783. (Summary) **99a:81109** 81T15 (81T13)
— (*with* Ferrari, Franco) A Chern-Simons field theory description of topologically linked polymers. (English summary) *Phys. Lett. B* **444** (1998), *no.* 1-2, 167–173. (Summary) **99h:82079** 82D60 (58Z05, 81T13)
Lazzo, Monica Nonlinear differential problems and Morse thoery. Proceedings of the Second World Congress of Nonlinear Analysts, Part 1 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 1, 169–176. (Jean Mawhin) **99a:58030** 58E05 (34C25)
Lbov, G. S. (*with* Vikent′ev, A. A.) On metrizations of a Boolean algebra of sentences and the informativeness of statements of experts. (Russian) *Dokl. Akad. Nauk* **361** (1998), *no.* 2, 174–176. 68T27 (03B70, 03G05)
tran thi Le *see* **Tran Thi Le**
Le, Anbo CR circle bundles and Mizohata structures. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 251–287. (Paulo Domingos Cordaro) **99h:32021** 32F40 (32C16)
Le, Cong Thanh (*with* Noailles, Joseph) Contrôle en temps minimal et transfert orbital à très faibles poussées. (French summary) [Control in minimal time and orbital transfer with very weak thrusts] *Équations aux dérivées partielles et applications*, 705–723, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Pierre Bernhard) **99h:49051** 49N55 (70M20, 70Q05)
Lê, Hai Khôi *see* **Lê Hai Khôi**
Lê, Hông Vân *see* **Lê Hông Vân**
Le, Huiling (*with* Barden, Dennis) Some consequences of the nature of the distance function on the cut locus in a Riemannian manifold. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 2, 369–383. (Jean Picard) **99b:53059** 53C22 (58G32)
— On the consistency of procrustean mean shapes. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 53–63. (Herbert Ziezold) **99f:60022** 60D05 (60F15)
Le, Jia Chun Disturbances to a rotating fluid with a sphere moving along the axis of rotation. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 9, 861–867; *translated from Appl. Math. Mech.* **19** (1998), *no.* 9, 799–804 (*Chinese. English and Chinese summaries*). (Yuri N. Skiba) **99m:76115** 76U05 (76C05, 76E05, 76E99)
Le, Jun (*with* Zhu, Si-Ming) Ergodicity of dynamical systems on the torus. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **17** (1996), *no.* 6, 715–718. (Summary) **99c:58094** 58F11
Le, Ke (*with* Tzes, Anthony) Adaptive weighted minimum prediction uncertainty control. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 657–672. 93C40 (93C41)
Le, Mao Hua (*with* Li, Ching) On Fermat's equation in integral 2×2 matrices. *Period. Math. Hungar.* **31** (1995), *no.* 3, 219–222. (Aleksander Grytczuk) **99b:11020** 11C20 (11D41)
— On the Diophantine equation $x^2 + D = y^n$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 839–844. (Zhen Fu Cao) **99f:11043** 11D61
— Diophantine equation $x^2 + 2^m = y^n$. *Chinese Sci. Bull.* **42** (1997), *no.* 18, 1515–1517. (Nikos Tzanakis) **99b:11036** 11D61 (11Y50)
— A class of exponential Diophantine equations related to ideal class groups of imaginary quadratic fields. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 1, 69–71. (Summary) **99b:11123** 11R29 (11D61, 11R11)
— (*with* Chen, Xi Geng) The positive integer solutions of the equation $xy + yz + zx = n$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 577–582. (Xianke Zhang) **99h:11023** 11D09
— A note on the Diophantine equation $\binom{x}{2} - 1 = q^n + 1$. *Colloq. Math.* **76** (1998), *no.* 1, 31–34. (Yann Bugeaud) **99a:11038** 11D61
— On Fermat's equation in the set of integral matrices. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 11–12. 11D41 (11C20)

— (*with* Chen, Xi Geng) A note on Terai's conjecture concerning Pythagorean numbers. (English summary) *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 5, 80–81. (Nikos Tzanakis) **99h:11035** 11D61

— (*with* Wu, Ke Jian) The primes in Smarandache power product sequences. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 95–96. 11B83

— (*with* Wu, Ke Jian) A note on the primes in Smarandache unary sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 97–98. 11B83

— (*with* Wu, Ke Jian) On the perfect squares in Smarandache concatenated square sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 100–101. 11B83

— (*with* Chen, Xi Geng) The module periodicity of Smarandache concatenated odd sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 102–103. 11B83

— An inequality concerning the Smarandache function. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 124–125. 11A25

— The Smarandache function and the Diophantine equation $X! + a = y$. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 126–127. 11D41

— On Smarandache concatenated sequences. I. Prime power sequences. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 128–129. 11B83

— On Smarandache concatenated sequences. II. Factorial sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 130–131. 11B83

— On the intersected Smarandache product sequences. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 132. 11B83

— Primes in the Smarandache square product sequence. (English summary) *Smarandache Notions J.* **9** (1998), *no.* 1-2, 133. 11B83

— A formula of the Smarandache function. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 140–141. 11A25

— On the Diophantine equation $S(n) = n$. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 142–143. 11D99

— On Smarandache divisor products. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 144–145. 11A25

— On the Smarandache n-ary sieve. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 146–147. 11A25 (11N35)

— Perfect powers in the Smarandache permutation sequence. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 148–149. 11A25

— On Smarandache pseudo-powers of third kind. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 150–151. 11A25

— An improvement on the Smarandache divisibility theorem. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 152–153. 11A25

— On primes in the Smarandache pierced chain. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 154–155. 11A41 (11A25)

— Primes in the sequences $\{n^n + 1\}_{n=1}^{\infty}$ and $\{n^n + 1\}_{n=1}^{\infty}$. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 156–157. 11A41

— On the Smarandache prime additive complement sequence. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 158–159. 11A25

— On Smarandache simple functions. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 161–162. 11A25

— (*with* Ashbacher, Charles) On Smarandache simple continued fractions. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 163–164. 11A25

— Notes on primes Smarandache progressions. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 165–166. 11A41 (11A25)

— The primes p with $\lg(p) = 1$. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 167–168. 11A41

— Some solutions of the Smarandache prime equation. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 169–170. 11D72

— A note on primes in the sequence $\{a^n + b\}_{n=1}^{\infty}$. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 172–173. 11A41

— The primes in the Smarandache symmetric sequence. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 174–175. 11A41 (11A25)

— On Smarandache general continued fractions. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 176–177. 11A55

— The lower bound for the Smarandache counter $C(0, n!)$. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 178–179. 11A25

— On Smarandache pseudo-primes of second kind. (English summary) *Smarandache Notions J.* **10** (1999), *no.* 1-3, 180. 11A41

— On the Diophantine equation $(x^3 - 1)/(x - 1) = (y^n - 1)/(y - 1)$. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 1063–1074. (Nikos Tzanakis) **99e:11033** 11D61

Le, N. *see* **Le, Nhu D.**

Lê, Ngoc-Minh On determining optimal strategies in pursuit games in the plane. (English summary) *Theoret. Comput. Sci.* **197** (1998), *no.* 1-2, 203–234. (Martin Henk) **99c:68251** 68U05 (52B55, 90D26)

Le, Nhu D. (*with* Zidek, James V.; Wong, Huber; Burnett, R. T.) Including structural measurement errors in the nonlinear regression analysis of clustered data. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 4, 537–548. 62J02

— (*with* Sun, Li[1]; Zidek, James V.) A note on the existence of maximum likelihood estimates for Gaussian-inverted Wishart models. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 133–137. (Summary) **99f:62073** 62H12

Le, Thang T. Q. *see* **Le Tu Quoc Thang**

Le, Van Bang *see* **Le Van Bang**

Le, Vy Khoi On global bifurcation of variational inequalities and applications *J. Differential Equations* **141** (1997), *no.* 2, 254–294. (Vitaly B. Moroz) **99a:47105** 47H19 (35J85, 49J40, 58E35)

— Some global bifurcation results for elastic plates. (English summary) Differential equations and computational simulations, II (Mississippi State, MS, 1995). *Appl. Math. Comput.* **89** (1998), *no.* 1-3, 185–197. (Jesús Hernández) **99c:47111** 47H19 (35J85, 47H15, 58E07, 73H05, 73K10, 73V25)

— On some equivalent properties of sub- and supersolutions in second order quasilinear elliptic equations. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 373–380. (G. Albinus) **99h:35049** 35J60 (35D99, 35J85)

— (*with* Schmitt, Klaus) On boundary value problems for degenerate quasilinear elliptic equations and inequalities. *J. Differential Equations* **144** (1998), *no.* 1, 170–218. (Jun Yu Wang) **99c:35074** 35J65 (47H15)

Lea, Chin-Tau (*with* Chan, Chun-Fai) Constructing nonblocking multicast switching networks with fanout reduction. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 49–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99a:94070** 94C10 (94C15)

Lea, Chris (*with* Anderson, Arlen; Abrahams, Andrew M.) Curvature-based gauge-invariant perturbation theory for gravity: a new paradigm. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 064015, 15 *pp.* (Summary) **99m:83051** 83C25

Leach, J. *see* **Leach Albert, Javier**

Leach, J. A. (*with* McCabe, P. M.; Needham, D. J.) The evolution of travelling waves in fractional order autocatalysis with decay. I. Permanent form travelling waves. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 3, 870–899 (*electronic*). (Hong Ming Yin) **99k:35092** 35K57 (35Q99, 80A32)

Leach, Javier *see* **Leach Albert, Javier**

Leach, P. G. L. (*with* Flessas, George P.; Govinder, K. S.) Remarks on the symmetry Lie algebras of first integrals of scalar third order ordinary differential equation with maximal symmetry. (English summary) *Bull. Greek Math. Soc.* **36** (1994), 63–79. (Qingjiu Qiu) **99g:34026** 34A26 (58F35)

— (*with* Feix, Marc R.; Geronimi, C.; Cairó, Laurent; Lemmer, R. L.; Bouquet, S.) On the singularity analysis of ordinary differential equations invariant under time translation and rescaling. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7437–7461. (Summary) **99i:34015** 34A34 (34A20)

— (*with* Cotsakis, S.; Lemmer, R. L.) Adiabatic invariants and mixmaster catastrophes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4691–4698. (Summary) **99m:83159** 83C99 (58C27)

— (*with* Govinder, K. S.) An elementary demonstration of the existence of sl(3, **R**) symmetry for all second-order linear ordinary differential equations. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 945–946 (*electronic*). (Summary) **99g:34028** 34A30

Leach Albert, Javier (*with* Gavilanes-Franco, Antonio; Nieva, Susana) Free variable tableaux for a many sorted logic with preorders. (English summary) *Algebraic methodology and software technology (Munich, 1996)*, 102–116, *Lecture Notes in Comput. Sci.*, 1101, *Springer, Berlin*, 1996. (Ralph W. Wilkerson) **99a:03013** 03B35

— (*with* Nieva, Susana; Rodríguez-Artalejo, Mario) Constraint logic programming with hereditary Harrop formulas. (English summary) *Logic programming (Port Washington, NY, 1997)*, 307–321, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (Summary) **99e:68021** 68N17 (03B70)

— (*with* Martín, P. J.; Gavilanes-Franco, Antonio) Free variable tableaux for a logic with term declarations. (English summary) *Automated reasoning with analytic tableaux and related methods (Oisterwijk, 1998)*, 202–216, *Lecture Notes in Comput. Sci.*, 1397, *Springer, Berlin*, 1998. (*see* **99f:03002**) 03B35 (03B70)

Leachman, R. C. (*with* Xiong, Zhong Kai) It is not reasonable for an idle machine to always choose the most urgent lot. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 94–100. 90B30 (90C27)

Leadbetter, M. Ross (*with* Hsing, Tailen) On multiple-level excursions by stationary processes with deterministic peaks. (English summary) *Stochastic Process. Appl.* **71** (1997), *no.* 1, 11–32. (J. Hüsler) **99b:60062** 60G70 (60G57)

— (*with* Kallianpur, Gopinath) Stamatis Cambanis [1943–1995]—a glimpse of his life and work. *Stochastic processes and related topics, xi–xvi, Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (*see* **99e:60007**) 01A70

— (*with* Rootzén, Holger; de Haan, Laurens) On the distribution of tail array sums for strongly mixing stationary sequences. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 868–885. (J. Hüsler) **99e:60070** 60F05 (60G10, 60G70)

— (*with* Hsing, Tailen) On the excursion random measure of stationary processes. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 710–742. (Toshio Mori) **99k:60057** 60F05 (60G10, 60G70)

Leader, Imre (*with* Hindman, Neil) Partition regular inequalities. (English summary) *European J. Combin.* **19** (1998), *no.* 5, 573–578. (Robert J. Simpson) **99g:05178** 05D10 (05C55)

— (*with* Bergelson, Vitaly; Hindman, Neil) Additive and multiplicative Ramsey theory in the reals and the rationals. (English summary) *J. Combin. Theory Ser. A* **85** (1999), *no.* 1, 41–68. (Jerrold W. Grossman) **99m:05159** 05D10 (03E05, 04A20, 11B05, 22A15, 54D35, 54D80)

Leaf, Gary K. (*with* Restrepo, Juan Mario) Inner product computations using periodized Daubechies wavelets. (English summary) *Internat. J. Numer. Methods Engrg.* **40** (1997), *no.* 19, 3557–3578. (Summary) **99f:65209** 65T99 (65D15)

Leahy, John V. (*with* Gilkey, Peter B.; Park, Jeong Hyeong) The spectral geometry of Riemannian submersions. (English summary) 11th Yugoslav Geometrical Seminar (Divčibare, 1996). *Zb. Rad. Mat. Inst. Beograd. (N.S.)* **6(14)** (1997), 36–54. (Summary) **99j:58214** 58G25

— (*with* Gilkey, Peter B.; Park, Jeong Hyeong) ★ Spinors, spectral geometry, and Riemannian submersions. (English summary) Lecture Notes Series, 40. *Seoul National University, Research Institute of Mathematics, Global Analysis Research Center, Seoul*, 1998. *iv*+142 *pp.* (Uwe Semmelmann) **99a:58158** 58G25 (53A50, 53C21, 58G30)

— (*with* Gilkey, Peter B.; Park, Jeong Hyeong) Eigenforms of the spin Laplacian and projectable spinors for principal bundles. (English summary) *Nuclear Phys. B* **514** (1998), *no.* 3, 740–752. (Hans-Bert Rademacher) **99b:58231** 58G25

Leal, Carlos (*with* Figueiredo, Isabel) Ellipticity of Koiter's and Naghdi's models for nonhomogeneous anisotropic shells. (English summary) *Appl. Anal.* **70** (1998), *no.* 1-2, 75–84. (Summary) **99i:73048** 73K15

ferrándiz Leal, José Manuel *see* **Ferrándiz Leal, José Manuel**

lozano Leal, Rogelio *see* **Lozano Leal, Rogelio**

Leal Ferreira, P. (*with* Palladino, B. E.) Discretizing the deformation parameter in the $su_q(2)$ quantum algebra. (English and Spanish summaries) *Rev. Mexicana Fís.* **44** (1998), *no.* 1, 73–77. (Summary) **99a:81077** 81R50

Léandre, Rémi Stochastic Moore loop space. *Chaos—the interplay between stochastic and deterministic behaviour (Karpacz, 1995)*, 479–501, *Lecture Notes in Phys.*, 457, *Springer, Berlin*, 1995. (From the introduction) **99c:58171** 58G32 (55P35)

— Spinor fields over stochastic loop spaces. (English summary) *Symmetry in nonlinear mathematical physics, Vol. 1, 2 (Kyiv, 1997)*, 287–296, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Michael Murray) **99m:58206** 58G32 (22E67, 58B25)
— Stochastic Wess-Zumino-Witten model over a symplectic manifold. (English summary) *J. Geom. Phys.* **21** (1997), *no.* 4, 307–336. (Summary) **99c:58172** 58G32 (81T40)
— Stochastic Wess-Zumino-Witten models. *Supersymmetry and quantum field theory (Kharkov, 1997)*, 196–200, *Lecture Notes in Phys.*, 509, *Springer, Berlin*, 1998. (*see* **99k:81010**) 58G32 (81S99, 81T99)
— Singular integral homology of the stochastic loop space. *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 17–31. (Shi Zan Fang) **99c:58173** 58G32 (55N35, 57R19, 58A10)
Leandro, Roseli A. (*with* Achcar, Jorge Alberto) Use of Markov chain Monte Carlo methods in a Bayesian analysis of the block and Basu bivariate exponential distribution. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 3, 403–416. 62F15
ponce de Leão, M. Teresa *see* **Ponce de Leão, M. Teresa**
Leary, Ian J. (*with* Schuster, Björn; Yagita, Nobuaki) On universally stable elements. *Quart. J. Math. Oxford Ser.* (2) **48** (1997), *no.* 192, 493–498. (Angelina Chin) **99b:20084** 20J06 (20D15)
— (*with* Green, David John) The spectrum of the Chern subring. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 406–426. (David Benson) **99i:20070** 20J06 (55R40)
— (*with* Dicks, Warren) Presentations for subgroups of Artin groups. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 343–348. (John Meier) **99c:20050** 20F36 (20F05, 57M07)
Leask, J. L. (*with* Bennett-Wood, D.; Enting, I. G.; Gaunt, D. S.; Guttmann, Anthony J.; Owczarek, Aleksander L.; Whittington, Stuart G.) Exact enumeration study of free energies of interacting polygons and walks in two dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4725–4741. (Summary) **99c:82031** 82B41 (82D60)
Leavens, C. R. Time of arrival in quantum and Bohmian mechanics. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 840–847. (Paul Busch) **99m:81010** 81P05 (81P15)
Leavens, Gary T. (*with* Pigozzi, Don L.) Class-based and algebraic models of objects. (English summary) *US-Brazil Joint Workshop on the Formal Foundations of Software Systems (Rio de Janeiro, 1997/New Orleans, LA, 1997)*, 31 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 14, *Elsevier, Amsterdam*, 1998. (*see* **99h:68012**) 68N15 (68Q60)
Le Bailly, B. (*with* Thiran, J. P.) Optimum parameters for the generalized ADI method. (English summary) *Numer. Math.* **80** (1998), *no.* 3, 377–395. (Günther Nürnberger) **99i:41015** 41A20 (65D99)
Le Bars, Jean-Marie Fragments of existential second-order logic without 0-1 laws. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science (Indianapolis, IN, 1998)*, 525–536, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:03032** 03C13
Lebeau, Gilles (*with* Croisille, Jean-Pierre) Computation of the acoustic wave diffracted by an immersed elastic wedge. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 309–313, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 76Q05 (73D25, 73V20, 76M25)
— (*with* Zuazua, Enrique) Null-controllability of a system of linear thermoelasticity. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 4, 297–329. (Shin-ichi Nakagiri) **99f:93013** 93B05 (35Q72, 73B30, 93C20)
— (*with* Asch, M.) Geometrical aspects of exact boundary controllability for the wave equation—a numerical study. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 163–212 (*electronic*). (Summary) **99f:93007** 93B05 (35L05, 65M06, 93C20)
Lebedev, Andrei (*with* Antonevich, Anatoliĭ B.) On the index of operators in algebras associated with automorphisms. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 6, 17–20, 122–123. (Vladimir M. Deundyak) **99k:47026** 47A53 (47D03)
Lebedev, D. R. (*with* Kharchev, S.; Khoroshkin, Sergei) Intertwining operators and Hirota bilinear equations. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 144–157; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 879–891 (1996). (Kazuhiro Hikami) **99h:58089** 58F07 (17B37, 35Q51, 81R50)
— (*with* Khoroshkin, Sergei; Pakuľyak, S. Z.) Elliptic algebra $\mathcal{A}_{q,p}(\widehat{\mathfrak{sl}}_2)$ in the scaling limit. (English summary) *Comm. Math. Phys.* **190** (1998), *no.* 3, 597–627. (Naihuan Jing) **99e:17026** 17B37 (81R10, 81R50)
Lebedev, D. V. (*with* Tkachenko, A. I.) Control of the spherical motion of a spacecraft in the Earth's magnetic field. II. Orientation and stabilization. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 5–18, 153. 93C85 (70M20, 70Q05)
Lebedev, I. A. (*with* Kosmachev, O. S.) The quaternion group and its extensions. I. (Russian. English, Russian and Kazakh summaries) *Izv. Minister. Nauki Akad. Nauk Resp. Kaz. Ser. Fiz.-Mat.* **1997**, *no.* 6, 28–35 (1998). 16K20
Lebedev, V. *see* **Lebedev, Vladimir V.**
Lebedev, V. I. (*with* Medovikov, A. A.) An explicit method of the second order of accuracy for solving stiff systems of ordinary differential equations. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 9, 55–63. (Alexander Alenitsyn) **99k:65053** 65L05 (65L20)
— Explicit difference schemes for solving stiff systems of ODEs and PDEs with complex spectrum. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 2, 107–116. (Summary) **99c:65149** 65L12
Lebedev, V. N. A new equilibrium in cyclic games on graphs. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 94–99; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 637–642. (Introduction) **99f:90213** 90D43 (05C99)
Lebedev, V. S. Binary constant-weight codes of weight 1 that correct localized errors. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 3, 32–36; *translation in Problems Inform. Transmission* **34** (1998), *no.* 3, 233–237 (1999). (Summary) **99h:94076** 94B60
Lebedev, Vladimir V. (*with* Balkovsky, E.) Instanton for the Kraichnan passive scalar problem. (English summary) *Phys. Rev. E* (3) **58** (1998), *no. 5, part A*, 5776–5795. (Summary) **99i:76069** 76F99
Lebedinskiĭ, D. M. Direct decompositions of torsion-free abelian groups belonging to certain classes. (Russian. Russian summary) *Algebra i Analiz* **10** (1998), *no.* 2, 148–158. (L. Bican) **99d:20087** 20K15
Le Berre, Daniel (*with* Dubois, Didier; Prade, Henri; Sabbadin, Régis) Logical representation and computation of optimal decisions in a qualitative setting. (English summary) *AAAI-98/IAAI-98 Proceedings (Madison, WI, 1998)*, 588–593, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T27 (90A05)
Leblanc, Hugues (*with* Roeper, Peter) Of *A* and *B* being logically independent of each other and of their having no common factual content. *Theoria* **61** (1995), *no.* 1, 61–79. (Maria-Teresa Lamata) **99j:03017** 03B48 (60A05)
LeBlanc, Michael Resampled quantile functions for error estimation and a relationship to density estimation. (English summary) *Comput. Statist. Data Anal.* **29** (1998), *no.* 2, 163–176. 62G05
Leblanc, Raymond (*with* Shapiro, Stanley H.) Information theory and the noncentral hypergeometric distribution. (English summary) *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 2, 141–156. (Summary) **99i:62132** 62H17
Leblanc, Stéphane (*with* Godeferd, Fabien S.) An illustration of the link between ribs and hyperbolic instability. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 497–499. (Summary) **99k:76064** 76E99
LeBlanc, Victor G. Bianchi II magnetic cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 6, 1607–1626. (Summary) **99m:83050** 83C22
— (*with* Campbell, Sue Ann) Resonant Hopf-Hopf interactions in delay differential equations. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 2, 327–346. (Ovide Arino) **99j:34095** 34K15
Leble, Sergei B. Elementary and binary Darboux transformations at rings. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 10, 73–81. (Summary) **99c:35235** 35Q58 (35A25, 58F37)
— (*with* Kuna, Maciej; Czachor, Marek) Nonlinear von Neumann-type equations: Darboux invariance and spectra. (English summary) *Phys. Lett. A* **255** (1999), *no.* 1-2, 42–48. 35Q40
Leblond, H. The secular solutions of the linearized Korteweg-de Vries equation. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3772–3782. (David J. Kaup) **99h:35189** 35Q53 (58F07)
— Bidimensional optical solitons in a quadratic medium. (English summary) *J. Phys. A* **31** (1998), *no.* 22, 5129–5143. (Summary) **99d:78033** 78A60
Leblond, J. *see* **Leblond, Juliette**
Leblond, Jean-Baptiste (*with* Lazarus, V.) Three-dimensional crack-face weight functions for the semi-infinite interface crack. I. Variation of the stress intensity factors due to some small perturbation of the crack front. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 489–511. (From the summary) **99d:73073a** 73M25
— (*with* Lazarus, V.) Three-dimensional crack-face weight functions for the semi-infinite interface crack. II. Integrodifferential equations on the weight functions and resolution. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 3, 513–536. (From the summary) **99d:73073b** 73M25
— (*with* Leguillon, Dominique) Asymptotic behavior of stress intensity factors near an angular point of a crack front. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 135–145. (Summary) **99k:73101** 73M25
— (*with* Lazarus, V.) Erratum: "Three-dimensional crack-face weight functions for the semi-infinite interface crack. II. Integrodifferential equations on the weight functions and resolution" [J. Mech. Phys. Solids, **46** (1998), no. 3, 513–536; MR 99d:73073b]. *J. Mech. Phys. Solids* **47** (1999), *no.* 2, 463. 73M25
Leblond, Juliette (*with* Baratchart, L.; Mandréa, F.; Saff, Edward B.) How can the meromorphic approximation help to solve some 2D inverse problems for the Laplacian? (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 79–90. (Summary) **99j:35228** 35R30 (30E10, 35J05, 41A30)
Lebo, I. G. (*with* Rozanov, V. B.; Tishkin, V. F.; Nikishin, V. V.; Popov, I. V.; Favorskiĭ, A. P.) Numerical simulation of Richtmyer-Meshkov instability. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 346–356, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76E99 (76M25)
Leboucher, L. Monotone scheme and boundary conditions for finite volume simulation of magnetohydrodynamic internal flows at high Hartmann number. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 181–198. (Summary) **99k:76113** 76M25 (76M20, 76W05)
Le Boudec, J.-Y. (*with* Crochat, O.; Gerstel, Ornan) Protection interoperability for WDM optical networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 129–142, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99g:68004**) 68M15 (78A55, 90B12)
Lebovitz, Norman R. (*with* Kar, Apurba; Lifschitz, Alexander E.) Solutions of the Euler equations near the Riemann ellipsoids. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 81–89, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:76145** 76U05 (76E20, 85A30)
— Brief biography of S. Chandrasekhar. Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, *xi–xii*. (*see* **99h:00030**) 01A70
— The mathematical development of the classical ellipsoids. (English summary) Chandrasekhar memorial volume (Tempe, AZ, 1996). *Internat. J. Engrg. Sci.* **36** (1998), *no.* 12-14, 1407–1420. (Summary) **99k:85005** 85A30 (76U05)
Lebowitz, Joel L. (*with* Derrida, B.; Speer, Eugene R.) Shock profiles for the asymmetric simple exclusion process in one dimension. (English summary) Dedicated to Bernard Jancovici. *J. Statist. Phys.* **89** (1997), *no.* 1-2, 135–167. (Pablo A. Ferrari) **99f:82049** 82C22 (60K35)
— (*with* Kiessling, Michael K.-H.) The micro-canonical point vortex ensemble: beyond equivalence. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 43–58. (Emilio N. M. Cirillo) **99c:82019** 82B21 (35Q99, 76F99, 76M35)
— (*with* Carlen, Eric Anders; Esposito, Raffaele; Marra, R.; Rokhlenko, A.) Kinetics of a model weakly ionized plasma in the presence of multiple equilibria. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 3, 193–218. (Carlo Cercignani) **99h:82072** 82D10 (35Q99, 76P05, 76X05, 82C40)
— (*with* Goldstein, Sheldon; Sinaĭ, Yakov Grigor'evich) Remark on the (non)convergence of ensemble densities in dynamical systems. (English summary) Chaos and irreversibility

(Budapest, 1997). *Chaos* **8** (1998), *no.* 2, 393–395. (Nikolai Chernov) **99e:58120** 58F11 (82C05)

— (*with* Bonetto, Federico; Chernov, Nikolai I.) (Global and local) fluctuations of phase space contraction in deterministic stationary nonequilibrium. (English summary) *Chaos* **8** (1998), *no.* 4, 823–833. (Summary) **99k:82047** 82C05 (58F40)

— (*with* Mazel, A. E.) Improved Peierls argument for high-dimensional Ising models. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 1051–1059. (Takeo Kojima) **99h:82016** 82B20 (82B27)

— (*with* Giacomin, Giambattista) Phase segregation dynamics in particle systems with long range interactions. II. Interface motion. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1707–1729 (*electronic*). (Rossana Marra) **99m:35249** 35Q99 (35B40, 35K55, 45K05, 82C22, 82C24)

— (*with* Comets, Francis; Giacomin, Giambattista) The Sherrington-Kirkpatrick model with short range ferromagnetic interactions. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 57–62. (Barbara Gentz) **99k:82040** 82B44

Lebret, Hervé (*with* El Ghaoui, Laurent) Robust solutions to least-squares problems with uncertain data. (English summary) *SIAM J. Matrix Anal. Appl.* **18** (1997), *no.* 4, 1035–1064. (Ching-Tsuan Pan) **99c:65075** 65F20 (15A06)

— (*with* Lobo, Miguel Sousa; Vandenberghe, Lieven; Boyd, Stephen) Applications of second-order cone programming. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 193–228. (Jos F. Sturm) **99k:90103** 90C08 (90C20, 90C90, 93B40)

— (*with* El Ghaoui, Laurent; Oustry, François) Robust solutions to uncertain semidefinite programs. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 33–52 (*electronic*). (J. Frédéric Bonnans) **99j:90091** 90C31 (90C25)

Le Breton, Alain Une approche de type Girsanov pour le filtrage dans un système linéaire simple avec bruit brownien fractionnaire. (English and French summaries) [A Girsanov-type approach to filtering in a simple linear system with fractional Brownian noise] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 997–1002. (A. F. Gualtierotti) **99m:60070** 60G35 (60G30, 60H30)

— Filtering and parameter estimation in a simple linear system driven by a fractional Brownian motion. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 263–274. (Summary) **99c:60088** 60G35 (60G15, 62M20, 93E11)

Lebreton, Jean-Dominique (*with* Viallefont, Anne; Reboulet, Anne-Marie; Gory, Gerard) Parameter identifiability and model selection in capture-recapture models: a numerical approach. (English and French summaries) *Biom. J.* **40** (1998), *no.* 3, 313–325. (Summary) **99f:62036** 62F10 (62P10)

Le Breton, Michel (*with* Weber, Shlomo) On existence of undominated pure strategy Nash equilibria in anonymous nonatomic games. (English summary) *Econom. Lett.* **56** (1997), *no.* 2, 171–175. (Summary) **99a:90245** 90D10 (90A14)

— (*with* Konishi, Hideo; Weber, Shlomo) Pure strategy Nash equilibrium in a group formation game with positive externalities. (English summary) *Games Econom. Behav.* **21** (1997), *no.* 1-2, 161–182. (Makoto Yano) **99a:90244** 90D10 (90D35)

— (*with* Laussel, Didier) Efficient private production of public goods under common agency. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 2, 194–218. (Summary) **99h:90030** 90A27 (90D10)

— (*with* Konishi, Hideo; Weber, Shlomo) Equilibrium in a finite local public goods economy. (English summary) *J. Econom. Theory* **79** (1998), *no.* 2, 224–244. (Summary) **99b:90035** 90A27 (90A14)

Le Bris, Claude (*with* Catto, Isabelle; Lions, Pierre-Louis) Sur la limite thermodynamique pour des modèles de type Hartree et Hartree-Fock. (English and French summaries) [On the thermodynamic limit for Hartree and Hartree-Fock type models] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 259–266. (Summary) **99j:81208** 81V55

— (*with* Cancès, Eric) On the perturbation methods for some nonlinear quantum chemistry models. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 1, 55–94. (Giorgio Cattapan) **99b:81284** 81V55 (47N50, 81Q15)

— (*with* Cancès, Eric; Mennucci, Benedetta; Tomasi, Jacopo) Integral equation methods for molecular scale calculations in the liquid phase. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 35–44. (Summary) **99j:92030** 92E20 (92C40)

Lebrun, Bernard Comparative statics in first price auctions. (English summary) *Games Econom. Behav.* **25** (1998), *no.* 1, 97–110. (Summary) **99k:90063** 90A60

LeBrun, Claude R. Twistors for tourists: a pocket guide for algebraic geometers. *Algebraic geometry—Santa Cruz* 1995, 361–385, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Bernd Kreussler) **99i:32038** 32L25 (14J30, 32J17, 53C21, 53C56)

— On the notion of general type. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 513–522. (Jongsu Kim) **99c:53078** 53C56 (32J15, 53C55, 58E11)

— On four-dimensional Einstein manifolds. *The geometric universe* (*Oxford*, 1996), 109–121, *Oxford Univ. Press, Oxford*, 1998. (Tedi C. Draghici) **99e:53063** 53C25

— (*with* Gursky, Matthew J.) Yamabe invariants and Spin^c structures. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 6, 965–977. (Jimmy Petean) **99k:53078** 53C21 (58E11)

— Weyl curvature, Einstein metrics, and Seiberg-Witten theory. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 423–438. (Jongsu Kim) **99g:53050** 53C25 (14J29, 57R57, 58G05)

— Kodaira dimension and the Yamabe problem. (English summary) *Comm. Anal. Geom.* **7** (1999), *no.* 1, 133–156. (Christina W. Tønnesen-Friedman) **99m:58056** 58E11 (53C21)

Lebrun, Jérôme (*with* Vetterli, Martin) Balanced multiwavelets theory and design. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1119–1125. 94A11 (42C15)

Le Bruyn, Lieven Orbits of matrix tuples. (English and French summaries) *Algèbre non commutative, groupes quantiques et invariants* (*Reims*, 1995), 245–261, *Sémin. Congr.*, 2, *Soc. Math. France, Paris*, 1997. (E. Formanek) **99a:16019** 16R30

— Lie stacks and their enveloping algebras. (English summary) *Adv. Math.* **130** (1997), *no.* 1, 103–135. (Sara Westreich) **99b:16060** 16W30 (17B35)

Leca, Pierre (*with* Choukroun, Franck; Roux, François-Xavier; Ha-Duong, Tuong) Parallel solver for 3D Maxwell integral equations on axisymmetrical geometry. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 171–185, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65R20)

— (*with* Labbé, Stéphane) Résolution rapide des équations de Maxwell quasi-stationnaires: matrices Toeplitz multi-niveaux. Application au micromagnétisme. (English and French summaries) [Fast solver for the quasistatic Maxwell equations: block-Toeplitz matrices. Application to micromagnetism] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 4, 415–420. (Summary) **99g:78006** 78–08 (65M06, 78A30)

Le Calvez, Patrice (*with* Yoccoz, Jean-Christophe) Un théorème d'indice pour les homéomorphismes du plan au voisinage d'un point fixe. (English summary) [An index theorem for homeomorphisms of the plane near a fixed point] *Ann. of Math.* (2) **146** (1997), *no.* 2, 241–293. (L. Guillou) **99a:58129** 58F20 (55M20)

— Une propriété dynamique des homéomorphismes du plan au voisinage d'un point fixe d'indice > 1. (English and French summaries) [A dynamical property of homeomorphisms of the plane in the neighborhood of a fixed point of index > 1] *Topology* **38** (1999), *no.* 1, 23–35. (Robert Freeman Brown) **99g:54039** 54H20 (55M25)

Le Cam, L. Comparison of experiments—a short review. (English summary) *Statistics, probability and game theory*, 127–138, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (H. Heyer) **99f:62016** 62B15

muñoz-Lecanda, Miguel C. *see* **Muñoz-Lecanda, Miguel C.**

Le Charlier, Baudouin (*with* Leclère, Christophe; Rossi, Sabina; Cortesi, Agostino) Automated verification of behavioural properties of Prolog programs. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 225–238, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N17 (68Q60)

— (*with* Leclère, Christophe; Rossi, Sabina; Cortesi, Agostino) Automated verification of Prolog programs. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 3–42. 68Q60 (68N17)

— *see also* **SAS'94, 99a:68013**

Lechleiter, Iris Verfahren zur Berechnung unterer Schranken für Job Shop Scheduling Probleme mit stochastischen Vorrangbeziehungen. [Methods for computing lower bounds for job shop scheduling problems with stochastic priority relations] *Operations Research Proceedings* 1997 (*Jena*), 434–439, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B35

Lechner, Ch. (*with* Aichelburg, P. C.) σ model on de Sitter space. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 10, 6176–6180. (Summary) **99m:81157** 81T20 (81T10, 83C15)

Lechner, Kurt (*with* Dall'Agata, Gianguido; Sorokin, D. P.) Covariant actions for the bosonic sector $D = 10$ IIB supergravity. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, L195–L198. (Summary) **99i:83100** 83E50

— (*with* Dall'Agata, Gianguido; Tonin, Mario) $D = 10$, $N =$ IIB supergravity: Lorentz-invariant actions and duality. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 17, 30 *pp.* (*electronic*). (J. A. H. Samtleben) **99i:83101** 83E50

— (*with* Dall'Agata, Gianguido) $N = 1$, $D = 6$ supergravity: duality and non-minimal couplings. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 326–352. (J. A. H. Samtleben) **99a:83069** 83E50

— (*with* Dall'Agata, Gianguido; Tonin, Mario) Large covariant actions for $N = 1$, $D = 6$ supergravity theories with chiral bosons. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 179–198. (Gagik T. Ter-Kazarian) **99f:83073** 83E50 (81T30, 81T60, 83E30)

Lechner, Michael (*with* Bertschek, Irene) Convenient estimators for the panel probit model. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 329–371. 62P20

Lechtenfeld, Olaf The self-dual critical $N = 2$ string. (English summary) *Problems of quantum field theory* (*Alushta*, 1996), 348–354, *Joint Inst. Nuclear Res., Dubna*, 1996. (Summary) **99i:81194** 81T30

— On the BRST cohomology of $N = 2$ strings. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 309–310, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30 (81T70)

— (*with* Devchand, Chandrashekar) Extended self-dual Yang-Mills from the $N = 2$ string. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 255–272. (Dileep P. Jatkar) **99k:81300** 81T60 (81T13, 81T30)

— (*with* Devchand, Chandrashekar) String-induced Yang-Mills coupling to self-dual gravity. (English summary) *Nuclear Phys. B* **539** (1999), *no.* 1-2, 309–328. (Ilya Shapiro) **99k:81301** 81T60 (81T30, 83E30)

Leck, Volker On orthogonal double covers by Hamilton paths. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 153–157. (Summary) **99j:05134** 05C45 (05C70)

Leckar, Hamilton F. (*with* Vendite, Laércio L.) On the stable size distribution in a mathematical model for tumor cell growth reproducing by fission and the cellular resistance problem. (English summary) *Advances in mathematical population dynamics—molecules, cells and man* (*Houston, TX*, 1995), 207–222, *Ser. Math. Biol. Med.*, 6, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99d:92001**) 47N60 (47D06, 92C50)

Leckband, Mark (*with* Hudson, Steve) A sharp exponential inequality for Lorentz-Sobolev spaces on bounded domains. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2029–2033. (Summary) **99j:46036** 46E35

Leckie, F. A. (*with* Ponter, A. R. S.) Bounding properties of metal-matrix composites subjected to cyclic thermal loading. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 4, 697–717. (Summary) **99a:73061** 73E20 (73B30, 73K20)

Lecko, Adam (*with* Yaguchi, Teruo) Subclasses of typically-real functions defined by Salagean derivative. *Mathematica* **38(61)** (1996), *no.* 1-2, 111–119. (Grigore Stefan Sălăgean) **99c:30018** 30C45

— (*with* Kanas, Stanisława) Univalence criteria connected with arithmetic and geometric means. II. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 49–59. (William Ma) **99h:30027** 30C80

— (*with* Lecko, Millenia) On a radius problem in some subclasses of univalent functions. II. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 73–87. (Jay M. Jahangiri) **99c:30019** 30C45

— On a majorization of derivatives for majorized functions in some subclasses of regular functions. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 21 (1997), 103–111. (Carl P. McCarty) **99i:30020** 30C45

— (*with* Kanas, Stanisława) Univalence criteria connected with arithmetic and geometric means. I. (English summary) *Transform methods & special functions, Varna* '96, 201–209,

Bulgarian Acad. Sci., Sofia, 1998. (*see* **99i:00031**) 30C80
— On the class of functions strongly starlike of order α with respect to a point. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 2, 107–117. (S. L. Shukla) **99b:30018** 30C45
— (*with* Yaguchi, Teruo) A generalization of the condition due to Robertson. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 133–141. (Dov Aharonov) **99a:30017** 30C45
Lecko, Millenia On certain class of subsets of the Euclidean plane. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 19 (1996), 55–65. (Béla Uhrin) **99b:52004** 52A10
— (*with* Lecko, Adam) On a radius problem in some subclasses of univalent functions. II. (English summary) *Zeszyty Nauk. Politech. Rzeszowskiej Mat. No.* 20 (1996), 73–87. (Jay M. Jahangiri) **99c:30019** 30C45
LeClair, A. (*with* Ludwig, Andreas W. W.; Mussardo, G.) Integrability of coupled conformal field theories. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 523–542. (Summary) **99i:81215** 81T40
Leclerc, Anthony (*with* Ely, Jeffrey S.) Reliable collision detection for time-dependent parametric surfaces. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 331–344. (Summary) **99g:65061** 65G10 (65Y25)
Leclerc, B. *see* **Leclerc, Bruno**
Leclerc, Bernard (*with* Thibon, Jean-Yves) The Robinson-Schensted correspondence, crystal bases, and the quantum straightening at $q = 0$. (English summary) The Foata Festschrift. *Electron. J. Combin.* **3** (1996), *no.* 2, *Research Paper* 11, *approx.* 24 *pp.* (*electronic*). (From the introduction) **99c:05203** 05E10 (05E15)
— (*with* Thibon, Jean-Yves) q-deformed Fock spaces and modular representations of spin symmetric groups. (English summary) *J. Phys. A* **30** (1997), *no.* 17, 6163–6176. (Christine Bessenrodt) **99c:17029** 17B37 (20C20, 81R50)
— (*with* Zelevinsky, Andrei) Quasicommuting families of quantum Plücker coordinates. *Kirillov's seminar on representation theory*, 85–108, *Amer. Math. Soc. Transl. Ser.* 2, 181, *Amer. Math. Soc., Providence, RI*, 1998. (Hiro-Fumi Yamada) **99g:14066** 14M15 (17B37)
— (*with* Foda, Omar; Okado, Masato; Thibon, Jean-Yves; Welsh, Trevor A.) RSOS models and Jantzen-Seitz representations of Hecke algebras at roots of unity. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 31–42. (Summary) **99a:20007** 20C30 (17B10)
Leclerc, Bruno (*with* Makarenkov, Vladimir) On some relations between 2-trees and tree metrics. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 223–249. (L. W. Beineke) **99j:05054** 05C05 (05C12)
— *see also* **Discrete metric spaces, 99f:00015**
eglin-Leclerc, Marie-Christine *see* **Eglin-Leclerc, Marie-Christine**
Leclère, Christophe (*with* Le Charlier, Baudouin; Rossi, Sabina; Cortesi, Agostino) Automated verification of behavioural properties of Prolog programs. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 225–238, *Lecture Notes in Comput. Sci.*, 1345, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68N17 (68Q60)
— (*with* Le Charlier, Baudouin; Rossi, Sabina; Cortesi, Agostino) Automated verification of Prolog programs. (English summary) *J. Logic Programming* **39** (1999), *no.* 1-3, 3–42. 68Q60 (68N17)
Lecomte, Alain (*with* Retoré, Christian) Words as modules: a lexicalised grammar in the framework of linear logic proof nets. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 129–144, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (03F50)
— Multimodal logic for syntax. (English summary) *Log. Trianguli* **2** (1998), 49–72. (Neculai Curteanu) **99k:03026** 03B65 (03B45, 68T27)
Lecomte, Dominique Tests à la Hurewicz dans le plan. (French summary) [Hurewicz-type tests in the plane] *Fund. Math.* **156** (1998), *no.* 2, 131–165. (Hiroshi Fujita) **99f:54047** 54H05
Lecomte, Florence Opérations d'Adams en K-théorie algébrique. (English summary) [Adams operations and algebraic K-theory] *K-Theory* **13** (1998), *no.* 2, 179–207. (Kazuhisa Shimakawa) **99e:19003** 19D06 (14F05, 18F25, 19D55, 55S25)
Lecomte, Pierre B. A. (*with* Mathonet, Pierre; Tousset, Eric) Comparison of some modules of the Lie algebra of vector fields. (English summary) *Indag. Math.* (*N.S.*) **7** (1996), *no.* 4, 461–471. (Sen Yue Lou) **99c:17038** 17B66 (58H15)
— (*with* Ceola, Corine) Computability of a map and decidability of its graph in the model of Blum, Shub and Smale. (English summary) *Theoret. Comput. Sci.* **194** (1998), *no.* 1-2, 219–223. (Summary) **99a:68054** 68Q05 (03C10)
— Classification projective des espaces d'opérateurs différentiels agissant sur les densités. (English and French summaries) [Projective classification of the spaces of differential operators acting on densities] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 4, 287–290. (Summary) **99k:22022** 22E45
Le Conte de Poly-Barbut, Claude Treillis de Cayley des groupes de Coxeter finis. Constructions par récurrence et décompositions sur des quotients. (English and French summaries) [Cayley lattices of finite Coxeter groups. Recursive constructions and reductions] *Math. Inform. Sci. Humaines No.* 140 (1997), 11–33. (Luis Paris) **99g:20076** 20F55
Le Coq, Gérard (*with* Ghidaglia, Jean-Michel; Kumbaro, Anela; Tajchman, Marc) A finite volume implicit method based on characteristic flux for solving hyperbolic systems of conservation laws. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 50–65, *World Sci. Publishing, River Edge, NJ*, 1997. (Miloslav Feistauer) **99m:65184** 65M60 (35L65)
Lécot, Christian (*with* Coulibaly, Ibrahim) Monte Carlo and quasi-Monte Carlo algorithms for a linear integro-differential equation. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 176–188, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Summary) **99d:65365** 65R20 (65C05)
— (*with* Coulibaly, Ibrahim) A particle method for some parabolic equations. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 25–44. (Summary) **99b:65107** 65M15 (65C05)
— (*with* Coulibaly, Ibrahim) Simulation of diffusion using quasi-random walk methods. (English summary) IMACS Seminar on Monte Carlo Methods (Brussels, 1997). *Math. Comput. Simulation* **47** (1998), *no.* 2-5, 153–163. (Summary) **99d:65013** 65C05 (65M99, 76M35)
— (*with* Coulibaly, Ibrahim) A quasi-Monte Carlo scheme using nets for a linear Boltzmann equation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 51–70 (*electronic*). (Summary) **99b:65005** 65C05 (65M15, 82C80)
— (*with* Coulibaly, Ibrahim) A quasi-randomized Runge-Kutta method. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 651–659. (Summary) **99i:65072** 65L06 (65C05)
Lecroq, Thierry (*with* Myoupo, Jean Frédéric; Seme, David) A one-phase parallel algorithm for the sequence alignment problem. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 4, 515–526. (Summary) **99m:65258** 65Y05
L'Ecuyer, Pierre Random number generators and empirical tests. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 124–138, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (*see* **99d:65005**) 65C10
— (*with* Hellekalek, Peter) Random number generators: selection criteria and testing. *Random and quasi-random point sets*, 223–265, *Lecture Notes in Statist.*, 138, *Springer, New York*, 1998. (Francesco Fabris) **99m:65014** 65C10 (11K45)
— (*with* Yin, Gang George) Budget-dependent convergence rate of stochastic approximation. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 217–247 (*electronic*). (Michel Benaïm) **99f:60049** 60F05 (62L20, 93E15)
— Tables of linear congruential generators of different sizes and good lattice structure. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 249–260. (Summary) **99c:11101** 11K45 (65C10)
— Tables of maximally-equidistributed combined LFSR generators. (English summary) *Math. Comp.* **68** (1999), *no.* 225, 261–269. 65C10
Ledder, Glenn (*with* Logan, J. David; Homp, Michelle Reeb) A singular perturbation problem in fractured media with parallel diffusion. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 645–655. (Summary) **99d:76092** 76S05 (86A05)
Ledeniov, Oleg (*with* Markovitch, Shaul) The divide-and-conquer subgoal-ordering algorithm for speeding up logic inference. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 37–97 (*electronic*). 68N17
Lederer, Falk (*with* Darmanyan, S.; Kamchatnov, A. M.) Optical shock waves in media with quadratic nonlinearity. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, *R*4120–*R*4123. 78A60
— (*with* Crasovan, Lucian-Cornel; Malomed, Boris A.; Mihalache, Dumitru) Exact solitary-wave solutions of $\mathscr{P}^{(2)}$ Ginzburg-Landau equations. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 6, 7173–7177. 78A60
Lederer, Phillip J. (*with* Li, Lode) Pricing, production, scheduling, and delivery-time competition. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 407–420. (Summary) **99j:90020** 90A12 (90B30)
Lederman, Claudia (*with* Caffarelli, Luis A.; Wolanski, Noemi) Pointwise and viscosity solutions for the limit of a two phase parabolic singular perturbation problem. *Indiana Univ. Math. J.* **46** (1997), *no.* 3, 719–740. (Naoki Yamada) **99c:35116** 35K60 (35B25)
— (*with* Wolanski, Noemi) Viscosity solutions and regularity of the free boundary for the limit of an elliptic two phase singular perturbation problem. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **27** (1998), *no.* 2, 253–288 (1999). (Mahdi Boukrouche) **99m:35274** 35R35 (35B25, 35D10, 35J60)
Ledermann, W. (*with* Hirschfeld, J. W. P.) Obituary: David Bernard Scott. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 549–554. (Editors) **99m:01077** 01A70
Ledesma Fiallo, Luis Angel (*with* Ruiz Jhones, Alina) Solving constrained optimization problems using direct search methods: system UH-DISE. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 11–18. 90C30 (65K05)
Ledet, Arne Embedding problems with cyclic kernel of order 4. (English summary) *Israel J. Math.* **106** (1998), 109–131. (Jannis A. Antoniadis) **99k:12009** 12F12
Ledger, A. J. (*with* Tsagas, Grigorios T.) Some properties of the flag manifolds. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 3, 211–226. (Introduction) **99d:53049** 53C30
Le Dimet, Francois-Xavier (*with* Charpentier, Isabelle) Méthodes du second ordre en assimilation de données. (French summary) [Second-order data assimilation methods] *Équations aux dérivées partielles et applications*, 623–639, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Summary) **99h:49006** 49J20
Le Dimet, Jean-Yves Représentations du groupe des tresses généralisées dans des groupes de Lie. (English summary) [Representations of the generalized braid group in Lie groups] *Manuscripta Math.* **96** (1998), *no.* 4, 507–515. (Daniel Matignon) **99k:57019** 57M25 (22E99, 57N70)
Le Dizès, Stéphane Global modes in falling capillary jets. (English summary) *European J. Mech. B Fluids* **16** (1997), *no.* 6, 761–778. (Summary) **99a:76062** 76E99 (76D25, 76D45)
— (*with* Eloy, Christophe) Three-dimensional instability of Burgers and Lamb-Oseen vortices in a strain field. (English summary) *J. Fluid Mech.* **378** (1999), 145–166. (Summary) **99j:76050** 76E99 (76C05, 76F99)
— *see also* **Dynamics and statistics of concentrated vortices in turbulent flow, 99e:76002**
Ledolter, Johannes (*with* Tsimikas, John V.) Analysis of multi-unit variance components models with state space profiles. (English summary) *Ann. Inst. Statist. Math.* **50** (1998), *no.* 1, 147–164. (S. M. Pandit) **99e:62168** 62M20 (60G35, 62M10)
Le Donne, Attilio A Hausdorff HS-space which is not regular. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 198–205 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54B20 (54D15, 54G20)
— (*with* Gruenhage, Gary; Kulesza, John S.) Connectifications of metrizable spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 171–179. (A. H. Stone) **99a:54014** 54D05 (54D35, 54E35, 54G20)
Le Doussal, Pierre (*with* Laloux, Laurent) Aging and diffusion in low-dimensional environments. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 6, 6296–6326. (Summary) **99d:82039** 82C05
— (*with* Monthus, Cécile; Fisher, Daniel S.) Random walkers in one-dimensional random environments: exact renormalization group analysis. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 4795–4840. 82B41
Ledoux, James A geometric invariant in weak lumpability of finite Markov chains. (English summary) *J. Appl. Probab.* **34** (1997), *no.* 4, 847–858. (Linn I. Sennott) **99d:60080** 60J10 (15A48)
Ledoux, Michel Isoperimetry and Gaussian analysis. *Lectures on probability theory and statistics* (*Saint-Flour*, 1994), 165–294, *Lecture Notes in Math.*, 1648, *Springer, Berlin*, 1996. (Qi Man Shao) **99h:60002** 60–02 (60E15, 60F10, 60G15)

— (*with* Capitaine, Mireille; Hsu, Elton P.) Martingale representation and a simple proof of logarithmic Sobolev inequalities on path spaces. (English summary) *Electron. Comm. Probab.* **2** (1997), 71–81 (*electronic*). (Shi Zan Fang) **99b:60136** 60J65 (58D20, 58G32, 60B15, 60D05, 60H07)
— A short proof of the Gaussian isoperimetric inequality. (English summary) *High dimensional probability* (*Oberwolfach*, 1996), 229–232, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Pawel Hitczenko) **99j:60027** 60E15 (60D05, 60G15)
— (*with* Bobkov, S. G.) On modified logarithmic Sobolev inequalities for Bernoulli and Poisson measures. (English summary) *J. Funct. Anal.* **156** (1998), *no.* 2, 347–365. (Iosif Pinelis) **99e:60051** 60E15 (28A35, 46E30, 46N30)
— (*with* Kuelbs, James) On convex limit sets and Brownian motion. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 461–492. (Davar Khoshnevisan) **99c:60181** 60J65
— *see also* **Seminar: Probability Theory, 99f:60006**
Ledrappier, François Horospheres on abelian covers. (English summary) *Bol. Soc. Brasil. Mat. (N.S.)* **28** (1997), *no.* 2, 363–375. (Donal Hurley) **99g:58098a** 58F17 (53C22)
— Invariant measures for the stable foliation on abelian covers. *Tr. Mat. Inst. Steklova* **216** (1997), *Din. Sist. i Smezhnye Vopr.*, 327–339. (Edoh Amiran) **99f:58128** 58F11 (58F17)
— Erratum: "Horospheres on abelian covers". *Bol. Soc. Brasil. Mat. (N.S.)* **29** (1998), *no.* 1, 195. (Donal Hurley) **99g:58098b** 58F17
— (*with* Babillot, Martine) Lalley's theorem on periodic orbits of hyperbolic flows. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 1, 17–39. (Viviane Baladi) **99a:58128** 58F20 (58F11, 58F15)
Le Du, M. (*with* Platis, A.; Limnios, N.) Hitting time in a finite non-homogeneous Markov chain with applications. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 241–253. (Gh. Oprişan) **99k:60175** 60J10 (60K10, 90B25)
Leduc, Guillaume (*with* Dawson, Donald A.; Fleischmann, Klaus) Continuous dependence of a class of superprocesses on branching parameters and applications. (English summary) *Ann. Probab.* **26** (1998), *no.* 2, 562–601. (Alexander Schied) **99g:60152** 60J80 (60G57, 60J40)
Le Dung Muu (*with* Le Thi Hoai An; Pham Dinh Tao) A combined D.C. optimization—ellipsoidal branch-and-bound algorithm for solving nonconvex quadratic programming problems. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 9–28. (Summary) **99a:90159** 90C26 (90C25)
Lê Dũng Tráng (*with* Weber, Claude) Équisingularité dans les pinceaux de germes de courbes planes et C^0-suffisance. [Equisingularity in pencils of germs of plane curves and C^0-sufficiency] *Enseign. Math.* (2) **43** (1997), *no.* 3-4, 355–380. (Tomás Sánchez-Giralda) **99d:32047** 32S15 (14B05, 32S05, 58C27)
— (*with* Hamm, Helmut A.) Théorèmes d'annulation pour les faisceaux algébriquement constructibles. (English and French summaries) [Vanishing theorems for algebraically constructible sheaves] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 759–762. (Laurent Manivel) **99m:14035** 14F17 (32L20)
— (*with* Hamm, Helmut A.) Vanishing theorems for constructible sheaves. II. *Kodai Math. J.* **21** (1998), *no.* 2, 208–247. (Laurent Manivel) **99k:32052** 32L20 (14F17, 32S60)
Ledwich, Gerard (*with* Yu, Xing-Huo; Sira-Ramírez, Hebertt) Switching control strategy for the power system stabilization problem. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1021–1036. 93D15 (93C95)
Ledwina, Teresa (*with* Inglot, Tadeusz) Asymptotic optimality of data-driven Neyman's tests for uniformity. (English summary) *Ann. Statist.* **24** (1996), *no.* 5, 1982–2019. (Philippe Barbe) **99b:62079** 62G10 (60F10, 62G20)
Ledyaev, Yu. S. (*with* Clarke, F. H.; Stern, Ronald Jay) Complements, approximations, smoothings and invariance properties. (English summary) *J. Convex Anal.* **4** (1997), *no.* 2, 189–219. (Alberto Seeger) **99m:49024** 49J52 (34A60, 49J24)
— (*with* Clarke, F. H.; Stern, Ronald Jay; Wolenski, Peter R.) ★ Nonsmooth analysis and control theory. (English summary) Graduate Texts in Mathematics, 178. *Springer-Verlag, New York*, 1998. xiv+276 *pp. ISBN* 0-387-98336-8 (Richard B. Vinter) **99a:49001** 49–02 (49J52, 58C20, 93–02)
— (*with* Clarke, F. H.; Stern, Ronald Jay) Asymptotic stability and smooth Lyapunov functions. (English summary) *J. Differential Equations* **149** (1998), *no.* 1, 69–114. (Zvi Artstein) **99k:34109** 34D20 (34A60, 93D05)
— (*with* Clarke, F. H.; Hiriart-Urruty, Jean-Baptiste) On global optimality conditions for nonlinear optimal control problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 109–122. (Dariusz Zagrodny) **99j:49035** 49K15 (49L10)
Łędzewicz-Kowalewska, Urszula (*with* Nowakowski, Andrzej) Optimality conditions for control problems governed by abstract semilinear differential equations in complex Banach spaces. (English summary) *J. Appl. Anal.* **3** (1997), *no.* 1, 67–91. (Tzanko D. Donchev) **99m:49039** 49K27 (35R20, 49K20)
— (*with* Schättler, Heinz) High-order extended maximum principles for optimal control problems with non-regular constraints. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 298–325, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (Andrei V. Dmitruk) **99j:49039** 49K15 (47H15, 49K27, 58E25)
— (*with* Schättler, Heinz) A high-order generalization of the Lyusternik theorem. *Nonlinear Anal.* **34** (1998), *no.* 6, 793–815. (Andrei V. Dmitruk) **99k:47158** 47H15 (47H17, 49K27, 58C15)
— (*with* Schättler, Heinz) Analysis of abnormal extremals in optimal control. (English summary) *Differential geometry and control* (*Boulder, CO*, 1997), 223–239, *Proc. Sympos. Pure Math.*, 64, *Amer. Math. Soc., Providence, RI*, 1999. (Andrei V. Dmitruk) **99m:49036** 49K15 (47H15, 49K27, 58E25)
— (*with* Walczak, Stanislaw) Optimal control of systems governed by some elliptic equations. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 279–290. (Nicolae H. Pavel) **99k:49014** 49J20 (35J99)
Lee, Albert W. *see* **Tarbouriech, Sophie**
Lee, B. H. *see* **Lee, Beom Hee**
Lee, B. S. *see* **Lee, Byung Soo**
Lee, Beom Hee (*with* Yoon, M. G.) A new approximation method for time-delay systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 7, 1008–1012. (Andrzej W. Olbrot) **99b:93023** 93B30 (41A20, 93C30)
Lee, Bore-Kuen Closed-loop system identification using the dual Youla control parametrization. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1175–1195. 93B30 (93B52)
Lee, Bu Young (*with* Park, Jin Han) Fuzzy pairwise extremally disconnected spaces. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 2, 201–206. 54A40 (54E55, 54G05)
— (*with* Sohn, Su Ho) Fuzzy regular convergence structures. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 505–508. 54A40
Lee, Bum-Hoon (*with* Yang, Hyun Seok; Kim, Inbo) Pointlike structure for super p-branes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 085018, 10 *pp.* (Summary) **99k:81274** 81T30
Lee, Byung Soo (*with* Lee, Gue Myung; Zhang, Shi Sheng) Vector saddle point theorems and vector minimax theorems on H-spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 63–72. 90C29 (49K35)
— (*with* Lee, Gue Myung; Kim, Do Sang) Generalized vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 110–122. (George Isac) **99h:49012** 49J40 (47H19, 90C29)
— (*with* Lee, Sang Chul) A generalization of matching theorems and variational inequalities on H-spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 103–112. (Summary) **99e:54034** 54H25 (47H19, 49J40)
— (*with* Lee, Gue Myung; Kim, Do Sang; Chen, Guang Ya) Generalized vector variational inequality and its duality for set-valued maps. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 21–26. (Summary) **99c:47112** 47H19 (49J40)
— (*with* Zhang, Shi Sheng; Chen, Yu Qing; Cho, Yeol Je) Fixed point theorems for nonexpansive operators with dissipative perturbations in cones. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 1, 49–54. (S. N. Askhabov) **99f:47083** 47H10 (45G10, 47H09)
— (*with* Lee, Gue Myung; Cho, Sung-Jin; Kim, Do Sang) A common fixed point theorem for a pair of fuzzy mappings. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 133–136. 54H25 (54A40)
— (*with* Park, Sehie; Lee, Gue Myung) A general vector-valued variational inequality and its fuzzy extension. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 637–642. (Summary) **99g:47151** 47H19 (47S40, 49J40, 90C29)
— (*with* Zhang, Shi Sheng; Cho, Yeol Je; Jung, Jong Soo; Kang, Shin Min) Iterative approximations of fixed points and solutions for strongly accretive and strongly pseudo-contractive mappings in Banach spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 149–165. (Charles Ejike Chidume) **99g:47146** 47H15 (47H06, 47H09, 47H17)
— (*with* Lee, Gue Myung; Kim, Do Sang; Nguyễn Đông Yên) Vector variational inequality as a tool for studying vector optimization problems. *Nonlinear Anal.* **34** (1998), *no.* 5, 745–765. (Tetsuzo Tanino) **99h:90091** 90C29 (49J40)
— (*with* Lee, Gue Myung; Kim, Do Sang; Nguyễn Đông Yên) On a strongly monotone vector variational inequality. *Nonlinear Anal. Forum* **3** (1998), 151–176. (Xie Ping Ding) **99i:49014** 49J40 (47H19, 90C33)
— (*with* Lee, Gue Myung) Some variational inequality problems in nonreflexive Banach spaces. (English summary) *Nonlinear Anal. Forum* **3** (1998), 177–182. (Xie Ping Ding) **99i:49015** 49J40 (47H19)
— (*with* Choi, U Jin; Choi, Yong Kab) On partial sums of a Gaussian sequence with stationary increments. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 5, 825–842. (Endre Csáki) **99i:60063** 60F15 (60G15)
— (*with* Lee, Gue Myung; Jung, Jong Soo; Zhang, Shi Sheng) Minimization theorems and fixed point theorems in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 143–152. (Summary) **99k:54004** 54A40 (54H25)
— (*with* Jung, Jong Soo; Zhang, Shi Sheng; Cho, Yeol Je; Kang, Shin Min) Common fixed point theorems and variational principle in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 315–325. 54A40 (54C60, 54H25)
— (*with* Zhang, Shi Sheng; Lee, Gue Myung) Vector quasivariational inequalities for fuzzy mappings. II. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 333–344. (E. S. Lee) **99m:47082** 47H19 (47S40, 49J40)
— (*with* Cho, Sung-Jin; Lee, Gue Myung; Kim, Do Sang; Song, Yeoul-Ouk) Fubini theorem for generalized fuzzy number-valued integrals. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 177–179. 28E10 (28A35)
Lee, C.-I. (*with* Ge, Zheng Ming; Chen, Heng-Hui; Lee, Sann-Chie) Non-linear dynamics and chaos control of a damped satellite with partially-filled liquid. (English summary) *J. Sound Vibration* **217** (1998), *no.* 5, 807–825. (Summary) **99i:70010** 70E15 (70K20, 70K50, 70M20, 70Q05)
Lee, C. K. (*with* Lee, W. K.) Fast fractal image block coding based on local variances. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 888–891. 94A12
— (*with* Wong, S. C.; Tong, C. O.) Finite element solution for the continuum traffic equilibrium problems. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 7, 1253–1273. 90B06 (49N55, 90C90)
Lee, C. S. (*with* Chen, Kuan-ju; Wang, Hwai Chiuan) Semilinear elliptic problems in interior and exterior flask domains. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 4, 81–105. (Benedetta Pellacci) **99k:35045** 35J60 (58E05)
Lee, C.-W. H. (*with* Rajeev, S. G.) Symmetry algebras of large-N Matrix models for open strings. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 3, 656–688. (Daniela Bigatti) **99g:81173** 81T30 (81V05)
— (*with* Rajeev, S. G.) Integrability of supersymmetric quantum Matrix models in the large-N limit. (English summary) *Phys. Lett. B* **436** (1998), *no.* 1-2, 91–96. (Summary) **99g:82011** 82B20 (81Q60)
Lee, Carl W. (*with* Bohus, Géza; Jockusch, William; Prabhu, Nagabhushana) On a triangulation of the 3-ball and the solid torus. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 259–264. (Summary) **99a:05033** 05C10
Lee, Chang Hyun (*with* Kim, Yong Sup) Some summation formulas for the series ${}_3F_2(1)$. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 5–12. (Summary) **99h:33022** 33C20 (33B15)
Lee, Chang-Ock² Multigrid methods for the pure traction problem of linear elasticity: FOSLS formulation. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 813–827. (Summary) **99f:73081** 73V05 (65N55, 73C02)
— A conforming mixed finite element method for the pure traction problem of linear elasticity. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 11–29. (Pekka

Neittaanmäki) **99b:73041** 73V05 (65N30, 73C02)
— Multigrid methods for the pure traction problem of linear elasticity: mixed formulation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 121–145 (*electronic*). (Summary) **99a:73125** 73V05 (65N55, 73C02)
— (*with* Kim, Taegil) A parallel Gauss-Seidel method using NR data flow ordering. (English summary) *Appl. Math. Comput.* **99** (1999), *no.* 2-3, 209–220. (Summary) **99h:65055** 65F10 (65N99, 65Y05)
— (*with* Lee, Jongwoo; Sheen, Dongwoo; Yeom, Yongjin) A frequency-domain parallel method for the numerical approximation of parabolic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 19–29. (Summary) **99j:65157** 65M55 (65Y05)
Lee, Chang-Yeong BRST symmetry in noncommutative geometric gauge theory: matrix derivative approach. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 209–212, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:81222** 81T70 (58B30)
— (*with* Kiem, Youngjai; Park, Dahl) Exactly solvable charged dilaton gravity theories in two dimensions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 2973–2979. (Michael O. Katanaev) **99k:83102** 83C99 (81V25, 83C57)
— (*with* Lee, Dong Won[2]) Faddeev-Jackiw analysis of topological mass-generating action. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7809–7820. 81T13
— New type of vector gauge theory from noncommutative geometry. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 77–84. (Kamran Kaviani) **99f:81130** 81T13 (58B30, 81V22)
— (*with* Kiem, Youngjai; Park, Dahl) Thermodynamics of the doubly charged CGHS model and D1-D5-KK black holes of type IIB supergravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125002, 9 *pp.* (Summary) **99m:83204** 83E50 (81T30, 83C57, 83E30)
Lee, Changhoon (*with* Marcus, P. S.) Asymmetries in eastward and westward jets in a model planetary atmosphere. (English summary) *Semi-analytic methods for the Navier-Stokes equations* (*Montreal, QC*, 1995), 85–100, *CRM Proc. Lecture Notes*, 20, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99m:86010** 86A10 (76C15, 76E20, 76U05)
Lee, Changwoo Domination in digraphs. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 4, 843–853. (Bert L. Hartnell) **99k:05093** 05C35 (05C20, 05C80)
Lee, Chanho Stability of a class of pth-order nonlinear autoregressive processes. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 227–234. (Joseph D. Petruccelli) **99e:60103** 60G10
— Asymptotics of a class of pth-order nonlinear autoregressive processes. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 171–177. (Summary) **99f:60075** 60G10 (60J05, 62M10)
— (*with* Bhattacharya, Rabi Nath) Erratum: "On geometric ergodicity of nonlinear autoregressive models" [Statist. Probab. Lett. **22** (1995), no. 4, 311–315; MR 96e:62146]. *Statist. Probab. Lett.* **41** (1999), *no.* 4, 439–440. (From the text) **99k:62152** 62M10
Lee, Cheng-Ming A global analysis of zero-finding by Newton's method and Smale's method. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 131–141, *Springer, Singapore*, 1997. (Summary) **99h:65111** 65H20 (65Y20)
Lee, Chien-Hua On the upper and lower bounds of the solution for the continuous Riccati matrix equation. (English summary) *Internat. J. Control* **66** (1997), *no.* 1, 105–118. 93B40 (65F30)
— Upper and lower bounds of the solutions of the discrete algebraic Riccati and Lyapunov matrix equations. (English summary) *Internat. J. Control* **68** (1997), *no.* 3, 579–598. 93B40 (93C05)
— Simple stabilizability criteria and memoryless state feedback control design for time-delay systems with time-varying perturbations. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 11, 1211–1215. (Summary) **99h:93086** 93D15 (93B51)
Lee, Chinsan An integral characterization problem in an age-dependent cancer model. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 2, 121–126. (Summary) **99f:92008** 92C50 (60J85)
Lee, Cho Seng (*with* Leitmann, G.) One avenue to robust control of nonlinear systems and an application to a social system. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 509–528. (*see* **99m:34001**) 93D09 (90A08, 90A80, 93D21)
Lee, Choon-Ho The Riemann problem for a system of conservation laws of mixed type by the viscosity approach. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 7 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Hermano Frid) **99b:35136** 35L65 (35B35, 35D05)
— The Riemann problem for a system of conservation laws of mixed type. II. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 37–59. (Philippe G. LeFloch) **99i:35093** 35L65
— The Riemann problem for a system of conservation laws of mixed type. I. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 85–114. (Philippe G. LeFloch) **99a:35170** 35L65 (35M10)
Lee, Choonkyu (*with* Bak, Dongsu; Lee, Kimyeong) Dynamics of Bogomol′nyi-Prasad-Sommerfield dyons: effective field theory approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5239–5259. (Summary) **99m:81135** 81T13 (58D27)
Lee, Chu-In Charles (*with* Park, Chul Gyu; Robertson, Tim) Goodness-of-fit test for uniform stochastic ordering among several distributions. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 1, 69–81. (Subhash C. Kochar) **99g:62062** 62G10
Lee, Chun-Hian (*with* Zheng, Bo) The effects of limiters on high resolution computations of hypersonic flows over bodies with complex shapes. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 82–87. 76M20 (76K05)
Lee, Chun-Nip On the finite generation of high-dimensional cohomology ring of virtually torsion-free groups. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 1, 57–72. (L. R. Vermani) **99h:20085** 20J05 (16E10, 20J15)
Lee, Chung-Bow Bayesian analysis of a change-point in exponential families with applications. (English summary) *Comput. Statist. Data Anal.* **27** (1998), *no.* 2, 195–208. (Summary) **99d:62022** 62F15
— Bayesian estimation of the number of change points. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 923–939. (Summary) **99e:62029** 62F15
Lee, Chung-Yee (*with* Chen, Jianer) General multiprocessor task scheduling. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 57–74. (Stanislav Palúch) **99k:90086** 90B35 (90C27)
Lee, D. T. *see* **Lee, Der Tsai**
Lee, D. W. *see* **Lee, Dong Won[1]**
Lee, Dae-Woong Construction of a ring $\sum_{n\geq 0} C^n(\mathscr{K}_n; R)$. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 149–156. (From the introduction) **99c:55008** 55N45 (55U15)
— Strictly derived groups and t-step strong homology groups. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 401–414. (Summary) **99f:55008** 55N07 (55P55, 55U15)
— (*with* Lee, Hong-Jae) Pro-torsion products and Čech homology groups. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 121–133. (Timothy Porter) **99g:55006** 55N05 (18G10, 55P55)
Lee, Daeshik A fast Poisson solver on disks. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 65–78. (Summary) **99i:65145** 65N99 (65Y05)
Lee, Darin A note on the individualistic foundations of the core in economies with asymmetric information. (English summary) *Econom. Lett.* **61** (1998), *no.* 2, 203–208. (Summary) **99g:90037** 90A53 (90D12)
Lee, David[2] (*with* Agrawal, Vishwani D.; Woźniakowski, Henryk) Numerical computation of characteristic polynomials of Boolean functions and its applications. (English summary) *Numer. Algorithms* **17** (1998), *no.* 3-4, 261–278. (Summary) **99h:94087** 94C10 (94C05)
Lee, Dean (*with* Borasoy, Buğra) Spherical gauge fields. (English summary) *Phys. Lett. B* **447** (1999), *no.* 1-2, 98–109. (Summary) **99k:81157** 81S99 (81T99)
Lee, Der Tsai (*with* Chen, Hsiao-Feng Steven) A faster one-dimensional topological compaction algorithm. (English summary) *Algorithms and computation* (*Singapore*, 1997), 303–313, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68Q35
— (*with* Chen, Danny Z.; Sridhar, Radhakrishnan; Sekharan, Chandra N.) Solving the all-pair shortest path query problem on interval and circular-arc graphs. (English summary) *Networks* **31** (1998), *no.* 4, 249–257. (Summary) **99c:68057** 68P05 (05C85, 68R10, 90C35)
— (*with* Farrahi, A. H.; Sarrafzadeh, Majid) Two-way and multiway partitioning of a set of intervals for clique-width maximization. (English summary) *Algorithmica* **23** (1999), *no.* 3, 187–210. (Xiao Tie Deng) **99j:05176** 05C85
Lee, Ding (*with* Schultz, Martin H.) ★ Numerical ocean acoustic propagation in three dimensions. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xii+207 *pp. ISBN* 981-02-2303-X (From the preface) **99e:76106** 76Q05 (65M99, 76M25, 86A05)
— (*with* Nagem, R. J.; Resasco, D. C.; Chen, Chi-fang) A coupled 3D fluid-elastic wave propagation model: mathematical formulation and analysis. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 147–178. (Summary) **99a:73105** 73K70 (73D15, 76M20, 76Q05, 86A05)
Lee, Dohyung Design criteria for local Euler preconditioning. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 423–459. (Summary) **99e:76082** 76M20
— The design of local Navier-Stokes preconditioning for compressible flow. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 460–483. (Summary) **99c:76086** 76M25
Lee, Dong-Soo *see* **Lee, Dong Soo[2]**
Lee, Dong-Soo[1] (*with* Ryu, Dong Neun) Profinite topological BCK-algebra. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 575–582. (Summary) **99h:54053** 54H10 (06F35, 22A30)
— (*with* Kim, Hae Sik; Kim, Eun Sup; Park, Young Soo) Some structures of seminear-rings. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 817–829. (David John) **99i:16080** 16Y30 (16Y99)
— (*with* Jun, Young Bae; Xin, Xiao Long) On topological BCI-algebras. (English summary) *Inform. Sci.* **116** (1999), *no.* 2-4, 253–261. 54H12 (06F30)
Lee, Dong Soo[2] (*with* Kang, Pyung-Lyun) Genus numbers and ambiguous class numbers of function fields. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 37–43. (Martha Rzedowski-Calderón) **99i:11104** 11R58 (11R29, 11R37)
— (*with* Kim, Chung-Gook) Fuzzy Lie ideals and fuzzy Lie subalgebras. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 1, 101–107. (Summary) **99a:17029** 17B99
Lee, Dong Won *see* **Lee, Dong Won[2]**
Lee, Dong Won[1] (*with* Jung, Il Hyo; Kwon, Kil Hyun) Markov type inequalities for difference operators and discrete classical orthogonal polynomials. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 335–342, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:33009** 33C45 (39A70)
— (*with* Kwon, Kil Hyun; Park, S. B.) New characterizations of discrete classical orthogonal polynomials. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 156–171. (Summary) **99c:42045** 42C05
— (*with* Kwon, Kil Hyun; Littlejohn, Lance L.) Differential equations having orthogonal polynomial solutions. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 1–16. (Hussain S. Nur) **99d:33009** 33C45 (34A30, 34B99)
— (*with* Kwon, Kil Hyun; Park, S. B.; Yoo, B. H.) Discrete classical orthogonal polynomials. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 2, 145–162. (Summary) **99g:33027** 33C45 (39A10, 39A12)
Lee, Dong Won[2] (*with* Lee, Chang-Yeong) Faddeev-Jackiw analysis of topological mass-generating action. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7809–7820. 81T13
Lee, Dongyeup (*with* Benson, Harold P.; McClure, J. Peter) Global optimization in practice: an application to interactive multiple objective linear programming. (English summary) *J. Global Optim.* **12** (1998), *no.* 4, 353–372. (Summary) **99d:90098** 90C29 (90C05, 90C90)
Lee, Doo Seok (*with* Choi, Hyeong In; Yoon, Joung-Hahn) Cut locus of a separating fractal set in a Riemannian manifold. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 455–467. (Bert Jüttler) **99k:53065** 53C20 (28A80, 53C21, 68U05)
Lee, E. Bruce (*with* Luo, J. C.) Disturbance stress for stabilized second order control systems. (English summary) Special issue on Barrett Lectures in control theory

(Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1155–1182. (Summary) **99i:93055** 93D15 (93C15)

— (*with* Gu, Guoxiang; Chen, Jie[4]) Parametric $\mathscr{H}_\infty$ loopshaping and weighted mixed sensitivity minimization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 4, 846–852. (Summary) **99m:93027** 93B36

Lee, E. Stanley (*with* Cheng, Li Xin; Shi, Shu Zhong; Wang, Bing Wu) Generic Fréchet differentiability of convex functions dominated by a lower semicontinuous convex function. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 389–400. (Nikolay V. Zhivkov) **99m:49021** 49J50 (46G05, 58C20)

— (*with* Wu, Cong Xin; Li, Bao Ling) Discontinuous systems and the Henstock-Kurzweil integral. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 119–136. (Š. Schwabik) **99j:34005** 34A12 (26A39, 34A99)

Lee, Enoch K. S. (*with* Heatherly, Henry E.; Wiegandt, Richárd) Involutions on universal algebras. (English summary) *Nearrings, nearfields and K-loops* (*Hamburg*, 1995), 269–282, *Math. Appl.*, 426, *Kluwer Acad. Publ., Dordrecht*, 1997. (Helmut Länger) **99c:08005** 08A40

Lee, Eui Yong (*with* Ahn, Sung K.) P_λ^M-policy for a dam with input formed by a compound Poisson process. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 482–488. (Summary) **99e:60210** 60K30

Lee, Eun Hwi Systems of derivations on Banach algebras. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 251–256. (Summary) **99h:46091** 46H40

— (*with* Han, Dong-Soong) Harmonic Gauss map and Hopf fibrations. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 1, 55–63. (G. Tóth) **99f:58049** 58E20

Lee, Eun Jung (*with* Kim, Dong Wook; Kim, Myoung Ho; Lee, Yoon Joon) An efficient processing of range-MIN/MAX queries over data cube. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 223–237. 68P15

Lee, Eun Pyo (*with* Lee, Seok Jong; Park, Eun Suk) A generalization of a lattice fuzzy topology. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 113–126. 54A40 (18B99)

— (*with* Lee, Seok Jong) Fuzzy r-preopen sets and fuzzy r-precontinuous maps. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 91–108. 54A40

Lee, Eun-Soo (*with* Jammalamadaka, Sreenivasa Rao) Testing for harmonic new better than used in expectation. (English summary) *Probab. Engrg. Inform. Sci.* **12** (1998), *no.* 3, 409–416. (J. V. Deshpande) **99j:62064** 62G10 (62N05)

Lee, Eva K. (*with* Mitchell, John E.) Computational experience in nonlinear mixed integer programming. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 95–100, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C11

Lee, Fu-Ming (*with* Fong, I-Kong; Fu, Li Chen) Stable on-line parameter identification algorithms for systems with non-parametric uncertainties and disturbances. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 329–345. 93B30 (93C41)

Lee, G. M. *see* **Lee, Gue Myung**

Lee, GeungHee Testing for lack of fit via the generalized Neyman smooth test. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 305–318. (Summary) **99i:62107** 62G10

— (*with* Hart, Jeffrey D.) An L_2 error test with order selection and thresholding. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 61–72. 62J02

Lee, Gil Sang (*with* Kim, Hyang Sook; Pyo, Yong-Soo) Geodesics and circles on real hypersurfaces of type A and B in a complex space form. (English summary) *Balkan J. Geom. Appl.* **2** (1997), *no.* 2, 79–89. (Jürgen Berndt) **99i:53043** 53C22 (53C40)

Lee, Gue Myung (*with* Lee, Byung Soo; Zhang, Shi Sheng) Vector saddle point theorems and vector minimax theorems on H-spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 63–72. 90C29 (49K35)

— (*with* Lee, Byung Soo; Kim, Do Sang) Generalized vector variational-like inequalities on locally convex Hausdorff topological vector spaces. (English summary) *Nonlinear Anal. Forum* **1** (1995), 110–122. (George Isac) **99h:49012** 49J40 (47H19, 90C29)

— (*with* Kim, Do Sang; Kuk, Hun) Duality for nonlinear multiobjective fractional variational problems. (English summary) *Nonlinear Anal. Forum* **2** (1996), 93–102. 90C29 (49N15)

— (*with* Kim, Do Sang; Song, Young Ran) Symmetric duality for multiobjective nonconvex programs. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 347–350, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 90C29 (49N15)

— (*with* Kim, Do Sang; Lee, Byung Soo; Chen, Guang Ya) Generalized vector variational inequality and its duality for set-valued maps. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 21–26. (Summary) **99c:47112** 47H19 (49J40)

— (*with* Lee, Byung Soo; Cho, Sung-Jin; Kim, Do Sang) A common fixed point theorem for a pair of fuzzy mappings. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 133–136. 54H25 (54A40)

— (*with* Kuk, Hun; Kim, Do Sang) Nonsmooth multiobjective programs with V-ρ-invexity. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 4, 405–412. (Summary) **99c:90107** 90C29 (49J52)

— (*with* Park, Sehie; Lee, Byung Soo) A general vector-valued variational inequality and its fuzzy extension. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 637–642. (Summary) **99g:47151** 47H19 (47S40, 49J40, 90C29)

— (*with* Kim, Do Sang; Kuk, Hun) Existence of solutions for vector optimization problems. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 90–98. (Summary) **99a:90174** 90C29

— (*with* Kim, Do Sang; Jo, Cheong Lai) Optimality and duality for multiobjective fractional programming involving n-set functions. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 1–13. (Summary) **99d:90102** 90C29 (49N15, 90C32)

— (*with* Kim, Do Sang; Kuk, Hun) Duality for multiobjective fractional variational problems with generalized invexity. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 1, 17–25. (Juan-Enrique Martinez-Legaz) **99e:49046** 49N15 (90C29, 90C32)

— (*with* Kim, Do Sang; Lee, Byung Soo; Nguyễn Đông Yên) Vector variational inequality as a tool for studying vector optimization problems. *Nonlinear Anal.* **34** (1998), *no.* 5, 745–765. (Tetsuzo Tanino) **99h:90091** 90C29 (49J40)

— (*with* Kum, Sangho) Vector variational inequalities in a Hausdorff topological vector space. (English summary) *Nonlinear Anal. Forum* **3** (1998), 137–149. (Xie Ping Ding) **99i:49013** 49J40 (47H19)

— (*with* Kim, Do Sang; Lee, Byung Soo; Nguyễn Đông Yên) On a strongly monotone vector variational inequality. *Nonlinear Anal. Forum* **3** (1998), 151–176. (Xie Ping Ding) **99i:49014** 49J40 (47H19, 90C33)

— (*with* Lee, Byung Soo) Some variational inequality problems in nonreflexive Banach spaces. (English summary) *Nonlinear Anal. Forum* **3** (1998), 177–182. (Xie Ping Ding) **99i:49015** 49J40 (47H19)

— (*with* Lee, Byung Soo; Jung, Jong Soo; Zhang, Shi Sheng) Minimization theorems and fixed point theorems in generating spaces of quasi-metric family. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 143–152. (Summary) **99k:54004** 54A40 (54H25)

— (*with* Zhang, Shi Sheng; Lee, Byung Soo) Vector quasivariational inequalities for fuzzy mappings. II. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 333–344. (E. S. Lee) **99m:47082** 47H19 (47S40, 49J40)

— (*with* Cho, Sung-Jin; Lee, Byung Soo; Kim, Do Sang; Song, Yeoul-Ouk) Fubini theorem for generalized fuzzy number-valued integrals. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 177–179. 28E10 (28A35)

— (*with* Chen, Guang Ya; Huang, Xue Xiang) Equivalents of an approximate variational principle for vector-valued functions and applications. (English summary) *Math. Methods Oper. Res.* **49** (1999), *no.* 1, 125–136. (Christiane Tammer) **99m:49038** 49K27 (47H19, 49J40, 90C29, 90C48)

Lee, Gwang-Yeon (*with* Lee, You-Ho; Song, Seok-Zun) Tripotence for irreducible sign-pattern matrices. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 27–36. (H. K. Farahat) **99g:15015** 15A21 (15A57)

Lee, H. C. *see* **Lee, Hoong Chien**

Lee, H. K. (*with* Chae, K. C.) A heuristic interpretation of the incomplete beta function ratio. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 746–749. 33B15

Lee, H. P. *see* **Lee, Heow Pueh**

Lee, H. S. *see* **Lee, Hyo-Seong**

Lee, H. W. *see* **Lee, Hyung Won**

Lee, H. W. J. (*with* Teo, Kok Lay; Cai, Xiao-Qiang) An optimal control approach to nonlinear mixed integer programming problems. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 3, 87–105. (Summary) **99d:90078** 90C11

— (*with* Teo, Kok Lay; Rehbock, V.) Suboptimal local feedback control for a class of constrained discrete time nonlinear control problems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 133–148. (Summary) **99j:93044** 93B52 (93C55)

— (*with* Teo, Kok Lay; Rehbock, V.) Control parametrization enhancing technique for time optimal control and optimal three-valued control problems. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 617–631. (Ernest Scheiber) **99j:49074** 49M30 (49M25)

— (*with* Teo, Kok Lay; Jennings, L. S.; Rehbock, V.) The control parameterization enhancing transform for constrained optimal control problems. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 3, 314–335. (Summary) **99k:49073** 49M30 (49K15)

Lee, H. Y. *see* **Lee, Hyun Young**

Lee, Hak-Sung (*with* Bien, Zeungnam) Study on robustness of iterative learning control with non-zero initial error. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 345–359. 93E35 (93B35)

Lee, Heisook (*with* Choi, Eunmi) Projective Schur algebras over a field of positive characteristic. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 103–106. (Summary) **99d:16019** 16K20 (13A20)

— (*with* Choi, Eunmi; Shin, KyungHee) Schur groups of commutative rings. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 527–532. (Giuseppe Paxia) **99i:13004** 13A20 (16H05)

— (*with* Choi, Eunmi) Projective Schur division algebras. *Comm. Algebra* **26** (1998), *no.* 5, 1399–1407. (Jack Sonn) **99j:16011** 16K40

Lee, Heow Pueh (*with* Lin, Rongzin; Leng, Gerard Siew Bing) A method for the numerical computation of Hopf bifurcation. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 137–156. (Wolf-Jürgen Beyn) **99c:34075** 34C23 (34C25, 65L10)

Lee, Ho-Pyeong (*with* Hwang, Hong-Yeon) Design of two-degree-of-freedom robust controllers for a seeker scan loop system. (English summary) *Internat. J. Control* **66** (1997), *no.* 4, 517–537. 93B36 (93C95)

Lee, Hong-Jae (*with* Lee, Dae-Woong) Pro-torsion products and Čech homology groups. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 121–133. (Timothy Porter) **99g:55006** 55N05 (18G10, 55P55)

Lee, Hong-Youl An economical Kato's decomposition. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 111–115. (Harro Heuser) **99g:47022** 47A53

Lee, Hoong Chien (*with* Lou, S. L.; Lin, Friday; Lin, Chung-Yi; Chen, J. C.) Some results for the Ising model in d dimensions. *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 120–129, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 82B20

Lee, Hsuan (*with* Chou, Chung-I; Ho, Choon-Lin; Hu, Bambi) Morse-type Frenkel-Kontorova model. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 3, *part A*, 2747–2756. (Summary) **99a:82040** 82B26 (58F40)

Lee, Huey-Ming (*with* Yao, Ching Hsing) Economic order quantity in fuzzy sense for inventory without backorder model. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 13–31. 90B05 (90C70)

— (*with* Yao, Ching Hsing) Fuzzy inventory with or without backorder for fuzzy order quantity with trapezoid fuzzy number. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 3, 311–337. 90B05

Lee, Hung Hwan (*with* Kim, Tae Hee) The nets and packing dimensions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 271–278. (Claude Tricot) **99b:28009** 28A78 (28A80)

— (*with* Baek, In Soo) Perturbed type random Cantor set. (English summary) *Real Anal. Exchange* **23** (1997/98), *no.* 1, 223–234. (Hermann Haase) **99d:28011** 28A80 (60D05)

Lee, Hyang-Sook (*with* Shin, Dong-Sun) Some properties on spaces with noncompact group action. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 717–723. 54H15 (57S99)

— Finite generation of equivariant cohomology for a p-compact group G. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 3, 387–391. (Zafer Mahmud) **99k:55016** 55R35 (55P35, 55P91, 55R91)

— Induced maps in homolcgy for p-toral compact Lie groups. (English summary) *Topology Appl.* **87** (1998), *no.* 3, 189–197. (J. M. Boardman) **99g:55020** 55R40 (55P42, 55R12)

Lee, Hye-Sook (*with* Bae, Yongju; Park, Chan-Young) Polynomial invariants of 1-trivial dichromatic links. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 3, 345–354. (Summary) **99g:57005** 57M25

Lee, Hyesuk Kwon (*with* Du, Qiang; Gunzburger, Max D.) Analysis and computation of a mean-field model for superconductivity. (English summary) *Numer. Math.* **81** (1999), *no.* 4, 539–560. (Jacob Rubinstein) **99m:82047** 82D55 (65N30)

— (*with* Layton, William J.; Peterson, Janet S.) Numerical solution of the stationary Navier-Stokes equations using a multilevel finite element method. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 1–12 (*electronic*). (Summary) **99d:65323** 65N30 (76D05, 76M10)

Lee, Hyo-Seong (*with* Bouhchouch, A.; Dallery, Yves; Frein, Y.) Performance evaluation of open queueing networks with arbitrary configuration and finite buffers. (English summary) Queueing networks with blocking. *Ann. Oper. Res.* **79** (1998), 181–206. (From the summary) **99b:90056** 90B22 (60K25, 90B12)

Lee, Hyuc-Bum (*with* Choi, Seung-Bok; Thompson, Brian S.) Compliant control of a two-link flexible manipulator by constraint Hamiltonian system. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 3, 293–306. (Summary) **99g:70006** 70B15 (70Q05, 73K99)

Lee, Hyuk-Jae[1] (*with* Lee, Joo Youl; Yee, Jae Hyung) Vortex solutions of four-fermion theory coupled to a Yang-Mills-Chern-Simons gauge field. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087701, 4 *pp.* 81T13

Lee, Hyun Young (*with* Lee, Jang Rae) Error estimates for a single-phase quasilinear Stefan problem in one space dimension. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 327–342. (Ji Chun Li) **99d:65288** 65M60

— (*with* Ohm, Mi-Ray; Shin, J. Y.) A finite difference approximation of a singular boundary value problem. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 473–484. (Summary) **99h:65137** 65L12 (65L20)

Lee, Hyung-Chun Existence of boundary optimal control for the Boussinesq equations. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 11 *pp.*, *Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Maïtine Bergounioux) **99b:49003** 49J20 (35Q53, 76D99)

— Analysis of some nonlocal boundary value problems associated with feedback control. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 325–338. (Florin Iacob) **99d:35041** 35J35 (35B37, 93B52)

— (*with* Gunzburger, Max D.) Analysis and approximation of optimal control problems for first-order elliptic systems in three dimensions. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 1, 49–70. (Bing-Yu Zhang) **99k:49054** 49K20 (35J45, 49M25, 65N30)

— (*with* Lee, Yong Hun) Finite element approximation and computations of boundary optimal control problems for the Navier-Stokes flows through a channel with steps. (English summary) *J. Korean Math. Soc.* **36** (1999), *no.* 1, 173–192. (Ernest Scheiber) **99m:49049** 49M25 (65M60, 65N30, 76D05)

Lee, Hyung Won (*with* Myung, Yun Soo; Kim, Jin Young; Park, DaeKil) Unstable propagation of black strings. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 9, 701–713. (Summary) **99c:83097** 83E30 (83C57)

— (*with* Kim, N. J.; Myung, Yun Soo) Probing the BTZ black hole with test fields. (English summary) *Phys. Lett. B* **441** (1998), *no.* 1-4, 83–88. (Summary) **99h:83037** 83C57

— (*with* Kim, N. J.; Myung, Yun Soo; Kim, Jin Young) Stability analysis and absorption cross section in three-dimensional black string. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7361–7368. 83E30 (83C57)

— (*with* Kim, N. J.; Myung, Yun Soo) Dynamical behavior of the BTZ black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084022, 4 *pp.* (Summary) **99m:83123** 83C57 (83E30)

— (*with* Myung, Yun Soo; Kim, Jin Young) Role of fixed scalars in scattering off a 5D black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104006, 11 *pp.* 83C57

— (*with* Myung, Yun Soo) Greybody factor for the BTZ black hole and a 5D black hole. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 104013, 7 *pp.* (Summary) **99m:83191** 83E30 (81T30, 81T60, 83C57)

Lee, Il-Yong (*with* Jun, Dong-Kum) On two-dimensional Landsberg spaces of the Finsler space with $L^2(\alpha, \beta) = 2\alpha\beta$ metric. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 1, 75–88. (Makoto Matsumoto) **99d:53021** 53B40

— Geodesic equations of dimension two with Randers type and Kropina type. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 2, 303–317. (Makoto Matsumoto) **99h:53026** 53B40

— Projectively flat Finsler space with a generalized Kropina metric. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 5, 697–706. (Sándor Bácsó) **99i:53016** 53B40

Lee, In-Kwon (*with* Kim, Myung-Soo; Elber, Gershon) New approximation methods for planar offset and convolution curves. (English summary) *Geometric modeling: theory and practice* (*Blaubeuren*, 1996), 83–101, *Focus Comput. Graph., Springer, Berlin*, 1997. (Summary) **99e:65195** 65Y25 (65D17)

Lee, In-Won (*with* Jung, Hyung-Jo; Kim, Man-Cheol) An improved subspace iteration method with shifting. (English summary) *Comput. & Structures* **70** (1999), *no.* 6, 625–633. 65F15 (65F30)

Lee, Insup (*with* Philippou, Anna; Cleaveland, Rance; Smolka, Scott A.; Sokolsky, Oleg) Probabilistic resource failure in real-time process algebra. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 389–404, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q10 (68Q60)

Lee, J. *see* **Lee, Jon**[2]

Lee, J. A. (*with* Burggraf, O. R.; Conlisk, A. T.) On the impulsive blocking of a vortex-jet. (English summary) *J. Fluid Mech.* **369** (1998), 301–331. (Summary) **99f:76036** 76C05 (76D25)

Lee, J. C. *see* **Lee, Jin Chirng**

Lee, J. J. *see* **Lee, Jong-Jin**

Lee, J. Jack (*with* Staniswalis, Joan G.) Nonparametric regression analysis of longitudinal data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 444, 1403–1418. (Summary) **99h:62051** 62G07 (62P10)

Lee, J. K. *see* **Lee, Jeong Keun**

Lee, J.-Y. *see* **Lee, June-Yub**

Lee, Jae Don (*with* Oh, Young Sun; An, Jeong Hyang) On asymptotic stability for perturbed differential equation. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 167–173. (L. Hatvani) **99c:34109** 34D20

— (*with* Hwang, Suk-Geun; Park, Hong-Sun) Permanents of doubly stochastic kite matrices. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 423–432. (Thomas H. Foregger) **99c:15008** 15A15 (15A51)

Lee, Jae-Ha (*with* Chwa, Kyung-Yong) Tight analysis of a self-approaching strategy for the online kernel-search problem. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 1, 39–45. (Summary) **99k:68195** 68U05 (68Q25)

Lee, Jae Hak An implementation of weighted L_∞-metric program to multiple objective programming. *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **3** (1996), *no.* 1, 73–81. 90C29

Lee, Jae-Won[1] (*with* Kwon, Wook Hyun; Lee, Joon Hwa) Receding horizon H^∞ tracking control for time-varying discrete linear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 385–399. 93B36 (93C55)

— (*with* Park, Byung-Gun; Kwon, Wook Hyun) Robust one-step receding horizon control for constrained systems. (English summary) *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 7, 381–395. 93B35 (93C55)

Lee, Jaeheon (*with* Park, Changsoon; Song, Moon Sup) A generalization of the discrete feedback adjustment by rational subgrouping. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 237–249. (Summary) **99k:62198** 62N10

Lee, Jaeik On irreducible 3-manifolds. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1023–1032. (Joan Porti) **99j:57019** 57N10 (57M50)

Lee, Jaesung On the Berezin transform on D^n. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 311–324. (Miroslav Engliš) **99h:47036** 47B38 (32A37, 46E15, 47A15)

— The iteration of the Berezin transform in the polydisc. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 4, 347–359. (Summary) **99i:47058** 47B38 (32A37, 46E15)

— An invariant mean value property in the polydisc. *Illinois J. Math.* **42** (1998), *no.* 3, 406–419. (A. Yu. Rashkovskiĭ) **99k:31003** 31B05 (47B38)

— Properties of the Berezin transform of bounded functions. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 21–31. (Miroslav Engliš) **99m:47036** 47B38 (32A37)

Lee, Jaeun (*with* Kwak, Jin Ho) Isomorphism classes of bipartite cycle permutation graphs. (English summary) *Ars Combin.* **50** (1998), 139–148. (Summary) **99i:05147** 05C60 (05C25)

— (*with* Kwak, Jin Ho) Distribution of branched D_p-coverings of surfaces. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 193–212. (Allan Edmonds) **99e:57006** 57M12 (57M15, 57M60)

— (*with* Kim, Jin Hwan) Genus distributions for bouquets of dipoles. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 225–235. (Bojan Mohar) **99g:05063** 05C10

— (*with* Feng, Rong-Quan; Kwak, Jin Ho; Kim, Juyoung) Isomorphism classes of concrete graph coverings. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 265–272 (*electronic*). (Michael Hofmeister) **99k:05062** 05C10 (05C30, 57M15)

— (*with* Sohn, Moo Young; Kim, Hye Kyung) A note on graphs with large girth and small minus domination number. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 299–303. (Summary) **99j:05109** 05C35

Lee, Jaewon Two theorems for Poisson measures on hypergroups. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 2, 121–130. (H. Heyer) **99f:28018** 28C10 (20N20, 43A62, 60B15, 60E07)

Lee, Jang Rae (*with* Lee, Hyun Young) Error estimates for a single-phase quasilinear Stefan problem in one space dimension. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 327–342. (Ji Chun Li) **99d:65288** 65M60

Lee, Jay H. (*with* Cooley, Brian L.) Optimal feedback control strategies for state-space systems with stochastic parameters. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 10, 1469–1475. (Summary) **99e:93086** 93E20 (93B52, 93C55)

Lee, Jee-Soo (*with* Kim, Dong Kyue; Park, Kunsoo; Cho, Yookun) Efficient algorithms for approximate string matching with swaps. (English summary) *J. Complexity* **15** (1999), *no.* 1, 128–147. (Summary) **99k:68081** 68Q25

Lee, Jeffrey M. (*with* Richardson, Ken) Riemannian foliations and eigenvalue comparison. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 6, 497–525. (James F. Glazebrook) **99k:53047** 53C12 (58G25)

Lee, Jen-Chi SO(2, **C**) invariant discrete gauge states in Liouville gravity coupled to minimal conformal matter. (English summary) *Eur. Phys. J. C Part. Fields* **1** (1998), *no.* 3-4, 739–741. (Summary) **99d:81143** 81T40

Lee, Jeong Keun (*with* Jung, Il Hyo; Kwon, Kil Hyun) Sobolev orthogonal polynomials relative to $\lambda p(c)q(c) + \langle \tau, p'(x)q'(x) \rangle$. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 603–617. (Peter A. McCoy) **99f:42050** 42C05 (33C45)

— Centrally symmetric orthogonal polynomials in two variables. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 645–653. (Summary) **99h:33050** 33C50

— (*with* Han, S. S.; Jung, Il Hyo; Kwon, Kil Hyun) A non-standard class of Sobolev orthogonal polynomials. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 935–950. (Leonid B. Golinskiĭ) **99h:42044** 42C05

— (*with* Kim, Yong-Jihn; Kwon, Kil Hyun) Partial differential equations having orthogonal polynomial solutions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 239–253. (Summary) **99j:35007** 35A25 (33C45, 35C05)

Lee, Jin Chirng (*with* Lai, Hang Chin) Upper limit of sets and continuous mapping. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 505–514. (Summary) **99h:54017** 54C05 (54A20, 54E40)

Lee, Jin-Fa (*with* Dyczij-Edlinger, Romanus; Peng, Guanghua) Efficient finite element solvers for the Maxwell equations in the frequency domain. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 297–309. (Summary) **99k:78003** 78–08

— (*with* Liu, Chibing) Jacobi-Davidson algorithm and its application to modeling RF/microwave detection circuits. (English summary) *Comput. Methods Appl. Mech.*

Engrg. **169** (1999), *no.* 3-4, 359–375. 78–08

Lee, Jin Ho (*with* Choe, Hi-Jun) Cauchy problem for nonlinear parabolic equations. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 51–75. (I. Łojczyk-Królikiewicz) **99b:35085** 35K55

Lee, Jin S. (*with* Park, B. H.; Kuc, Tae-Yong) Adaptive learning control of uncertain robotic systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 725–744. 93E35 (70Q05)

Lee, Jin Seop (*with* Kim, Yong Chan; Kwon, Ern Gun) On some radius results for normalized analytic functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 1, 51–60. (Frode Rønning) **99b:30015** 30C45

— (*with* Kim, Yong Chan; Lee, Sang Hun) A certain subclass of analytic functions with negative coefficients for operators on Hilbert space. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 115–124. (Kazimierz Włodarczyk) **99b:30016** 30C45 (47A56)

Lee, John A. N. William Atchison [1918–1998]. *IEEE Ann. Hist. Comput.* **21** (1999), *no.* 1, 48–49. 01A70 (68–03)

— Computer pioneers from Eastern and Central Europe. *IEEE Ann. Hist. Comput.* **21** (1999), *no.* 1, 49–65. (Editors) **99i:01028** 01A60 (01A70, 68–03)

— Reynold B. Johnson [1906–1998]. *IEEE Ann. Hist. Comput.* **21** (1999), *no.* 1, 49. 01A70 (68–03)

Lee, Jon[2] (*with* Ko, Chun Wa; Wayne, K.) Comparison of spectral and Hadamard bounds for D-optimality. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 21–29, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99f:62090** 62K05

— (*with* Hardin, Jill; Leung, Janny) On the Boolean-quadric packing uncapacitated facility-location polytope. (English summary) Models and algorithms for planning and scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 77–94. (Summary) **99h:90061** 90B80 (90C10, 90C27)

Lee, Jong *see* **Lee, Jong S.**

Lee, Jong-Jin (*with* Park, Sehie) Best approximations of 1-set-contractions in Banach spaces. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 87–100. (Carlo Bardaro) **99g:47133** 47H10 (47H09)

Lee, Jong S. (*with* Its, Elizabeth) Scattering of surface elastic waves at a vertical anisotropic layer. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 439–459. (Yibin Fu) **99g:73042** 73D25 (73B40, 73D20)

Lee, Jongwoo Error estimates for a frequency-domain finite element method for parabolic problems with a Neumann boundary condition. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 345–362. (Jacques Rappaz) **99j:65170** 65M60 (65M15, 65N15, 65N30)

— (*with* Lee, Chang-Ock[2]; Sheen, Dongwoo; Yeom, Yongjin) A frequency-domain parallel method for the numerical approximation of parabolic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 1-2, 19–29. (Summary) **99j:65157** 65M55 (65Y05)

Lee, Joo Sung Totally disconnected groups, p-adic groups and the Hilbert-Smith conjecture. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 691–699. (Summary) **99e:54032** 54H15 (57S10)

Lee, Joo Youl (*with* Lee, Hyuk-Jae[1]; Yee, Jae Hyung) Vortex solutions of four-fermion theory coupled to a Yang-Mills-Chern-Simons gauge field. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 087701, 4 *pp.* 81T13

Lee, Joon Ho (*with* Kim, Kyu Hong; Rho, Oh Hyun) An improvement of AUSM schemes by introducing the pressure-based weight functions. (English summary) *Comput. & Fluids* **27** (1998), *no.* 3, 311–346. (Summary) **99b:76054** 76M20 (76K05)

Lee, Joon Hwa (*with* Lee, Jae-Won[1]; Kwon, Wook Hyun) Receding horizon H^∞ tracking control for time-varying discrete linear systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 2, 385–399. 93B36 (93C55)

Lee, Joongul On Gross's refined class number formula for elementary abelian extensions. (English summary) *J. Math. Sci. Univ. Tokyo* **4** (1997), *no.* 2, 373–383. (Introduction) **99c:11137** 11R29 (11R20, 11R42)

Lee, Ju Hong (*with* Yu, Shiann-Jeng) Efficient eigenspace-based array signal processing using multiple shift-invariant subarrays. (English summary) *IEEE Trans. Antennas and Propagation* **47** (1999), *no.* 1, 186–194. 78–08

Lee, Ju-Hong (*with* Cha, Guang-Ho; Chung, Chin-Wan) A model for k-nearest neighbor query processing cost in multidimensional data space. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 69–76. 68P20

Lee, Ju-Jang (*with* Shin, Jin-Ho) Singularity-free Cartesian path planning and adaptive robust control of a robot manipulator with free-swinging passive joints. (English summary) *Systems Sci.* **24** (1998), *no.* 1, 73–93. 93C85

Lee, Julian Hamiltonian formulation of the D-brane action and the light-cone Hamiltonian. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5134–5140. (Summary) **99m:81203** 81T30

Lee, June Bok (*with* Park, Young Ho) Permutation polynomials with exponents in an arithmetic progression. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 243–252. (S. D. Cohen) **99b:11134** 11T06

Lee, June-Yub (*with* Jeong, K.) A parallel Poisson solver using the fast multipole method on networks of workstations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 47–61. (Summary) **99c:65206** 65N30 (65Y05)

Lee, Jung Rye Galois group and Jones' index for II_1-factors. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 435–441. (Claire Anantharaman-Delaroche) **99f:46089** 46L37 (46L55)

Lee, Jungkeun The deformation space of real projective structures on the $(*n_1n_2n_3n_4)$-orbifold. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 549–560. (Darryl McCullough) **99c:57040** 57M50

Lee, Jungseob (*with* Kim, Young-One) Positively expansive endomorphisms on subshifts of finite type. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 257–267. (Summary) **99f:58067** 58F03 (54H20, 58F11)

— (*with* Kim, Young-One) The Gibbs measure and coboundary condition. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 2, 433–447. (Bernard Schmitt) **99f:58127** 58F11

Lee, Junjie *see* **Li, Jun Jie**[3]

Lee, Jyh-Hao (*with* Pashaev, O. K.) Moving frames hierarchy and *BF* theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 102–123. (Luigi Martina) **99g:81132** 81T13 (35Q55, 58F07)

Lee, K. H. *see* **Lee, Kwok-Hong**

Lee, Ka Hing (*with* Lam, Tak Wah) An improved scheme for set equality testing and updating. (English summary) *Theoret. Comput. Sci.* **201** (1998), *no.* 1-2, 85–97. (Summary) **99b:68045** 68P05

Lee, Kang Woong (*with* Khalil, Hassan K.) Adaptive output feedback control of robot manipulators using high-gain observer. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 869–886. 93C85

Lee, Kee-Won (*with* Sim, Songyong) A note on parametric bootstrap model selection. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 4, 397–405. 62G09

— (*with* Koo, Ja-Yong) B-spline estimation of regression functions with errors in variable. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 1, 57–66. (M. Hušková) **99j:62047** 62G05

Lee, Kee Young (*with* Woo, Moo Ha) Cyclic morphisms in the category of pairs and generalized G-sequences. *J. Math. Kyoto Univ.* **38** (1998), *no.* 2, 271–285. (Kalathoor Varadarajan) **99j:55011** 55Q05 (55P30)

Lee, Keejae Two-phase adaptive cluster sampling with unequal probabilities selection. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 265–278. (Summary) **99k:62022** 62D05

Lee, Keith S. M. (*with* Foda, Omar; Welsh, Trevor A.) A Burge tree of Virasoro-type polynomial identities. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 29, 4967–5012. (Anne Schilling) **99k:17047** 17B68 (05A19, 11P99, 81R10)

Lee, Keon-Hee (*with* Choi, Sung Kyu; Park, Jong Suh) The C^r closing lemma for chain recurrence in compact surfaces. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 559–562. (Romeo F. Thomas) **99j:58114** 58F10

Lee, Kimyeong (*with* Yi, Piljin) A family of $N = 2$ gauge theories with exact S-duality. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 157–178. (Summary) **99i:81243** 81T60 (81T13, 81T30)

— Instantons and magnetic monopoles on $\mathbf{R}^3 \times S^1$ with arbitrary simple gauge groups. (English summary) *Phys. Lett. B* **426** (1998), *no.* 3-4, 323–328. (Michael Murray) **99m:81144** 81T13 (22E67, 22E70, 81R10, 81T30)

— (*with* Bak, Dongsu; Lee, Choonkyu) Dynamics of Bogomol'nyi-Prasad-Sommerfield dyons: effective field theory approach. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5239–5259. (Summary) **99m:81135** 81T13 (58D27)

— (*with* Yi, Piljin) Dyons in $N = 4$ supersymmetric theories and three-pronged strings. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 6, 066005, 15 *pp.* (Summary) **99k:81314** 81T60 (81T13, 81T30)

Lee, Kisuk (*with* Koh, Jee) Some restrictions on the maps in minimal resolutions. (English summary) *J. Algebra* **202** (1998), *no.* 2, 671–689. (Mark R. Johnson) **99d:13017** 13D02

Lee, Kun Chang (*with* Kim, Hyun Soo) Fuzzy implications of fuzzy cognitive map with emphasis on fuzzy causal relationship and fuzzy partially causal relationship. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 303–313. (Summary) **99e:68155** 68T35 (03B52)

Lee, Kunwoo (*with* Park, Sangkun) Automatic multiblock decomposition using hypercube ++ for grid generation. (English summary) *Comput. & Fluids* **27** (1998), *no.* 4, 509–528. (Summary) **99a:65119** 65M55 (65N35, 76M25)

Lee, Kwan Jeh On Bahadur efficiency and Bartlett adjustability of quasi-LRT statistics. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 3, 251–264. (Summary) **99i:62033** 62F05 (62F12)

Lee, Kwang Bok (*with* Kim, Young Ik) Efficient plotting of closed polar curves with Mathematica. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **5** (1998), *no.* 2, 133–142. 65D17

Lee, Kwok-Hong (*with* Ong, Eng Hong) A reduction principle for singular perturbation problems. (English summary) *Appl. Math. Comput.* **101** (1999), *no.* 1, 45–62. (Summary) **99j:34079** 34E15 (34A45)

Lee, Kyo-Won (*with* Ishii, Hiroaki[1]; Han, Sang-Su; Miyazaki, Shigeji) Fuzzy scheduling problem on a multiprocessor system with memories. (English summary) *Math. Japon.* **49** (1999), *no.* 1, 139–144. 90B35 (68M20, 90C70)

Lee, Kyoung Hee (*with* Mordeson, John N.) Fractionary fuzzy ideals and Dedekind domains. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 1, 105–110. (Summary) **99e:13008** 13A99 (13F05)

Lee, Kyung Bai (*with* Kang, Eun Sook) Injective operations of homogeneous spaces. *Michigan Math. J.* **45** (1998), *no.* 3, 419–440. (Bruno Zimmermann) **99i:57057** 57S30 (57N15)

Lee, Li (*with* Tits, André L.; Balakrishnan, Venkataramanan) Robustness under bounded uncertainty with phase information. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 50–65. (Pablo A. Iglesias) **99m:93026** 93B35 (93B51, 93D21)

Lee, Loo Hay (*with* Lau, Tak Wing Edward; Ho, Yu Chi) Explanation of goal softening in ordinal optimization. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 94–99. 90C15 (93E20)

Lee, Lung-Fei (*with* Chen, Songnian) Efficient semiparametric scoring estimation of sample selection models. (English summary) *Econometric Theory* **14** (1998), *no.* 4, 423–462. (Luis Firinguetti) **99m:62160** 62P20 (62G05)

Lee, M. C. *see* **Lee, Min Cheol**

Lee, M. H. *see* **Lee, Min Ho**[1]

Lee, M. K. *see* **Lee, Man Keun**

Lee, M. W. *see* **Lee, Min Woo**

Lee, Mahnhoon (*with* Kim, Changhwa) Computation of a (canonical) doubly perfect elimination ordering of a doubly chordal graph. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 287–294. (Summary) **99b:05133** 05C85 (68Q25, 68R10)

Lee, Man Keun (*with* Keum, J. H.) A basis of the space of meromorphic quadratic differentials on Riemann surfaces. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 127–134. (James N. Brawner) **99a:14042** 14H55 (14F10)

— A basis of the space of meromorphic differentials on Riemann surfaces. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 13–18. (José M. Muñoz Porras) **99m:14060** 14H55 (30F30)

Lee, Mei-Ling Ting (*with* Hougaard, Philip; Whitmore, G. A.) Analysis of overdispersed count data by mixtures of Poisson variables and Poisson processes. (English and French summaries) *Biometrics* **53** (1997), *no.* 4, 1225–1238. (Summary) **99a:62150** 62P10

Lee, Mi Jin (*with* Park, Jong Yeoul) Duality in the optimal control problems for hyperbolic distributed parameter systems with damping terms. (English summary) *Nonlinear Anal. Forum* **3** (1998), 25–40. (Stanisław Migórski) **99g:49022** 49K20 (49N15)

Lee, Mi Young (*with* Lee, Sang Hun) Some generalized theorems on p-quasihyponormal operators. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 531–536. (Takayuki Furuta) **99b:47027** 47B20

— (*with* Lee, Sang Hun) Some generalized theorems on p-quasihyponormal operators for $0 < p < 1$. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 109–115. (Masatoshi Fujii) **99b:47028** 47B20

— (*with* Lee, Sang Hun) An extension of the Fuglede-Putnam theorem to p-quasihyponormal operators. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 319–324. (Fuad Kittaneh) **99f:47026** 47B10 (47B20)

vaughan-Lee, Michael *see* **Vaughan-Lee, Michael**

Lee, Min Cheol (*with* Joun, M. S.) General approach to automatic generation of quadrilaterals on three-dimensional surfaces. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 7, 609–620. (Summary) **99d:65270** 65M50 (65N50)

Lee, Min Ho[1] Periods of mixed automorphic forms and differential equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 15–19. (Summary) **99b:11053** 11F67 (11F12, 34A20)

— Generalized Jacobi forms and abelian schemes over arithmetic varieties. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 121–131. (Rolf Berndt) **99e:11057** 11F55 (14G40, 14K20)

— Generalized Jacobi cusp forms and elliptic surfaces. (English summary) *Complex Variables Theory Appl.* **36** (1998), *no.* 2, 133–148. (Summary) **99g:11064** 11F55 (14J27)

— Hilbert cusp forms and special values of Dirichlet series of Rankin type. *Glasgow Math. J.* **40** (1998), *no.* 1, 71–77. (Alexey A. Panchishkin) **99f:11061** 11F41 (11F37, 11F66, 11F67)

— Radon transforms, Laplacians, and flows for directed graphs. (English summary) *Linear and Multilinear Algebra* **45** (1998), *no.* 2-3, 219–233. (Summary) **99h:05047** 05C20 (05C50, 15A99)

— (*with* Kim, Hyun Kwang) Generalized Eichler-Shimura isomorphisms for compact locally symmetric spaces. *Osaka J. Math.* **35** (1998), *no.* 2, 407–415. (T. C. Vasudevan) **99m:11060** 11F70 (22E46)

— Automorphic pseudodifferential operators, Poincaré series and Eisenstein series. (English summary) *Bull. Austral. Math. Soc.* **59** (1999), *no.* 1, 45–52. (Takakazu Satoh) **99m:11053** 11F12 (11F25)

Lee, Min Woo (*with* Park, Hung Mok; Jang, Y. D.) An efficient computational method of boundary optimal control problems for the Burgers equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 3-4, 289–308. (Summary) **99j:49072** 49M30 (65M60)

Lee, Min-Young Bounds on probability for the occurrence of exactly r, t out of m, n events. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 393–401. (E. Seneta) **99j:60028** 60E15 (60C05)

— Some special bivariate Bonferroni-type lower bound. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 4, 215–223. (Summary) **99h:60031** 60E15 (60C05)

Lee, Miyoung (*with* Milner, Fabio A.) Mixed finite element methods for nonlinear elliptic problems: the h-p version. (English summary) *J. Comput. Appl. Math.* **85** (1997), *no.* 2, 239–261. (Qian Li) **99a:65152** 65N30 (65N12)

Lee, Myoung-jae (*with* Melenberg, Bertrand) Bounding quantiles in sample selection models. (English summary) *Econom. Lett.* **61** (1998), *no.* 1, 29–35. (Summary) **99j:62073** 62G30 (62P20)

Lee, Nak-Young In memory of Professor Jong Sok Choi [1931–1997]. (Korean) *Korean J. Appl. Statist.* **11** (1998), *no.* 1, 1–4. 01A70

Lee, Nam C. (*with* Parks, George K.) Envelope equation for nonlinear transverse waves in a warm two-fluid plasma. (English summary) *Phys. Plasmas* **5** (1998), *no.* 11, 3853–3867. (Summary) **99f:76136** 76X05

Lee, Oesook Weak convergence for iterated random maps. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 3, 485–490. (Ryszard Rudnicki) **99i:60051** 60F05 (60F15, 60J05)

Lee, Orlando (*with* Wakabayashi, Yoshiko) Circuit covers in series-parallel mixed graphs. (English summary) *LATIN'98: theoretical informatics* (*Campinas*, 1998), 226–238, *Lecture Notes in Comput. Sci.*, 1380, *Springer, Berlin*, 1998. (Summary) **99e:05097** 05C70 (05C85, 68R10)

Lee, P. A. *see* **Lee, Poh Aun**

Lee, Peng Hin (*with* Kimura, Hidenori; Soh, Yeng Chai) (J, J')-lossless conjugations, (J, J')-lossless factorizations and chain scattering approach to time-varying H^∞ control: one and two-block cases. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 177–198. 93B36 (93B25)

— (*with* Kimura, Hidenori; Soh, Yeng Chai) J-lossless conjugations and J-lossless factorizations of exponentially stable time-varying systems. (English summary) *Internat. J. Control* **66** (1997), *no.* 2, 199–212. 93B36 (93B25)

— (*with* Kimura, Hidenori; Soh, Yeng Chai) Co-(J'', J)-lossless co-conjugations and co-(J'', J)-lossless factorizations of linear time-varying systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 731–752. 93B25 (93C60)

— (*with* Kimura, Hidenori; Soh, Yeng Chai) Chain scattering approach to H^∞ control for time-varying systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 195–218. (Peng Shi) **99h:93038** 93B36

Lee, Peng Yee (*with* Lu, Jitan) The primitives of Henstock integrable functions in Euclidean space. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 173–180. (J. Jarník) **99m:26015** 26A39 (26A36)

Lee, Peter (*with* Necula, George C.) Efficient representation and validation of proofs. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 93–104, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 68T15

Lee, Peter L. (*with* Dong, Shijie; Zhou, Weibiao) Exponential tracking with disturbance attenuation (EDTA) and its numerical solution. (English summary) *Internat. J. Control* **69** (1998), *no.* 4, 561–575. 93D15 (93B40)

Lee, Pil Joong (*with* Lim, Chae Hoon) A key recovery attack on discrete log-based schemes using a prime order subgroup. (English summary) *Advances in cryptology—CRYPTO '97* (*Santa Barbara, CA*, 1997), 249–263, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94036** 94A60

Lee, Poh Aun On an integral of product of Laguerre polynomials. (English summary) *Int. J. Comput. Math.* **64** (1997), *no.* 3-4, 303–307. (Summary) **99g:33028** 33C45

— Random deletion model and Rainville's generating function for the Laguerre polynomials. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1171–1175. (Summary) **99g:33029** 33C45 (60E05)

Lee, R. C. T. (*with* Liaw, Bern-Cherng) An algorithm to solve the minimum weakly cooperative guards problem for 1-spiral polygons. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 162–177 (*electronic*). (*see* **99f:68006**) 68U05

— (*with* Chao, H. S.; Hsu, F. R.) An optimal algorithm for finding the minimum cardinality dominating set on permutation graphs. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 309–318, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (Summary) **99m:68148** 68R10 (05C85, 68Q25)

Lee, Richard C. H. Robust methods for an inverse heat conduction problem. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 273–281, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 80A23 (65Mxx)

— (*with* Smith, Malcolm C.) Robustness and trade-offs in repetitive control. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 889–896. 93B35 (93C40)

Lee, Robert (*with* Nehrbass, John W.; Jevtić, Jovan O.) Reducing the phase error for finite-difference methods without increasing the order. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 8, 1194–1201. (Summary) **99d:78004** 78–08

Lee, Ronald M. (*with* Sadighi Firozabadi, Babak; Tan, Yao-Hua) Formal definitions of fraud. (English summary) *Norms, logics and information systems* (*Bologna*, 1998), 275–287, *Frontiers Artificial Intelligence Appl.*, 49, *IOS, Amsterdam*, 1999. (*see* **99k:03014**) 68T27 (90A15)

Lee, Ronnie (*with* Wilczyński, Dariusz M.) Representing homology classes by locally flat surfaces of minimum genus. (English summary) *Amer. J. Math.* **119** (1997), *no.* 5, 1119–1137. (Stefan A. Bauer) **99e:57034** 57N35 (57N13)

Lee, S.-C. *see* **Lee, Sann-Chie**

Lee, S.-G. *see* **Lee, Sang-Gu**

Lee, S. J. *see* **Lee, Seok Jong**

Lee, S. K. *see* **Lee, Sang Keun**

Lee, S. L. *see* **Lee, Seng Luan**

Lee, S.-R. (*with* Freiling, Gerhard; Jank, Gerhard) Coupled matrix Riccati equations in minimal cost variance control problems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 556–560. (Keigo Watanabe) **99m:93098** 93E10 (93C99)

Lee, Sa Ge The generalized normal state space and unital normal completely positive map. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 237–257. (H. Halpern) **99b:46094** 46L10 (46L30)

Lee, Sang Bum[1] P-adic decompositions over domains. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 4, 291–296. (Luigi Salce) **99j:13009** 13C13

— (*with* Fuchs, László[1]) Equivalent presentations of modules over Prüfer domains. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 151–157. (C. P. L. Rhodes) **99d:13013** 13C13 (13F05)

Lee, Sang Cheol Direct sum decompositions of indecomposable injective modules. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 33–43. (B. M. Pandeya) **99g:16005** 16D50

Lee, Sang Chul (*with* Lee, Byung Soo) A generalization of matching theorems and variational inequalities on H-spaces. (English summary) *Nonlinear Anal. Forum* **2** (1996), 103–112. (Summary) **99e:54034** 54H25 (47H19, 49J40)

Lee, Sang Deok (*with* Chang, Seung Jun) The partial differential equation on function space with respect to an integral equation. (English summary) *J. Korea Soc. Math. Educ. Ser. B Pure Appl. Math.* **4** (1997), *no.* 1, 47–60. (Chull Park) **99c:60177** 60J65 (28C20, 35R15, 60H05)

Lee, Sang Eun (*with* Press, S. James) Robustness of Bayesian factor analysis estimates. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1871–1893. 62H25

Lee, Sang-Gu (*with* Cheon, Gi-Sang; Johnson, Charles Royal; Pribble, E. J.) The possible numbers of zeros in an orthogonal matrix. (English summary) *Electron. J. Linear Algebra* **5** (1999), 19–23 (*electronic*). (Summary) **99h:15023** 15A57

Lee, Sang Han (*with* Im, Sung Mo) A characterization of reflexivity of normed almost linear spaces. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 211–219. (Summary) **99i:46011** 46B99 (46A19)

Lee, Sang Hun (*with* Lee, Mi Young) Some generalized theorems on p-quasihyponormal operators. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 531–536. (Takayuki Furuta) **99b:47027** 47B20

— (*with* Hossen, H. M.; Aouf, M. K.; Cho, Nak Eun) Certain generalizations of P-valent functions. (English summary) *Kyungpook Math. J.* **37** (1997), *no.* 2, 251–258. (Summary) **99i:30019** 30C45

— (*with* Lee, Mi Young) Some generalized theorems on p-quasihyponormal operators for $0 < p < 1$. (English summary) *Nihonkai Math. J.* **8** (1997), *no.* 2, 109–115. (Masatoshi Fujii) **99b:47028** 47B20

— (*with* Lee, Mi Young) An extension of the Fuglede-Putnam theorem to p-quasihyponormal operators. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 319–324. (Fuad Kittaneh) **99f:47026** 47B10 (47B20)

— (*with* Choi, Kun Wook; Jung, Il Bong) Singly generated dual operator algebras with properties $(A_{m,n})$. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 4, 727–739. (Gregory Adams) **99k:47109** 47D27 (47A45)

— (*with* Kim, Yong Chan; Lee, Jin Seop) A certain subclass of analytic functions with negative coefficients for operators on Hilbert space. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 115–124. (Kazimierz Włodarczyk) **99b:30016** 30C45 (47A56)

Lee, Sang Jeong (*with* Goodwin, Graham C.; Feuer, Arie) On the reconstruction of a finite sum of sinusoids from non-uniform periodic samples. (English summary) *Internat. J. Control* **71** (1998), *no.* 4, 615–629. (Summary) **99h:93109** 93E12 (93B07, 94A12)

Lee, Sang Jin (*with* Birman, Joan S.; Ko, Ki Hyoung) A new approach to the word and conjugacy problems in the braid groups. (English summary) *Adv. Math.* **139** (1998), *no.* 2, 322–353. (Yuji Kobayashi) **99m:20082** 20F36 (20F05, 20F10)

Lee, Sang Keun (*with* Kwon, Young In) Some special elements in ordered Γ-semigroups. (English summary) {Dedicated to U-Hang Ki on the occasion of his 60th birthday}.

Kyungpook Math. J. **35** (1996), *no.* 3, *Special Issue*, 679–685. (Friedrich Wehrung) **99m:06029** 06F05

— (*with* Kwon, Young In) On characterizations of right [left] semiregular po-semigroups. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 507–511. (Mark Verus Lawson) **99g:06021** 06F05 (20M12)

— (*with* Kwon, Oh Sang; Kim, In Hwa; Cho, Nak Eun) Certain subclasses of meromorphic starlike functions. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 545–555. (G. Lakshma Reddy) **99g:30012** 30C45

— (*with* Chung, Won Sang) $\mathrm{gl}_{q,q^*}(n)$-covariant multimode oscillators and q-symmetric states. (English summary) *Internat. J. Theoret. Phys.* **36** (1997), *no.* 12, 3015–3020. (Marcelo R. Ubriaco) **99b:81099** 81R50

— (*with* Jung, Jae Hong) On left regular po-semigroups. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 1–6. (Jacques Lévy-Bruhl) **99d:06021** 06F05

— (*with* Kwon, Young In) On the left right weakly prime ideals of po-Γ-semigroups. (English summary) *Far East J. Math. Sci.* **1998**, *Special Volume, Part I*, 77–84. (Elias Deeba) **99m:06040** 06F35 (03G25, 20M12)

— On characterizations of some classes of po-semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 1, 51–55. (Johnny A. Johnson) **99i:06017** 06F05

— (*with* Kwon, Young In) On completely regular and quasi-completely regular ordered semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 247–251. (Juturu Hanumanthachari) **99k:06009** 06F05 (20M99)

— (*with* Kwon, Ern Gun; Shon, Kwang Ho) A Rado type refinement of Minkowski's and Hölder's inequality. (English summary) *Math. Japon.* **48** (1998), *no.* 2, 245–250. (Lucio Renato Berrone) **99m:26030** 26D15 (28A35)

— (*with* Shon, Kwang Ho; Kwon, Ern Gun) Pseudoconvexity of Riemann domains over a product of complex planes. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 347–352. (Marek Jarnicki) **99i:32022** 32F15 (46E99)

— (*with* Joshi, Santosh B.) A certain class of analytic functions defined by Ruscheweyh derivatives. (English summary) *Commun. Korean Math. Soc.* **14** (1999), *no.* 1, 147–156. (Herb Silverman) **99m:30021** 30C45

Lee, Sang Youl (*with* Park, Chan-Young) On the modified Goeritz matrices of 2-periodic links. *Osaka J. Math.* **35** (1998), *no.* 3, 529–537. (Lorenzo Traldi) **99k:57020** 57M25

Lee, Sangmin (*with* Krogh, Morten) String network from M-theory. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 241–254. (Claudio A. Scrucca) **99d:81124** 81T30

— (*with* Castelino, Judith; Taylor, Washington, IV) Longitudinal 5-branes as 4-spheres in Matrix theory. (English summary) *Nuclear Phys. B* **526** (1998), *no.* 1-3, 334–350. (Marco Spaans) **99h:81159** 81T30

Lee, Sangyeol (*with* Park, Sangwoo; Hwang, Sun Young) Testing the randomness of the coefficients in first order autoregressive processes. (English summary) *J. Korean Statist. Soc.* **27** (1998), *no.* 2, 189–195. (Summary) **99j:62132** 62M10

— The asymptotic behavior of the empirical process based on a linear process under some contiguous alternatives. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 1–15. (Stergios B. Fotopoulos) **99i:62206** 62M10 (62G20)

— On the quantile process based on the autoregressive residuals. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 17–28. (Stergios B. Fotopoulos) **99i:62207** 62M10 (60F17, 62G20)

Lee, Sann-Chie (*with* Ge, Zheng Ming; Lee, C.-I.; Chen, Heng-Hui) Non-linear dynamics and chaos control of a damped satellite with partially-filled liquid. (English summary) *J. Sound Vibration* **217** (1998), *no.* 5, 807–825. (Summary) **99i:70010** 70E15 (70K20, 70K50, 70M20, 70Q05)

Lee, Seng Luan (*with* Goh, Say Song; Tan, Hwee Huat) Orthogonal expansions and multilevel algorithms. (English summary) *Functional analysis and global analysis* (*Quezon City*, 1996), 88–96, *Springer, Singapore*, 1997. (Summary) **99h:42059** 42C15 (41A15, 65D07)

— (*with* Goodman, Tim N. T.) Convergence of cascade algorithms. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 191–212, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99g:65131** 65T99

— (*with* Goodman, Tim N. T.) Refinable vectors of spline functions. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 213–220, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99e:41008** 41A15 (42C15, 65D07)

— (*with* Goh, Say Song; Shen, Zuowei; Tang, Wai-Shing) Multilevel projections on spaces of periodic functions. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 22–29, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 41A65 (46E30)

— (*with* Sharma, Ambikeshwar; Tan, Hwee Huat) Spline interpolation and wavelet construction. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 249–276. (Charles K. Chui) **99f:42068** 42C15 (41A15, 65D15)

— (*with* Goh, Say Song; Shen, Zuowei; Tang, Wai-Shing) Construction of Schauder decomposition on Banach spaces of periodic functions. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 61–91. (Kazaros Kazarian) **99b:46033** 46E30 (41A65, 42C15, 46B15, 47A58)

— (*with* Goodman, Tim N. T.) Nonstationary matrix cascade algorithms. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 97–111, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99j:65247** 65T99 (42C15)

Lee, Seok Jong (*with* Park, Eun Suk; Lee, Eun Pyo) A generalization of a lattice fuzzy topology. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 113–126. 54A40 (18B99)

— (*with* Nel, Louis Daniel[1]) Foundational isomorphisms in continuous differentiation theory. (English summary) *Appl. Categ. Structures* **6** (1998), *no.* 1, 127–135. (Andreas Kriegl) **99d:58027** 58C20 (46G05, 46M15)

— (*with* Lee, Eun Pyo) Fuzzy r-preopen sets and fuzzy r-precontinuous maps. (English summary) *Bull. Korean Math. Soc.* **36** (1999), *no.* 1, 91–108. 54A40

Lee, Seong Baek *see* **Lee, Sung-Baik**

Lee, Seoung Ho (*with* Baek, Sung-Do) Remarks on the Reidemeister numbers for coincidences. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 109–121. (Alexander Fel'shtyn) **99b:55003** 55M20

Lee, Seung-Yeoun (*with* Kim, Jinheum) Two-sample goodness-of-fit tests for additive risk models with censored observations. (English summary) *Biometrika* **85** (1998), *no.* 3, 593–603. 62G10

Lee, Shie-Jue (*with* Lin, Wei-Jer) Formal verification and diagnosis of combinational circuit designs with propositional logic. (English summary) *Fund. Inform.* **31** (1997), *no.* 1, 79–105. (Summary) **99e:94058** 94C12 (03B05, 03B70, 68Q35)

Lee, Shih-Tuen (*with* Yang, Jaw-Yen; Tang, Yun-Hai) A high-order streamline Godunov scheme for steady supersonic/hypersonic equilibrium flows. (English summary) *Comput. Methods Appl. Mech. Engrg.* **159** (1998), *no.* 3-4, 261–289. (Summary) **99c:76078** 76M20 (76J20, 76K05)

Lee, Sik (*with* Han, Sang-Eon) On the admittance of a fixed point free deformation of the space which $\pi_1(X)$ is infinite. (English summary) *Honam Math. J.* **20** (1998), *no.* 1, 147–152. (John F. Oprea) **99f:55005** 55M20

Lee, Sik-Yum (*with* Shi, Jian-Qing) Analysis of covariance structures with independent and non-identically distributed observations. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 543–557. (Summary) **99d:62062** 62H12

— (*with* Poon, Wai-Yin) Analysis of two-level structural equation models via *EM* type algorithms. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 749–766. 62P15 (62F10)

Lee, Sin-Min (*with* Shiu, Wai Chee; Lam, Peter Che Bor) Edge-magicness of the composition of a cycle with a null graph. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 9–18. (*see* **99i:00022**) 05C78

Lee, Soo Hyo (*with* Pérez, Juan de Dios; Suh, Young Jin) A characterization of Einstein real hypersurfaces in quaternionic projective space. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 165–178. (Jürgen Berndt) **99e:53064** 53C25 (53C40)

Lee, Soo Teck (*with* Zhu, Chen-Bo) Degenerate principal series and local theta correspondence. II. (English summary) *Israel J. Math.* **100** (1997), 29–59. (Jae-Hyun Yang) **99c:22022** 22E46 (11F27)

— (*with* Zhu, Chen-Bo) Degenerate principal series and local theta correspondence. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5017–5046. (Jae-Hyun Yang) **99c:22021** 22E46 (11F27)

Lee, Sun Mi (*with* Kim, Byung Hak; Kim, In-Bae) Conharmonic transformation and critical Riemannian metrics. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 2, 347–354. (Andrew Bucki) **99f:53036** 53C20 (58E11)

Lee, Sung-Baik (*with* Kim, In-Bae; Kim, Nam-Gil; Ahn, Seong Soo) A rigidity theorem for real hypersurfaces in a complex projective space. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 1007–1013. (Jürgen Berndt) **99g:53065** 53C42 (53C40)

Lee, Sung Yun (*with* Kim, Philsu) A piecewise linear quadrature of Cauchy singular integrals. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 101–115. (Gennady S. Mishuris) **99h:65042** 65D32 (41A55)

— (*with* Kang, Kab Seok) New intergrid transfer operator in multigrid method for P_1-nonconforming finite element method. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 139–149. (Summary) **99k:65109** 65N30 (65F10, 65N55)

Lee, Sungchul The central limit theorem for Euclidean minimal spanning trees. I. (English summary) *Ann. Appl. Probab.* **7** (1997), *no.* 4, 996–1020. (Mathew D. Penrose) **99d:60010** 60D05 (05C05, 60F05, 60K35)

Lee, Swungho (*with* Soni, Bharat K.) Governing equations of fluid mechanics in physical curvilinear coordinate system. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations* (*Mississippi State, MS*, 1997), 149–157 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:76114** 76M25 (76D05)

Lee, T. *see* **Lee, Thomas Y.**

Lee, T. Sen (*with* Chen, Ye-Hwa; Chuang, C.-H.) Control of discrete fuzzy systems: uncertainty and guaranteed performance. (English summary) *Dynam. Control* **8** (1998), *no.* 1, 83–106. (Peter V. Golubtsov) **99e:93043** 93C42 (04A72)

— (*with* Chen, Ye-Hwa; Chuang, C.-H.) Control for tractor-semitrailer vehicle systems: a Lyapunov minimax approach. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 21–37. 93C85 (70Q05)

Lee, Tae-Hwy (*with* Gonzalo, Jesús) Pitfalls in testing for long run relationships. (English summary) *J. Econometrics* **86** (1998), *no.* 1, 129–154. (Peter M. Robinson) **99k:62160** 62M10 (62P20)

Lee, Taejin Relativistic anyon and $(2+1)$-dimensional gravity. (English summary) *Topics in theoretical physics* (*Sorak Mountain Resort*, 1995), 149–153, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99f:81005**) 83C99

— Topological Ward identity and anti-de Sitter space/CFT correspondence. (English summary) *Phys. Lett. B* **439** (1998), *no.* 3-4, 277–282. (Summary) **99f:83069** 83E30 (81T40)

Lee, Tai-Chung Complete Ricci flat Kähler metric on M_{I}^n, M_{II}^{2n}, M_{III}^{4n}. (English summary) *Pacific J. Math.* **185** (1998), *no.* 2, 315–326. (Matthew B. Stenzel) **99k:53128** 53C55

Lee, Thomas *see* **Lee, Thomas Yew Sing**

Lee, Thomas Y. (*with* Bressan, Stephane F.; Goh, Cheng Hian; Madnick, S.; Siegel, Michael) A procedure for mediation of queries to sources in disparate contexts. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 213–227, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17 (68P15)

Lee, Thomas Yew Sing Models for design and control of single server polling computer and communication systems. (English summary) *Oper. Res.* **46** (1998), *no.* 4, 515–531. (Summary) **99d:60103** 60K25 (60K20)

Lee, Ti-Chung (*with* Chang, Yeong-Chan; Chen, Bor-Sen) Tracking control of flexible joint manipulators using only position measurements. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 567–593. 93C85 (70B15, 70Q05)

Lee, Tian Shyug *see* **Errata: "An alternative proof for a known result of noncentral Wishart distribution"**

Lee, Tong-Heng (*with* Xu, Jian-Xin; Wang, Mao; Yu, Xing-Huo) Design of variable structure controllers with continuous switching control. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 409–431. 93B51 (93B12)

— (*with* Xu, Jian-Xin; Jia, Qing-Wei; Wang, Mao) On adaptive robust backstepping control schemes suitable for PM synchronous motors. (English summary) *Internat. J. Control* **70** (1998), *no.* 6, 893–920. 93C85 (93C40)

— (*with* Xu, Jian-Xin; Wang, Mao) Self-tuning type variable structure control method for a class of nonlinear systems. (English summary) *Internat. J. Robust Nonlinear Control* **8**

(1998), *no.* 13, 1133–1153. (Summary) **99g:93018** 93B12 (93C10)

— (*with* Wang, Qing-Guo; Tan, Kok Kiong) ★ Finite spectrum assignment for time-delay systems. Lecture Notes in Control and Information Sciences, 239. *Springer-Verlag London, Ltd., London*, 1999. *viii*+117 *pp. ISBN* 1-85233-065-1 (T. Kaczorek) **99k:93003** 93–02 (93B55, 93C30)

— (*with* Wang, Qing-Guo; He, Jian-Bo) Internal stability of interconnected systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 593–596. 93D05 (93A14)

Lee, Tony T. (*with* To, Philip P.) Non-blocking routing properties of Clos networks. (English summary) *Advances in switching networks* (*Princeton, NJ*, 1997), 181–195, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:94066** 94C10 (90B10)

Lee, Travis (*with* Minzner, Max; Fisher, Evan) Excursions of a random walk related to the strong law of large numbers. *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 595–606. (M. S. Sgibnev) **99h:60141** 60J15 (60F20)

Lee, Tsern-Huei (*with* Chou, Jin-Jye) Some topological properties of bitonic sorters. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 9, 983–997. 68M15

Lee, Tsiu-Kwen (*with* Chang, Chi-Ming) Annihilators of power values of derivations in prime rings. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2091–2113. (Charles Lanski) **99d:16039** 16W25 (16N60, 16R50)

— (*with* Shiue, Wen-Kwei) Derivations cocentralizing polynomials. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 4, 457–467. (Andrzej Nowicki) **99k:16074** 16W25 (16N60)

— Differential identities of Lie ideals or large right ideals in prime rings. (English summary) *Comm. Algebra* **27** (1999), *no.* 2, 793–810. (Vladislav K. Kharchenko) **99k:16052** 16R50 (16N60)

Lee, Tsong-Cherng Derivations and centralizing maps on skew elements. (English summary) *Soochow J. Math.* **24** (1998), *no.* 4, 273–290. (Charles Lanski) **99m:16052** 16W10 (16N60, 16W25)

Lee, Tsu-Tian (*with* Yung, Chee-Fai; Wu, Jenq-Lang) H^∞ control for more general nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1724–1727. (Summary) **99h:93046** 93B36

— (*with* Shen, Sy-Kang; Wang, Bor-Chyun) An improved algorithm for computing the boundary of parametric rational functions. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 227–231. 93B40 (93B35)

Lee, Tzann-Shin (*with* Chen, Bor-Sen; Chang, Wei-Sheng) A robust H^∞ model reference tracking design for non-holonomic mechanical control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 283–306. 93B36 (93C10)

Lee, Tzong-Yow (*with* Torcaso, Fred) Wave propagation in a lattice KPP equation in random media. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1179–1197. (Kazuaki Taira) **99h:60168** 60K35 (35Q99, 35R60, 60F10)

— Asymptotic results for super-Brownian motions and semilinear differential equations. (English summary) *Electron. Res. Announc. Amer. Math. Soc.* **4** (1998), 56–62 (*electronic*). (John Verzani) **99h:60055** 60F10 (60G57, 60J80)

Lee, W. K. (*with* Lee, C. K.) Fast fractal image block coding based on local variances. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 888–891. 94A12

Lee, W. W. (*with* Qin, Hong[3]; Tang, W. M.; Rewoldt, G.) Gyrokinetic perpendicular dynamics. (English summary) *Phys. Plasmas* **6** (1999), *no.* 5, *part* 1, 1575–1588. 76X05

Lee, Waidong (*with* Dabrowska, Dorota M.) Nonparametric estimation of transition probabilities in a two-stage duration model. (English summary) *J. Nonparametr. Statist.* **7** (1996), *no.* 1, 75–103. (Summary) **99a:62041** 62G05

Lee, Wee Sun (*with* Bartlett, Peter L.; Williamson, Robert C.) The importance of convexity in learning with squared loss. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1974–1980. (Summary) **99k:68160** 68T05

Lee, Wen-Chuan (*with* Wu, Jong-Wuu) Characterization of generalized mixtures of exponential distribution based on conditional expectation of order statistics. (English summary) *J. Japan Statist. Soc.* **28** (1998), *no.* 1, 39–44. (Mir Masoom Ali) **99k:62030** 62E10 (62G30)

Lee, Won Jung (*with* Kim, Do Sang) Symmetric duality for multiobjective variational problems with invexity. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 34–48. (Gert Wanka) **99c:90106** 90C29 (49N15)

— (*with* Kim, Do Sang; Song, Young Ran) Symmetric duality in nonlinear multiobjective fractional variational problems. *Nonlinear Anal. Forum* **3** (1998), 53–74. 49N15 (90C29)

Lee, Won Kyoung (*with* Park, Hae Dong) Second-order approximation for chaotic responses of a harmonically excited spring-pendulum system. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 4, 749–757. 70K50 (70K40, 73K12)

Lee, Woo Young (*with* Farenick, Douglas R.) Errata: "On hyponormal Toeplitz operators with polynomial and circulant-type symbols" [Integral Equations Operator Theory **29** (1997), no. 2, 202–210; MR 98j:47059]. Dedicated to the memory of Mark Grigorievich Krein (1907–1989). *Integral Equations Operator Theory* **30** (1998), *no.* 4, 496–499. (From the text) **99d:47024** 47B35 (47B20)

— (*with* Kim, In Hyoun) On hyponormal Toeplitz operators with polynomial and symmetric-type symbols. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 2, 216–233. (Takahiko Nakazi) **99j:47036** 47B35 (47B20)

— Weyl's theorem for operator matrices. (English summary) *Integral Equations Operator Theory* **32** (1998), *no.* 3, 319–331. (Walter Renger) **99g:47023** 47A53 (47A10, 47A55)

Lee, Y. W. *see* **Lee, Yong Wan**

Lee, Yang (*with* Huh, Chan; Kim, Hong Kee) Questions on 2-primal rings. *Comm. Algebra* **26** (1998), *no.* 2, 595–600. (R. L. Tangeman) **99d:16022** 16N40 (16N80)

— (*with* Huh, Chan) A note on π-regular rings. *Kyungpook Math. J.* **38** (1998), *no.* 1, 157–161. (W. D. Burgess) **99d:16011** 16E50

— (*with* Huh, Chan) Finite filterations of iterated Ore extensions of Noetherian algebras. (English summary) *Kyungpook Math. J.* **38** (1998), *no.* 2, 393–400. (S. S. Page) **99j:16026** 16W60 (16P90, 16S36)

Lee, Yong-Duk Conformal transformations of difference tensors of Finsler space with an (α, β)-metric. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 4, 975–984. (Tadashi Aikou) **99i:53017** 53B40

Lee, Yong Hah (*with* Choi, Hyeong In; Kim, Seok Woo) Rough isometry and the asymptotic Dirichlet problem. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 3, 333–348. (Thierry Coulhon) **99j:58211** 58G20 (31C05, 31C20, 53C21)

Lee, Yong-Hoon Existence and multiplicity results of positive radial solutions for semilinear elliptic problems in an exterior domain. (English summary) *Proceedings of the Korea-Japan Partial Differential Equations Conference* (*Taejon*, 1996), 10 *pp., Lecture Notes Ser.*, 39, *Seoul Nat. Univ., Seoul*, 1997. (Zuchi Chen) **99a:35090** 35J65 (34B15, 35B05)

— An existence result of positive solutions for singular superlinear boundary value problems and its applications. *J. Korean Math. Soc.* **34** (1997), *no.* 1, 247–255. (Miguel Ramos) **99a:34057** 34B15 (35J65, 47H10)

— A multiplicity result for periodic solutions of higher order ordinary differential equations via the method of upper and lower solutions. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 4, 307–323. (Philip Korman) **99m:34038** 34B15 (34C25)

— The existence of periodic solutions for systems of ordinary differential equations. (English summary) *Nagoya Math. J.* **151** (1998), 145–160. (Maria Patrizia Pera) **99f:34063** 34C25 (34B15, 47H15)

Lee, Yong Hun (*with* Lee, Hyung-Chun) Finite element approximation and computations of boundary optimal control problems for the Navier-Stokes flows through a channel with steps. (English summary) *J. Korean Math. Soc.* **36** (1999), *no.* 1, 173–192. (Ernest Scheiber) **99m:49049** 49M25 (65M60, 65N30, 76D05)

Lee, Yong Wan (*with* Choi, Bong Dae; Kim, Yeong Cheol[2]) The $M/M/c$ retrial queue with geometric loss and feedback. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 41–52. (Summary) **99e:90040** 90B22

Lee, Yoon Jin Generalized fuzzy filter and limit structure. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 415–422. (*see* **99m:03114**) 54A40 (18D15, 18D20)

Lee, Yoon Joon (*with* Kim, Dong Wook; Lee, Eun Jung; Kim, Myoung Ho) An efficient processing of range-MIN/MAX queries over data cube. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 223–237. 68P15

Lee, Yoonweon Mayer-Vietoris formula for determinants of elliptic operators of Laplace-Beltrami type (after Burghelea, Friedlander and Kappeler). (English summary) *Differential Geom. Appl.* **7** (1997), *no.* 4, 325–340. (Wiesław J. Olędzki) **99a:58163** 58G26

Lee, You-Ho (*with* Lee, Gwang-Yeon; Song, Seok-Zun) Tripotence for irreducible sign-pattern matrices. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 27–36. (H. K. Farahat) **99g:15015** 15A21 (15A57)

Lee, Youn W. Alexander polynomial for link crossings. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 2, 235–258. (Charilaos Aneziris) **99k:57021** 57M25

— A rational invariant for knot crossings. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3385–3392. (Kimihiko Motegi) **99c:57026** 57M25

Lee, Young Ha (*with* Park, Young Jin) Maximum penalized likelihood estimate in a Sobolev space. (English summary) *J. Korean Statist. Soc.* **26** (1997), *no.* 1, 23–30. (Alexander G. Kukush) **99a:62055** 62G05 (62H12)

Lee, Young Joo Pluriharmonic symbols of commuting Toeplitz type operators on the weighted Bergman spaces. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 129–136. (Dechao Zheng) **99b:47035** 47B35 (32A37)

— (*with* Choe, Boo Rim) On $\mathscr{M}$-harmonic Bloch functions and their Carleson measures. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 273–289. (Daniel H. Luecking) **99i:32006** 32A30 (30D45, 32A37)

— (*with* Choe, Boo Rim) Pluriharmonic symbols of essentially commuting Toeplitz operators. *Illinois J. Math.* **42** (1998), *no.* 2, 280–293. (Daniel H. Luecking) **99g:47051** 47B35 (32A37)

Lee, Young Seop Exponential formula for exponentially bounded C-semigroups. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 45–52. (Irina V. Melnikova) **99c:47053** 47D06 (41A65)

— (*with* Park, Sang Don) Convergence of nonlinear semigroups in a hyperbolic space. (English summary) *Commun. Korean Math. Soc.* **13** (1998), *no.* 1, 171–179. (Tadeusz Kuczumow) **99b:47099** 47H20 (47H09)

Lee, Young Whan (*with* Kim, Gwang Hui) Approximate Jordan mappings on noncommutative Banach algebras. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 1, 69–73. (Summary) **99g:46062** 46H05

Lee, Yu-Hua (*with* Horng, Shi-Jinn) The equivalence of the chessboard distance transform and the medial axis transform. (English summary) *Int. J. Comput. Math.* **65** (1997), *no.* 3-4, 165–177. (Summary) **99m:68223** 68U10

Lee, Yue-Ho *see* **Lee, You-Ho**

Lee, Yuh-Jia Convergence of Fock expansion and transformations of Brownian functionals. *Functional analysis and global analysis* (*Quezon City*, 1996), 142–156, *Springer, Singapore*, 1997. (Isamu Dôku) **99m:60066** 60G20 (46N30)

— A generalization of the Riesz representation theorem to infinite dimensions. (English summary) *J. Funct. Anal.* **151** (1997), *no.* 1, 121–137. (Nobuaki Obata) **99b:46056** 46E50 (46F25, 46G12)

— Generalized white noise functionals on classical Wiener space. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 613–635. (Jan Ubøe) **99m:60084** 60H07 (46F25, 60H05)

Leeb, Bernhard (*with* Kapovich, Michael; Kleiner, Bruce) Quasi-isometries and the de Rham decomposition. (English summary) *Topology* **37** (1998), *no.* 6, 1193–1211. (Raul Quiroga) **99g:53048** 53C23 (53C21, 53C22)

Leeb, Hannes Weak limits for the diaphony. (English summary) *Monte Carlo and quasi-Monte Carlo methods* 1996 (*Salzburg*), 330–339, *Lecture Notes in Statist.*, 127, *Springer, New York*, 1998. (Henri Faure) **99i:11062** 11K38 (60F05)

Leech, Jonathan (*with* FitzGerald, D. G.) Dual symmetric inverse monoids and representation theory. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 3, 345–367. (Mária B. Szendrei) **99g:20116** 20M30 (20M18, 20M20)

— On the foundations of inverse monoids and inverse algebras. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 1, 1–21. (John D. P. Meldrum) **99b:20096** 20M18 (18C99, 20M50)

Leedham-Green, Charles (*with* Celler, F.) A constructive recognition algorithm for the special linear group. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 11–26, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Cheryl E. Praeger) **99g:20001** 20–04 (15A33, 20C40, 20G40)

— (*with* Soicher, Leonard H.) Symbolic collection using Deep Thought. (English summary) *LMS J. Comput. Math.* **1** (1998), 9–24 (*electronic*). (Martyn R. Dixon) **99f:20002** 20–04 (20F18)

— (*with* Boston, Nigel) Counterexamples to a conjecture of Lemmermeyer. (English summary) *Arch. Math. (Basel)* **72** (1999), *no.* 3, 177–179. (Franz Halter-Koch) **99m:11131** 11R37 (11R32, 20D15)

Leeds, Stephen *see* **van Fraassen, Bas C., 99c:81019**

Lee-Elkin, Forest (*with* Aravind, P. K.) Two noncolourable configurations in four dimensions illustrating the Kochen-Specker theorem. (English summary) *J. Phys. A* **31** (1998), *no.* 49, 9829–9834. (S. Gudder) **99k:81029** 81P10

Leela, S. Uncertain dynamic systems on time scales. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 142–148. (Summary) **99d:34025** 34A99 (34D99, 93C41)

Leemans, Dimitri (*with* Buekenhout, Francis; Dehon, Michel) On flag-transitive incidence geometries of rank 6 for the Mathieu group M_{12}. (English summary) *Groups and geometries (Siena, 1996)*, 39–54, *Trends Math., Birkhäuser, Basel*, 1998. (Barbara Baumeister) **99m:51017** 51E24 (20D08)

— (*with* Gottschalk, Harald) The residually weakly primitive geometries of the Janko group J_1. (English summary) *Groups and geometries (Siena, 1996)*, 65–79, *Trends Math., Birkhäuser, Basel*, 1998. (Antonio Pasini) **99h:51014** 51E24 (20D08, 20D30)

— The rank 2 geometries of the simple Suzuki groups Sz(q). (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 97–120. (Gernot Stroth) **99b:20030** 20D08 (51E24)

— Thin geometries for the Suzuki simple group Sz(8). (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 373–387. (Barbara Baumeister) **99f:51021** 51E24 (20D08)

— An atlas of regular thin geometries for small groups. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1631–1647. (Harald Gottschalk) **99m:51018** 51E24 (20B99, 52B10)

Leenaerts, D. M. W. (*with* Mladenov, V. M.; Uhlmann, F. H.) Estimation of the basin of attractions in CNN's. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 571–574. (Summary) **99b:92005** 92B20 (58F40, 68T05)

Leese, R. A. (*with* van den Heuvel, Jan; Shepherd, M. A.) Graph labeling and radio channel assignment. (English summary) *J. Graph Theory* **29** (1998), *no.* 4, 263–283. (Summary) **99h:05103** 05C78

Lee Shader, Chanyoung (*with* Benkart, Georgia; Ram, Arun) Tensor product representations for orthosymplectic Lie superalgebras. (English summary) *J. Pure Appl. Algebra* **130** (1998), *no.* 1, 1–48. (Thomas M. Halverson) **99k:17013** 17B10 (05E15)

Leete, Thomas H. (*with* Schwartz, Matthew D.; Williams, Robert M.; Wood, David Harlan; Salem, Jerome S.; Rubin, Harvey) Massively parallel DNA computation: expansion of symbolic determinants. (English summary) *DNA based computers, II (Princeton, NJ, 1996)*, 45–58, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 44, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99f:68002**) 68Q05 (68Q40, 92D20)

van der Leeuw, Johannes Leonardus ★ Maximum likelihood estimation of exact ARMA models. (English and Dutch summaries) Dissertation, Katholieke Universiteit Brabant, Tilburg, 1997. *Tilburg University Press, Tilburg*, 1997. *viii*+124 *pp. ISBN* 90-361-9867-4 (Yuzo Hosoya) **99h:62117** 62M10

van Leeuwen, Hans (*with* Maassen, Hans) The q-harmonic oscillator in a lattice model. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6424–6440. (Uwe Franz) **99k:81126** 81S05 (81R50, 82B20)

van Leeuwen, Jan (*with* Bodlaender, Hans L.; Tan, Richard B.; Thilikos, Dimitris M.) On interval routing schemes and treewidth. (English summary) *Inform. and Comput.* **139** (1997), *no.* 1, 92–109. (Dominique Sotteau) **99g:68149** 68R10 (68M10, 68Q25)

van Leeuwen, Marc A. A. An analogue of jeu de taquin for Littelmann's crystal paths. (English summary) *Sém. Lothar. Combin.* **41** (1998), *Art. B41b*, 23 *pp.* (*electronic*). (Angèle M. Hamel) **99m:05163** 05E10

Lefebvre, Mario Moment generating functions of first hitting times for the bidimensional geometric Brownian motion. (English summary) *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **50** (1996), 99–113. (Summary) **99c:60185** 60J70 (35A25, 35Q99, 60G40, 60J60)

— First-passage problems involving processes with lognormal density functions. (Italian summary) *Istit. Lombardo Accad. Sci. Lett. Rend. A* **130** (1996), *no.* 1-2, 63–78 (1997). (Summary) **99a:60095** 60J99 (60G40, 60H10)

— Solving an LQG homing problem via a different uncontrolled process. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1021–1026. (Summary) **99i:93064** 93E03 (93E20)

Lefebvre-Barbaroux, Sophie (*with* Jean-Marie, Alain; Liu, Zhen[1]) An analytical approach to the performance evaluation of master-slave computational models. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 841–862. 68M20 (65Y05)

Lefevere, R. (*with* Bricmont, J.; Kupiainen, Antti) Renormalization group pathologies and the definition of Gibbs states. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 2, 359–388. (Emilio N. M. Cirillo) **99j:82035** 82B28

Lefèvre, Claude (*with* Utev, Sergei) Asymptotic behavior of the final number of susceptible individuals in generalized epidemic processes. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 858–868, *ii–iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 753–763. (Przemysław Matuła) **99m:60034** 60F05 (92D30)

Leff, Gordon Alcuin of York (ca. 730–804). (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2 (Aachen, 1995)*, 3–9, *Brepols, Turnhout*, 1998. (Summary) **99j:01004** 01A35 (01A70)

mittag-Leffler, Magnus Gösta *see* **Mittag-Leffler, Magnus Gösta**

Le Floch, Laurent Rigidité générique des feuilletages singuliers. (English and French summaries) [Generic rigidity of singular foliations] *Ann. Sci. École Norm. Sup.* (4) **31** (1998), *no.* 6, 765–785. (M. G. Soares) **99i:32039** 32L30 (58F18)

LeFloch, Philippe G. An entropy diminishing criterion for hyperbolic conservation laws. (English summary) *Numerical methods for wave propagation (Manchester, 1995)*, 275–295, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jian Guo Liu) **99j:65146** 65M12 (35L65, 76M20)

— Dynamics of solid-solid phase interfaces via a level set approach. (English summary) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 187–212. (Jacques Rappaz) **99k:73023** 73B30 (35Q72, 65C20, 70H20, 73V15, 80A22)

— (*with* Hayes, Brian T.) Nonclassical shocks and kinetic relations: finite difference schemes. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2169–2194 (*electronic*). (Anne Nouri) **99k:65073** 65M06 (35L67)

— (*with* Liu, Jian-Guo) Generalized monotone schemes, discrete paths of extrema, and discrete entropy conditions. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1025–1055. (Riccardo Fazio) **99i:65092** 65M12 (35L65)

Lefmann, Hanno (*with* Hofmeister, Thomas) A combinatorial design approach to MAXCUT. (English summary) Proceedings of the Seventh International Conference on Random Structures and Algorithms (Atlanta, GA, 1995). *Random Structures Algorithms* **9** (1996), *no.* 1-2, 163–175. (Summary) **99c:05185** 05C85

— (*with* Bertram-Kretzberg, Claudia; Rödl, Vojtěch; Wysocka, Beata) Proper bounded edge-colorings (extended abstract). (English summary) *Combinatorics, complexity, & logic (Auckland, 1996)*, 121–130, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (*see* **99d:68003**) 05C15

— (*with* Pudlák, Pavel; Savický, Petr) On sparse parity check matrices. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 2, 107–130. (L. R. Vermani) **99c:94063** 94B65 (94B05)

— (*with* Hofmeister, Thomas) Approximating maximum independent sets in uniform hypergraphs. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 562–570, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68R10 (05C65, 05C85, 68Q25)

— (*with* Bertram-Kretzberg, Claudia; Hofmeister, Thomas) Sparse 0-1-matrices and forbidden hypergraphs (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 181–187, *ACM, New York*, 1998. (*see* **99d:68011**) 05C65

— (*with* Hofmeister, Thomas) On k-partite subgraphs. (English summary) *Ars Combin.* **50** (1998), 303–308. (Summary) **99i:05111** 05C35

Lefter, Cătălin (*with* Rădulescu, Vicenţiu D.) On the Ginzburg-Landau energy with vanishing weight. *An. Univ. Craiova Ser. Mat. Inform.* **21** (1994), 3–11 (1995). 58E30 (35Q58)

— (*with* Rădulescu, Vicenţiu D.) Minimization problems and renormalized energies related to the Ginzburg-Landau equation. (English summary) *An. Univ. Craiova Ser. Mat. Inform.* **22** (1995), 1–13 (1997). (Patricio L. Felmer) **99k:58046** 58E20 (35Q55, 49Q20, 58E50)

— (*with* Lassoued, Lotfi) On a variant of the Ginzburg-Landau energy. *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 1, 39–51. (Patricio L. Felmer) **99b:58062** 58E20 (35Q55, 49Q99)

Lefton, Lew (*with* Wei, Dongming) A priori L^p error estimates for Galerkin approximations to porous medium and fast diffusion equations. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 971–989. (Wojciech Mydlarczyk) **99i:65109** 65M60

Le Gal, P. (*with* Schouveiler, L.; Chauve, M. P.) Stability of a traveling roll system in a rotating disk flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2695–2697. 76E10 (76U05)

— (*with* Danaila, L.; Anselmet, F.; Plaza, F.; Pinton, J. F.) Some new features of the passive scalar mixing in a turbulent flow. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 636–646. 76F99 (76–05)

Le Gall, Jean-François Marches aléatoires auto-évitantes et mesures de polymère [polymères]. [Self-avoiding random walks and polymer measures] *Séminaire de Probabilités, XXXI*, 103–112, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Thomas Polaski) **99c:60151** 60J15 (60K35, 82B41)

— (*with* Le Jan, Yves) Branching processes in Lévy processes: the exploration process. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 213–252. (Götz Kersting) **99d:60096** 60J80 (60J25, 60J30, 60J55)

— (*with* Dhersin, Jean-Stéphane) Kolmogorov's test for super-Brownian motion. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1041–1056. (Steven N. Evans) **99g:60153** 60J80 (60G17, 60G57)

— (*with* Le Jan, Yves) Branching processes in Lévy processes: Laplace functionals of snakes and superprocesses. (English summary) *Ann. Probab.* **26** (1998), *no.* 4, 1407–1432. (Luis G. Gorostiza) **99m:60133** 60J80 (60G57, 60J30)

— Branching processes, random trees and superprocesses. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 279–289 (*electronic*). (Summary) **99e:60191** 60J80 (35R60, 60G57, 60K35)

Le Gall, Pierre The stationary $G/G/s$ queue with non-identical servers. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 163–178. (Summary) **99c:60205** 60K25

— Multiserver queueing networks and the tandem queue model. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 377–390. 60K25 (90B22)

— Erratum: "The theory of networks of single server queues and the tandem queue model" [J. Appl. Math. Stochastic Anal. **10** (1997), no. 4, 363–381]. *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 4, 527. 90B22 (60K25)

Légaré, J. (*with* Clayton, M. A.; Demopoulos, L.) The dynamical instability of static, sphcrically symmetric solutions in nonsymmetric gravitational theories. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 10, 1501–1520. (Christopher Kohler) **99g:83066** 83D05

Legaré, M. Reduced SDYM and SDSYM equations in $\mathbf{E}^4$ and $\mathbf{E}^{(2,2)}$. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 130–139, *Univ. Montréal, Montreal, QC*, 1997. (Ian A. B. Strachan) **99b:53036** 53C07 (58E15, 81T13)

— (*with* Lachapelle, J.) Super-matrix KdV and super-generalized NS equations from self-dual Yang-Mills systems with supergauge groups. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 195–202. (Oktay K. Pashaev) **99i:58077** 58F07 (35Q53, 35Q55, 81T13)

galindo-Legaria, César A. *see* **Galindo-Legaria, César A.**

martínez-Legaz, Juan-Enrique *see* **Martínez-Legaz, Juan-Enrique**

molina Legaz, R. *see* **Molina Legaz, R.**

Legeard, B. (*with* Hibti, M.; Lombardi, Henri) Une procédure de décision pour un problème de satisfiabilité dans un univers ensembliste héréditairement fini. (English and French summaries) [A decision procedure for a satisfiability problem in a universe of hereditarily finite sets] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 205–236. (M. A. Taïtslin) **99a:03052** 03E70 (03D15, 03D60, 03E75, 68N17, 68Q15)

Legendre, Adrien-Marie *see* **Correspondence: Legendre, Adrien-Marie–Jacobi, Carl Gustav Jacob, 99i:01022**

Legendre, Dominique (*with* Magnaudet, Jacques) The lift force on a spherical bubble in a viscous linear shear flow. (English summary) *J. Fluid Mech.* **368** (1998), 81–126. 76D99 (76T05)

Leger, Dawn L. *see* **Özkaya, Nihat**

Léger, Michel Interpolation with triangulated surfaces and curvature minimization. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 263–270, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D05

Legeza, Örs (*with* Peschel, Ingo; Kaulke, Matthias) Density-matrix spectra for integrable models. (English summary) *Ann. Phys.* (8) **8** (1999), *no.* 2, 153–164. (Summary) **99j:82027** 82B23 (82B20)

Leggett, A. J. On the superfluid fraction of an arbitrary many-body system at $T = 0$. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 927–941. (Summary) **99h:82077** 82D50

LeGland, François (*with* Brigo, Damiano; Hanzon, Bernard) A differential geometric approach to nonlinear filtering: the projection filter. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 2, 247–252. (Pham Tran Nhu) **99a:93095** 93E11

Łęgowski, Z. Modification of the elementary Mach reflection theory of an oblique shock wave at a rigid wall. (English summary) *J. Tech. Phys.* **39** (1998), *no.* 1, 67–75. 76L05

Legrand, André (*with* Bellissard, Jean; Contensou, Edouard) *K*-théorie des quasi-cristaux, image par la trace: le cas du réseau octogonal. (English and French summaries) [*K*-theory of quasicrystals, gap labelling: the octagonal lattice] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 197–200. (Summary) **99h:46131** 46L80 (19K35)

hayat-Legrand, Claude *see* **Hayat-Legrand, Claude**

Legrand, Michel (*with* Zhao, Zhijian; Aubry, Nadine) Criteria for transition to turbulence induced by Richtmyer-Meshkov and Rayleigh-Taylor instabilities. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 108–117, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:76079** 76F99 (76E99)

— (*with* Aubry, Nadine; Le Piouffle, Myriam; Dewisme, Alain) Transition to turbulence generated by interfacial instabilities during a cylindrical implosion. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing* (*Stony Brook, NY*, 1995), 357–362, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99

Le Gruyer, E. (*with* Archer, J. C.) Harmonious extensions. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 279–292 (*electronic*). (Liaqat Ali Khan) **99d:54008** 54C20 (41A65, 54E40)

Leguillon, Dominique Asymptotic analysis of a spontaneous crack growth. Application to a blunt crack. *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 169–180, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 73M25

— (*with* Leblond, Jean-Baptiste) Asymptotic behavior of stress intensity factors near an angular point of a crack front. (English summary) *Eur. J. Mech. A Solids* **18** (1999), *no.* 1, 135–145. (Summary) **99k:73101** 73M25

Le Guillou, J. C. (*with* Fosco, C. D.) Decoupling transformations in path-integral bosonization. (English summary) *Nuclear Phys. B* **535** (1998), *no.* 1-2, 483–498. (Summary) **99j:81111** 81T10 (81S40)

Leguizamón, C. A. (*with* Zaretzky, A. N.) Lattices due to increasing low energy relational processes. (English summary) *Math. Comput. Modelling* **25** (1997), *no.* 11, 75–81. (Summary) **99e:92003** 92B05 (06D20)

— (*with* Zaretzky, A. N.) Changing algebras in low energy biologic relational processes. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 6, 13–22. (Richard A. Alò) **99d:92005** 92B05 (06D99, 08B05)

Leguizamón, Enzo O. (*with* Iriondo, Mirta S.; Reula, Oscar A.) Fast and slow solutions in general relativity: the initialization procedure. (English summary) *J. Math. Phys.* **39** (1998), *no.* 3, 1555–1565. (Alan D. Rendall) **99b:83008** 83C05 (35L40, 83C25)

Le Guyadec, Yann (*with* Bougé, Luc; Cachera, David; Utard, Gil; Virot, Bernard) Formal validation of data-parallel programs: a two-component assertional proof system for a simple language. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 71–107. (Dorothy Bollman) **99c:68169** 68Q60

Lê Hai Khôi (*with* Morimoto, Mitsuo) Representation of harmonic functions in the Lie ball by Dirichlet series. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 331–342. (Ragnar Sigurdsson) **99e:32003** 32A05 (31B05)

— Convolution operators on holomorphic Dirichlet series. (English summary) *Tokyo J. Math.* **20** (1997), *no.* 2, 389–402. (Ragnar Sigurdsson) **99f:32010** 32A45 (32A05, 46E10)

Lehel, Jenő (*with* Gyárfás, András; Király, Zoltán) On-line 3-chromatic graphs. II. Critical graphs. (English summary) *Discrete Math.* **177** (1997), *no.* 1-3, 99–122. (Summary) **99e:05049** 05C15

— (*with* Jacobson, Michael S.; Kézdy, André E.) Scenic graphs. I. Traceable graphs. (English summary) *Ars Combin.* **49** (1998), 79–96. (Arthur M. Hobbs) **99j:05132** 05C45 (05C38)

— (*with* Faudree, Ralph J.; Gyárfás, András) Path-pairable graphs. (English summary) *J. Combin. Math. Combin. Comput.* **29** (1999), 145–157. (Summary) **99j:05120** 05C38

Lehmacher, Walter (*with* Bregenzer, Thomas) Directional tests for the analysis of clinical trials with multiple endpoints allowing for incomplete data. (English summary) *Biom. J.* **40** (1998), *no.* 8, 911–928. 62P10

Lehman, Bradley (*with* Weibel, Steven P.) Moving averages for periodic delay differential and difference equations. (English summary) *Stability and control of time-delay systems*, 158–183, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 34K20 (39A10, 93C30)

Lehmann, Axel (*with* Kahle, Waltraud) Parameter estimation in damage processes: dependent observation of damage increments and first passage time. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 139–152, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99f:62120** 62N05

— Boundary crossing probabilities of Poisson counting processes with general boundaries. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 153–166, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99g:60088** 60G55 (60K05, 62L15)

Lehmann, Bruce N. Semiparametric methods for asset pricing models. (English summary) *Statistical methods in finance*, 61–90, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99m:62164** 62P20 (90A09)

Lehmann, D. *see* **Lehmann, Daniel J.**

Lehmann, Daniel Une généralisation des nombres de Milnor pour les intersections complètes à singularités non isolées. [A generalization of Milnor numbers for complete intersections with nonisolated singularities] *Homotopy and geometry* (*Warsaw*, 1997), 177–182, *Banach Center Publ.*, 45, *Polish Acad. Sci., Warsaw*, 1998. (*see* **99k:57001**) 32S65

Lehmann, Daniel J. Generalized qualitative probability: Savage revisited. (English summary) *Uncertainty in artificial intelligence* (*Portland, OR*, 1996), 381–388, *Morgan Kaufmann, San Francisco, CA*, 1996. (Summary) **99b:90010** 90A05 (68T27, 90A06)

— (*with* Arzi-Gonczarowski, Z.) Introducing the mathematical category of artificial perceptions. (English summary) *Ann. Math. Artificial Intelligence* **23** (1998), *no.* 3-4, 267–298. (M. Studený) **99m:68199** 68T99 (18B20, 92J30)

— (*with* Arzi-Gonczarowski, Z.) From environments to representations—a mathematical theory of artificial perceptions. (English summary) *Artificial Intelligence* **102** (1998), *no.* 2, 187–247. (Summary) **99f:68175** 68T10 (68T30)

Lehmann, E. L. (*with* Casella, George) ★ Theory of point estimation. (English summary) Second edition. Springer Texts in Statistics. *Springer-Verlag, New York*, 1998. *xxvi+589 pp. ISBN* 0-387-98502-6 (Xuming He) **99g:62025** 62F10 (62–01)

Lehn, Manfred On the cotangent sheaf of Quot-schemes. (English summary) *Internat. J. Math.* **9** (1998), *no.* 4, 513–522. (Jean-Marc Drezet) **99h:14018** 14F05 (14D20)

Lehner, Franz Free operators with operator coefficients. *Colloq. Math.* **74** (1997), *no.* 2, 321–328. (Ken Dykema) **99a:22009** 22D25 (47A30)

Lehner, Luis (*with* Gómez, Roberto; Marsa, R. L.; Winicour, Jeffrey) Moving black holes in 3D. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4778–4788. (Summary) **99k:83069** 83C57

— A dissipative algorithm for wave-like equations in the characteristic formulation. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 59–74. (Summary) **99i:65114** 65M99 (35L70)

Lehnert, B. Electromagnetic theory with space-charges in vacuo. *Causality and locality in modern physics* (*Toronto, ON*, 1997), 105–112, *Fund. Theories Phys.*, 97, *Kluwer Acad. Publ., Dordrecht*, 1998. (From the text) **99k:78013** 78A25 (78A40, 81V10)

— Electromagnetic space-charge waves in vacuo. *The enigmatic photon, Vol.* **4**, 219–259, *Fund. Theories Phys.*, 90, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99h:81226**) 78A25

Lehnert, James S. (*with* Lok, Tat M.) An asymptotic analysis of DS/SSMA communication systems with general linear modulation and error control coding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 870–881. (Summary) **99c:94004** 94A05

Lehninger, Harald (*with* Liu, Yunkang) The functional-differential equation $\mathbf{y}'(t) = A\mathbf{y}(t) + B\mathbf{y}(qt) + C\mathbf{y}'(qt) + \mathbf{f}(t)$. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 81–91. (Alexander Tovbis) **99i:34089** 34K05

Lehoczky, John (*with* Stephan, Jennifer; Bodson, Marc) Calculation of recoverable sets for systems with input and state constraints. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 4, 247–269. (Patrick Saint-Pierre) **99k:93014** 93B03 (49M30, 65K10, 93B40)

Lê Hông Vân Compact symplectic manifolds of low cohomogeneity. (English summary) *J. Geom. Phys.* **25** (1998), *no.* 3-4, 205–226. (Christopher T. Woodward) **99k:58072** 58F05 (57S25)

Lehoucq, R. B. (*with* Meerbergen, Karl) Using generalized Cayley transformations within an inexact rational Krylov sequence method. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 131–148 (*electronic*). (Zeng Rong Chen) **99h:65056** 65F10 (65F15, 65N25)

Lehrer, Ehud (*with* Smorodinsky, Rann) Merging and learning. (English summary) *Statistics, probability and game theory*, 147–168, *IMS Lecture Notes Monogr. Ser.*, 30, *Inst. Math. Statist., Hayward, CA*, 1996. (James Bergin) **99c:90177** 90D35 (90A05, 90D10)

— Comparison of experts. (English summary) *J. Math. Econom.* **30** (1998), *no.* 2, 207–214. (Summary) **99k:90012** 90A05 (90D05)

Lehrer, G. I. (*with* Dimca, Alexandru) Purity and equivariant weight polynomials. *Algebraic groups and Lie groups*, 161–181, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Andrzej Kozłowski) **99h:14023** 14F25 (14M25)

— Roger Wolcott Richardson (1930–1993). *Austral. Math. Soc. Gaz.* **25** (1998), *no.* 2, 98–110. (Editors) **99m:01078** 01A70

— (*with* Graham, J. J.) The representation theory of affine Temperley-Lieb algebras. (English summary) *Enseign. Math.* (2) **44** (1998), *no.* 3-4, 173–218. (Richard M. Green) **99i:20019** 20C99 (16G99, 57M25)

— *see also* **Algebraic groups and Lie groups, 99b:00024**

Lehtimäki, Reijo On planar harmonic grid generation. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 3, 305–315. 65N50

Lehto, Olli E. On the life and work of Lars Ahlfors. *Math. Intelligencer* **20** (1998), *no.* 3, 4–8. (Editors) **99k:01065** 01A70

— *see also* **Analysis and topology, 99h:00035**

LeHyaric, A. Equivalent boundary conditions in electromagnetism. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 133–155, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (Summary) **99e:78006** 78–08 (78A45)

— (*with* Parrott, A. K.; Monk, P. B.; Jennings, N.; Murphy, John Andrew; Rowse, D.) Parallelisation of a 3-D electromagnetic scattering code. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 329–340, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08 (65N30)

Lei, Chin-Laung (*with* Yeh, Tzuoo-Hawn; Kuo, Cheng-Ming; Yen, Hsu-Chun) Competitive source routing on tori and meshes. (English summary) *Algorithms and computation* (*Singapore*, 1997), 82–91, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 68M10

— (*with* Yeh, Tzuoo-Hawn; Kuo, Cheng-Ming; Yen, Hsu-Chun) Competitive analysis of on-line disk scheduling. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 491–506. (Summary) **99e:68074** 68Q25 (68N25)

Lei, Fengchun (*with* Qiu, Ruifeng) On reducing handle additions. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 168–170. (Summary) **99f:57020** 57N10

Lei, Gong-yan The physical entropy of single conservation laws. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 437–444. (Summary) **99g:35080** 35L65

Lei, Hin-Chi Group splitting and linearization mapping of a solvable non-linear wave equation. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 3, 461–471. (Summary) **99a:35011** 35A30 (35L70)

Lei, J. *see* **Lei, Jin Gan**

Lei, Jianlin (*with* Wang, Renhui; Ding, Dihua; Wang, Zhouguang) Calculation and illustration of section-projection diagrams of quasicrystals. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 1, 40–44. 82D25

Lei, Jin Gan On the convergence of discretizations for set valued operator equations. (English summary) *Z. Angew. Math. Mech.* **77** (1997), *no.* 11, 861–866. (A. A. Fonarev) **99d:47068** 47H17 (34A60, 47H06, 65J15)

Lei, Jinzhi (*with* Guan, Ke Ying; Liu, Sheng[1]) The Lie algebra admitted by an ordinary differential equation system. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 131–142. (Summary) **99e:34012** 34A34 (34A05, 34A26)

Lei, Junjiang (*with* Butzer, Paul Leo) Errors in truncated sampling series with measured sampled values for not-necessarily bandlimited functions. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 25–39. (Peter A. McCoy) **99m:42003** 42A10 (41A30, 42B08, 46N40, 94A12)

Lei, Tan *see* **Tan, Lei**

Lei, Tian-Gang (*with* Zhang, Yingbo; Li, Size; Bautista Ramos, Raymundo) The representation category of a bocs. III. Several classes of homogeneous almost split sequences. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 143–149. (Yasuo Iwanaga) **99c:16015** 16G70 (16G20)

— (*with* Zhang, Yingbo; Bautista Ramos, Raymundo) The representation category of a bocs. IV. The case of $M(x) = J_1 \oplus J_2 \oplus J_3$. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 3, 289–295. (Yasuo Iwanaga) **99c:16016** 16G70 (16G20)

— (*with* Wang, Bo Ying[1]) Indices and nonzero decomposable elements of a symmetry class of tensors. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 21–30. (John Chollet) **99k:15048** 15A69 (15A72)

— (*with* Zhang, Yingbo; Bautista Ramos, Raymundo) A matrix description of a wild category. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 461–475. (Summary) **99m:16028** 16G60 (18C99, 18E99)

Lei, Xin Applications of parametrization methods in multiobjective optimization. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 235–240. 90C29 (90C31)

Lei, Y. A. (*with* Liu, Yu Fen; Zeng, Jin Yan) Reply to the: "Comment by A. A. Stahlhofen on: 'Factorization of the radial Schrödinger equation and four kinds of raising and lowering operators of hydrogen atoms and isotropic harmonic oscillators'" [Phys. Lett. A **241** (1998), no. 4-5, 298–299; MR 99m:81291]. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 300–302. (Summary) **99m:81292** 81V45 (81Q05)

— *see also* **Stahlhofen, A. A., 99m:81291**

Lei, Yansong (*with* deLaubenfels, Ralph) Regularized functional calculi, semigroups, and cosine functions for pseudodifferential operators. (English summary) *Abstr. Appl. Anal.* **2** (1997), *no.* 1-2, 121–136. (Atsushi Yagi) **99b:47024** 47A60 (35S05, 47D06, 47D09)

Leib, Harry (*with* Sun, Feng-Wen) Multiple-phase codes for detection without carrier phase reference. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1477–1491. 94B05 (94B35)

— (*with* Danilo, Florence) Detection techniques for fading multipath channels with unresolved components. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2848–2863. 94A13

— (*with* Malkamäki, Esa) Coded diversity on block-fading channels. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 771–781. 94A40

Leibbrandt, George (*with* Richardson, Allan Keith; Martin, C. P.) The pole part of the 1PI four-point function in light-cone gauge Yang-Mills theory. (English summary) *Nuclear Phys. B* **517** (1998), *no.* 1-3, 521–548. (Summary) **99a:81114** 81T18 (81T15)

Leiber, Theodor On the actual impact of deterministic chaos. (English summary) *Synthese* **113** (1997/98), *no.* 3, 357–379. (Frederick R. Marotto) **99h:58124** 58F13

— Deterministic chaos and computational complexity: the case of methodological complexity reductions. (English summary) *J. Gen. Philos. Sci.* **30** (1999), *no.* 1, 87–100. (Summary) **99m:00015** 00A69 (00A30, 65Y20, 68Q25)

Leibman, Alexander (*with* Juhász, Arye) A note on the combinatorics of multiplication in groups. (English summary) *European J. Combin.* **19** (1998), *no.* 6, 695–699. (Summary) **99f:20069** 20F99 (05A15)

— Multiple recurrence theorem for measure preserving actions of a nilpotent group. (English summary) *Geom. Funct. Anal.* **8** (1998), *no.* 5, 853–931. (Douglas P. Dokken) **99k:28019** 28D05 (43A05)

— Polynomial sequences in groups. (English summary) *J. Algebra* **201** (1998), *no.* 1, 189–206. (Mohammad Reza R. Moghaddam) **99c:20044** 20F14

Leibniz, Gottfried Wilhelm *see* **Berlioz, Dominique, 99g:01015; Roth, Ulli, 99k:01010; Rossi, Jean-Gérard, 99k:01018; Struve, Horst, 99k:01019; Bradley Bassler, O.** *and* **Parmentier, Marc, (99g:01038)**

Leĭbov, O. S. On reduction and some exact solutions of the Euler-Lagrange-Born-Infeld equation. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 245–248, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q75 (81R20)

— (*with* Fedorchuk, V. M.) Reduction and certain exact solutions of the multidimensional Monge-Ampère equation. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1913–1916. 35J60

Leibovich, Sidney (*with* Saxena, Vivek; Berkooz, Gal) Enhancement of three-dimensional instability of free shear layers. (English summary) *J. Fluid Mech.* **379** (1999), 23–38. (Summary) **99j:76055** 76E99

Leibovici, Didier (*with* Sabatier, Robert) A singular value decomposition of a k-way array for a principal component analysis of multiway data, PTA-k. (English summary) *Linear Algebra Appl.* **269** (1998), 307–329. (Adam Marlewski) **99b:15039** 15A72 (65F15)

Leibundgut, M. (*with* Minkowski, P.) On the spontaneous identity of chiral and supersymmetry breaking in pure super Yang-Mills theories. (English summary) *Nuclear Phys. B* **531** (1998), *no.* 1-3, 95–107. (Summary) **99h:81078** 81R40 (81T13, 81T60)

Leichtnam, Eric (*with* Piazza, Paolo) The b-pseudodifferential calculus on Galois coverings and a higher Atiyah-Patodi-Singer index theorem. (English and French summaries) *Mém. Soc. Math. Fr. (N.S.) No.* 68 (1997), iv+121 *pp.* (Rafe Mazzeo) **99d:58168** 58G12 (19K56, 46L87, 58G15)

— (*with* Piazza, Paolo) Higher eta invariants and the Novikov conjecture on manifolds with boundary. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 497–502. (John G. Miller) **99j:58199** 58G12 (19K56, 58G20)

Leichtweiß, Kurt Das isoperimetrische Problem bei E. Schmidt, A. Dinghas und heute. [The isoperimetric problem in the work of E. Schmidt, A. Dinghas and today] *Mathematik aus Berlin*, 217–225, *WEIDLER, Berlin*, 1997. (*see* **99f:01003**) 01A60

Leĭderman, Arkadiĭ Grigor'evich (*with* Levin, Michael A.; Pestov, Vladimir G.) On linear continuous open surjections of the spaces $C_p(X)$. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 206–215 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C35 (54F45)

— (*with* Morris, Sidney A.; Pestov, Vladimir G.) The free abelian topological group and the free locally convex space on the unit interval. (English summary) *J. London Math. Soc.* (2) **56** (1997), *no.* 3, 529–538. (A. I. Danilenko) **99a:22006** 22A05

Leifer, Peter Inertia as the "threshold of elasticity" of quantum states. (English summary) *Found. Phys. Lett.* **11** (1998), *no.* 3, 233–249. (Summary) **99b:81014** 81P05

— Unification of quantum theory and relativity. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 387–392. (Summary) **99f:81032** 81P99

Leifura, Valentin On one problem of automatic control with turning points. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 488–491, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 45K05 (93C20)

Leiger, T. (*with* Boos, J.; Zeller, Karl) Consistency theory for SM-methods. *Acta Math. Hungar.* **76** (1997), *no.* 1-2, 109–142. (Heinz Junek (Zbl 902.40003)) **99i:40006** 40C05 (46A45)

— (*with* Boos, J.) "Restricted" closed graph theorems. (English summary) *Z. Anal. Anwendungen* **16** (1997), *no.* 3, 503–518. (P. Pérez Carreras) **99a:46007** 46A30

Leigh, Robert G. (*with* Rozali, Moshe) A note on six-dimensional gauge theories. (English summary) *Phys. Lett. B* **433** (1998), *no.* 1-2, 43–48. (Summary) **99c:81197** 81T30 (58B30, 81T13)

— (*with* Balasubramanian, Vijay; Larsen, Finn) Branes at angles and black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3509–3528. (Summary) **99k:81216** 81T30 (83C57, 83E30)

Leighton, David T., Jr. (*with* King, Michael R.; McCready, Mark J.) Stability of oscillatory two-phase Couette flow: theory and experiment. (English summary) *Phys. Fluids* **11** (1999), *no.* 4, 833–844. 76E99 (76V05)

Leighton, Frank Thomson (*with* Kleitman, Daniel J.; Ma, Yuan) On the design of reliable Boolean circuits that contain partially unreliable gates. (English summary) 35th Annual Symposium on Foundations of Computer Science (Santa Fe, NM, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 3, 385–401. (Ronald E. Prather) **99g:94026** 94C10 (68M15, 68Q25)

— (*with* Kahale, Nabil) Greedy dynamic routing on arrays. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 390–410. (Summary) **99k:68019** 68M10

— (*with* Plaxton, C. Greg) Hypercubic sorting networks. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 1–46 (*electronic*). (A. T. Amin) **99d:68055** 68P10 (68Q22, 68R05)

— (*with* Coffman, E. G., Jr.; Kahale, Nabil) Processor-ring communication: a tight asymptotic bound on packet waiting times. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1221–1236 (*electronic*). (Jian-Min Li) **99d:68032** 68M20 (90B12, 90B35)

van Leijenhorst, D. C. How symmetric can a function be? (English summary) *Linear Algebra Appl.* **281** (1998), *no.* 1-3, 1–10. (Torbjörn Tambour) **99g:13037** 13P99 (05E05)

Leĭkin, D. V. (*with* Bukhshtaber, V. M.; Ènol'skiĭ, V. Z.) A recursive family of differential polynomials generated by the Sylvester identity, and addition theorems for hyperelliptic Klein functions. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 4, 19–33, 95; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 4, 240–251 (1998). (Iskander A. Taimanov) **99f:33025** 33E05

Leĭko, S. G. On the conformal, concircular, and spin mappings of gravitational fields. (English summary) *J. Math. Sci. (New York)* **90** (1998), *no.* 2, 1941–1944. (Kotik K. Lee) **99j:53052** 53C22 (83C10)

— Rotational transformations of surfaces. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 203–211. (Z. Nádeník) **99m:53011** 53A05

Leimkuhler, Benedict Timestep acceleration of waveform relaxation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 31–50 (*electronic*). (Philip W. Sharp) **99e:65109** 65L06

— Reversible adaptive regularization methods for atomic N-body problems in applied fields. (English summary) Proceedings of the NSF/CBMS Regional Conference on Numerical Analysis of Hamiltonian Differential Equations (Golden, CO, 1997). *Appl. Numer. Math.* **29** (1999), *no.* 1, 31–43. (Summary) **99h:70003** 70–08 (65L99, 70F05, 70F10)

— *see also* **Proceedings: Conference on Numerical Analysis of Hamiltonian Differential Equations, 99g:65008**

Leinaas, Jon Magne (*with* Viefers, S.) Bulk and edge properties of the Chern-Simons Ginzburg-Landau theory for the fractional quantum Hall effect. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 675–696. (Summary) **99a:81209** 81V70

— (*with* Isakov, Sergei B.; Myrheim, Jan; Polychronakos, Alexios P.; Varnhagen, Raimund) Algebra of observables for identical particles in one dimension. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 151–160. (Summary) **99e:81112** 81S05

Leindler, László A condition of new type on Fourier coefficients makes the ratio $\|f - S_n(f)\|/E_n(f)$ bounded. (Russian summary) *Anal. Math.* **22** (1996), *no.* 3, 163–169. (Song Ping Zhou) **99e:42003** 42A10

— Embedding results pertaining to strong approximation of Fourier series. I. (Russian summary) *Anal. Math.* **23** (1997), *no.* 2, 99–114. (V. A. Baskakov) **99d:42001** 42A10 (40F05)

— Embedding results pertaining to strong approximation of Fourier series. II. (Russian summary) *Anal. Math.* **23** (1997), *no.* 3, 223–240. (V. A. Baskakov) **99g:42004** 42A28

(41A30)
— Embedding results pertaining to strong approximation of Fourier series. III. (Russian summary) *Anal. Math.* **23** (1997), *no.* 4, 273–281. (V. A. Baskakov) **99g:42005** 42A28 (41A30)
— A theorem of Hardy-Bennett-type. (English summary) *Acta Math. Hungar.* **78** (1998), *no.* 4, 315–325. (Tatjana Ostrogorski) **99b:26037** 26D15
— Two theorems of Hardy-Bennett-type. (English summary) *Acta Math. Hungar.* **79** (1998), *no.* 4, 341–350. (Maria J. Carro) **99f:26032** 26D15
— New effects of an old Z. Zalcwasser's theorem. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 141–154. (Tamotsu Tsuchikura) **99k:40005** 40F05 (42C15)
— On the strong summability of orthogonal series. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 1-2, 163–174. (Tamotsu Tsuchikura) **99k:40006** 40F05 (42C15)
— On the very strong summability of orthogonal series. (English summary) *Acta Math. Hungar.* **81** (1998), *no.* 4, 315–322. (Tamotsu Tsuchikura) **99i:42048** 42C15 (40F05)
— Remarks to a new result of P. L. Ul'yanov. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 1, 31–39. (Eduard Belinskii) **99c:42006** 42A20
— (*with* Kolyada, V. I.) BMO- and L_p-conditions for power series and Dirichlet series with positive coefficients. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 2, 79–89. (Shobha Madan) **99g:30001** 30B10 (30B50)
— Inequalities for Dirichlet series with positive coefficients and related integrals. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 3, 201–211. (B. P. Mishra) **99m:40002** 40A25 (41A50)
— On equivalence of coefficient conditions and application. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 41–51. (Tamotsu Tsuchikura) **99b:40002** 40F05 (42A28, 42C15)
— Hardy-Bennett-type theorems. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 4, 517–526. (Petr Gurka) **99k:26025** 26D15
— On equivalence of coefficient conditions with assumptions of monotonicity. (English summary) Dedicated to Professors Zoltán Daróczy and Imre Kátai. *Publ. Math. Debrecen* **52** (1998), *no.* 3-4, 535–546. (Wo-Sang Young) **99i:40004** 40B05 (26D15, 40A30)

Leinen, Felix (*with* Puglisi, Orazio) Irreducible finitary Lie algebras over fields of characteristic zero. (English summary) *J. Algebra* **210** (1998), *no.* 2, 697–702. (Richard E. Phillips) **99m:17030** 17B65 (17B20)
— A reduction theorem for perfect locally finite minimal non-FC groups. *Glasg. Math. J.* **41** (1999), *no.* 1, 81–83. 20F50

Leinfelder, Herbert (*with* Kufner, Alois) On overdetermined Hardy inequalities. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 279–293. (B. Crstici) **99g:26039** 26D10

Leipnik, R. B. Concurrent catastrophes: the sum of two independent Gumbels. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 3, 91–96. 62G30 (62E15)

Leipus, R. A posteriori and sequential methods of change-point detection in FARIMA-type time series. *Probability theory and mathematical statistics (Vilnius, 1993)*, 485–496, *TEV, Vilnius*, 1994. (Introduction) **99f:62110** 62M10 (62L15)

franco Leis, Daniel *see* **Franco Leis, Daniel**

Leiserson, Charles E. (*with* Rao, Satish; Toledo, Sivan) Efficient out-of-core algorithms for linear relaxation using blocking covers. (English summary) 34th Annual Symposium on Foundations of Computer Science (Palo Alto, CA, 1993). *J. Comput. System Sci.* **54** (1997), *no.* 2, *part* 2, 332–344. (Summary) **99f:65070** 65F99 (65F50)
— (*with* Randall, K. H.) Parallel algorithms for the circuit value update problem. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Santa Barbara, CA, 1995). *Theory Comput. Syst.* **30** (1997), *no.* 6, 583–597. (Summary) **99g:68096** 68Q25 (68Q22)
— (*with* Blumofe, Robert D.) Space-efficient scheduling of multithreaded computations. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 1, 202–229 (*electronic*). (Summary) **99b:68090** 68Q22 (68M20, 68Q25)

Leisi, Hans Jörg ★ Klassische Physik. Band 2. (German. German summary) [Classical physics. Vol. 2] Elektromagnetismus und Wärme. [Electromagnetism and heat] *Birkhäuser Verlag, Basel*, 1998. x+472 *pp. ISBN* 3-7643-5977-3 (Publisher's description) **99g:78001** 78–01 (80–01)

Leiß, Hans (*with* Emms, Martin) Extending the type checker of Standard ML by polymorphic recursion. (English summary) Gentzen (Rome, 1996). *Theoret. Comput. Sci.* **212** (1999), *no.* 1-2, 157–181. (Summary) **99j:68009** 68N15

Leisten, Rainer An LP-aggregation view on aggregation in multi-level production planning. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 413–434. (*see* **99e:90003**) 90B30 (90A11)

Leitão, A. Applications of the Backus-Gilbert method to linear and some nonlinear equations. (English summary) *Inverse Problems* **14** (1998), *no.* 5, 1285–1297. (Summary) **99i:47020** 47A50 (35J99, 65N99)

Leitão, José M. N. (*with* Figueiredo, Mário A. T.) Absolute phase image reconstruction: a stochastic nonlinear filtering approach. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 868–882. 94A12 (93E11)

silva Leite, F. *see* **Silva Leite, F.**

Leite, João Alexandre (*with* Pereira, Luís Moniz) Generalizing updates: from models to programs. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY*, 1997), 224–246, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68133** 68T27 (68N17)
— (*with* Pereira, Luís Moniz) Iterated logic program updates. (English summary) *Logic programming (Manchester*, 1998), 265–278, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68T27 (68N17)

Leite, José Galvão (*with* Yoshida, Olga S.; Bolfarine, Heleno) The roles of prior catchability assumptions and sample features on Bayes estimates of the number of classes in a population. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 1895–1904. (Summary) **99k:62061** 62F15
— (*with* Rodrigues, Josemar) A note on Bayesian analysis in $M/M/1$ queues derived from confidence intervals. (English summary) *Statistics* **31** (1998), *no.* 1, 35–42. (Summary) **99b:62039** 62F15 (60K25)

Leite, Marcelo M. (*with* Berkovits, Nathan) First massive state of the superstring in superspace. (English summary) *Phys. Lett. B* **415** (1997), *no.* 2, 144–148. (Helmut Rumpf) **99b:81176** 81T30 (83E30)

Leite, R. S. (*with* Richa, T. R. W.; Tomei, Carlos) Geometric proofs of some theorems of Schur-Horn type. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 149–173. (Constantin Udrişte) **99k:15033** 15A42 (15A45, 15A57)

Leitenberger, Frank Quantum theory of the real and the complexified projective line. (English summary) *J. Math. Phys.* **39** (1998), *no.* 2, 802–817. (Albert Jeu-Liang Sheu) **99a:58011** 58B30 (17B37, 81R50)

Leiterer, J. (*with* Henkin, Gennadi) The Oka-Grauert principle without induction over the base dimension. *Math. Ann.* **311** (1998), *no.* 1, 71–93. (J. Kajiwara) **99f:32048** 32L05 (32F30)
— (*with* Laurent-Thiébaut, C.) The Andreotti-Vesentini separation theorem and global homotopy representation. *Math. Z.* **227** (1998), *no.* 4, 711–727. (Harold P. Boas) **99m:32019** 32F10 (32A25, 32L99)

Leites, D. (*with* Grozman, P.) The highest weight representations of the contact Lie superalgebra on 1|6-dimensional supercircle. (English summary) Quantum groups and integrable systems, Part I (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 11, 1133–1138. (Shun-Jen Cheng) **99e:17006** 17B10
— (*with* Shchepochkina, I.) Quivers and Lie superalgebras. (English summary) Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1221–1229. (Summary) **99c:16012** 16G20 (16G60, 17B99)

Leitgeb, R. (*with* Schweda, M.; Zerrouki, H.) Finiteness of 2D topological BF-theory with matter coupling. (English summary) *Nuclear Phys. B* **542** (1999), *no.* 1-2, 425–440. (Mohamed Kachkachi) **99m:81223** 81T40 (81T10, 81T15, 81T17)

Leith, D. J. (*with* Leithead, W. E.) Appropriate realization of gain-scheduled controllers with application to wind turbine regulation. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 223–248. 93B15 (93C95)
— (*with* Leithead, W. E.) Performance enhancement of wind turbine power regulation by switched linear control. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 555–572. 93C95 (93C10)
— (*with* Leithead, W. E.) Implementation of wind turbine controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 349–380. 93C95 (93B50)
— (*with* Leithead, W. E.) Gain-scheduled controller design: an analytic framework directly incorporating non-equilibrium plant dynamics. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 249–269. (Summary) **99a:93042** 93B51
— (*with* Leithead, W. E.) Gain-scheduled and nonlinear systems: dynamic analysis by velocity-based linearization families. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 289–317. (Summary) **99c:93050** 93C10 (93D99)
— (*with* Leithead, W. E.) Input-output linearization by velocity-based gain-scheduling. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 229–246. (Summary) **99j:93022** 93B18 (93B50)

Leithead, W. E. (*with* Leith, D. J.) Appropriate realization of gain-scheduled controllers with application to wind turbine regulation. (English summary) *Internat. J. Control* **65** (1996), *no.* 2, 223–248. 93B15 (93C95)
— (*with* Leith, D. J.) Performance enhancement of wind turbine power regulation by switched linear control. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 555–572. 93C95 (93C10)
— (*with* Leith, D. J.) Implementation of wind turbine controllers. (English summary) *Internat. J. Control* **66** (1997), *no.* 3, 349–380. 93C95 (93B50)
— (*with* Fadlalmoula, Z.; Robertson, S. S.; O'Reilly, John) Individual channel analysis of the turbogenerator with a power system stabilizer. (English summary) *Internat. J. Control* **69** (1998), *no.* 2, 175–202. 93C95
— (*with* Leith, D. J.) Gain-scheduled controller design: an analytic framework directly incorporating non-equilibrium plant dynamics. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 249–269. (Summary) **99a:93042** 93B51
— (*with* Leith, D. J.) Gain-scheduled and nonlinear systems: dynamic analysis by velocity-based linearization families. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 289–317. (Summary) **99c:93050** 93C10 (93D99)
— (*with* Leith, D. J.) Input-output linearization by velocity-based gain-scheduling. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 229–246. (Summary) **99j:93022** 93B18 (93B50)

Leitl, Rita (*with* Gekeler, Ernst-Ulrich; Wack, Bodo) Zeta functions of a class of elliptic curves over a rational function field of characteristic two. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 823–833. (John W. Jones) **99i:11049** 11G40 (11G05, 14G10)

Leitmann, G. (*with* Lee, Cho Seng) One avenue to robust control of nonlinear systems and an application to a social system. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 509–528. (*see* **99m:34001**) 93D09 (90A08, 90A80, 93D21)

Leitsch, Alexander ★ The resolution calculus. (English summary) Texts in Theoretical Computer Science. An EATCS Series. *Springer-Verlag, Berlin*, 1997. viii+300 *pp. ISBN* 3-540-61882-1 (Ralph W. Wilkerson) **99b:03023** 03B35 (03–01, 03–02, 68T15)
— (*with* Fermüller, Christian G.) Decision procedures and model building in equational clause logic. (English summary) *Log. J. IGPL* **6** (1998), *no.* 1, 17–41. (Sauro Tulipani) **99b:03019** 03B25 (03B35, 68T15)

Leitz, Manfred Casimir-Operator und ein Satz von Reynolds über Charaktergrade. (English summary) [The Casimir operator and a theorem of Reynolds on character degrees] *Arch. Math. (Basel)* **71** (1998), *no.* 5, 358–367. (Jürgen Müller) **99j:20012** 20C15

Leiva, Héctor Ariel (*with* Esquivel, Susana C.; Gallard, Raúl H.) Selection mechanisms in evolutionary algorithms. (English summary) *Fund. Inform.* **35** (1998), *no.* 1-4, 17–33. 68Q20

Leiva, Hugo Stability of a periodic solution for a system of parabolic equations. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 277–300. 35B10 (35B35, 35K60)

Leizarowitz, Arie (*with* Naimark, Leonid; Kogan, Jacob; Zeheb, Ezra) On rational stabilizing controllers for interval delay systems. (English summary) *Stability and control of time-delay systems*, 184–204, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (93C30)
— (*with* Hocherman, Judith; Kogan, Jacob; Zeheb, Ezra) Robust stability of quasipolynomials with annular uncertainties. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 1, 77–92. (Summary) **99f:93110** 93D09

Le Jan, Yves (*with* Elworthy, K. D.; Li, Xue-Mei[2]) Concerning the geometry of stochastic differential equations and stochastic flows. (English summary) *New trends in stochastic*

analysis (*Charingworth*, 1994), 107–131, *World Sci. Publishing, River Edge, NJ*, 1997. (Ming Liao) **99j:58226** 58G32 (60H10)
— (*with* Enriquez, Nathanaël) Statistic of the winding of geodesics on a Riemann surface with finite area and constant negative curvature. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 377–401. (Ming Liao) **99f:58221** 58G32 (28D99, 30F99)
— (*with* Le Gall, Jean-François) Branching processes in Lévy processes: the exploration process. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 213–252. (Götz Kersting) **99d:60096** 60J80 (60J25, 60J30, 60J55)
— (*with* Le Gall, Jean-François) Branching processes in Lévy processes: Laplace functionals of snakes and superprocesses. (English summary) *Ann. Probab.* **26** (1998), *no.* 4, 1407–1432. (Luis G. Gorostiza) **99m:60133** 60J80 (60G57, 60J30)
— (*with* Enriquez, Nathanaël; Franchi, Jacques) Enroulements des géodésiques sous la mesure de Patterson-Sullivan. (English and French summaries) [Stable windings of geodesics under the Patterson-Sullivan measure] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 723–726. (Boris Hasselblatt) **99k:58143** 58F17 (30F35, 60F99)
— (*with* Cranston, Michael) Geometric evolution under isotropic stochastic flow. (English summary) *Electron. J. Probab.* **3** (1998), *no.* 4, 36 *pp.* (*electronic*). (Rémi Léandre) **99c:60115** 60H10 (60J60)
Lejarreta, Juan D. (*with* Cerveró, José M.) Dynamical symmetries, cyclic and periodic states. (English summary) *J. Phys. A* **31** (1998), *no.* 25, 5507–5523. (Summary) **99c:81053** 81Q99 (81R05)
Lejeune, Hélène Paires élémentaires de corps pseudo-finis: dénombrement des complétions. (English and French summaries) [Elementary pairs of pseudofinite fields: counting completions] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 657–660. (Summary) **99g:03037** 03C60 (12L12)
Lejeune, Michel (*with* Caliński, Tadeusz) Dimensionality in MANOVA tested by a closed testing procedure. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 181–194. (C. R. Rao) **99i:62129** 62H15
Lejeune-Jalabert, Monique (*with* González-Sprinberg, Gérard) Families of smooth curves on surface singularities and wedges. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 179–190. (Tomás Sánchez-Giralda) **99c:14002** 14B05 (14E15, 32S45)
— (*with* González-Sprinberg, Gérard) Courbes lisses, cycle maximal et points infiniment voisins des singularités de surfaces. [Smooth curves, maximal cycle and infinitely near points of surface singularities] *Publ. Mat. Urug.* **7** (1997), 1–27 (1998). (A. Sinan Sertöz) **99h:14038** 14J17 (14B05)
— (*with* Reguera, Ana José) Arcs and wedges on sandwiched surface singularities. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 207–212. (De-Qi Zhang) **99g:14045** 14J17
Lèkhtikov, S. N. (*with* Abrashin, V. N.) On the combination of the alternating direction method and the finite element method for the solution of problems in mathematical physics. II. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 889–897, 1004; *translation in Differential Equations* **32** (1996), *no.* 7, 893–901 (1997). (Thomas Apel) **99c:65178** 65M55 (65M60)
Le Khung Lan (*with* Kiselev, O. N.; Polyak, B. T.) Frequency characteristics under parametric uncertainty. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 4, 155–174; *translation in Automat. Remote Control* **58** (1997), *no.* 4, *part* 2, 645–661. (Summary) **99d:93050** 93D09 (93C41, 93C80)
Lekishvili, M. M. On an embedding theorem in the Orlicz class exp L^{α}. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 2, 221–223 (1996). 46E35 (46E30)
Leladze, D. On summability of multiple conjugate trigonometric series. (Russian and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **152** (1995), *no.* 2, 205–211 (1996). 42A10
— On summability of certain subsequences of partial sums of multiple trigonometric Fourier series. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 2, 185–187. 42A24
Leland, Robert P. (*with* Song, Qiang[2]) An optimal control model of neural networks for constrained optimization problems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 371–376. 49N55 (93A30)
— An approximate-predictor approach to reduced-order models and controllers for distributed-parameter systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 623–627. 93C20 (93B51)
Lele, Sanjiva K. (*with* Lu, Ganyu) Inviscid instability of compressible swirling mixing layers. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 450–461. (Summary) **99j:76053** 76E99
— (*with* Lu, Ganyu) Asymptotic growth of disturbances from spatially compact source in a skewed mixing layer. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1153–1160. 76E99
Lele, Subhash R. (*with* Heagerty, Patrick J.) A composite likelihood approach to binary spatial data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1099–1111. (Summary) **99e:62100** 62H11
Lellahi, Seyed-Kazem (*with* Spyratos, Nicolas; Thiam, M'Bayang) Object functional dependencies and the semantics of class extensions. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 867–888 (*electronic*). (Summary) **99h:68038** 68P15
— (*with* Breazu-Tannen, Val) A calculus for collections and aggregates. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 261–280, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68P15
Lellouche, J.-M. (*with* Leredde, Y.; Devenon, J.-L.; Dekeyser, I.) On initial, boundary conditions and viscosity coefficient control for Burgers' equation. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 113–128. (Summary) **99c:86001** 86A05 (49K20, 76R99, 86–08)
ta Lê Loi *see* **Ta Lê Loi**
Lelong, M.-Pascale (*with* Dunkerton, Timothy J.) Inertia-gravity wave breaking in three dimensions. I. Convectively stable waves. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 15, 2473–2488. (Summary) **99c:76012** 76B15 (76E99, 76U05, 86A05)
— (*with* Dunkerton, Timothy J.) Inertia-gravity wave breaking in three dimensions. II. Convectively unstable waves. (English summary) *J. Atmospheric Sci.* **55** (1998), *no.* 15, 2489–2501. (Summary) **99e:76009** 76B15 (76E15, 76E20, 76U05, 86A10)
Lelong, Pierre Ensembles de contrôle dans un espace de Banach complexe pour les fonctions plurisousharmoniques. (English summary) [Control sets in a complex Banach space for plurisubharmonic functions] *Géométrie complexe* (*Paris*, 1992), 91–111, *Actualités Sci. Indust.*, 1438, *Hermann, Paris*, 1996. (J. Siciak) **99b:32047** 32K15 (31C10, 32F05, 46N20)
— Remarks on pointwise multiplicities in complex spaces. Dedicated to Professor Vyacheslav Pavlovich Zahariuta. *Linear Topol. Spaces Complex Anal.* **3** (1997), 112–119. (Norman Levenberg) **99f:32021** 32F05 (32F07)
Lemaire, Anne-Sophie (*with* Fourdrinier, Dominique) Estimation de la moyenne d'une loi l_1-exponentielle multidimensionnelle. (English and French summaries) [Estimation of the mean of a multivariate l_1-exponential distribution] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 991–996. (Christian P. Robert) **99h:62020** 62F10 (62C20)
Lemaire, Bernard Itération et approximation. (French summary) [Iteration and approximation] *Équations aux dérivées partielles et applications*, 641–653, *Gauthier-Villars, Éd. Sci. Méd. Elsevier, Paris*, 1998. (Gérard Lebourg) **99j:90059** 90C25 (47H17, 49M45, 65K05)
— (*with* Volle, Michel) Duality in DC programming. (English summary) *Generalized convexity, generalized monotonicity: recent results* (*Luminy*, 1996), 331–345, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Jean-Pierre Crouzeix) **99h:49047** 49N15 (90C26)
— (*with* Volle, Michel) A general duality scheme for nonconvex minimization problems with a strict inequality constraint. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 317–327. (Vaithilingam Jeyakumar) **99k:90123** 90C26 (49N15)
— Duality in reverse convex optimization. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 4, 1029–1037 (*electronic*). (Juan-Enrique Martínez-Legaz) **99h:90114** 90C48 (49N15)
— *see also* **Performance evaluation, 99e:90004**
Lemaire, Bertrand Algèbres de Hecke et corps locaux proches (une preuve de la conjecture de Howe pour $GL(N)$ en caractéristique > 0). [Hecke algebras and close local fields (a proof of the Howe conjecture for $GL(N)$ in characteristic > 0)] *Number theory* (*Paris*, 1993–1994), 133–143, *London Math. Soc. Lecture Note Ser.*, 235, *Cambridge Univ. Press, Cambridge*, 1996. (Volker J. Heiermann) **99f:11064** 11F70 (11F85, 22E50)
— Intégrales orbitales sur $GL(N, F)$ où F est un corps local non archimédien. (English and French summaries) [Orbital integrals over $GL(N, F)$ where F is a non-Archimedean local field] *Mém. Soc. Math. Fr. (N.S.) No.* 70 (1997), *iv*+94 *pp.* (Walter Schempp) **99j:22016** 22E35
— Strates scindées pour un groupe réductif p-adique. (English and French summaries) [Split strata for a reductive p-adic group] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 407–410. (A. H. Dooley) **99m:22006** 22E35 (22E50)
Lemaire, Jean-Michel Inert and lazy n-cones. (English summary) *Stable and unstable homotopy* (*Toronto, ON*, 1996), 187–194, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Octavian Cornea) **99f:55015** 55P35 (55T10)
— (*with* Cornea, Octavian; Félix, Yves) Rational category and cone length of Poincaré complexes. (English summary) *Topology* **37** (1998), *no.* 4, 743–748. (Edgar H. Brown, Jr.) **99a:55002** 55M30 (55P62, 57P10)
— (*with* Félix, Yves; Halperin, Steven) The rational LS category of products and of Poincaré duality complexes. (English summary) *Topology* **37** (1998), *no.* 4, 749–756. (Edgar H. Brown, Jr.) **99a:55003** 55M30 (55P62, 57P10)
Lemaire, Sophie Convergence des dérivées associées à un système dynamique aléatoire. (English and French summaries) [Convergence of derivatives associated with a random dynamical system] *C. R. Acad. Sci. Paris Sér. I Math.* **325** (1997), *no.* 9, 1019–1024. (Oliver Knill) **99b:58148** 58F11
Lemaître, Michel (*with* Lobjois, Lionel) Branch and bound algorithm selection by performance prediction. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 353–358, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C35 (90C90)
Le Maître, O. (*with* Souza de Cursi, J. E.; Huberson, S.) Large displacement analysis for ideally flexible sails. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 619–636. 73K15
Lemańczyk, Mariusz (*with* De Sam Lazaro, José) Spectral analysis of certain compact factors for Gaussian dynamical systems. (English summary) *Israel J. Math.* **98** (1997), 307–328. (Summary) **99k:28022** 28D10 (47A35)
— (*with* Gabriel, Patrick; Schmidt, Klaus[1]) Extensions of cocycles for hyperfinite actions and applications. (English summary) *Monatsh. Math.* **123** (1997), *no.* 3, 209–228. (Mahesh Nerurkar) **99a:28015** 28D05 (28D15)
— (*with* Bułatek, W.; Rudolph, Daniel J.) Constructions of cocycles over irrational rotations. (English summary) *Studia Math.* **125** (1997), *no.* 1, 1–11. (S. I. Bezuglyĭ) **99b:28015** 28D05
— (*with* Aaronson, Jon; Volný, Dalibor) A cut salad of cocycles. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 99–119. (G. R. Goodson) **99j:28014** 28D05
— Entropy of Gaussian actions for countable abelian groups. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 277–286. (Thomas Ward) **99g:28032** 28D05
— (*with* Parreau, F.) On the disjointness problem for Gaussian automorphisms. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2073–2081. (Dominique Schneider) **99j:28016** 28D05
Lemaréchal, Claude (*with* Bonnans, J. Frédéric; Gilbert, Jean Charles; Sagastizábal, Claudia) ★ Optimisation numérique. (French. French summary) [Numerical optimization] Aspects théoriques et pratiques. [Theoretical and applied aspects] Mathématiques & Applications [Mathematics & Applications], 27. *Springer-Verlag, Berlin*, 1997. *xii*+324 *pp. ISBN* 3-540-63183-6 (Marlies Borchardt) **99f:90001** 90–01 (49M37, 65–01, 65K05, 90C30)
Lemarié-Rieusset, Pierre Gilles (*with* Kateb, Djalil) The phase of the Daubechies filters. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 245–305. (David F. Walnut) **99d:42049** 42C10 (33C45, 33E20)
— Quelques remarques sur les équations de Navier-Stokes dans $\mathbf{R}^3$. (English and French summaries) [Some remarks concerning Navier-Stokes equations in $\mathbf{R}^3$] *Séminaire sur les Équations aux Dérivées Partielles*, 1997–1998, *Exp. No. IX*, 8 *pp.*, *École Polytech., Palaiseau*, 1998. (*see* **99f:35005**) 35Q30 (35D10, 76D05)
— (*with* Zahrouni, Ezzedine) More regular wavelets. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 1, 92–105. (Hans W. Volkmer) **99b:42041** 42C15
— Some remarks on the Navier-Stokes equations in $\mathbf{R}^3$. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4108–4118. (Benoît P. Desjardins) **99f:35163** 35Q30 (76D05)

Le Mau Hai (*with* Pham Hien Bang) Extending and lifting some linear topological structures. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 89–100. (Luiza Amália de Moraes) **99g:46002** 46A11 (46G20, 46M99)

Lember, J. (*with* Pärna, K.) On some properties of k-variance. (English summary) *New trends in probability and statistics, Vol. 3 (Tartu/Pühajärve, 1994)*, 267–278, *VSP, Utrecht*, 1995. (Summary) **99h:62074** 62H12

Le Méhauté, Alain Nested sequences of triangular finite element spaces. (English summary) *Multivariate approximation (Witten-Bommerholz, 1996)*, 133–145, *Math. Res.*, 101, *Akademie Verlag, Berlin*, 1997. (P. Rochus) **99c:65151** 65L50 (65L60)

— Some families of triangular finite elements which can provide sequences of nested spaces. (English summary) *Mathematical methods for curves and surfaces, II (Lillehammer, 1997)*, 311–318, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (Summary) **99d:41059** 41A63

— (*with* Bouhamidi, A.) Splines in approximation and differential operators: (m, l, s) interpolating-spline. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 77–87, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:41020** 41A15 (41A63, 65D07)

— *see also* **Curves and surfaces with applications in CAGD, 99g:65004** *and* **Surface fitting and multiresolution methods, 99g:65005**

Le Merdy, Christian (*with* Lancien, Gilles) A generalized H^∞ functional calculus for operators on subspaces of L^p and application to maximal regularity. *Illinois J. Math.* **42** (1998), *no.* 3, 470–480. (Ian Raymond Doust) **99i:47029** 47A60 (34G10, 47D06)

— (*with* Lancien, Florence; Lancien, Gilles) A joint functional calculus for sectorial operators with commuting resolvents. (English summary) *Proc. London Math. Soc.* (3) **77** (1998), *no.* 2, 387–414. (Jörg Eschmeier) **99h:47025** 47A60 (47D06)

— The similarity problem for bounded analytic semigroups on Hilbert space. (English summary) *Semigroup Forum* **56** (1998), *no.* 2, 205–224. (Ian Raymond Doust) **99h:47048** 47D06 (46B28, 47A60)

Lemes, V. E. R. (*with* Nogueira, A. L. M. A.; Helayël-Neto, José A.) Supersymmetric generalization of the tensor matter fields. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 18, 3145–3156. (Ilya Shapiro) **99f:81202** 81T60

— (*with* Barci, D. G.; Linhares de Jesus, C.; Silva Maia Porto, M. B. D.; Sorella, S. P.; Vilar, L. C. Q.) Three-dimensional fermionic determinants, Chern-Simons and nonlinear field redefinitions. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 765–778. (Ilya Shapiro) **99e:81158** 81T16 (81T13)

— (*with* Linhares de Jesus, C.; Sorella, S. P.; Vilar, L. C. Q.; Ventura, O. S.) Chern-Simons as a geometrical setup for three-dimensional gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045010, 11 *pp.* 81T70 (81T13)

Lemeshevskiĭ, S. V. (*with* Samarskiĭ, Aleksandr Andreevich; Vabishchevich, Petr N.; Matus, Petr P.) Difference schemes for the problem of the conjugation of equations of hyperbolic and parabolic types. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 4, 954–962, *iv*; *translation in Siberian Math. J.* **39** (1998), *no.* 4, 825–833. (Sui Yang Chen) **99j:65148** 65M12 (35M10, 65M06)

LeMesurier, B. J. Dynamic rescaling methods for simulating wave collapse in plasmas. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 455–462, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76X05 (35Q55)

Le Métayer, Daniel (*with* Fradet, Pascal) Structured Gamma. (English summary) *Sci. Comput. Programming* **31** (1998), *no.* 2-3, 263–289. (Summary) **99c:68032** 68N15 (68Q50)

Lemire, Denis Décompositions successives de la forme normale d'un surréel et généralisation des ϵ-nombres. (English and French summaries) [Successive decompositions of the normal form of a surreal number and generalization of ϵ-numbers] *Ann. Sci. Math. Québec* **21** (1997), *no.* 2, 133–146. (Summary) **99b:04001** 04A10 (11U99)

Lemire, F. W. (*with* Britten, D. J.) The torsion free Pieri formula. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 266–289. (Kyo Nishiyama) **99f:17005** 17B10 (05E15)

— (*with* Britten, D. J.) On modules of bounded multiplicities for the symplectic algebras. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 8, 3413–3431. (Andrej A. Zolotykh) **99m:17008** 17B10 (17B20)

van nauta Lemke, Hans R. *see* **van Nauta Lemke, Hans R.**

Lemke, Raymond W. (*with* Pasik, Michael F.; Seidel, David B.) A modified perfectly matched layer implementation for use in electromagnetic PIC codes. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 125–132. 78–08

Lemma, Mulatu Logarithmic transformations into l^1. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 253–266. (B. E. Rhoades) **99k:40004** 40C05 (40G99, 46B25, 47B37)

Lemmens, L. F. (*with* Brosens, F.; Devreese, J. T.) Many-body diffusion for identical particles. (English summary) *Path integrals: Dubna '96*, 236–239, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40 (81V70)

Lemmer, R. L. (*with* Feix, Marc R.; Geronimi, C.; Cairó, Laurent; Leach, P. G. L.; Bouquet, S.) On the singularity analysis of ordinary differential equations invariant under time translation and rescaling. (English summary) *J. Phys. A* **30** (1997), *no.* 21, 7437–7461. (Summary) **99i:34015** 34A34 (34A20)

— (*with* Cotsakis, S.; Leach, P. G. L.) Adiabatic invariants and mixmaster catastrophes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4691–4698. (Summary) **99m:83159** 83C99 (58C27)

Lemmermeyer, Franz (*with* Benjamin, E.; Snyder, Chip) Imaginary quadratic fields k with cyclic $\mathrm{Cl}_2(k^1)$. (English summary) *J. Number Theory* **67** (1997), *no.* 2, 229–245. (Stéphane Louboutin) **99a:11126** 11R32 (11R29, 11R37)

— (*with* Cavallar, Stefania) The Euclidean algorithm in cubic number fields. (English summary) *Number theory (Eger, 1996)*, 123–146, *de Gruyter, Berlin*, 1998. (Heinrich Rolletschek) **99e:11137** 11R16 (11Y40)

— Ideal class groups of cyclotomic number fields. II. *Acta Arith.* **84** (1998), *no.* 1, 59–70. (Stéphane Louboutin) **99a:11121** 11R21 (11R18, 11R29)

— *see also* **Hilbert, David[1], 99j:01027**

Lemmert, Roland (*with* Volkmann, Peter) On the positivity of semigroups of operators. (English summary) *Comment. Math. Univ. Carolin.* **39** (1998), *no.* 3, 483–489. (Francesco Altomare) **99m:47048** 47D06

— (*with* Herzog, Gerd) On universal subsets of Banach spaces. (English summary) *Math. Z.* **229** (1998), *no.* 4, 615–619. (Summary) **99k:47080** 47B99 (46B20, 47A99)

— (*with* Herzog, Gerd) On quasipositive elements in ordered Banach algebras. (English summary) *Studia Math.* **129** (1998), *no.* 1, 59–65. (Summary) **99g:46061** 46H05

Lemmon, Michael (*with* Bett, Christopher) Safe implementations of supervisory commands. (English summary) *Internat. J. Control* **70** (1998), *no.* 2, 271–288. (Summary) **99a:93070** 93C83 (93B51)

Lemnete, Luminiţa On the support of the phase operators of a perturbation pair. Collection of papers in memory of Martin Jurchescu. *Rev. Roumaine Math. Pures Appl.* **43** (1998), *no.* 1-2, 169–172. (From the text) **99h:47019** 47A55

Lemoine, Jérôme (*with* Bresch, Didier) Sur l'existence et l'unicité de solution des fluides de grade 2 ou 3. (English and French summaries) [On the existence and uniqueness of a solution for second- or third-grade fluids] *C. R. Acad. Sci. Paris Sér. I Math.* **324** (1997), *no.* 5, 605–610. (Summary) **99a:76003a** 76A05 (35Q35)

— (*with* Bresch, Didier; Simon, Jacques) Écoulement engendré par le vent et la force de Coriolis dans un domaine mince. II. Cas d'évolution. (English and French summaries) [Motion driven by wind and by Coriolis force in a thin domain. II. Nonstationary case] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 329–334. (Summary) **99h:86005** 86A05 (35Q30, 76D05, 76U05)

— *see also* **Errata: "On the existence and uniqueness of a solution for second- or third-grade fluids", 99a:76003b**

Lemoine, X. (*with* Sabar, H.; Berveiller, M.; Morreale, J.) Plastic inclusion with moving boundary. Application to dislocation cell structures. (English summary) *Arch. Mech. (Arch. Mech. Stos.)* **50** (1998), *no.* 4, 757–789. 73E99 (73S10)

Lemon, Oliver First-order theory change systems and their dynamic semantics. (English summary) *The Tbilisi Symposium on Logic, Language and Computation: selected papers (Gudauri, 1995)*, 85–99, *Stud. Logic Lang. Inform., CSLI Publ., Stanford, CA*, 1998. (*see* **99m:03006**) 03B45 (03B70, 68T27)

Lemos, José P. S. (*with* Sá, Paulo M.) Stationary black holes in a generalized three-dimensional theory of gravity. (English summary) *Phys. Lett. B* **423** (1998), *no.* 1-2, 49–53. (Michael O. Katanaev) **99c:83059** 83C57

— Gravitational collapse to toroidal, cylindrical, and planar black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 4600–4605. (Summary) **99m:83124** 83C57

— Collapsing shells of radiation in anti-de Sitter spacetimes and the hoop and cosmic censorship conjectures. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044020, 3 *pp.* (Summary) **99m:83151** 83C75 (83C57)

Lemos, Manoel Non-binary matroids having four non-binary elements. (English summary) *Ars Combin.* **46** (1997), 97–117. (James G. Oxley) **99e:05033** 05B35

— (*with* Oxley, James) On packing minors into connected matroids. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 283–289. (Summary) **99c:05044** 05B35

— (*with* Oxley, James) On removable circuits in graphs and matroids. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 51–66. (Winfried Hochstättler) **99m:05094** 05C40 (05B35, 05C38)

Lemos, Nivaldo A. (*with* Carvalhaes, C. G.; Belvedere, L. V.; do Amaral, R. L. P. G.) Structural aspects of two-dimensional anomalous gauge theories. (English summary) *Ann. Physics* **269** (1998), *no.* 1, 1–25. (Giovanni Morchio) **99j:81108** 81T10 (81T40)

— (*with* Alvarenga, Flávio G.) Dynamical vacuum in quantum cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 5, 681–694. (Viqar Husain) **99d:83042** 83C45

Lemou, Mohammed (*with* Degond, Pierre) Dispersion relations for the linearized Fokker-Planck equation. (English summary) *Arch. Rational Mech. Anal.* **138** (1997), *no.* 2, 137–167. (Reinhard Illner) **99f:82051** 82C31 (35Q99, 45K05, 47N55)

— (*with* Bokanowski, Oliver) Fast multipole method for multidimensional integrals. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 105–110. (Summary) **99e:65035** 65D30

— Opérateur de Fokker-Planck-Landau axisymétrique. (English and French summaries) [The axisymmetric Fokker-Planck-Landau operator] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 179–184. (Summary) **99h:82056** 82C31

— Multipole expansions for the Fokker-Planck-Landau operator. (English summary) *Numer. Math.* **78** (1998), *no.* 4, 597–618. (Carlo Cercignani) **99e:82068** 82C31 (82–08)

Le Mouël, J.-L. (*with* Blanter, E. M.; Narteau, C.; Shnirman, M. G.) Up and down cascade in a dynamo model: spontaneous symmetry breaking. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 5, *part A*, 5112–5123. 76W05 (76F99, 86A25)

Lempert, László Algebraic approximations. *Geometric complex analysis (Hayama, 1995)*, 393–399, *World Sci. Publishing, River Edge, NJ*, 1996. (From the introduction) **99b:32013** 32E30

— Spaces of Cauchy-Riemann manifolds. *CR-geometry and overdetermined systems (Osaka, 1994)*, 221–236, *Adv. Stud. Pure Math.*, 25, *Math. Soc. Japan, Tokyo*, 1997. (John Bland) **99a:32019** 32G07 (32C16)

— The Cauchy-Riemann equations in infinite dimensions. (English summary) *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts, 1998)*, *Exp. No. VIII*, 8 *pp.*, *Univ. Nantes, Nantes*, 1998. (Jorge Mujica) **99k:46081** 46G20 (32F20, 32K99)

— The Dolbeault complex in infinite dimensions. I. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 485–520. (C. J. Atkin) **99f:58007** 58B12 (32L20, 46E50, 46G20)

Lempio, Frank (*with* Vel'ov, Vladimir M.) Discrete approximations of differential inclusions. (English summary) *Bayreuth. Math. Schr. No.* 54 (1998), 149–232. (Zvi Artstein) **99j:49067** 49M25 (34A60, 65L05)

— Numerische Mathematik. II. Methoden der Analysis. [Numerical mathematics. II. Methods of analysis] *Bayreuth. Math. Schr. No.* 55 (1998), *vi*+263 *pp.* (From the preface) **99f:65001** 65–01

— (*with* Vel'ov, Vladimir M.) Discrete approximations of differential inclusions. (English summary) *GAMM Mitt. Ges. Angew. Math. Mech.* **21** (1998), *no.* 2, 103–135. (Summary) **99j:49068** 49M25 (34A60, 34H05, 93B03)

Lempken, Wolfgang (*with* Parker, Christopher W.; Rowley, Peter J.) Minimal parabolic systems for the symmetric and alternating groups. (English summary) *The atlas of finite groups: ten years on (Birmingham, 1995)*, 149–162, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Hiroyoshi Yamaki) **99h:20020** 20D06 (20B30, 20E42)

— (*with* Fleischmann, Peter; Tiep, Pham Huu) The p-intersection subgroups in quasi-simple and almost simple finite groups. (English summary) *J. Algebra* **207** (1998), *no.* 1, 1–42. (Robert M. Guralnick) **99j:20021** 20D06 (20G40)

Lempp, Steffen (*with* Lerman, Manuel) A finite lattice without critical triple that cannot be embedded into the enumerable Turing degrees. (English summary) Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 167–185. (E. Herrmann) **99c:03064** 03D25

— The computational complexity of torsion-freeness of finitely presented groups. (English summary) *Bull. Austral. Math. Soc.* **56** (1997), *no.* 2, 273–277. (Evangelos Kranakis) **99e:03027** 03D15 (20A15)

— (*with* Downey, Rodney G.) Contiguity and distributivity in the enumerable Turing degrees. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 4, 1215–1240. (Michael Stob) **99f:03052** 03D25 (03D30)

— (*with* Ambos-Spies, Klaus; Cooper, S. Barry) Initial segments of recursive linear orders. (English summary) *Order* **14** (1997/98), *no.* 2, 101–105. (Victor Selivanov) **99m:03087** 03D45 (03C57, 06A05)

— (*with* Ambos-Spies, Klaus; Mainhardt, Gunther) Randomness vs. completeness: on the diagonalization strength of resource-bounded random sets. (English summary) *Mathematical foundations of computer science*, 1998 (*Brno*), 465–473, *Lecture Notes in Comput. Sci.*, 1450, *Springer, Berlin*, 1998. (*see* **99m:68010**) 68Q15 (03D15)

Lemus, R. (*with* Bijker, Roelof; Frank, Alejandro; Arias, J. M.; Pérez-Bernal, F.) A comparison between algebraic models of molecular spectroscopy. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 37–46, *Plenum, New York*, 1998. (Summary) **99g:81234** 81V55 (81R05)

phan Le Na *see* **Phan Le Na**

Lenagan, T. H. (*with* Albu, Toma; Smith, Patrick F.) Ascending chains of submodules in modules having Krull dimension. *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 567–581. (J. C. Robson) **99i:16044** 16P60

Lenarčič, Jadran (*with* Nemec, Bojan) Steepest descent optimisation in the secondary space of redundant manipulators. (English summary) *Informatica* (*Ljubl.*) **21** (1997), *no.* 4, 651–655. 70B15 (70Q05)

— *see also* **Advances in robot kinematics: analysis and control, 99d:70002**

Lenarduzzi, L. (*with* Bozzini, M.) Recovering a function with discontinuities from correlated data. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 1–16, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A30 (42C15)

Lenart, Cristian Symmetric functions, formal group laws, and Lazard's theorem. (English summary) *Adv. Math.* **134** (1998), *no.* 2, 219–239. (Neil P. Strickland) **99i:05203** 05E05 (14L05, 55N22)

— The combinatorics of Steenrod operations on the cohomology of Grassmannians. (English summary) *Adv. Math.* **136** (1998), *no.* 2, 251–283. (Dominique Arlettaz) **99e:55032** 55S10 (05E05, 55R40, 55R45, 57R20)

— (*with* Ray, Nigel) Hopf algebras of set systems. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 255–280. (Summary) **99m:16062** 16W30 (05A40, 05E05)

— Formal group-theoretic generalizations of the necklace algebra, including a q-deformation. (English summary) *J. Algebra* **199** (1998), *no.* 2, 703–732. (Noriko Yui) **99b:05013** 05A99 (05A30, 14L05)

— A generalized distance in graphs and centered partitions. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 293–304 (*electronic*). (Michael E. Raines) **99g:05067** 05C12 (62H30)

Lenas, P. (*with* Thomopoulos, N. A.; Vayenas, D. V.; Pavlou, S.) Oscillations of two competing microbial populations in configurations of two interconnected chemostats. (English summary) *Math. Biosci.* **148** (1998), *no.* 1, 43–63. (Summary) **99b:92044** 92D25

Lenci, Alessandro The structure of predication. (English summary) *Synthese* **114** (1998), *no.* 2, 233–276. 03B65 (01A55, 01A60, 03–03, 03A05)

Lenci, Marco (*with* Degli Esposti, Mirko; Del Magno, Gianluigi) An infinite step billiard. (English summary) *Nonlinearity* **11** (1998), *no.* 4, 991–1013. (András Krámli) **99i:58092** 58F11

Lenci, Stefano (*with* Rega, Giuseppe) A procedure for reducing the chaotic response region in an impact mechanical system. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 4, 391–409. (Summary) **99a:70037** 70K50

— On the suppression of chaos by means of bounded excitations in an inverted pendulum. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 4, 1116–1127 (*electronic*). (Emilia Petrisor) **99c:70031** 70K40 (70K50, 93D15)

Lenczewski, Romuald Tensor product construction of 2-freeness. (English summary) *Quantum probability* (*Gdańsk*, 1997), 259–272, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (Dimitri Y. Shlyakhtenko) **99i:46043** 46L05 (46L50, 81R50)

— Unification of independence in quantum probability. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 383–405. (Dimitri Y. Shlyakhtenko) **99k:46115** 46L50 (81R50)

— A noncommutative limit theorem for homogeneous correlations. (English summary) *Studia Math.* **129** (1998), *no.* 3, 225–252. (Andrzej Łuczak) **99j:60008** 60B99 (46K05, 46L50, 46N30, 60F05)

Lenczner, Michel (*with* Laydi, Mohamed Rachid) Équations de Navier-Stokes dans un domaine mince avec viscosité évanescente. (English and French summaries) [Navier-Stokes equations in a thin domain with vanishing viscosity] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 127–130. (Summary) **99e:35176** 35Q30 (76D05, 76D30)

— (*with* Kader, Mahamane) Paramétrisation de contrôleurs H_∞ sous-optimaux. Application à l'équation des ondes. (English and French summaries) [Parametrization of suboptimal H_∞ controllers. Application to the wave equation] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 179–183. (Summary) **99f:93045** 93B36 (93C20)

Lendi, K. (*with* van Wonderen, A. J.) Note on the representation of angular momentum by complex differential forms. (English summary) *J. Phys. A* **30** (1997), *no.* 12, 4439–4445. (A. M. Gavrilik) **99g:81065** 81R05 (22E70)

— (*with* Farhadmotamed, F.; van Wonderen, A. J.) Regularization of quantum relative entropy in finite dimensions and application to entropy production. (English summary) *J. Statist. Phys.* **92** (1998), *no.* 5-6, 1115–1135. (Matthew J. Donald) **99m:82004** 82B10 (82C10)

Lendowski, Volker ★ Modellierung und Simulation der Bewegung eines Körpers in reaktiven Zweiphasenflüssigkeiten. (German) [Modeling and simulation of the motion of a body in reactive two-phase fluids] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1996. Bonner Mathematische Schriften [Bonn Mathematical Publications], 296. *Universität Bonn, Mathematisches Institut, Bonn*, 1997. 101 *pp.* (Michael Renardy) **99a:76154** 76T05 (35Q35, 76M25, 76S05, 76Z99, 92C05, 92C40)

Leness, Thomas Blow-up formulae for SO(3)-Donaldson polynomials. (English summary) *Math. Z.* **227** (1998), *no.* 1, 1–26. (Shuguang Wang) **99b:57063** 57R55 (57N13, 57R57)

Lenferink, H. W. J. Correct discretization of a natural convection model. (Russian) *Vestnik Moskov. Univ. Ser. XV Vychisl. Mat. Kibernet.* **1995**, *no.* 3, 19–26; *translation in Moscow Univ. Comput. Math. Cybernet.* **1995**, *no.* 3, 13–19. 76M10 (65M06, 65M60, 76R10)

Leng, G. *see* **Leng, Gerard Siew Bing**

Leng, Gang Song (*with* Tang, Li Hua) More on higher-dimensional generalized Pedoe inequalities and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 1, 14–21. (Summary) **99f:52010** 52A40

— Inequalities for edge lengths and volumes of two simplexes. (English summary) *Geom. Dedicata* **68** (1997), *no.* 1, 43–48. (E. J. F. Primrose) **99b:51016** 51M16 (52A40)

— (*with* Zhang, Yao) The generalized sine theorem and inequalities for simplices. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 237–247. (Gerard Sierksma) **99f:15004** 15A03

— (*with* Zhang, Yao) Vertex angles for simplices. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 1–5. 15A99 (51M04)

Leng, Gerard Siew Bing (*with* Lin, Rongzin; Lee, Heow Pueh) A method for the numerical computation of Hopf bifurcation. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 137–156. (Wolf-Jürgen Beyn) **99c:34075** 34C23 (34C25, 65L10)

Leng, Paul H. (*with* Butler, Mark H.; Paton, Ray C.) Unconventional approaches for biologically inspired computing. (English summary) *Unconventional models of computation* (*Auckland*, 1998), 118–130, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05

Leng, Zhi Jie (*with* Zhao, Hui; Xu, Zhong Ru) The loop analysis method and its application to determining the stability of agricultural ecosystems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 28–32. 92D40

Lengauer, Christian (*with* Wedler, Christoph) On linear list recursion in parallel. (English summary) *Acta Inform.* **35** (1998), *no.* 10, 875–909. 68N15

Lengwiler, Yvan Endogenous endowments and equilibrium starvation in a Walrasian economy. (English summary) *J. Math. Econom.* **30** (1998), *no.* 1, 37–58. (Summary) **99k:90048** 90A14 (90A56)

Lengyel, Tamás Divisibility properties by recurrence relations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 391–397, *Gordon and Breach, Amsterdam*, 1997. (James N. Ridley) **99g:11019** 11B37 (11A05)

— The moments of the number of cycles of a random permutation by simple enumeration. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 1, 133–137. (A. N. Philippou) **99k:60017** 60C05 (60E10, 60F05)

Lenhart, Suzanne (*with* Protopopescu, Vladimir; Yong, Jiong Min) Solving inverse problems of identification type by optimal control methods. (English summary) *Applied nonlinear dynamics and stochastic systems near the millenium* (*San Diego, CA*, 1997), 87–94, *AIP Conf. Proc.*, 411, *Amer. Inst. Phys., Woodbury, NY*, 1997. (*see* **99h:00022**) 93B30 (35R30, 49N50)

— (*with* Protopopescu, Vladimir; Yong, Jiong Min) Optimal control of a reflection boundary coefficient in an acoustic wave equation. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 179–194. (Summary) **99a:49044** 49N55 (35L20, 76Q05)

— (*with* Adams, David R.; Yong, Jiong Min) Optimal control of the obstacle for an elliptic variational inequality. (English summary) *Appl. Math. Optim.* **38** (1998), *no.* 2, 121–140. (Samir Adly) **99h:49004** 49J20 (31B05, 35J85, 49N60)

— (*with* Fister, K. Renee; McNally, Joseph Scott) Optimizing chemotherapy in an HIV model. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 32, 12 *pp.* (*electronic*). (Summary) **99i:92007** 92C50 (49N55)

Lenin, R. B. (*with* Parthasarathy, P. R.) On the exact transient availability in discrete time of parallel redundant repairable systems with quadratic rates. (English summary) *J. Appl. Statist. Sci.* **7** (1998), *no.* 2-3, 89–101. (Summary) **99g:60160** 60K10 (62N05)

— (*with* Parthasarathy, P. R.) On the numerical solution of transient probabilities of quadratic birth and death processes. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 4, 365–379. (Summary) **99g:60155** 60J80 (60J27)

— (*with* Parthasarathy, P. R.; Schoutens, Wim; Van Assche, Walter) A birth and death process related to the Rogers–Ramanujan continued fraction. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 297–315. (Erik A. van Doorn) **99g:60156** 60J80 (30B70, 40A15, 60K25)

Lenisa, Marina Semantic techniques for deriving coinductive characterizations of observational equivalences for λ-calculi. (English summary) *Typed lambda calculi and applications* (*Nancy*, 1997), 248–266, *Lecture Notes in Comput. Sci.*, 1210, *Springer, Berlin*, 1997. (Summary) **99a:03021** 03B40 (68Q55)

Lenker, Terry (*with* Fleming, Richard J.; Grossman, George W.; Narayan, Sivaram K.; Ong, S.-C.) On Schur D-stable matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 39–50. (Pauline van den Driessche) **99i:15012** 15A18

— (*with* Angelos, James; Grossman, George W.; Kaufman, Edwin; Rakesh, Leela) Limit cycles for successive projections onto hyperplanes in $\mathbf{R}^n$. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 201–228. (E. G. D'yakonov) **99k:65041** 65F99

Lennard, Christopher J. (*with* Dowling, Patrick N.; Turett, Barry) Asymptotically perturbed norms of classical sequence spaces with applications to fixed point theory. (English summary) Proceedings of Workshop on Fixed Point Theory (Kazimierz Dolny, 1997). *Ann. Univ. Mariae Curie-Sklodowska Sect. A* **51** (1997), *no.* 2, 67–98. (S. Swaminathan) **99m:46032** 46B20 (47H10)

Lennartson, Bengt (*with* Sågfors, Mats F.; Toivonen, Hannu T.) H_∞ control of multirate sampled-data systems: a state-space approach. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 4, 415–428. (Anton A. Stoorvogel) **99e:93030** 93B36 (93C57)

Lennox, John C. (*with* Smith, Howard; Wiegold, James) Finite p-groups in which subgroups have large cores. *Infinite groups* 1994 (*Ravello*), 163–169, *de Gruyter, Berlin*, 1996. (Czesław Bagiński) **99a:20018** 20D15

— (*with* Cutolo, Giovanni; Rinauro, Silvana; Smith, Howard; Wiegold, James) On infinite core-finite groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **96** (1996), *no.* 2, 169–175. (O. Yu. Dashkova) **99g:20062** 20F14

Łenski, Włodzimierz (*with* Topolewska, Maria) On the rate of strong summability of double Fourier series. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 337–363. (S. Baron) **99m:42017** 42B08 (40G05, 41A17, 42A10)

Lenssen, Mark (*with* Korn, Ralf; Kreer, Markus) Pricing of European options when the underlying stock price follows a linear birth-death process. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 647–662. (Summary) **99d:90019** 90A09 (60G44, 60G55)

Lenstra, Arjen K. Generating standard DSA signatures without long inversion. (English summary) *Advances in cryptology—ASIACRYPT '96* (*Kyongju*), 57–64, *Lecture Notes in Comput. Sci.*, 1163, *Springer, Berlin*, 1996. (Summary) **99a:94037** 94A60 (65C10)

Lenstra, Hendrik W., Jr. (*with* de Smit, Bart) Explicit construction of universal deformation rings. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 313–326, *Springer, New York*, 1997. (*see* **99k:11004**) 11F80

— (*with* Stevenhagen, P.) Class field theory and the first case of Fermat's last theorem. *Modular forms and Fermat's last theorem* (*Boston, MA*, 1995), 499–503, *Springer, New York*, 1997. (*see* **99k:11004**) 11D41 (11R37)

Lenstra, Jan Karel (*with* Williamson, David P.; Hall, Leslie A.; Hoogeveen, Johannes Adzer; Hurkens, C. A. J.; Sevast'yanov, S. V.; Shmoys, David B.) Short shop schedules. (English summary) *Oper. Res.* **45** (1997), *no.* 2, 288–294. (Jan Węglarz) **99g:90049** 90B25 (68Q25)

— (*with* Vaessens, R. J. M.; Aarts, E. H. L.) A local search template. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 11, 969–979. (Jacques A. Ferland) **99g:90100** 90C27 (90C30)

— The mystical power of twoness: in memoriam Eugene L. Lawler. (English summary) *J. Sched.* **1** (1998), *no.* 1, 3–14. 90B22 (90–02)

— *see also* **Networks and matroids; Sequencing and scheduling**, **99b:00026**

Lensu, Mikko Distribution of the number of fragmentations in continuous fragmentation. (English summary) *J. Phys. A* **31** (1998), *no.* 26, 5705–5715. (Summary) **99c:82062** 82C44

Lenyuk, S. V. Filters in the lattice of quasivarieties of metabelian groups. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 67–73, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 57–62. (Vladimir S. Anashin) **99f:20044** 20E10 (08C15)

Lenz, F. (*with* Thies, M.) Polyakov loop dynamics in the center symmetric phase. (English summary) *Ann. Physics* **268** (1998), *no.* 2, 308–358. (Massimo Di Pierro) **99h:81135** 81T13

Lenz, Hanfried (*with* Begehr, Heinrich G. W.) Jacob Steiner and synthetic geometry. *Mathematics in Berlin*, 49–54, *Birkhäuser, Berlin*, 1998. (*see* **99k:01080**) 01A70

Lenz, Henning (*with* Obradovic, Dragan) Stabilizing higher periodic orbits of chaotic discrete-time maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **9** (1999), *no.* 1, 251–266. 58F13

Lenz, Reiner (*with* Svanberg, Jonas) Group-theoretical transforms, statistical properties of image spaces and image coding. (English summary) *Signal and image representation in combined spaces*, 555–575, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Summary) **99d:94008** 94A12

Lenze, Burkhard Introducing dilation and translation for incomplete sigma-pi neural networks of Hopfield-type. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 197–210, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (41A30)

— Linking discrete orthogonality with dilation and translation for incomplete sigma-pi neural networks of Hopfield-type. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 169–180. (Summary) **99k:68161** 68T05

— Mathematics and neural networks—a glance at some basic connections. (English summary) *Acta Appl. Math.* **55** (1999), *no.* 3, 303–311. 92B20 (41A30)

Lenzerini, Maurizio (*with* Donini, Francesco M.; Nardi, Daniele; Nutt, Werner) The complexity of concept languages. (English summary) *Inform. and Comput.* **134** (1997), *no.* 1, 1–58. (Lei Qian) **99c:68236** 68T30 (68Q25)

— (*with* Calvanese, Diego; De Giacomo, Giuseppe) What can knowledge representation do for semi-structured data? (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 205–210, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 68T30

— (*with* Cadoli, Marco; Palopoli, Luigi) Datalog and description logics: expressive power. (English summary) *Database programming languages* (*Estes Park, CO*, 1997), 281–298, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15

Lenzi, Giacomo (*with* De Giorgi, Ennio) Theory '95. An open-ended, nonreductionist theory of the foundations of mathematics. (Italian. English and Italian summaries) *Rend. Accad. Naz. Sci. XL Mem. Mat. Appl.* (5) **20** (1996), 7–34. (Summary) **99c:03006** 03A05 (00A30, 00A35)

Lenzing, Helmut (*with* de la Peña, José Antonio) Wild canonical algebras. *Math. Z.* **224** (1997), *no.* 3, 403–425. (Otto Kerner) **99a:16012** 16G60 (16G20, 16G70)

— Auslander's work on Artin algebras. *Algebras and modules, I* (*Trondheim*, 1996), 83–105, *CMS Conf. Proc.*, 23, *Amer. Math. Soc., Providence, RI*, 1998. (Sheila Brenner) **99j:16008** 16G70 (16G10)

— Representations of finite-dimensional algebras and singularity theory. *Trends in ring theory* (*Miskolc*, 1996), 71–97, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (Hagen Meltzer) **99d:16014** 16G20 (14H20, 14H60, 16G60)

— (*with* Skowroński, Andrzej) On selfinjective algebras of Euclidean type. *Colloq. Math.* **79** (1999), *no.* 1, 71–76. (Steffen König) **99m:16038** 16P10 (16E20)

Lenzini, G. (*with* Marianelli, S.) Algorithms for phylogeny reconstruction in a new mathematical model. (English summary) *Calcolo* **34** (1997), *no.* 1-4, 1–24 (1998). (Marcus W. Feldman) **99j:92008** 92D15

Lenzini, Thierry (*with* Rossetto, Bruno; Ramdani, Sofiane; Suchey, Gilles) Slow-fast autonomous dynamical systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 11, 2135–2145. (Summary) **99m:34101** 34C35 (34E05)

de Leo, G. A. *see* **De Leo, G. A.**

Leo, John W. Triads and triangles in 3-connected matroids. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 173–193. (James G. Oxley) **99h:05023** 05B35

Leo, R. A. (*with* Alfinito, E.; Grassi, V.; Profilo, Gabriella; Soliani, Giulio) Equations of the reaction-diffusion type with a loop algebra structure. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1387–1401. (Oktay K. Pashaev) **99m:58106** 58F07 (35K57, 58F35)

de Leo, Stefano *see* **De Leo, Stefano**

León, Gerardo (*with* Rodríguez, Patricio; Nussbaum, Miguel; Baeza, Rodrigo; Sepúlveda, Marcos; Cobián, Agustín) Using global search heuristics for the capacity vehicle routing problem. (English summary) *Comput. Oper. Res.* **25** (1998), *no.* 5, 407–417. 90C35 (90B06)

Leon, J. *see* **Leon, Jérôme Jp.**

León, J. A. *see* **León, Jorge A.**

santos-León, J. C. *see* **Santos-León, J. C.**

Leon, Jeffrey S. (*with* Fields, Joe; Gaborit, Philippe; Pless, Vera) All self-dual Z_4 codes of length 15 or less are known. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 311–322. (Summary) **99a:94061** 94B60

Leon, Jérôme Jp. (*with* Boiti, M.; Pempinelli, F.) Solution of the boundary value problem for the integrable discrete SRS system on the semi-line. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 927–943. (Summary) **99j:78017** 78A45 (35Q53, 35Q55)

León, Jorge A. (*with* Ruiz de Chávez, Juan; Tudor, Constantin) On equivalence of solutions to anticipating semilinear stochastic equations on the Poisson space. (English summary) *Rev. Roumaine Math. Pures Appl.* **41** (1996), *no.* 9-10, 649–661. (Rainer Buckdahn) **99f:60100** 60H05 (60H10)

— (*with* Nualart, David) Stochastic evolution equations with random generators. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 149–186. (Catherine Donati-Martin) **99b:60093** 60H15 (60H07, 60H10)

— (*with* Tudor, Constantin) A chaos approach to the anticipating calculus for the Poisson process. (English summary) *Stochastics Stochastics Rep.* **62** (1998), *no.* 3-4, 217–250. (Summary) **99a:60055** 60H07 (60J75)

— *see also* **Symposium: Probability Theory and Stochastic Processes**, **99e:60008** *and* **Congress: Mexican Mathematical Society**, **99f:00013**

León, José H. (*with* Álvarez, Enrique; Borlaf González, Javier) Killings, duality and characteristic polynomials. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 162–168. (Summary) **99a:81122** 81T30 (53C80)

León, José R. (*with* Iovleff, Serge) High-frequency approximation for the Helmholtz equation: a probabilistic approach. (English summary) *Rep. Math. Phys.* **40** (1997), *no.* 1, 1–16. (Youri G. Smirnov) **99d:35023** 35C99 (35J05, 76Q05, 78A25)

— (*with* Berzin, Corinne) Weak convergence of the integrated number of level crossings to the local time for Wiener processes. (Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 757–771. (Endre Csáki) **99e:60181** 60J65 (60F15, 60J55)

— (*with* Berzin, Corinne; Ortega, Joaquín) Increments and crossings for the Brownian bridge: weak convergence. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 6, 587–592. (Kun Soo Chang) **99h:60153** 60J65

— (*with* Berzin, Corinne; Ortega, Joaquín) Study of the asymptotic behaviour of non-linear functionals for the empirical bridge via strong approximations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 7, 671–676. (Lajos Horváth) **99g:60043** 60F05 (60F17)

— (*with* Berzin, Corinne; Ortega, Joaquín) Level crossings and local time for regularized Gaussian processes. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 39–81 (19*N*). (Patrik Albin) **99i:60087** 60G15 (60F17, 60F25, 60J55)

Léon, Larry F. (*with* Tsai, Chih-Ling) Assessment of model adequacy for Markov regression time series models. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 1165–1175. 62M99

de León, M. *see* **de León, Manuel**

González León, M. A. *see* **González León, M. A.**

cuesta Leon, Mabel *see* **Cuesta Leon, Mabel**

Leon, Mabel Cuesta Existence results for quasilinear problems via ordered sub- and supersolutions. (English and French summaries) *Ann. Fac. Sci. Toulouse Math.* (6) **6** (1997), *no.* 4, 591–608. (Zuchi Chen) **99e:35065** 35J65 (35B99, 35D05)

de León, Manuel (*with* Cantrijn, F.; Ibort, Luis Alberto) Hamiltonian structures on multisymplectic manifolds. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 225–236. (Jesús Marín-Solano) **99e:58067** 58F05 (70G50, 70H05)

— (*with* Ibort, Luis Alberto; Marmo, Giuseppe; Martín de Diego, David) Non-holonomic constrained systems as implicit differential equations. (English summary) Geometrical structures for physical theories, I (Vietri, 1996). *Rend. Sem. Mat. Univ. Politec. Torino* **54** (1996), *no.* 3, 295–317. (Frans Cantrijn) **99g:70021** 70F25 (34A09, 34A26, 58F05, 70Hxx)

— (*with* Marrero, Juan Carlos) Compact cosymplectic manifolds with transversally positive definite Ricci tensor. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 4, 607–624 (1998). (Miguel Ortega) **99d:53030** 53C15

— (*with* Ibáñez, Raúl; Marrero, Juan Carlos; Martín de Diego, David) Nambu-Poisson dynamics. (English summary) Fourth Meeting on Current Ideas in Mechanics and Related Fields (Kraków, 1997). *Arch. Mech.* (*Arch. Mech. Stos.*) **50** (1998), *no.* 3, 405–413. (Frans Cantrijn) **99h:58063** 58F05 (70H05, 70H99)

— (*with* Fernández, Marisa; Ibáñez, Raúl) Coeffective and de Rham cohomologies on almost contact manifolds. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 285–303. (Luis Ugarte) **99f:53028** 53C15 (58G05)

— (*with* Epstein, Marcelo) On uniformity of shells. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 17, 2173–2182. (Summary) **99a:73092** 73K15

— (*with* Fernández, Marisa; Ibáñez, Raúl) The canonical spectral sequences for Poisson manifolds. (English summary) *Israel J. Math.* **106** (1998), 133–155. (Juan Carlos Marrero Gonzalez) **99k:58067** 58F05 (53C15, 55T99, 57R15, 58A12)

— (*with* Epstein, Marcelo) Geometrical theory of uniform Cosserat media. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 1-2, 127–170. (Marek Elżanowski) **99d:73018** 73B99 (53C05, 53C10, 53C80, 73S10)

— (*with* Fernández, Marisa; Ibáñez, Raúl) Coeffective and de Rham cohomologies of symplectic manifolds. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 281–296. (Domingo Chinea) **99k:53053** 53C15 (58A12)

— (*with* Ibáñez, Raúl; Marrero, Juan Carlos) Homology and cohomology on generalized Poisson manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1253–1266. (Frans Cantrijn) **99f:53029** 53C15 (55T99, 58F05)

— (*with* Ibáñez, Raúl; Marrero, Juan Carlos; Padrón, Edith) Nambu-Jacobi and generalized Jacobi manifolds. (English summary) *J. Phys. A* **31** (1998), *no.* 4, 1267–1286.

(Frans Cantrijn) **99f:53030** 53C15 (58F05)

— (*with* Ibort, Luis Alberto; Lacomba, Ernesto A.; Marrero, Juan Carlos; Martín de Diego, David; Pitanga, Paulo) Geometric formulation of mechanical systems subjected to time-dependent one-sided constraints. (English summary) *J. Phys. A* **31** (1998), *no.* 11, 2655–2674. (Frans Cantrijn) **99d:70021** 70F30 (58F05, 70F25)

— (*with* Ibort, Luis Alberto; Marrero, Juan Carlos; Martín de Diego, David) A Dirac bracket for non-holonomic Lagrangian systems. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fís. Natur. Madrid* **32** (1998), 85–101. (Frans Cantrijn) **99j:70018** 70F25 (58F05, 70H35)

— (*with* Marrero, Juan Carlos; Padrón, Edith) A generalization for Jacobi manifolds of the Lichnerowicz-Poisson cohomology. (English summary) Geometry and physics (Spanish) (Jaca, 1996). *Mem. Real Acad. Cienc. Exact. Fís. Natur. Madrid* **32** (1998), 131–150. (Raúl Ibáñez) **99j:58076** 58F05 (58A14, 58F06)

— (*with* Chinea, Domingo; Marrero, Juan Carlos) A canonical differential complex for Jacobi manifolds. *Michigan Math. J.* **45** (1998), *no.* 3, 547–579. (Raúl Ibáñez) **99i:53025** 53C15 (58A14, 58F05)

— (*with* Marrero, Juan Carlos; Martín de Diego, David) Time-dependent mechanical systems with non-linear constraints. (English summary) *New developments in differential geometry, Budapest* 1996, 221–234, *Kluwer Acad. Publ., Dordrecht*, 1999. (Jesús Marín-Solano) **99k:58073** 58F05 (70F25, 70H35)

garcía León, María Dolores *see* **García León, María Dolores**

León, N. Luis E. Convergence of approximate solutions of the Cauchy problem for a 2×2 nonstrictly hyperbolic system of conservation laws. (English summary) Applied and computational topics in partial differential equations (Gramado, 1997). *J. Comput. Appl. Math.* **103** (1999), *no.* 1, 139–144. (Summary) **99k:65081** 65M12 (35L65)

segura de León, Sergio *see* **Segura de León, Sergio**

León, Teresa (*with* Sanmatías, Susana; Vercher, Enriqueta) A primal semi-infinite programming method for the uniform approximation problem. (Spanish. English and Spanish summaries) *Qüestiió* (2) **22** (1998), *no.* 2, 313–335. 90C34

— (*with* Sanmatías, Susana; Vercher, Enriqueta) A multi-local optimization algorithm. (English summary) *Top* **6** (1998), *no.* 1, 1–18. 90C30 (65K05)

Leonard, A. (*with* Brady, Mark A.; Pullin, D. I.) Regularized vortex sheet evolution in three dimensions. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 520–545. (Summary) **99f:76034** 76C05 (76M25)

— (*with* Ghosh, S.; Wiggins, Stephen) Diffusion of a passive scalar from a no-slip boundary into a two-dimensional chaotic advection field. (English summary) *J. Fluid Mech.* **372** (1998), 119–163. (Athanasios Yannacopoulos) **99k:76041** 76D05 (58F13, 58F40, 76F20, 76M35)

Léonard, Christian (*with* Cattiaux, P.) Minimization of the Kullback information for some Markov processes. (English summary) *Séminaire de Probabilités, XXX*, 288–311, *Lecture Notes in Math.*, 1626, *Springer, Berlin*, 1996. (Ross Pinsky) **99b:60038** 60F10 (60J25, 60J60)

Leonard, Douglas A. (*with* Sakata, Shojiro; Jensen, Helge Elbrønd; Høholdt, Tom) Fast erasure-and-error decoding of algebraic geometry codes up to the Feng-Rao bound. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1558–1564. (Summary) **99h:94072** 94B35 (94B27)

— Efficient Forney functions for decoding AG codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 260–265. (Summary) **99k:94060** 94B35

Leonard, Frank (*with* Ellis, Graham J.) Computing Schur multipliers and tensor products of finite groups. (English summary) *Proc. Roy. Irish Acad. Sect. A* **95** (1995), *no.* 2, 137–147. (D. F. Holt) **99h:20084** 20J05 (20–04, 20F05)

Leonard, Philip A. (*with* Attinger, Lauree) New families of **Z**-cyclic triplewhist tournaments. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 163–169. (Summary) **99j:05044** 05B30

— (*with* Finizio, Norman J.) More ZCPS-Wh(v) and several new infinite classes of Z-cyclic whist tournaments. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 193–202. (Ian Anderson) **99h:05021** 05B30

— (*with* Finizio, Norman J.) Inductive extensions of some Z-cyclic whist tournaments. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 299–307. (Summary) **99k:05047** 05B30

Leonard, Stephen W. (*with* Poisson, Eric) Radiative multipole moments of integer-spin fields in curved spacetime. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 8, 4789–4814. (Enric Verdaguer) **99e:83019** 83C25 (83C30, 83C35)

— (*with* Poisson, Eric) Gravitational waves from binary systems in circular orbits: convergence of a partially bare multipole expansion. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2075–2081. 83C35 (83C25)

Leonardi, Eddie (*with* Chen, Li[4]; Garimella, Suresh V.; Reizes, John A.) The development of a bubble rising in a viscous liquid. (English summary) *J. Fluid Mech.* **387** (1999), 61–96. 76D99 (76T05)

Leonardi, S. *see* **Leonardi, Stefano**

Leonardi, Salvatore On constants of some regularity theorems. De Giorgi's type counterexample. (English summary) *Math. Nachr.* **192** (1998), 191–204. (Nguyễn Minh Trí) **99f:35032** 35J15 (35B65)

Leonardi, Stefano (*with* Azar, Yossi; Bartal, Yair; Feuerstein, Esteban; Fiat, Amos; Rosén, Adi) On capital investment. (English summary) *Automata, languages and programming* (*Paderborn*, 1996), 429–441, *Lecture Notes in Comput. Sci.*, 1099, *Springer, Berlin*, 1996. (N. H. Bingham) **99c:90017** 90A09 (68Q25)

— On-line network routing. *Online algorithms* (*Schloss Dagstuhl*, 1996), 242–267, *Lecture Notes in Comput. Sci.*, 1442, *Springer, Berlin*, 1998. (*see* **99m:68003**) 90B10 (68M10, 90C35)

— (*with* Marchetti-Spaccamela, Alberto; Presciutti, Alessio; Rosén, Adi) On-line randomized call control revisited. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 323–332, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10

— (*with* Feuerstein, Esteban; Marchetti-Spaccamela, Alberto; Santoro, Nicola) Efficient token-based control in rings. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 175–180. (Summary) **99b:68014** 68M10

— (*with* Marchetti-Spaccamela, Alberto) On-line resource management with application to routing and scheduling. (English summary) *Algorithmica* **24** (1999), *no.* 1, 29–49. (Neville G. F. Sancho) **99m:90086** 90B35 (90C35)

Leoncini, Mauro (*with* Bar-On, Ilan) How does one solve a tridiagonal system of linear equations? (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 293–300, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F05 (65G10, 65Y05)

Leone, Nicola (*with* Gottlob, Georg; Scarcello, Francesco) On the complexity of some inductive logic programming problems. (English summary) *Inductive logic programming* (*Prague*, 1997), 17–32, *Lecture Notes in Comput. Sci.*, 1297, *Springer, Berlin*, 1997. (Summary) **99e:68019** 68N17 (68Q25)

— (*with* Buccafurri, Francesco; Rullo, Pasquale) Strong and weak constraints in disjunctive Datalog. (English summary) *Logic programming and nonmonotonic reasoning* (*Dagstuhl*, 1997), 2–17, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68026** 68N17 (68P15)

— (*with* Eiter, Thomas; Gottlob, Georg) Abduction from logic programs: semantics and complexity. (English summary) *Theoret. Comput. Sci.* **189** (1997), *no.* 1-2, 129–177. (Summary) **99a:68028** 68N17 (68Q25)

— (*with* Greco, Sergio; Scarcello, Francesco) DATALOG with nested rules. (English summary) *Logic programming and knowledge representation* (*Port Jefferson, NY*, 1997), 52–65, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99m:68031** 68N17 (68P15)

Leone, P. (*with* Hairer, Ernst) Order barriers for symplectic multi-value methods. (English summary) *Numerical analysis* 1997 (*Dundee*), 133–149, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65108** 65L06

Leonenko, L. L. (*with* Poddubnyĭ, G. V.) Similarity theory for finite sequences and its applications to pattern recognition. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 8, 119–131; *translation in Automat. Remote Control* **57** (1996), *no.* 8, *part* 2, 1163–1172 (1997). (Witold Pedrycz) **99f:68176** 68T10

Leonenko, Nikolai N. (*with* Ìllīcheva, L. M.) Asymptotic properties of the sample mean of a class of non-Gaussian random fields. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 38–46; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 39–48. (Leonid I. Piterbarg) **99e:60118** 60G60 (62E20, 62F12)

— (*with* Šilac-Benšić, M.) On the asymptotic distributions of least square estimations in a regression model with singular errors. (Ukrainian. Ukrainian summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 7, 26–31. (Peter M. Robinson) **99b:62105** 62J05 (62F12)

— (*with* Woyczyński, Wojbor A.) Scaling limits of solutions of the heat equation for singular non-Gaussian data. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 423–438. (Jan Ubøe) **99f:60101** 60H05 (35K05, 35R60, 60F05)

— (*with* Šilac-Benšić, M.) On estimation of regression coefficients of long memory random fields observed on the arrays. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 1, 61–76. (Peter M. Robinson) **99c:62275** 62M40

— (*with* Sikorskii, Alla Yu.; Terdik, György) On spectral and bispectral estimator of the parameter of non-Gaussian data. (English summary) *Random Oper. Stochastic Equations* **6** (1998), *no.* 2, 159–182. (Vladimir Zaiats) **99d:62090** 62M15 (62F12, 62M10)

— (*with* Woyczyński, Wojbor A.) Exact parabolic asymptotics for singular n-D Burgers' random fields: Gaussian approximation. (English summary) *Stochastic Process. Appl.* **76** (1998), *no.* 2, 141–165. (Denis Talay) **99h:60101** 60G60 (60F17, 60H15, 76D05, 76F99, 76M35)

Leonetti, Francesco (*with* D'Ottavio, Anna; Musciano, Chiara) Maximum principle for vector-valued mappings minimizing variational integrals. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 677–683. (Summary) **99f:49024** 49K10 (49J10)

— (*with* Giachetti, Daniela; Schianchi, Rosanna) Boundary regularity and uniqueness for very weak $\mathscr{A}$-harmonic functions. (English summary) Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 765–769. (Summary) **99g:35042** 35J65 (31B25, 35D05)

Leong, Hon Wai *see* **Algorithms and computation, 99f:68001**

Leong, Swee H. (*with* Crann, Diane; Davies, Alan J.; Lai, Choi-Hong) Time domain decomposition for European options in financial modelling. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 486–491, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 90A09 (65M55)

Leonhardt, U. (*with* Kiss, Tamás; Bardroff, Patrick J.) State reconstruction of wave packets moving in time-dependent potentials and the existence of Wronskian pairs. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 411–418. 81Q99

Leoni, Giovanni On very singular self-similar solutions for the porous media equation with absorption. *Differential Integral Equations* **10** (1997), *no.* 6, 1123–1140. (Elena Comparini) **99e:35098** 35K55 (34A12, 76S05)

— On the existence of fast-decay solutions for a quasilinear elliptic equation with a gradient term. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 827–846. (Itai Shafrir) **99m:35089** 35J70 (35B40, 35K55)

— (*with* Fonseca, Irene) Bulk and contact energies: nucleation and relaxation. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 1, 190–219 (*electronic*). (Pablo Pedregal) **99j:49002** 49J20 (73B30, 73C50, 73T05, 73V25, 80A22)

Leonov, A. S. (*with* Tikhonov, Andreĭ Nikolaevich; Yagola, A. G.) ★ Nonlinear ill-posed problems. Vol. 1, 2. (English summary) Translated from the Russian. Applied Mathematics and Mathematical Computation, 14. *Chapman & Hall, London*, 1998. *xxii*+221 *pp. ISBN* 0-412-78660-5 (Editors) **99g:65074** 65J20 (47H15, 47H17, 47N40)

— (*with* Yagola, A. G.) Special regularizing methods for ill-posed problems with sourcewise represented solutions. (English summary) *Inverse Problems* **14** (1998), *no.* 6, 1539–1550. (Otmar Scherzer) **99k:47024** 47A50 (65J20)

— Remarks on the total variation of functions of several variables and on a multidimensional analogue of Helly's choice principle. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 1, 69–80; *translation in Math. Notes* **63** (1998), *no.* 1-2, 61–71. (Stanislav Ponomarev) **99i:26016** 26B30

— On multidimensional ill-posed problems with discontinuous solutions. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 74–86, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 63–73. (Ulrich Tautenhahn) **99e:65101** 65J20 (65H10)

— (*with* Yagola, A. G.) Adaptive regularizing algorithms for solving ill-posed problems. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1998**, *no.* 2, 62–63. (Summary) **99d:65193** 65J20 (65J10)

— Remarks on the method of the minimal pseudo-inverse matrix. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 7, 1085–1090; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 7, 1036–1041. 65F20

Leonov, G. A. (*with* Alidema, R. I.; Filina, M. Yu.) On the movements of Froude-Zhukovskii pendulum. (English and Serbian summaries) *Facta Univ. Ser. Mech. Automat. Control Robot.* **1** (1994), *no.* 4, 481–486. (Bozhidar Cheshankov) **99c:34067** 34C15 (70K10)

— (*with* Lyashko, S. A.) The direct Lyapunov method in estimates for the fractal dimension of attractors. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 68–74, 142; *translation in Differential Equations* **33** (1997), *no.* 1, 67–74. (B. V. Loginov) **99i:58099** 58F12 (34D45)

— Two-dimensional quadratic systems as a Lienard equation. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 289–297. (Douglas S. Shafer) **99j:34037** 34C05 (34C25, 58F22)

— The problem of estimating the number of cycles of two-dimensional quadratic systems from the point of view of nonlinear mechanics. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **50** (1998), *no.* 1, 48–57; *translation in Ukrainian Math. J.* **50** (1998), *no.* 1, 55–65. (Henryk Żołądek) **99m:34066** 34C05 (70K10)

— (*with* Boichenko, V. A.; Franz, Astrid; Reitmann, V.) Hausdorff and fractal dimension estimates for invariant sets of non-injective maps. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 207–223. (Remo Badii) **99d:58114** 58F12 (28A80, 58F11)

Leonov, N. N. ε-entropy of sets in ultrametric spaces. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **41** (1997), *no.* 4, 30–33, 123. (Summary) **99i:41036** 41A65 (46S10, 54C70)

— The structure of metrics, and isometric embeddings in ultrametric spaces. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 4, 42–45, 140. (Summary) **99i:54037** 54E35

Leonov, Sergei L. On the solution of an optimal recovery problem and its applications in nonparametric regression. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 4, 476–490 (1998). (Ewaryst Rafajłowicz) **99e:62051** 62G05 (93E03)

díaz de León S., J. L. *see* **Díaz de León S., J. L.**

Leontaris, G. K. (*with* Floratos, E. G.) Octonionic self-duality for supermembranes. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 1-2, 445–459. (Sergey Nikolaevich Roshchupkin) **99e:81188** 81T30 (83E30)

— (*with* Tracas, N. D.) Modular weights, $U(1)$'s and mass matrices. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 206–210. (Summary) **99a:81201** 81V22 (81V17, 83E50)

— (*with* Floratos, E. G.; Polychronakos, Alexios P.; Tzani, R.) Instanton solutions of the self-dual membrane in various dimensions. (English summary) *Phys. Lett. B* **421** (1998), *no.* 1-4, 125–130. (Summary) **99a:81137** 81T30 (81T60)

— (*with* Ellis, Jonathan Richard; Lola, S.; Nanopoulos, Dimitri V.) Fermion mass textures in an M-inspired flipped SU(5) model derived from string. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 86–96. (Summary) **99b:81273** 81V22 (81T30)

— (*with* Floratos, E. G.) A note on the supersymmetries of the self-dual supermembrane. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 75–81. (Summary) **99b:81188** 81T30 (81T60)

Leonte, Alexandru (*with* Duma, Adrian) Applications in the Browder-Petryshyn degree theory. Surjectivity theorems. (Romanian) *An. Univ. Craiova Ser. Mat. Inform.* **19** (1991/92), 21–25 (1994). 47H11 (47H15)

Leonte, Aristide On probability measures of finite expectation. *An. Univ. Craiova Ser. Mat. Inform.* **18** (1990), 57–65. 60B05

Leont'ev, A. N. (*with* Herskovits, José; Eboli, Claudia) Optimization theory application to slitted plate bending problems. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 20, 2679–2694. (Summary) **99a:73098** 73K40 (73K10)

— (*with* Kovtunenko, V. A.; Khludnev, A. M.) The problem of the equilibrium of a plate with an oblique cut. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 164–174. (Summary) **99h:73043** 73K10 (73T05, 73V25)

Leont'eva, N. A. On the structure of an entire function that vanishes on a given sequence of points. (Russian. English summary) *Anal. Math.* **22** (1996), *no.* 3, 171–186. (Vladimir Logvinenko) **99f:30045** 30D15

Leont'eva, N. V. (*with* Golovachëv, Yu. P.) Numerical investigation of a supersonic flow around sharp-nosed elliptic cones. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **39** (1999), *no.* 3, 534–542. 76M20 (76J20)

Leont'eva, T. A. (*with* Panferov, V. S.; Serov, V. S.) ★ Задачи по теории функций действительного переменного. (Russian. Russian summary) [Problems in the theory of functions of a real variable] *Izdatel'stvo Moskovskogo Universiteta imeni M. V. Lomonosova, Moscow*, 1997. 208 *pp. ISBN* 5-211-04054-6 (Publisher's description) **99e:00003** 00A07 (28-01, 46-01)

Leôntiev, Anatoli *see* **Leont'ev, A. N.**

Leontovich, A. M. (*with* Vasil'ev, N. B.) An estimate for the randomness of the overlap of figures. (Russian. Russian summary) *Problemy Peredachi Informatsii* **34** (1998), *no.* 1, 87–111; *translation in Problems Inform. Transmission* **34** (1998), *no.* 1, 76–96. (Jan Rataj) **99k:60028** 60D05 (52A22, 60E15, 60F05)

Leontovich, E. A. Partition of the parameter space of a quadratic system with a triple focus or a center at the origin. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 441–450, 572; *translation in Differential Equations* **34** (1998), *no.* 4, 437–446. (Natalia Borisovna Medvedeva) **99m:34067** 34C05 (34C23, 34C25)

Leopold, Elie (*with* Gilewicz, Jacek) Location of the zeros of polynomials satisfying three-term recurrence relations with complex coefficients. (English summary) *Integral Transform. Spec. Funct.* **2** (1994), *no.* 4, 267–278. (M. E. Muldoon) **99c:30007** 30C15 (33C45)

— Location of the zeros of orthogonal polynomials with an automatic procedure. I. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 1–14. (Miodrag Petković) **99h:65104** 65H05 (30C15)

Leoreanu, Violeta (*with* Corsini, Piergiulio) About the heart of a hypergroup. (English summary) *Acta Univ. Carolin. Math. Phys.* **37** (1996), *no.* 1, 17–29. (Michael Voit) **99d:20109** 20N20

Leou, Tzay-Ming (*with* Kuo, Hung-Chi; Williams, R. T.) A study on the high-order Smolarkiewicz methods. (English summary) *Comput. & Fluids* **28** (1999), *no.* 6, 779–799. (Summary) **99m:76094** 76M25

Lepage, G. Peter Redesigning lattice QCD. (English summary) *Perturbative and nonperturbative aspects of quantum field theory (Schladming, 1996)*, 1–48, *Lecture Notes in Phys.*, 479, *Springer, Berlin*, 1997. (*see* **99d:81177**) 81T80 (81T25, 81V05)

LePage, Raoul (*with* Podgórski, Krzysztof; Ryznar, Michał; White, Alex) Bootstrapping signs and permutations for regression with heavy-tailed errors: a robust resampling. (English summary) *A practical guide to heavy tails (Santa Barbara, CA, 1995)*, 339–358, *Birkhäuser Boston, Boston, MA*, 1998. (*see* **99f:62010**) 62G09

Le Pape, Claude (*with* Baptiste, Philippe) Resource constraints for preemptive job-shop scheduling. (English summary) *Constraints* **3** (1998), *no.* 4, 263–287. (Frank Werner) **99j:90039** 90B35

Lepe, S. (*with* Cárdenas, V.; Saavedra, J.) Current algebra in the path integral framework. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 27, 2193–2198. (Summary) **99e:81073** 81R10 (81S40, 81T40)

Lepellere, Maria Antonietta (*with* Avallone, Anna) Modular functions: uniform boundedness and compactness. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 2, 221–264. (C. W. Swartz) **99d:28007** 28A60 (28B15)

Lepelley, Dominique (*with* Gehrlein, William V.) The Condorcet efficiency of approval voting and the probability of electing the Condorcet loser. (English summary) *J. Math. Econom.* **29** (1998), *no.* 3, 271–283. (Summary) **99c:90034** 90A28

Lepeltier, J.-P. (*with* San Martin, Jaime) Existence for BSDE with superlinear-quadratic coefficient. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 3-4, 227–240. (Introduction) **99j:60087** 60H10

Le Pennec, Thierry (*with* Måløy, Knut Jørgen; Flekkøy, Eirik G.; Messager, Jean Claude; Ammi, Madani) Silo hiccups: dynamic effects of dilatancy in granular flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3072–3079. 76–05 (73E99, 76A99)

Lepin, V. V. Complexity of nondeterministic algorithms for frontally bounded problems. (Russian. English and Russian summaries) *Dokl. Akad. Nauk Belarusi* **40** (1996), *no.* 3, 21–25, 123. (Peter Damaschke) **99a:68090** 68Q25 (05C85)

— Placements, matchings and pebble games on frontally bounded graphs. (Russian. English and Russian summaries) *Vestsī Nats. Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1998**, *no.* 2, 122–126, 143. 05C70 (05C99)

Le Piouffle, Myriam (*with* Legrand, Michel; Aubry, Nadine; Dewisme, Alain) Transition to turbulence generated by interfacial instabilities during a cylindrical implosion. (English summary) *Proceedings of the Fifth International Workshop on Compressible Turbulent Mixing (Stony Brook, NY, 1995)*, 357–362, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99

Lepistö, Arto (*with* Karhumäki, Juhani; Plandowski, Wojciech) Locally periodic infinite words and a chaotic behaviour. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 421–430, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68107** 68Q45 (68R15)

Leplaideur, Renaud Existence d'une mesure de Sinai-Ruelle-Bowen pour des systèmes non uniformément hyperboliques. (English and French summaries) [Existence of a Sinai-Ruelle-Bowen-measure for non-uniformly hyperbolic systems] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1217–1220. (Jérôme Buzzi) **99i:58094** 58F11

Le Potier, J. Problème de Brill-Noether et groupe de Picard de l'espace de modules des faisceaux semi-stables sur le plan projectif. [Brill-Noether problem and Picard group of the moduli space of semistable sheaves on the projective plane] *Algebraic geometry (Catania, 1993/Barcelona, 1994)*, 75–90, *Lecture Notes in Pure and Appl. Math.*, 200, *Dekker, New York*, 1998. (Tohru Nakashima) **99k:14020** 14D20 (14C22, 14J60)

Lepouras, George (*with* Kehayopulu, Niovi) On right regular and right duo poe-semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 281–285. (Mark Verus Lawson) **99d:06020** 06F05 (20M99)

Lepović, Mirko On formal products and spectra of graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 137–149. (Peter Rowlinson) **99e:05088** 05C50

— On formal products and the Seidel spectrum of graphs. (English summary) *Publ. Inst. Math. (Beograd) (N.S.)* **63(77)** (1998), 37–46. (Yuan Hong) **99e:05089** 05C50

— Some statistical data on graphs with 10 vertices. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 79–88. (Summary) **99m:05108** 05C50

— (*with* Cvetković, Dragoš M.; Rowlinson, Peter; Simić, Slobodan K.) A database of star complements of graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 103–112. (N. Trinajstić) **99m:05132** 05C75

Lepowsky, James (*with* Lindenstrauss, Joram; Manin, Yuriĭ Ivanovich; Milnor, John) The mathematical work of the 1998 Fields medalists. *Notices Amer. Math. Soc.* **46** (1999), *no.* 1, 17–26. (Editors) **99k:01066** 01A70

Lepp, Riho Discrete approximation of nonlinear controls. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 468–473, *Springer, Berlin*, 1997. (*see* **99a:90009**) 49M25 (65L06)

— Approximation of extremum problems with probability cost functionals. (English summary) *Stochastic programming methods and technical applications (Neubiberg/Munich, 1996)*, 169–185, *Lecture Notes in Econom. and Math. Systems*, 458, *Springer, Berlin*, 1998. (A. H. Žilinskas) **99i:90065** 90C15

— Discrete approximation of Hammerstein integral equations with discontinuous kernels. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 835–848. (Summary) **99f:45017** 45L05 (45G10, 65R20)

Leppänen, Ville (*with* Kautonen, Anssi; Penttonen, Martti) Thinning protocols for routing h-relations in complete networks. (English summary) *Randomized algorithms (Brno, 1998)*, 9 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68M10

— Balanced PRAM simulations via moving threads and hashing. (English summary) *J.UCS* **4** (1998), *no.* 8, 675–689 (*electronic*). 68Q22 (68Q05)

Leppington, F. G. (*with* Green, M. R.) The inner and outer flow fields due to a pair of spheres moving unsteadily through a compressible fluid: rectilinear motion. (English summary) *IMA J. Appl. Math.* **59** (1997), *no.* 1, 43–69. (F. Ursell) **99c:76101** 76Q05 (76N99)

Leppmeier, Max Kugelpackungen und Wurstkatastrophen oder Zur Theorie der finiten und infiniten Packungen. [Sphere packings and sausage catastrophes or On the theory of finite and infinite packings] *Überblicke Mathematik* 1996/97, 96–110, *Überbl. Math., Vieweg, Braunschweig*, 1997. (Konrad J. Swanepoel) **99i:52018** 52C07 (52C17)

Lepri, Stefano (*with* Just, Wolfram) Mean-field theory of critical coupled map lattices. (English summary) *J. Phys. A* **31** (1998), *no.* 29, 6175–6181. (Volker Matthias

Gundlach) **99e:58166** 58F40 (58F11, 82B26)

Lepskiĭ, O. V. (*with* Kozhevnikov, A. N.) Power series solutions to basic stationary boundary value problems of elasticity. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 4, 449–469. (Joseph J. Roseman) **99g:73025** 73C02 (35Q72)

— (*with* Levit, B. Ya.) Adaptive minimax estimation of infinitely differentiable functions. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 123–156. (M. P. Moklyachuk) **99m:62047** 62G05 (62C20)

Lepsveridze, G. L. On the interrelation between the differentiability of integrals with respect to nets and strong differentiability in various directions. (Russian. English and Georgian summaries) *Soobshch. Akad. Nauk Gruzii* **150** (1994), *no.* 2, 220–222 (1995). 26B05

— (*with* Oniani, G. T.) On the differentiability of integrals with respect to differential bases formed of rectangles. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 347–349. 42B20 (26B05)

— On the question of strong differentiability of integrals along different directions. (English summary) *Bulletin of the Georgian Academy of Sciences* **153** (1996), *no.* 3, 350–351. 42B20 (26B05)

— A note on the divergence speed of rectangular averages of functions from $L\Phi(L)(\mathbf{R}^2)$. (English summary) *Bulletin of the Georgian Academy of Sciences* **155** (1997), *no.* 1, 24–26. 28A15 (46E30)

— On the divergence of Fourier-Haar series. (English summary) *Bulletin of the Georgian Academy of Sciences* **156** (1997), *no.* 3, 369–370. 42C10

— On the divergence speed of rectangular averages. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 373–375 (1999). 42B25 (26B05)

— To the problem of a strong differentiability of integrals along different directions. (English summary) *Georgian Math. J.* **5** (1998), *no.* 2, 157–176. (B. K. Lahiri) **99e:28006** 28A15

Leptin, Horst Irreduzible Darstellungen von Exponentialgruppen und Operatoren mit glatten Kernen. [Irreducible representations of exponential groups and operators with smooth kernels] Dedicated to Martin Kneser on the occasion of his 70th birthday. *J. Reine Angew. Math.* **494** (1998), 1–34. (Bernhard Krötz) **99i:22010** 22E25 (22E45)

Lê Quang Trung (*with* Nguyễn Minh Chu'o'ng; Nguyễn Minh Trí) ★ Lý thuyết phu'o'ng trinh đạo hàm riêng. (Vietnamese) [Theory of partial differential equations] With a preface in English. *Science and Technology Publishing House (Nhà Xuất B'an Khoa Học Và Kỹ Thuật), Hanoi*, 1995. 288 *pp.* (Nguyễn Hôńg Thái) **99c:35001** 35-01

Le Quoc Han Maximal periodic subgroups of finite-dimensional locally compact groups. (English summary) *Vietnam J. Math.* **25** (1997), *no.* 1, 53–57. (K. H. Hofmann) **99c:22006** 22D05

Lera, D. (*with* Gaviano, M.) Test functions with variable attraction regions for global optimization problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 207–223. (Summary) **99f:90122** 90C30 (90–04)

— (*with* Gaviano, M.) On linear convergence of gradient-type minimization algorithms. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 2, 475–487. (Stefan M. Stefanov) **99f:90123** 90C30 (65K05)

Lerat, Alain (*with* Huang, Ying) Second-order upwinding through a characteristic time-step matrix for compressible flow calculations. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 445–472. (Summary) **99a:76097** 76M20 (76G25, 76H05, 76J20)

Leray, Jean La résolution des problèmes de Cauchy et de Dirichlet au moyen du calcul symbolique et des projections orthogonales et obliques. [Solution of Cauchy and Dirichlet problems using symbolic calculus and orthogonal and oblique projections] *Séminaire Bourbaki, Vol.* 1, *Exp. No.* 48, 407–417, *Soc. Math. France, Paris*, 1995. (*see* **99f:00033**) 35A20 (46N20)

— Résidus. [Residues] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 183, 221–222, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 32A27

— Le problème de Cauchy dans le cas analytique linéaire. [The Cauchy problem in the linear analytic case] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 202, 465–475, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 35A20 (35A05)

— Programme de travail élaboré en 1998. [Outline of work done in 1998] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 1–2. 01A70

Lerbet, Jean Decomposition of the space of parameters of a kinematical chain by its singularities. *Mech. Res. Comm.* **25** (1998), *no.* 6, 637–642. (Krzysztof Tchoń) **99j:70008** 70B15 (58C27, 93C85)

— Analytic geometry and singularities of mechanisms. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 10, 687–694. (Bert Jüttler) **99g:70010** 70B15 (51P05, 52C25, 58A07, 70G25)

Lerch, Michael (*with* Wolff von Gudenberg, Jürgen) Expression templates for dot product expressions. Proceedings of the International Conference on Interval Methods and their Applications on Global Optimization, Interval '98 (Nanjing). *Reliab. Comput.* **5** (1999), *no.* 1, 69–80. (*see* **99m:65007**) 65G10

Lerche, Wolfgang BPS states, weight spaces and vanishing cycles. (English summary) *Strings '95 (Los Angeles, CA*, 1995), 311–322, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81244** 81T60 (32G81, 32J81, 81T30)

— Fayet-Iliopoulos potentials from four-folds. (English summary) *J. High Energy Phys.* **1997**, *no.* 11, *Paper* 4, 20 *pp.* (*electronic*). (Summary) **99e:81242** 81T60 (14D05, 14J28, 32J81)

— Introduction to Seiberg-Witten theory and its stringy origin. (English summary) *Trends in theoretical physics (La Plata*, 1997), 171–217, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (*see* **99e:81005**) 81T60 (14H45, 14H52, 81T13, 81T30)

— Four-fluxes and non-perturbative superpotentials in two dimensions. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 252–260. (Summary) **99i:81245** 81T60 (14J35, 32J81, 81T13)

— (*with* Schweigert, Christoph; Minasian, Ruben; Theisen, Stefan) A note on the geometry of CHL heterotic strings. (English summary) *Phys. Lett. B* **424** (1998), *no.* 1-2, 53–59. (Summary) **99c:81198** 81T30

Lercier, R. (*with* Morain, F.) Algorithms for computing isogenies between elliptic curves. (English summary) *Computational perspectives on number theory (Chicago, IL*, 1995), 77–96, *AMS/IP Stud. Adv. Math.*, 7, *Amer. Math. Soc., Providence, RI*, 1998. (Jean-Marc Couveignes) **99a:11079** 11G20 (11Y16)

Lerda, A. (*with* Frau, M.; Sciuto, S.; Zemba, Guillermo R.) The extended conformal theory of Luttinger systems. *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow*, 1996), 409–413, *World Sci. Publishing, River Edge, NJ*, 1997. (Kazuhiro Hikami) **99m:81294** 81V70 (81R10, 81T40, 82B10)

— (*with* Billó, M.; Di Vecchia, P.; Frau, M.; Russo, Rodolfo; Sciuto, S.) The Lorentz force between D0 and D6 branes in string and M(atrix) theory. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 37, 2977–2990. (Summary) **99h:81152** 81T30

Leredde, Y. (*with* Lellouche, J.-M.; Devenon, J.-L.; Dekeyser, I.) On initial, boundary conditions and viscosity coefficient control for Burgers' equation. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 1, 113–128. (Summary) **99c:86001** 86A05 (49K20, 76R99, 86–08)

Le Riche, R. (*with* Cailletaud, G.) A mixed evolutionary/heuristic approach to shape optimization. (English summary) *Internat. J. Numer. Methods Engrg.* **41** (1998), *no.* 8, 1463–1484. (Summary) **99a:73097** 73K40

ábrego Lerma, Bernardo Manuel *see* **Ábrego Lerma, Bernardo Manuel**

hernández-Lerma, Onésimo *see* **Hernández-Lerma, Onésimo**

Lerman, Eugene (*with* Singer, S. F.) Stability and persistence of relative equilibria at singular values of the moment map. (English summary) *Nonlinearity* **11** (1998), *no.* 6. 1637–1649. (M. E. R. de Sousa Dias) **99j:58077** 58F05 (70H05, 70H33)

— (*with* Meinrenken, Eckhard; Tolman, Sue; Woodward, Chris T.) Nonabelian convexity by symplectic cuts. (English summary) *Topology* **37** (1998), *no.* 2, 245–259. (Michel Brion) **99a:58069** 58F05 (57S15)

Lerman, G. (*with* Schuss, Z.) Asymptotic theory of large deviations for Markov chains. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 6, 1862–1877 (*electronic*). (Rami Atar) **99h:60056** 60F10 (45L05, 60J05)

Lerman, Israël-César (*with* Bachar, Kaddour) Statistical conditions for a linear complexity for an algorithm of hierarchical classification under constraint of contiguity. (English summary) *Advances in data science and classification (Rome*, 1998), 131–136, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99k:62003**) 62H30

Lerman, L. M. (*with* Umanskii, Yan L.) ★ Four-dimensional integrable Hamiltonian systems with simple singular points (topological aspects). (English summary) Translated from the Russian manuscript by A. Kononenko and A. Semenovich. Translations of Mathematical Monographs, 176. *American Mathematical Society, Providence, RI*, 1998. *xii*+177 *pp. ISBN* 0-8218-0375-1 (Christine Médan) **99b:58115** 58F07 (58F05, 70H05)

— (*with* Alfimov, G. L.; Eleonskiĭ, V. M.) Solitary wave solutions of nonlocal sine-Gordon equations. (English summary) *Chaos* **8** (1998), *no.* 1, 257–271. (Summary) **99a:35220** 35Q53 (35L70)

— (*with* Kol'tsova, O. Yu.) Transversal homoclinic Poincaré trajectories near a loop of a saddle center in a $2N$-dimensional Hamiltonian system. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 4, 448–451. (J. S. Joel) **99m:58091** 58F05 (34C37)

Lerman, Manuel (*with* Lempp, Steffen) A finite lattice without critical triple that cannot be embedded into the enumerable Turing degrees. (English summary) Logic Colloquium '95 Haifa. *Ann. Pure Appl. Logic* **87** (1997), *no.* 2, 167–185. (E. Herrmann) **99c:03064** 03D25

Lermer, Karl (*with* Fidge, Colin) Compilation as refinement. (English summary) *Formal Methods Pacific '97 (Wellington*), 142–164, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99b:68023** 68N05 (68N20)

— Characterizations of Banach space property by nonlinear integral operators on $C(S, X)$-spaces. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 173–189. (Carlo Bardaro) **99m:46095** 46E40 (46B28, 47B38, 47H30)

— The Grothendieck-Pietsch domination principle for nonlinear summing integral operators. (English summary) *Studia Math.* **129** (1998), *no.* 2, 97–112. (Summary) **99k:47178** 47H30 (47B10, 47G10)

Lerner, A. K. On estimates for strong maximal functions. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 7, 36–48; *translation in Russian Math. (Iz. VUZ)* **41** (1997), *no.* 7, 33–45. (Petr Gurka) **99e:42030** 42B25 (41A30, 46E30)

— Maximal functions with respect to differential bases measuring mean oscillation. (English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 1, 41–58. (Stephen Buckley) **99a:42011** 42B25

— On weighted estimates of non-increasing rearrangements. (English summary) Dedicated to P. L. Ul'yanov. *East J. Approx.* **4** (1998), *no.* 2, 277–290. (Douglas Kurtz) **99k:42043** 42B25 (46E30)

Lerner, Nicolas (*with* Yafaev, D.) On trace theorems for pseudo-differential operators. *Séminaire sur les Équations aux Dérivées Partielles*, 1995–1996, *Exp. No. II*, 20 *pp., Sémin. Équ. Dériv. Partielles, École Polytech., Palaiseau*, 1996. (Vladimir Tulovsky) **99c:35269** 35S05 (47G30, 58G15)

— The Wick calculus of pseudo-differential operators and energy estimates. *New trends in microlocal analysis (Tokyo*, 1995), 23–37, *Springer, Tokyo*, 1997. (Elmar Schrohe) **99i:35187** 35S05 (35L99, 47G30)

— (*with* Yafaev, D.) Trace theorems for pseudo-differential operators. (English summary) *J. Anal. Math.* **74** (1998), 113–164. (Boris A. Plamenevsky) **99h:58187** 58G15 (35S05, 47G30)

Le Roux, Frédéric Classes de conjugaison des flots du plan topologiquement équivalents au flot de Reeb. (English and French summaries) [Conjugacy classes of the planar flows which are topologically equivalent to the Reeb flow] *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 1, 45–50. (Summary) **99j:57027** 57R30

Le Roux, Marie-Noelle (*with* Mainge, Paul-Emile) Numerical solution of a fast diffusion equation. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 461–485. (Reinhard Redlinger) **99i:65093** 65M12 (35B40, 35K60)

Leroux, Pierre (*with* Rassart, E.; Robitaille, A.) Enumeration of symmetry classes of convex polyominoes in the square lattice. (English and French summaries) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 343–380. (Edward A. Bender) **99g:05050** 05B50 (05A15)

— (*with* Hetyei, Gábor; Labelle, Gilbert) Cubical species and nonassociative algebras. (English summary) *Adv. in Appl. Math.* **21** (1998), *no.* 3, 499–546. (Volkmar Welker) **99j:05005** 05A15 (05E15)

Leroy, André (*with* Lam, T. Y.; Matczuk, J.) Primeness, semiprimeness and prime radical of Ore extensions. *Comm. Algebra* **25** (1997), *no.* 8, 2459–2506. (J. F. Watters) **99a:16023** 16S36 (16N60)

— (*with* Jain, Surender Kumar; Lam, T. Y.) On uniform dimensions of ideals in right nonsingular rings. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl.*

Algebra **133** (1998), *no.* 1-2, 117–139. (J. L. García Hernández) **99k:16063** 16S90 (16D10, 16E50, 16N60)

Leroy, J. M. (*with* Bendjaballah, C.; Vourdas, A.) Rate distortion and detection in quantum communication. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1658–1665. (Summary) **99h:94037** 94A34

Leroy, Sandrine Variétés d'Albanese supérieures d'une variété kählérienne compacte. (English and French summaries) [Higher Albanese manifolds of a compact Kähler manifold] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 295–300. (Philippe P. Eyssidieux) **99k:32047** 32J27 (14C30, 14K30, 32J25)

LeRoy, Stephen F. Stock price volatility. *Statistical methods in finance*, 193–208, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:90017** 90A09 (90A60)

Le Saëc, B. (*with* Litovsky, I.; Patrou, B.) On stack languages. (English and French summaries) *Semigroups (Luino*, 1992), 177–182, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35)

Lesaffre, Emmanuel (*with* Lapp, Krista; Molenberghs, Geert) Models for the association between ordinal variables. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 387–411. 62H17

Lesage, F. Interaction between the edges in the $\nu = \frac{1}{3}$ quantum Hall effect. (English summary) *Field theory, integrable systems and symmetries (Quebec, PQ*, 1995), 140–146, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 81V70

— (*with* Saleur, Hubert) Boundary conditions changing operators in non-conformal theories. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 3, 563–593. (Konstantin G. Selivanov) **99h:81131** 81T10 (81T40, 82B23)

— (*with* Saleur, Hubert; Simonetti, P.) Boundary flows in minimal models. (English summary) *Phys. Lett. B* **427** (1998), *no.* 1-2, 85–92. (Summary) **99b:81218** 81T40

Lesage, Jean-Luc Différence entre puissances et carrés d'entiers. (English summary) [Difference between powers and squares of integers] *J. Number Theory* **73** (1998), *no.* 2, 390–425. (Guillaume Hanrot) **99j:11031** 11D41 (11J86, 11Y50)

Lesame, William M. (*with* Maartens, Roy; Ellis, George F. R.) Newtonian-like and anti-Newtonian universes. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 1005–1017. (Maciej Przanowski) **99g:83047** 83C55 (83C15, 83F05)

Lesch, Matthias (*with* Peyerimhoff, Norbert) On index formulas for manifolds with metric horns. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 3-4, 649–684. (Robert Lauter) **99d:58166** 58G10 (58G12)

— Determinants of regular singular Sturm-Liouville operators. (English summary) *Math. Nachr.* **194** (1998), 139–170. (Leonid Friedlander) **99j:58220** 58G26 (34B24, 34L40)

— (*with* Brüning, Jochen) On the η-invariant of certain nonlocal boundary value problems. *Duke Math. J.* **96** (1999), *no.* 2, 425–468. (John G. Miller) **99m:58180** 58G10 (58G11, 58G20)

Leschke, Hajo (*with* Fischer, Werner; Hupfer, Thomas; Müller, Peter[1]) Existence of the density of states for multi-dimensional continuum Schrödinger operators with Gaussian random potentials. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 133–141. (Nariyuki Minami) **99b:82049** 82B44 (47B80, 47N55)

— (*with* Fischer, Werner; Müller, Peter[1]) On the averaged quantum dynamics by white-noise Hamiltonians with and without dissipation. (English summary) *Ann. Physik (8)* **7** (1998), *no.* 2, 59–100. (Serguei E. Tcheremchantsev) **99m:81109** 81S20

Lescop, Christine On the Casson invariant. (English summary) *European Congress of Mathematics, Vol. I (Budapest*, 1996), 296–312, *Progr. Math.*, 168, *Birkhäuser, Basel*, 1998. (Olivier Collin) **99k:57022** 57M25 (57M05, 57N10)

Lescure, F. (*with* Stefan, Janaqi; Maamoun, M.; Meyniel, H.) Digraphs contractible onto $^*K_3$. (English summary) *Math. Bohem.* **123** (1998), *no.* 4, 365–369. (R. J. Douglas) **99k:05081** 05C20

Leseduarte, S. (*with* Romeo, August) Influence of a magnetic fluxon on the vacuum energy of quantum fields confined by a bag. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 317–336. (Alfred Actor) **99e:81160** 81T16 (58G26)

Leshchëva, S. V. (*with* Suvorova, O. V.) On the φ-structure on the projective group $L_2(q)$. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 5, 725–728. (Summary) **99m:20114** 20G40 (20N05)

Lesigne, Emmanuel Convergence d'une suite le long de sous-suites d'indices à croissance exponentielle. (English summary) [Convergence of a sequence along subsequences of indices with exponential growth] *Fascicule de probabilités*, 4 *pp.*, *Publ. Inst. Rech. Math. Rennes*, 1996/1997, *Univ. Rennes I, Rennes*, 199?. (Idris Assani) **99h:60065** 60F15 (28D05)

— Loi des grands nombres pour des sommes de Riesz-Raikov multidimensionnelles. (English summary) [Law of large numbers for multidimensional Riesz-Raĭkov processes] *Compositio Math.* **110** (1998), *no.* 1, 39–49. (Summary) **99c:11096** 11K06 (11K41)

Lesko, James P. (*with* Seubert, Steven M.) Cyclicity results for Jordan and compressed Toeplitz operators. (English summary) *Integral Equations Operator Theory* **31** (1998), *no.* 3, 338–352. (D. Sarason) **99i:47003** 47A05 (47B35, 47B99)

Lesky, P. A. Eigenwertprobleme mit Differentialgleichungen vierter Ordnung für die kontinuierlichen klassischen Orthogonalpolynome. (German summary) [Eigenvalue problems with differential equations of fourth order for the continuous classical orthogonal polynomials] *Österreich. Akad. Wiss. Math.-Natur. Kl. Sitzungsber. II* **206** (1997), 127–139 (1998). (Hans W. Volkmer) **99h:34041** 34B30 (33C45)

Leslie, D. J. (*with* Scott, N. H.) Near incompressibility at uniform temperature or entropy in isotropic thermoelasticity. (English summary) *Math. Mech. Solids* **3** (1998), *no.* 3, 243–275. (Summary) **99e:73017** 73B30 (73D15)

— (*with* Scott, N. H.) Incompressibility at uniform temperature or entropy in isotropic thermoelasticity. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 2, 191–211. (Summary) **99c:73010** 73B30

Leslie, F. M. (*with* McIntosh, J. G.; Sloan, D. M.) Stability for shearing flow of nematic liquid crystals. (English summary) *Contin. Mech. Thermodyn.* **9** (1997), *no.* 5, 293–308. (Paolo Biscari) **99m:76006** 76A15 (76E99)

— (*with* McKay, G.) A continuum theory for smectic liquid crystals allowing layer dilation and compression. (English summary) Mathematical models of liquid crystals (Durham, 1995). *European J. Appl. Math.* **8** (1997), *no.* 3, 273–280. (Summary) **99f:76014** 76A15 (82D30)

Leslie, Joshua A. On a super Lie group structure for the group of G^∞ diffeomorphisms of a compact G^∞ supermanifold. (English summary) *J. Geom. Phys.* **24** (1997), *no.* 1, 37–45. (C. J. Atkin) **99e:58009** 58A50 (58B25, 58D05)

Leslie, Julian R. (*with* Kozek, Andrzej S.; Schuster, Eugene F.) On a universal strong law of large numbers for conditional expectations. (English summary) *Bernoulli* **4** (1998), *no.* 2, 143–165. (Winfried Stute) **99h:60064** 60F15 (62G07)

Lesne, Annick ★ Renormalization methods. (English summary) Critical phenomena, chaos, fractal structures. Translated from the 1995 French original by Leila Schneps. With a foreword by Pierre Collet. *John Wiley & Sons, Ltd., Chichester*, 1998. *xiv+360 pp. ISBN* 0-471-96689-4 (András Krámli) **99h:58125** 58F13 (58–02, 76F99, 82C28)

Leśniak, Zbigniew On continuous iteration groups of some homeomorphisms of the plane. (English summary) *Iteration theory (ECIT '94) (Opava)*, 193–198, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 39B12 (54H15, 57S05)

Lesnic, D. (*with* Zeb, A.; Elliott, Lionel; Ingham, D. B.) Cauchy problem for the biharmonic equation solved using the regularization method. (English summary) *Boundary element research in Europe (Southampton*, 1998), 285–294, *Comput. Mech., Southampton*, 1998. (*see* **99k:73001**) 65N38 (35J40)

— (*with* Elliott, Lionel; Ingham, D. B.) An inverse coefficient identification problem for the heat equation. (English summary) *Inverse problems in engineering mechanics (Nagano*, 1998), 11–16, *Elsevier, Oxford*, 1998. (Summary) **99m:80009** 80A20 (35R30)

— (*with* Elliott, Lionel) The decomposition approach to inverse heat conduction. (English summary) *J. Math. Anal. Appl.* **232** (1999), *no.* 1, 82–98. (Summary) **99k:35195** 35R30 (35A25, 35C99, 35K05)

Leśniewski, Andrzej (*with* Klimek, Sławomir) Quantized Kronecker flows and almost periodic quantum field theory. (English summary) *J. Math. Phys.* **38** (1997), *no.* 11, 5605–5625. (H. Araki) **99h:46126** 46L60 (46L55, 82B10)

— Noncommutative geometry. *Notices Amer. Math. Soc.* **44** (1997), *no.* 7, 799–805. (Florian Scheck) **99a:46128** 46L87 (58B30, 58G40)

— (*with* Klimek, Sławomir) Ergodic theorems for quantum Kronecker flows. (English summary) *Perspectives on quantization (South Hadley, MA*, 1996), 71–80, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Éric Leichtnam) **99b:11090** 11K55 (11Z05, 46L55, 47D03, 82B10)

— (*with* Klimek, Sławomir) Quantum maps. (English summary) *Perspectives on quantization (South Hadley, MA*, 1996), 81–90, *Contemp. Math.*, 214, *Amer. Math. Soc., Providence, RI*, 1998. (Dieter H. Mayer) **99f:81059** 81Q50 (46L55, 46L60, 58F11)

— (*with* Rubin, Ron; Salwen, Nathan) Classical limits for quantum maps on the torus. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1835–1847. (Albert Jeu-Liang Sheu) **99b:81116** 81S10 (46L60, 58F06, 70K50, 81Q50)

Lešnjak, Gorazd More on finite rank elements. (English summary) *Publ. Math. Debrecen* **53** (1998), *no.* 1-2, 207–215. (Horst Behncke) **99k:46084** 46H20

Lesoinne, M. (*with* Farhat, Charbel; Le Tallec, Patrick) Load and motion transfer algorithms for fluid/structure interaction problems with non-matching discrete interfaces: momentum and energy conservation, optimal discretization and application to aeroelasticity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 95–114. (Summary) **99a:73103** 73K70 (73V20, 76M25)

Lesselier, D. (*with* Litman, Amélie; Santosa, Fadil) Reconstruction of a two-dimensional binary obstacle by controlled evolution of a level-set. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 685–706. (Summary) **99e:78032** 78A45 (35R30, 78–08)

— (*with* Litman, Amélie) On attenuation-matched inversion methods of diffusive wavefields. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 99–111. (*see* **99h:00024**) 78A45 (78–08)

Lesser, Martin ★ The analysis of complex nonlinear mechanical systems. (English summary) A computer algebra assisted approach. With 1 IBM-PC floppy disk (3.5 inch; HD). World Scientific Series on Nonlinear Science. Series A: Monographs and Treatises, 17. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1995. xiv+341 *pp. ISBN* 981-02-2209-2 (Igor Gashenenko) **99a:70020** 70F20 (70–04, 70B15, 70E99, 70F25)

Le Stum, Bernard (*with* Chiarellotto, Bruno) Sur la pureté de la cohomologie cristalline. (English and French summaries) [On the purity of crystalline cohomology] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 961–963. (Summary) **99f:14024** 14F30

Leszczyński, Henryk Finite difference approximation to BVP for impulsive ODEs with functional dependence. *Advances in difference equations (Veszprém*, 1995), 399–405, *Gordon and Breach, Amsterdam*, 1997. (*see* **99d:39001**) 65L05 (34A37)

— A new existence result for a non-linear heat equation with functional dependence. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 155–181. (Ludwik Byszewski) **99c:35252** 35R10 (35K05)

— On the method of lines for a non-linear heat equation with functional dependence. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 61–74. (Wei Zhong Dai) **99d:65266** 65M20 (35R10)

— Convergence of difference analogues to the Darboux problem with functional dependence. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 1, 39–57. (Meng Zhao Qin) **99d:65249** 65M06 (35R10, 65M12)

— Finite difference schemes for a non-linear heat equation with functional dependence. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 1, 53–64. (John C. Strikwerda) **99m:65161** 65M06 (35R10, 65M12)

Letac, Gérard The Lancaster's probabilities on $\mathbb{R}^2$ and their extreme points. (English summary) *Distributions with given marginals and moment problems (Prague*, 1996), 179–190, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60008** 60E05 (62H05)

— The retrieval of a rotation invariant distribution of (X, Y) from $\mathbf{E}(X^2|Y)$. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 247–253. (Summary) **99c:62152** 62H05 (60E05, 62E10)

— (*with* Scarsini, Marco) Random nested tetrahedra. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 619–627. (Hui Ling Le) **99k:60023** 60D05 (52A22)

— (*with* Massam, Hélène) Quadratic and inverse regressions for Wishart distributions. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 573–595. (Évelyne Bernadac) **99f:62071** 62H05 (17C99)

— (*with* Massam, Hélène) A formula on multivariate Dirichlet distributions. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 3, 247–253. (Évelyne Bernadac) **99e:60044** 60E05 (62E10, 62E15)

Le Tallec, Patrick (*with* Günther, Marco; Perlat, J. P.; Struckmeier, Jens) Numerical modeling of gas flows in the transition between rarefied and continuum regimes. (English

summary) *Numerical flow simulation, I* (*Marseille*, 1997), 222–241, *Notes Numer. Fluid Mech.*, 66, *Vieweg, Braunschweig*, 1998. (Summary) **99i:76115** 76M25 (76P05)

— (*with* Achdou, Yves; Valentin, Frederic G. C.; Pironneau, Olivier) Constructing wall laws with domain decomposition or asymptotic expansion techniques. (English summary) Symposium on Advances in Computational Mechanics, Vol. 3 (Austin, TX, 1997). *Comput. Methods Appl. Mech. Engrg.* **151** (1998), *no.* 1-2, 215–232. (Tomás Chacón Rebollo) **99h:76027** 76D10 (65M55, 76F99, 76M25)

— (*with* Farhat, Charbel; Lesoinne, M.) Load and motion transfer algorithms for fluid/structure interaction problems with non-matching discrete interfaces: momentum and energy conservation, optimal discretization and application to aeroelasticity. (English summary) *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 1-2, 95–114. (Summary) **99a:73103** 73K70 (73V20, 76M25)

— (*with* Mani, Saloua) Analyse numérique d'un modèle de coques de Koiter discrétisé en base cartésienne par éléments finis DKT. (English and French summaries) [Numerical analysis of a Koiter thin shell model discretized in a Cartesian basis by DKT finite elements] *RAIRO Modél. Math. Anal. Numér.* **32** (1998), *no.* 4, 433–450. (Summary) **99m:73048** 73K15 (65N99, 73V05)

— (*with* Mandel, Jan; Vidrascu, Marina) A Neumann-Neumann domain decomposition algorithm for solving plate and shell problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 836–867 (*electronic*). (Zheng Hui Xie) **99f:65192** 65N55 (65N30, 73K10, 73K15, 73V05)

— (*with* Tidriri, Moulay D.) Application of maximum principles to the analysis of a coupling time marching algorithm. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 158–169. (Vitaly A. Volpert) **99k:35035** 35J25 (35Q30, 65N12, 76R05)

— (*with* Tidriri, Moulay D.) Convergence analysis of domain decomposition algorithms with full overlapping for the advection-diffusion problems. (English summary) *Math. Comp.* **68** (1999), *no.* 226, 585–606. (Włodzimierz Proskurowski) **99i:65101** 65M55 (76M10)

Letelier, Jorge Ricardo (*with* Palting, Pancracio; Lai, Shan Tao; Chiu, Ying Nan) Harmonic oscillator tensors. III. Efficient algorithms for evaluating matrix elements of vibrational operators. (English summary) *J. Math. Chem.* **21** (1997), *no.* 1, 31–49. (Summary) **99i:81064** 81R05

Letelier, P. S. (*with* Oliveira, Samuel R.) Superposition of Weyl solutions: the equilibrium forces. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 2, 421–433. (János Kánnár) **99a:83016** 83C15 (83C20)

— (*with* Araújo, M. E.; Oliveira, Samuel R.) Two Kerr black holes with axisymmetric spins: head-on collision and gravitational radiation. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3051–3060. (Summary) **99g:83048** 83C57 (83C30)

— (*with* Oliveira, Samuel R.) Double Kerr-NUT spacetimes: spinning strings and spinning rods. (English summary) *Phys. Lett. A* **238** (1998), *no.* 2-3, 101–106. (Nora Bretón Báez) **99a:83017** 83C15 (83C57)

— (*with* Vieira, W. M.) Chaos and Taub-NUT related spacetimes. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 324–328. (Summary) **99c:83007** 83C10 (83C15)

Lê Thanh, Huong (*with* Dürr, Christoph; Santha, Miklos) A decision procedure for well-formed linear quantum cellular automata. (English summary) Proceedings of the Workshop on Randomized Algorithms and Computation (Berkeley, CA, 1995). *Random Structures Algorithms* **11** (1997), *no.* 4, 381–394. (T. C. Mohan) **99b:68063** 68Q05 (68Q80)

Lether, Frank G. Shifted rectangular quadrature rule approximations to Dawson's integral $F(x)$. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 2, 97–102. (Summary) **99c:65042** 65D20 (33B20, 65D30)

Le Thi Hoai An (*with* Pham Dinh Tao; Le Dung Muu) A combined D.C. optimization—ellipsoidal branch-and-bound algorithm for solving nonconvex quadratic programming problems. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 9–28. (Summary) **99a:90159** 90C26 (90C25)

— (*with* Pham Dinh Tao) A branch and bound method via d.c. optimization algorithms and ellipsoidal technique for box constrained nonconvex quadratic problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 2, 171–206. (Harold P. Benson) **99g:90089** 90C26 (90C20)

— (*with* Pham Dinh Tao) A d.c. optimization algorithm for solving the trust-region subproblem. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 476–505 (*electronic*). (Vaithilingam Jeyakumar) **99f:90086** 90C26 (90C30)

Letta, G. Convergence stable et applications. [Stable convergence and applications] Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 191–211. (Erik J. Balder) **99g:28006** 28A20 (49J45, 60B10)

Lettl, Günter (*with* Pethö, Attila; Voutier, Paul M.) On the arithmetic of simplest sextic fields and related Thue equations. *Number theory* (*Eger*, 1996), 331–348, *de Gruyter, Berlin*, 1998. (Author's review (P.V.)) **99h:11031** 11D41 (11R27, 11Y50)

— Relative Galois module structure of integers of local abelian fields. *Acta Arith.* **85** (1998), *no.* 3, 235–248. (Nigel Byott) **99d:11127** 11S23 (11R33)

— (*with* Pethö, Attila; Voutier, Paul M.) Simple families of Thue inequalities. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 5, 1871–1894. (Michael A. Bennett) **99h:11074** 11J25 (11D75)

Le Tu, Quoc Hung (*with* Sysło, Maciej M.; Weaver, Margaret L.; West, Douglas B.) Bandwidth and density for block graphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 163–176. (Yixun Lin) **99g:05158** 05C78

Lê Tuân Hoa (*with* Ngô Viêt Trung) On the Castelnuovo-Mumford regularity and the arithmetic degree of monomial ideals. (English summary) *Math. Z.* **229** (1998), *no.* 3, 519–537. (Vincenzo Di Gennaro) **99k:13034** 13H15 (13D45, 13P10)

— (*with* Bresinsky, Henrik) On the reduction number of some graded algebras. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1257–1263. (C. R. Fletcher) **99h:13027** 13F20

Le Tu Quoc Thang An invariant of integral homology 3-spheres which is universal for all finite type invariants. (English summary) *Solitons, geometry, and topology: on the crossroad*, 75–100, *Amer. Math. Soc. Transl. Ser.* 2, 179, *Amer. Math. Soc., Providence, RI*, 1997. (Xiao-Song Lin) **99m:57008** 57M25 (57N10)

— (*with* Murakami, Jun) Parallel version of the universal Vassiliev-Kontsevich invariant. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 271–291. (Alexander Balinsky) **99b:57014** 57M25 (17B37)

— (*with* Murakami, Jun; Ohtsuki, Tomotada) On a universal perturbative invariant of 3-manifolds. *Topology* **37** (1998), *no.* 3, 539–574. (Zhenghan Wang) **99d:57004** 57M25

Letzter, E. S. (*with* Goodearl, K. R.) Prime and primitive spectra of multiparameter quantum affine spaces. (English summary) *Trends in ring theory* (*Miskolc*, 1996), 39–58, *CMS Conf. Proc.*, 22, *Amer. Math. Soc., Providence, RI*, 1998. (D. A. Jordan) **99h:16045** 16S99 (16D30, 16D60, 16S36, 17B37)

Letzter, Gail Subalgebras which appear in quantum Iwasawa decompositions. (English summary) *Canad. J. Math.* **49** (1997), *no.* 6, 1206–1223. (Anthony Joseph) **99g:17022** 17B35 (17B37)

— (*with* Farkas, Daniel R.) Ring theory from symplectic geometry. (English summary) *J. Pure Appl. Algebra* **125** (1998), *no.* 1-3, 155–190. (Fujio Kubo) **99f:16026** 16S32 (16W25, 16W50, 17B60, 58F05)

Leu, Ching-Ho (*with* Tsui, Kam-Wah) Discriminant analysis of survey data. (English summary) *J. Statist. Plann. Inference* **60** (1997), *no.* 2, 273–290. (Summary) **99g:62013** 62D05 (62H30)

— (*with* Tsui, Kam-Wah) The effect of sampling design on Anderson's expansion of the distribution of Fisher's sample discriminant function. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1115–1130. (Summary) **99j:62089** 62H30

Leu, Jeng-Fan (*with* Jang, Jyh-Cheng; Hwang, Chyi) Computation of Battle-Lemarie wavelets using an FFT-based algorithm. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 4, 485–504. 65T20 (42C15)

Leu, Jenn-Sen (*with* Papamarcou, Adrian) Asymptotic optimality of likelihood ratio threshold tests in decentralized detection. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 572–585. (Summary) **99j:94015** 94A13

Leu, Ming-Guang Character sums and the series $L(1, \chi)$ with applications to real quadratic fields. (English summary) *J. Math. Soc. Japan* **51** (1999), *no.* 1, 151–166. (Stéphane Louboutin) **99i:11072** 11M20 (11R11)

Leu, Shing-Hwa (*with* Tu, Shih-Tong; Chyan, Ding-Kuo) Commutativity of Leibniz rule in fractional calculus. (English summary) *J. Fract. Calc.* **14** (1998), 77–82. (Summary) **99g:26017** 26A33

Leu, Yuh-Rong (*with* Kuo, Sy-Yen) Distributed fault-tolerant ring embedding and reconfiguration in hypercubes. (English summary) *IEEE Trans. Comput.* **48** (1999), *no.* 1, 81–88. 68M10 (68R10)

Leuenberger, Christoph (*with* Balogh, Zoltan M.) Higher-dimensional Riemann maps. (English summary) *Internat. J. Math.* **9** (1998), *no.* 4, 421–442. (John Bland) **99h:32028** 32H15 (32H20)

Leugering, G. On dynamic domain decomposition of controlled networks of elastic strings and joint-masses. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 191–205, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Vadim Komkov) **99d:93037** 93C20 (65M55, 73K50, 93B05)

— Dynamic domain decomposition of optimal control problems for networks of Euler-Bernoulli beams. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 223–233 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (A. K. Nandakumaran) **99j:49069** 49M25 (35Q72, 65M55, 73K05, 73K50)

Leung, A. Y. T. (*with* Wong, S. C.) Determination of Jordan chains by extended matrices. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 9, 879–893. (Summary) **99f:65060** 65F15 (15A18)

— (*with* Zhang, Qi Chang) Complex normal form for strongly non-linear vibration systems exemplified by Duffing-van der Pol equation. (English summary) *J. Sound Vibration* **213** (1998), *no.* 5, 907–914. 34C15

— (*with* Zhang, Qi Chang) Higher order normal form and period averaging. (English summary) *J. Sound Vibration* **217** (1998), *no.* 5, 795–806. (James A. Murdock) **99g:34080** 34C20 (34C29, 58F36, 70–04, 70K99)

— (*with* Chan, J. K. W.; Chan, Che Wai) Inverse iteration for large defective eigensystems. (English summary) *J. Vib. Control* **4** (1998), *no.* 6, 697–716. 65F15

— (*with* Ge, T.) Construction of invariant torus using Toeplitz Jacobian matrices/fast Fourier transform approach. (English summary) *Nonlinear Dynam.* **15** (1998), *no.* 3, 283–305. (Summary) **99a:34134** 34C30 (34C15, 65T20, 73K12)

— (*with* Rajendran, S.; Starr, A. G.; Chan, J. K. W.) Bifurcation and stability of a three-hinged rod under a conservative load. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 657–696. (Summary) **99i:73043** 73H05 (73K05)

Leung, Anthony W. ★ Systems of nonlinear partial differential equations. Applications to biology and engineering. Mathematics and its Applications. *Kluwer Academic Publishers, Dordrecht*, 1989. *xiv*+409 *pp. ISBN* 0-7923-0138-2 (Ying Guo Lei) **99m:35245** 35Q80 (35K57, 65M06)

— (*with* Ortega, Luis A.) Existence and monotone scheme for time-periodic nonquasi-monotone reaction-diffusion systems: application to autocatalytic chemistry. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 712–733. (Arnaldo do Nascimento) **99d:35086** 35K57 (35B10)

— (*with* Zhang, Qin[1]) Reaction diffusion equations with non-linear boundary conditions, blowup and steady states. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 17, 1593–1617. (Summary) **99h:35102** 35K57 (35B05)

Leung, Denis Heng-Yan (*with* Wang, You-Gan) Bias reduction using stochastic approximation. (English summary) *Aust. N. Z. J. Stat.* **40** (1998), *no.* 1, 43–52. (Summary) **99b:62125** 62L20 (62G09)

Leung, Hing The topological approach to the limitedness problem on distance automata. *Idempotency* (*Bristol*, 1994), 88–111, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Heinrich Seidel) **99b:68132** 68Q68 (68Q45)

— On finite automata with limited nondeterminism. (English summary) *Acta Inform.* **35** (1998), *no.* 7, 595–624. (Summary) **99c:68177** 68Q68 (03D05, 03D15, 68Q15, 68Q25, 68Q45)

— Separating exponentially ambiguous finite automata from polynomially ambiguous finite automata. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 1073–1082 (*electronic*). (Katsushi Inoue) **99f:68142** 68Q75 (68Q68)

Leung, Issic K. C. (*with* Gopalsamy, K.; Liu, Pingzhou) Global Hopf-bifurcation in a neural netlet. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 171–192. (Ovide Arino) **99h:34105** 34K15 (34C23, 58F14, 92B20)

Leung, Janny (*with* Hardin, Jill; Lee, Jon[2]) On the Boolean-quadric packing uncapacitated facility-location polytope. (English summary) Models and algorithms for planning and

scheduling problems (Wernigerode, 1995). *Ann. Oper. Res.* **83** (1998), 77–94. (Summary) **99h:90061** 90B80 (90C10, 90C27)

Leung, Ka Hin (*with* Man, Shing Hing) On commutative Noetherian rings which satisfy the radical formula. (English summary) *Glasgow Math. J.* **39** (1997), *no.* 3, 285–293. (Fazal Mehdi) **99a:13009** 13E05 (13C13)

— (*with* Man, Shing Hing) On Schur rings over cyclic groups. (English summary) *Israel J. Math.* **106** (1998), 251–267. (Barbara Baumeister) **99i:20009** 20C05 (05E30, 20B99)

Leung, Ki (*with* Shizgal, Bernie D.; Chen, Heli) The quadrature discretization method (QDM) in comparison with other numerical methods of solution of the Fokker-Planck equation for electron thermalization. (English summary) *J. Math. Chem.* **24** (1998), *no.* 4, 291–319. 65M06

Leung, Kwong-sak (*with* Wang, Zhenyuan; Wang, Jia[2]) A genetic algorithm for determining nonadditive set functions in information fusion. (English summary) Fuzzy measures and integrals. *Fuzzy Sets and Systems* **102** (1999), *no.* 3, 463–469. (*see* **99k:00021**) 68T99

Leung, Man Chun Conformal deformation of warped products and scalar curvature functions on open manifolds. (English summary) *Bull. Sci. Math.* **122** (1998), *no.* 5, 369–398. (David L. Finn) **99h:53044** 53C21

— (*with* Cheung, Leung-Fu; Law, Chun-Kong; McLeod, J. Bryce) Entire solutions of quasilinear differential equations corresponding to p-harmonic maps. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 701–715. (Caio J. C. Negreiros) **99g:58033** 58E20 (34B15)

— Positive solutions of second order quasilinear equations corresponding to p-harmonic maps. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 717–733. (Caio J. C. Negreiros) **99g:58034** 58E20 (34B15)

Leung, Nai-Chung Conan Einstein type metrics and stability on vector bundles. *J. Differential Geom.* **45** (1997), *no.* 3, 514–546. (Steven B. Bradlow) **99a:53022** 53C07 (14D20, 32L07, 58E15)

— (*with* Vafa, Cumrun) Branes and toric geometry. (English summary) *Adv. Theor. Math. Phys.* **2** (1998), *no.* 1, 91–118. (Harald Skarke) **99f:81170** 81T30 (14M25, 32J81)

— Symplectic structures on gauge theory. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 1, 47–67. (Matilde Marcolli) **99k:58171** 58G10 (32L07, 53C07, 58D27)

Leung, P. T. (*with* Liu, Yuk Tung; Suen, Wai-Mo; Tam, C. Y.; Young, Kenneth) Logarithmic perturbation theory for quasinormal modes. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3271–3286. (M. Znojil) **99f:81051** 81Q15 (34L40)

Leung, Pui-Fai A Liouville-type theorem for strongly subharmonic functions on complete non-compact Riemannian manifolds and some applications. (English summary) *Geom. Dedicata* **66** (1997), *no.* 2, 159–162. (Leslie Coghlan) **99c:53029** 53C21 (35B05, 35J25, 53C20, 53C40)

— (*with* Cheung, Leung-Fu) The mean curvature and volume growth of complete noncompact submanifolds. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 3, 251–256. (Andrea Sambusetti) **99k:53111** 53C42 (53C40)

— (*with* Cheung, Leung-Fu) The total mean curvature of a complete noncompact surface of nonnegative curvature in $\mathbf{R}^3$. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 15–17. (M. do Carmo) **99g:53005** 53A05 (53C40)

Leung, R. C. K. (*with* Chow, K. W.; Ko, N. W. M.; Tang, S. K.) Inviscid two-dimensional vortex dynamics and a soliton expansion of the sinh-Poisson equation. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1111–1119. (Summary) **99a:76020** 76C05 (35Q35, 35Q51)

Leung, Yiu-Wing (*with* Xu, Zong Ben; Zhang, Jiang-She) An approximate algorithm for computing multidimensional convex hulls. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 193–226. (Summary) **99d:68240** 68U05 (65Y25)

van de Leur, J. W. The $[n_1, n_2, \cdots, n_s]$th reduced KP hierarchy and $W_{1+\infty}$ constraints. (English and Russian summaries) *Teoret. Mat. Fiz.* **104** (1995), *no.* 1, 32–42; *reprinted in Theoret. and Math. Phys.* **104** (1995), *no.* 1, 783–792 (1996). (Alexander V. Shapovalov) **99b:58116** 58F07 (17B65, 17B69, 81R10)

— (*with* Kac, Victor G.) The geometry of spinors and the multicomponent BKP and DKP hierarchies. (English summary) *The bispectral problem (Montreal, PQ, 1997)*, 159–202, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Stephen Slebarski) **99a:17026** 17B67 (53A50, 58F07)

— (*with* Helminck, G. F.) An analytic description of the vector constrained KP hierarchy. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 3, 627–641. (Marco Pedroni) **99e:58101** 58F07 (35Q53)

Leuschel, Michael Program specialisation and abstract interpretation reconciled. (English summary) *Logic programming (Manchester, 1998)*, 220–234, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1998. (*see* **99f:68004**) 68N17 (68Q60)

— On the power of homeomorphic embedding for online termination. (English summary) *Static analysis (Pisa, 1998)*, 230–245, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (Summary) **99j:68081** 68Q60

— (*with* De Schreye, Danny) Creating specialised integrity checks through partial evaluation of meta-interpreters. (English summary) *J. Logic Programming* **36** (1998), *no.* 2, 149–193. (Summary) **99c:68041** 68N17 (68P15)

Leuştean, Ioana (*with* Georgescu, George) Probabilities on Łukasiewicz-Moisil algebras. (English summary) *Internat. J. Approx. Reason.* **18** (1998), *no.* 3-4, 201–215. (Summary) **99g:03066** 03G20

Leutwiler, Heinz (*with* Hempfling, Thomas) Modified quaternionic analysis in $\mathbf{R}^4$. *Clifford algebras and their application in mathematical physics (Aachen, 1996)*, 227–237, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (Vladislav V. Kravchenko) **99e:30034** 30G35

— (*with* Eriksson-Bique, Sirkka-Liisa) On modified quaternionic analysis in $\mathbf{R}^3$. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 3, 228–234. (Marin S. Marinov) **99d:30044** 30G35

Leuzzi, Maria Laura (*with* Firmani, Bruno) Upper and lower bounds for the stress intensity factor. Dedicated to Prof. C. Vinti (Italian) (Perugia, 1996). *Atti Sem. Mat. Fis. Univ. Modena* **46** (1998), *suppl.*, 745–753. (Cornelius O. Horgan) **99j:73020** 73C02 (73M25, 73V05)

Lev, Arieh Covering the group $\mathrm{PSL}_n(F)$ by the square of a conjugacy class. (English summary) *Comm. Algebra* **27** (1999), *no.* 3, 1207–1253. (David Chillag) **99m:20104** 20G15

bar-Lev, Shaul K. *see* **Bar-Lev, Shaul K.**

Lev, Vsevolod F. (*with* Chen, W. W. L.) Discrepancy of weighted matrix nets. *Acta Arith.* **85** (1998), *no.* 2, 141–156. (Robert F. Tichy) **99d:11079** 11K38

— On consecutive subset sums. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 151–160. (Georges Grekos) **99d:11009** 11B13 (05D05, 11B75)

— On the number of solutions of a linear equation over finite sets. (English summary) *J. Combin. Theory Ser. A* **83** (1998), *no.* 2, 251–267. (Alain Plagne) **99k:11033** 11B75 (11D04, 11L05)

Levada, F. Yu. (*with* Emel'yanov, S. V.; Burovoi, I. A.) ★ Control of indefinite nonlinear dynamic systems. (English summary) Induced internal feedback. Translated from the Russian by P. S. Ivanov. Lecture Notes in Control and Information Sciences, 231. *Springer-Verlag London, Ltd., London*, 1998. xvi+196 *pp. ISBN* 3-540-76245-0 (Engin Yaz) **99a:93040** 93B51 (93–02, 93A30, 93C10)

Lévai, G. (*with* Baye, D.; Sparenberg, J.-M.) Phase-equivalent potentials from supersymmetry: analytical results for a Natanzon-class potential. (English summary) *J. Phys. A* **30** (1997), *no.* 23, 8257–8271. (Avinash Khare) **99c:81259** 81U05 (81Q60)

— (*with* Kónya, B.; Papp, Zsoltan) Unified treatment of the Coulomb and harmonic oscillator potentials in D dimensions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 5811–5823. (Peter N. Zhevandrov) **99h:81034** 81Q05

Lévai, L. Linear core conditions in residually finite groups. (English summary) *Israel J. Math.* **105** (1998), 337–348. (David I. Moldavanskiĭ) **99i:20042** 20E26 (20E18, 20F50)

Levakov, A. A. Stochastic differential inclusions. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 2, 212–220, 286; *translation in Differential Equations* **33** (1997), *no.* 2, 212–220. (Nguyễn Hồng Thái) **99j:60102** 60H99 (34A60, 34F05, 47H04, 47N20)

Le Van, A. (*with* Sladek, V.; Sladek, J.) Completely regularized integral representations and integral equations for anisotropic bodies with initial strains. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 11, 771–780. (Maurizio Vianello) **99j:73024** 73C02 (65R20, 73B40, 73C35, 73V20)

Le Van, C. (*with* Askri, K.) Differentiability of the value function of nonclassical optimal growth models. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 3, 591–604. (Summary) **99i:90027** 90A16 (49K40)

Levan, Mike (*with* Phelps, Kevin T.) Nonsystematic perfect codes. (English summary) *SIAM J. Discrete Math.* **12** (1999), *no.* 1, 27–34 (*electronic*). (Jaume Pujol) **99m:94050** 94B05 (94B65)

Le Van Bang (*with* Brandstädt, Andreas; Szymczak, Thomas) The complexity of some problems related to graph 3-colorability. (English summary) *Discrete Appl. Math.* **89** (1998), *no.* 1-3, 59–73. (Summary) **99i:68059** 68Q25 (05C15, 05C85, 68R10)

— A good characterization of cograph contractions. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 309–318. (Chinh T. Hoang) **99m:05062** 05C15 (05C35)

Levandosky, Steven Paul Decay estimates for fourth order wave equations. *J. Differential Equations* **143** (1998), *no.* 2, 360–413. (Nickolai A. Lar'kin) **99b:35152** 35L75 (35B05)

— Stability and instability of fourth-order solitary waves. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 1, 151–188. (Nickolai A. Lar'kin) **99b:35153** 35L75 (35B35, 35Q51)

Levanov, E. I. (*with* Volosevich, P. P.; Kornilina, M. A.; Èdzhibia, G. V.) Self-similar and numerical solutions of equations of magnetohydrodynamics taking into account nonlinear bulk sources and sinks. (Russian. English and Russian summaries) *Mat. Model.* **5** (1993), *no.* 2, 25–41. 76N15 (76W05)

Levant, Arie Robust exact differentiation via sliding mode technique. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 379–384. (Summary) **99a:93036** 93B40 (93B12)

Lev-Ari, H. (*with* Boros, Tibor; Sayed, Ali H.; Kailath, Thomas) A generalized Schur-type algorithm for the joint factorization of a structured matrix and its inverse. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 1-2, 131–145 (1998). (Wen Yu Sun) **99f:65042** 65F05 (15A23)

Levashov, M. V. The limit distributions of the Mises functional over non-equiprobable Bernoulli vectors. (English summary) *Probabilistic methods in discrete mathematics (Petrozavodsk, 1996)*, 321–324, *VSP, Utrecht*, 1997. (*see* **99f:60004**) 60C05 (60F05)

Levasseur, T. (*with* Stafford, J. T.) Semi-simplicity of invariant holonomic systems on a reductive Lie algebra. (English summary) *Amer. J. Math.* **119** (1997), *no.* 5, 1095–1117. (Toshiyuki Tanisaki) **99g:17020** 17B20 (22E47)

— (*with* Stafford, J. T.) Differential operators commuting with invariant functions. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 3, 426–433. (François Dumas) **99a:22025** 22E46 (14L30, 16S32)

Lévay, Péter Non-local potentials with LS terms in algebraic scattering theory. (English summary) *J. Phys. A* **30** (1997), *no.* 20, 7243–7257. (R. G. Newton) **99a:81187** 81U05 (81R05, 81U20)

— Berry's phase, chaos, and the deformations of Riemann surfaces. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part B*, 6173–6176. (Vasily A. Chernecky) **99b:81060** 81Q50 (32G15, 58F06, 81V70)

— Optical potentials in algebraic scattering theory. (English summary) *J. Phys. A* **32** (1999), *no.* 6, 1015–1034. (Avinash Khare) **99m:81076** 81R05 (22E70, 81U99)

Levcopoulos, Christos (*with* Krznaric, Drago; Nilsson, Bengt J.) Minimum spanning trees in d dimensions. (English summary) *Algorithms—ESA '97 (Graz)*, 341–349, *Lecture Notes in Comput. Sci.*, 1284, *Springer, Berlin*, 1997. (*see* **99d:68002**) 68U05 (68Q25)

— (*with* Krznaric, Drago) Optimal algorithms for complete linkage clustering in d dimensions. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 368–377, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99d:68233** 68U05

— (*with* Krznaric, Drago) Quasi-greedy triangulations approximating the minimum weight triangulation. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 303–338. (Editors) **99d:68235** 68U05 (05C85, 52B55)

— (*with* Krznaric, Drago) Computing a threaded quadtree from the Delaunay triangulation in linear time. (English summary) *Nordic J. Comput.* **5** (1998), *no.* 1, 1–18. (Ruth Silverman) **99c:68250** 68U05

Léveillé, Ghislain Perturbations des systèmes aléatoires généralisés à liaisons complètes. (French summary) [Perturbations of generalized complete random systems with complete connections] *Rev. Roumaine Math. Pures Appl.* **42** (1997), *no.* 3-4, 301–310. (R. Theodorescu) **99h:60170** 60K99 (90C40)

Levenberg, Norman (*with* Duval, Julien) Large polynomial hulls with no analytic structure. *Complex analysis and geometry (Trento, 1995)*, 119–122, *Pitman Res. Notes Math. Ser.*, 366, *Longman, Harlow*, 1997. (Ahmed Zeriahi) **99g:32023** 32E20

— (*with* Błocki, Zbigniew; Kołodziej, Sławomir) Extremal functions and equilibrium measures for Borel sets. (English summary) *Bull. Polish Acad. Sci. Math.* **45** (1997), *no.* 3, 291–296. (W. Plesniak (Zbl 889.32018)) **99f:32022** 32F07 (32F05)

— (*with* Cegrell, Urban; Kołodziej, Sławomir) Two problems on potential theory for unbounded sets. *Math. Scand.* **83** (1998), *no.* 2, 265–276. (Eric Bedford) **99m:31015** 31C05 (30C85, 31C10, 32F05)

— Polynomial hulls with no analytic structure. CR geometry and isolated singularities (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1037 (1998), 143–146. (Marshall A. Whittlesey) **99h:32014** 32E20

Levendorskiĭ, S. Z. (*with* Boyarchenko, S. I.) An asymptotic formula for the number of eigenvalue branches of a divergence form operator $A + \lambda B$ in a spectral gap of *A*. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1771–1786. (George D. Raikov) **99e:35165** 35P20 (35J15, 47F05)

— Floquet's theory for the Schrödinger operator with perturbed periodic potential, and exact spectral asymptotics. (Russian) *Dokl. Akad. Nauk* **355** (1997), *no.* 1, 21–24. (George D. Raikov) **99b:47067** 47F05 (35J10, 81Q10)

— (*with* Boyarchenko, S. I.) Spectral asymptotics of Laplace operators on a cusp: the case of a rapidly growing counting function. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 70–73; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 198–200 (1999). (Günter Berger) **99m:35178** 35P20 (35J05, 47F05)

— Asymptotic formulae with remainder estimates for eigenvalue branches of the Schrödinger operator $H - \lambda W$ in a gap of H. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 3, 857–899. (Viorel Iftimie) **99e:35169** 35P20 (35J10, 47F05, 47N50, 81Q10)

Levene, Mark On the information content of semi-structured databases. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 257–275. (Summary) **99f:68045** 68P15

— (*with* Loizou, George) Axiomatisation of functional dependencies in incomplete relations. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 283–300. (János Demetrovics) **99i:68028** 68P15 (03B70)

— (*with* Loizou, George) A probabilistic approach to navigation in Hypertext. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 165–186. (Summary) **99j:68148** 68U15 (68Q45)

Levenshtam, V. B. The averaging method in the convection problem with high-frequency oblique vibrations. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 5, 1103–1116, *iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 5, 970–982. (Ivan Straškraba) **99h:35163** 35Q30 (76D05, 76R05)

— Asymptotic integration of a vibration convection problem. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 4, 523–532, 574; *translation in Differential Equations* **34** (1998), *no.* 4, 522–531. (From the text) **99j:76038** 76D99 (35Q35, 76R05)

Levenshtein, Vladimir I. Split orthogonal arrays and maximum independent resilient systems of functions. (English summary) *Des. Codes Cryptogr.* **12** (1997), *no.* 2, 131–160. (Stefan Dodunekov) **99c:05036** 05B15 (94B99)

— On designs in compact metric spaces and a universal bound on their size. (English summary) Discrete metric spaces (Villeurbanne, 1996). *Discrete Math.* **192** (1998), *no.* 1-3, 251–271. (S. G. Hoggar) **99i:05055** 05B30 (51E30, 54E35)

— (*with* Delsarte, Philippe) Association schemes and coding theory. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2477–2504. (Summary) **99i:94061** 94Bxx (05E30, 90C90)

— Equivalence of Delsarte's bounds for codes and designs in symmetric association schemes, and some applications. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 515–536. (Summary) **99i:05208** 05E30 (94B65)

— New lower bounds on aperiodic crosscorrelation of binary codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 284–288. (Summary) **99m:94068** 94B65

Levenston, M. E. (*with* Frank, E. H.; Grodzinsky, A. J.) Variationally derived 3-field finite element formulations for quasistatic poroelastic analysis of hydrated biological tissues. (English summary) *Comput. Methods Appl. Mech. Engrg.* **156** (1998), *no.* 1-4, 231–246. (Summary) **99a:73126** 73V05 (73P20)

Leventides, J. (*with* Karcanias, N.; Vafiadis, D.) Algebraic, algebrogeometric methods and symbolic computations in linear control problems. *Symbolic methods in control system analysis and design*, 273–294, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B40 (93C05)

LeVeque, Randall J. Balancing source terms and flux gradients in high-resolution Godunov methods: the quasi-steady wave-propagation algorithm. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 346–365. (Leonid K. Antanovskiĭ) **99j:65182** 65M99 (76M25)

Lever, Jonathan M. (*with* Hajian, Mozafar T.; El-Sakkout, Hani; Wallace, Mark Glossop; Richards, Barry) Towards a closer integration of finite domain propagation and simplex-based algorithms. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 421–431. (*see* **99b:90006**) 90C08 (90C90)

Lever, Paul J. A. (*with* Wang, Fei-Yue; Huang, Ziyu; Chen, David D. Q.) Refinement and generation of decision rules through training and augmentation of neural networks. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 3, 329–360. 93C42 (93C83)

Levermore, C. David (*with* Ercolani, Nicholas M.; Zhang, Taiyan) The behavior of the Weyl function in the zero-dispersion KdV limit. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 1, 119–143. (Naruyoshi Asano) **99b:35182** 35Q53 (34A55, 34L25, 35B25, 35P20)

— (*with* Bardos, Claude; Golse, François) Acoustic and Stokes limits for the Boltzmann equation. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 323–328. (Alexei Heintz) **99k:76128** 76P05 (35Q99, 45K05, 82C40)

— (*with* Harten, Amiram; Lax, Peter D.; Morokoff, William J.) Convex entropies and hyperbolicity for general Euler equations. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2117–2127 (*electronic*). (Denis Serre) **99j:76107** 76N15 (35L65, 65M12)

— (*with* Jin, Shan; McLaughlin, David W.) The semiclassical limit of the defocusing NLS hierarchy. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 5, 613–654. (Nakao Hayashi) **99m:35232** 35Q55 (81Q20)

— (*with* Morokoff, William J.) The Gaussian moment closure for gas dynamics. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 72–96 (*electronic*). (Summary) **99f:76114** 76N15 (35L99, 35Q30, 76L05, 76P05, 82C40)

Levesley, Jeremy (*with* Kushpel', A. K.; Light, W. A.) Approximation of smooth functions by sk-splines. (English summary) *Advanced topics in multivariate approximation* (*Montecatini Terme*, 1995), 155–180, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41010** 41A15 (41A63)

— (*with* Gomes, Sônia M.; Kushpel', A. K.; Ragozin, David L.) sk-spline interpolation on the torus using number-theoretic knots. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 143–149, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99j:41017** 41A15 (65D07)

— (*with* Ragozin, David L.) Zonal kernels, approximations and positive definiteness on spheres and compact homogeneous spaces. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 371–378, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:41037** 41A63 (41A30)

— (*with* Kushpel', A. K.; Wilderotter, K.) On the asymptotically optimal rate of approximation of multiplier operators from L_p into L_q. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 169–185. (Sorin Gheorghe Gal) **99a:41040** 41A46 (42A45, 47B06)

— A general inhomogeneous Jarnik-Besicovitch theorem. (English summary) *J. Number Theory* **71** (1998), *no.* 1, 65–80. (Yao Chen Zhu) **99g:11091** 11J83 (11J20)

— (*with* Luo, Zu Hua) On the conditioning of interpolation by strictly conditionally positive definite functions on spheres. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 849–871. (R. Franke) **99g:41002** 41A05 (65D15)

— (*with* Luo, Zu Hua; Sun, Xingping) Norm estimates of interpolation matrices and their inverses associated with strictly positive definite functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2127–2134. (A. Bultheel) **99j:41005** 41A05

Levesque, Claude On semi-reduced quadratic forms, continued fractions and class number. Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 78–92. (Duncan A. Buell) **99b:11032** 11E16 (11R11, 11R29)

Levesque, Hector J. (*with* Lin, Fangzhen) What robots can do: robot programs and effective achievability. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 201–226. (Summary) **99d:68221** 68T27 (70B15, 93B05, 93C83)

Levi, D. (*with* Winternitz, Pavel) Symmetry analysis of discrete physical systems. (English summary) *Nonlinear physics: theory and experiment* (*Lecce*, 1995), 199–216, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99a:39047** 39A12 (34G99, 58F35)

— (*with* Hernández Heredero, R.; Winternitz, Pavel) Symmetries of the discrete Burgers equation. (English summary) *J. Phys. A* **32** (1999), *no.* 14, 2685–2695. 35Q53 (35A30, 39A12)

— (*with* Grundland, A. M.) On higher-order Riccati equations as Bäcklund transformations. (English summary) *J. Phys. A* **32** (1999), *no.* 21, 3931–3937. 35Q53 (34A34, 58F37)

simchi-Levi, David *see* **Simchi-Levi, David**

Levi, Francesca A symbolic semantics for abstract model checking. (English summary) *Static analysis* (*Pisa*, 1998), 134–151, *Lecture Notes in Comput. Sci.*, 1503, *Springer, Berlin*, 1998. (*see* **99i:68005**) 68Q60 (68Q10)

Levi, Giorgio *see* **Static analysis, 99i:68005**

Levi, Inessa (*with* McFadden, Robert B.) The shape of $\mathscr{D}$-classes in S_n-normal semigroups. (English summary) *Proceedings of the Tennessee Topology Conference* (*Nashville, TN*, 1996), 111–119, *World Sci. Publishing, River Edge, NJ*, 1997. (T. Tamura) **99f:20099** 20M20

— Green's relations and $\mathscr{D}$-semigroups. (English summary) *Math. Japon.* **47** (1998), *no.* 2, 305–310. (T. Tamura) **99f:20100** 20M20

— (*with* Seif, Steve) Finite normal semigroups. (English summary) *Semigroup Forum* **57** (1998), *no.* 1, 69–74. (T. S. Blyth) **99e:20077** 20M20

Levi, Isaac Caution and nonmonotonic inference. *Knowledge and inquiry: essays on Jaakko Hintikka's epistemology and philosophy of science*, 101–115, *Poznań Stud. Philos. Sci. Humanities*, 51, *Rodopi, Amsterdam*, 1997. (Zeno G. Swijtink) **99b:03035** 03B48

Lévi, Laurent Problèmes unilatéraux pour des équations non linéaires de convection-réaction. (English and French summaries) [Unilateral problems for nonlinear convection-reaction equations] *Ann. Fac. Sci. Toulouse Math.* (6) **4** (1995), *no.* 3, 593–631. (Christophe Cheverry) **99c:35102** 35K55 (35K60)

Levi, Mark Geometry of Kapitsa's potentials. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1365–1368. (Summary) **99e:70062** 70K99 (34C29)

— A new randomness-generating mechanism in forced relaxation oscillations. (English summary) *Phys. D* **114** (1998), *no.* 3-4, 230–236. (Sergei A. Dovbysh) **99g:58093** 58F15 (34C15, 70K40, 70K50)

Levi, Ran (*with* Cohen, Frederick R.) On the homotopy theory of p-completed classifying spaces. *Group representations: cohomology, group actions and topology* (*Seattle, WA*, 1996), 157–182, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (A. H. Copeland, Jr.) **99e:55026** 55R35 (55Q52, 55R40)

— A note on the homotopy type of $\Omega BSL_3(\mathbf{Z})_2$. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 3, 409–420. (Neil P. Strickland) **99e:55028** 55R35 (55P35, 55R40)

Levi, S. (*with* Holá, Ľubica; Pelant, Jan) Normality and paracompactness of the Fell topology. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2193–2197. (Hidenori Tanaka) **99j:54014** 54B20 (54D15, 54D20, 54D45)

Levialdi, Stefano (*with* Bottoni, Paolo; Păun, Gheorghe) Successful visual human-computer interaction is undecidable. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 13–19. (Summary) **99c:68264** 68U99 (68Q99)

Leviant, V. M. (*with* Vall, A. N.; Korenblit, S. E.; Tanaev, A. B.) A dynamical mapping method in nonrelativistic models of quantum field theory. (English summary) Memorial volume for Wilhelm Fushchych. *J. Nonlinear Math. Phys.* **4** (1997), *no.* 3-4, 492–502. (Lech Jakóbczyk) **99b:81146** 81T10

Leviatan, D. (*with* DeVore, Ronald A.; Shevchuk, I. A.) Approximation of monotone functions: a counter example. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 95–102, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Allan Pinkus) **99j:41032** 41A29 (41A10, 41A25)

— (*with* Shevchuk, I. A.) Some positive results and counterexamples in comonotone approximation. (English summary) *J. Approx. Theory* **89** (1997), *no.* 2, 195–206. (Summary) **99a:41023** 41A29

— (*with* Shevchuk, I. A.) Nearly comonotone approximation. (English summary) *J. Approx. Theory* **95** (1998), *no.* 1, 53–81. (Geetha S. Rao) **99j:41012** 41A10 (41A29)

— (*with* Kopotun, Kirill A.) Degree of simultaneous coconvex polynomial approximation. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 150–155. (Marc Van Barel) **99e:41015** 41A29 (41A25)

— (*with* Kopotun, Kirill A.; Shevchuk, I. A.) The degree of coconvex polynomial approximation. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 409–415. (L. G. Labsker) **99c:41010** 41A10 (41A25)

Levi-Civita, Tullio *see* **Dell'Aglio, Luca, 99a:01016**

Levikson, Benny (*with* Kliger, Doron) Pricing insurance contracts—an economic viewpoint. (English summary) *Insurance Math. Econom.* **22** (1998), *no.* 3, 243–249. (Wolf-Rüdiger Heilmann) **99m:62154** 62P05 (90A40, 90A46)

— (*with* Rolski, Tomasz; Weiss, Gideon) On a Poisson hyperbolic staircase. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 11–31. (J. Hüsler) **99k:60122** 60G55 (60G70)

Levin, A. L. (*with* Lubinsky, D. S.) Bounds for orthogonal polynomials for exponential weights. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 475–490. (A. N. Srivastava) **99k:42051** 42C05 (33–02)

Levin, A. M. *see* **Levin, Andreĭ Mikhailovich**

Levin, A. V. (*with* Amel'kin, V. V.) Convergent trajectories of two-dimensional dynamical systems. (Russian. English and Russian summaries) *Vestn. Beloruss. Gos. Univ. Ser. 1 Fiz. Mat. Inform.* **1997,** *no.* 1, 64–67, 76. (Alexandru Şubă) **99a:34074** 34C05 (58F21)

Levin, Adi Combined subdivision schemes for the design of surfaces satisfying boundary conditions. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 5, 345–354. 65D17 (65N30)

Levin, Andreĭ Mikhailovich (*with* Goncharov, A. B.) Zagier's conjecture on $L(E,2)$. (English summary) *Invent. Math.* **132** (1998), *no.* 2, 393–432. (Jan Nekovář) **99h:19006** 19F27 (11G40, 14C35, 14G10)

Levin, Andrew T. (*with* den Haan, Wouter J.) A practitioner's guide to robust covariance matrix estimation. *Robust inference*, 299–342, *Handbook of Statist.*, 15, *North-Holland, Amsterdam*, 1997. (*see* **99d:62025**) 62M10 (62G05, 62M15, 62P20)

Levin, D. *see* **Levin, David**

Levin, Daniel On an analogue of the Rozenblum-Lieb-Cwikel inequality for the biharmonic operator on a Riemannian manifold. *Math. Res. Lett.* **4** (1997), *no.* 6, 855–869. (Sulaimon A. Ishokov) **99f:35151** 35P20 (35J40, 47F05)

— Removable sets for elliptic equations with discontinuous coefficients. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1997,** *no.* 3, 3–6, 70; *translation in Moscow Univ. Math. Bull.* **52** (1997), *no.* 3, 1–4. (Introduction) **99m:35044** 35J15 (35B99, 35R05)

Levin, David (*with* Cohen, Albert; Dyn, Nira) Stability and inter-dependence of matrix subdivision schemes. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 33–45, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41041** 41A63 (42C15, 65D15)

— (*with* Cohen-Or, Daniel) Guided multi-dimensional reconstruction from cross-sections. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 47–55, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:41002**) 41A63 (65D15)

— (*with* Greif, Chen) The d_2-transformation for infinite double series and the D_2-transformation for infinite double integrals. (English summary) *Math. Comp.* **67** (1998), *no.* 222, 695–714. (Summary) **99m:65256** 65T99 (40B05)

— The approximation power of moving least-squares. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1517–1531. (Ewald Quak) **99a:41039** 41A45 (41A25, 65D15)

— (*with* Dyn, Nira) Analysis of Hermite-interpolatory subdivision schemes. (English summary) *Spline functions and the theory of wavelets (Montreal, PQ, 1996)*, 105–113, *CRM Proc. Lecture Notes*, 18, *Amer. Math. Soc., Providence, RI*, 1999. (Summary) **99j:42040** 42C15 (41A30)

— (*with* Shenkman, P.; Dyn, Nira) Normals of the butterfly subdivision scheme surfaces and their applications. (English summary) Special issue: computational methods in computer graphics. *J. Comput. Appl. Math.* **102** (1999), *no.* 1, 157–180. (Michael Kallay) **99m:65264** 65Y25 (65D17)

Levin, Genadi M. The adjoint equation for the eigenvalues of transfer operators on holomorphic repellers. *Proceedings of the Ashkelon Workshop on Complex Function Theory* (1996), 187–196, *Israel Math. Conf. Proc.*, 11, *Bar-Ilan Univ., Ramat Gan*, 1997. (Dieter H. Mayer) **99a:58132** 58F23 (58F12, 58F19)

— (*with* van Strien, Sebastian) Local connectivity of the Julia set of real polynomials. (English summary) *Ann. of Math.* (2) **147** (1998), *no.* 3, 471–541. (Jacek Graczyk) **99e:58143** 58F23 (30D05, 58F03)

— Bounds for maps of an interval with one reflecting critical point. I. (English summary) Dedicated to the memory of Wiesław Szlenk. *Fund. Math.* **157** (1998), *no.* 2-3, 287–298. (Fuyao Ren) **99g:58045** 58F03

— On backward stability of holomorphic dynamical systems. (English summary) *Fund. Math.* **158** (1998), *no.* 2, 97–107. (Peter Petek) **99j:58171** 58F23 (30D05)

Levin, Janna (*with* Scannapieco, Evan; Silk, Joseph) The topology of the universe: the biggest manifold of them all. (English summary) Topology of the Universe Conference (Cleveland, OH, 1997). *Classical Quantum Gravity* **15** (1998), *no.* 9, 2689–2697. (Summary) **99f:83085** 83F05 (85A40)

— Curing singularities: from the big bang to black holes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7611–7614. 83F05 (83C57, 83C75)

Levin, M. *see* **Levin, Michael A.**

Levin, Mark Sh. ★ Combinatorial engineering of decomposable systems. (English summary) Combinatorial Optimization, 2. *Kluwer Academic Publishers, Boston, MA*, 1998. *xx*+371 *pp. ISBN* 0-7923-4950-4 (From the preface) **99a:90002** 90–02 (90C27, 90C90, 93A13)

Levin, Michael A. (*with* Leĭderman, Arkadiĭ Grigor'evich; Pestov, Vladimir G.) On linear continuous open surjections of the spaces $C_p(X)$. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 206–215 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54C35 (54F45)

— Certain finite-dimensional maps and their application to hyperspaces. (English summary) *Israel J. Math.* **105** (1998), 257–262. (L. E. Ward, Jr.) **99g:54004** 54B20 (54F15, 54F45)

— (*with* Sternfeld, Y.) Atomic maps and the Chogoshvili-Pontrjagin claim. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4623–4632. (Summary) **99i:54020** 54C50 (54F45)

— (*with* Tymchatyn, E. D.) On the dimension of almost n-dimensional spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 9, 2793–2795. (Klaas Pieter Hart) **99m:54022** 54F45 (54F50)

Levin, Orit (*with* Deser, Stanley) Accelerated detectors and temperature in (anti-) de Sitter spaces. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 9, L163–L168. (Enric Verdaguer) **99d:83050** 83C47 (81T20)

— (*with* Deser, Stanley) Equivalence of Hawking and Unruh temperatures and entropies through flat space embeddings. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 12, *L85–L87.* (Luis J. Garay) **99i:83046** 83C47 (83C57)

— *see also* **Jacobson, Theodore A., 99d:83051**

Levin, S. B. (*with* Kuperin, Yu. A.; Mel'nikov, Yu. B.[1]; Pavlov, Boris S.) Quantum Lorentz gas: effective equations and spectral analysis. (English summary) Computational tools of complex systems, II. *Comput. Math. Appl.* **34** (1997), *no.* 5-6, 599–612. (András Krámli) **99b:82065** 82C10 (81Q10, 82C40)

Levin, Simon A. (*with* Andreasen, Viggo; Lin, Juan) The dynamics of cocirculating influenza strains conferring partial cross-immunity. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 825–842. (Summary) **99a:92013** 92C60

— (*with* Chao, Dennis) Herding behavior: the emergence of large-scale phenomena from local interactions. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 81–95, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99g:92002**) 92D50

Levin, V. A. (*with* Popov, N. A.; Popov, A. N.) Resolution of Cantor set theory contradictions based on analysis of unsatisfiable definitions. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 312–315, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99h:81006**) 03A05

Levin, V. L. Existence and uniqueness of a measure-preserving optimal mapping in the general Monge-Kantorovich problem. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 3, 79–82; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 3, 205–208 (1999). 49N65 (49K27)

Levin, Zev (*with* Tzivion, Shalva; Reisin, Tamir G.) A numerical solution of the kinetic collection equation using high spectral grid resolution: a proposed reference. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 2, 527–544. (Summary) **99i:82002** 82–08 (86–08)

Levine, David K. (*with* Fudenberg, Drew) ★ The theory of learning in games. (English summary) MIT Press Series on Economic Learning and Social Evolution, 2. *MIT Press, Cambridge, MA*, 1998. *xvi*+276 *pp. ISBN* 0-262-06194-5 (James Bergin) **99i:90121** 90D10 (90D15, 90D20)

— (*with* Fudenberg, Drew; Pesendorfer, Wolfgang) When are nonanonymous players negligible? (English summary) *J. Econom. Theory* **79** (1998), *no.* 1, 46–71. (Summary) **99a:90243** 90D10

Levine, Harold ★ Partial differential equations. AMS/IP Studies in Advanced Mathematics, 6. *American Mathematical Society, Providence, RI; International Press, Cambridge, MA*, 1997. xviii+706 *pp. ISBN* 0-8218-0775-7 (J. M. H. Peters) **99f:35002** 35–01

Levine, Herbert (*with* Pechenik, Leonid) Refraction of waves in excitable media. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 3, *part A*, 2910–2917. 35K55

Levine, Howard A. (*with* Sleeman, B. D.) Systems of reaction diffusion equations modelling chemotaxis. *Ordinary and partial differential equations, Vol. V (Dundee, 1996)*, 130–150, *Pitman Res. Notes Math. Ser.*, 370, *Longman, Harlow*, 1997. (Hal Leslie Smith) **99j:92028** 92D50 (35K57, 35Q80)

— (*with* Serrin, James) Global nonexistence theorems for quasilinear evolution equations with dissipation. *Arch. Rational Mech. Anal.* **137** (1997), *no.* 4, 341–361. (Mitsuhiro Nakao) **99b:34110** 34G20 (35L99, 47N20)

— (*with* Park, Sang Ro; Serrin, James) Global existence and nonexistence theorems for quasilinear evolution equations of formally parabolic type. *J. Differential Equations* **142** (1998), *no.* 1, 212–229. (Nicolae H. Pavel) **99b:35089** 35K55 (34G20)

— (*with* Park, Sang Ro; Serrin, James) Global existence and global nonexistence of solutions of the Cauchy problem for a nonlinearly damped wave equation. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 181–205. (Huicheng Yin) **99k:35124** 35L70 (35B60, 35D05)

— (*with* Galaktionov, V. A.) A general approach to critical Fujita exponents in nonlinear parabolic problems. *Nonlinear Anal.* **34** (1998), *no.* 7, 1005–1027. (Hong Ming Yin) **99f:35079** 35K55

Lévine, Jean (*with* Fliess, Michel; Martin, Philippe Pierre; Rouchon, Pierre) Nonlinear control and diffieties, with an application to physics. (English summary) *Secondary calculus and cohomological physics (Moscow, 1997)*, 81–92, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Emilia Petrisor) **99i:93026** 93C10 (58H99, 70Q05)

Levine, Jerome (*with* Garoufalidis, Stavros) On finite type 3-manifold invariants. II. *Math. Ann.* **306** (1996), *no.* 4, 691–718. (Mark R. Woodard) **99b:57036** 57N10 (57M25)

— The Conway polynomial of an algebraically split link. *KNOTS '96 (Tokyo)*, 23–29, *World Sci. Publishing, River Edge, NJ*, 1997. (Introduction) **99j:57008** 57M25

— (*with* Garoufalidis, Stavros) Finite type 3-manifold invariants, the mapping class group and blinks. (English summary) *J. Differential Geom.* **47** (1997), *no.* 2, 257–320. (Justin D. Roberts) **99b:57040** 57N10 (57M25, 57N05)

— (*with* Garoufalidis, Stavros) On finite type 3-manifold invariants. IV. Comparison of definitions. (English summary) *Math. Proc. Cambridge Philos. Soc.* **122** (1997), *no.* 2, 291–300. (Mark R. Woodard) **99b:57038** 57N10 (57M25)

— (*with* Garoufalidis, Stavros) Finite type 3-manifold invariants and the structure of the Torelli group. I. (English summary) *Invent. Math.* **131** (1998), *no.* 3, 541–594. (Zhenghan Wang) **99m:57012** 57M50 (57N10)

— (*with* Farber, Michael; Katz, Gabriel) Morse theory of harmonic forms. (English summary) *Topology* **37** (1998), *no.* 3, 469–483. (Alexander Fel'shtyn) **99i:58026** 58E05 (58A10)

Levine, Marc ★ Mixed motives. (English summary) Mathematical Surveys and Monographs, 57. *American Mathematical Society, Providence, RI*, 1998. *x*+515 *pp. ISBN* 0-8218-0785-4 (Luca Barbieri Viale) **99i:14025** 14F99 (14C15, 14C25, 14C35, 18E30, 19E08)

Levine, Michael (*with* Feuer, Arie) Vibrational control of a flexible beam. (English summary) *Internat. J. Control* **65** (1996), *no.* 5, 803–825. 93C85 (73K05, 73K50)

Leviner, M. D. (*with* Hu, Jun[1]; Dawson, Darren M.; Vedagarbha, P.) An adaptive tracking controller for multiple-phase permanent-magnet machines. (English summary) *Internat. J. Control* **64** (1996), *no.* 6, 997–1022. 93C40 (93B51)

Levinova, I. S. *see* **Rozhanskaya, Mariam, (99k:01001)**

Levinskiĭ, V. B. (*with* Malkiel, Edwin; Cohen, Jacob) The evolution of a localized vortex disturbance in external shear flows. II. Comparison with experiments in rotating shear flows. (English summary) *J. Fluid Mech.* **379** (1999), 351–380. (From the summary) **99k:76054** 76E05 (76–05, 76C05)

Levinson, Norman ★ Selected papers of Norman Levinson. Vol. 1. With a foreword by Henry P. McKean. Edited and with a preface by John A. Nohel and David H. Sattinger. Contemporary Mathematicians. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xl+533 *pp. ISBN* 0-8176-3862-8; 0-8176-3978-0 (Editors) **99d:01039a** 01A75 (34–03, 35–03)

— ★ Selected papers of Norman Levinson. Vol. 2. Edited by John A. Nohel and David H. Sattinger. Contemporary Mathematicians. *Birkhäuser Boston, Inc., Boston, MA*, 1998. xxiv+552 *pp. ISBN* 0-8176-3979-9; 0-8176-3978-0 (Editors) **99d:01039b** 01A75 (11M06, 42A38, 60G25, 60J80)

Levis, Alexander H. (*with* Perdu, Didier M.) Adaptation as a morphing process: a methodology for the design and evaluation of adaptive organizational structures. (English summary) *Comput. Math. Organ. Theory* **4** (1998), *no.* 1, 5–41. (Summary) **99b:92067** 92H10

Levit, B. Ya. (*with* Lepskiĭ, O. V.) Adaptive minimax estimation of infinitely differentiable functions. (English summary) *Math. Methods Statist.* **7** (1998), *no.* 2, 123–156. (M. P. Moklyachuk) **99m:62047** 62G05 (62C20)

Levitan, B. M. Inverse problem on the entire line and some connected questions of spectral theory. (English summary) *Inverse and algebraic quantum scattering theory* (*Lake Balaton*, 1996), 13–29, *Lecture Notes in Phys.*, 488, *Springer, Berlin*, 1997. (Tuncay Aktosun) **99a:34229** 34L40 (34A55, 81U40)

— (*with* Jodeit, Max, Jr.) A characterization of some even vector-valued Sturm-Liouville problems. (English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **5** (1998), *no.* 3-4, 166–181. (Vjacheslav A. Yurko) **99m:34056** 34B24 (34A55, 34L40, 47E05)

Levitan, Yu. L. (*with* Sobol′, I. M.) A pseudo-random number generator for personal computers. (English summary) Global optimization, control, and games, III. *Comput. Math. Appl.* **37** (1999), *no.* 4-5, 33–40. (*see* **99i:90003**) 65C10

Levitin, E. S. Reduction of nonconvex problems of generalized semi-infinite mathematical programming to convex problems of semi-infinite programming. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 28–34; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 1, 22–27. (Summary) **99a:90216** 90C34 (90C31)

— (*with* Tichatschke, R.) On smoothing of parametric minimax-functions and generalized max-functions via regularization. (English summary) *J. Convex Anal.* **5** (1998), *no.* 2, 199–220. (V. F. Dem′yanov) **99k:90172** 90C31 (49M30)

— (*with* Tichatschke, R.) A branch-and-bound approach for solving a class of generalized semi-infinite programming problems. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 299–315. (Jan Rückmann) **99i:90103** 90C34 (49M39)

Levitin, Lev B. (*with* Karpovsky, Mark G.; Chakrabarty, Krishnendu) On a new class of codes for identifying vertices in graphs. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 599–611. (Theodore C. Enns) **99j:94076** 94B60 (05C70, 05C90, 94C12)

— Energy requirements in quantum communication. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 487–494. (Summary) **99f:81033** 81P99 (94A05)

— (*with* Karpovsky, Mark G.; Chakrabarty, Krishnendu; Avreski, D. R.) On the covering of vertices for fault diagnosis in hypercubes. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 99–103. (Summary) **99k:68021** 68M15 (94C12)

Levitin, M. R. Dirichlet and Neumann heat invariants for Euclidean balls. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 35–46. (Emili Elizalde) **99a:58146** 58G11 (35K99, 35P20)

Levitina, T. V. (*with* Abramov, A. A.; Dyshko, A. L.; Konyukhova, N. B.) On numerical-analytic investigation of scalar scattering by ideal prolate spheroids and triaxial ellipsoids. (English summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 9–15, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 65M06 (76Q05, 78A45)

— (*with* Abramov, A. A.; Dyshko, A. L.; Konyukhova, N. B.; Ul′yanova, V. I.) Methods for solving some multiparameter spectral problems in mathematical physics. (Russian. Russian summary) *Computational modelling and computing in physics* (*Dubna*, 1996), 293–299, *Joint Inst. Nuclear Res., Dubna*, 1997. (*see* **99k:65003**) 35J25 (65N25)

Levitskaya, A. A. A combinatorial problem in the class of permutations over the residue ring Z_n modulo odd n. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 99–108, 153. (Nikolai Volodin) **99e:05005** 05A05

Levitt, Gilbert Non-nesting actions on real trees. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 1, 46–54. (Frédéric Paulin) **99a:20027** 20E08

— (*with* Gaboriau, Damien; Jaeger, Andre; Lustig, Martin) An index for counting fixed points of automorphisms of free groups. *Duke Math. J.* **93** (1998), *no.* 3, 425–452. (Olympia Talelli) **99f:20051** 20E36 (20E05, 20E08, 57M07)

— Homéomorphismes dynamiquement simples de l'ensemble de Cantor. (English summary) [Dynamically simple homeomorphisms of the Cantor set] *Enseign. Math.* (2) **44** (1998), *no.* 3-4, 279–289. (Summary) **99j:54041** 54H20 (58F20)

— (*with* Nicolas, Jean-Louis) On the maximum order of torsion elements in $GL(n, \mathbf{Z})$ and $\mathrm{Aut}(F_n)$. (English summary) *J. Algebra* **208** (1998), *no.* 2, 630–642. (Bruno Zimmermann) **99m:20111** 20G30 (20F28)

— (*with* Gaboriau, Damien; Lustig, Martin) A dendrological proof of the Scott conjecture for automorphisms of free groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 325–332. (Frédéric Paulin) **99d:20035** 20E05 (20E08, 20F28)

Levitt, Karl N. (*with* Zhang, Cui[2]; Olsson, Ronald A.) Formal verification of a programming logic for a distributed programming language. (English summary) *Theoret. Comput. Sci.* **216** (1999), *no.* 1-2, 213–235. (Summary) **99k:68111** 68Q60 (03B70)

Levner, E. V. (*with* Kats, Vladimir) A parametric critical path problem and an application for cyclic scheduling. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 149–158. (Summary) **99f:90168** 90C35 (68M20)

— (*with* Gens, G. V.) An approximate binary search algorithm for the multiple-choice knapsack problem. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 261–265. (Summary) **99e:68068** 68Q25 (68P10)

Levoshich, O. L. (*with* Podlipenko, Yu. K.; Popkov, I. I.) On minimax estimation in problems of the diffraction of acoustic waves. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 26–33, 151. (From the text) **99m:76102** 76Q05 (35J05, 49N55)

Levrero, Alberto (*with* Aniello, Paolo; Cassinelli, Gianni; De Vito, Ernesto) Wavelet transforms and discrete frames associated to semidirect products. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 3965–3973. (Summary) **99c:42055** 42C15 (22D12)

Levstein, Fernando (*with* Matusevich, Laura Felicia) The discrete version of the bispectral problem. (English summary) *The bispectral problem* (*Montreal, PQ*, 1997), 93–104, *CRM Proc. Lecture Notes*, 14, *Amer. Math. Soc., Providence, RI*, 1998. (Valeri Kaliaguine) **99f:39026** 39A12 (33C45, 47B39)

Levy, A. *see* **Levy, Avraham**

Levy, Adam B. (*with* Poliquin, R. A.) Characterizing the single-valuedness of multifunctions. (English summary) *Set-Valued Anal.* **5** (1997), *no.* 4, 351–364. (Marcin Studniarski) **99b:49025** 49K40 (49J52, 90C31)

— (*with* Combari, C.; Elhilali Alaoui, A.; Poliquin, R. A.; Thibault, L.) Convex composite functions in Banach spaces and the primal lower-nice property. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3701–3708. (Doug Ward) **99b:49016** 49J52 (46G05, 46N10, 58C20)

Levy, Alan J. On the nucleation of cavities in planar elasticity. (English summary) *Philos. Trans. Roy. Soc. London Ser. A* **355** (1997), *no.* 1734, 2417–2458. (Cesare Davini) **99b:73016a** 73C99 (35Q72, 73M25)

— The affect of interfacial shear on cavity formation at an elastic inhomogeneity. (English summary) *J. Elasticity* **50** (1998), *no.* 1, 49–85. (Summary) **99e:73042** 73C99 (73H99, 73S10)

— Errata: "On the nucleation of cavities in planar elasticity". *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1737, 669–670. (Cesare Davini) **99b:73016b** 73C99 (35Q72, 73M25)

— *see also* **Errata: "On the nucleation of cavities in planar elasticity"**

Levy, Alon Y. (*with* Rousset, Marie-Christine) Verification of knowledge bases based on containment checking. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 227–250. (Summary) **99d:68224** 68T30 (68P15)

— (*with* Rousset, Marie-Christine) Combining Horn rules and description logics in CARIN. (English summary) *Artificial Intelligence* **104** (1998), *no.* 1-2, 165–209. (Summary) **99h:68164** 68T30 (68T25)

Levy, Avi (*with* Ben-Dor, G.; Sorek, S.) Waves propagation in saturated rigid porous media—numerical simulation and comparison with experiments. (English summary) *Numerical methods for wave propagation* (*Manchester*, 1995), 55–73, *Fluid Mech. Appl.*, 47, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76100** 76M25 (76–05, 76S05)

Levy, Avraham (*with* Rubinstein, Jacob) Hilbert-space Karhunen-Loève transform with application to image analysis. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 1, 28–35. (Summary) **99i:78026** 78A99 (68U10, 94A12)

Levy, Bernard C. (*with* Beghi, Alessandro) Discrete-time Gauss-Markov processes with fixed reciprocal dynamics. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 3, 25 *pp.* (*electronic*). (Summary) **99i:60088** 60G15 (60J05, 90C40)

— (*with* Nikoukhah, Ramine; Taylor, Darrin; Willsky, Alan S.) Graph structure and recursive estimation of noisy linear relations. (English summary) *J. Math. Systems Estim. Control* **5** (1995), *no.* 4, 37 *pp.* (*electronic*). (Summary) **99g:93080** 93E11 (93E10)

— (*with* Ferrante, Augusto) Canonical form of symplectic matrix pencils. (English summary) *Linear Algebra Appl.* **274** (1998), 259–300. (H.-J. Kowalsky (translated from Zbl 902.15006)) **99m:15007** 15A22 (47A56, 93B10)

— A note on the hyperbolic singular value decomposition. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 135–142. (Summary) **99b:15011** 15A18

Levy, Doron (*with* Tadmor, Eitan) Non-oscillatory central schemes for the incompressible 2-D Euler equations. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 2-3, 321–340. (Lech Slawik) **99a:65100** 65M06 (76C99, 76M20)

— (*with* Jiang, Guang-Shan; Lin, Chi-Tien; Osher, Stanley; Tadmor, Eitan) High-resolution nonoscillatory central schemes with nonstaggered grids for hyperbolic conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2147–2168 (*electronic*). (Rémi Vaillancourt) **99j:65145** 65M12 (35L65, 65M06)

— (*with* Tadmor, Eitan) From semidiscrete to fully discrete: stability of Runge-Kutta schemes by the energy method. (English summary) *SIAM Rev.* **40** (1998), *no.* 1, 40–73 (*electronic*). (Lucas Jódar) **99d:65216** 65L06 (65L20)

— (*with* Rosenau, Philip) Compactons in a class of nonlinearly quintic equations. (English summary) *Phys. Lett. A* **252** (1999), *no.* 6, 297–306. 35Q53

Levy, Jason (*with* Banks, William D.; Sepanski, Mark R.) Block-compatible metaplectic cocycles. *J. Reine Angew. Math.* **507** (1999), 131–163. (Volker J. Heiermann) **99m:20100** 20G10

Lévy, Jean-Jacques *see* **Symposium: Logic, Language and Computation, 99m:03006**

Levy, Jordi Decidable and undecidable second-order unification problems. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 47–60, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99e:03009** 03B25 (03D35, 68Q40, 68T15)

Levy, Joshua David (*with* Parker, Cameron; Van Wyk, Leonard) Finite presentations of subgroups of graph groups. (English summary) *Missouri J. Math. Sci.* **10** (1998), *no.* 2, 70–82. (Vladimir I. Trofimov) **99d:20044** 20F05 (05C25)

Levy, M. F. (*with* Borsboom, P-P.) RCS computations using a parabolic equation method. (English summary) *Approximations and numerical methods for the solution of Maxwell's equations* (*Oxford*, 1995), 69–79, *Inst. Math. Appl. Conf. Ser. New Ser.*, 65, *Oxford Univ. Press, New York*, 1998. (*see* **99a:00020**) 78–08

Levy, Matthew A. (*with* Fortnow, Lance; Goldsmith, Judy; Mahaney, Stephen R.) L-printable sets. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 137–151 (*electronic*). (Marius Zimand) **99f:68068** 68Q15 (03D05, 03D15, 03D30, 68Q30, 68Q45)

Levy, Ohad Weakly nonlinear conductivity and flicker noise near percolation. (English summary) *Mathematics of multiscale materials* (*Minneapolis, MN*, 1995–1996), 155–178, *IMA Vol. Math. Appl.*, 99, *Springer, New York*, 1998. (Summary) **99d:82056** 82C43 (78A99)

— (*with* Bergman, David J.) Nonlinear behavior and optical bistability in composite media. (English summary) *Nonlinear optical materials (Minneapolis, MN, 1996)*, 49–82, *IMA Vol. Math. Appl.*, 101, *Springer, New York*, 1998. (Summary) **99g:78031** 78A99 (78A60)

— (*with* Kohn, Robert V.) Duality relations for non-Ohmic composites, with applications to behavior near percolation. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 159–189. (Summary) **99a:82097** 82D30 (78A25, 82B43)

Levy, Samuel² (*with* Stormo, Gary D.) DNA sequence classification using DAWGs. (English summary) *Structures in logic and computer science*, 339–352, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (*see* **99b:68008**) 92D20

Levy, Silvio *see* **Hirsch, Francis**, **99j:46001**

Lévy, Tony Une version hébraïque inédite des *Éléments* d'Euclide. [An unpublished Hebrew version of Euclid's *Elements*] *Les voies de la science grecque*, 181–239, *Éc. Prat. Ht. Études IV^e Sect. Sci. Hist. Philol. V Ht. Études Médiév. Mod.*, 78, *Droz, Geneva*, 1997. (Eberhard Knobloch) **99g:01011** 01A35 (01A20)

— The establishment of the mathematical bookshelf of the medieval Hebrew scholar: translations and translators. (English summary) *Sci. Context* **10** (1997), *no.* 3, 431–451. (Summary) **99g:01012** 01A35

Levyakov, S. V. (*with* Kuznetsov, Viktor Vasil'evich) Multiple branching of solutions in the theory of kinematic groups. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 6, 772–774; *translation in Phys. Dokl.* **42** (1997), *no.* 12, 705–708. (Stan Chiriţă) **99a:73077** 73H05

— (*with* Kuznetsov, Viktor Vasil'evich) Multivalued solutions of three-dimensional problems of nonlinear deformation of thin curvilinear rods. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 141–149. (Summary) **99h:73041** 73K05 (73C50, 73H05, 73V05)

— (*with* Kuznetsov, Viktor Vasil'evich) Analysis of nonlinear solutions with several singular points in problems of three-dimensional deformation of rods. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 6, 148–153. (Summary) **99m:73044** 73K05 (73H05)

Lévy Véhel, Jacques (*with* Guiheneuf, Bertrand; Jaffard, Stéphane) Two results concerning chirps and 2-microlocal exponents prescription. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 487–492. (Summary) **99e:42047** 42C15 (94A11)

— (*with* Daoudi, K.; Meyer, Yves) Construction of continuous functions with prescribed local regularity. (English summary) *Constr. Approx.* **14** (1998), *no.* 3, 349–385. (S. Dubuc) **99f:26005** 26A16 (28A80)

Lewalle, Jacques Formal improvements in the solution of the wavelet-transformed Poisson and diffusion equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 8, 4119–4128. (Summary) **99c:35199** 35Q35 (35J05, 35K99, 42C15, 76D05, 76F99)

Lewandowska, Zofia On *b*-metric spaces. *Shup. Pr. Mat. Przyr. Fiz. A* **11** (1997), 189–211. 54E35

Lewandowski, Jerzy (*with* Gambini, Rodolfo; Marolf, Donald; Pullin, Jorge) On the consistency of the constraint algebra in spin network quantum gravity. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 1, 97–109. (Francois Vanderseypen) **99f:83025** 83C27 (83C45)

— (*with* Marolf, Donald) Loop constraints: a habitat and their algebra. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 2, 299–330. (José A. Zapata) **99g:83039** 83C45 (81V17)

Lewandowski, Zdzisław (*with* Szynal, Jan) An upper bound for the Laguerre polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 529–533. (Summary) **99j:33015** 33C45

Lewanowicz, S. (*with* Belmehdi, S.; Ronveaux, André) Linearization of the product of orthogonal polynomials of a discrete variable. (English summary) *Appl. Math. (Warsaw)* **24** (1997), *no.* 4, 445–455. (Summary) **99a:33005** 33C45 (33E30)

Leweke, T. (*with* Williamson, C. H. K.) Cooperative elliptic instability of a vortex pair. (English summary) *J. Fluid Mech.* **360** (1998), 85–119. (Summary) **99a:76025** 76C05 (76E20, 76E99)

Lewenkopf, Caio H. (*with* Ozorio de Almeida, Alfredo M.; Mucciolo, Eduardo R.) Semiclassical limit of universal parametric density correlations. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5693–5703. (Summary) **99g:81050** 81Q20 (81Q50)

Lewenstein, Maciej (*with* Życzkowski, Karol; Horodecki, Paweł; Sanpera, Anna) Volume of the set of separable states. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 2, 883–892. (Summary) **99d:81011** 81P05

Lewenstein, Moshe (*with* Amir, Amihood; Landau, Gad M.; Lewenstein, Noa) Efficient special cases of pattern matching with swaps. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 209–220, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68048** 68Q25

— (*with* Amir, Amihood; Landau, Gad M.; Lewenstein, Noa) Efficient special cases of pattern matching with swaps. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 125–132. (Summary) **99h:68071** 68Q25

Lewenstein, Noa (*with* Amir, Amihood; Landau, Gad M.; Lewenstein, Moshe) Efficient special cases of pattern matching with swaps. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 209–220, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68048** 68Q25

— (*with* Amir, Amihood; Landau, Gad M.; Lewenstein, Moshe) Efficient special cases of pattern matching with swaps. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 125–132. (Summary) **99h:68071** 68Q25

Lewicka, Marta Locally Lipschitzian guiding function method for ODEs. *Nonlinear Anal.* **33** (1998), *no.* 7, 747–758. (Christian Fenske) **99e:34019** 34A60 (34C25)

Lewicki, Grzegorz (*with* Chalmers, Bruce L.) Minimal projections onto some subspaces of $l_1^{(n)}$. (English summary) Dedicated to Julian Musielak. *Funct. Approx. Comment. Math.* **26** (1998), 85–92. (Anatolij M. Plichko) **99m:46053** 46B45

— (*with* Marino, Giuseppe; Pietramala, Paolamaria) Finite chainability, locally Lipschitzian and uniformly continuous functions. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 4, 795–803. (T. H. Steele) **99m:26002** 26A15 (26A16)

Lewin, Marica Local time for stable discontinuous superprocesses in one dimension. (English summary) *Stochastic Anal. Appl.* **17** (1999), *no.* 1, 71–84. (Sylvie Roelly) **99m:60111** 60J35 (60J80)

Lewin, Renato A. (*with* Mikenberg, Irene F.; Schwarze, Maria G.) On the algebraizability of annotated logics. (English summary) *Studia Logica* **59** (1997), *no.* 3, 359–386. (G. Mirkowska) **99c:03043** 03B70 (03B60)

Lewińska, Ewa L^2-analysis of finite element eigenfunction approximation with numerical integration. *Demonstratio Math.* **30** (1997), *no.* 4, 907–918. (K. Najzar) **99g:65105** 65N25 (65N12, 65N30)

Lewinter, Martin (*with* Gagliardi, Daniel) An interpolation theorem for the maximum deficiencies of spanning trees. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 37. (*see* **99g:05001**) 05C35 (05C05)

— (*with* Gagliardi, Daniel; Harary, Frank) A lower bound for the number of irregular multigraphs. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 6–8. (*see* **99i:05002**) 05C30

— Distance, spanning trees and hypercubes: new and old results. Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 42–46. (*see* **99k:05003**) 05C12 (05C05)

Lewis, A. *see* **Lewis, Alexander S.**

Lewis, Adrian S. (*with* Overton, Michael L.) Eigenvalue optimization. (English summary) *Acta numerica*, 1996, 149–190, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (N. Gass) **99e:90072** 90C26 (65F15, 65K05, 73K40)

— Nonsmooth analysis of eigenvalues: a summary. (English summary) *Rend. Sem. Mat. Fis. Milano* **66** (1996), 33–41 (1998). 49J52 (15A18, 49R05)

Lewis, Albert C. *see* **Grassmann, Hermann Günther**, **99e:01015**

Lewis, Alexander S. (*with* Caux, J.-S.; Kogan, Ian I.; Tsvelik, Alexei M.) Logarithmic operators and dynamical extension of the symmetry group in the bosonic $SU(2)_0$ and SUSY $SU(2)_2$ WZNW models. (English summary) *Nuclear Phys. B* **489** (1997), *no.* 1-2, 469–484. (From the introduction) **99e:81221** 81T40 (81R10)

— (*with* Kogan, Ian I.; Solov'ev, O. A.) Gauged Knizhnik-Zamolodchikov equation. (English summary) Theory of elementary particles (Buckow, 1996). *Nuclear Phys. B Proc. Suppl.* **56B** (1997), 154–158. (Conclusion) **99i:81214** 81T40

— (*with* Kogan, Ian I.) Origin of logarithmic operators in conformal field theories. (English summary) *Nuclear Phys. B* **509** (1998), *no.* 3, 687–704. (Summary) **99g:81201** 81T40 (81R10)

— (*with* Kogan, Ian I.) Vacuum instability in Chern-Simons theory, null vectors and two-dimensional logarithmic operators. (English summary) *Phys. Lett. B* **431** (1998), *no.* 1-2, 77–84. (Satoru Saito) **99g:81202** 81T40 (81R10)

Lewis, Andrew D. (*with* Murray, Richard M.) Configuration controllability of simple mechanical control systems. (English summary) *SIAM J. Control Optim.* **35** (1997), *no.* 3, 766–790. (Inge Troch) **99a:70045** 70Q05 (73K50, 93B05, 93B29, 93C10)

— Affine connections and distributions with applications to nonholonomic mechanics. (English summary) Pacific Institute of Mathematical Sciences Workshop on Nonholonomic Constraints in Dynamics (Calgary, AB, 1997). *Rep. Math. Phys.* **42** (1998), *no.* 1-2, 135–164. (David Martín de Diego) **99m:53042** 53C05 (53C80, 70F25)

Lewis, D. *see* **Lewis, Debra**

Lewis, D. J. *see* **Lewis, Donald J.**

Lewis, David *see* **Lewis, David K.**

Lewis, David D. (*with* Cohen, Edith) Approximating matrix multiplication for pattern recognition tasks. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 211–252. (Summary) **99k:68168** 68T10

Lewis, David K. ★ Papers in philosophical logic. (English summary) Cambridge Studies in Philosophy. *Cambridge University Press, Cambridge*, 1998. *vi+234 pp. ISBN* 0-521-58788-3 (Publisher's description) **99e:01034** 01A75 (03A05, 03Bxx)

Lewis, Debra Stacked Lagrange tops. (English summary) *J. Nonlinear Sci.* **8** (1998), *no.* 1, 63–102. (Andrew D. Lewis) **99c:70010** 70E15 (70H05, 70H33, 70K20)

Lewis, Donald J. Mathematics instruction in the twenty-first century. Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 763–766 (*electronic*). (*see* **99e:00025**) 01A67 (00A35)

Lewis, Frank L. (*with* Jagannathan, Sarargapani; Pastravanu, O.) Discrete-time model reference adaptive control of nonlinear dynamical systems using neural networks. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 217–239. 93C40 (93C55)

— (*with* Jagannathan, Sarargapani; Commuri, S.) Feedback linearization using CMAC neural networks. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 547–557. (Summary) **99c:93068** 93C40 (93C83)

— (*with* Fierro, Rafael; Liu, Kai[1]) Hybrid control system design using a fuzzy logic interface. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 3, 401–419. (Summary) **99b:93034** 93C42 (93C30)

— (*with* AL-Sunni, Fouad M.) Simultaneous output-feedback stabilization for continuous systems. (English summary) *Kybernetika (Prague)* **34** (1998), *no.* 2, 199–202. (Summary) **99a:93083** 93D15

rodis-Lewis, Geneviève *see* **Rodis-Lewis, Geneviève**

Lewis, Gillian *see* **Malinvaud, Edmond**, **99c:01023**

Lewis, H. Ralph (*with* Karimov, A. R.) Nonlinear solutions of the Vlasov-Poisson equations. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 759–761. (Summary) **99k:76162** 76X05

Lewis, J. *see* **Lewis, John B.²**

Lewis, James D. A duality pairing between cohomology and higher Chow groups. (English summary) *J. Reine Angew. Math.* **504** (1998), 177–193. (Aigli Papantonopoulou) **99k:14014** 14C25 (14C30, 14C35, 14F99)

Lewis, James T. (*with* Clark, Dean) Symmetric solutions to a Collatz-like system of difference equations. Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 101–114. (*see* **99i:00021**) 39A10 (65Q05)

Lewis, John B.² (*with* Zagier, Don) Period functions and the Selberg zeta function for the modular group. *The mathematical beauty of physics (Saclay, 1996)*, 83–97, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Shin-ya Koyama) **99c:11108** 11M36 (11F37)

Lewis, John G. (*with* Ashcraft, Cleve; Grimes, Roger G.) Accurate symmetric indefinite linear equation solvers. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 513–561 (*electronic*). (Summary) **99i:65026** 65F05 (15A06, 65F50)

Lewis, John L. (*with* Hofmann, Steve) The L^p Neumann and regularity problems for the heat equation in non-cylindrical domains. (English summary) *Journées "Équations aux Dérivées Partielles" (Saint-Jean-de-Monts, 1998)*, *Exp. No. VI*, 7 *pp.*, *Univ. Nantes, Nantes*, 1998. (*see* **99d:35002**) 35K05

Lewis, John T. (*with* Pfister, Charles E.; Russell, Raymond P.; Sullivan, Wayne G.) Reconstruction sequences and equipartition measures: an examination of the asymptotic equipartition property. (English summary) *IEEE Trans. Inform. Theory* **43** (1997), *no.* 6, 1935–1947. (Robert M. Gray) **99b:94013** 94A15 (60G10)

Lewis, L. Gaunce, Jr. The category of Mackey functors for a compact Lie group. (English summary) *Group representations: cohomology, group actions and topology (Seattle, WA, 1996)*, 301–354, *Proc. Sympos. Pure Math.*, 63, *Amer. Math. Soc., Providence, RI*, 1998. (V. P. Snaith) **99b:19001** 19A22 (18D10, 22C05, 55N91)

Lewis, Mark A. (*with* Schmitz, Greg Dean) Biological invasion of an organism with separate mobile and stationary states: modelling and analysis. (English summary) *Forma* **11** (1996), *no.* 1, 1–25. (Summary) **99m:92031** 92D25 (35Q80)

— (*with* White, K. A. J.; Murray, James D.) Analysis of a model for wolf territories. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 749–774. (Arthur I. Cseténi) **99a:92036** 92D40

Lewis, Mark L. Derived lengths of solvable groups satisfying the one-prime hypothesis. *Comm. Algebra* **26** (1998), *no.* 8, 2419–2428. (I. M. Isaacs) **99d:20011** 20C15 (20F16)

— (*with* Gagola, Stephen M., Jr.) Squares of characters that are the sum of all irreducible characters. *Illinois J. Math.* **42** (1998), *no.* 4, 655–672. (Herbert Pahlings) **99h:20007** 20C15

— Irreducible character degree sets of solvable groups. *J. Algebra* **206** (1998), *no.* 1, 208–234. (Gabriel Navarro) **99e:20012a** 20C15

— Determining group structure from sets of irreducible character degrees. *J. Algebra* **206** (1998), *no.* 1, 235–260. (Gabriel Navarro) **99e:20012b** 20C15

Lewis, Patricia A. (*with* Temple, J. A. G.; Walker, E. J.; Wickham, G. R.) Calculation of diffraction coefficients for a semi-infinite crack embedded in an infinite anisotropic linearly elastic body. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1781–1803. 73D25 (76Q05)

Lewis, Paul W. (*with* Ochoa, James P.) The range of a representing measure. *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 365–369. (C. W. Swartz) **99e:46049** 46E40 (46G10, 47B38)

Lewis, Peter J. Quantum mechanics, orthogonality, and counting. (English summary) *British J. Philos. Sci.* **48** (1997), *no.* 3, 313–328. (S. Gudder) **99a:81012** 81P05 (81P10, 81P15)

Lewis, Richard P. The number of spanning trees of a complete multipartite graph. (English summary) 16th British Combinatorial Conference (London, 1997). *Discrete Math.* **197/198** (1999), 537–541. (Summary) **99i:05100** 05C30 (05C05)

Lewis, S. M. *see* **Lewis, Susan Margaret**

Lewis, Scott J. (*with* Finizio, Norman J.) Pitch tournament designs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **130** (1998), 19–27. (Summary) **99j:05046** 05B30

Lewis, Susan Margaret (*with* Gerami, A.; Majumdar, Dibyen; Notz, W. I.) Efficient block designs for comparing dual with single treatments. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 247–263. (Summary) **99j:62111** 62K10

Lewis, Ted (*with* Klee, Victor; Von Hohenbalken, B.) Appollonius revisited: supporting spheres for sundered systems. (English summary) *Discrete Comput. Geom.* **18** (1997), *no.* 4, 385–395. (Marilyn Breen) **99a:52002** 52A20

Lewis, Thomas M. Limit theorems for partial sums of quasi-associated random variables. *Asymptotic methods in probability and statistics (Ottawa, ON, 1997)*, 31–48, *North-Holland, Amsterdam*, 1998. (Lajos Horváth) **99k:60086** 60F15 (60F05, 60G10)

— (*with* Khoshnevisan, Davar) A law of the iterated logarithm for stable processes in random scenery. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 89–121. (Mamoru Kanda) **99g:60131** 60J30 (60F15, 60J55)

Lewis, Wanda Lightweight tension structures—an aesthetic integration of geometry and mechanics. *Math. Today (Southend-on-Sea)* **35** (1999), *no.* 1, 10–16. 00A69 (73K15)

— Lightweight tension structures—an aesthetic integration of geometry and mechanics. II. Finding the form of a minimal surface. (English summary) *Math. Today (Southend-on-Sea)* **35** (1999), *no.* 3, 80–84. 00A69 (73K15)

Lexcellent, Ch. (*with* Raniecki, B.) The equilibrium motion of the martensitic interface in thick-walled infinite austenitic plate. *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 45–52, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99k:73004**) 73B30 (73K10)

Leybourne, S. J. (*with* McCabe, Brendan P. M.) On estimating an ARMA model with an MA unit root. (English summary) *Econometric Theory* **14** (1998), *no.* 3, 326–338. (Summary) **99b:62140** 62M10

Leydold, Josef (*with* Stadler, Peter F.) Minimal cycle bases of outerplanar graphs. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 16, 14 *pp.* (*electronic*). (Ke Min Zhang) **99a:05084** 05C38 (05C75)

— (*with* Hörmann, Wolfgang) A sweep-plane algorithm for generating random tuples in simple polytopes. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1617–1635. (P. Neumann) **99c:65011** 65C10 (65Y25)

Leyendekkers, J. V. (*with* Rybak, J. M.; Shannon, Anthony G.) The characteristics of primes and other integers within the modular ring Z_4 and in class $\overline{1}$. (English summary) *Notes Number Theory Discrete Math.* **4** (1998), *no.* 1, 1–17. (G. L. Alexanderson) **99g:11044** 11D85

— (*with* Rybak, J. M.; Shannon, Anthony G.) The characteristics of primes and other integers within the modular ring Z_4 and in class $\overline{3}$. (English summary) *Notes Number Theory Discrete Math.* **4** (1998), *no.* 1, 18–37. (G. L. Alexanderson) **99g:11045** 11D85

Leyffer, Sven (*with* Fletcher, Roger) Numerical experience with lower bounds for MIQP branch-and-bound. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 604–616 (*electronic*). (Summary) **99a:90139** 90C11

Leyk, Teresa (*with* Roberts, Stephen G.) Numerical solving of a free boundary phase field model using Krylov subspace method. *Computational techniques and applications: CTAC95 (Melbourne, 1995)*, 479–486, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N06 (80A22)

Leyk, Zbigniew (*with* Woźniakowski, Henryk) Estimating a largest eigenvector by Lanczos and polynomial algorithms with a random start. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 3, 147–164. (J. Segethová) **99i:65035** 65F15

castañeda-Leyva, Netzahualcóyotl *see* **Castañeda-Leyva, Netzahualcóyotl**

Lezama, O. (*with* Vasquez, O.) On the simultaneous basis property in Prüfer domains. (English summary) *Acta Math. Hungar.* **80** (1998), *no.* 1-2, 169–176. (J. W. Brewer) **99c:13041** 13F05

Lezaud, Pascal Chernoff-type bound for finite Markov chains. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 849–867. (Ofer Zeitouni) **99f:60061** 60F10 (60J10)

Lezaun Iturralde, Mikel (*with* Gaultier, Maurice) Semi-continuité supérieure des attracteurs associés à l'approximation d'un problème du type Bénard avec contraintes. (English and French summaries) [Upper semicontinuity of attractors for the approximation of a Bénard-type problem with constraints] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 2, 173–178. (Peter E. Kloeden) **99h:35214** 35Q99 (34G20, 35B40, 47H20, 76D05)

Leznov, A. N. (*with* Derjagin, V. B.; Yuzbashyan, E. A.) Two-dimensional integrable mappings and explicit form of equations of $(1+2)$-dimensional hierarchies of integrable systems. (English summary) *Lie theory and its applications in physics (Clausthal, 1995)*, 247–257, *World Sci. Publishing, River Edge, NJ*, 1996. (Giulio Soliani) **99g:58063** 58F07 (35Q58)

— Discrete group of integrable mappings in the theory of integrable systems. (English summary) *Problems of quantum field theory (Alushta, 1996)*, 146–153, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 58F07 (35Q58)

— (*with* Derjagin, V. B.; Sorin, A. S.) The solution of the $N=(0|2)$ superconformal f-Toda lattice. (English summary) *Nuclear Phys. B* **527** (1998), *no.* 3, 643–656. (Henrik Aratyn) **99j:58089** 58F07 (35Q58, 81T10)

— (*with* Derjagin, V. B.; Sorin, A. S.) $N=2$ superintegrable f-Toda mapping and super-NLS hierarchy in $(1|2)$ superspace. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1990–1996. (Summary) **99i:58072** 58F07

— (*with* Yuzbashyan, E. A.) Fine structure of matrix Darboux-Toda integrable mapping. (English summary) *Phys. Lett. A* **242** (1998), *no.* 1-2, 31–35. (Wen Xiu Ma) **99d:58155** 58F37 (35Q55)

Lhallabi, T. $(4,0)$ supersymmetric sigma-model and T-duality. (English summary) *Classical Quantum Gravity* **16** (1999), *no.* 1, 211–224. (Piet Termonia) **99m:81255** 81T60 (81T30, 81T50)

Lhalouani, Khalid (*with* Sassi, Taoufik) Méthode d'éléments finis hybrides en décomposition de domaines pour des problèmes de contact unilatéral. (English and French summaries) [Mixed finite element method and domain decomposition for unilateral contact problems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 10, 901–905. (Summary) **99j:73097** 73V05 (49J40, 65N55, 73T05)

Lhomme, Olivier (*with* Gotlieb, Arnaud; Rueher, Michel) Dynamic optimization of interval narrowing algorithms. (English summary) *J. Logic Programming* **37** (1998), *no.* 1-3, 165–183. (Summary) **99d:68042** 68N17 (68T20)

Lhuillier, D. Equations of motion and boundary conditions for the creeping flow of a dilute suspension of spheres. (English summary) *Int. J. Fluid Mech. Res.* **22** (1995), *no.* 3-4, 9–20. (Summary) **99c:76111** 76T05

fu-Li *see* **Fu-Li**

Li, Ai Ping Prime ideals and congruence relations of soft algebras. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 71–74. 06D30

Li, Aidi Convexity preserving interpolation. (English summary) *Comput. Aided Geom. Design* **16** (1999), *no.* 2, 127–147. (Michael M. Dediu) **99k:65021** 65D17 (41A29)

Li, An Ping (*with* Jiang, Da Wei; Cai, Yuan Hu) Fairing B-spline curves with fixed area constraints. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 90–98. 65D07 (65D17)

Li, An Zhi (*with* Yang, Ben Li) Resolution on positive terms and a semilinearization technique for equations of higher degree. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 5, 519–522. 65H05

— (*with* Yang, Ben Li) A general iteration method for solving systems of linear algebraic equations. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 6, 615–619. 65F10

Li, Anly (*with* Chi, Wen-Chen) Groups of continuous characters and Brauer groups. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4171–4177. (Ido Efrat) **99j:11140** 11S20 (13A20)

Li, Anmin (*with* Li, Xingxiao) Explicit representations of minimal immersions of 2-spheres into S^{2m}. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 175–186. (Udo Simon) **99k:53115** 53C42 (53C40)

Li, Anping (r,k)-catching code. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 812–815. (Summary) **99f:05012** 05A99

Li, B. *see* **Li, Bo²**

Li, Bainian Some convergence theorems for sums of non-independent random variables. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 101–104. 60F15

Li, Bang-He (*with* Li, Tian-Jun) Minimal genus smooth embeddings in $S^2 \times S^2$ and $\mathbf{CP}^2 \# n\overline{\mathbf{CP}}^2$ with $n \leq 8$. *Topology* **37** (1998), *no.* 3, 575–594. (Terry Lawson) **99b:57059** 57R40 (57N13, 57R95)

Li, Bao Ling (*with* Wu, Cong Xin; Lee, E. Stanley) Discontinuous systems and the Henstock-Kurzweil integral. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 1, 119–136. (Š. Schwabik) **99j:34005** 34A12 (26A39, 34A99)

Li, Bao Yi (*with* Zhang, Zhi Fen) Bifurcation phenomenon of a class of planar codimension 3 polycycle $S^{(2)}$ with two saddles resonating. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1259–1271. (Douglas S. Shafer) **99a:34083** 34C05 (34C23, 58F14, 58F21)

— (*with* Zhang, Zhi Fen) Bifurcation phenomena of the polycycle $S^{(3)}$ of a Hamiltonian system under small perturbations. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **34** (1998), *no.* 5, 588–596. 34C23 (34C05)

Li, Baojia (*with* Li, Chang Jun; Evans, David John[1]) A generalized successive overrelaxation method for least squares problems. (English summary) *BIT* **38** (1998), *no.* 2, 347–355. (Frederick N. Fritsch) **99e:65066** 65F20 (65F10)

Li, Baowen (*with* Hu, Bambi) Statistical analysis of scars in stadium billiard. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 483–504. (Summary) **99b:81061** 81Q50

— (*with* Liu, Jie[2]; Hu, Bambi) Nonadiabatic geometric phase and Hannay angle: a squeezed state approach. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9,

1749–1753. (Summary) **99e:81064** 81Q99

Li, Bin (*with* Yang, Chao[3]) A graph-theoretic model and algorithm for optimization of urban public transport networks. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 3, 294–298. 90B06 (90C35)

Li, Bin (*with* Zhang, Xing You) Remarks on the expression of the Γ-limits of a class of functionals. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 334–338. (Baisheng Yan) **99m:49020** 49J45 (42A75)

Li, Bin[2] (*with* Liang, Xundong; Liu, Shen Quan[1]) A surface rendering approach in 3D rectilinear datafield. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 220–227. (Summary) **99a:68172** 68U05

Li, Bing *see* **Li, Bing[3]**

Li, Bing[2] (*with* Lindsay, Bruce G.) On second-order optimality of the observed Fisher information. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2172–2199. (František Rublík) **99e:62024** 62F12 (62F10)

— An optimal estimating equation based on the first three cumulants. (English summary) *Biometrika* **85** (1998), *no.* 1, 103–114. (C. C. Heyde) **99k:62044** 62F10

Li, Bing[3] (*with* Izumiya, Shyuichi) Overdetermined systems of first order partial differential equations with singular solution. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 327–332. (Werner M. Seiler) **99i:35114** 35N10 (35F20)

— (*with* Wang, Xiao Mei) Topological conjugacy of a class of mappings of a circle into itself. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 25–28. (Jie Hua Mai) **99e:58065** 58F03 (58F08, 58F15)

Li, Bing Ren (*with* Li, Min Li) Banach ∗ algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 553–562. (Liang Sen Wu) **99i:46039** 46K05 (46H15)

— Real reduction theory. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 574–581. (Aldo J. Lazar) **99f:46092** 46L45 (46L10)

Li, Bing Zhang (*with* Huang, Lihu; Liu, Luqin) Some fractal properties of a class of self-similar Markov processes. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 3, 257–262. (Summary) **99i:60143** 60J25 (60E07, 60J55)

— (*with* Deng, Ai Jiao) Limit theorems for a class of transient stable processes. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 889–896. 60F15 (60G17)

Li, Bingkun (*with* Fairweather, Graeme; Bialecki, Bernard) Discrete-time orthogonal spline collocation methods for Schrödinger equations in two space variables. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 2, 453–477 (*electronic*). (G. W. Hedstrom) **99d:65295** 65M70

Li, Bingtuan Multiple integral average conditions for oscillation of delay differential equations. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 165–178. (István Győri) **99g:34141** 34K15

— Global asymptotic behavior of the chemostat: general response functions and different removal rates. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 411–422 (*electronic*). (Summary) **99g:92028** 92D25 (34C99, 34D20)

Li, Bo[1] (*with* Luskin, Mitchell) Finite element analysis of microstructure for the cubic to tetragonal transformation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 376–392 (*electronic*). (Carsten Carstensen) **99b:73015** 73C50 (65N30, 73V05, 73V25)

— (*with* Zhang, Zhimin) Analysis of a class of superconvergence patch recovery techniques for linear and bilinear finite elements. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 2, 151–167. (Sándor Frivaldszky) **99m:65201** 65N12 (65N30)

Li, Bo[2] (*with* Horowitz, Roberto; McCormick, J. W.) Wiener-filter-based minimum variance self-tuning regulation. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 5, 531–545. (Summary) **99c:93104** 93E11 (93D15)

Li, Bo Yu (*with* Milner, E. C.) The ANTI-order and the fixed point property for cacc posets. (English summary) *Discrete Math.* **175** (1997), *no.* 1-3, 197–209. (Michael E. Detlefsen) **99e:06003** 06A06 (06A23)

— (*with* Wang, Li Zhen) Fixed point theorems for ordered sets. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *Special Issue*, 9–16. (From the summary) **99k:06002** 06A06 (04A05)

— (*with* Milner, E. C.) Isomorphic ANTI-cores of caccc posets—an improvement. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 213–221. (Summary) **99c:06001** 06A06

Li, Bo Zang (*with* Zhang, Ling Yun; Zhang, Xiang Dong) Some notes on quantum invariants and their relation to the quantum phase. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2081–2094. (Summary) **99c:81124** 81S99

— (*with* Zhao, Yue-gang) Quantum phases of Pancharatnam type for a general spin in a time-dependent magnetic field. (English summary) *Chinese Phys. Lett.* **14** (1997), *no.* 11, 801–804. (Summary) **99c:81127** 81S99

— (*with* Hou, Bang Pin; Yu, Wan Lun) Pure states and quantum systems of Berry type. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 5, 712–717. (Summary) **99f:81068** 81Q99

— (*with* Zhang, Run Dong; Yan, Feng Li) Hamiltonian operators constructed from two kinds of finite-depth quantum potential wells with time-dependent boundary conditions and their complex Berry phases. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 10, 1585–1599. 81Q99

— (*with* Pu, Fu Ke) Spin parity effect resulting from time-inversion symmetry. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 983–988. 82D40

— (*with* Yan, Feng Li; Yang, Linguang) Formal exact solution for the Heisenberg spin system in a time-dependent magnetic field and Aharonov-Anandan phase. (English summary) *Phys. Lett. A* **251** (1999), *no.* 5, 289–293. (Summary) **99j:82021** 82B20

Li, C. *see* **Li, Chang Jun**

Li, C. K. *see* **Li, Chen-Kuan**

Li, Cai Heng (*with* Gu, Zheng Yu) The Cayley graphs of prime-square order which are Cayley invariant. (English summary) *Australas. J. Combin.* **17** (1998), 169–174. (Summary) **99a:05062** 05C25

— On finite graphs that are self-complementary and vertex-transitive. (English summary) *Australas. J. Combin.* **18** (1998), 147–155. (Summary) **99g:05097** 05C25

— Isomorphisms of Cayley digraphs of abelian groups. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 181–188. (Cheryl E. Praeger) **99c:05092** 05C25 (20K01)

— On isomorphisms of connected Cayley graphs. III. (English summary) *Bull. Austral. Math. Soc.* **58** (1998), *no.* 1, 137–145. (Joseph B. Klerlein) **99g:05100** 05C25

— (*with* Fang, Xin Gui; Praeger, Cheryl E.) On orbital regular graphs and Frobenius graphs. (English summary) Graph theory (Lake Bled, 1995). *Discrete Math.* **182** (1998), *no.* 1-3, 85–99. (Summary) **99c:05090** 05C25 (20B25)

— A family of quasiprimitive 2-arc transitive graphs which have non-quasiprimitive full automorphism groups. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 499–502. (Summary) **99e:05066** 05C25 (20B25)

— (*with* Conder, Marston D. E.) On isomorphisms of finite Cayley graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 8, 911–919. (Brian Alspach) **99i:05096** 05C25

— On Cayley graphs of abelian groups. (English summary) *J. Algebraic Combin.* **8** (1998), *no.* 2, 205–215. (Tullio G. Ceccherini-Silberstein) **99g:05098** 05C25 (05C20)

— (*with* Praeger, Cheryl E.; Xu, Ming-Yao) Isomorphisms of finite Cayley digraphs of bounded valency. (English summary) *J. Combin. Theory Ser. B* **73** (1998), *no.* 2, 164–183. (T. T. Raghunathan) **99h:05055** 05C25 (05C20, 05C60, 20D20)

— On isomorphisms of connected Cayley graphs. II. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 28–34. (Joseph B. Klerlein) **99g:05099** 05C25

— (*with* Praeger, Cheryl E.; Xu, Ming-Yao) On finite groups with the Cayley isomorphism property. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 21–31. (Dave Witte) **99c:20033** 20E34 (05C25)

Li, Cai Ping (*with* Zheng, Ya Lin) A 4-valued logic system G_4^2 associated with a nonlinearly ordered evaluation lattice. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 4, 1–4. 03B52 (03B50)

— (*with* Qu, An Jing; Han, Qi Heng) The meaning of the Mo and Mie algorithms in ancient Chinese calendrics. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 5, 369–373. 01A25

Li, Cai Zhong (*with* Liu, Fa Gui) The effect of relaxation in a phase-change model. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 13–17. (Summary) **99h:35129** 35L65

Li, Chang Jun (*with* Li, Baojia; Evans, David John[1]) A generalized successive overrelaxation method for least squares problems. (English summary) *BIT* **38** (1998), *no.* 2, 347–355. (Frederick N. Fritsch) **99e:65066** 65F20 (65F10)

— (*with* Evans, David John[1]) Preconditioning the linear system for the SOR method. (English summary) *Int. J. Comput. Math.* **66** (1998), *no.* 1-2, 101–111. (Summary) **99c:65083** 65F35

— (*with* Evans, David John[1]) Sheldon and modified Sheldon methods for matrices with red-black ordering. (English summary) *Int. J. Comput. Math.* **69** (1998), *no.* 1-2, 175–190. (Summary) **99h:65053** 65F10 (15A06, 65F35)

Li, Chang-ying (*with* Zhang, Yu-hai) On the sufficient conditions for the solvability of the multiplicative inverse eigenvalue problem. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 337–344. (Summary) **99c:65074** 65F15

Li, Changpin (*with* Yang, Zhong Hua[1]) Bifurcation of two-dimensional Kuramoto-Sivashinsky equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 263–270. (Summary) **99f:35192** 35Q55 (35B32)

Li, Chao (*with* Ouyang, Shou Cheng; Wang, Yong Zhong; Wu, Yong) The "rebel travelling" of general nonlinear evolutional equation and discussion on related problems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 179–189; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 165–173 (*Chinese. English and Chinese summaries*). (Sergey L. Gavrilyuk) **99e:35228** 35Q99 (34A05, 34C99, 35B40)

Li, Chao[1] Calculation of correlation function of binary periodic sequences. *Chinese Sci. Bull.* **42** (1997), *no.* 13, 1065–1068. (Shojiro Sakata) **99b:94024** 94A55 (11T71)

— Linear complexity of a family of p-ary sequences. *Hunan Ann. Math.* **17** (1997), *no.* 2, 106–109. (Francesco Fabris) **99d:65021** 65C10 (94A60)

— Correlation properties of generalized Kasami sequences. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 227–232. (Summary) **99c:11152** 11T71 (94A55)

Li, Chao Xing Generalized Lah numbers and their properties. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 223–226. 05A10 (11B73)

Li, Chaoying (*with* Yu, Hongquan) Intervals of gaps on cardinalities of Boolean matrices. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 114–116. (Summary) **99m:05033** 05B20

Li, Charles *see* **Li, Yan Guang**

Li, Chen-Kuan (*with* Koh, E. L.) The neutrix convolution product in $Z'(m)$ and the exchange formula. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 695–700. (Summary) **99h:46070** 46F10 (46F12)

Li, Cheng Fu Target level criteria for finite state Markov decision processes. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **19** (1997), *no.* 4, 23–25. (Summary) **99b:90156** 90C40

— A note on optimal policies for discounted Markov decision process models. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 127–128. 90C40

Li, Cheng-Yu (*with* Liu, Jing-Song; Ge, Mo Lin) U(1) symmetry in Yangian and massless Thirring model. (English summary) *J. Phys. A* **31** (1998), *no.* 40, *L*701–*L*705. (Mathias Pillin) **99h:81132** 81T10 (81R50)

Li, Cheng Yue (*with* Fan, Tian You; Tong, Ming Sheng) Nontrivial homoclinic orbits of second-order singular periodic Hamiltonian systems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 20, 2147–2153. 58E05 (34C37, 58F05, 70H05)

Li, Cheng Zhi[1] (*with* He, Yue) On the number of limit cycles arising from perturbations of homoclinic loops of quadratic integrable systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 303–316. (I. D. Iliev) **99k:34058** 34C05 (34C37, 58F21)

Li, Chi-Kwong (*with* Guralnick, Robert M.) Invertible preservers and algebraic groups. III. Preservers of unitary similarity (congruence) invariants and overgroups of some unitary subgroups. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 257–282. (Summary) **99m:20109** 20G20 (15A30, 15A60)

— (*with* Nelson, Ingrid) Perfect codes on the Towers of Hanoi graph. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 367–376. (Josep Rifà) **99f:94018** 94B25 (05C12)

— (*with* Rodman, Leiba) Shapes and computer generation of numerical ranges of Krein space operators. (English summary) *Electron. J. Linear Algebra* **3** (1998), 31–47 (*electronic*). (Hiroshi Nakazato) **99c:15048** 15A60 (47A12, 47B50)

— (*with* Mathias, Roy) Some interlacing theorems on the Schur complement. (English summary) *Linear and Multilinear Algebra* **44** (1998), *no.* 4, 373–382. (Summary) **99f:15026** 15A42 (15A18)

— (*with* So, Wasin) Isometric isomorphisms between normed spaces. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 607–624. (H. E. Lacey) **99k:46015** 46B04 (46B07)

— (*with* Mathias, Roy) Generalizations of Ky Fan's dominance theorem. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 99–106 (*electronic*). (Fuad Kittaneh) **99g:15019** 15A45 (15A15, 15A60)

Li, Ching (*with* Le, Mao Hua) On Fermat's equation in integral 2×2 matrices. *Period. Math. Hungar.* **31** (1995), *no.* 3, 219–222. (Aleksander Grytczuk) **99b:11020** 11C20 (11D41)

Li, Ching-Teh (*with* Greenberg, William R.; Klein, Abraham; Zlatev, Ivaylo) From Heisenberg matrix mechanics to semiclassical quantization: theory and first applications. (English summary) *Phys. Rev. A* (3) **54** (1996), *no.* 3, 1820–1837. (Summary) **99c:81042** 81Q20

Li, Chong[1] A note on: "Sunset in spaces of bounded linear operators" [Chinese J. Contemp. Math. **16** (1995), no. 1, 49–61; MR 97j:46014]. (English summary) *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 359–361. (Summary) **99h:46027** 46B28 (47D15)

— (*with* Wang, Xing Hua; Yang, Wen Shan) Lipschitz constants of metric projections. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 707–710. 46B20 (41A65)

— (*with* Wang, Xing Hua) Lipschitz continuity of best approximations and Chebyshev centers. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 185–188. (Michael Felten) **99d:41045** 41A50 (49K40)

— (*with* Ni, Ren Xing) Differentiability of farthest functions and existence of farthest points. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 1, 55–60. (Summary) **99c:41068** 41A65 (46B20)

— (*with* Watson, G. Alistair) Best simultaneous approximation of an infinite set of functions. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 2, 1–9. (Joseph M. Lambert) **99j:41057** 41A65 (41A28, 41A52)

— (*with* Wang, Xing Hua; Yang, Wen Shan) An estimate for Lipschitz constants of metric projections. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 133–141. (Manfred Sommer) **99m:41053** 41A65 (46B20)

Li, Chong Xiao (*with* Dong, Ying) Qualitative behavior of solutions of higher-order linear differential equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 86–89. (Summary) **99k:34065** 34C10

Li, Chuan (*with* Li, Yongli; Zhang, Ji Hui[1]) Note on some topological properties of sets in information systems. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 468, 563–564. 54A99

Li, Chuan Xiang The distinguishing model of a set of words. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 2, 123–133. 68Q45

Li, Chun *see* **Li, Chun**[3]

Li, Chun[2] (*with* McIntosh, Alan G. R.; Zhang, Ke Wei[1]; Wu, Zhi Jian[1]) Compensated compactness, paracommutators, and Hardy spaces. (English summary) *J. Funct. Anal.* **150** (1997), *no.* 2, 289–306. (Loukas Grafakos) **99c:42038** 42B30 (46E15)

— (*with* Wu, Zhi Jian[1]) Hankel operators on Clifford valued Bergman space. (English summary) *Operator theory for complex and hypercomplex analysis (Mexico City, 1994)*, 143–155, *Contemp. Math.*, 212, *Amer. Math. Soc., Providence, RI*, 1998. (Richard Rochberg) **99a:47038** 47B35 (30G35, 32A37)

Li, Chun[3] (*with* Chui, Charles K.) Characterization of smoothness via functional wavelet transforms. (English summary) *Signal and image representation in combined spaces*, 395–414, *Wavelet Anal. Appl.*, 7, *Academic Press, San Diego, CA*, 1998. (Li Zhong Peng) **99g:42039** 42C15 (94A05)

Li, Chun Guang (*with* You, Zhao Yong) Nonlinear SOR iterative methods for solving nonlinear v-cyclic systems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 263–272. (Xiaojun Chen) **99k:65047** 65H10

— (*with* You, Zhao Yong) An interval verification algorithm for the solutions of nonlinear systems. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 107–117. 65G10 (65H10)

Li, Chun Hong (*with* Liu, Min Si) The Hausdorff dimension of a fractal set arising in simultaneous Diophantine approximation. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 4, 401–404. (Zun Shan) **99c:11085** 11J13 (28A80)

— The existence of singular points of holomorphic functions with derivatives and multiple values in the unit circle. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 385–388. 30D35

Li, Chun Li (*with* Yan, Yu Bin) An expression for solutions of ill-posed operator equations of the first kind. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 264–269. 65J20 (47A50)

Li, Chun Wen (*with* Miao, Yuan) Construction of Lyapunov functions for systems with a two-dimensional critical part. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 1, 129–132. 93D05 (34D08)

— A new number system and its calculus. III. Differentiation and integration. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 6, 1–4. 03H05 (26E35)

Li, Chunlai (*with* Dai, Ying; Zheng, Nan Ning) Model-independent robust adaptive tracking control of robot manipulators. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 949–954. 93C85 (93D15)

Li, Chunshien (*with* Priemer, Roland) Fuzzy control of unknown multiple-input–multiple-output plants. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 245–267. 93C42

Li, Chunwah (*with* Wu, Sheng-chang; Liu, Xiao Qing[2]) Discretization of jump stochastic differential equations in terms of multiple stochastic integrals. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 375–384. (Summary) **99e:60123** 60H05 (60H10, 65U05)

Li, Cong (*with* Huang, Pei Qing; Zhu, Zu) Managerial labor market and product market. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 12, 124–127. 90A50 (90A60)

Li, Cui Hua (*with* Zheng, Nan Ning; Zhang, Yong Ping) An underrelaxation scheme for a fast adaptive filter. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 11, 1–3, 16. 93E11

Li, Cuixiang (*with* Guo, Shun Sheng; Yue, Shujie; Yang, Ge; Sun, Yiguo) A pointwise approximation theorem for linear combinations of Bernstein polynomials. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 4, 397–406. (Z. Ditzian) **99a:41028** 41A35 (41A25)

— (*with* Guo, Shun Sheng) The L_p-saturation results weighted simultaneous approximation by the method of Bernstein-Durrmeyer operators. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 78–89. (Kirill A. Kopotun) **99k:41023** 41A28 (41A35)

— (*with* Guo, Shun Sheng; Sun, Yiguo; Yang, Ge; Yue, Shujie) Pointwise estimate for Szasz-type operators. (English summary) *J. Approx. Theory* **94** (1998), *no.* 1, 160–171. (N. S. Kambo) **99f:41027** 41A35 (41A36)

Li, D. *see* **Li, Duan**

Li, D. M. *see* **Li, De Ming**

Li, Da Hua Bifurcations and stability of time-periodic solutions for a class of evolution equations with one parameter. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **39** (1996), *no.* 5, 673–680. (Xiao Qiang Zhao) **99a:34168** 34G20 (34C23, 34C25, 35B32, 35K22, 58F14)

Li, Da Qian (*with* Kong, De Xing) Global existence of solutions to a class of nonlinear systems of functional-differential equations. *Advances in nonlinear dynamics*, 349–353, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (R. D. Driver) **99d:34118** 34K05

— Nonlinear heat conduction with finite speed of propagation. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects (Shanghai, 1994)*, 81–91, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:35056** 35K55 (35L60, 80A20)

— Professor Gu Chaohao's notable achievements in his academic career. *Collection of papers on geometry, analysis and mathematical physics*, 2–5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00025**) 01A70

— (*with* Zhou, Yi[1]; Kong, De Xing) Weak linear degeneracy and global existence of classical solutions for quasilinear hyperbolic systems. (English summary) *Nonlinear evolutionary partial differential equations (Beijing, 1993)*, 283–291, *AMS/IP Stud. Adv. Math.*, 3, *Amer. Math. Soc., Providence, RI*, 1997. (Ivan Straškraba) **99f:35124** 35L60 (35B05)

— Life-span of classical solutions to nonlinear wave equations in four space dimensions. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995)*, 90–100, *World Sci. Publishing, River Edge, NJ*, 1997. (Yun Mei Chen) **99j:35142** 35L70 (35B40)

— (*with* Kong, De Xing) Initial value problem for general quasilinear hyperbolic systems with characteristics with constant multiplicity. (English summary) *J. Partial Differential Equations* **10** (1997), *no.* 4, 299–322. (Jan Turo) **99a:35166** 35L60 (35L45)

— (*with* Zheng, Songmu; Tan, Yongji; Shen, Weixi) ★ Boundary value problems with equivalued surface and resistivity well-logging. (English summary) Pitman Research Notes in Mathematics Series, 382. *Longman, Harlow*, 1998. *xiv+210 pp. ISBN* 0-582-27632-2 (Alexander S. Denisjuk) **99h:35230** 35R30 (35J15, 65N30, 86–08, 86A20)

— (*with* Zhang, Bing-Yu) Global exact controllability of a class of quasilinear hyperbolic systems. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 289–311. (Florin Iacob) **99h:93018** 93B05 (35L80, 93C20)

— Global solutions with contact discontinuities for quasilinear hyperbolic systems of conservation laws. *Variations of domain and free-boundary problems in solid mechanics (Paris, 1997)*, 253–260, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Christophe Cheverry) **99m:35152** 35L65 (35B60)

— *see also* **Collection of papers on geometry, analysis and mathematical physics, 99b:00025**; **Symposium: Reaction-Diffusion Equations and Their Applications and Computational Aspects, 99f:00026** *and* **Proceedings: Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems, 99g:35005**

Li, Da Wei (*with* Wang, Li; Wang, Meng Guang) Earliness/tardiness scheduling problems with different due windows. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 759–763. 90B35

Li, Da Zhi[2] (*with* Yang, Zi Qiang; Liang, Zheng) A numerical computation method for Bessel functions of the first and second kinds with complex arguments. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 7, 125–128. 65D20

Li, Dan (*with* Lin, Yi[3]; Hu, Qing Ping) On α-type hierarchies of systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 5–16. (Summary) **99f:93005** 93A13

— (*with* Hu, Qing Ping; Hu, Zhi Gang) The essence of Kleene closure and related problems. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 3, 185–187. 68Q45

Li, Dan Hen Solvability of two-dimensional singular integral equations with analytic coefficients. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 3, 5–9. (Jian Ke Lu) **99k:45009** 45E05

Li, Daniel (*with* Godefroy, Gilles) Strictly convex functions on compact convex sets and applications. *Functional analysis*, 182–192, *Narosa, New Delhi*, 1998. (Wolfgang Lusky) **99m:46013** 46A55 (43A05, 46A50, 52A41)

— A remark about $\Lambda(p)$-sets and Rosenthal sets. (English and French summaries) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3329–3333. (Françoise Lust-Piquard) **99a:43005** 43A46

Li, Dayong (*with* Ni Chuiv, Nora) On the efficiency of ranked set sampling strategies in parametric estimation. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 185-186, 23–42. (Summary) **99b:62028** 62F10 (62F07)

Li, De Hua (*with* Xiong, Lian Huan; Hu, Han Ping; Pi, Ming Hong) The Shannon orthogonal wavelet transform using the FFT. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 8, 67–69, 73. 65T20 (42C15, 94A11)

Li, De Ming (*with* To, C. W. S.) Degenerated Hopf bifurcations in a stochastically disturbed non-linear system. *J. Sound Vibration* **219** (1999), *no.* 2, 359–369. (Klaus R. Schenk-Hoppé) **99k:70023** 70L05 (34C23, 34F05, 70K40, 73K35)

Li, De Sheng (*with* Wang, Zong Xin; Wang, Zhi Lin) Existence, uniqueness, and long-time behavior of global solutions to a class of nonclassical diffusion equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 267–276. (Summary) **99f:35081** 35K55

— (*with* Zhong, Cheng Kui) Global attractor for the Cahn-Hilliard system with fast growing nonlinearity. *J. Differential Equations* **149** (1998), *no.* 2, 191–210. (Varga Kalantarov) **99m:35129** 35K60 (34G20, 35B40, 35Q35, 47H20)

— (*with* Wang, Zhi Lin) Periodic solutions of fully nonlinear second-order parabolic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 23–28. (Summary) **99h:35088** 35K55 (35B10)

Li, De Yuan (*with* Dong, Su Qin) Segment explicit-implicit difference method on nonuniform mesh for parabolic equation with discontinuous coefficients. (English summary) *Int. J. Comput. Math.* **68** (1998), *no.* 1-2, 133–152. (Summary) **99m:65162** 65M06

Li, Deli (*with* Tomkins, R. J.) Compact laws of the iterated logarithm for **B**-valued random variables with two-dimensional indices. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 443–459. (Xia Chen) **99e:60019** 60B12

— (*with* Huang, Mei Ling) A note on moments of the maximum of Cesàro summation. (English summary) *Statist. Probab. Lett.* **38** (1998), *no.* 1, 73–81. (Allan Gut) **99f:60035** 60E99

Li, Deng Feng *see* **Li, Deng Feng[2]**

Li, Deng Feng[1] Properties of b-vex fuzzy mappings and applications to fuzzy optimization. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 253–260. (Summary) **99a:90237** 90C70

— Fuzzy multiattribute decision-making models and methods with incomplete preference information. (English summary) *Fuzzy Sets and Systems* **106** (1999), *no.* 2, 113–119. 90A05

Li, Deng Feng[2] (*with* Peng, Si Long) A characterization of periodic multiresolution analysis and an application. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1079–1084. 42C15

Li, Dengfeng *see* **Li, Deng Feng[1]**

Li, Desheng *see* **Li, De Sheng**

Li, Deyu (*with* Shibata, Hiroshi[1]; Fujinaka, Toru) A discrete-time SAC system with no output tracking error. (Japanese. English summary) *Trans. Inst. Systems Control Inform. Engrs.* **12** (1999), *no.* 5, 304–312. 93C55 (93D15)

Li, Dong Guo (*with* Su, Cheng; Xu, Ying Qing; Li, Hua; Liu, Shen Quan[1]) Necessary and sufficient condition of positive root number of perspective-three-point problem. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 12, 1084–1095. 68U10 (68T10)

Li, Dong Hui (*with* Zeng, Jin Ping; Zhang, Zhong Zhi) Gaussian pivoting method for solving linear complementarity problem. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 4, 499. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 4, 419–426. (C. Ilioi) **99b:90138** 90C33 (65F10, 65Y20)

— (*with* Zeng, Jin Ping; Zhou, Shu Zi) Convergence of Broyden-like matrix. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 35–37. 65H10

— Global convergence of the BFGS method for problems of minimizing nonconvex functions. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 4, 1–3, 32. 90C26 (90C30)

Li, Dong Mei (*with* Wan, Wei Ming; Wang, Yan Bo[2]) Global stability of the Gause predator-prey model. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 1, 12–16. (Si Ming Zhu) **99c:92060** 92D40 (34D20)

— (*with* Liu, Jun Qiang; Hu, Heng Zhang) Research on the design of a Wiener-Hopf optimal controller. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 62–65. 93B52 (93C05)

Li, Duan (*with* Chan, Tsz-Fung; Ng, Wan-Lung) Safety-first dynamic portfolio selection. (English summary) Dynamics and optimization (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 4, 585–600. (*see* **99g:49003**) 90A09 (90A16)

— (*with* Teo, Kok Lay; Liu, Yanqun) Perturbation feedback control in general multiple linear-quadratic control problems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 303–315. (Summary) **99e:49045** 49N10 (93B52)

— (*with* Biswal, M. P.) Exponential transformation in convexifying a noninferior frontier and exponential generating method. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 183–199. (Laura Martein) **99j:90073** 90C29

Li, Fan[2] (*with* Zou, Fan) A study of semantenes for reasoning consistently in the presence of inconsistency. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 1, 1–4. 03B45 (03B60, 03B70, 68T27)

Li, Fang[2] (*with* Zhang, Liang Yun) Weak Hopf algebras and rings of fractions of semigroup rings. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 1, 98–104. (Shenglin Zhu) **99a:16032** 16W30

— (*with* Liu, Zhong Kui) PS-rings of generalized power series. *Comm. Algebra* **26** (1998), *no.* 7, 2283–2291. (J. F. Watters) **99m:16070** 16W60 (13F25, 16D40)

— Weak Hopf algebras and some new solutions of the quantum Yang-Baxter equation. (English summary) *J. Algebra* **208** (1998), *no.* 1, 72–100. (E. J. Taft) **99h:16061** 16W30

— (*with* Liu, Zhong Kui) Completely α-absolutely pure monoids. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 191–195. (Heng Wu Zheng) **99m:20155** 20M50

— (*with* Liu, Hai Sheng) Some results on Hadamard matrices. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 5, 143–147. 05B20

Li, Feng (*with* Wu, Xian[3]) On Ky Fan's section theorem. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 112–121. (Salvatore Sessa) **99k:47181** 47H99 (47H10, 54H25)

— (*with* Wu, Xian[3]) Approximate selection theorems in H-spaces with applications. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 118–132. (Summary) **99j:54044** 54H25 (47H04, 54C65)

Li, Feng Quan A class of nonlinear and nonlocal boundary value problems for quasilinear parabolic equations. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 1, 27–32. (Yi Li) **99f:35100** 35K60 (35D05, 46N20)

Li, Frederick (*with* Ma, Lizhuang; Lau, Rynson W. H.; Peng, Qun Sheng) Surface reconstruction with quartic triangular patches. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 54–62. 65D17

Li, Fu Yi Existence and uniqueness of positive solutions to a class of nonlinear equations. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 609–615. (Ben Dong Lou) **99e:47085** 47H15 (34B15, 45G10, 47N20)

— A two-point expansion fixed point theorem and solutions of convex-concave operator equations with applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 457–464. (Hong Kun Xu) **99b:47080** 47H07 (45G10, 47H09, 47H10, 47N20)

— (*with* Liu, Zhao Li) Multiple positive solutions of some nonlinear operator equations and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 97–102. (Summary) **99a:47096** 47H15 (34B15, 45G10, 47H30)

Li, G. (*with* Bharath, A. A.) Numeric study of limited diffraction, bandlimited, acoustic waves: a novel solution family of the homogeneous scalar wave equation. (English summary) *Wave Motion* **28** (1998), *no.* 3, 203–213. (Summary) **99e:76107** 76Q05 (76M25)

Li, Gang *see* **Li, Gang[3]**

Li, Gang[1] Strong ergodic theorems for asymptotically nonexpansive type semigroups in Banach spaces. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 187–193. (Behzad Djafari-Rouhani) **99g:47154** 47H20 (47H09)

— A global convergence theorem for non-Lipschitzian topological semigroups over Hilbert spaces. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 3, 337–344. (Hong Kun Xu) **99a:47079** 47H09 (47H10, 47H20)

— (*with* Ma, Ji Pu) Ergodic theorems for non-Lipschitzian semigroups without convexity. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 284. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 209–216. (Behzad Djafari-Rouhani) **99j:47080** 47H09 (47H10, 47H20)

— (*with* Shu, Li Sheng) Lifting of convexity properties of substitution spaces $P_X X_n$. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 2, 10–12. (Ting Fu Wang) **99j:46022** 46B20

Li, Gang[2] On the structure of digital controllers with finite word length consideration. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 689–693. (Summary) **99a:93065** 93C57 (93D15)

Li, Gang[3] Optimal rate local smoothing in a multiplicative intensity counting process model. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 2, 224–244. (Per Kragh Andersen) **99c:62105** 62G05 (60F05, 62E20)

— (*with* Qin, Jing[1]) Semiparametric likelihood-based inference for biased and truncated data when the total sample size is known. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 243–254. (Summary) **99d:62040** 62G05

Li, Gang[4] (*with* Duan, Quanzhu; Milner, Fabio A.) A first-second order splitting method for a third-order partial differential equation. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 1, 89–96. (Biyue Liu) **99c:65182** 65M60 (65M15)

Li, Gang Chang (*with* He, Shi Ben) Lagrange's theorem for a class of nonholonomic systems and its application. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 2, 135–146; *translated from Appl. Math. Mech.* **19** (1998), *no.* 2, 127–135 (*Chinese. English and Chinese summaries*). (David Martín de Diego) **99e:70039** 70F25 (58F05)

Li, Gao Ming A note on the convergence of sequences of sets. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 35–39. 49J45 (46B20, 49K40)

Li, Gong Sheng (*with* Zhang, Le Zhong) Existence of a nonlinear heat source in inverse heat conduction problems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 19–24. (Hong Ming Yin) **99e:35243** 35R30 (35K55)

Li, Gongbao (*with* Fuchs, Martin[2]; Martio, Olli) Second order obstacle problems for vectorial functions and integrands with subquadratic growth. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 549–558. (Giuseppe Mingione) **99i:49003** 49J10 (35J85, 49N60)

— (*with* Martio, Olli) Stability of solutions of varying degenerate elliptic equations. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 3, 873–891. (Zuchi Chen) **99k:35069** 35J70 (35B35, 35J60)

Li, Guang Hua[2] The existence and uniqueness of periodic hyperbolic solutions to nonlinear systems. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 761–770. 34C25 (34G20)

— Existence and uniqueness of hyperbolic periodic solutions of Hamiltonian systems. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 18, 1941–1943. 34C25 (58F22, 70H05)

— (*with* Lin, Shi-zhong; Yu, Yuan Hong) Oscillations of solutions of nonlinear functional-differential equations of higher order. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 3, 261–265. (Xiang Sheng Xie) **99a:34192** 34K15

— The representation of the multicomponent coherent states for su(3). (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 285–290. 81R30

Li, Guang-liang (*with* Fan, Heng; Hou, Bo Yu; Shi, Kang-jie; Wang, Yan Shen) A one-dimensional many-body integrable model from Z_n Belavin model with open boundary conditions. (English summary) *J. Math. Phys.* **39** (1998), *no.* 9, 4746–4758. (Kazuhiro Hikami) **99g:81237** 81V70 (81R50, 82B23)

— (*with* Fan, Heng; Hou, Bo Yu; Shi, Kang-jie) A new solution to the reflection equation for the Z_n symmetric Belavin model. (English summary) *Phys. Lett. A* **250** (1998), *no.* 1-3, 79–87. (Andrey V. Tsiganov) **99j:82014** 82B20 (82B23)

Li, Guang Quan (*with* Tang, Wan Sheng; Zhao, Sheng Min; Zheng, Pi E) Optimal control of systems with continuous boundary conditions. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 9–15. 49K20 (93C20)

— (*with* Wang, Chun Feng; Zheng, Pi E) Two-level optimization problems: necessary condition and algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 92–99. 90C30 (90D65)

Li, Guang Yao (*with* Yang, Xiao Ping; Zhou, Shu Zi) On an axially symmetric elastic-plastic torsion problem. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 7, 707–720; *translated from Appl. Math. Mech.* **18** (1997), *no.* 7, 657–668 (*Chinese. English and Chinese summaries*). (Carsten Carstensen) **99a:73069** 73E99 (35Q72)

Li, Guang-ye *see* **Li, Guangye**

Li, Guang Zheng A study of a numerical method for two-point boundary value problems for systems of coupled parabolic equations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 1, 107–109. 65M06

Li, Guangye (*with* Liu, Ting-zhan) A column-secant update technique for solving system of nonlinear equations. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **4** (1995), *no.* 2, 193–206. (Tjalling Ypma) **99d:65165** 65H10

Li, Guangzhen (*with* Hu, Xin Sheng; Li, Shuyang; Shi, Bao Chang) The fixed point approach to nonsmooth multiobjective programming. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 65–70. (Summary) **99b:90108** 90C29 (49J52)

Li, Guangzhi (*with* Fang, Shu Cherng) Solving fuzzy relation equations with a linear objective function. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 107–113. (Summary) **99k:90201** 90C70 (90C08)

Li, Gui-Song On self-intersections of immersed surfaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3721–3726. (L. Neuwirth) **99b:57045** 57N35 (57N05)

— Kirk's invariant may have mixed terms. *Math. Proc. Cambridge Philos. Soc.* **125** (1999), *no.* 3, 425–431. (Sadayoshi Kojima) **99j:57024** 57Q45 (57R42)

Li, Guo Cai (*with* Chen, Lu Sheng) Some equivalence propositions for infinite automata. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 78–82. (Summary) **99g:68137** 68Q68 (68Q45)

Li, Guo Cheng (*with* Jing, Cheng Ming) Egorov's theorem for measurable set-valued mappings. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 5, 101–104. 28B20

Li, Guo Jun[1] (*with* Liu, Gui Zhen) (g, f)-factorizations orthogonal to a subgraph in graphs. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 267–272. (Katherine Heinrich) **99h:05093** 05C70

Li, Guo Ling Some properties of Kronecker products of universal positive definite matrices. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 5, 132–134. 15A48

Li, Guo Qiang (*with* Wang, Li Ping[1]) A sufficient condition for a graph G to be 4-colorable. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 28–29. 05C15

Li, Guo Ying[1] (*with* Zhang, Jian[1]) Breakdown properties of location M-estimators. (English summary) *Ann. Statist.* **26** (1998), *no.* 3, 1170–1189. (Xuming He) **99f:62047** 62F35

Li, Guojun *see* **Li, Guo Jun**[1]

Li, Guoying *see* **Li, Guo Ying**[1]

Li, H. *see* **Li, Huaizhong**

Li, Hai Feng (*with* Jiang, Cheng Shun) Global existence of solutions for a strongly coupled reaction-diffusion system. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 1, 1–10. (Alexander L. Gladkov) **99d:35084** 35K57

— Existence and uniqueness of weak solutions to the Cauchy problem for a class of nonlinear filtration equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 2, 129–134. (Summary) **99h:35089** 35K55 (35D05, 35R05)

Li, Hai Sheng (*with* Dong, Chongying; Mason, Geoffrey; Montague, P. S.) The radical of a vertex operator algebra. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 17–25, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Dražen Adamović) **99j:17042** 17B69

— (*with* Dong, Chongying; Mason, Geoffrey; Norton, S. P.) Associative subalgebras of the Griess algebra and related topics. *The Monster and Lie algebras* (*Columbus, OH*, 1996), 27–42, *Ohio State Univ. Math. Res. Inst. Publ.*, 7, *de Gruyter, Berlin*, 1998. (Chang Heon Kim) **99k:17048** 17B69 (20D08)

— An analogue of the Hom functor and a generalized nuclear democracy theorem. *Duke Math. J.* **93** (1998), *no.* 1, 73–114. (Dražen Adamović) **99d:17031** 17B69

— (*with* Dong, Chongying; Mason, Geoffrey) Twisted representations of vertex operator algebras and associative algebras. *Internat. Math. Res. Notices* **1998**, *no.* 8, 389–397. (Dražen Adamović) **99f:17032** 17B69

— (*with* Dong, Chongying; Mason, Geoffrey) Vertex operator algebras and associative algebras. (English summary) *J. Algebra* **206** (1998), *no.* 1, 67–96. (Mirko Primc) **99i:17029** 17B69

— (*with* Dong, Chongying; Mason, Geoffrey) Twisted representations of vertex operator algebras. *Math. Ann.* **310** (1998), *no.* 3, 571–600. (Mirko Primc) **99d:17030** 17B69

Li, Hai Tao (*with* Zhang, Ting Jie; Qiu, Pei Zhang) Boundary value problems for a class of fourth-order difference equations and the generation of fractal surfaces. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 386–393. (Summary) **99e:39054** 39A10 (28A80)

Li, Hai-yan (*with* Pan, Hui-yun; Zhao, Zu Sen) Bose-Einstein condensation of a quon gas in D dimensions. (English summary) *Phys. Lett. A* **241** (1998), *no.* 1-2, 119–121. (Summary) **99f:82005** 82B05 (81R50)

Li, Hai Zhong (*with* Chen, Wei Huan) Spacelike Weingarten surfaces in $\mathbf{R}^3_1$ and the sine-Gordon equation. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 2, 459–474. (Antoni Sym) **99b:53015** 53A40 (35L70, 35Q53, 58F07, 58F37)

— (*with* Chen, Wei Huan) Weingarten surfaces and [the] sine-Gordon equation. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1028–1035. (Ronaldo Alves Garcia) **99j:53005** 53A10 (35Q35)

— (*with* Chen, Wei Huan) Integral formulas for compact spacelike hypersurfaces in de Sitter space and their applications to Goddard's conjecture. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 807–810. (Fei-Tsen Liang) **99k:53114** 53C42 (53C40, 53C50, 53C65)

— L^2 harmonic forms on a complete stable hypersurfaces with constant mean curvature. (English summary) *Kodai Math. J.* **21** (1998), *no.* 1, 1–9. (Józef Dodziuk) **99c:58004** 58A14 (53C65)

Li, Han (*with* Si, Jie; Zhou, Gui An; Han, Ying Duo) Theory and applications of a supervised learning method based on gradient algorithms. I. The fundamental algorithm. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 7, 71–73. (Summary) **99a:68145a** 68T05

— (*with* Si, Jie; Zhou, Gui An; Han, Ying Duo) Theory and applications of a supervised learning method based on gradient algorithms. II. The training mechanism. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **37** (1997), *no.* 9, 104–107, 117. (Summary) **99a:68145b** 68T05

Li, Han-Lin (*with* Yu, Chian-Son) Comments on: "Fuzzy programming with nonlinear membership functions: piecewise linear approximation" [Fuzzy Sets and Systems **41** (1991), no. 1, 39–53; MR 92i:90119] by T. Yang, J. P. Ignizio and H.-J. Kim. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 109–113. (Summary) **99k:90202** 90C70 (04A72)

Li, Han-Xiong (*with* Tso, S. K.) Duality of conventional fuzzy logic control. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 4, 577–596. 93C42

Li, Hao[1] (*with* Lu, Mei; Sun, Zhi Ren) Hamiltonicity in 2-connected graphs with claws. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 223–236. (Zdeněk Ryjáček) **99b:05095** 05C45

— (*with* Ainouche, A.; Favaron, Odile) Global insertion and Hamiltonicity in DCT-graphs. (English summary) *Discrete Math.* **184** (1998), *no.* 1-3, 1–13. (Zdeněk Ryjáček) **99c:05120** 05C45

— (*with* Faudree, Ralph J.; Favaron, Odile) Independence, domination, irredundance, and forbidden pairs. (English summary) *J. Combin. Math. Combin. Comput.* **26** (1998), 193–212. (Douglas F. Rall) **99a:05073** 05C35

— (*with* Favaron, Odile; Plummer, Michael D.) Some results on K_r-covered graphs. (English summary) *Util. Math.* **54** (1998), 33–44. (Summary) **99i:05164** 05C70

Li, He Nong (*with* Hou, Zong Yi) Regularization with closed linear operators. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 3, 186–190. (Summary) **99g:65069** 65J15 (47A50)

— The Ritz regularization method for operator equations of the first kind. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 1, 7–13. (Zuhe Shen) **99j:65108** 65J20 (47A50, 65J10)

Li, Henian (*with* Aitchison, Peter; Woodbury, Allan) Methods for overcoming breakdown problems in the unsymmetric Lanczos reduction method. (English summary) *Internat. J. Numer. Methods Engrg.* **42** (1998), *no.* 3, 389–408. (Summary) **99b:65117** 65M60 (65F25)

— (*with* Woodbury, Allan; Aitchison, Peter) Eigenvalue translation method for stabilizing an unsymmetric Lanczos reduction process. (English summary) *Internat. J. Numer. Methods Engrg.* **43** (1998), *no.* 2, 221–239. (Summary) **99d:65131** 65F30

— (*with* Woodbury, Allan; Aitchison, Peter) Application of the unsymmetric Lanczos method to radionuclide decay-chain transport in porous media. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 3, 355–372. (Summary) **99k:86002** 86A05 (76S05, 80A99)

Li, Hong (*with* Tsay, Ruey S.) A unified approach to identifying multivariate time series models. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 770–782. (Summary) **99b:62137** 62M10 (62F15)

Li, Hong[1] (*with* Gao, Jian[3]) A new convergence criterion for block Jacobi matrix iteration. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 87–88. 65F10

Li, Hong Gang Stability and stability properties of dynamic multivalued logic functions. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 40–42. 03B50 (68T10)

Li, Hong Jun Hausdorff vector fields. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 85–90, 110. (Summary) **99f:58006** 58A30

Li, Hong-Quan La transformation de Riesz sur les variétés coniques. (English and French summaries) [The Riesz transform on cones] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 10, 1167–1170. (Gilles Carron) **99k:58192** 58G30 (31B10)

Li, Hong Tao (*with* Sheng, Baohuai; Chen, Guang Rong) Approximation of modified Hermite-Fejér interpolation in Orlicz spaces. (English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 1–5. (Yong Ping Liu) **99k:41036** 41A35 (41A10, 41A25, 46E30)

— (*with* Zhao, Tian Xu; Hao, Yue[2]) Some approximation results in stochastic programming. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 39–43. 90C15

Li, Hong Xing Factor spaces and a mathematical framework for knowledge representation—more precise feedback extension and representation of connotation. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 30–38. 68T30

— Factor spaces and a mathematical frame of knowledge representation—DFE decision and composition of states of factors. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 12–20. 68T30

— Interpolation mechanism of fuzzy control. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 3, 312–320. 93C42 (03E72)

— Adaptive fuzzy controllers based on variable universe. (English summary) *Sci. China Ser. E* **42** (1999), *no.* 1, 10–20. 93C42 (93C40)

Li, Hong Yun (*with* Shen, Wei Ping) Parallel computing for Padé approximations of one-dimensional partial parabolic equations. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 8, 77–80. 65D15 (41A21, 65Y05)

Li, Hongbo Hyperbolic geometry with Clifford algebra. (English summary) *Acta Appl. Math.* **48** (1997), *no.* 3, 317–358. (M. C. Chaki) **99f:51030** 51M10 (51M25)

— Geometric algebra and Lobachevski geometry. (English summary) *Clifford algebras and their application in mathematical physics* (*Aachen*, 1996), 239–245, *Fund. Theories Phys.*, 94, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:00022**) 51M09

— (*with* Cheng, Min De) Ordering in automated theorem proving of differential geometry. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 4, 358–362. (Vladislav Goldberg) **99m:53002** 53–04 (03B35, 68T15)

Li, Hongxiang (*with* Zhang, Zhong Fu; Liu, Lin Zhong[2]; Wang, Jianfang) A note on the total chromatic number of Halin graphs with maximum degree 4. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 23–27. (Summary) **99c:05076** 05C15

Li, Hongyi (*with* Maddala, G. S.) Bootstrap based tests in financial models. *Statistical methods in finance*, 463–488, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62054** 62G09 (62P20, 90A09)

— (*with* Maddala, G. S.) Bootstrapping cointegrating regressions. (English summary) *J. Econometrics* **80** (1997), *no.* 2, 297–318. (Summary) **99a:62156** 62P20 (62M10)

— *see also* **Hinkley, David, 99a:62157**

Li, Hongyi (*with* Hong, Yi Guang) Nonlinear H_∞ control and related problems of homogeneous systems. (English summary) *Internat. J. Control* **71** (1998), *no.* 1, 79–92. (Peng Shi) **99f:93044** 93B36

Li, Horng-Jaan (*with* Yeh, Cheh-Chih) Oscillation criteria for second-order neutral delay difference equations. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 123–132. (Summary) **99k:39054** 39A11 (39A10)

— (*with* Yeh, Cheh-Chih) Oscillation and nonoscillation criteria for second order linear differential equations. (English summary) *Math. Nachr.* **194** (1998), 171–184. (Ondřej Došlý) **99k:34069** 34C10

Li, Hou Qiang (*with* Li, Xian Bin; Dai, Guo Ren) Qualitative analysis of a predator-prey system with group defense. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 127–138. (Summary) **99h:92030** 92D25 (34C05, 92D40)

Li, Hsiang-nan Unified derivation of evolution equations. (English summary) *Chinese J. Phys.* **37** (1999), *no.* 1, 8–24. 35Q40

Li, Hu (*with* Jing, Sicong; Liao, Zhisheng) Power series expansions for vacuum projection operator of paraparticles. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 4, 615–616. 81S05

Li, Hua (*with* Su, Cheng; Xu, Ying Qing; Liu, Shen Quan[1]; Li, Dong Guo) Necessary and sufficient condition of positive root number of perspective-three-point problem. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 12, 1084–1095. 68U10 (68T10)

Li, Hua Gai A sufficient condition for recurrence of multidimensional Markov processes of OU type. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 415–420. (Summary) **99m:60107** 60J25

Li, Huai En (*with* Yuan, Jin Jiang; Lin, Yi Xun) The topological bandwidths of some graphs. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 13–17. (Summary) **99a:05129** 05C78

Li, Huaizhong (*with* Fu, Minyue; Niculescu, Silviu-Iulian) Robust stability and stabilization of time-delay systems via integral quadratic constraint approach. (English summary) *Stability and control of time-delay systems*, 101–116, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D09 (34K35, 93D15)

— (*with* Niculescu, Silviu-Iulian; Dugard, Luc; Dion, Jean-Michel) Robust guaranteed cost control for uncertain linear time-delay systems. (English summary) *Stability and control of time-delay systems*, 283–301, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93C30 (93B35)

— (*with* Niculescu, Silviu-Iulian; Dugard, Luc; Dion, Jean-Michel) Robust guaranteed cost control of uncertain linear time-delay systems using dynamic output feedback. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 349–358. (*see* **99a:93005**) 93B35 (93C41)

Li, Huan Yin (*with* Guo, Qing Yi) Stability of a class of neutral linear control systems. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 6, 42–46. (Summary) **99b:34130** 34K35 (34K20, 93D20)

Li, Huashan (*with* Qi, Dongxu; Ding, Wei) A new image transformation scheme and digital approximation between different pictures. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 465–469, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 68U10 (94A05)

Li, Hui (*with* Li, Shuo-Yen Robert; Koo, Gar Man) An algorithm for the construction of concentrators from 2×2 sorters. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 197–219, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10

Li, Hui Shi A survey of research on Weyl algebras. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 103–121. (Summary) **99g:16031** 16S32

— (*with* Van Oystaeyen, Freddy) Reductions and global dimension of quantized algebras over a regular commutative domain. *Comm. Algebra* **26** (1998), *no.* 4, 1117–1124. (Surender K. Jain) **99c:16008** 16E10 (16P60)

Li, Huiru (*with* Fan, Qinjie; Zhai, Yanhui) Topological entropy for solutions of p-order Feigenbaum's functional equations. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 328–334. (Witold Jarczyk) **99f:39034** 39B12 (26A18, 39B22, 58F08)

Li, J. *see* **Li, Jerome**

Li, J. J. *see* **Li, Jiyue J.**

Li, J. W. *see* **Li, Jing Wen[2]**

Li, Jerome (*with* Javidi, B.; Towghi, Nasser) Decision regions of Fourier-plane nonlinear filtering for image recognition. (English summary) *J. Opt. Soc. Amer. A* **16** (1999), *no.* 1, 85–96. (Summary) **99j:78008** 78A10

Li, Ji Bin (*with* He, Xue-zhong; Ge, Wei Gao) Multiple periodic solutions of differential delay equations $x'(t) = \mp \sum_{i=1}^{n-1} \delta_i f(x(t - r_i))$ with $\delta_i = \pm 1$. *Differential equations and applications (Hangzhou, 1996)*, 176–182, *Internat. Press, Cambridge, MA*, 199?. (*see* **99b:00013**) 34K15 (34C25)

— (*with* Cao, Jin De; Lin, Yiping) An applicable formula for the Hopf bifurcation direction of four-dimensional systems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 304–309, *World Sci. Publishing, River Edge, NJ*, 1998. (Introduction) **99j:34053** 34C23 (34C25, 58F14)

— (*with* Cao, Jin De; Wan, Shidong) Periodic solutions of a class of forced second order Hamiltonian systems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 310–315, *World Sci. Publishing, River Edge, NJ*, 1998. (Anna Germinario) **99j:34057** 34C25 (58E05, 58F22, 70H05)

— (*with* Zhao, Xiao Hua) Periodic solutions and heteroclinic cycles in the convection model of a rotating fluid layer. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 35–45, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Mikhail Zaks) **99g:76139** 76R10 (34C37, 35Q35, 58F40, 76E15)

— (*with* Liu, Zheng-rong; Cao, Hongjun) Conditions for identity of bifurcations in cubic Hamiltonian systems with symmetry or nonsymmetry perturbations. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 57–61, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Henryk Żołądek) **99d:34044** 34C05 (34C23, 58F21)

— (*with* Jia, Zhiyuan) Existence of periodic solution of a neuronic equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 196–203. (Summary) **99j:92002** 92C20 (34C25)

— (*with* Liu, Zheng-rong) On the connection between two parts of Hilbert's 16th problem and equivariant bifurcation problem. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 224–235. (Douglas S. Shafer) **99e:34030** 34C05 (34C23, 58F21)

— (*with* Zhao, Guangyu) Chaotic behavior of a system of uniform web. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 446–453. (Summary) **99e:58131** 58F13 (34C23, 58F40, 70K50, 78A35)

— (*with* Zhou, Dong Ming[2]; Cao, Jin De) Stability analysis of Hopfield neural networks with delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 460–467. (Summary) **99e:34111** 34K20 (92B20)

— (*with* Cao, Jin De) The stability in neural networks with interneuronal transmission delays. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 5, 457–462; *translated from Appl. Math. Mech.* **19** (1998), *no.* 5, 425–430 (*Chinese. English and Chinese summaries*). (Summary) **99e:34105** 34K20 (92B20)

— (*with* Christie, John Robert; Gopalsamy, K.) Perturbed generalised Hamiltonian systems and some advection models. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 1–24. (Darryl D. Holm) **99m:76038** 76C05 (34C99, 58F30, 76D99, 76E99)

— (*with* He, Xue-zhong) Multiple periodic solutions of differential delay equations created by asymptotically linear Hamiltonian systems. *Nonlinear Anal.* **31** (1998), *no.* 1-2, 45–54. (Michele Matzeu) **99a:34193** 34K15 (34C25, 58F22)

— (*with* He, Xue-zhong; Liu, Zheng-rong) Hamiltonian symmetric groups and multiple periodic solutions of differential delay equations. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 457–474. (Frederick R. Marotto) **99j:34102** 34K15 (34C25, 58F05)

Li, Ji Cheng (*with* Cheng, Guo Sheng; Yang, Xiao Bin) Two-parameter set-valued martingales. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 129–131. 60G44

Li, Ji Chun Global pointwise error estimates for uniformly convergent finite element methods for the elliptic boundary layer problem. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 1, 59–67. (Summary) **99d:65324** 65N30 (65N15)

— (*with* Navon, I. M.) Uniformly convergent finite element methods for singularly perturbed elliptic boundary value problems: convection-diffusion type. (English summary) *Comput. Methods Appl. Mech. Engrg.* **162** (1998), *no.* 1-4, 49–78. (Martin Stynes) **99f:65172** 65N30

Li, Ji Feng (*with* Zhou, Shao Sheng; Chen, Wei Tian; Chu, Xue Dao) A robust adaptive pole assignment algorithm for multivariable discrete systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 8–13. 93B55 (93C55)

Li, Jia[2] (*with* Hyman, James M.) Disease transmission models with biased partnership selection. (English summary) Volterra centennial (Tempe, AZ, 1996). *Appl. Numer. Math.* **24** (1997), *no.* 2-3, 379–392. (Ralf-Dieter Hilgers) **99d:92041** 92D30 (34C99)

— (*with* Castillo-Chavez, Carlos; Huang, Wenzhang) The effects of females' susceptibility on the coexistence of multiple pathogen strains of sexually transmitted diseases. (English summary) *J. Math. Biol.* **35** (1997), *no.* 5, 503–522. (Summary) **99b:92021** 92C60

— (*with* Hyman, James M.) Modeling the effectiveness of isolation strategies in preventing STD epidemics. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 912–925 (*electronic*). (Summary) **99c:92052** 92D30 (34D20, 58F40)

Li, Jia Yu[1] (*with* Ding, Weiyue; Jost, Jürgen; Wang, Guofang) An analysis of the two-vortex case in the Chern-Simons Higgs model. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 1, 87–97. (Yisong Yang) **99c:58039** 58E15 (35Q40)

— (*with* Tian, Gang) A blow-up formula for stationary harmonic maps. *Internat. Math. Res. Notices* **1998**, *no.* 14, 735–755. (Martin Fuchs) **99d:58049** 58E20

Li, Jia Yun (*with* Hu, Nai Xin) Two-dimensional δ-functions and their application in electromagnetic theory. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 57–62. 78A25

Li, Jian[3] (*with* Guo, Ben Yu; Cao, Wei-ming) Fourier-Chebyshev pseudospectral method for three-dimensional vorticity equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 417–436. (Timothy Nigel Phillips) **99j:76093** 76M25 (65N35, 76D05)

— (*with* Sun, Wei Wei) Spectral method of decoupling the vorticity and stream function for the incompressible fluid flows. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 35–40. (Summary) **99j:76094** 76M25 (65M70)

Li, Jian Feng (*with* Xu, Ming Tian; Cheng, Delin) Non-linear vibration by a new method. (English summary) *J. Sound Vibration* **215** (1998), *no.* 3, 475–487. (Summary) **99d:70035** 70K40 (34C15)

Li, Jian Hua[1] Hypersurfaces of Riemannian manifolds with a quarter-symmetric metric connection. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 1, 101–104. (Yi Bing Shen) **99e:53019** 53B25 (53B05)

Li, Jian Kui A remark on complete positivity of elementary operators. (English summary) *Integral Equations Operator Theory* **28** (1997), *no.* 1, 110–115. (Martin Mathieu) **99b:47052** 47B47 (46L05)

— Some properties of pentagon subspace lattices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 266–270. (Summary) **99a:47069** 47D25

— Approximate reflexivity and heredity of subspaces of operators. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 2, 151–156. (Summary) **99g:47104** 47D15 (47A15, 47D25)

— Some properties of prereflexive subspaces of operators. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 3, 565–570. (Victor S. Shul'man) **99f:47051** 47D15 (47A15)

— Complete positivity of elementary operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 235–239. (Martin Mathieu) **99b:47053** 47B47 (46L05)

Li, Jian-Lin (*with* Srivastava, Hari M.) Some questions and conjectures in the theory of univalent functions. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 1035–1041. (Frode Rønning) **99i:30021** 30C45

— (*with* Srivastava, Hari M.; Zhang, Yu-Lin) A certain class of analytic functions defined by means of the Ruscheweyh derivative. (English summary) *Complex Variables Theory Appl.* **38** (1999), *no.* 1, 85–93. (Summary) **99m:30022** 30C45

— Notes on Ruscheweyh's multiplier conjecture. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 375–381. (Summary) **99i:30022** 30C45

Li, Jian Qiang (*with* Wang, Lian Fen; Hao, Gang) A convex cone model for interval judgments in the analytic hierarchy process. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 39–48. 90A05 (93A13)

Li, Jian Qiu (*with* Zhang, Huan Jiong) Global existence and blow-up of solutions to a class of nonlinear parabolic equations. (Chinese. English and Chinese summaries) *J.*

Hangzhou Univ. Natur. Sci. Ed. **25** (1998), *no.* 3, 26–31. (Summary) **99m:35131** 35K60 (35B40)

Li, Jian Quan[1] (*with* Ma, Zhi En) The existence and uniqueness of limit cycles for a class of cubic systems. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 16–18. 34C05

Li, Jian-Shu (*with* Harris, Michael) A Lefschetz property for subvarieties of Shimura varieties. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 1, 77–122. (Conjeeveram S. Rajan) **99e:14027** 14G35 (11G18, 14F25)

Li, Jiang (*with* Peng, Qun Sheng) A new ray tracing method based on the special theory of relativity. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 800–806. 83A05 (68U05)

Li, Jianming (*with* Feng, Bo; Song, Xingchang) The reduction of differential calculus on direct product group. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 2, 257–262. (Andrzej Sitarz) **99m:58020** 58B30

— (*with* Song, Xingchang) Reconstruction of SU(5) grand unified model in noncommutative geometry approach. (English summary) *Eur. Phys. J. C Part. Fields* **1** (1998), *no.* 3-4, 721–728. (Summary) **99e:81260** 81V22 (58B30)

Li, Jianping Cycles containing many vertices of subsets in 1-tough graphs with large degree sums. (English summary) *Ars Combin.* **48** (1998), 195–212. (Feng Tian) **99g:05115** 05C38

Li, Jiayu *see* **Li, Jia Yu**[1]

Li, Jie (*with* Furstenberg, Eric; Schneider, Jodi) Stick knots. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 561–568. (Sergei K. Lando) **99g:57007** 57M25

Li, Jie (*with* Tang, Ze Sheng) Real-time continuous multiresolution rendering of 3D complex models. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 481–491. 68U05 (65T20)

Li, Jie Hong Generalized eigenvalue inverse problems for a special class of matrices. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 111–116. 15A18

Li, Jiequan (*with* Chen, Shao Zhong[1]; Zhang, Tong[1]) Explicit construction of measure solutions of Cauchy problem for transportation equations. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1287–1299. (Vladimir V. Shelukhin) **99b:35181** 35Q53 (35C05, 76N10)

Li, Jijuan (*with* Zeng, Xiping; Ruan, Jiong; Huang, Zhen Xun) An improved strategy in controlling chaotic dynamics to any desired orbit. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 1, 31–35. 93C10 (34H05, 58F13)

Li, Jin Jin (*with* Li, Zhao Wen) A note on *Lindelöf spaces. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 123–125. 54D20

— Some properties of strongly l-starcompact spaces. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 350–352. 54D30

Li, Jin Qi (*with* Xu, Yong Hua[1]) Smash coproduct and braided groups in braided monoidal category. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 11, 1121–1128. (Summary) **99a:18003** 18D10

— (*with* Wang, Ding Guo) Coalgebras and Morita-Takeuchi contexts. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 569–576. (Fang Li) **99g:16050** 16W30

— (*with* Wang, Shuan Hong) On twisted smash products for bimodule algebras and the Drinfeld double. (English summary) *Comm. Algebra* **26** (1998), *no.* 8, 2435–2444. (Akira Masuoka) **99d:16032** 16S40 (16W30)

Li, Jing Quan (*with* Yao, Huan Min; Liu, Chong Hua) A theoretical proof for a construction of essentially nonoscillatory schemes with higher-order accuracy. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 7–14. 65M12

Li, Jing Wen (*with* Su, Wen Long; Luo, Hai Peng) Lower bounds for the Ramsey numbers $R(7,18)$, $R(7,19)$, $R(7,20)$ and $R(7,21)$. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **17** (1998), *no.* 1, 106–108. 05C55

Li, Jing Wen[2] (*with* Wang, Zhi Cheng[1]; Zhang, Hong Qiang) Oscillation of neutral delay difference equations. (English summary) *Differential Equations Dynam. Systems* **4** (1996), *no.* 1, 113–121. (Summary) **99h:39006** 39A10

— (*with* Xu, Wang Wen) Global attractivity of the model for the survival of red blood cells with several delays. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 357–363. (Summary) **99i:92004** 92C30 (34K20)

Li, Jinlu Asymptotic equivalence of sequences and summability. (English summary) *Internat. J. Math. Math. Sci.* **20** (1997), *no.* 4, 749–757. (Summary) **99c:40006** 40D20

Li, Jinming (*with* Cai, Suilin) Global analyses of a class of cubic systems. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 207–220. (Introduction) **99h:34047** 34C05 (58F21)

Li, Jiong Sheng (*with* Wang, Xinmao) Lower bound of the sum of positive eigenvalues of a graph. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 443–446. (Summary) **99i:05140** 05C50

— (*with* Song, Zi-Xia; Wang, Ping[1]) The Erdős-Jacobson-Lehel conjecture about potentially P_k-graphic sequences. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 1, 1–9. (Xue Liang Li) **99e:05075** 05C35

— (*with* Zhang, Xiao Dong[1]) The two largest eigenvalues of Laplacian matrices of trees. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 5, 513–518. 05C50

— Kronecker products of positive semidefinite complex matrices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 562–564. (Summary) **99j:15028** 15A48

— Semi-positive definite complex matrices. (Chinese. Chinese summary) *J. Math. Study* **31** (1998), *no.* 2, 207–211. (Yao Zhang) **99h:15019** 15A48 (15A21)

— (*with* Zhang, Xiao Dong[1]) On the Laplacian eigenvalues of a graph. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 305–307. (Summary) **99g:05133** 05C50

— (*with* Song, Zi-Xia; Luo, Rong) The Erdős-Jacobson-Lehel conjecture on potentially P_k-graphic sequence is true. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 510–520. (Jenő Lehel) **99j:05110** 05C35

— (*with* Song, Zi-Xia) On the potentially P_k-graphic sequences. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 255–262. (Summary) **99i:05195** 05C99

Li, Jiu Ping (*with* Cao, Qing Jie; Zhang, Tian De; Price, G. W.; Djidjeli, K.; Twizell, E. H.) Soliton solutions of a class of generalized N-dimensional nonlinear Schrödinger equations and their properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 11, 2166–2173. (Summary) **99c:35217** 35Q55

Li, Jiyue J. (*with* Tulin, M. P.) On the stability and nonlinear dynamics of ocean-like wave systems with energy continuously distributed in direction. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 59–70. (Summary) **99m:76020** 76B15 (76E20, 76E30, 86A05)

Li, Jun (*with* Sun, Jin Sheng; Wang, Zhi Quan) D-stable robust fault-tolerant control for uncertain discrete systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 636–641. 93C55 (93C41)

Li, Jun[1] (*with* Tian, Gang) Algebraic and symplectic geometry of Gromov-Witten invariants. *Algebraic geometry—Santa Cruz* 1995, 143–170, *Proc. Sympos. Pure Math.*, 62, *Part 2, Amer. Math. Soc., Providence, RI*, 1997. (From the text) **99j:14004** 14C17 (14D20, 14N10, 58D10)

— Compactification of moduli of vector bundles over algebraic surfaces. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 98–113, *World Sci. Publishing, River Edge, NJ*, 1997. (Kieran G. O'Grady) **99e:14009** 14D20 (14J60)

— The first two Betti numbers of the moduli spaces of vector bundles on surfaces. *Comm. Anal. Geom.* **5** (1997), *no.* 4, 625–684. (Kieran G. O'Grady) **99a:14020** 14D20 (14J60)

— (*with* Tian, Gang) The quantum cohomology of homogeneous varieties. *J. Algebraic Geom.* **6** (1997), *no.* 2, 269–305. (Andreas Gathmann) **99b:14060** 14N10 (14M17)

— Anti-self-dual connections and stable vector bundles. *Gauge theory and the topology of four-manifolds* (*Park City, UT*, 1994), 23–49, *IAS/Park City Math. Ser.*, 4, *Amer. Math. Soc., Providence, RI*, 1998. (Daniel Huybrechts) **99e:53025** 53C07 (32L07)

— (*with* Tian, Gang) Virtual moduli cycles and Gromov-Witten invariants of algebraic varieties. *J. Amer. Math. Soc.* **11** (1998), *no.* 1, 119–174. (Ralph Martin Kaufmann) **99d:14011** 14D20 (14D15, 14N10)

Li, Jun[5] (*with* Tang, Min; Hu, Zhan Yi) A comparison between the randomized Hough transformation and the Tabu search algorithm in geometric primitive extraction. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **22** (1999), *no.* 1, 56–65. 90C27 (68T10, 68U10)

Li, Jun[6] A note on partial meet package contraction. (English summary) *J. Logic Lang. Inform.* **7** (1998), *no.* 2, 139–142. (David Makinson) **99f:03029** 03B60 (03B70, 68T27)

Li, Jun Feng (*with* Li, Tie Cheng[2]; Wang, Zhao Lin) Output regulation of the general nonlinear discrete-time system. *Appl. Math. Mech. (English Ed.)* **20** (1999), *no.* 2, 200–204; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 187–191 (*Chinese. English and Chinese summaries*). 93B50 (93C55)

Li, Jun Jie[3] Existence of C^1-solutions to certain non-uniformly degenerate elliptic equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 9–24. (Summary) **99b:35078** 35J70 (35D05, 35J65)

— Local behaviour of solutions of anisotropic elliptic equations. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 617–628. 35J60 (35B65, 35D10)

Li, Junfang (*with* Srivastava, Jagdish N.) Optimal 2^n factorial designs of parallel flats type. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2473–2488. (D. V. Chopra) **99a:62108** 62K05 (62K15)

— Orthogonal factorial design of parallel flats type and its application in biomedical research. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **73** (1998), *no.* 1-2, 61–75. (Summary) **99g:62118** 62K15

Li, Junhua (*with* Fang, Jin Xuan) On the variational principle and fixed point theorem in F-type topological spaces. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 290–294. 54H25

Li, K. *see* **Li, Keqin**

Li, Kai-tai (*with* Zhou, Lei) Finite element nonlinear Galerkin methods for penalty Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sinica* **17** (1995), *no.* 4, 360–380. (Summary) **99i:76125** 76M25 (65M60, 76D05, 76M10)

— (*with* He, Yin Nian) Stokes coupling method for the exterior flow. II. Well-posedness analysis. (English summary) *Acta Math. Sci. (English Ed.)* **16** (1996), *no.* 4, 442–457. (Summary) **99g:35104** 35Q30 (76D05)

— (*with* Zhang, Wu) The Navier-Stokes equation on the stream surface and the inertial form. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **13** (1996), *no.* 5, *suppl.*, 90–103. (Shouhong Wang) **99a:76037** 76D05 (35Q30, 58G40)

— (*with* Yang, Xiao Zhong) Galerkin schemes for mathematical models of groundwater pollution and their analysis. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 67–72, 106. (Summary) **99c:76072** 76M10 (65M60, 76S05, 86A05)

— (*with* Hua, Cun Cai; Ma, Yi Chen) Petrov-Galerkin methods for the stationary Navier-Stokes equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 23–29. (Long An Ying) **99d:65319** 65N30 (35Q30, 76D05)

— (*with* Shi, Dong Yang; Feng, Weibing) Nonconforming finite element penalty method for Stokes equation. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117–118. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 53–58. (Summary) **99b:65148** 65N30 (76D05, 76M10)

— (*with* Yang, Xiao Zhong) Generalized solution to the mathematical modeling of phreatic water pollution. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 119–126. (Summary) **99d:76094** 76S05 (35Q35, 86A05)

— (*with* Zhang, Quan De) Existence and nonexistence of global solutions for the equation of dislocation of crystals. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 5–21. (Fumioki Asakura) **99k:35125** 35L70 (35Q40, 73C99, 73V25)

— (*with* Hu, Changbing) The stability of Navier-Stokes equations and the estimation of its attractor dimension. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 2, 125–136. (Alp O. Eden) **99d:35127** 35Q30 (34G20, 35B40, 47H20, 58F39, 76D05)

— (*with* He, Yin Nian; Huang, Ai Xiang) The stability and convergence of an inertial algorithm. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 239–250. (Summary) **99m:65170** 65M12 (65J15)

— (*with* He, Yin Nian) Convergence and stability of finite element nonlinear Galerkin method for the Navier-Stokes equations. (English summary) *Numer. Math.* **79** (1998), *no.* 1, 77–106. (Andrei I. Tolstykh) **99c:65165** 65M12 (65M60, 76D05, 76M10)

— (*with* Chen, Gu Ding) Fictitious domain methods for Navier-Stokes equations based on penalty factor ϵ. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **7** (1998), *no.* 2, 221–236. 65N30 (76D05, 76M25)

— (*with* Zhang, Quan De) Global solutions and blow up for activator inhibitor model. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 3, 238–244. (Summary) **99h:92009** 92C15

— (*with* Hou, Yan Ren) An effective nonlinear Galerkin scheme. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 2, 81–85. (Summary) **99d:76076** 76M25 (65M60, 76D05)

— (*with* He, Yin Nian) Optimum finite element nonlinear Galerkin algorithm for the Navier-Stokes equations. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 29–38. (Summary) **99m:65186** 65M60 (76D05, 76M10)

Li, Kang[1] (*with* Naón, Carlos M.) Equivalent bosonic theory for the massive Thirring model with a non-local interaction. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7929–7937. (Summary) **99e:81142** 81T10

Li, Ke Dian Sequence-covering ss-images of a metric space. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 4, 455–458. 54D70 (54E35)

— The strong compact-covering ss-images of metric spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 163–167. (Summary) **99f:54039** 54E45 (54C99, 54D10, 54E35)

Li, Ke-Zheng (*with* Oort, Frans) ★ Moduli of supersingular abelian varieties. Lecture Notes in Mathematics, 1680. *Springer-Verlag, Berlin*, 1998. iv+116 *pp. ISBN* 3-540-63923-3 (Ben Moonen) **99e:14052** 14K10 (11G10, 14L05)

Li, Ken S. (*with* Elnagar, Gamal N.) A collocation method for solving non-linear optimal control problems. (English summary) Differential equations and dynamical systems (Waterloo, ON, 1997). *Dynam. Contin. Discrete Impuls. Systems* **5** (1999), *no.* 1-4, 67–79. (*see* **99m:34001**) 49M30 (65L60)

Li, Keqin An efficient job scheduling algorithm in partitionable mesh connected systems. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 1–15 (*electronic*). (*see* **99g:68005**) 68M20

— Massively parallel computation on molecular computers. (English summary) Proceedings of the 8th International Conference of Computing and Information, ICCI'96 (Waterloo, ON). *J. Comput. Inf.* **2** (1996), *no.* 1, 453–469 (*electronic*). (*see* **99g:68005**) 68Q05 (92D20)

— Average-case performance analysis of an approximation algorithm for maximum subset sum using recurrence relations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 63–75. (José F. Fontanari) **99g:90097** 90C27 (68Q25)

— (*with* Pan, Yi; Zheng, Si-Qing) Fast nearest neighbor algorithms on a linear array with a reconfigurable pipelined bus system. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 1–25. (Summary) **99g:68211** 68U05 (68Q22)

Li, Ker-Chau (*with* Chen, Chun-Houh) Can SIR be as popular as multiple linear regression? (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 289–316. (Summary) **99a:62089** 62J05

— *see also* **Cook, R. Dennis, 99a:62092**

Li, Kim-Hung (*with* Chan, Nai N.; Wong, Koon-Sun) E-optimality for regression designs under correlations. (English summary) *Statist. Sinica* **8** (1998), *no.* 2, 535–542. (Christos P. Kitsos) **99g:62109** 62K05

Li, Kin Y. (*with* Guillory, Carroll) Algebras of Blaschke products unimodular on trivial parts. (English summary) *Complex Variables Theory Appl.* **35** (1998), *no.* 4, 307–318. (Summary) **99e:46064** 46J15 (30D50)

Li, L. *see* **Li, Linzhong**

Li, La Yuan Research on formal models of communication protocols. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 5, 419–427. 68Q10 (68Q55)

Li, Lang (*with* Koltchinskii, Vladimir I.) Testing for spherical symmetry of a multivariate distribution. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 228–244. (Miguel A. Arcones) **99e:62105** 62H15 (62G09)

Li, Lei (*with* Ren, Yuhe) An approximate solution of integral equation for radiative heat exchange. (English summary) *Information* **1** (1998), *no.* 2, 23–31. (Summary) **99h:80006** 80A20 (45B05, 80–08)

— (*with* Zhang, Bao Lin[1]) A parallel algorithm for solving the implicit diffusion difference equations. (English summary) *Int. J. Comput. Math.* **67** (1998), *no.* 3-4, 435–440. 65Q05 (65Y05)

Li, Lei Min (*with* Li, Zhong Li; Huang, Yu Qing) A robust self-tuning controller with unmodeled dynamics and its stability analysis. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 156–160. 93D21 (93C99)

Li, Li (*with* Dalrymple, Robert A.) Instabilities of the undertow. (English summary) *J. Fluid Mech.* **369** (1998), 175–190. (Summary) **99g:76057** 76E20 (76–05, 76C05, 86A05)

Li, Li[3] (*with* Zhou, Yi Feng; Xie, Liu Hui) An energy-iteration method for periodic solutions of a class of strongly nonlinear systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 26–30, *III.* 34C25 (70K99)

— (*with* Yuan, Li Hong) Periodic solutions of second-order parametric systems under external excitation and their stability. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 36–42, *III.* 70K40 (34C25, 70K20)

Li, Li[4] Using nontrivial idempotent matrices over finite fields to construct Cartesian authentication codes. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 487–490. (Summary) **99k:94038** 94A60 (15A33)

Li, Li Kang (*with* Babuška, Ivo M.; Chen, Jiun-Shiyan) The boundary layer for p-model plate problems. I. Asymptotic analysis. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 181–201. (From the summary) **99c:73043a** 73K10 (73V05)

— (*with* Babuška, Ivo M.; Chen, Jiun-Shiyan) The boundary layer for p-model plate problems. II. Boundary layer behavior. (English summary) *Acta Mech.* **122** (1997), *no.* 1-4, 203–216. (Summary) **99c:73043b** 73K10 (73V05)

— (*with* Chen, Jin-ru) Preconditioning projection nonconforming element method for the lowest-order Raviart-Thomas mixed triangular element method. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 1, 31–49. (Hans-Peter Helfrich) **99j:65200** 65N30

— (*with* Xu, Xue Jun) A V-cycle multigrid method and additive multilevel preconditioners for the plate bending problem discretized by conforming finite elements. (English summary) *Appl. Math. Comput.* **93** (1998), *no.* 2-3, 233–258. (Harry Yserentant) **99f:73084** 73V05 (65N55, 73K10)

— (*with* Bi, Chunjia) Superconvergence analysis of least-squares mixed finite element method for second-order non-self-adjoint two-point boundary value problems. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 11, 1027–1037. (Summary) **99g:65108** 65N30 (65L60)

— (*with* Gao, Qing) An additive Schwarz method for plate bending problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **155** (1998), *no.* 3-4, 261–271. (Juhani Pitkäranta) **99c:73079** 73V05 (65F10, 65N30, 73K10)

— (*with* Zhang, Lin[4]) Some superconvergence results of Wilson-like elements. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 81–96. (Tsorng-Whay Pan) **99c:65221** 65N30 (65N15)

Li, Li-Xin (*with* Gott, J. Richard, III) Can the Universe create itself? (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 023501, 43 *pp.* (Summary) **99k:83137** 83F05

Li, Liang (*with* Zhu, Fang Sheng) A stability analysis for implementation of implicit Runge-Kutta methods. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 7–10. 65L06

Li, Liang (*with* Yang, Guo Wei[1]) An assignment method for IPUs in distributed systems. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 3, 259–266. 68M20 (68Q10)

Li, Liangqing Simple inductive limit C^*-algebras: spectra and approximations by interval algebras. (English summary) *J. Reine Angew. Math.* **507** (1999), 57–79. (Summary) **99k:46099** 46L05

Li, Liangying (*with* Tang, Linwei) Note on the oscillation of the solution for generalized Liénard equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 219–223. (Summary) **99e:34037** 34C10

Li, Lide (*with* Ogihara, Mitsunori; Regan, Kenneth W.) On information from #P functions. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 280–295 (*electronic*). (*see* **99f:68006**) 68Q15

Li, Lijuan (*with* Ruan, Jiong) An improved method in synchronization of chaotic systems. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 3, 140–143. 58F13

Li, Liming (*with* Spanier, Jerome) Approximation of transport equations by matrix equations and sequential sampling. (English summary) *Monte Carlo Methods Appl.* **3** (1997), *no.* 3, 171–198. (Pierre Hillion) **99a:65015** 65C05 (45L05)

Li, Lin[1] (*with* Tang, Xin Yi) Qualitative analysis of a class of biochemical reaction models. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 75–80. (Lan-Sun Chen) **99i:92005** 92C40 (34C05, 34D20, 92E20)

Li, Ling Zhi Admissible and asymptotically optimal empirical Bayes estimation of the Poisson distribution parameter. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 461–465. (Summary) **99k:62012** 62C12 (62C15, 62F10)

Li, Linxiong (*with* Watkins, Terry; Yu, Qiqing) An EM algorithm for smoothing the self-consistent estimator of survival functions with interval-censored data. (English summary) *Scand. J. Statist.* **24** (1997), *no.* 4, 531–542. (Uttara V. Naik-Nimbalkar) **99j:62141** 62N05 (62G05, 65U05)

— Estimating the point availability with right-censored data. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 119–127. (Rudolf Grübel) **99k:60221** 60K10 (62G05, 90B25)

Li, Linzhong (*with* Walker, J. D. A.; Bowles, R. I.; Smith, Frank T.) Short-scale break-up in unsteady interactive layers: local development of normal pressure gradients and vortex wind-up. (English summary) *J. Fluid Mech.* **374** (1998), 335–378. (Murad Brutyan) **99k:76047** 76D10 (76F99, 76M25)

Li, Lode (*with* Lederer, Phillip J.) Pricing, production, scheduling, and delivery-time competition. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 407–420. (Summary) **99j:90020** 90A12 (90B30)

Li, Longtu (*with* Qian, Xiang Zheng; Wang, Zhi Cheng[1]) Existence results for second order Volterra integrodifferential equations with deviating arguments. (English summary) *Math. Slovaca* **47** (1997), *no.* 5, 553–562. (George Karakostas) **99g:45009** 45J05 (34K10, 47H10)

— Global asymptotic stability of $x_{n+1} = F(x_n)g(x_{n-1})$. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 518–525. (Summary) **99k:39023** 39A10 (39A12)

Li, Luen-Chau The SVD flows on generic symplectic leaves are completely integrable. *Adv. Math.* **128** (1997), *no.* 1, 82–118. (From the introduction) **99c:58058** 58F05 (58F07)

Li, Lunhuan The singular integral of an analytic polyhedron. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 359–365. (Harold P. Boas) **99k:32004** 32A25

Li, Luo Luo On marginal singular values on Gerschgorin-type intervals. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 2, 102–104. 15A18

— (*with* Li, Sai Jian) Brauer-type theorems for estimating singular values of a matrix. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 4, 43–45. (Summary) **99k:15017** 15A18

— An improvement on Ky Fan's theorem of matrix eigenvalues. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 111–117. (M. L. Mehta) **99d:15006** 15A18

— The undirected graph and estimates of matrix singular values. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 181–188. (Thomas H. Foregger) **99i:15017** 15A18 (05C50)

— New necessary conditions for multiplicative inverse eigenvalue problem. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 313–319, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99i:15018** 15A18 (65F15)

Li, Luoqing (*with* Yang, Ruyue; Chen, Di-Rong) Strong approximation by Riesz means on compact symmetric spaces. (English and Chinese summaries) *J. Math. Res. Exposition* **17** (1997), *no.* 2, 185–189. (A. H. Dooley) **99b:43002** 43A22 (22E30, 43A85, 58G30)

Li, Lushu (*with* Sheng, Zhaohan) The fuzzy set-valued measures generated by fuzzy random variables. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 2, 203–209. (Beloslav Riečan) **99i:28024** 28E10

Li, M. *see* **Li, Miao**[1]

Li, Mei Sheng (*with* Bao, Ji Guang) Strong solutions of obstacle problems for fully nonlinear parabolic equations. (Chinese. English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 3, 284–291. (Li Shang Jiang) **99a:35121** 35K55 (35K85)

— (*with* Bao, Ji Guang) Algebraic curve solutions of Riccati equations and their single-valued groups. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 39–43. (Pei-Chu Hu) **99g:34021** 34A20

— (*with* Bao, Ji Guang) Parabolic Monge-Ampère equations on general domains. II. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 281–284. 35K60

Li, Meng-Rong On the semi-linear wave equations. I. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 329–345. (Pavel Krejčí) **99i:35103** 35L70

Li, Miao[1] 't Hooft vortices on D-branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 7, *Paper* 3, 15 *pp.* (*electronic*). (Summary) **99c:81247** 81T60 (81T13, 81T30)

— 't Hooft vortices and phases of large N gauge theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 8, *Paper* 14, 8 *pp.* (*electronic*). (Summary) **99k:81315** 81T60 (81T13)

— (*with* Ho, Pei-Ming; Wu, Yong Shi[1]) p-p' strings in M(atrix) theory. (English summary) *Nuclear Phys. B* **525** (1998), *no.* 1-2, 146–162. (Marco Spaans) **99f:81163** 81T30 (83E30)

— (*with* Martinec, Emil) Black holes in Matrix theory. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 329–335. (From the introduction) **99i:81195** 81T30 (83C57, 83E30)

— (*with* Awata, Hidetoshi; Chaudhuri, Shyamoli; Minic, Djordje) Many-body dynamics of D0-branes. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 8, 5303–5306. (Summary) **99m:81169** 81T30 (81V70)

Li, Michael Y. (*with* Muldowney, James S.) Poincaré's stability condition for quasi-periodic orbits. (English summary) Geoffrey J. Butler Memorial Conference in Differential Equations and Mathematical Biology (Edmonton, AB, 1996). *Canad. Appl. Math. Quart.* **6** (1998), *no.* 4, 367–381. (Jialin Hong) **99k:34094** 34C27 (34D05)

— (*with* Wang, Liancheng) A criterion for stability of matrices. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 249–264. (Peng Nian Chen) **99g:34110** 34D20 (93D05)

Li, Min Li (*with* Li, Bing Ren) Banach $*$ algebras. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 553–562. (Liang Sen Wu) **99i:46039** 46K05 (46H15)

Li, Min Qiang (*with* Li, Shu Quan; Kou, Ji Song) Random functional analysis for canonical genetic algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 97–101. 90C27 (90C90)

Li, Min Shan (*with* Lü, Xian Qing; Mei, Sheng Wei) Exact solutions in $1+1$ dimensions of the general two-velocity discrete Illner model. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 12, 1197–1203; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1101–1106 (*Chinese. English and Chinese summaries*). (Summary) **99k:82064** 82C40 (35Q99, 76P05)

Li, Ming (*with* Xie, Fuding; Zhang, Yong) Algorithm for finding the solutions of linear ordinary differential equation at a singular point. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **1** (1997), *no.* 1, 121–124. (Summary) **99d:65244** 65L99 (68Q40)

Li, Ming[1] (*with* Kececioglu, John D.; Tromp, John) Inferring a DNA sequence from erroneous copies. (English summary) Algorithmic learning theory (Fukuoka, 1995). *Theoret. Comput. Sci.* **185** (1997), *no.* 1, 3–13. (Satoru Miyano) **99e:92022** 92D20 (68Q30, 68T05)

— (*with* Ma, Bin; Wang, Lusheng) Fixed topology alignment with recombination. (English summary) *Combinatorial pattern matching (Piscataway, NJ, 1998)*, 174–188, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99j:68054** 68Q25 (92D20)

— (*with* Dasgupta, Bhaskar[1]; He, Xin[1]; Jiang, Tao[1]; Tromp, John; Wang, Lusheng; Zhang, Louxin) Computing distances between evolutionary trees. *Handbook of combinatorial optimization, Vol.* 2, 35–76, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90002**) 90C27 (90–02, 90C35)

— (*with* Charikar, Moses; Chekuri, Chandra; Cheung, To-yat; Dai, Zuo; Goel, Ashish; Guha, Sudipto) Approximation algorithms for directed Steiner problems. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms (San Francisco, CA, 1998)*, 192–200, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (05C85, 68R10)

— (*with* Dasgupta, Bhaskar[1]; Jiang, Tao[1]; Kannan, Sampath K.; Sweedyk, Elizabeth) On the complexity and approximation of syntenic distance. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 59–82. (Peter Clote) **99j:92011** 92D20 (68Q25, 68R99, 92D15)

Li, Ming[7] Robust stability of systems with time delay and parameter perturbations. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 969–971. 93D09 (93C30)

— Robust stability of uncertain dynamical systems with time-varying delay. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 5, 511–513. 93D09 (93C30)

Li, Ming-Chia Structural stability on basins for numerical methods. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 289–295. (Peter E. Kloeden) **99b:58152** 58F12 (58F10, 65L05)

Li, Ming Chu On pancyclic claw-free graphs. (English summary) *Ars Combin.* **50** (1998), 279–291. (Summary) **99h:05074** 05C38

— Vertex pancyclism in claw-free graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 151–173. (Zdeněk Ryjáček) **99d:05052** 05C38

— Hamiltonian connectedness in claw-free graphs. (English summary) *Graphs Combin.* **14** (1998), *no.* 1, 45–58. (Zdeněk Ryjáček) **99d:05058** 05C45

Li, Ming Xing (*with* Mu, Yong; Han, Zhi Gang; Huang, Ti Yun) A parametrized approach to the identification of systems with randomly varying structure. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 104–107. 93B35 (93E12)

Li, Ming Zhong (*with* Xu, Ding Hua; Cheng, Jin[2]) On the stability estimation of analytic continuation for potential field. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 6, 563–572; *translated from Appl. Math. Mech.* **19** (1998), *no.* 6, 529–537 (*Chinese. English and Chinese summaries*). (Alexander I. Kheyfits) **99j:35027** 35J05 (30B40, 35B60, 86A20)

— Global solutions for a class of nonlinear first-order elliptic Riemann-Hilbert problems. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 9–11. 35J65 (35J55)

— (*with* Xu, Ding Hua) Non-E_2 class of strongly nonlinear generalised R-H boundary value problems for second-order elliptic system. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 3, 173–181. (Irina Yu. Dmitrieva) **99k:30070** 30E25 (35J25)

— (*with* Wang, Ri Sheng) Convergence of a Tikhonov regularization method and the far field pattern property for acoustic wave scattering in shallow seas and oceans. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 1, 27–37. 65J15 (45L05, 65M12, 76Q05)

— (*with* Song, Jie) Nonlinear Riemann-Hilbert boundary value problems for a class of nth order systems. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 4, 390–397. 35Q15 (30E25, 35C99, 35L99)

Li, Mingche (*with* Perry, Patrick; Lin, Mao-Chao; Zhang, Zhen[1]) Runlength limited codes for single error-detection and single error-correction with mixed type errors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1588–1592. 94A45

Li, Mingyan (*with* Lim, Cheng-Chew) Observability-enhanced proportional navigation guidance with bearings-only measurements. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 4, 497–512. 93C95 (70Q05, 93B07)

Li, N. *see* **Li, Nian**

Li, Nan (*with* Jiang, Chuan Hai; Xu, Yong Qiang) An approximation problem related to neural networks. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 117–122. 41A30

Li, Nian Stability analysis of solutions of reaction-diffusion equations using finite difference methods. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 495–500, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65M06 (35K57, 65M12)

— (*with* Steiner, J. M.; Murphy, J. O.) Overstability of a viscoelastic fluid layer heated from below. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 501–508, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 76E15 (76A10)

— (*with* Yakovenko, N. Y.; Steiner, J. M.) Solving the double eigenvalue problem using the finite element method. *Computational techniques and applications: CTAC*95 (*Melbourne*, 1995), 811–814, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:00035**) 65N30

Li, Ning (*with* Zhang, Nai Yao) Structural analysis of typical fuzzy controllers using different fuzzy control inference methods. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 85–92. 93C42 (93E03)

Li, P. *see* **Li, Ping[5]**

Li, Pan Superquadratic optimal control problems for nonlinear affine systems subject to disturbances. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 659–666. 93B36 (49K15)

Li, Pei Xing (*with* Fan, Jiang Hua; Wang, Ze Ke) An analysis of the computational complexity of the KNA algorithm. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **36** (1997), *no.* 6, 34–37. (Summary) **99a:65198** 65Y20

Li, Peng Tong (*with* Chen, Pei Xin) Finite rank operators and n-reflexivity. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **23** (1997), *no.* 3, 23–25. (Summary) **99j:47062** 47D25 (47A99)

Li, Peter Harmonic functions on complete Riemannian manifolds. *Tsing Hua lectures on geometry & analysis (Hsinchu, 1990–1991)*, 265–268, *Internat. Press, Cambridge, MA*, 1997. (William P. Minicozzi, II) **99e:53053** 53C21 (58G03)

— (*with* Wang, Jiaping) Convex hull properties of harmonic maps. *J. Differential Geom.* **48** (1998), *no.* 3, 497–530. (Man Chun Leung) **99f:58050** 58E20 (53C20)

Li, Ping *see* **Li, Ping[5]**

Li, Ping[1] (*with* Yang, Chung-Chun) On the characteristics of meromorphic functions that share three values CM. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 132–145. (Gary G. Gundersen) **99b:30045** 30D35

— Meromorphic functions sharing three values or sets CM. (English summary) *Kodai Math. J.* **21** (1998), *no.* 2, 138–152. (Chung-Chun Yang) **99h:30032** 30D35

Li, Ping[5] (*with* Uren, Norman F.) Analytical solution for the point source potential in an anisotropic 3-D half-space. I. Two-horizontal-layer case. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 9–27. (Summary) **99a:78020** 78A40 (86A20)

— (*with* Uren, Norman F.) Analytical solution for the point source potential in an anisotropic 3-D half-space. II. With two-vertical boundary planes. (English summary) *Math. Comput. Modelling* **26** (1997), *no.* 5, 29–52. (Summary) **99a:78021** 78A40 (86A20)

— (*with* Uren, Norman F.) Analytical solution for the electric potential due to a point source in an arbitrarily anisotropic half-space. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 2, 129–140. (Summary) **99a:78031** 78A55 (86A20)

Li, Pingkang (*with* Zhu, Guoming G.; Skelton, Robert E.) q-Markov cover identification using pseudo-random binary signals. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1273–1290. 93E12

Li, Q. *see* **Li, Qi[1]**

Li, Q. S. *see* **Li, Qing Shan**

Li, Qi[1] (*with* Ullah, Aman) Estimating partially linear panel data models with one-way error components. (English summary) *Econometric Rev.* **17** (1998), *no.* 2, 145–166. (Summary) **99b:62162** 62P20

— (*with* Wang, Suojin) A simple consistent bootstrap test for a parametric regression function. (English summary) *J. Econometrics* **87** (1998), *no.* 1, 145–165. (Summary) **99e:62068** 62G09 (62P20)

— (*with* Hsiao, Cheng) Testing serial correlation in semiparametric panel data models. (English summary) *J. Econometrics* **87** (1998), *no.* 2, 207–237. (M. P. Moklyachuk) **99k:62207** 62P20 (62G10)

Li, Qi Sheng[1] (*with* Tuo, Qing) Several characterizations of semisimple rings. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 13–15. 16K40

Li, Qian[1] (*with* Chou, So-Hsiang) A mixed finite element approximation for compressible flow of contamination from nuclear waste in porous media. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 2, 146–157. (Summary) **99d:76059** 76M10 (76S05)

— Maximum norm estimates by finite element approximations for linear integrodifferential equations. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 76–81. (Summary) **99h:65218** 65R20

— (*with* Chen, Huan Zhen) Postprocessing for finite element solutions to equations of Sobolev type. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 193–200. 65N30 (65F30)

Li, Qian-Shu (*with* Hu, Xu-Guang) Morse oscillator in a quantum phase-space representation: rigorous solutions. (English summary) *J. Phys. A* **32** (1999), *no.* 1,

139–146. 81S30

Li, Qiao (*with* Luo, Hai Peng; Su, Wen Long) New lower bounds of classical Ramsey numbers $R(6,12)$, $R(6,14)$ and $R(6,15)$. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 817–818. (Summary) **99f:05082** 05C55

— (*with* Wu, Yaokun) On the matrix equation $A^l + A^{l+k} = J_n$. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 41–48. (Tomaž Košir) **99c:15021** 15A24 (05C50)

— (*with* Li, Qiaoliang) Reliability analysis of circulant graphs. (English summary) *Networks* **31** (1998), *no.* 2, 61–65. (Summary) **99b:90065** 90B25 (05C40, 68M15, 90B12)

— (*with* Li, Qiaoliang) Super edge connectivity properties of connected edge symmetric graphs. (English summary) *Networks* **33** (1999), *no.* 2, 157–159. (Summary) **99m:05095** 05C40

Li, Qiaoliang (*with* Li, Qiao) Reliability analysis of circulant graphs. (English summary) *Networks* **31** (1998), *no.* 2, 61–65. (Summary) **99b:90065** 90B25 (05C40, 68M15, 90B12)

— (*with* Li, Qiao) Super edge connectivity properties of connected edge symmetric graphs. (English summary) *Networks* **33** (1999), *no.* 2, 157–159. (Summary) **99m:05095** 05C40

Li, Qiaoluan (*with* Zhang, Zhenguo) Oscillation theorems for second-order advanced functional difference equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 6, 11–18. (Summary) **99i:39023** 39A10

Li, Qing (*with* Zhou, Meilian; Shi, Bao Chang; Wang, Neng Chao) Fast algorithms for Walsh transform in bit-reversed sequency order. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 627–633. 65T20 (42C15)

Li, Qing (*with* Zhou, Mei Lian; Shi, Bao Chang; Wang, Neng Chao) Design of a fast algorithm for Walsh transforms of inverse Walsh sequences. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 482–488. 42C10

Li, Qing Guo (*with* Gao, Xi Kan) The R_0 and R_1 separation axioms in topological De Morgan algebras. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 6, 1–3. 54H12

— The theory of m-convergence in fuzzy topological spaces. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 72–78. 54A40

— (*with* Gao, Xi Kan) A fuzzy fixed point theorem. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 6–8. 54A40 (54H25)

— Two necessary and sufficient conditions for compactness of topological De Morgan algebras. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 8–10. 54H99 (54A40, 54D30)

— The minimal Hausdorff topology of a fuzzy topological space. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 1–5. 54A40

— De Morgan algebra of metric. III. (English summary) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 26–29. 54E40 (54A40)

— De Morgan algebra of minimal Hausdorff topology. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 239–250. 54A40 (54D10)

Li, Qing Shan (*with* Shi, Dong Yang) A new formulation for constructing rectangular plate elements with eight degrees of freedom. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 8–12. (Summary) **99c:65207** 65N30

— (*with* Chen, Shao Chun) Results on error estimates for Morley's element. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 1–4. 65N30

— (*with* Fang, J. Q.; Jeary, A. P.) A new function transform technique for the solution of FEM dynamic equations. (English summary) *Comput. & Structures* **70** (1999), *no.* 3, 345–355. (Summary) **99j:73112** 73V20 (65N30, 73K12)

Li, Qing Yang (*with* Cao, Yang[2]) Nonlinear Runge-Kutta methods for solving differential-algebraic equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **18** (1997), *no.* 4, 276–287. (Summary) **99c:65132** 65L06

— (*with* Cao, Yang[2]) Highest order multistep formula for solving index-2 differential-algebraic equations. (English summary) *BIT* **38** (1998), *no.* 4, 663–673. (Summary) **99i:65065** 65L05 (34A09, 34A45)

— (*with* Deng, Ling) A 2-step nonlinear conjugate gradient (NCG) method. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 1–9. (Jingzhong Zhang) **99j:65093** 65H10

— (*with* Liao, Wenyuan) A class of mixed type methods for solving stiff ODEs and their parallel implementation. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1221–1226, 1232. (Summary) **99j:65117** 65L05

— (*with* Cao, Yang[2]) Predictor-corrector formula for solving index-2 differential-algebraic equations. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 65–74. (Summary) **99m:65152** 65L99

Li, Qing Zhong The construction of heat kernels in quaternionic classical domains. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 368–370. 58G11 (32M15)

Li, Qingguo (*with* Tong, Shao Cheng; Chai, Tian You) Fuzzy adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 1, 31–39. 93C42 (93C40)

Li, Qingnan (*with* Wang, Xin[2]; Blum, Edward K.) Consistency of local dynamics and bifurcation of continuous-time dynamical systems and their numerical discretizations. (English summary) *J. Differ. Equations Appl.* **4** (1998), *no.* 1, 29–57. (Summary) **99c:34078** 34C23 (34A45, 65L06)

Li, Qingxiang (*with* Hu, Yueming; Pei, Hailong; Zhou, Qi Jie) Robust output tracking for mobile robot. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 515–524. 93C83 (70B15, 93B12)

Li, Qiong (*with* Cao, Jin De; Wan, Shidong) Positive periodic solution for a neutral delay model in population. (English summary) *J. Biomath.* **13** (1998), *no.* 4, 435–438. (Summary) **99m:92032** 92D25

Li, Quan Lin (*with* Tang, Zong Xian) Analysis of the $M_1 + M_2/G^x(M/G)/1$ matching queueing system with L^2-policy vacation and repairable server. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **16** (1996), *no.* 3, 193–203. (Summary) **99f:90038** 90B22

Li, Qun (*with* Zhang, Ju Liang; Xu, Ze Shui) Global convergence properties of the PR and HS conjugate gradient methods for optimization. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 31–38. 90C30 (65K05)

— (*with* Shi, Zhenjun; Zhang, Yu Zhong) A variation of Goldfarb's method for linearly constrained optimization problems and its superlinear convergence rate. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 351–358. (Summary) **99g:90135** 90C30 (65K05)

Li, Rao A note on Hamiltonian cycles in $K_{1,r}$-free graphs. (English summary) *Ars Combin.* **51** (1999), 199-203. (Summary) **99j:05135** 05C45

— Cycles containing prescribed vertices. (English summary) *Util. Math.* **55** (1999), 73–78. (Summary) **99m:05088** 05C38

Li, Ren-Cang Relative perturbation theory. III. More bounds on eigenvalue variation. (English summary) *Linear Algebra Appl.* **266** (1997), 337–345. (Ilse C. F. Ipsen) **99e:15013** 15A18 (15A42, 65F15)

— (*with* Bhatia, Rajendra; Kittaneh, Fuad) Some inequalities for commutators and an application to spectral variation. II. (English summary) *Linear and Multilinear Algebra* **43** (1997), *no.* 1-3, 207–219. (Fumio Hiai) **99f:47014** 47A30 (15A42, 15A60, 47B47, 65F99)

— (*with* Bhatia, Rajendra; Kittaneh, Fuad) Eigenvalues of symmetrizable matrices. (English summary) *BIT* **38** (1998), *no.* 1, 1–11. (J. Segethová) **99d:65115** 65F15 (15A18)

— Spectral variations and Hadamard products: some problems. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 317–326. (R. A. Horn) **99j:15035** 15A60

— Relative perturbation theory. I. Eigenvalue and singular value variations. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 4, 956–982 (*electronic*). (Ilse C. F. Ipsen) **99e:15012** 15A18 (15A42, 65F15, 65F35)

— Relative perturbation theory. II. Eigenspace and singular subspace variations. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 2, 471–492 (*electronic*). (Ilse C. F. Ipsen) **99k:65034** 65F15 (15A18, 15A42, 65F35)

Li, Ren Hou (*with* Zhang, Jin Ming) Stability analysis and design of fuzzy control systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 7, 24–26. 93C42 (93D05)

Li, Renwei (*with* Pereira, Luís Moniz; Dahl, Veronica) Refining action theories through abductive logic programming. (English summary) *Logic programming and knowledge representation (Port Jefferson, NY, 1997)*, 123–138, *Lecture Notes in Comput. Sci.*, 1471, *Springer, Berlin*, 1998. (Summary) **99j:68015** 68N17 (68T27)

Li, Ri Guang (*with* Wei, Wen Zhan; Yuan, Chang An) Uniform PL-smoothness for a complex quasi-Banach space and its martingale characterization. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 321–332. (Bor-Luh Lin) **99k:46022** 46B20 (46B09)

Li, Rong Hua (*with* Li, Yong Hai) Generalized difference methods on arbitrary quadrilateral networks. *Northeast. Math. J.* **14** (1998), *no.* 1, 1–4. 65N06

— (*with* Li, Yong Hai) A class of generalized difference methods with BB dual subdivision. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 56–68. 65M06 (65N06)

— (*with* Chen, Zhongying; Wu, Wei[1]) A survey on generalized difference methods and their analysis. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 321–337, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (*see* **99g:65002**) 65N06 (65–02)

Li, Rong-Jun Fuzzy method in group decision making. (English summary) *Comput. Math. Appl.* **38** (1999), *no.* 1, 91–101. 90A05 (90C70)

Li, Rong Lu (*with* Wu, Jun De; Pap, Endre; Qu, Wen Bo) Swartz's Orlicz-Pettis theorem for operators. (English summary) *Bull. Cl. Sci. Math. Nat. Sci. Math. No.* 22 (1997), 37–43. (Andreas Defant) **99h:46028** 46B28 (46A03, 46B15)

— (*with* Wu, Jun De; Qu, Wen Bo) An infinite matrix convergence theorem and its applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 39–44. (Summary) **99i:40007** 40C05

— (*with* Wu, Jun De; Qu, Wen Bo) The extension of the Eberlein-Shmul'yan theorem to locally convex spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 663–666. (Summary) **99f:46003** 46A03

— (*with* Cui, Cheng Ri; Cho, Min-Hyung) An invariant with respect to all admissible polar topologies. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 289–294. (Jing Hui Qiu) **99i:46002** 46A03 (46A35)

— (*with* Wu, Jun De; Cui, Cheng Ri) A Hellinger-Toeplitz theorem for sequence spaces with the weak gliding hump property. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 6, 717–722. 46A45 (47B37)

— (*with* Wu, Jun De; Qu, Wen Bo) A criterion for sequential spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 215–218. (Summary) **99e:46010** 46A45

— (*with* Wu, Jun De; Cheng, Wei[1]) Characterizations of a class of matrix transformations. (English summary) *Proyecciones* **17** (1998), *no.* 1, 1–11. (Jan H. Fourie) **99i:47051** 47B37 (40J05, 46A45)

Li, Rongcai (*with* Cui, Hengjian) On parameter estimation for semi-linear errors-in-variables models. (English summary) *J. Multivariate Anal.* **64** (1998), *no.* 1, 1–24. (Li-Xing Zhu) **99b:62050** 62G05 (62G20)

Li, Rongheng (*with* Shi, Lijie) An on-line algorithm for some uniform processor scheduling. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 414–422 (*electronic*). (Summary) **99c:90068** 90B35 (90C27)

Li, Rui Hu On the construction of authentication codes that permit arbitration over projective spaces. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 323–330. (Summary) **99i:94049** 94A60

— (*with* Li, Zun Xian) Some classes of A^2-codes constructed by using symplectic geometry. I. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 12–16. (Summary) **99i:94050** 94A60

Li, Rui-Ping (*with* Mukaidono, Masao) Gaussian clustering method based on maximum-fuzzy-entropy interpretation. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 253–258. (Summary) **99j:62088** 62H30

Li, Rui Xia A natural combined boundary element and finite element method for a scattering problem. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 333–341. (Summary) **99f:65185** 65N38

— On the coupling of BEM and FEM for exterior problems for the Helmholtz equation. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 945–953. (Summary) **99i:65133** 65N38

Li, Ruisheng (*with* Geng, Gangyong) Weighted adaptive minimum variance controller with unknown input coefficient. (English summary) *Internat. J. Control* **68** (1997), *no.* 5,

1043–1066. 93C40 (93E35)
Li, Run-Ze (*with* Zhu, Li-Xing) Dimension-reduction type test for linearity of a stochastic regression model. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 165–175. (Summary) **99c:62126** 62G05 (62J05)
— (*with* Fang, Kai-Tai; Zhu, Li-Xing) A projection NT-type test of elliptical symmetry based on the skewness and kurtosis measures. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 3, 314–323. (Summary) **99g:62087** 62H40 (62H15)
— (*with* Fang, Kai-Tai; Liang, Jia-Juan) A multivariate version of Ghosh's T_3-plot to detect non-multinormality. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 371–386. (Summary) **99j:62079** 62H15 (62G10)
Li, S. *see* **Li, Shuguang**
Li, S. X. *see* **Li, Susan X.**
Li, Sai Jian (*with* Li, Luo Luo) Brauer-type theorems for estimating singular values of a matrix. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 4, 43–45. (Summary) **99k:15017** 15A18
Li, Shang Jian (*with* Zheng, Zhi Zhen; Li, Zhi Gang[1]) A new algorithm for reducing the bandwidth of a sparse matrix. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 43–45. 65F50
Li, Shang Zhi (*with* Wang, Deng Yin) Overgroups of $L_1(F)$ in $L(F)$. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 3, 264–269. (Yu Chen) **99m:20107** 20G15 (20E28, 20E32)
Li, Shao Kuan On the double unitary equivalence of operators. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 19, 2050–2053. 47A99
— 2×2 partial block matrices of operators that can be extended to invertible matrices. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 563–568. (Jin-Chuan Hou) **99h:47024** 47A57 (47A63)
— On the dimensions of subspaces of Hilbert spaces. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 547–550. 46C05 (47A05)
Li, Shao Lin (*with* Liu, Ying[1]) The Hausdorff dimension of fractal subsets and its projection properties in $\mathbf{Z}^d$. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 483–487. 28A78 (28A80)
Li, Shaofan (*with* Liu, Wing Kam) Synchronized reproducing kernel interpolant via multiple wavelet expansion. (English summary) *Comput. Mech.* **21** (1998), *no.* 1, 28–47. (Don Hong) **99e:65009** 65D05 (41A05, 46N40)
Li, She Huan (*with* Luo, Zhong Hua) A practical method for solving low-order constrained optimization problems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 26–28. 90C30 (65K05)
Li, Sheng (*with* Duan, Yishi) The topological structure of the space-time disclination. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6696–6705. (János Kánnár) **99m:83084** 83C47 (53C80)
Li, Sheng (*with* Wang, Hai Feng; Zhao, Tie Jun; Liu, Peng) A study of a pattern-matching algorithm for machine translation. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 11–14. 68T99
Li, Sheng-Gang (*with* Yang, Lining) Minimal T_3 topological molecular lattices. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 4, 969–973. 54A40 (06F30)
— Complete regularizations of lattice fuzzy topological spaces and their applications. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 1, 8–10, 15. 54A40 (54H12)
— On two weaker forms of continuous order-homomorphisms. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 469–475. 54A40 (54C08)
Li, Sheng Hong (*with* Wang, Xue Feng[1]) Existence, uniqueness, and regularity of solutions to parabolic variational inequalities with gradient constraints. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 275–280. (Summary) **99g:35075** 35K85 (49J40)
Li, Sheng Jie Subgradients of S-convex set-valued mappings and weak efficient solutions. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 463–472. 90C29 (90A05)
— Sensitivity and stability for contingent derivative in multiobjective optimization. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 49–53. 90C29 (90C31)
Li, Shengping (*with* Chai, Tian You) Analysis of continuity property of l^1 optimization design. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 774–779. 93B51 (49M30)
Li, Shengtai (*with* Petzold, Linda R.; Ren, Yuhe) Stability of moving mesh systems of partial differential equations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 2, 719–738 (*electronic*). (Meng Zhao Qin) **99f:65130** 65M12 (65M50)
Li, Shengxun (*with* Qiao, Yuying; Huang, Sha) The Hilbert problem for the first order elliptic complex equation with discontinuous coefficients. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 4, 317–322. (Guo Chun Wen) **99b:35048** 35J55 (30E25)
Li, Shi Hong (*with* Zhang, Liang Yun) Separable algebras and relative Hopf modules. (Chinese. English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **21** (1998), *no.* 2, 22–24. 16W30
Li, Shi-jie (*with* Chen, Bang-Yen) Spherical hypersurfaces with 2-type Gauss map. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 169–179. (Christos Baikoussis) **99d:53054** 53C40 (53A07)
— (*with* Wang, Mei-jiao) Submanifolds with parallel mean curvature vector in a sphere. (English summary) *Kodai Math. J.* **21** (1998), *no.* 2, 201–207. (Walcy Santos) **99h:53087** 53C42 (53C40)
Li, Shi Qu (*with* Zeng, Ben Sheng; Lian, Yu Zhong) The relationship between the Chrestenson linear spectra and the cyclic spectra of P-valued logic functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 39–43, 58. (Lei Qian) **99c:03034** 03B50
— (*with* Zhao, Ya Qun) Spectral characterization of the best affine approximation of a p-valued logic function. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 73–79. (Summary) **99c:03037** 03B50
Li, Shi Zheng (*with* Wang, De Sheng; Zhang, Yu Fen) Semidirect products of monoids and their congruences. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 1–4, 39. (Yu Qi Guo) **99m:20146** 20M17
Li, Shidong (*with* Benedetto, John J.) The theory of multiresolution analysis frames and applications to filter banks. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 389–427. (Gilbert Walter) **99k:42054** 42C15 (94A12)
Li, Shirong On minimal subgroups of finite groups. III. *Comm. Algebra* **26** (1998), *no.* 8, 2453–2461. (H. Bechtell) **99e:20027** 20D15 (20F16)
— A note on theta pairs for maximal subgroups. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4277–4284. (È. M. Pal′chik) **99j:20034** 20E28 (20D10)
— The number of conjugacy classes of non-normal cyclic subgroups in nilpotent groups of odd order. (English summary) *J. Group Theory* **1** (1998), *no.* 2, 165–171. (Ma. Jesús Iranzo) **99e:20028** 20D15
— On minimal non-PE-groups. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 2, 149–158. (W. E. Deskins) **99i:20031** 20D20
— $\mathcal{F}$-subnormal and $\mathcal{F}$-subabnormal chains in finite groups. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 11, 1121–1127. (A. Scarselli) **99k:20041** 20D10
Li, Shou Fu A survey of the theory of numerical methods for nonlinear stiff problems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 15–20. 65–02 (65L06)
Li, Shou-Yen Robert *see* **Li, Shuo-Yen Robert**
Li, Shoumei (*with* Ogura, Yukio) Convergence of set valued sub- and supermartingales in the Kuratowski-Mosco sense. (English summary) *Ann. Probab.* **26** (1998), *no.* 3, 1384–1402. (Christian Hess) **99i:60021** 60D05 (28D99, 60B11)
— (*with* Ogura, Yukio) Convergence theorems for set valued and fuzzy valued martingales and smartingales. (English summary) International Conference on Probability Theory and its Applications (Taejon, 1998). *J. Korean Math. Soc.* **35** (1998), *no.* 3, 765–782. (Dominique Lépingle) **99k:60024** 60D05 (28B20, 28E10, 60G42, 60G48)
— (*with* Ogura, Yukio) Convergence of set-valued and fuzzy-valued martingales. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 453–461. (Summary) **99k:60025** 60D05 (60B12, 60G48)
Li, Shu Guang On the number of elements with maximal order in the multiplicative group modulo n. *Acta Arith.* **86** (1998), *no.* 2, 113–132. (S. W. Graham) **99k:11144** 11N37 (11N36)
Li, Shu-Jie (*with* Su, Jia Bao) Existence of multiple critical points for an asymptotically quadratic functional with applications. (English summary) *Abstr. Appl. Anal.* **1** (1996), *no.* 3, 277–289. (Maria Letizia Bertotti) **99a:58031** 58E05 (34B15, 34C25)
— Some minimax theorems on finding nontrivial critical points and their applications. Proceedings of the Second World Congress of Nonlinear Analysts, Part 7 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 7, 4135–4144. (Thomas Bartsch) **99b:58051** 58E05 (35L05, 46N20, 49K35)
— (*with* Su, Jia Bao) Existence of multiple solutions of a two-point boundary value problem at resonance. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 123–135. (Gianni Arioli) **99h:34032** 34B15 (47H15, 47N20)
— (*with* Ding, Yanheng; Willem, Michel) Periodic solutions of symmetric wave equations. *J. Differential Equations* **145** (1998), *no.* 2, 217–241. (Shu-Xing Chen) **99c:35158** 35L70 (35B10)
— (*with* Willem, Michel) Multiple solutions for asymptotically linear boundary value problems in which the nonlinearity crosses at least one eigenvalue. (English summary) *NoDEA Nonlinear Differential Equations Appl.* **5** (1998), *no.* 4, 479–490. (Jan Bochenek) **99m:35074** 35J65 (58E05)
— (*with* Zou, Wenming) Remarks on a class of elliptic problems with critical exponents. *Nonlinear Anal.* **32** (1998), *no.* 6, 769–774. (Jean-Noël Corvellec) **99e:35066** 35J65 (58E05)
Li, Shu Quan (*with* Kou, Ji Song; Li, Min Qiang) Random functional analysis for canonical genetic algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 97–101. 90C27 (90C90)
Li, Shu Yong Uniform asymptotic stability of the trivial solution for some partial functional-differential equations with varying delays. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 1, 38–43. (Wenxian Shen) **99c:35253** 35R10 (35B35)
— (*with* Zhou, Xiao Ping[1]) The stability of the equilibrium state of an m-dimensional non-uniformly distributed ecosystem with delays. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 159–163. 35Q80 (35B35, 92D40)
Li, Shuang Zhen A characterization of minimum feasible graphs. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 37–39. 05C35
Li, Shuanhu Similarity solution for an axially symmetric flow of fresh and salt groundwater with nonconstant injection rate. (English summary) *Appl. Anal.* **61** (1996), *no.* 1-2, 129–147. (Summary) **99a:76148** 76S05 (86A05)
— Fourier series solution for an unsaturated flow with extraction. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 71–75. (Summary) **99d:35091** 35K60 (35C10)
— (*with* Sweers, Guido) Closed-form solution for a moving boundary problem. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1233–1235, 1239. (Summary) **99j:35015** 35C05 (35R35)
— *see also* **Russo, Giovanni**, **99j:76126**
Li, Shuchao (*with* Mao, Jing Zhong; Feng, Yanqin) The weakly graceful tree with application. (English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 3, 269–272. (Summary) **99m:05143** 05C78
Li, Shuguang (*with* Reid, S. R.; Soden, P. D.) A continuum damage model for transverse matrix cracking in laminated fibre-reinforced composites. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1746, 2379–2412. (From the text) **99h:73065** 73M25 (73K20)
Li, Shui Gen A fast algorithm for approximating computer-generated curves by broken line segments. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 35–40. (Summary) **99m:68213** 68U05
— Approximation and continuity properties of attractors for an interated fuzzy set system (IFZS). (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 4, 76–79. 28A80 (03E72)
Li, Shujuan (*with* Liu, Yanbin; Liu, Shao Wu) Linear maps on $M_n(\mathbf{Z})$ preserving linear groups. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 9–11. (Summary) **99c:20067** 20G30
Li, Shuo-Yen Robert (*with* Koo, Gar Man; Li, Hui) An algorithm for the construction of concentrators from 2×2 sorters. (English summary) *Advances in switching networks*

(*Princeton, NJ*, 1997), 197–219, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99a:94001**) 94C10

Li, Shuyang (*with* Hu, Xin Sheng; Li, Guangzhen; Shi, Bao Chang) The fixed point approach to nonsmooth multiobjective programming. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 65–70. (Summary) **99b:90108** 90C29 (49J52)

Li, Size (*with* Zhang, Yingbo; Lei, Tian-Gang; Bautista Ramos, Raymundo) The representation category of a bocs. III. Several classes of homogeneous almost split sequences. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **32** (1996), *no.* 2, 143–149. (Yasuo Iwanaga) **99c:16015** 16G70 (16G20)

Li, Song The equivalence relations between the best approximation and linear operators approximation in a Besov space. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 527–536. (A. B. Pevnyĭ) **99b:41019** 41A50 (46E35)

— The equivalence relations between the Ditzian-Totik moduli of smoothness and best polynomial approximation in the Besov spaces. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 1, 1–14. (Z. Ditzian) **99a:41018** 41A25 (46E35)

Li, Song-Ying (*with* Russo, Bernard) Schatten class composition operators on weighted Bergman spaces of bounded symmetric domains. (English summary) *Ann. Mat. Pura Appl.* (4) **172** (1997), 379–394. (Barbara D. MacCluer) **99h:47037** 47B38 (32A37, 47B10)

— (*with* Christ, Michael) On analytic solvability and hypoellipticity for $\overline{\partial}$ and $\overline{\partial}_b$. *Math. Z.* **226** (1997), *no.* 4, 599–606. (Harold P. Boas) **99c:32021** 32F20 (35A20, 35H05)

Li, Susan X. Cone concavity and multiple-payoff constrained n-person games. (English summary) *J. Optim. Theory Appl.* **97** (1998), *no.* 1, 119–149. (Su Sheng Wang) **99f:90197** 90D10 (90A14, 90C30)

Li, T. *see* **Li, Tongchun**

Li, T.-T. *see* **Li, Da Qian**

Li, T. Y. *see* **Li, Tien-Yien**

Li, Ta-Hsin (*with* North, Gerald R.) Aliasing effects and sampling theorems of spherical random fields when sampled on a finite grid. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 2, 341–354. (Roch Roy) **99c:62276** 62M40 (62M15)

— Time-correlation analysis of nonstationary time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 1, 47–67. (Summary) **99b:62138** 62M10

Li, Ta-tsien *see* **Li, Da Qian**

Li, Tan (*with* Gao, Mingzhe; Debnath, Lokenath) Some improvements on Hilbert's integral inequality. *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 682–689. (Franck Barthe) **99k:26024** 26D15 (26D10)

Li, Tang Qiu (*with* Lu, Wei) An algorithm for computing the FIRST set based on directed graphs. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 488–492. 68Q52

— (*with* Lu, Wei) A method for constructing LR parsers which incorporates semantic actions. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 6, 831–837. 68Q52

Li, Tao (*with* Shi, Jinglin; Yu, Bo; Zhang, Qunying; Han, Yueqiu) Improvement of CORDIC algorithm. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 4, 400–405. 65D20 (94A12)

Li, Tao[1] (*with* Wang, Xiao Li; Zhang, Su Mei) Structural properties of outerplanar graphs and their applications to edge coloring. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 3, 13–15, 31. 05C15

Li, Tao Sheng (*with* Qin, Yu Yuan) The expansion of a max-algebra and its properties. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 593–599. (Chong Guang Cao) **99f:15021** 15A33

— Matrix equations over a principal ideal domain. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 2, 125–128. (Shao Kuan Li) **99i:15022** 15A24 (15A33)

Li, Tatsien *see* **Li, Da Qian**

Li, Tian-Jun (*with* Li, Bang-He) Minimal genus smooth embeddings in $S^2 \times S^2$ and $\mathbf{CP}^2 \# n\overline{\mathbf{CP}}^2$ with $n \leq 8$. *Topology* **37** (1998), *no.* 3, 575–594. (Terry Lawson) **99b:57059** 57R40 (57N13, 57R95)

— Smoothly embedded spheres in symplectic 4-manifolds. *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 609–613. (Wojciech Wieczorek) **99c:57055** 57R15 (57R40, 57R57)

Li, Tianjun Compactification and supersymmetry breaking in M theory. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7539–7545. (Summary) **99k:81257** 81T30 (81R40)

Li, Tie Cheng[2] (*with* Wang, Zhao Lin; Li, Jun Feng) Output regulation of the general nonlinear discrete-time system. *Appl. Math. Mech. (English Ed.)* **20** (1999), *no.* 2, 200–204; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 187–191 (*Chinese. English and Chinese summaries*). 93B50 (93C55)

Li, Tie Shan (*with* Zhang, Shi Ying) Diagnosis problems of nonlinear regression. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 3, 257–264. 62J02

Li, Tien-Yien (*with* Wang, Xiao Shen) On multivariate Descartes' rule—a counterexample. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 1, 1–5. (Summary) **99d:65166** 65H10 (14P05)

— (*with* Wang, Xiao Shen) Counterexamples to the connectivity conjecture of the mixed cells. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 4, 515–521. (Summary) **99j:68144** 68U05 (52A39, 52B55, 68Q40)

Li, Tong *see* **Li, Tong[2]**

Li, Tong[1] Stability of strong detonation waves and rates of convergence. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 9, 17 *pp.* (*electronic*). (V. D. Sharma) **99b:35203** 35Q99 (35B35, 35K55, 76L05, 80A25)

— Time-asymptotic limit of solutions of a combustion problem. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 4, 577–604. (Long An Ying) **99j:35176** 35Q35 (35B40, 35L65, 76L05, 80A25)

Li, Tong[2] (*with* Vuong, Quang H.) Nonparametric estimation of the measurement error model using multiple indicators. (English summary) *J. Multivariate Anal.* **65** (1998), *no.* 2, 139–165. (Thomas W. Epps) **99h:62037** 62G05

Li, Tongchun (*with* Pastor, M.; Zienkiewicz, O. C.; Liu, Xiaoqing; Huang, Maosong) Stabilized finite elements with equal order of interpolation for soil dynamics problems. (English summary) *Arch. Comput. Methods Engrg.* **6** (1999), *no.* 1, 3–33. 73V05 (65M60, 73Q05)

— (*with* Pastor, M.; Liu, Xiaoqing; Zienkiewicz, O. C.) Stabilized low-order finite elements for failure and localization problems in undrained soils and foundations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 1-2, 219–234. 73Q05 (73V05)

Li, W. *see* **Li, Wu[3]**

Li, W. K. *see* **Li, Wai Keung**

Li, W. S. *see* **Li, Wing Suet**

Li, Wai Keung (*with* Ling, Shiqing) Limiting distributions of maximum likelihood estimators for unstable autoregressive moving-average time series with general autoregressive heteroscedastic errors. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 84–125. (Friedrich Liese) **99k:62171** 62M10 (60F17)

Li, Wan Tong (*with* Cheng, Sui Sun) Classifications and existence of positive solutions of second order nonlinear neutral difference equations. *Funkcial. Ekvac.* **40** (1997), *no.* 3, 371–393. (Michail G. Blizorukov) **99e:39028** 39A10

— (*with* Chen, Yihua) Oscillation and comparison of neutral difference equations. (English summary) *J. Gansu Univ. Technol. (Engl. Ed.)* **1** (1997), *no.* 1, 117–120. (Summary) **99c:39004** 39A10

— Oscillation of higher-order neutral nonlinear difference equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 4, 1–8. (Summary) **99d:39008** 39A10

— (*with* Cheng, Sui Sun) Asymptotic trichotomy for positive solutions of a class of odd order nonlinear neutral difference equations. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 101–108. (Summary) **99a:39043** 39A11

— (*with* Cheng, Sui Sun) Oscillation criteria for a nonlinear difference equation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 87–94. (Shao Zhu Chen) **99k:39024a** 39A10

— Necessary and sufficient conditions for oscillation of odd order neutral nonlinear equations with variable coefficients and their applications. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 93–103. (Yiannis Sficas) **99a:34194** 34K15 (34K40)

— (*with* Cheng, Sui Sun) Asymptotically linear solutions of a discrete Emden-Fowler equation. (English summary) *Far East J. Math. Sci.* **6** (1998), *no.* 4, 521–542. (Abdurrahman Karamancioglu) **99k:39025** 39A10

— Oscillation of first order neutral nonlinear differential equations with variable coefficients. (English summary) *Indian J. Pure Appl. Math.* **29** (1998), *no.* 6, 605–615. (Klaus Morgenthal) **99i:34100** 34K15

— (*with* Yang, Shi Zhou) Harmless delays for uniform persistence in a two-dimensional Lotka-Volterra diffusion system. (Chinese. English and Chinese summaries) *J. Gansu Univ. Technol.* **24** (1998), *no.* 3, 98–102. 35K57 (35Q80, 35R10, 45K05, 92D25)

— Positive solutions of second order nonlinear differential equations. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 326–337. (Ondřej Došlý) **99c:34062** 34C10

— Positive solutions of an odd-order neutral delay nonlinear differential equations. *Nonlinear Anal.* **36** (1999), *no.* 7, *Ser. A: Theory Methods*, 899–913. (Binggen Zhang) **99m:34161** 34K15 (34K40)

Li, Wanshe (*with* Ren, Fu yao) The random iterations of commutable rational functions. (English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **36** (1997), *no.* 6, 685–690. (I. N. Baker) **99h:58158** 58F23 (30D05)

Li, Wei (*with* Braun, W. John; Zhao, Yiqiang Q.) Stochastic scheduling on a repairable machine with Erlang uptime distribution. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 4, 1073–1088. (Jean B. Lasserre) **99k:90089** 90B35 (60K30, 62M20, 62N05)

Li, Wei (*with* Zou, Yonghua) The algebraic criterion of unconditional stability of constant linear systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 360–365. (Lj. T. Grujić) **99a:93074** 93D05 (93C30)

— An optimal approach for detecting two or three defectives. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 543–546. 05A99

— (*with* Mao, Jing Zhong) An optimal approach for detecting two different counterfeit coins. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 45–47. (Summary) **99k:05020** 05A99

Li, Wei[3] (*with* Zhang, Dong Mo[1]) Open logic based on total-ordered partition model. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 641–649. (Summary) **99k:68185** 68T27 (03B70)

Li, Wei Gang (*with* Quan, Guang Ri; Hong, Bing Rong) A feedforward neural network based on learning rules. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 57–61. 68T05

Li, Wei Guo (*with* Shen, Zu He) Constructive proof on the existence of periodic solution of Duffing equation. *Chinese Sci. Bull.* **42** (1997), *no.* 22, 1870–1874. (Alessandro Fonda) **99a:34119** 34C25

— (*with* Wu, Guang Rong) A constructive proof of the existence of periodic solutions to Newton's equation. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 124–126. (Chengwen Wang) **99g:34089** 34C25 (34B15)

— (*with* Zhang, Dan Qing) A new proof on the unique existence of periodic solutions to the Newton equation. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 241–248. (Summary) **99g:34090** 34C25 (34B15)

— (*with* Shen, Zu He) A new proof of the existence and uniqueness of solutions to higher-order Duffing equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 131–134. 34B15 (34C25)

— Solving the periodic boundary value problem with the initial value problem method. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 259–270. (Alessandro Fonda) **99h:34033** 34B15 (34A45, 34C25)

— (*with* Shen, Zu He) A note on existence of periodic solutions of Duffing equations. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 1–8. (Maria Patrizia Pera) **99g:34091** 34C25

Li, Wei Min Left inverses and right inverses of a strong endomorphism of a graph. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 4, 385–391. (Hong Zhang) **99e:05067** 05C25

— A family of graphs having regular endomorphism monoids. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 307–311. (Hong Zhang) **99e:05068** 05C25

— An approach to construct an end-regular graph. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 240. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 171–178. (Xiao Feng Guo) **99f:05096** 05C75

— Inverses of regular strong endomorphisms of graphs. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 529–534. (Summary) **99i:05098** 05C25

— The subsemigroup generated by the idempotents of the strong endomorphism monoid of a graph. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 54–57. 20M20 (05C25)

— Strong endomorphism monoid of graph union. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 219–226. (Vladimir I. Trofimov) **99g:05172** 05C99 (05C25)

Li, Wei Nian (*with* Cui, Bao Tong) Oscillations of systems of neutral delay parabolic equations. (English summary) *Demonstratio Math.* **31** (1998), *no.* 4, 813–824. (Summary) **99k:35181** 35R10 (35B05, 35K99)

— (*with* Cui, Bao Tong) A necessary and sufficient condition for oscillation of parabolic equations with several delays. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 153–156. 35R10 (35B05, 35K10)

— (*with* Cui, Bao Tong) Oscillation of solutions of partial differential equations with functional arguments. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 205–212. (Summary) **99h:35220** 35R10 (35B05)

Li, Wei Qing (*with* Tan, Jian Rong; Peng, Qun Sheng) A global recognition method based on patch structure. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 753–758. 68U07

Li, Weigu (*with* Zhang, Meirong) [A] rigidity result on conjugacies of families of diffeomorphisms. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1036–1044. (Romeo F. Thomas) **99i:58089** 58F10 (58D05)

— (*with* Zhao, Li Qin; Zhang, Zhi Fen) Cyclicity of elementary polycycles and ensembles with codimension 3 degeneration. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 22, 1849–1864. (Robert Roussarie) **99k:58163** 58F27 (58F14)

— (*with* Il'yashenko, Yu. S.) ★ Nonlocal bifurcations. (English summary) Mathematical Surveys and Monographs, 66. *American Mathematical Society, Providence, RI*, 1999. *xiv*+286 *pp. ISBN* 0-8218-0497-9 (Todd Ray Young) **99m:58139** 58F14 (34C23, 34C35, 58F09, 58F15, 58F36)

Li, Weihua (*with* Xiao, Deyun) Sliding window delta operator-based adaptive lattice filters. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 610–614. 93E10 (93E11)

Li, Weiping[1] Singular connections and Riemann theta functions. (English summary) *Topology Appl.* **90** (1998), *no.* 1-3, 149–163. (Shuguang Wang) **99j:58035** 58D27 (11E25, 11F27, 53C07, 57R57)

Li, Wen[1] (*with* You, Zhao Yong) The convergence theorem of splittings. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 4, 107–110. (Summary) **99e:65057** 65F10 (15A18)

— (*with* You, Zhao Yong) The multi-parameters overrelaxation method. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 367–374. (Jan Zitko) **99f:65052** 65F10

— (*with* Chen, Zhuorong) A note on nonnegative normal matrices. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 281–283. (Summary) **99c:15037** 15A48

Li, Wen Hui (*with* Wang, Zheng Xuan; Pang, Yun Jie) An algorithm for complete Euclidean distance transformation based on contour tracing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 217–222. 68U05

— (*with* Wang, Zheng Xuan; Pang, Yun Jie) Contour tracing and computing the Euler number of binary images represented by linear quadtrees. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 223–228. 68U05

— (*with* Wang, Zheng Xuan; Pang, Yun Jie) A weighting algorithm for decomposing a simple polygon into convex polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 229–233. 68U05

Li, Wen Jun (*with* Wang, Jia Song) Determination of permanent optimal data points and an efficient algorithm for LAD problem. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **5** (1996), *no.* 2, 121–133. (Horst Hollatz) **99d:65197** 65K05

— (*with* Sun, Xiu Zhen) Some remarks on solving the matrix equation $AXB = C$. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 110–114. 15A24

Li, Wen Liang Positive definiteness properties of three kinds of products of quaternion matrices. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 229–234. 15A33 (15A48)

Li, Wen Ming[1] A maximal function characterization of Hardy spaces on spaces of homogeneous type. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 12–27. (Summary) **99i:42025** 42B25

Li, Wen Rong Analytic solutions for a class of second-order iterative functional-differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 167–176. (Summary) **99a:34176** 34K05

Li, Wen Xia Separation properties for MW-fractals. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 721–726. (Yimin Xiao) **99m:28022** 28A80

— (*with* Xiao, Dongmei) The dimensions of self-similar sets. *J. Math. Soc. Japan* **50** (1998), *no.* 4, 789–799. (Andreas Schief) **99f:28009** 28A78 (28A80)

Li, Wen Xian (*with* Ding, Hao Jiang; Peng, Nan Ling) A method of resolving the paradoxes concerning a cylindrical wedge subject to a concentrated couple at the vertex or to uniform traction on the surface. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 4, 37–45, *III–IV*. 73B50 (73B40)

Li, Wen Zhu (*with* Xu, Tiefeng; Chen, Feng) On the bosonization of interacting fermions in high dimensions. (English summary) *Phys. Lett. A* **232** (1997), *no.* 5, 373–376. (From the text) **99c:82068** 82D15 (81V70)

Li, Wenbo V. (*with* Kuelbs, James) Some shift inequalities for Gaussian measures. (English summary) *High dimensional probability (Oberwolfach*, 1996), 233–243, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Werner Linde) **99k:60106** 60G15 (60B12, 60E15)

— (*with* Pritchard, Geoffrey) A central limit theorem for the sock-sorting problem. (English summary) *High dimensional probability (Oberwolfach*, 1996), 245–248, *Progr. Probab.*, 43, *Birkhäuser, Basel*, 1998. (Nasrollah Etemadi) **99k:60098** 60F17 (60C05)

— (*with* Hitczenko, Paweł; Kwapień, Stanisław; Schechtman, Gideon; Schlumprecht, Thomas; Zinn, Joel) Hypercontractivity and comparison of moments of iterated maxima and minima of independent random variables. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 2, 26 *pp.* (*electronic*). (From the text) **99k:60008** 60B11 (52A21, 60E07, 60E15, 60G15)

Li, Wenhua (*with* Wang, Zhishun; He, Zhenya) A fast algorithm for n-D discrete cosine transform. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 1, 45–54. (Summary) **99f:94007** 94A29 (65T20)

Li, Wenming *see* **Li, Wen Ming[1]**

Li, Wenzhe (*with* Lin, Ji-Nan; Unbehauen, Rolf) Canonical representation of piecewise-polynomial functions with nondegenerate linear-domain partitions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 8, 838–848. (A. Bultheel) **99j:41013** 41A10 (41A30)

Li, Wenzhou *see* **Li, Wen Zhu**

Li, Wing-Ning The complexity of two processor scheduling with start-times and communication delay. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **132** (1998), 189–197. (Summary) **99k:68023** 68M20 (68Q25)

Li, Wing Suet (*with* Bercovici, Hari) Reflexivity of certain pairs of commuting isometries. (English summary) *Topics in operator theory, operator algebras and applications (Timişoara*, 1994), 29–48, *Rom. Acad., Bucharest*, 1995. (Victor S. Shul'man) **99f:47009** 47A15 (47D25)

— (*with* Timotin, Dan) The central Ando dilation and related orthogonality properties. (English summary) *J. Funct. Anal.* **154** (1998), *no.* 1, 1–16. (László Kérchy) **99d:47007** 47A20

Li, Wu[3] (*with* Berens, Hubert; Finzel, Martina; Xu, Yuan[1]) Hoffman's error bounds and uniform Lipschitz continuity of best l_p-approximations. (English summary) *J. Math. Anal. Appl.* **213** (1997), *no.* 1, 183–201. (Summary) **99e:41026** 41A65 (49J45)

— Abadie's constraint qualification, metric regularity, and error bounds for differentiable convex inequalities. (English summary) *SIAM J. Optim.* **7** (1997), *no.* 4, 966–978. (D. Klatte) **99b:90131** 90C31 (90C25)

— (*with* Durham, S. D.; Flournoy, N.) A sequential design for maximizing the probability of a favourable response. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 3, 479–495. (Summary) **99e:62133** 62L05

— (*with* Finzel, Martina) Uniform Lipschitz continuity of best l_p-approximations by polyhedral sets. (English summary) *J. Math. Anal. Appl.* **228** (1998), *no.* 1, 112–118. (William W. Hager) **99k:41043** 41A50 (49K40, 90C31)

— (*with* Singer, Ivan) Global error bounds for convex multifunctions and applications. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 2, 443–462. (D. Klatte) **99i:90097** 90C31 (49J52, 49K40)

— (*with* Swetits, J. J.) The linear l_1 estimator and the Huber M-estimator. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 457–475 (*electronic*). (Kurt Marti) **99e:62034** 62F35 (90C31)

— (*with* Bartelt, Martin W.) Abadie's constraint qualification, Hoffman's error bounds, and Hausdorff strong unicity. (English summary) *J. Approx. Theory* **97** (1999), *no.* 1, 140–157. (D. E. Wulbert) **99k:41046** 41A52 (90C31)

Li, Wu-Ji (*with* Smith, J. MacGregor) Star, grid, ring topologies in facility location & network design. (English summary) *Network design: connectivity and facilities location (Princeton, NJ*, 1997), 219–246, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 40, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99b:90057** 90B22 (60K25, 68M20, 90B80)

Li, Wu Ming The bicurved Euler formula and the Lorentz transformation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 21–22. 83A05

Li, X. *see* **Li, Xiaohu**

Li, X. K. *see* **Li, Xi Kui**

Li, X.-M. *see* **Li, Xue-Mei[2]**

Li, X. Rong *see* **Li, Xiao-Rong**

Li, Xi (*with* de Souza, Carlos E.) Criteria for robust stability and stabilization of uncertain linear systems with state delay. (English summary) *Automatica J. IFAC* **33** (1997), *no.* 9, 1657–1662. (Summary) **99g:93066** 93D09 (93D21)

— (*with* de Souza, Carlos E.) Output feedback stabilization of linear time-delay systems. (English summary) *Stability and control of time-delay systems*, 241–258, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 93D15 (34K35, 93C30)

Li, Xi Kui Numerical modeling of pollutant transport in saturated/unsaturated soils. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 3, 321–332. (Summary) **99h:86001** 86-08 (76M25, 76S05, 86A05)

— (*with* Gwynllyw, D. Rh.; Davies, A. R.; Phillips, T. N.) Three-dimensional effects in dynamically loaded journal bearings. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 3, 311–341. (Summary) **99i:76039** 76D08

Li, Xian Bin (*with* Dai, Guo Ren; Li, Hou Qiang) Qualitative analysis of a predator-prey system with group defense. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 2, 127–138. (Summary) **99h:92030** 92D25 (34C05, 92D40)

Li, Xian Kui (*with* Zhao, Zeng Qin) Existence and uniqueness of positive solutions to a class of nonlinear integral equations. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 251–256. (Summary) **99f:45008** 45G10

— Positive solutions for a class of discontinuous Volterra type integral equations in ordered Banach spaces and their applications. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 2, 27–30. (Summary) **99h:45007** 45G10 (34K30, 45J05, 45N05)

Li, Xianfang (*with* Sun, Yingfei; Fan, Tian You) Several fundamental theorems and conservative integrals in quasicrystal elasticity theory. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 226–232. (Summary) **99j:73037** 73C99 (73B99)

Li, Xiang Wu (*with* Wei, Gang) Dynamical system identification and its applications using a wavelet network. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 494–500. 93B30 (42C15, 65D99)

Li, Xiang-Yang (*with* Teng, Shang-Hua) Dynamic load balancing for parallel adaptive mesh refinement. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA*, 1998), 144–155, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65N55 (65N25)

Li, Xiangdong[2] Asymptotic behavior of the divergence on loop spaces over a compact Riemannian manifold. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 4, 272–274. (Ming Liao) **99c:58174** 58G32

Li, Xiangwen (*with* Wei, Bing[1]) A neighborhood union condition for pancyclic graphs. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 289–298. (Ralph Faudree) **99i:05124** 05C38

Li, Xianyi (*with* Tang, Heng Sheng; Liu, Yachun; Xiao, Gongfu) A conjecture by G. Ladas. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 39–44. (Michail G. Blizorukov) **99e:39029** 39A10

Li, Xiao Chun (*with* Lu, Shan Zhen; Yang, Da Chun) Some generalizations on the boundedness of bilinear operators. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 8–28. (Loukas Grafakos) **99d:42041** 42B30 (47B38)

— (*with* Lu, Shan Zhen) Strongly singular convolution operators on weighted Herz-type Hardy spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 7–18. (Summary) **99j:42019** 42B20

Li, Xiao Chun (*with* Gao, Hai Yin; Weng, Shi You; Hou, Xue Zhang) Observability of a class of shift robots. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 21–26. 93B07 (93C85)

Li, Xiao Dong (*with* Dai, Lian Kui; Ma, Long Hua) A novel random learning algorithm for multilayer feedforward networks and its industrial application. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 1, 133–135. 93E35

— (*with* Dai, Lian Kui) A new method for feasibility analysis of steady constrained optimization systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 925–928. 90C30 (90C26)

Li, Xiao Gui Limit cycles of type I equations of quadratic differential systems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 75–80. (Summary) **99a:34084** 34C05 (34C23)

Li, Xiao Hong TPV-modules and TPV-rings. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 4, 385–387. 16D80

Li, Xiao Lin (*with* Glimm, James; Grove, John W.; Shyue, Keh-Ming; Zeng, Yanni; Zhang, Qiang[1]) Three-dimensional front tracking. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 703–727 (*electronic*). (Alexander Doktor) **99c:35153** 35L67 (65M99)

Li, Xiao Mei (*with* Mo, Ze Yao) The effects of Jacobi components along pseudoboundaries in the block by block relaxation operator. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 251–262. 65N55 (65M55)

— (*with* Mo, Ze Yao; Zhang, Bao Lin[1]) Parallel multigrid algorithms for high Reynolds number incompressible Navier-Stokes equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 135–143. 65M55 (65Y05, 76M25)

— (*with* Zeng, Yong Hong) Computing multidimensional discrete W transforms by polynomial transforms. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 291–298. (Summary) **99m:65254** 65T20 (65R10)

— (*with* Mo, Ze Yao) On the effects of Jacobi components along pseudo-boundaries during parallel multigrid computations. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 9–18. 65N55

Li, Xiao Ming[1] (*with* Yang, Guang Wen; Wang, Yi He; Zheng, Wei Min; Wang, Ding Xing) Deterministic annealing. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 765–768. 90C27 (65C99)

Li, Xiao Nan (*with* Zhang, Chang Bin) Quasi-pseudo variational inequalities and their applications. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 4, 373–378. 49J40 (47H19)

Li, Xiao Pei A result on the Schur conjecture. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 132–134. 11C08 (12E05)

Li, Xiao-ping (*with* Wang, Gui Jun) The applications of interval-valued fuzzy numbers and interval-distribution numbers. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 3, 331–335. (Summary) **99d:04010** 04A72 (54A40, 54E70)

— (*with* Wang, Gui Jun) A necessary and sufficient condition for a closed fuzzy set to be a convex fuzzy set. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 85–88. 04A72 (54A40)

— (*with* Wang, Gui Jun) Absolute continuity of K-pseudo-additive fuzzy integrals. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 3, 251–255. 28E10

— (*with* Wang, Gui Jun) Correlation and information energy of interval-valued fuzzy numbers. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 1, 169–175. (Róbert Fullér) **99m:94019** 94A17 (03E72)

Li, Xiao Ping (*with* Luo, Xiao Rong) Existence of positive solutions for higher order neutral delay difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 82–87. (Summary) **99k:39026** 39A10

Li, Xiao Ping[2] (*with* Fu, Yan) A regularization method for solving an inverse problem for a partial differential equation. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 8, 254–259. 65M30 (65J20)

— (*with* Liu, Xin Guo) A class of constrained eigenvalue problems. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 8–13. (Summary) **99c:65116** 65K05 (15A18, 65F15)

Li, Xiao-Qing[2] (*with* Chen, Gong-Ning) The Nevanlinna-Pick interpolation problems and power moment problems for matrix-valued functions. (English summary) *Linear Algebra Appl.* **288** (1999), *no.* 1-3, 123–148. (Daniel Alpay) **99m:47016** 47A57 (30E05, 44A60)

Li, Xiao-Rong Tracking in clutter with strongest neighbor measurements. I. Theoretical analysis. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1560–1578. (Pablo A. Iglesias) **99i:93067** 93E11 (94A12)

Li, Xiao Yan[1] Hopf bifurcations of a class of ecosystems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 43–45. 92D40 (34C23)

— (*with* Liu, Shun Bao) Qualitative analysis of a class of nonlinear systems. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 126–128. (Xue Min Li) **99i:34045** 34C05

Li, Xiao Yu (*with* Zhang, Zhong Zhi) The complexity of Vandermonde systems. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 33–35. 65Y20 (65F05)

Li, Xiao Zhong (*with* Du, Yu Yue) Analysis and implementation of liveness of S-composition Petri nets. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 8, 747–752. (Summary) **99m:68138** 68Q90 (68Q10)

— (*with* Ruan, Da) Fuzzy δ rule and its simulations in fuzzy relation equations. (English summary) *J. Fuzzy Math.* **6** (1998), *no.* 3, 781–791. (Summary) **99h:68144** 68T05 (04A72)

— (*with* Ruan, Da) Novel neural algorithms based on fuzzy δ rules for solving fuzzy relation equations. II. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 473–486. 68T05

Li, Xiaochun *see* **Li, Xiao Chun**

Li, Xiaofeng[1] (*with* Shou, Biao; Zheng, Shirong) Research on the optimal parallel algorithms of broadcast-class problems. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 5, 455–463. (A. T. Amin) **99h:68067** 68Q22

Li, Xiaohu (*with* Li, Zehui) Two new classes IFRA$*t_0$ and NBU$*t_0$ of life distributions. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 520–525, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 62P05

Li, Xiaohu (*with* Shvets, G.) Theory of laser wakes in plasma channels. (English summary) *Phys. Plasmas* **6** (1999), *no.* 2, 591–602. (Summary) **99k:76164** 76X05

Li, Xiaojiang (*with* Zhang, Wenfei) Analytic solution of poro-mechanical problems in a hollow axisymmetric domain. (English summary) *Appl. Math. Comput.* **97** (1998), *no.* 2-3, 209–221. (Summary) **99g:73019** 73B99 (73Q05)

Li, Xiaoming (*with* Kong, Fan Hui[1]; Huang, Weihua) Estimating survival curves under proportional hazards model with covariate measurement errors. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 4, 573–587. (Summary) **99k:62191** 62N05 (62G05)

Li, Xiaoping *see* **Li, Xiao-ping**

Li, Xiaorang The stability of nonlinear age-dependent population equation. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 6, 19–26. (Summary) **99e:92028** 92D25

Li, Xiaoshan Decidability of mean value calculus. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 173–180. (Summary) **99k:68109** 68Q60 (03B25, 03B45, 03B70)

Li, Xiaoye S. (*with* Demmel, James W.; Eisenstat, Stanley C.; Gilbert, John R.; Liu, Joseph W. H.) A supernodal approach to sparse partial pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 3, 720–755 (*electronic*). (Summary) **99m:65094** 65F50 (65F05)

Li, Xiguo (*with* Duan, Yishi) General decomposition of spin connection and topological structure in Gauss-Bonnet-Chern density. (English summary) *Commun. Theor. Phys. (Beijing)* **29** (1998), *no.* 2, 237–244. (Hans-Bert Rademacher) **99i:53033** 53C20

Li, Xin[3] (*with* Caron, R. M.; Mikusiński, Piotr; Sherwood, H.; Taylor, M. D.) Nonsquare "doubly stochastic" matrices. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 65–75, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15025** 15A51 (15A48)

— (*with* Mikusiński, Piotr; Sherwood, H.; Taylor, M. D.) In quest of Birkhoff's theorem in higher dimensions. (English summary) *Distributions with fixed marginals and related topics* (*Seattle, WA*, 1993), 187–197, *IMS Lecture Notes Monogr. Ser.*, 28, *Inst. Math. Statist., Hayward, CA*, 1996. (Ryszard Grząślewicz) **99b:15027** 15A51 (15A48)

— (*with* Mikusiński, Piotr; Sherwood, H.; Taylor, M. D.) On approximation of copulas. (English summary) *Distributions with given marginals and moment problems* (*Prague*, 1996), 107–116, *Kluwer Acad. Publ., Dordrecht*, 1997. (Summary) **99a:60009** 60E05 (62H05)

— How good (or bad) is Lagrange interpolation? (English summary) *Fourier analysis, approximation theory and applications* (*Aligarh*, 1993), 135–143, *New Age, New Delhi*, 1997. (*see* **99d:00019**) 41A10

— A note on Chebyshev's inequality. (English summary) *Approximation theory*, 353–362, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (*see* **99a:00051**) 41A17

— (*with* Yin, Gang George; Yin, Kewen; Zhang, Qing[1]) A numerical study of singularly perturbed Markovian systems. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 127–135, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 60J27 (65C05)

— Separation theorem of Chebyshev-Markov-Stieltjes type for Laurent polynomials orthogonal on $(0, \infty)$. *Orthogonal functions, moment theory, and continued fractions* (*Campinas*, 1996), 327–341, *Lecture Notes in Pure and Appl. Math.*, 199, *Dekker, New York*, 1998. (Li Zhong Peng) **99j:42035** 42C05 (33C45)

— On simultaneous approximations by radial basis function neural networks. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 1, 75–89. (Summary) **99b:68158** 68T05

— (*with* Jones, Roy; Mohapatra, Ram Narayan; Rodriguez, R. S.) On the Bernstein inequality for rational functions with a prescribed zero. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 476–496. (Wiesław Pleśniak) **99m:41019** 41A17

— (*with* Mikusiński, Piotr; Taylor, M. D.) Strong approximation of copulas. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 608–623. (Roger B. Nelsen) **99j:60029** 60E99 (46N30, 46S50, 47B38, 60B10)

Li, Xin Min Uniform bounds for sampling expansions. (English summary) *J. Approx. Theory* **93** (1998), *no.* 1, 100–113. (Hans-Jürgen Schmeisser) **99h:94019** 94A12 (41A10, 42A99)

Li, Xing A class of periodic Riemann boundary value inverse problems. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 397–400, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 30E25

Li, Xing Si (*with* Xuan, Zhao Cheng) The surrogate dual problem of quadratic programming and an algorithm for it. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 144–152. 90C20 (49N15)

Li, Xing Wu The right Noetherian property for semigroup rings. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 335–338. 16S36

Li, Xingxiao Fullness and scalar curvature of the totally real submanifolds in $S^6(1)$. (English summary) *Note Mat.* **16** (1996), *no.* 1, 105–115 (1998). (Jürgen Berndt) **99j:53076** 53C40 (53C42)

— (*with* Li, Anmin) Explicit representations of minimal immersions of 2-spheres into S^{2m} (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 479. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 175–186. (Udo Simon) **99k:53115** 53C42 (53C40)

— Minimal 2-spheres in S^n with fixed area. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 1, 39–50. (Udo Simon) **99k:53116** 53C42 (53C40)

Li, Xinhua (*with* Fu, Jian; Gao, Xiaochun; Gao, Jun[2]) Phase formulation and exact solutions for the relativistic Klein-Gordon field with a time-dependent Hamiltonian.

(English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 1, 77–84. (Summary) **99h:81031** 81Q05

Li, Xinwei (*with* Arcozzi, Nicola) Riesz transforms on spheres. *Math. Res. Lett.* **4** (1997), *no.* 2-3, 401–412. (Javier Soria) **99e:42024** 42B20

Li, Xiu Ping (*with* Liu, Zhi Yong; Wan, Bai Wu) Neural network predictive control for the dynamic traffic system of an expressway. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 4, 260–266. 90B06 (93B30, 93E12)

Li, Xiu Qing Weakly locally diagonally dominant matrices and their application in stability theory. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 71–75, 87. 15A57

Li, Xiulan (*with* Yuan, Jin Jiang) A note on the girth and the cycle basis interpolation property of planar graphs. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 9–10. (*see* **99i:05002**) 05C38

— Bounds on the largest eigenvalue of graphs. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 20–22. (Summary) **99k:05109** 05C50

Li, Xu Qiang (*with* Chen, Xiao Qun; Xi, Mei Cheng; Feng, Yu Yu) The dimensionality of natural spline spaces. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 4, 377–383. 41A15 (65D07)

Li, Xuan Ping (*with* Wang, Chang Yuan) A geometric continuity condition for triangular Bézier surface patches. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 215–217. 65D17 (41A63)

Li, Xuandong (*with* Dang Van Hung; Zheng, Tao) Checking hybrid automata for linear duration invariants. (English summary) *Advances in computing science—ASIAN'97* (*Kathmandu*, 1997), 166–180, *Lecture Notes in Comput. Sci.*, **1345**, *Springer, Berlin*, 1997. (*see* **99b:68001**) 68Q60 (68Q68)

Li, Xue (*with* Yamazaki, Genji; Iimura, Kiyoaki) The high-efficiency range of decision vectors in optimization problems and its application. (Japanese. English summary) Decision theory and related fields (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1043 (1998), 122–127. (*see* **99h:90006**) 90A05 (90C90)

Li, Xue Chen (*with* Xiao, Hong[2]; Qi, Guo Qiang) Oscillations and asymptotic properties of higher-order neutral functional-differential equations. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 12–18. (Yi Zhong Lin) **99k:34160** 34K15 (34K40)

Li, Xue En (*with* Fang, Jian Cheng; Shen, Gong Xun; Wan, De Jun; Dong, Xiao Yong) A study of the Kalman filtering method and the analysis of filtering accuracy in GPS kinematic positioning with speed observation. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 914–919. 93E11

Li, Xue-Mei *see* **Li, Xue-Mei[2]**

Li, Xue Mei[1] Linearized oscillations for neutral delay differential equations with asymptotically periodic coefficients. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 4, 22–25. (Guo Zhu Gao) **99d:34132** 34K15 (34K40)

— Necessary and sufficient conditions for oscillation of neutral differential equations with periodic coefficients. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 51–58. (Summary) **99g:34142** 34K15 (34K40)

Li, Xue-Mei[2] (*with* Elworthy, K. D.) Differentiation of heat semigroups and applications. *Probability theory and mathematical statistics* (*Vilnius*, 1993), 239–251, *TEV, Vilnius*, 1994. (Ming Liao) **99h:60117** 60H10 (58G32, 60J35)

— (*with* Elworthy, K. D.) A class of integration by parts formulae in stochastic analysis. I. *Itô's stochastic calculus and probability theory*, 15–30, *Springer, Tokyo*, 1996. (Hélène Airault) **99e:60131** 60H10 (60H05)

— (*with* Elworthy, K. D.; Le Jan, Yves) Concerning the geometry of stochastic differential equations and stochastic flows. (English summary) *New trends in stochastic analysis* (*Charingworth*, 1994), 107–131, *World Sci. Publishing, River Edge, NJ*, 1997. (Ming Liao) **99j:58226** 58G32 (60H10)

— (*with* Elworthy, K. D.; Yor, Marc) On the tails of the supremum and the quadratic variation of strictly local martingales. *Séminaire de Probabilités, XXXI*, 113–125, *Lecture Notes in Math.*, 1655, *Springer, Berlin*, 1997. (Jia Gang Wang) **99b:60057** 60G44

— (*with* Elworthy, K. D.; Rosenberg, Steven) Bounded and L^2 harmonic forms on universal covers. *Geom. Funct. Anal.* **8** (1998), *no.* 2, 283–303. (Gilles Carron) **99d:58180** 58G32 (53C20, 58A14)

Li, Xue Quan A new nonlinear programming algorithm and its unit stepsize policy. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 14–18. (Summary) **99d:90114** 90C30 (65K05)

Li, Xue Wei[2] (*with* Hou, Zhen Ting; Liu, Zai Ming; Zou, Jie Zhong) Markov framework processes. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 5, 457–467. 60J25

Li, Xue Zhi (*with* Lu, Shi Tang) Solutions to a class of nonlinear integrodifferential equations and their construction. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 1, 54–65. (Summary) **99d:45010** 45K05

Li, Xuefeng Entropy consistent, TVD methods with high accuracy for conservation laws. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations* (*Mississippi State, MS*, 1997), 181–201 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:65082** 65M12 (35L65)

Li, Xueliang (*with* Zhao, Biao) Kernels, semikernels and quasi-kernels in super line digraphs. (English summary) New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 11–13. (Summary) **99h:05050** 05C20

— (*with* Broersma, H. J.) Spanning trees with many or few colors in edge-colored graphs. (English summary) *Discuss. Math. Graph Theory* **17** (1997), *no.* 2, 259–269. (Summary) **99b:05033** 05C05 (05B35, 05C15)

— On the determination problem for P_3-transformation of graphs. (English summary) *Ars Combin.* **49** (1998), 296–302. (Summary) **99c:05143** 05C60

— Edge-disjoint minimum-weight connected spanning k-edge subgraphs in a weighted graph: a connectedness theorem. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 175–182. (Summary) **99c:05118** 05C40

— (*with* Vumar, Elkin) Strong connectedness of generalized circulant digraphs. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 2, 1–8. (Summary) **99h:05076** 05C40 (05C20)

— (*with* Galeana-Sánchez, Hortensia) Semikernels and (k, l)-kernels in digraphs. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 340–346 (*electronic*). (Matúš Harminc) **99c:05078** 05C20

Li, Xuemei (*with* Feng, Jiuchao) Fast control and synchronization of chaotic systems. (English summary) *Xinan Shifan Daxue Xuebao Ziran Kexue Ban* **22** (1997), *no.* 5, 529–533. 58F13

Li, Xuemin (*with* Chen, Yubo) Necessary and sufficient conditions of a plane n-degree system with Dulac's center. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 366–376. (Henryk Żołądek) **99a:34085** 34C05

Li, Xun[2] (*with* Liu, Guo Jing) Some results on the commutativity of matrix products in Minkowski inner product spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 33–35. 15A27 (15A63)

— (*with* Liu, Guo Jing) Normal matrices in Minkowski inner product spaces. II. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 22–23, 27. 15A63

— (*with* Liu, Guo Jing) Matrix decompositions in Minkowski inner product spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 15–17. 15A63

— A sufficient condition for subnormality. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 6–8, 51. 15A60

— Subnormal matrices. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 95–100. 15A57

Li, Xunjing (*with* Pan, Li Ping) Minimum period control problem for infinite-dimensional system. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 1, 142. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 1, 113–128. (Ovidiu Cârjă) **99d:49048** 49K27 (34K35, 49K30)

— (*with* Wu, Hanzhong) The equivalence between two types of exponential stabilities. *Chinese Sci. Bull.* **43** (1998), *no.* 18, 1583–1584. 47D06 (34D99)

— (*with* Wu, Hanzhong) Linear quadratic problem with unbounded control in Hilbert spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 20, 1712–1717. 49N10 (49K27, 93C25)

— (*with* Chen, Shuping; Zhou, Xun Yu) Stochastic linear quadratic regulators with indefinite control weight costs. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 5, 1685–1702 (*electronic*). (Jose Luis Menaldi) **99e:49028** 49K45 (49N10, 93E20)

Li, Y. *see* **Li, Yueming**

Li, Y. A. *see* **Li, Yi A.**

Li, Yan Da (*with* Luo, Fa Long; Unbehauen, Rolf; Reif, Konrad) Analog approach for the eigen-decomposition of positive definite matrices. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 49–61. (Summary) **99b:15012** 15A18 (15A48, 68T05)

— (*with* Cai, Hong) A fuzzy neural network optimization method based on Hopfield neural networks. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 86–89. 90C70 (68T05)

— (*with* Tang, Yuezhong; Zhang, Nai Yao) Stable fuzzy adaptive control for a class of nonlinear systems. (English summary) *Fuzzy Sets and Systems* **104** (1999), *no.* 2, 279–288. 93C42

Li, Yan Guang (*with* Wiggins, Stephen) ★ Invariant manifolds and fibrations for perturbed nonlinear Schrödinger equations. (English summary) Applied Mathematical Sciences, 128. *Springer-Verlag, New York*, 1997. viii+170 *pp. ISBN* 0-387-94925-9 (C. Eugene Wayne) **99e:58165** 58F39 (35B20, 35Q55, 58F30)

Li, Yan Hong (*with* Wang, Ting Fu) On the LURWC property of Orlicz sequence space. (English summary) Fourth International Conference on Function Spaces (Zielona Góra, 1995). *Collect. Math.* **48** (1997), *no.* 4-6, 817–823. (Anna H. Kamińska) **99a:46032** 46B45 (46B20, 46E30)

— (*with* Wang, Ting Fu) Weakly* uniform rotundity of Orlicz sequence spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 2, 195–202. (Bor-Luh Lin) **99h:46044** 46E30 (46B20)

Li, Yan Sheng (*with* Feng, Bin Lu; Yu, Yuan Hong) Lipschitz stability and exponential asymptotic stability of differential systems. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 4–8. (Rong Yuan) **99c:34107** 34D20 (34D05)

Li, Yan Xi (*with* Ma, Zhen Jun) Comment on: "An inequality for determinants of subpositive definite matrices" [Math. Practice Theory **1994**, no. 2, 45–47] by X. M. Yang. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 255–257. 15A15 (15A48)

— (*with* Long, Xiao Han) Inequalities of Minkowski type and Hölder type for positive definite Hermitian matrices. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 35–38. 15A45

Li, Yan Yan Group invariant convex hypersurfaces with prescribed Gauss-Kronecker curvature. *Multidimensional complex analysis and partial differential equations* (*São Carlos*, 1995), 203–218, *Contemp. Math.*, 205, *Amer. Math. Soc., Providence, RI*, 1997. (V. I. Oliker) **99a:53006** 53A07 (58E99)

— On a singularly perturbed elliptic equation. *Adv. Differential Equations* **2** (1997), *no.* 6, 955–980. (Gianni Arioli) **99b:35005** 35B25 (35J60, 35Q55)

— (*with* Nirenberg, Louis) The Dirichlet problem for singularly perturbed elliptic equations. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1445–1490. (Juncheng Wei) **99g:35014** 35B25 (35J65)

— *see also* **Advances in nonlinear partial differential equations and related areas, 99m:35002**

Li, Yang Cheng (*with* Gao, Shou Ping) Strong contact equivalence of multiparameter equivariant bifurcation problems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 10–15. (Zhong-Hua Yang) **99m:58031** 58C27 (58F14)

Li, Yang Ming The relations between some concepts in the theory of quaternion matrices. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 583–588. (Wasin So) **99f:15007** 15A15 (15A33)

Li, Yangrong Differentiable, entire vectors and abstract Cauchy problems. (English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 2, 161–168. (Evgeniĭ Mel'nikov) **99c:47054** 47D06 (34G10)

— The abstract Cauchy problem and a generalization of the Lumer-Phillips theorem. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19**

(1998), no. 4, 534. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 349–358. (S. Kantorovitz) **99k:47094** 47D06 (34G10, 47D03)

Li, Yanjun (*with* Shi, Minyong; Tian, Feng[1]) Tree decompositions for a class of graphs. (English summary) *Discrete Math.* **189** (1998), *no.* 1-3, 221–232. (E. J. Farrell) **99i:05064** 05C05 (05C70)

— (*with* Cai, Mao Cheng) A degree condition for a graph to have $[a, b]$-factors. (English summary) *J. Graph Theory* **27** (1998), *no.* 1, 1–6. (K. Jay Bagga) **99e:05098** 05C70 (68R10)

— (*with* Cai, Mao Cheng; Kano, Mikio) A $[k, k+1]$-factor containing given Hamiltonian cycle. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 933–938. (Summary) **99i:05160** 05C70 (05C45)

Li, Yao Tang Conditions for a matrix to be an interval H-matrix. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 39–43. 15A57

— (*with* You, Zhao Yong) Convergence of block SSOR iterative methods. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 81–85. 65F30 (65F10)

Li, Yao Ying (*with* Shen, Hong[3]) An exact time-dependent solution to the Fokker-Planck equation for the Schlögl first-order phase transition model with external noise. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 369–372, 392. 82C31

Li, Ye (*with* Liu, K. J. Ray) Adaptive blind source separation and equalization for multiple-input/multiple-output systems. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2864–2876. 93C60 (93C40)

Li, Ye Zhou The oscillation theory of the equation $f'' + B_1 f' + B_0 f = H(z)$. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 312–315, 317. (Hong Xun Yi) **99h:34005** 34A20 (30D30, 30D35)

Li, Yeping (*with* Meng, Pei Yuan) The stability for the hyperneutral type nonlinear time varying control systems. I. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 3, 277–282. 93D05 (34K35)

Li, Yi[2] (*with* Cranston, Michael) Eigenfunction and harmonic function estimates in domains with horns and cusps. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1805–1836. (Ya. A. Roĭtberg) **99f:35024** 35J05 (35B45, 35P15)

— (*with* Korman, Philip) On the exactness of an S-shaped bifurcation curve. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1011–1020. (Tetsutaro Shibata) **99f:34027** 34B15 (34C23)

Li, Yi A. Solitary-wave solutions of a nonlinearly dispersive Hamiltonian system. (English summary) *Mathematical and numerical aspects of wave propagation (Golden, CO, 1998)*, 205–208, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q53

— (*with* Olver, Peter J.) Convergence of solitary-wave solutions in a perturbed bi-Hamiltonian dynamical system. II. Complex analytic behavior and convergence to non-analytic solutions. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 1, 159–191. (F. Pempinelli) **99a:35218** 35Q51 (34A20, 35B65, 76B25)

— (*with* Promislow, K.) Structural stability of non-ground state traveling waves of coupled nonlinear Schrödinger equations. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 137–165. (Elaine Machtyngier) **99j:35204** 35Q55 (35B35, 58F39)

Li, Yi Shen (*with* He, Jing Song) Exact solution of the Schrödinger equation for the time-dependent harmonic oscillator. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 13, 1066–1071. (Alexei Zhedanov) **99j:81034** 81Q05 (35Q40)

— (*with* He, Jing Song) Exact solutions to the Schrödinger equation for a time-dependent harmonic oscillator. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 7, 697–700. 81Q05 (35C05, 35J10)

Li, Yikang Low-pass filtered least squares estimators of cointegrating vectors. (English summary) *J. Econometrics* **85** (1998), *no.* 2, 289–316. (Summary) **99b:62139** 62M10 (62P20)

Li, Yin Fan (*with* Song, Song He) A simplified third-order accurate weighted ENO finite volume method. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 2, 127–134. 65N30

Li, Ying (*with* Li, Ying Qiu) Properties of the conditional probability $P_{z,x}$ for two-parameter standard Markov processes. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 113–117. (Ren Ming Song) **99j:60133** 60J99 (60G60)

— (*with* Yang, Bing) On the Br complete[ness]. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 350–352, 383. 46A30

Li, Ying Jie[2] (*with* Chen, Rong Sheng[2]) A method of constructing product magic squares using nongeometric sequences of numbers. (Chinese) *J. East China Norm. Univ. Natur. Sci. Ed.* **1998**, *no.* 4, 98–101. 05B15

Li, Ying Qiu (*with* Li, Ying) Properties of the conditional probability $P_{z,x}$ for two-parameter standard Markov processes. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 113–117. (Ren Ming Song) **99j:60133** 60J99 (60G60)

— (*with* Yan, Xiao Bing) Differentiability properties of three-point transition functions for two-parameter jump processes. I. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 225–228, 239. (Summary) **99j:60125** 60J75

Li, Yingzi (*with* Ding, Ren; Xu, Chang Qin) A note on city block distance. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 364. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 331–334. (From the text) **99i:68124** 68U10 (68T10)

Li, Yinzhen (*with* Ida, Kenichi; Gen, Mitsuo) Improved genetic algorithm for solving multiobjective solid transportation problem with fuzzy numbers. (English summary) *Japanese J. Fuzzy Theory Systems* **9** (1997), *no.* 2, 197–211 (1998). (Summary) **99a:90089** 90B06 (90C70)

Li, Yinzhen (*with* Zhang, Zhong Fu; Xu, Baogen; Liu, Lin Zhong[2]) A note on the lower bounds of signed domination number of a graph. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 295–298. (Summary) **99h:05071** 05C35

Li, Yong (*with* Zhang, C. Z.) Accuracy of solar eclipse calculations, 1644–1785, with the Chinese Shoushi calendar. *J. Hist. Astronom.* **30** (1999), *no.* 2, 161–167. 01A25

Li, Yong[6] (*with* Cong, Fu Zhong; Zhou, Qin De) The KAM theorem for symplectic mappings with degeneracy. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 781–788. (De Ming Zhu) **99d:58143** 58F27

— (*with* Cong, Fu Zhong) Existence of higher-dimensional invariant tori for Hamiltonian systems. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 255–267. (Rafael de la Llave) **99e:58152** 58F27 (34C35, 70H05, 70K99)

— (*with* Lin, Zheng Hua) Homotopy method for solving variational inequalities. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 207–218. (Jürgen Guddat) **99m:65125** 65K05 (49J40, 49M99)

Li, Yong[7] (*with* Qin, Huaizhen; Cui, Hengjian) The N.S. conditions for the ratio of two quadratic forms to have an F-distribution and its applications. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 2, 453–471. (A. K. Gupta) **99d:62060** 62H10

Li, Yong An The strong adjacent edge chromatic number of an outerplanar graph. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **17** (1998), *no.* 1, 102–105. 05C15

Li, Yong Hai The quadratic mixed generalized difference method for biharmonic equations. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Jilin.* **1997**, *no.* 4, 1–8. 65N06

— (*with* Li, Rong Hua) Generalized difference methods on arbitrary quadrilateral networks. *Northeast. Math. J.* **14** (1998), *no.* 1, 1–4. 65N06

— (*with* Li, Rong Hua) A class of generalized difference methods with BB dual subdivision. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 56–68. 65M06 (65N06)

Li, Yong Hong Kernel estimation of survival functions with random censorship. (Chinese) *Sichuan Daxue Xuebao* **35** (1998), *no.* 5, 781–783. 62G05

Li, Yong-Hua *see* **Li, Yong Hua[2]**

Li, Yong Hua[1] (*with* Lin, Feng[1]; Lin, Zheng Hui) A generalized framework for supervisory control of discrete event systems. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 139–159. (Vijay Kumar Garg) **99h:93066** 93C83 (68Q60, 93B05)

Li, Yong Hua[2] (*with* He, Yong[2]) On Yamada's conjecture. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 17–20. (R. J. Warne) **99i:20084** 20M17

— (*with* Zhang, Mou-Cheng; Kan, Hai Bin) The conjugate hull of a Brandt semigroup. (English summary) *Semigroup Forum* **57** (1998), *no.* 3, 301–304. (Pedro V. Silva) **99g:20112** 20M18 (20M20)

Li, Yong Kun Periodic solutions of N-species competition system with time delays. (English summary) *J. Biomath.* **12** (1997), *no.* 1, 1–7. (Summary) **99f:92021** 92D25 (34K15)

— On a periodic delay logistic type population model. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 29–36. (Summary) **99d:34133** 34K15 (34K20, 92D25)

— Periodic solutions of the Liénard equation with deviating arguments. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 565–570. (Summary) **99j:34103** 34K15 (34C25)

— Periodic solutions of the delay-logistic equation with perturbed term. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 175–178. (Summary) **99j:34104** 34K15 (34K20)

— 2π-periodic solutions of delay systems of Duffing's type. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 23–27. (Summary) **99m:34162** 34K15

— Existence and global attractivity of a positive periodic solution of a class of delay differential equation. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 273–284. (Jean Mawhin) **99g:34143** 34K15 (34K20, 92D25)

— Periodic solutions of a periodic delay predator-prey system. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1331–1335. (Alan R. Hausrath) **99i:34101** 34K15 (92D25)

Li, Yong Ming (*with* Wang, Guo Jun[1]) Localic Katětov-Tong insertion theorem and localic Tietze extension theorem. (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 801–814. (Peter Johnstone) **99b:54024** 54C30 (06D20, 18B30, 54C20)

— (*with* Li, Zhihui) Complete surjections and complete epimorphisms over completely distributive lattices. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 279–290. (R. Balbes) **99i:06012** 06D10

— (*with* Wang, Guo Jun[1]) Reflectivity and coreflectivity between the category of topological spaces, the category of topological fuzzes and the category of topological molecular lattices. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 731–736. 54A40 (06B35, 54H12)

Li, Yong Xiang Periodic solutions of semilinear evolution equations in Banach spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 629–636. (Wan Zhuang) **99f:34092** 34G20 (34C25, 47D06)

Li, Yonggang (*with* Armstrong-Hélouvry, Brian; McPherson, Joseph) On the stability of nonlinear PD control. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 273–292. (*see* **99b:70004**) 93D05 (93C10)

Li, Yonghua *see* **Li, Yong Hua[2]**

Li, Yongli (*with* Zhang, Ji Hui[1]; Li, Chuan) Note on some topological properties of sets in information systems. (English summary) *Kybernetes* **27** (1998), *no.* 4-5, 468, 563–564. 54A99

Li, Yongming (*with* Zhang, Xiao-Ying) Basis conversion among Bézier, Tchebyshev and Legendre. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 637–642. (Summary) **99c:65034** 65D17

— (*with* Hsu, Vivian Y.) Curve offsetting based on Legendre series. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 711–720. (Summary) **99e:65025** 65D17 (65Y25)

Li, Yongsheng (*with* Chen, Qingyi) Global attractors for coupled dissipative Klein-Gordon-Schrödinger equations. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 44–49. (Peter E. Zhidkov) **99f:35193** 35Q55 (34G20, 35B40, 47H20, 58F39)

— (*with* Guo, Bo Ling) Attractor for the dissipative generalized Klein-Gordon-Schrödinger equations. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 260–272. (Wen Xiu Ma) **99m:35226** 35Q55 (35B40, 58F39)

Li, Yongxin Set-valued homology. (English summary) *Topology Appl.* **83** (1998), *no.* 2, 149–158. (Summary) **99m:55005** 55N20 (54C60)

Li, You-Quan On boundary condition of single particle and the spectrum of many particles. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications (Tianjin, 1995)*, 236–241, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 81Q05

Li, Yu (*with* Ding, Hao Jiang) Plane problems of cylindrical anisotropic elasticity. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **11** (1994), *no.* 3, 11–18, *I–II*. 73B40 (73C02)

— (*with* Ding, Hao Jiang; Peng, Nan Ling) The wedge subjected to tractions proportional to r^n: a paradox resolved. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 20, 2695–2714. (Alexander B. Movchan) **99e:73030** 73C02 (73V35)

Li, Yu Cheng (*with* Zhang, Yong Gang) A new type of Boussinesq equation. (Chinese) *Kexue Tongbao* (*Chinese*) **42** (1997), *no.* 21, 2332–2334. 35Q35 (76D99)

— (*with* Zhang, Yong Gang) The difference between the developing form of the Boussinesq equation and the theory of Airy waves. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **15** (1998), *no.* 1, 30–35, *III*. 76B15

Li, Yu Hua Entire functions that share four functions IM. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 249–260. (Summary) **99j:30034** 30D35

— (*with* Zhou, Chang Tong) Meromorphic functions with three CM common value sets. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 2, 140–145. (Summary) **99i:30048** 30D35

Li, Yu Qiang (*with* Pei, Ding Yi) Information-theoretic lower bounds for multi-receiver authentication codes and their combinatorial characterization. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **22** (1999), *no.* 1, 91–98. 94A60

Li, Yu Qiang (*with* Liu, Li Wei) Iterative processes for Lipschitz strongly accretive operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 845–850. (Hong Kun Xu) **99k:47145** 47H10 (47H06, 47H17)

Li, Yuan *see* **Li, Yuan²**

Li, Yuan¹ A new class of integral trees with diameter 5. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 435–438. 05C05

Li, Yuan² (*with* Wu, Yougui; Xu, Wenyuan; Du, Jinguan) The stationarity and spectral representation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 185–192. (Summary) **99c:62268** 62M10

— (*with* Wu, Yougui; Xu, Wenyuan; Du, Jinguan) The strong law of large number and parameter estimation of one class of non-negative integer-valued time series. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 3, 225–233. (Summary) **99h:62120** 62M10 (60F15)

— (*with* Xie, Zhongjie) Wavelet function estimation involving time series. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 553–556. (Summary) **99i:42049** 42C15

Li, Yuan-Chuan (*with* Shaw, Sen-Yen) Hermitian and positive integrated C-cosine functions on Banach spaces. (English summary) *Positivity* **2** (1998), *no.* 3, 281–299. (Dieter Lutz) **99k:47103** 47D09

Li, Yuan Qing (*with* Liu, Yong Qing) A class of singular nonautonomous functional-differential equations with bounded delay near a singular point. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 301–319. (Summary) **99f:34095** 34K05 (34A09)

— (*with* Liu, Yong Qing) Structural properties of solutions to autonomous singular nonlinear functional-differential equations near singular points. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 317–324. (Xin-Zhi Liu) **99h:34092** 34K05

— (*with* Liu, Yong Qing) Basic theory of singular systems of linear time varying differential-difference equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 139–148. (From the text) **99j:34087** 34K05

— (*with* Wen, Li Zhi) The coupling method of constructing periodic solutions for a class of systems of ordinary differential equations. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 167–176. 34C25 (34A45)

Li, Yuanlin The hypercentre and the n-centre of the unit group of an integral group ring. (English summary) *Canad. J. Math.* **50** (1998), *no.* 2, 401–411. (Stanley Orlando Juriaans) **99f:16034** 16U60 (16S34)

Li, Yue (*with* Zhang, Cai Ming) A method for determining tangent vectors in shape-preserving parametric interpolation. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 15–22. (*see* **99k:65006**) 65D17

Li, Yue Fen Properties of group antihomomorphisms and anti-isomorphisms. (Chinese. English summary) *Neimenggu Shida Xuebao Ziran Kexue Hanwen Ban* **27** (1998), *no.* 1, 16–17. 20D99

Li, Yue Ke (*with* Xu, Bing Zhen; Yan, Xun Ling) New solitary wave solutions for a class of fifth-order nonlinear evolution equations. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1946–1951. 35Q53

Li, Yueming (*with* Cong, B.; Zheng, Si-Qing) Hamiltonian paths and cycles of Fibonacci cubes with applications. (English summary) Proceedings of the 7th International Conference on Computing and Information, ICCI '95 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 2, 451–464 (*electronic*). (*see* **99d:68010**) 68R10 (05C45, 68M10)

— (*with* Zheng, Si-Qing; Wu, Jie³) An optical interconnection structure based on the dual of a hypercube. (English summary) *Informatica* (*Ljubl.*) **22** (1998), *no.* 4, 499–508. (Summary) **99i:68094** 68R10 (68M10)

Li, Yuesheng (*with* Ling, Jie) Regularization wavelet method for solving integral equations of the first kind. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 339–352, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65219** 65R20 (65R30, 65T20)

— (*with* Lu, Jianzhu) The smoothness of fractal interpolation functions and its Hölder exponents. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 405–412, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Bl. Sendov) **99j:41034** 41A30 (42C15)

— *see also* **Advances in computational mathematics, 99g:65002**

Li, Yulin (*with* Qian, Min Ping) Convergence of TINA algorithms. (English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **32** (1996), *no.* 5, 557–561. (Matthias Löwe) **99b:60116** 60J25 (60F15, 90C27)

Li, Yun (*with* Ng, Kim Chwee; Murray-Smith, David J.; Gray, Gary J.; Sharman, Ken C.) Genetic algorithm automated approach to the design of sliding mode control systems. (English summary) *Internat. J. Control* **63** (1996), *no.* 4, 721–739. 93B12 (90C90)

Li, Yun (*with* Pakes, Anthony G.) On the number of near-records after the maximum observation in a continuous sample. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 3, 673–686. (Shengrong Xie) **99d:60056** 60G70 (60F05, 62G30)

Li, Yun Hui (*with* Zhang, Yan Ying) An exact solution method for systems of linear equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 22–23. 65F05

— An interpolation approximation operator in the reproducing kernel space W_2^1. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 17–20. 41A35 (46E22, 46N40)

— (*with* Kuang, Zheng; Cui, Ming Gen) Wavelet fractional filter. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 353–358. 42C15 (65T20)

Li, Yun Xia Intermediate value formulas and asymptotic properties of "intermediate points" for complex functions. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 75–79, 94. (Yuan Ren Lou) **99g:30002** 30B10 (30C15)

Li, Yusheng (*with* Rousseau, Cecil C.) A Ramsey goodness result for graphs with many pendant edges. (English summary) *Ars Combin.* **49** (1998), 315–318. (Summary) **99c:05140** 05C55

Li, Yuying (*with* Coleman, Thomas F.) Combining trust region and affine scaling for linearly constrained nonconvex minimization. (English summary) *Advances in nonlinear programming* (*Beijing*, 1996), 219–250, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C26 (65K05)

— A Newton acceleration of the Weiszfeld algorithm for minimizing the sum of Euclidean distances. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 3, 219–242. (G. Di Pillo) **99k:90112** 90C20 (65K05, 90C25)

Li, Z. *see* **Li, Zhong Fei**

Li, Z. C. *see* **Li, Zi Cai**

Li, Z. F. *see* **Li, Zhong Fei**

Li, Ze-Sheng (*with* Liu, Jing-Yao; Sun, Jia Zhong; Huang, Xu-Ri) On geminals and symplectic bases in quantum chemistry. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 159–182. (A. J. Coleman) **99e:81271** 81V55 (81R05)

Li, Zehui (*with* Li, Xiaohu) Two new classes IFRA$*t_0$ and NBU$*t_0$ of life distributions. *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 520–525, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 62P05

Li, Zhanbing (*with* Liang, Changqing) Absolute continuity of interacting measure-valued branching processes and its occupation-time processes. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 197–200. (Summary) **99a:60092** 60J80 (60G57)

Li, Zhanzong (*with* Xu, Junming; Shen, Jian²) Some results on arithmetic and balanced graphs. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 2, 183–193. (Yixun Lin) **99j:05164** 05C75 (05C78)

Li, Zhao Wen (*with* Li, Jin Jin) A note on *Lindelöf spaces. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 123–125. 54D20

Li, Zhen Qi (*with* Ouyang, Chong Zhen) Two differential operators acting on abelian forms with values in vector bundles and their applications. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 83–92; *translation in Chinese J. Contemp. Math.* **19** (1998), *no.* 1, 43–54. (Fangyang Zheng) **99i:53062** 53C42

— (*with* Yu, Zuhuan) CMC surfaces in the hyperbolic 3-space. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 547–550. (Luis J. Alías) **99m:53021** 53A10

— Holomorphic 2-spheres in Grassmann manifolds. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 357–364. (John C. Wood) **99m:58066** 58E20 (53C42)

Li, Zheng Feng (*with* Spedicato, Emilio) Restarted and truncated versions of ABS methods for large linear systems: a basic framework. (English summary) *Large-scale scientific computations of engineering and environmental problems* (*Varna*, 1997), 328–337, *Notes Numer. Fluid Mech.*, 62, *Vieweg, Braunschweig*, 1998. (*see* **99m:65006**) 65F50

— (*with* Deng, Nai Yang) Convergence analysis of general trust region algorithms on the basis of the conic model. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 247–252. (Yin Zhang) **99g:90125** 90C30 (65K05)

— (*with* Chen, Jing³; Deng, Nai Yang) A new conjugate gradient method and its global convergence properties. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 1, 53–60. (Summary) **99a:90191** 90C30 (65K05)

Li, Zheng Liang (*with* Zhong, Shou Ming) The stability of a general continuous-time neural network. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 1, 92–97. 93D05 (93C30)

Li, Zheng Qi (*with* Liu, Song Tao; Zeng, She Rong) Smooth interpolation of a discrete set of points on a surface. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 51–56. (*see* **99k:65006**) 65D17

Li, Zheng Rong (*with* Zhu, Yi Quan) Relations between regular HFI algebras and lattice H implication algebras. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **21** (1998), *no.* 2, 137–140. 18B35 (03G25)

Li, Zheng Wu (*with* Lin, Yi²) Solvability of systems of nonlinear singular integral equations with different densities. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 9, 106–109. (Summary) **99i:45009** 45G05

— (*with* Zou, Kai Qi) Neural network methods for multifactorial evaluations. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 20–25. 68T05

Li, Zheng Xiu (*with* Tang, Shao Wu; Feng, Zhen Xing) An application of the boundary element method to problems of transient heat conduction with moving boundary. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 4, 371–377. 65N38 (80–08)

Li, Zheng-yuan (*with* Tao, Ji-yuan; Ye, Qi-xiao) A mathematical analysis for a diffusive epidemic model with criss-cross dynamics. (English summary) *Differential equations and applications* (*Hangzhou*, 1996), 183–193, *Internat. Press, Cambridge, MA*, 199?. (H. W. Hethcote) **99c:92055** 92D30 (35K57, 35Q80)

— (*with* Ye, Qi-xiao) The existence of positive periodic solutions and equilibrium solutions for reaction-diffusion systems—application of degree theory. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 92–101, *World Sci. Publishing, River Edge, NJ*, 1997. (Ioannis G. Stratis) **99k:35091** 35K57 (35B10, 47H15, 47N20, 58C30)

Li, Zhengguo (*with* Soh, Cheong Boon; Xu, Xin He) Robust stability of a class of hybrid dynamic uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1059–1072. (Summary) **99g:93067** 93D09

Li, Zhi (*with* Sibgatullin, N. R.) A refined theory of long waves on the surface of water. (Russian. Russian summary) *Prikl. Mat. Mekh.* **61** (1997), *no.* 2, 184–189; *translation in*

J. Appl. Math. Mech. **61** (1997), *no.* 2, 177–182. (Summary) **99d:76012** 76B15 (35Q35, 76B25)

Li, Zhi Bin[1] (*with* Zhang, Shan Qing) Symbolic computation of exact solitary wave solutions to nonlinear wave equations. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 1, 81–89. (Summary) **99c:35204** 35Q51 (68Q40)

— (*with* Wang, Ming Liang; Zhou, Yu Bin) A nonlinear transformation of the dispersive long wave equations in $(2+1)$ dimensions and its applications. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 120–125. (Yan Guo) **99c:35168** 35L70 (35A30, 35C05)

— Analytical solitary wave solutions for the nonlinear Schrödinger equation coupled to the Korteweg-de Vries equation. (English summary) Research on the theory and applications of computer algebra (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1038 (1998), 218–222. (*see* **99h:00034**) 35–04 (35Q53, 35Q55)

Li, Zhi Gang[1] (*with* Zheng, Zhi Zhen; Li, Shang Jian) A new algorithm for reducing the bandwidth of a sparse matrix. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 12, 43–45. 65F50

Li, Zhi Guo Asymptotic normality of linear rank statistics and their convergence rate. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 2, 240–248. (Summary) **99g:62017** 62E20 (62G20)

Li, Zhibin *see* **Li, Zhi Bin**[1]

Li, Zhifeng (*with* Cheng, Yi[1]) Poisson structures for dispersionless integrable systems and associated w-algebras. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 73–83. (Josep Herrero) **99e:58093** 58F07 (17B68, 35A30, 35Q53, 35S99)

Li, Zhihui (*with* Li, Yong Ming) Complete surjections and complete epimorphisms over completely distributive lattices. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 279–290. (R. Balbes) **99i:06012** 06D10

Li, Zhilin The immersed interface method using a finite element formulation. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 253–267. (Michael Fröhner) **99h:65140** 65L20 (65N15)

— (*with* Wang, Deshen; Zou, Jun) Theoretical and numerical analysis on a thermoelastic system with discontinuities. (English summary) *J. Comput. Appl. Math.* **92** (1998), *no.* 1, 37–58. (Summary) **99d:73012** 73B30 (65M06, 65M12, 73V20)

— A fast iterative algorithm for elliptic interface problems. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 230–254 (*electronic*). (Summary) **99b:65126** 65N06 (65N22, 65N50)

Li, Zhiping Rotational transformation method and some numerical techniques for computing microstructures. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 985–1002. (Georg K. Dolzmann) **99i:73011** 73B30 (49J40, 65N99, 73C50, 73S10, 73V05, 73V25)

— An integral representation theorem for lower semicontinuous envelopes of integral functionals. *Nonlinear Anal.* **32** (1998), *no.* 4, 541–548. (Baisheng Yan) **99e:49014** 49J45

Li, Zhiyuan (*with* Jin, Guohua; Chen, Fujie) An efficient solution to the cache thrashing problem caused by true data sharing. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 5, 527–543. (Summary) **99c:68055** 68N25 (68M07, 68N20)

Li, Zhong[1] A convergence theorem on quasiconformal harmonic maps of the Poincaré disc. (English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 2, 151–158. (Masahiko Taniguchi) **99g:30024** 30C62 (30F60)

Li, Zhong Fei Benson proper efficiency of vector optimization of set-valued maps. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 123–134. (Fuan Zhao) **99f:90110** 90C29 (49N15, 90C26)

— (*with* Wang, Shou Yang) A type of minimax inequality for vector-valued mappings. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 68–80. (Carlo Bardaro) **99j:47090** 47H10 (47H19, 49J35)

— Benson proper efficiency in the vector optimization of set-valued maps. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 623–649. (Vasile Postolică) **99g:90111** 90C29

— (*with* Wang, Shou Yang) Connectedness of super efficient sets in vector optimization of set-valued maps. (English summary) Set-valued optimization. *Math. Methods Oper. Res.* **48** (1998), *no.* 2, 207–217. (Tamaki Tanaka) **99m:90124** 90C29 (49J52)

— A theorem of the alternative and its application to the optimization of set-valued maps. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 2, 365–375. (Bruce D. Craven) **99k:90145** 90C29 (90C48)

Li, Zhong Heng (*with* Zhao, Zheng) New quantum effects for nonstationary black holes. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 345–346. 83C57

— (*with* Mi, Li Qin) The determination of event horizons in non-static space-times. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 238–240. 83C57

Li, Zhong Li (*with* Huang, Zhengliang; Wan, Bai Wu) A new technique integrated steady-state estimation and dynamic identification for a class of nonlinear systems. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 415–422. 93E12 (93C10)

— (*with* Li, Lei Min; Huang, Yu Qing) A robust self-tuning controller with unmodeled dynamics and its stability analysis. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 2, 156–160. 93D21 (93C99)

Li, Zhongcheng (*with* Min, Ying Hua; Zhao, Zhuxing) Boolean process. (English summary) *Sci. China Ser. E* **40** (1997), *no.* 3, 250–257. (Christoph Meinel) **99a:94072** 94C10 (68Q35)

Li, Zhongkai Absolute Cesàro summability of orthogonal polynomial series. *Approximation and optimization, Vol. I* (*Cluj-Napoca*, 1996), 299–306, *Transilvania, Cluj-Napoca*, 1997. (B. P. Mishra) **99c:40009** 40G05 (42C10)

— Absolute Cesàro summability of some series related to orthogonal polynomial expansions. (English summary) *East J. Approx.* **3** (1997), *no.* 2, 137–154. (Prem Chandra) **99b:40003** 40F05 (40G05, 42C15)

— On absolute convergence of Bernstein polynomials. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 347–352. (Wiesław Pleśniak) **99f:41028** 41A35

Li, Zhongshan (*with* Eschenbach, Carolyn A.; Hall, Frank J.) From real to complex sign pattern matrices. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 1, 159–172. (Rafael Canto) **99d:15003** 15A15 (15A09, 15A48)

Li, Zhoujun (*with* Wang, Bingshan; Chen, Huo Wang) Universal abstract consistency class and universal refutation. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 2, 165–172. (Summary) **99k:68176** 68T15 (03B35)

Li, Zhu (*with* Martin, Clyde F.) An inverse problem of a linear dynamic system with noise. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1291–1317. 93E03 (93E20)

Li, Zhuo The classification of $(\mathcal{F},\sigma)$-irreducible monoids of type A_4. (English summary) *Comm. Algebra* **26** (1998), *no.* 10, 3275–3290. (Mohan S. Putcha) **99e:20073** 20M10 (20G99)

Li, Zi Cai ★ Combined methods for elliptic equations with singularities, interfaces and infinities. (English summary) Mathematics and its Applications, 444. *Kluwer Academic Publishers, Dordrecht*, 1998. *xxiv+476 pp. ISBN* 0-7923-5084-7 (Serge Nicaise) **99i:65001** 65–02 (35Jxx, 65Nxx)

— New discrete techniques for 3D image transformations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 4, 77–109. (Luiz Henrique de Figueiredo) **99j:65258** 65Y20 (65D30, 68T10)

— Lagrange multipliers and other coupling techniques for combined methods of elliptic equations. (English summary) *Information* **1** (1998), *no.* 2, 5–21. (Manil Suri) **99h:65194** 65N30 (35J20)

— (*with* Bai, Zhi-Dong) Probabilistic analysis on the splitting-shooting method for image transformations. (English summary) *J. Comput. Appl. Math.* **94** (1998), *no.* 2, 69–121. (Françoise Dibos) **99j:65031** 65D30 (68U10)

— Boundary penalty finite element methods for blending surfaces. I. Basic theory. (English summary) *J. Comput. Math.* **16** (1998), *no.* 5, 457–480. (Julio Guacaneme Dix) **99h:65028** 65D17 (65N30)

— (*with* Bui, T. D.; Nguyen, H. V.) Numerical simulation of liquid redistribution in permeable media involving hysteresis. (English summary) *Math. Comput. Modelling* **28** (1998), *no.* 12, 81–103. (Summary) **99j:76081** 76M20 (76S05)

Li, Zun Xian (*with* Li, Rui Hu) Some classes of A^2-codes constructed by using symplectic geometry. I. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 2, 12–16. (Summary) **99i:94050** 94A60

— (*with* Ren, Fang Guo; Luo, Jiang Yun) A construction of Reed-Muller codes. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 5–6, 10. (Summary) **99k:94048** 94B05

Lian, Bong H. (*with* Zuckerman, Gregg J.) Algebraic and geometric structures in string backgrounds. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 323–335, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81257** 81T70 (17B56, 81R10, 81T30)

— (*with* Liu, Kefeng; Yau, Shing-Tung) Mirror principle. I. (English summary) *Asian J. Math.* **1** (1997), *no.* 4, 729–763. (Andreas Gathmann) **99e:14062** 14N10 (14D20, 14J32)

— (*with* Klemm, Albrecht Otto; Roan, Shi-shyr; Yau, Shing-Tung) Calabi-Yau four-folds for M- and F-theory compactifications. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 3, 515–574. (Mark Gross) **99h:14042** 14J32 (14J35, 32J18, 81T30)

— (*with* Liu, Kefeng; Yau, Shing-Tung) The Candelas-de la Ossa-Green-Parkes formula. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 106–114. (Andreas Gathmann) **99k:14088** 14N10 (14D20, 14J32)

Lian, Jian-ao Orthogonality criteria for multi-scaling functions. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 3, 277–311. (Peter R. Massopust) **99d:42045** 42C05 (42C15)

Lian, Kuang-Yow (*with* Lin, Chia-Ru) Sliding-mode motion/force control of constrained robots. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1101–1103. 93B12 (70B15, 70Q05, 93C85)

— (*with* Wang, Li Sheng[1]; Fu, Li Chen) A skew-symmetric property of rigid-body systems. (English summary) *Systems Control Lett.* **33** (1998), *no.* 3, 187–197. (Alexander M. Kovalev) **99b:70005** 70E15 (70Q05, 93C85)

Lian, Qing Rong (*with* Zhang, Yong[2]) A refined incomplete orthogonalization algorithm for solving large unsymmetric eigenproblems. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 273–279. (Summary) **99j:65065** 65F15

Lian, Shi You The value of a derived language and its semantic representation. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 52–57. 68S05

Lian, Wei-Cheng (*with* Agarwal, Ravi P.; Wong, Fu-Hsiang) Existence of positive solutions of nonlinear second order differential systems. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 375–387. (Summary) **99b:34041** 34B15

Lian, Yu Zhong (*with* Li, Shi Qu; Zeng, Ben Sheng) The relationship between the Chrestenson linear spectra and the cyclic spectra of P-valued logic functions. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **14** (1997), *no.* 2, 39–43, 58. (Lei Qian) **99c:03034** 03B50

Lian, Zhaotong (*with* Liu, Liming) A discrete-time model for perishable inventory systems. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 103–116. (*see* **99m:90004**) 90B05 (90B25)

Liancun, Zheng *see* **Zheng, Lian Cun**

Liang, Canbin (*with* Gao, Sijie; Kuang, Zhiquan) "Clock rate synchronizable" reference frames in curved space-times. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2862–2865. (Robert J. Low) **99d:83078** 83C99 (53C80)

— (*with* Ma, Yongge) The degenerate sector of Ashtekar's phase space. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 35, 2839–2843. (Viqar Husain) **99m:83018** 83C05

— (*with* Ma, Yongge) Causal structure and degenerate phase boundaries. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044008, 6 *pp.* (Summary) **99m:83077** 83C45 (83C05)

Liang, Changqing (*with* Li, Zhanbing) Absolute continuity of interacting measure-valued branching processes and its occupation-time processes. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 197–200. (Summary) **99a:60092** 60J80 (60G57)

Liang, Chengzhi (*with* Mislow, Kurt; Flapan, Erica) Amphicheiral links with odd crossing number. (English summary) *J. Knot Theory Ramifications* **7** (1998), *no.* 1, 87–91. (G. Burde) **99c:57027** 57M25

Liang, Chuck Free variables and subexpressions in higher-order meta logic. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 263–276, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99m:03022** 03B35 (03B40, 68Q42, 68T15)

Liang, Chunlong (*with* Kartsatos, Athanassios G.) Extending the class of pre-assigned responses in problems of K-controllability in general Banach spaces. *Nonlinear Anal.* **28** (1997), *no.* 2, 235–245. (M. Joshi) **99b:93009** 93B05 (47H15, 47N70, 93C25)

Liang, Dong Qing (*with* Hu, Yu Da) The ε-expanding cone and ε-proper efficiency for multiobjective programming. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 1, 72–78. 90C29 (90C48)

Liang, Fei-Tsen Absolute gradient bounds for nonparametric hypersurfaces of constant mean curvature and the structure of generalized solutions for the constant mean curvature equation. (English summary) *Calc. Var. Partial Differential Equations* **7** (1998), *no.* 2, 99–123. (Jie Yang) **99k:35052** 35J60 (53A10, 58E12)

Liang, Guo Ping (*with* Hu, Qi Ya) A kind of preconditioner for domain decomposition methods with Lagrangian multipliers. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 201–212. (Summary) **99e:65173** 65N55

— (*with* Hu, Qi Ya) A general framework for constructing an interface preconditioner for domain decomposition methods. (Chinese. English summary) *Math. Numer. Sin.* **21** (1999), *no.* 1, 117–128. (Summary) **99m:65238** 65N55

Liang, Hai Shao (*with* Wang, Xu Yi; Fang, Qi) A probabilistic grammar for structural pattern recognition and an algorithm for it. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 4, 495–502. 68Q50 (68T10)

Liang, Han Ying (*with* Niu, Si Li) p-type spaces and convergence rates of tail probabilities for sums of B-valued random elements. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 92–102. (Summary) **99e:60020** 60B12

— (*with* Xue, Zhan Ao; Niu, Si Li) Complete convergence and laws of large numbers for arrays of B-valued random elements. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 89–96. (Summary) **99e:60021** 60B12

— (*with* Ren, Yao Feng) Complete convergence for B-valued L^p-mixingale sequences. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 749–754. (Allan Gut) **99i:60073** 60F15 (60B12, 60G48)

— (*with* Su, Chun) Convergence of the logarithm law for negatively associated sequences. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 18, 1919–1925. 60F05

Liang, Hua (*with* Zhou, Yong[2]) Asymptotic normality in a semiparametric partially linear model with right-censored data. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2895–2907. (Summary) **99i:62072** 62G05

Liang, Ji-hua The product of uniformity locales. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 411–416. (Summary) **99i:54030** 54E15 (06A23)

— (*with* Luo, Mao-kang; Liu, Ying Ming) On convergence classes in L-fuzzy topological spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 316–331. (I. W. Alderton) **99i:54010** 54A40

— (*with* Luo, Mao-kang; Liu, Ying Ming) Accumulation point and C. T. Yang's theorem in L-fuzzy topological spaces. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 266–277. 54A40

Liang, Jia-Juan (*with* Kotz, Samuel; Fang, Kai-Tai) On multivariate vertical density representation and its application to random number generation. (English summary) *Statistics* **30** (1997), *no.* 2, 163–180. (Summary) **99a:62006** 62-09 (62H05, 65C10)

— (*with* Fang, Kai-Tai; Li, Run-Ze) A multivariate version of Ghosh's T_3-plot to detect non-multinormality. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 4, 371–386. (Summary) **99j:62079** 62H15 (62G10)

Liang, Jie (*with* Edelsbrunner, Herbert; Facello, Michael) On the definition and the construction of pockets in macromolecules. (English summary) *Discrete Appl. Math.* **88** (1998), *no.* 1-3, 83–102. (Jean-Paul Doignon) **99k:92010** 92C40 (52B55, 92D20)

— (*with* Parks, Thomas W.) Image coding using translation invariant wavelet transforms with symmetric extensions. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 5, 762–769. 94A12 (68U10)

Liang, Jin Regularity of solutions for arbitrary order variational inequalities with general convex sets. (English and French summaries) *Ann. Inst. H. Poincaré Anal. Non Linéaire* **14** (1997), *no.* 6, 719–758. (Gary M. Lieberman) **99a:35103** 35J85 (35B65, 49J40, 49N60)

— (*with* Xiao, Ti Jun) Entire solutions of higher order abstract Cauchy problems. (English summary) *J. Math. Anal. Appl.* **208** (1997), *no.* 2, 298–310. (Jacek Banasiak) **99a:34163** 34G10 (47D09, 47N20)

— (*with* Xiao, Ti Jun) Exponential stability of solutions for higher order abstract Cauchy problems. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 485–498. (Angelo Favini) **99b:34102** 34G10 (34D05, 35K99, 35L99, 47N20)

— (*with* Deng, Jian Ping; Xiao, Ti Jun) Holomorphic regularized semigroups and regularized cosine functions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 545–552. (Summary) **99e:47044** 47D06 (47D09)

— (*with* Xiao, Ti Jun) Norm continuity for $t > 0$ of linear operator families. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 9, 719–723. (Ioana Ciorănescu) **99j:47054** 47D06 (34G10)

— (*with* Xiao, Ti Jun) A characterization of norm continuity of propagators for second order abstract differential equations. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 2, 87–94. (Jacek Banasiak) **99g:34124** 34G10 (47D09)

— (*with* Huang, Fa Lun; Xiao, Ti Jun) Exponential stability for abstract linear autonomous functional-differential equations with infinite delay. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 2, 255–259. (Summary) **99a:34213** 34K20 (34K30, 47D06)

Liang, Jin-Rong (*with* Ren, Fu yao) Hausdorff dimensions of random net fractals. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 2, 235–250. (Norbert Patzschke) **99e:28014** 28A80 (60D05, 60J80)

Liang, Jiu Qing (*with* Liu, Wen Sen; Ma, Gui Rong; Zhang, Jiu An) Squeezed boson-pair number states in a quantum Bose fluid. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1699–1709. (Summary) **99d:82011** 82B10

Liang, Ke Dixmier algebras, an inductive derivation process for orbital data and its applications. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 20, 2142–2144. 20E99

— Induction-by-stages of Dixmier algebras and orbit datum and its application. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 818–820. (Esther Galina) **99h:22017** 22E46 (17B35)

— (*with* Lu, Linyuan) Sheets and rigid orbit covers of exceptional Lie groups. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 20, 1702–1707. (Hung Yean Loke) **99m:22015** 22E46

Liang, Li Fu (*with* Liang, Zhong Hong; Shi, Zhi Fei) The stationary value property of Hamilton's principle in non-holonomic systems. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 12, 1169–1176; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1089–1096 (*Chinese. English and Chinese summaries*). (A. Sumbatov) **99a:70021** 70F25 (70H25)

Liang, Li Ping (*with* He, Yu Xin; Guo, Hao Zhi) The numerical values of the terms of the Batrachion sequence. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 357–362. (Run Sheng Yang) **99i:28015** 28A80

Liang, M. C. (*with* Lan, C. W.; Chen, Ming-Kuan) Bifurcation and stability analyses for a two-phase Rayleigh-Benard problem in a cavity. (English summary) *Phys. Fluids* **10** (1998), *no.* 6, 1329–1343. (Summary) **99b:76035** 76E15 (76M25, 76T05, 80A22)

Liang, Min Bilinear optimal control for a wave equation. (English summary) *Math. Models Methods Appl. Sci.* **9** (1999), *no.* 1, 45–68. (Luz de Teresa) **99m:49006** 49J20 (35L05, 49K20)

Liang, Qihong (*with* Chen, Wen De; Xu, Jing) Period of processing on serial production line, optimal scheduling and application. (English summary) *Discrete Event Dyn. Syst.* **9** (1999), *no.* 1, 9–21. 90B30 (90B35)

Liang, TaChen On hierarchical Bayesian estimation and selection for multivariate hypergeometric distributions. (English summary) *Advances in statistical decision theory and applications*, 49–64, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (Khursheed Alam) **99a:62011** 62C10 (62F07, 62F15)

— (*with* Huang, Wen-Tao) Empirical Bayes rules for selecting the best uniform populations. (English summary) *Advances in statistical decision theory and applications*, 79–96, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1997. (S. Panchapakesan) **99c:62049** 62F07 (62C12)

Liang, Wen-Qi (*with* Bai, Zhi-Dong; Chao, Chern-Ching; Hwang, Hsien-Kuei) On the variance of the number of maxima in random vectors and its applications. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 3, 886–895. (Ilya S. Molchanov) **99f:60019** 60D05 (65Y25, 68Q25)

— (*with* Chao, Chern-Ching; Hwang, Hsien-Kuei) Expected measure of the union of random rectangles. (English summary) *J. Appl. Probab.* **35** (1998), *no.* 2, 495–500. (Summary) **99e:60037** 60D05

— (*with* Bai, Zhi-Dong; Hwang, Hsien-Kuei) Normal approximations of the number of records in geometrically distributed random variables. (English summary) Proceedings of the Eighth International Conference "Random Structures and Algorithms" (Poznan, 1997). *Random Structures Algorithms* **13** (1998), *no.* 3-4, 319–334. (Peter Kirschenhofer) **99k:60051** 60F05 (60F10, 60G70)

Liang, Xi Ming (*with* Ai, Wen Bao) A variant of Gay's linear programming algorithm and its complexity analysis. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 84–88. 90C05

Liang, Xi Quan (*with* Liu, Guo Qian) The budget set of a no-arbitrage equilibrium in a two-stage exchange economy and the Stiefel manifold. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 2, 1–7. (Xie Ping Ding) **99a:90058** 90A14

— (*with* Zhuang, Xin Lu) The index formula for a contingent asset market in an exchange economy with two periods. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 3, 1–6. 90A09

Liang, Xi Ting Maximum principles for solutions of nonlinear elliptic systems. (English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 6, 10–15. (Jesús Hernández) **99g:35044** 35J65 (35B50)

— (*with* Wang, Xiang Dong) Boundedness and a priori estimates of generalized solutions to elliptic equations with critical growth. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 3, 232–243. (Zi Qian Yan) **99b:35059** 35J60 (35B45, 35D99)

— (*with* Wang, Xiang Dong) Hölder continuity of the gradients of generalized solutions to a class of degenerate elliptic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 3, 55–60. (Jun Yu Wang) **99a:35102** 35J70 (35B65)

— Hölder continuity of solutions to elliptic equations involving measures. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 243–250. (Summary) **99h:35050** 35J60 (35B65, 35R05)

— (*with* Wang, Xiang Dong) A Liouville-type theorem for solutions to systems of elliptic equations in diagonal form. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 2, 144–153. 35J60 (35B05)

— (*with* Wang, Xiang Dong; Han, Pu Xian) A priori estimate for lower solutions of a class [of] quasilinear elliptic equations. *Appl. Math. Mech. (English Ed.)* **20** (1999), *no.* 2, 231–232; *translated from Appl. Math. Mech.* **20** (1999), *no.* 2, 217–219 (*Chinese. English and Chinese summaries*). 35J60 (35B45)

Liang, Xian Ting Local universal unfolding and Hopf bifurcation of equations for energy and information transport by protein molecules. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 6, 41–45. (From the summary) **99e:92013** 92C40 (35B32, 35Q99, 92D20)

Liang, Xiao Yan Characterizations of Carleson measures on B_n. (Chinese. English and Chinese summaries) *J. Northwest Univ.* **28** (1998), *no.* 1, 5–9. (Sheng Gong) **99e:32006** 32A37

Liang, Xin Jian (*with* Liu, Bi Qiu; Lin, Ju Fang) A note on some integral inequalities. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 113–116. 26D15

Liang, Xue Bin (*with* Wu, Li De; Yu, Jun) Segmenting and estimating multiple 3-D rigid motions from 2-D point correspondences. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 186–191. 93E10 (93C85)

— (*with* Wu, Li De) New sufficient conditions for absolute stability of neural networks. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 584–586. (Summary) **99b:92004** 92B20

— (*with* Wu, Li De) A comment on: "Comments on: 'Necessary and sufficient condition for absolute stability of neural networks'" [IEEE Trans. Circuits Systems I Fund. Theory Appl. **42** (1995), no. 8, 497–499; MR 96j:92005] by E. Kaszkurewicz and A. Bhaya. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 594. (Summary) **99g:92006** 92B20 (68T05, 90C35)

— (*with* Wu, Li De) A simple proof of a necessary and sufficient condition for absolute stability of symmetric neural networks. (English summary) *IEEE Trans. Circuits*

Systems I Fund. Theory Appl. **45** (1998), *no.* 9, 1010–1011. (Summary) **99h:92003** 92B20

Liang, Xue-Zhang (*with* Lü, Chun-Mei) On the integral convergence of Kergin interpolation on the disk. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 45–63. (Jian Ke Lu) **99m:41048** 41A55 (65D32)

Liang, Xundong (*with* Li, Bin[2]; Liu, Shen Quan[1]) A surface rendering approach in 3D rectilinear datafield. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 220–227. (Summary) **99a:68172** 68U05

Liang, Yixing (*with* Zhan, Hua Shui) The geodesics without conjugate point on a complete manifold. *Tensor (N.S.)* **57** (1996), *no.* 3, 325–327. (Introduction) **99f:53042** 53C22 (53C21)

Liang, You Ming (*with* Ouyang, Cai Heng) A remark on the Folland-Stein theorem for the Heisenberg group. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 3, 342–347. (Summary) **99m:35011** 35A20 (22E25, 46F10)

Liang, Youdong (*with* Zou, Zhenqiang; Wang, Guo Zhao) An extension of Clairaut equation and its application. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **12** (1997), no. 1, 125. *Appl. Math. J. Chinese Univ. Ser. B* **12** (1997), *no.* 1, 1–14. (Summary) **99a:53003** 53A04 (68U07, 73K03)

Liang, Yuan (*with* Chen, Tianping) Capability of neural networks in computing the outputs of dynamic systems with inputs defined on the whole space. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 4, 366–371. 93B30 (65L06, 92B20)

Liang, Yuh-jeng (*with* Weng, Chih-Wen) Parallelogram-free distance-regular graphs. (English summary) *J. Combin. Theory Ser. B* **71** (1997), *no.* 2, 231–243. (Robert Beezer) **99c:05206** 05E30 (05C50, 05C75)

Liang, Zhan Dong Some properties of nonlinear operators and positive solutions of a class of integral equations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 3, 345–350. (Hong Kun Xu) **99a:45012** 45G10 (47H07, 47H10, 47H30)

Liang, Zhao (*with* Wang, Ting Fu; Ji, Dong Hai) The weakly strongly exposed points of Orlicz spaces. (English summary) *Rend. Circ. Mat. Palermo* (2) **47** (1998), *no.* 3, 375–396. (Sompong Dhompongsa) **99k:46049** 46E30 (46B20)

Liang, Zhaojun The global theorem of A. N. Berlinskii. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 236–239. (I. D. Iliev) **99e:34031** 34C05 (34C40)

Liang, Zheng (*with* Li, Da Zhi[2]; Yang, Zi Qiang) A numerical computation method for Bessel functions of the first and second kinds with complex arguments. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 7, 125–128. 65D20

Liang, Zhi An (*with* Ye, Qing Kai) The discussion on algebraic properties of polynomial matrices. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 10, 951–956; *translated from Appl. Math. Mech.* **19** (1998), *no.* 10, 879–884 (*Chinese. English and Chinese summaries*). (Summary) **99m:15016** 15A30 (16S50)

Liang, Zhihe The balanced properties of bipartite graphs with applications. (English summary) *Ars Combin.* **48** (1998), 283–288. (Summary) **99c:05171** 05C78

Liang, Zhong Hong (*with* Liang, Li Fu; Shi, Zhi Fei) The stationary value property of Hamilton's principle in non-holonomic systems. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 12, 1169–1176; *translated from Appl. Math. Mech.* **18** (1997), *no.* 12, 1089–1096 (*Chinese. English and Chinese summaries*). (A. Sumbatov) **99a:70021** 70F25 (70H25)

Liang, Zong Qi A finite difference method for a nonlinear Schrödinger equation with a wave operator. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 1–4. 65M06 (65M12)

Liangxia, Zongxia Two parameter smooth martingales on the Wiener space. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 3, 480. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 2, 239–246. (Peter Imkeller) **99b:60059** 60G44 (60G60, 60J45)

— (*with* Zheng, Mingli) Exponential integrability, exponential decay of entropy and logarithmic Sobolev inequalities of symmetric diffusions. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 9–13. (Summary) **99e:60144** 60H30 (60J60)

Liao, An-ping A class of inverse problems of matrices and its best approximation on the linear manifold. (English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 1, 4–9. (Summary) **99h:65081** 65F30 (15A48)

— A class of inverse problems of matrix equation $AX = B$ and its numerical solution on the linear manifold. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 371–376. 65F30 (15A06)

— (*with* Zhang, Lei[1]) The necessary and sufficient conditions for the solvability of a class of the matrix inverse problem. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 2, 195–200. 65F10 (15A09)

Liao, C. T. (*with* Iyer, H. K.) Orthogonal parallel-flats designs for $s_1^{n_1} \times s_2^{n_2}$ mixed factorial experiments. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 1, 175–191. (I. M. Chakravarti) **99m:62116** 62K15

Liao, Cheng-Huang (*with* Chang, Ye-In; Liu, Bor-Miin) An efficient strategy for beneficial semijoins. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 2, 141–151. 68P15

Liao, Ching-Jong (*with* Liao, Li-Man) Single machine scheduling problem with fuzzy due date and processing time. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 2, 189–196. (Summary) **99a:90109** 90B35

Liao, Chun Hua (*with* Lu, Tu) A method for determining a basis of a fuzzy vector space and the calculation of its dimension. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 30–35. 15A03

Liao, Dong Chu An interactive procedure exploiting stochastic dominance for risk decision-making. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 1, 21–28. 90A05

Liao, Gongfu (*with* Huang, Guifeng; He, Bai He) Likely limit sets of Feigenbaum's maps and their Hausdorff dimensions. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 349–356. (Remo Badii) **99b:58153** 58F12 (28A80)

— (*with* Fan, Qinjie) Minimal subshifts which display Schweizer-Smítal chaos and have zero topological entropy. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 1, 33–38. (Karen Brucks) **99d:54023** 54H20 (54C70, 58F03, 58F13)

Liao, Guojun (*with* Liu, Feng[2]; Ji, Shanhong) An adaptive grid method and its application to steady Euler flow calculations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 811–825 (*electronic*). (Barak Galanti) **99j:65221** 65N50 (76M25)

Liao, Hua Kui Heat flow problems in centroaffine geometry. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **34** (1997), *no.* 5, 595–601. (Chuan Yu Ma) **99c:53008** 53A15 (58G11)

Liao, Li-Man (*with* Liao, Ching-Jong) Single machine scheduling problem with fuzzy due date and processing time. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 2, 189–196. (Summary) **99a:90109** 90B35

Liao, Li-Zhi (*with* Qi, Hou-Duo; Lin, Zheng Hua) Regularized smoothing approximations to vertical nonlinear complementarity problems. *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 261–276. (Jie Sun) **99k:90178** 90C33 (90C30)

— (*with* Qi, Hou-Duo) A neural network for the linear complementarity problem. (English summary) *Math. Comput. Modelling* **29** (1999), *no.* 3, 9–18. 90C33

Liao, Min Li (*with* Luo, Gui Lie; Jiang, You Lin) Almost periodic solution of two-species patch-type nonautonomous diffusive Lotka-Volterra competitive models. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 441–445. (Summary) **99a:92028** 92D25 (34C27)

— (*with* Luo, Gui Lie) Properties of almost periodic solution for a kind of ecological systems with time delay. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 534–545. (Summary) **99i:92023** 92D25 (34K15)

— (*with* Luo, Gui Lie; Jiang, You Lin) Almost periodic solutions to two-species nonautonomous Lotka-Volterra competition systems with diffusion. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 204–210. (Summary) **99f:92022** 92D25

Liao, Ming Liapounov exponents of stochastic flows. (English summary) *Ann. Probab.* **25** (1997), *no.* 3, 1241–1256. (Patrick T. McDonald) **99b:58240** 58G32 (60H10)

Liao, Teh-Lu (*with* Chen, Fu-Wei) Control of Chua's circuit with a cubic nonlinearity via nonlinear linearization technique. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 6, 719–731. (Summary) **99h:94080** 94C05

Liao, Wenyuan (*with* Li, Qing Yang) A class of mixed type methods for solving stiff ODEs and their parallel implementation. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1221–1226, 1232. (Summary) **99j:65117** 65L05

Liao, Xiao-hai (*with* Zhou, Ai Hui) A multi-parameter splitting extrapolation and a parallel algorithm for elliptic eigenvalue problem. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 213–220. (Summary) **99c:65208** 65N30 (65N25)

Liao, Xiao Xin (*with* Shen, Yi[2]) Razumikhin type theorems on exponential stability of stochastic functional-differential equations of neutral type. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 21, 2272–2275. 34K20 (34K40)

Liao, Xiaoxing (*with* Yie, Mucai; Zhang, Hangfu) Unique solvability of nonlinear systems in space $(\mathbf{R}^n, w(t))$. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 44–50. (S. N. Askhabov) **99h:45008** 45G10 (47H10, 47H30)

Liao, Xinhao (*with* Saari, Donald G.; Xia, Zhihong) Instability and diffusion in the elliptic restricted three-body problem. (English summary) *Celestial Mech. Dynam. Astronom.* **70** (1998), *no.* 1, 23–39. (Ugo Locatelli) **99m:70007** 70F07 (58F05, 70H05, 70K20)

Liao, Yin-Kuei (*with* Cheng, Ching-Cheng; Wang, Te-Shing) Quantitative feedback design of uncertain multivariable control systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 537–553. 93B51 (93C41)

Liao, Zhisheng (*with* Jing, Sicong; Li, Hu) Power series expansions for vacuum projection operator of paraparticles. (English summary) *Commun. Theor. Phys. (Beijing)* **30** (1998), *no.* 4, 615–616. 81S05

— (*with* Jing, Sicong; Wang, Zhidan) Charged parafermionic coherent states. (English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 2, 136–141. (Summary) **99g:81077** 81R30

Liao, Zu Hua A characterization of the idempotent Hermitian matrices over a ring. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 229–231. 15A33 (15A57)

Liau, Churn-Jung Possibilistic residuated implication logics with applications. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 365–385. (Jozef Šajda) **99m:68186** 68T27 (03B60, 03B70)

Liaw, Bern-Cherng (*with* Lee, R. C. T.) An algorithm to solve the minimum weakly cooperative guards problem for 1-spiral polygons. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON). *J. Comput. Inf.* **1** (1995), *no.* 1, 162–177 (*electronic*). (*see* **99f:68006**) 68U05

Liaw, Chih-Yong (*with* Bishop, Steven R.; Xu, Daolin; Chan, Eng-Soon) Applying chaos control in periodic windows. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 8, 1297–1305. (Frederick R. Marotto) **99j:58140** 58F13 (58F40, 93D15)

Liaw, Ching-Fang A tabu search algorithm for the open shop scheduling problem. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 2, 109–126. (Summary) **99f:90047** 90B35 (90C35)

— A branch-and-bound algorithm for the single machine earliness and tardiness scheduling problem. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 7, 679–693. (Jan Węglarz) **99m:90087** 90B35 (68R05)

Liaw, Der-Cherng Application of center manifold reduction to nonlinear system stabilization. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 243–258. (Dirk Aeyels and Patrick De Leenheer) **99g:93074** 93D15 (34C20, 34H05)

Liaw, Sheng-Chyang (*with* Yeh, Hong-Gwa; Hwang, Frank K.; Chang, Gerard J.) Enumerating partitions with given part-sizes. (English summary) *Bull. Inst. Math. Acad. Sinica* **26** (1998), *no.* 1, 33–38. (Summary) **99b:11115** 11P81 (05A17)

— (*with* Chang, Gerard J.) Rabin numbers of butterfly networks. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 219–227. (Lorenzo Traldi) **99m:05053** 05C12 (05C40)

— (*with* Chang, Gerard J.) Wide diameters of butterfly networks. (English summary) *Taiwanese J. Math.* **3** (1999), *no.* 1, 83–88. (Summary) **99k:05073** 05C12 (05C40)

Liaw, Sy-Sang The parameter spaces of the cubic polynomials. (English summary) *Fractals* **6** (1998), *no.* 2, 181–189. (Patricia Domínguez-Soto) **99f:58171** 58F23 (30D05)

— (*with* Cheng, Chia-Chin) Similarity between the dynamic and parameter spaces in cubic mappings. (English summary) *Fractals* **6** (1998), *no.* 3, 293–299. (Jean-Yves Briend) **99h:58156** 58F23 (30D05)

Libai, A. (*with* Simmonds, J. G.) ★ The nonlinear theory of elastic shells. (English summary) Second edition. *Cambridge University Press, Cambridge*, 1998. xvi+542 *pp.* *ISBN* 0-521-47236-9 (Veronique Lods) **99k:73083** 73K15 (73C50)

Liberati, José I. (*with* Boyallian, Carina; Kac, Victor G.; Yan, Catherine Huafei) Quasifinite highest weight modules over the Lie algebra of matrix differential operators on the circle. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2910–2928. (Kyo Nishiyama) **99c:17012** 17B10 (17B66, 17B69)

Liberati, S. Problems in black-hole entropy interpretation. (English summary) Fourth Italian-Korean Meeting on Relativistic Astrophysics (Rome-Gran Sasso-Pescara, 1995). *Nuovo Cimento Soc. Ital. Fis. B* (12) **112** (1997), *no.* 2-3, 405–421. (Kirill V. Krasnov) **99c:83057** 83C57

Liberatore, Paolo The complexity of iterated belief revision. (English summary) *Database theory—ICDT '97* (*Delphi*), 276–290, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68T30 (03B45, 03B70, 68P15, 68T27)

— Compilability of domain descriptions in the language $\mathcal{A}$. (English summary) Commentary is available at http://www.ida.liu.se/ext/etai/received/rac/004/aip.html. *Electron. Trans. Artif. Intell.* **1** (1997), *no.* 4, 129–132 (*electronic*). 68T25

Liberatore, Vincenzo Matroid decomposition methods for the set maxima problem. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 400–409, *ACM, New York*, 1998. (*see* **99d:68011**) 05B35

— (*with* Farach-Colton, Martin) On local register allocation. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 564–573, *ACM, New York*, 1998. (*see* **99d:68011**) 68N20

— Uniform multipaging reduces to paging. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 9–12. 68N25 (68Q25)

Liberman, E. (*with* Durán, Ricardo G.; Hervella-Nieto, L.; Rodríguez, Rodolfo; Solomin, J.) Approximation of the vibration modes of a plate by Reissner-Mindlin equations. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1447–1463. (Riccardo Fazio) **99m:73045** 73K10 (65N30, 73V20)

Liberman, U. (*with* Manos, H.) Discrete chiasma formation models and their associated high order interference. (English summary) *J. Math. Biol.* **36** (1998), *no.* 5, 448–468. (Warren J. Ewens) **99e:92020** 92D10 (92D15)

Libermann, Paulette Elie Cartan (1869–1951). (French) *Travaux mathématiques, Fasc. VIII*, 115–158, *Sém. Math. Luxembourg, Centre Univ. Luxembourg, Luxembourg*, 1996. (J. S. Joel) **99a:01020** 01A70 (22–03, 53–03)

Libeskind-Hadas, Ran Sorting in parallel. *Amer. Math. Monthly* **105** (1998), *no.* 3, 238–245. (Behrooz Parhami) **99d:68056** 68P10 (68Q22, 68Q25)

— (*with* Barden, Benjamin; Davis, Janet; Williams, William) On edge-disjoint spanning trees in hypercubes. (English summary) *Inform. Process. Lett.* **70** (1999), *no.* 1, 13–16. 68R10

Libgober, A. The topology of complements to hypersurfaces and nonvanishing of a twisted de Rham cohomology. (English summary) *Singularities and complex geometry* (*Beijing*, 1994), 116–130, *AMS/IP Stud. Adv. Math., 5, Amer. Math. Soc., Providence, RI*, 1997. (From the summary) **99g:14024** 14F40

Libicka, Inga (*with* Szkopińska, Bożena) On directional $\mathcal{J}_1$-density points. *Demonstratio Math.* **30** (1997), *no.* 3, 479–484. (B. K. Lahiri) **99d:28003** 28A05

Libkin, Leonid Approximation in databases. (English summary) *Database theory—ICDT '95* (*Prague*), 411–424, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15

— (*with* Dong, Guozhu; Wong, Limsoon) Local properties of query languages. (English summary) *Database theory—ICDT '97* (*Delphi*), 140–154, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99c:68069** 68P15 (03B70)

— (*with* Colby, Latha S.) Tractable iteration mechanisms for bag languages (preliminary report). (English summary) *Database theory—ICDT '97* (*Delphi*), 461–475, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99b:68052** 68P15

— (*with* Wong, Limsoon) Query languages for bags and aggregate functions. (English summary) 13th Annual ACM SIGACT-SIGMOD-SIGART Symposium on Principles of Database Systems (PODS) (Minneapolis, MN, 1994). *J. Comput. System Sci.* **55** (1997), *no.* 2, 241–272. (Marc Gyssens) **99d:68065** 68P15 (68Q15)

— (*with* Wong, Limsoon) Incremental recomputation of recursive queries with nested sets and aggregate functions. (English summary) *Database programming languages* (*Estes Park, CO*, 1997), 222–238, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15

— (*with* Wong, Limsoon) On the power of aggregation in relational query languages. *Database programming languages* (*Estes Park, CO*, 1997), 260–280, *Lecture Notes in Comput. Sci.*, 1369, *Springer, Berlin*, 1998. (*see* **99h:68004**) 68P15

— (*with* Wong, Limsoon) Unary quantifiers, transitive closure, and relations of large degree. (English summary) *STACS 98* (*Paris*, 1998), 183–193, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 03C80 (03D15, 68P15, 68Q15)

— On counting logics and local properties. (English summary) *Thirteenth Annual IEEE Symposium on Logic in Computer Science* (*Indianapolis, IN*, 1998), 501–512, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68008**) 03C13

— (*with* Benedikt, Michael A.; Griffin, Timothy) Verifiable properties of database transactions. (English summary) *Inform. and Comput.* **147** (1998), *no.* 1, 57–88. (Summary) **99i:68027** 68P15

— (*with* Benedikt, Michael A.; Dong, Guozhu; Wong, Limsoon) Relational expressive power of constraint query languages. (English summary) *J. ACM* **45** (1998), *no.* 1, 1–34. (Marc Gyssens) **99e:68028** 68P15 (03D15, 03H10, 05D10, 68Q15)

— Models of approximation in databases. (English summary) Database theory (Prague, 1995). *Theoret. Comput. Sci.* **190** (1998), *no.* 2, 167–210. (Marc Gyssens) **99g:68048** 68P15

Liboff, Richard L. Conical quantum billiard. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 4, 389–391. (Christian Grosche) **99b:81034** 81Q05 (33C90)

— (*with* Wong, Michael) Quasi-chaotic property of the prime-number sequence. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 3109–3117. 11Z05 (81V35)

Librescu, L. (*with* Na, Sungsoo) Boundary control of free and forced oscillation of shearable thin-walled beam cantilevers. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 687–700. 73K12 (73K05, 73K50, 93C85)

Libson, Joseph (*with* Anninos, Peter; Camarda, Karen; Massó, Joan; Seidel, Edward; Suen, Wai-Mo) Finding apparent horizons in dynamic 3D numerical spacetimes. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024003, 12 *pp.* 83–08 (83C57)

Libura, Marek (*with* van der Poort, Edo S.; Sierksma, Gerard; van der Veen, Jack A. A.) Stability aspects of the traveling salesman problem based on k-best solutions. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 159–185. (András Faragó) **99i:90080** 90C27 (68Q25)

— On accuracy of solutions for discrete optimization problems with perturbed coefficients of the objective function. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 53–62. (*see* **99k:90002**) 90C27 (90C31)

Lichade, Vishal M. (*with* Khot, P. G.) Square of a number using a series. *Math. Ed.* (*Siwan*) **32** (1998), *no.* 3, 125–127. 11Y99

Lichah, Tony (*with* Mineur, Yves; Castelain, Jean Marie; Giaume, Henri) A shape controlled fitting method for Bézier curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 9, 879–891. (Summary) **99d:65051** 65D17

Lichnerowicz, André Variétés localement kählériennes. [Locally Kähler manifolds] *Séminaire Bourbaki, Vol. 2, Exp. No.* 60, 91–107, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 53C55 (53C15)

— Extensions essentielles privilégiées d'algèbres de Lie classiques de dimension infinie. [Privileged essential extensions of infinite-dimensional classical Lie algebras] Proceedings of the Workshop on Differential Geometry and Topology (Palermo, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 49 (1997), 113–129. (Miguel A. Rodríguez) **99b:17024** 17B56 (17B66)

— Complex contact homogeneous spaces and quaternion-Kähler symmetric spaces. *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 175–188 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (Francisco M. Cabrera) **99i:53050** 53C30 (53C15)

Lichtenberg, Gerwald. (*with* Lunze, J.) Observation of qualitative states by means of a qualitative model. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 885–903. 93B30 (93C55)

de Lichtenberg, Kristian (*with* Alstrup, Stephen; Holm, Jacob; Thorup, Mikkel) Direct routing on trees (extended abstract). (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 342–349, *ACM, New York*, 1998. (*see* **99d:68011**) 68M10 (68R10)

Lichtenstein, Leon *see* **Schmidt, Bernd Gerhard, 99j:01019**

Lichter, Seth (*with* Weislogel, Mark M.) Capillary flow in an interior corner. *J. Fluid Mech.* **373** (1998), 349–378. 76B45 (76D45)

Lichtin, Ben Asymptotics determined by pairs of additive polynomials. *Compositio Math.* **107** (1997), *no.* 3, 233–267. (Boris Datskovsky) **99c:11123** 11P21 (11M41)

Lichtman, A. I. The residual nilpotence of verbal wreath products. (English summary) *Israel J. Math.* **103** (1998), 319–347. (R. Stöhr) **99e:20039** 20E26 (20E22)

Lichtner, Jonathan Iterating an α-ary Gray code. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 3, 381–386 (*electronic*). (Jaume Pujol) **99j:94023** 94A29 (05A05, 94B60)

Li Chzhi *see* **Li, Zhi**

Lick, Don (*with* Liu, Jiuqiang) On $(v, \{5, w^*\})$-PBDs. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 39–45. (Summary) **99m:05022** 05B05

Lickorish, William B. R. Link polynomials related. *Progress in knot theory and related topics*, 83–89, *Travaux en Cours*, 56, *Hermann, Paris*, 1997. (Yuanan Diao) **99c:57028** 57M25

— (*with* Cavicchioli, Alberto; Repovš, Dušan D.) On the equivalent spines problem. (Italian summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 3, 775–788. (Summary) **99b:57035** 57N10

— (*with* Rong, Yong Wu) On derivatives of link polynomials. (English summary) *Topology Appl.* **87** (1998), *no.* 1, 63–71. (Summary) **99k:57023** 57M25

— (*with* Cooper, Daryl) Mutations of links in genus 2 handlebodies. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 1, 309–314. (Hugh Reynolds Morton) **99b:57008** 57M25

Lickteig, Thomas (*with* Cucker, Felipe) Nash trees and Nash complexity. (English summary) *The mathematics of numerical analysis* (*Park City, UT*, 1995), 211–223, *Lectures in Appl. Math.*, 32, *Amer. Math. Soc., Providence, RI*, 1996. (Summary) **99a:68055** 68Q05 (14P20, 65Y20)

— (*with* Roy, Marie-Françoise) Cauchy index computation. (English summary) Toeplitz matrices: structures, algorithms and applications (Cortona, 1996). *Calcolo* **33** (1996), *no.* 3-4, 337–351 (1998). (K. Chandrasekhara Rao) **99g:15042** 15A99 (68Q25)

— (*with* Meer, Klaus) Semi-algebraic complexity—additive complexity of matrix computational tasks. (English summary) *J. Complexity* **13** (1997), *no.* 1, 83–107. (Summary) **99d:68114** 68Q25 (68Q40)

— *see also* **Bürgisser, Peter et al., 99c:68002**

Licois, Jean-René Comportement asymptotique des solutions d'un système elliptique conservatif non linéaire. (English and French summaries) [Asymptotic behavior of the solutions of a nonlinear conservative elliptic system] *Ann. Mat. Pura Appl.* (4) **172** (1997), 125–163. (David L. Finn) **99h:35042** 35J45 (35B40, 35J60)

— (*with* Véron, Laurent) A class of nonlinear conservative elliptic equations in cylinders. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 2, 249–283. (David L. Finn) **99g:35038** 35J60 (35B40, 53C21, 58G03)

Licz̨berski, Piotr (*with* Kohr, Gabriela) On some application of a generalization of Jack-Miller-Mocanu lemma in $\mathbf{C}^n$. (English summary) *J. Indian Math. Soc.* (*N.S.*) **63** (1997), *no.* 1-4, 77–81. (T. J. Suffridge) **99c:32032** 32H02

Liddle, Andrew R. (*with* Torres, Diego F.; Schunck, Franz E.) Brans-Dicke boson stars: configurations and stability through cosmic history. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, 3701–3718. 83D05 (83F05)

— (*with* Copeland, Edmund J.; Lidsey, James E.; Wands, David) Black holes and gravitational waves in concert—a probe of superstring cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1711–1715. (Mark D. Roberts) **99m:83184** 83E30 (83C35, 83C57, 83F05)

— (*with* Achúcarro, Ana; Borrill, Julian) Semilocal string formation in two dimensions. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 6, 3742–3748. 83F05

Lidsey, James E. Mirror images of string cosmologies. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 11, *L*77–*L*84. (Mark D. Roberts) **99m:83044** 83C20 (83E30)

— (*with* Copeland, Edmund J.; Liddle, Andrew R.; Wands, David) Black holes and gravitational waves in concert—a probe of superstring cosmology. (English summary) *Gen. Relativity Gravitation* **30** (1998), *no.* 12, 1711–1715. (Mark D. Roberts) **99m:83184** 83E30 (83C35, 83C57, 83F05)

— (*with* Clancy, Dominic; Tavakol, R. K.) Initial conditions in string cosmology. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 063511, 5 *pp.* 83F05 (83E30)

Lie, Knut-Andreas (*with* Karlsen, Kenneth Hvistendahl; Brusdal, K.; Dahle, H. K.; Evje, S.) The corrected operator splitting approach applied to a nonlinear advection-diffusion problem. (English summary) *Comput. Methods Appl. Mech. Engrg.* **167** (1998), *no.* 3-4, 239–260. (Summary) **99j:76090** 76M25 (76R50)
— (*with* Haugse, V.; Karlsen, Kenneth Hvistendahl) Dimensional splitting with front tracking and adaptive grid refinement. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 5, 627–648. (Svetozar D. Margenov) **99h:65159** 65M15 (65M12)
— (*with* Holden, Helge; Risebro, Nils Henrik) An unconditionally stable method for the Euler equations. (English summary) *J. Comput. Phys.* **150** (1999), *no.* 1, 76–96. (Summary) **99k:76110** 76M25 (76L05, 76N15)
Lieb, Elliott H. (*with* Thomas, Lawrence E.) Exact ground state energy of the strong-coupling polaron. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 3, 511–519. (Nicolae Angelescu) **99a:81034a** 81Q15 (81R30, 81V70)
— (*with* Thomas, Lawrence E.) Erratum: "Exact ground state energy of the strong-coupling polaron". *Comm. Math. Phys.* **188** (1997), *no.* 2, 499–500. (Nicolae Angelescu) **99a:81034b** 81Q15 (81R30, 81V70)
— (*with* Yngvason, Jakob) A guide to entropy and the second law of thermodynamics. *Notices Amer. Math. Soc.* **45** (1998), *no.* 5, 571–581. (Renuka Datta) **99c:80002** 80A05 (82B03)
— (*with* Yngvason, Jakob) The physics and mathematics of the second law of thermodynamics. (English summary) *Phys. Rep.* **310** (1999), *no.* 1, 96 *pp.* (Kuppuswamy Porsezian) **99m:80006** 80A10 (80A15, 80A20)
— *see also* **Thirring, Walter E., 99b:01026**
Liebeck, Martin W. (*with* Pyber, László) Upper bounds for the number of conjugacy classes of a finite group. (English summary) *J. Algebra* **198** (1997), *no.* 2, 538–562. (Ma. Jesús Iranzo) **99c:20023** 20D99 (20C15)
— Regular orbits and the $k(GV)$-problem. (English summary) *Groups and geometries* (*Siena*, 1996), 145–148, *Trends Math., Birkhäuser, Basel*, 1998. (Roderick Gow) **99h:20008** 20C15
— (*with* Seitz, Gary M.) On the subgroup structure of classical groups. *Invent. Math.* **134** (1998), *no.* 2, 427–453. (James E. Humphreys) **99h:20074** 20G15 (20D06, 20G40)
— (*with* Lawther, Ross Ian) On the diameter of a Cayley graph of a simple group of Lie type based on a conjugacy class. *J. Combin. Theory Ser. A* **83** (1998), *no.* 1, 118–137. (R. W. Carter) **99k:20036** 20D06 (05C25, 20G40)
— The classification of finite linear spaces with flag-transitive automorphism groups of affine type. *J. Combin. Theory Ser. A* **84** (1998), *no.* 2, 196–235. (Cheryl E. Praeger) **99k:20007** 20B25 (05B25)
— (*with* Seitz, Gary M.) On the subgroup structure of exceptional groups of Lie type. *Trans. Amer. Math. Soc.* **350** (1998), *no.* 9, 3409–3482. (Peter Fleischmann) **99j:20055** 20G40 (20D05, 20G05)
— (*with* Shalev, Aner) Simple groups, permutation groups, and probability. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 2, 497–520. (Robert M. Guralnick) **99h:20004** 20B15 (14H30, 20D06, 20G40, 20P05)
Liebehenschel, Jens Ranking and unranking of lexicographically ordered words: an average-case analysis. (English summary) *J. Autom. Lang. Comb.* **2** (1997), *no.* 4, 227–268. (Summary) **99d:68148** 68Q45
eichler-Liebenow, C. *see* **Eichler-Liebenow, C.**
Lieberman, Offer From unbiased linear estimating equations to unbiased estimators. (English summary) *Biometrika* **85** (1998), *no.* 1, 244–250. (Summary) **99c:62053** 62F10 (62M10)
Liebler, Robert A. Virtual derivation. *Mostly finite geometries* (*Iowa City, IA*, 1996), 331–342, *Lecture Notes in Pure and Appl. Math.*, 190, *Dekker, New York*, 1997. (From the introduction) **99h:51012** 51E23
— (*with* Godsil, Chris D.; Praeger, Cheryl E.) Antipodal distance transitive covers of complete graphs. (English summary) *European J. Combin.* **19** (1998), *no.* 4, 455–478. (Robert Beezer) **99e:05130** 05E30 (05C70, 05C75)
Liebling, Steven L. Multiply unstable black hole critical solutions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084015, 8 *pp.* 83C57
Liebling, Thomas M. Dynamical Voronoi partitions of piecewise flat manifolds and modeling applications. (English and German summaries) *Operations Research Proceedings* 1996 (*Braunschweig*), 101–106, *Springer, Berlin*, 1997. (*see* **99a:90009**) 65Y25 (90C90)
— (*with* Hêche, Jean-François) Finding minimum area simple pentagons. (English summary) *Oper. Res. Lett.* **21** (1997), *no.* 5, 229–233. (Summary) **99e:68161** 68U05 (52A40)
Liebmann, Karl Otto Heinrich *see* **Bauer, Friedrich L., 99g:01031**
Liebner, Simone Investigation of convergence rates in risk theory in the presence of heavy tails. (English summary) *Advances in stochastic models for reliability, quality and safety* (*Schierke*, 1997), 67–80, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1998. (Summary) **99i:62244** 62P05 (60F05, 60G70)
Liebowitz, David (*with* Zisserman, Andrew; Armstrong, Martin) Resolving ambiguities in auto-calibration. (English summary) With discussion. New geometric techniques in computer vision (London, 1997). *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1740, 1193–1211. (Summary) **99b:68207** 68U10 (68T10)
Liebscher, Dierck-E. (*with* Antoci, Salvatore) Wentzel's path integrals. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 531–535. (Summary) **99f:81114** 81S40 (81–03)
Liebscher, Eckhard (*with* Heinrich, Lothar) Strong convergence of kernel estimators for product densities of absolutely regular point processes. (English summary) *J. Nonparametr. Statist.* **8** (1997), *no.* 1, 65–96. (Summary) **99h:60095** 60G55 (62G20)
— On a class of plug-in methods of bandwidth selection for kernel density estimators. (English summary) *Statist. Decisions* **16** (1998), *no.* 3, 229–243. (Ulrich Stadtmüller) **99k:62084** 62G07
Liebscher, Volkmar A generalization of the conservation integral. (English summary) *Quantum probability* (*Gdańsk*, 1997), 273–284, *Banach Center Publ.*, **43**, *Polish Acad. Sci., Warsaw*, 1998. (Wolfgang Freudenberg) **99h:81108** 81S25 (60H05, 60H07)
— (*with* Fichtner, K.-H.; Freudenberg, W.) Time evolution and invariance of boson systems given by beam splittings. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 4, 511–531. (John E. Gough) **99k:81141** 81S25 (46N50, 81P15)
— Diagonal versions and quantum stochastic integrals on the symmetric Fock space with nonadapted integrands. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 2, 255–295. (Robin Hudson) **99k:81144** 81S25 (46N50, 60H99)
— A Gibbs theory for states of boson systems. (English summary) Recent trends in infinite-dimensional noncommutative analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1035 (1998), 114–127. (Wolfgang Freudenberg) **99k:82011** 82B10 (46N55, 60G55, 82B05)
vo thanh Liem *see* **Vo Thanh Liem**
Liem, Chin Bo (*with* Yang, Yi Du; Shih, Tsi Min; Lü, Tao) An abstract error estimate for eigenvalue finite element approximation. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 359–366. 65N30 (65J10)
Liem, Vo Thanh *see* **Vo Thanh Liem**
Lien, Chang-Hua (*with* Sun, Yeong Jeu; Hsieh, Jer-Guang) Global exponential stabilization for a class of uncertain nonlinear systems with control constraint. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 5, 674–677. (Summary) **99a:93091** 93D21 (34D20, 34H05)
— (*with* Hsieh, Jer-Guang; Sun, Yeong Jeu) Robust stabilization for a class of uncertain systems with multiple time delays via linear control. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 369–378. (Olof J. Staffans) **99b:93039** 93D15 (34K35)
Lien, Da-Hsiang Donald (*with* Robinson, Laurence D.; Dorroh, J. Robert; Tiku, Moti L.) The effects of covariate adjustment in generalized linear models. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 7, 1653–1675. 62J12
Liese, Friedrich (*with* Steinke, Ingo) A note on the Hájek-Le Cam bound. (English summary) *Kybernetika* (*Prague*) **33** (1997), *no.* 5, 477–487. (Chandra M. Gulati) **99e:62008** 62C05 (62B15)
van Lieshout, Marie-Colette N. M. On likelihoods for Markov random sets and Boolean models. (English summary) *Proceedings of the International Symposium on Advances in Theory and Applications of Random Sets* (*Fontainebleau*, 1996), 121–135, *World Sci. Publishing, River Edge, NJ*, 1997. (Dietrich Stoyan) **99i:60022** 60D05 (60G55)
— (*with* Molchanov, Ilya S.) Shot noise weighted processes: a new family of spatial point processes. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 715–734. (Volker Schmidt) **99g:60089** 60G55
Liess, Otto (*with* Okada, Yasunori; Tose, Nobuyuki) A remark on 2-microhyperbolicity. *Proc. Japan Acad. Ser. A Math. Sci.* **74** (1998), *no.* 3, 39–42. (P. Schapira) **99c:58147** 58G07
Liestman, Arthur L. (*with* Pržulj, Nataša) Minimum average time broadcast graphs. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 139–147. (Summary) **99f:68160** 68R10 (05C35, 68M10)
— (*with* Harutyunyan, Hovhannes A.) Messy broadcasting. (English summary) *Parallel Process. Lett.* **8** (1998), *no.* 2, 149–159. (Summary) **99f:68157** 68R10 (68M10)
— *see also* **Network communications broadcasting and gossiping, 99a:68012**
Liestøl, Knut (*with* Lingjærde, Ole C.) Generalized projection pursuit regression. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 844–857 (*electronic*). (Summary) **99f:62077** 62H40
Lietard, L. (*with* Bosc, P.; Pivert, O.) Flexible database querying and the division of fuzzy relations. (English summary) *Sci. Iran.* **2** (1996), *no.* 4, 329–340. 68P15 (03E72)
Lieuwen, Daniel (*with* Kawaguchi, Akira; Mumick, Inderpal Singh; Quass, Dallan; Ross, Kenneth Andrew) Concurrency control theory for deferred materialized views. (English summary) *Database theory—ICDT* '97 (*Delphi*), 306–320, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (*see* **99a:68007**) 68P15 (68Q10)
Lievers, Menno Two versions of the manifestation argument. *Synthese* **115** (1998), *no.* 2, 199–227. 03A05
Lifanov, I. K. (*with* Poltavskiĭ, L. N.) Numerical solution of supersingular integral equations with additional terms containing smooth kernels. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1233–1241, 1295; *translation in Differential Equations* **33** (1997), *no.* 9, 1239–1248 (1998). (Andreas Rathsfeld) **99g:65125** 65R20 (45E05, 45L05, 45M05)
— (*with* Elliott, David; Litvinchuk, G. S.) The solution in a class of singular functions of Cauchy type bisingular integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 237–251. (Summary) **99a:45006** 45E05 (76G25)
— (*with* Anfinogenov, A. Yu.) On the numerical solution of integral equations of the first kind. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 3, 159–168. (Summary) **99d:65363** 65R20
Lifantsev, Maxim (*with* Bachmair, Leo) An LPO-based termination ordering for higher-order terms without λ-abstraction. (English summary) *Theorem proving in higher order logics* (*Canberra*, 1998), 277–293, *Lecture Notes in Comput. Sci.*, 1479, *Springer, Berlin*, 1998. (Summary) **99m:68101** 68Q42 (03B15, 68T15)
Liflyand, E. R. Fourier transforms of radial functions. (English summary) *Integral Transform. Spec. Funct.* **4** (1996), *no.* 3, 279–300. (Satoru Igari) **99b:42016** 42B10 (33C10, 42A28)
— (*with* Joó, István) Approximation in L^∞ on the real line. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 171–181. (Eduard Belinskii) **99g:42046** 42C30 (41A30)
— On the Lebesgue constants of Cesàro means of spherical harmonic expansions. (English summary) *Acta Sci. Math.* (*Szeged*) **64** (1998), *no.* 1-2, 215–222. (Walter Trebels) **99h:42052** 42C10 (33D55, 41A44, 42B08)
— (*with* Skopina, M. A.) Square linear means with hyperbolic multipliers. (English summary) *Analysis* (*Munich*) **18** (1998), *no.* 4, 333–343. (G. I. Gaudry) **99m:42023** 42B15 (42B08)
— (*with* Trebels, W.) On asymptotics for a class of radial Fourier transforms. (English summary) *Z. Anal. Anwendungen* **17** (1998), *no.* 1, 103–114. (Eduard Belinskii) **99g:42011** 42B10
Lifsches, Shmuel (*with* Shelah, Saharon) Peano arithmetic may not be interpretable in the monadic theory of linear orders. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 3, 848–872. (M. Yasuhara) **99b:03054** 03C85 (03E35, 03F25, 03F30)
— (*with* Shelah, Saharon) Uniformization and Skolem functions in the class of trees. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 1, 103–127. (Martin Weese) **99i:03045** 03C85
Lifschitz, Alexander E. (*with* Lebovitz, Norman R.; Kar, Apurba) Solutions of the Euler equations near the Riemann ellipsoids. (English summary) *Proceedings of the*

Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems (Shanghai, 1995), 81–89, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:76145** 76U05 (76E20, 85A30)

— A nonlinear spectral problem with periodic coefficients occurring in magnetohydrodynamic stability theory. (English summary) *Differential and integral operators (Regensburg, 1995)*, 97–117, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (H. Tasso) **99g:76058** 76E25 (76W05)

— (*with* Miyazaki, Takeshi; Fabijonas, B.) A new class of instabilities of rotating flows. (English summary) Dynamics and statistics of concentrated vortices in turbulent flow (Carry-le-Rouet, 1997). *Eur. J. Mech. B Fluids* **17** (1998), *no.* 4, 605–613. (Summary) **99g:76146** 76U05 (76E99, 76F99)

— (*with* Fabijonas, B.) Asymptotic analysis of secondary instabilities of rotating fluids. (English summary) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 597–606. (Yuri N. Skiba) **99i:76055** 76E20 (76B15, 76F99, 76U05)

Lifschitz, Sérgio (*with* Vianu, Victor) A probabilistic view of Datalog parallelization. (English summary) *Database theory—ICDT '95 (Prague)*, 294–307, *Lecture Notes in Comput. Sci.*, 893, *Springer, Berlin*, 1995. (*see* **99a:68006**) 68P15 (68N17, 68Q10)

Lifschytz, Gilad (*with* Kabat, Daniel) Tachyons and black hole horizons in gauge theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 2, 22 *pp.* (*electronic*). (Summary) **99j:81142** 81T30 (83C57, 83E30)

— (*with* Hanany, Amihay) M(atrix) theory on T^6 and a M(atrix) theory description of KK monopoles. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 195–213. (Jihad Mourad) **99j:81139** 81T30

— Four-brane and six-brane interactions in M(atrix) theory. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 105–116. (Jihad Mourad) **99e:81202** 81T30

— (*with* Bergman, Oren; Gaberdiel, Matthias R.) String creation and heterotic-type I′ duality. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 524–544. (Claudio A. Scrucca) **99f:81147** 81T30 (83E30)

Lifshits, Il′ya Mikhaĭlovich *see* **Reminiscences about Il′ya Mikhaĭlovich Lifshits**

Lifshits, Mikhail (*with* Deheuvels, Paul) On the Hausdorff dimension of the set generated by exceptional oscillations of a Wiener process. (English summary) *Studia Sci. Math. Hungar.* **33** (1997), *no.* 1-3, 75–110. (Paul McGill) **99b:60137** 60J65 (60F17, 60G17)

— (*with* Ibragimov, Il′dar Abdulovich) On the convergence of generalized moments in almost sure central limit theorem. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 4, 343–351. (Ying Chao Xie) **99m:60032** 60F05

Lifshits, Yu. B. Unsteady transonic flows behind a shock wave. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 12, 2078–2085; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 12, 1996–2002. (Summary) **99k:76086** 76H05 (76L05)

Ligan, Etienne Théorèmes d'Euler des chocs et percussions sur les systèmes variables. (English and French summaries) [Euler theorems for collisions in variable systems] *Afrika Mat.* (3) **9** (1998), 47–66. (Q. K. Ghori) **99c:70036** 70P05 (70F99)

— Théorèmes d'Euler pour les chocs et percussions sur les systèmes variables: application. [Euler theorems for collisions in variable systems: application] *Mech. Res. Comm.* **25** (1998), *no.* 5, 569–581. (From the introduction) **99e:70043** 70F35

Ligarius, Ph. (*with* Gauthier, J. P.; Xu, Cheng-Zhong) A simple observer for distributed systems: application to a heat exchanger. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 4, 23 *pp.* (*electronic*). (Yuri V. Zaika) **99h:93022** 93B07 (93C20)

garcía-Ligero, M. J. *see* **García-Ligero, M. J.**

Ligęza, Jan On some boundary value problems for ordinary linear differential equations of second order in the Colombeau algebra. (English summary) *Acta Univ. Palack. Olomuc. Fac. Rerum Natur. Math.* **35** (1996), 103–119 (1997). (B. B. Pakholok) **99a:34019** 34A30 (34B05, 46F10)

— Periodic solutions of ordinary linear differential equations of second order in the Colombeau algebra. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 121–140. (B. B. Pakholok) **99a:34020** 34A30 (34C25, 46F10)

— Generalized periodic solutions of ordinary linear differential equations in the Colombeau algebra. (English summary) *Ann. Math. Sil. No.* 11 (1997), 67–87. (B. B. Pakholok) **99a:34021** 34A30 (34C25, 46F10)

— Remarks on generalized solutions of ordinary linear differential equations in the Colombeau algebra. (English summary) *Math. Bohem.* **123** (1998), *no.* 3, 301–316. (Michael Kunzinger) **99f:34009** 34A30 (34A12, 46F10)

Light, W. A. (*with* Kushpel′, A. K.; Levesley, Jeremy) Approximation of smooth functions by sk-splines. (English summary) *Advanced topics in multivariate approximation (Montecatini Terme, 1995)*, 155–180, *Ser. Approx. Decompos.*, 8, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99g:41010** 41A15 (41A63)

— (*with* Wayne, Henry) Spaces of distributions, interpolation by translates of a basis function and error estimates. (English summary) *Numer. Math.* **81** (1999), *no.* 3, 415–450. (Gheorghe Coman) **99m:65021** 65D05 (46F05, 46N40)

Lighthill, Michael James Ocean spray and the thermodynamics of tropical cyclones. (English summary) Ocean mechanics. *J. Engrg. Math.* **35** (1999), *no.* 1-2, 11–42. (Summary) **99m:86004** 86A05 (86A10)

— *see also* **Ocean mechanics, 99k:76006**; **Riley, N., 99m:01086**; **Shankar, P. N.**; **Hunt, J. C. R.** *and* **Obituary: Lighthill, Michael James**

Lignola, Maria Beatrice (*with* Morgan, Jacqueline) Convergence for variational inequalities and generalized variational inequalities. (English summary) *Atti Sem. Mat. Fis. Univ. Modena* **45** (1997), *no.* 2, 377–388. (N. Pacchiarotti) **99a:49018** 49J40 (47H19, 49J45)

— Ky Fan inequalities and Nash equilibrium points without semicontinuity and compactness. (English summary) *J. Optim. Theory Appl.* **94** (1997), *no.* 1, 137–145. (Kok Keong Tan) **99c:90158** 90D05

— (*with* Morgan, Jacqueline) Convergence of solutions of quasi-variational inequalities and applications. Dedicated to Olga Ladyzhenskaya. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 2, 375–385. (Paolo Cubiotti) **99e:49010** 49J40 (47H19, 47N10, 49J45, 90C31)

— (*with* Morgan, Jacqueline) Existence of solutions to generalized bilevel programming problem. (English summary) *Multilevel optimization: algorithms and applications*, 315–332, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Luis N. Vicente) **99f:90145** 90C31 (90D65)

Ligocka, Ewa On extensions of the Mittag-Leffler theorem. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 249–256. (Michael Langenbruch) **99e:32007** 32A45 (31B05, 31B30, 35E20)

— Elementary proofs of the Liouville and Bôcher theorems for polyharmonic functions. (English summary) *Ann. Polon. Math.* **68** (1998), *no.* 3, 257–265. (D. G. Natroshvili) **99d:31002** 31B30

— Remarks on the Bergman kernel function of a worm domain. (English summary) *Studia Math.* **130** (1998), *no.* 2, 109–113. (Gregor Herbort) **99d:32030** 32H10 (32H40)

Ligon, Ethan (*with* Narain, Urvashi) Computing the equilibria of dynamic common property games. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 4, 345–369. (Summary) **99c:90172** 90D25 (90A16)

Ligun, A. A. (*with* Shumeĭko, A. A.) On a problem of area minimization. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 927–936; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1040–1050 (1998). (Constantin Zălinescu) **99b:52014** 52A38 (52A40)

— (*with* Chernaya, E. V.) On extremal problems in classes of functions defined by integral moduli of continuity. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 11, 1499–1503; *translation in Ukrainian Math. J.* **49** (1997), *no.* 11, 1682–1687 (1998). (Shun Sheng Guo) **99m:41032** 41A30 (41A55)

— (*with* Shumeĭko, A. A.; Radzevich, S. P.; Goodman, E. D.) Asymptotically optimum recovery of smooth contours by [a] Bézier curve. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 5, 495–506. (Summary) **99b:65017** 65D17 (68U05)

Liguori, Antonio (*with* Mintchev, Mihail; Zhao, Liu) Boundary exchange algebras and scattering on the half line. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 3, 569–589. (Hanno Gottschalk) **99m:81129** 81T10 (81S05)

— (*with* Mintchev, Mihail) Quantum field theory, bosonization and duality on the half line. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 345–372. (Hanno Gottschalk) **99f:81126** 81T10 (81T40)

— (*with* Gattobigio, Mario; Mintchev, Mihail) Quantization of the nonlinear Schrödinger equation on the half line. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 143–148. (Summary) **99g:81124** 81T10 (81U40)

de'Liguoro, Ugo (*with* Dezani-Ciancaglini, Mariangiola; Piperno, Adolfo) A filter model for concurrent λ-calculus. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 5, 1376–1419 (*electronic*). (Chantal Berline) **99f:68025** 68N15 (03B15, 03B40, 03G10, 68Q10, 68Q55)

Lih, Ko-Wei The equitable coloring of graphs. (English summary) *Handbook of combinatorial optimization, Vol.* 3, 543–566, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99g:90003**) 90C35 (05C15, 90-02)

Lii, Keh-Shin (*with* Rosenblatt, Murray) Line spectral analysis for harmonizable processes. (English summary) *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 9, 4800–4803 (*electronic*). (M. P. Moklyachuk) **99f:62115** 62M15

Likhoded, N. A. (*with* Zhidkov, E. P.; Petrov, Valeriĭ Alekseevich) Rapidly converging compound formulas for the approximate computation of Wiener functional integrals. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1621–1625; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1551–1555. (Summary) **99j:65254** 65U05 (60H05)

Lilge, Torsten (*with* Huijberts, H. J. C.; Nijmeijer, Henk) Control perspective on synchronization and the Takens-Aeyels-Sauer reconstruction theorem. (English summary) *Phys. Rev. E* (3) **59** (1999), *no.* 4, 4691–4698. 93D15 (93C10)

Lilius, Johan (*with* Bengtsson, Johan; Jonsson, Bengt; Yi, Wang) Partial order reductions for timed systems. (English summary) *CONCUR'98: concurrency theory (Nice)*, 485–500, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q55, 68Q68)

— Efficient state space search for time Petri nets. (English summary) *MFCS'98 Workshop on Concurrency (Brno*, 1998), 21 *pp.* (*electronic*), *Electron. Notes Theor. Comput. Sci.*, 18, *Elsevier, Amsterdam*, 1998. (*see* **99h:68010**) 68Q90 (68Q10)

Liljenström, Hans *see* **Matter matters?, 99a:92044**

de Lillo, Nicholas J. *see* **De Lillo, Nicholas J.**

de Lillo, S. *see* **De Lillo, S.**

Lilly, John H. Adaptive state regulation in the presence of disturbances of known frequency range. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 7, 872–880. (Leopoldo Jetto) **99f:93086** 93C40 (93B51, 93E10)

Lim, Amy W. (*with* Lam, Monica S.) Maximizing parallelism and minimizing synchronization with affine partitions. (English summary) *Parallel Comput.* **24** (1998), *no.* 3-4, 445–475. (Summary) **99c:68110** 68Q22 (68N20)

Lim, Andrew The berth planning problem. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 105–110. 90B90 (90C90)

Lim, Andrew E. B. (*with* Moore, John Barratt) A path following algorithm for infinite quadratic programming on a Hilbert space. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 4, 653–670. (Hubertus Th. Jongen) **99g:90081** 90C20 (49M30, 90C48)

Lim, Chae Hoon (*with* Lee, Pil Joong) A key recovery attack on discrete log-based schemes using a prime order subgroup. (English summary) *Advances in cryptology—CRYPTO '97 (Santa Barbara, CA*, 1997), 249–263, *Lecture Notes in Comput. Sci.*, 1294, *Springer, Berlin*, 1997. (Summary) **99b:94036** 94A60

Lim, Cheng-Chew (*with* Li, Mingyan) Observability-enhanced proportional navigation guidance with bearings-only measurements. (English summary) *J. Austral. Math. Soc. Ser. B* **40** (1999), *no.* 4, 497–512. 93C95 (70Q05, 93B07)

Lim, D. W. (*with* Redekopp, L. G.) Absolute instability conditions for variable density, swirling jet flows. (English summary) *Eur. J. Mech. B Fluids* **17** (1998), *no.* 2, 165–185. (Summary) **99d:76033** 76E05 (76C05)

Lim, Dong Hoon (*with* Wolfe, Douglas A.) Nonparametric comparisons of several regression lines with a control. (English summary) *Far East J. Theor. Stat.* **1** (1997), 51–61. (Summary) **99j:62066** 62G10

Lim, Eunki (*with* Kim, Taenam; Oh, Dukhwan) A new parallel algorithm for rooting a tree. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 2, 385–390. (Summary) **99c:68109** 68Q22 (68Q25)

Lim, G. H. Vibration of plates and shells using finite elements (1996–1997). (English summary) *Finite Elem. Anal. Des.* **31** (1999), *no.* 3, 223–230. 73V05 (73K10, 73K15)

Lim, Ho-Un (*with* Baek, Jong-Il; Youn, Eun-Ho) A weakly dependence concept in moving average models. (English summary) *Commun. Korean Math. Soc.* **12** (1997), *no.* 3, 743–754. (Xian Zhi George Yuan) **99k:62150** 62M10 (60G44, 90A20)

Lim, Hyeong-Seok (*with* Hambrusch, Susanne E.) Minimizing broadcast costs under edge reductions in tree networks. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 93–117. (Summary) **99k:68135** 68R10 (05C85, 68M10)

Lim, J. K. (*with* Oh, Hae Soo) Modified *h*-method with directional error estimate for finite element stress analysis. (English summary) *Comput. & Structures* **65** (1997), *no.* 2, 191–204. (Summary) **99g:73106** 73V05

Lim, Jae-Hak (*with* Park, Dong Ho) A family of tests for trend change in mean residual life. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 5, 1163–1179. (Summary) **99a:62139** 62N05

Lim, Jong In (*with* Son, Jung Je; Chee, Seongtaek; Sung, Soo Hak) Global avalanche characteristics and nonlinearity of balanced Boolean functions. (English summary) *Inform. Process. Lett.* **65** (1998), *no.* 3, 139–144. (Summary) **99c:94038** 94A60 (68P25)

Lim, K. B. (*with* Gawroński, Włodzimierz) Balanced actuator and sensor placement for flexible structures. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 131–145. 93C85 (73K50)

Lim, Kia Yong (*with* Wang, You Yi[2]; Guo, Guoxiao; Zhou, Rujing) A new decentralized robust controller design for multi-area load-frequency control via incomplete state feedback. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 345–361. 93B51 (93A14)

Lim, T. T. (*with* Chew, Y. T.; Xiao, Qing[2]) A new flow regime in a Taylor-Couette flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 12, 3233–3235. (Summary) **99i:76146** 76U05 (76D99, 76E10)

Lim, Wei Shi (*with* Alpern, Steve; Beck, Anatole) Rendezvous search on the line with more than two players. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 357–364. (Summary) **99k:90207** 90D05

— (*with* Alpern, Steve) The symmetric rendezvous-evasion game. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 948–959 (*electronic*). (Summary) **99b:90159** 90D05 (90D10)

Lim, Y. W. (*with* Bhat, P. B.; Prasanna Kumar, V. K.) Efficient algorithms for block-cyclic redistribution of arrays. (English summary) *Algorithmica* **24** (1999), *no.* 3-4, 298–330. 68Q22

Lima, Celso L. (*with* Tripodi, Leandro) On a *q*-covariant form of the BCS approximation. (English summary) *Phys. Lett. B* **412** (1997), *no.* 1-2, 7–13. (Marcelo R. Ubriaco) **99d:81188** 81V70 (81R50)

— (*with* Timóteo, V. S.) Effect of *q*-deformation in the NJL gap equation. (English summary) *Phys. Lett. B* **448** (1999), *no.* 1-2, 1–5. (Summary) **99k:81345** 81V25 (81R50)

de Lima, J. Ademir Sales (*with* Maia, A., Jr.) *D*-dimensional radiative plasma: a kinetic approach. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2271–2288. (Summary) **99d:83107** 83F05 (82D10)

— (*with* Silva, R., Jr.; Plastino, Angel Ricardo) A Maxwellian path to the *q*-nonextensive velocity distribution function. (English summary) *Phys. Lett. A* **249** (1998), *no.* 5-6, 401–408. (Summary) **99h:82032** 82B30

González-Lima, María D. *see* **González-Lima, María D.**

de Lima, Osmundo A. (*with* Matos, Marivaldo P.) On a system of partial differential equations on unbounded domains. *Nonlinear Anal.* **35** (1999), *no.* 5, *Ser. A: Theory Methods*, 531–540. (Olena V. Roman) **99k:35134** 35L75 (45K05, 73K05)

Lima, Paulo C. (*with* Braga, Gastão A.; O'Carroll, Michael L.) Exponential decay of truncated correlation functions via the generating function: a direct method. (English summary) *Rev. Math. Phys.* **10** (1998), *no.* 4, 429–438. (Gustavo R. Guerberoff) **99e:82013** 82B20

de Lima, Pedro J. F. (*with* Brock, William A.) Nonlinear time series, complexity theory, and finance. *Statistical methods in finance*, 317–361, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62111** 62M10 (62P20, 90A09)

Lima, R. (*with* Chazottes, J.-R.; Floriani, E.) Relative entropy and identification of Gibbs measures in dynamical systems. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 3-4, 697–725. (Luis M. Barreira) **99b:58141** 58F11

Lima-Filho, P. (*with* Lawson, H. Blaine, Jr.; Michelsohn, M.-L.) On equivariant algebraic suspension. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 4, 627–650. (Andrzej Kozlowski) **99m:14016** 14C25

— (*with* Elizondo, E. Javier) Chow quotients and projective bundle formulas for Euler-Chow series. (English summary) *J. Algebraic Geom.* **7** (1998), *no.* 4, 695–729. (Alexander E. Polishchuk) **99m:14004** 14C05 (14C25, 14L30)

makar-Limanov, L. *see* **Makar-Limanov, L.**

de Lima Rodrigues, R. (*with* da Silva Filho, P. B.; Vaidya, A. N.) SUSY QM and solitons from two coupled scalar fields in two dimensions. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 12, 125023, 6 *pp.* (Summary) **99k:81076** 81Q60 (81T40)

— (*with* da Silva Filho, P. B.; Vaidya, A. N.) A class of double-well like potentials in 1 + 1 dimensions via SUSY QM. (English summary) *J. Phys. A* **32** (1999), *no.* 12, 2395–2402. 81Q60

Lima-Santos, A. Polynomial rings of the chiral $SU(N)_2$ models. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8653–8660. (Christophe Grojean) **99b:81077** 81R10 (81T40)

— (*with* Roditi, Itzhak; Foerster, Angela) Bethe ansatz solution of the anisotropic correlated electron model associated with the Temperley-Lieb algebra. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 25, 4309–4324. (Yao Zhong Zhang) **99i:82015** 82B23 (81R50)

— Exact solutions of graded Temperley-Lieb Hamiltonians. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 3, 503–532. (Murray T. Batchelor) **99e:82029** 82B23 (82B20)

Limaye, Balmohan V. (*with* Nair, M. Thamban) On the multiplicities and the ascent of an eigenvalue of a linear map. (English summary) *Math. Student* **64** (1995), *no.* 1-4, 162–166 (1996). (Summary) **99b:47004** 47A10 (15A18)

— Spectral approximation. *Math. Student* **65** (1996), *no.* 1-4, 36–44. (Shao Kuan Li) **99e:15014** 15A18 (47A75)

— (*with* Ahues, Mario) On error bounds for eigenvalues of a matrix pencil. (English summary) *Linear Algebra Appl.* **268** (1998), 71–89. (William Watkins) **99c:15016** 15A22 (15A42)

— (*with* Alam, Rafikul; Kulkarni, Rekha P.) Accelerated spectral approximation. (English summary) *Math. Comp.* **67** (1998), *no.* 224, 1401–1422. (Alan L. Andrew) **99a:47026** 47A58 (47A10, 47A75, 65B99, 65J99)

Limaye, Nirmala B. (*with* Sarvate, Dinesh G.) $(D;n)$-cages with $|D| = 2, 3, 4$. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **133** (1998), 7–20. (Summary) **99j:05111** 05C35

Limebeer, D. J. N. (*with* Anderson, Brian D. O.; Chongsrid, K.; Hara, Shinji) Direct reduced order discretization of continuous-time controller. (English summary) Controller reduction and system approximation. *Internat. J. Robust Nonlinear Control* **9** (1999), *no.* 3, 143–155. (*see* **99k:93005**) 93B11 (93C57)

Limet, Sébastien (*with* Réty, Pierre) *E*-unification by means of tree tuple synchronized grammars. (English summary) *Discrete Math. Theor. Comput. Sci.* **1** (1997), *no.* 1, 69–98. (Neculai Curteanu) **99e:68142** 68T15 (03B35, 03C05, 03D05, 68Q42)

— (*with* Réty, Pierre) Solving disequations modulo some class of rewrite systems. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 121–135, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99d:68134** 68Q42 (03B25, 68Q40)

Limic, Vlada (*with* Aldous, David J.) The entrance boundary of the multiplicative coalescent. (English summary) *Electron. J. Probab.* **3** (1998), *No.* 3, 59 *pp.* (*electronic*). (M. G. Shur) **99d:60086** 60J50 (60J75)

Limnios, N. (*with* Platis, A.; Le Du, M.) Hitting time in a finite non-homogeneous Markov chain with applications. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 3, 241–253. (Gh. Oprişan) **99k:60175** 60J10 (60K10, 90B25)

— (*with* Ouhbi, B.) Estimation of kernel, availability and reliability of semi-Markov systems. (English summary) *Statistical and probabilistic models in reliability* (*Bucharest*, 1997), 113–124, *Stat. Ind. Technol., Birkhäuser Boston, Boston, MA*, 1999. (Summary) **99i:62190** 62M05 (62G05, 62N05)

— *see also* **Statistical and probabilistic models in reliability**, **99h:60004**

Lin, Baojiu (*with* Nicholson, D. W.) On the tangent modulus tensor in hyperelasticity. (English summary) *Acta Mech.* **131** (1998), *no.* 1-2, 121–132. (Summary) **99f:73031** 73C50 (73G05)

— (*with* Nicholson, D. W.) Tangent modulus tensor in plasticity under finite strain. (English summary) *Acta Mech.* **134** (1999), *no.* 3-4, 199–215. (Summary) **99k:73074** 73G20 (73E05, 73V05)

Lin, Bertrand M. T. The strong NP-hardness of two-stage flowshop scheduling with a common second-stage machine. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 7, 695–698. (Summary) **99k:90090** 90B35 (68Q25)

Lin, Bo (*with* Zuo, Quan Ru) Fermat points of finite point sets in metric spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 359–364. 51K05 (54E35)

Lin, Bor-Luh (*with* Chen, Shutao) On strongly extreme points in Köthe-Bochner spaces. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1055–1063. (Pilar Cembranos) **99f:46050** 46E40 (46B20)

— (*with* Zhang, Wenyao) Three-space property of Kadec-Klee renorming in Banach spaces. *Functional analysis*, 68–74, *Narosa, New Delhi*, 1998. (Jesús M. F. Castillo) **99m:46016** 46B03 (46B20)

— (*with* Cheng, Cao-Zong) Nonlinear two functions minimax theorems. *Minimax theory and applications* (*Erice*, 1996), 1–20, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Tamaki Tanaka) **99e:49008** 49J35 (47H10, 49K35)

— (*with* Cheng, Cao-Zong; Yu, Feng-Shuo) Weakly upward-downward minimax theorem. *Minimax theory and applications* (*Erice*, 1996), 21–28, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Alberto Seeger) **99i:49009** 49J35 (47N10, 90D05)

— (*with* Yu, Feng-Shuo) Two functions generalization of Horvath's minimax theorem. *Minimax theory and applications* (*Erice*, 1996), 147–156, *Nonconvex Optim. Appl.*, 26, *Kluwer Acad. Publ., Dordrecht*, 1998. (Francesco Ferro) **99f:49012** 49J35 (47H99)

Lin, C. *see* **Lin, Chia-Hung**

Lin, C. C. (*with* Lin, Chien-Tai) A note on coin-tossing process. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 235–238. (Summary) **99e:60112** 60G40 (60K05)

Lin, C. J. *see* **Lin, Chih-Jen**

Lin, C.-S. *see* **Lin, Chia-Shiang**

Lin, C.-T. *see* **Lin, Chi-Tien**

Lin, C. Y. *see* **Lin, Chung-Yi**

Lin, Cantian (*with* Horadam, K. J.) Construction of proper higher-dimensional Hadamard matrices from perfect binary arrays. (English summary) Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 237–248. (Summary) **99i:05047** 05B20

— (*with* Gregory, John[1]) Numerical solutions of nonlinear programming problems with inequality constraints by reformulation. (English summary) *Util. Math.* **54** (1998), 252–256. 90C30 (65K05)

Lin, Chang Hao (*with* Xu, Xing Ye) The existence of global positive solutions to nonlinear elliptic equations with singularities. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 9–14. (Henghui Zou) **99e:35056** 35J60

Lin, Chang-Shou (*with* Chen, Chiun-Chuan) On compactness and completeness of conformal metrics in $\mathbf{R}^N$. (English summary) *Asian J. Math.* **1** (1997), *no.* 3, 549–559. (Zhi Ren Jin) **99a:53038** 53C21 (35J60, 53A30)

— (*with* Chen, Chiun-Chuan) Existence of large energy solutions of the scalar curvature equation. (English summary) *Proceedings of the International Conference on Asymptotics in Nonlinear Diffusive Systems* (*Sendai*, 1997), 1–7, *Tohoku Math. Publ.*, 8, *Tohoku Univ., Sendai*, 1998. (John Urbas) **99b:53051** 53C21 (35J60, 58G30)

— (*with* Cheng, Kuo-Shung) Compactness of conformal metrics with positive Gaussian curvature in $\mathbf{R}^2$. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 1, 31–45. (Zhi Ren Jin) **99g:53043** 53C21 (35J60, 53A30)

— (*with* Chen, Chiun-Chuan) A sharp sup + inf inequality for a nonlinear elliptic equation in $\mathbf{R}^2$. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 1–19. (Wen Xiong Chen) **99e:35048** 35J60 (35B45, 53C21)

— A classification of solutions of a conformally invariant fourth order equation in $\mathbf{R}^n$. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 2, 206–231. (John Urbas) **99c:35062** 35J60 (53C21)

— Liouville-type theorems for semilinear elliptic equations involving the Sobolev exponent. (English summary) *Math. Z.* **228** (1998), *no.* 4, 723–744. (Summary) **99f:35050** 35J60 (35B05)

Lin, Chen (*with* Yan, Zikun) Localization of Bishop's property (β). (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 134–139. (Jörg Eschmeier) **99h:47006** 47A11 (47B40)

Lin, Cheng De (*with* Fan, Gui Qing) Determination of the fixed bonds of generalized hexagonal systems. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 6, 824–830. (Summary) **99m:92052** 92E10

Lin, Chi-Tien (*with* Jiang, Guang-Shan; Levy, Doron; Osher, Stanley; Tadmor, Eitan) High-resolution nonoscillatory central schemes with nonstaggered grids for hyperbolic conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2147–2168 (*electronic*). (Rémi Vaillancourt) **99j:65145** 65M12 (35L65, 65M06)

Lin, Chia-Hung (*with* Szidarovszky, Ferenc; Yen, Jerome) Dynamic negotiation with time-varying Pareto frontier. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 99–109. (Summary) **99a:90015** 90A05 (90D12)

Lin, Chia-Ru (*with* Lian, Kuang-Yow) Sliding-mode motion/force control of constrained robots. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1101–1103. 93B12 (70B15, 70Q05, 93C85)

Lin, Chia-Shiang On Halmos' sharpening of Reid's inequality. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 2, 62–64. (Summary) **99a:47015** 47A30 (47A63)

— On Heinz-Kato type characterizations of the Furuta inequality. (English summary) *Nihonkai Math. J.* **9** (1998), *no.* 2, 187–191. (Frank Hansen) **99j:47021** 47A63 (47B20)

— The unilateral shift and a norm equality for bounded linear operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 6, 1693–1696. (R. W. Cross) **99i:47013** 47A30 (47B99)

— The Furuta inequality and an operator equation for linear operators. (English summary) *Publ. Res. Inst. Math. Sci.* **35** (1999), *no.* 2, 309–313. (Summary) **99m:47021** 47A63 (47B15)

Lin, Chien-Tai (*with* Lin, C. C.) A note on coin-tossing process. (English summary) *Soochow J. Math.* **24** (1998), *no.* 3, 235–238. (Summary) **99e:60112** 60G40 (60K05)

Lin, Chih-Jen (*with* Wu, Soon-Yi; Fang, Shu Cherng) Relaxed cutting plane method for solving linear semi-infinite programming problems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 759–779. (Tian Xiong Han) **99k:90183** 90C34

— (*with* Fang, Shu Cherng; Wu, Soon-Yi) An unconstrained convex programming approach to linear semi-infinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 2, 443–456 (*electronic*). (Levent Tunçel) **99f:90083** 90C26 (49N15)

Lin, Chih-Min (*with* Meng, Teng-De) Simultaneous deadbeat tracking control of two plants. (English summary) *Internat. J. Control* **67** (1997), *no.* 6, 921–931. 93D15

Lin, Chin-Cheng (*with* Chen, Chang-Pao) Integrability, mean convergence, and Parseval's formula for double trigonometric series. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 2, 191–212. (Niranjan Singh) **99d:42007** 42A20 (42B05)

Lin, Chin-Hsiu (*with* Wang, Mu-Tao) A note on the exhaustion function for complete manifolds. *Tsing Hua lectures on geometry & analysis* (*Hsinchu*, 1990–1991), 269–277, *Internat. Press, Cambridge, MA*, 1997. (William P. Minicozzi, II) **99b:53056** 53C21 (53C23)

Lin, Chin-Shien (*with* Chen, Bintong) Minmax-regret robust 1-median location on a tree. (English summary) *Networks* **31** (1998), *no.* 2, 93–103. (H. T. Lau) **99b:90074** 90B80 (90C27)

Lin, Chin-Tsai (*with* Hwang, Shiuh-Nan) A generalization of Chang and Lin's model in a multi-location newsboy problem. (English summary) *Internat. J. Inform. Management Sci.* **9** (1998), *no.* 2, 11–18. 90B05

Lin, Ching-Fang (*with* Ge, Jian-Hua; Frank, P. M.) H_∞ control via output feedback for state delayed systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 1, 1–7. 93B36 (93C30)

Lin, Chong (*with* Wang, Jianliang; Soh, Cheong Boon) Necessary and sufficient conditions for the controllability of linear interval descriptor systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 363–367. (Summary) **99a:93010** 93B05 (93C41)

Lin, Chuan-Kai (*with* Wang, Sheng-De) Fuzzy system identification using an adaptive learning rule with terminal attractors. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 343–352. 93C42 (93B30)

Lin, Chun-Chi (*with* Huang, Wu-Hsiung) Negatively curved sets on surfaces of constant mean curvature in $\mathbf{R}^3$ are large. (English summary) *Arch. Rational Mech. Anal.* **141** (1998), *no.* 2, 105–116. (M. Elisa G. G. de Oliveira) **99j:58049** 58E12 (35J60, 49Q05, 53A10)

Lin, Chun-Liang (*with* Chung, Steven Ching-Yei) A general class of sliding surface for sliding mode control. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 1, 115–119. (Ülle Kotta) **99c:93017** 93B12 (93D09)

— (*with* Chung, Steven Ching-Yei) A transformed Lurié problem for sliding mode control and chattering reduction. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 3, 563–568. 93B12

Lin, Chun-Yuan (*with* Sung, Ting-Yi; Chuang, Yen-Chu; Hsu, Lih-Hsing) Fault tolerant token ring embedding in double loop networks. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 4, 201–207. (Summary) **99c:68025** 68M15 (68M10, 68R10)

Lin, Chung-Yi (*with* Lee, Hoong Chien; Lou, S. L.; Lin, Friday; Chen, J. C.) Some results for the Ising model in d dimensions. *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 120–129, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 82B20

Lin, Chyi-Lung Obtaining dividing formulas $n \mid Q(n)$ from iterated maps. *Fibonacci Quart.* **36** (1998), *no.* 2, 118–124. (Neville Robbins) **99b:11016** 11B83

— On the triplet-divisions of the set $\{1, 2, 3, \cdots, p-2\}$. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 303–312. (Vsevolod F. Lev) **99g:11005** 11A07

Lin, Chyi-Yeu (*with* Huang, I-Ming) A crystal growth approach for topographical global optimization. (English summary) *J. Global Optim.* **13** (1998), *no.* 3, 255–267. (Summary) **99g:90126** 90C30 (65K05)

Lin, Cuiqin 7-matching designs and simple designs of K_n and $K_{n,n}$. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 95–98. (Summary) **99m:05040** 05B30 (05C70)

Lin, D. Y. (*with* Spiekerman, C. F.) Marginal regression models for multivariate failure time data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1164–1175. (Summary) **99e:62175** 62N05

— (*with* Yip, Paul S. F.) Parametric regression models for continuous time removal and recapture studies. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 401–411. 62J12

Lin, Da Hua (*with* Chen, Zhao Mu) Fixed points of BCI-algebras. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **12** (1996), *no.* 4, 29–34. 06F35 (03G25)

Lin, Da Zheng Accurate and simple formulas for $A(n, 4)$ and $A(n, 5)$. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 5, 660–663. (Zhen Fu Cao) **99k:11042** 11D04

— Fibonacci matrices. *Fibonacci Quart.* **37** (1999), *no.* 1, 14–20. (Neville Robbins) **99m:11011** 11B39 (11C20)

Lin, De-Hone Path integral for a relativistic Aharonov-Bohm-Coulomb system. (English summary) *J. Phys. A* **31** (1998), *no.* 20, 4785–4793. (Takashi Miura) **99f:81115** 81S40

— Green's function for the relativistic Coulomb system via sum over perturbation series. (English summary) *J. Phys. A* **31** (1998), *no.* 37, 7577–7584. (Summary) **99g:81046** 81Q15

— Path integral for the relativistic three-dimensional Aharonov-Bohm-Coulomb system. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1246–1254. (Takashi Miura) **99k:81153** 81S40

— (*with* Chuu, Der-San) Path integral quantization of the relativistic dyonium system. (English summary) *J. Phys. A* **32** (1999), *no.* 23, 4199–4208. 81S40

Lin, Dennis K. J. (*with* Draper, Norman R.) Response surface designs. *Design and analysis of experiments*, 343–375, *Handbook of Statist.*, 13, *North-Holland, Amsterdam*, 1996. (*see* **99f:62002**) 62K99

— (*with* Chen, Jiahua) On the identifiability of a supersaturated design. (English summary) R. C. Bose Memorial Conference (Fort Collins, CO, 1995). *J. Statist. Plann. Inference* **72** (1998), *no.* 1-2, 99–107. (Summary) **99i:62177** 62K99

— (*with* Deng, Lih-Yuan) A note on Morris' bound for search designs. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 203–204. (Summary) **99i:62171** 62K15

Lin, En-Bing (*with* Zhou, Xiao Lin[1]) Coiflet interpolation and approximate solutions of elliptic partial differential equations. (English summary) *Numer. Methods Partial Differential Equations* **13** (1997), *no.* 4, 303–320. (Zdeněk Dostál) **99a:65136** 65N15 (35A35, 42C99)

— (*with* Xiao, Zhengchu) Multi-scaling function interpolation and approximation. (English summary) *Wavelets, multiwavelets, and their applications* (*San Diego, CA*, 1997), 129–147, *Contemp. Math.*, 216, *Amer. Math. Soc., Providence, RI*, 1998. (Mariano Gasca) **99c:41035** 41A25 (41A30, 42C15, 65D05)

— (*with* Bielecki, T. R.; Chen, Jie[4]; Yau, Stephen Shing Toung) Wavelet representations of general signals. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 125–141. (Lars F. Villemoes) **99m:94005** 94A12 (42C15)

Lin, F. *see* **Lin, Friday**

Lin, F. J. *see* **Lin, Florence J.**

Lin, Fang Hua Revisit the regularity theory of Navier-Stokes equation. *Differential equations and applications* (*Hangzhou*, 1996), 194–206, *Internat. Press, Cambridge, MA*, 199?. (Cun-Zheng Wang) **99c:35185** 35Q30 (76D05)

— Analysis on singular spaces. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 114–126, *World Sci. Publishing, River Edge, NJ*, 1997. (Zhongmin Shen) **99j:53059** 53C23 (58E20)

— The dynamical law of Ginzburg-Landau vortices. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 101–110, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:35151** 35Q55 (58E50, 82D55)

— (*with* Lin, Tai-Chia) Minimax solutions of the Ginzburg-Landau equations. *Selecta Math. (N.S.)* **3** (1997), *no.* 1, 99–113. (Peter E. Zhidkov) **99a:35239** 35Q55 (49J35, 58E50, 82D55)

— (*with* Du, Qiang) Ginzburg-Landau vortices: dynamics, pinning, and hysteresis. (English summary) *SIAM J. Math. Anal.* **28** (1997), *no.* 6, 1265–1293. (Laurent Véron) **99c:82075** 82D55 (35Q99)

— (*with* Wang, Changyou) Energy identity of harmonic map flows from surfaces at finite singular time. *Calc. Var. Partial Differential Equations* **6** (1998), *no.* 4, 369–380. (Joseph F. Grotowski) **99k:58047** 58E20 (35K55, 58G11)

— (*with* Hardt, Robert; Wang, Changyou) The p-energy minimality of $x/|x|$. *Comm. Anal. Geom.* **6** (1998), *no.* 1, 141–152. (Martin Fuchs) **99c:58045** 58E20

— (*with* Han, Qing[1]; Hardt, Robert) Geometric measure of singular sets of elliptic equations. *Comm. Pure Appl. Math.* **51** (1998), *no.* 11-12, 1425–1443. (Giovanni Leoni) **99h:35032a** 35J15 (35D99, 49Q20)

— (*with* Xin, Jack X.) A unified approach to vortex motion laws of complex scalar field equations. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 4, 455–460. (Summary) **99i:35152; EA 99m** 35Q55 (58E50)

— (*with* Han, Qing[1]; Hardt, Robert) Erratum: "Geometric measure of singular sets of elliptic equations". *Comm. Pure Appl. Math.* **52** (1999), *no.* 2, 271. (Giovanni Leoni) **99h:35032b** 35J15 (35D99, 49Q20)

— Vortex dynamics for the nonlinear wave equation. (English summary) *Comm. Pure Appl. Math.* **52** (1999), *no.* 6, 737–761. (Hideo Yamagata) **99m:35166** 35L70 (35Q53, 76C05)

Lin, Fangzhen (*with* Levesque, Hector J.) What robots can do: robot programs and effective achievability. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 201–226. (Summary) **99d:68221** 68T27 (70B15, 93B05, 93C83)

— Applications of the situation calculus to formalizing control and strategic information: the Prolog cut operator. (English summary) *Artificial Intelligence* **103** (1998), *no.* 1-2, 273–294. (Summary) **99f:68188** 68T27 (68N17)

Lin, Faxing Stability and existence of periodic solutions and almost periodic solutions on Lienard systems. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 3, 248–253. (Summary) **99g:34092** 34C25 (34C27, 34D99)

— (*with* Chen, Xiaoxing) Exponential trichotomy and roughness. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 338–349. (Rimma A. Prokhorova) **99e:34062** 34D10 (34A30, 34C11)

— Monotonicity and existence of almost periodic solution. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 4, 652–663. (George Seifert) **99m:34096** 34C27

Lin, Feng[1] (*with* Heymann, Michael) Nonblocking supervisory control of nondeterministic systems. (English summary) *Operators, systems, and linear algebra* (*Kaiserslautern*, 1997), 96–110, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (Ratnesh Kumar) **99a:93069** 93C83 (93B40)

— (*with* Li, Yong Hua[1]; Lin, Zheng Hui) A generalized framework for supervisory control of discrete event systems. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 139–159. (Vijay Kumar Garg) **99h:93066** 93C83 (68Q60, 93B05)

Lin, Florence J. Symplectic reduction, geometric phase, and internal dynamics in three-body molecular dynamics. (English summary) *Phys. Lett. A* **234** (1997), *no.* 4, 291–300. (M. E. R. de Sousa Dias) **99h:70024** 70H05 (58F05, 70F07, 81V55)

Lin, Friday (*with* Lee, Hoong Chien; Lou, S. L.; Lin, Chung-Yi; Chen, J. C.) Some results for the Ising model in d dimensions. *Field theory, integrable systems and symmetries (Quebec, PQ, 1995)*, 120–129, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 82B20

Lin, Fu-rong (*with* Chan, Raymond H.; Ng, Wing-fai) Fast dense matrix method for the solution of integral equations of the second kind. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **7** (1998), *no.* 1, 105–120. 65R20 (45L05)

Lin, Fu Yong (*with* Wu, Jian Zhong[2]) The structural theory of general systems and its applications. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 3, 1–10. 93A10

— (*with* Wu, Jian Zhong[2]) The structural theory of general systems and its applications. II. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 11–20. 93A10

— (*with* Cheng, T. C. Edwin) The principles and laws of general systems and their applications. (English summary) *Kybernetes* **28** (1999), *no.* 1, 75–85. 93A05

Lin, Fun-Zin (*with* Chien, Mao-Ting; Yeh, Lina; Yeh, Yean-Tzuoh) On geometric properties of the numerical range. (English summary) *Linear Algebra Appl.* **274** (1998), 389–410. (Hiroshi Nakazato) **99b:15034** 15A60

Lin, Gui-Hua (*with* Feng, En Min; Xia, Zun Quan) Some improved convergence results for pseudo-monotone variational inequalities. (English summary) *Pure Math. Appl.* **8** (1997), *no.* 2-4, 339–346. (Muhammad Aslam Noor) **99k:49024** 49J40 (47H19, 90C33)

— Weak compactness in the space $l_1(X_n)$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 397–401. (Summary) **99g:46012** 46B20

— Weak compactness in $l_\infty(X_n)$. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 4, 571–574. (Summary) **99k:46018** 46B20

Lin, Guo Guang (*with* Dai, Zheng De; Guo, Bo Ling) The fractal structure of attractor for the generalized Kuramoto-Sivashinsky equations. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 3, 263–277; *translated from Appl. Math. Mech.* **19** (1998), *no.* 3, 243–256 (*Chinese. English and Chinese summaries*). (Ming Mei) **99e:35195** 35Q53 (34G20, 35B40, 47H20, 58F39)

Lin, Guo-Hui (*with* Du, Ding Zhu; Wu, Weili; Yoo, Kyeongah) On 3-rate rearrangeability of Clos networks. (English summary) *Advances in switching networks (Princeton, NJ, 1997)*, 315–333, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 42, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99e:94055** 94C10 (05C90, 90B12)

— The exact bound of Lee's MLPT. (English summary) *Discrete Appl. Math.* **85** (1998), *no.* 3, 251–254. (Summary) **99c:90054** 90B22

— (*with* Yao, En Yu; He, Yong[1]) Parallel machine scheduling to maximize the minimum load with nonsimultaneous machine available times. (English summary) *Oper. Res. Lett.* **22** (1998), *no.* 2-3, 75–81. (Summary) **99h:90052** 90B35

— (*with* Xue, Guo Liang) K-center and K-median problems in graded distances. (English summary) In memoriam of Ronald V. Book. *Theoret. Comput. Sci.* **207** (1998), *no.* 1, 181–192. (Summary) **99h:68081** 68Q25

— (*with* Xue, Guo Liang) Steiner tree problem with minimum number of Steiner points and bounded edge-length. (English summary) *Inform. Process. Lett.* **69** (1999), *no.* 2, 53–57. (Summary) **99i:68095** 68R10 (68Q25, 68Q35)

Lin, Gwo Dong (*with* Huang, Jin-sheng[1]) The cube of a logistic distribution is indeterminate. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 3, 247–252. (S. G. Maloshevskiĭ) **99e:60045** 60E05 (44A60, 62E10)

— On the moment problems. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 1, 85–90. (P. N. Rathie) **99a:44007** 44A60 (62E15)

— A note on the Linnik distributions. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 701–706. (M. Sreehari) **99a:60010** 60E05 (60E07, 62E10)

— On the Mittag-Leffler distributions. (English summary) *J. Statist. Plann. Inference* **74** (1998), *no.* 1, 1–9. (Ramesh C. Gupta) **99m:62020** 62E15

— Characterizations of the $\mathscr{L}$-class of life distributions. (English summary) *Statist. Probab. Lett.* **40** (1998), *no.* 3, 259–266. (J. Panaretos) **99k:62027** 62E10 (60K10)

Lin, H. *see* **Lin, Hong**

Lin, Hai-Xiang (*with* Veenstra, Arnt H.; Vollebregt, Edwin A. H.) A comparison of scalability of different parallel iterative methods for shallow water equations. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 357–364, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (Dennis C. Jespersen) **99h:65235** 65Y05 (65F10, 76B15, 76M25)

— (*with* Yang, Tianruo) Theoretical performance analysis of the IQMR method on distributed memory computers with different network topologies. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 441–449, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 65F30 (65Y05)

Lin, Herng (*with* Chieng, Ching-Chang) Computations using the preconditioning Bi-CGSTAB algorithm in chemical non-equilibrium problems. (English summary) *Internat. J. Numer. Methods Fluids* **28** (1998), *no.* 2, 267–291. (Summary) **99d:80013** 80A32 (76K05, 80–08)

Lin, Hong (*with* Chen, Guo Liang[2]; Wang, Min) Program transformation from Unity to Gamma based on temporal semantics. (English summary) *Neural Parallel Sci. Comput.* **5** (1997), *no.* 4, 511–533. (Summary) **99b:68027** 68N15 (68Q55)

— (*with* Chen, Guo Liang[2]) Program construction by verifying specification. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 597–607. (*see* **99i:68004**) 68Q60 (68Q10)

— *see also* **Proceedings: Summer School and Workshop on Formal Models of Programming and their Applications, 99i:68004**

Lin, Hong Cheng (*with* Liu, Lan Zhe) Weighted weak boundedness of ergodic maximal operators and convergence of ergodic average operators. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 25–30. (Summary) **99i:28023** 28D05 (47A35)

Lin, Hong-fei (*with* Shi, Xi Quan[2]; Deng, Hao) Notes on refinable functions. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 319–326. (Summary) **99d:42069** 42C15 (41A30)

Lin, Huan-Jay (*with* Jiang, Lei[2]; Schultz, William W.; Perlin, Marc) Unsteady ripple generation on steep gravity-capillary waves. (English summary) *J. Fluid Mech.* **386** (1999), 281–304. 76B15 (76B45)

Lin, Huaxin (*with* Su, Hongbing) Classification of direct limits of generalized Toeplitz algebras. (English summary) *Pacific J. Math.* **181** (1997), *no.* 1, 89–140. (Mahmood Khoshkam) **99h:46106** 46L05 (19K35, 46L80)

— A classification theorem for infinite Toeplitz algebras. *Operator algebras and operator theory (Shanghai, 1997)*, 219–275, *Contemp. Math.*, 228, *Amer. Math. Soc., Providence, RI*, 1998. (Vladimir M. Deundyak) **99m:46138** 46L05 (19K33, 46L35, 46L80)

— Almost commuting unitaries and classification of purely infinite simple C^*-algebras. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 1–24. (Vladimir Manuilov) **99e:46070** 46L05

— Extensions by C^*-algebras of real rank zero. III. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 634–666. (Gustavo Corach) **99j:46071** 46L35

— *see also* **Operator algebras and operator theory, 99h:46001**

Lin, Hui (*with* Yan, Xing Gang; Dai, Guan Zhong) Linearization and simultaneous decoupling for nonlinear systems based on diffeomorphisms. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 93–98. 93B15 (93C10)

Lin, Hui Min Complete proof systems for observation congruences in finite-control π-calculus. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 443–454, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60 (03B70)

Lin, Huo Nan (*with* Zhuang, Xing Wu) Note on the paper: "On right continuity of a family of two-parameter σ-fields" [Stochastic Process. Appl. **66** (1997), no. 1, 107–113; MR 97k:60131] by C. Zongxun. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 22–23. (Summary) **99j:60060** 60G46 (60G07, 60G60)

Lin, I-Peng (*with* Tan, Jichang) Recursive modes for precise analysis of logic programs. (English summary) *Logic programming (Port Washington, NY, 1997)*, 277–290, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17

Lin, In-Jen (*with* McKee, Terry A.; West, Douglas B.) The leafage of a chordal graph. (English summary) *Discuss. Math. Graph Theory* **18** (1998), *no.* 1, 23–48. (Dieter Kratsch) **99i:05180** 05C75 (05C05, 05C35)

— (*with* Lu, Xiao Yun[1]; Wang, Da-Wei[1]; Chang, Gerard J.; Wong, Chak Kuen) On k-ary spanning trees of tournaments. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 167–176. (A. G. Thomason) **99j:05084** 05C20 (05C05, 05C35)

Lin, Ja-Chen (*with* Lin, Jenn-Yih) A 1 log N parallel algorithm for detecting convex hulls on image boards. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 922–925. 65Y25 (65F30, 68U05, 68U10)

Lin, James P. Mod 3 truncated polynomial algebras over the Steenrod algebra. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 195–203, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (Kathryn P. Hess) **99e:55033** 55S10 (16W30, 55P45, 57T05, 57T25)

Lin, Jen-Chih (*with* Keh, Haun-Chao) Mapping complete binary tree structures into a faulty supercube with unbounded expansion. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 4, 491–498. (Summary) **99k:68140** 68R10 (68M10, 68M15)

Lin, Jenn-Yih (*with* Lin, Ja-Chen) A 1 log N parallel algorithm for detecting convex hulls on image boards. (English summary) *IEEE Trans. Image Process.* **7** (1998), *no.* 6, 922–925. 65Y25 (65F30, 68U05, 68U10)

Lin, Ji-Nan (*with* Li, Wenzhe; Unbehauen, Rolf) Canonical representation of piecewise-polynomial functions with nondegenerate linear-domain partitions. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 8, 838–848. (A. Bultheel) **99j:41013** 41A10 (41A30)

Lin, Jiarui (*with* Yang, Zhenye; Xiu, Zhengming) Solve maximum resolution of a fuzzy relation equation in finite steps. (English summary) *Mohu Xitong yu Shuxue* **11** (1997), *no.* 4, 52–57. 03E72

Lin, Jiehliang (*with* Pence, Thomas J.) Pulse attenuation by kinetically active phase boundary scattering during displacive phase transformations. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 7, 1183–1211. (Summary) **99d:73013** 73B30 (80A22)

Lin, Jin Guan The F-distribution and statistical inference of the total number of individuals of a species. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 4, 466–471. 92D25

Lin, Jinkun (*with* Zheng, Qibing) A new family of filtration seven in the stable homotopy of spheres. (English summary) *Hiroshima Math. J.* **28** (1998), *no.* 2, 183–205. (Elias Micha) **99e:55021** 55Q45 (55T15)

Lin, Ju Fang (*with* Liang, Xin Jian; Liu, Bi Qiu) A note on some integral inequalities. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 113–116. 26D15

Lin, Juan (*with* Andreasen, Viggo; Levin, Simon A.) The dynamics of cocirculating influenza strains conferring partial cross-immunity. (English summary) *J. Math. Biol.* **35** (1997), *no.* 7, 825–842. (Summary) **99a:92013** 92C60

Lin, Jun (*with* Shi, Zhong Kun; Wu, Jie Ru; Wu, Xiao) Fitting surfaces to scattered data in space. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 78–82. 65D15 (90C90)

Lin, Jun Chang (*with* Xu, Shi Meng; Zhang, Yu Zhong) The pricing of preferred hedging contingent claims under transaction costs. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 4, 414–420. 90A12

— A property of averages of matrices. (Chinese. Chinese summary) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 91–92. 15A99

Lin, Jung-Shan (*with* Kanellakopoulos, Ioannis) Nonlinearities enhance parameter convergence in strict feedback systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 89–94. 93B52 (93C40)

Lin, Jyh-Feng (*with* Hu, Jwusheng) Active impedance control of linear one-dimensional wave equations. (English summary) *Internat. J. Control* **72** (1999), *no.* 3, 247–257. (Summary) **99j:93038** 93B50 (93C20)

Lin, Jyh-Jiuan (*with* Pal, Nabendu) Estimators which are uniformly better than the James-Stein estimator. (English summary) *Calcutta Statist. Assoc. Bull.* **47** (1997), *no.* 187-188, 167–179. (Summary) **99j:62029** 62F10 (62C15, 62H12)

— (*with* Pal, Nabendu; Chang, Ching Hui) Applications of improved variance estimators in a multivariate normal mean vector estimation. (English summary) *Statistics* **30** (1997), *no.* 2, 99–125. (Summary) **99c:62054** 62F10 (62J07)

— (*with* Pal, Nabendu; Ling, Chiahua) Estimation of a normal variance—a critical review. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 389–404. (Summary) **99e:62010** 62C15 (62F10)

Lin, Lai-Jiu (*with* Park, Sehie) On some generalized quasi-equilibrium problems. *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 167–181. (Igor' V. Konnov) **99f:90182** 90C48 (47H10, 47H19, 47N10, 54C60, 54H25, 90A14)

— (*with* Chang, Tong-Huei) *S*-KKM theorems, saddle points and minimax inequalities. *Nonlinear Anal.* **34** (1998), *no.* 1, 73–86. (Carlo Bardaro) **99e:47093** 47H19 (47N10, 49K35)

Lin, Li Jian (*with* Owa, Shigeyoshi) Properties of the Salagean operator. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 361–366. (R. McLaughlin) **99g:30025** 30C75 (30C45)

Lin, Liang Yu (*with* Chen, Gu Ding; Qiu, Chun Hui) A class of higher-order singular integral equations. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *suppl.*, 33–36. (Summary) **99k:45007** 45E05

— (*with* Yao, Guo Xin; Ruan, Qi Hua) Bochner-Henkin formulas on a bounded domain. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 5, 625–628. (Shu Jin Chen) **99k:32005** 32A25

Lin, Longwei (*with* Pan, Tao) The global solution of the scalar nonconvex conservation law with boundary condition. (Continuation). (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 1, 1–8. (Christophe Cheverry) **99c:35148** 35L65

— (*with* Liu, Hongxia) Some perturbation problems on 2×2 nonlinear hyperbolic conservation laws. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 245–259. (L. Hsiao) **99j:35134** 35L65

Lin, Lu[2] The approximate score function and the quasi-approximate score function for seemingly unrelated nonlinear regression equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 110–113. 62J02

Lin, Mao-Chao (*with* Perry, Patrick; Li, Mingche; Zhang, Zhen[1]) Runlength limited codes for single error-detection and single error-correction with mixed type errors. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1588–1592. 94A45

Lin, Men-Yang (*with* Wang, Jeng-Jung; Sung, Ting-Yi; Hsu, Lih-Hsing) A new family of optimal 1-Hamiltonian graphs with small diameter. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 269–278, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 05C45 (68R10)

Lin, Meng Hai (*with* Song, Ling Chun; Wu, Wei[3]; Zhang, Qian Er) Program implementation of a new algorithm for computing matrices of standard orthogonal irreducible representations of symmetric groups. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 2, 209–216. (Summary) **99h:20017** 20C40 (20C30)

Lin, Michael (*with* Jones, Roger L.; Olsen, James) Weighted ergodic theorems along subsequences of density zero. (English summary) *New York J. Math.* **3A** (1997/98), *Proceedings of the New York Journal of Mathematics Conference*, *June* 9–13, 1997, 89–98 (*electronic*). (Alberto de la Torre) **99d:47008** 47A35 (28D10)

— The uniform zero-two law for positive operators in Banach lattices. (English summary) *Studia Math.* **131** (1998), *no.* 2, 149–153. (Summary) **99g:47015** 47A35 (46B42, 47B65)

Lin, Ming C. (*with* Krishnan, Shankar; Pattekar, Amol; Manocha, Dinesh) Spherical shell: a higher order bounding volume for fast proximity queries. (English summary) *Robotics: the algorithmic perspective* (*Houston, TX*, 1998), 177–190, *A K Peters, Natick, MA*, 1998. (*see* **99m:68012**) 68U05 (68P10, 68T20)

Lin, Muren The periodic solutions of certain equations with periodic coefficients. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 240–246. (M. A. Alwash) **99f:34064** 34C25 (34C20)

Lin, Nai-Wei (*with* Debray, Saumya; López-García, Pedro; Hermenegildo, Manuel) Lower bound cost estimation for logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 291–305, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17

Lin, Nancy P. (*with* Chiang, Ding-An) Correlation of fuzzy sets. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 221–226. (Summary) **99j:62038** 62F99

Lin, Pei-Kee (*with* Sun, Huiying) Extremity in Köthe-Bochner function spaces. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 136–154. (Henryk Hudzik) **99a:46067** 46E40 (46B20, 46E30)

Lin, Peixiong[1] (*with* Morton, K. W.; Süli, Endre) Characteristic Galerkin schemes for scalar conservation laws in two and three space dimensions. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 2, 779–796. (Darrell L. Hicks) **99b:65118** 65M60 (65N30)

Lin, Peng Cheng (*with* Yang, Mei Fen) A difference method for solving mixed problems of parabolic equations containing two parameters. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 1–7. 65M06 (65M70)

— A uniform construction method with a general formula for even order magic squares. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 101–104. 05B15

Lin, Ping[1] Numerical solutions to singularly perturbed nonlinear second-order ordinary differential equations. (Chinese. Chinese summary) *Acta Math. Sci.* (*Chinese*) **11** (1991), *no.* 3, 247–253. (Zhong Wu Chu) **99c:65144** 65L10

— (*with* Yang, Dao-qi) An iterative perturbation method for the pressure equation in the simulation of miscible displacement in porous media. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 3, 893–911 (*electronic*). (Summary) **99a:76115** 76M25 (35Q35, 65M60, 76S05)

Lin, Qin (*with* Liu, Xiao-qi) Global superconvergence estimates of finite element method for Schrödinger equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 521–526. (Summary) **99j:65171** 65M60

Lin, Qingquan (*with* Huang, Zhi Yuan) The weak solutions for stochastic differential equations with terminal conditions. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 60–64. (Summary) **99d:60061** 60H10 (60H20, 90A09)

Lin, Qionggui Nonlocal electrodynamics in 2 + 1 dimensions from Chern-Simons theory. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 2, 249–256. (Summary) **99h:81225** 81V10 (81T13)

Lin, Qun[1] (*with* Yan, Ning-ning; Zhou, Junming) Superclose and superconvergence for triangular elements. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 127–143, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99e:65157** 65N30 (65N12)

— (*with* Zhang, Shu Hua[3]; Yan, Ning-ning) Extrapolation and defect correction for diffusion equations with boundary integral conditions. (English summary) *Acta Math. Sci.* (*English Ed.*) **17** (1997), *no.* 4, 405–412. (Chuan Miao Chen) **99f:65143** 65M60 (45K05)

— (*with* Zhang, Shu Hua[3]; Yan, Ning-ning) An acceleration method for integral equations by using interpolation post-processing. (English summary) Numerical treatment of boundary integral equations. *Adv. Comput. Math.* **9** (1998), *no.* 1-2, 117–129. (Wojciech Mydlarczyk) **99m:65249** 65R20 (45L05)

— (*with* Rokne, Jon G.) Disk Bézier curves. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 7, 721–737. (Summary) **99b:65018** 65D17 (65D10, 65G10)

— (*with* Zhang, Shu Hua[3]; Yan, Ning-ning) Asymptotic error expansion and defect correction for Sobolev and viscoelasticity type equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 1, 51–62. (Weimin Han) **99a:65126** 65M60

— (*with* Rokne, Jon G.) Inclusion isotonicity for circular centered forms in several complex variables. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 6, 1069–1076. (G. Alefeld) **99d:65148** 65G10

— (*with* Zhang, Shu Hua[3]) High accuracy analysis for first order hyperbolic equations by Petrov-Galerkin methods. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 134–143. (Mu Sheng Wei) **99i:65106** 65M60 (65M12)

— (*with* Wu, Dongsheng) High-accuracy approximations for eigenvalue problems by the Carey non-conforming finite element. (English summary) *Comm. Numer. Methods Engrg.* **15** (1999), *no.* 1, 19–31. (Summary) **99j:65188** 65N25 (65N30)

Lin, Rongzin (*with* Leng, Gerard Siew Bing; Lee, Heow Pueh) A method for the numerical computation of Hopf bifurcation. (English summary) *Appl. Math. Comput.* **86** (1997), *no.* 2-3, 137–156. (Wolf-Jürgen Beyn) **99c:34075** 34C23 (34C25, 65L10)

Lin, Runliang (*with* Zeng, Yunbo) Jacobi inversion problem for the modified Jaulent-Miodek hierarchy. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1253–1259. (Xian Guo Geng) **99k:58093** 58F07 (35Q53)

Lin, S. C. *see* **Lin, Sinn-Cheng**

Lin, S. P. *see* **Lin, Sung P.**

Lin, Senchun (*with* Weinstein, Tilla) E^3-complete timelike surfaces in E_1^3 are globally hyperbolic. *Michigan Math. J.* **44** (1997), *no.* 3, 529–541. (Paul E. Ehrlich) **99a:53079** 53C50

Lin, Sheng-Kuei (*with* Fan, Jianqing) Test of significance when data are curves. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1007–1021. (Summary) **99e:62077** 62G10

Lin, Shi-zhong (*with* Yu, Wen Sheng; Yu, Yuan Hong) Oscillation of second-order delay difference equations. (Chinese. English and Chinese summaries) *Beijing Daxue Xuebao Ziran Kexue Ban* **33** (1997), *no.* 1, 42–48. (Summary) **99a:39039** 39A10 (39A70)

— (*with* Li, Guang Hua[2]; Yu, Yuan Hong) Oscillations of solutions of nonlinear functional-differential equations of higher order. (Chinese. Chinese summary) *Math. Practice Theory* **27** (1997), *no.* 3, 261–265. (Xiang Sheng Xie) **99a:34192** 34K15

— (*with* Liu, Zheng-rong; Yu, Yuan Hong) Stability for certain fourth order nonlinear differential equations. *Demonstratio Math.* **31** (1998), *no.* 1, 87–96. (From the introduction) **99b:34088** 34D20

Lin, Shield B. (*with* Wang, Sheng-Guo; Shieh, Leang-San; Sunkel, John W.) Observer-based controller for robust pole clustering in a vertical strip and disturbance rejection in structured uncertain systems. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 12, 1073–1084. (Summary) **99g:93070** 93D09 (93B55, 93C41)

Lin, Shou Lashnev spaces and T. Miwa's question. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 585–590. 54E35 (54C10)

— (*with* Liu, Chuan) k-spaces property of product spaces. A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 4, 537–544. 54D50 (54B10, 54C10)

— Mapping theorems on k-semistratifiable spaces. (English summary) *Tsukuba J. Math.* **21** (1997), *no.* 3, 809–815. (O. T. Alas) **99b:54023** 54C10 (54E18, 54E20)

— Tri-quotient maps. (Chinese. English and Chinese summaries) *Adv. Math.* (*China*) **27** (1998), *no.* 2, 97–102. 54C10 (54E50)

— k-spaces property of product spaces. II. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 2, 204–206. 54D50 (54B10)

— Normality of locally convex spaces. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 23–26. (Summary) **99f:54029** 54D15 (54C35)

— Sequential networks and sequential quotient images of metric spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **42** (1999), *no.* 1, 49–54. 54D55 (54C10)

Lin, Shu (*with* Fossorier, Marc P. C.; Snyders, Jakov) Reliability-based syndrome decoding of linear block codes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 388–398. (Summary) **99b:94052** 94B35

— (*with* Fossorier, Marc P. C.; Rhee, Dojun) Bit-error probability for maximum-likelihood decoding of linear block codes and related soft-decision decoding methods. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 3083–3090. (Summary) **99i:94071** 94B35 (94B05)

— (*with* Morelos-Zaragoza, Robert; Fujiwara, Toru; Kasami, Tadao) Constructions of generalized concatenated codes and their trellis-based decoding complexity. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 725–731. (Summary) **99k:94051** 94B12

— (*with* Koumoto, Takuya; Takata, Toyoo; Kasami, Tadao) A low-weight trellis-based iterative soft-decision decoding algorithm for binary linear block codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 731–741. (Simon N. Litsyn) **99m:94059** 94B35

Lin, Shui Sheng (*with* Huang, Shun Ji) A parallel algorithm for computing FFTs on MIMD parallel computers. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **26** (1997), *no.* 6, 621–626. (Summary) **99c:65252** 65T20 (65Y05)

Lin, Shun-Shii (*with* Baruah, Sanjoy K.) Pfair scheduling of generalized pinwheel task systems. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 7, 812–816. (Summary) **99c:90062** 90B35 (90B12)

Lin, Shy-Der (*with* Nishimoto, Katsuyuki) *N*-method to a generalized associated Legendre equation. (English summary) *J. Fract. Calc.* **14** (1998), 95–111. (K. C. Gupta) **99k:33029** 33C45 (26A33)

Lin, Si-Jian (*with* Konstantopoulos, Takis) Macroscopic models for long-range dependent network traffic. (English summary) *Queueing Systems Theory Appl.* **28** (1998), *no.* 1-3, 215–243. (Summary) **99b:60159** 60K25

Lin, Sinn-Cheng (*with* Chou, Y.-T.; Feng, C. K.) Nonlinear asymptotic theory of hypersonic flow past a circular cone. (English summary) *Acta Mech.* **130** (1998), *no.* 1-2, 1–15. 76K05

Lin, Song-Sun (*with* Fu, Chun-Chieh) On the critical mass of the collapse of a gaseous star in spherically symmetric and isentropic motion. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 3, 461–469. (F. Nahon) **99k:85004** 85A30 (76N15)

Lin, Su Rong (*with* Lin, Zong Chi) Singular perturbations of boundary value problems for a class of higher-order elliptic equations when the limit equation has a singularity. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 7–14. (From the summary) **99i:35008** 35B25 (35J40)

Lin, Sung P. (*with* Chen, Jian Ning) The mechanism of surface wave suppression in film flow down a vertical plane. (English summary) *Phys. Fluids* **10** (1998), *no.* 8, 1787–1792. (Summary) **99d:76031** 76D99 (76E99)

Lin, T. *see* **Lin, Tao[1]**

Lin, T. C. (*with* Bongiorno, J. J., Jr.; Khorrami, Farshad) A Wiener-Hopf approach to trade-offs between stability margin and performance in two- and three-degree-of-freedom multivariable control systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1337–1366. 93D09

Lin, T. Y. *see* **Lin, Tsau Young**

Lin, Tai-Chia (*with* Lin, Fang Hua) Minimax solutions of the Ginzburg-Landau equations. *Selecta Math. (N.S.)* **3** (1997), *no.* 1, 99–113. (Peter E. Zhidkov) **99a:35239** 35Q55 (49J35, 58E50, 82D55)

— Vortices for the nonlinear wave equation. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 2, 391–398. (Shu-Xing Chen) **99k:35126** 35L70 (35B20)

Lin, Tao[1] A C^0 finite element method for an inverse problem. (English summary) *Appl. Math. Comput.* **90** (1998), *no.* 2-3, 253–284. (Elsayed Mohamed E. Zayed) **99a:65097** 65L60 (34A55)

— (*with* Ewing, Richard E.; Lin, Yanping) A mixed least-squares method for an inverse problem of a nonlinear beam equation. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 19–32. (Summary) **99j:34015** 34A55 (34B15, 65L60, 73D35)

— (*with* Banks, H. T.) Determining the structure of a biological medium using acousto-optic probes. (English summary) *J. Inverse Ill-Posed Probl.* **7** (1999), *no.* 1, 61–82. (From the text) **99k:78025** 78A45 (76Q05, 92C55)

Lin, Tian (*with* Goldenberg, Andrew A.) Adaptive and robust control of flexible joint robots in constrained motion. (English summary) Recent developments in robotics. *Appl. Math. Comput. Sci.* **7** (1997), *no.* 2, 253–272. (*see* **99b:70004**) 93C85 (70B15, 70Q05)

Lin, Tsau Young Granular computing on binary relations. II. Rough set representations and belief functions. *Rough sets in knowledge discovery*, 1, 122–140, *Stud. Fuzziness Soft Comput.*, 18, *Physica, Heidelberg*, 1998. (*see* **99k:68188**) 68T30 (04A72)

Lin, Tzu-Chu (*with* Park, Sehie) Approximation and fixed-point theorems for condensing composites of multifunctions. (English summary) *J. Math. Anal. Appl.* **223** (1998), *no.* 1, 1–8. (Summary) **99c:47086** 47H09 (47H10)

Lin, Tzuoh-Yi (*with* Wu, Tzong-Chen) Undeniable (t, n)-threshold signature scheme with cheater identification. (English and Chinese summaries) *J. Chinese Inst. Engrs.* **21** (1998), *no.* 6, 775–780. 94A60

Lin, W. A. (*with* Jensen, R. V.) Conjugate points in stadium and circle billiards. (English summary) *Phys. Rev. E* (3) **56** (1997), *no.* 5, *part A*, 5251–5256. (Nikolai Chernov) **99c:58109** 58F13 (58F11, 81Q50)

Lin, Wei *see* **Lin, Wei[2]**

Lin, Wei[1] (*with* Xu, Yongzhi; Zhao, YuQiu) Normal modes analysis for sound waves in an ocean with an ice cap and a perfectly reflecting bottom. (English summary) *Appl. Anal.* **63** (1996), *no.* 1-2, 167–181. (Summary) **99a:76138** 76Q05 (86A05)

— (*with* Dai, Dao-Qing) On the periodic orthonormal wavelet system. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 74–78. (Summary) **99b:42039** 42C15

— (*with* Zhu, Tonglin) Fast wavelet algorithm of the Poisson integral. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 2-3, 127–144. (Don Hong) **99f:65037** 65D30 (42C15, 65T99)

Lin, Wei[2] Mixed H_2/H_∞ control via state feedback for nonlinear systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 5, 899–922. 93B36

— (*with* Isidori, Alberto) Global L_2-gain design for a class of nonlinear systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 295–302. (Henk Nijmeijer) **99f:93072** 93C10 (93B51)

Lin, Wei Chuan (*with* Xie, Hui Chun) The Borel exceptional functions of a entire function. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **12** (1996), *no.* 4, 21–24. 30D35

Lin, Wei Dong (*with* Chen, Zhi Ping; Xu, Cheng Xian) Indirect one-staging of the general multistage problem with recourse and its application. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 69–75. 90C15 (65U05)

— A stepwise sequential quadratic programming method for unconstrained discrete optimal control problems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 66–73. 49M25 (90C30)

Lin, Wei-Jer (*with* Lee, Shie-Jue) Formal verification and diagnosis of combinational circuit designs with propositional logic. (English summary) *Fund. Inform.* **31** (1997), *no.* 1, 79–105. (Summary) **99e:94058** 94C12 (03B05, 03B70, 68Q35)

Lin, Wei Jun (*with* Zhang, Hongyu) Some combinatorial properties of ineffable cardinals. *Chinese Sci. Bull.* **42** (1997), *no.* 4, 274–277. (Pierre Matet) **99e:03035** 03E55 (03E05)

— (*with* Zhang, Yan E; Sun, Jian Ping) Solving a kind of fuzzy possibilistic linear programming problems. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 3, 9–12. 90C70 (90C08)

Lin, Weigan (*with* Lan, Kang; Zhao, Yushen) A hybrid finite-difference method in time-domain. (English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 4, 394–397. 65M06

Lin, Wen-Dar (*with* Hwang, Frank K.) The number of rearrangements in a 3-stage Clos network using an auxiliary switch. (English summary) *Computing and combinatorics (Taipei, 1998)*, 204–212, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 90B10 (90C35)

Lin, Wen-Hsiung (*with* Mahowald, Mark E.) The Adams spectral sequence for Minami's theorem. *Homotopy theory via algebraic geometry and group representations (Evanston, IL, 1997)*, 143–177, *Contemp. Math.*, 220, *Amer. Math. Soc., Providence, RI*, 1998. (Haynes R. Miller) **99f:55023** 55T15 (55Q45)

— A differential in the Adams spectral sequence for spheres. (English summary) *Stable and unstable homotopy (Toronto, ON, 1996)*, 205–239, *Fields Inst. Commun.*, 19, *Amer. Math. Soc., Providence, RI*, 1998. (N. J. Kuhn) **99h:55021** 55Q45 (55T15)

Lin, Wen Song (*with* Song, Zeng Min) Neighbourhood unions and edge-pancyclicity. (English summary) *Ars Combin.* **48** (1998), 81–86. (Summary) **99a:05085** 05C38

Lin, Wen-Wei (*with* Afraimovich, Valentin) Synchronization in lattices of coupled oscillators with Neumann/periodic boundary conditions. (English summary) *Dynam. Stability Systems* **13** (1998), *no.* 3, 237–264. (Volker Matthias Gundlach) **99f:34049** 34C15 (34D45, 70K20)

— (*with* Ferng, W. R.; Wang, Chern-Shuh) Numerical algorithms for undamped gyroscopic systems. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 1, 49–66. (Summary) **99j:70002** 70–08 (65F99, 70J05)

— (*with* Wang, Chern-Shuh; Xu, Quan-Fu) On the computation of the optimal $\mathbf{H}_\infty$ norms for two feedback control problems. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 223–255. (Summary) **99i:93019** 93B36 (65F30, 93B40)

— (*with* Juang, Jong) Nonsymmetric algebraic Riccati equations and Hamiltonian-like matrices. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 228–243 (*electronic*). (John P. Daughtry) **99e:15019** 15A24 (82C70)

Lin, Wen Xian Asymptotic and oscillatory properties of higher-order neutral functional-differential equations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 103–110. (Yumin Cheng) **99g:34144** 34K15 (34K25, 34K40)

Lin, Wu Zhong (*with* Wang, Zhi Ming[3]) A boundary value problem for a singularly perturbed second-order semilinear integrodifferential equation. (Chinese. English and Chinese summaries) *J. East China Norm. Univ. Natur. Sci. Ed.* **1997**, *no.* 4, 1–8. (Summary) **99c:34151** 34K10 (34E15, 45J05)

Lin, X. Sheldon (*with* Willmot, Gordon E.) Exact and approximate properties of the distribution of surplus before and after ruin. (English summary) *Insurance Math. Econom.* **23** (1998), *no.* 1, 91–110. (Summary) **99i:62247** 62P05

Lin, Xiao Song[2] Finite type invariants of integral homology 3-spheres: a survey. *Knot theory (Warsaw, 1995)*, 205–220, *Banach Center Publ.*, 42, *Polish Acad. Sci., Warsaw*, 1998. (From the text) **99k:57024** 57M25 (57N10)

— Knot energies and knot invariants. Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 645–655. (Kazushi Ahara) **99g:58024** 58E10 (57M25)

— (*with* Kalfagianni, Efstratia) Milnor and finite type invariants of plat-closures. *Math. Res. Lett.* **5** (1998), *no.* 3, 293–304. (Daniel Matignon) **99h:57010** 57M25

— (*with* Tian, Feng[3]; Wang, Zhenghan) Burau representation and random walks on string links. (English summary) *Pacific J. Math.* **182** (1998), *no.* 2, 289–302. (J. S. Birman) **99b:57015** 57M25 (20F36)

— (*with* Kalfagianni, Efstratia) The HOMFLY polynomial for links in rational homology 3-spheres. (English summary) *Topology* **38** (1999), *no.* 1, 95–115. (Nikolaos A. Askitas) **99h:57011** 57M25 (57N10)

— (*with* Greenwood, Matt) On Vassiliev knot invariants induced from finite type 3-manifold invariants. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3659–3672. (Carlo Petronio) **99m:57004** 57M25 (57N10)

Lin, Xiaoqin *see* **Lin, Xiu Qing**

Lin, Xihong (*with* Zhang, Daowen) Inference in generalized additive mixed models by using smoothing splines. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 2, 381–400. 62J12

Lin, Xiu Qing (*with* Qiu, Gangdi) Unicity of derivatives of meromorphic functions that share a value. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 2, 295–297. 30D35

Lin, Ya Nan Hammocks and the Nazarova-Roiter algorithm. *J. London Math. Soc.* (2) **57** (1998), *no.* 2, 309–324. (V. V. Sergeĭchuk) **99g:16018** 16G20 (16G70)

— (*with* Su, Xiu Ping) The number of complete exceptional sequences of type A_n. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 469–472. (Jin Yun Guo) **99k:16029** 16G20

Lin, Yachen Asymptotics of bootstrapping mean on some smoothed empirical distribution. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 301–306. (Michael Falk) **99a:62061** 62G09

Lin, Yan (*with* Zhang, Jie; Mao, Jian Qin) Variable structure robust adaptive control with unmodelled dynamics. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 5, 647–651. 93B12 (93C41)

Lin, Yan-Xia (*with* Ivanoff, B. Gail; Merzbach, Ely) Weak convergence of set-indexed point processes and the Poisson process. (English summary) *Teor. Ĭmovīr. Mat. Stat. No.* 55 (1996), 77–89; *reprinted in Theory Probab. Math. Statist. No.* 55 (1997), 79–91 (1998). (Ely Merzbach) **99e:60013** 60B10 (60G55)

— (*with* Heyde, Christopher C.) On spaces of estimating functions. (English summary) *J. Statist. Plann. Inference* **63** (1997), *no.* 2, 255–264. (Uttara V. Naik-Nimbalkar) **99d:62017** 62F10 (62A10)

— (*with* Mvoi, Sifa; Biondini, Riccardo) Consistency of the asymptotic quasi-likelihood estimate on linear models. (English summary) *Biom. J.* **40** (1998), *no.* 1, 57–78. (Summary) **99b:62108** 62J05 (62F12)

Lin, Yanping (*with* Allegretto, Walter; Zhou, Ai Hui) Hölder solutions for the amorphous silicon system and related problems. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations (Mississippi State, MS, 1997)*, 1–9 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:35179** 35Q99 (78A35, 82D99)

— Semi-discrete finite element approximations for linear parabolic integro-differential equations with integrable kernels. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 1, 51–83. (P. Rochus) **99d:65369** 65R20 (45K05)

— (*with* Brunner, Hermann; Zhang, Shu Hua[3]) Higher accuracy methods for second-kind Volterra integral equations based on asymptotic expansions of iterated Galerkin methods. (English summary) *J. Integral Equations Appl.* **10** (1998), *no.* 4, 375–396. (Yury Petrovich Yatsenko) **99m:65244** 65R20 (45L05)

— (*with* Ewing, Richard E.; Lin, Tao[1]) A mixed least-squares method for an inverse problem of a nonlinear beam equation. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 19–32. (Summary) **99j:34015** 34A55 (34B15, 65L60, 73D35)

Lin, Yi *see* **Lin, Yi[3]**

Lin, Yi[2] (*with* Li, Zheng Wu) Solvability of systems of nonlinear singular integral equations with different densities. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 9, 106–109. (Summary) **99i:45009** 45G05

Lin, Yi[3] (*with* Hu, Qing Ping; Li, Dan) On α-type hierarchies of systems. (English and Polish summaries) *Systems Sci.* **22** (1996), *no.* 3, 5–16. (Summary) **99f:93005** 93A13

Lin, Yi Mou The geometry of Lie's circles and the projective polar. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 6, 507–511. (Ji Zhong) **99d:51001** 51A05

Lin, Yi Xun (*with* Yuan, Jin Jiang; Li, Huai En) The topological bandwidths of some graphs. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **29** (1997), *no.* 4, 13–17. (Summary) **99a:05129** 05C78

Lin, Yi Zhong (*with* Cheng, Sui Sun) Bounds for solutions of a four-point partial difference scheme. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 2, 273–290. (Akira Tsutsumi) **99g:39003** 39A10

— (*with* Cheng, Sui Sun) Subexponential solutions of two partial difference equations with delays. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 2, 181–194. (André Hautot) **99a:39044** 39A11

— (*with* Cheng, Sui Sun) Bounds for solutions of a three-point partial difference equation. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 107–112. (Summary) **99a:39019** 39A10

— (*with* Chen, Li Ming) Necessary and sufficient conditions for oscillations of a class of functional-differential equations of advanced type. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **14** (1998), *no.* 1, 19–24. (Jun Jie Wei) **99m:34158** 34K15

— (*with* Cheng, Sui Sun) Complete characterizations of an oscillatory neutral difference equation. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 73–91. (T. J. Mahar) **99g:39005** 39A10 (34K15)

— (*with* Chen, Li Ming; Cheng, Sui Sun) Exact regions of oscillation for a difference equation with six parameters. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 92–109. (Shao Zhu Chen) **99f:39003** 39A10 (39A12)

Lin, Yiping (*with* Cao, Jin De; Li, Ji Bin) An applicable formula for the Hopf bifurcation direction of four-dimensional systems. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 304–309, *World Sci. Publishing, River Edge, NJ*, 1998. (Introduction) **99j:34053** 34C23 (34C25, 58F14)

— (*with* Volkmann, Peter) The positive invariant set of the differential equation on Banach space. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 267–270. (Summary) **99d:34116** 34G20

Lin, Yuan Lie (*with* Yu, Stella X.; Yan, Pingfan) Optimization models for the first arrival target distribution function in discrete time. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 193–223. (Masami Kurano) **99i:90116** 90C40 (90C39)

— (*with* Mao, Zhi Hong) An extended random neural network model and its probability structure features. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 3, 100–103. 68T05

Lin, Yuanqu Global periodic attractor for a model of forest with diffusion and seasonal effects. *Chinese Sci. Bull.* **42** (1997), *no.* 24, 2046–2047. 35K55 (35B40, 58F39)

— Global periodic attractor of a third-order phase-locked loop. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 2, 212–217. (Summary) **99a:34155** 34D45 (34C15)

— Qualitative analysis for a cross-diffusion model of forest. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 6, 613–621. (Ying Guo Lei) **99k:92046** 92D40 (35K57, 35Q80)

Lin, Yuhua (*with* Tanaka, Naoki) Nonlinear abstract wave equations with strong damping. *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 46–61. (Reinhard Racke) **99h:34088** 34G20 (35L70)

— Time-dependent perturbation theory for abstract evolution equations of second order. (English summary) *Studia Math.* **130** (1998), *no.* 3, 263–274. (Alfred S. Carasso) **99i:34080** 34G10 (35L15, 47D09)

Lin, Z. *see* **Lin, Zheng Hua**

Lin, Z. J. *see* **Lin, Zhongyan**

Lin, Zhang Yu On the number of invariant polynomials of the product of matrices with prescribed similarity classes. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 253–269. (Rafael Canto) **99c:15015** 15A21 (15A03)

Lin, Zheng Hua (*with* Song, Dai Cai; Yang, Ming[4]) A continuation method for solving nonconvex programming problems. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 349–356. (Summary) **99f:90088** 90C26 (65K05)

— (*with* Feng, Guo-chen; Yu, Bo[1]) Existence of an interior pathway to a Karush-Kuhn-Tucker point of a nonconvex programming problem. *Nonlinear Anal.* **32** (1998), *no.* 6, 761–768. (Dorel Duca) **99f:90082** 90C26

— (*with* Qi, Hou-Duo; Liao, Li-Zhi) Regularized smoothing approximations to vertical nonlinear complementarity problems. *J. Math. Anal. Appl.* **230** (1999), *no.* 1, 261–276. (Jie Sun) **99k:90178** 90C33 (90C30)

— (*with* Li, Yong[6]) Homotopy method for solving variational inequalities. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 207–218. (Jürgen Guddat) **99m:65125** 65K05 (49J40, 49M99)

Lin, Zheng Hui (*with* Li, Yong Hua[1]; Lin, Feng[1]) A generalized framework for supervisory control of discrete event systems. (English summary) *Int. J. Intell. Control Syst.* **2** (1998), *no.* 1, 139–159. (Vijay Kumar Garg) **99h:93066** 93C83 (68Q60, 93B05)

Lin, Zhengyan (*with* Lu, Chuan Rong) ★ Limit theory for mixing dependent random variables. (English summary) Mathematics and its Applications, 378. *Kluwer Academic Publishers, Dordrecht; Science Press, New York*, 1996. xii+426 *pp. ISBN* 0-7923-4219-4; 1-880132-27-5 (Sergei Utev) **99g:60001** 60–02 (60F05, 60F15, 60F17, 62G07)

— Convergence on randomly trimmed sums with a dependent sample. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 4, 533. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 3, 281–292. (Jerry Alan Veeh) **99k:60058** 60F05 (60G10)

Lin, Zhi Gui (*with* Xie, Chun Hong) The blowup rates of positive solutions to a class of semilinear parabolic systems. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 16, 1717–1719. 35K55

— (*with* Xie, Chun Hong; Wang, Ming Xin[2]) The blow-up rate of positive solution of a parabolic system. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 372–378. (Summary) **99a:35122** 35K55 (35B45)

— The blow-up properties of solutions to semilinear heat equations with Neumann boundary conditions. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 3, 315–325. (Summary) **99m:35105** 35K55 (35B40)

— (*with* Xie, Chun Hong; Wang, Ming Xin[2]) The blow-up property for a system of heat equations with nonlinear boundary conditions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 3, 363. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 3, 281–288. (Summary) **99f:35101** 35K60 (35B40)

— (*with* Xie, Chun Hong; Wang, Ming Xin[2]) On critical exponents for semilinear heat equations with nonlinear boundary conditions. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 4, 485. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 4, 363–372. (Summary) **99m:35106** 35K55 (35B40)

— Global existence and blow-up for a parabolic system with nonlinear boundary conditions. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 231–244. (Summary) **99g:35071** 35K60 (35B40, 35K50)

— (*with* Xie, Chun Hong; Wang, Ming Xin[2]) Blow-up estimates of solutions to semilinear heat equations with nonlinear boundary condition. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 96–100. (Summary) **99f:35102** 35K60 (35B05)

Lin, Zhi Xin (*with* Yang, Ya Ping; Feng, Wei Guo) q-phase-coherent states and their squeezing properties. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1976–1988. 81R30

— (*with* Yang, Ya Ping; Xie, Shuangyuan; Feng, Weiguo; Wu, Xiang[2]) q-phase-coherent states and their squeezing properties. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6441–6453. (Apostolos Vourdas) **99m:81093** 81R30

Lin, Zhiping Feedback stabilizability of MIMO n-D linear systems. (English summary) *Multidimens. Systems Signal Process.* **9** (1998), *no.* 2, 149–172. (Summary) **99c:93089** 93D15 (93C30)

Lin, Zhongyan (*with* Gilbert, Robert Pertsch) Underwater acoustics. (English summary) *Generalized analytic functions (Graz, 1997)*, 215–228, *Int. Soc. Anal. Appl. Comput.*, 1, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:76135** 76Q05 (76M25, 86A05)

— (*with* Gilbert, Robert Pertsch) The fundamental singularity in a shallow ocean with an elastic seabed. (English summary) *Appl. Anal.* **68** (1998), *no.* 1-2, 87–107. (Summary) **99b:76080** 76Q05 (86A05)

— On the determination of radially dependent Lamé coefficients. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 3, 875–903 (*electronic*). (Paul Andrew Martin) **99c:35260** 35R30 (73C02)

Lin, Zong Chi (*with* Zhou, Zhe Yan) Application of diagonalization techniques to optimal control of quasilinear singular perturbation systems. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 1, 1–9. (Summary) **99g:49028** 49K40 (34E15, 34H05)

— (*with* Zhou, Ya Li) Singular perturbations of boundary value problems for third-order nonlinear differential equations with two parameters. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 3, 13–18. (Summary) **99i:34038** 34B15 (34E15)

— (*with* Lin, Su Rong) Singular perturbations of boundary value problems for a class of higher-order elliptic equations when the limit equation has a singularity. (Chinese. English and Chinese summaries) *Fujian Shifan Daxue Xuebao Ziran Kexue Ban* **13** (1997), *no.* 4, 7–14. (From the summary) **99i:35008** 35B25 (35J40)

— (*with* You, Zhe Feng) Singular perturbations of boundary value problems for systems of Volterra integro-differential equations. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 109–115. (Summary) **99c:34152** 34K10 (34E15, 45J05)

— (*with* Zhou, Ya Li; You, Zhe Feng) Singular perturbation of general boundary value problem for nonlinear differential equation system. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 6, 531–538; *translated from Appl. Math. Mech.* **19** (1998), *no.* 6, 497–504 (*Chinese. English and Chinese summaries*). (J. V. Baxley) **99m:34053** 34B15 (34E15)

Lin, Zongli (*with* Chen, Ben M.; Guo, Yi) Non-iterative computation of infimum in discrete-time H_∞-optimization and solvability conditions for the discrete-time disturbance decoupling problem. (English summary) *Internat. J. Control* **65** (1996), *no.* 3, 433–454. 93B36 (93B40)

— (*with* Saberi, Ali) Low-and-high gain design technique for linear systems subject to input saturation—a direct method. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1071–1101. (Dieter Franke) **99a:93043** 93B51 (93B52, 93D09, 93D20)

— Global control of linear systems with saturating actuators. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 897–905. 93D21 (93C05)

— (*with* Hou, Ping; Saberi, Ali) On l_p-stabilization of strictly unstable discrete-time linear systems with saturating actuators. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 14, 1227–1236. (Michael I. Gil') **99k:93077** 93D15 (93C55)

— (*with* Saberi, Ali; Sannuti, P.; Shamash, Y. A.) Direct method of constructing H_2-suboptimal controllers: continuous-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 585–616. (Abdelmoula El Bouhtouri) **99j:93033** 93B36 (93C60, 93D21)

— (*with* Saberi, Ali; Sannuti, P.; Shamash, Y. A.) Direct method of constructing H_2-suboptimal controllers: discrete-time systems. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 3, 617–653. (Abdelmoula El Bouhtouri) **99j:93034** 93B36 (93C55, 93D21)

— Semi-global stabilization of discrete-time linear systems with position and rate-limited actuators. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 313–322. (Summary) **99c:93090** 93D15

Lin, Zongzhu Highest weight modules for algebraic groups arising from quantum groups. *J. Algebra* **208** (1998), *no.* 1, 276–303. (H. H. Andersen) **99k:20087** 20G05 (17B37)

— (*with* Nakano, Daniel K.) Good filtrations for representations of Lie algebras of Cartan type. (English summary) *J. Pure Appl. Algebra* **127** (1998), *no.* 3, 231–256. (Jörg Feldvoss) **99j:17008** 17B10 (17B50, 17B55, 20G05)

Lin, Zuoquan Tableau systems for paraconsistency and minimal inconsistency. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 2, 174–188. (Walter Alexandre Carnielli) **99m:03049** 03B53

Lina, J.-M. Complex Daubechies wavelets: filters design and applications. (English summary) *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 95–112, *Plenum, New York*, 1998. (Summary) **99c:42066** 42C15 (94A11)

Linard, Natasha (*with* Anderson, Brian D. O.; De Bruyne, Franky) Coprimeness properties of nonlinear fractional system realizations. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 265–271. (Summary) **99e:93017** 93B15 (93B28)

Linares, Felipe (*with* Albert, John P.) Stability of solitary-wave solutions to model systems for internal waves. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 200–204, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q53 (76C10)

— (*with* Iório, Rafael José, Jr.; Scialom, M.) KdV and BO equations with bore-like data. (English summary) *Differential Integral Equations* **11** (1998), *no.* 6, 895–915. (Shu Ming Sun) **99j:35188** 35Q53 (76B15)

— (*with* Albert, John P.) Stability of solitary-wave solutions to long-wave equations with general dispersion. (English and Portuguese summaries) Fifth Workshop on Partial Differential Equations (Rio de Janeiro, 1997). *Mat. Contemp.* **15** (1998), 1–19. (Paolo Secchi) **99m:35140** 35L60 (35B35, 35Q51, 76B15, 76B25)

— L^2 global well-posedness of the initial value problem associated to the Benjamin equation. (English summary) *J. Differential Equations* **152** (1999), *no.* 2, 377–393. (From the text) **99k:35157** 35Q53 (45K05, 76B15)

Linares, J. *see* **Linares Pérez, Josefa**

Linares, R. (*with* Vergara, J. David) Boundary terms and canonical gauges in generally covariant systems. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 147–156, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 81T13

castro-Linares, Rafael *see* **Castro-Linares, Rafael**

Linares Pérez, Josefa (*with* García-Ligero, M. J.; Hermoso Carazo, Aurora) Least squared estimation for distributed parameter systems with uncertain observations. I. Linear prediction and filtering. (English summary) *Appl. Stochastic Models Data Anal.* **14** (1998), *no.* 1, 11–18. (Summary) **99e:93075** 93E10

Linchenko, V. Identities of Lie algebras with actions of Hopf algebras. *Comm. Algebra* **25** (1997), *no.* 10, 3179–3187. (Jeffrey Bergen) **99c:16040** 16W30

— (*with* Bakhturin, Yu. A.) Identities of algebras with actions of Hopf algebras. *J. Algebra* **202** (1998), *no.* 2, 634–654. (Antonio Giambruno) **99d:16040** 16W30 (16R99)

Linchuk, S. S. On the rate of convergence of recurrent sequences. (Russian) *Mathematics today '97, No.* 11 (*Russian*), 72–79, *Nauchn. Izdat. "TViMS", Kiev*, 1997. (Jacek Marek Jędrzejewski) **99k:26014** 26A99 (40A05)

Linckelmann, Markus On derived equivalences and local structure of blocks of finite groups. (English summary) *Turkish J. Math.* **22** (1998), *no.* 1, 93–107. (Jacques Thévenaz) **99k:20021** 20C20 (18E30, 20J05)

Lindau, Olgert (*with* Ohl, Claus-Dieter; Kurz, Thomas; Geisler, Reinhard; Lauterborn, Werner) Bubble dynamics, shock waves and sonoluminescence. (English summary) Acoustic cavitation and sonoluminescence. *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **357** (1999), *no.* 1751, 269–294. (*see* **99k:76002**) 76D99 (76L05, 76Q05, 78A99)

Lindbauer, Marc On the rate of convergence of the laws of Markov chains associated with orthogonal polynomials. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 287–297. (Michael Voit) **99k:60059** 60F05 (33C45, 43A62, 60B15, 60J15)

Lindberg, Per-Olov (*with* Feltenmark, Stefan; Kiwiel, Krzysztof C.) Solving unit commitment problems in power production planning. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 236–241, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90B70 (90C90)

— (*with* Kiwiel, Krzysztof C.; Larsson, Torbjörn) Convergent stepsize rules for subgradient optimization. (English summary) *Operations Research Proceedings* 1997 (*Jena*), 62–67, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90C30

— (*with* Wolf, Andreas[3]) Optimization of the short term operation of a cascade of hydropower stations. (English summary) *Optimal control* (*Gainesville, FL*, 1997), 326–345, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:49002**) 93C95 (90C90)

Lindblad, Göran Brownian motion of quantum harmonic oscillators: existence of a subdynamics. (English summary) *J. Math. Phys.* **39** (1998), *no.* 5, 2763–2780. (Bruno Nachtergaele) **99k:82051** 82C10 (46L55, 46L60, 82C21)

Lindblad, Hans (*with* Georgiev, Vladimir; Sogge, Christopher D.) Weighted Strichartz estimates and global existence for semilinear wave equations. (English summary) *Amer. J. Math.* **119** (1997), *no.* 6, 1291–1319. (Sergio Spagnolo) **99f:35134** 35L70

— Minimal regularity solutions of nonlinear wave equations. (English summary) Proceedings of the International Congress of Mathematicians, Vol. III (Berlin, 1998). *Doc. Math.* **1998**, *Extra Vol. III*, 39–48 (*electronic*). (Summary) **99h:35143** 35L70 (35B65)

Lindblom, Lee Stellar stability according to Newtonian theory and general relativity. (English summary) *Proceedings of the 14th International Conference on General Relativity and Gravitation* (*Florence*, 1995), 237–258, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99g:83002**) 85A15 (83F05)

Lindblom, Ove (*with* Euler, Norbert; Euler, Marianna; Persson, Lars-Erik) The higher-dimensional Bateman equation and Painlevé analysis of nonintegrable wave equations. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 185–192, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 35Q53 (35C99)

Linde, Andrei (*with* Kallosh, Renata) Black hole superpartners and fixed scalars. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 6, 3509–3514. (Summary) **99d:83104** 83E50 (83C57)

— Quantum creation of an open inflationary universe. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 083514, 21 *pp.* (Summary) **99k:83042** 83C45 (83F05)

Linde, Timur (*with* Roe, Philip L.) On multidimensional positively conservative high-resolution schemes. *Barriers and challenges in computational fluid dynamics* (*Hampton, VA*, 1996), 299–313, *ICASE/LaRC Interdiscip. Ser. Sci. Eng.*, 6, *Kluwer Acad. Publ., Dordrecht*, 1998. (Gholam-Ali Zakeri) **99b:76055** 76M20 (65M12)

— (*with* Roe, Philip L.) On a mistaken notion of "proper upwinding". *J. Comput. Phys.* **142** (1998), *no.* 2, 611–614. (Dietmar Kröner) **99f:76107** 76M25 (65M99, 76N15)

Lindell, Ismo V. (*with* Olyslager, Frank) Generalized decomposition of electromagnetic fields in bi-anisotropic media. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 10, 1584–1585. (Summary) **99e:78017** 78A25

— (*with* Olyslager, Frank) Closed-form Green's dyadics for a class of media with axial bi-anisotropy. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 12, 1888–1890. (Summary) **99i:78018** 78A40

Lindemann, Christoph (*with* Heber, Gerd) Parallel numerical solution of a class of Volterra integro-differential equations. *Stochastic differential and difference equations* (*Győr*, 1996), 123–132, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (*see* **99c:60002**) 65R20 (65U05)

Linden, Hansjörg Linearization, completeness, and spectral asymptotics for certain rational and meromorphic operator functions. (English summary) *J. Operator Theory* **39** (1998), *no.* 2, 219–247. (L. Rodman) **99d:47014** 47A56 (47A10)

Linden, N. Information-entropy and purity of decoherence functions. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 2, 685–690. (D. J. Foulis) **99d:81007** 81P05

— (*with* Isham, Chris J.; Savvidou, K.; Schreckenberg, S.) Continuous time and consistent histories. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 1818–1834. (Władysław Adam Majewski) **99d:81005** 81P05

— (*with* Popescu, Sandu) Bound entanglement and teleportation. (English summary) *Phys. Rev. A* (3) **59** (1999), *no.* 1, 137–140. (Summary) **99k:81046** 81P99

Linden, Paul F. (*with* Bubnov, B. M.) Diffusion stratification in a rotating linearly-stratified fluid. *Fluid Dynam.* **33** (1998), *no.* 2, 201–208; *translated from Izv. Ross. Akad. Nauk Mekh. Zhidk. Gaza* **1998**, *no.* 2, 58–67 (*Russian. Russian summary*). 76-05 (76U05, 76V05)

— (*with* Sutherland, Bruce R.) Internal wave excitation from stratified flow over a thin barrier. (English summary) *J. Fluid Mech.* **377** (1998), 223–252. (Summary) **99i:76035** 76C10 (76-05, 76V05)

— (*with* Cenedese, C.) Cyclone and anticyclone formation in a rotating stratified fluid over a sloping bottom. (English summary) *J. Fluid Mech.* **381** (1999), 199–223. 76-05 (76C20, 76V05, 86A05)

von der Linden, W. (*with* Dose, V.; Ramaswami, A.) Bayesian group analysis. (English summary) *Maximum entropy and Bayesian methods* (*Boise, ID*, 1997), 87–99, *Fund. Theories Phys.*, 98, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99k:62005**) 62F15

van der Linden, Wim J. Stochastic order in dichotomous item response models for fixed, adaptive and multidimensional tests. (English summary) *Psychometrika* **63** (1998), *no.* 3, 211–226. 62P15

— (*with* Luecht, Richard M.) Observed-score equating as a test assembly problem. (English summary) *Psychometrika* **63** (1998), *no.* 4, 401–418. (Summary) **99i:62250** 62P15

Lindenbaum, Michael (*with* Ben-David, Shai) Learning distributions by their density levels: a paradigm for learning without a teacher. (English summary) Second Annual European Conference on Computational Learning Theory (EuroCOLT '95) (Barcelona, 1995). *J. Comput. System Sci.* **55** (1997), *no.* 1, *part* 2, 171–182. (Jerzy W. Grzymała-Busse) **99c:68208** 68T05

— (*with* Wagner, Israel A.; Bruckstein, Alfred M.) Efficiently searching a graph by a smell-oriented vertex process. (English summary) Artificial intelligence and mathematics, VIII (Fort Lauderdale, FL, 1998). *Ann. Math. Artificial Intelligence* **24** (1998), *no.* 1-4, 211–223 (1999). (*see* **99m:68006**) 68T20 (68R10)

Lindenbaum, Samuel D. ★ Mathematical methods in physics. (English summary) *World Scientific Publishing Co., Inc., River Edge, NJ*, 1996. *xii*+464 *pp. ISBN* 981-02-2760-4 (Editors) **99g:00006** 00A05 (00A06, 53A45, 80-01)

Lindenstrauss, Elon Indistinguishable sceneries. (English summary) *Random Structures Algorithms* **14** (1999), *no.* 1, 71–86. (M. Iosifescu) **99m:60106** 60J15

Lindenstrauss, Joram Uniform embeddings, homeomorphisms and quotient maps between Banach spaces (a short survey). (English summary) 8th Prague Topological Symposium on General Topology and Its Relations to Modern Analysis and Algebra (1996). *Topology Appl.* **85** (1998), *no.* 1-3, 265–279. (P. Mankiewicz) **99c:46011** 46B20

— (*with* Lepowsky, James; Manin, Yuriĭ Ivanovich; Milnor, John) The mathematical work of the 1998 Fields medalists. *Notices Amer. Math. Soc.* **46** (1999), *no.* 1, 17–26. (Editors) **99k:01066** 01A70

van Linder, B. (*with* van der Hoek, Wiebe; Meyer, John-Jules Ch.) Formalising abilities and opportunities of agents. (English summary) *Fund. Inform.* **34** (1998), *no.* 1-2, 53–101. (Summary) **99g:68193** 68T27 (03B70)

Linder, Tamás (*with* Zamir, Ram) High-resolution source coding for non-difference distortion measures: the rate-distortion function. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 533–547. (Summary) **99k:94024** 94A29 (94A34)

— (*with* Zamir, Ram; Zeger, Kenneth) High-resolution source coding for non-difference distortion measures: multidimensional companding. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 2, 548–561. (Summary) **99k:94025** 94A29 (94A34)

Linderman, J. J. (*with* Agresar, G.; Tryggvason, G.; Powell, K. G.) An adaptive, Cartesian, front-tracking method for the motion, deformation and adhesion of circulating cells. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 2, 346–380. (Summary) **99b:92013** 92C40 (76M25, 92C05)

Lindig, J. Not all adiabatic vacua are physical states. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064011, 7 *pp.* (Summary) **99k:83047** 83C47 (81T20)

Lindkvist, Håkan (*with* Belyaev, Yu. K.) A class of non-parametric tests in the competing risks model for comparing two samples. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 143–150. (J. V. Deshpande) **99g:62060** 62G10 (62N05)

Lindley, Dennis V. *see* **Berger, James O. et al., 99e:62003**

Lindner, C. C. Graph theory and universal algebra go hand in hand. *Austral. Math. Soc. Gaz.* **24** (1997), *no.* 5, 191–215. (B. Zelinka) **99c:05115** 05C38 (05B15, 05C70, 08B99, 20N05)

— A small embedding for partial hexagon systems. *Australas. J. Combin.* **16** (1997), 77–81. (Bradley W. Jackson) **99b:05115** 05C70

— (*with* Fu, Hung-Lin; Rodger, C. A.) The Doyen-Wilson theorem for minimum coverings with triples. (English summary) *J. Combin. Des.* **5** (1997), *no.* 5, 341–352. (H. Lenz) **99a:05013** 05B07 (05C70)

— (*with* Mammana, M. Flavia) A small embedding for partial directed $6k$-cycle systems. (English summary) *Australas. J. Combin.* **18** (1998), 183–192. (Michael E. Raines) **99k:05028** 05B05 (05C38)

— (*with* Fu, Hung-Lin) The Doyen-Wilson theorem for maximum packings of K_n with 4-cycles. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 103–117. (R. Balakrishnan) **99b:05112** 05C70

— (*with* Billington, Elizabeth J.) Maximum packings of bowtie designs. (English summary) *J. Combin. Math. Combin. Comput.* **27** (1998), 227–249. (W. D. Wallis) **99c:05045** 05B40

— (*with* Billington, Elizabeth J.) Embedding partial even-cycle systems into resolvable maximum packings. Papers in honour of Anne Penfold Street. *J. Combin. Math. Combin. Comput.* **28** (1998), 41–54. (Peter B. Gibbons) **99m:05117** 05C70 (05B30, 05C38)

Lindner, Jiří (*with* Šnita, D.; Marek, M.; Merkin, John H.) Propagating reaction fronts in an ionic autocatalytic system: the effects of electric field intensity and ionic strength. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 2, 1–25. (Summary) **99d:92054** 92E20

Lindner, Robert K. (*with* Hertzler, Greg; Harman, Julie) Estimating a stochastic model of population dynamics with an application to kangaroos. (English summary) *Natur. Resource Modeling* **10** (1997), *no.* 4, 303–343. (Summary) **99c:92039** 92D25

Lindner, Wolfgang (*with* Köbler, Johannes) On the resource bounded measure of P/poly (extended abstract). (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 182–185, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

— (*with* Schuler, Rainer; Watanabe, Osamu[2]) Resource bounded measure and learnability. (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity (Buffalo, NY, 1998)*, 261–270, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (Summary) **99i:68048** 68Q15 (68T05)

Lindquester, Terri (*with* Wormald, Nicholas C.) Factorisation of regular graphs into forests of short paths. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 217–226. (Summary) **99a:05114** 05C70 (05C38)

Lindquist, Anders Recent progress on the partial stochastic realization problem. (English summary) *Operators, systems, and linear algebra (Kaiserslautern, 1997)*, 129–137, *European Consort. Math. Indust., Teubner, Stuttgart*, 1997. (*see* **98k:93005**) 93B15 (93E03)

— (*with* Yakubovich, Vladimir A.) Optimal damping of forced oscillations in discrete-time systems by output feedback. (English summary) *Stochastic differential and difference equations (Győr, 1996)*, 203–231, *Progr. Systems Control Theory*, 23, *Birkhäuser Boston, Boston, MA*, 1997. (Wolfgang J. Runggaldier) **99f:93063** 93B50 (93C55, 93D15, 93E03)

— (*with* Byrnes, Christopher I.) On the partial stochastic realization problem. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 8, 1049–1070. (Summary) **99f:93129** 93E03 (93B15)

— (*with* Dahlén, Anders; Mari, Jorge) Experimental evidence showing that stochastic subspace identification methods may fail. (English summary) *Systems Control Lett.* **34** (1998), *no.* 5, 303–312. 93E12

— (*with* Byrnes, Christopher I.; Gusev, Sergei V.) A convex optimization approach to the rational covariance extension problem. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 211–229 (*electronic*). (Sergey V. Lototsky) **99f:93135** 93E12 (93B55)

Lindqvist, Peter Some remarkable sine and cosine functions. (English summary) *Ricerche Mat.* **44** (1995), *no.* 2, 269–290 (1996). (Summary) **99g:33001** 33B10

— (*with* Hedenmalm, Håkan; Seip, Kristian) A Hilbert space of Dirichlet series and systems of dilated functions in $L^2(0,1)$. *Duke Math. J.* **86** (1997), *no.* 1, 1–37. (From the introduction) **99i:42033** 42B30 (30H05, 46E20)

— (*with* Peetre, Jaak) On a number-theoretic sum considered by Meissel—a historical observation. (English summary) *Nieuw Arch. Wisk.* (4) **15** (1997), *no.* 3, 175–179. (Andrew Granville) **99b:11141** 11Y35 (11-03)

— (*with* Seip, Kristian) Note on some greatest common divisor matrices. (English summary) *Acta Arith.* **84** (1998), *no.* 2, 149–154. (Håkan Hedenmalm) **99f:11034** 11C20 (11M41)

— (*with* Kinnunen, Juha) The derivative of the maximal function. (English summary) *J. Reine Angew. Math.* **503** (1998), 161–167. (Maria J. Carro) **99j:42027** 42B25

Lindsay, Bruce G. (*with* Li, Bing[2]) On second-order optimality of the observed Fisher information. (English summary) *Ann. Statist.* **25** (1997), *no.* 5, 2172–2199. (František Rublík) **99e:62024** 62F12 (62F10)

— (*with* Markatou, Marianthi; Basu, Ayanendranath) Weighted likelihood equations with bootstrap root search. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 442, 740–750. (Summary) **99c:62128** 62G09 (62F35)

Lindsay, J. Martin (*with* Pata, Vittorino) Some weak laws of large numbers in noncommutative probability. *Math. Z.* **226** (1997), *no.* 4, 533–543. (Stanisław Goldstein) **99c:46077** 46L50 (60B99)

— (*with* Goldstein, Stanisław) L^p-spaces and quantum dynamical semigroups. *Quantum probability (Gdańsk, 1997)*, 211–216, *Banach Center Publ.*, **43**, *Polish Acad. Sci., Warsaw*, 1998. (*see* **99d:00029**) 46L50 (47D07, 47N50)

— (*with* Hudson, Robin L.; Parthasarathy, Kalyanapuram Rangachari) Flows of quantum noise. (English summary) *J. Appl. Anal.* **4** (1998), *no.* 2, 143–160. (John E. Gough) **99k:81143** 81S25 (60H99)

— (*with* Parthasarathy, Kalyanapuram Rangachari) On the generators of quantum stochastic flows. (English summary) *J. Funct. Anal.* **158** (1998), *no.* 2, 521–549. (B. V. Rajarama Bhat) **99k:81145** 81S25 (46L57, 46L60, 47N50)

Lindsey, John (*with* Gollier, Christian; Zeckhauser, Richard J.) Investment flexibility and the acceptance of risk. (English summary) *J. Econom. Theory* **76** (1997), *no.* 2, 219–241. (V. V. Kolbin) **99a:90039** 90A09 (90A46)

Lindskog, Gunhild (*with* Gustafsson, Ivar) On parallel solution of linear elasticity problems. I. Theory. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 2, 123–139. (Summary) **99a:73123** 73V05 (65N30, 73B40)

Lindström, Bernt Well distribution of Sidon sets in residue classes. (English summary) *J. Number Theory* **69** (1998), *no.* 2, 197–200. (Norbert Hegyvári) **99c:11021** 11B75 (11K36)

— New light on the curvature and length of winged curves. (Swedish. English summary) *Normat* **46** (1998), *no.* 1, 33–37, 48. (Summary) **99b:53006** 53A04

— A topological problem. (Swedish. English summary) *Normat* **46** (1998), *no.* 3, 122–125, 144. 55M99

Lindström, Mikael (*with* Aron, Richard M.; Ruess, W. M.; Ryan, Raymond A.) Uniform factorization for compact sets of operators. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1119–1125. (Introduction) **99f:46025** 46B28 (46G20, 47A68)

Lindström, Per Provability logic—a short introduction. Philosophy in Sweden (Umeå, 1995). *Theoria* **62** (1996), *no.* 1-2, 19–61. (A. Yu. Muravitsky) **99i:03017** 03B45 (03F30, 03F40)

Lindström, Sten *see* **Logic, action and cognition, 99k:03012**

Lindstrøm, Tom Internal martingales and stochastic integration. *Nonstandard analysis (Edinburgh, 1996)*, 209–258, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 493, *Kluwer Acad. Publ., Dordrecht*, 1997. (Jiang Lun Wu) **99h:60091** 60G42 (03H05, 60H05)

Lindström, Ulf (*with* Gonzalez-Rey, Francisco; Roček, Martin; Wiles, S.; von Unge, Rikard) Feynman rules in $N = 2$ projective superspace. I. Massless hypermultiplets. (English summary) *Nuclear Phys. B* **516** (1998), *no.* 1-2, 426–448. (Ilya Shapiro) **99f:81198** 81T60 (81T18)

— (*with* Gustafsson, Henrik) A picture of D-branes at strong coupling. II. Spinning partons. (English summary) *Phys. Lett. B* **440** (1998), *no.* 1-2, 43–49. (Summary) **99i:81183** 81T30 (83E30)

Linek, Václav (*with* Wantland, Evan B.) Coloring BIBDs with block size 4. (English summary) *J. Combin. Des.* **6** (1998), *no.* 6, 403–409. (K. T. Phelps) **99j:05023** 05B05

— (*with* Jiang, Zhike) Hooked k-extended Skolem sequences. (English summary) *Discrete Math.* **196** (1999), *no.* 1-3, 229–238. (Elizabeth J. Billington) **99j:05032** 05B10 (05B07, 11B83)

Linero, Antonio (*with* Balibrea Gallego, Francisco) Existence of invariant measures associated with certain one-parameter families. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)(Vic, 1995)*, 13 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (Jean-René Chazottes) **99j:58119** 58F11 (28D10)

— (*with* Balibrea Gallego, Francisco) Periodic structure of weak antitriangular functions. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 189–194, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 58F03

Ling, Alan C. H. (*with* Chee, Yeow Meng; Colbourn, Charles J.) Weakly union-free twofold triple systems. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 215–225. (M. Stefănescu) **99g:05137** 05C65 (05B07, 05D05)

— (*with* Colbourn, Charles J.) Deleting lines in projective planes. (English summary) *Ars Combin.* **50** (1998), 129–138. (Summary) **99i:05051** 05B25 (05B05)

— (*with* Colbourn, Charles J.) Point code minimum Steiner triple systems. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 2, 141–146. (Vladimir D. Tonchev) **99b:05020** 05B07 (51E10, 94B05)

Ling, Chiahua (*with* Pal, Nabendu; Lin, Jyh-Jiuan) Estimation of a normal variance—a critical review. (English summary) *Statist. Papers* **39** (1998), *no.* 4, 389–404. (Summary) **99e:62010** 62C15 (62F10)

Ling, Jie The regularization-wavelet method for solving integral equations of the first kind and numerical experiments with it. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 215–231. 65R20 (45L05)

— (*with* Li, Yuesheng) Regularization wavelet method for solving integral equations of the first kind. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 339–352, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65219** 65R20 (65R30, 65T20)

Ling, M. (*with* Lawler, K.; McBain, N.; Moscardini, A.) Optimization of advertising resources over time: a strategic analysis. (English summary) Proceedings of the 4th International Conference on Mathematical Methods in Operations Research and 6th Workshop on Well-posedness and Stability of Optimization Problems (Sozopol, 1997). *Pliska Stud. Math. Bulgar.* **12** (1998), 85–96. (*see* **99k:49002**) 90B60 (90A80)

Ling, Ma *see* **Ma, Ling[3]**

Ling, Rui Liang (*with* Feng, Jin Fu) An exact wave function for the damped harmonic oscillator. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 1952–1956. 81Q05

Ling, San (*with* Chua, Seng Kiat) A Rabin-type scheme based on $y^2 \equiv x^3 + bx^2 \bmod n$. (English summary) *Computing and combinatorics (Shanghai, 1997)*, 186–191, *Lecture Notes in Comput. Sci.*, 1276, *Springer, Berlin*, 1997. (Summary) **99a:94027** 94A60

— (*with* Chee, Yeow Meng) Algebraic constructions of Ramanujan graphs and highly symmetric expanders. (English summary) *Proceedings of the Second Asian Mathematical Conference 1995 (Nakhon Ratchasima)*, 276–282, *World Sci. Publishing, River Edge, NJ*, 1998. (Summary) **99k:68131** 68R10 (05C85)

— On component groups of $J_0(N)$ and degeneracy maps. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3201–3210. (Dino J. Lorenzini) **99a:11077** 11G18 (11G20, 14G35)

Ling, Shiqing (*with* Li, Wai Keung) Limiting distributions of maximum likelihood estimators for unstable autoregressive moving-average time series with general autoregressive heteroscedastic errors. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 84–125. (Friedrich Liese) **99k:62171** 62M10 (60F17)

— Weak convergence of the sequential empirical processes of residuals in nonstationary autoregressive models. (English summary) *Ann. Statist.* **26** (1998), *no.* 2, 741–754. (Stergios B. Fotopoulos) **99i:62208** 62M10 (60F17)

Ling, Y. *see* **Ling, Yong Xiang**

Ling, Yi (*with* Tao, Gang) Adaptive backstepping control design for linear multivariable plants. (English summary) *Internat. J. Control* **68** (1997), *no.* 6, 1289–1304. 93B50

Ling, Yong Xiang On the Moore test for coupled equations. (English and German summaries) *Computing* **58** (1997), *no.* 3, 295–301. (Summary) **99a:65063** 65G10 (65H10)

— (*with* Du, Xue Wu; Xu, Cheng Xian) Global convergence properties of the descent algorithms controlled by the FR conjugate gradient method. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 6, 100–102. 90C30 (65K05)

Lingas, Andrzej (*with* Czumaj, Artur) A polynomial time approximation scheme for Euclidean minimum cost k-connectivity. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 682–694, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68081** 68Q25 (68R10)
— (*with* Dessmark, Anders; Olsson, Hans; Yamamoto, Hiroaki) Optimal broadcasting in almost trees and partial k-trees. (English summary) *STACS* 98 (*Paris*, 1998), 432–443, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68M10 (68R10)
— (*with* Soltan, V. P.) Minimum convex partition of a polygon with holes by cuts in given directions. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 507–538. (Summary) **99d:68236** 68U05 (52B55)
Lingen, Frederik Jan A generalised conjugate residual method for the solution of non-symmetric systems of equations with multiple right-hand sides. (English summary) *Internat. J. Numer. Methods Engrg.* **44** (1999), *no.* 5, 641–656. 65F30 (65N30)
Lingham, Rama T. (*with* Sivaganesan, S.) Testing hypotheses about the power law process under failure truncation using intrinsic Bayes factors. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 693–710. (Michael J. Evans) **99g:62022** 62F03 (62F15)
Lingjærde, Ole C. (*with* Liestøl, Knut) Generalized projection pursuit regression. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 844–857 (*electronic*). (Summary) **99f:62077** 62H40
Linh, Vu Hoang Error estimations of approximate solution to certain second order linear differential equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 615–628, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:34017** 34A45 (65L70)
— Error estimates for the amplitude-phase method in the evaluation of radial wave functions. (English summary) *Acta Sci. Math.* (*Szeged*) **63** (1997), *no.* 3-4, 657–670. (Summary) **99a:65107** 65M15 (34L40)
— On some questions arising in numerical realization of amplitude-phase methods. (English summary) *Numer. Algorithms* **17** (1998), *no.* 1-2, 171–191. (Wolf-Jürgen Beyn) **99k:34052** 34B30 (34C20, 65L05)
Linhares de Jesus, C. (*with* Barci, D. G.; Lemes, V. E. R.; Silva Maia Porto, M. B. D.; Sorella, S. P.; Vilar, L. C. Q.) Three-dimensional fermionic determinants, Chern-Simons and nonlinear field redefinitions. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 3, 765–778. (Ilya Shapiro) **99e:81158** 81T16 (81T13)
— (*with* Lemes, V. E. R.; Sorella, S. P.; Vilar, L. C. Q.; Ventura, O. S.) Chern-Simons as a geometrical setup for three-dimensional gauge theories. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 4, 045010, 11 *pp.* 81T70 (81T13)
Linial, Nathan (*with* Luby, Michael G.; Saks, Michael E.; Zuckerman, David) Efficient construction of a small hitting set for combinatorial rectangles in high dimension. (English summary) *Combinatorica* **17** (1997), *no.* 2, 215–234. (E. Rodney Canfield) **99d:68115** 68Q25 (68Q15)
— (*with* Sasson, Ori) Non-expansive hashing. (English summary) *Combinatorica* **18** (1998), *no.* 1, 121–132. (Summary) **99g:68046** 68P10
— (*with* Magen, Avner; Saks, Michael E.) Low distortion Euclidean embeddings of trees. (English summary) *Israel J. Math.* **106** (1998), 339–348. (Summary) **99i:46009** 46B20 (05C05, 46B07, 54E99)
— (*with* Goldreich, Oded; Goldwasser, Shafi) Fault-tolerant computation in the full information model. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 2, 506–544 (*electronic*). (Summary) **99m:68056** 68Q10 (68Q22, 68Q75)
Link, Godehard ★ Algebraic semantics in language and philosophy. (English summary) CSLI Lecture Notes, 74. *CSLI Publications, Stanford, CA*, 1998. xiv+432 *pp. ISBN* 1-57586-090-2 (Jon M. Cogburn) **99f:03034** 03B65 (00A30, 00A69, 92K20)
Link, Montgomery (*with* Grossi, Marie; Makkai, Katalin; Parsons, Charles) A bibliography of Hao Wang. (English summary) *Philos. Math.* (3) **6** (1998), *no.* 1, 25–38. (John W. Dawson, Jr.) **99d:01030** 01A70
Link, Stephen In memoriam: William James McGill (1922–1997). *J. Math. Psych.* **42** (1998), *no.* 1, 1–4. 01A70
Linka, A. (*with* Antoch, Jaromír; Brzezina, M.) Asymptotic approximation of Bayes risk of estimators of reliability for exponentially distributed data. (English summary) *Statist. Decisions* **15** (1997), *no.* 3, 241–253. (Mohamed E. Ghitany) **99b:62044** 62G05 (62F15, 62N05)
Linke, Frank ★ Multikanalstreuung nichtlinearer Schrödingergleichungen mit elektrischen Potentialen und magnetischen Vektorpotentialen. (German) [Multichannel scattering for nonlinear Schrödinger equations with electric potentials and magnetic vector potentials] Dissertation, Rheinische Friedrich-Wilhelms-Universität Bonn, Bonn, 1996. Bonner Mathematische Schriften [Bonn Mathematical Publications], 299. *Universität Bonn, Mathematisches Institut, Bonn*, 1997. iv+155 *pp.* (Volker Vogelsang) **99k:35139** 35P25 (35J10, 47F05, 47N50, 81U05)
Linke, Yu. È. Separately continuous selections. (Russian. Russian summary) *Mat. Zametki* **63** (1998), *no.* 2, 209–216; *translation in Math. Notes* **63** (1998), *no.* 1-2, 183–189. (Summary) **99c:54025** 54C65
Linkens, Derek A. (*with* Okola Nyongesa, H.) A hierarchical multivariable fuzzy controller for learning with genetic algorithms. (English summary) *Internat. J. Control* **63** (1996), *no.* 5, 865–883. 93C42
— (*with* Mahfouf, M.) Constrained multivariable generalized predictive control (GPC) for anaesthesia: the quadratic-programming approach (QP). (English summary) *Internat. J. Control* **67** (1997), *no.* 4, 507–527. 93C95 (90C20)
— (*with* Mahfouf, M.) Non-linear generalized predictive control (NLGPC) applied to muscle relaxant anaesthesia. (English summary) *Internat. J. Control* **71** (1998), *no.* 2, 239–257. 93C95
Linkov, A. M. (*with* Mogilevskaya, S. G.) Complex fundamental solutions and complex variables boundary element method in elasticity. (English summary) *Comput. Mech.* **22** (1998), *no.* 1, 88–92. (Summary) **99f:73089** 73V35 (73V10)
Lin'kov, Yu. N. Limit theorems for the local density of measures in the hypotheses testing problems of counting processes. (English summary) *Probability theory and mathematical statistics* (*Vilnius*, 1993), 497–515, *TEV, Vilnius*, 1994. (Summary) **99e:62147** 62M07
— Discrimination of autoregression processes with zero asymptotic level. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* **54** (1996), 82–91; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 87–96. (Summary) **99e:60078** 60F10 (62M10)
Lin-Kriz, Y. (*with* Shallcross, D. F.; Pan, Victor Y.) Planar integer linear programming is NC equivalent to Euclidean GCD. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 4, 960–971 (*electronic*). (Evangelos Kranakis) **99c:68100** 68Q15 (68Q22)
Links, Jon (*with* Foerster, Angela; Roditi, Itzhak) Anisotropic correlated electron model associated with the Temperley-Lieb algebra. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 14, 1035–1040. (Summary) **99c:82074** 82D55 (81R50, 82B23)
— (*with* Foerster, Angela; Roditi, Itzhak) Integrable multiparametric quantum spin chains. (English summary) *J. Phys. A* **31** (1998), *no.* 2, 687–695. (Robert A. Weston) **99g:82008** 82B20 (82B23)
— (*with* Foerster, Angela; Karowski, Michael) Bethe ansatz solution of a closed spin 1 XXZ Heisenberg chain with quantum algebra symmetry. (English summary) *J. Math. Phys.* **40** (1999), *no.* 2, 726–735. (Andrey V. Tsiganov) **99k:82014** 82B20 (81R50, 82B23)
Linnartz, Jean-Paul (*with* Hollmann, Henk D. L.; van Lint, Jacobus Hendricus; Tolhuizen, Ludo M. G. M.) On codes with the identifiable parent property. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 121–133. (Wolfgang Willems) **99h:94075** 94B60 (94B65)
Linnér, Anders Explicit elastic curves. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 5, 445–475. (Maria Letizia Bertotti) **99k:58039** 58E10 (73K05)
Lins, Sóstenes Questions on attractors of 3-manifolds. (English summary) *Foundations of computational mathematics* (*Rio de Janeiro*, 1997), 231–245, *Springer, Berlin*, 1997. (Gary Gordon) **99m:57016** 57N10 (58F12)
Lins Neto, A. Holomorphic rank of hypersurfaces with an isolated singularity. (English summary) *Bol. Soc. Brasil. Mat.* (*N.S.*) **29** (1998), *no.* 1, 145–161. (Enrique Artal Bartolo) **99e:32066** 32S65 (32S10)
Linssen, A. H. (*with* Trieling, R. R.; van Heijst, GertJan F.) Monopolar vortices in an irrotational annular shear flow. (English summary) *J. Fluid Mech.* **360** (1998), 273–294. (Summary) **99a:76029** 76C05 (76-05, 86A05, 86A10)
Linssen, H. N. (*with* van Berkum, E. E. M.; Overdijk, D. A.) "Sampling the reference set" revisited. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 167–186. (E.-A. Weiss, Jr.) **99i:62008** 62A30 (62A15)
van Lint, Jacobus Hendricus (*with* Høholdt, Tom; Pellikaan, Ruud) Order functions and evaluation codes. (English summary) *Applied algebra, algebraic algorithms and error-correcting codes* (*Toulouse*, 1997), 138–150, *Lecture Notes in Comput. Sci.*, 1255, *Springer, Berlin*, 1997. (N. L. Manev) **99m:94055** 94B27 (94B15)
— (*with* Høholdt, Tom; Pellikaan, Ruud) An elementary approach to algebraic geometry codes. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **135** (1998), 25–35. (Introduction) **99m:94056** 94B27 (94-01)
— (*with* Hollmann, Henk D. L.; Linnartz, Jean-Paul; Tolhuizen, Ludo M. G. M.) On codes with the identifiable parent property. (English summary) *J. Combin. Theory Ser. A* **82** (1998), *no.* 2, 121–133. (Wolfgang Willems) **99h:94075** 94B60 (94B65)
— Mathematics and the compact disc: Johan Bernoulli lecture 1998. *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 3, 183–190. 01A99 (00A99)
— *see also* **Top, Jaap**
Linton, C. M. (*with* Kuznetsov, N. G.) Non-uniqueness in two-dimensional water wave problems: numerical evidence and geometrical restrictions. (English summary) *Proc. Roy. Soc. London Ser. A* **453** (1997), *no.* 1966, 2437–2460. (Frédéric Dias) **99e:76010** 76B15 (35Q35, 76M25)
— The Green's function for the two-dimensional Helmholtz equation in periodic domains. (English summary) *J. Engrg. Math.* **33** (1998), *no.* 4, 377–402. (Summary) **99d:35030** 35J05 (65N99, 78-08, 78A45)
— (*with* McIver, M.) Trapped modes in cylindrical waveguides. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 389–412. (Summary) **99e:76108** 76Q05
— (*with* McIver, P.; McIver, M.) Construction of trapped modes for wave guides and diffraction gratings. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1978, 2593–2616. (Summary) **99h:78017** 78A40 (76B15, 76Q05, 78A45, 78A50)
— (*with* McIver, P.) Acoustic resonances in the presence of radial fins in circular cylindrical waveguides. (English summary) *Wave Motion* **28** (1998), *no.* 2, 99–117. (Summary) **99e:76109** 76Q05
Linton, Oliver B. An asymptotic expansion in the GARCH(1, 1) model. (English summary) *Econometric Theory* **13** (1997), *no.* 4, 558–581. (Summary) **99c:62255** 62M10 (62P20)
— (*with* Chen, Rong[1]; Wang, Naisyin; Härdle, Wolfgang) An analysis of transformations for additive nonparametric regression. (English summary) *J. Amer. Statist. Assoc.* **92** (1997), *no.* 440, 1512–1521. (Ewaryst Rafajłowicz) **99e:62052** 62G05
— (*with* Nielsen, Jens Perch; Bickel, Peter J.) On a semiparametric survival model with flexible covariate effect. (English summary) *Ann. Statist.* **26** (1998), *no.* 1, 215–241. (Thomas A. Severini) **99c:62110** 62G05 (62M09)
— (*with* Nielsen, Jens Perch) An optimization interpretation of integration and back-fitting estimators for separable nonparametric models. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **60** (1998), *no.* 1, 217–222. (Summary) **99a:62054** 62G05
Linton, Stephen (*with* Campbell, Colin Matthew; Havas, George; Robertson, Edmund) Symmetric presentations and orthogonal groups. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 1–10, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Saïd N. Sidki) **99m:20112** 20G40 (20F05)
— (*with* Parker, Richard A.; Walsh, Peter; Wilson, Robert A.) Computer construction of the Monster. *J. Group Theory* **1** (1998), *no.* 4, 307–337. (Jamshid Moori) **99k:20030** 20C34 (20C40, 20D08)
— (*with* Pfeiffer, Götz; Robertson, Edmund; Ruškuc, N.) Groups and actions in transformation semigroups. (English summary) *Math. Z.* **228** (1998), *no.* 3, 435–450. (K. S. S. Nambooripad) **99e:20078** 20M20 (20B40)
Linttner, Małgorzata The biharmonic polynomials of the two independent variables. (English summary) *Fasc. Math. No.* **28** (1998), 101–107. (M. A. Atakhodzhaev) **99h:31008** 31A30
Linusson, S. (*with* Björner, Anders) The number of k-faces of a simple d-polytope. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 1–16. (Volkmar Welker) **99m:52013** 52B05 (52B11)

Lioen, Walter M. (*with* de Swart, Jacques J. B.) Collecting real-life problems to test solvers for implicit differential equations. (English summary) Solving differential equations on parallel computers. *CWI Quarterly* **11** (1998), *no.* 1, 83–100. (*see* **99g:65011**) 65M06 (65–04)

Liogon'kiĭ, M. I. Visual structural representation of parametrically defined two-dimensional spatial manifolds. (Russian. Russian summary) *Programmirovanie* **1998**, *no.* 3, 27–37; *translation in Program. Comput. Software* **24** (1998), *no.* 3, 116–122. 68U05

Liolios, A. A. A convolutional approach for two-sided solution bounding in unilateral structural elastodynamics. (English summary) *Acta Mech.* **131** (1998), *no.* 1-2, 133–137. 73K12 (73V99)

Lion, Jean-Marie (*with* Rolin, Jean-Philippe) Volumes, feuilles de Rolle de feuilletages analytiques et théorème de Wilkie. (English and French summaries) [Volumes, Rolle leaves of analytic foliations and Wilkie theorem] *Ann. Fac. Sci. Toulouse Math.* (6) **7** (1998), *no.* 1, 93–112. (Zbigniew Szafraniec) **99m:32009** 32C05 (14P15)

— (*with* Chazal, Frédéric) Une propriété des solutions non spiralantes d'équations différentielles analytiques du plan. (English and French summaries) [A property of nonspiralling solutions of analytic differential equations in the plane] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 451–454. (Zbigniew Szafraniec) **99j:34009** 34A25 (32C05, 34A99, 58A17)

Lions, Jacques-Louis Les travaux de Deny en théorie du potentiel. [The works of Deny in potential theory] *Séminaire Bourbaki, Vol.* 2, *Exp. No.* 52, 21–29, *Soc. Math. France, Paris*, 1995. (*see* **99f:00034**) 31C99 (46Fxx)

— Problèmes aux limites relatifs à des équations de type elliptique. [Boundary value problems for elliptic equations] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 110, 93–105, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 35J25 (47F05)

— Espaces de Beppo Levi et quelques applications. [Spaces of Beppo Levi and some applications] *Séminaire Bourbaki, Vol.* 3, *Exp. No.* 117, 169–181, *Soc. Math. France, Paris*, 1995. (*see* **99f:00035**) 46E10 (31C99)

— Équations de Navier-Stokes. [Navier-Stokes equations] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 184, 223–238, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 35Q30 (76D05)

— Sur les théorèmes d'interpolation. [On interpolation theorems] *Séminaire Bourbaki, Vol.* 5, *Exp. No.* 196, 391–403, *Soc. Math. France, Paris*, 1995. (*see* **99f:00037**) 46M35 (46E30)

— Controllability of distributed systems and singular perturbations. (English summary) *Spectral analysis of complex structures* (*Paris*, 1993), 71–84, *Travaux en Cours*, 49, *Hermann, Paris*, 1995. (Vilmos Komornik) **99a:93068** 93C70 (93C20)

— A generic result of approximate controllability. (English summary) *Collection of papers on geometry, analysis and mathematical physics*, 144–154, *World Sci. Publishing, River Edge, NJ*, 1997. (Enrique Zuazua) **99g:93011** 93B05 (35Q30, 93C20)

— Controllability, penalty and stiffness. (English summary) Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 597–610 (1998). (Enrique Zuazua) **99k:93023** 93B05 (35K99, 49J20, 93C20)

— (*with* Zuazua, Enrique) The cost of controlling unstable systems: time irreversible systems. (English summary) *Rev. Mat. Univ. Complut. Madrid* **10** (1997), *no.* 2, 481–523. (Vilmos Komornik) **99b:49004** 49J20 (35K10, 93C20)

— (*with* Zuazua, Enrique) Exact boundary controllability of Galerkin's approximations of Navier-Stokes equations. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 4, 605–621. (Vilmos Komornik) **99m:93007** 93B05 (35Q30, 65M06, 76D05)

— (*with* Geymonat, Giuseppe) The role of mathematical and numerical tools in modelling. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *no.* 1, 7–24. 00A71 (01A99)

— (*with* Díaz Díaz, Jesús Ildefonso) Sur la contrôlabilité approchée de problèmes paraboliques avec phénomènes d'explosion. (English and French summaries) [Approximate controllability of parabolic problems with blowup phenomena] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 173–177. (Angelo Favini) **99j:93007** 93B05 (35B37, 35K55, 93C25)

— (*with* Sanchez-Palencia, Évariste) Instabilities produced by edges in thin shells. (English summary) *Variations of domain and free-boundary problems in solid mechanics* (*Paris*, 1997), 277–284, *Solid Mech. Appl.*, 66, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:73049** 73K15

— *see also* **Kernévez, Jean-Pierre**, **99c:92059**; **Partial differential equations and applications**, **99f:00029** *and* **Handbook: Numerical analysis**, **99h:65001**

Lions, Pierre-Louis On some recent methods for nonlinear partial differential equations [MR 97e:35022]. *Fields Medallists' lectures*, 563–579, *World Sci. Ser. 20th Century Math.*, 5, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:00010**) 35D05

— (*with* Toscani, Giuseppe) Diffusive limit for finite velocity Boltzmann kinetic models. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 3, 473–513. (Reinhard Illner) **99g:76127** 76P05 (35Q35, 82C40)

— ★ On Euler equations and statistical physics. Cattedra Galileiana [Galileo Chair], 1. *Scuola Normale Superiore, Classe di Scienze, Pisa*, 1998. *vi*+74 *pp.* (Rodolfo Salvi) **99m:35189** 35Q30 (76C05, 76M35, 82D15)

— ★ Mathematical topics in fluid mechanics. Vol. 2. (English summary) Compressible models. Oxford Lecture Series in Mathematics and its Applications, 10. Oxford Science Publications. *The Clarendon Press, Oxford University Press, New York*, 1998. *xiv*+348 *pp.* *ISBN* 0-19-851488-3 (Denis Serre) **99m:76001** 76–02 (35–02, 35Q30, 76N10)

— On Boltzmann equation and its applications. (English summary) *Recent advances in partial differential equations, Venice* 1996, 211–236, *Proc. Sympos. Appl. Math.*, 54, *Amer. Math. Soc., Providence, RI*, 1998. (Nicola Bellomo) **99c:82060** 82C40 (35Q99, 76P05)

— Régularité et compacité pour des noyaux de collision de Boltzmann sans troncature angulaire. (English and French summaries) [Regularity and compactness for Boltzmann collision kernels without angular cutoff] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 1, 37–41. (Carlo Cercignani) **99h:82062** 82C40 (76P05)

— Sur les équations différentielles ordinaires et les équations de transport. (English and French summaries) [On ordinary differential equations and transport equations] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 833–838. (Benoît P. Desjardins) **99i:34004** 34A12 (34C35, 35Q99)

— Régularité optimale des moyennes en vitesses. II. (English and French summaries) [Optimal regularity of velocity averages. II] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 945–948. (Philippe G. LeFloch) **99m:35252** 35Q99 (35B65)

— (*with* Souganidis, Panagiotis E.) Fully nonlinear stochastic partial differential equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1085–1092. (Samy Tindel) **99j:60094** 60H15 (35R60)

— Identification du cône dual des fonctions convexes et applications. (English and French summaries) [Identification of the dual cone of convex functions and applications] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 12, 1385–1390. (E. N. Barron) **99i:49039** 49N15 (35J99, 46N20, 49J20)

— (*with* Catto, Isabelle; Le Bris, Claude) Sur la limite thermodynamique pour des modèles de type Hartree et Hartree-Fock. (English and French summaries) [On the thermodynamic limit for Hartree and Hartree-Fock type models] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 3, 259–266. (Summary) **99j:81208** 81V55

— (*with* Masmoudi, Nader) Unicité des solutions faibles de Navier-Stokes dans $L^N(\Omega)$. (English and French summaries) [Uniqueness of weak solutions of the Navier-Stokes equations in $L^N(\Omega)$] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 5, 491–496. (Summary) **99h:35164** 35Q30 (35D05, 76D05)

— (*with* Souganidis, Panagiotis E.) Fully nonlinear stochastic partial differential equations: non-smooth equations and applications. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 735–741. (Sergey V. Lototsky) **99j:60095** 60H15 (35R60)

— (*with* Masmoudi, Nader) Incompressible limit for a viscous compressible fluid. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 6, 585–627. (Piotr Biler) **99d:76084** 76N10 (35Q30, 76D05)

— *see also* **Varadhan, S. R. S.**, (**99b:00010**)

Liotta, Giuseppe (*with* Lubiw, Anna; Meijer, Henk; Whitesides, S. H.) The rectangle of influence drawability problem. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 1–22. (Vladimir P. Korzhik) **99b:05039** 05C10 (65Y25, 68U05)

— (*with* Di Battista, Giuseppe; Vargiu, Francesco) Spirality and optimal orthogonal drawings. (English summary) *SIAM J. Comput.* **27** (1998), *no.* 6, 1764–1811 (*electronic*). (Peter B. Gibbons) **99g:05162** 05C85 (05C10, 68U05, 90C27)

— (*with* Baker, James E.; Cruz, Isabel F.; Tamassia, Roberto) Visualizing geometric algorithms over the Web. (English summary) 12th ACM Symposium on Computational Geometry (Philadelphia, PA, 1996). *Comput. Geom.* **12** (1999), *no.* 1-2, 125–152. (*see* **99k:68001**) 68U05

Liou, Meng-Sing (*with* Loh, Ching-Yuen; Hui, Wai How) An investigation of random choice method for three-dimensional steady supersonic flows. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 1, 97–119. (Summary) **99h:76073** 76M25 (76J20)

Liou, Michelle Establishing score comparability in heterogeneous populations. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 669–690. 62P15 (62H17)

Liou, Y. C. (*with* Guu, S. M.) On a quadratic optimization problem with equality constraints. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 3, 733–741. (Summary) **99f:90073** 90C20

Liou, Yuan Chang (*with* Jeng, Yih Nen) A transfinite interpolation method of grid generation based on multipoints. (English summary) *J. Sci. Comput.* **13** (1998), *no.* 1, 105–114. (Summary) **99a:65116** 65M50 (65N50)

Lioubimov, Vadim (*with* Boyarsky, Abraham; Góra, Paweł) Dynamics on spaces of compact subsets with application to brain modeling. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 569–580. (Joseph So) **99k:92008** 92C20 (28C99, 58F11)

Lioutikova, E. (*with* Kharlampovich, Olga; Myasnikov, A. G.) Equations in the Q-completion of a torsion-free hyperbolic group. *Trans. Amer. Math. Soc.* **351** (1999), *no.* 7, 2961–2978. (Jon M. Corson) **99j:20039b** 20F10 (03D40, 11U05, 57M07)

Lipa, Peter (*with* Greiner, Martin; Jouault, Bruno; Schmiegel, Jürgen; Giesemann, Jens; Eggers, Hans) Wavelets: from signal analysis to the analysis of complex processes. (English and Spanish summaries) XXI Symposium on Nuclear Physics (Oaxtepec, 1998). *Rev. Mexicana Fis.* **44** (1998), *suppl.* 2, 11–14. (*see* **99g:81002**) 42C15 (94A12)

Lipacheva, E. V. Partial automorphisms of countable models. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1997**, *no.* 1, 12–21; *translation in Russian Math.* (*Iz. VUZ*) **41** (1997), *no.* 1, 10–19. (Martin Weese) **99b:03048** 03C15 (06E05)

Lipan, O. (*with* Krichever, Igor Moiseevich; Wiegmann, P. B.; Zabrodin, A. V.) Quantum integrable systems and classical discrete nonlinear dynamics. (English summary) *Statistical models, Yang-Baxter equation and related topics, and Symmetry, statistical mechanical models and applications* (*Tianjin*, 1995), 211–227, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99f:82002**) 82B23 (58F07, 81U40)

— (*with* Krichever, Igor Moiseevich; Wiegmann, P. B.; Zabrodin, A. V.) Quantum integrable models and discrete classical Hirota equations. (English summary) *Comm. Math. Phys.* **188** (1997), *no.* 2, 267–304. (Mayumi Ohmiya) **99c:58076** 58F07 (39A10, 82B23)

Lipeck, Udo W. (*with* Dionísio, F. Miguel) Specifying with defaults: compositional semantics. (English summary) *Recent trends in algebraic development techniques* (*Tarquínia*, 1997), 206–222, *Lecture Notes in Comput. Sci.*, 1376, *Springer, Berlin*, 1998. (*see* **99f:68009**) 68Q65

Lipecki, Zbigniew Remarks on independent sequences and dimension in topological linear spaces. (English summary) *Collect. Math.* **49** (1998), *no.* 1, 53–65. (Jan H. Fourie) **99f:46010** 46A35

— Noncontinuous linear operators and independent linear topologies. (English summary) *Comment. Math. Prace Mat.* **38** (1998), 53–62. (Mikhail Ostrovskiĭ) **99m:46003** 46A16 (47A05)

Lipieta, Agnieszka Cominimal projections in l_∞^n. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 86–100. (D. E. Wulbert) **99k:41044** 41A50 (41A65, 46B20)

Liping, Huang *see* **Huang, Li Ping**[3]

Lipiński, Z. Yangian deformation of the Lie algebra $\widetilde{\mathrm{diff}}(T^2)$. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 20, 1611–1622. (J. A. H. Samtleben) **99k:17032** 17B37 (81R50)

Lipkovski, Aleksandar T. The direct and the inverse image—a categorical viewpoint. (English summary) *Nieuw Arch. Wisk.* (4) **16** (1998), *no.* 1-2, 23–26. (Summary) **99f:18006** 18A40

Lipman, Barton L. More absentmindedness. (English summary) Special issue on imperfect recall. *Games Econom. Behav.* **20** (1997), *no.* 1, 97–101. (*see* **99b:90162**) 90A05 (90C40)

Lipnikov, K. N. (*with* Deuflhard, Peter) Domain decomposition with subdomain CCG for material jump elliptic problems. (English summary) *East-West J. Numer. Math.* **6**

(1998), *no.* 2, 81–100. (Weimin Han) **99e:65153** 65N30 (65N55)
— (*with* Kuznetsov, Yurīĭ Alekseevich[1]) 3D Helmholtz wave equation by fictitious domain method. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 5, 371–387. (G. W. Hedstrom) **99i:76124** 76M25 (65N22, 76Q05)
Lipnitskiĭ, A. V. On the measure of the irregularity sets of linear systems. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 211–215, 286; *translation in Differential Equations* **34** (1998), *no.* 2, 215–219. (Summary) **99j:34069** 34D08 (34A30)
Lipovan, Octavian The measurability of functions with values in pseudometric spaces. (English summary) *Proceedings of the Scientific Communications Meeting of "Aurel Vlaicu" University, Vol. 14A (Arad, 1996), 81–86, "Aurel Vlaicu" Univ. Arad, Arad, 1997.* (*see* **99i:00027**) 28B15
— Uniformities on probabilistic metric structures—valued function spaces. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **43(57)** (1998), *no.* 1, 13–20. 54E70 (28C99)
Lipovec, Alenka The chromatic number of the product of two 4-chromatic graphs is 4. (Slovenian. English and Slovenian summaries) *Obzornik Mat. Fiz.* **45** (1998), *no.* 4, 107–117. 05C15
Lipovskiĭ, V. D. (*with* Varzugin, G. G.; Gut·shabash, E. Sh.) Errata: "A boundary value problem for a two-dimensional stationary Heisenberg magnet with nontrivial background. II" [Teoret. Mat. Fiz. **104** (1995), no. 3, 513–529; MR 98k:82051]. (Russian) *Teoret. Mat. Fiz.* **106** (1996), *no.* 1, 175. 82B20 (35Q60, 82C31)
Lippe, Wolfram-M. (*with* Feuring, Thomas; Buckley, James J.; Tenhagen, Andreas) Stability analysis of neural net controllers using fuzzy neural networks. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 303–313. (*see* **99k:93004**) 93C42 (93D05)
— (*with* Feuring, Thomas) The fuzzy neural network approximation lemma. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 227–236. (Summary) **99m:68163** 68T05
Lippel, David (*with* Weaver, George) Classifying $\aleph_0$-categorical theories. II. The existence of finitely axiomatizable proper class II theories. (English summary) *Studia Logica* **60** (1998), *no.* 2, 275–297. (N. C. A. da Costa) **99c:03051** 03C35 (03C10)
Lippert, Ross A. (*with* Arias, Tomás A.; Edelman, Alan) Multiscale computation with interpolating wavelets. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 2, 278–310. (Ewald Quak) **99e:65188** 65T99 (42C15, 65D20, 81–08)
Lippert, Thomas The hybrid Monte Carlo algorithm for quantum chromodynamics. (English summary) *Field theoretical tools for polymer and particle physics (Wuppertal, 1997), 122–132, Lecture Notes in Phys., 508, Springer, Berlin, 1998.* (*see* **99k:82001**) 81V05 (81T80)
Lippig, V. (*with* Neumaier, M.; Lauster, M.; Waibel, R.; Straub, Dieter) The Duhem-Hadamard hypothesis in thermofluiddynamics. (English summary) *Internat. J. Non-Linear Mech.* **33** (1998), *no.* 6, 993–1012. (Summary) **99b:76004** 76A02 (76–05, 80A20)
Lipponen, Marjo (*with* Calude, Elena) Minimal deterministic incomplete automata. (English summary) Proceedings of the First Japan-New Zealand Workshop on Logic in Computer Science (Auckland, 1997). *J.UCS* **3** (1997), *no.* 11, 1180–1193 (*electronic*). (Summary) **99h:68120** 68Q68 (03D05)
— (*with* Calude, Elena) Deterministic incomplete automata: simulation, universality and complementarity. (English summary) *Unconventional models of computation (Auckland, 1998), 131–149, Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore, 1998.* (Summary) **99g:68055** 68Q05 (68Q68)
Lipset, Robert (*with* Van Til, Robert P.; Sengupta, Sankar) Development of a model for a two-station serial transfer line subject to machine and buffer failure. (English summary) *Math. Comput. Model. Dyn. Syst.* **4** (1998), *no.* 3, 231–246. 90B25 (93C83)
— (*with* Van Til, Robert P.; Sengupta, Sankar) Steady-state performance analysis of serial transfer lines subject to machine and buffer failure. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 319–325. 93C83 (90B30)
Lipsitz, Stuart R. (*with* Ibrahim, Joseph G.) Estimating equations with incomplete categorical covariates in the Cox model. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 1002–1013. 62P10 (62F10, 62H17)
— (*with* Troxel, Andrea B.; Harrington, David P.) Marginal models for the analysis of longitudinal measurements with nonignorable non-monotone missing data. (English summary) *Biometrika* **85** (1998), *no.* 3, 661–672. (Summary) **99i:62045** 62F10
— (*with* Ibrahim, Joseph G.; Chen, Ming-Hui) Missing covariates in generalized linear models when the missing data mechanism is non-ignorable. (English summary) *J. R. Stat. Soc. Ser. B Stat. Methodol.* **61** (1999), *no.* 1, 173–190. 62J12
Lipsman, Ronald L. Finite multiplicity, invariant differential operators and the orbit method. *Indiana Univ. Math. J.* **46** (1997), *no.* 2, 561–574. (Chal Benson) **99a:22017** 22E30 (43A85)
— A unified approach to concrete Plancherel theory of homogeneous spaces. (English summary) *Manuscripta Math.* **94** (1997), *no.* 2, 133–149. (Chal Benson) **99c:22013a** 22E30 (22E25, 43A85)
— (*with* Coombes, Kevin R.; Rosenberg, Jonathan M.) ★ Multivariable calculus and Mathematica. (English summary) With applications to geometry and physics. With 1 IBM-PC floppy disk (3.5 inch; HD). *Springer-Verlag–TELOS, New York, 1998. xiv+283 pp. ISBN* 0-387-98360-0 (From the preface) **99b:26001** 26–01
— The Plancherel formula for homogeneous spaces with exponential spectrum. (English summary) *J. Reine Angew. Math.* **500** (1998), 49–63. (Michel Pevzner) **99e:22017** 22E30 (43A85)
— *see also* **Errata: "A unified approach to concrete Plancherel theory of homogeneous spaces", 99c:22013b**
Liptai, Kálmán (*with* Brindza, Béla; Szalay, László) On products of the terms of linear recurrences. (English summary) *Number theory (Eger, 1996), 101–106, de Gruyter, Berlin, 1998.* (T. N. Shorey) **99e:11015** 11B37 (11J86)
— On a Diophantine equation. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 49–59. (Ákos Pintér) **99f:11035** 11D09 (11B37)
— An application of a theorem of Thue. (English summary) *Discuss. Math. Algebra Stochastic Methods* **18** (1998), *no.* 1, 111–120. (Ákos Pintér) **99f:11017** 11B37
Lipton, Richard J. (*with* Boneh, Dan; Dunworth, Christopher; Sgall, Jiří) Making DNA computers error resistant. (English summary) *DNA based computers, II (Princeton, NJ, 1996), 163–170, DIMACS Ser. Discrete Math. Theoret. Comput. Sci., 44, Amer. Math. Soc., Providence, RI, 1999.* (*see* **99f:68002**) 68Q05
— DNA computations can have global memory. *DNA based computers, II (Princeton, NJ, 1996), 259–265, DIMACS Ser. Discrete Math. Theoret. Comput. Sci., 44, Amer. Math. Soc., Providence, RI, 1999.* (From the introduction) **99k:68054** 68Q05 (90C27)
Lipton, Robert Influence of interfacial surface conduction on the DC electrical conductivity of particle reinforced composites. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1973, 1371–1382. (Summary) **99e:78018** 78A25 (73B27)
— The second Stekloff eigenvalue and energy dissipation inequalities for functionals with surface energy. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 673–680 (*electronic*). (George Dassios) **99c:31014** 31B20 (35P99, 73B27, 78A99)
Liptser, Robert Sh. Large deviations for non-diffusion process. (English summary) *Statistics and control of stochastic processes (Moscow, 1995/1996), 275–282, World Sci. Publishing, River Edge, NJ, 1997.* (Fuqing Gao) **99j:60039** 60F10 (60H10)
— (*with* Muzhikanov, P.) Filtering with a limiter (improved performance). (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 3, 289–300. (George Yin) **99f:60083** 60G35 (93E11)
— (*with* Zeitouni, Ofer) Robust diffusion approximation for nonlinear filtering. (English summary) *J. Math. Systems Estim. Control* **8** (1998), *no.* 1, 22 *pp.* (*electronic*). (Vivek S. Borkar) **99h:93106** 93E11
— *see also* **Statistics and control of stochastic processes, 99e:60005** *and* **Bibliography: Liptser, Robert Sh., (99e:60005)**
Liriano, Sal Algebraic geometric invariants for a class of one-relator groups. (English summary) *J. Pure Appl. Algebra* **132** (1998), *no.* 1, 105–118. (David Meier) **99g:20053** 20F05 (20F32)
Lirkov, I. D. (*with* Margenov, Svetozar D.; Zikatanov, Ludmil) Circulant block-factorization preconditioning of anisotropic elliptic problems. (English and German summaries) *Computing* **58** (1997), *no.* 3, 245–258. (Zdeněk Dostál) **99a:65057** 65F35 (65N22)
— (*with* Margenov, Svetozar D.; Owens, Reuben; Paprzycki, Marcin) A shared memory parallel implementation of block-circulant preconditioners. (English summary) *Large-scale scientific computations of engineering and environmental problems (Varna, 1997), 319–327, Notes Numer. Fluid Mech., 62, Vieweg, Braunschweig, 1998.* (*see* **99m:65006**) 65F10 (65N30)
Lis, Bartosz (*with* Szczepaniak, Piotr S.) Solving differential equations with nonlinear perceptron. (English summary) *Appl. Math. Comput. Sci.* **8** (1998), *no.* 3, 599–609. (Summary) **99g:65031** 65D99 (34A45, 35A35, 65L99, 65M99, 65N99, 92B20)
Lisbona, Francisco J. (*with* Clavero Gracia, Carmelo; Jorge, J. C.) Fractional-step method and Shishkin meshes for convection-dominated convection-diffusion problems. (Spanish. English summary) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish) (Vic, 1995), 9 pp.* (*electronic*), *Univ. Barcelona, Barcelona, 199?.* (*see* **99g:00036**) 65M06 (76M25)
— (*with* Celorrio, Ricardo; Sayas, Francisco Javier) Integral models and their discretizations for unsaturated fluids around a tunnel. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997), 655–660, Colecc. Congr., 9, Univ. Vigo, Vigo, 1998.* (*see* **99d:00018**) 76M25 (76S05)
— (*with* Clavero Gracia, Carmelo; Jorge, J. C.; Shishkin, G. I.) A fractional step method on a special mesh for the resolution of multidimensional evolutionary convection-diffusion problems. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 3, 211–231. (Claus-Dieter Munz) **99g:65089** 65M06 (65M12, 76M20)
Lisca, Paolo Symplectic fillings and positive scalar curvature. (English summary) *Geom. Topol.* **2** (1998), 103–116 (*electronic*). (John B. Etnyre) **99f:57038** 57R57 (57M50, 57R15)
— (*with* Matić, Gordana) Stein 4-manifolds with boundary and contact structures. (English summary) Symplectic, contact and low-dimensional topology (Athens, GA, 1996). *Topology Appl.* **88** (1998), *no.* 1-2, 55–66. (John B. Etnyre) **99f:57037** 57R57 (32E10, 57M50, 57R15)
Lischinsky-Arenas, Pablo *see* **Canudas de Wit, Carlos**
Lischke, Gerhard Towards the actual relationship between NP and exponential time. (English summary) *MLQ Math. Log. Q.* **45** (1999), *no.* 1, 31–49. (Marius Zimand) **99m:68063** 68Q15 (03D15)
Liselkin, V. D. Algebraic adaptation based on stretching functions. (English summary) *Russian J. Numer. Anal. Math. Modelling* **13** (1998), *no.* 4, 307–324. (Stanly L. Steinberg) **99i:65137** 65N50 (65M50)
— A method for algebraic adaptation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 10, 1692–1709; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 10, 1624–1640. (Svetozar D. Margenov) **99j:65220** 65N50
Lisetskyi, A. F. (*with* Dotsenko, I. S.; Filippov, G. F.) Construction of the basis functions of the two rotator nuclear model in the Fock-Bargmann space. *Symmetry methods in physics, Vol. 1 (Dubna, 1995), 160–163, Joint Inst. Nuclear Res., Dubna, 1996.* (*see* **99m:81006**) 81V35
Lisica, Ju. T. *see* **Lisitsa, Yu. T.**
Lisitsa, Alexei (*with* Sazonov, Vladimir) Δ-languages for sets and sub-PTIME graph transformers. (English summary) *Database theory—ICDT '95 (Prague), 125–138, Lecture Notes in Comput. Sci., 893, Springer, Berlin, 1995.* (Summary) **99c:68075** 68P15 (68Q25)
Lisitsa, Yu. T. On the compact $\varinjlim$-functor in the category of compact groups. (English summary) *Glas. Mat. Ser. III* **32(52)** (1997), *no.* 2, 301–314. (Timothy Porter) **99g:55007** 55N05 (55N07)
Lisitskiĭ, A. D. The Eaton problem and multiplicative properties of multidimensional distributions. (Russian. Russian summary) *Teor. Veroyatnost. i Primenen.* **42** (1997), *no.* 4, 696–714. (Imbi Traat) **99e:62096** 62H10 (60E07)
Lisitsyn, Ya. V. (*with* Shapovalov, A. V.) Reduction of quantum analogues of Hamiltonian systems on Lie algebras to orbits of the coadjoint representation. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 5, 69–74; *translation in Russian Phys. J.* **41** (1998), *no.* 5, 460–464. (Summary) **99k:58094** 58F07 (81Q99, 81R99)
— (*with* Shapovalov, A. V.) Noncommutative solutions of the d'Alembert equation. (Russian. Russian summary) *Izv. Vyssh. Uchebn. Zaved. Fiz.* **41** (1998), *no.* 6, 25–30; *translation in Russian Phys. J.* **41** (1998), *no.* 6, 528–533 (1999). (Summary) **99j:35223** 35Q99 (35A25, 35C99)

Liska, Richard (*with* Hong, Hoon; Steinberg, Stanly) Testing stability by quantifier elimination. (English summary) Applications of quantifier elimination (Albuquerque, NM, 1995). *J. Symbolic Comput.* **24** (1997), *no.* 2, 161–187. (Joos Heintz) **99a:34144** 34D05 (34–04, 39A10, 68Q40)
— (*with* Wendroff, Burton) Composite schemes for conservation laws. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 6, 2250–2271 (*electronic*). (Mohammad Asadzadeh) **99j:65138** 65M06 (35L65, 65M12)
Liskevich, Vitali (*with* Semenov, Yu. A.) Two-sided estimates of the heat kernel of the Schrödinger operator. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 596–602. (El Maati Ouhabaz) **99g:35028** 35J10 (47D06, 47F05, 58G11)
— (*with* Manavi, Amir) On perturbations of dominated semigroups. *Applied analysis* (*Baton Rouge, LA*, 1996), 205–210, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Editors) **99g:47095** 47D06 (35J99, 47A55, 47F05)
Liski, Erkki P. (*with* Abt, Markus; Mandal, Nripes K.; Sinha, Bikas Kumar) Optimal designs in growth curve models. I. Correlated model for linear growth: optimal designs for slope parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 1, 141–150. (Christine Hildegard Müller) **99c:62201** 62K05 (62J05)
— (*with* Abt, Markus; Gaffke, Norbert; Sinha, Bikas Kumar) Optimal designs in growth curve models. II. Correlated model for quadratic growth: optimal designs for parameter estimation and growth prediction. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 2, 287–296. (Christine Hildegard Müller) **99f:62086** 62K05
— (*with* Groß, Jürgen; Trenkler, Götz) Necessary and sufficient conditions for superiority of misspecified restricted least squares regression estimator. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 109–116. (R. Kala) **99m:62100** 62J05
Liśkiewicz, Maciej (*with* Reischuk, Rüdiger) Computing with sublogarithmic space. (English summary) *Complexity theory retrospective, II*, 197–224, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15, 68Q05)
— (*with* Reischuk, Rüdiger) Computational limitations of stochastic Turing machines and Arthur-Merlin games with small space bounds. (English summary) *Mathematical foundations of computer science* 1997 (*Bratislava*), 91–107, *Lecture Notes in Comput. Sci.*, 1295, *Springer, Berlin*, 1997. (Summary) **99e:68036** 68Q05 (68Q15)
Liskovets, V. A. A pattern of asymptotic vertex valency distributions in planar maps. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 1, 116–133. (Edward A. Bender) **99k:05083** 05C30 (05C80)
Liskowski, Marian (*with* Musielak, Julian) On best approximation in modular spaces. (English summary) *Comment. Math. Prace Mat.* **37** (1997), 183–188. (Gianluca Vinti) **99a:46014** 46A80 (41A65, 46E30)
Lisle, Ian G. (*with* Reid, Gregory J.) Geometry and structure of Lie pseudogroups from infinitesimal defining systems. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 355–379. (Fernando Alcalde-Cuesta) **99h:58206** 58H05 (58A15, 58G35)
Lismont, L. (*with* Mongin, Philippe) On the logic of common belief and common knowledge [MR 96b:90149]. *Epistemic logic and the theory of games and decisions*, 3–34, *Theory Decis. Lib. Ser. C Game Theory Math. Program. Oper. Res.*, 20, *Kluwer Acad. Publ., Boston, MA*, 1997. (*see* **99k:00028**) 90D35 (03B45)
Lisoněk, Petr (*with* Borwein, Jonathan M.; Bradley, David M.; Broadhurst, David J.) Combinatorial aspects of multiple zeta values. (English summary) *Electron. J. Combin.* **5** (1998), *no.* 1, *Research Paper* 38, 12 *pp.* (*electronic*). (J. Browkin) **99g:11100** 11M41 (05A19, 11Y60)
Lisovik, L. P. The equivalence problem for finite substitutions in a regular language. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 3, 299–301. (I. Mezník) **99a:68111** 68Q45 (03D05, 03D35)
— Finitely ambiguous regular events in the direct product of semigroups. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 3, 7–22, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 3, 310–319 (1998). (Grigori I. Žitomirskiĭ) **99a:20069** 20M35 (03D05, 68Q70)
— Deterministic acceptors for indexed languages. (Russian. English and Ukrainian summaries) *Kibernet. Sistem. Anal.* **1997**, *no.* 4, 100–114, 189; *translation in Cybernet. Systems Anal.* **33** (1997), *no.* 4, 540–549 (1998). (Zdzisław Grodzki) **99c:68154** 68Q45 (68Q68)
— On axiomatizations of Boolean algebras. (Russian. English and Ukrainian summaries) *Ukraïn. Mat. Zh.* **49** (1997), *no.* 7, 937–942; *translation in Ukrainian Math. J.* **49** (1997), *no.* 7, 1051–1057 (1998). (S. Rudeanu) **99d:03060** 03G05 (06E05)
Lissaman, R. M. (*with* Hajarnavis, C. R.) Invertible ideals and existence of quotient rings. *Comm. Algebra* **26** (1998), *no.* 6, 1985–1997. (J. C. Robson) **99e:16016** 16E60 (16H05, 16P40)
Lissianoi, Sergei (*with* Ponomarev, Igor) On the inversion of the geodesic Radon transform on the hyperbolic plane. (English summary) *Inverse Problems* **13** (1997), *no.* 4, 1053–1062. (Summary) **99c:53082** 53C65 (44A12, 65R10, 92C55)
Lissowska-Wójtowicz, Anna Some philosophical aspects of indiscernibility. (English summary) *Incomplete information: rough set analysis*, 381–398, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 04A72
Lister, John R. (*with* Stone, Howard A.) Capillary breakup of a viscous thread surrounded by another viscous fluid. (English summary) *Phys. Fluids* **10** (1998), *no.* 11, 2758–2764. (Summary) **99i:76044** 76D45 (76E99)
— (*with* Brenner, Michael P.; Day, Richard F.; Hinch, E. John; Stone, Howard A.) Singularities and similarity solutions in capillary breakup. (English summary) *IUTAM Symposium on Non-linear Singularities in Deformation and Flow* (*Haifa*, 1997), 257–269, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:76002**) 76D45
Litherland, R. A. (*with* Simon, Jonathan K.; Durumeric, O.; Rawdon, E.) Thickness of knots. (English summary) *Topology Appl.* **91** (1999), *no.* 3, 233–244. (Sadayoshi Kojima) **99k:57025** 57M25
Litman, A. *see* **Litman, Ami**
Litman, Amélie (*with* Lesselier, D.; Santosa, Fadil) Reconstruction of a two-dimensional binary obstacle by controlled evolution of a level-set. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 685–706. (Summary) **99e:78032** 78A45 (35R30, 78–08)
— (*with* Lesselier, D.) On attenuation-matched inversion methods of diffusive wavefields. (English summary) Conference on Inverse Problems, Control and Shape Optimization (Carthage, 1998). *Inverse Problems* **15** (1999), *no.* 1, 99–111. (*see* **99h:00024**) 78A45 (78–08)
Litman, Ami (*with* Ben-David, Shai) Combinatorial variability of Vapnik-Chervonenkis classes with applications to sample compression schemes. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 3–25. (M. Iosifescu) **99d:68177** 68R05 (68Q15, 68T05)
— (*with* Avior, A.; Calamoneri, T.; Even, Shimon; Rosenberg, Arnold L.) A tight layout of the butterfly network. (English summary) ACM Symposium on Parallel Algorithms and Architectures (Padua, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 4, 475–487. (Summary) **99b:68011** 68M10 (05C85, 68Q35)
Litovsky, I. (*with* Le Saëc, B.; Patrou, B.) On stack languages. (English and French summaries) *Semigroups* (*Luino*, 1992), 177–182, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 68Q45 (20M35)
Litow, Bruce (*with* de Vel, Olivier) On digital images which cannot be generated by small generalised stochastic automata. (English summary) *Randomized algorithms* (*Brno*, 1998), 8 *pp.* (*electronic*), *Lect. Notes Ser. ECCC, Electron. Colloq. Comput. Complex., Trier*, 1998. (*see* **99f:68008**) 68U10 (68Q68)
— (*with* Mans, Bernard) A note on the Ádám conjecture for double loops. (English summary) *Inform. Process. Lett.* **66** (1998), *no.* 3, 149–153. (Summary) **99c:68196** 68R10 (68M10, 90C35)
Litsyn, Elena *see* **Litsyna, E. M.**
Litsyn, Simon (*with* Cohen, Gérard Denis; Honkala, Iiro; Lobstein, Antoine) ★ Covering codes. North-Holland Mathematical Library, 54. *North-Holland Publishing Co., Amsterdam*, 1997. xxii+542 *pp. ISBN* 0-444-82511-8 (H. F. Mattson, Jr.) **99b:94059** 94B75 (05–02, 11T71)
— (*with* Hollmann, Henk D. L.; Körner, János) Tiling Hamming space with few spheres. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 388–393. (Harold N. Ward) **99a:05025** 05B40 (51E23)
— (*with* Blass, Uri) Several new lower bounds for football pool systems. (English summary) *Ars Combin.* **50** (1998), 297–302. (Summary) **99j:94080** 94B65
— (*with* Krasikov, Ilia) Bounds on spectra of codes with known dual distance. (English summary) *Des. Codes Cryptogr.* **13** (1998), *no.* 3, 285–297. (Ivan Landgev) **99c:94048** 94B05 (94B65)
— (*with* Laihonen, Tero) On upper bounds for minimum distance and covering radius of non-binary codes. (English summary) *Des. Codes Cryptogr.* **14** (1998), *no.* 1, 71–80. (Antoine Lobstein) **99g:94022** 94B65 (94B75)
— (*with* Solé, Patrick; Struik, René) On the covering radius of an unrestricted code as a function of the rate and dual distance. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 177–191. (Antoine Lobstein) **99g:94023** 94B65 (94B75)
— (*with* Keren, Osnat) Codes correcting phased burst erasures. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 1, 416–420. (Summary) **99b:94053** 94B35
— (*with* Blass, Uri) Several new lower bounds on the size of codes with covering radius one. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 5, 1998–2002. (Summary) **99h:94078** 94B65 (94B75)
— (*with* Krasikov, Ilia) On the distance distribution of duals of BCH codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 247–250. (Summary) **99k:94070** 94B65
— (*with* Keren, Osnat) More on the distance distribution of BCH codes. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 251–255. (Summary) **99k:94055** 94B15
Litsyna, E. M. (*with* Domoshnitskiĭ, A. I.; Drakhlin, Mikhail E.) On boundary value problems for Nth order functional-differential equations with impulses. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 50–56. (Summary) **99d:34119** 34K10 (34A37)
— (*with* Domoshnitskiĭ, A. I.; Drakhlin, Mikhail E.) Nth order functional-differential equations with impulses. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 987–996. (Summary) **99g:34130** 34K05 (34A37, 34K10)
Littell, Ramon C. (*with* Presnell, Brett; Morrison, Scott P.) Projected multivariate linear models for directional data. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1068–1077. 62H11 (62J05)
Littelmann, Peter The path model, the quantum Frobenius map and standard monomial theory. *Algebraic groups and their representations* (*Cambridge*, 1997), 175–212, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 517, *Kluwer Acad. Publ., Dordrecht*, 1998. (Venkatramani Lakshmibai) **99m:20096** 20G05 (14F05, 20G10)
— (*with* Lakshmibai, Venkatramani; Magyar, Peter) Standard monomial theory and applications. (English summary) Notes by Rupert W. T. Yu. *Representation theories and algebraic geometry* (*Montreal, PQ*, 1997), 319–364, *NATO Adv. Sci. Inst. Ser. C Math. Phys. Sci.*, 514, *Kluwer Acad. Publ., Dordrecht*, 1998. (Michel Brion) **99j:20050** 20G05 (14M15, 14M17, 17B37)
— Contracting modules and standard monomial theory for symmetrizable Kac-Moody algebras. (English summary) *J. Amer. Math. Soc.* **11** (1998), *no.* 3, 551–567. (Venkatramani Lakshmibai) **99d:17027** 17B67 (14M15)
— Cones, crystals, and patterns. (English summary) *Transform. Groups* **3** (1998), *no.* 2, 145–179. (Andrew P. Mathas) **99e:17009** 17B10 (05E15, 20G05)
Little, Charles H. C. (*with* van-Brunt, Bruce) A condition for a normal semicycle to separate an orientable 3-graph. (English summary) *Combinatorics, complexity, & logic* (*Auckland*, 1996), 330–337, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1997. (Summary) **99g:05116** 05C38 (05C40)
— (*with* Peng, Yee-Hock; Teo, Kee-Leong; Wang, Hong[3]) Chromatic equivalence classes of certain generalized polygon trees. (English summary) Chromatic polynomials and related topics (Shanghai, 1994). *Discrete Math.* **172** (1997), *no.* 1-3, 103–114. (Summary) **99f:05040** 05C15
Little, G. (*with* Reade, J. B.) Estimates for the norm of the nth indefinite integral. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 539–542. (Introduction) **99g:47068** 47B38 (45P05, 47A30, 47G10)
Little, J. A. *see* **Little, John Andrew**
Little, James (*with* Darby-Dowman, Ken) Properties of some combinatorial optimization problems and their effect on the performance of integer programming and constraint logic programming. (English summary) Connections between integer programming and constraint logic programming. *INFORMS J. Comput.* **10** (1998), *no.* 3, 276–286. (*see* **99e:90002**) 90C27 (90C10)
Little, John *see* **Little, John B.**

Little, John Andrew (*with* Mardia, Kanti V.; Kent, John T.; Goodall, Colin) Corrections: "Kriging and splines with derivative information" [Biometrika **83** (1996), no. 1, 207–221; MR 98d:65017]. *Biometrika* **85** (1998), *no.* 2, 505. (From the text) **99f:65022** 65D10 (65D07)

Little, John B. (*with* Saints, Keith; Heegard, Chris) On the structure of Hermitian codes. (English summary) *J. Pure Appl. Algebra* **121** (1997), *no.* 3, 293–314. (Shojiro Sakata) **99a:94054** 94B27 (94B15)

— (*with* Cox, David A.; O'Shea, Donal) ★ Using algebraic geometry. (English summary) Graduate Texts in Mathematics, 185. *Springer-Verlag, New York*, 1998. *xii*+499 *pp. ISBN* 0-387-98487-9 (P. Schenzel) **99h:13033** 13Pxx (13–01, 14–01, 14Qxx)

Little, Robert D. Regular cyclic actions on complex projective space with codimension-two fixed points. (English summary) *J. Austral. Math. Soc. Ser. A* **65** (1998), *no.* 1, 51–67. (Mikiya Masuda) **99j:57038** 57S17 (57R20, 57S25)

Littleboy, Darren M. (*with* Nichols, N. K.) Modal coupling in linear control systems using robust eigenstructure assignment. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 359–379. (Srinivasu Maka) **99k:93053** 93B55 (93B51)

Littlejohn, Lance L. (*with* Kwon, Kil Hyun; Yoo, B. H.) New characterizations of classical orthogonal polynomials. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 199–213. (M. E. Muldoon) **99g:33026** 33C45 (34A99, 42C05)

— (*with* Everitt, W. N.; Kwon, Kil Hyun; Wellman, R.) On the spectral analysis of the Laguerre polynomials $\{L_n^{-k}(x)\}$ for positive integers k. (English summary) *Spectral theory and computational methods of Sturm-Liouville problems (Knoxville, TN*, 1996), 251–283, *Lecture Notes in Pure and Appl. Math.*, 191, *Dekker, New York*, 1997. (Hans W. Volkmer) **99b:33016** 33C45 (34B30, 34L10, 34L40, 47E05)

— (*with* Kwon, Kil Hyun; Lee, Dong Won[1]) Differential equations having orthogonal polynomial solutions. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 1, 1–16. (Hussain S. Nur) **99d:33009** 33C45 (34A30, 34B99)

— (*with* Kwon, Kil Hyun) Classification of classical orthogonal polynomials. (English summary) *J. Korean Math. Soc.* **34** (1997), *no.* 4, 973–1008. (Hans W. Volkmer) **99k:33028** 33C45 (34B30, 42C15)

— (*with* Benammar, M.; Bennewitz, C. W.; Beynon, M. J.; Brown, B. Malcolm; Dias, N. G. J.; Evans, William Desmond; Everitt, W. N.; Kirby, V. G.) A catalogue of HELP and HELP-type integral and series inequalities. (English summary) *Recent progress in inequalities (Niš*, 1996), 127–160, *Math. Appl.*, **430**, *Kluwer Acad. Publ., Dordrecht*, 1998. (B. G. Pachpatte) **99g:26037** 26D10 (26D15, 34B05, 34B20, 34L99)

Littman, Michael L. (*with* Kaelbling, Leslie Pack; Cassandra, Anthony R.) Planning and acting in partially observable stochastic domains. (English summary) *Artificial Intelligence* **101** (1998), *no.* 1-2, 99–134. 68T20

— (*with* Goldsmith, Judy; Mundhenk, Martin) The computational complexity of probabilistic planning. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 1–36 (*electronic*). (Summary) **99h:68156** 68T20 (68Q15, 68Q25)

Littman, Walter (*with* Liu, Bo) Remarks on hybrid systems. *Optimal control (Gainesville, FL*, 1997), 346–353, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:49002**) 93C20 (93D15)

— (*with* Liu, Bo) On the spectral properties and stabilization of acoustic flow. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 17–34 (*electronic*). (A. V. Perzhan) **99k:35109** 35L20 (35P05, 35Q35, 47D06, 47N20, 76Q05)

Litvak, A. E. (*with* Milman, Vitali D.; Pajor, A.) The covering numbers and "low M^*-estimate" for quasi-convex bodies. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 5, 1499–1507. (Wolfgang Lusky) **99h:52022** 52C17 (46B07, 52A21, 52A30)

Litvin, A. A. (*with* Kovrizhkin, O. G.) Synthesis of relay controls in analytic form in the solution of the terminal optimization problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 97–103, 155–156. 49N35 (93B50)

— (*with* Kovrizhkin, O. G.) A numerical-analytic approach to the solution of the terminal optimization problem. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 3, 70–77, 156. 49M05 (49K15)

Litvin, Daniel B. On Opechowski-Guccione magnetic space-group symbols. (English summary) *Acta Cryst. Sect. A* **54** (1998), *no.* 3, 257–261. (Summary) **99c:82069** 82D25 (20H15)

Litvin, O. N. (*with* Nosov, K. V.) Numerical realization of the optimal finite element method (rectangular elements) for a biharmonic equation with boundary conditions of the second kind. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 12, 29–35. 65N30

Litvinchuk, G. S. (*with* Elliott, David; Lifanov, I. K.) The solution in a class of singular functions of Cauchy type bisingular integral equations. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 3, 237–251. (Summary) **99a:45006** 45E05 (76G25)

Litvinov, E. V. (*with* Rebenko, A. L.; Shchepanyuk, G. V.) Wick calculus on spaces of generalized functions of compound Poisson white noise. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 219–248. (Summary) **99j:60054** 60G20 (60H99)

Litvinov, G. L. (*with* Maslov, V. P.) The correspondence principle for idempotent calculus and some computer applications. *Idempotency (Bristol*, 1994), 420–443, *Publ. Newton Inst.*, 11, *Cambridge Univ. Press, Cambridge*, 1998. (Jonath· ı Golan) **99c:16050** 16Y60 (81P99)

— *see also* **Lie groups and Lie algebras**, **99a:00013** *and* **Harmonic analysis and hypergroups**, **99a:43001**

Litvinov, V. G. An evolutionary problem of a flow of a nonlinear viscous fluid in a deformable viscoelastic tube. (English summary) *Differential and integral operators (Regensburg*, 1995), 119–129, *Oper. Theory Adv. Appl.*, 102, *Birkhäuser, Basel*, 1998. (Oleg Limarchenko) **99f:73063** 73K70 (73F15, 76D99)

Litvintseva, S. P. Phase approach in the parameter evolution method. (Russian. English and Russian summaries) *Mat. Model.* **7** (1995), *no.* 11, 66–76. (Summary) **99d:65231** 65L15 (34L40)

Liu, Aikui (*with* Duan, Qi; Xu, Gongxue; Wang, Xuefu; Cheng, Fuhua) Constrained interpolation using rational cubic spline with linear denominators. (English summary) *Korean J. Comput. Appl. Math.* **6** (1999), *no.* 1, 203–215. (Summary) **99j:65014** 65D07 (41A29)

Liu, Aiyi Detecting influential covariates in a growth curve model. (English summary) *Comput. Statist. Data Anal.* **28** (1998), *no.* 1, 105–113. 62H12 (62J05)

Liu, Bao (*with* Gao, Ren Xiang; Zhang, Shi Ying) A method of simulated moment estimation for the Box-Cox transformation model. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 2, 40–48. (Summary) **99m:62099** 62J05

— (*with* Feng, Wei Dong; He, Guo Guang) A review of traffic flow theory. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 71–82. 90B20 (90–02)

Liu, Baoding Stackelberg-Nash equilibrium for multilevel programming with multiple followers using genetic algorithms. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 7, 79–89. 90C29 (90C90)

— (*with* Iwamura, Kakuzo) Chance constrained programming with fuzzy parameters. (English summary) *Fuzzy Sets and Systems* **94** (1998), *no.* 2, 227–237. (Summary) **99a:90238** 90C70

— Minimax chance constrained programming models for fuzzy decision systems. (English summary) *Inform. Sci.* **112** (1998), *no.* 1-4, 25–38. 90C70 (90A05)

— Fuzzy criterion models for inventory systems with partial backorders. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 117–126. (*see* **99m:90004**) 90B05 (90C70)

Liu, Bi Qiu (*with* Liang, Xin Jian; Lin, Ju Fang) A note on some integral inequalities. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 113–116. 26D15

Liu, Bin *see* **Liu, Bin[5]**

Liu, Bin[1] (*with* Zanolin, Fabio) Boundedness of solutions of nonlinear differential equations. (English summary) *J. Differential Equations* **144** (1998), *no.* 1, 66–98. (Mikhail B. Sevryuk) **99b:34066** 34C11 (34C25, 34C27, 70H05)

— Boundedness of solutions for semilinear Duffing equations. (English summary) *J. Differential Equations* **145** (1998), *no.* 1, 119–144. (Jochen Denzler) **99e:34041** 34C11 (34C15, 58F27)

— Multiplicity results for periodic solutions of a second order quasilinear ODE with asymmetric nonlinearities. *Nonlinear Anal.* **33** (1998), *no.* 2, 139–160. (Jun Yu Wang) **99d:34073** 34C25 (34B15)

— (*with* You, Jiangong) Quasiperiodic solutions of Duffing's equations. *Nonlinear Anal.* **33** (1998), *no.* 6, 645–655. (Sergei A. Dovbysh) **99g:34072** 34C11 (34C27, 58F27, 70K40)

— The stability of the equilibrium of reversible systems. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 2, 515–531. (Urs Kirchgraber) **99d:34096** 34D20 (58F10)

Liu, Bin[2] (*with* Yan, Ju Rang) Oscillatory and asymptotic behaviour of fourth order nonlinear difference equations. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 2, 320. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 1, 105–115. (Summary) **99b:39023** 39A12

— (*with* Yu, Yuan Hong; Liu, Zheng-rong) Oscillation of solutions of nonlinear partial differential equations of neutral type. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 563–570. (Summary) **99b:35207** 35R10 (35B05)

— (*with* Zhao, Aimin; Yan, Ju Rang) Necessary and sufficient conditions for oscillations of delay partial difference equations. (English summary) *Collect. Math.* **48** (1997), *no.* 3, 339–346. (Sui Sun Cheng) **99d:39009** 39A10

— Oscillation of solutions of neutral nonlinear hyperbolic equations with doubled variable coefficients. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 390–398. (Summary) **99c:35254** 35R10 (35B05, 35L70)

— (*with* Cheng, Sui Sun) Note on a nonlinear difference equation with periodic coefficients and constant delays. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 39–43. (Summary) **99h:39007** 39A10

Liu, Bin[5] (*with* Cao, Jinhua) Production control of an unreliable manufacturing system under the assumption of no backlog. (English summary) *Math. Methods Oper. Res.* **46** (1997), *no.* 1, 103–117. (D. Kalin) **99a:90103** 90B30 (90B05)

— (*with* Cao, Jinhua) Inventory analysis of an unreliable production-inventory system. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 4, 367–374. (Peter Köchel) **99h:90037** 90B05 (90B22)

— (*with* Cao, Jinhua) Analysis of a production-inventory system with machine breakdowns and shutdowns. (English summary) *Comput. Oper. Res.* **26** (1999), *no.* 1, 73–91. 90B30 (90B25)

Liu, Bin[6] Irreducible graded point representations of Cartan type Lie algebras. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 48–50. (Sen Qiu) **99d:17010** 17B10

Liu, Bing *see* **Liu, Bin[2]**

Liu, Bing[1] (*with* Feng, Chun Bo; Xue, Yu Sheng) Design of discrete predictive control systems with dynamic uncertainty. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 455–459. 93C41 (93D09)

Liu, Bo (*with* Littman, Walter) Remarks on hybrid systems. *Optimal control (Gainesville, FL*, 1997), 346–353, *Appl. Optim.*, 15, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99d:49002**) 93C20 (93D15)

— (*with* Littman, Walter) On the spectral properties and stabilization of acoustic flow. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 1, 17–34 (*electronic*). (A. V. Perzhan) **99k:35109** 35L20 (35P05, 35Q35, 47D06, 47N20, 76Q05)

Liu, Bo Lian (*with* Gao, Yu Bin; Shao, Yan Ling) Extremal matrices of generalized upper exponents for symmetric primitive matrices. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 559–566. (Gang Song Leng) **99g:15024** 15A48 (05C50)

— (*with* Zhou, Bo[2]) Convergent indices of Boolean matrices with s-cycle positive elements on exactly t rows. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 517–524. (Chong Guang Cao) **99f:15023** 15A33 (05C50)

— (*with* Zhou, Bo[2]) The kth upper multiexponents of primitive matrices. (English summary) *Graphs Combin.* **14** (1998), *no.* 2, 155–162. (N. J. Pullman) **99d:05063** 05C50

— On sharp bounds of the spectral radius of graphs. (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 55–59. (Yuan Hong) **99m:05109** 05C50

— (*with* Zhou, Bo[2]) On almost regular matrices. (English summary) *Util. Math.* **54** (1998), 151–155. (Summary) **99f:15040** 15A60

— Generalized exponents of primitive, nearly reducible matrices. (English summary) *Ars Combin.* **51** (1999), 229–239. (Summary) **99j:15029** 15A48 (05C20, 05C50)

— (*with* Zhou, Bo[2]) Matrices with maximum exponents in the class of doubly stochastic primitive matrices. (English summary) *Discrete Appl. Math.* **91** (1999), *no.* 1-3, 53–66. (Thomas H. Foregger) **99k:15038** 15A51

Liu, Bor-Miin (*with* Chang, Ye-In; Liao, Cheng-Huang) An efficient strategy for beneficial semijoins. (English summary) *Informatica (Ljubl.)* **22** (1998), *no.* 2, 141–151. 68P15

Liu, Chang Mao On several inequalities for the trace of semi-positive definite Hermite matrices. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 16–18. 15A45

— A generalized Cauchy mean value theorem. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 4, 72–74. 26A06

Liu, Changhe (*with* Huan, Zhongdan; Tong, Ming Sheng) Uniqueness of the viscosity solutions for the initial value problem of one type of second order partial differential equation. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 1, 6–11. (Naoki Yamada) **99f:35082** 35K55 (35B05, 35D05)

Liu, Chao Jie (*with* Xu, Si Lin) Boundedness of solutions of Liénard equations. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 3, 12–16. (Xue Min Li) **99m:34076** 34C11 (34D40)

— (*with* Xu, Si Lin) Another method for proving the uniqueness of the limit cycle of a quadratic system. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 85–87, 73. (Mao An Han) **99f:34039** 34C05

Liu, Chao Qun (*with* Liu, Zhi Xing) A way of using the multigrid methods. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 135–138. 65N55 (65M55)

Liu, Chaoyang (*with* Zhou, Xiao Ping[3]) Nonexistence of basis functions for generating interpolatory curves with locality and convexity. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 2, 1–4. 41A30 (41A10)

Liu, Chein-Shan (*with* Hong, Hong-Ki) Internal symmetry in bilinear elastoplasticity. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 279–288. (Summary) **99j:73051** 73E05 (73B10)

Liu, Chia-Hsin Group algebras with units satisfying a group identity. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 327–336. (Adalbert Bovdi) **99f:16028** 16S34 (16R10, 16U60)

— (*with* Passman, Donald S.) Group algebras with units satisfying a group identity. II. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 337–341. (Adalbert Bovdi) **99f:16029** 16S34 (16R10, 16U60)

Liu, Chibing (*with* Lee, Jin-Fa) Jacobi-Davidson algorithm and its application to modeling RF/microwave detection circuits. (English summary) *Comput. Methods Appl. Mech. Engrg.* **169** (1999), *no.* 3-4, 359–375. 78–08

Liu, Chong Hua (*with* Yao, Huan Min; Li, Jing Quan) A theoretical proof for a construction of essentially nonoscillatory schemes with higher-order accuracy. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 3, 7–14. 65M12

Liu, Chong Lin (*with* Zheng, Hong Xing) Stability of standing waves in the generalized Davey-Stewartson system. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 3, 197–201. 35Q55

Liu, Chuan (*with* Tanaka, Yoshio) Spaces having σ-compact-finite k-networks, and related matters. *Topology Proc.* **21** (1996), 173–200. (Sheldon W. Davis) **99c:54036** 54D50 (54D55, 54E40)

— (*with* Lin, Shou) k-spaces property of product spaces. A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 537–544. 54D50 (54B10, 54C10)

— (*with* Dai, Mu Min) CW-complexes and aleph-spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 533–536. 54E18 (54A35, 54D50)

— (*with* Dai, Mu Min) Pseudcompact, locally compact, first countable, ccc, 0-dimensional spaces may be or may not be *Lindelöf. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 81–83. (Summary) **99e:54018** 54D20

— (*with* Tanaka, Yoshio) Star-countable k-networks, and quotient images of locally separable metric spaces. (English summary) Special volume in memory of Kiiti Morita. *Topology Appl.* **82** (1998), *no.* 1-3, 317–325.. (Summary) **99c:54012** 54B15 (54C10, 54E35, 54E40)

Liu, Chuan Han Fourth-order accurate difference method for the singular perturbation problem. *Appl. Math. Mech. (English Ed.)* **18** (1997), *no.* 10, 987–995; *translated from Appl. Math. Mech.* **18** (1997), *no.* 10, 921–929 (*Chinese. English and Chinese summaries*). (Summary) **99e:65112** 65L12

Liu, Chuan-Ming (*with* Yu, Ming-Shing) An optimal parallel algorithm for node ranking of cographs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 187–201. (Hans L. Bodlaender) **99g:05165** 05C85 (05C78, 68Q22)

Liu, Chuanhai ML estimation of the multivariate t distribution and the EM algorithm. (English summary) *J. Multivariate Anal.* **63** (1997), *no.* 2, 296–312. (Heleno Bolfarine) **99b:62094** 62H12 (62F10)

— (*with* Rubin, Donald B.) Maximum likelihood estimation of factor analysis using the ECME algorithm with complete and incomplete data. (English summary) *Statist. Sinica* **8** (1998), *no.* 3, 729–747. 62P15 (62H25)

Liu, Chun (*with* Calderer, M. Carme; Voss, Karl) Radial configurations of smectic A materials and focal conics. (English summary) *Phys. D* **124** (1998), *no.* 1-3, 11–22. (Paolo Biscari) **99j:76004** 76A15 (76M30, 82D30)

Liu, Chun-Chang (*with* Wang, Shun-Yuan; Hong, Chin-Ming; Yang, Wei-Tzen) Design of a static reactive power compensator using fuzzy sliding mode control. (English summary) *Internat. J. Control* **63** (1996), *no.* 2, 393–413. 93C42 (93B50)

Liu, Chun Feng A sufficient condition for the existence of a D-circuit in a graph. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 42–46. (Summary) **99e:05085** 05C45

Liu, Chun Gen (*with* Long, Yi Ming) An optimal growth estimate for Maslov-type iterative indices. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 21, 2275–2278. 58E05 (58F05)

Liu, Chun Ping (*with* Cai, Fan) The homogeneous balance method and exact solutions of the Burgers-KdV equation. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 4, 11–13. 35Q53

— (*with* Zhou, Ru Guang; Zhou, Mingru) A simple method to construct the traveling wave solutions to nonlinear evolution equations. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 113–116. 35K57 (35B40)

— (*with* Zhang, Dan) Explicit solutions of the mixed Burgers-KdV equation. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 1–4. 35C05 (35Q53)

Liu, Chun Rong (*with* Chen, Hao[4]) A formation rule for magic cubes. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 3, 273–277. 05B15

Liu, Cong Wen (*with* Liu, Tai Shun; Zhang, Wen Jun) An interpolation characterization of domains of holomorphy. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1954–1956. (Siqi Fu) **99h:32011** 32D05 (32E30)

— (*with* Zhang, Wen Jun; Lu, Tai Shun) An interpolation characterization of domains of holomorphy. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1813–1814. 32D05

Liu, Daphne D.-F. (*with* Chang, Gerard J.; Zhu, Xuding) Distance graphs and T-coloring. (English summary) *J. Combin. Theory Ser. B* **75** (1999), *no.* 2, 259–269. (R. C. Entringer) **99m:05058** 05C15 (05C12)

Liu, De A sufficient condition on the connectedness of the global B-attractor for a class of semigroups. (English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 2, 152–156. (Woodford W. Zachary) **99c:47117** 47H20 (54H20, 58F12)

— The critical forms of the attractors for semigroups and the existence of critical attractors. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1976, 2157–2171. (Alexandre N. Carvalho) **99k:47177** 47H20 (47H09)

Liu, De Gui (*with* Chen, Li Rong) Parallel Rosenbrock methods for solving stiff ordinary differential equations. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 251–260. 65L06

Liu, De Ming[1] (*with* Shen, Bo Qian) A mathematical model of a class of autocatalytic chemical reaction. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 278–286. (Summary) **99d:34047** 34C05

— Holonomic deformation of linear differential equations of the A_3 type. (English summary) *J. Math. Sci. Univ. Tokyo* **5** (1998), *no.* 3, 435–458. (Andrei A. Kapaev) **99k:34006** 34A20 (34E20, 58F07)

— Polynomial Hamiltonian structure for the A_4-system. *Kyushu J. Math.* **52** (1998), *no.* 2, 455–473. (V. V. Chueshev) **99g:32037** 32G34 (34A20)

Liu, Deng Yun The Berry phase of the quantum state of a harmonic oscillator with time-dependent frequency and boundary conditions. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 8, 1233–1240. (Summary) **99j:81035** 81Q05 (81Q99)

Liu, Derong Lyapunov stability of two-dimensional digital filters with overflow nonlinearities. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 5, 574–577. (Summary) **99a:94005** 94A12

Liu, Ding (*with* Luo, Xu Guang; Wan, Bai Wu) Adaptive fuzzy identification and its application to large-scale systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 352–357. 93B30 (93C42)

Liu, Ding You (*with* Hu, Xin Qi) Solutions to $-u'' \in F(t, u(t), u(t))$ in Banach spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 301–304. (Wan Zhuang) **99i:34084** 34G20 (34A60)

Liu, Dingyuan (*with* Wang, Jia Ye; Meng, Xiangxu) Modification in parameter design. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *suppl.*, 111–115. 65Y25

Liu, Duan Sen An extension of the Binet-Cauchy formula. (Chinese. Chinese summary) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 20–21, 43. 15A15

— A generalization of the concept of orthogonal matrices. (Chinese. Chinese summary) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 67–69. 15A57

Liu, F. *see* **Liu, Fa Wang**

Liu, Fa Gui Global solutions for a class of systems of quasilinear parabolic equations. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 369–372. 35K55 (35B60)

— (*with* Luo, Dang) The Cauchy problem for P systems with nonlinear dissipative terms. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 51–56, 63. 35L60

— (*with* Li, Cai Zhong) The effect of relaxation in a phase-change model. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 13–17. (Summary) **99h:35129** 35L65

— Convergence of approximate solutions for quasilinear hyperbolic conservation laws with relaxation. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 4, 289–300. (Christophe Cheverry) **99j:35133** 35L65 (35A35)

— Global smooth resolvability for one-dimensional gas dynamics systems. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 25–34. (Hermano Frid) **99m:35153** 35L65 (35B40, 35Q30, 76N15)

Liu, Fa Wang (*with* McElwain, D. L. S.; Donskoi, E.) The use of a modified Petrov-Galerkin method for gas-solid reaction modelling. (English summary) *IMA J. Appl. Math.* **61** (1998), *no.* 1, 33–46. (Summary) **99g:80001** 80–08 (80A32)

Liu, Fang[3] (*with* Huang, Wen Ping) On the adjoint semigroups of p-separable BCI-algebras. (English summary) *Semigroup Forum* **58** (1999), *no.* 3, 317–322. (Summary) **99k:06011** 06F35 (06F05, 20M14)

Liu, Faye F. (*with* Moore, Douglas H.) An implementation of Kripke-Kleene semantics. (English summary) *Inform. Sci.* **108** (1998), *no.* 1-4, 31–50. (Summary) **99c:68042** 68N17 (68Q55)

Liu, Feng *see* **Liu, Feng[2]**

Liu, Feng[1] (*with* Liu, Gui Zhong; Zhang, Zhuo Sheng) Global convergence and convergence rate for genetic algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 79–85. 90C27 (90C15)

— (*with* Zhang, Zhuo Sheng) Convergence of an ergodic iteration for solutions to monotone mapping equations. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 2, 91–93, 97. (Summary) **99d:47049** 47H09 (47H17)

Liu, Feng[2] (*with* Ji, Shanhong; Liao, Guojun) An adaptive grid method and its application to steady Euler flow calculations. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 3, 811–825 (*electronic*). (Barak Galanti) **99j:65221** 65N50 (76M25)

Liu, Fu Bao An adjacency matrix criterion for two graphs to have the same spectrum. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 50–52. 05C50

Liu, Fu Chun Institutions of regular order-sorted equational logics. (Chinese. English and Chinese summaries) *J. Jiangxi Norm. Univ. Nat. Sci. Ed.* **21** (1997), *no.* 4, 318–322. 03C95

Liu, Fu Sheng (*with* Yang, Xin Zhang; Zhang, Xiao Ling) A special type of matrix—the variate dynamic linear model—and its forecasting. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 75–79. (Summary) **99i:62163** 62J99

— (*with* Cui, Xiao Yu) Theoretical proof of the distribution assumption for the unknown parameters in Bayes DLM recurrence equations. (Chinese. English and Chinese summaries) *Shandong Kuangye Xueyuan Xuebao* **17** (1998), *no.* 1, 80–82. 62F15

Liu, G. P. *see* **Liu, Guo Ping**

Liu, Gang Associativity of quantum multiplication. (English summary) *Comm. Math. Phys.* **191** (1998), *no.* 2, 265–282. (Bernd Siebert) **99a:58019** 58D10 (53C15)

— (*with* Tian, Gang) Floer homology and Arnold conjecture. *J. Differential Geom.* **49** (1998), *no.* 1, 1–74. (Jean-Claude Sikorav) **99m:58047** 58E05 (55N35, 57R15, 57R70, 58F05)

Liu, Gang[1] Parallel block implicit hybrid one-step methods with higher-order derivatives. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 10–17. (Summary) **99c:65127** 65L05

Liu, Gaolian (*with* He, Ji Huan; Feng, Weibing) A generalized variational principle for coupled thermoelasticity with finite displacement. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 4, 215–218. 73B30 (73C50, 73V25)

Liu, Guang Hui (*with* Han, Ji Ye) On the global convergence of conjugate gradient methods with inexact linesearch. (English summary) *Numer. Math. J. Chinese Univ. (English Ser.)* **4** (1995), *no.* 2, 147–153. (Summary) **99c:65121** 65K10 (49M07, 90C30)

— (*with* Byrd, Richard H.; Nocedal, Jorge) On the local behaviour of an interior point method for nonlinear programming. (English summary) *Numerical analysis* 1997 (*Dundee*), 37–56, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Tamás Terlaky) **99g:90116** 90C30 (65K05)

— (*with* Han, Ji Ye; Qi, Hou-Duo; Xu, Zhong Ling[2]) Convergence analysis on a class of conjugate gradient methods without sufficient decrease condition. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 1, 11–16. (Kurt Marti) **99d:90115** 90C30 (65K05)

— (*with* Han, Ji Ye) Global convergence of a class of Broyden algorithms associated with a new line search technique. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 27–33. (Summary) **99f:90129** 90C30 (65K05)

— (*with* Han, Li Xing; Jing, Li Li; Han, Dong) Convergence of the L-BFGS method with a generalized line search for nonlinear programming. (Chinese. English and Chinese summaries) *J. Tianjin Univ.* **31** (1998), *no.* 2, 249–253. 90C30 (65K05)

— (*with* Han, Li Xing) Global analysis of the Dennis-Wolkowicz least-change secant algorithm. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 3, 813–832 (*electronic*). (John J. Dinkel) **99g:90120** 90C30

— (*with* Han, Ji Ye; Yin, Hong Xia) Convergence properties of conjugate gradient methods with strong Wolfe linesearch. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 112–116. (Summary) **99a:90188** 90C30 (65K05)

Liu, Guang Xu (*with* Shi, Yu Ming[1]) Boundary value problems for *n*th order differential equations. III. Asymptotic expansions for singular perturbations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **11** (1996), *no.* 2, 167–172. (Summary) **99c:34121** 34E15 (34B15)

Liu, Guang Yun (*with* Meng, Qing Sheng; Zhang, Xiu Yan) The concept of metacongruence in semigroups with identity and a classification theorem for them. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 1–3. 20M99

Liu, Guangqi (*with* Su, Wei Yi) The boundedness of certain operators on Hölder and Sobolev spaces. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 1, 18–32. (James E. Daly) **99c:43012** 43A70 (47G30)

Liu, Gui Zhen (*with* Xie, Li Tong) Four-colorings of maximal outerplanar graphs under boundary conditions. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 135–138. (Summary) **99a:05052** 05C15

— (*with* Yu, Qinglin) On *n*-edge-deletable and *n*-critical graphs. (English summary) *Bull. Inst. Combin. Appl.* **24** (1998), 65–72. (Summary) **99c:05155** 05C70

— (*with* Xie, Li Tong; Xu, Bao Gang) On endo-homology of complexes of graphs. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 285–291. (Summary) **99c:05189** 05C99 (05E25)

— (*with* Li, Guo Jun[1]) (g, f)-factorizations orthogonal to a subgraph in graphs. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 3, 267–272. (Katherine Heinrich) **99h:05093** 05C70

— (*with* Xie, Li Tong) Some results related to the four-color theorem. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 1–6. 05C15

Liu, Gui Zhong (*with* Liu, Feng[1]; Zhang, Zhuo Sheng) Global convergence and convergence rate for genetic algorithms. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 4, 79–85. 90C27 (90C15)

Liu, Guo Dong n-variable Euler numbers and polynomials, and n-variable Bernoulli numbers and polynomials. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 352–358. (Jau-Shyong Shiue) **99k:11031** 11B68

Liu, Guo Hua (*with* Hao, Zhong Xiao; Chen, Zi Jun) A quick replacement algorithm for finding all candidate keys of a relation scheme. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 10, 890–895. 68P15

Liu, Guo Jing (*with* Li, Xun[2]) Some results on the commutativity of matrix products in Minkowski inner product spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 33–35. 15A27 (15A63)

— (*with* Li, Xun[2]) Normal matrices in Minkowski inner product spaces. II. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 22–23, 27. 15A63

— (*with* Li, Xun[2]) Matrix decompositions in Minkowski inner product spaces. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 15–17. 15A63

Liu, Guo Ping (*with* Kadirkamanathan, V.; Billings, S. A.) Stable sequential identification of continuous nonlinear dynamical systems by growing radial basis function networks. (English summary) *Internat. J. Control* **65** (1996), *no.* 1, 53–69. 93B30 (41A30)

— (*with* Kadirkamanathan, V.; Billings, S. A.) Predictive control for non-linear systems using neural networks. (English summary) *Internat. J. Control* **71** (1998), *no.* 6, 1119–1132. 90B30 (93A30)

— (*with* Patton, Ron J.) Robust eigenstructure assignment combining time- and frequency-domain performance specifications. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 1, 61–78. (Summary) **99j:93047** 93B55 (93D21)

Liu, Guo Qian (*with* Liang, Xi Quan) The budget set of a no-arbitrage equilibrium in a two-stage exchange economy and the Stiefel manifold. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 2, 1–7. (Xie Ping Ding) **99a:90058** 90A14

Liu, Guo Qing (*with* Guo, Jinji) An adaptive Kalman filtering algorithm. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 4, 337–345. 93E11 (93B40)

— (*with* Fu, Dong Sheng) A uniformly convergent exponential fitted difference scheme for a nonlinear singular perturbation problem. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 173–184. (Ching-An Wang) **99k:65063** 65L10

Liu, Guo Shan (*with* Han, Ji Ye; Wang, Shou Yang) A trust region algorithm for bilevel programming problems. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 820–824. (Jane Juan-Juan Ye) **99i:90087** 90C30 (65K05, 90C31, 90D65)

— (*with* Han, Ji Ye; Wang, Shou Yang) A trust region algorithm for bilevel optimization problems. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 4, 383–387. 90C30 (65K05)

— A trust region algorithm for unconstrained nonsmooth optimization and its convergence. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 113–120. 90C30 (49J52)

Liu, Guo Xin (*with* Sheng, De Cheng) Orthodox congruences on regular Γ-semigroups. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 80–84. 20M17

Liu, Guo Zhi A dynamic optimization method for dynamic input-output problems. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 3, 239–242. 49L20 (93C55)

Liu, Guo Zhong (*with* Feng, Zhao Sheng; Ji, Wen Duo) Existence and number of periodic solutions of equations of (R_n^m) type. (Chinese. Chinese summary) *Math. Practice Theory* **28** (1998), *no.* 3, 226–228. 34C25

Liu, Guoyang (*with* Robertson, Lewis C.) Free subgroups of $SO_3(\mathbf{Q})$. *Comm. Algebra* **27** (1999), *no.* 4, 1555–1570. (Alla S. Detinko) **99m:20048** 20E05 (20G20)

Liu, H. *see* **Liu, Hong Ya**

Liu, H. L. *see* **Liu, Huili L.**

Liu, H. T. *see* **Liu, Honhung Terence**

Liu, Hai Sheng (*with* Li, Fang[2]) Some results on Hadamard matrices. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **28** (1998), *no.* 5, 143–147. 05B20

Liu, Hai Xia (*with* Yao, Hai Lou) Algebras whose basis semigroups are zero-direct unions of 0-$\mathcal{J}^*$-strict simple semigroups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 6, 921–932. (Pu Zhang) **99c:16014** 16G60 (20M25)

— (*with* Yao, Hai Lou) Basic connected representation-finite algebras having normed multiplicative bases with 1-relations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 55–66. (Summary) **99b:16026** 16G60

Liu, Hai Yan (*with* Chen, Huo Wang; Su, Kai-Le) A second-order quantificational logic of context. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 4, 341–347. (Summary) **99g:68194** 68T27 (03B15, 03B70)

Liu, Hailiang (*with* Pan, Jun) On stability of travelling waves of Burgers-Fisher equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 1, 37–47. (Vitaly A. Volpert) **99f:35178** 35Q53 (35B35)

— Nonlinear stability of shock profiles for non-convex model equations with degenerate shock. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 209–230. (Roberto Natalini) **99k:35118** 35L67

— (*with* Wang, Jinghua) Asymptotic stability of stationary discrete shocks of Lax-Friedrichs scheme for non-convex conservation laws. (English summary) *Japan J. Indust. Appl. Math.* **15** (1998), *no.* 1, 147–162. (Bruno Scheurer) **99c:65157** 65M06 (35L65, 39A11)

— (*with* Wang, Jinghua; Yang, Tong) Stability of a relaxation model with a nonconvex flux. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 18–29 (*electronic*). (Ke Chen) **99k:39055** 39A11 (35L67)

Liu, He Guo Abelian subgroups of hyperabelian groups. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 777–780. (Zhi Rang Zhang) **99f:20058** 20F16 (20E15, 20F19)

— Infinite solvable SD_3-groups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 2, 155–158. (Summary) **99k:20064** 20F05

— Fitting subgroups of polycyclic groups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 299–302. (Xiuyun Guo) **99m:20072** 20F16 (20F14)

— Solvable groups whose finitely generated subgroups are 3-generated. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 1, 21–26. (Pin Chao Wang) **99c:20045** 20F16

— Solvable groups with breadth ≤ 2. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 399–404. (Ji Ping Zhang) **99f:20059** 20F16

Liu, He Ping (*with* Peng, Lizhong) Admissible wavelets associated with the Heisenberg group. (English summary) *Pacific J. Math.* **180** (1997), *no.* 1, 101–123. (G. C. Bohnké) **99d:42065** 42C15 (22E25, 22E30, 43A30)

— Adaptive pole placement controller with an internal model for directly estimating the disturbance model. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 4, 502–507. 93B55 (93C41)

— (*with* He, Jian Xun[3]) Admissible wavelets associated with the classical domain of type one. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 3, 89–105. (Fabio Bagarello) **99k:42057** 42C15

— Wavelet transforms and symmetric tube domains. (English summary) *J. Lie Theory* **8** (1998), *no.* 2, 351–366. (G. C. Bohnké) **99j:22004** 22D10 (17C50, 42C15)

Liu, Heng (*with* Chen, Shao Ting) A new method, the PCM (Poincaré cell mapping) method, for analyzing global dynamical characteristics of nonlinear systems, and its application to rotor bearing systems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 7–15, *I.* 70K99 (70–08)

— (*with* Yu, Lie; Xie, You Bai; Yao, Fu Sheng) The Poincaré-like cell mapping method for nonlinear periodic nonautonomous systems and its application. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 4, 97–101. 34D05 (34C35)

— (*with* Yu, Lie; Xie, You Bai; Yao, Fu Sheng) Relationships between periodic solutions of nonlinear dynamical systems. (Chinese. English and Chinese summaries) *Xi'an Jiaotong Daxue Xuebao* **32** (1998), *no.* 12, 85–89. 34C25 (70K99)

— (*with* Yu, Lie; Xie, You Bai; Yao, Fu Sheng) A Poincaré-type cell mapping method of analysis and its application. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **31** (1999), *no.* 1, 91–99. 34D45 (58F12)

Liu, Henry H. (*with* Huang, Norden E.; Shen, Zheng; Long, Steven R.; Wu, Manli C.; Shih, Hsing H.; Zheng, Quanan; Yen, Nai-Chyuan; Tung, Chi Chao) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)

Liu, Hong[2] (*with* Tseytlin, Arkady A.) $D = 4$ super Yang-Mills, $D = 5$ gauged supergravity and $D = 4$ conformal supergravity. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 88–108. (Summary) **99g:81212** 81T60 (81T13, 81T30, 83E50)

Liu, Hong Ju (*with* Du, Jiang; Wu, Jie[9]; Zeng, Yong) A path method for analyzing the reliability of reticulated systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 51–54. 90B25

Liu, Hong Mei (*with* Mao, Jing Zhong) Some basic constructions and properties of geodetic graphs. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 1, 13–16. (Summary) **99c:05164** 05C75

— (*with* Zhang, Ming Wang) Some properties and constructions of geodetic graphs with diameter five. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 113–116. (Jing Zhong Mao) **99m:05137** 05C75 (05C12, 05C35)

Liu, Hong Ya (*with* Wesson, Paul S.) Kaluza-Klein-Gordon field theory. (English summary) *Internat. J. Modern Phys. D* **7** (1998), *no.* 5, 737–747. (Summary) **99f:83059** 83E15

— (*with* Sajko, William N.; Wesson, Paul S.) Gauge conditions in modern Kaluza-Klein theory. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2193–2200. (Alfredo Macias) **99a:83062** 83E15

— (*with* Wesson, Paul S.) Particle masses in Kaluza-Klein-Gordon theory and the reality of extra dimensions. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 33, 2689–2694. (Summary) **99g:83074** 83E15

— (*with* Wesson, Paul S.) Shell-like solutions in Kaluza-Klein theory. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 266–270. (Summary) **99d:83088** 83E15 (83C15)

— (*with* Agnese, A. G.; Billyard, Andrew; Wesson, Paul S.) Possible wormhole solutions in $(4 + 1)$ gravity. (English summary) *Gen. Relativity Gravitation* **31** (1999), *no.* 4, 527–535. 83E15

Liu, Hong-Zhang (*with* Zhou, Zhong; Peng, Shou-Li) Star transformations and their genealogical varieties in symbolic dynamics of four letters. (English summary) *J. Phys. A* **31** (1998), *no.* 42, 8431–8450. (Summary) **99i:58051** 58F03

Liu, Hongxia (*with* Lin, Longwei) Some perturbation problems on 2×2 nonlinear hyperbolic conservation laws. (English summary) *J. Partial Differential Equations* **11** (1998), *no.* 3, 245–259. (L. Hsiao) **99j:35134** 35L65

Liu, Honhung Terence (*with* Chan, Chiu Yeung) Global existence of solutions for degenerate semilinear parabolic problems. *Nonlinear Anal.* **34** (1998), *no.* 4, 617–628. (Lubomira G. Softova) **99e:35120** 35K65 (35B40, 35K60)

Liu, Hua Fu A robust self-tuning regulator algorithm. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 49–52. 93B51 (93B35)

Liu, Hua Lin A pointwise construction of fuzzy groups and their properties. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 43–47. 20N25 (03E72)

Liu, Huan Bin (*with* Sun, Liu Quan) The asymptotic distribution of a smoothed Bahadur-Kiefer process under random right censorship. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **18** (1998), *no.* 1, 97–108. (Summary) **99c:60051** 60F05 (62E20, 62G20)

Liu, Huan Ping (*with* Zhang, Zhong Fu; Liu, Lin Zhong[2]) The number of edges of critical graphs. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 436–438. 05C15

— (*with* Yang, Yi Xian; Ding, Yi) Fast routing strategies for a special distribution of faults in the n-cube. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 31–36. (Summary) **99h:68021** 68M10

— (*with* Yang, Yi Xian) A note on: "The diameter of loop networks $G(N; s_1, s_2)$" [Math. Appl. **4** (1991), no. 1, 90–96; MR 91m:05092] by T. P. Hu. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 46–48. 05C20 (68M10)

Liu, Hui (*with* Suard, Bruno; Xu, Guanghan; Kailath, Thomas) Uplink channel capacity of space-division-multiple-access schemes. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 4, 1468–1476. 94A40

Liu, Hui Jie (*with* Ding, Xiao Hua; Zhang, Shao Tai) Permanence and global stability for a class of Lotka-Volterra diffusion systems with infinite delay. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 1, 5–6, 11. (Summary) **99h:34113** 34K20

Liu, Hui Zhao (*with* Wang, Yan; You, Lei) The upper and lower solution method for a singular third-order differential equation. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 1–4. (Summary) **99h:34034** 34B15

— (*with* Wang, Guang Lie) Some results on evolutionary equations involving functions of the eigenvalues of the Hessian. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 4, 433–448. (Igor Bock) **99c:35124** 35K60 (35J65)

— (*with* Jiang, Da Qing; Wang, Yan) Existence of positive solutions to $(n - 1, 1)$ conjugate boundary value problems. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 511–517. (Johnny Henderson) **99k:34044** 34B15 (47H10, 47N20)

— (*with* Zhong, Tan Yi; Jiang, Da Qing) A four-point boundary value problem for a nonlinear third-order differential equation. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 40–45. (Summary) **99i:34029** 34B10 (34B15)

— (*with* Jiang, Da Qing) Existence of positive solutions to $(k, n - k)$ conjugate boundary value problems. *Kyushu J. Math.* **53** (1999), *no.* 1, 115–125. (Johnny Henderson) **99k:34045** 34B15

Liu, Huili L. (*with* Wang, Chang Ping[1]) Centroaffine surfaces with parallel traceless cubic form. (English summary) *Bull. Belg. Math. Soc. Simon Stevin* **4** (1997), *no.* 4, 493–499. (Summary) **99g:53015** 53A15

— (*with* Simon, Udo; Wang, Chang Ping[1]) Codazzi tensors and the topology of surfaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 2, 189–202. (Bang-yen Chen) **99d:53007** 53A05 (53A15, 53C40)

— (*with* Simon, Udo; Wang, Chang Ping[1]) Higher order Codazzi tensors on conformally flat spaces. (English summary) *Beiträge Algebra Geom.* **39** (1998), *no.* 2, 329–348. (Xingwang Xu) **99m:53067** 53C20 (53A15, 53A30)

Liu, Hung-an (*with* Wu, Kun-shan) A production lot size inventory model for deteriorating items with inventory-level dependent demand and partial backordering. (English summary) *Tamsui Oxf. J. Math. Sci.* **14** (1998), 113–123. 90B05 (90A30)

Liu, Huowang (*with* Pan, Yimin; Cheng, Ximing) Rate of wavelet approximation of stochastic processes. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 2, 325–338. (Albert Benassi) **99h:60078** 60G12 (42C15)

Liu, I-Shih (*with* Frid, Hermano) Oscillation waves in Riemann problems for phase transitions. *Quart. Appl. Math.* **56** (1998), *no.* 1, 115–135. (Pavel Krejčí) **99d:35098** 35L65 (65M12, 73B30, 80A22)

Liu, J. C. *see* **Liu, Jen-Chwan**

Liu, J. Gary (*with* Tseng, H. Chris) Information storage in Hopfield model with reduced complexity. (English summary) *Inform. Sci.* **111** (1998), *no.* 1-4, 347–362. 68T05 (92B20)

Liu, J.-Y. *see* **Liu, Jia-yi**

Liu, James H. Singular perturbations in a nonlinear viscoelasticity. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 2, 99–112. (R. C. MacCamy) **99g:45011** 45K05 (35B25, 35Q72, 73F15)

— Integrodifferential equations with non-autonomous operators. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 427–439. (Kenneth B. Hannsgen) **99f:45014** 45K05 (34K30, 45N05, 73F15)

— Bounded and periodic solutions of finite delay evolution equations. *Nonlinear Anal.* **34** (1998), *no.* 1, 101–111. (Jialin Hong) **99g:34157** 34K30 (34K15, 47N20)

— Nonlinear impulsive evolution equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **6** (1999), *no.* 1, 77–85. (Summary) **99m:34138** 34G20 (34A37, 47D06)

Liu, James T. (*with* Duff, M. J.; Rahmfeld, Joachim) Dipole moments of black holes and string states. (English summary) *Nuclear Phys. B* **494** (1997), *no.* 1-2, 161–199. (Summary) **99g:83076** 83E30 (81T30, 83C57)

— (*with* Minasian, Ruben) U-branes and T^3 fibrations. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 3, 538–554. (Alexander E. Polishchuk) **99d:81126** 81T30 (14J32, 32J81, 53C80)

— (*with* Duff, M. J.; Rahmfeld, Joachim) $g = 1$ for Dirichlet 0-branes. (English summary) *Nuclear Phys. B* **524** (1998), *no.* 1-2, 129–140. (David S. Berman) **99e:83054** 83E30 (81T30, 83C57)

— (*with* Giannakis, Ioannis) $N = 2$ supersymmetry and dipole moments. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 025009, 7 *pp.* (Summary) **99k:81307** 81T60

Liu, Jen-Chwan (*with* Lai, Hang Chin) Optimality conditions for multiobjective programming with generalized $(\mathfrak{I}, \rho, \theta)$-convex set functions. (English summary) *J. Math. Anal. Appl.* **215** (1997), *no.* 2, 443–460. (Summary) **99b:90110** 90C29 (49N15)

— Optimality and duality for multiobjective programming involving subdifferentiable set functions. (English summary) *Optimization* **39** (1997), *no.* 3, 239–252. (Summary) **99a:90175** 90C29 (49J52)

— (*with* Wu, Chuen-Sheng) On minimax fractional optimality conditions with invexity. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 21–35. (Dorel Duca) **99a:90205** 90C32 (49K35)

— (*with* Wu, Chuen-Sheng) On minimax fractional optimality conditions with (F, ρ)-convexity. (English summary) *J. Math. Anal. Appl.* **219** (1998), *no.* 1, 36–51. (Dorel Duca) **99a:90206** 90C32 (49K35)

— (*with* Kimura, Yutaka; Tanaka, Kensuke) Generalized fractional programming. (English summary) Research on nonlinear analysis and convex analysis (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1031 (1998), 1–13. (Joachim Käschel) **99m:90141** 90C32

— (*with* Lai, Hang Chin) Duality for a minimax programming problem containing n-set functions. (English summary) *J. Math. Anal. Appl.* **229** (1999), *no.* 2, 587–604. (Summary) **99j:90072** 90C29 (90C31)

— (*with* Lai, Hang Chin; Tanaka, Kensuke) Necessary and sufficient conditions for minimax fractional programming. (English summary) *J. Math. Anal. Appl.* **230** (1999), *no.* 2, 311–328. (Eugenia Duca) **99m:90140** 90C32 (49N15)

Liu, Jeng-Fu (*with* Chang, Kuang-Chao; Han, Chien-Pai) Multiple inverse sampling in post-stratification. (English summary) *J. Statist. Plann. Inference* **69** (1998), *no.* 2, 209–227. (David Bellhouse) **99f:62020** 62D05

Liu, Ji Jun Uniqueness of Born velocity inversion in a 2.5-D medium. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 1, 66–73. (Guan Quan Zhang) **99b:35111** 35L05 (35R30)

Liu, Ji Shan (*with* Chen, Guang Rong) A saturation theorem for generalized Kantorovich polynomials in $L_p[0, 1]$ $(1 \leq p)$. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 14–20, 45. 41A10 (41A35)

Liu, Jia Kun (*with* Lai, Xue Jian) The converse of the mean value theorem for harmonic functions and harmonic measures. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 1, 90–94. (Summary) **99b:31003** 31B05 (31A05, 60J45)

Liu, Jia Qi (*with* Chen, Yang Zhou; Chen, Shan Ben) The Kalman-Yakubovich lemma and analysis of robust stability for systems with uncertainties. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 5, 715–717. 93D09

— (*with* Chen, Yang Zhou; Chen, Shan Ben) The frequency theorem (Kalman-Yakubovich lemma) in control theory. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 4, 477–488. 93–02 (93Bxx)

Liu, Jia-yi (*with* Gargantini, I.) Finding voxels shared by a ray and a linear octree. (English summary) *Proceedings of the Eighth International Colloquium on Differential Equations (Plovdiv, 1997)*, 179–185, *VSP, Utrecht*, 1998. (*see* **99d:00026**) 68U05

Liu, Jia Zhuang (*with* Shi, Shao Jian) Edge list-colorings of Halin graphs. (Chinese) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 118–119. 05C15

Liu, Jian (*with* Huang, Tie Jun; Zhang, Jun[7]) Quadratic residue functions and the beauty of their patterns. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 6, 21–23. (Zhen Fu Cao) **99j:11004** 11A15

Liu, Jian Some inequalities for length elements of triangles. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 2, 93–99. 52A40 (26D15)

Liu, Jian[3] (*with* Wu, Shiying; Zidek, James V.) On segmented multivariate regression. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 497–525. (Yutaka Kano) **99b:62063** 62G05 (62H12, 62J99)

Liu, Jian-Guo (*with* Choi, Hwajeong) The reconstruction of upwind fluxes for conservation laws: its behavior in dynamic and steady state calculations. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 237–256. (Summary) **99c:76082** 76M25

— (*with* LeFloch, Philippe G.) Generalized monotone schemes, discrete paths of extrema, and discrete entropy conditions. (English summary) *Math. Comp.* **68** (1999), *no.* 227, 1025–1055. (Riccardo Fazio) **99i:65092** 65M12 (35L65)

Liu, Jian Hua (*with* Xu, Xiao Ming; Zhang, Wei Jiang) Probabilistic neural network filtering for nonlinear systems with colored noise. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 793–796. (Summary) **99a:93101** 93E11

Liu, Jian Min (*with* Wang, Rong Xin) Weak convergence limits of multicustomer, multiserver queueing systems with nonpreemptive priority discipline. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 56–62. 60K25 (60F05)

Liu, Jian Ming (*with* Zheng, Wei Xing) A Hardy-Littlewood theorem for weighted spaces. (English summary) *Acta Math. Sci. (English Ed.)* **17** (1997), *no.* 2, 211–218. (Gary Sampson) **99d:42011** 42A38 (33C45, 44A20)

— (*with* Zheng, Wei Xing) Riesz means of Fourier-Jacobi expansions. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 693–702. 42B15 (41A15)

Liu, Jian Ya (*with* Zhan, Tao) Exponential sums involving the Möbius function. *Indag. Math. (N.S.)* **7** (1996), *no.* 2, 271–278. (S. W. Graham) **99j:11095** 11L07

— The mean value of the error term of the rth power $J_k^r(n)$ of the Jordan totient function. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **16** (1996), *no.* 3, 255–262. (Wen-Bin Zhang) **99b:11108** 11N37

— (*with* Liu, Ming-Chit; Wang, Tian Ze) The number of powers of 2 in a representation of large even integers. I. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 386–398. (Alessandro Languasco) **99j:11120** 11P32 (11N36, 11P55)

— (*with* Zhan, Tao) Sums of five almost equal prime squares. II. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 7, 710–722. (Jie Wu) **99h:11115** 11P05 (11M06, 11P55)

— (*with* Zhan, Tao) Estimation of exponential sums over primes in short intervals. I. (English summary) *Monatsh. Math.* **127** (1999), *no.* 1, 27–41. (Jie Wu) **99j:11093** 11L07 (11P32)

Liu, Jian Zhou (*with* Xie, Qing Ming) Estimates for singular values of Schur complements of products of matrices. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 285–288. (Shao Kuan Li) **99g:15011** 15A18 (15A42)

— (*with* Yuan, Xiu Yu) Interlacing theorems for Schur complements of self-conjugate quaternion matrices. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 1–2. 15A33

— Some inequalities for singular values and eigenvalues of generalized Schur complements of products of matrices. (English summary) *Linear Algebra Appl.* **286** (1999), *no.* 1-3, 209–221. (Ronald L. Smith) **99j:15026** 15A42

Liu, Jiannong (*with* Berman, David M.; Wang, Hong[3]; Wargo, Larry) Induced stars in trees. (English summary) *Australas. J. Combin.* **18** (1998), 275–276. 05C05

Liu, Jie[2] (*with* Hu, Bambi; Li, Baowen) Nonadiabatic geometric phase and Hannay angle: a squeezed state approach. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 9, 1749–1753. (Summary) **99e:81064** 81Q99

Liu, Jin Duo (*with* Wang, Li Jie) A parabolic system with a boundary condition involving the curl. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 23–27. 35K50

Liu, Jin Lin Some classes of univalent meromorphic functions defined in terms of operators. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **19** (1999), *no.* 1, 105–110. 30C45

Liu, Jin Shan (*with* Zhang, Yun Xin; Guo, Kun Yu) A new C^*-algebra and its essential commutators. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 5, 474–479. 47B35 (46L05)

Liu, Jin Wang Some results on Gröbner bases of Weyl algebras. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 5, 104–107. 16S32 (13P10)

— Properties of Gröbner algebras. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 118–120. 16W60

Liu, Jin Xia The relationship between the property P_n and algebraic reflexivity. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 18–20. (Sing Cheong Ong) **99d:47039** 47D25 (46B28)

Liu, Jing Robust stabilization of bilinear uncertain delay systems. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **25** (1996), *no.* 8, 277–282. 93D21

Liu, Jing-Sin (*with* Chien, Chiang-Ju) A P-type iterative learning controller for robust output tracking of nonlinear time-varying systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 319–334. 93E35 (93B50)

Liu, Jing-Song (*with* Li, Cheng-Yu; Ge, Mo Lin) U(1) symmetry in Yangian and massless Thirring model. (English summary) *J. Phys. A* **31** (1998), *no.* 40, *L*701–*L*705. (Mathias Pillin) **99h:81132** 81T10 (81R50)

Liu, Jing-Yao (*with* Sun, Jia Zhong; Huang, Xu-Ri; Li, Ze-Sheng) On geminals and symplectic bases in quantum chemistry. (English summary) *J. Math. Chem.* **21** (1997), *no.* 2, 159–182. (A. J. Coleman) **99e:81271** 81V55 (81R05)

Liu, Jinn-Liang (*with* Yang, Suh-Yuh) Least-squares finite element methods for the elasticity problem. (English summary) *J. Comput. Appl. Math.* **87** (1997), *no.* 1, 39–60. (Jiří Nedoma) **99a:65160** 65N30 (73V05)

— (*with* Yang, Suh-Yuh) A unified analysis of a weighted least squares method for first-order systems. (English summary) *Appl. Math. Comput.* **92** (1998), *no.* 1, 9–27. (Srinivasan Kesavan) **99d:65330** 65N30

— (*with* Yang, Suh-Yuh) Analysis of least squares finite element methods for a parameter-dependent first-order system. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 191–213. (Josef Dalik) **99a:65161** 65N30 (73V05, 76M10)

Liu, Jiping (*with* Zhou, Hui Shan) Edge k-to-1 homomorphisms. (English summary) *Ars Combin.* **48** (1998), 87–96. (Summary) **99b:05120** 05C75

— (*with* Heinrich, Katherine; Zhang, Cun Quan) Triangle-free circuit decompositions and Petersen minor. (English summary) *J. Combin. Theory Ser. B* **72** (1998), *no.* 2, 197–207. (David A. Pike) **99g:05123** 05C45 (05C70)

Liu, Jinqiang (*with* Fan, Cong) Hamiltonian decompositions of strong products. (English summary) *J. Graph Theory* **29** (1998), *no.* 1, 45–55. (Günter Schaar) **99i:05134** 05C45

— (*with* Lick, Don) On $(v, \{5, w^*\})$-PBDs. (English summary) *Bull. Inst. Combin. Appl.* **26** (1999), 39–45. (Summary) **99m:05022** 05B05

Liu, John J. (*with* Chen, Hong[3]) Optimal pacing in an assembly-based multi-stage production system. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 87–101. (*see* **99m:90004**) 90B30 (90A30)

— (*with* Nam, Seong-Hyun) Regulated quality diffusion under quadratic costs. (English summary) *Int. Trans. Oper. Res.* **6** (1999), *no.* 4, 393–409. 93E20 (49N10)

Liu, Joseph W. H. (*with* Ashcraft, Cleve) Applications of the Dulmage-Mendelsohn decomposition and network flow to graph bisection improvement. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 2, 325–354 (*electronic*). (Gerard Sierksma) **99d:90044** 90B10 (65F30, 68R10)

— (*with* Demmel, James W.; Eisenstat, Stanley C.; Gilbert, John R.; Li, Xiaoye S.) A supernodal approach to sparse partial pivoting. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 3, 720–755 (*electronic*). (Summary) **99m:65094** 65F50 (65F05)

Liu, Juan[3] (*with* Moulin, Pierre) Analysis of multiresolution image denoising schemes using generalized Gaussian and complexity priors. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 3, 909–919. 94A12

Liu, Jun (*with* Xu, Yang) Filters and structure of lattice implication algebra. *Chinese Sci. Bull.* **42** (1997), *no.* 18, 1517–1520. 03G10 (06B10)

— (*with* Xu, Yang) On the representation of lattice implication algebras. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 251–258. (Summary) **99m:03132** 03G25

Liu, Jun[3] (*with* Gollub, J. P.) Nonlinear dynamics of film flows: solitary wave interactions. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids (Hannover, 1994)*, 58–70, *Adv. Ser. Nonlinear Dynam., 7, World Sci. Publishing, River Edge, NJ*, 1995. (*see* **99m:76003**) 76D33 (76–05)

Liu, Jun[5] Design of stable systems with uncertainties and constrained performance variations. (English summary) *Internat. J. Control* **67** (1997), *no.* 1, 23–32. 93D21 (93B51)

Liu, Jun[6] (*with* Gao, Cheng Xiu) Dijkstra algorithms for large-scale nonlinear network models. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 37–40. 90C06 (90B10, 90C35)

Liu, Jun Qiang (*with* Li, Dong Mei; Hu, Heng Zhang) Research on the design of a Wiener-Hopf optimal controller. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 62–65. 93B52 (93C05)

Liu, Jun S. (*with* Kong, Augustine; Wong, Wing Hung) The properties of the cross-match estimate and split sampling. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2410–2432. (Miguel A. Arcones) **99c:62103** 62G05

— (*with* Chen, Rong[1]; Wong, Wing Hung) Rejection control and sequential importance sampling. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1022–1031. (Summary) **99e:62030** 62F15

— (*with* Chen, Rong[1]) Sequential Monte Carlo methods for dynamic systems. (English summary) *J. Amer. Statist. Assoc.* **93** (1998), *no.* 443, 1032–1044. (Summary) **99e:62069** 62G09 (62M99)

Liu, Jun-Xian (*with* Hao, Bai-Lin; Zheng, Wei-Mou) Symbolic dynamics analysis of the Lorenz equations. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 5378–5396. (Summary) **99b:58080** 58F03

Liu, Jung-Chen Rees algebras of finitely generated torsion-free modules over a two-dimensional regular local ring. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4015–4039. (Irena Swanson) **99k:13003** 13A30 (13C14, 13H10)

— Ratliff-Rush closures and coefficient modules. (English summary) *J. Algebra* **201** (1998), *no.* 2, 584–603. (L. J. Ratliff, Jr.) **99b:13003** 13A15 (13B22, 13C99)

Liu, K. J. Ray (*with* Li, Ye) Adaptive blind source separation and equalization for multiple-input/multiple-output systems. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 7, 2864–2876. 93C60 (93C40)

Liu, Kai *see* **Liu, Kai[2]**

Liu, Kai[1] (*with* Fierro, Rafael; Lewis, Frank L.) Hybrid control system design using a fuzzy logic interface. (English summary) *Circuits Systems Signal Process.* **17** (1998), *no.* 3, 401–419. (Summary) **99b:93034** 93C42 (93C30)

Liu, Kai[2] Carathéodory approximate solutions for a class of semilinear stochastic evolution equations with time delays. (English summary) *J. Math. Anal. Appl.* **220** (1998), *no.* 1, 349–364. (Denis R. Bell) **99g:60102** 60H10 (34K50)

— On approximate solution of stochastic delay evolution equation in infinite dimensions. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 1-2, 81–90. (Toshio Yamada) **99c:60136** 60H99 (34K50, 60H10)

— pth moment growth bounds of infinite-dimensional stochastic evolution equations. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 1, 107–121. (Constantin Tudor) **99d:60063** 60H10

— (*with* Mao, Xuerong) Exponential stability of non-linear stochastic evolution equations. (English summary) *Stochastic Process. Appl.* **78** (1998), *no.* 2, 173–193. (Binggen Zhang) **99i:60117** 60H10 (93E15)

— Lyapunov functionals and asymptotic stability of stochastic delay evolution equations. (English summary) *Stochastics Stochastics Rep.* **63** (1998), *no.* 1-2, 1–26. (Summary) **99e:34115** 34K50 (34K20, 60H10)

Liu, Kai Di (*with* Mo, Guo Duan) Approximation by rational functions in closed bounded sets in the complex plane. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 4, 48–52. 30E10

— (*with* Mo, Guo Duan) The distributions of the zeroes of the zeta-function and its derivative. (Chinese. English and Chinese summaries) *Tongji Daxue Xuebao Ziran Kexue Ban* **26** (1998), *no.* 1, 14–18. (Xian-Jin Li) **99f:11111** 11M26

Liu, Kai Yu (*with* Yu, Jian She; Luo, Jiao Wan) Global attractivity and uniform stability for a perturbed nonautonomous linear differential equation with delay. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 257–266. (Jian Hong Wu) **99m:34174** 34K20

— (*with* Luo, Jiao Wan) K-global asymptotic stability of solutions of systems of nonlinear difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18**

(1998), *no.* 1, 43–46. (Summary) **99h:39018** 39A11

— (*with* Zhang, Hong Qiang) Oscillation and non-oscillation of bounded positive solutions to neutral delay logistic equations. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 41–45. (Qing Kai Kong) **99j:34105** 34K15

Liu, Kang-Man (*with* Babuška, Ivo M.) Selections of shape functions for dimensional reduction to Helmholtz's equation. (English summary) *Numer. Methods Partial Differential Equations* **15** (1999), *no.* 2, 169–190. (Mark Arnold) **99m:65204** 65N15 (73C02)

Liu, Kang Yong (*with* Qian, Li Jun) Existence of equilibrium solutions on reducible interval von Neumann models. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 4, 358–365. 65F30 (65G10, 90A14)

Liu, Kangsheng (*with* Liu, Zhuangyi) Exponential decay of energy of the Euler-Bernoulli beam with locally distributed Kelvin-Voigt damping. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1086–1098 (*electronic*). (Summary) **99a:93082** 93D10 (35B40, 73D35, 73K05, 73K50, 93C20)

— (*with* Chen, Shuping; Liu, Zhuangyi) Spectrum and stability for elastic systems with global or local Kelvin-Voigt damping. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 651–668 (*electronic*). (Andrej T. Il'ichev) **99j:35218** 35Q72 (35B35, 47D06, 73D30, 73F15)

Liu, Ke Ming (*with* Yang, Shu Zi) The history and contemporary significance of descriptive geometry: commemorating the 200th anniversary of the publication of Monge's *Descriptive geometry*. (Chinese) *Math. Practice Theory* **28** (1998), *no.* 3, 281–288. 01A50 (51-03)

Liu, Ke Xuan (*with* Meng, Ya Qin; Ye, Zheng Lin) Generation of C^1 parametric spline curves using piecewise affine transformations. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 33–35. (Summary) **99d:65050** 65D17

Liu, Kefeng (*with* Lian, Bong H.; Yau, Shing-Tung) Mirror principle. I. (English summary) *Asian J. Math.* **1** (1997), *no.* 4, 729–763. (Andreas Gathmann) **99e:14062** 14N10 (14D20, 14J32)

— Heat kernel and moduli spaces. II. *Math. Res. Lett.* **4** (1997), *no.* 4, 569–588. (Johannes Huebschmann) **99h:32022** 32G13 (57M25, 57N10, 57R57, 58D27, 58G05, 58G11)

— (*with* Lian, Bong H.; Yau, Shing-Tung) The Candelas-de la Ossa-Green-Parkes formula. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 106–114. (Andreas Gathmann) **99k:14088** 14N10 (14D20, 14J32)

Liu, Keqin The trace space and Kauffman's knot invariants. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 9, 3823–3842. (Justin D. Roberts) **99m:57009** 57M25 (16W30)

Liu, Kun Hui (*with* Sun, Shi Liang) A class of stationary optimal stochastic controls of impulse type. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 191–198. 93E20 (49K45)

Liu, L. *see* **Liu, Li Ping[2]**

Liu, Lan (*with* Wu, Guo Fu; Chen, Min[4]) The higher-order moments of a class of nonlinear autoregressive models with conditional heteroscedasticity. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 3, 371–376. (Summary) **99m:62144** 62M10

Liu, Lan Zhe (*with* Yin, Chang Ming) Weighted Lorentz norm inequalities for generalized maximal operators. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 39–42. (Summary) **99b:42026** 42B25

— Two weight inequalities for fractional one-sided maximal operators on Orlicz and Lorentz spaces. (English summary) *Approx. Theory Appl. (N.S.)* **14** (1998), *no.* 2, 28–37. (Boris Petrovich Osilenker) **99i:42026** 42B25

— (*with* Lin, Hong Cheng) Weighted weak boundedness of ergodic maximal operators and convergence of ergodic average operators. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 25–30. (Summary) **99i:28023** 28D05 (47A35)

— (*with* Yang, Du Qing) Weighted Φ boundedness for generalized singular integral operators. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 4, 4–8. (Der-Chen E. Chang) **99k:42036** 42B20 (47G10)

— Boundedness of singular integral operators on homogeneous spaces in H^p-spaces. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 235–239. 42B25

Liu, Li (*with* Wang, Shi Gang; Xiao, Shang Hong; Zhou, Ji[1]; Yu, Jun[3]) A genetic algorithm for structural optimization. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **12** (1995), *no.* 3, 106–110, *X*. 73K40

Liu, Li Fang (*with* Wang, Ting Fu; Wang, Hui[1]) U-points and quasi-U points in Orlicz sequence spaces l_M. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 13–18. (Bor-Luh Lin) **99h:46047** 46E30 (46B45)

Liu, Li Gang (*with* Wang, Guo Jin[1]) Shape blending between 3D triangular meshes based on their intrinsic variables. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 9, 850–854. 65Y25

Liu, Li Ping[2] (*with* Křížek, Michal) Finite element approximation of a nonlinear heat conduction problem in anisotropic media. (English summary) Seventh Conference on Numerical Methods and Computational Mechanics in Science and Engineering (NMCM 96) (Miskolc). *Comput. Methods Appl. Mech. Engrg.* **157** (1998), *no.* 3-4, 387–397. (J. D. P. Donnelly) **99h:80005** 80A20 (65N30, 80-08)

Liu, Li Ping[4] (*with* Arjas, Elja) A Bayesian model for fatigue crack growth. (English summary) *Practical nonparametric and semiparametric Bayesian statistics*, 339–353, *Lecture Notes in Statist.*, 133, *Springer, New York*, 1998. (*see* **99a:62004**) 62F15 (62G05, 62N05)

Liu, Li Shan (*with* Zhang, Hong Qian) Solutions of mixed monotone operator equations and their application to nonlinear integral equations. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 17–24. (Da Jun Guo) **99m:47073** 47H15 (45G10, 47N20)

— Ishikawa-type and Mann-type iterative processes with errors for constructing solutions of nonlinear equations involving m-accretive operators in Banach spaces. *Nonlinear Anal.* **34** (1998), *no.* 2, 307–317. (B. E. Rhoades) **99e:47077** 47H10 (47H06)

Liu, Li Wei (*with* Li, Yu Qiang) Iterative processes for Lipschitz strongly accretive operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 845–850. (Hong Kun Xu) **99k:47145** 47H10 (47H06, 47H17)

Liu, Lianzhen (*with* Wang, Guo Jun[1]) A necessary and sufficient condition for ternary majority functions being monotonic functions. *Chinese Sci. Bull.* **43** (1998), *no.* 23, 2018–2019. 03B50

Liu, Liao (*with* Zhao, Ren) The static, spherically symmetric metric of the Schwarzschild space-time produced by back-reaction to Hawking evaporation. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 12, 2074–2078. 83C57 (83C47)

— (*with* Zhao, Zheng; Pei, Shou Yong) The Planck black body spectrum implies that the transitivity of clock rate synchronization is equivalent to the zeroth law of thermodynamics. (Chinese. English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **34** (1998), *no.* 3, 356–359. 82B03

— (*with* Zhang, Lichun; Zhao, Ren) Back reaction of charged black hole. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 8, 2273–2280. 83C57

— (*with* Peng, Fang Zhi) The stability of a static black-hole with mass multipole moment. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **48** (1999), *no.* 1, 6–9. 83C57

Liu, Liming (*with* Lian, Zhaotong) A discrete-time model for perishable inventory systems. (English summary) Management science in China (Kowloon, 1996). *Ann. Oper. Res.* **87** (1999), 103–116. (*see* **99m:90004**) 90B05 (90B25)

— *see also* **Management science in China, 99m:90004**

Liu, Lin[1] (*with* Sun, Haijian; Guo, Aike) Iteration logistic map dynamics in the polar coordinates. (English summary) *Fractals* **6** (1998), *no.* 1, 11–22. (Frederick R. Marotto) **99d:58125** 58F13 (00A69, 28A80)

Liu, Lin Yun (*with* Wan, Bai Wu) A review of qualitative control. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 46–52. 93B30 (93E10)

Liu, Lin Zhong[2] (*with* Zhang, Zhong Fu; Liu, Huan Ping) The number of edges of critical graphs. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 4, 436–438. 05C15

— (*with* Zhang, Zhong Fu; Wang, Jianfang; Li, Hongxiang) A note on the total chromatic number of Halin graphs with maximum degree 4. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 5, 23–27. (Summary) **99c:05076** 05C15

— (*with* Zhang, Zhong Fu; Zhang, Jianxun; Wang, Jianfang) On the relations between arboricity and independent number or covering number. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 279–283. (Summary) **99e:05079** 05C35

— (*with* Zhang, Zhong Fu) The edge function domination number of a graph. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **17** (1998), *no.* 1, 98–101. 05C35

— (*with* Xie, Jiguo; Zhang, Zhong Fu) On the adjacent strong edge colorings of 3-regular Halin graphs. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 4, 1–3. 05C15

— (*with* Zhang, Zhong Fu; Xu, Baogen; Li, Yinzhen) A note on the lower bounds of signed domination number of a graph. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 295–298. (Summary) **99h:05071** 05C35

Liu, Liping *see* **Liu, Li Ping[4]**

Liu, Liwu (*with* Wan, Peng Jun) Maximal throughput in wavelength-routed optical networks. (English summary) *Multichannel optical networks: theory and practice (Piscataway, NJ, 1998)*, 15–26, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 46, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99i:90050** 90B12 (68Q25)

Liu, Luqin (*with* Huang, Lihu; Li, Bing Zhang) Some fractal properties of a class of self-similar Markov processes. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 3, 257–262. (Summary) **99i:60143** 60J25 (60E07, 60J55)

— (*with* Xiao, Yimin) Hausdorff dimension theorems for self-similar Markov processes. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 2, 369–383. (Mireille Chaleyat-Maurel) **99k:60187** 60J25 (60G18, 60J60)

Liu, Maixue (*with* Zhang, Zhi Zheng) Generalizations of some identities involving generalized second-order integer sequences. *Fibonacci Quart.* **36** (1998), *no.* 4, 327–328. 11B37

Liu, Mario (*with* Kostädt, Peter) Three ignored densities, frame-independent thermodynamics, and broken Galilean symmetry. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 5, *part A*, 5535–5540. (Summary) **99g:82065** 82C35

Liu, Mengchi Relationlog: a typed extension to Datalog with sets and tuples. (English summary) *J. Logic Programming* **36** (1998), *no.* 3, 271–299. (Summary) **99c:68043** 68N17 (68P15)

Liu, Min Qian (*with* Zhang, Run Chu) Equivalence of $E(s^2)$ optimal supersaturated designs and BIB designs. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 19, 2053–2056. 05B05

Liu, Min Si (*with* Li, Chun Hong) The Hausdorff dimension of a fractal set arising in simultaneous Diophantine approximation. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **31** (1997), *no.* 4, 401–404. (Zun Shan) **99c:11085** 11J13 (28A80)

Liu, Ming *see* **Liu, Ming[3]**

Liu, Ming[2] (*with* Zhang, Harold H.) Overparameterization in the seminonparametric density estimation. (English summary) *Econom. Lett.* **60** (1998), *no.* 1, 11–18. 62G05 (62P20)

— Asymptotics of nonstationary fractional integrated series. (English summary) *Econometric Theory* **14** (1998), *no.* 5, 641–662. (Summary) **99h:62118** 62M10

Liu, Ming-Chit (*with* Wang, Tian Ze) A numerical bound for small prime solutions of some ternary linear equations. *Acta Arith.* **86** (1998), *no.* 4, 343–383. (S. W. Graham) **99m:11115** 11P32 (11D04, 11P55)

— (*with* Liu, Jian Ya; Wang, Tian Ze) The number of powers of 2 in a representation of large even integers. I. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 386–398. (Alessandro Languasco) **99j:11120** 11P32 (11N36, 11P55)

Liu, Ming Fang (*with* Zheng, Wei Ying; Qi, He) The construction of 12-parameter rectangular plate elements. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 5–9. 65N30 (73K10, 73V05)

Liu, Ming Hui (*with* Wang, Da Hai; Gao, Yuan Yuan) Comment: "An improvement and strengthening of the Negoiță–Ralescu representation theorem" [Beijing Shifan Daxue Xuebao **1980**, no. 3-4, 41–46; MR 84k:03134] by P. Z. Wang and X. G. Chen. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1997**, *no.* 4, 13–15. 03E72

Liu, Ming Sheng (*with* Zhu, Yu Can) Some criteria for univalence of functions. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 80–85. (Summary)

99f:30028 30C55

Liu, Ming Xian (*with* Zhang, Meng Qiu) The equivalence of two types of stability. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 75–78. (Zhanyuan Hou) **99k:34111** 34D20 (34D30)

Liu, Ming Zhu (*with* Zhao, Jing Jun) Stability of numerical methods for neutral equations. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **29** (1997), *no.* 6, 1–3, 10. (Summary) **99d:65234** 65L20

— (*with* Zhao, Jing Jun) Numerical stability of θ-methods for double delay equations. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 2, 51–53. 65L20

Liu, Ming[3] Decentralized control of robot manipulators: nonlinear and adaptive approaches. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 2, 357–363. 93C85 (70B15, 70Q05, 93A14)

Liu, Mingxue On probabilistic metrics and numerical metrics. (English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 4, 40–46, 51. 54E70 (46S50)

— (*with* Guo, Tie-Xin) Probabilistic quasi-metric family spaces. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 3, 252–258. 54E70 (46S50)

— (*with* Guo, Tie-Xin) On the isometrical isomorphism of probabilistic quasi-metric family spaces. (English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 4, 381–387. 54E70

Liu, Mu Lan (*with* Lu, Pei Zhong) Correlation attacks and correlation immune functions. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 395–408. (From the summary) **99f:94011** 94A60

— (*with* Hu, Lei) Module structure of doubly periodic arrays over finite fields. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1009–1015. (Bernard J. M. Smeets) **99m:94028** 94A55 (11T71, 12E12)

— (*with* Lu, Pei Zhong; Mullen, Gary L.) Correlation-immune functions over finite fields. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1273–1276. (Summary) **99d:94019** 94A55 (94A60)

— (*with* Hu, Lei) Properties of Gröbner bases and applications to doubly periodic arrays. (English summary) *J. Symbolic Comput.* **26** (1998), *no.* 3, 301–314. (Amnon Rosenmann) **99g:13036** 13P10 (94A55)

— (*with* Lu, Pei Zhong) Gröbner bases of characteristic ideals of LRS over UFD. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1034–1046. (Alessandro Logar) **99m:13050** 13P10 (13F15)

— (*with* Zhou, Zhanfei) Ideal homomorphic secret sharing schemes over cyclic groups. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 6, 650–660. (Bal Kishan Dass) **99m:94033** 94A60

Liu, Nai Gong A noncompact KKM theorem on W-spaces and its application. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 103–108. 49J35 (90A05)

Liu, Nai-le (*with* Fan, Hong Yi[1]) Negative hypergeometric states of the quantized radiation field. (English summary) *Phys. Lett. A* **250** (1998), *no.* 1-3, 88–92. (Summary) **99h:81238** 81V80

Liu, Niandong (*with* Billera, Louis J.; Chan, Clara S.) Flag complexes, labelled rooted trees, and star shellings. (English summary) *Advances in discrete and computational geometry (South Hadley, MA, 1996), 91–102, Contemp. Math., 223, Amer. Math. Soc., Providence, RI, 1999.* (Eva-Maria E. Feichtner) **99m:52012** 52B05 (52B12, 52B20)

Liu, P. *see* **Liu, Pin**

Liu, P.-D. *see* **Liu, Pei De**

Liu, P. Y. *see* **Liu, Ping Yu**

Liu, Pei De (*with* Hou, You Liang) Spaces of martingales with complex measure and their duals. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 481–492. (Summary) **99e:60113** 60G44

— (*with* Hou, You Liang) Geometry of complex Banach spaces. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 1, 1–20. (Summary) **99e:46017** 46B20 (42B99, 60G46)

— (*with* Hou, You Liang) b_p^* weighted inequalities for Clifford martingales. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 2, 122–132. (Summary) **99g:60084** 60G42 (60E15)

— (*with* Saksman, Eero; Tylli, Hans-Olav) Small composition operators on analytic vector-valued function spaces. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 295–309. (Andreas Haldimann) **99e:47036** 47B38 (46E15)

— (*with* Duan, Jinqiao; Fu, X.-C.; Manning, Anthony) A linear chaotic quantum harmonic oscillator. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 15–19. (Summary) **99h:81054** 81Q50

Liu, Pei-Dong (*with* Bahnmüller, Jörg) Characterization of measures satisfying the Pesin entropy formula for random dynamical systems. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 3, 425–448. (Viviane Baladi) **99j:58118** 58F11 (28D20, 34D08)

— Random perturbations of Axiom A basic sets. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 467–490. (Luis M. Barreira) **99a:58108** 58F11 (58F10, 58F15, 58F30)

— Pesin's entropy formula for endomorphisms. (English summary) *Nagoya Math. J.* **150** (1998), 197–209. (Thomas Bogenschütz) **99h:58108** 58F11

Liu, Peng (*with* Wang, Hai Feng; Li, Sheng; Zhao, Tie Jun) A study of a pattern-matching algorithm for machine translation. (Chinese. English and Chinese summaries) *J. Harbin Inst. Tech.* **30** (1998), *no.* 4, 11–14. 68T99

Liu, Philip L.-F. (*with* Khan, Liaqat Ali[2]) Numerical analyses of operator-splitting algorithms for the two-dimensional advection-diffusion equation. (English summary) *Comput. Methods Appl. Mech. Engrg.* **152** (1998), *no.* 3-4, 337–359. (Kai Tai Li) **99e:65141** 65M99 (76M25)

Liu, Pin (*with* Zinober, Alan S. I.) Nonlinear H_∞ method for Volterra systems. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 667–680. 93B36

Liu, Pin-Lin (*with* Su, Te-Jen) Robust stability of interval time-delay systems with delay-dependence. (English summary) *Systems Control Lett.* **33** (1998), *no.* 4, 231–239. (Tetsushi Sasagawa) **99h:93077** 93D09 (34D20, 34K20, 93C30)

Liu, Ping Yu (*with* Tsai, Wei Yann) A modified logrank test for censored survival data under order restrictions. (English summary) *Statist. Probab. Lett.* **41** (1999), *no.* 1, 57–63. 62G10

Liu, Pingzhou (*with* Gopalsamy, K.) Global stability in a hyperbolic logistic map with eventually fading memory. *Advances in nonlinear dynamics*, 41–50, *Stability Control Theory Methods Appl.*, 5, *Gordon and Breach, Amsterdam*, 1997. (Shu Nian Zhang) **99b:39015** 39A11 (34K20, 39A12, 45J05)

— (*with* Gopalsamy, K.) Dynamics of social populations. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2595–2604. (S. K. Chatterjea) **99c:92036** 92D25 (34C99, 34K15)

— (*with* Gopalsamy, K.; Leung, Issic K. C.) Global Hopf-bifurcation in a neural netlet. (English summary) *Appl. Math. Comput.* **94** (1998), *no.* 2-3, 171–192. (Ovide Arino) **99h:34105** 34K15 (34C23, 58F14, 92B20)

Liu, Pu Yin Nonstandard analysis of test function spaces. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 41–50. (Summary) **99f:46053** 46F05 (03H05, 46S20)

— (*with* Ma, Chao Qun; Zhang, Han Jiang) The stability of a kind of generalized fuzzy bidirectional associative memory. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 40–46. 68T99 (68P20)

— (*with* Zhang, Han Jiang; Duan, Xiao Long) Analysis of the stability and the fault-tolerance of min-max fuzzy Hopfield neural networks with threshold. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 4, 47–55. (Summary) **99k:68162** 68T05

Liu, Q. P. *see* **Liu, Qing Ping[1]**

Liu, Q. Z. *see* **Liu, Qi-Zhang**

Liu, Qi Ming (*with* Yuan, Cun De) Persistence in a two-predator, one-prey autonomous diffusion system. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 2, 145–151. (Summary) **99h:92036** 92D25 (34D99)

— (*with* Yuan, Cun De) Existence and stability of the positive equilibrium point in a diffusion system with two predators and one prey. (Chinese. English and Chinese summaries) *J. Biomath.* **13** (1998), *no.* 4, 462–465. 92D25

Liu, Qi-Zhang (*with* Chen, Bor-Liang; Dong, Lei; Huang, Kuo-Ching) Total colorings of equibipartite graphs. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 59–65. (Summary) **99k:05076** 05C15

— (*with* Yap, Hian-Poh) Proof of a conjecture of Alan Hartman. (English summary) *J. Graph Theory* **30** (1999), *no.* 1, 7–17. (Gerard J. Chang) **99i:05083** 05C15 (05C05)

Liu, Qing[2] An order-directed score test for trend in ordered $2 \times K$ tables. (English and French summaries) *Biometrics* **54** (1998), *no.* 3, 1147–1154. 62H17

Liu, Qing Guo (*with* Ye, Pei Xin) Korovkin systems in spaces of set-valued functions. (Chinese. English and Chinese summaries) *J. Baoji College Arts Sci. Nat. Sci.* **18** (1998), *no.* 1, 1–4. (Gen Sun Fang) **99j:41044** 41A36 (41A65)

Liu, Qing Ping[1] Fully supersymmetric hierarchies from an energy-dependent super Hill operator. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8661–8670. (Claire R. Gilson) **99b:58117** 58F07 (35Q58)

— (*with* Mañas, Manuel) Sequences of Levy transformations and multi-Wroński determinant solutions of the Darboux system. (English summary) *J. Geom. Phys.* **27** (1998), *no.* 3-4, 178–184. (C. Rogers) **99g:35011** 35A30

— (*with* Mañas, Manuel) Vectorial Ribaucour transformations for the Lamé equations. (English summary) *J. Phys. A* **31** (1998), *no.* 10, *L*193–*L*200. (Summary) **99c:58178** 58G37 (35A30, 35Q51)

— The constrained MKP hierarchy and the generalized Kupershmidt-Wilson theorem. (English summary) *Lett. Math. Phys.* **43** (1998), *no.* 1, 65–72. (Kilkothur M. Tamizhmani) **99d:58084** 58F07 (35Q53)

— (*with* Mañas, Manuel) Discrete Levy transformations and Casorati determinant solutions of quadrilateral lattices. (English summary) *Phys. Lett. A* **239** (1998), *no.* 3, 159–166. (F. Pempinelli) **99f:39027** 39A12 (35Q99, 39A10, 58F37)

— (*with* Mañas, Manuel) Pfaffian solutions for the Manin-Radul-Mathieu SUSY KdV and SUSY sine-Gordon equations. (English summary) *Phys. Lett. B* **436** (1998), *no.* 3-4, 306–310. (Vassili M. Goncharenko) **99i:58078** 58F07

Liu, Qinghua (*with* Guo, Zhen[2]; Fei, Zhengdong; Condon, Anne E.; Corn, Robert M.; Lagally, Max G.; Smith, Lloyd M.) A surface-based approach to DNA computation. (English summary) *DNA based computers, II (Princeton, NJ, 1996), 123–132, DIMACS Ser. Discrete Math. Theoret. Comput. Sci., 44, Amer. Math. Soc., Providence, RI, 1999.* (*see* **99f:68002**) 68Q05 (92D20)

Liu, Qiu Xiang (*with* Wang, Xiao Jing; Wang, Pin Chao; Lu, Jie Qing) The index complex of a maximal subgroup. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 5–8. (Summary) **99j:20035** 20E28

Liu, Quan-Hui The classical limit of quantum mechanics and the Fejér sum of the Fourier series expansion of a classical quantity. (English summary) *J. Phys. A* **32** (1999), *no.* 4, *L*57–*L*62. (Peter N. Zhevandrov) **99k:81067** 81Q20

Liu, Quansheng Products of random weights indexed by Galton-Watson trees. (English summary) *Fascicule de probabilités, 24 pp., Publ. Inst. Rech. Math. Rennes, 1996/1997, Univ. Rennes I, Rennes, 199?.* (Edward C. Waymire) **99h:60156** 60J80 (60G42, 60K35)

— Fixed points of a generalized smoothing transformation and applications to the branching random walk. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 1, 85–112. (Edward C. Waymire) **99f:60151** 60J80 (60G42, 60K35)

Liu, Ren Ren Some results on the decision for Sheffer functions in partial K-valued logic. II. (English summary) *28th IEEE International Symposium on Multiple-valued Logic (Fukuoka, 1998), 77–81, IEEE Computer Soc., Los Alamitos, CA, 1998.* (*see* **99i:03025**) 03B50

Liu, Rongwan (*with* Fu, Jingli; Mei, Feng Xiang) Lie symmetries and conserved quantities of holonomic mechanical systems in terms of quasi-coordinates. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 215–220. (P. G. L. Leach) **99k:70012** 70F20 (58F07, 70H33)

— (*with* Fu, Jingli; Mei, Feng Xiang) Lie symmetries and conserved quantities of systems of relative motion dynamics. (English and Chinese summaries) *J. Beijing Inst. Tech.* **7** (1998), *no.* 3, 221–225. (P. G. L. Leach) **99k:70013** 70F20 (58F07, 70H33)

Liu, Ru Xun (*with* Zhang, Meng Ping) Numerical analysis and construction of limiter of high resolution difference scheme. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 7, 677–686; *translated from Appl. Math. Mech.* **19** (1998), *no.* 7, 631–640 (*Chinese. English and Chinese summaries*). 65M06 (76M20)

— (*with* Zhang, Meng Ping) A theoretical analysis of numerical filters. (Chinese. English and Chinese summaries) *J. China Univ. Sci. Tech.* **28** (1998), *no.* 4, 433–438. 65M12

(65M06)
— (*with* Luo, Zhen Dong) Mixed finite element analysis and numerical solitary solution for the RLW equation. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 89–104 (*electronic*). (Ruxandra Stavre) **99j:65173** 65M60 (65N30, 76M10)
Liu, Ru Yan A study of the relationships among some basic formulas in integral calculus. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 4, 75–77. 26B20
Liu, Rui Sheng (*with* Sun, Ji Gui; Liu, Xu Hua) Epistemic logic. I. A logical framework for knowledge and belief. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 627–637. (Summary) **99m:68196** 68T30 (03B45, 03B70, 68T27)
— (*with* Sun, Ji Gui; Liu, Xu Hua) Epistemic logic. II. The multi-agent epistemic logic MEL. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 638–641. (From the summary) **99m:68197** 68T30 (03B45, 03B70, 68T27)
Liu, S. *see* **Liu, Shuang Zhe**
Liu, S. T. *see* **Liu, Shu Tang[2]**
Liu, San Ming (*with* Gao, Ke Quan) Duality in nonsmooth multiobjective fractional programming. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 105–108, 112. 90C29 (49N15)
Liu, San Yang (*with* Zhang, Jiang Tao; Huang, He Jiao) Sufficient conditions and duality theorems for solutions to nonconvex fractional multiobjective programming problems with different denominators. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 43–48. 90C29 (49N15)
Liu, Shao Ping Global steady-state bifurcation of a class of epidemic models. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 4, 109–112. (Summary) **99a:92034** 92D30
— Stable positive steady-state solutions for a three-species predator-prey system. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **25** (1997), *no.* 7, 106–109. (Summary) **99c:92043** 92D25 (35Q80)
Liu, Shao Wu (*with* Li, Shujuan; Liu, Yanbin) Linear maps on $M_n(\mathbf{Z})$ preserving linear groups. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 9–11. (Summary) **99c:20067** 20G30
— Automorphisms of singular symplectic groups over a field. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 2, 251–258. (Chang Kun Liu) **99m:20105** 20G15 (20F28)
Liu, Shawn X. Restricted optimal designs for linear and quadratic polynomial regressions. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 1, 33–46. (Summary) **99d:62072** 62K05
— (*with* Wiens, Douglas P.) Robust designs for approximately polynomial regression. (English summary) *J. Statist. Plann. Inference* **64** (1997), *no.* 2, 369–381. (Christine Hildegard Müller) **99e:62129** 62K05 (62F35, 62J05)
Liu, Shen Quan[1] (*with* Wu, Min Sheng; Wang, Jie Sheng) Permutation transforms of images. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 514–519. 68U10
— (*with* Su, Cheng; Xu, Ying Qing; Li, Hua; Li, Dong Guo) Necessary and sufficient condition of positive root number of perspective-three-point problem. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 12, 1084–1095. 68U10 (68T10)
— (*with* Li, Bin[2]; Liang, Xundong) A surface rendering approach in 3D rectilinear datafield. (English summary) *J. Comput. Sci. Tech.* **13** (1998), *no.* 3, 220–227. (Summary) **99a:68172** 68U05
Liu, Shen Quan[2] (*with* Lu, Qishao) Scroll waves in excitable media and the motion of organization center. (English summary) *Recent advances in differential equations* (*Kunming*, 1997), 179–188, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99f:92002** 92C05 (35K55, 35Q80, 92B05)
Liu, Sheng[1] (*with* Guan, Ke Ying; Lei, Jinzhi) The Lie algebra admitted by an ordinary differential equation system. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 131–142. (Summary) **99e:34012** 34A34 (34A05, 34A26)
Liu, Shenquan *see* **Liu, Shen Quan[2]**
Liu, Shewen (*with* Katz, Joseph; Meneveau, Charles) Evolution and modelling of subgrid scales during rapid straining of turbulence. (English summary) *J. Fluid Mech.* **387** (1999), 281–320. 76F99
Liu, Shi Ze (*with* Wu, Yun Hua; Yuan, Xiao Feng) Hopf bifurcations in a class of three-dimensional ecological dynamical systems. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 70–77. (Summary) **99b:92061** 92D40 (34C23)
Liu, Shida (*with* Liu, Shikuo) The earth science and nonlinear science. *Chinese Sci. Bull.* **43** (1998), *no.* 8, 624–627. 86A10
Liu, Shikuo (*with* Liu, Shida) The earth science and nonlinear science. *Chinese Sci. Bull.* **43** (1998), *no.* 8, 624–627. 86A10
Liu, Shiping (*with* Assem, Ibrahim) Strongly simply connected algebras. *J. Algebra* **207** (1998), *no.* 2, 449–477. (Steffen König) **99e:16018** 16G10 (16G70)
Liu, Shongtao *see* **Liu, Song Tao**
Liu, Shu Tang[2] (*with* Zhang, Bing Gen) Necessary and sufficient conditions for oscillations of hyperbolic type partial difference equations. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 649–656, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:39051** 39A10
— (*with* Chen, Shaozhu) Exponential growth and oscillation of nonlinear homogeneous difference equations. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 327–337. (E. Thandapani) **99f:39004** 39A10
— (*with* Cheng, Sui Sun) Existence of positive solutions of a partial difference equation. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 3, 387–392. (I. P. Stavroulakis) **99g:39009** 39A10
— (*with* Cheng, Sui Sun) Oscillation criteria for a nonlinear difference equation. (English summary) *Far East J. Math. Sci.* **5** (1997), *no.* 4, 657–672. (T. J. Mahar) **99d:39010** 39A10 (34C10)
— (*with* Cheng, Sui Sun) Comparison theorems for a nonlinear three-term equation. (English summary) *Tamkang J. Math.* **28** (1997), *no.* 4, 313–319. (L. A. V. Carvalho) **99d:39011** 39A10
— (*with* Zhang, Bing Gen) Oscillation of partial difference equations with variable coefficients. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 235–242. (Summary) **99k:39049** 39A10
— (*with* Wang, Hui[1]) Necessary and sufficient conditions for oscillations of a class of delay partial difference equations. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 4, 495–500. (Summary) **99k:39027** 39A10
Liu, Shu Zhong Construction of polar topologies with the same convergent sequences as locally convex topologies. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 6, 774–777. (Summary) **99c:46003** 46A20 (46A03)
Liu, Shuang Zhe (*with* Neudecker, Heinz) Kantorovich inequalities and efficiency comparisons for several classes of estimators in linear models. (English summary) *Statist. Neerlandica* **51** (1997), *no.* 3, 345–355. (Song Gui Wang) **99b:62106** 62J05 (15A42)
— (*with* Polasek, W.; Jin, Song) Heteroskedastic linear regression models—a Bayesian analysis. (English summary) *Classification, data analysis, and data highways* (*Potsdam*, 1997), 182–191, *Stud. Classification Data Anal. Knowledge Organ., Springer, Berlin*, 1998. (*see* **99g:62002**) 62J05 (62F15)
Liu, Shuiqiang Maximally holomorphic functions of a bounded linear operator. (English summary) *Hunan Ann. Math.* **18** (1998), *no.* 1, 118–121. (F.-H. Vasilescu) **99h:47007** 47A11 (47A60)
— Maximally holomorphic functions of a bounded linear operator. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 1, 21–24. (F.-H. Vasilescu) **99g:47008** 47A11 (47A10)
Liu, Shun Bao (*with* Xu, Wang Wen) The asymptotic behavior of a class of delay difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 1, 48–52. (Guang Zhang) **99a:39038** 39A10
— (*with* Zhou, Zhan) Global attractivity of difference equations. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **24** (1997), *no.* 6, 4–8. (Summary) **99h:39016** 39A10
— (*with* Xuan, Heng Nong; Luo, Xian Fa; Zhang, Ting Xuan) A uniform boundedness principle for a family of operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao* (*Ziran Kexue*) **16** (1998), *no.* 2, 8–10. 47A05
— (*with* Li, Xiao Yan[1]) Qualitative analysis of a class of nonlinear systems. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 126–128. (Xue Min Li) **99i:34045** 34C05
Liu, Shutang *see* **Liu, Shu Tang[2]**
Liu, Song Hui The asymptotic behavior of positive solutions to the quadratic logistic equation. (Chinese) *Hunan Ann. Math.* **18** (1998), *no.* 1, 39–42. 39A10
Liu, Song Tao A note on convexity-preserving interpolation subdivision. *Comput. Aided Geom. Design* **15** (1998), *no.* 8, 863–865. 65D17 (41A29)
— (*with* Zeng, She Rong; Li, Zheng Qi) Smooth interpolation of a discrete set of points on a surface. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 51–56. (*see* **99k:65006**) 65D17
Liu, Songhao (*with* Wen, Shuangchun; Xu, Wencheng; Guo, Qi[2]) Evolution of solitons of nonlinear Schrödinger equation with variable parameters. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 12, 1300–1304. (Nakao Hayashi) **99a:35244** 35Q55 (35Q60, 78A60)
Liu, Su Fang Inequalities for determinants of positive definite real matrices. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 83–86. 15A45 (15A15, 15A48)
Liu, Tai-Ping (*with* Yu, Shih-Hsien) Propagation of a stationary shock layer in the presence of a boundary. (English summary) *Arch. Rational Mech. Anal.* **139** (1997), *no.* 1, 57–82. (V. D. Sharma) **99b:35137** 35L65 (76L05, 76N10)
— (*with* Xin, Zhouping) Pointwise decay to contact discontinuities for systems of viscous conservation laws. (English summary) *Asian J. Math.* **1** (1997), *no.* 1, 34–84. (V. D. Sharma) **99b:35138** 35L65 (35D99, 76N15)
— (*with* Yang, Tong) Compressible Euler equations with vacuum. (English summary) *J. Differential Equations* **140** (1997), *no.* 2, 223–237. (Rodolfo Salvi) **99a:35202** 35Q30 (76N10)
— (*with* Wang, Weike) The pointwise estimates of diffusion wave for the Navier-Stokes systems in odd multi-dimensions. (English summary) *Comm. Math. Phys.* **196** (1998), *no.* 1, 145–173. (Jürgen Socolowsky) **99i:35127** 35Q30 (35B45, 76D05)
— Zero dissipation and stability of shocks. (English summary) *Methods Appl. Anal.* **5** (1998), *no.* 1, 81–94. (Fumioki Asakura) **99m:35155** 35L67 (35B40, 35L65, 76L05)
— (*with* Matsumura, Akitaka; Nishihara, Kenji) Behaviors of solutions for the Burgers equation with boundary corresponding to rarefaction waves. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 2, 293–308 (*electronic*). (Summary) **99a:35184** 35L70 (35Q53, 76L05)
— (*with* Yang, Tong) L_1 stability for 2×2 systems of hyperbolic conservation laws. (English summary) *J. Amer. Math. Soc.* **12** (1999), *no.* 3, 729–774. (Yu. G. Rykov) **99j:35135** 35L65 (35B35)
Liu, Tai Shun (*with* Liu, Cong Wen; Zhang, Wen Jun) An interpolation characterization of domains of holomorphy. *Chinese Sci. Bull.* **42** (1997), *no.* 23, 1954–1956. (Siqi Fu) **99h:32011** 32D05 (32E30)
— (*with* Zhang, Wen Jun) R-W polynomials and existence of inner functions on classical domains. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 235–240. (Yan Da Zhao) **99h:32004** 32A07
— (*with* Ren, Guang-bin) Decomposition theorem of normalized biholomorphic convex mappings. (English summary) *J. Reine Angew. Math.* **496** (1998), 1–13. (I-Hsun Tsai) **99e:32034** 32H02
— (*with* Ren, Guang-bin) Growth theorem of convex mappings on bounded convex circular domains. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 123–130. (T. J. Suffridge) **99c:32033** 32H02
Liu, Ting-zhan (*with* Li, Guangye) A column-secant update technique for solving system of nonlinear equations. (English summary) *Numer. Math. J. Chinese Univ.* (*English Ser.*) **4** (1995), *no.* 2, 193–206. (Tjalling Ypma) **99d:65165** 65H10
Liu, Tong Formulae of type Ankeny-Artin-Chowla for class numbers of general cyclic sextic fields. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 824–826. (Ken Yamamura) **99k:11175** 11R29 (11R20)
— The Ankeny-Artin-Chowla formula over sextic cyclic number fields. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 5, 471–474. 11R20 (11R29)

Liu, Tong Kai Stochastic summation processes and their applications. (Chinese) *Sichuan Daxue Xuebao* **35** (1998), *no.* 5, 784–786. 60G07

Liu, Tsong-Zen (*with* Yen, Vincent C.) An inverse dynamics-based dynamic programming method for optimal control problems of linear systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 5, 363–370. 49L20 (49M30)

Liu, W. *see* **Liu, Wenxiong**

Liu, W. B. *see* **Liu, Wen Bin**

Liu, W. K. *see* **Liu, Wing Kam**

Liu, Wan Quan (*with* Teo, Kok Lay; Yan, Wei Yong) Optimal simultaneous stabilization of descriptor systems via output feedback. (English summary) *Internat. J. Control* **64** (1996), *no.* 4, 595–613. 93D15 (93C30)

— (*with* Sreeram, V.; Teo, Kok Lay; Gao, Feng[1]) Feedback control of singular decentralized systems with direct control feedthrough. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 831–841. 93B52 (93A14)

— (*with* Teo, Kok Lay; Yan, Wei Yong; Sreeram, V.) On initial jumps for singular systems in connection with LQ optimal control. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 7, 1207–1213. 49N10 (93E20)

— (*with* Diab, Mahmoud; Sreeram, V.) A new approach for frequency weighted L_2 model reduction of discrete-time systems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 3, 147–167. (Summary) **99e:93012** 93B11 (93C55)

— (*with* Sreeram, V.; Teo, Kok Lay) Model reduction for state-space symmetric systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 4, 209–215. (Summary) **99d:93008** 93B11 (93C05)

— (*with* Diab, Mahmoud; Sreeram, V.) Frequency-weighted model reduction via quasi-Kalman decomposition. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 1, 139–144. (Summary) **99j:93101** 93E11 (93B11)

Liu, Wan Rong Some properties of a dispersive ordering of p-dimensional distribution functions. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 4, 18–22. 62E15

Liu, Wei (*with* Feng, Wei[1]; Lu, Xin) Comparison and numerical simulations for diffusive models of resource and sexual competition. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2765–2774. (Qi Xiao Ye) **99e:35224** 35Q80 (35B40, 35K57, 92D40)

Liu, Wei (*with* Basu, Sanjib[2]; Jammalamadaka, Sreenivasa Rao) Stability and infinitesimal robustness of posterior distributions and posterior quantities. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 151–162. (Marek Męczarski) **99m:62011** 62C10 (60A10, 62F35, 62G35)

Liu, Wei[4] A k-stage sequential sampling procedure for estimation of normal mean. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 109–127. (M. B. Woodroofe) **99e:62139** 62L12

— (*with* Tamhane, Ajit C.; Dunnett, Charles W.) A generalized step-up-down multiple test procedure. (English and French summaries) *Canad. J. Statist.* **26** (1998), *no.* 2, 353–363. 62F05 (92C50)

Liu, Wei-Jiu (*with* Williams, Graham H.) The exponential stability of the problem of transmission of the wave equation. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 305–327. (A. O. Oganesyan) **99b:35112** 35L05 (35B35, 35L20)

— Local boundary controllability for the semilinear plate equation. (English summary) *Comm. Partial Differential Equations* **23** (1998), *no.* 1-2, 201–221. (Sergei A. Ivanov) **99b:93010** 93B05 (35L99, 73K10, 73K50, 93C20)

— (*with* Williams, Graham H.) Partial exact controllability for the linear thermo-viscoelastic model. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 17, 11*pp.* (*electronic*). (Guenter Leugering) **99m:73006** 73B30 (35Q72, 73F15, 93B05)

— Partial exact controllability and exponential stability in higher-dimensional linear thermoelasticity. (English summary) *ESAIM Control Optim. Calc. Var.* **3** (1998), 23–48 (*electronic*). (Guenter Leugering) **99i:93056a** 93D15 (35Q72, 73B30, 73C50, 93C20)

— Correction to: "Partial exact controllability and exponential stability in higher-dimensional linear thermoelasticity". *ESAIM Control Optim. Calc. Var.* **3** (1998), 323–327 (*electronic*). (Guenter Leugering) **99i:93056b** 93D15 (35Q72, 73B30, 73C50, 93C20)

— The exponential stabilization of the higher-dimensional linear system of thermoviscoelasticity. (English summary) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 4, 355–386. (Gustavo Perla Menzala) **99f:35208** 35Q72 (35B40, 45K05, 73B30, 73F15, 93D15)

Liu, Wei-Ping (*with* Hall, Nicholas G.; Sidney, Jeffrey B.) Scheduling in broadcast networks. (English summary) *Networks* **32** (1998), *no.* 4, 233–253. (Yuri Nazarovich Sotskov) **99j:90028** 90B12 (68M10, 90B35)

Liu, Wei Ping (*with* Jia, Wu) The topological representation and properties of distributive lattices with the disjunctive property. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **18** (1998), *no.* 4, 400–402. 06D05

Liu, Wen[1] A kind of strong deviation theorem for sequences of nonnegative integer-valued random variables. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **17** (1997), *no.* 4, 375–381. (Summary) **99e:60086** 60F15 (60F10, 62E20)

— (*with* Yang, Wei Guo[1]; Zhang, Li Na) A class of strong limit theorems for sequences of arbitrary random variables. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 4, 537–544. (Summary) **99e:60087** 60F15

— A class of small deviation theorems for the sequences of nonnegative integer-valued random variables. (English summary) *Taiwanese J. Math.* **1** (1997), *no.* 3, 291–302. (Sujit K. Basu) **99d:60044** 60F15

— A class of strong deviation theorems and Laplace transform methods. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 10, 1036–1041. 60F10 (40A10)

— An approach to construct the singular monotone functions by using Markov chains. (English summary) *Taiwanese J. Math.* **2** (1998), *no.* 3, 361–368. (Rimas Norvaiša) **99h:26014** 26A30 (60J10)

Liu, Wen Bin Degenerate quasilinear elliptic equations arising from bimaterial problems in elastic-plastic mechanics. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 517–529. (Zuchi Chen) **99j:35080** 35J70 (35J60, 35Q72, 73E99)

Liu, Wen De A class of infinite groups: the SC-groups. I. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 9–12. 20F99

— (*with* Wang, Yu Wen) Linear generalized inverses of linear mappings in infinite-dimensional linear spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 5–8. (Shao Kuan Li) **99h:47003** 47A05

— A class of infinite groups: the SC-groups. II. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 3, 33–36. 20E26

— Inner and outer SC-groups. I. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 8–10. 20F99

Liu, Wen Sen (*with* Ma, Gui Rong; Zhang, Jiu An; Liang, Jiu Qing) Squeezed boson-pair number states in a quantum Bose fluid. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **46** (1997), *no.* 9, 1699–1709. (Summary) **99d:82011** 82B10

Liu, Wenju (*with* Zhang, Lian Wen) A model approximation scheme for planning in partially observable stochastic domains. (English summary) *J. Artificial Intelligence Res.* **7** (1997), 199–230 (*electronic*). (Aleksey B. Piunovskiĭ) **99d:90138** 90C40 (93E20)

Liu, Wensen (*with* Markenscoff, Xanthippi; Paukshto, M. V.) Application of the Cosserat spectrum theory to viscoelasticity. (English summary) Proceedings of a Symposium on the Dynamic Deformation and Failure Mechanics of Materials (Pasadena, CA, 1997). *J. Mech. Phys. Solids* **46** (1998), *no.* 10, 1969–1980. (Summary) **99j:73061** 73F15

Liu, Wenxiong Uniqueness of lower semicontinuous solutions for Hamilton Jacobi equations arising from L^∞ control problem. (English summary) *Proceedings of the Conference on Nonlinear Evolution Equations and Infinite-dimensional Dynamical Systems* (*Shanghai*, 1995), 111–120, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:49034** 49L25 (49K15)

— (*with* Barron, E. N.; Jensen, Robert R.) The L^∞ control problem with continuous control functions. *Nonlinear Anal.* **32** (1998), *no.* 1, 1–14. (Sabine Pickenhain) **99a:49029** 49K15 (49K27)

— (*with* Barron, E. N.; Jensen, Robert R.) Applications of the Hopf-Lax formula for $u_t + H(u, Du) = 0$. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 4, 1022–1039 (*electronic*). (Summary) **99a:35024** 35F20 (35B45, 49L10, 90D25)

Liu, Wing Kam (*with* Belytschko, Ted; Singer, Michael A.[2]) On adaptivity and error criteria for meshfree methods. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 217–228, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 65N15 (65N30)

— (*with* Li, Shaofan) Synchronized reproducing kernel interpolant via multiple wavelet expansion. (English summary) *Comput. Mech.* **21** (1998), *no.* 1, 28–47. (Don Hong) **99e:65009** 65D05 (41A05, 46N40)

— (*with* Günther, Frank C.) Implementation of boundary conditions for meshless methods. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 205–230. (Summary) **99f:76102** 76M25

Liu, X. *see* **Liu, Xiaoqing**

Liu, Xi Min Totally real minimal submanifolds in a quaternion projective space. (English summary) *Ann. Polon. Math.* **69** (1998), *no.* 1, 31–36. (Paolo Piccinni) **99d:53067** 53C42 (53C15, 53C20)

— Totally complex submanifolds in $\mathbf{CaP}^2$. (English summary) *Bull. Korean Math. Soc.* **35** (1998), *no.* 1, 141–148. (Hillel Gauchman) **99g:53058** 53C40 (53C56)

— Totally real minimal submanifolds in $QP^n(c)$. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 2, 211–214. (Paolo Piccinni) **99d:53068** 53C42 (53C15, 53C20)

— Totally complex submanifolds of the Cayley projective plane. (English summary) *Glasgow Math. J.* **40** (1998), *no.* 2, 161–166. (Hillel Gauchman) **99f:53059** 53C40 (53C56)

— C-totally real pseudo-umbilical submanifolds of a Sasakian space form. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 417–421. (Bang-yen Chen) **99g:53059** 53C40

— Semi-invariant submanifolds of a locally product manifold. (Chinese. English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 108–109. 53C40

— 3-C-totally real submanifolds of a 3-Sasakian manifold. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 2, 93–97. 53C25 (53C40)

— Totally complex submanifolds of the Cayley projective plane. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 1, 113–119. (Hillel Gauchman) **99i:53058** 53C40

— Totally real surfaces in QP^2 with parallel mean curvature vector. (English summary) *Bull. Inst. Math. Acad. Sinica* **27** (1999), *no.* 1, 77–83. (Jürgen Berndt) **99m:53119** 53C42 (53C40)

Liu, Xi Ping (*with* Jia, Mei; Ge, Wei Gao) A class of nonautonomous functional-differential iterative equations. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 249–256. (Summary) **99g:34132** 34K05

Liu, Xi Yu Global structure of solutions of superlinear singular boundary value problems. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 2, 227–234. (Summary) **99f:34028** 34B15 (47H15, 47N20)

— Solutions of impulsive integrodifferential boundary value problems with countable impulses. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 3, 419–438. (Lidia Skóra) **99g:34135** 34K10 (34A37, 45J05)

— Solutions of impulsive boundary value problems on the half-line. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 411–430. (Juan J. Nieto) **99h:34035** 34B15 (34A37)

— (*with* Wang, Qing[4]) Solutions to impulsive singular boundary value problems. (Chinese. English and Chinese summaries) *J. Qingdao Univ. Nat. Sci. Ed.* **11** (1998), *no.* 1, 36–40. (Xi Yu Liu) **99d:34121** 34K10 (34A37, 45G05, 45J05)

— Positive solutions to a class of models of gas flow through porous materials. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 1, 125–128. 34B15 (76S05)

— (*with* Yan, Baoqiang) Multiple solutions of impulsive boundary value problems on the half-line. (English summary) *Korean J. Comput. Appl. Math.* **5** (1998), *no.* 1, 111–123. (Lidia Skóra) **99a:34177** 34K10 (34A37, 45J05)

— (*with* Yan, Baoqiang) Boundary-irregular solutions to singular boundary value problems. *Nonlinear Anal.* **32** (1998), *no.* 5, 633–646. (L. E. Bobisud) **99b:34045** 34B15

— Positive solutions for a class of singular boundary value problems. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 11–13, 10. 34B15

Liu, Xian Bin (*with* Chen, Qiu; Sun, Xun Fang) Bifurcation systems of codimension 2 excited parametrically by white noise. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **29** (1997), *no.* 5, 563–572. (Bei Ye Feng) **99b:34070** 34C23 (34F05, 58F14)

Liu, Xian Feng Long-time computation for initial value problems. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 3, 25–30. 65L06

Liu, Xianfang Algebraic surfaces of general type with $K^2 = 2p_g - 1$, $p_g \geq 5$. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 1, 157. *Acta Math. Sinica (N.S.)* **12** (1996), *no.* 3, 234–243. (Summary) **99d:14031** 14J29

Liu, Xiang Dong (*with* Zhu, Wei Yong; Wang, Guo Dong) Analysis of chaotic behavior of the six-roll UC mill and its OGY control. (Chinese. English and Chinese summaries) *J. Northeast. Univ. Nat. Sci.* **19** (1998), *no.* 6, 591–594. 58F13

Liu, Xiang Jie (*with* Chai, Tian You; Zhang, Huan Shui) Structural analysis of three-dimensional fuzzy controllers. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 230–235. 93C42

Liu, Xiang Lin (*with* Chen, Qinghui; Zhang, Baocai) The symmetry constraint and Levy evolution equation hierarchy. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 526–533. 35Q58 (58F37)

— (*with* Wang, Zhi Hui) A new complex involutive system and representation of solutions of TD equations. (Chinese) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 308–312. 58F07

Liu, Xiang Wu The chromatic equivalence problem for a class of graphs. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 1–4. 05C15

Liu, Xianxing (*with* Wen, Chenglin) Constitution of Hamiltonian function and solution of optimal control of a sort of performance index. (English summary) *Chinese Quart. J. Math.* **13** (1998), *no.* 2, 97–102. 49K15 (49L20)

Liu, Xianzhong Conditions for a primitive ring to be a division ring. (English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 102–104. 16D60

Liu, Xiao Bing A new method for deriving generalized master equation. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **11** (1996), *no.* 3, 284–288. (Summary) **99d:82044** 82C10

— (*with* Shi, Xianghua; Zhou, Ming) Exact, general and asymptotic solutions of generalized master equation and continuous-time random walks. (English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 3, 291–295. (Summary) **99k:60181** 60J15 (60J25)

— (*with* Shi, Xianghua; Zhou, Ming) The general theory of generalized transport coefficient. I. (English summary) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 4, 400–405. 82C70

Liu, Xiao Dong[1] The fuzzy sets and systems based on AFS-structure, *EI* algebra and *EII* algebra. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 2, 179–188. (Siegfried Gottwald) **99j:03056** 03G25 (03E72, 06B99)

— The topology of AFS structure and AFS algebras. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 479–489. (Summary) **99b:04002** 04A72

Liu, Xiao Hua (*with* Zhang, Xinzheng; Gao, Cun Chen) Stabilization decomposition of neutral linear time-varying interconnected control systems with the multi-group multi-delays. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 794–801. 93D15 (93C30)

— A note on the paper: "Homomorphisms and isomorphisms of L-fuzzy groups and their properties" [Mohu Xitong yu Shuxue **9** (1995), no. 1, 33–38] by T. Lu and C. Z. Luo. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 2, 10–13. 20N25 (04A72)

Liu, Xiao Ji The sharp ordering of the set of morphisms in a category. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 2, 129–132. 18A99

— Generalized Moore-Penrose inverses of morphisms. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 267–270. 15A09

Liu, Xiao Jian (*with* Begg, David William) Sensitivity analysis of smart structures. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 311–322. 90C90 (73K50)

Liu, Xiao-Jin (*with* Kako, Takashi) Higher order radiation boundary condition and finite element method for scattering problem. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 2, 801–819. (Hassan Emamirad) **99j:65209** 65N30 (76M10, 76Q05, 78–08, 78A45)

Liu, Xiao Mao (*with* Zhang, Jun[7]) Admissible linear estimates of nonestimable parameter functions in a linear model. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 63–66. 62C15 (62J05)

Liu, Xiao Ping (*with* Jin, Wen Hua; He, Tao; Tang, Wei Qing; Tang, Rong Xi) A fast convex hull algorithm for planar point sets based on sorted simple polygons. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 6, 533–539. (Summary) **99k:68194** 68U05

Liu, Xiao Ping[2] (*with* Čelikovský, Sergej) Feedback control of affine nonlinear singular control systems. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 753–774. 93B52 (93C70)

— (*with* Wang, Jing) Invertibility of affine nonlinear singular control systems. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 2, 254–257. 93B17

— Asymptotic output tracking of nonlinear differential-algebraic control systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 3, 393–397. (Maria do Rosário de Pinho) **99c:93051** 93C10 (93B52)

— Local disturbance decoupling of nonlinear singular systems. (English summary) *Internat. J. Control* **70** (1998), *no.* 5, 685–702. (Summary) **99d:93057** 93D15 (93B51)

— Input-output decoupling of linear time-varying singular systems. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1016–1021. 93B11 (93C05)

Liu, Xiao-qi (*with* Lin, Qin) Global superconvergence estimates of finite element method for Schrödinger equation. (English summary) *J. Comput. Math.* **16** (1998), *no.* 6, 521–526. (Summary) **99j:65171** 65M60

Liu, Xiao Qing[2] (*with* Li, Chunwah; Wu, Sheng-chang) Discretization of jump stochastic differential equations in terms of multiple stochastic integrals. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 375–384. (Summary) **99e:60123** 60H05 (60H10, 65U05)

Liu, Xiao Shi Pointwise paracompactness on lattices. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 391–396. 54D20 (06F30)

— A measurable control multiple parameter algorithm and its convergence. (Chinese. Chinese summary) *Sichuan Daxue Xuebao* **35** (1998), *no.* 2, 278–280. 49M30 (49J15)

— A discussion of supremum properties of some cardinal functions on topological molecular lattices. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 3, 339–343. 06F30

Liu, Xiao Yi *see* **Liu, Xiao Ji**

Liu, Xiaobing *see* **Liu, Xiao Bing**

Liu, Xiaodong *see* **Liu, Xiao Dong[1]**

Liu, Xiaojian *see* **Liu, Xiao Jian**

Liu, Xiaoping *see* **Liu, Xiao Ping[2]**

Liu, Xiaoqing (*with* Pastor, M.; Zienkiewicz, O. C.; Li, Tongchun; Huang, Maosong) Stabilized finite elements with equal order of interpolation for soil dynamics problems. (English summary) *Arch. Comput. Methods Engrg.* **6** (1999), *no.* 1, 3–33. 73V05 (65M60, 73Q05)

— (*with* Pastor, M.; Li, Tongchun; Zienkiewicz, O. C.) Stabilized low-order finite elements for failure and localization problems in undrained soils and foundations. (English summary) *Comput. Methods Appl. Mech. Engrg.* **174** (1999), *no.* 1-2, 219–234. 73Q05 (73V05)

Liu, Xin *see* **Liu, Xin[3]**

Liu, Xin[2] (*with* Meng, Ji-Xiang) The diameters of almost all Cayley digraphs. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **13** (1997), *no.* 4, 410–413. (Qaiser Mushtaq) **99b:05075** 05C25

— (*with* Berman, Kenneth A.) Cycles through large degree vertices in digraphs: a generalization of Meyniel's theorem. (English summary) *J. Combin. Theory Ser. B* **74** (1998), *no.* 1, 20–27. (Summary) **99e:05080** 05C38 (05C20)

Liu, Xin[3] (*with* Pardalos, Panos M.) A tabu based pattern search method for the distance geometry problem. (English summary) *New trends in mathematical programming*, 223–234, *Appl. Optim.*, 13, *Kluwer Acad. Publ., Boston, MA*, 1998. (*see* **99c:90004**) 92C55 (90C30, 92D20)

Liu, Xin Guo The Wilkinson condition numbers of generalized eigenvalues. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 3, 233–240. (Summary) **99b:65046** 65F15 (65F35)

— An application of the Rayleigh quotient theory to deflation techniques for matrix eigenvalues. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 345–352. (Summary) **99b:65047** 65F15

— Note on the QR factorization with exponential windowing. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 195–199. 65H20 (65F15)

— Perturbation analysis for the generalized linear least squares problem. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 11–15. 90C31 (65F15)

— A simple iteration for solving the matrix equation $X + A^H X^{-1} A = I$. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 2, 163–167. (Summary) **99h:65082** 65F30 (65F10, 65H20)

— (*with* Li, Xiao Ping[2]) A class of constrained eigenvalue problems. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 1, 8–13. (Summary) **99c:65116** 65K05 (15A18, 65F15)

Liu, Xin Wang (*with* Da, Qing Li) A fuzzy critical path approximation method. (Chinese. English and Chinese summaries) *J. Southeast Univ.* **27** (1997), *no.* 5, 119–122. 90C70 (90C35)

— (*with* Da, Qing Li) The solution of fuzzy linear programming problems with a function of constraint satisfaction. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **13** (1998), *no.* 3, 35–40. 90C05 (90C70)

Liu, Xing Ping (*with* Hu, Jiagan) $\|A^{-1}\|_\infty$ and equidiagonal-dominance. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 433–442. (Dao Sheng Zheng) **99k:15043** 15A60 (65F10)

— (*with* Gu, Tong Xiang) Parallel two-stage multisplitting iterative methods. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 2, 153–166. (Summary) **99e:65055** 65F10

Liu, Xing Quan (*with* Tian, Shen; Xia, Chuan Wu) The uniformly normal structure of Orlicz sequence spaces l_M^0 with Orlicz norm. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 22–27. (Bor-Luh Lin) **99f:46028** 46B45 (46E30)

— Correction and analysis of Kornai-Weibull queue model with the waiting buyers. (English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 2, 201–212. 90B22 (90A60)

Liu, Xinjun (*with* Gao, Feng; Gruver, William A.) Performance evaluation of two-degree-of-freedom planar parallel robots. (English summary) *Mech. Mach. Theory* **33** (1998), *no.* 6, 661–668. (Summary) **99f:70008** 70B15

Liu, Xinming (*with* West, Douglas B.) Line digraphs and coreflexive vertex sets. (English summary) *Discrete Math.* **188** (1998), *no.* 1-3, 269–277. (Summary) **99a:05056** 05C20

Liu, Xinxin (*with* Smolka, Scott A.) Simple linear-time algorithms for minimal fixed points (extended abstract). (English summary) *Automata, languages and programming (Aalborg, 1998)*, 53–66, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68Q60

— (*with* Walker, David James) Partial confluence of processes and systems of objects. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 127–162. (Summary) **99f:68062** 68Q10 (68N15, 68Q55)

Liu, Xinzhi (*with* Guo, Dajun) Periodic boundary value problems for impulsive integro-differential equations of mixed type in Banach spaces. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 5, 658. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 4, 517–528. (Eduardo Liz) **99k:45022** 45J05 (34A37, 34K30)

— (*with* Zhang, Shenghai) A cell population model described by impulsive PDEs—existence and numerical approximation. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 8, 1–11. (Anthony Leung) **99m:92033** 92D25 (34G20, 35Q80)

— (*with* Fu, Xi Lin) Stability criteria in terms of two measures for discrete systems. (English summary) Advances in difference equations, II. *Comput. Math. Appl.* **36** (1998), *no.* 10-12, 327–337. (V. G. Kurbatov) **99k:39056** 39A11 (93D05)

— (*with* Lakshmikantham, V.) Impulsive hybrid systems and stability theory. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 1, 1–9. (O. S. Chernikova) **99b:34025** 34A37 (34D20)

— (*with* Fu, Xi Lin) Oscillation criteria for high order delay partial differential equations. (English summary) *J. Appl. Math. Stochastic Anal.* **11** (1998), *no.* 2, 193–208. (Ludwik Byszewski) **99g:35137** 35R10 (35B05)

— (*with* Vatsala, Aghalaya) Variation of parameters in terms of Lyapunov-like functions and stability of perturbed systems. (English summary) *Nonlinear Stud.* **5** (1998), *no.* 1, 47–58. (Zephyrinus C. Okonkwo) **99d:34087** 34D05 (34D10, 34D20)

— A generalization of variation of parameters and Lyapunov's method. (English summary) *Differential equations with applications to biology (Halifax, NS, 1997)*, 377–385, *Fields Inst. Commun.*, 21, *Amer. Math. Soc., Providence, RI*, 1999. (T. A. Burton) **99j:34072** 34D20

— (*with* Fu, Xi Lin) On boundedness of solutions of functional-differential systems with infinite delay. (English summary) *Appl. Anal.* **70** (1999), *no.* 3-4, 269–280. (Summary) **99m:34159** 34K15

— (*with* Fu, Xi Lin) High order nonlinear differential inequalities with distributed deviating arguments and applications. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 147–167. (I. P. Stavroulakis) **99m:34163** 34K15 (35R10)

— *see also* **Differential equations and dynamical systems, 99m:34001**

Liu, Xiqiang Exact solutions of the variable coefficient KdV and SG type equations. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 25–30. (Roman O. Popovich) **99e:35200** 35Q53 (35A30, 35C05)

Liu, Xiu Ping (*with* Wang, Wen Ju; Wang, Ren-Hong) The resultant algorithm for the intersection points of piecewise algebraic curves. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **19** (1999), *no.* 1, 125–129. 65D07 (41A15)

Liu, Xu-Dong (*with* Osher, Stanley) Convex ENO high order multi-dimensional schemes without field by field decomposition or staggered grids. (English summary) *J. Comput. Phys.* **142** (1998), *no.* 2, 304–330. (Summary) **99b:76056** 76M20 (65M12)

— (*with* Tadmor, Eitan) Third order nonoscillatory central scheme for hyperbolic conservation laws. (English summary) *Numer. Math.* **79** (1998), *no.* 3, 397–425. (Bruno Scheurer) **99h:65149** 65M06 (35L65)

Liu, Xu Hua (*with* Liu, Rui Sheng; Sun, Ji Gui) Epistemic logic. I. A logical framework for knowledge and belief. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 627–637. (Summary) **99m:68196** 68T30 (03B45, 03B70, 68T27)

— (*with* Liu, Rui Sheng; Sun, Ji Gui) Epistemic logic. II. The multi-agent epistemic logic MEL. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 7, 638–641. (From the summary) **99m:68197** 68T30 (03B45, 03B70, 68T27)

Liu, Xue Ying (*with* Shi, Bao Chang) A quasi-descent algorithm for function optimization based on a genetic algorithm. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 11, 104–106. 90C30 (65K05)

Liu, Xuguo (*with* Wang, Yue Bao; Su, Chun) Equivalent conditions of complete convergence for independent weighted sums. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 9, 939–949. (Gheorghe Stoica) **99k:60092** 60F15 (60G50)

Liu, Y. *see* **Liu, Yong**

Liu, Y. C. *see* **Liu, Yung-Chin**

Liu, Y. F. *see* **Liu, Yu Fen**

Liu, Y. T. *see* **Liu, Yuk Tung**

Liu, Ya Cheng (*with* Liu, Ying[2]; Xie, Gui Lin) Initial-boundary value problems for systems of semilinear pseudoparabolic equations in any dimension. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 7–10. (Summary) **99f:35112** 35K70

Liu, Yachun (*with* Li, Xianyi; Tang, Heng Sheng; Xiao, Gongfu) A conjecture by G. Ladas. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 1, 117. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 1, 39–44. (Michail G. Blizorukov) **99e:39029** 39A10

Liu, Yan Pei ★ Embeddability in graphs. (English summary) Mathematics and its Applications (China Series), 338. *Kluwer Academic Publishers, Dordrecht; Science Press, Beijing*, 1995. xvi+398 *pp. ISBN* 0-7923-3648-8 (Editors) **99g:05064** 05C10 (05–02)

— (*with* Huang, Yuan Qiu) Extensions on 2-edge connected 3-regular up-embeddable graphs. (English summary) *Acta Math. Appl. Sinica (English Ser.)* **14** (1998), *no.* 4, 337–346. (Roman Nedela) **99i:05066** 05C10 (05C75)

— (*with* Liu, Ying) Lower bound number of irreducible graphs on surfaces. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 3, 333–339. (Summary) **99m:05049** 05C10 (05C35)

— (*with* Liu, Ying) A characterization of embeddability of graphs on surfaces. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 239. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 159–164. (Xiaoya Zha) **99e:05040** 05C10

— (*with* Huang, Yuan Qiu) The degree-sum of nonadjacent vertices and up-embeddability of graphs. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 651–656. (Xiaoya Zha) **99k:05063** 05C10

— (*with* Morgana, Aurora; Simeone, Bruno) A linear algorithm for 2-bend embeddings of planar graphs in the two-dimensional grid. (English summary) *Discrete Appl. Math.* **81** (1998), *no.* 1-3, 69–91. (Summary) **99k:05067** 05C10 (05C85)

— (*with* Huang, Yuan Qiu) An improvement of a theorem on the maximum genus for graphs. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 2, 109–112. 05C10

— (*with* Huang, Yuan Qiu) Upper embeddability of graphs. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 498–504. (Roman Nedela) **99i:05067** 05C10

— (*with* Ren, Han) Enumeration of rooted planar Halin maps. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **14** (1999), no. 1, 124. *Appl. Math. J. Chinese Univ. Ser. B* **14** (1999), *no.* 1, 117–121. (Summary) **99m:05072** 05C30

— (*with* Huang, Yuan Qiu) The maximum genus of graphs with diameter three. (English summary) *Discrete Math.* **194** (1999), *no.* 1-3, 139–149. (Saul Stahl) **99k:05064** 05C10 (05C12)

Liu, Yan Sheng (*with* Qi, Jian Gang) Local existence of weak solutions to differential systems in abstract spaces. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 1, 79–83. (Kotik K. Lee) **99f:34093** 34G20

Liu, Yan Zhu (*with* Chen, Li Qun) Chaotic attitude motion of a nonspinning spacecraft and its parametric open-plus-closed loop control. (Chinese. English and Chinese summaries) *Acta Mech. Sinica (Beijing)* **30** (1998), *no.* 3, 363–369. (From the summary) **99h:70034** 70M20 (70F15, 70H05, 70K50, 70Q05)

— (*with* Chen, Li Qun) Controlling chaos: present and future. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ. (Chin. Ed.)* **32** (1998), *no.* 1, 108–114. 58F13 (93C10)

Liu, Yanbin (*with* Li, Shujuan; Liu, Shao Wu) Linear maps on $M_n(\mathbf{Z})$ preserving linear groups. (English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **14** (1997), *no.* 4, 9–11. (Summary) **99c:20067** 20G30

Liu, Yanjun (*with* Fan, Yanqin) A note on asymptotic normality for deconvolution kernel density estimators. (English summary) *Sankhyā Ser. A* **59** (1997), *no.* 1, 138–141. (Summary) **99k:62075** 62G05

Liu, Yanqun (*with* Teo, Kok Lay; Li, Duan) Perturbation feedback control in general multiple linear-quadratic control problems. (English summary) *IMA J. Math. Control Inform.* **15** (1998), *no.* 3, 303–315. (Summary) **99e:49045** 49N10 (93B52)

— (*with* Teo, Kok Lay; Jennings, L. S.; Wang, Song) On a class of optimal control problems with state jumps. (English summary) *J. Optim. Theory Appl.* **98** (1998), *no.* 1, 65–82. (Summary) **99d:49037** 49K15 (49M30)

— (*with* Teo, Kok Lay; Ito, Satoshi) A dual parameterization approach to linear-quadratic semi-infinite programming problems. (English summary) *Optim. Methods Softw.* **10** (1999), *no.* 3, 471–495. 90C34

Liu, Yaxin (*with* Kerre, Etienne E.) An overview of fuzzy quantifiers. I. Interpretations. (English summary) *Fuzzy Sets and Systems* **95** (1998), *no.* 1, 1–21. (James Franklin) **99i:03026** 03B52

Liu, Ye-hou (*with* Yu, Zhao Xian) Realizations of multimode quantum group $SU(2)_{q,s}$. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 4, 1225–1230. (Marcelo R. Ubriaco) **99c:81099** 81R50

— (*with* Yu, Zhao Xian) Inhomogeneous inverse differential realization of multimode SU(1, 1) group. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 6, 1655–1665. (Violeta V. Tretynyk) **99g:81066** 81R05 (81R30)

— (*with* Yu, Zhao Xian) Clebsch-Gordan coefficient for q, s-deformed two-dimensional hydrogen atom. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 7, 2043–2053. (A. M. Gavrilik) **99g:81102** 81R50 (81R30, 81V45)

— (*with* Yu, Zhao Xian) Energy spectrum of a two-parameter deformed hydrogen atom. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 12, 2979–2983. 81Q05 (81V45)

Liu, Yen (*with* Vinokur, Marcel) Exact integrations of polynomials and symmetric quadrature formulas over arbitrary polyhedral grids. (English summary) *J. Comput. Phys.* **140** (1998), *no.* 1, 122–147. (Takemitsu Hasegawa) **99c:65047** 65D32

Liu, Yi[1] (*with* Zhang, Hong; Wang, Yu Wen) The best approximation problem in topological linear spaces. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **12** (1996), *no.* 4, 20–22. 41A65 (41A99)

Liu, Yi-Hsin (*with* Shi, Yong[1]) A fuzzy potential solution approach to multi-criteria and multi-constraint level linear programming problems. (English summary) *Multicriteria analysis (Coimbra, 1994)*, 213–224, *Springer, Berlin*, 1997. (Summary) **99d:90105** 90C29 (90C70)

Liu, Yi Jun (*with* Qin, Hua Shu) Stabilization of nonlinear systems with mismatched uncertainties via linear dynamic output feedback. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 2, 145–153. 93D15 (34D05, 34H05, 93D05)

Liu, Yi Rong (*with* Wang, Yu Xiang; Rui, Jia Gao; Yang, Qing Hua) The problem of the values of singular points for a class of cubic systems. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 26–28. (Xiang Sheng Xie) **99k:34060** 34C05

Liu, Yi Xing (*with* Cheng, Ping[1]) An approximate computation of the P-values for PP Cramér-von Mises statistics. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 3, 335–340. 62G10

Liu, Yian-Kui (*with* Zhang, Guang-Quan) On the completeness of fuzzy measure-space. (English summary) *Fuzzy Sets and Systems* **102** (1999), *no.* 2, 345–351. (Summary) **99k:28026** 28E10 (28A05)

Liu, Ying (*with* Cai, Dayong) Inhomogeneous eigenvalue problems. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1260–1264. (M. Znojil) **99j:65059** 65F15 (15A18)

Liu, Ying (*with* Liu, Yan Pei) Lower bound number of irreducible graphs on surfaces. (English summary) *Acta Math. Sci. (English Ed.)* **18** (1998), *no.* 3, 333–339. (Summary) **99m:05049** 05C10 (05C35)

— (*with* Liu, Yan Pei) A characterization of embeddability of graphs on surfaces. (English summary) A Chinese summary appears in Gaoxiao Yingyong Shuxue Xuebao Ser. A **13** (1998), no. 2, 239. *Appl. Math. J. Chinese Univ. Ser. B* **13** (1998), *no.* 2, 159–164. (Xiaoya Zha) **99e:05040** 05C10

Liu, Ying[1] (*with* Li, Shao Lin) The Hausdorff dimension of fractal subsets and its projection properties in $\mathbf{Z}^d$. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 483–487. 28A78 (28A80)

Liu, Ying[2] (*with* Liu, Ya Cheng; Xie, Gui Lin) Initial-boundary value problems for systems of semilinear pseudoparabolic equations in any dimension. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **13** (1996), *no.* 2, 7–10. (Summary) **99f:35112** 35K70

Liu, Ying fan A regularity theorem for certain $2n$th-order nonlinear differential operator with a parameter. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 460–483. (Robert M. Kauffman) **99k:47110** 47E05 (34B05, 34D99, 34L05)

— A homeomorphism theorem for certain $2n$th-order differential operator with a parameter. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 23–33. (From the text) **99g:34158** 34L05 (47E05)

Liu, Ying-Hsing (*with* Yang, Ming-Chung) Posterior robustness in simultaneous estimation problem with exchangeable contaminated priors. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 129–143. (Bruno Betrò) **99i:62052** 62F15 (62F35)

Liu, Ying Ming (*with* Luo, Mao-kang) ★ Fuzzy topology. (English summary) Advances in Fuzzy Systems—Applications and Theory, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. x+353 *pp. ISBN* 981-02-2862-7 (Ivan L. Reilly) **99m:54005** 54A40

— (*with* Luo, Mao-kang; Liang, Ji-hua) On convergence classes in L-fuzzy topological spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 316–331. (I. W. Alderton) **99i:54010** 54A40

— (*with* He, Wei[1]) Steenrod's theorem for locales. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 305–307. (J. R. Isbell) **99c:18001** 18A30 (54D30)

— (*with* He, Wei[1]) Inverse limits in the category of locales. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 476–482. (Summary) **99i:18008** 18B30 (54B30)

— (*with* Xu, Xiao Quan) The upper topology and the interval topology on a complete lattice. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **20** (1999), *no.* 1, 15–20. 54F05 (06A23, 06B30, 06F30, 54H12)

— (*with* Luo, Mao-kang; Liang, Ji-hua) Accumulation point and C. T. Yang's theorem in L-fuzzy topological spaces. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 266–277. 54A40

Liu, Yiping (*with* Tian, Feng[1]; Wu, Zheng Sheng) Sequences concerning Hamiltonicity of graphs. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **18** (1995), *no.* 1, 19–28, 34. (Prabir Das) **99c:05126** 05C45

Liu, Yong (*with* Yao, Xin) Fast evolution strategies. (English summary) Evolutionary computation. *Control Cybernet.* **26** (1997), *no.* 3, 467–496. (*see* **99b:90008**) 90C27 (90C30)

Liu, Yong (*with* Antes, H.) An improved implicit algorithm for the elastic viscoplastic boundary element method. (English summary) *ZAMM Z. Angew. Math. Mech.* **79** (1999), *no.* 5, 317–333. 73V10 (65N38, 73E60)

Liu, Yong[1] (*with* Gong, Guang Lu) Approximation of homogeneous Lévy processes by compound Poisson processes on complete separable metric groups. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 2, 221–227. (Summary) **99f:60014** 60B15 (60F17, 60J30)

Liu, Yong[2] (*with* Chen, Jing-Ling; Ge, Mo Lin) Application of nonlinear deformation algebra to a physical system with Pöschl-Teller potential. (English summary) *J. Phys. A* **31** (1998), *no.* 30, 6473–6481. (Summary) **99e:81066** 81R05 (81R30)

Liu, Yong Hui[1] The homological dimension of $\mathrm{Ext}^m_R(M, R)$. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 106–109. (Summary) **99f:16011** 16E10

Liu, Yong Kui (*with* Shi, Jiao Ying) An all-integer arithmetic algorithm for drawing curves. (Chinese. English and Chinese summaries) *Chinese J. Comput.* **21** (1998), *no.* 3, 270–280. 68U05 (65D17)

Liu, Yong Min Toeplitz and Hankel operators on weighted Bergman spaces. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 477–481. 47B35

— (*with* Yu, Yanyan) Compact Hankel operators on the Bergman spaces of the polydisk in $\mathbf{C}^n$. (English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **15** (1998), *no.* 1, 50–55. (Richard Rochberg) **99m:47031** 47B35 (46E20)

Liu, Yong Ping $L_q(\mathbf{R}^m)$-optimal recovery on the Riesz potential spaces with incomplete information. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 2, 143–150. (Summary) **99b:46044** 46E35 (42B20)

— Approximation of smooth functions by polyharmonic cardinal splines in $L_p(\mathbf{R}^n)$ space. (English summary) *Acta Math. Appl. Sinica* (*English Ser.*) **14** (1998), *no.* 2, 157–164. (Dietrich Braess) **99c:41024** 41A15 (41A25)

— (*with* Yang, Zhuyuan) Average onesided widths of some classes of smooth functions defined on $\mathbf{R}^d$. *Adv. Math.* (*China*) **27** (1998), *no.* 3, 278–280. 41A46

— (*with* Jiang, Yan Jie) Average widths and optimal recovery of multivariate Besov classes in $L_p(\mathbf{R}^d)$. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 8, 638–641. 41A46

— (*with* Jiang, Yan Jie) Average B-width and infinite-dimensional G-width of some smooth function classes on the line. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 810–812. 41A46

— (*with* Jiang, Yan Jie) The average width and optimal recovery of multivariable Besov classes in $L_p(\mathbf{R}^d)$. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 5, 479–482. 46E35 (41A46)

— (*with* Jiang, Yan Jie) Average B-width and infinite-dimensional G-width of classes of smooth functions. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 7, 701–703. 41A46 (46E35)

Liu, Yong Qing (*with* Li, Yuan Qing) A class of singular nonautonomous functional-differential equations with bounded delay near a singular point. (English summary) *Appl. Anal.* **60** (1996), *no.* 3-4, 301–319. (Summary) **99f:34095** 34K05 (34A09)

— (*with* Zhang, Jian[3]; Shen, Jian Jing) Intelligent decentralized stabilization of large-scale interconnected linear systems with time delays. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 1, 102–107. 93A14 (93C83)

— (*with* Li, Yuan Qing) Structural properties of solutions to autonomous singular nonlinear functional-differential equations near singular points. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 3, 317–324. (Xin-Zhi Liu) **99h:34092** 34K05

— (*with* Wang, Li; Gao, Cun Chen) Sliding mode variable structure control of neutral interconnected control systems with delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 358–363. 93B12 (93C30)

— (*with* Yue, Dong; Xu, Shi Fan) Designing robust controls for nonlinear systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 427–431. 93D09 (93B51)

— (*with* Xie, Sheng Li; Xie, Zhen Dong) A no-delay variable structure controller for a control system with delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 879–886. 93B12 (93C30)

— (*with* Xie, Xiang Sheng) A Riccati equation approach to the stabilization of singular linear systems with time delay. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 887–892. 93D15 (93C05)

— (*with* Li, Yuan Qing) Basic theory of singular systems of linear time varying differential-difference equations. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **4** (1998), *no.* 1, 139–148. (From the text) **99j:34087** 34K05

— (*with* Qiu, Wei Gen) Solutions of nonlinear index-2 generalized systems and their stability. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 3, 48–53. (Shu Xiang Yu) **99m:34003** 34A09 (34D20)

— (*with* Qiu, Wei Gen) Qualitative analysis of the equilibrium of a nonlinear generalized system. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 4, 90–94. (Summary) **99m:34004** 34A09 (34A26, 34A34, 34C05)

— *see also* **Tian, Guo Min**, **99k:34171** *and* **Xu, Bu Gong**

Liu, You Wen (*with* Yuan, Yi Wu) The interpolation perturbation method and its application in mechanics. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **13** (1996), *no.* 2, 151–155, *XI.* 34C99 (34E05)

— (*with* Yuan, Yi Wu) The interpolation perturbation method for solving a class of weakly nonlinear oscillation problems. (Chinese. English and Chinese summaries) *Chinese J. Appl. Mech.* **14** (1997), *no.* 3, 115–119, *IX.* 34C15

Liu, You Wen (*with* Chen, Chang Yuan) The exact solution of the anharmonic oscillator potential and the description of the double-wave function. (Chinese. English and Chinese summaries) *Acta Phys. Sinica* **47** (1998), *no.* 4, 536–541. (Summary) **99e:81039** 81Q05

Liu, Youming (*with* Walter, Gilbert G.) A class of band-limited cardinal wavelets. (English and Chinese summaries) *Adv. in Math.* (*China*) **26** (1997), *no.* 6, 523–528. (Kathi Karima Selig) **99e:42048** 42C15 (94A11)

Liu, Yu Fen (*with* Lei, Y. A.; Zeng, Jin Yan) Reply to the: "Comment by A. A. Stahlhofen on: 'Factorization of the radial Schrödinger equation and four kinds of raising and lowering operators of hydrogen atoms and isotropic harmonic oscillators'" [Phys. Lett. A **241** (1998), no. 4-5, 298–299; MR 99m:81291]. (English summary) *Phys. Lett. A* **241** (1998), *no.* 4-5, 300–302. (Summary) **99m:81292** 81V45 (81Q05)

— *see also* **Stahlhofen, A. A.**, **99m:81291**

Liu, Yu Hong (*with* Fu, Jun) Properties of points on a sphere under continuous mappings. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 422–424. 55M20

Liu, Yu Ji[2] Some results on gracefulness of graphs. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 6, 23–26. (Summary) **99b:05123** 05C78

— Global attractivity in a generalized logistic equation. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **17** (1998), *no.* 2, 6–9. 39A10

Liu, Yu Mei (*with* Deng, Zi Li) A class of steady-state Kalman filters and their asymptotic stability. (Chinese. English and Chinese summaries) *Inform. and Control* (*Shenyang*) **27** (1998), *no.* 1, 26–31. 93E11

Liu, Yu Qiang Superposition operators on the space $w(\varphi)$. (Chinese. English and Chinese summaries) *J. South China Normal Univ. Natur. Sci. Ed.* **1997**, *no.* 3, 1–4. (Summary) **99a:47113** 47H30

Liu, Yue[1] (*with* Wang, Xiao Ping[1]) Nonlinear stability of solitary waves of a generalized Kadomtsev-Petviashvili equation. (English summary) *Comm. Math. Phys.* **183** (1997), *no.* 2, 253–266. (Daniel B. Dix) **99b:35184** 35Q53 (35B35, 76B25)

— Blow up and instability of solitary-wave solutions to a generalized Kadomtsev-Petviashvili equation. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 214–219, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q53

Liu, Yuk Tung (*with* Leung, P. T.; Suen, Wai-Mo; Tam, C. Y.; Young, Kenneth) Logarithmic perturbation theory for quasinormal modes. (English summary) *J. Phys. A* **31** (1998), *no.* 14, 3271–3286. (M. Znojil) **99f:81051** 81Q15 (34L40)

Liu, Yuming (*with* Zhu, Qiang; Yue, Dick K. P.) Nonlinear radiated and diffracted waves due to the motions of a submerged circular cylinder. (English summary) *J. Fluid Mech.* **382** (1999), 263–282. (Summary) **99m:76021** 76B15

Liu, Yun-Hui (*with* Arimoto, Suguru; Parra-Vega, Vicente; Kitagaki, Kosei) Decentralized adaptive control of multiple manipulators in co-operations. (English summary) *Internat. J. Control* **67** (1997), *no.* 5, 649–673. 93A14 (93C40)

Liu, Yung-Chin (*with* Chen, Chieh Li) Differential transformation technique for steady nonlinear heat conduction problems. (English summary) *Appl. Math. Comput.* **95** (1998), *no.* 2-3, 155–164. 65M99 (80–08)

— (*with* Chen, Chieh Li) Solution of two-point boundary-value problems using the differential transformation method. (English summary) *J. Optim. Theory Appl.* **99** (1998), *no.* 1, 23–35. (Zhong-Hua Yang) **99m:65138** 65L10 (34A45, 34B15)

Liu, Yunkang (*with* Lehninger, Harald) The functional-differential equation $\mathbf{y}'(t) = A\mathbf{y}(t) + B\mathbf{y}(qt) + C\mathbf{y}'(qt) + \mathbf{f}(t)$. (English summary) *European J. Appl. Math.* **9** (1998), *no.* 1, 81–91. (Alexander Tovbis) **99i:34089** 34K05

— On some conjectures by Morris et al. about zeros of an entire function. (English summary) *J. Math. Anal. Appl.* **226** (1998), *no.* 1, 1–5. (F. W. Carroll) **99h:30033** 30D35 (30D15, 34A20, 34K05)

— (*with* Feldstein, Alan) On neutral functional-differential equations with variable time delays. (English summary) *Math. Proc. Cambridge Philos. Soc.* **124** (1998), *no.* 2, 371–384. (Olof J. Staffans) **99d:34157** 34K40 (34K05)

— Numerical solution of implicit neutral functional-differential equations. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 2, 516–528 (*electronic*). (Haydar Akça) **99m:65132** 65L06 (34A09, 34K05, 65L60)

Liu, Yunlong (*with* Chen, Junliang) Garbage collection in uncoordinated checkpointing algorithms. (English summary) *J. Comput. Sci. Tech.* **14** (1999), *no.* 3, 242–249. 68N25

Liu, Yuqiong (*with* Wang, Jianliang; Yang, Guang-Hong; Soh, Cheong Boon) Reliable nonlinear control system design using duplicated control elements. (English summary) *Internat. J. Robust Nonlinear Control* **7** (1997), *no.* 12, 1103–1122. (Summary) **99j:93035** 93B36 (93B51)

— (*with* Wang, Jianliang; Yang, Guang-Hong) Reliable control of uncertain nonlinear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 7, 875–879. 93C41 (93B35)

Liu, Z. *see* **Liu, Zhangfang**

Liu, Zai Ming (*with* Hou, Zhen Ting; Zou, Jie Zhong) QNQL processes—(H, Q)-processes and their applications. *Chinese Sci. Bull.* **42** (1997), *no.* 11, 881–886. (O. A. Voina) **99e:60227** 60K99 (60G99)

— (*with* Tang, You Rong; Hou, Zhen Ting) The ergodicity and equilibrium distribution of generalized birth and death processes. (Chinese. English and Chinese summaries) *Acta Math. Sci.* (*Chinese*) **18** (1998), *no.* 1, 25–32. (Summary) **99c:60195** 60J80

— (*with* Hou, Zhen Ting; Zou, Jie Zhong; Li, Xue Wei[2]) Markov framework processes. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 5, 457–467. 60J25

Liu, Zaihua (*with* Zhao, Huijiang; Chen, Shi Ping[4]) On the Cauchy problem of the Kuramoto-Sivashinsky equation with singular initial data. (English summary) *Acta Math. Sci.* (*English Ed.*) **18** (1998), *no.* 1, 25–34. (Summary) **99b:35100** 35K57 (35Q55)

Liu, Zeng Rong (*with* Xu, Zhen Yuan[2]) Homoclinic orbits of truncated systems of sine-Gordon equations. (Chinese. English and Chinese summaries) *Acta Mech. Sinica*

(*Beijing*) **30** (1998), *no.* 3, 292–299. (Sen Zhong Huang) **99m:35214** 35Q53 (35B32, 35L70, 58F39)
— (*with* Yang, Ling[2]) An improvement and proof of OGY method. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 1, 1–8; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 1–7 (*Chinese. English and Chinese summaries*). (Frederick R. Marotto) **99f:58145** 58F13
— (*with* Lu, Dian Chen; Tian, Li Xin) Wavelet basis analysis in perturbed periodic KdV equation. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 11, 1053–1058; *translated from Appl. Math. Mech.* **19** (1998), *no.* 11, 975–979 (*Chinese. English and Chinese summaries*). 35Q53 (35B99, 35C10)
— (*with* Cao, Yong Luo) Strange attractors in the orientation-preserving Lozi map. (English summary) *Chaos Solitons Fractals* **9** (1998), *no.* 11, 1857–1863. (Summary) **99i:58102** 58F13
— (*with* Huang, Debin; Cheng, Zhongshi) Global dynamics near the resonance in the sine-Gordon equation. (English summary) *J. Shanghai Univ.* **2** (1998), *no.* 4, 259–261. 35L70 (34C37, 35B40, 35Q53, 58F39)
— (*with* Huang, Debin; Zhao, Xiao Hua) Divergence-free vector-field and reduction. (English summary) *Phys. Lett. A* **244** (1998), *no.* 5, 377–382. (Peter J. Topalov) **99k:58159** 58F25
Liu, Zeqing Cantor order and completeness. (English summary) *Cienc. Mat. (Havana)* **16** (1998), *no.* 1, 21–23. (Summary) **99h:54042** 54E50 (54H25)
— On the structure of the set of subsequential limit points of a sequence of iterates. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 297–304. (Summary) **99d:54026** 54H25
— (*with* Xu, Yuguang[1]; Cho, Yeol Je) On characterizations of fixed and common fixed points. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 494–504. (Summary) **99b:54075** 54H25
— (*with* Xu, Yuguang[1]) A section theorem in W-space with applications. (English summary) *Publ. Math. Debrecen* **54** (1999), *no.* 3-4, 383–389. 54H25
Liu, Zhang-Ju (*with* Tan, YouJun) Generalized Lie bialgebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2293–2319. (Aleksandr A. Mikhalev) **99f:17023** 17B55 (16W30, 58F07)
— (*with* Weinstein, Alan; Xu, Ping[1]) Dirac structures and Poisson homogeneous spaces. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 121–144. (Albert Jeu-Liang Sheu) **99g:58053** 58F05 (22A22, 58B20, 58H05)
Liu, Zhangfang (*with* Bluhm, J.; de Boer, Reint) Inhomogeneous plane waves, mechanical energy flux, and energy dissipation in a two-phase porous medium. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 9, 617–625. (Summary) **99h:73029** 73D15 (76S05)
Liu, Zhao Li (*with* Li, Fu Yi) Multiple positive solutions of some nonlinear operator equations and their applications. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 97–102. (Summary) **99a:47096** 47H15 (34B15, 45G10, 47H30)
Liu, Zhaonan (*with* Gao, Puyun) An indirect method of finding integrals for three-dimensional quadratic homogeneous systems. (English summary) *Phys. Lett. A* **244** (1998), *no.* 1-3, 49–52. (Summary) **99b:34017** 34A34 (34A05)
Liu, Zhen[1] (*with* Nain, Philippe; Towsley, Don) Exponential bounds with applications to call admission. (English summary) *J. ACM* **44** (1997), *no.* 3, 366–394. (Peter Gerrard Taylor) **99a:60105** 60K25 (68M20, 90B22)
— (*with* Zhang, Zhi Li[1]; Towsley, Don) Closed-form deterministic end-to-end performance bounds for the generalized processor sharing scheduling discipline. (English summary) *J. Comb. Optim.* **1** (1998), *no.* 4, 457–481. (Summary) **99d:68034** 68M20 (90B35)
— (*with* Jean-Marie, Alain; Lefebvre-Barbaroux, Sophie) An analytical approach to the performance evaluation of master-slave computational models. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 841–862. 68M20 (65Y05)
— Worst-case analysis of scheduling heuristics of parallel systems. (English summary) *Parallel Comput.* **24** (1998), *no.* 5-6, 863–891. (Summary) **99c:68028** 68M20
Liu, Zhen Hai On degenerate quasilinear parabolic equations of higher order. (English summary) *Period. Math. Hungar.* **33** (1996), *no.* 3, 197–205. (Ya Zhe Chen) **99a:35152a** 35K65 (35D05, 35K55)
— Existence of solutions for degenerate quasilinear parabolic equations of higher order. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 951. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 465–472. (Ya Zhe Chen) **99a:35152b** 35K65 (35D05, 35K60)
— A class of evolution hemivariational inequalities. *Nonlinear Anal.* **36** (1999), *no.* 1, *Ser. A: Theory Methods*, 91–100. (Vesa Mustonen) **99m:34139** 34G20 (47H19, 49J40)
Liu, Zhen Hong[1] (*with* Hu, Zhi Quan) A strongly polynomial algorithm for the inverse shortest arborescence problem. (English summary) *Discrete Appl. Math.* **82** (1998), *no.* 1-3, 135–154. (Xiao Tie Deng) **99a:05134** 05C85
— (*with* Xu, Baoguang; Tokuda, Taro) Connected factors in $K_{1,n}$-free graphs containing a (g, f)-factor. (English summary) *Graphs Combin.* **14** (1998), *no.* 4, 393–395. (Summary) **99h:05096** 05C70
Liu, Zheng[1] Remark on a refinement of the Cauchy-Schwarz inequality. *J. Math. Anal. Appl.* **218** (1998), *no.* 1, 13–21. (Wolfram Koepf) **99b:26038** 26D15
— On Hölder's inequality. (Chinese. English and Chinese summaries) *Math. Practice Theory* **28** (1998), *no.* 4, 302–308. 26D15
— Characterizations of K-smooth spaces and K-strongly smooth spaces. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 89–94. (John R. Giles) **99h:46014** 46B20
Liu, Zheng-rong (*with* Yu, Yuan Hong; Liu, Bin[2]) Oscillation of solutions of nonlinear partial differential equations of neutral type. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 6, 952. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 4, 563–570. (Summary) **99b:35207** 35R10 (35B05)
— (*with* Cao, Hongjun; Li, Ji Bin) Conditions for identity of bifurcations in cubic Hamiltonian systems with symmetry or nonsymmetry perturbations. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 57–61, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Henryk Żołądek) **99d:34044** 34C05 (34C23, 58F21)
— (*with* Li, Ji Bin) On the connection between two parts of Hilbert's 16th problem and equivariant bifurcation problem. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 224–235. (Douglas S. Shafer) **99e:34030** 34C05 (34C23, 58F21)
— (*with* Ge, Wei Gao; Yu, Yuan Hong) On the periodic solutions of a type of differential-iterative equations. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 3, 204–206. (From the text) **99h:34104** 34K15 (34C25)
— (*with* Lin, Shi-zhong; Yu, Yuan Hong) Stability for certain fourth order nonlinear differential equations. *Demonstratio Math.* **31** (1998), *no.* 1, 87–96. (From the introduction) **99b:34088** 34D20
— (*with* Li, Ji Bin; He, Xue-zhong) Hamiltonian symmetric groups and multiple periodic solutions of differential delay equations. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 457–474. (Frederick R. Marotto) **99j:34102** 34K15 (34C25, 58F05)
Liu, Zhenhong *see* **Liu, Zhen Hong[1]**
Liu, Zhenjuan (*with* Lu, Xuewen) Root-n-consistent semiparametric estimation of partially linear models based on k-nn method. (English summary) *Econometric Rev.* **16** (1997), *no.* 4, 411–420. (Summary) **99c:62173** 62J02 (62G05)
Liu, Zhi Feng (*with* Xie, Xue Jun; Su, Bai Li; Chu, Xue Dao) Stable adaptive fuzzy control of nonlinear systems. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 14–20. 93C42 (93C40)
Liu, Zhi Guo (*with* Chen, William Y. C.) Parameter augmentation for basic hypergeometric series. II. (English summary) *J. Combin. Theory Ser. A* **80** (1997), *no.* 2, 175–195. (Summary) **99m:33011** 33D20 (05A30)
— q-Hermite polynomials and a q-beta integral. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 361–366. (Summary) **99a:33013** 33D45 (05A30)
— (*with* Chen, William Y. C.) Parameter augmentation for basic hypergeometric series. I. (English summary) *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 111–129, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (George E. Andrews) **99f:33020** 33D20 (05A19, 05A40, 33D60)
— A new proof of the Nassrallah-Rahman integral. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 405–410. (Summary) **99j:33023** 33D45
— Some identities for differential operators and Hermite polynomials. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 412–416. (Geng Zhe Chang) **99i:33008** 33C45 (35C99, 41A35)
Liu, Zhi Jun (*with* Jang, M.-Y.) Asymptotic theory of smoothed LAD estimates in linear regression models. (English summary) Statistical theory and applications. *Int. J. Math. Stat. Sci.* **7** (1998), *no.* 1, 61–75. (Summary) **99g:62094** 62J05 (62F12)
Liu, Zhi Xing (*with* Liu, Chao Qun) A way of using the multigrid methods. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 135–138. 65N55 (65M55)
Liu, Zhi Yong (*with* Li, Xiu Ping; Wan, Bai Wu) Neural network predictive control for the dynamic traffic system of an expressway. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 4, 260–266. 90B06 (93B30, 93E12)
Liu, Zhibin (*with* Xiao, Wei; Jiang, Maoze; Shi, Yong[1]) Multiobjective linear programming model on injection oilfield recovery system. (English summary) *Comput. Math. Appl.* **36** (1998), *no.* 5, 127–135. 90C90 (86A20, 90C29)
Liu, Zhiguo *see* **Liu, Zhi Guo**
Liu, Zhihui Convergence rates of symmetrized product measures. (English summary) *Math. Methods Statist.* **6** (1997), *no.* 4, 509–516 (1998). (Alexander G. Kukush) **99g:62018** 62E20 (62C25)
Liu, Zhiyong (*with* Zhao, Lijun; Gao, Qingshi) An efficient multiway merging algorithm. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 543–551. (Summary) **99k:68040** 68P10
Liu, Zhong-Dong (*with* Shen, Zhong Min) Riemannian geometry of conical singular sets. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 1, 29–62. (Andrea Sambusetti) **99e:53054** 53C21 (53C20)
Liu, Zhong Kui (*with* Tang, Xi Lin) Subdirect reducibility of a class of inverse semigroups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 397–403. (Heng Wu Zheng) **99m:20150** 20M18
— PF-rings of generalised power series. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 427–432. (Takashi Harase) **99d:13026** 13F25 (13C10)
— (*with* Wang, Ning) Monoids over which all strongly flat left acts are regular. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1863–1866. (I. S. Ponizovskiĭ) **99e:20079** 20M30
— (*with* Li, Fang[2]) PS-rings of generalized power series. *Comm. Algebra* **26** (1998), *no.* 7, 2283–2291. (J. F. Watters) **99m:16070** 16W60 (13F25, 16D40)
— Excellent extensions and coherent dimensions of rings. (English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 1, 1–4. (J. Kuzmanovich) **99m:16041** 16S20 (16E10)
— (*with* Li, Fang[2]) Completely α-absolutely pure monoids. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 2, 191–195. (Heng Wu Zheng) **99m:20155** 20M50
Liu, Zhong-Yun Some convergence results for multisplitting methods. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **19** (1997), *no.* 3, 206–215. (Zuhe Shen) **99j:65049** 65F10
— (*with* Cao, Zhi-Hao) Symmetric multisplitting of a symmetric positive definite matrix. (English summary) *Linear Algebra Appl.* **285** (1998), *no.* 1-3, 309–319. (Summary) **99j:65070** 65F30 (15A48)
Liu, Zhuangyi (*with* Yong, Jiong Min) Qualitative properties of certain C_0 semigroups arising in elastic systems with various dampings. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 5, 643–686. (Birgit Jacob) **99k:47095** 47D06 (34G10, 35B99, 73D30)
— (*with* Peng, Chang) Exponential stability of a viscoelastic Timoshenko beam. (English summary) *Adv. Math. Sci. Appl.* **8** (1998), *no.* 1, 343–351. (Jaime E. Muñoz Rivera) **99e:73061** 73F15 (35Q72, 45K05, 47D06, 73K05, 73K12)
— (*with* Liu, Kangsheng) Exponential decay of energy of the Euler-Bernoulli beam with locally distributed Kelvin-Voigt damping. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 3, 1086–1098 (*electronic*). (Summary) **99a:93082** 93D10 (35B40, 73D35, 73K05, 73K50, 93C20)
— (*with* Chen, Shuping; Liu, Kangsheng) Spectrum and stability for elastic systems with global or local Kelvin-Voigt damping. (English summary) *SIAM J. Appl. Math.* **59** (1999), *no.* 2, 651–668 (*electronic*). (Andrej T. Il'ichev) **99j:35218** 35Q72 (35B35, 47D06, 73D30, 73F15)
Liu, Zhuojun (*with* Wu, Jinzhao) Well-behaved inference rules for first-order theorem proving. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 3, 381–400. (Summary)

99g:68185 68T15 (03B35)

Liu, Zhuxing A decomposition theorem for operators on L^1. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 3–34. (Stephen J. Dilworth) **99j:47044** 47B38 (46B28, 46B42, 46E30)

Liu, Zong Guang Fractional integration operators in Herz spaces over spaces of homogeneous type. (Chinese. English and Chinese summaries) *Huaihua Shizhuan Xuebao* **16** (1997), *no.* 6, 1–4. (Ke Cheng Zhou) **99h:47056** 47G10 (26A33, 42B20, 46E99)

Liu, Zonghua (*with* Chen, Shigang) Control of coupled standard map. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 6, 1355–1362. 58F27 (58F13)

Liu, Zu Han (*with* Ding, Shi Jin) Remarks on the asymptotic behavior of a class of Ginzburg-Landau functionals. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 621–628. 35Q55 (58E35)

— Existence of global classical solutions of a generalized mean curvature flow equation. (Chinese. English and Chinese summaries) *J. Yangzhou Univ. Nat. Sci. Ed.* **1** (1998), *no.* 3, 1–8. (Summary) **99k:35075** 35K10 (58E12)

— (*with* Ding, Shi Jin; Yu, Wanghui) A variational problem related to the Ginzburg-Landau model of superconductivity with normal impurity inclusion. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 1, 48–68 (*electronic*). (Song Mu Zheng) **99f:35186** 35Q55 (35B40, 49J24, 58E50)

Liverance, Eric Binary cubic forms with many integral points. (English summary) Algebraic number theory and related topics (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 998 (1997), 93–101. (Joseph H. Silverman) **99c:11069** 11G05 (11D25)

Liverani, Carlangelo (*with* Fritz, József; Olla, Stefano) Reversibility in infinite Hamiltonian systems with conservative noise. (English summary) *Comm. Math. Phys.* **189** (1997), *no.* 2, 481–496. (T. M. Liggett) **99c:60215** 60K35 (82C21)

— (*with* Wojtkowski, Maciej P.) Conformally symplectic dynamics and symmetry of the Lyapunov spectrum. (English summary) *Comm. Math. Phys.* **194** (1998), *no.* 1, 47–60. (Nikolai Chernov) **99d:58071** 58F05 (70H05)

— (*with* Saussol, Benoit; Vaienti, Sandro) Conformal measure and decay of correlation for covering weighted systems. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1399–1420. (Nikolai Chernov) **99j:58127** 58F11 (58F19)

— Flows, random perturbations and rate of mixing. (English summary) *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 6, 1421–1446. (Nikolai Chernov) **99j:58128** 58F11 (58F15)

Livernet, Muriel Rational homotopy of Leibniz algebras. (English summary) *Manuscripta Math.* **96** (1998), *no.* 3, 295–315. (Marc Aubry) **99h:55013** 55P62 (17A30, 18G15, 55U25)

Livi, Roberto (*with* Giardinà, Cristian) Ergodic properties of microcanonical observables. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 5-6, 1027–1045. (Summary) **99c:82030** 82B30

Livingston, Albert E. Univalent harmonic mappings. II. (English summary) *Ann. Polon. Math.* **67** (1997), *no.* 2, 131–145. (Summary) **99e:30010** 30C55 (31A05)

Livingston, Charles (*with* Kirk, Paul) Type 1 knot invariants in 3-manifolds. (English summary) *Pacific J. Math.* **183** (1998), *no.* 2, 305–331. (Swatee Naik) **99h:57013** 57M25 (57N10)

Livorni, Elvira Laura (*with* Fania, Maria Lucia) Degree ten manifolds of dimension n greater than or equal to 3. (English summary) *Math. Nachr.* **188** (1997), 79–108. (Kristian Ranestad) **99d:14035** 14J40 (14C20)

Livshits, I. Z. (*with* Brandt, Achi) Wave-ray multigrid method for standing wave equations. (English summary) Special issue on multilevel methods (Copper Mountain, CO, 1997). *Electron. Trans. Numer. Anal.* **6** (1997), *Dec.*, 162–181 (*electronic*). (Dietrich Braess) **99d:65342** 65N55

Livshits, Leonya (*with* MacDonald, Gordon Wilson; Mathes, D. Benjamin; Radjavi, Heydar) Reducible semigroups of idempotent operators. (English summary) *J. Operator Theory* **40** (1998), *no.* 1, 35–69. (Cecelia Laurie) **99m:47004** 47A15 (20M99, 47D03)

Lixăndroiu, Dorin On the determination of confidence limits for the estimation of Weibull model reliability. (English summary) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 191–196. (Summary) **99k:62192** 62N05 (62F25)

Lixin, Cheng *see* **Cheng, Li Xin**

Liz, Eduardo Order reduction for periodic boundary value problems of discontinuous third-order differential equations. (English summary) *Appl. Anal.* **63** (1996), *no.* 3-4, 353–362. (Summary) **99a:34058** 34B15 (34C25, 45J05)

— (*with* Nieto, Juan J.) The method of upper and lower solutions for a periodic boundary value problem of second order integro-differential equations. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 426–430, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 45J05 (34K10)

— (*with* Cabada, Alberto; Lois, Susana) Monotonic approximation techniques for second- and third-order impulsive periodic problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 207–212, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Raúl M. Naulin) **99m:34010** 34A37 (34A45)

— (*with* Nieto, Juan J.) Positive solutions of linear impulsive differential equations. (English summary) *Commun. Appl. Anal.* **2** (1998), *no.* 4, 565–571. (Snezhana Khristova) **99g:34034** 34A37 (15A48, 34B05)

— (*with* Nieto, Juan J.) An abstract monotone iterative method and applications. (English summary) *Dynam. Systems Appl.* **7** (1998), *no.* 3, 365–375. (Seppo Heikkilä) **99f:47067** 47H07 (34B15, 34K10, 45J05, 47H17)

— (*with* Pouso, Rodrigo L.) Approximation of solutions for nonlinear periodic boundary value problems with discontinuous upper and lower solutions. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 127–138. (Siegfried Carl) **99f:34013** 34A45 (34B15, 34C25)

— (*with* Pouso, Rodrigo L.) Upper and lower solutions with "jumps". (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 2, 484–493. (Seppo Heikkilä) **99d:34037** 34B15 (34A37, 34A40)

— A note on the matrix exponential. (English summary) *SIAM Rev.* **40** (1998), *no.* 3, 700–702 (*electronic*). 15A99

Lizama, Carlos A representation formula for strongly continuous resolvent families. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 4, 321–327. (Dieter Lutz) **99c:47055** 47D06 (34K30, 45N05)

— A characterization of uniform continuity for Volterra equations in Hilbert spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3581–3587. (Gabriella Di Blasio) **99b:45008** 45N05 (45D05, 47D06, 47N20)

rufián-Lizana, A. *see* **Rufián-Lizana, A.**

Lizana Peña, Marcos (*with* Niño, L.) Homoclinic bifurcation in a predator-prey model. *Acta Math. Hungar.* **77** (1997), *no.* 3, 177–191. (Xiao Qiang Zhao) **99b:92045** 92D25 (34C23, 34C37)

— (*with* Padrón, Victor) A spatially discrete model for aggregating populations. (English summary) *J. Math. Biol.* **38** (1999), *no.* 1, 79–102. (Summary) **99m:92034** 92D25 (34A34, 34D99)

Lizarralde, Fernando (*with* Hsu, Liu) Comments and further results regarding: "On variable structure output feedback controllers" [IEEE Trans. Automat. Control **41** (1996), no. 11, 1691–1693] by C. M. Kwan. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1338–1340. 93B12 (93B52)

— *see also* **Kwan, C.-M.**

Lizzani, Laura (*with* Montanari, Angela) Projection pursuit and departure from unimodality. (English and Italian summaries) *Metron* **56** (1998), *no.* 1-2, 139–153. 62H40

Lizzi, Fedele (*with* Balachandran, A. P.; Bimonte, G.; Landi, Giovanni; Teotonio-Sobrinho, Paulo) Lattice gauge fields and noncommutative geometry. (English summary) *J. Geom. Phys.* **24** (1998), *no.* 4, 353–385. (Eli J. Hawkins) **99b:58022** 58B30 (06B35, 81T25)

— (*with* Figueroa, Héctor; Gracia-Bondía, J. M.; Várilly, J. C.) A nonperturbative form of the spectral action principle in noncommutative geometry. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 329–339. (Daniela Bigatti) **99e:58179** 58G15 (46L87, 58B30, 58G40, 81V22)

— (*with* Mangano, Gianpiero; Miele, G.; Sparano, G.) Mirror fermions in noncommutative geometry. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 3, 231–237. (Raimar Wulkenhaar) **99f:81131** 81T13 (58B30)

— (*with* Mavromatos, Nick E.; Szabo, Richard J.) Matrix σ-models for multi D-brane dynamics. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 11, 829–842. (Héctor H. García-Compeán) **99h:81171** 81T30 (81Q60, 81T13, 81T60)

— (*with* Szabo, Richard J.) Electric-magnetic duality in noncommutative geometry. (English summary) *Phys. Lett. B* **417** (1998), *no.* 3-4, 303–311. (Daniela Bigatti) **99e:81149** 81T13 (58B30)

Ljung, Lennart (*with* Sjöberg, Jonas) Overtraining, regularization and searching for a minimum, with application to neural networks. (English summary) *Internat. J. Control* **62** (1995), *no.* 6, 1391–1407. 93E10 (93C83)

— Identification for control—what is there to learn? (English summary) *Learning, control and hybrid systems (Bangalore, 1998)*, 207–225, *Lecture Notes in Control and Inform. Sci.*, 241, *Springer, London*, 1999. (*see* **99g:93003**) 93B30 (93E12)

Llado, Anna S. (*with* Enomoto, Hikoe; Nakamigawa, Tomoki; Ringel, Gerhard) Super edge-magic graphs. (English summary) *SUT J. Math.* **34** (1998), *no.* 2, 105–109. (Summary) **99h:05102** 05C78

fernández Llana, Carmen *see* **Fernández Llana, Carmen**

Llana-Díaz, Luis (*with* de Frutos-Escrig, David; Núñez García, Manuel) An invitation to friendly testing. Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 531–545. (Summary) **99k:68062** 68Q10 (68Q55)

de la Llave, R. (*with* Banyaga, Augustin; Wayne, C. Eugene) Cohomology equations near hyperbolic points and geometric versions of Sternberg linearization theorem. (English summary) *J. Geom. Anal.* **6** (1996), *no.* 4, 613–649 (1997). (Sergeĭ Yu. Yakovenko) **99d:58151** 58F36 (34C20, 58F15, 58F21)

— (*with* Candel, A.) On the Aubry-Mather theory in statistical mechanics. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 3, 649–669. (M. L. Blank) **99b:82018** 82B20 (58F27)

— (*with* Obaya García, Rafael) Regularity of the composition operator in spaces of Hölder functions. (English summary) *Discrete Contin. Dynam. Systems* **5** (1999), *no.* 1, 157–184. (P. P. Zabreĭko) **99m:47085** 47H30 (46G05)

Lledó, Fernando A family of examples with quantum constraints. (English summary) *Lett. Math. Phys.* **40** (1997), *no.* 3, 223–234. (Summary) **99e:81129** 81T05 (46L60)

— (*with* Baumgärtel, Hellmut) Superselection structures for C^*-algebras with nontrivial center. (English summary) *Rev. Math. Phys.* **9** (1997), *no.* 7, 785–819. (Summary) **99g:46097** 46L60 (81T05)

Lledó, M. A. (*with* Varadarajan, V. S.) SU(2) Poisson-Lie T duality. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 247–257. (David S. Berman) **99i:81246** 81T60 (81T30)

Llerena, Irene (*with* Rutter, John W.) The group of homotopy self-equivalences of a union of $(n-1)$-connected $2n$-manifolds. (English summary) *Kodai Math. J.* **21** (1998), *no.* 3, 330–349. (Summary) **99j:55005** 55P10 (57N65)

Llibre, Jaume Some conjectures on planar polynomial vector fields and straight lines. (English summary) *Proceedings of the 2nd Catalan Days on Applied Mathematics (Odeillo, 1995)*, 183–187, *Collect. Études, Presses Univ. Perpignan, Perpignan*, 1995. (Summary) **99b:34060** 34C05 (58F21)

— (*with* Artés, Joan C.; Grünbaum, Branko) On the invariant straight lines of polynomial differential systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 317–327. (Editors) **99j:34029** 34C05 (58F21)

— (*with* Bernat, Josep) Hurwitz systems with periodic orbits. Counterexamples to Kalman and Markus-Yamabe conjectures. (English summary) *International Conference on Differential Equations (Lisboa, 1995)*, 39–58, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99d:00015**) 34D20 (34C25, 34H05, 58F10, 93D20)

— (*with* Chavarriga, Javier) On the algebraic limit cycles of quadratic systems. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona, 1998)*, 17–24, *Univ. Rovira Virgili, Tarragona*, 1998. (Henryk Żołądek) **99b:34057** 34C05

— Algebraic solutions and integrability for planar polynomial differential systems. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics (Tarragona, 1998)*, 81–88, *Univ. Rovira Virgili, Tarragona*, 1998. (I. D. Iliev) **99c:34052** 34C05 (34A05, 34C35)

— Integrability and algebraic solutions for planar polynomial differential systems. *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 45–51, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Henryk Żołądek) **99e:34032** 34C05 (34A05, 34A34)

— (*with* Sotomayor, Jorge) Structural stability of constrained polynomial systems. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 6, 589–595. (S. Yu. Pilyugin) **99h:58101** 58F10 (34C35, 34D30)

— (*with* Villadelprat, Jordi) A Poincaré index formula for surfaces with boundary. (English summary) *Differential Integral Equations* **11** (1998), *no.* 1, 191–199. (Roman Srzednicki) **99a:57025** 57R25 (34C05, 55M25, 58F21)

— (*with* Jiang, Boju) Minimal sets of periods for torus maps. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 301–320. (Alexander Fel'shtyn) **99j:58159** 58F20 (55M20)

— (*with* Artés, Joan C.; Grünbaum, Branko) On the number of invariant straight lines for polynomial differential systems. (English summary) *Pacific J. Math.* **184** (1998), *no.* 2, 207–230. (Alexandru Şubă) **99f:34035** 34C05 (34A34, 54H20)

— (*with* Pizarro, Luis; Ponce, Enrique) Limit cycles of polynomial Liénard systems. Comment on: "Number of limit cycles of the Liénard equation" [Phys. Rev. E (3) **56** (1997), no. 4, 3809–3813; MR 98f:34035] by H. Giacomini and S. Neukirch. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 4, 5185–5187. (Summary) **99h:34048** 34C05 (34A45)

— (*with* Alsedà, Lluís; Kolyada, S. F.; Snoha, Ľubomír) Entropy and periodic points for transitive maps. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 4, 1551–1573. (Frederick R. Marotto) **99f:58117** 58F11 (54H20, 58F20)

Llinares Ciscar, Juan Vicente (*with* Ben-El-Mechaiekh, Hichem; Chebbi, Souhail; Florenzano, Monique) Abstract convexity and fixed points. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 138–150. (Louis A. Talman) **99c:47089** 47H10 (47H04, 52A01, 54H25)

— Unified treatment of the problem of existence of maximal elements in binary relations: a characterization. (English summary) *J. Math. Econom.* **29** (1998), *no.* 3, 285–302. (Ghanshyam Mehta) **99f:90010** 90A06

Llombart, José Mathematical journals in the Basque country in the first third of the twentieth century. *Messengers of mathematics: European mathematical journals* (1800–1946), 189–202, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

— Cronica Cientifica: the articles of the mathematics section. *Messengers of mathematics: European mathematical journals* (1800–1946), 267–281, *Ciencia, Siglo XXI España Ed., Madrid*, 1993. (*see* **99d:01045**) 01A99

ferrer Llop, Josep *see* **Ferrer Llop, Josep**

Llorens-Fuster, Enrique (*with* Sims, Brailey) The fixed point property in c_0. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 413–422. (Tomás Domínguez Benavides) **99i:47097** 47H09 (46B20, 47H10)

— (*with* Garcia-Falset, J.; Sims, Brailey) Fixed point theory for almost convex functions. *Nonlinear Anal.* **32** (1998), *no.* 5, 601–608. (Tomás Domínguez Benavides) **99b:47083** 47H10

gutiérrez Llorente, José Manuel *see* **Gutiérrez Llorente, José Manuel**

valenciano Llovera, Federico *see* **Valenciano Llovera, Federico**

Llovet, Juan (*with* Castaño, Bonifacio; Martínez, Raquel) Computing the characteristic polynomial of multivariate polynomial matrices given by straight-line programs. (English summary) Non-standard applications of computer algebra (Linz/Wailea, HI, 1996/1997). *Math. Comput. Simulation* **45** (1998), *no.* 1-2, 39–57. (Summary) **99a:68096** 68Q40

Lloyd, Christopher J. (*with* Kabaila, Paul) Tight upper confidence limits from discrete data. (English summary) *Austral. J. Statist.* **39** (1997), *no.* 2, 193–204. (Shyamal D. Peddada) **99c:62066** 62F25

— (*with* Hasofer, Abraham M.) Estimation for partially observed birth-death processes. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 5, 1073–1089. (George P. Yanev) **99j:60129** 60J80 (62P10)

— Improved efficiency for recapture studies from auxiliary experimentation. (English summary) *J. Statist. Plann. Inference* **67** (1998), *no.* 1, 29–44. (Summary) **99c:62026** 62D05 (62P10)

— (*with* Yip, Paul S. F.; Chan, Kung Sik) A comparison of recapture, removal and resighting designs for population size estimation. (English summary) *J. Statist. Plann. Inference* **71** (1998), *no.* 1-2, 363–375. 62F10 (62D05)

Lloyd, E. Keith (*with* Jones, Gareth A.) Reaction graphs. (English summary) Algebra and combinatorics: interactions and applications (Königstein, 1994). *Acta Appl. Math.* **52** (1998), *no.* 1-3, 121–147. (Xiao Feng Guo) **99m:05068** 05C25 (05C90, 20B25, 92E10)

Lloyd, Errol L. (*with* Ivković, Zoran) Fully dynamic algorithms for bin packing: being (mostly) myopic helps. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 2, 575–612 (*electronic*). (Summary) **99f:68038** 68P05 (68Q25, 68R05)

Lloyd, N. G. (*with* Christopher, C. J.; Devlin, J.; Pearson, Jane Margaret; Yasmin, N.) Quadratic-like cubic systems. (English summary) Planar nonlinear dynamical systems (Delft, 1995). *Differential Equations Dynam. Systems* **5** (1997), *no.* 3-4, 329–345. (Henryk Żołądek) **99k:34061** 34C05 (58F21)

— (*with* Devlin, J.; Pearson, Jane Margaret) Cubic systems and Abel equations. (English summary) *J. Differential Equations* **147** (1998), *no.* 2, 435–454. (Natalia Borisovna Medvedeva) **99f:34037** 34C05 (34C25)

— (*with* Pearson, Jane Margaret) Bifurcation of limit cycles and integrability of planar dynamical systems in complex form. (English summary) *J. Phys. A* **32** (1999), *no.* 10, 1973–1984. (Henryk Żołądek) **99m:34068** 34C05 (34–04, 34C23, 58F21)

Lloyd, Seth (*with* Yu, H.) Combined direct and indirect adaptive control of constrained robots. (English summary) *Internat. J. Control* **68** (1997), *no.* 5, 955–970. 93C85 (70Q05)

— Unconventional quantum computing devices. *Unconventional models of computation* (*Auckland*, 1998), 52–58, *Springer Ser. Discrete Math. Theor. Comput. Sci., Springer, Singapore*, 1998. (*see* **99f:68012**) 68Q05 (81P99)

— (*with* Viola, Lorenza) Dynamical suppression of decoherence in two-state quantum systems. (English summary) *Phys. Rev. A* (3) **58** (1998), *no.* 4, 2733–2744. (Summary) **99f:81037** 81P99

— (*with* Brassard, Gilles; Chuang, Isaac; Monroe, Christopher) Quantum computing. *Proc. Natl. Acad. Sci. USA* **95** (1998), *no.* 19, 11032–11033 (*electronic*). (Emanuel H. Knill) **99g:81029** 81P99 (68Q05)

— (*with* Braunstein, Samuel L.) Quantum computation over continuous variables. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 8, 1784–1787. (Summary) **99j:81024** 81P99

— (*with* Viola, Lorenza; Knill, Emanuel) Dynamical decoupling of open quantum systems. (English summary) *Phys. Rev. Lett.* **82** (1999), *no.* 12, 2417–2421. (Summary) **99k:81053** 81P99 (81V99)

Lloyd-Braga, Teresa (*with* Cazzavillan, Guido; Pintus, Patrick A.) Multiple steady states and endogenous fluctuations with increasing returns to scale in production. (English summary) *J. Econom. Theory* **80** (1998), *no.* 1, 60–107. (Summary) **99d:90025** 90A14 (90A50)

jordán Lluch, Cristina *see* **Jordán Lluch, Cristina**

Lluis-Puebla, Emilio Mathematics in music? (Spanish) *Miscelánea Mat. No.* 27 (1998), 15–27. (J. S. Joel) **99m:00016** 00A69 (01A99)

Lo, Andrew W. A non-random walk down Wall Street. *The Legacy of Norbert Wiener: A Centennial Symposium* (*Cambridge, MA*, 1994), 149–183, *Proc. Sympos. Pure Math.*, 60, *Amer. Math. Soc., Providence, RI*, 1997. (Andrzej Wieczorek) **99c:90022** 90A09 (60J15, 62P20)

Lo, C. F. Propagator of the n-dimensional generalization of the Fokker-Planck equation with a linear force: Lie-algebraic approach. (English summary) *Phys. Lett. A* **246** (1998), *no.* 1-2, 66–70. (Summary) **99e:82069** 82C31

— Nonlinear multiquantum Jaynes-Cummings model with counter-rotating terms. (English summary) *Quantum Semiclass. Optics* **10** (1998), *no.* 5, *L57–L61*. (Summary) **99g:81252** 81V80

— Lie-algebraic approach for the Fokker-Planck equation with a nonlinear drift force. (English summary) *Phys. A* **262** (1999), *no.* 1-2, 153–157. (Summary) **99k:82056** 82C31

Lo, Chung-Yin On compatibility of covariance to the equivalence principle and space-time coordinate systems. (English and French summaries) *Phys. Essays* **11** (1998), *no.* 2, 264–272. 83C99

Lo, Eddie H. A polycyclic quotient algorithm. (English summary) *J. Symbolic Comput.* **25** (1998), *no.* 1, 61–97. (Colin M. Campbell) **99c:20040** 20F05 (20–04, 20C10)

Lo, Hoi-Kwong (*with* Chau, Hoi Fung) Why quantum bit commitment and ideal quantum coin tossing are impossible. (English summary) PhysComp96 (Boston, MA). *Phys. D* **120** (1998), *no.* 1-2, 177–187. (Summary) **99m:81037** 81P99

Lo, K. L. (*with* Xu, Bu Gong) Robust control design for uncertain systems with interval parameters. (English summary) *Systems Sci.* **23** (1997), *no.* 4, 49–58 (1998). 93D09

Lo, Kin Chung Sealed bid auctions with uncertainty averse bidders. (English summary) *Econom. Theory* **12** (1998), *no.* 1, 1–20. (Summary) **99i:90042** 90A60

Lo, Kueiming *see* **Luo, Gui Ming**

Lo, Zhongwei (*with* Chen, Qiang; Chen, Ji Mei) Uniform asymptotic stability theorems for functional-differential equations of neutral type. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 88–91. (Zhanyuan Hou) **99k:34167** 34K20 (34K40)

Loader, Ralph Unary PCF is decidable. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 317–329. (Martin W. Bunder) **99i:03013** 03B40 (03B25)

Lobachevskiĭ, N. I. *see* **Vishnevskiĭ, V. V.** *and* **Drago, Antonino**, (**99a:00007**)

Lobanov, A. I. (*with* Belotelov, N. V.) Population models with nonlinear diffusion. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 12, 43–56. (Qi Xiao Ye) **99j:92014** 92D25 (35K57)

Lobanov, Yu. Yu. (*with* Shakhbagyan, R. R.; Zhidkov, E. P.) Functional measures and approximations for some imaginary-time path integrals. (English summary) *Path integrals: Dubna '96*, 359–363, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99h:81005**) 81S40

Lobas, Leonid Grigor'evich (*with* Verbitskiĭ, V. G.) Nonlinear stability and bifurcation sets of stationary states of wheeled robots under variation of the control parameters. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 3, 35–51, 154. (Summary) **99c:70004** 70B15 (34D99, 70K20)

— On the theory of bifurcations of periodic solutions of dynamical systems with the simplest symmetry under a change in the control parameters. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 12–21, 151. (Summary) **99k:34090** 34C25 (34C23)

Lobato, Ignacio N. (*with* Savin, N. E.) Real and spurious long-memory properties of stock-market data. (English summary) With comments and a reply by the authors. *J. Bus. Econom. Statist.* **16** (1998), *no.* 3, 261–283. (Summary) **99e:62160** 62M10

— (*with* Robinson, Peter M.) A nonparametric test for I(0). (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 3, 475–495. (Hartmut Milbrodt) **99h:62059** 62G10 (62M10)

Löbbing, Martin (*with* Sieling, Detlef; Wegener, Ingo) Parity OBDDs cannot be handled efficiently enough. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 4, 163–168. (Summary) **99e:68037** 68Q05 (68Q25)

Löbel, Andreas (*with* Borndörfer, Ralf; Grötschel, Martin) Alcuin's transportation problems and integer programming. (English summary) *Charlemagne and his heritage. 1200 years of civilization and science in Europe, Vol. 2* (*Aachen*, 1995), 379–409, *Brepols, Turnhout*, 1998. (*see* **99i:00015**) 90C10 (01A35, 90C08)

Lobel, Pierre (*with* Pichot, Christian; Blanc-Féraud, Laure; Barlaud, Michel) Edge-preserving regularization for quantitative reconstruction algorithms in microwave imaging. *Inverse problems, tomography, and image processing* (*Newark, DE*, 1997), 113–124, *Plenum, New York*, 1998. (*see* **99a:00030**) 94A12 (65R10)

matzner-Løber, Eric *see* **Matzner-Løber, Eric**

Lobillo, F. J. (*with* Bueso, José L.; Gómez Torrecillas, José; Castro-Jiménez, Francisco Jesús) An introduction to effective calculus in quantum groups. *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 55–83, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Şerban Raianu) **99g:16046** 16W30 (16P90)

Lobjois, Lionel (*with* Lemaître, Michel) Branch and bound algorithm selection by performance prediction. (English summary) *AAAI-98/IAAI-98 Proceedings* (*Madison, WI*, 1998), 353–358, *MIT Press, Cambridge, MA*, 1998. (*see* **99f:68005**) 90C35 (90C90)

Lobkovsky, Alexander E. (*with* Langer, J. S.) Critical examination of cohesive-zone models in the theory of dynamic fracture. (English summary) *J. Mech. Phys. Solids* **46** (1998), *no.* 9, 1521–1556. (Summary) **99h:73064** 73M25

Lobo, Jorge (*with* Gaasterland, Terry) Qualifying answers according to user needs and preferences. (English summary) *Fund. Inform.* **32** (1997), *no.* 2, 121–137. 68N17 (68P15)

— (*with* Minker, Jack; Rajasekar, Arcot) Semantics for disjunctive and normal disjunctive logic programs. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 325–353, *Oxford Univ. Press, New York*, 1998. (From the introduction) **99g:68038** 68N17 (03B70, 68Q55)

Lobo, M. *see* **Lobo-Hidalgo, Miguel**

Lobo, Miguel *see* **Lobo-Hidalgo, Miguel**

Lobo, Miguel Sousa (*with* Vandenberghe, Lieven; Boyd, Stephen; Lebret, Hervé) Applications of second-order cone programming. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 193–228. (Jos F. Sturm) **99k:90103** 90C08 (90C20, 90C90, 93B40)

Loboda, A. V. On the sphericity of rigid hypersurfaces in $\mathbf{C}^2$. (Russian. Russian summary) *Mat. Zametki* **62** (1997), *no.* 3, 391–403; *translation in Math. Notes* **62** (1997), *no.* 3-4, 329–338 (1998). (S. Dimiev) **99g:32030** 32F25 (32H99, 32M10)

— (*with* Guzeev, R. N.) Holomorphic invariants of logarithmic spirals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 2, 16–19; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 2, 13–16. (J. S. Joel) **99h:32020a** 32F25

— (*with* Guzeev, R. N.) Errata: "Holomorphic invariants of logarithmic spirals". (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 6, 99. (J. S. Joel) **99h:32020b** 32F25

Lobo-Hidalgo, Miguel (*with* Oleĭnik, Ol'ga Arsen'evna; Pérez, Eugenia; Shaposhnikova, T. A.) On homogenization of solutions of boundary value problems in domains, perforated along manifolds. Dedicated to Ennio De Giorgi. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **25** (1997), *no.* 3-4, 611–629 (1998). (Alain Brillard) **99k:35018** 35B27 (35J25)

— (*with* Gómez, Delfina; Pérez, Eugenia) On vibrations of a system with concentrated mass. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish) (Vigo, 1997)*, 453–458, *Colecc. Congr., 9, Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 73D30 (35B25, 35J60, 73B27)

Lobry, Claude (*with* Sari, Tewfik; Touhami, Sefiane) On Tykhonov's theorem for convergence of solutions of slow and fast systems. (English summary) *Electron. J. Differential Equations* **1998**, *No.* 19, 22 *pp.* (*electronic*). (Antoine Delcroix) **99g:34108** 34D15 (03H05, 34E15)

Lobstein, Antoine (*with* Cohen, Gérard Denis; Honkala, Iiro; Litsyn, Simon) ★ Covering codes. North-Holland Mathematical Library, 54. *North-Holland Publishing Co., Amsterdam*, 1997. xxii+542 *pp. ISBN* 0-444-82511-8 (H. F. Mattson, Jr.) **99b:94059** 94B75 (05–02, 11T71)

— (*with* Zinov'ev, V. A.) On new perfect binary nonlinear codes. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 5, 415–420. (Stefan Dodunekov) **99a:94062** 94B60

Locatelli, Marco Global optimization algorithms. (Italian) *Boll. Unione Mat. Ital. Sez. A Mat. Soc. Cult.* (8) **1** (1998), *suppl.*, 189–192. 90C30 (90–02)

— Relaxing the assumptions of the multilevel single linkage algorithm. (English summary) *J. Global Optim.* **13** (1998), *no.* 1, 25–42. (Summary) **99d:90116** 90C30 (65K05)

Locatelli, Ugo (*with* Giorgilli, Antonio) On classical series expansions for quasi-periodic motions. (English summary) *Math. Phys. Electron. J.* **3** (1997), *Paper* 5, 25 *pp.* (*electronic*). (C. Eugene Wayne) **99e:58154** 58F27 (34C20, 34C27, 70H05, 70K99)

— (*with* Meletlidou, Efthymia) Convergence of Birkhoff normal form for essentially isochronous systems. (English and Italian summaries) *Meccanica* **33** (1998), *no.* 2, 195–211. (A. D. Bruno) **99k:34081** 34C20 (58F36, 70H05)

Loccufier, M. (*with* Noldus, E.) Global convergence properties of discrete time neural networks. (English summary) *Neural Parallel Sci. Comput.* **7** (1999), *no.* 2, 163–175. 93C30 (93D05)

Lochak, Georges Les symétries *P, T, C*, les solutions à énergie négative et la représentation des antiparticules dans les équations spinorielles. II. Équations non linéaires. (English and French summaries) [*P, T, C* symmetries, negative energy solutions and antiparticle representation in spin equations. II. Nonlinear equations] *Ann. Fond. Louis de Broglie* **22** (1997), *no.* 2, 187–217. (Jorge Goncalves Cardoso) **99j:81055** 81R20

Lochak, Pierre The fundamental groups at infinity of the moduli spaces of curves. (English summary) *Geometric Galois actions*, 1, 139–158, *London Math. Soc. Lecture Note Ser.*, 242, *Cambridge Univ. Press, Cambridge*, 1997. (Gabino González Diez) **99c:14037** 14H15 (14D20, 14H30, 32G15)

— (*with* Schneps, Leila) The universal Ptolemy-Teichmüller groupoid. (English summary) *Geometric Galois actions*, 2, 325–347, *London Math. Soc. Lecture Note Ser.*, 243, *Cambridge Univ. Press, Cambridge*, 1997. (Hiroaki Nakamura) **99i:20052** 20F36 (20C15, 20E18)

— Tores invariants à torsion évanescente dans les systèmes hamiltoniens proches de l'intégrable. (English and French summaries) [Twistless invariant tori in nearly integrable Hamiltonian systems] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 9, 833–836. (Guido Gentile) **99m:58164** 58F27 (58F30)

— *see also* **Geometric Galois actions, 99f:14002**

Lock, Patti Frazer (*with* Hendry, George R. T.; Knickerbocker, C. J.; Sheard, Michael) Forbidden subgraphs of graphs uniquely Hamiltonian-connected from a vertex. (English summary) *Discrete Math.* **187** (1998), *no.* 1-3, 281–290. (Summary) **99b:05093** 05C45

Locke, Stephen C. Further notes on: largest triangle-free subgraphs in powers of cycles. (English summary) *Ars Combin.* **49** (1998), 65–77. (Summary) **99c:05106** 05C35

— (*with* Witte, David Riley) On non-Hamiltonian circulant digraphs of outdegree three. (English summary) *J. Graph Theory* **30** (1999), *no.* 4, 319–331. (Joseph B. Klerlein) **99m:05069** 05C25 (05C20, 05C45)

Lockett, Geoff (*with* Naudé, Peter; Islei, Gerd) Influence in group decision making. (English summary) *Trends in multicriteria decision making (Cape Town, 1997)*, 187–198, *Lecture Notes in Econom. and Math. Systems*, 465, *Springer, Berlin*, 1998. (*see* **99g:90012**) 90A07

Lockhart, R. A. (*with* Kulperger, R. J.) Tests of independence in time series. (English summary) *J. Time Ser. Anal.* **19** (1998), *no.* 2, 165–185. (Raúl Pedro Mentz) **99g:62140** 62M10

Loday, Jean-Louis From diffeomorphism groups to loop spaces via cyclic homology. *Symétries quantiques (Les Houches, 1995)*, 727–755, *North-Holland, Amsterdam*, 1998. (Teimuraz Pirashvili) **99m:19002** 19D10 (19D55, 55P35)

— (*with* Ronco, María O.) Hopf algebra of the planar binary trees. (English summary) *Adv. Math.* **139** (1998), *no.* 2, 293–309. (Robert B. Howlett) **99m:16063** 16W30 (20C30)

— (*with* Pirashvili, Teimuraz) The tensor category of linear maps and Leibniz algebras. (English summary) *Georgian Math. J.* **5** (1998), *no.* 3, 263–276. (Jerry Lodder) **99e:18009** 18D10 (17A30, 18A32)

Lodaya, K. (*with* Weil, Pascal) Series-parallel posets: algebra, automata and languages. (English summary) *STACS 98 (Paris, 1998)*, 555–565, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (*see* **99f:68011**) 68Q68 (68Q10, 68Q45)

Loday-Richaud, M. (*with* Pourcin, G.) On index theorems for linear ordinary differential operators. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **47** (1997), *no.* 5, 1379–1424. (W. Balser) **99g:34022** 34A20 (32G34, 34E05)

Lodder, Gerald M. Leibniz cohomology for differentiable manifolds. (English and French summaries) *Ann. Inst. Fourier (Grenoble)* **48** (1998), *no.* 1, 73–95. (Elena Poletaeva) **99b:17003** 17A30 (18G60, 57R30, 57R32)

Lodge, Timothy *see* **Topology and geometry in polymer science, 99e:82103**

Lodha, Suresh Kumar (*with* Goldman, Ron N.) Lattices and algorithms for bivariate Bernstein, Lagrange, Newton, and other related polynomial bases based on duality between *L*-bases and *B*-bases. (English summary) *J. Approx. Theory* **93** (1998), *no.* 1, 59–99. (Ying Guang Shi) **99c:41067** 41A65 (41A10)

Lodi, Elena (*with* Grossi, Roberto) Simple planar graph partition into three forests. (English summary) *Discrete Appl. Math.* **84** (1998), *no.* 1-3, 121–132. (Summary) **99d:05071** 05C70 (05C05)

Lodovici, Carla Asymptotic degeneracy of eigenvalues for a class of one-dimensional Fokker-Planck operators with potentials with finitely many minima. (Italian. English and Italian summaries) *Rend. Accad. Sci. Fis. Mat. Napoli* (4) **64** (1997), 117–140 (1998). (Lamberto Rondoni) **99h:82057** 82C31 (35P05, 35Q99)

Lods, Véronique (*with* Miara, Bernadette) Nonlinearly elastic shell models: a formal asymptotic approach. II. The flexural model. (English summary) *Arch. Rational Mech. Anal.* **142** (1998), *no.* 4, 355–374. (Petr E. Tovstik) **99j:73072** 73K15 (35C20, 35Q72)

— (*with* Mardare, Cristinel) Justification asymptotique des hypothèses de Kirchhoff-Love pour une coque encastrée linéairement élastique. (English and French summaries) [Asymptotic justification of the Kirchhoff-Love hypotheses for a linearly elastic clamped shell] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 909–912. (Summary) **99g:73084** 73K15

Lodwick, Weldon A. (*with* McCourt, Steve; Newman, Francis; Humphries, Stephen M.) Optimization methods for radiation therapy plans. (English summary) *Computational radiology and imaging (Minneapolis, MN, 1997)*, 229–249, *IMA Vol. Math. Appl.*, 110, *Springer, New York*, 1999. (*see* **99m:92012**) 92C50

— (*with* Jamison, K. David) Minimizing unconstrained fuzzy functions. (English summary) *Fuzzy Sets and Systems* **103** (1999), *no.* 3, 457–464. (Summary) **99k:26030** 26E50

Lodygowski, T. Numerical solutions of initial-boundary value problems for metals and soils. (English summary) *Localization and fracture phenomena in inelastic solids (Udine, 1997)*, 391–468, *CISM Courses and Lectures*, 386, *Springer, Vienna*, 1998. (*see* **99g:73002**) 73E99 (73E60, 73Q05, 73V20)

Loeb, Daniel E. The world of generating functions and umbral calculus. *Gian-Carlo Rota on combinatorics*, 201–213, *Contemp. Mathematicians, Birkhäuser Boston, Boston, MA*, 1995. (*see* **99b:01027**) 05A40 (05A15)

— (*with* Di Bucchianico, Alessandro) A selected survey of umbral calculus. *Electron. J. Combin.* **2** (1995), *Dynamic Survey* 3, 28 *pp.* (*electronic*). (Marko Razpet) **99j:05017** 05A40

— (*with* Di Bucchianico, Alessandro) Operator expansion in the derivative and multiplication by x. (English summary) Proceedings of the Conference "Different Aspects of Differentiability", II (Warsaw, 1995). *Integral Transform. Spec. Funct.* **4** (1996), *no.* 1-2, 49–68. (Heinrich Niederhausen) **99b:05010** 05A40 (47A05)

— (*with* Di Bucchianico, Alessandro) Natural exponential families and umbral calculus. (English summary) *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 195–211, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Marko Razpet) **99g:05015** 05A40 (41A35, 60E05)

— (*with* Di Bucchianico, Alessandro; Rota, Gian-Carlo) Umbral calculus in Hilbert space. *Mathematical essays in honor of Gian-Carlo Rota (Cambridge, MA, 1996)*, 213–238, *Progr. Math.*, 161, *Birkhäuser Boston, Boston, MA*, 1998. (Heinrich Niederhausen) **99i:05021** 05A40 (33C55, 47A99)

— (*with* Damiani, E.; D'Antona, Ottavio M.) The complementary symmetric functions: connection constants using negative sets. (English summary) *Adv. Math.* **135** (1998), *no.* 2, 207–219. (Ernesto Vallejo) **99g:05010** 05A19 (05E05, 41A20)

— (*with* Bottreau, Anne; Di Bucchianico, Alessandro) Computer algebra and umbral calculus. (English summary) Proceedings of the 7th Conference on Formal Power Series and Algebraic Combinatorics (Noisy-le-Grand, 1995). *Discrete Math.* **180** (1998), *no.* 1-3, 65–72. (Heinrich Niederhausen) **99b:05009** 05A40

— (*with* Di Bucchianico, Alessandro) Dominance refinements of the Smirnov two-sample test. (English summary) *J. Statist. Plann. Inference* **66** (1998), *no.* 1, 51–60. (Jagdish Saran) **99e:62075** 62G10 (05A15)

Loeb, Jean-Jacques (*with* Akhiezer, D. N.) Enveloppes holomorphiquement convexes invariantes. (English and French summaries) [Invariant holomorphically convex hulls] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1279–1282. (Marshall A. Whittlesey) **99m:32014** 32E05 (22E30, 32E20)

— (*with* Berteloot, F.) Spherical hypersurfaces and Lattès rational maps. (English and French summaries) *J. Math. Pures Appl.* (9) **77** (1998), *no.* 7, 655–666. (Dan Coman) **99e:32043** 32H50 (32H35, 58F23)

Loebl, M. (*with* Haxell, P. E.) On defect sets in bipartite graphs (extended abstract). (English summary) *Algorithms and computation (Singapore, 1997)*, 334–343, *Lecture Notes in Comput. Sci.*, 1350, *Springer, Berlin*, 1997. (*see* **99f:68001**) 05C85 (68R10)

Loepp, S. Excellent rings with local generic formal fibers. (English summary) *J. Algebra* **201** (1998), *no.* 2, 573–583. (Hiroshi Tanimoto) **99a:13013** 13F40 (13B35, 13H05)

de Loera, J. A. (*with* Santos, F.; Urrutia, Jorge) The number of geometric bistellar neighbors of a triangulation. (English summary) *Discrete Comput. Geom.* **21** (1999), *no.* 1, 131–142. (Joseph Gubeladze) **99k:52025** 52B70

Loesch, S. (*with* Zhou, Yu Kui; Zuber, Jean-Bernard) Identities in representations of the Hecke algebra. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 24, 4425–4443. (Yasuyuki Kawahigashi) **99f:81072** 81R05 (20C99, 82B23)

Loescher, Bernd One unary function says less than two in existential second order logic. (English summary) *Inform. Process. Lett.* **61** (1997), *no.* 2, 69–75. (Summary) **99b:03017** 03B15 (03C85, 68Q15)

Loeser, François Exposants p-adiques et théorèmes d'indice pour les équations différentielles p-adiques (d'après G. Christol et Z. Mebkhout). (French summary) [p-adic exponents and index theorems for p-adic differential equations (after G. Christol and Z. Mebkhout)] Séminaire Bourbaki, Vol. 1996/97. *Astérisque No.* 245 (1997), *Exp. No.* 822, 3, 57–81. (Bertin Diarra) **99f:12006** 12H25 (14H30)

— (*with* Denef, Jan) Motivic Igusa zeta functions. *J. Algebraic Geom.* **7** (1998), *no.* 3, 505–537. (Willem Veys) **99j:14021** 14G10 (11S80, 14F20)

— (*with* Denef, Jan) Character sums associated to finite Coxeter groups. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 12, 5047–5066. (Ronald J. Evans) **99b:11138** 11T24 (11L05, 20F55, 33C80)

— (*with* Denef, Jan) Germs of arcs on singular algebraic varieties and motivic integration. *Invent. Math.* **135** (1999), *no.* 1, 201–232. (José Ignacio Burgos Gil) **99k:14002** 14A20 (14D10, 14G99)

Loeve, Anneke (*with* Hordijk, Arie; Tiggelman, Jeroen) Analysis of a finite-source customer assignment model with no state information. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 317–336. (Summary) **99c:90052** 90B22 (60K25)

Loewe, Mark (*with* Bohm, Arno; Maxson, S.; Patuleanu, P.; Püntmann, C.; Gadella, M.) Gamow-Jordan vectors and non-reducible density operators from higher-order S-matrix poles. (English summary) *J. Math. Phys.* **38** (1997), *no.* 12, 6072–6100. (Summary) **99b:81261** 81U20

— (*with* Kielanowski, Piotr) Exact fields of electrostatic and magnetostatic multipoles. (English and Spanish summaries) *Rev. Mexicana Fis.* **44** (1998), *no.* 1, 24–35. (Summary) **99a:78018** 78A30

Loewen, P. D. (*with* Hu, Zhongzhi; Salcudean, S. E.) A numerical solution of multiobjective control problems. (English summary) *Optimal Control Appl. Methods* **19** (1998), *no.* 6, 411–422. (Summary) **99k:49071** 49M30 (90C29, 93B51)

Loewy, Raphael (*with* Radwan, Nizar) On spaces of matrices with a bounded number of eigenvalues. (English summary) *Electron. J. Linear Algebra* **3** (1998), 142–152 (*electronic*). (William Watkins) **99i:15025** 15A42 (15A45)

— (*with* Friedland, Shmuel) Spaces of symmetric matrices containing a nonzero matrix of bounded rank. (English summary) Special issue celebrating the 60th birthday of Ludwig Elsner. *Linear Algebra Appl.* **287** (1999), *no.* 1-3, 161–170. (R. Piziak) **99j:15024** 15A30

— (*with* Barrett, Wayne W.; Johnson, Charles Royal) Critical graphs for the positive definite completion problem. (English summary) *SIAM J. Matrix Anal. Appl.* **20** (1999), *no.* 1, 117–130 (*electronic*). (Shu An Hu) **99i:15029** 15A48 (05C50)

Lo Faro, Giovanni (*with* Billington, Elizabeth J.) Repeated blocks in indecomposable twofold extended triple systems. (English summary) *Australas. J. Combin.* **18** (1998), 209–218. (Summary) **99g:05026** 05B07

Lofaro, Thomas A model of the dynamics of the Newton-Leipnik attractor. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2723–2733. (Summary) **99f:70028** 70K50 (34D45, 58F03, 58F12)

— The dynamics of symmetric bimodal maps. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 12, 2735–2744. (Mikhail Zaks) **99i:58052** 58F03

Löffler, Michael (*with* Gaul, Wolfgang) Multiperiod price optimization in oligopolies considering reference price effects. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 353–358, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90A12

Logachev, O. A. (*with* Sal′nikov, A. A.; Yashchenko, V. V.) Bent functions on a finite abelian group. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 4, 3–20; *translation in Discrete Math. Appl.* **7** (1997), *no.* 6, 547–564. (Kanat S. Abdukhalikov) **99e:94030** 94A55 (20K01)

Logan, J. David Wave front solutions to a filtration equation with growth. (English summary) *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 1, 33–43. (Summary) **99k:76139** 76S05 (35K10, 35Q35, 92D25)

— (*with* Ledder, Glenn; Homp, Michelle Reeb) A singular perturbation problem in fractured media with parallel diffusion. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 4, 645–655. (Summary) **99d:76092** 76S05 (86A05)

— Similarity solution to a heat exchange problem. (English summary) *SIAM Rev.* **40** (1998), *no.* 4, 918–921 (*electronic*). (Summary) **99h:35077** 35K05 (76S05, 80A20)

Logan, Roger (*with* Singh, Mithilesh Kumar; Sinha, Kishore) Two series of BIB designs. (English summary) *Ars Combin.* **49** (1998), 259–264. 05B05

— (*with* Golightly, W. L.; Haynsworth, W. H.; Sarvate, Dinesh G.) Nontransitive semi-standard orthogonal Latin squares. (English summary) *Bull. Inst. Combin. Appl.* **25** (1999), 88–94. (Summary) **99i:05040** 05B15

Logar, A. (*with* Brundu, Michela) Parametrization of the orbits of cubic surfaces. (English summary) *Transform. Groups* **3** (1998), *no.* 3, 209–239. (Bernard Mourrain) **99m:14114** 14Q10 (14J25)

Logemann, Hartmut (*with* Curtain, Ruth F.; Townley, Stuart; Zwart, H. J.) Well-posedness, stabilizability, and admissibility for Pritchard-Salamon systems. (English summary) *J. Math. Systems Estim. Control* **4** (1994), *no.* 4, 38 *pp.* (*electronic*). (Joseph A. Ball) **99e:93040** 93C25 (93D15)

— (*with* Townley, Stuart) Adaptive control of infinite-dimensional systems without parameter estimation: an overview. (English summary) Distributed parameter systems: analysis, synthesis and applications, Part 2. *IMA J. Math. Control Inform.* **14** (1997), *no.* 2, 175–206. (Summary) **99f:93087** 93C40 (93–02, 93C25)

— (*with* Ryan, E. P.; Townley, Stuart) Integral control of infinite-dimensional linear systems subject to input saturation. (English summary) *SIAM J. Control Optim.* **36** (1998), *no.* 6, 1940–1961 (*electronic*). (R. F. Datko) **99f:93078** 93C20 (93D15)

— (*with* Ilchmann, Achim) Adaptive λ-tracking for a class of infinite-dimensional systems. (English summary) *Systems Control Lett.* **34** (1998), *no.* 1-2, 11–21. (Summary) **99c:93061** 93C25 (93C40)

— (*with* Ryan, E. P.; Townley, Stuart) Integral control of linear systems with actuator nonlinearities: lower bounds for the maximal regulating gain. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1315–1319. 93B51 (93D15)

Loggie, William T. H. A simplified proof of Oshiro's theorem for co-H rings. *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 643–648. (From the text) **99h:16001** 16D10 (16D40)

Logginova, K. A. (*with* Krutitskiĭ, P. A.) On a boundary value problem that describes the Hall effect in a semiconductor with a periodic system of electrodes. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. III Fiz. Astronom.* **1997**, *no.* 6, 23–27. (Summary) **99c:78019** 78A99 (30E25, 35Q60)

Loginov, B. V. Branching equation in the root subspace. *Nonlinear Anal.* **32** (1998), *no.* 3, 439–445. (Ulrich Kosel) **99b:47092** 47H15 (58E07)

Logofet, D. O. (*with* Zavalishin, N. N.) Modeling ecological systems by a given "storage-flow" diagram. (Russian. English and Russian summaries) *Mat. Model.* **9** (1997), *no.* 9, 3–17. (J. Milota) **99b:92062** 92D40 (34D99)

Logunov, A. A. (*with* Gershteĭn, S. S.; Mestvirishvili, M. A.) On an upper limit for graviton mass. (Russian) *Dokl. Akad. Nauk* **360** (1998), *no.* 3, 332–334; *translation in Dokl. Phys.* **43** (1998), *no.* 5, 293–296. 83F05

— The relativistic theory of gravity and Mach's principle. *Phys. Particles Nuclei* **29** (1998), *no.* 1, 1–32; *translated from Fiz. Èlementar. Chastits i Atom. Yadra* **29** (1998), *no.* 1, 5–81 (*Russian*). (Yu. N. Obukhov) **99i:83079** 83D05

— (*with* Gershteĭn, S. S.) J. S. Bell's problem. *Phys. Particles Nuclei* **29** (1998), *no.* 5, 463–468; *translated from Fiz. Èlementar. Chastits i Atom. Yadra* **29** (1998), *no.* 5, 1119–1132, 1319 (*Russian. English and Russian summaries*). (Mary L. Boas) **99g:83007** 83A05

Logvinenko, Vladimir (*with* Nazarova, Natalya) Criteria of boundedness from above of subharmonic functions of finite order in an angle. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 395–411. (Summary) **99m:31002** 31A05

— (*with* Russakovskiĭ, A. M.) Quasi-sampling sets for analytic functions in a cone. (English summary) *J. Approx. Theory* **96** (1999), *no.* 1, 33–45. (Antonio Bonilla-Ramirez) **99m:32003** 32A15 (41A30)

Logvinov, S. Yu. (*with* Erusalimskiĭ, Ya. M.) Some problems of achievability on graphs with restrictions. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1996**, *no.* 2, 14–17, 98. 05C99

— (*with* Belyavskiĭ, G. I.) Multivalued mappings in a signal segmentation problem. (Russian. English and Russian summaries) *Izv. Vyssh. Uchebn. Zaved. Sev.-Kavk. Reg. Estestv. Nauki* **1997**, *no.* 2, 8–11, 88. 93E11 (65U05)

Loh, Ching-Yuen (*with* Liou, Meng-Sing; Hui, Wai How) An investigation of random choice method for three-dimensional steady supersonic flows. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 1, 97–119. (Summary) **99h:76073** 76M25 (76J20)

Loh, W. K. A. Exponential sums on reduced residue systems. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 2, 187–195. (John H. Loxton) **99d:11095** 11L07

Loh, Wei-Yin (*with* Zheng, Xiaodong) A consistent variable selection criterion for linear models with high-dimensional covariates. (English summary) *Statist. Sinica* **7** (1997), *no.* 2, 311–325. (Summary) **99g:62099** 62J05

Lohani, A. B. (*with* Pant, R. P.; Padaliya, S.) A common fixed point theorem. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 13–20. 54H25

— (*with* Pant, R. P.; Pandey, N. K.; Padaliya, S.) On common fixed points of generalized contractions. *Math. Ed. (Siwan)* **32** (1998), *no.* 4, 207–210. 54H25

Lohani, P. C. (*with* Badshah, V. H.) Fixed point theorem in 2-metric space. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 3, 243–245. 54H25

— (*with* Badshah, V. H.) Generalized contractive iterate at a point and fixed point theorem. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 267–271. 54H25

— (*with* Badshah, V. H.) Common fixed point theorem for three mappings. (English summary) *Acta Cienc. Indica Math.* **23** (1997), *no.* 4, 273–275. 54H25

— (*with* Badshah, V. H.) Compatible mappings and common fixed point for four mappings. (English summary) *J. Natur. Phys. Sci.* **11** (1997), 1–12. 54H25

Lohar, G. (*with* Dutta Majumder, Dwijesh) On a differential geometric formulation of an optimal tracking problem. (English summary) *Indian J. Pure Appl. Math.* **30** (1999), *no.* 3, 259–269. 93B29 (93D15)

Lohe, M. A. (*with* Biedenharn, L. C.; Chen, William Y. C.; Louck, James D.) The role of SU(2) $3n$-j coefficients in SU(3). (English summary) *Symmetry and structural properties of condensed matter* (*Zajączkowo*, 1994), 150–182, *World Sci. Publishing, River Edge, NJ*, 1995. (A. M. Gavrilik) **99a:81052** 81R05 (22E70)

— Quantum group derivation of special function identities. (English summary) *Special functions and differential equations* (*Madras*, 1997), 199–205, *Allied Publ., New Delhi*, 1998. (Summary) **99i:33023** 33D15 (33C80, 33D80, 81R50)

Lohmiller, Winfried (*with* Slotine, Jean-Jacques E.) On contraction analysis for non-linear systems. (English summary) *Automatica J. IFAC* **34** (1998), *no.* 6, 683–696. (Summary) **99e:93034** 93C10 (93B60, 93D15)

Lõhmus, Jaak (*with* Paal, Eugen; Sorgsepp, Leo) About nonassociativity in mathematics and physics. (English summary) *Acta Appl. Math.* **50** (1998), *no.* 1-2, 3–31. (K. Strambach) **99d:17001** 17–02 (17D05, 17D10, 20N05, 81R99)

Lohn, Jason D. Cellular space models of self-replicating systems. (English summary) *Mathematical and computational biology* (*Aizu-Wakamatsu City*, 1997), 11–30, *Lectures Math. Life Sci.*, 26, *Amer. Math. Soc., Providence, RI*, 1999. (*see* **99k:92002**) 92B05 (68Q80)

Löhner, Rainald (*with* Oñate, Eugenio) An advancing front point generation technique. (English summary) *Comm. Numer. Methods Engrg.* **14** (1998), *no.* 12, 1097–1108. 65N55

— Renumbering strategies for unstructured-grid solvers operating on shared-memory, cache-based parallel machines. (English summary) *Comput. Methods Appl. Mech. Engrg.* **163** (1998), *no.* 1-4, 95–109. 65M55 (65Y05)

— (*with* Luo, Hong; Baum, Joseph D.) A fast, matrix-free implicit method for compressible flows on unstructured grids. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 664–690. (Summary) **99h:76074** 76M25 (76N15)

Lohnherr, Michael (*with* Reckziegel, Helmut) On ruled real hypersurfaces in complex space forms. (English summary) *Geom. Dedicata* **74** (1999), *no.* 3, 267–286. (Jürgen Berndt) **99m:53120** 53C42 (53C40)

Lohrengel, Stephanie (*with* Hazard, Christophe) The solution of Maxwell's equations in a non-convex polyhedron. II. A singular field method. (English summary) *Mathematical and numerical aspects of wave propagation* (*Golden, CO*, 1998), 369–373, *SIAM, Philadelphia, PA*, 1998. (*see* **99d:00023**) 35Q60 (65N30, 78–08, 78A25)

— (*with* Ciarlet, Patrick, Jr.; Hazard, Christophe) Les équations de Maxwell dans un polyèdre: un résultat de densité. (English and French summaries) [Maxwell's equations in a polyhedron: a density result] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 11, 1305–1310. (Summary) **99h:35208** 35Q60 (65M60, 78A25)

Löhrer, Guido Der perfekte Mord: eine metaphysische Fiktion und ihre antirealistische Herausforderung. (English and German summaries) [The perfect murder: a metaphysical fiction and its anti-realist challenge] *Conceptus* **30** (1997), *no.* 77, 165–180. 03A05

Lohrey, Markus NP-completeness results concerning the transformation of logic programs into attribute grammars. (English summary) *Acta Cybernet.* **13** (1998), *no.* 3, 209–224. (From the text) **99f:68030** 68N17

Lohrmann, Erich (*with* Blobel, Volker) ★ Statistische und numerische Methoden der Datenanalyse. (German) [Statistical and numerical methods of data analysis] Teubner Studienbücher Physik. [Teubner Textbooks in Physics] *B. G. Teubner, Stuttgart*, 1998. 358 *pp. ISBN* 3-519-03243-0 65–01 (62–01, 65U05)

Lohse, Detlef (*with* Grossmann, Siegfried; Reeh, Achim) Scaling of the irreducible SO(3)-invariants of velocity correlations in turbulence. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 715–724. (Summary) **99i:76074** 76F99

ta lê Loi *see* **Ta Lê Loi**

Loi, Maurice *see* **Mathematics and art, 99b:00009**

Loi, Phan H. Commuting squares and the classification of finite depth inclusions of AFD type III_λ factors, $\lambda \in (0, 1)$. (English summary) *Publ. Res. Inst. Math. Sci.* **34** (1998), *no.* 2, 115–122. (Yasuyuki Kawahigashi) **99a:46110** 46L37

Loide, R.-K. (*with* Ots, I.; Saar, Rein) De Sitter group and relativistic wave equations. (English summary) *Hadronic J.* **20** (1997), *no.* 5, 503–521. (Jorge Goncalves Cardoso) **99m:81086** 81R20

Lois, Susana (*with* Cabada, Alberto; Liz, Eduardo) Monotonic approximation techniques for second- and third-order impulsive periodic problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 207–212, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Raúl M. Naulin) **99m:34010** 34A37 (34A45)

— (*with* Cabada, Alberto) Existence of solutions for third-order boundary value problems. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 213–218, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Eduardo Liz) **99d:34032** 34B15 (34A45)

— (*with* Cabada, Alberto) Existence results for nonlinear problems with separated boundary conditions. *Nonlinear Anal.* **35** (1999), *no.* 4, *Ser. A: Theory Methods*, 449–456. (From the introduction) **99i:34032** 34B15

Loiseau, Jean-Jacques (*with* Mounier, Hugues) Stabilisation de l'équation de la chaleur commandée en flux. (English and French summaries) [Stabilization of the heat equation with heat flux control] *Systèmes différentiels fractionnaires* (*Paris*, 1998), 131–144, *ESAIM Proc., 5, Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:35083** 35K05 (35B40, 80A20)

— (*with* Mondié, Sabine; Zaballa, Ion; Zagalak, Petr) Assigning the Kronecker invariants of a matrix pencil by row or column completions. (English summary) *Linear Algebra Appl.* **278** (1998), *no.* 1-3, 327–336. (Jacek Kabziński) **99c:15016** 15A22

— (*with* Brethé, D.) An effective algorithm for finite spectrum assignment of single-input systems with delays. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 339–348. (Summary) **99c:93048** 93B55 (93C25)

Loiseleux, T. (*with* Cossu, C.) On the convective and absolute nature of instabilities in finite difference numerical simulations of open flows. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 1, 98–108. (Summary) **99d:76043** 76E99 (76M20)

— (*with* Chomaz, Jean-Marc; Huerre, Patrick) The effect of swirl on jets and wakes: linear instability of the Rankine vortex with axial flow. (English summary) *Phys. Fluids* **10** (1998), *no.* 5, 1120–1134. (From the introduction) **99a:76026** 76C05 (76D25, 76E99)

pham Loi Vu *see* **Pham Loi Vu**

Loizou, George (*with* Levene, Mark) Axiomatisation of functional dependencies in incomplete relations. (English summary) *Theoret. Comput. Sci.* **206** (1998), *no.* 1-2, 283–300. (János Demetrovics) **99i:68028** 68P15 (03B70)

— (*with* Levene, Mark) A probabilistic approach to navigation in Hypertext. (English summary) *Inform. Sci.* **114** (1999), *no.* 1-4, 165–186. (Summary) **99j:68148** 68U15 (68Q45)

Łojasiewicz, Stanisław *see* **Singularities Symposium—Łojasiewicz 70, 99i:00035**

Łojczyk-Królikiewicz, Irena Certain method of monotone approximation of the solution to ordinary system. (English and Polish summaries) *Opuscula Math. No.* 17 (1997), 6, 10, 33–50. (Siegfried Carl) **99a:34006** 34A12 (34A34, 34A40, 34A45)

Lok, Tat M. (*with* Lehnert, James S.) An asymptotic analysis of DS/SSMA communication systems with general linear modulation and error control coding. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 2, 870–881. (Summary) **99c:94004** 94A05

Loke, Hung Yean (*with* Gan, Wee Teck) Modular forms of level p on the exceptional tube domain. *J. Ramanujan Math. Soc.* **12** (1997), *no.* 2, 161–202. (Gordan Savin) **99c:11052** 11F55 (32N15)

Loke, R. K. S. (*with* Oommen, B. J.) The noisy subsequence tree recognition problem. (English summary) *Advances in pattern recognition* (*Sydney*, 1998), 169–180, *Lecture Notes in Comput. Sci.*, 1451, *Springer, Berlin*, 1998. (*see* **99k:68002**) 68T10

Løkketangen, Arne (*with* Jörnsten, Kurt O.) Tabu search for weighted k-cardinality trees. (English summary) *Asia-Pacific J. Oper. Res.* **14** (1997), *no.* 2, 9–26. 90C27 (90C35)

Lokshin, A. A. On the convexity of surfaces of eigenvalues. (Russian) *Mat. Zametki* **61** (1997), *no.* 6, 946–949; *translation in Math. Notes* **61** (1997), *no.* 5-6, 789–792. (From the text) **99b:47005** 47A10 (47A75, 47N50, 81Q10)

Lola, S. (*with* Ellis, Jonathan Richard; Leontaris, G. K.; Nanopoulos, Dimitri V.) Fermion mass textures in an M-inspired flipped SU(5) model derived from string. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 86–96. (Summary) **99b:81273** 81V22 (81T30)

Loli Piccolomini, E. (*with* Zama, Fabiana) The conjugate gradient regularization method in computed tomography problems. (English summary) *Appl. Math. Comput.* **102** (1999), *no.* 1, 87–99. 65R20 (92C55)

Loll, R. Still on the way to quantizing gravity. (English summary) *General relativity and gravitational physics* (*Rome*, 1996), 193–205, *World Sci. Publishing, River Edge, NJ*, 1997. (Jorge A. Pullin) **99f:83034** 83C45 (83C27)

— Quantizing canonical gravity in the real domain. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics* (*Moscow*, 1996), 280–283, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99i:83040** 83C45

— On the diffeomorphism commutators of lattice quantum gravity. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 799–809. (José A. Zapata) **99c:83031** 83C45 (83C27)

Lolli, Gabriele The multiform functions of proof. (Italian) *Conf. Semin. Mat. Univ. Bari No.* 271 (1998), *ii*+18 *pp.* 03A05

Lomadze, G. Summation of singular series corresponding to representations of numbers by some quadratic forms in twelve variables. (English summary) *Georgian Math. J.* **5** (1998), *no.* 4, 367–384. (Vladimir G. Zhuravlev) **99g:11048** 11E20 (11E25, 11E45)

Lomadze, N. G. A note on weight enumerators of linear self-dual codes. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 469–474. (Summary) **99i:94065** 94B05 (11T71)

Lomadze, Vakhtang (*with* Ravi, M. S.; Rosenthal, Joachim; Schumacher, J. M.) A behavioral approach to singular systems. (English summary) *Acta Appl. Math.* **54** (1998), *no.* 3, 331–344. (Kevin A. Grasse) **99m:93002** 93A05 (14F05, 93C55)

— Frequency responses. (English summary) *Bulletin of the Georgian Academy of Sciences* **157** (1998), *no.* 2, 186–188. 93C80 (93C30)

Lomakina, E. N. (*with* Stepanov, Vladimir) On Hardy-type operators in Banach function spaces on the half-axis. (Russian) *Dokl. Akad. Nauk* **359** (1998), *no.* 1, 21–23. (From the text) **99j:47073** 47G10 (45P05, 46E15, 47B06, 47B07)

— (*with* Stepanov, Vladimir) On the Hardy-type integral operators in Banach function spaces. (English summary) *Publ. Mat.* **42** (1998), *no.* 1, 165–194. (Luboš Pick) **99g:47070** 47B38 (46E30, 47G10)

Lomakina, L. V. (*with* Minyuk, S. A.) On pointwise-degenerate systems with deviating argument. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 11, 1507–1515, 1581; *translation in Differential Equations* **33** (1997), *no.* 11, 1513–1521 (1998). (Elena Litsyn) **99k:34182** 34K40

Lombard, R. J. (*with* Lassaut, M.; Bulboaca, I.) The eikonal phase of supersymmetric Coulomb partners. (English summary) *J. Phys. A* **31** (1998), *no.* 38, 7801–7808. 81Q20

Lombardi, A. (*with* Chisci, L.; Mosca, Edoardo; Rossiter, J. A.) State-space approach to stabilizing stochastic predictive control. (English summary) *Internat. J. Control* **65** (1996), *no.* 4, 619–637. 93E15 (93D15)

Lombardi, Eric Exponential estimate of oscillations for generalized solitary waves. (English summary) *Proceedings of the IUTAM/ISIMM Symposium on Structure and Dynamics of Nonlinear Waves in Fluids* (*Hannover*, 1994), 307–315, *Adv. Ser. Nonlinear Dynam.*, 7, *World Sci. Publishing, River Edge, NJ*, 1995. (Summary) **99m:35197** 35Q51 (76B25)

— Orbits homoclinic to exponentially small periodic orbits for a class of reversible systems. Application to water waves. (English summary) *Arch. Rational Mech. Anal.* **137** (1997), *no.* 3, 227–304. (Jürgen Scheurle) **99b:34082** 34C37 (35Q51, 58F39, 76B15)

— Exponential asymptotics of oscillatory integrals. Application to the problem of persistence of homoclinic connections for the $0^2 i\omega$ resonance. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 2, 111–116. (Mikhail B. Sevryuk) **99m:34105** 34C37 (34C25, 34E05, 58F36, 76B15)

— Exponential asymptotics of bi-oscillatory integrals. Application to the problem of persistence of homoclinic connections for the $(i\omega_0)^2 i\omega_1$ resonance. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **328** (1999), *no.* 3, 209–214. (Mikhail B. Sevryuk) **99m:34106** 34C37 (34C25, 34E05, 58F36)

Lombardi, Henri (*with* Hibti, M.; Legeard, B.) Une procédure de décision pour un problème de satisfiabilité dans un univers ensembliste héréditairement fini. (English and French summaries) [A decision procedure for a satisfiability problem in a universe of hereditarily finite sets] *RAIRO Inform. Théor. Appl.* **31** (1997), *no.* 3, 205–236. (M. A. Taĭtslin) **99a:03052** 03E70 (03D15, 03D60, 03E75, 68N17, 68Q15)

— (*with* González-Vega, Laureano; Recio, Tomas; Roy, Marie-Françoise) Sturm-Habicht sequences, determinants and real roots of univariate polynomials. *Quantifier elimination and cylindrical algebraic decomposition* (*Linz*, 1993), 300–316, *Texts Monogr. Symbol. Comput., Springer, Vienna*, 1998. (*see* **99b:03007**) 12D15 (13P99, 68Q40)

— Relecture constructive de la théorie d'Artin-Schreier. (English and French summaries) [A constructive rereading of the Artin-Schreier theory] *Ann. Pure Appl. Logic* **91** (1998), *no.* 1, 59–92. (Douglas S. Bridges) **99f:03088** 03F65 (03B35, 12D15, 16B70)

Lombardo, A. (*with* Conte, Giuseppe; Perdon, A. M.) Dynamic feedback decoupling problem for delay-differential systems via systems over rings. (English summary) Delay systems (Lille, 1996). *Math. Comput. Simulation* **45** (1998), *no.* 3-4, 235–244. (Summary) **99c:93047** 93B52 (34H05)

Lombardo, Fernando C. (*with* Bombelli, Luca; Castagnino, Mario A.) Chaos in Robertson-Walker cosmology. (English summary) *J. Math. Phys.* **39** (1998), *no.* 11, 6040–6050. (Michael L. Fil'chenkov) **99h:83008** 83C15 (58F13, 83F05)

— (*with* Mazzitelli, Francisco D.) Influence functional in two-dimensional dilaton gravity. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 2, 024009, 10 *pp.* (Summary) **99m:83076** 83C45

— (*with* Castagnino, Mario A.; Bombelli, Luca) From classical chaos to decoherence in Robertson-Walker cosmology. (English summary) *Modern Phys. Lett. A* **14** (1999), *no.* 7, 539–547. 83F05 (58F13, 58F40)

— (*with* Mazzitelli, Francisco D.; Russo, Jorge G.) Energy-momentum tensor for scalar fields coupled to the dilaton in two dimensions. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 064007, 8 *pp.* 83C45 (83C47)

Lombardo, Rosaria (*with* D'Ambra, Luigi) Internal and external decompositions for three-way contingency tables. (English and Italian summaries) *Metron* **55** (1997), *no.* 3-4, 171–184 (1998). 62H17

Lomelí, Héctor E. (*with* Meiss, James D.) Quadratic volume-preserving maps. (English summary) *Nonlinearity* **11** (1998), *no.* 3, 557–574. (Benedict J. Leimkuhler) **99d:58153** 58F36 (34C35, 58F25, 70H05)

Lominashvili, G. The approximation to the value function of the optimal stopping problem of multidimensional Brownian motion by discretized variational inequalities. (English summary) *Bulletin of the Georgian Academy of Sciences* **158** (1998), *no.* 3, 370–372 (1999). 49K45 (49J40, 60J65)

Lomonosov, Andrew (*with* Hoffmann, Christoph M.; Sitharam, Meera) Geometric constraint decomposition. *Geometric constraint solving and applications*, 170–195, *Springer, Berlin*, 1998. (*see* **99e:68167**) 68U05 (65Y25, 68U07)

Lomov, A. A. Minimal descriptions of stationary linear models. (Russian. Russian summary) *Models and methods of optimization* (*Russian*), 91–117, 150, *Trudy Inst. Mat.*,

28, *Izdat. Ross. Akad. Nauk Sibirsk. Otdel. Inst. Mat., Novosibirsk*, 1994. (Summary) **99d:93012** 93B17 (93B07)

Lomov, I. S. On the approximation of functions on a segment by spectral expansions of the Schrödinger operator. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 43–54, 112; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 41–50. (Summary) **99d:34161** 34L10 (34L40, 47E05)

— On the rate of convergence of biorthogonal expansions of functions. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 12, 1618–1629, 1725; *translation in Differential Equations* **32** (1996), *no.* 12, 1611–1622 (1997). (Summary) **99j:34123** 34L10 (42C05)

— A coefficient condition for the convergence of biorthogonal expansions of functions in $\mathcal{L}^p(0,1)$. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 1, 31–39, 141; *translation in Differential Equations* **34** (1998), *no.* 1, 29–38. (Summary) **99i:34117** 34L10 (47E05)

— The basis property on compact sets of root functions of second-order differential operators. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 4, 40–52; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 4, 37–50. (Victor S. Rykhlov) **99g:34161** 34L10 (47E05)

Lomovtsev, F. E. Second-order hyperbolic differential equations with discontinuous operator coefficients. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 10, 1394–1403, 1439; *translation in Differential Equations* **33** (1997), *no.* 10, 1400–1409 (1998). (Piotr Biler) **99j:34082** 34G10 (35L99, 35R05, 47N20)

Lomp, Christian Modules whose small submodules have Krull dimension. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 197–202. (Summary) **99g:16027** 16P60 (16D80)

Lomtadze, A. (*with* Chantladze, T.; Kandelaki, N.; Ugulava, D.) Professor Iotam Kartsivadze [1918–1997]. *Mem. Differential Equations Math. Phys.* **13** (1998), 154–158. 01A70

Lomtatidze, A. On the oscillatory nature of a third-order linear equation. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 10, 1348–1354, 1438; *translation in Differential Equations* **32** (1996), *no.* 10, 1344–1350 (1997). (Alexander Haščák) **99a:34097** 34C10

Lomtev, Igor (*with* Quillen, C. B.; Karniadakis, George Em) Spectral/*hp* methods for viscous compressible flows on unstructured 2D meshes. (English summary) *J. Comput. Phys.* **144** (1998), *no.* 2, 325–357. (Summary) **99c:76087** 76M25

— (*with* Karniadakis, George Em) A discontinuous Galerkin method for the Navier-Stokes equations. (English summary) *Internat. J. Numer. Methods Fluids* **29** (1999), *no.* 5, 587–603. (Summary) **99k:76093** 76M10 (76D05, 76M25)

Lončar, Ivan Inverse limit of continuous images of arcs. (English and Croatian summaries) *Zb. Rad. (Varaždin)* **21** (1997), *no.* 2(23), 47–59. (Summary) **99i:54014** 54B35 (54D30, 54F50)

— A note on hereditarily locally connected continua. (English and Croatian summaries) *Zb. Rad. (Varaždin)* **22** (1998), *no.* 1, 29–40. 54F15 (54B99, 54D30)

Lončarić, Josip Sensor/actuator placement via optimal distributed control of exterior Stokes flow. (English summary) *Computational methods for optimal design and control (Arlington, VA, 1997)*, 303–322, *Progr. Systems Control Theory*, 24, *Birkhäuser Boston, Boston, MA*, 1998. (Qin Xu) **99i:49043** 49N55 (76D07, 93C20)

London, Silvia (*with* Tohmé, Fernando) A mathematical representation of economic evolution. (English summary) *Math. Comput. Modelling* **27** (1998), *no.* 8, 29–40. (Summary) **99b:90034** 90A16

nguyen thanh Long *see* **Nguyen Thanh Long**

Long, Andrew E. (*with* Hern, Thomas; Long, Cliff) Looking at order of integration and a minimal surface. *College Math. J.* **29** (1998), *no.* 2, 128–133. (Fei-Tsen Liang) **99a:53007** 53A10 (65D17, 68U05)

Long, Cliff (*with* Hern, Thomas; Long, Andrew E.) Looking at order of integration and a minimal surface. *College Math. J.* **29** (1998), *no.* 2, 128–133. (Fei-Tsen Liang) **99a:53007** 53A10 (65D17, 68U05)

Long, D. D. (*with* Cooper, Daryl) On the Burau representation modulo a small prime. (English summary) *The Epstein birthday schrift*, 127–138 (*electronic*), *Geom. Topol. Monogr.*, 1, *Geom. Topol., Coventry*, 1998. (Stephen P. Humphries) **99k:20077** 20F36 (57M07, 57M25)

— (*with* Reid, Alan W.) On Fuchsian groups with the same set of axes. *Bull. London Math. Soc.* **30** (1998), *no.* 5, 533–538. (G. M. Lyan) **99k:20104** 20H10 (30F35)

— (*with* Reid, Alan W.) Free products with amalgamation and p-adic Lie groups. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 4, 423–433. (S. Andreadakis) **99m:20052** 20E06 (57M07)

— (*with* Cooper, Daryl) Representation theory and the A-polynomial of a knot. (English summary) Knot theory and its applications. *Chaos Solitons Fractals* **9** (1998), *no.* 4-5, 749–763. (Summary) **99c:57013** 57M25

— (*with* Cooper, Daryl; Reid, Alan W.) Infinite Coxeter groups are virtually indicable. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 303–313. (Tadeusz Januszkiewicz) **99f:20067** 20F55

Long, Hongwei Kato's inequality and essential self-adjointness of Dirichlet operators on certain Banach spaces. (English summary) *Stochastic Anal. Appl.* **16** (1998), *no.* 6, 1019–1047. (Vitali A. Liskevich) **99j:47070** 47F05 (47B25)

Long, Lun Hai A system for representing points in a plane. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 492–496. 65Y25 (68U05)

Long, Lyle N. (*with* Weiss, Howard N.) The velocity dependence of aerodynamic drag: a primer for mathematicians. *Amer. Math. Monthly* **106** (1999), *no.* 2, 127–135. 76G25

chi-Long, N. *see* **Chi-Long, N.**

Long, Nguyen Thanh *see* **Nguyen Thanh Long**

Long, Peter Stanton (*with* Crater, Horace W.) Two-body Dirac equations for general covariant interactions and their coupled Schrödinger-like forms. (English summary) *J. Math. Phys.* **39** (1998), *no.* 1, 124–160. (A. Ventura) **99c:81028** 81Q05 (81V25)

Long, Philip M. (*with* Bartlett, Peter L.) Prediction, learning, uniform convergence, and scale-sensitive dimensions. (English summary) Eighth Annual Workshop on Computational Learning Theory (COLT) (Santa Cruz, CA, 1995). *J. Comput. System Sci.* **56** (1998), *no.* 2, 174–190. (Summary) **99c:68207** 68T05 (68Q99)

— (*with* Krishnan, P.; Vitter, Jeffrey Scott) Adaptive disk spindown via optimal rent-to-buy in probabilistic environments. (English summary) *Algorithmica* **23** (1999), *no.* 1, 31–56. (Summary) **99i:68063** 68Q25 (68T05)

Long, Rui Lin (*with* Qian, Tao) Clifford martingale Φ-equivalence between $S(f)$ and f^*. (English summary) *Adv. Appl. Clifford Algebras* **8** (1998), *no.* 1, 95–107. (Dominique Lépingle) **99k:60119** 60G46 (60G42)

Long, Shun Chao (*with* Wang, Jian[1]) Boundedness of fractional integral operators on weighted Herz spaces. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *no.* 3, 349–354. (Qing Tang Jiang) **99i:42020** 42B20 (47B38, 47G10)

Long, Steven R. (*with* Huang, Norden E.; Shen, Zheng; Wu, Manli C.; Shih, Hsing H.; Zheng, Quanan; Yen, Nai-Chyuan; Tung, Chi Chao; Liu, Henry H.) The empirical mode decomposition and the Hilbert spectrum for nonlinear and non-stationary time series analysis. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1971, 903–995. (Summary) **99d:76082** 76M35 (62M10, 86–08)

Long, Xiang (*with* Huang, Nan Jing; Cho, Yeol Je) Random completely generalized nonlinear variational inclusions with non-compact valued random mappings. (English summary) *Bull. Korean Math. Soc.* **34** (1997), *no.* 4, 603–615. (E. Tarafdar) **99f:47087** 47H19 (47H40, 49J40, 58E35)

— (*with* Wu, Dingping; Huang, Nan Jing) Generalized nonlinear variational inclusions for fuzzy mappings. (English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 4, 509–513. (Summary) **99g:47152** 47H19 (47S40, 49J40)

Long, Xiao Han (*with* Li, Yan Xi) Inequalities of Minkowski type and Hölder type for positive definite Hermitian matrices. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 35–38. 15A45

Long, Yi Ming (*with* Liu, Chun Gen) An optimal growth estimate for Maslov-type iterative indices. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 21, 2275–2278. 58E05 (58F05)

— A Maslov-type index theory for symplectic paths. *Topol. Methods Nonlinear Anal.* **10** (1997), *no.* 1, 47–78. (Liviu I. Nicolaescu) **99h:58031** 58E05 (34B05, 34C99, 58F05, 58F22)

— (*with* Chen, Guo Ling) Periodic solutions of second-order nonlinear Hamiltonian systems with superquadratic potentials having mean value zero. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 4, 525–532. (Shi Qing Zhang) **99k:58154** 58F22 (34C25, 58E05)

— (*with* An, Tianqing) On the index theories for second order Hamiltonian systems. *Nonlinear Anal.* **34** (1998), *no.* 4, 585–592. (Jean Mawhin) **99h:58151** 58F22 (34B05, 34C25, 58E05, 58F05, 70H05)

Longair, Malcolm *see* **Penrose, Roger, 99e:81006**

Longcope, D. W. (*with* Strauss, H. R.) An adaptive finite element method for magnetohydrodynamics. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 318–336. (Summary) **99h:76062** 76M10 (76W05)

Longhi, G. (*with* Materassi, M.) A canonical realization of the BMS algebra. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 480–500. (Jörg Frauendiener) **99j:83026** 83C30 (83C40)

— *see also* **Proceedings: Conference on General Relativity and Gravitation, 99g:83002**

Longinov, V. V. (*with* Zaitsev, F. S.; O'Brien, M. R.; Tanner, Robert) Difference schemes for the time evolution of three-dimensional kinetic equations. (English summary) *J. Comput. Phys.* **147** (1998), *no.* 2, 239–264. (Summary) **99j:82003** 82–08 (76M20, 76P05, 82C80)

Longman, Richard W. (*with* Song, Gangbing; Cai, Lilong; Wang, Yiping) A sliding-mode based smooth adaptive robust controller for friction compensation. (English summary) *Internat. J. Robust Nonlinear Control* **8** (1998), *no.* 8, 725–739. 93C40 (70Q05, 93B35)

— (*with* Steinbach, Marc C.; Bock, Hans Georg; Kostin, Georgii V.) Mathematical optimization in robotics: towards automated high-speed motion planning. (English summary) *Surveys Math. Indust.* **7** (1998), *no.* 4, 303–340. (Summary) **99c:70003** 70B15 (70E99, 70Q05, 90C90, 93C85)

Longo, Roberto On the spin-statistics relation for topological charges. *Operator algebras and quantum field theory (Rome*, 1996), 661–669, *Internat. Press, Cambridge, MA*, 199?. (Stephen J. Summers) **99a:81093** 81T05 (46L60, 81T40)

— (*with* Guido, Daniele; Wiesbrock, Hans-Werner) Extensions of conformal nets and superselection structures. (English summary) *Comm. Math. Phys.* **192** (1998), *no.* 1, 217–244. (Stephen J. Summers) **99b:81136** 81T05 (22E70, 46L60, 81R10, 81T40)

— (*with* Bertozzini, Paolo; Conti, Roberto[2]) Covariant sectors with infinite dimension and positivity of the energy. (English summary) *Comm. Math. Phys.* **193** (1998), *no.* 2, 471–492. (Stephen J. Summers) **99d:81069** 81T05 (46L60, 81T40)

Longobardi, Maria (*with* Cavaliere, Paola; Vitolo, Antonio) Imbedding estimates and elliptic equations with discontinuous coefficients in unbounded domains. (English summary) *Matematiche (Catania)* **51** (1996), *no.* 1, 87–104 (1997). (Jiří Rákosník) **99a:35049** 35J25 (35B45, 35R05, 46E35)

— (*with* Cavaliere, Paola; Di Gironimo, Patrizia) Dirichlet problem for elliptic equations in unbounded domains. (English summary) *Ricerche Mat.* **46** (1997), *no.* 1, 235–253. (Galina P. Lopushanska) **99c:35043** 35J25

Longobardi, Patrizia (*with* Maj, Mercede; Smith, Howard) Locally nilpotent groups with all subgroups normal-by-(finite rank). (English summary) *J. Group Theory* **1** (1998), *no.* 3, 291–299. (H. Heineken) **99e:20038** 20E25 (20F19)

Longpré, Luc (*with* Gates, Ann Q.; Kreinovich, Vladik) Kolmogorov complexity justifies software engineering heuristics. (English summary) *Bull. Eur. Assoc. Theor. Comput. Sci. EATCS No.* 66 (1998), 150–154. 68Q30 (68N99)

— (*with* Blass, Andreas; Gurevich, Yuri; Kreinovich, Vladik) A variation on the zero-one law. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 29–30. (Summary) **99f:68066** 68Q15 (03D15, 68Q25)

— (*with* Koshelev, Misha; Taillibert, Patrick) Optimal enclosure of quadratic interval functions. (English summary) *Reliab. Comput.* **4** (1998), *no.* 4, 351–360. (Robert Rihm) **99j:65083** 65G10 (65Y20)

Longstaff, W. E. (*with* Panaia, Oreste) On complementary subspaces of Hilbert space. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 3019–3026. (Elias Katsoulis) **99a:47070** 47D25 (46B20, 46C05, 47A99)

Longuet-Higgins, H. C. *see* **New geometric techniques in computer vision, 99a:00034**

Longuet-Higgins, Michael S. Instabilities of a horizontal shear flow with a free surface. (English summary) *J. Fluid Mech.* **364** (1998), 147–162. (Summary) **99c:76044** 76E05 (76B20, 76V05)

— Viscous streaming from an oscillating spherical bubble. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1970, 725–742. (Summary)

99e:76110 76Q05 (78A99)

Loo, Bonaventure (*with* Kobak, Piotr Z.) Moduli of quaternionic superminimal immersions of 2-spheres into quaternionic projective spaces. (English summary) *Ann. Global Anal. Geom.* **16** (1998), *no.* 6, 527–541. (T. Arleigh Crawford) **99j:58034** 58D27 (32G13, 53C42, 53C56)

Loo, Ken A rigorous real time Feynman path integral. (English summary) *J. Math. Phys.* **40** (1999), *no.* 1, 64–70. (Julio Espinoza Ortiz) **99k:81154** 81S40 (58D30)

Looijenga, Eduard (*with* Hain, Richard M.) Mapping class groups and moduli spaces of curves. *Algebraic geometry—Santa Cruz* 1995, 97–142, *Proc. Sympos. Pure Math.*, 62, *Part* 2, *Amer. Math. Soc., Providence, RI*, 1997. (Takashi Ichikawa) **99a:14032** 14H10 (14C30, 14H15, 32G15, 32G20)

Loos, Ottmar Discriminant algebras and adjoints of quadratic forms. *Beiträge Algebra Geom.* **38** (1997), *no.* 1, 33–72. (E. Ellers (Zbl 874.15024)) **99e:11049** 11E88 (15A63, 15A66)

Loose, F. The tubular neighborhood theorem in contact geometry. *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 129–147. (Hansjörg Geiges) **99m:53058** 53C15 (53C40, 57R40)

Looze, Douglas P. (*with* Geray, Okan) Linear quadratic regulator loop shaping for high frequency compensation. (English summary) *Internat. J. Control* **63** (1996), *no.* 6, 1055–1068. 93B52 (49N10)

Loparo, Kenneth A. (*with* Feng, Xiangbo; Fang, Yuguang) Optimal state estimation for stochastic systems: an information-theoretic approach. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 6, 771–785. (Summary) **99c:93114** 93E20 (93E10, 93E11)

Lopatin, A. K. Symmetry in perturbation problems. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 79–88, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (*see* **99b:00027**) 34C20 (34E10)

Loper, K. Alan (*with* Cahen, Paul-Jean) Rings of integer-valued rational functions. (English summary) *J. Pure Appl. Algebra* **131** (1998), *no.* 2, 179–193. (Lahoucine Izelgue) **99g:13028** 13F20 (13F05, 13F30)

— A class of Prüfer domains that are similar to the ring of entire functions. *Rocky Mountain J. Math.* **28** (1998), *no.* 1, 267–285. (William W. Smith) **99f:13021** 13F05 (13F30)

Lopes, A. *see* **Lopes, Artur Oscar**

Lopes, Amauri (*with* Peres, Pedro L. D.; Bonatti, Ivanil S.) Transmission line modeling: a circuit theory approach. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 347–352 (*electronic*). (Summary) **99c:94005** 94A05 (94C05)

Lopes, Artur Oscar (*with* Lopes, Silvia; Souza, Rafael R.) On the spectral density of a class of chaotic time series. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 5, 465–474. (Yoshihiro Yajima) **99c:62270** 62M15 (62M10)

— (*with* Lopes, Silvia) Parametric estimation and spectral analysis of piecewise linear maps of the interval. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 757–776. (Summary) **99j:60047** 60G10 (58F11, 62M15)

— (*with* Carmona, S. C.; Landim, C.; Lopes, Silvia) A level 1 large-deviation principle for the autocovariances of uniquely ergodic transformations with additive noise. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 395–421. (Christian Maes) **99g:60056** 60F10

Lopes, Eliezer Pereira (*with* Lopes, Elizeu Pereira; Barreto, Jorge Muniz; Barreto, Luiz Muniz) Robust nonlinear inversion of wave-tilt data. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 955–977. (Summary) **99e:86008** 86A22

Lopes, Elizeu Pereira (*with* Lopes, Eliezer Pereira; Barreto, Jorge Muniz; Barreto, Luiz Muniz) Robust nonlinear inversion of wave-tilt data. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 955–977. (Summary) **99e:86008** 86A22

Lopes, Gabriel Pereira (*with* Rodrigues, Irene Pimenta) An interval algebra for temporal relations conveyed by a text. (English summary) *Mathematical and computational analysis of natural language* (*Tarragona*, 1996), 223–237, *Stud. Funct. Struct. Linguist.*, 45, *Benjamins, Amsterdam*, 1998. (*see* **99g:68003**) 68S05 (68T27)

nussenzveig Lopes, H. J. *see* **Nussenzveig Lopes, H. J.**

mendes Lopes, Margarida *see* **Mendes Lopes, Margarida**

mendes Lopes, Nazaré *see* **Mendes Lopes, Nazaré**

Lopes, Nazaré Mendes *see* **Mendes Lopes, Nazaré**

Lopes, Orlando Minimization problems for the exterior domain. (English summary) *Calc. Var. Partial Differential Equations* **5** (1997), *no.* 5, 463–487. (Maria J. Esteban) **99d:49007** 49J10 (35J20, 49Q20)

— Variational systems defined by improper integrals. (English summary) *International Conference on Differential Equations* (*Lisboa*, 1995), 137–153, *World Sci. Publishing, River Edge, NJ*, 1998. (Andrzej Nowakowski) **99k:49007** 49J10 (35J65, 35Q55)

— Variational problems defined by integrals on the entire space and periodic coefficients. *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 2, 87–120. (António Ornelas) **99d:49028** 49J45 (49J10)

Lopes, R. V. F. (*with* Pivovarov, M. L.; Ferreira, L. O.) Rigid body rotation evolution due to a disturbing torque which is known in a body frame. (English summary) *Acta Mech.* **133** (1999), *no.* 1-4, 239–246. (Summary) **99h:70015** 70E15

Lopes, Silvia (*with* Lopes, Artur Oscar; Souza, Rafael R.) On the spectral density of a class of chaotic time series. (English summary) *J. Time Ser. Anal.* **18** (1997), *no.* 5, 465–474. (Yoshihiro Yajima) **99c:62270** 62M15 (62M10)

— (*with* Lopes, Artur Oscar) Parametric estimation and spectral analysis of piecewise linear maps of the interval. (English summary) *Adv. in Appl. Probab.* **30** (1998), *no.* 3, 757–776. (Summary) **99j:60047** 60G10 (58F11, 62M15)

— (*with* Carmona, S. C.; Landim, C.; Lopes, Artur Oscar) A level 1 large-deviation principle for the autocovariances of uniquely ergodic transformations with additive noise. (English summary) *J. Statist. Phys.* **91** (1998), *no.* 1-2, 395–421. (Christian Maes) **99g:60056** 60F10

— (*with* Rizzato, F. B.) Chaos and energy redistribution in the nonlinear interaction of two spatio-temporal wave triplets. (English summary) *Phys. J.* **117** (1998), *no.* 1-4, 13–25. (Summary) **99b:76099** 76X05 (58F13, 58F40)

Lopes, Vera Lúcia Rocha (*with* Zago, José Vitório) A method to solve matricial equations of the type $\sum_{i=1}^{p} A_i X B_i = C$. (English summary) *Bol. Soc. Parana. Mat.* (2) **17** (1997), *no.* 1-2, 25–39 (1998). (Summary) **99h:65083** 65F30 (15A24)

— (*with* Gomes-Ruggiero, Márcia A.; Martínez, José Mario) On the global convergence of Newton-like methods for nonsmooth systems. (English summary) *Numer. Funct. Anal. Optim.* **18** (1997), *no.* 9-10, 959–969. (Bernd Luderer) **99b:90120** 90C30 (49J52, 65H10)

Lopes Cardoso, Gabriel *see* **Cardoso, Gabriel Lopes**

Lopes Filho, M. C. (*with* Nussenzveig Lopes, H. J.) An extension of Marchioro's bound on the growth of a vortex patch to flows with L^p vorticity. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 596–599 (*electronic*). (From the text) **99a:76027** 76C05 (35Q35)

— (*with* Nussenzveig Lopes, H. J.; Zheng, Yuxi) Convergence of the vanishing viscosity approximation for superpositions of confined eddies. (English summary) *Comm. Math. Phys.* **201** (1999), *no.* 2, 291–304. (Raphaël Danchin) **99m:76045** 76D05 (35D05, 35Q30)

Lopes Garcia, Nancy Hydrodynamical limits for epidemic models. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 497–508. (Pablo A. Ferrari) **99i:60101** 60G55 (60J80, 92D30)

Lopes-Pinto, António J. B. On a new result on the existence of zeros due to Ricceri. (English summary) *J. Convex Anal.* **5** (1998), *no.* 1, 57–62. (Wojciech Kryszewski) **99j:47075** 47H04 (47N10, 49J27)

Lopez, Ana (*with* Fosco, C. D.) Dirac fermions and domain wall defects in 2 + 1 dimensions. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 3, 685–700. 81T10

Lopez, Angelo Felice Surjectivity of Gaussian maps on curves in $\mathbf{P}^r$ with general moduli. *J. Algebraic Geom.* **5** (1996), *no.* 4, 609–631. (From the introduction) **99h:14003** 14C05 (14C20, 14H10)

— (*with* Ciliberto, Ciro; Miranda, Rick) Classification of varieties with canonical curve section via Gaussian maps on canonical curves. (English summary) *Amer. J. Math.* **120** (1998), *no.* 1, 1–21. (Alexandr V. Pukhlikov) **99d:14037** 14J45 (14J28)

López, Antonio (*with* Zuazua, Enrique) Uniform null-controllability for the one-dimensional heat equation with rapidly oscillating coefficients. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 8, 955–960. (Summary) **99g:35050** 35K05 (93B05, 93C20)

— (*with* Zuazua, Enrique) Null controllability of the 1-d heat equation as limit of the controllability of dissipative wave equations. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 8, 753–758. (Summary) **99h:93019** 93B05 (35K05, 90C30)

fernández López, Antonio[1] *see* **Fernández López, Antonio[1]**

fernández López, Antonio[2] *see* **Fernández López, Antonio[2]**

bezanilla López, Arnoldo *see* **Bezanilla López, Arnoldo**

gonzález-López, Artemio *see* **González-López, Artemio**

López, Bartolomé Analytic theory of Drinfel'd modules. (English summary) *Drinfeld modules, modular schemes and applications* (*Alden-Biesen*, 1996), 32–43, *World Sci. Publishing, River Edge, NJ*, 1997. (Alain Thiery) **99e:11072** 11G09

López, C. *see* **López Lacasta, Carlos**

garcía-López, C. M. *see* **García-López, C. M.**

marijuán López, Carlos *see* **Marijuán López, Carlos**

martínez López, Consuelo *see* **Martínez López, Consuelo**

López, Criel Merino Chip firing and the Tutte polynomial. (English summary) *Ann. Comb.* **1** (1997), *no.* 3, 253–259. (P. A. Biryukov) **99k:90232** 90D43 (05C99)

López, David J. (*with* Martín Ordóñez, Pablo) Variable-step and -order algorithms for the integration of perturbed linear equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 811–816, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65L99

— (*with* Martín Ordóñez, Pablo) A numerical method for the integration of perturbed linear problems. (English summary) *Appl. Math. Comput.* **96** (1998), *no.* 1, 65–73. (Summary) **99d:65240** 65L99

Lopez, Dian Rae (*with* Hollermann, Lisa; Hsu, Tsan-sheng; Vertanen, Keith) Scheduling problems in a practical allocation model. (English summary) *J. Comb. Optim.* **1** (1997), *no.* 2, 129–149. (Summary) **99b:90070** 90B35 (90C35)

benavent López, Enrique *see* **Benavent López, Enrique**

Lopez, Esperanza (*with* Landsteiner, Karl; Lowe, David A.) $N = 2$ supersymmetric gauge theories, branes and orientifolds. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 197–226. (Douglas J. Smith) **99e:81241** 81T60 (81T13, 81T30)

— (*with* Ormsby, Barbara) Duality for SU × SO and SU × Sp via branes. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 20, 16 *pp.* (*electronic*). (Douglas J. Smith) **99m:81256** 81T60 (81T13, 81T30)

López, G. *see* **López Laurrabaquio, G.**

López, Ginés (*with* Mena-Jurado, Juan Francisco) Point of continuity property and Schauder bases. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 4, 1177–1185. (Paolo Terenzi) **99g:46009** 46B15

— (*with* Martín Suarez, Miguel; Payá-Albert, Rafael) Real Banach spaces with numerical index 1. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 207–212. (Summary) **99k:46024** 46B22 (47A12)

López, J. *see* **López Fenner, Julio**

cortés López, J. C. *see* **Cortés López, J. C.**

López, J. J. *see* **López Vázquez, Jorge**

López, J. L. *see* **López García, José Luis**

Lopez, Jose A. (*with* Diebold, Francis X.) Forecast evaluation and combination. *Statistical methods in finance*, 241–268, *Handbook of Statist.*, 14, *North-Holland, Amsterdam*, 1996. (Thomas W. Epps) **99h:62121** 62M20 (62P20, 90A09)

López, José A. (*with* Balaguer, Ángel; Conde, Carlos; Martínez, V. J.) A conservative numerical method for the convection-diffusion equation in a two-dimensional domain. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*) (*Vic*, 1995), 9 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M60 (76M25)

López, José L. (*with* Degond, Pierre; Peyrard, Pierre-François) On the macroscopic dynamics induced by a model wave-particle collision operator. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 3, 153–178. (Summary) **99d:82053** 82C40 (35Q30, 76P05, 76X05)

mira López, Juan A. *see* **Mira López, Juan A.**

López, Julio E. *see* **López Fenner, Julio**

Lopez, L. *see* **Lopez, Luciano**

Lopez, L. F. *see* **Lopez, Luis Fernandez**

Lopez, Luciano (*with* Mastroserio, C.; Politi, T.) Variable step-size techniques in continuous Runge-Kutta methods for isospectral dynamical systems. (English summary)

7th ICCAM 96 Congress (Leuven). *J. Comput. Appl. Math.* **82** (1997), *no.* 1-2, 261–278. (Summary) **99b:65087** 65L06 (58F19, 65L15)
— (*with* Diele, F.; Peluso, Roberto I.) The Cayley transform in the numerical solution of unitary differential systems. (English summary) *Adv. Comput. Math.* **8** (1998), *no.* 4, 317–334. (Lucas Jódar) **99f:65123** 65L99
— (*with* Diele, F.) The use of the factorization of five-diagonal matrices by tridiagonal Toeplitz matrices. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 61–69. (Summary) **99b:15017** 15A23 (65F30)
martínez Lopez, Luis *see* **Martínez Lopez, Luis**
Lopez, Luis Fernandez (*with* Coutinho, F. A. B.) Erratum: "Motion of articulated bodies: an application of gauge invariance in classical Lagrangian mechanics" [Amer. J. Phys. **65** (1997), no. 6, 528–536; MR 98i:70015]. *Amer. J. Phys.* **66** (1998), *no.* 3, 252. 70H35 (70E99, 70F99, 70G99)
Lopez, M. A. *see* **Lopez, Mario Alberto**
lópez López, M. P. *see* **López López, M. P.**
cachafeiro López, Ma. Alicia *see* **Cachafeiro López, Ma. Alicia**
castrillón López, Marco *see* **Castrillón López, Marco**
López, Marco Antonio (*with* Goberna, Miguel A.) ★ Linear semi-infinite optimization. (English summary) Wiley Series in Mathematical Methods in Practice, 2. *John Wiley & Sons, Ltd., Chichester*, 1998. *xii*+343 *pp. ISBN* 0-471-97040-9 (Hubertus Th. Jongen) **99f:90155** 90C34 (90–02)
— Stability and well-posedness in linear semi-infinite optimization. (English summary) *Proceedings of the IV Catalan Days of Applied Mathematics* (*Tarragona*, 1998), 163–174, *Univ. Rovira Virgili, Tarragona*, 1998. (*see* **99a:00038**) 90C31 (90C34)
— (*with* Goberna, Miguel A.) A comprehensive survey of linear semi-infinite optimization theory. (English summary) *Semi-infinite programming*, 3–27, *Nonconvex Optim. Appl.*, 25, *Kluwer Acad. Publ., Boston, MA*, 1998. (Summary) **99c:90140** 90C34 (90–02)
— (*with* Mira López, Juan A.; Torregrosa, G.) On the stability of infinite-dimensional linear inequality systems. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 9-10, 1065–1077. (Edward J. Anderson) **99j:90092** 90C31 (15A39, 65K99)
gonzalez-Lopez, Maria-Jose *see* **Gonzalez-Lopez, Maria-Jose**
Lopez, Mario Alberto (*with* Reisner, Shlomo) A special case of Mahler's conjecture. (English summary) *Discrete Comput. Geom.* **20** (1998), *no.* 2, 163–177. (Carla Peri) **99h:52009** 52A38 (52A40, 52B11, 52B55)
López, Miguel Angel (*with* Balibrea Gallego, Francisco; Chacón, Ricardo) Suppression of chaotic escape in the Helmholtz oscillator. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 175–181, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 34C15 (58F13, 70K50)
— (*with* Balibrea Gallego, Francisco; Chacón, Ricardo) Inhibition of chaotic escape by an additional driven term. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 8, 1719–1723. (Summary) **99i:70029** 70K40 (58F13, 70K50)
martínez López, Pablo E. *see* **Martínez López, Pablo E.**
López, Rafael Surfaces of constant mean curvature with boundary in a sphere. *Osaka J. Math.* **34** (1997), *no.* 3, 573–577. (Ricardo Sa Earp) **99b:53012** 53A10
— (*with* Alías, Luis J.; Pastor, José A.) Compact spacelike surfaces with constant mean curvature in the Lorentz-Minkowski 3-space. (English summary) *Tohoku Math. J.* (2) **50** (1998), *no.* 4, 491–501. (Mehmet Erdoğan) **99k:53122** 53C50 (53C42)
— (*with* Alías, Luis J.; Palmer, Bennett) Stable constant mean curvature surfaces with circular boundary. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1195–1200. (Fei-Tsen Liang) **99f:53006** 53A10
garcía López, Ricardo *see* **García López, Ricardo**
López, Roberto (*with* Mosquera, Carlos; Pérez-González, Fernando[1]) On the bias of the modified output error algorithm. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 9, 1261–1262. 93E12 (93B30)
jiménez López, Víctor *see* **Jiménez López, Víctor**
López Acedo, G. (*with* Ayerbe Toledano, J. M.; Domínguez Benavides, T.) ★ Measures of noncompactness in metric fixed point theory. (English summary) Operator Theory: Advances and Applications, 99. *Birkhäuser Verlag, Basel*, 1997. viii+211 *pp. ISBN* 3-7643-5794-0 (Brailey Sims) **99e:47070** 47H09 (46B20, 47H10)
López-Bautista, Pedro Ricardo (*with* Villa-Salvador, Gabriel Daniel) Integral representation of p-class groups in $\mathbf{Z}_p$-extensions and the Jacobian variety. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1253–1272. (Werner Bley) **99k:11173** 11R23 (11R29, 20C10)
López-Blázquez, Fernando A note on UMVU estimation in the transformed chi-square family. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 8, 2065–2073. (C. J. Park) **99i:62042** 62F10
— Discrete distributions with maximum expected value of the maximum. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 2, 201–207. (A. H. Khan) **99j:62008** 62E10 (62G30)
— (*with* Salamanca-Miño, Begoña) An upper bound for the correlation ratio of records. (English summary) *Metrika* **47** (1998), *no.* 2, 165–174. (H. L. Harter) **99g:62068** 62G30
Lopez-Cardona, Emma (*with* Falk, James E.) The surgical separation of sets. (English summary) *J. Global Optim.* **11** (1997), *no.* 4, 433–462. (Summary) **99e:90070** 90C26 (90C25)
López Carmona, A. (*with* Barrera Rosillo, D.; Ibáñez Pérez, M. J.) Hermite interpolation via finite elements. (Spanish. Spanish summary) *XIV CEDYA/IV Congress of Applied Mathematics* (*Spanish*)(*Vic*, 1995), 20 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65D15 (41A10)
López Castro, G. Conventional and S-matrix approaches to hadronic resonances. (English summary) *Irreversibility and causality* (*Goslar*, 1996), 151–156, *Lecture Notes in Phys.*, 504, *Springer, Berlin*, 1998. (Summary) **99d:81174** 81U20 (81V35)
garcía López de Lacalle, Jesús *see* **García López de Lacalle, Jesús**
López de Màntaras, R. (*with* Plaza, E.; Esteva, Francesc; Garcia-Calvés, Pere; Godo, Lluís) A logical approach to case-based reasoning using fuzzy similarity relations. (English summary) Using fuzzy algebraic structures in intelligent systems. *Inform. Sci.* **106** (1998), *no.* 1-2, 105–122. (Summary) **99f:68191** 68T27 (03B52)
López de Medrano, Santiago (*with* Chaperon, Marc) Areas, volumes and periods of orbits. (Spanish. Spanish summary) *XXVII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Queretaro*, 1994), 79–95, *Aportaciones Mat. Comun.*, 16, *Soc. Mat. Mexicana, México*, 1995. (Summary) **99f:58074** 58F05 (58F22)
López de Silanes, M. C. (*with* Pasadas, M.; Torrens, J. J.) Approximation of offset curves and surfaces by discrete smoothing D^m-splines with tangent conditions. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 329–336, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (*see* **99g:65004**) 65D10 (65D07, 65Y25)
López-de-Teruel, Pedro E. (*with* Ruiz, Alberto[2]; Garrido, M. Carmen) Probabilistic inference from arbitrary uncertainty using mixtures of factorized generalized Gaussians. (English summary) *J. Artificial Intelligence Res.* **9** (1998), 167–217 (*electronic*). 68T10
López-Díaz, Miguel (*with* Gil, María Angeles) The λ-average value and the fuzzy expectation of a fuzzy random variable. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 3, 347–352. (Summary) **99g:60023** 60D05 (60A99)
— (*with* Gil, María Angeles) An extension of Fubini's theorem for fuzzy random variables. (English summary) *Inform. Sci.* **115** (1999), *no.* 1-4, 29–41. (Summary) **99k:28027** 28E10 (60A99)
— (*with* González, Santos; Martínez López, Consuelo; Shestakov, Ivan P.) Bernstein superalgebras and supermodules. (English summary) *J. Algebra* **212** (1999), *no.* 1, 119–131. (Henrique Guzzo, Jr.) **99m:17045** 17D92 (17A70)
López Estrada, Jesús (*with* Pescador Romo, Hortensia) On the numerical singularity of a matrix. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 205–209, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 65F10
— (*with* Valdéz Almaguer, Alejandra) The Gauss-Jordan method. (Spanish. Spanish summary) *XXVIII National Congress of the Mexican Mathematical Society* (*Spanish*) (*Colima*, 1995), 225–233, *Aportaciones Mat. Comun.*, 18, *Soc. Mat. Mexicana, México*, 1996. (*see* **99h:00025**) 65F10
— (*with* Madrid de la Vega, Humberto; Guerra Ones, Valia) Numerical calculation of the Moore-Penrose pseudoinverse of a matrix. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 117–132. (Summary) **99e:65067** 65F20
— (*with* Guerra Ones, Valia) Numerical calculation of the pseudoinverse using Leonov's minimal method. (English and Spanish summaries) *Investigación Oper.* **17** (1996), *no.* 1-3, 139–147. (Summary) **99e:65068** 65F20
— (*with* Guerra Ones, Valia) Stable calculation via regularization of the Moore-Penrose generalized inverse matrix. II. Revision. (Spanish. English and Spanish summaries) *Cienc. Mat.* (*Havana*) **16** (1998), *no.* 2, 169–172. 65F20
López Fenner, Julio (*with* Pinto, Manuel) Invariant manifolds & (h,k)-trichotomies. (English summary) *Proceedings of the 5th International Colloquium on Differential Equations, Vol.* 2 (*Plovdiv*, 1994), 94–101, *Sci. Cult. Technol. Publ., Singapore*, 1995. (*see* **99g:00044**) 34C11 (34D10)
— (*with* Pinto, Manuel) On the ACK-transformation near (h,k)-hyperbolic manifolds. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 407–413, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99i:39009** 39A10
— (*with* Pinto, Manuel) (h,k)-trichotomies and asymptotics of nonautonomous difference systems. (English summary) *Comput. Math. Appl.* **33** (1997), *no.* 10, 105–124. (Shao Zhu Chen) **99a:39020** 39A10 (39A11)
— (*with* Pinto, Manuel) On (h,k) manifolds with asymptotic phase. (English summary) *J. Math. Anal. Appl.* **216** (1997), *no.* 2, 549–568. (Wei Nian Zhang) **99c:34092** 34C45 (34D05)
López-Fidalgo, J. (*with* Rodríguez-Díaz, J. M.) Characteristic polynomial criteria in optimal experimental design. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 31–38, *Contrib. Statist., Physica, Heidelberg*, 1998. (Summary) **99g:62110** 62K05
— (*with* Torsney, B.; Ardanuy Albájar, Ramón) MV-optimization in weighted linear regression. (English summary) *MODA 5—advances in model-oriented data analysis and experimental design* (*Marseilles*, 1998), 39–50, *Contrib. Statist., Physica, Heidelberg*, 1998. (*see* **99f:62008**) 62K05 (62J05)
López García, José Luis (*with* Asorey, M.; Shapiro, I. L.) Some remarks on high derivative quantum gravity. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5711–5734. (Helmut Rumpf) **99b:83029** 83C45 (83D05)
— (*with* Sesma, Javier) The solutions of the Whittaker equation as functions of the order's parameter. (English summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II* (*Spanish*) (*Vigo*, 1997), 309–314, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (Summary) **99h:33020** 33C15 (34A20)
— Several series containing gamma and polygamma functions. (English summary) *J. Comput. Appl. Math.* **90** (1998), *no.* 1, 15–23. (P. Anandani) **99h:33005** 33B15 (40C10)
— Reflection anomaly in 0 + 1 dimensions. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7955–7964. (Summary) **99f:81187** 81T50
— Renormalization ambiguities and gauge symmetry in Chern-Simons theories. (English summary) *Modern Phys. Lett. A* **13** (1998), *no.* 7, 511–525. (Summary) **99d:81090** 81T15 (81T50)
— A family of multiple integrals analytically solvable. (English summary) *Appl. Math. Lett.* **12** (1999), *no.* 1, 119–125. (Summary) **99i:65018** 65D20 (35B15)
— (*with* Sesma, Javier) The Whittaker function $M_{\kappa,\mu}$ as a function of κ. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 83–95. (H. S. P. Shrivastava) **99m:33004** 33C15 (30D10, 33C10, 41A30)
— Asymptotic expansions of integrals: the term-by-term integration method. (English summary) *J. Comput. Appl. Math.* **102** (1999), *no.* 2, 181–194. (Summary) **99k:41051** 41A60 (30E15, 44A10)
López-García, Pedro (*with* Debray, Saumya; Hermenegildo, Manuel; Lin, Nai-Wei) Lower bound cost estimation for logic programs. (English summary) *Logic programming* (*Port Washington, NY*, 1997), 291–305, *MIT Press Ser. Logic Program., MIT Press, Cambridge, MA*, 1997. (*see* **99d:68008**) 68N17
López-Gómez, Julián On the existence of positive solutions for some indefinite superlinear elliptic problems. (English summary) *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1787–1804. (Gabriella Tarantello) **99m:35075** 35J65 (35B05)
— (*with* Eilbeck, J. C.) On the periodic Lotka-Volterra competition model. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 1, 58–87. (John H. Swart) **99d:92025** 92D25 (34C23, 34C25, 34D99)

— (*with* Pardo San Gil, Rosa) Invertibility of linear non-cooperative elliptic systems with applications to the predator-prey model. Proceedings of the Second World Congress of Nonlinear Analysts, Part 6 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 6, 3695–3705. (R. C. MacCamy) **99b:34047** 34B15 (35J45, 35Q80, 92D25)

— (*with* Amann, Herbert) A priori bounds and multiple solutions for superlinear indefinite elliptic problems. (English summary) *J. Differential Equations* **146** (1998), *no.* 2, 336–374. (Boris Buffoni) **99e:35057** 35J65 (35B45, 47H15, 58E05)

— (*with* Sabina, José C.) First variations of principal eigenvalues with respect to the domain and point-wise growth of positive solutions for problems where bifurcation from infinity occurs. (English summary) *J. Differential Equations* **148** (1998), *no.* 1, 47–64. (Xi Ting Liang) **99f:35033** 35J20 (35B05)

— On the structure and stability of the set of solutions of a nonlocal problem modeling Ohmic heating. (English summary) *J. Dynam. Differential Equations* **10** (1998), *no.* 4, 537–566. (Jianfu Yang) **99m:35076** 35J65 (35B35, 35Q72, 80A20)

— (*with* Pardo San Gil, Rosa) Invertibility of linear noncooperative elliptic systems. *Nonlinear Anal.* **31** (1998), *no.* 5-6, 687–699. (R. C. MacCamy) **99b:34046** 34B15 (35J45, 35Q80, 92D25)

López Lacasta, Carlos (*with* Camarena, V.) Transfer orbits: geometry and graph representations. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 1057–1062, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 70F15 (70Q05)

López Lagomasino, G. (*with* Cala Rodríguez, F.) Multipoint Padé-type approximants. Exact rate of convergence. (English summary) *Constr. Approx.* **14** (1998), *no.* 2, 259–272. (Annie A. M. Cuyt) **99i:41016** 41A21 (41A20)

— (*with* Bello Hernández, M.) Ratio and relative asymptotics of polynomials orthogonal on an arc of the unit circle. (English summary) *J. Approx. Theory* **92** (1998), *no.* 2, 216–244. (Sven Ehrich) **99c:42041** 42C05

— (*with* Barrios, Dolores; Martínez-Finkelshtein, Andrei; Torrano Giménez, E.) On the domain of convergence and poles of complex *J*-fractions. (English summary) *J. Approx. Theory* **93** (1998), *no.* 2, 177–200. (Summary) **99b:30003** 30B70 (40A15)

— (*with* Bello Hernández, M.; Cala Rodríguez, F.; Guadalupe Hernández, José Javier) Convergence rate of Padé-type approximants for Stieltjes functions. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 47–53. (Summary) **99i:41013** 41A20

— (*with* de la Calle Ysern, B.) Strong asymptotics of orthogonal polynomials with varying measures and Hermite-Padé approximants. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 91–103. (Summary) **99i:42035** 42C05 (30E10)

— (*with* Barrios, Dolores) Ratio asymptotics for polynomials orthogonal on arcs of the unit circle. (English summary) *Constr. Approx.* **15** (1999), *no.* 1, 1–31. (A. G. Law) **99j:42033** 42C05 (30E15, 41A30)

López Laurrabaquio, G. Ambiguities appearing in the study of time-dependent constants of motion for the one-dimensional harmonic oscillator. (English summary) *Internat. J. Theoret. Phys.* **37** (1998), *no.* 5, 1617–1623. (Summary) **99b:81035** 81Q05

López López, M. P. (*with* Alonso Alvárez, J. N.; Fernández Vilaboa, J. M.; Villanueva Novoa, E.; González Rodríguez, R.) A Picard-Brauer five term exact sequence for braided categories. (English summary) *Rings, Hopf algebras, and Brauer groups* (*Antwerp/Brussels*, 1996), 11–41, *Lecture Notes in Pure and Appl. Math.*, 197, *Dekker, New York*, 1998. (Summary) **99b:18011** 18D10

López Marcos, Juan Carlos (*with* Martínez Rodríguez, Julia; Abia, Luis M.) Numerical blowup in discretizations of reaction-diffusion models. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)*(*Vic*, 1995), 3 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M30

— (*with* Martínez Arcos, E.; Abia, Luis M.) A pseudospectral scheme for Zakharov equations. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)*(*Vic*, 1995), 16 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65M70 (76M25, 76X05)

— (*with* Fairweather, Graeme) Galerkin methods for a semilinear parabolic problem with nonlocal boundary conditions. (English summary) John Crank 80th birthday special issue. *Adv. Comput. Math.* **6** (1996), *no.* 3-4, 243–262 (1997). (J. P. Hennart) **99a:65123** 65M60 (65M12, 65M15)

— (*with* Abia, Luis M.; Martínez Rodríguez, Julia) Blowup in semidiscretizations of reaction-diffusion models. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 365–370, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 35K57 (35B99, 65M99)

— (*with* Angulo, Oscar) Numerical integration of the Sinko-Streifer equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 371–376, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M99

— (*with* Martínez Arcos, E.; Abia, Luis M.) A semidiscrete finite difference scheme for the Zakharov equations. (Spanish) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 835–840, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 65M06

— (*with* Abia, Luis M.; Martínez Rodríguez, Julia) On the blow-up time convergence of semidiscretizations of reaction-diffusion equations. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 399–414. (Reinhard Redlinger) **99b:65108** 65M20 (65M12)

López Marcos, M. A. (*with* Sanz Serna, J. M.; Skeel, Robert D.) Some problems of molecular dynamics. (Spanish) *XIV CEDYA/IV Congress of Applied Mathematics (Spanish)*(*Vic*, 1995), 8 *pp.* (*electronic*), *Univ. Barcelona, Barcelona*, 199?. (*see* **99g:00036**) 65L06 (70–08)

— (*with* Calvo, Mari Paz; Sanz Serna, J. M.) Variable step implementation of geometric integrators. (English summary) *Appl. Numer. Math.* **28** (1998), *no.* 1, 1–16. (Summary) **99d:65236** 65L99 (58F05, 70–08, 70H05)

López-Mimbela, J. Alfredo (*with* Wakolbinger, Anton) Which critically branching populations persist? (English summary) *Classical and modern branching processes* (*Minneapolis, MN*, 1994), 203–216, *IMA Vol. Math. Appl.*, 84, *Springer, New York*, 1997. (Summary) **99a:60093** 60J80 (92D25)

— *see also* **Symposium: Probability Theory and Stochastic Processes, 99e:60008**

López Molina, J. A. (*with* Rivera Ortún, María José) On projective tensor products with complemented subspaces isomorphic to l^1. (English summary) *Rend. Circ. Mat. Palermo* (2) **45** (1996), *no.* 3, 414–420. (K. Floret) **99e:46026** 46B28 (46M05)

— (*with* Sánchez Pérez, Enrique A.) The associated tensor norm to (q, p)-absolutely summing operators on $\mathscr{C}(K)$-spaces. (English summary) *Czechoslovak Math. J.* **47(122)** (1997), *no.* 4, 627–631. (Andreas Defant) **99c:47022** 47B10 (47D50)

López-Muñoz, J. (*with* Ramos-Jiménez, G.; Morales-Bueno, R.) Comparisons of Parikh's condition to other conditions for context-free languages. (English summary) *Theoret. Comput. Sci.* **202** (1998), *no.* 1-2, 231–244. (Summary) **99b:68117** 68Q45 (03D05)

López Ortega, A. (*with* Torres del Castillo, G. F.) The three-dimensional Kepler problem and the four-dimensional isotropic harmonic oscillator. (English and Spanish summaries) *Rev. Mexicana Fís.* **45** (1999), *no.* 1, 1–8. (Peter N. Zhevandrov) **99m:81050** 81Q05 (70F05)

López-Ortiz, Alejandro (*with* Schuierer, Sven) The ultimate strategy to search on *m* rays? (English summary) *Computing and combinatorics* (*Taipei*, 1998), 75–84, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68U05 (68Q25, 90B40)

López-Palomo, M. J. (*with* Domínguez-Menchero, J. S.) On the estimation of monotone uniform approximations. (English summary) *Statist. Probab. Lett.* **35** (1997), *no.* 4, 355–362. (Summary) **99b:60017** 60E05 (60F15, 62G05)

López-Permouth, Sergio R. (*with* Barthwal, S.; Jain, Surender Kumar; Jhingan, Sujal) A ring of Morita context in which each right ideal is weakly self-injective. (English summary) *Advances in ring theory* (*Granville, OH*, 1996), 31–38, *Trends Math., Birkhäuser Boston, Boston, MA*, 1997. (Maureen H. Fenrick) **99b:16003** 16D50 (16D90, 16P40)

— (*with* Kanwar, Pramod) Cyclic codes over the integers modulo p^m. (English summary) *Finite Fields Appl.* **3** (1997), *no.* 4, 334–352. (Patrick Fitzpatrick) **99c:11151** 11T71 (94B15)

— (*with* Barthwal, S.; Jain, Surender Kumar; Kanwar, Pramod) Nonsingular semiperfect CS-rings. (English summary) *J. Algebra* **203** (1998), *no.* 2, 361–373. (Dinh Van Huynh) **99h:16002** 16D70 (16S50)

López Ramos, J. A. (*with* Asensio, M. J.; Torrecillas Jover, Blas) Gorenstein gr-flat modules. *Comm. Algebra* **26** (1998), *no.* 10, 3195–3209. (Nan Qing Ding) **99i:16007** 16D40 (16W50)

López Romero, Fco. Demetrio Bayesian analysis of the ARE(1) model with independent coefficient. (Spanish. English and Spanish summaries) *Rev. R. Acad. Cienc. Exactas Fís. Nat. (Esp.)* **91** (1997), *no.* 1, 53–63. (Summary) **99g:62141** 62M10 (62F15)

López Tascón, Carlos ★ Mecánica newtoniana. (Spanish) [Newtonian mechanics] Colección Julio Carrizosa Valenzuela [Julio Carrizosa Valenzuela Collection], 7. *Academia Colombiana de Ciencias Exactas, Físicas y Naturales, Bogotá*, 1998. *xvi*+280 *pp. ISBN* 958-9205-29-1 (Narciso Román-Roy) **99h:70001** 70–01 (70Bxx, 70D05, 70F05)

López Vázquez, Jorge (*with* Bilbao, Jesús Mario; Jiménez-Losada, Andrés) The Banzhaf power index on convex geometries. (English summary) *Math. Social Sci.* **36** (1998), *no.* 2, 157–173. (Edward M. Bolger) **99k:90213** 90D12 (90D80)

Lopomo, Giuseppe The English auction is optimal among simple sequential auctions. (English summary) *J. Econom. Theory* **82** (1998), *no.* 1, 144–166. (Summary) **99g:90039** 90A60 (90A09)

Łopuch, Bożena (*with* Kiwiel, Krzysztof C.) Long-step surrogate subgradient methods for convex feasibility problems. (English summary) *Operations Research Proceedings* 1996 (*Braunschweig*), 31–36, *Springer, Berlin*, 1997. (*see* **99a:90009**) 90C25

Lopushans'kiĭ, O. V. (*with* Dmitrishin, M. Ĭ.) The basis property of systems of root vectors of operators with a compact resolvent. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 9, 28–32. 47A70 (35P10, 47B25, 47F05)

Łopuszanski, J. (*with* Cislo, J.; Stichel, Peter C.) The most general set of Lagrange functions yielding Galilei covariant equations of motion having the same set of solutions. (English summary) *Fortschr. Phys.* **46** (1998), *no.* 1, 45–72. (Peter J. Topalov) **99e:70054** 70H35

Loraud, J. C. (*with* Daniel, E.; Saurel, Richard) Modeling of axisymmetric two-phase dilute flows. (English summary) *Int. J. Comput. Fluid Dyn.* **10** (1998), *no.* 4, 301–313. 76M20 (76T05)

Loray, F. (*with* Cerveau, D.) Un théorème de Frobenius singulier via l'arithmétique élémentaire. (French summary) [A singular Frobenius theorem via elementary arithmetic] *J. Number Theory* **68** (1998), *no.* 2, 217–228. (Sergeĭ Yu. Yakovenko) **99e:32057** 32L30 (11R04, 32S40, 58F18)

gonzalez-Lorca, Jorge *see* **Gonzalez-Lorca, Jorge**

Lorca, Sebastián A. (*with* Boldrini, José Luiz) The initial value problem for a generalized Boussinesq model. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 457–480. (Ming Mei) **99m:35210** 35Q53 (35Q35, 76D99)

Lorch, John D. An orthogonal family of polynomials on the generalized unit disk and ladder representations of $U(p, q)$. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 12, 3755–3762. (Roger Zierau) **99b:22023** 22E45 (22E70, 32L10, 33C80)

Lord, G. J. (*with* Champneys, A. R.; Hunt, Giles W.) The role of homoclinic bifurcations in understanding the buckling of long thin cylindrical shells. (English summary) *IUTAM Symposium on New Applications of Nonlinear and Chaotic Dynamics in Mechanics* (*Ithaca, NY*, 1997), 159–168, *Solid Mech. Appl.*, 63, *Kluwer Acad. Publ., Dordrecht*, 1999. (*see* **99h:70002**) 73K15 (34C23, 73H05)

— (*with* Hunt, Giles W.; Champneys, A. R.) Homoclinic and heteroclinic orbits underlying the post-buckling of axially-compressed cyclindrical shells. (English summary) Computational methods and bifurcation theory with applications. *Comput. Methods Appl. Mech. Engrg.* **170** (1999), *no.* 3-4, 239–251. (Summary) **99m:73040** 73H05 (34C37, 73K15)

Lord, Harriet Connectednesses and disconnectednesses. II. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 216–250 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (J. R. Isbell) **99d:18001** 18A32 (18B30, 54B30, 54D05)

Lo Re, Pia Maria (*with* Ferrara Dentice, Eva; Melone, Nicola) Tallini set and Grassmannian. (Italian. English summary) *Boll. Un. Mat. Ital. A* (7) **11** (1997), *no.* 2, 527–539. (Norman L. Johnson) **99f:51013** 51E20

Loreaux, Ph. (*with* Besnard, D.; Ducros, F.; Mimouni, S.; Vasseur, Alexis) Turbulent mixing modeling and simulation. (English summary) *Proceedings of the Fifth*

International Workshop on Compressible Turbulent Mixing (*Stony Brook, NY*, 1995), 294–302, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99g:76002**) 76F99 (76M25)

Lorek, A. (*with* Ruffing, A.; Wess, Julius) A q-deformation of the harmonic oscillator. (English summary) *Z. Phys. C* **74** (1997), *no.* 2, 369–377. (Summary) **99a:81076** 81R50

de Lorenci, V. A. *see* **De Lorenci, V. A.**

Lorente, Maria A characterization of two weight norm inequalities for one-sided operators of fractional type. (English summary) *Canad. J. Math.* **49** (1997), *no.* 5, 1010–1033. (Kenneth F. Andersen) **99d:26009** 26A33 (26D15, 42B25)

Lorente, Miguel (*with* Kramer, Peter) Discrete and continuous symmetry via induction and duality. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 165–177, *Plenum, New York*, 1998. (Dan Radu Grigore) **99j:81050** 81R05 (20C35)

— (*with* Kramer, Peter) Induced representation of the Poincaré group on the lattice: spin 1/2 and 1 case. (English summary) *Symmetries in science, X* (*Bregenz*, 1997), 179–195, *Plenum, New York*, 1998. (Dan Radu Grigore) **99j:81051** 81R05 (20C35)

Lorente-Pardo, Jerónimo (*with* Sablonnière, Paul; Serrano-Pérez, M. Carmen) On convexity and subharmonicity of some functions on triangles. (English summary) *Curves and surfaces with applications in CAGD* (*Chamonix–Mont-Blanc*, 1996), 271–278, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (W. W. Breckner) **99m:26022** 26B25 (41A29)

— (*with* Sablonnière, Paul; Serrano-Pérez, M. Carmen) On the convexity of Powell-Sabin finite elements. (English summary) *Advances in computational mathematics* (*Guangzhou*, 1997), 395–404, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65029** 65D17

Lorentz, Rudolph Alexander (*with* Oswald, Peter) Nonexistence of compactly supported box spline prewavelets in Sobolev spaces. (English summary) *Surface fitting and multiresolution methods* (*Chamonix–Mont-Blanc*, 1996), 235–244, *Vanderbilt Univ. Press, Nashville, TN*, 1997. (Summary) **99h:65225** 65T10 (65J99)

— (*with* Madych, W. R.; Sahakian, Artur A.) Translation and dilation invariant subspaces of $L^2(\mathbf{R})$ and multiresolution analyses. (English summary) *Appl. Comput. Harmon. Anal.* **5** (1998), *no.* 4, 375–388. (Sergio A. Tozoni) **99h:42062** 42C15 (42B10)

— (*with* Sahakian, Artur A.) On subspaces generated by wavelet systems. (Russian) *Mat. Zametki* **63** (1998), *no.* 2, 299–302; *translation in Math. Notes* **63** (1998), *no.* 1-2, 260–263. (I. Ya. Novikov) **99d:42066** 42C15 (46E30)

Lorentzen, Lisa Asymptotic behavior of solutions of three-term Poincaré difference equations. (English summary) *Rocky Mountain J. Math.* **27** (1997), *no.* 1, 187–229. (Vichian Laohakosol) **99b:39007** 39A10 (30B70, 33C45)

— Continued compositions of self-mappings. (English summary) *Proceedings of the Second Asian Mathematical Conference* 1995 (*Nakhon Ratchasima*), 34–38, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99g:00046**) 30D05 (30B70)

Lorenz, Falko Ein Scholion zum Satz 90 von Hilbert. (German summary) [A comment on Hilbert's 90th theorem] *Abh. Math. Sem. Univ. Hamburg* **68** (1998), 347–362. (Ido Efrat) **99i:12004** 12G05 (01A60, 11R34)

Lorenz, Hans-Walter *see* **Proceedings: Operations Research, 99d:90008**

Lorenz, Jens (*with* Hagstrom, Thomas) All-time existence of classical solutions for slightly compressible flows. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 652–672 (*electronic*). (Roberto Natalini) **99c:76092** 76N10 (35Q30)

— (*with* Kreiss, Gunilla; Kreiss, Heinz-Otto) On stability of conservation laws. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 401–430 (*electronic*). (Summary) **99j:35132** 35L65 (35B35)

Lorenz, Martin On the class equation for Hopf algebras. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 10, 2841–2844. (Akira Masuoka) **99a:16033** 16W30

bajo Lorenzana, V. M. *see* **Bajo Lorenzana, V. M.**

Lorenzi, A. Direct and inverse problems for elliptic equations in cylindrical domains. (English summary) Proceedings of the Conference "Differential Equations" (Italian) (Ferrara, 1996). *Ann. Univ. Ferrara Sez. VII* (*N.S.*) **41** (1996), *suppl.*, 85–109 (1997). (V. S. Rabinovich) **99c:35046** 35J25 (35R30)

— (*with* Paparoni, E.) Identification problems for pseudohyperbolic integrodifferential operator equations. (English summary) *J. Inverse Ill-Posed Probl.* **5** (1997), *no.* 6, 523–548 (1998). (Jaan Janno) **99e:45011** 45K05 (34K30, 35L99, 35R30)

— (*with* Colombo, Fabrizio) An inverse problem in the theory of combustion of materials with memory. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 133–154. (Gottfried Anger) **99k:35189** 35R30 (35K60, 45K05, 80A25)

de Lorenzo, Javier Demonstrative ways in mathematical doing. (English summary) *Representations of scientific rationality*, 301–319, *Poznań Stud. Philos. Sci. Humanities*, 61, *Rodopi, Amsterdam*, 1997. (*see* **99k:00024**) 00A30

— Conceptual criteria for some histories of mathematics. (Spanish) *Wittgenstein and the Vienna Circle* (*Spanish*) (*Toledo*, 1994), 237–247, *Estudios*, 49, *Ed. Univ. Castilla-La Mancha, Cuenca*, 1998. (*see* **99b:00022**) 00A30 (01A99)

Lorenzutta, S. (*with* Chiccoli, C.; Maino, G.) On the evaluation of generalized Laguerre functions. (English and Italian summaries) *Atti Accad. Sci. Torino Cl. Sci. Fis. Mat. Natur.* **131** (1997), 77–90. (Summary) **99k:33023** 33C45 (33C15)

— (*with* Dattoli, G.; Maino, G.; Torre, Amalia) Theory of multiindex multivariable Bessel functions and Hermite polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 1, 179–197 (1998). (U. C. Jain) **99h:33011** 33C10 (33C45)

— (*with* Dattoli, G.; Torre, Amalia) Miscellaneous identities of generalized Hermite polynomials. (English summary) *Matematiche* (*Catania*) **52** (1997), *no.* 2, 337–343 (1998). (Summary) **99c:33019** 33C50

— (*with* Maino, G.; Dattoli, G.; Torre, Amalia; Tocci, D.) A note on generalized Bessel functions and Fourier series. (English and Italian summaries) *Rend. Mat. Appl.* (7) **17** (1997), *no.* 3, 541–548. (Summary) **99c:33006** 33C10 (42B05)

— (*with* Maino, G.; Dattoli, G.; Torre, Amalia; Chiccoli, C.) Infinite-variable Bessel functions of the Anger type and the Fourier expansions. (English summary) *Rep. Math. Phys.* **39** (1997), *no.* 2, 163–176. (R. K. Saxena) **99f:33002** 33C10 (33C70, 42C99, 46F25)

— (*with* Dattoli, G.; Torre, Amalia; Maino, G.) Generalized Bessel functions and Kapteyn series. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 8, 117–125. (N. Hayek Calil) **99d:33003** 33C10

Loret, Benjamin (*with* Rizzi, Egidio) Strain localization in fluid-saturated anisotropic elastic-plastic porous media. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 2, 235–251. (Summary) **99j:73053** 73E05 (73Q05, 76S05)

— (*with* Simões, F. M. F.; Martins, J. A. C.) Instabilities in elastic-plastic fluid-saturated porous media: harmonic wave versus acceleration wave analyses. (English summary) *Internat. J. Solids Structures* **36** (1999), *no.* 9, 1277–1295. (Summary) **99k:73054** 73D15 (73E50, 73E70, 73K70, 76S05)

— (*with* Rizzi, Egidio) Strain localization in fluid-saturated anisotropic elastic-plastic porous media with double porosity. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 3, 503–530. (Summary) **99k:73103** 73N20 (73E99, 73Q05, 76S05)

— (*with* Bigoni, D.) Effects of elastic anisotropy on strain localization and flutter instability in plastic solids. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 7, 1409–1436. 73E99 (73K70)

Loreti, Paola (*with* Komornik, Vilmos; Zuazua, Enrique) On the control of coupled linear systems. (English summary) *Control and estimation of distributed parameter systems* (*Vorau*, 1996), 183–189, *Internat. Ser. Numer. Math.*, 126, *Birkhäuser, Basel*, 1998. (Tsvetomir Tsachev) **99g:93044** 93C20 (35L05, 93B05, 93D15)

— (*with* Komornik, Vilmos) A constructive approach for the observability of coupled linear systems. (English summary) *Control and partial differential equations* (*Marseille-Luminy*, 1997), 171–179 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Tsvetomir Tsachev) **99m:93012** 93B07 (35L99, 93C20)

— (*with* Komornik, Vilmos) Unique developments in non-integer bases. *Amer. Math. Monthly* **105** (1998), *no.* 7, 636–639. (Arnold Knopfmacher) **99k:11017** 11A67

— (*with* Baiocchi, Claudio; Komornik, Vilmos) Théorèmes du type Ingham et application à la théorie du contrôle. (English and French summaries) [Ingham-type theorems and application to control theory] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 4, 453–458. (Summary) **99g:93015** 93B07 (93C20)

— (*with* Komornik, Vilmos) Ingham-type theorems for vector-valued functions and observability of coupled linear systems. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 2, 461–485 (*electronic*). (Sergei A. Avdonin) **99m:93013** 93B07 (35L99, 93C20)

Loria, Antonio (*with* Panteley, Elena; Nijmeijer, Henk) Control of the chaotic Duffing equation with uncertainty in all parameters. (English summary) *IEEE Trans. Circuits Systems I Fund. Theory Appl.* **45** (1998), *no.* 12, 1252–1255. (Summary) **99i:93027** 93C10 (34H05, 70K50)

Lőrinczi, József (*with* Maes, Christian; Vande Velde, Koen) Transformations of Gibbs measures. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 121–147. (Aernout C. D. van Enter) **99i:60174** 60K35 (60G60, 82B20, 82B43)

— Non-Gibbsianness of the reduced SOS-measure. (English summary) *Stochastic Process. Appl.* **74** (1998), *no.* 1, 83–88. (Christian Maes) **99d:60034** 60F10 (60K35, 82B20)

Loring, Terry A. Almost multiplicative maps between C^*-algebras. (English summary) *Operator algebras and quantum field theory* (*Rome*, 1996), 111–122, *Internat. Press, Cambridge, MA*, 199?. (Summary) **99j:46064** 46L05

— (*with* Eilers, Søren; Pedersen, Gert K.) Stability of anticommutation relations: an application of noncommutative CW complexes. (English summary) *J. Reine Angew. Math.* **499** (1998), 101–143. (Vladimir Manuilov) **99e:46067** 46L05 (46L80, 46L85)

— (*with* Eilers, Søren; Pedersen, Gert K.) Quasidiagonal extensions and AF algebras. *Math. Ann.* **311** (1998), *no.* 2, 233–249. (Vladimir Manuilov) **99e:46068** 46L05 (46L80)

— When matrices commute. (English summary) *Math. Scand.* **82** (1998), *no.* 2, 305–319. (Vladimir Manuilov) **99j:46063** 46L05 (46L85, 47A99)

— (*with* Pedersen, Gert K.) Projectivity, transitivity and AF-telescopes. (English summary) *Trans. Amer. Math. Soc.* **350** (1998), *no.* 11, 4313–4339. (Vladimir Manuilov) **99c:46065** 46L05

Loris, Ignace (*with* Willox, Ralph) Symmetry constraints of the KP hierarchy and a nonlocal Boussinesq equation. (English summary) *Symmetry methods in physics, Vol.* 2 (*Dubna*, 1995), 603–609, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99m:81007**) 58F07

— (*with* Willox, Ralph) On solutions of constrained Kadomtsev-Petviashvili equations: Grammians. (English summary) *J. Math. Phys.* **38** (1997), *no.* 10, 5190–5197. (Vladislav G. Dubrovsky) **99d:58085** 58F07 (35Q53)

— (*with* Pelinovsky, Dmitry E.; Springael, Johan; Lambert, Francois) On modified NLS, Kaup and NLBq equations: differential transformations and bilinearization. (English summary) *J. Phys. A* **30** (1997), *no.* 24, 8705–8717. (Summary) **99a:35242** 35Q55 (58F07)

— (*with* Willox, Ralph; Tokihiro, Tetsuji; Satsuma, Junkichi) The fermionic approach to Darboux transformations. (English summary) *Inverse Problems* **14** (1998), *no.* 3, 745–762. (Alexander V. Shapovalov) **99h:58175** 58F37 (35A30)

— (*with* Willox, Ralph) Symmetry reductions of the BKP hierarchy. (English summary) *J. Math. Phys.* **40** (1999), *no.* 3, 1420–1431. (Vladislav G. Dubrovsky) **99m:58112** 58F07 (35Q53)

Lo-Rizzo, Vilfrido (*with* Bernelli-Zazzera, Franco) Adaptive control of space structures via recurrent neural networks. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 5–20. 93C85 (73K50)

Lortz, Roland (*with* Mengersen, Ingrid) Size Ramsey results for paths versus stars. (English summary) *Australas. J. Combin.* **18** (1998), 3–12. (Summary) **99f:05081** 05C55

Loryś, Krzysztof (*with* Ďuriš, Pavol; Jurdziński, Tomasz; Kutyłowski, Mirosław) Power of cooperation and multihead finite systems. (English summary) *Automata, languages and programming* (*Aalborg*, 1998), 896–907, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (Summary) **99m:68100** 68Q42 (68Q05)

— (*with* Czumaj, Artur; Kanarek, Przemysława; Kutyłowski, Mirosław) Fast generation of random permutations via networks simulation. (English summary) Fourth European Symposium on Algorithms (Barcelona, 1996). *Algorithmica* **21** (1998), *no.* 1, 2–20. (Summary) **99b:68091** 68Q22 (68R05)

— (*with* Kutyłowski, Mirosław; Oesterdiekhoff, B.) Periodic merging networks. (English summary) Seventh International Symposium on Algorithms and Computation (Osaka, 1996). *Theory Comput. Syst.* **31** (1998), *no.* 5, 551–578. (Summary) **99d:68054** 68P10 (68M10)

Los, Jérôme (*with* Alsedà, Lluís; Guaschi, John; Mañosas, Francesc; Mumbrú, Pere) Canonical representatives for patterns of tree maps. (English summary) *Topology* **36** (1997), *no.* 5, 1123–1153. (Francisco Balibrea) **99f:58062** 58F03 (58F08)

LoSacco, Frank (*with* Gargano, Michael L.; Gargano, Michael R.) The traveling fly problem. New York Graph Theory Day, 30 (Madison, NJ, 1995). *Graph Theory Notes N. Y.* **30** (1996), 47. (*see* **99g:05001**) 60C05

— (*with* Gargano, Michael L.; Varden, Stuart) Self descriptive lists. New York Graph Theory Day, 31 (1996). *Graph Theory Notes N. Y.* **31** (1996), 53–54. (*see* **99i:05002**) 05A99

jiménez-Losada, Andrés *see* **Jiménez-Losada, Andrés**
Losada, M. Piacquadio *see* **Piacquadio Losada, María**
piacquadio Losada, María *see* **Piacquadio Losada, María**
Lösche, Ralf (*with* Schwetlick, Hubert; Timmermann, Gisela) A modified block Newton iteration for approximating an invariant subspace of a symmetric matrix. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 381–400. (Summary) **99e:65085** 65H05 (15A18, 65F15, 65H17, 65H20)
durand-Lose, J. O. *see* **Durand-Lose, J. O.**
Losert, Viktor (*with* Lau, Anthony To-Ming) Ergodic sequences in the Fourier-Stieltjes algebra and measure algebra of a locally compact group. (English summary) *Trans. Amer. Math. Soc.* **351** (1999), *no.* 1, 417–428. (J. W. Baker) **99e:43001** 43A05 (43A35)
Losev, A. G. Some Liouville theorems on noncompact Riemannian manifolds. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **39** (1998), *no.* 1, 87–93, *ii*; *translation in Siberian Math. J.* **39** (1998), *no.* 1, 74–80. (Summary) **99a:53044** 53C21 (35B05, 35J15)
Losev, Andrei (*with* Moore, Gregory W.; Shatashvili, Samson L.) M & m's. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 1-2, 105–124. (Marco Spaans) **99g:81174** 81T30 (83E30)
— (*with* Moore, Gregory W.; Nekrasov, Nikita; Shatashvili, Samson L.) Central extensions of gauge groups revisited. (English summary) *Selecta Math. (N.S.)* **4** (1998), *no.* 1, 117–123. (C. J. Atkin) **99k:22031** 22E65 (58B25, 81R10)
Losi, Alessandra (*with* Sacchetti, Andrea) First-kind Fredholm integral equations with kernel of Hankel type. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 281–290. (Summary) **99k:45004** 45B05 (45L05)
Losik, Mark V. Diagonal cohomology of the Lie algebra of vector fields. (English summary) *Differential Geom. Appl.* **8** (1998), *no.* 1, 71–86. (Miguel A. Rodríguez) **99b:17025** 17B56 (17B66)
Losonczi, A. Finite quasi-uniform extensions. II. (English summary) *Acta Math. Hungar.* **82** (1999), *no.* 1-2, 35–55. (Summary) **99i:54031** 54E15 (54D35)
Losonczi, László Restricted subadditivity of homogeneous means. (English summary) *J. Math. Anal. Appl.* **222** (1998), *no.* 1, 167–176. (J. Matkowski) **99f:26033** 26D15 (26D07)
Loss, Michael (*with* Harrell, Evans M., II) On the Laplace operator penalized by mean curvature. (English summary) *Comm. Math. Phys.* **195** (1998), *no.* 3, 643–650. (Zhiqin Lu) **99f:58213** 58G25 (35J05, 58G03)
de Los Santos Villodres, R. *see* **De Los Santos Villodres, R.**
Lossen, Christoph (*with* Greuel, Gert-Martin; Shustin, Evgeniĭ) Plane curves of minimal degree with prescribed singularities. (English summary) *Invent. Math.* **133** (1998), *no.* 3, 539–580. (Sherwood Washburn) **99g:14035** 14H20 (14B05)
Losson, Jérôme (*with* Vannitsem, Stéphane; Nicolis, Grégoire) Aperiodic mean-field evolutions in coupled map lattices. (English summary) *Phys. Rev. E* (3) **57** (1998), *no.* 5, *part A*, 4921–4932. (Summary) **99b:58154** 58F12 (58F13)
Loten, C. O. M. (*with* Hanson, Denis; Toft, B.) On interval colourings of bi-regular bipartite graphs. (English summary) *Ars Combin.* **50** (1998), 23–32. (Summary) **99i:05082** 05C15
Loth, Peter Splitting in locally compact abelian groups. *Rend. Sem. Mat. Univ. Padova* **99** (1998), 187–196. (Alexander Isaakovich Shtern) **99e:22011** 22B05 (22C05)
Lothe, J. (*with* Darinskii, A. N.; Alshits, V. I.; Lyubimov, V. N.; Shuvalov, A. L.) An existence criterion for the branch of two-component surface waves in anisotropic elastic media. (English summary) *Wave Motion* **28** (1998), *no.* 3, 241–257. (Summary) **99e:73044** 73D20 (73B40)
Lothian, Paul J. G. (*with* Paterson, Kenneth G.) Bounds on partial correlations of sequences. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1164–1175. (Summary) **99c:94022** 94A55
Lototskiĭ, S. V. (*with* Rozovskii, Boris L.) Recursive nonlinear filter for a continuous discrete-time model: separation of parameters and observations. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 8, 1154–1158. 93E11 (93C20)
— (*with* Krylov, Nicolai V.) A Sobolev space theory of SPDEs with constant coefficients on a half line. (English summary) *SIAM J. Math. Anal.* **30** (1999), *no.* 2, 298–325 (*electronic*). (Björn Schmalfuss) **99k:60164** 60H15 (35E99, 35R60, 46N20)
Lotov, Vladimir Ivanovich On oscillating random walks. (Russian. Russian summary) *Sibirsk. Mat. Zh.* **37** (1996), *no.* 4, 869–880, *iii*; *translation in Siberian Math. J.* **37** (1996), *no.* 4, 764–774. (M. Iosifescu) **99f:60121** 60J05 (60F15)
— (*with* Irle, Albrecht) A bound on the expected overshoot for some concave boundaries. (English summary) *Metrika* **46** (1997), *no.* 3, 253–267. (Norbert Schmitz) **99c:60090** 60G40 (60E15, 60G50, 60K05)
— (*with* Khodzhibaev, V. R.) On limit theorems for the first exit time from a strip for stochastic processes. I. (English summary) *Siberian Adv. Math.* **8** (1998), *no.* 3, 90–113. (José Rafael León) **99k:60035** 60E07
Lotova, G. Z. (*with* Mikhaĭlov, G. A.) Estimates for probabilistic moments of critical values of parameters of the particle transport equation in a stochastic medium. (Russian) *Dokl. Akad. Nauk* **356** (1997), *no.* 2, 166–169. (A. D. Khon'kin) **99b:82083** 82C70
Lott, John Eta and torsion. *Symétries quantiques* (*Les Houches*, 1995), 947–955, *North-Holland, Amsterdam*, 1998. (Éric Leichtnam) **99m:58181** 58G10 (58G26)
— Deficiencies of lattice subgroups of Lie groups. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 191–195. (Nimish A. Shah) **99m:22011** 22E40 (20F05, 57M07)
— Remark about heat diffusion on periodic spaces. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 4, 1243–1249. (Friedbert Prüfer) **99f:58192** 58G11 (58G18)
Lotta, Antonio Three-dimensional slant submanifolds of K-contact manifolds. (English summary) *Balkan J. Geom. Appl.* **3** (1998), *no.* 1, 37–51. (David Blair) **99m:53121** 53C42 (53C15)
Lotto, Benjamin A. (*with* Sarason, Donald) Multipliers of de Branges-Rovnyak spaces. II. *Harmonic analysis and hypergroups* (*Delhi*, 1995), 51–58, *Trends Math., Birkhäuser Boston, Boston, MA*, 1998. (J. Rovnyak) **99c:46022** 46E22 (30H05, 46J15, 47B38)
Lotton, Pierrick (*with* Gusev, Vitalyi; Bailliet, Hélène; Bruneau, Michel[2]) Interaction of counterpropagating acoustic waves in media with nonlinear dissipation and in hysteretic media. (English summary) *Wave Motion* **29** (1999), *no.* 3, 211–221. (Summary) **99k:76131** 76Q05 (73D15)
Lotze, Rudolf Hermann *see* **Hovens, Frans**, **99f:01015**
Lou, Bendong Positive solutions of superlinear Hammerstein integral equations in Banach spaces. (English summary) *J. Integral Equations Appl.* **9** (1997), *no.* 4, 329–339. (Anatolij Semenovich Kalitvin) **99c:45002** 45G10 (45M20, 47H30)
— Fixed points for operators in a space of continuous functions and applications. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 8, 2259–2264. (Ramendra Krishna Bose) **99m:47065** 47H10 (45J05)
Lou, Dingjun A local independence number condition for n-extendable graphs. (English summary) *Discrete Math.* **195** (1999), *no.* 1-3, 263–268. (Summary) **99h:05066** 05C35
Lou, J. J. (*with* Brzozowski, J. A.; Negulescu, R.) A characterization of finite ternary algebras. (English summary) *Internat. J. Algebra Comput.* **7** (1997), *no.* 6, 713–721. (Wiesław A. Dudek) **99d:06014** 06D30
Lou, J. S. (*with* van den Bosch, P. P. J.) A note on: "The asymptotic stability of linear autonomous systems with commensurate time delays" [IEEE Trans. Automat. Control **40** (1995), no. 6, 1114–1117; MR 96c:34176] by J. H. Su. (English summary) *Internat. J. Control* **68** (1997), *no.* 4, 943–946. 34K20 (93D05)
Lou, Kou-Ren (*with* Dey, Dipak K.) Bayesian robustness using local divergence and signal-to-noise ratio. (English summary) *Applied statistical science, III*, 411–420, *Nova Sci. Publ., Commack, NY*, 1998. (*see* **99j:62001**) 62F15 (62H20)
— (*with* Dey, Dipak K.; Bose, Sudip) A Bayesian approach to loss robustness. (English summary) *Statist. Decisions* **16** (1998), *no.* 1, 65–87. (Mark Steel) **99f:62040** 62F15 (62F35)
Lou, S. L. (*with* Lee, Hoong Chien; Lin, Friday; Lin, Chung-Yi; Chen, J. C.) Some results for the Ising model in d dimensions. *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 120–129, *Univ. Montréal, Montreal, QC*, 1997. (*see* **99a:00027**) 82B20
Lou, Sen-yue Symmetry algebras and group invariant solutions of the Kawamoto-type equations. (English summary) *Comm. Theoret. Phys.* **26** (1996), *no.* 3, 311–318. (Summary) **99d:58150** 58F35 (35A30, 35Q53)
— (*with* Hu, Xing-Biao) Broer-Kaup systems from Darboux transformation related symmetry constraints of Kadomtsev-Petviashvili equation. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 1, 145–148. (Efthymia Meletlidou) **99f:58099** 58F07 (35Q53, 58F37)
— (*with* Chen, Lili) Painlevé analysis of a $(2+1)$-dimensional Burgers equation. (English summary) *Commun. Theor. Phys.* (*Beijing*) **29** (1998), *no.* 2, 313–316. (Summary) **99c:35205** 35Q53
— (*with* Zhu, Yuejin) Exact solitary wave solutions of the coupled nonlinear scalar field equations. (English summary) *Commun. Theor. Phys.* (*Beijing*) **30** (1998), *no.* 1, 147–152. 35Q51 (35L70)
— KdV extensions with Painlevé property. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2112–2121. (F. Pempinelli) **99a:58093** 58F07 (35Q53, 58F37)
— Searching for higher-dimensional integrable models from lower ones via Painlevé analysis. (English summary) *Phys. Rev. Lett.* **80** (1998), *no.* 23, 5027–5031. (Summary) **99e:58104** 58F07 (35Q53, 35Q55, 58F35)
Lou, Yuan (*with* Ni, Wei-Ming; Wu, Yaping) On the global existence of a cross-diffusion system. (English summary) *Discrete Contin. Dynam. Systems* **4** (1998), *no.* 2, 193–203. (Alexander L. Gladkov) **99f:35089** 35K57 (92D25)
— (*with* Du, Yihong) S-shaped global bifurcation curve and Hopf bifurcation of positive solutions to a predator-prey model. *J. Differential Equations* **144** (1998), *no.* 2, 390–440. (Xi Ping Zhu) **99e:35046** 35J55 (35B32, 35J65, 92D40)
Lou, Zeng Jian (*with* Wulan, Hasi) Multiplier transformations of mixed norm spaces on bounded symmetric domains. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 4, 439–444. (Summary) **99k:32009** 32A37 (32A35, 32M15, 46E30)
Lou, Zhou-Ming (*with* Bialecki, Bernard; Fairweather, Graeme) Orthogonal spline collocation methods for biharmonic problems. (English summary) *Numer. Math.* **80** (1998), *no.* 2, 267–303. (D. M. Sloan) **99i:65130** 65N35
Louani, Djamal On the asymptotic normality of the kernel estimators of the density function and its derivatives under censoring. (English summary) *Comm. Statist. Theory Methods* **27** (1998), *no.* 12, 2909–2924. (Summary) **99h:62049** 62G07 (62G20)
— Large deviations limit theorems for the kernel density estimator. (English summary) *Scand. J. Statist.* **25** (1998), *no.* 1, 243–253. (Detlef Plachky) **99c:62106** 62G05 (60F10)
Loubaton, Ph. (*with* Desbouvries, F.) On the identification of certain rational transfer functions from truncated autocovariance sequences. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 5, 1078–1081. 93B30 (93C80)
Loubeau, E. Morphisms of the heat equation. (English summary) *Ann. Global Anal. Geom.* **15** (1997), *no.* 6, 487–496. (Boualem Djehiche) **99f:58193** 58G11 (58E20)
— Pseudo-harmonic morphisms. (English summary) *Internat. J. Math.* **8** (1997), *no.* 7, 943–957. (Seiichi Udagawa) **99f:58051** 58E20
saint Loubert Bié, Erwan *see* **Saint Loubert Bié, Erwan**
Louboutin, Stéphane Class-group problems for cubic number fields. *Japan. J. Math.* (*N.S.*) **23** (1997), *no.* 2, 365–378. (Francesco Pappalardi) **99a:11124** 11R29 (11R16)
— Upper bounds on $|L(1,\chi)|$ and applications. (English summary) *Canad. J. Math.* **50** (1998), *no.* 4, 794–815. (Michel Olivier) **99f:11149** 11R42 (11M20, 11R29, 11Y35)
— Majorations explicites du résidu au point 1 des fonctions zêta de certains corps de nombres. [Explicit upper bounds of the residue at the point 1 of zeta functions of certain number fields] *J. Math. Soc. Japan* **50** (1998), *no.* 1, 57–69. (Kiyoshi Nagata) **99a:11131** 11R42
— (*with* Okazaki, Ryotaro) The class number one problem for some non-abelian normal CM-fields of 2-power degrees. *Proc. London Math. Soc.* (3) **76** (1998), *no.* 3, 523–548. (Michel Olivier) **99c:11138** 11R29 (11R21, 11R42, 11Y40)
— The nonquadratic imaginary cyclic fields of 2-power degrees with class numbers equal to their genus class numbers. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 355–361. (Dongho Byeon) **99c:11134** 11R20 (11R29)
Louchard, Guy Probabilistic analysis of adaptative sampling. (English summary) Average-case analysis of algorithms (Dagstuhl, 1995). *Random Structures Algorithms* **10** (1997), *no.* 1-2, 157–168. (Lyuben R. Mutafchiev) **99b:68141** 68R05 (05C05, 60C05, 68P10)
— Probabilistic analysis of column-convex and directed diagonally-convex animals. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 2, 151–178. (Edward A. Bender) **99c:05047** 05B50 (05A16, 60J99)
Louck, James D. (*with* Biedenharn, L. C.; Chen, William Y. C.; Lohe, M. A.) The role of SU(2) $3n$-j coefficients in SU(3). (English summary) *Symmetry and structural properties*

of condensed matter (*Zajączkowo*, 1994), 150–182, *World Sci. Publishing, River Edge, NJ*, 1995. (A. M. Gavrilik) **99a:81052** 81R05 (22E70)
— (*with* Beyer, W. A.) Quadratic map iterates and Galois groups. *Iteration theory* (*ECIT 94*) (*Opava*), 247–249, *Grazer Math. Ber.*, 334, *Karl-Franzens-Univ. Graz, Graz*, 1997. (*see* **99h:58001**) 58F03 (12F10)
— Doubly stochastic matrices in quantum mechanics. (English summary) *Found. Phys.* **27** (1997), *no.* 8, 1085–1104. (Constantin Syros) **99a:81090** 81S99 (82C05)
— (*with* Chen, William Y. C.; Galbraith, H. W.) Combinatorics of $3n$-j coefficients. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1868–1873. (Roberto Casalbuoni) **99k:81080** 81R05
Loudon, R. (*with* Baxter, Colin) Topological equivalence in the theory of trapped ions. (English summary) *J. Modern Opt.* **45** (1998), *no.* 6, 1303–1308. (Summary) **99b:81256** 81T99
Loueslati, K. (*with* Brancher, J. P.) Absolute and convective MHD stability of a capillary liquid metal jet with azimuthal velocity. (English summary) *Transfer phenomena in magnetohydrodynamic and electroconducting flows* (*Aussois*, 1997), 77–92, *Fluid Mech. Appl.*, 51, *Kluwer Acad. Publ., Dordrecht*, 1999. (Summary) **99m:76124** 76W05 (76E25)
Louhichi, Sana (*with* Doukhan, Paul) Estimation de la densité d'une suite faiblement dépendante. (English and French summaries) [Functional estimation of the density of a sequence under a weak dependence condition] *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 12, 989–992. (José Rafael León) **99m:62056** 62G07
Louies, S. (*with* Brenig, Léon) Structure and convergence of Poncaré-like normal forms. (English summary) *Phys. Lett. A* **233** (1997), *no.* 3, 184–192. (Ahmadjon Soleev) **99a:34112** 34C20 (58F36)
Louis, Alfred Karl Application of the approximate inverse to 3D X-ray CT and ultrasound tomography. *Inverse problems in medical imaging and nondestructive testing* (*Oberwolfach*, 1996), 120–133, *Springer, Vienna*, 1997. (Ulrich Tautenhahn) **99c:65113** 65J20 (65J15, 65R30)
— (*with* Maaß, Peter; Rieder, Andreas) ★ Wavelets. (German. German summary) Theorie und Anwendungen. [Theory and applications] Second edition. Teubner Studienbücher Mathematik. [Teubner Mathematical Textbooks] *B. G. Teubner, Stuttgart*, 1998. *ii*+330 *pp. ISBN* 3-519-12094-1 (Editors) **99k:42063** 42C15 (65R10, 65T20, 94A12)
Louis, Jan (*with* de Wit, Bernard; Kaplunovsky, Vadim S.; Lüst, Dieter) Duality symmetries and perturbative vectormultiplet couplings in $N = 2$ heterotic string vacua. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 488–500, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81206** 81T30
— (*with* Förger, Kristin) Holomorphic couplings in string theory. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1996). *Nuclear Phys. B Proc. Suppl.* **55B** (1997), 33–64. (Introduction) **99f:81171** 81T30 (81T15)
— (*with* Klein, Matthias) Singular Yukawa and gauge couplings in $d = 4$ heterotic string vacua. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 197–215. (From the text) **99k:81254** 81T30
— (*with* Klein, Matthias) Quantum modified moduli spaces and field-dependent gauge couplings. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 163–180. (Summary) **99i:81242** 81T60 (81R40)
— (*with* Klein, Matthias) Singularities in $d = 4$, $N = 1$ heterotic string vacua. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 40–47. (Gonzalo Violero) **99f:81169** 81T30 (32J81)
— (*with* de Wit, Bernard) Duality and supersymmetry. (English summary) String theory, gauge theory and quantum gravity (Trieste, 1997). *Nuclear Phys. B Proc. Suppl.* **67** (1998), 117–157. (Angel Maria Uranga) **99e:81212** 81T30 (32J81, 83E30)
— (*with* Klein, Matthias) Singularities in $d = 4$, $N = 1$ heterotic string vacua. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 319–326. (Christophe Grojean) **99j:81147** 81T30 (32J81)
— (*with* Kaplunovsky, Vadim S.) Phenomenological aspects of F-theory. (English summary) *Phys. Lett. B* **417** (1998), *no.* 1-2, 45–49. (Summary) **99j:81143** 81T30 (83E30)
— *see also* **String theory, gauge theory and quantum gravity, 99a:81005**
Louis, Thomas A. *see* **Berger, James O. et al., 99e:62003**
Louisell, James Numerics of the stability exponent and eigenvalue abscissas of a matrix delay system. (English summary) *Stability and control of time-delay systems*, 140–157, *Lecture Notes in Control and Inform. Sci.*, 228, *Springer, London*, 1998. (*see* **99h:93004**) 34K20 (93D05)
Louis-Martinez, D. (*with* Kunstatter, G.) Quantum mechanics and thermodynamics of charged black holes in generic 2-D dilaton gravity. (English summary) *Field theory, integrable systems and symmetries* (*Quebec, PQ*, 1995), 96–108, *Univ. Montréal, Montreal, QC*, 1997. (Summary) **99b:83050** 83C57 (81T20)
Loukas, S. (*with* Adamidis, K.) A lifetime distribution with decreasing failure rate. (English summary) *Statist. Probab. Lett.* **39** (1998), *no.* 1, 35–42. (Ram Shanmugam) **99i:62234** 62N05 (62E15)
Loukili, Y. (*with* Esselaoui, D.; Bourgeat, Alain) Perfection of the simulation of freshwater/saltwater interface motion. (English summary) *Recent advances in problems of flow and transport in porous media* (*Marrakech*, 1996), 117–129, *Theory Appl. Transp. Porous Media*, 11, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99a:76001**) 86A05 (76M25, 76S05)
Louko, Jorma (*with* Friedman, John L.; Winters-Hilt, Stephen N.) Reduced phase space formalism for spherically symmetric geometry with a massive dust shell. (English summary) *Phys. Rev. D* (3) **56** (1997), *no.* 12, 7674–7691. (Gil De Oliveira-Neto) **99a:83032** 83C45 (83C47, 83E05)
— (*with* Whiting, Bernard F.; Friedman, John L.) Hamiltonian spacetime dynamics with a spherical null-dust shell. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 4, 2279–2298. (Summary) **99a:83009** 83C05 (83C55)
— (*with* Daughton, Alan; Sorkin, Rafael D.) Instantons and unitarity in quantum cosmology with fixed four-volume. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 8, 084008, 17 *pp.* (Summary) **99m:83068** 83C45
— (*with* Kiefer, Claus) Hamiltonian evolution and quantization for extremal black holes. (English summary) *Ann. Phys.* (8) **8** (1999), *no.* 1, 67–81. (Elizabeth Winstanley) **99m:83118** 83C57 (83C47)
— (*with* Marolf, Donald) Single-exterior black holes and the AdS-CFT conjecture. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 6, 066002, 14 *pp.* (Summary) **99k:83076** 83C57 (81T30, 83E30)
Loula, Abimael F. D. (*with* Malta, Sandra M. C.) Numerical analysis of finite element methods for miscible displacements in porous media. (English summary) *Numer. Methods Partial Differential Equations* **14** (1998), *no.* 4, 519–548. (Peter Knabner) **99j:76074** 76M10 (65N30, 76S05)
Lounesto, Pertti Crumeyrolle's bivectors and spinors. (English summary) *Clifford algebras and spinor structures*, 137–166, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Waldyr Alves Rodrigues, Jr.) **99a:15012** 15A66 (81R25)
Loura, L. C. (*with* Viegas, F. C.) Hermitean ultradistributions. (English summary) *Portugal. Math.* **55** (1998), *no.* 1, 39–57. (Stevan Pilipović) **99e:46051** 46F05
Lourdusamy, A. (*with* Xavier, C.) Pebbling number in graphs. (English summary) *Pure Appl. Math. Sci.* **43** (1996), *no.* 1-2, 73–79. (Aparna Higgins) **99g:05175** 05C99
Loustaunau, Philippe (*with* York, Eric V.) On the decoding of cyclic codes using Gröbner bases. (English summary) *Appl. Algebra Engrg. Comm. Comput.* **8** (1997), *no.* 6, 469–483. (Summary) **99e:94048** 94B35 (13P10, 94B15)
— (*with* Colombo, Fabrizio; Sabadini, Irene; Struppa, Daniele C.) Regular functions of biquaternionic variables and Maxwell's equations. (English summary) *J. Geom. Phys.* **26** (1998), *no.* 3-4, 183–201. (Igor M. Mitelman) **99g:32021** 32D20 (30G35, 78A25)
— (*with* Adams, William W.; Hoşten, Serkan; Miller, J. Lyn) SAGBI and SAGBI-Gröbner bases over principal ideal domains. (English summary) *J. Symbolic Comput.* **27** (1999), *no.* 1, 31–47. (Karin Gatermann) **99j:13023** 13P99 (68Q40)
Lousto, C. O. (*with* Sánchez, Norma) Particle and string scattering at the Planck scale. (English summary) *String theory in curved space times* (*Paris*, 1996), 136–167, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (81T30, 83C45)
— (*with* Sánchez, Norma) String dynamics in cosmological and black hole backgrounds: the null string expansion. (English summary) *String theory in curved space times* (*Paris*, 1996), 444–460, *World Sci. Publishing, River Edge, NJ*, 1998. (*see* **99m:83197**) 83E30 (83C57)
Loutsenko, Igor M. (*with* Berest, Yu. Yu.) Huygens' principle in Minkowski spaces and soliton solutions of the Korteweg-de Vries equation. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 1, 113–132. (R. Schimming) **99c:35134** 35L15 (34B24, 35Q53)
— (*with* Spiridonov, Vyacheslav P.; Vinet, Luc; Zhedanov, A. S.) Spectral analysis of q-oscillator with general bilinear interaction. (English summary) *J. Phys. A* **31** (1998), *no.* 45, 9081–9094. (Marcelo R. Ubriaco) **99k:81117** 81R50 (81Q99)
Louveaux, François (*with* Birge, John R.) ★ Introduction to stochastic programming. (English summary) Springer Series in Operations Research. *Springer-Verlag, New York*, 1997. xx+421 *pp. ISBN* 0-387-98217-5 (Peter Kall) **99b:90001** 90-02 (90-01, 90C15)
Louvet, Nicolas (*with* Bekka, Mohammed El Bachir) On a variant of Kazhdan's property (T) for subgroups of semisimple groups. (English and French summaries) *Ann. Inst. Fourier* (*Grenoble*) **47** (1997), *no.* 4, 1065–1078. (Alain Valette) **99b:22019** 22E40 (22D10, 22E41)
— Cohomological rigidity for lattices in products of groups. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **327** (1998), *no.* 2, 133–138. (B. Sury) **99h:22003** 22D10 (22E50)
Louzada-Neto, Francisco (*with* Brassolatti, Daniela) Bayesian analysis of the reliability function of products subjected to accelerated tests: the exponential case. (Portuguese. Portuguese summary) *Rev. Mat. Estatist.* **15** (1997), 17–27. 62N05 (62F15)
Lovadina, C. (*with* Cazzani, A.) On some mixed finite element methods for plane membrane problems. (English summary) *Comput. Mech.* **20** (1997), *no.* 6, 560–572. (Summary) **99a:73120** 73V05 (73K10)
Lovász, László (*with* Kotlov, Andrew Valeri; Vempala, Santosh) The Colin de Verdière number and sphere representations of a graph. (English summary) *Combinatorica* **17** (1997), *no.* 4, 483–521. (Joan Hutchinson) **99i:05068** 05C10 (05C50)
— (*with* Kannan, Ravindran; Simonovits, Miklós) Random walks and an $O^*(n^5)$ volume algorithm for convex bodies. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 1, 1–50. (Mark R. Jerrum) **99h:68078** 68Q25 (52A20, 52A38, 60J15, 60J20)
— (*with* Winkler, Peter M.) Mixing times. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 85–133, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Mark R. Jerrum) **99h:60138** 60J10 (60G40, 62L15)
— (*with* Winkler, Peter M.) Reversal of Markov chains and the forget time. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 189–204. (Robert P. Dobrow) **99c:60143** 60J10 (60J15)
— (*with* Beveridge, Andrew) Random walks and the regeneration time. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 57–62. (David J. Aldous) **99g:60119** 60J15 (05C99)
— *see also* **Graph theory and combinatorial biology, 99k:00031**
Love, Alexander (*with* Bailin, D.; Kraniotis, G. V.) The supersymmetric CP problem in orbifold compactifications. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 92–116. (Summary) **99b:81173** 81T30 (11Z05, 81R40)
— (*with* Bailin, D.; Kraniotis, G. V.) Sparticle spectrum and dark matter in M-theory. (English summary) *Phys. Lett. B* **432** (1998), *no.* 1-2, 90–96. (Summary) **99c:81272** 81V22 (81T30)
— (*with* Bailin, D.; Kraniotis, G. V.) The effect of Wilson line moduli on CP-violation by soft supersymmetry breaking terms. (English summary) *Phys. Lett. B* **432** (1998), *no.* 3-4, 343–352. (Summary) **99f:81143** 81T30 (11F46, 11Z05, 81R40)
— (*with* Bailin, D.; Kraniotis, G. V.) CP-violating phases in the CKM matrix in orbifold compactifications. (English summary) *Phys. Lett. B* **435** (1998), *no.* 3-4, 323–330. (Summary) **99e:81171** 81T30
— (*with* Bailin, D.; Kraniotis, G. V.) Cosmological inflation with orbifold moduli as inflatons. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 111–120. (Summary) **99h:83063** 83F05
Love, E. R. (*with* Hunter, M. N.) Expansions in series of Legendre functions. (English summary) *Transform methods & special functions, Varna* '96, 288–299, *Bulgarian Acad. Sci., Sofia*, 1998. (*see* **99i:00031**) 42B10 (33C45)
— On an inequality conjectured by T. J. Lyons. (English summary) *J. Inequal. Appl.* **2** (1998), *no.* 3, 229–233. (B. Crstici) **99k:26018** 26D07
Love, Robert F. (*with* Brimberg, Jack) Solving a class of two-dimensional uncapacitated location-allocation problems by dynamic programming. (English summary) *Oper. Res.*

46 (1998), *no.* 5, 702–709. (Summary) **99f:90175** 90C39 (90B80)

Loveland, Donald W. (*with* Nadathur, Gopalan) Proof procedures for logic programming. *Handbook of logic in artificial intelligence and logic programming, Vol. 5*, 163–234, *Oxford Univ. Press, New York*, 1998. (Ralph W. Wilkerson) **99d:68043** 68N17 (03B35, 03B70, 68T15)

Lovíšek, Ján Optimal control of a variational inequality with application to equilibrium problem of an elastic nonhomogeneous and anisotropic plate resting on unilateral elastic foundation. (English summary) *Comput. Optim. Appl.* **11** (1998), *no.* 2, 137–175. (Matthias Wilhelm Winter) **99i:49016** 49J40 (73K40, 73K50, 73V05)

— (*with* Hlaváček, Ivan) Optimal control of semi-coercive variational inequalities with application to optimal design of beams and plates. (English and German summaries) *ZAMM Z. Angew. Math. Mech.* **78** (1998), *no.* 6, 405–417. (Daniel Goeleven) **99f:49013** 49J40 (73K05, 73K10, 73K40, 73V25)

Lovrenčić, Alen The problem of optimization of the process of decomposition of an information system. (English and Serbo-Croatian summaries) *Zb. Rad. (Varaždin)* **21** (1997), *no.* 1(22), 27–41. 68Q25

Lovtsov, D. A. Models for measuring the information resource of an automated control system. (Russian. Russian summary) *Avtomat. i Telemekh.* **1996**, *no.* 9, 3–17; *translation in Automat. Remote Control* **57** (1996), *no.* 9, *part* 1, 1221–1232 (1997). (Summary) **99b:93035** 93C83

Low, B. C. (*with* De Sterck, H.; Poedts, S.) Characteristic analysis of a complex two-dimensional magnetohydrodynamic bow shock flow with steady compound shocks. (English summary) *Phys. Plasmas* **6** (1999), *no.* 3, 954–969. 76W05 (76L05)

Low, Chor-Ping A polynomial time solvable instance of the feasible minimum cover problem. (English summary) *Inform. Process. Lett.* **68** (1998), *no.* 3, 141–146. (Summary) **99h:68135** 68R10 (05C70, 05C85, 68Q35)

Low, Mark G. On nonparametric confidence intervals. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2547–2554. (Summary) **99k:62099** 62G15

— (*with* Brown, Lawrence D.; Zhao, Linda H.) Superefficiency in nonparametric function estimation. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2607–2625. (Theo Gasser) **99b:62045** 62G05 (62B15, 62G20, 62M05)

Low, Robert (*with* Batchelor, A. R.) The relativistic shape of spherical wavefronts. (English summary) *European J. Phys.* **19** (1998), *no.* 2, 133–136. (Mary L. Boas) **99d:83002** 83A05

— (*with* Field, T. R.) Causal relations via linking in twistor space. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 3-4, 339–348. (Peter R. Law) **99i:81075** 81R25 (32L25)

— Stable singularities of wave-fronts in general relativity. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3332–3335. (Volker Perlick) **99b:83011** 83C10 (58C27, 58F05, 78A05)

Low, Steven H. (*with* Maxemchuk, Nicholas F.) A collusion problem and its solution. (English summary) *Inform. and Comput.* **140** (1998), *no.* 2, 158–182. (Summary) **99j:94053** 94A60

Lowe, David A. (*with* Thorlacius, Lárus) Hot string soup. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 363–364, *World Sci. Publishing, River Edge, NJ*, 1996. (*see* **99h:81008**) 81T30

— (*with* Landsteiner, Karl; Lopez, Esperanza) $N = 2$ supersymmetric gauge theories, branes and orientifolds. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 197–226. (Douglas J. Smith) **99e:81241** 81T60 (81T13, 81T30)

— Eleven-dimensional Lorentz symmetry from SUSY quantum mechanics. (English summary) *J. High Energy Phys.* **1998**, *no.* 10, *Paper* 3, 15 *pp.* (*electronic*). (Daniela Bigatti) **99j:81149** 81T30 (22E43, 81Q60)

— Constraints on higher derivative operators in the Matrix theory effective Lagrangian. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 9, 9 *pp.* (*electronic*). (Summary) **99h:81172** 81T30 (83E30)

— (*with* von Unge, Rikard) Constraints on higher derivative operators in maximally supersymmetric gauge theory. (English summary) *J. High Energy Phys.* **1998**, *no.* 11, *Paper* 14, 6 *pp.* (*electronic*). (C. Gauthier) **99m:81257** 81T60 (81T13, 81T15)

— $E_8 \times E_8$ small instantons in matrix theory. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 1-2, 180–194. (Angel Maria Uranga) **99e:81203** 81T30 (83E30)

— Statistical origin of black hole entropy in Matrix theory. (English summary) *Phys. Rev. Lett.* **81** (1998), *no.* 2, 256–259. (Summary) **99c:83058** 83C57 (83E30)

Löwe, M. *see* **Löwe, Michael**

Löwe, Matthias On the invariant measure of non-reversible simulated annealing. (English summary) *Statist. Probab. Lett.* **36** (1997), *no.* 2, 189–193. (Dominique Lépingle) **99b:60103** 60J10

— On the storage capacity of Hopfield models with correlated patterns. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 4, 1216–1250. (Barbara Gentz) **99k:82059** 82C32 (60K30)

— (*with* Eichelsbacher, Peter) Large deviations principle for partial sums U-processes. (Russian summary) *Teor. Veroyatnost. i Primenen.* **43** (1998), *no.* 1, 97–115. (Miguel A. Arcones) **99m:60044** 60F10 (60B12, 62G20)

— On the storage capacity of the Hopfield model with biased patterns. (English summary) *IEEE Trans. Inform. Theory* **45** (1999), *no.* 1, 314–318. (Summary) **99k:92006** 92B20

Löwe, Michael (*with* Corradini, Andrea; Montanari, Ugo; Rossi, Francesca; Ehrig, Hartmut; Heckel, Reiko) Algebraic approaches to graph transformation. Basic concepts and double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 163–245, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

— (*with* Ehrig, Hartmut; Heckel, Reiko; Korff, Martin; Korff, Leila Ribeiro; Wagner, Annika; Corradini, Andrea) Algebraic approaches to graph transformation. II. Single pushout approach and comparison with double pushout approach. (English summary) *Handbook of graph grammars and computing by graph transformation, Vol. 1*, 247–312, *World Sci. Publishing, River Edge, NJ*, 1997. (*see* **99b:68006**) 68Q50 (05C99, 68R10)

Löwe, Stefan Fourgonal extensions. (English summary) *Geom. Dedicata* **69** (1998), *no.* 1, 67–81. (Stanley E. Payne) **99a:51006** 51E12

— On embeddings of Ahrens-Szekeres generalized quadrangles. (English summary) *J. Geom.* **61** (1998), *no.* 1-2, 150–154. (Stanley E. Payne) **99a:51007** 51E12 (51E20, 51E24)

Lowe, Timothy J. (*with* Chhajed, Dilip) Solving a selected class of location problems by exploiting problem structure: a decomposition approach. (English summary) *Naval Res. Logist.* **45** (1998), *no.* 8, 791–815. (Horst W. Hamacher) **99k:90130** 90C27 (90B80)

— (*with* de Matta, Renato; Hsu, Vernon Ning) Capacitated selection problem. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 1, 19–37. (Summary) **99h:90038** 90B05 (90B30)

Löwe, Welf (*with* Eisenbiegler, J.; Gottlieb, Johannes; Schlaeger, S.; Thül, M.; Zimmermann, Wolf D.) Parallel CG-methods—automatically optimized for PC- and workstation-clusters. (English summary) *High performance algorithms for structured matrix problems*, 181–197, *Adv. Theory Comput. Comput. Math., II, Nova Sci. Publ., Commack, NY*, 1998. (*see* **99k:65004**) 65Y05

Lowen, E. *see* **Lowen-Colebunders, Eva**

Lowen, R. *see* **Lowen, Robert**

Löwen, Rainer Affine Hughes groups acting on 4-dimensional compact projective planes. (English summary) *Forum Math.* **10** (1998), *no.* 4, 435–451. (Burkard Polster) **99f:51026** 51H10

— Branching numbers for Euclidean projections onto convex polyhedra. (English summary) *Geom. Dedicata* **72** (1998), *no.* 1, 99–103. (Summary) **99i:52011** 52B05 (52B11, 52B70, 90C31)

— (*with* Steinke, G. F.) Nonclassical 4-dimensional Minkowski planes obtained as brothers of semiclassical 4-dimensional Laguerre planes. (English summary) *Geom. Dedicata* **72** (1998), *no.* 2, 143–169. (Burkard Polster) **99j:51012** 51H15 (51H10)

Lowen, Robert (*with* Sioen, M.) Applications of approach theory in functional analysis. (English summary) *Proceedings of the Eighth Prague Topological Symposium* (1996), 251–269 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 54B30 (54E35)

— (*with* Lowen-Colebunders, Eva; Verbeeck, C.) Exponential objects in the construct PRAP. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 4, 259–276. (Michael M. Zarichnyi) **99e:54007** 54B30 (18D15, 54A05)

— (*with* Verschoren, Alain; Wuyts, P.) Stable subconstructs of FTS. III. Exotic cases. (English summary) *Fuzzy Sets and Systems* **97** (1998), *no.* 3, 371–380. (Summary) **99h:54010** 54A40

— (*with* Peeters, Werner) Distances between fuzzy sets representing grey level images. (English summary) *Fuzzy Sets and Systems* **99** (1998), *no.* 2, 135–149. (Summary) **99f:68206** 68U10 (04A72, 54A40, 68T10)

— (*with* Sioen, M.) Proximal hypertopologies revisited. (English summary) *Set-Valued Anal.* **6** (1998), *no.* 1, 1–19. (Summary) **99h:54015** 54B20 (54B30, 54E05)

— (*with* Xu, Luo Shan) Alternative characterizations of FNCS. (English summary) Categorical methods and techniques in fuzzy mathematics. *Fuzzy Sets and Systems* **104** (1999), *no.* 3, 381–391. (*see* **99m:03114**) 54A40 (18B99)

— (*with* Xu, Luo Shan) Connectedness in FTS from different points of view. (English summary) *J. Fuzzy Math.* **7** (1999), *no.* 1, 51–66. 54A40 (54D05)

— *see also* **Handbook: History of general topology**, **99a:01001** *and* **Categorical methods and techniques in fuzzy mathematics**, **99m:03114**

Lowen, Steven B. (*with* Ryu, Bo) Point process models for self-similar network traffic, with applications. (English summary) *Comm. Statist. Stochastic Models* **14** (1998), *no.* 3, 735–761. (Summary) **99a:60050** 60G55 (60G18, 90B12)

Lowenberg, Mark H. (*with* Champneys, A. R.) Shil'nikov homoclinic dynamics and the escape from roll autorotation in an F-4 model. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2241–2256. 70K99 (34C23)

— Bifurcation analysis of multiple-attractor flight dynamics. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1745, 2297–2319. (Summary) **99f:70031** 70K99 (34C23, 70Q05, 93C95)

Lowen-Colebunders, Eva (*with* Verbeeck, C.) A unifying theory on exponential objects in the setting of Čech closures and distances. *Proceedings of the Eighth Prague Topological Symposium* (1996), 270–279 (*electronic*), *Topol. Atlas, North Bay, ON*, 1997. (*see* **99a:54002**) 18B30 (18D15, 54A05, 54B30, 54C35, 54E35)

— (*with* Lowen, Robert; Verbeeck, C.) Exponential objects in the construct PRAP. (French summary) *Cahiers Topologie Géom. Différentielle Catég.* **38** (1997), *no.* 4, 259–276. (Michael M. Zarichnyi) **99e:54007** 54B30 (18D15, 54A05)

Lowengrub, John (*with* Caflisch, Russel E.; Hou, Thomas Yizhao) Almost optimal convergence of the point vortex method for vortex sheets using numerical filtering. (English summary) *Math. Comp.* **68** (1999), *no.* 228, 1465–1496. (Barak Galanti) **99m:76035** 76C05 (65M12, 76M25)

Lowenstein, J. H. (*with* Vivaldi, Franco) Anomalous transport in a model of Hamiltonian round-off. (English summary) *Nonlinearity* **11** (1998), *no.* 5, 1321–1350. (Peter E. Kloeden) **99g:58111** 58F27 (58F10, 65G05)

Lowson, M. V. (*with* Riley, A. J.) Development of a three-dimensional free shear layer. (English summary) *J. Fluid Mech.* **369** (1998), 49–89. (Murad Brutyan) **99g:76067** 76F10 (76–05)

Loy, R. M. (*with* Flaherty, J. E.; Dindar, M.; Shephard, M. S.; Szymanski, B. K.; Teresco, J. D.; Ziantz, L. H.) An adaptive and parallel framework for partial differential equations. (English summary) *Numerical analysis* 1997 (*Dundee*), 74–90, *Pitman Res. Notes Math. Ser.*, 380, *Longman, Harlow*, 1998. (Summary) **99e:65189** 65Y05 (65M60, 65N30)

Loyalka, S. K. (*with* Ivchenko, I. N.; Tompson, R. V.) The polynomial expansion method for boundary value problems of transport in rarefied gases. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 6, 955–966. (Summary) **99j:76108** 76P05 (76M25, 82C40)

Loyer, Pierre (*with* Solé, Patrick) U_n lattices, construction B, and AGM iterations. (English summary) *European J. Combin.* **19** (1998), *no.* 2, 227–236. (Richard T. Bumby) **99c:94059** 94B40 (05A15, 33C80)

Lozano, Antonio (*with* Arvind, V.; Beigel, Richard) The complexity of modular graph automorphism. (English summary) *STACS 98 (Paris, 1998)*, 172–182, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68085** 68Q25

Lozano, Antonio (*with* García-Olivares, Antonio; Dopazo, César) The instability growth leading to a liquid sheet breakup. (English summary) *Phys. Fluids* **10** (1998), *no.* 9, 2188–2197. (Summary) **99e:76051** 76E99 (76C05, 76M25)

Lozano, Carlos (*with* Labastida, J. M. F.) Mathai-Quillen formulation of twisted $N = 4$ supersymmetric gauge theories in four dimensions. (English summary) *Nuclear Phys. B* **502** (1997), *no.* 3, 741–790. (Matilde Marcolli) **99d:58033** 58D29 (57R57, 81T13, 81T60)

Lozano, Epifanio (*with* Acosta G., Lorenzo) An adjunction between binary relations and topological spaces. (Spanish. English and Spanish summaries) *Bol. Mat. (N.S.)* **3** (1996), *no.* 1, 37–41. (Summary) **99f:18005** 18A40 (18B99)

roanes-Lozano, Eugenio *see* **Roanes-Lozano, Eugenio**

díaz Lozano, M. E. *see* **Díaz Lozano, M. E.**
gómez Lozano, Miguel *see* **Gómez Lozano, Miguel**
sanchis-Lozano, Miguel Angel *see* **Sanchis-Lozano, Miguel Angel**
Lozano, R. *see* **Lozano Leal, Rogelio**
Lozano, Yolanda (*with* Bergshoeff, E. A.; Ortín, Tomás) Massive branes. (English summary) *Nuclear Phys. B* **518** (1998), *no.* 1-2, 363–423. (Summary) **99f:81148** 81T30 (83E30, 83E50)
— (*with* Bergshoeff, E. A.; Eyras, Eduardo) The massive Kaluza-Klein monopole. (English summary) *Phys. Lett. B* **430** (1998), *no.* 1-2, 77–86. (Summary) **99c:83083** 83E30 (83E50)
Lozano Leal, Rogelio (*with* Garrido-Moctezuma, R.; Suarez, D. A.) Adaptive log control of positive real systems. (English summary) *Internat. J. Adapt. Control Signal Process.* **12** (1998), *no.* 5, 437–449. 93E20 (93E35)
Lozgachev, G. I. Controller design using closed-loop transfer function. (English summary) Control and identification algorithms. *Comput. Math. Model.* **9** (1998), *no.* 2, 153–159. (*see* **99b:93002**) 93B51
Lozhechko, V. V. (*with* Shestopalov, Yu. V.) A variational method for solving diffraction problems in domains with noncompact boundaries. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 2, 277–288; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 2, 267–278. (Gert Lube) **99c:35035** 35J05 (65N30, 78A45)
Lozhkin, S. A. On the depth of Boolean functions in an arbitrary complete basis. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1996**, *no.* 2, 80–83; *translation in Moscow Univ. Math. Bull.* **51** (1996), *no.* 2, 44–46. (S. Rudeanu) **99c:94072** 94C10 (06E30)
Lozin, V. V. On minimal universal graphs for hereditary classes. (Russian. Russian summary) *Diskret. Mat.* **9** (1997), *no.* 2, 106–115. (Summary) **99c:05107** 05C35
— (*with* Alekseev, V. E.) On local transformations of graphs that preserve the independence number. (Russian. Russian summary) *Diskretn. Anal. Issled. Oper. Ser.* 1 **5** (1998), *no.* 1, 3–19, 104. (Peter Mihók) **99j:05094** 05C35 (05C85)
Lozovanu, D. D. (*with* Bolyak, R. I.) A network transportation problem with concave cost functions of the flow on network edges, and its applications. (Russian. English, Russian and Moldavian summaries) *Izv. Akad. Nauk Respub. Moldova Mat.* **1996**, *no.* 3, 74–82, 121, 124. (Dimiter T. Ivanchev) **99b:90144** 90C35 (90C08)
— (*with* Petic, C.) Algorithms for finding the minimum cycle mean in the weighted directed graph. (English summary) *Comput. Sci. J. Moldova* **6** (1998), *no.* 1, 27–34. 05C85 (68R10)
aL-Sunni, Fouad M. *see* **AL-Sunni, Fouad M.**
Lu, An-Qi (*with* Rong, Ting-Yu) Parametrized Lagrange multiplier method and construction of generalized mixed variational principles for computational mechanics. (English summary) *Comput. Methods Appl. Mech. Engrg.* **164** (1998), *no.* 3-4, 287–296. (Summary) **99i:73073** 73V05 (73V25)
Lu, Bai-nian (*with* Fang, Shao Mei) Fourier spectral and pseudospectral methods for ferromagnetic chain equations. (Chinese. English summary) *Math. Numer. Sin.* **19** (1997), *no.* 4, 399–408. (Summary) **99b:65122** 65M70
— (*with* Ma, Xiao Long) An explicit difference scheme for the continuous mean field Ising model. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **13** (1997), *no.* 2, 20–24, 19. (Summary) **99a:82060** 82C20 (82C80)
— (*with* Wan, Guo-hua; Guo, Bo Ling) The global Dufort-Frankel difference approximation for nonlinear reaction-diffusion equations. (English summary) *J. Comput. Math.* **16** (1998), *no.* 3, 275–288. (Gert Lube) **99g:65095** 65M12
Lu, Baoqun (*with* He, Yong[3]; Ni, Guangjiong) A method for obtaining Darboux transformations. (English summary) *J. Nonlinear Math. Phys.* **5** (1998), *no.* 2, 140–148. (Xian Guo Geng) **99d:35144** 35Q53 (35A30, 58F37)
Lu, Bing Xin (*with* Zhu, Zuo Tong) Highly transitive representation on **Q** for the free product of countable right ordered groups. (English and Chinese summaries) *J. Nanjing Norm. Univ. Nat. Sci. Ed.* **19** (1996), *no.* 4, 4–6. (Stephen H. McCleary) **99m:06033** 06F15
Lu, Chi-Jen An exact characterization of symmetric functions in $qAC^0[2]$. (English summary) *Computing and combinatorics* (*Taipei*, 1998), 167–173, *Lecture Notes in Comput. Sci.*, 1449, *Springer, Berlin*, 1998. (*see* **99k:68008**) 68Q15
— (*with* Barrington, David A. Mix; Miltersen, Peter Bro; Skyum, Sven) Searching constant width mazes captures the AC^0 hierarchy. (English summary) *STACS* 98 (*Paris*, 1998), 73–83, *Lecture Notes in Comput. Sci.*, 1373, *Springer, Berlin*, 1998. (Summary) **99f:68065** 68Q15
Lu, Chin Lung (*with* Tang, Chuan Yi) Solving the weighted efficient edge domination problem on bipartite permutation graphs. (English summary) *Discrete Appl. Math.* **87** (1998), *no.* 1-3, 203–211. (Anthony E. Barkauskas) **99i:05190** 05C85 (05C35, 05C70)
Lu, Chuan Rong (*with* Lin, Zhengyan) ★ Limit theory for mixing dependent random variables. (English summary) Mathematics and its Applications, 378. *Kluwer Academic Publishers, Dordrecht*; *Science Press, New York*, 1996. xii+426 *pp. ISBN* 0-7923-4219-4; 1-880132-27-5 (Sergei Utev) **99g:60001** 60–02 (60F05, 60F15, 60F17, 62G07)
— (*with* Yu, Hao) A note on how small are the increments of a fractional Wiener process? (English summary) *Asymptotic methods in probability and statistics* (*Ottawa, ON*, 1997), 303–310, *North-Holland, Amsterdam*, 1998. (Götz Kersting) **99k:60107** 60G15 (60G10)
— (*with* Pan, Jian Min) An extension of Esseen's inequality for NA variables. (Chinese. Chinese summary) *Kexue Tongbao* (*Chinese*) **43** (1998), *no.* 11, 1144–1148. 60G50
Lu, Chun Lian Iterative refinement of the singular-value decomposition solution to the regression equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 265–270. 65F30 (65U05)
Lü, Chun-Mei (*with* Liang, Xue-Zhang) On the integral convergence of Kergin interpolation on the disk. (English summary) *J. Comput. Appl. Math.* **95** (1998), *no.* 1-2, 45–63. (Jian Ke Lu) **99m:41048** 41A55 (65D32)
Lu, Chunqing On the existence of steady flow in a channel with one porous wall or two accelerating walls. (English summary) *Proceedings of the Third Mississippi State Conference on Difference Equations and Computational Simulations* (*Mississippi State, MS*, 1997), 159–170 (*electronic*), *Electron. J. Differ. Equ. Conf.*, 1, *Southwest Texas State Univ., San Marcos, TX*, 1998. (Summary) **99k:34046** 34B15 (76D05)
Lu, Deng Fang (*with* Wang, Xin Zheng; Zhang, Xin Yuan) An FCT method for 2-dimensional hydrodynamic equations. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 290–298. 65M70 (76M20)
Lu, Deng-Maw On explicit equations of the Burmester curves for the PPP-P case in spherical motion. (English summary) *J. Franklin Inst. B* **335** (1998), *no.* 8, 1467–1476. (Summary) **99f:70009** 70B15
Lu, Dian Chen (*with* Tian, Li Xin; Liu, Zeng Rong) Wavelet basis analysis in perturbed periodic KdV equation. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 11, 1053–1058; *translated from Appl. Math. Mech.* **19** (1998), *no.* 11, 975–979 (*Chinese. English and Chinese summaries*). 35Q53 (35B99, 35C10)
Lu, Diming Monoidal functors on the category of representations of a triangular Hopf algebra. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 2, 139–146. (Summary) **99a:16034** 16W30 (18D10)
Lu, Dong Hui (*with* Zhuang, Tian Ge) Construction and properties of wavelet bases expressed in terms of Bessel functions. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 1, 41–45. 42C15 (33C10, 42C10)
— (*with* Peng, Kang) A wavelet analysis method for directly obtaining reconstructed image boundaries from projections. (Chinese. English and Chinese summaries) *J. Shanghai Univ. Nat. Sci.* **4** (1998), *no.* 1, 14–20. 65T20 (65Y25)
Lu, Dong Qiang (*with* Zhang, Bao Shan; Dai, Shi Qiang) Infinite-dimensional Lie algebras with a new type of Poisson bracket. (Chinese. English and Chinese summaries) *Acta Mech. Sinica* (*Beijing*) **30** (1998), *no.* 3, 307–313. (Summary) **99h:58093** 58F07
Lu, Fangyan (*with* Lu, Shi Jie) Perturbations of the radical of nest algebras. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 556–560. (Alan Hopenwasser) **99j:47063** 47D25
Lu, Gang[2] Dynamics of a cooperation-diffusion system. (English summary) *China-Japan Symposium on Reaction-Diffusion Equations and their Applications and Computational Aspects* (*Shanghai*, 1994), 102–111, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99g:35067** 35K57 (35Q80, 92D25)
— (*with* Huang, Jian Hua[3]) Global attractor of a spatially discretized reaction-diffusion system with Hamiltonian structure. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 185–195. (Piotr Biler) **99f:35088** 35K57 (34G20, 35B40, 47H20, 58F39)
— (*with* Huang, Jian Hua[3]; Ye, Hong Xin) Finding periodic solutions to the spatially homogeneous Nagumo equation by the Adams-Bashforth difference scheme. (Chinese. English and Chinese summaries) *J. Central China Normal Univ. Natur. Sci.* **32** (1998), *no.* 4, 394–399. 65M06
Lu, Ganyu (*with* Lele, Sanjiva K.) Inviscid instability of compressible swirling mixing layers. (English summary) *Phys. Fluids* **11** (1999), *no.* 2, 450–461. (Summary) **99j:76053** 76E99
— (*with* Lele, Sanjiva K.) Asymptotic growth of disturbances from spatially compact source in a skewed mixing layer. (English summary) *Phys. Fluids* **11** (1999), *no.* 5, 1153–1160. 76E99
Lu, Guangcun The Arnold conjecture for a product of monotone manifolds and Calabi-Yau manifolds. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 640. *Acta Math. Sinica* (*N.S.*) **13** (1997), *no.* 3, 381–388. (David E. Hurtubise) **99i:58060** 58F05 (58E05, 58F22)
— The Weinstein conjecture on some symplectic manifolds containing the holomorphic spheres. *Kyushu J. Math.* **52** (1998), *no.* 2, 331–351. (Karl Friedrich Siburg) **99g:58054** 58F05 (58D10)
Lu, Guo Ying (*with* Zhang, Chang Qing) A new steady Kalman filter in general systems. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 2, 20–23. 93E11
Lu, Guofu Nonlinear degenerate parabolic equations in infiltration through a porous medium. (English summary) *Commun. Nonlinear Sci. Numer. Simul.* **3** (1998), *no.* 2, 97–100. 35K55 (76S05)
Lu, Guozhen Local and global interpolation inequalities on the Folland-Stein Sobolev spaces and polynomials on stratified groups. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 6, 777–790. (Mario Milman) **99i:46024** 46E35 (22E25, 26D10, 35K65, 46M35)
— Embedding theorems on Campanato-Morrey spaces for vector fields on Hörmander type. (English summary) *Approx. Theory Appl.* (*N.S.*) **14** (1998), *no.* 1, 69–80. (Da Chun Yang) **99h:46053** 46E35 (42B25, 43A85)
— (*with* Wei, Juncheng) On nonlinear Schrödinger equations with totally degenerate potentials. (English and French summaries) *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 6, 691–696. (Summary) **99g:35120** 35Q55
— (*with* Wheeden, Richard L.) Poincaré inequalities, isoperimetric estimates, and representation formulas on product spaces. (English summary) *Indiana Univ. Math. J.* **47** (1998), *no.* 1, 123–151. (Cristian E. Gutiérrez) **99e:46043** 46E35 (26D10)
Lü, H. *see* **Lu, Hong[1]**
Lu, Hao *see* **Lu, Hao[2]**
Lu, Hao[1] (*with* Axelsson, Owe) A survey of some estimates of eigenvalues and condition numbers for certain preconditioned matrices. (English summary) *J. Comput. Appl. Math.* **80** (1997), *no.* 2, 241–264. (Summary) **99a:65044** 65F15 (65F35)
— (*with* Maubach, Joseph M.) A finite element method and variable transformations for a forward-backward heat equation. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 249–272. (Eun-Jae Park) **99j:65172** 65M60
— A generalized Hilbert matrix problem and confluent Chebyshev-Vandermonde systems. (English summary) *SIAM J. Matrix Anal. Appl.* **19** (1998), *no.* 1, 253–276 (*electronic*). (Svetozar D. Margenov) **99d:65132** 65F30 (65Y20)
Lu, Hao[2] (*with* Wang, Zhi Hong; Fang, Hua Jing; Huang, Xin Han) A four-block H^∞ control design problem with irrational transfer matrices. (Chinese) *Acta Automat. Sinica* **24** (1998), *no.* 4, 573–575. 93B36
Lu, Hong[1] (*with* Pope, C. N.; Xu, K. W.) Higher-spin realisations of the bosonic string. (English summary) *Strings* '95 (*Los Angeles, CA*, 1995), 365–373, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81070** 81R10 (81T30)
— (*with* Pope, C. N.; Stelle, K. S.) Multiplet structures of BPS solitons. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 3, 537–561. (Mario Trigiante) **99a:83070** 83E50 (17B81, 83E30)
— (*with* Khviengia, N.; Khviengia, Z.; Pope, C. N.) Towards a field theory of F-theory. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 4, 759–773. (Mario Trigiante) **99f:81168** 81T30 (83E30)
— (*with* Lavrinenko, I. V.; Pope, C. N.) Fibre bundles and generalized-dimensional reductions. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 8, 2239–2256. (Sergey Nikolaevich Roshchupkin) **99h:83061** 83E50 (83E30)

— (*with* Pope, C. N.) T-duality and U-duality in toroidally compactified strings. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 139–157. (Summary) **99d:81127** 81T30 (83E30)

— (*with* Pope, C. N.; Tran, T. A.; Xu, K. W.) Classification of p-branes, NUTs, waves and intersections. (English summary) *Nuclear Phys. B* **511** (1998), *no.* 1-2, 98–154. (Jeremy Michelson) **99a:83067** 83E30 (81T30)

— (*with* Cremmer, E.; Pope, C. N.; Stelle, K. S.) Spectrum-generating symmetries for BPS solitons. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 132–156. (Marco Spaans) **99h:83053** 83E30 (81T30)

— (*with* Bremer, M. S.; Pope, C. N.; Stelle, K. S.) Dirac quantisation conditions and Kaluza-Klein reduction. (English summary) *Nuclear Phys. B* **529** (1998), *no.* 1-2, 259–294. (Gianguido Dall'Agata) **99m:81175** 81T30 (83E15, 83E30)

— (*with* Duff, M. J.; Hoxha, P.; Martinez-Acosta, R. R.; Pope, C. N.) A lattice universe from M-theory. (English summary) *Phys. Lett. B* **451** (1999), *no.* 1-2, 38–45. (Summary) **99m:83187** 83E30 (81T30, 83F05)

Lu, Hong You Nonexistence of limit cycles for a class of Liénard equations. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 18–20. (Summary) **99h:34049** 34C05

Lu, Hongjun (*with* Wang, Ming Xin[2]) Exact soliton solutions of some nonlinear physical models. (English summary) *Phys. Lett. A* **255** (1999), *no.* 4-6, 249–252. 35Q53

Lu, Hongwen (*with* Ji, Guangheng) Proof of class number formulae by machine—a note on a Chowla's conjecture. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 4, 371–378. (Franz Lemmermeyer) **99i:11103** 11R29 (11R11, 11Y40)

Lu, Hsueh-I (*with* Chuang, Richie Chih-Nan; Garg, Ashim; He, Xin[1]; Kao, Ming-Yang) Compact encodings of planar graphs via canonical orderings and multiple parentheses. (English summary) *Automata, languages and programming (Aalborg, 1998)*, 118–129, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68P99 (68R10)

— (*with* Ravi, R.) Approximating maximum leaf spanning trees in almost linear time. (English summary) *J. Algorithms* **29** (1998), *no.* 1, 132–141. (Summary) **99d:68116** 68Q25 (05C85, 68R10)

Lu, J. X. *see* **Lu, Jian Xin**

Lu, James J. (*with* Eiter, Thomas; Subrahmanian, V. S.) Computing non-ground representations of stable models. (English summary) *Logic programming and nonmonotonic reasoning (Dagstuhl, 1997)*, 198–217, *Lecture Notes in Comput. Sci.*, 1265, *Springer, Berlin*, 1997. (Summary) **99a:68027** 68N17

— (*with* Calmet, Jacques; Schü, Joachim) Computing multiple-valued logic programs. (English summary) *Mathware Soft Comput.* **4** (1997), *no.* 2, 129–153. (Summary) **99m:03057** 03B70 (03B50, 68N17)

— (*with* Murray, Neil V.; Rosenthal, Erik) A framework for automated reasoning in multiple-valued logics. (English summary) *J. Automat. Reason.* **21** (1998), *no.* 1, 39–67. (Summary) **99e:03022** 03B50 (03B35, 03B52, 68T15)

Lu, Jia (*with* Papadopoulos, Panayiotis) Representations of Kronecker powers of orthogonal tensors with applications to material symmetry. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 30, 3935–3944. (Maurizio Vianello) **99h:73015** 73B99 (15A69, 73B10)

Lu, Jialiang (*with* Chen, Guanrong; Nicholas, Brent; Ranganathan, Swatiprakash M.) Bifurcation dynamics in discrete-time delayed-feedback control systems. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **9** (1999), *no.* 1, 287–293. 93C10 (58F14)

Lu, Jian Xin (*with* Duff, M. J.; Evans, Jonathan M.; Khuri, Ramzi R.; Minasian, Ruben) The octonionic membrane. (English summary) *Phys. Lett. B* **412** (1997), *no.* 3-4, 281–287. (Sergey Nikolaevich Roshchupkin) **99a:83064** 83E30 (81T30, 83E50)

— (*with* Duff, M. J.; Evans, Jonathan M.; Khuri, Ramzi R.; Minasian, Ruben) The octonionic membrane. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 295–302. (Summary) **99f:83065** 83E30 (81T30, 83E50)

— (*with* Roy, Shibaji) An SL(2, **Z**) multiplet of type IIB super five-branes. (English summary) *Phys. Lett. B* **428** (1998), *no.* 3-4, 289–296. (Summary) **99d:81128** 81T30

— (*with* Roy, Shibaji) 4-string junction and its network. (English summary) *Phys. Lett. B* **443** (1998), *no.* 1-4, 167–176. (Summary) **99h:81173** 81T30

Lu, Jianan (*with* Finn, Robert S.) Some remarkable properties of H-graphs. (English and Georgian summaries) International Symposium on Differential Equations and Mathematical Physics (Tbilisi, 1997). *Mem. Differential Equations Math. Phys.* **12** (1997), 57–61. (Fei-Tsen Liang) **99j:53008** 53A10 (35J60)

— (*with* Finn, Robert S.) Regularity properties of H-graphs. (English summary) *Comment. Math. Helv.* **73** (1998), *no.* 3, 379–399. (Rabah Souam) **99e:53007** 53A10 (35B65, 35J99, 76B45)

Lu, Jiang (*with* Feng, Qilin) Strong consistency of the number of vertices of given degrees in nonuniform random recursive trees. (English summary) *Yokohama Math. J.* **45** (1998), *no.* 1, 61–69. (R. T. Smythe) **99c:60016** 60C05 (60F15)

Lu, Jianke On cyclically symmetric crack problems. (English summary) *Wuhan Univ. J. Nat. Sci.* **2** (1997), *no.* 2, 132–138. (Summary) **99i:73058** 73M25 (73V35)

— (*with* Erdogan, Fazil) A crack problem with a broken line interface. (English summary) A Chinese summary appears in Chinese Ann. Math. Ser. A **19** (1998), no. 2, 284. *Chinese Ann. Math. Ser. B* **19** (1998), *no.* 2, 229–238. (Summary) **99i:73059** 73M25 (45E05, 73C02, 73V35)

Lu, Jianzhu (*with* Li, Yuesheng) The smoothness of fractal interpolation functions and its Hölder exponents. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 405–412, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Bl. Sendov) **99j:41034** 41A30 (42C15)

Lu, Jie Ping (*with* Wang, De Xin; Wang, Yu Chuan; Ma, Rui'e) An adaptive BP algorithm based on fuzzy reasoning. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 1, 55–62. 92B20 (68T05, 90C70)

Lu, Jie Qing (*with* Wang, Pin Chao; Wen, Feng Tong; Yang, Ming Sheng[3]) Some sufficient conditions for a group to be nilpotent. (Chinese. English and Chinese summaries) *Adv. Math. (China)* **27** (1998), *no.* 4, 331–334. 20D15

— (*with* Wang, Ding Guo; Xiao, Feng[3]) The Maschke theorem for Hopf comodule coalgebras. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 1–4. (Fang Li) **99k:16088** 16W30

— (*with* Wang, Xiao Jing; Wang, Pin Chao; Liu, Qiu Xiang) The index complex of a maximal subgroup. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 3, 5–8. (Summary) **99j:20035** 20E28

Lu, Jin[2] A hidden node value regulation algorithm for neural network training. (English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 1, 53–60. (Summary) **99c:68214** 68T05 (92B20)

— (*with* Xu, Wen Li; Han, Zeng Jin) A parallel identification algorithm for neural networks. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 5, 741–745. 93B36 (93C83)

Lü, Jingfa (*with* Kruglov, S. I.; Zhao, Xueqing) [A] wave equation for anyons and its exact solutions in external fields. (English summary) *Sci. China Ser. A* **40** (1997), *no.* 10, 1103–1109. (Summary) **99c:81283** 81V70 (35Q40)

Lu, Jitan Spherical submanifolds with special quadric representations. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 2, 295–303. (Ivko Dimitric) **99e:53079** 53C40

— (*with* Lee, Peng Yee) The primitives of Henstock integrable functions in Euclidean space. (English summary) *Bull. London Math. Soc.* **31** (1999), *no.* 2, 173–180. (J. Jarník) **99m:26015** 26A39 (26A36)

Lu, Jun An (*with* Xia, Jun; Chen, Shi Hua[3]; Zhan, Gui Bao) Self-memory numerical forecasting for solving dynamical systems. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 11–14. 65D15 (65L06)

Lu, Jun Li (*with* Wang, Yong Jiu) Gravitational effects in the external field of a dynamic charged sphere. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **21** (1998), *no.* 4, 34–39. 83C10

Lu, Jye-Chyi (*with* Chen, Di[1]) The asymptotics of maximum-likelihood estimates of parameters based on a data type where the failure and the censoring time are dependent. (English summary) *Statist. Probab. Lett.* **36** (1998), *no.* 4, 379–391. (Summary) **99c:62081** 62G05 (62N05)

Lu, K. *see* **Lu, Kening**

Lu, Ke Wei (*with* Hao, Zhi Feng) Essential subgroups of finite groups. (Chinese. English and Chinese summaries) *Nanjing Daxue Xuebao Shuxue Bannian Kan* **14** (1997), *no.* 2, 222–226. (Ji Ping Zhang) **99f:20027** 20D10

— (*with* Xu, Feng[6]) Normal subgroups of classes of finite groups and π_σ-nilpotency. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 48–50. 20D10

Lu, Kening (*with* Bates, Peter W.; Zeng, Chongchun) Normally hyperbolic invariant manifolds for semiflow in a Banach space. *Differential equations and applications (Hangzhou, 1996)*, 22–29, *Internat. Press, Cambridge, MA*, 199?. (Jürgen Scheurle) **99h:58136** 58F15 (58F30)

— (*with* Bates, Peter W.; Zeng, Chongchun) Foliations for semiflows in Banach spaces near a normally hyperbolic invariant manifold. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 30–40, *Internat. Press, Cambridge, MA*, 199?. (Jürgen Scheurle) **99h:58137** 58F15 (58F18)

— Structural stability for time periodic parabolic equations. *Differential equations and applications (Hangzhou, 1996)*, 207–214, *Internat. Press, Cambridge, MA*, 199?. (Gershon Wolansky) **99k:35085** 35K55 (34G20, 35B10, 58F39)

— (*with* Pan, Xing Bin) The first eigenvalue of Ginzburg-Landau operator. (English summary) *Differential equations and applications (Hangzhou, 1996)*, 215–226, *Internat. Press, Cambridge, MA*, 199?. (B. M. Herbst) **99j:35205** 35Q55 (35J10)

— (*with* Bates, Peter W.; Zeng, Chongchun) Existence and persistence of invariant manifolds for semiflows in Banach space. (English summary) *Mem. Amer. Math. Soc.* **135** (1998), *no.* 645, *viii*+129 *pp.* (Jürgen Scheurle) **99b:58210** 58F30 (34G20, 35B40, 47H20, 58F15, 58F39)

— *see also* **Differential equations and applications, 99b:00013**

Lu, Kun (*with* Huang, Guang Yuan; Zhu, Yue Qiu; Ning, Fei) Speech signal processing by inversion of equations of mathematical physics. (Chinese. English and Chinese summaries) *Shandong Daxue Xuebao Ziran Kexue Ban* **33** (1998), *no.* 1, 44–51. 94A12 (35Q80, 35R30, 92C05)

Lu, Li[2] (*with* Wang, Neng Chao) Completeness and orthogonality of Walsh-Haar function families. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **18** (1998), *suppl.*, 15–17. 42A65 (41A65)

Lu, Li Lei (*with* Gao, Li Qun; Zhang, Si Ying) Robust control for linear time-delay systems with structured uncertainty. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 345–349. 93D09 (93B36)

— (*with* Gao, Li Qun; Zhang, Si Ying) The design of robust strongly stabilizing controllers for uncertain time-delay linear systems. (Chinese. English and Chinese summaries) *Inform. and Control (Shenyang)* **27** (1998), *no.* 1, 6–10. 93D21 (93C30)

Lu, Lian Shan (*with* Qi, Song Ru) A test for whether a linear programming problem has infinitely many optimal solutions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 1, 34–37. 93C05

Lu, Lin Zhang (*with* Zhuang, Ping Hui) L^1 uniform convergence of a difference scheme for a semilinear singular perturbation problem involving two parameters. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 1, 69–75. (Summary) **99h:65138** 65L12

Lu, Linyuan (*with* Liang, Ke) Sheets and rigid orbit covers of exceptional Lie groups. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 20, 1702–1707. (Hung Yean Loke) **99m:22015** 22E46

Lu, Lunjin Polymorphic type analysis in logic programs by abstract interpretation. (English summary) *J. Logic Programming* **36** (1998), *no.* 1, 1–54. (Summary) **99b:68032** 68N17

Lu, Mei (*with* Li, Hao[1]; Sun, Zhi Ren) Hamiltonicity in 2-connected graphs with claws. (English summary) *Discrete Math.* **183** (1998), *no.* 1-3, 223–236. (Zdeněk Ryjáček) **99b:05095** 05C45

— (*with* Yu, Zhengguang; Song, Zeng Min) Sufficient condition for Hamiltonian graphs concerning degree and neighborhood union. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1194–1198. (Summary) **99i:05136** 05C45

— (*with* Yu, Zhengguang) Pancyclism in claw-free graphs. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1218–1220. (Summary) **99i:05125** 05C38

Lu, Mi (*with* Zhou, Liuding) A new algorithm for polynomial product modulo $(z^N + 1)$ implemented by the real-valued W transform. (English summary) Proceedings of International Conference of Computing and Information, ICCI'94 (Peterborough, ON).

J. Comput. Inf. **1** (1995), *no.* 1, 403–421 (*electronic*). (*see* **99f:68006**) 68Q25 (68Q35, 68U10)

Lu, Min-Qiang The gravitational field of a charged global monopole. (English summary) *Nuovo Cimento Soc. Ital. Fis. B* (12) **113** (1998), *no.* 10, 1197–1204. (Summary) **99h:83067** 83F05 (83C99)

Lu, Minggao (*with* Cai, Yingchun) Chen's theorem in short intervals. *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1401–1403. (Alessandro Languasco) **99m:11116** 11P32 (11N36, 11N64)

Lu, Pei Zhong (*with* Liu, Mu Lan) Correlation attacks and correlation immune functions. (Chinese. English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 395–408. (From the summary) **99f:94011** 94A60

— Algorithmic criteria for permutation orthogonal systems over finite fields. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1326–1331. (Andrei Kelarev) **99j:13020** 13M10 (13P10)

— (*with* Liu, Mu Lan; Mullen, Gary L.) Correlation-immune functions over finite fields. (English summary) *IEEE Trans. Inform. Theory* **44** (1998), *no.* 3, 1273–1276. (Summary) **99d:94019** 94A55 (94A60)

— An algorithmic criterion for orthogonality of systems of permutations over finite fields. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 12, 1263–1267. 13P10

— (*with* Liu, Mu Lan) Gröbner bases of characteristic ideals of LRS over UFD. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1034–1046. (Alessandro Logar) **99m:13050** 13P10 (13F15)

Lu, Peihuang (*with* Zhu, Ciyou; Byrd, Richard H.; Nocedal, Jorge) Algorithm 778: L-BFGS-B: Fortran subroutines for large-scale bound-constrained optimization. (English summary) *ACM Trans. Math. Software* **23** (1997), *no.* 4, 550–560. 65Y15

Lu, Ping Approximate nonlinear receding-horizon control laws in closed form. (English summary) *Internat. J. Conirol* **71** (1998), *no.* 1, 19–34. (Summary) **99d:93027** 93B51 (93C10)

— (*with* Burken, John J.) Controlling aircraft with engine thrust only: nonlinear challenges. *Nonlinear Anal.* **35** (1999), *no.* 1, *Ser. B: Real World Appl.*, 21–35. 93C95 (49N55)

Lu, Qi (*with* Eichstaedt, Matthias; Teng, Shang-Hua) Parallel profile matching for large scale webcasting. (English summary) *Solving irregularly structured problems in parallel (Berkeley, CA, 1998)*, 17–28, *Lecture Notes in Comput. Sci.*, 1457, *Springer, Berlin*, 1998. (*see* **99h:65007**) 65Y05 (90C27)

Lu, Qikeng The Yang-Mills fields on the Minkowski space. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1061–1067. (Jia Yu Li) **99m:58058** 58E15 (53C07, 53C50)

Lu, Qing Hua (*with* Chen, Jian Ren) A coincidence theorem and its application. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 4, 13–16. 54H25

Lu, Qishao (*with* Liu, Shen Quan[2]) Scroll waves in excitable media and the motion of organization center. (English summary) *Recent advances in differential equations (Kunming, 1997)*, 179–188, *Pitman Res. Notes Math. Ser.*, 386, *Longman, Harlow*, 1998. (Summary) **99f:92002** 92C05 (35K55, 35Q80, 92B05)

Lu, Quan Kang The form factor of a relativistic plasma. (Chinese. English and Chinese summaries) *J. Fudan Univ. Nat. Sci.* **37** (1998), *no.* 1, 1–7. 82D10

Lu, Rongdian (*with* Zhang, Jule) Strongly regular rings and SF-rings. (English summary) *Northeast. Math. J.* **14** (1998), *no.* 1, 61–68. (Syed Tariq Rizvi) **99g:16015** 16E50 (16D60)

Lu, Ruqian (*with* Ying, Ming Sheng) A model of reasoning about knowledge. (English summary) *Sci. China Ser. E* **41** (1998), *no.* 5, 527–534. (Guo-Qiang Zhang) **99m:68187** 68T27 (03B45, 03B70)

Lu, Shan Zhen (*with* Hu, Guo En; Yang, Da Chun) The applications of weak Herz spaces. (English and Chinese summaries) *Adv. in Math. (China)* **26** (1997), *no.* 5, 417–428. (Josefina Alvarez) **99e:42034** 42B30 (42B20, 42B25)

— (*with* Li, Xiao Chun; Yang, Da Chun) Some generalizations on the boundedness of bilinear operators. (English summary) *Approx. Theory Appl. (N.S.)* **13** (1997), *no.* 3, 8–28. (Loukas Grafakos) **99d:42041** 42B30 (47B38)

— (*with* Hu, Guo En; Yang, Da Chun) The weak Herz spaces. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 1, 27–34. (Maria J. Carro) **99b:46034** 46E30 (46M35)

— (*with* Soria, Fernando) Weighted inequalities for a class of operators related to the disc multiplier. (English and Chinese summaries) *Beijing Shifan Daxue Xuebao* **33** (1997), *no.* 3, 333–337. (Marta Urciuolo) **99d:42024** 42B20

— (*with* Chen, Wen Gu; Hu, Guo En) A multilinear oscillatory singular integral operator. II. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 1, 73–82; *translation in Chinese J. Contemp. Math.* **18** (1997), *no.* 1, 31–42. 42B20

— (*with* Yang, Da Chun) The continuity of commutators on Herz-type spaces. *Michigan Math. J.* **44** (1997), *no.* 2, 255–281. (Josefina Alvarez) **99e:42033** 42B30 (47B37, 47B38, 47G10)

— (*with* Li, Xiao Chun) Strongly singular convolution operators on weighted Herz-type Hardy spaces. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 1, 7–18. (Summary) **99j:42019** 42B20

— (*with* Fan, Da Shan; Pan, Yi Biao) A class of discrete singular integral operators. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 2, 229–234. (Wei Wang) **99k:42030** 42B20

— (*with* Ding, Yong) Weighted norm inequalities for fractional integral operators with rough kernel. (English summary) *Canad. J. Math.* **50** (1998), *no.* 1, 29–39. (Douglas Kurtz) **99c:42028** 42B20 (42B25)

— (*with* Fan, Da Shan; Yang, Da Chun) Regularity in Morrey spaces of strong solutions to nondivergence elliptic equations with VMO coefficients. (English summary) *Georgian Math. J.* **5** (1998), *no.* 5, 425–440. (Xi Ting Liang) **99i:35020** 35J15 (35B45, 35B65, 42B20)

— (*with* Yang, Da Chun; Zhou, Zusheng) Sublinear operators with rough kernel on generalized Morrey spaces. (English summary) *Hokkaido Math. J.* **27** (1998), *no.* 1, 219–232. (Javier Duoandikoetxea) **99h:42027** 42B20 (42B25)

— (*with* Hu, Guo En; Yang, Da Chun) On a class of multilinear oscillatory singular integral operators. *J. Math. Soc. Japan* **50** (1998), *no.* 3, 623–637. (Gary Sampson) **99f:42034** 42B20

— (*with* Yang, Da Chun) Boundedness of sublinear operators in Herz spaces on Vilenkin groups and its application. (English summary) *Math. Nachr.* **191** (1998), 229–246. (Toshiyuki Kitada) **99h:43004** 43A15 (43A70)

— (*with* Chen, Wen Gu; Hu, Guo En) Criterion of (L^p, L^r) boundedness for a class of multilinear oscillatory singular integrals. (English summary) *Nagoya Math. J.* **149** (1998), 33–51. (Dashan Fan) **99g:42012** 42B15 (42B20)

— (*with* Yang, Da Chun) Multiplier theorems for Herz type Hardy spaces. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 11, 3337–3346. (Christoph M. Thiele) **99c:42022** 42B15 (42B30)

— (*with* Fan, Da Shan; Yang, Da Chun) Regularity of some nonlinear quantities on superharmonic functions in local Herz-type Hardy spaces. (English summary) *Publ. Mat.* **42** (1998), *no.* 2, 319–338. (Giuseppe Di Fazio) **99m:35025** 35B65 (42B30, 46E30)

— (*with* Tang, Lin; Yang, Da Chun) Boundedness of commutators on homogeneous Herz spaces. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 10, 1023–1033. (Kenneth F. Andersen) **99m:42027** 42B20 (46E30)

— (*with* Hu, Guo En; Yang, Da Chun) Boundedness of rough singular integral operators on homogeneous Herz spaces. (English summary) *J. Austral. Math. Soc. Ser. A* **66** (1999), *no.* 2, 201–223. (Steven George Krantz) **99k:31004** 31B10 (42B20)

Lu, Sheng Guan An oscillation theorem for eigenvalues of the periodic problem for a Dirac equation. (Chinese. English and Chinese summaries) *J. Zhengzhou Univ. Nat. Sci. Ed.* **30** (1998), *no.* 3, 14–21. (Wen Ming Li) **99k:34187** 34L40 (34L15, 34L20)

Lu, Shi Jie On finite rank operators in CSL algebras. II. (English summary) A Chinese summary appears in Acta Math. Sinica **40** (1997), no. 4, 639. *Acta Math. Sinica (N.S.)* **13** (1997), *no.* 3, 321–326. (Summary) **99f:47056** 47D25

— (*with* Chen, Xiang Yang) Commutants of Volterra operators. (Chinese. English and Chinese summaries) *Zhejiang Daxue Xuebao Ziran Kexue Ban* **31** (1997), *no.* 3, 361–365. (Summary) **99g:47106** 47D25 (47A15, 47B38, 47C05)

— (*with* Lu, Fangyan) Perturbations of the radical of nest algebras. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 7, 556–560. (Alan Hopenwasser) **99j:47063** 47D25

Lu, Shi Tang (*with* Li, Xue Zhi) Solutions to a class of nonlinear integrodifferential equations and their construction. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **17** (1997), *no.* 1, 54–65. (Summary) **99d:45010** 45K05

— (*with* Yu, Ying Da; Qi, Chuan Da) Asymptotic stability of solutions to investment control models. (Chinese. English and Chinese summaries) *Math. Appl.* **11** (1998), *no.* 1, 72–76. 90A09 (93C95)

Lu, Shiping A kind of singularly perturbed boundary value problem for Volterra functional-differential equation. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 247–253. (Summary) **99f:34097** 34K10 (34E15, 45J05)

Lu, Tai Shun (*with* Zhang, Wen Jun; Liu, Cong Wen) An interpolation characterization of domains of holomorphy. (Chinese) *Kexue Tongbao (Chinese)* **42** (1997), *no.* 17, 1813–1814. 32D05

Lü, Tao (*with* Yang, Yi Du; Shih, Tsi Min; Liem, Chin Bo) An abstract error estimate for eigenvalue finite element approximation. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 359–366. 65N30 (65J10)

Lu, Ting-jie (*with* Yue, Wuyi; Hasegawa, Toshiharu) A mutual overflow system with simultaneous occupation of resources. (English summary) Performance evaluation of information communication networks (Kamakura, 1997). *J. Oper. Res. Soc. Japan* **41** (1998), *no.* 1, 81–90. (*see* **99a:90008**) 90B12 (68M10)

Lü, Tong Xing A note on the Kahan theorem. (Chinese. English summary) *Numer. Math. J. Chinese Univ.* **20** (1998), *no.* 3, 239–244. 65F15

Lu, Tu (*with* Liao, Chun Hua) A method for determining a basis of a fuzzy vector space and the calculation of its dimension. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **12** (1998), *no.* 3, 30–35. 15A03

— *see also* **Liu, Xiao Hua**

Lu, Wan Jin (*with* Xiao, Xiang Wu; Zhang, Fa Yong) A note on Gaussian type quadrature formulas with Chebyshev weight functions. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 1–2, 6. 41A55 (65D32)

— (*with* Xiao, Xiang Wu) An inverse formula for modified rank m matrices. (Chinese. English and Chinese summaries) *Heilongjiang Daxue Ziran Kexue Xuebao* **15** (1998), *no.* 3, 7–9. 65F10 (15A09, 65F30)

Lu, Wayne W. (*with* Balas, Gary J.) A comparison between Hankel norms and induced system norms. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1658–1662. (Sophie Tarbouriech) **99j:93048** 93C05 (93B17, 93B25)

Lu, Wei (*with* Li, Tang Qiu) An algorithm for computing the FIRST set based on directed graphs. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 4, 488–492. 68Q52

— (*with* Li, Tang Qiu) A method for constructing LR parsers which incorporates semantic actions. (Chinese. English and Chinese summaries) *Xiamen Daxue Xuebao Ziran Kexue Ban* **37** (1998), *no.* 6, 831–837. 68Q52

Lu, Wei-Min H_∞-control of nonlinear time-varying systems with finite time horizon. (English summary) *Internat. J. Control* **64** (1996), *no.* 2, 241–262. 93B36

— (*with* Doyle, John C.) Robustness analysis and synthesis for nonlinear uncertain systems. (English summary) *IEEE Trans. Automat. Control* **42** (1997), *no.* 12, 1654–1662. (Summary) **99j:93062** 93C41 (93B36, 93B51)

— Rejection of persistent $\mathscr{L}_\infty$-bounded disturbances for nonlinear systems. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 12, 1692–1702. (Claude H. Moog) **99j:93052** 93C10 (49K35, 93D09)

Lu, Weifeng (*with* Zhang, Yu Ping[2]) Experimental study on strategy of combining SAT algorithms. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 608–614. (*see* **99i:68004**) 90C08 (68Q25)

Lu, Wen-Fa Gaussian wavefunctional approach in thermofield dynamics. (English summary) *J. Phys. A* **32** (1999), *no.* 5, 739–747. (Summary) **99j:81194** 81T99

Lu, Wenjuan (*with* Sun, Fuchun; Dai, Min) Adaptive stabilization of neural control for robot trajectory tracking. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 3, 1149–1154. 93C85 (70B15, 70Q05, 93C40)

Lu, Wenliang (*with* Fang, Kai-Tai; Zheng, Zukang) Discrepancy with respect to Kaplan-Meier estimator. (English summary) *Comm. Statist. Simulation Comput.* **27** (1998), *no.* 2, 329–344. (Summary) **99b:62054** 62G05

Lu, Wenqiang Interfacial jump conditions of the phase-change with thermal wave effect. (English summary) *Progr. Natur. Sci. (English Ed.)* **8** (1998), *no.* 4, 428–435. (Summary) **99k:80007** 80A22

Lu, Wentao T. (*with* Wu, F. Y.) On the duality relation for correlation functions of the Potts model. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2823–2836. (Summary) **99d:82014** 82B20 (05A19)

— (*with* Wu, F. Y.) Partition function zeroes of a self-dual Ising model. (English summary) *Phys. A* **258** (1998), *no.* 1-2, 157–170. (Summary) **99i:82010** 82B20

Lu, X. Y. *see* **Lu, Xiao Yun**[2]

Lu, Xi-Wen (*with* Zheng, Quan[1]) Variable dimension algorithm for variational inequalities. *Comm. Appl. Nonlinear Anal.* **5** (1998), *no.* 3, 75–85. 49J40 (65K10)

Lu, Xi-Yun (*with* Wu, Jie-Zhi; Denny, Andrew G.; Fan, Meng[2]; Wu, Jain-Ming) Post-stall flow control on an airfoil by local unsteady forcing. (English summary) *J. Fluid Mech.* **371** (1998), 21–58. (From the summary) **99i:76041** 76D15 (76B05, 76C05, 76G25)

— (*with* Wu, Jie-Zhi; Zhou, Ye; Fan, Meng[2]) Turbulent force as a diffusive field with vortical sources. (English summary) *Phys. Fluids* **11** (1999), *no.* 3, 627–635. (Summary) **99k:76083** 76F99 (76D05)

Lu, Xian Duan (*with* Sheng, Zhong Ping; Cui, Kai) The general form of Kunio Kakie's theorem. (Chinese. English and Chinese summaries) *Dongbei Shida Xuebao* **1998**, *no.* 2, 12–15. 13F15

Lu, Xian Jie (*with* Zhu, Hong[1]; Richard, Denis) Undecidability of arithmetical structures. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **18** (1997), *no.* 6, 667–672. (Zhi Wei Sun) **99f:03060** 03D35 (11U05)

Lü, Xian Qing (*with* Mei, Sheng Wei; Li, Min Shan) Exact solutions in 1 + 1 dimensions of the general two-velocity discrete Illner model. *Appl. Math. Mech.* (*English Ed.*) **19** (1998), *no.* 12, 1197–1203; *translated from Appl. Math. Mech.* **19** (1998), *no.* 12, 1101–1106 (*Chinese. English and Chinese summaries*). (Summary) **99k:82064** 82C40 (35Q99, 76P05)

— Exact travelling wave solutions of the Broadwell model. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1246–1248. (Nicola Bellomo) **99m:82041** 82C40 (76P05)

— (*with* Mei, Sheng Wei; Shi, Aifen) Exact (1 + 1)-dimensional similarity solutions of the Broadwell model. (English summary) *Tsinghua Sci. Technol.* **3** (1998), *no.* 4, 1249–1252. (Nicola Bellomo) **99m:82042** 82C40 (76P05)

Lu, Xiao-Yun *see* **Lu, Xiao Yun**[2]

Lu, Xiao Yun[1] (*with* Chen, Guantao; West, Douglas B.) Star-factors of tournaments. (English summary) *J. Graph Theory* **28** (1998), *no.* 3, 141–145. (Sheshayya A. Choudum) **99e:05060** 05C20 (05C70)

— (*with* Wang, Da-Wei[1]; Chang, Gerard J.; Lin, In-Jen; Wong, Chak Kuen) On k-ary spanning trees of tournaments. (English summary) *J. Graph Theory* **30** (1999), *no.* 3, 167–176. (A. G. Thomason) **99j:05084** 05C20 (05C05, 05C35)

Lu, Xiao Yun[2] (*with* Spurgeon, Sarah K.) A new sliding mode approach to asymptotic feedback linearisation with application to the control of non-flat systems. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 21–37. (Ülle Kotta) **99f:93018** 93B12 (93B18)

— (*with* Spurgeon, Sarah K.) Asymptotic stabilisation of multiple input nonlinear systems via sliding modes. (English summary) *Dynam. Control* **8** (1998), *no.* 3, 231–254. (Henk Nijmeijer) **99d:93058** 93D15 (93B10)

— (*with* Spurgeon, Sarah K.) Dynamic sliding mode control design using symbolic algebra tools. *Symbolic methods in control system analysis and design*, 227–249, *IEE Control Eng. Ser.*, 56, *IEE, London*, 1999. (*see* **99h:93005**) 93B12 (93C40)

Lu, Xiaosong (*with* Kanezashi, Fumiaki; Togashi, Atsushi) A derivation method of formal specifications from system requirements. (Japanese. English and Japanese summaries) *Trans. Inform. Process. Soc. Japan* **40** (1999), *no.* 1, 310–321. 68Q60

Lu, Xiaowu (*with* Schmid, Rudolf) A numerical study of the Riemann solutions for gasdynamic combustion. (English summary) *Appl. Math. Comput.* **91** (1998), *no.* 2-3, 143–160. (Summary) **99a:76129** 76N15 (76L05, 76M25, 80A25)

Lu, Xiaoyun *see* **Lu, Xiao Yun**[1]

Lu, Xin (*with* Feng, Wei[1]; Liu, Wei) Comparison and numerical simulations for diffusive models of resource and sexual competition. Proceedings of the Second World Congress of Nonlinear Analysts, Part 5 (Athens, 1996). *Nonlinear Anal.* **30** (1997), *no.* 5, 2765–2774. (Qi Xiao Ye) **99e:35224** 35Q80 (35B40, 35K57, 92D40)

Lü, Xingya (*with* Yan, Xing Gang; Zhang, Si Ying) Robust stability and an estimation of PRD for nonlinear composite large-scale systems with uncertain parameters. (English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 50–55. (Han Sheng Wu) **99c:93081** 93D09 (93A15)

Lu, Xuan Zhu Section property of super efficient points. (Chinese. English and Chinese summaries) *J. Fuzhou Univ. Nat. Sci. Ed.* **26** (1998), *no.* 4, 6–9. 90C29 (46N10)

Lu, Xuewen (*with* Liu, Zhenjuan) Root-n-consistent semiparametric estimation of partially linear models based on k-nn method. (English summary) *Econometric Rev.* **16** (1997), *no.* 4, 411–420. (Summary) **99c:62173** 62J02 (62G05)

Lu, Y. G. *see* **Lu, Yun Gang**

Lu, Ya Yan A complex coefficient rational approximation of $\sqrt{1+x}$. (English summary) *Appl. Numer. Math.* **27** (1998), *no.* 2, 141–154. (Summary) **99b:41007** 41A20

— Exponentials of symmetric matrices through tridiagonal reductions. (English summary) *Linear Algebra Appl.* **279** (1998), *no.* 1-3, 317–324. 65F30 (15A21)

Lu, Yan Ming (*with* Ji, Dong Hai; Zhang, Jing) A condition for β^*-normability of a topological linear space. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 15–17. (Li Xin Cheng) **99j:46002** 46A16 (46B99)

Lu, Yi Ping Existence and uniqueness of a solution to the equations for the flow and magnetic field in the earth with periodic boundary conditions and the existence of an attractor. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 4, 498–508. (Xiao Qiang Zhao) **99c:76117** 76W05 (34G20, 35Q35, 47H20, 58F39, 86A25)

Lu, Ying Ping (*with* Yang, Guan Zhong; Wang, Rong Xiang) State minimization of category 1 incompletely specified sequential machines. (Chinese. English and Chinese summaries) *Hunan Daxue Xuebao* **25** (1998), *no.* 2, 103–108. 68M07 (68Q68)

Lu, Yongyan On the confluent hypergeometric functions in 2 variables. Study of partial differential equations by means of functional analysis (Japanese) (Kyoto, 1996). *Sūrikaisekikenkyūsho Kōkyūroku No.* 969 (1996), 29–38. (N. K. Thakare) **99e:33017** 33C80 (33C15, 33C70)

Lu, You (*with* Wang, Ren-Hong) Multivariate spline methods for the evaluation of the Cauchy principal values of double integrals. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **21** (1998), *no.* 4, 627–633. 65D32 (65D07)

— (*with* Wang, Ren-Hong) Quasi-interpolating operators and their applications in hypersingular integrals. (English summary) *J. Comput. Math.* **16** (1998), *no.* 4, 337–344. (V. I. Polovinkin) **99h:65017** 65D05 (65D07)

Lu, Yu Feng (*with* Sun, Shan Li) Localization of Toeplitz operators on Bergman space. (English summary) *Northeast. Math. J.* **12** (1996), *no.* 3, 373–380. (A. Böttcher) **99d:47028** 47B35 (46E15, 46J15)

— (*with* Sun, Shan Li) Locality and the Fredholm property for Toeplitz operators on the Bergman space. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 695–700. (Ke He Zhu) **99c:47026** 47B35 (47A53)

— (*with* Sun, Shan Li; Xu, Feng[2]) Local decomposition of the essential spectra of Toeplitz operators on $H^2(S)$. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 4, 865–870. (Ke He Zhu) **99j:47037** 47B35

— (*with* Sun, Shan Li) Toeplitz operators on the Bergman space of an annulus. (Chinese. Chinese summary) *Chinese Ann. Math. Ser. A* **19** (1998), *no.* 5, 559–566. (Ke He Zhu) **99j:47038** 47B35

Lu, Yu-Sheng (*with* Chen, Jian-Shiang) Design of a global sliding-mode controller for a motor drive with bounded control. (English summary) *Internat. J. Control* **62** (1995), *no.* 5, 1001–1019. 93B12 (93C95)

Lu, Yun Gang On the interacting free Fock space and the deformed Wigner law. *Nagoya Math. J.* **145** (1997), 1–28. (Kalyan B. Sinha) **99a:81084** 81S25 (46N50, 47N50, 60E05)

— (*with* Accardi, Luigi; Volovich, I. V.) Non-linear extensions of classical and quantum stochastic calculus and essentially infinite-dimensional analysis. *Probability towards* 2000 (*New York*, 1995), 1–33, *Lecture Notes in Statist.*, 128, *Springer, New York*, 1998. (John E. Gough) **99f:81105** 81S25 (46G12, 46L50, 60H99)

— Interacting Fock spaces related to the Anderson model. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 2, 247–283. (Summary) **99h:82047** 82B44

— (*with* Accardi, Luigi; Mastropietro, Vieri) The semi-circle diagrams in the stochastic limit of the Anderson model. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 467–483. (John E. Gough) **99k:81139** 81S25 (82B44)

— (*with* De Giosa, M.) From quantum Bernoulli process to creation and annihilation operators on interacting q-Fock space. *Japan. J. Math.* (*N.S.*) **24** (1998), *no.* 1, 149–167. (John E. Gough) **99d:81065** 81S25

Lu, Yun-guang (*with* Klingenberg, Christian) The vacuum case in Diperna's paper. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 679–684. (Summary) **99d:35097** 35L60 (35Q35, 76N15)

Lu, Yun Xia (*with* Yuan, Zhi Zhong; Zhang, Shu Qing) An inequality for singular values of products of quaternion matrices and its applications. (Chinese. English and Chinese summaries) *J. Math. Res. Exposition* **18** (1998), *no.* 3, 455–458. 15A42 (15A33)

Lu, Zaiping (*with* Wang, Pin Chao) On S'-quasinormal subgroups. (English summary) *Northeast. Math. J.* **13** (1997), *no.* 3, 367–371. (È. M. Pal'chik) **99c:20032** 20E28 (20D25)

Lu, Zhan Hua (*with* Zhao, Xian Zhong) Γ-monoids and Γ-groups. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 3, 117–119. 20M99

Lu, Zhan Yu The generalized Arrow-Barankin-Blackwell theorem. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **14** (1999), *no.* 1, 79–84. 52A07 (90A05, 90C29, 90C48)

Lu, Zheng Gang (*with* Yang, Jie[3]; Miao, Li Jing) Prioritized justification-based nonmonotonic logic. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 1, 18–21. (Summary) **99c:68235** 68T27 (03B60, 03B70)

— (*with* Yang, Jie[3]; Shi, Peng Fei) A nonmonotonic truth maintenance system combining priorities and degrees of belief. (Chinese. English and Chinese summaries) *J. Shanghai Jiaotong Univ.* (*Chin. Ed.*) **32** (1998), *no.* 4, 54–58. (Summary) **99g:68198** 68T27

Lu, Zheng Yi (*with* Wang, Zhong) Lotka-Volterra systems. (Chinese. English and Chinese summaries) *Bull. Biomath.* **1** (1997), *no.* 4, 1–15. 92D25

— (*with* Wang, Wen Di; Chen, Lan Sun) Global stability of a population dispersal in a two-patch environment. (English summary) *Dynam. Systems Appl.* **6** (1997), *no.* 2, 207–215. (Summary) **99k:92039** 92D25 (34D20)

Lü, Zhi (*with* Zhou, Chun-Lian) A note on the Boardman theorem. (English summary) *Internat. J. Math. Math. Sci.* **21** (1998), *no.* 4, 819–822. (Summary) **99h:57065** 57R85

Lu, Zhiqi (*with* Wolkowicz, Gail S. K.) Direct interference on competition in a chemostat. (English summary) *J. Biomath.* **13** (1998), *no.* 3, 282–291. (Summary) **99m:92042** 92D25

— (*with* Hadeler, K. P.) Model of plasmid-bearing, plasmid-free competition in the chemostat with nutrient recycling and an inhibitor. (English summary) *Math. Biosci.* **148** (1998), *no.* 2, 147–159. (Summary) **99d:92028** 92D25 (34K15)

Lu, Zhongjian (*with* Cen, Jian Miao) On diagonalization and spectral decomposition of diagonally factor block circulant matrices. (English and Chinese summaries) *J. Math. Study* **30** (1997), *no.* 4, 367–377. (Moody T. Chu) **99e:15018** 15A23 (15A57)

Lu, Zhu Kai (*with* Wang, Lei) K-valued Sheffer functions. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 3, 1–8. 03B50

Lu, Zu Di Asymptotic properties of moment estimates for a double time series model. I. The sample autocovariance (autocorrelation) function. (Chinese. English and Chinese summaries) *Acta Math. Appl. Sinica* **20** (1997), *no.* 3, 354–361. (Summary) **99d:62085** 62M10

— (*with* Cheng, Ping[1]) Distribution-free strong consistency for nonparametric kernel regression involving nonlinear time series. (English summary) *J. Statist. Plann. Inference* **65** (1997), *no.* 1, 67–86. (Somnath Datta) **99f:62054** 62G05 (62M10)

— On the geometric ergodicity of a non-linear autoregressive model with an autoregressive conditional heteroscedastic term. (English summary) *Statist. Sinica* **8** (1998), *no.* 4, 1205–1217. (A. N. Startsev) **99m:62139** 62M10

Luan, Jing Wen A Boolean-valued model of the conglomerate axiomatic system ZF_c. (Chinese. English and Chinese summaries) *J. Math.* (*Wuhan*) **17** (1997), *no.* 2, 207–213. 03E40

Lubachevsky, B. D. (*with* Graham, Ronald L.; Nurmela, Kari J.; Östergård, Patric R. J.) Dense packings of congruent circles in a circle. (English summary) *Discrete Math.* **181** (1998), *no.* 1-3, 139–154. (A. Florian) **99b:52040** 52C15 (05B40)

Lubarda, V. A. (*with* Markenscoff, Xanthippi) On the absence of Eshelby property for non-ellipsoidal inclusions. (English summary) *Internat. J. Solids Structures* **35** (1998), *no.* 25, 3405–3411. (Summary) **99d:73008** 73B27

— Apparent elastic constants of cubic crystals and their pressure derivatives. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 1, 5–11. (Summary) **99g:73037** 73C99

Lubary, José A. Multiplicity of solutions of second-order linear differential equations on networks. (English summary) *Linear Algebra Appl.* **274** (1998), 301–315. (Joachim von Below) **99i:34027** 34B05 (34B24, 94C15)

van der Lubbe, Jan C. A. ★ Basic methods of cryptography. (English summary) Translated from the 1994 Dutch original by Steve Gee. *Cambridge University Press, Cambridge*, 1998. *xiv*+229 *pp. ISBN* 0-521-55480-2; 0-521-55559-0 (From the preface) **99c:94032** 94A60 (94–01)

Lübbecke, Marco E. (*with* Bussieck, Michael R.) The vertex set of a 0/1-polytope is strongly P-enumerable. (English summary) *Comput. Geom.* **11** (1998), *no.* 2, 103–109. (Summary) **99i:68119** 68U05 (52B55, 68Q25)

Lube, Gert (*with* Hangleiter, R.) Boundary layer-adapted grids and domain decomposition in stabilized Galerkin methods for elliptic problems. (English summary) International Workshop on the Numerical Solution of Thin-layer Phenomena (Amsterdam, 1997). *CWI Quarterly* **10** (1997), *no.* 3-4, 215–238. (Pieter W. Hemker) **99d:65346** 65N55 (65N30, 76M10)

— (*with* Otto, Frank-Christian) Non-overlapping domain decomposition applied to incompressible flow problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 507–514, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (From the introduction) **99i:76127** 76M25 (65N55)

— (*with* Apel, Thomas) Anisotropic mesh refinement for a singularly perturbed reaction diffusion model problem. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 4, 415–433. (Reinhard Scholz) **99j:65192** 65N30

— (*with* Otto, Frank-Christian; Müller, H.) A non-overlapping domain decomposition method for parabolic initial-boundary value problems. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 359–369. (*see* **99e:65002**) 65M55

— (*with* Hangleiter, R.) Stabilized Galerkin methods and layer-adapted grids for elliptic problems. (English summary) *Comput. Methods Appl. Mech. Engrg.* **166** (1998), *no.* 1-2, 165–182. (K. Najzar) **99j:65208** 65N30

— (*with* Otto, Frank-Christian) A nonoverlapping domain decomposition method for the Oseen equations. (English summary) *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 6, 1091–1117. (Andrei I. Tolstykh) **99i:65102** 65M55 (65M12, 76M10)

Lübeck, Frank (*with* Geck, Meinolf; Hiss, Gerhard; Malle, Gunter; Pfeiffer, Götz) CHEVIE—a system for computing and processing generic character tables. (English summary) Computational methods in Lie theory (Essen, 1994). *Appl. Algebra Engrg. Comm. Comput.* **7** (1996), *no.* 3, 175–210. (Summary) **99m:20017** 20C40 (20C33)

Lubet, Jean-Pierre De Lambert à Cauchy: la résolution des équations littérales par le moyen des séries. (English and French summaries) [From Lambert to Cauchy: solving equations by means of series] *Rev. Histoire Math.* **4** (1998), *no.* 1, 73–129. (F. Smithies) **99m:01016** 01A50 (01A55, 13–03, 26–03, 30–03)

Lubich, Christian (*with* In 't Hout, Karel) Periodic orbits of delay differential equations under discretization. (English summary) *BIT* **38** (1998), *no.* 1, 72–91. (Wolf-Jürgen Beyn) **99k:34154** 34K15 (34K20, 65L06)

— (*with* Hochbruck, Marlis; Selhofer, Hubert) Exponential integrators for large systems of differential equations. (English summary) *SIAM J. Sci. Comput.* **19** (1998), *no.* 5, 1552–1574 (*electronic*). (Xin Yuan Wu) **99f:65101** 65L05

Lubimcev, O. (*with* Sebel'din, A. M.; Vinsonhaler, C.) Separable torsion-free abelian E^*-groups. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 203–208. (Theodore Faticoni) **99i:20076** 20K30

Lubinsky, D. S. On the diagonal Padé approximants of meromorphic functions. (English summary) *Indag. Math. (N.S.)* **7** (1996), *no.* 1, 97–110. (Summary) **99b:41009** 41A21 (30E10)

— (*with* Zhou, Ping^2) On the irrationality of $\prod_{j=0}^{\infty}(1 \pm q^{-j}r + q^{-2j}s)$. (English summary) *Analysis* **17** (1997), *no.* 2-3, 129–153. (R. Wallisser) **99c:11089** 11J72 (41A21)

— Smooth Maclaurin series coefficients in Padé and rational approximation. (English summary) *Approximation theory*, 363–388, *Monogr. Textbooks Pure Appl. Math.*, 212, *Dekker, New York*, 1998. (A. J. Rodrigues) **99d:41027** 41A20

— Marcinkiewicz-Zygmund inequalities: methods and results. (English summary) *Recent progress in inequalities* (*Niš*, 1996), 213–240, *Math. Appl.*, 430, *Kluwer Acad. Publ., Dordrecht*, 1998. (Kai Diethelm) **99a:41045** 41A55 (41A05, 42C05, 65D05)

— Mean convergence of Lagrange interpolation for exponential weights on $[-1, 1]$. (English summary) *Canad. J. Math.* **50** (1998), *no.* 6, 1273–1297. (P. Vértesi) **99k:41010** 41A10 (41A05)

— On q-exponential functions for $|q| = 1$. (English summary) *Canad. Math. Bull.* **41** (1998), *no.* 1, 86–97. (Bruce C. Berndt) **99d:33022** 33D15

— (*with* Damelin, S. B.) Jackson theorems for Erdős weights in $L_p(0 < p \le \infty)$. (English summary) *J. Approx. Theory* **94** (1998), *no.* 3, 333–382. (D. Leviatan) **99h:41006** 41A10 (41A25)

— (*with* Levin, A. L.) Bounds for orthogonal polynomials for exponential weights. (English summary) Proceedings of the VIIIth Symposium on Orthogonal Polynomials and Their Applications (Seville, 1997). *J. Comput. Appl. Math.* **99** (1998), *no.* 1-2, 475–490. (A. N. Srivastava) **99k:42051** 42C05 (33–02)

— Small values of polynomials and potentials with L_p normalization. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 2, 529–536. (Ognyan Kounchev) **99c:31005** 31A15 (30C10, 41A17)

Lubiw, Anna (*with* Iturriaga, Claudia) Elastic labels: the two-axis case. (English summary) *Graph drawing* (*Rome*, 1997), 181–192, *Lecture Notes in Comput. Sci.*, 1353, *Springer, Berlin*, 1997. (*see* **99d:68004**) 68U05

— (*with* Liotta, Giuseppe; Meijer, Henk; Whitesides, S. H.) The rectangle of influence drawability problem. (English summary) *Comput. Geom.* **10** (1998), *no.* 1, 1–22. (Vladimir P. Korzhik) **99b:05039** 05C10 (65Y25, 68U05)

— (*with* Bose, Prosenjit; Everett, Hazel; Fekete, Sándor P.; Houle, Michael E.; Meijer, Henk; Romanik, Kathleen; Rote, Günter; Shermer, Thomas C.; Whitesides, S. H.; Zelle, Christian) A visibility representation for graphs in three dimensions. (English summary) *J. Graph Algorithms Appl.* **2** (1998), *no.* 3, 16 *pp.* (*electronic*). (Summary) **99d:68187** 68R10 (05C85, 68U05)

Lubkin, S. R. (*with* Tyson, Rebecca; Murray, James D.) Model and analysis of chemotactic bacterial patterns in a liquid medium. (English summary) *J. Math. Biol.* **38** (1999), *no.* 4, 359–375. 92D25

Lubo, M. (*with* Brout, R.; Gabriel, Cl.; Spindel, Ph.) Minimal length uncertainty principle and the trans-Planckian problem of black hole physics. (English summary) *Phys. Rev. D* (3) **59** (1999), *no.* 4, 044005, 6 *pp.* 83C57 (83C45)

Lubochkin, A. V. (*with* Gabasov, R.) Design of a controller for a linear-quadratic problem of optimal control. (Russian. Russian summary) *Avtomat. i Telemekh.* **1997**, *no.* 9, 3–14; *translation in Automat. Remote Control* **58** (1997), *no.* 9, *part* 1, 1403–1413 (1998). (Summary) **99j:49076** 49N35

— Realization of a positional solution of the problem of optimizing a linear system with respect to a nonsmooth performance. (Russian. Russian summary) *Izv. Akad. Nauk Teor. Sist. Upr.* **1998**, *no.* 1, 64–70. 49N35 (93C50)

— (*with* Gabasov, R.) Stabilization of linear dynamical systems by optimal controls of linear-quadratic problems. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 556–565; *translation in J. Appl. Math. Mech.* **62** (1998), *no.* 4, 519–527. (Summary) **99m:93082** 93D15 (49N10, 93D21)

Lubotzky, A. (*with* Weigel, Thomas) Lattices of minimal covolume in SL_2 over local fields. *Proc. London Math. Soc.* (3) **78** (1999), *no.* 2, 283–333. (B. Sury) **99k:22017** 22E35 (20E42, 20G25)

Lubuma, Jean M.-S. Méthodes d'équations intégrales de bord et d'éléments frontières. (French summary) [Boundary integral and boundary element equation methods] *Problèmes variationnels en mathématiques appliquées* (*Kinshasa*, 1995), 19–43, *Ann. Fac. Sci. Univ. Kinshasa, Num. Spécial* 3, *Presses Univ. Kinshasa, Kinshasa*, 1997. (H. Marcinkowska) **99c:65224** 65N38 (65J10)

Luby, Michael G. (*with* Linial, Nathan; Saks, Michael E.; Zuckerman, David) Efficient construction of a small hitting set for combinatorial rectangles in high dimension. (English summary) *Combinatorica* **17** (1997), *no.* 2, 215–234. (E. Rodney Canfield) **99d:68115** 68Q25 (68Q15)

— (*with* Mitzenmacher, Michael; Shokrollahi, M. Amin) Analysis of random processes via And-Or tree evaluation. (English summary) *Proceedings of the Ninth Annual ACM-SIAM Symposium on Discrete Algorithms* (*San Francisco, CA*, 1998), 364–373, *ACM, New York*, 1998. (*see* **99d:68011**) 68Q25 (68T20, 94B60)

— (*with* Even, Guy; Goldreich, Oded; Nisan, Noam; Veličković, Boban) Efficient approximation of product distributions. (English summary) *Random Structures Algorithms* **13** (1998), *no.* 1, 1–16. (Gheorghe Barbu) **99g:68077** 68Q20 (68Q25)

đinh thế Lục *see* **Đinh Thế Lục**

Luc, D. T. *see* **Đinh Thế Lục**

de Luca, Aldo (*with* Varricchio, Stefano) A finiteness condition for semigroups. (English summary) *Semigroups* (*Luino*, 1992), 42–50, *World Sci. Publishing, River Edge, NJ*, 1993. (*see* **99f:20003**) 20M99

— Combinatorics of standard Sturmian words. (English summary) *Structures in logic and computer science*, 249–267, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Summary) **99d:68207** 68R15 (11B85)

— A conjecture on continued fractions. (English summary) *Theoret. Comput. Sci.* **204** (1998), *no.* 1-2, 75–86. (Dong Yang Long) **99m:94025** 94A45 (68Q45, 68R15)

de Luca, Alessandro *see* **De Luca, Alessandro**

Luca, Florian Products of factorials in Smarandache type expressions. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 13–25, *Am. Res. Press, Lupton, AZ*, 1997. (A. J. van der Poorten) **99g:11040** 11D61 (11J86)

— Perfect powers in Smarandache type expressions. *Proceedings of the First International Conference on Smarandache Type Notions in Number Theory* (*Craiova*, 1997), 61–78, *Am. Res. Press, Lupton, AZ*, 1997. (A. J. van der Poorten) **99g:11041** 11D61 (11J86)

— A note on the Pell equation. (English summary) *Indian J. Math.* **39** (1997), *no.* 2, 99–105. (T. N. Shorey) **99g:11036** 11D09

— Products of factorials in Smarandache type expressions. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 29–41. (Yann Bugeaud) **99d:11029** 11D61 (11J86)

— Perfect powers in Smarandache type expressions. *Smarandache Notions J.* **8** (1997), *no.* 1-3, 72–89. (Yann Bugeaud) **99c:11035** 11D61 (11J86)

— Groups with two Sylow numbers are solvable. (English summary) *Arch. Math.* (*Basel*) **71** (1998), *no.* 2, 95–96. (From the text) **99e:20023** 20D10

— On the equation $\varphi(x^m - y^m) = x^n + y^n$. (English summary) *Irish Math. Soc. Bull. No.* 40 (1998), 46–55. (Andrew Bremner) **99e:11038** 11D99 (11A25)

— Mackey functors with chain conditions. (English summary) *J. Algebra* **205** (1998), *no.* 2, 661–698. (Jacques Thévenaz) **99k:13027** 13E99 (19A22, 20C99)

— An inequality between prime powers dividing $n!$. *Smarandache Notions J.* **9** (1998), *no.* 1-2, 119–123. (Katalin Kovács) **99i:11005** 11A51

— On the divergence of the Smarandache harmonic series. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 116–118. 11N64

— On a series involving $S(1) \cdot S(2) \cdot \cdots \cdot S(n)$. *Smarandache Notions J.* **10** (1999), *no.* 1-3, 128–129. 11A25

de Luca, Marino *see* **De Luca, Marino**

Luca, Rodica Time periodic solutions for a nonlinear hyperbolic boundary value problem. (English and Romanian summaries) 25 *years of high level technical education in Arad, Vol. I* (*Arad*, 1997), 173–180, *Univ. "Aurel Vlaicu" Arad, Arad*, 1997. (*see* **99i:00014**) 35L75 (35B10)

Lucantoni, David M. (*with* Choudhury, Gagan L.) Numerical computation of the moments of a probability distribution from its transform. (English summary) *Oper. Res.* **44** (1996), *no.* 2, 368–381. (Summary) **99k:60037** 60E10

— (*with* Choudhury, Gagan L.; Whitt, Ward) Numerical solution of piecewise-stationary $M_t/G_t/1$ queues. (English summary) *Oper. Res.* **45** (1997), *no.* 3, 451–463. (Summary) **99e:90041** 90B22

— Further transient analysis of the $BMAP/G/1$ queue. (English summary) Special issue in honor of Marcel F. Neuts. *Comm. Statist. Stochastic Models* **14** (1998), *no.* 1-2, 461–478. (Summary) **99a:60106** 60K25

Lucanu, Dorel (*with* Surpățanu, Nicolae) On refinement in rewriting logic. (English summary) *An. Ştiinţ. Univ. Al. I. Cuza Iaşi Inform. (N.S.)* **5/6** (1996/97), 67–83 (1998). (Summary) **99c:68144** 68Q42 (68Q10)

Lucarelli, Vincent On factoring n with the b-algorithm. *College Math. J.* **29** (1998), *no.* 4, 289–295. (Ali B. Ekin) **99i:11117** 11Y05 (11Y16)

Lucas, André Inference on cointegrating ranks using LR and LM tests based on pseudo-likelihoods. (English summary) *Econometric Rev.* **17** (1998), *no.* 2, 185–214. (Summary) **99b:62163** 62P20 (62M10)

Lucas, D. (*with* Aubry, Denis; Tie, B.) Adaptive strategy for transient/coupled problems. Applications to thermoelasticity and elastodynamics. *Advances in adaptive computational methods in mechanics* (*Cachan*, 1997), 325–332, *Stud. Appl. Mech.*, 47, *Elsevier, Amsterdam*, 1998. (*see* **99d:73001**) 73V05 (73B30)

Lucas, Pascual (*with* Barros, Manuel; Ferrández, Angel; Meroño, Miguel A.) Willmore tori and Willmore-Chen submanifolds in pseudo-Riemannian spaces. (English summary) *J. Geom. Phys.* **28** (1998), *no.* 1-2, 45–66. (Summary) **99m:53098** 53C40 (53C50)

— (*with* Ferrández, Angel; Meroño, Miguel A.) Biharmonic Hopf cylinders. *Rocky Mountain J. Math.* **28** (1998), *no.* 3, 957–975. (Udo Hertrich-Jeromin) **99k:53126** 53C50 (53C40)

— (*with* Alías, Luis J.; Ferrández, Angel; Meroño, Miguel A.) On the Gauss map of B-scrolls. (English summary) *Tsukuba J. Math.* **22** (1998), *no.* 2, 371–377. (Christos Baikoussis) **99k:53123** 53C50 (53A40)

Lucas, Peter J. F. Analysis of notions of diagnosis. (English summary) *Artificial Intelligence* **105** (1998), *no.* 1-2, 295–343. (Summary) **99g:68195** 68T27 (68T20)

Lucas, R. J. (*with* Dassios, George) Electromagnetic imaging of ellipsoids and ellipsoidal bosses. (English summary) *Quart. J. Mech. Appl. Math.* **51** (1998), *no.* 3, 413–426. (Summary) **99c:78015** 78A45

Lucas, S. K. (*with* Sipcic, R.; Stone, Howard A.) An integral equation solution for the steady-state current at a periodic array of surface microelectrodes. (English summary) *SIAM J. Appl. Math.* **57** (1997), *no.* 6, 1615–1638. (Yury Petrovich Yatsenko) **99a:92041** 92E20 (65R20)

Lucas, Salvador Needed reductions with context-sensitive rewriting. (English summary) *Algebraic and logic programming* (*Southampton*, 1997), 129–143, *Lecture Notes in Comput. Sci.*, 1298, *Springer, Berlin*, 1997. (*see* **99b:68002**) 68Q42 (68N15)

— (*with* Hanus, Michael; Middeldorp, Aart) Strongly sequential and inductively sequential term rewriting systems. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 1, 1–8. (Summary) **99c:68142** 68Q42

— Root-neededness and approximations of neededness. (English summary) *Inform. Process. Lett.* **67** (1998), *no.* 5, 245–254. (Summary) **99f:68116** 68Q42

Lucas, Thomas G. (*with* Cahen, Paul-Jean; Chabert, Jean-Luc; Houston, Evan) Skolem properties, value-functions, and divisorial ideals. (English summary) *J. Pure Appl. Algebra* **135** (1999), *no.* 3, 207–223. (David F. Anderson) **99m:13039** 13F20 (13F05)

Luca-Tudorache, Rodica *see* **Luca, Rodica**

Lucchesi, Cláudio L. *see* **LATIN'98: theoretical informatics, 99d:68007**

Lucchesi, M. (*with* Padovani, Cristina; Pasquinelli, G.; Zani, N.) The maximum modulus eccentricities surface for masonry vaults and limit analysis. (English summary) *Math. Mech. Solids* **4** (1999), *no.* 1, 71–87. (Summary) **99j:73080** 73K99

Lucchini, Andrea (*with* Puglisi, Orazio) A note on groups satisfying the congruence intersection property. (English summary) *Proc. Roy. Irish Acad. Sect. A* **97** (1997), *no.* 1, 61–68. (Gunnar Traustason) **99h:20051** 20E34 (20F19)

— Generating wreath products and their augmentation ideals. *Rend. Sem. Mat. Univ. Padova* **98** (1997), 67–87. (Piroska Lakatos) **99c:20029** 20E22 (20B99, 20C05)

— Generating minimally transitive groups. (English summary) *Groups and geometries* (*Siena*, 1996), 149–153, *Trends Math., Birkhäuser, Basel*, 1998. (Jörn Quistorff) **99g:20054** 20F05 (20B20)

— Enumerating transitive finite permutation groups. *Bull. London Math. Soc.* **30** (1998), *no.* 6, 569–577. (Peter Rowlinson) **99g:20012** 20B05 (11N45, 20D60)

— (*with* Dalla Volta, Francesca; Tamburini Bellani, Maria Chiara) On the conjugacy problem for Carter subgroups. *Comm. Algebra* **26** (1998), *no.* 2, 395–399. (Thomas A. Fournelle) **99a:20022** 20D25

— (*with* Dalla Volta, Francesca) Finite groups that need more generators than any proper quotient. (English summary) *J. Austral. Math. Soc. Ser. A* **64** (1998), *no.* 1, 82–91. (Alberto Delgado) **99a:20030** 20F05 (20D99)

Luccio, Fabrizio (*with* Pagli, Linda) Normal matrices, pseudo-cubes and pseudo-products. (English summary) Proceedings of the Twenty-eighth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1997). *Congr. Numer.* **127** (1997), 33–56. (Summary) **99i:15036** 15A57

— (*with* Ferragina, Paolo) Dynamic dictionary matching in external memory. (English summary) *Inform. and Comput.* **146** (1998), *no.* 2, 85–99. (Ricardo Baeza-Yates) **99i:68030** 68P20 (68P05)

— (*with* Pagli, Linda) Computing with time-varying data: sequential complexity and parallel speed-up. (English summary) *Theory Comput. Syst.* **31** (1998), *no.* 1, 5–26. (Behrooz Parhami) **99c:68111** 68Q22 (68Q15, 68Q20, 68Q25)

Luccio, Flaminia L. Almost exact minimum feedback vertex set in meshes and butterflies. *Inform. Process. Lett.* **66** (1998), *no.* 2, 59–64. (From the text) **99c:68197** 68R10 (68M10)

Luce, Benjamin P. (*with* Camassa, Roberto; Hyman, James M.) Nonlinear waves and solitons in physical systems. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 1–20. (*see* **99h:00031**) 35Q51 (35Q53, 76B15)

— *see also* **Nonlinear waves and solitons in physical systems, 99h:00031**

Luce, Guillaume (*with* Myoupo, Jean Frédéric) Application-specific array processors for the longest common subsequence problem of three sequences. (English summary) *Parallel Algorithms Appl.* **13** (1998), *no.* 1, 27–52. (Summary) **99g:68084** 68Q22 (68Q35)

Luce, R. *see* **Luce, Robert**

Luce, R. Duncan (*with* Aczél, János; Maksa, Gyula) Solutions to three functional equations arising from different ways of measuring utility. (English summary) *J. Math. Anal. Appl.* **204** (1996), *no.* 2, 451–471. (Summary) **99a:90049** 90A10 (39B52)

— Associative joint receipts. (English summary) *Math. Social Sci.* **34** (1997), *no.* 1, 51–74. (Hans Peters) **99d:90013a** 90A07

— Erratum to: "Associative joint receipts". *Math. Social Sci.* **35** (1998), *no.* 1, 81. (Hans Peters) **99d:90013b** 90A07

Luce, Robert (*with* Perez, Sylvie) Parameter identification for an elliptic partial differential equation with distributed noisy data. (English summary) *Inverse Problems* **15** (1999), *no.* 1, 291–307. (Summary) **99k:65110** 65N30 (35J15, 65R30)

Lucena, Abilio (*with* Beasley, J. E.) A branch and cut algorithm for the Steiner problem in graphs. (English summary) *Networks* **31** (1998), *no.* 1, 39–59. (Xue Liang Li) **99b:05034** 05C05 (90C35)

Lucenti, A. (*with* Lusanna, Luca; Pauri, Massimo) Dirac observables and spin bases for N relativistic particles. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1633–1656. (Ivailo M. Mladenov) **99e:81067** 81R05 (81V70)

Lucero, J. C. Computation of the harmonics-to-noise ratio of a voice signal using a functional data analysis algorithm. *J. Sound Vibration* **222** (1999), *no.* 3, 512–520. 65T20

Lucertini, Mario (*with* Becker, Ronald; Lari, Isabella; Simeone, Bruno) Max-min partitioning of grid graphs into connected components. (English summary) *Networks* **32** (1998), *no.* 2, 115–125. (Summary) **99e:05112** 05C85 (68Q25)

Lucey, Anthony D. The excitation of waves on a flexible panel in a uniform flow. (English summary) *R. Soc. Lond. Philos. Trans. Ser. A Math. Phys. Eng. Sci.* **356** (1998), *no.* 1749, 2999–3039. (Summary) **99j:73078** 73K70 (73D99, 73H10, 73K12, 73V20)

Lucha, Wolfgang (*with* Moser, Michael) Clifford algebras in finite quantum field theories. I. Irreducible Yukawa finiteness condition. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 13, 2047–2073. (Waldyr Alves Rodrigues, Jr.) **99g:81135** 81T15 (15A66)

Luchini, Paolo (*with* Bottaro, Alessandro) Görtler vortices: a backward-in-time approach to the receptivity problem. (English summary) *J. Fluid Mech.* **363** (1998), 1–23. (Summary) **99c:76035** 76D10 (76C05, 76E05)

— (*with* Bottaro, Alessandro) Görtler vortices: are they amenable to local eigenvalue analysis? (English summary) *Eur. J. Mech. B Fluids* **18** (1999), *no.* 1, 47–65. (Summary) **99j:76019** 76C05

Luchko, Yurii F. (*with* Gorenflo, Rudolf) Scale-invariant solutions of a partial differential equation of fractional order. (English summary) *Fract. Calc. Appl. Anal.* **1** (1998), *no.* 1, 63–78. (Summary) **99i:35006** 35A30 (26A33, 33E30, 35C99)

— (*with* Buckwar, Evelyn) Invariance of a partial differential equation of fractional order under the Lie group of scaling transformations. (English summary) *J. Math. Anal. Appl.* **227** (1998), *no.* 1, 81–97. (Summary) **99h:35007** 35A30

Lucht, Lutz G. (*with* Peter, Manfred) On the characterization of exponential polynomials. (English summary) *Arch. Math. (Basel)* **71** (1998), *no.* 3, 201–210. (Maurice Mignotte) **99e:11019** 11B37 (39A10)

Lucht, W. (*with* Strehmel, K.) Discretization based indices for semilinear partial differential algebraic equations. (English summary) Eighth Conference on the Numerical Treatment of Differential Equations (Alexisbad, 1997). *Appl. Numer. Math.* **28** (1998), *no.* 2-4, 371–386. (Xin Yuan Wu) **99m:65171** 65M12 (65M06)

sols Lucía, Ignacio *see* **Sols Lucía, Ignacio**

Lucia, M. (*with* Jeanjean, H.; Stuart, C. A.) Branches of solutions to semilinear elliptic equations on $\mathbf{R}^N$. (English summary) *Math. Z.* **230** (1999), *no.* 1, 79–105. (Jie Yang) **99m:35060** 35J60 (35B32)

de Lucia, Paolo *see* **De Lucia, Paolo**

Luciano, R. (*with* Sacco, Elio) Variational methods for the homogenization of periodic heterogeneous media. (English summary) *Eur. J. Mech. A Solids* **17** (1998), *no.* 4, 599–617. (Summary) **99c:73003** 73B27 (73K20)

Lucidi, Stefano (*with* Palagi, Laura) Solution of the trust region problem via a smooth unconstrained reformulation. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 237–250, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Joachim Käschel) **99f:90130** 90C30

— (*with* Facchinei, Francisco) Convergence to second-order stationary points in inequality constrained optimization. (English summary) *Math. Oper. Res.* **23** (1998), *no.* 3, 746–766. (Jie Sun) **99h:90095** 90C30 (90C33)

— (*with* Palagi, Laura; Roma, Massimo) On some properties of quadratic programs with a convex quadratic constraint. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 105–122 (*electronic*). (Dorel Duca) **99f:90074** 90C20 (65K05, 90C25)

Lucido, Maria Silvia Changing the field characteristic on finitary linear groups. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 2, 97–103. (Brunella Bruno) **99b:20064** 20F50 (20G05)

Lucien, Isabelle Mélange faible topologique des flots sur les surfaces. (French summary) [Topological weak mixing of flows on surfaces] *Ergodic Theory Dynam. Systems* **18** (1998), *no.* 4, 963–984. (Oliver Knill) **99m:58128** 58F11 (58F19, 58F25)

Lucier, Bradley J. (*with* Chambolle, Antonin) Un principe du maximum pour des opérateurs monotones. (English and French summaries) [A maximum principle for order-preserving mappings] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 7, 823–827. (From the text) **99g:47125** 47H07 (35B50, 47N20)

Lucio Martínez, J. L. (*with* Cabo, Alejandro; Villanueva, V. M.) Non-Noether charges in classical mechanics. (English summary) *Particles and fields* (*Morelia*, 1997), 348–351, *AIP Conf. Proc.*, 445, *Amer. Inst. Phys., Woodbury, NY*, 1998. (Frans Cantrijn) **99k:58074** 58F05 (70H05, 70H33)

Lucius, Friedemann Rings with a theory of greatest common divisors. (English summary) *Manuscripta Math.* **95** (1998), *no.* 1, 117–136. (Jiří Močkoř) **99b:13021** 13F05

Luck, J. M. Polygonal billiards and aperiodic tilings. (English summary) *The mathematical beauty of physics* (*Saclay*, 1996), 218–257, *Adv. Ser. Math. Phys.*, 24, *World Sci. Publishing, River Edge, NJ*, 1997. (Richard Kenyon) **99c:52032** 52C22 (11M36, 58G26, 81Q99)

Lück, Wolfgang Hilbert modules and modules over finite von Neumann algebras and applications to L^2-invariants. *Math. Ann.* **309** (1997), *no.* 2, 247–285. (Patrick T. McDonald) **99d:58169** 58G12 (46H25, 46L10, 46L85)

— Dimension theory of arbitrary modules over finite von Neumann algebras and L^2-Betti numbers. I. Foundations. (English summary) *J. Reine Angew. Math.* **495** (1998), 135–162. (Alan L. Carey) **99k:58176** 58G12 (19K33, 46L85)

— Dimension theory of arbitrary modules over finite von Neumann algebras and L^2-Betti numbers. II. Applications to Grothendieck groups, L^2-Euler characteristics and Burnside groups. (English summary) *J. Reine Angew. Math.* **496** (1998), 213–236. (Alan L. Carey) **99k:58177** 58G12 (19K33, 46L85)

— (*with* Schick, Thomas; Thielmann, Thomas) Torsion and fibrations. (English summary) *J. Reine Angew. Math.* **498** (1998), 1–33. (Andrew W. Hassell) **99e:58203** 58G26 (57Q10)

— (*with* Davis, James Frederic) Spaces over a category and assembly maps in isomorphism conjectures in K- and L-theory. (English summary) *K-Theory* **15** (1998), *no.* 3, 201–252. (A. A. Ranicki) **99m:55004** 55N20 (19D10)

Lucká, Mária (*with* Moczo, Peter; Kristek, Jozef; Kristeková, Miriam) 3D displacement finite differences and a combined memory optimization. (English summary) *Bull. Seismol. Soc. Amer.* **89** (1999), *no.* 1, 69–79. (Summary) **99j:86004** 86-08 (86A15)

Lücke, Wolfgang Axiomatic quantum theory. (English summary) New ideas in the theory of fundamental interactions (Zakopane, 1995). *Acta Phys. Polon. B* **27** (1996), *no.* 10, 2357–2385. (Christian D. Jäkel) **99e:81130** 81T05 (81P10)

Luckhaus, Stephan (*with* Bourgeat, Alain; Mikelić, Andro) Convergence of the homogenization process for a double-porosity model of immiscible two-phase flow. (English summary) *SIAM J. Math. Anal.* **27** (1996), *no.* 6, 1520–1543. (Vasily V. Zhikov) **99a:76143** 76S05 (35B27, 35K55, 35Q35, 73B27, 76T05)

— (*with* Kačur, J.) Approximation of degenerate parabolic systems by nondegenerate elliptic and parabolic systems. (English summary) *Appl. Numer. Math.* **26** (1998), *no.* 3, 307–326. (Maura Ughi) **99a:35151** 35K65 (35A35, 65M99)

Luckmann, S. (*with* Kirchner, R.; Montvay, I.; Westphalen, J.; Spanderen, K.) Evidence for discrete chiral symmetry breaking in $N = 1$ supersymmetric Yang-Mills theory. (English summary) *Phys. Lett. B* **446** (1999), *no.* 3-4, 209–215. 81R40 (81T13, 81T80)

Lucquin-Desreux, Brigitte (*with* Pironneau, Olivier) ★ Introduction to scientific computing. (English summary) Translated from the French by Michel Kern. *John Wiley & Sons, Ltd., Chichester*, 1998. *xviii*+361 *pp. ISBN* 0-471-97266-5 (Ian Gladwell) **99f:65002** 65-01 (65-04, 65Mxx, 65Nxx)

— (*with* Herrero, Henar; Perthame, Y. B.) Modelling of bubbly flows. (Spanish. Spanish summary) *XV Congress on Differential Equations and Applications/V Congress on Applied Mathematics, Vol. I, II (Spanish)* (*Vigo*, 1997), 947–952, *Colecc. Congr.*, 9, *Univ. Vigo, Vigo*, 1998. (*see* **99d:00018**) 76T05 (76M25)

Łuczak, Andrzej Properties of ergodic projection for quantum dynamical semigroups. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 555–562. (Robert Alicki) **99k:82052** 82C10 (46L55, 46L60)

— Eigenvalues and eigenspaces of quantum dynamical systems and their tensor products. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 1, 13–32. (Fumio Hiai) **99g:46094** 46L55

— Independent marginals of operator-semistable and operator-stable probability measures. (English summary) *Probab. Math. Statist.* **18** (1998), *no.* 1, 173–183 (19*N*). (Jerry Alan Veeh) **99f:60027** 60E07

Łuczak, Tomasz (*with* Szymańska, Edyta) A parallel randomized algorithm for finding a maximal independent set in a linear hypergraph. (English summary) *J. Algorithms* **25** (1997), *no.* 2, 311–320. (Summary) **99f:05110** 05C85 (05C65, 68Q22, 68R10)

— (*with* Thoma, Luboš) Convergence of probabilities for the second order monadic properties of a random mapping. (English summary) *Random Structures Algorithms* **11** (1997), *no.* 3, 277–295. (György Turán) **99f:03039** 03C13 (03C85, 05A16, 60A99)

— (*with* Schoen, Tomasz) Small bases for finite groups. *Colloq. Math.* **78** (1998), *no.* 1, 35–37. (Michael E. Mays) **99i:20036** 20D60 (11N45)

— (*with* Duffus, Dwight; Rödl, Vojtěch; Ruciński, Andrzej) Endomorphisms of partially ordered sets. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 1, 33–46. (Gerhard Behrendt) **99d:06003** 06A06

— A greedy algorithm estimating the height of random trees. (English summary) *SIAM J. Discrete Math.* **11** (1998), *no.* 2, 318–329 (*electronic*). (Summary) **99d:68117** 68Q25 (05C05, 05C80, 05C85)

— (*with* Duffus, Dwight; Rödl, Vojtěch) Biased positional games on hypergraphs. (English summary) *Studia Sci. Math. Hungar.* **34** (1998), *no.* 1-3, 141–149. (Rong Si Chen) **99m:90183** 90D43 (05C65)

Łuczak-Kumorek, Elżbieta (*with* Janiak, Teresa) Method of averaging for the system of functional-differential inclusions. (English summary) *Discuss. Math. Differential Incl.* **16** (1996), *no.* 2, 137–151. (Tzanko D. Donchev) **99f:34105** 34K15 (34A60, 34C29)

Ludäscher, Bertram (*with* Flum, Jörg; Kubierschky, Max) Total and partial well-founded Datalog coincide. (English summary) *Database theory—ICDT'97* (*Delphi*), 113–124, *Lecture Notes in Comput. Sci.*, 1186, *Springer, Berlin*, 1997. (Summary) **99c:68071** 68P15 (03B70, 68N17)

Lüdde, H. J. (*with* Kroneisen, O. J.; Kirchner, T.; Dreizler, R. M.) The basis generator method: optimized dynamical representation of the solution of time-dependent quantum problems. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2141–2156. (Summary) **99k:81160** 81S99

Luderer, Bernd (*with* Nollau, Volker; Vetters, Klaus) ★ Mathematische Formeln für Wirtschaftswissenschaftler. (German. German summary) [Mathematical formulas for economists] *B. G. Teubner, Stuttgart*, 1998. 140 *pp. ISBN* 3-8154-2131-4 (From the preface) **99k:00009** 00A22 (00A06)

Luding, S. Collisions & contacts between two particles. (English summary) *Physics of dry granular media* (*Cargèse*, 1997), 285–304, *NATO Adv. Sci. Inst. Ser. E Appl. Sci.*, 350, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99e:73027** 73B99 (70F35, 73E99)

— (*with* Herrmann, H. J.) Modeling granular media on the computer. (English summary) *Contin. Mech. Thermodyn.* **10** (1998), *no.* 4, 189–231. 76A99 (73E99)

— *see also* **Physics of dry granular media**, **99e:73003**

Ludlow, David K. (*with* Clarkson, Peter A.; Bassom, Andrew P.) Nonclassical symmetry reductions of the three-dimensional incompressible Navier-Stokes equations. (English summary) *J. Phys. A* **31** (1998), *no.* 39, 7965–7980. (Summary) **99g:76037** 76D05 (35Q30, 76M99)

Ludu, A. (*with* Draayer, J. P.; Greiner, Walter) Hamiltonian s stem and symmetries for scale invariant wavefunctions. (English summary) *Internat. J. Modern Phys. E* **7** (1998), *no.* 6, 765–775. (Summary) **99i:81057** 81Q99

— (*with* Greiner, Martin; Draayer, J. P.) Wavelets and quantum algebras. (English summary) *J. Math. Phys.* **39** (1998), *no.* 4, 2346–2361. (Fabio Bagarello) **99b:81106** 81R50 (42C15)

— (*with* Draayer, J. P.) Patterns on liquid surfaces: cnoidal waves, compactons and scaling. (English summary) Nonlinear waves and solitons in physical systems (Los Alamos, NM, 1997). *Phys. D* **123** (1998), *no.* 1-4, 82–91. (*see* **99h:00031**) 76B25 (76B99)

Ludvigsen, Malcolm (*with* Dominguez, Alfredo E.; Kozameh, Carlos N.) Superselection sectors in asymptotic quantization of gravity. (English summary) *Trends in theoretical physics* (*La Plata*, 1997), 337–346, *AIP Conf. Proc.*, 419, *Amer. Inst. Phys., Woodbury, NY*, 1998. (*see* **99e:81005**) 83C30 (83C05)

Ludwig, Andreas W. W. (*with* LeClair, A.; Mussardo, G.) Integrability of coupled conformal field theories. (English summary) *Nuclear Phys. B* **512** (1998), *no.* 3, 523–542. (Summary) **99i:81215** 81T40

— (*with* Guruswamy, Sathya) Relating $c < 0$ and $c > 0$ conformal field theories. (English summary) *Nuclear Phys. B* **519** (1998), *no.* 3, 661–681. (Isabel P. Ennes) **99h:81192** 81T40

Ludwig, Garry (*with* Edgar, S. Brian) Conformally Ricci flat pure radiation metrics. (English summary) *Classical Quantum Gravity* **14** (1997), *no.* 12, 3453–3473. (J. B. Griffiths) **99a:83018** 83C15 (83C20)

Ludwig, Jean (*with* Molitor-Braun, Carine) Exponential actions, orbits and their kernels. (English summary) *Bull. Austral. Math. Soc.* **57** (1998), *no.* 3, 497–513. (Chal Benson) **99f:22010** 22E25 (22E60)

— Hull-minimal ideals in the Schwartz algebra of the Heisenberg group. (English summary) *Studia Math.* **130** (1998), *no.* 1, 77–98. (Vladimir V. Kisil) **99e:46056** 46H10 (22E25, 22E30, 43A30, 43A40)

Ludwig, Kirk (*with* Ray, Greg) Semantics for opaque contexts. *Language, mind, and ontology*, 1998, 141–166, *Philos. Perspect.*, 12, *Blackwell, Boston, MA*, 1997. (*see* **99k:03028**) 03B65

Ludwig, L. A. (*with* Grauel, A.) Construction of differentiable membership functions. (English summary) Analytical and structural considerations in fuzzy modeling (Soest, 1997). *Fuzzy Sets and Systems* **101** (1999), *no.* 2, 219–225. (*see* **99k:93004**) 65D15 (93C42)

Ludwig, Monika Asymptotic approximation of convex curves: the Hausdorff metric case. (English summary) *Arch. Math. (Basel)* **70** (1998), *no.* 4, 331–336. (Richard A. Vitale) **99c:52008** 52A27 (41A50, 52A10)

— (*with* Böröczky, Károly, Jr.) Approximation of convex bodies and a momentum lemma for power diagrams. (English summary) *Monatsh. Math.* **127** (1999), *no.* 2, 101–110. (H. W. Guggenheimer) **99m:52004** 52A27 (52C20)

Ludwig, Walter (*with* Schwiegelshohn, Uwe; Wolf, Joel L.; Turek, John; Yu, Philip S.) Smart SMART bounds for weighted response time scheduling. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 1, 237–253 (*electronic*). (Mukkai S. Krishnamoorthy) **99e:68061** 68Q22 (68M20, 68Q25)

Luecht, Richard M. (*with* van der Linden, Wim J.) Observed-score equating as a test assembly problem. (English summary) *Psychometrika* **63** (1998), *no.* 4, 401–418. (Summary) **99i:62250** 62P15

Luehr, C. P. (*with* Rosenbaum, Marcos; Harleston L., Hugh) Spinors from a differential geometric point of view. (English summary) *Clifford algebras and spinor structures*, 205–240, *Math. Appl.*, 321, *Kluwer Acad. Publ., Dordrecht*, 1995. (Bertfried Fauser) **99b:53019** 53A50 (15A66)

Lueker, George S. Average-case analysis of off-line and on-line knapsack problems. (English summary) SODA '95 (San Francisco, CA). *J. Algorithms* **29** (1998), *no.* 2, 277–305. (Charles E. Blair) **99m:90116** 90C27 (68Q25, 90C10)

— Exponentially small bounds on the expected optimum of the partition and subset sum problems. (English summary) *Random Structures Algorithms* **12** (1998), *no.* 1, 51–62. (Summary) **99d:68178** 68R05

Luenberger, David G. Products of trees for investment analysis. (English summary) Algorithms and economic dynamics (Geneva, 1996). *J. Econom. Dynam. Control* **22** (1998), *no.* 8-9, 1403–1417. (Summary) **99k:90032** 90A09 (90A11)

Luengo, Ignacio (*with* Gusein-Zade, Sabir M.; Melle-Hernández, Alejandro) Zeta functions of germs of meromorphic functions, and the Newton diagram. (Russian. Russian summary) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 2, 26–35, 95; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 2, 93–99. (Aleksandr G. Aleksandrov) **99j:32040** 32S25 (32S40, 32S45, 32S55)

glüsing-Lüerßen, Heide *see* **Glüsing-Lüerßen, Heide**

gil-Luezas, A. *see* **Gil-Luezas, A.**

Ługiewicz, P. (*with* Becker, Claas; Gielerak, R.) Covariant SPDEs and quantum field structures. (English summary) *J. Phys. A* **31** (1998), *no.* 1, 231–258. (Jiang Lun Wu and Hanno Gottschalk) **99d:81072** 81T08 (35R60, 60H15, 81T05)

Lugiez, Denis A good class of tree automata. Application to inductive theorem proving. *Automata, languages and programming* (*Aalborg*, 1998), 409–420, *Lecture Notes in Comput. Sci.*, 1443, *Springer, Berlin*, 1998. (*see* **99m:68007**) 68T15 (03B35, 68Q68)

— (*with* Schnoebelen, Philippe) The regular viewpoint on PA-processes. (English summary) *CONCUR'98: concurrency theory* (*Nice*), 50–66, *Lecture Notes in Comput. Sci.*, 1466, *Springer, Berlin*, 1998. (*see* **99k:68006**) 68Q60 (68Q10, 68Q45)

— (*with* Verma, Rakesh M.; Rusinowitch, Michael) Algorithms and reductions for rewriting problems. (English summary) *Rewriting techniques and applications* (*Tsukuba*, 1998), 166–180, *Lecture Notes in Comput. Sci.*, 1379, *Springer, Berlin*, 1998. (Summary) **99g:68107** 68Q42

Lugojan, Sorin About the symmetry of the quaternionic derivatives. (English summary) *Bul. Ştiinţ. Univ. Politeh. Timiş. Ser. Mat. Fiz.* **42(56)** (1997), *no.* 1, 7–11. 30G35

— Quaternionic derivability. II. (English summary) *Quaternionic structures in mathematics and physics* (*Trieste*, 1994), 189–196 (*electronic*), *Int. Sch. Adv. Stud.* (*SISSA*), *Trieste*, 1998. (*see* **99d:53002**) 30G35

Lugosi, Gábor (*with* Devroye, Luc) Nonasymptotic universal smoothing factors, kernel complexity and Yatracos classes. (English summary) *Ann. Statist.* **25** (1997), *no.* 6, 2626–2637. (Sh. A. Khashimov) **99a:62043** 62G05

— (*with* Horváth, Márta) Scale-sensitive dimensions and skeleton estimates for classification. (English summary) *Discrete Appl. Math.* **86** (1998), *no.* 1, 37–61. (Summary) **99c:62166** 62H30 (62G05)

— (*with* Kulkarni, Sanjeev R.; Venkatesh, Santosh S.) Learning pattern classification—a survey. (English summary) Information theory: 1948–1998. *IEEE Trans. Inform. Theory* **44** (1998), *no.* 6, 2178–2206. (Summary) **99i:68108** 68T10 (62F15, 68T05)

Lugovaya, G. (*with* Sherstnev, A. N.) On extending an unbounded orthogonal vector measure in a semifinite von Neumann algebra to a weight. *Demonstratio Math.* **30** (1997), *no.* 3, 591–598. (Jan Hamhalter) **99b:46099** 46L50

Lugovtsov, B. A. Axisymmetric spontaneous twisting in an ideally conducting fluid in a magnetic field. (Russian) *Prikl. Mekh. Tekhn. Fiz.* **38** (1997), *no.* 6, 29–31; *translation in J. Appl. Mech. Tech. Phys.* **38** (1997), *no.* 6, 839–841 (1998). (Alexander Lifschitz) **99e:76129** 76W05 (76C05)

van der Lugt, Anna *see* **Bolzano, Bernard**, **99h:01041** *and* **99j:01026**

Luh, Wolfgang Intersections with Gronwall methods. (English summary) *Transform methods & special functions, Varna '96*, 300–308, *Bulgarian Acad. Sci., Sofia*, 1998. (Summary) **99j:40007** 40C05 (40G99)
— (*with* Martirosyan, V. A.; Müller, Jürgen[3]) T-universal functions with lacunary power series. (English summary) *Acta Sci. Math. (Szeged)* **64** (1998), *no.* 1-2, 67–79. (Raphaële Supper) **99f:30055** 30E10 (30B10, 30B60, 41A10, 46E10)
Lui, Roger (*with* Choi, Yung Sze) An integro-differential equation arising from an electrochemistry model. (English summary) *Quart. Appl. Math.* **55** (1997), *no.* 4, 677–686. (Melvin Heard) **99h:45017** 45K05 (35J65, 35Q99, 47N20)
— Steady-state solutions of electro-diffusion of ions models. (English summary) *Dynam. Contin. Discrete Impuls. Systems* **6** (1999), *no.* 2, 271–278. 35K45 (34B15, 92E20)
Lui, Shiu Hong On Schwarz alternating methods for nonlinear elliptic problems. *Domain decomposition methods*, 10 (*Boulder, CO*, 1997), 447–452, *Contemp. Math.*, 218, *Amer. Math. Soc., Providence, RI*, 1998. (*see* **99f:65005**) 65N55 (65J15)
— Kron's method for symmetric eigenvalue problems. (English summary) *J. Comput. Appl. Math.* **98** (1998), *no.* 1, 35–48. (Summary) **99g:65106** 65N25 (65F15)
— Multiple bifurcation from "simple" eigenvalues. (English summary) *Appl. Math. Comput.* **100** (1999), *no.* 2-3, 111–130. (Viktor G. Zvyagin) **99m:47074** 47H15 (58E07)
Luis, A. (*with* Peřina, J.) Discrete Wigner function for finite-dimensional systems. (English summary) *J. Phys. A* **31** (1998), *no.* 5, 1423–1441. (Günter Braunss) **99k:81147** 81S30
rodríguez-Luis, A. J. *see* **Rodríguez-Luis, A. J.**
san Luis Fernández, Ana María *see* **San Luis Fernández, Ana María**
Luk, Franklin T. (*with* Vandevoorde, David) Decomposing a signal into a sum of exponentials. *Iterative methods in scientific computing* (*Hong Kong*, 1995), 329–357, *Springer, Singapore*, 1997. (*see* **99g:65001**) 94A12 (65F30)
— (*with* Boley, Daniel L.; Vandevoorde, David) A fast method to diagonalize a Hankel matrix. (English summary) ILAS Symposium on Fast Algorithms for Control, Signals and Image Processing (Winnipeg, MB, 1997). *Linear Algebra Appl.* **284** (1998), *no.* 1-3, 41–52. (Marc Van Barel) **99j:65053** 65F15
Luk, Hing Sun (*with* Yau, Stephen Shing Toung) Counterexample to boundary regularity of a strongly pseudoconvex CR submanifold: an addendum to the paper of Harvey-Lawson. *Ann. of Math.* (2) **148** (1998), *no.* 3, 1153–1154. (Gerd Schmalz) **99j:32006** 32C16 (32F30)
Luk, Kwai-Man (*with* Luo, Yong-Lun; Shum, Siu-Ming) A novel exact two-point field equation (2PFE) for solving electromagnetic scattering problems. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 12, 1833–1841. (Summary) **99i:78004** 78–08 (78A45)
Lukacher, B. (*with* Merzbach, Ely) Asymptotic results for mixing random ordinary differential equations. (English summary) *Funct. Differ. Equ.* **4** (1997), *no.* 1-2, 111–124 (1998). (Summary) **99k:60152** 60H10 (60F17, 60J60)
Lukáčová-Medviďová, Mária Combined finite element–finite volume method (convergence analysis). (English summary) *Comment. Math. Univ. Carolin.* **38** (1997), *no.* 4, 717–741. (Zhangxin Chen) **99c:76068** 76M10 (65M12, 65M60, 76M25, 76N10)
— (*with* Matušů-Nečasová, Šárka) Bipolar isothermal non-Newtonian compressible fluids. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 1, 168–192. (Michael Renardy) **99f:76008** 76A05 (35Q35, 76N10)
Lukács, András On local expansion of vertex-transitive graphs. (English summary) *Combin. Probab. Comput.* **7** (1998), *no.* 2, 205–209. (Tatiana Smirnova-Nagnibeda) **99d:05040** 05C25
— (*with* Seifter, Norbert) Lattices in graphs with polynomial growth. (English summary) *Discrete Math.* **186** (1998), *no.* 1-3, 227–236. (Vladimir I. Trofimov) **99f:05092** 05C70 (05C25, 05C90)
Lukács, Erzsébet (*with* Ágoston, István; Dlab, Vlastimil) Stratified algebras. (French summary) *C. R. Math. Acad. Sci. Soc. R. Can.* **20** (1998), *no.* 1, 22–28. (Eduardo do Nascimento Marcos) **99h:16031** 16G60 (16E10, 16G70)
— (*with* Ágoston, István; Ringel, Claus Michael) Realizations of Frobenius functions. (English summary) *J. Algebra* **210** (1998), *no.* 2, 419–439. (V. V. Sergeĭchuk) **99j:16007** 16G70
— (*with* Ágoston, István; Dlab, Vlastimil) Well-filtered algebras. (English summary) Ring theory (Miskolc, 1996). *J. Pure Appl. Algebra* **133** (1998), *no.* 1-2, 3–21. (Steffen König) **99k:16020** 16E60 (17B10)
Lukács, Gábor (*with* Andor, László) Computing natural division lines on free-form surfaces based on measured data. (English summary) *Mathematical methods for curves and surfaces, II* (*Lillehammer*, 1997), 319–326, *Innov. Appl. Math., Vanderbilt Univ. Press, Nashville, TN*, 1998. (*see* **99d:65004**) 41A63 (65D17)
— (*with* Hermann, Thomas[1]) Proof of the nonintersection conjecture of Hoffmann and Peters. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 2, 147–163. (Marshall Walker) **99d:65044** 65D17 (52B55, 68U05)
— Differential geometry of G^1 variable radius rolling ball blend surfaces. (English summary) *Comput. Aided Geom. Design* **15** (1998), *no.* 6, 585–613. (Bert Jüttler) **99f:65029** 65D17 (53A05)
Lukas, Andrė (*with* Lalak, Zygmunt; Ovrut, Burt A.) Soliton solutions of M-theory on an orbifold. (English summary) *Phys. Lett. B* **425** (1998), *no.* 1-2, 59–70. (Summary) **99b:81197** 81T30 (83E30)
— (*with* Ovrut, Burt A.) U-duality covariant M-theory cosmology. (English summary) *Phys. Lett. B* **437** (1998), *no.* 3-4, 291–302. (Marco Spaans) **99h:83058** 83E30 (81T30)
— (*with* Ovrut, Burt A.; Waldram, Daniel) Gaugino condensation in M theory on S^1/Z_2. (English summary) *Phys. Rev. D* (3) **57** (1998), *no.* 12, 7529–7538. (Summary) **99k:81258** 81T30
Lukas, Mark A. Asymptotic behaviour of the minimum bound method for choosing the regularization parameter. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 149–159. (Rudolf Gorenflo) **99d:65374** 65R30 (45L10)
— Comparisons of parameter choice methods for regularization with discrete noisy data. (English summary) *Inverse Problems* **14** (1998), *no.* 1, 161–184. (Rudolf Gorenflo) **99d:65375** 65R30 (45L10)
Lukashenko, T. P. On finite subcoverings of compacta. (Russian) *Math. Montisnigri* **8** (1997), 101–111. 54D30
Lukashevich, N. A. (*with* Chichurin, A. V.) On the existence of surfaces generated by second-order nonlinear differential equations. (Russian. English and Russian summaries) *Vestsī Akad. Navuk Belarusī Ser. Fīz.-Mat. Navuk* **1997**, *no.* 3, 44–47, 139. (Summary) **99d:34020** 34A34 (53A05)
— Special Abel equations. (Russian. Russian summary) *Differ. Uravn.* **34** (1998), *no.* 2, 282–284, 288; *translation in Differential Equations* **34** (1998), *no.* 2, 287–290. (Summary) **99k:34010** 34A25
Lukashov, A. L. Chebyshev-Markov algebraic fractions on several segments. (Russian. English and Russian summaries) *Anal. Math.* **24** (1998), *no.* 2, 111–130. (Doru Ştefănescu) **99g:26033** 26C15
— Rational interpolation processes on two intervals. (Russian) *Izv. Vyssh. Uchebn. Zaved. Mat.* **1998**, *no.* 5, 35–42; *translation in Russian Math. (Iz. VUZ)* **42** (1998), *no.* 5, 33–40. (Vanja Hadzijski) **99g:41017** 41A20 (41A05)
— On Chebyshev-Markov rational functions over several intervals. (English summary) *J. Approx. Theory* **95** (1998), *no.* 3, 233–352. (Andrei Martínez Finkelshtein) **99j:41026** 41A20 (41A50)
Lukatskiĭ, A. M. On the geometry of current groups and a model of the Landau-Lifschitz equation. (English summary) *Lie groups and Lie algebras*, 425–433, *Math. Appl.*, 433, *Kluwer Acad. Publ., Dordrecht*, 1998. (Editors) **99c:81068** 81R10 (58B25)
Luke, Glenys (*with* Mishchenko, A. S.) ★ Vector bundles and their applications. (English summary) Mathematics and its Applications, 447. *Kluwer Academic Publishers, Dordrecht*, 1998. *viii*+254 *pp. ISBN* 0-7923-5154-1 (V. P. Snaith) **99m:55019** 55R25 (58G10)
Luke, Jonathan H. C. A finite difference method for dispersive linear waves with applications to simulating microwave pulses in water. (English summary) *J. Comput. Phys.* **148** (1999), *no.* 1, 199–226. (Summary) **99h:78005** 78–08 (65M06)
Lukierski, Jerzy (*with* Kosiński, Piotr; Maślanka, Paweł; Sobczyk, Jan T.) Quantum deformation of the Poincaré supergroup. (English summary) *Quantum groups* (*Karpacz*, 1994), 353–357, *PWN, Warsaw*, 1995. (*see* **99e:17001**) 81R50 (17B37)
— (*with* Ruegg, H.; Tolstoĭ, V. N.) Quantum κ-Poincaré 1994. *Quantum groups* (*Karpacz*, 1994), 359–378, *PWN, Warsaw*, 1995. (Alexei Zhedanov) **99h:81091** 81R50 (17B37)
— (*with* Nowicki, Anatol; Tolstoĭ, V. N.) Twisted Poincaré algebras. (English summary) *Quantum groups* (*Karpacz*, 1994), 379–388, *PWN, Warsaw*, 1995. (Adriana M. Criscuolo) **99m:81098** 81R50 (17B37)
— (*with* Ruegg, H.; Zakrzewski, Wojciech J.) Classical and quantum mechanics of free κ-relativistic systems. (English summary) *Quantum groups* (*Karpacz*, 1994), 539–554, *PWN, Warsaw*, 1995. (Alexei Zhedanov) **99g:81095** 81R50
— (*with* Stichel, Peter C.; Zakrzewski, Wojciech J.) Galilean-invariant $(2+1)$-dimensional models with a Chern-Simons-like term and $D=2$ noncommutative geometry. (English summary) *Ann. Physics* **260** (1997), *no.* 2, 224–249. (Dan Radu Grigore) **99a:58070** 58F05 (58B30, 70G50)
— (*with* Tolstoĭ, V. N.) Cartan-Weyl basis for quantum affine superalgebra $U_q(\widehat{osp}(1|2))$. Quantum groups and integrable systems, II (Prague, 1997). *Czechoslovak J. Phys.* **47** (1997), *no.* 12, 1231–1239. (Mariano A. del Olmo) **99k:81118** 81R50 (17B37)
— (*with* Amelino-Camelia, Giovanni; Nowicki, Anatol) On the uncertainty relations of κ-deformed quantum phase space. (English summary) Gauge theories of gravitation (Jadwisin, 1997). *Acta Phys. Polon. B* **29** (1998), *no.* 4, 1099–1112. (Summary) **99k:81105** 81R50 (81P05)
— (*with* Amelino-Camelia, Giovanni; Nowicki, Anatol) κ-deformed covariant phase space and quantum-gravity uncertainty relations. (English summary) VIII International Conference on Symmetry Methods in Physics (Dubna, 1997). *Phys. Atomic Nuclei* **61** (1998), *no.* 11, 1811–1815. (Summary) **99j:83030** 83C45 (81R50)
— *see also* **New symmetries in the theories of fundamental interactions**, **99b:81004** *and* **Quantum groups**, **99e:17001**
Lukïn, O. E. (*with* Svishchuk, A. V.) Some aspects of the application of continuous evolution systems in financial mathematics. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 8, 41–45. (Summary) **99k:60255** 60K35 (60H10, 90A09)
Lukkarinen, Jani Lattice approximation of quantum statistical traces at a complex temperature. (English summary) *J. Math. Phys.* **39** (1998), *no.* 7, 3670–3677. (M. Lawrence Glasser) **99d:82045** 82C10
— Derivation and improvements of the quantum canonical ensemble from a regularized microcanonical ensemble. (English summary) *J. Phys. A* **32** (1999), *no.* 2, 287–300. 82B10
Lukomskii, S. F. Convergence of multiple Walsh series in measure and in L. (English summary) *East J. Approx.* **3** (1997), *no.* 3, 317–332. (Sándor Fridli) **99f:42058** 42C10
Lukomsky, V. P. (*with* Bobkov, V. B.) Asymptotic expansions of the periodic solutions of nonlinear evolution equations. (English summary) *Nonlinear Dynam.* **16** (1998), *no.* 1, 1–21. (Summary) **99b:34073** 34C25 (34E05, 70K99)
Lukovskiĭ, I. A. On the theory of nonlinear oscillations of a bounded volume of low-viscosity fluid. (Ukrainian. English summary) *Dopov. Nats. Akad. Nauk Ukr. Mat. Prirodozn. Tekh. Nauki* **1997**, *no.* 10, 80–84. (Summary) **99k:76018** 76B10 (70E99, 76D99)
— Determination of interaction forces in problems of the dynamics of a floating body containing liquid loads. (Russian. English, Russian and Ukrainian summaries) *Prikl. Mekh.* **33** (1997), *no.* 9, 74–81; *translation in Internat. Appl. Mech.* **33** (1997), *no.* 9, 740–746 (1998). (From the summary) **99k:76034** 76B99 (73K70)
Lukovszki, Tamás (*with* Fischer, Matthias; Ziegler, Martin[2]) Geometric searching in walkthrough animations with weak spanners in real time. (English summary) *Algorithms—ESA '98* (*Venice*), 163–174, *Lecture Notes in Comput. Sci.*, 1461, *Springer, Berlin*, 1998. (*see* **99k:68004**) 68U05 (68P05, 68Q20)
Łukowski, Piotr The nature of intuitionistic possibility. (English summary) *Log. Trianguli* **1** (1997), 33–57. (Frans Voorbraak) **99i:03018** 03B45 (03B20, 03B60)
— An approach to the liar paradox. (English summary) New aspects of non-classical logics and their Kripke semantics (Japanese) (Kyoto, 1997). *Sūrikaisekikenkyūsho Kōkyūroku No.* 1010 (1997), 68–80. (*see* **99a:03003**) 03A05
Lukoyanov, N. Yu. (*with* Krasovskiĭ, N. N.) A conflict control problem with hereditary information. (Russian. Russian summary) *Prikl. Mat. Mekh.* **60** (1996), *no.* 6, 885–900; *translation in J. Appl. Math. Mech.* **60** (1996), *no.* 6, 869–882. (N. N. Petrov) **99d:93041** 93C41 (49K15, 90D25)
— (*with* Reshetova, T. N.) Problems of conflict control of functional systems of high dimension. (Russian. Russian summary) *Prikl. Mat. Mekh.* **62** (1998), *no.* 4, 586–597;

translation in J. Appl. Math. Mech. **62** (1998), *no.* 4, 545–554. (Summary) **99m:49040** 49K35 (90D25)

Lukš, A. (*with* Peřinová, V.) Eigenvalue problem for a superposition of the operators of the photon number and the sine of phase. (English summary) *Advances in difference equations* (*Veszprém*, 1995), 415–425, *Gordon and Breach, Amsterdam*, 1997. (Summary) **99e:81275** 81V80

Luks, Eugene M. (*with* Seress, Ákos) Computing the Fitting subgroup and solvable radical of small-base permutation groups in nearly linear time. (English summary) *Groups and computation, II* (*New Brunswick, NJ*, 1995), 169–181, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 28, *Amer. Math. Soc., Providence, RI*, 1997. (Gerhard Hiss) **99g:20015** 20B40 (68Q25, 68Q40)

— (*with* Babai, László; Seress, Ákos) Fast management of permutation groups. I. (English summary) *SIAM J. Comput.* **26** (1997), *no.* 5, 1310–1342. (Richard M. Thomas) **99d:20007** 20B40 (20–04, 68Q25, 68Q40)

Lukšan, Ladislav (*with* Vlček, Jan) Truncated trust region methods based on preconditioned iterative subalgorithms for large sparse systems of nonlinear equations. (English summary) *J. Optim. Theory Appl.* **95** (1997), *no.* 3, 637–658. (José Mario Martínez) **99a:65070** 65H10 (90C30)

— (*with* Vlček, Jan) A bundle-Newton method for nonsmooth unconstrained minimization. (English summary) *Math. Programming* **83** (1998), *no.* 3, *Ser. A*, 373–391. (Anatoly S. Antipin) **99i:90088** 90C30 (49J52, 49M20)

— (*with* Vlček, Jan) Indefinitely preconditioned inexact Newton method for large sparse equality constrained non-linear programming problems. (English summary) *Numer. Linear Algebra Appl.* **5** (1998), *no.* 3, 219–247. (Emanuele Galligani) **99k:90158** 90C30 (65K05)

— (*with* Vlček, Jan) Computational experience with globally convergent descent methods for large sparse systems of nonlinear equations. (English summary) *Optim. Methods Softw.* **8** (1998), *no.* 3-4, 201–223. (Summary) **99a:65071** 65H10

Lukshin, An. V. (*with* Abakumov, M. V.; Gavrilyuk, K. V.; Esikova, N. B.; Mukhin, S. I.; Sosnin, N. V.; Tishkin, V. F.; Favorskiĭ, A. P.) A mathematical model of the hemodynamics of a cardio-vascular system. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 892–898, 1004; *translation in Differential Equations* **33** (1997), *no.* 7, 895–901 (1998). (Introduction) **99b:92017** 92C50 (92–08, 92C30)

— (*with* Gavrilyuk, K. V.) On the method of point markers in problems of hemodynamics. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 7, 934–940, 1005; *translation in Differential Equations* **33** (1997), *no.* 7, 938–944 (1998). (Introduction) **99c:92016** 92C35 (76Z05, 92–08)

Luk′yanov, A. G. A block method for the synthesis of nonlinear systems on sliding regimes. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 7, 14–34; *translation in Automat. Remote Control* **59** (1998), *no.* 7, *part* 1, 916–933. (Grigory M. Sklyar) **99m:93038** 93B51 (93B12)

Luk′yanov, A. T. *see* **Birthday: Luk′yanov, A. T.**

Lukyanov, Sergei L. (*with* Bazhanov, Vladimir V.; Zamolodchikov, Aleksandr B.) Integrable structure of conformal field theory. II. Q-operator and DDV equation. (English summary) *Comm. Math. Phys.* **190** (1997), *no.* 2, 247–278. (Rinat Kedem) **99h:81191** 81T40 (81R10, 82B23)

— Form factors of exponential fields in the sine-Gordon model. (English summary) *Modern Phys. Lett. A* **12** (1997), *no.* 33, 2543–2550. (Jun'ichi Shiraishi) **99g:81126** 81T10

— (*with* Zamolodchikov, Aleksandr B.) Exact expectation values of local fields in the quantum sine-Gordon model. (English summary) *Nuclear Phys. B* **493** (1997), *no.* 3, 571–587. (Summary) **99e:81143** 81T10

— Form-factors of exponential fields in the affine $A^{(1)}_{N-1}$ Toda model. (English summary) *Phys. Lett. B* **408** (1997), *no.* 1-4, 192–200. (Jun'ichi Shiraishi) **99g:81127** 81T10 (81R10)

— Low energy effective Hamiltonian for the *XXZ* spin chain. (English summary) *Nuclear Phys. B* **522** (1998), *no.* 3, 533–549. (From the text) **99d:82015** 82B20

Luk′yanov, V. V. (*with* Babich, Vasilii M.) Wave propagation along a curved piezoelectric layer. (English summary) *Wave Motion* **28** (1998), *no.* 1, 1–11. (Introduction) **99a:73047** 73D15 (73D40, 73R05)

Luk′yanova, A. E. Synthesis in problems of the optimal control of dense beams. (Russian. English and Russian summaries) *Mathematical methods for modeling and analysis of controlled processes* (*Russian*), 133–139, 250, *Voprosy Mekh. Protsess. Upravl.*, 17, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1996. (*see* **99a:00014**) 49N55 (34H05)

Lüling, Reinhard (*with* Klasing, Ralf; Monien, Burkhard) Compressing cube-connected cycles and butterfly networks. (English summary) *Networks* **32** (1998), *no.* 1, 47–65. (Dominique Sotteau) **99g:68018** 68M10 (05C38)

Lum, Christopher (*with* Elman, Richard) On the cohomological 2-dimension of fields. *Comm. Algebra* **27** (1999), *no.* 2, 615–620. (Adrian R. Wadsworth) **99m:12007** 12G05 (11E81)

Lum, H. K. (*with* Zribi, Mohamed; Soh, Yeng Chai) Planning and control of a biped robot. (English summary) *Internat. J. Engrg. Sci.* **37** (1999), *no.* 10, 1319–1349. 70B15 (70Q05, 93C85)

Lum, Kai Hing Lie algebras of an affinization of a generalized Cartan matrix. (English summary) *Arch. Math.* (*Basel*) **70** (1998), *no.* 6, 438–446. (Thomas N. Vougiouklis) **99c:17037** 17B65 (17B01)

— A presentation of toroidal algebras as homomorphic images of G.I.M. algebras. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4051–4063. (Yu Cai Su) **99j:17033** 17B65

— (*with* Tan, Victor) Intertwining operators for vertex representations of toroidal Lie algebras. (English summary) *Lett. Math. Phys.* **45** (1998), *no.* 3, 239–246. (Dražen Adamović) **99j:17044** 17B69 (17B10)

Lum, Kai-Yew (*with* Bloch, Anthony M.) Generalized Serret-Andoyer transformation and applications for the controlled rigid body. (English summary) *Dynam. Control* **9** (1999), *no.* 1, 39–66. (Andrew D. Lewis) **99m:70012** 70H05 (58F05, 70–08, 70H33, 70Q05, 93C95, 93D15)

Lumel′skiĭ, Ya. P. (*with* Kameneva, S. V.) The problem of testing hypotheses concerning the parameters of the Pólya distribution. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 795–799. (*see* **99b:62004**) 62F03

— Markov random walks in the space of a sufficient statistic and statistical inference. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci.* (*New York*) **88** (1998), *no.* 6, 862–870. (Z. Govindarajulu) **99i:62209** 62M10 (62M99)

Lumelsky, Vladimir J. (*with* Hert, Susan) Polygon area decomposition for multiple-robot workspace division. (English summary) *Internat. J. Comput. Geom. Appl.* **8** (1998), *no.* 4, 437–466. (Summary) **99d:68231** 68U05

— (*with* Shen, Lei[2]; Shkel, Andrei M.) Hazard and safety regions for paths with constrained curvature. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 18, 1655–1679. (Summary) **99k:70002** 70B15 (68U05)

Lumer, Günter *see* **Generalized functions, operator theory, and dynamical systems, 99k:00030**

Luminati, Domenico (*with* Broglia, Fabrizio) Connected sum of compact analytic hypersurfaces. (English summary) *Ann. Mat. Pura Appl.* (4) **173** (1997), 203–211. (Zbigniew Szafraniec) **99d:32006** 32C05 (14P15)

Lumiste, Ülo *see* **Rahula, Maido**

Lumley, John L. (*with* Aubry, Nadine; Berkooz, Gal; Coller, B.; Elezgaray, J.; Holmes, Philip J.; Poje, A. C.) Low-dimensional models, wavelet transforms and control. *Eddy structure identification* (*Udine*, 1994), 271–331, *CISM Courses and Lectures*, 353, *Springer, Vienna*, 1996. (From the text) **99f:76068** 76Fxx (76M25)

— (*with* Podvin, Bérengère) A low-dimensional approach for the minimal flow unit. (English summary) *J. Fluid Mech.* **362** (1998), 121–155. (Roland Schiestel) **99e:76071** 76F99 (76F20, 76M25, 76M35)

— *see also* **Annual review of fluid mechanics, 99h:76001**

Lumpkin, Beatrice Africa, cradle of mathematics. *Gaṇita-Bhāratī* **19** (1997), *no.* 1-4, 1–10. (U. D'Ambrosio) **99e:01003** 01A07 (01A13, 01A16)

Lumsdaine, Andrew (*with* Wu, Deyun) Spectra and pseudospectra of block Toeplitz matrices. (English summary) *Linear Algebra Appl.* **272** (1998), 103–130. (A. Bultheel) **99b:65048** 65F15 (15A18, 15A57, 47B35)

Lumsdaine, Robin L. (*with* Bai, Jushan; Stock, James H.) Testing for and dating common breaks in multivariate time series. (English summary) *Rev. Econom. Stud.* **65** (1998), *no.* 3, 395–432. (A. L. Nagar) **99k:62151** 62M10

Luna, D. Grosses cellules pour les variétés sphériques. [Large cells for spherical varieties] *Algebraic groups and Lie groups*, 267–280, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Franz Pauer) **99g:14059** 14L30 (14M17)

de ita Luna, Guillermo *see* **De Ita Luna, Guillermo**

Luna, Joaquín *see* **Luna Torres, Joaquín**

de Luna, Xavier Projected polynomial autoregression for prediction of stationary time series. (English summary) *J. Appl. Statist.* **25** (1998), *no.* 6, 763–775. (Summary) **99j:62130** 62M10

Lunardi, Alessandra (*with* Vespri, Vincenzo) Generation of strongly continuous semigroups by elliptic operators with unbounded coefficients in $L^p(\mathbf{R}^n)$. Dedicated to the memory of Pierre Grisvard. *Rend. Istit. Mat. Univ. Trieste* **28** (1996), *suppl.*, 251–279 (1997). (Paolo Acquistapace) **99d:35038** 35J20 (47D06)

— Schauder estimates for a class of degenerate elliptic and parabolic operators with unbounded coefficients in $\mathbf{R}^n$. *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **24** (1997), *no.* 1, 133–164. (Paolo Acquistapace) **99a:35019** 35B45 (35J70, 35K65, 47D06, 47N20)

— Schauder theorems for linear elliptic and parabolic problems with unbounded coefficients in $\mathbf{R}^n$. (English summary) *Studia Math.* **128** (1998), *no.* 2, 171–198. (Paolo Acquistapace) **99a:35020** 35B45 (35J15, 35K10, 47D06, 47N20)

Lunardon, Guglielmo (*with* Casse, Louis Reynolds Antoine) On Buekenhout-Metz unitals. (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 237–240. (Summary) **99d:51015** 51E23 (51E20, 51E21)

— (*with* Gordon, Neil A.; Shaw, Ronald) Linear sections of GL(4, 2). (English summary) Finite geometry and combinatorics (Deinze, 1997). *Bull. Belg. Math. Soc. Simon Stevin* **5** (1998), *no.* 2-3, 287–311. (J. W. P. Hirschfeld) **99g:51008** 51E23 (20G40)

— An approach to semifield flocks. (English summary) *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 51 (1998), 115–121. (Ivano Pinneri) **99d:51009** 51E20 (51A45, 51E14)

— *see also* **Group theory and geometries, 99c:51004**

Luna Torres, Joaquín (*with* Ardila de la Peña, Victor Manuel; Julio-Arrieta, Carlos A.; Duque Hoyos, Álvaro; Restrepo, Mauricio) Sieves and adjunction. (Spanish. English and Spanish summaries) *Bol. Mat.* (*N.S.*) **2** (1995), *no.* 2, 167–171. (Summary) **99g:18001** 18A40

Lund, Carsten (*with* Arora, Sanjeev; Motwani, Rajeev; Sudan, Madhu; Szegedy, Mario) Proof verification and the hardness of approximation problems. (English summary) *J. ACM* **45** (1998), *no.* 3, 501–555. (Oded Goldreich) **99d:68077b** 68Q15 (03B35, 03D15, 68Q25)

— (*with* Reingold, Nick; Westbrook, Jeffery R.; Yan, Dicky) Competitive on-line algorithms for distributed data management. (English summary) *SIAM J. Comput.* **28** (1999), *no.* 3, 1086–1111 (*electronic*). (Summary) **99m:68068** 68Q20 (68Q25)

Lund, Fernando (*with* Arias, Rodrigo) Elastic fields of stationary and moving dislocations in three-dimensional finite samples. (English summary) *J. Mech. Phys. Solids* **47** (1999), *no.* 4, 817–841. (Summary) **99k:73064** 73D99 (73E99)

— (*with* Arias, Rodrigo) Excitation of normal modes of a thin elastic plate by moving dislocations. (English summary) *Wave Motion* **29** (1999), *no.* 1, 35–46. (Summary) **99h:73030** 73D20 (73K10)

Lund, John-Peter (*with* Strichartz, Robert S.; Vinson, Jade P.) Cauchy transforms of self-similar measures. (English summary) *Experiment. Math.* **7** (1998), *no.* 3, 177–190. (Summary) **99k:28012** 28A80 (30E20)

Lund, Robert (*with* Padgett, W. J.; Seymour, Lynne) A control chart for a general Gaussian process. (English summary) *J. Statist. Plann. Inference* **70** (1998), *no.* 1, 19–34. 62N10

Lund, Thomas S. (*with* Morinishi, Y.; Vasilyev, Oleg V.; Moin, Parviz) Fully conservative higher order finite difference schemes for incompressible flow. (English summary) *J. Comput. Phys.* **143** (1998), *no.* 1, 90–124. (Summary) **99a:76100** 76M20

— (*with* Vasilyev, Oleg V.; Moin, Parviz) A general class of commutative filters for LES in complex geometries. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 1, 82–104. (Summary) **99e:76096** 76M25 (76F99)

Lundelius, Rolf (*with* Jorgenson, Jay) A regularized heat trace for hyperbolic Riemann surfaces of finite volume. (English summary) *Comment. Math. Helv.* **72** (1997), *no.* 4, 636–659. (Józef Dodziuk) **99b:58224** 58G11 (58G18, 58G25, 58G26)

— (*with* Jorgenson, Jay) Convergence of the normalized spectral counting function on degenerating hyperbolic Riemann surfaces of finite volume. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 25–57. (Christopher M. Judge) **99e:58185** 58G18 (11F72, 58G25)

— (*with* Huntley, Jonathan; Jorgenson, Jay) On the asymptotic behavior of counting functions associated to degenerating hyperbolic Riemann surfaces. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 58–82. (Christopher M. Judge) **99e:58186** 58G18 (11F72)

Lundgren, J. Richard (*with* Jimenez, Guillermo) Tournaments which yield connected domination graphs. (English summary) Proceedings of the Twenty-ninth Southeastern International Conference on Combinatorics, Graph Theory and Computing (Boca Raton, FL, 1998). *Congr. Numer.* **131** (1998), 123–133. (Summary) **99j:05082** 05C20 (05C75)

— (*with* Fisher, David C.; Merz, Sarah K.; Reid, K. B.) The domination and competition graphs of a tournament. (English summary) *J. Graph Theory* **29** (1998), *no.* 2, 103–110. (Robert C. Brigham) **99g:05086** 05C20 (05C75)

Lundgren, Jan T. (*with* Patriksson, Michael) The combined distribution and stochastic assignment problem. (English summary) Modelling: in memory of Åsa Hallefjord. *Ann. Oper. Res.* **82** (1998), 309–329. (*see* **99e:90003**) 90C15 (90B30, 90C08)

Lundh, Torbjörn Discrete groups and thin sets. (English summary) *Ann. Acad. Sci. Fenn. Math.* **23** (1998), *no.* 2, 291–315. (Peter J. Nicholls) **99h:31005** 31A15 (20H10, 31B05, 31B15, 31C40)

Lundquist, Michael (*with* Johnson, Charles Royal; Kroschel, Brenda K.) The totally nonnegative completion problem. (English summary) *Topics in semidefinite and interior-point methods* (*Toronto, ON*, 1996), 97–107, *Fields Inst. Commun.*, 18, *Amer. Math. Soc., Providence, RI*, 1998. (Shu An Hu) **99c:15040** 15A48 (90C08)

— (*with* Johnson, Charles Royal) Local inversion of matrices with sparse inverses. (English summary) *Linear Algebra Appl.* **277** (1998), *no.* 1-3, 33–39. (Summary) **99b:15002** 15A09

Lundstedt, Jonas (*with* Wall, David J. N.) On inverse source problems for the one-way wave equation. (English summary) *Wave Motion* **27** (1998), *no.* 1, 55–77. (Summary) **99j:73047** 73D50 (35R30, 65N99)

Lundström, Patrik Self-dual normal bases for infinite Galois field extensions. (English summary) *Comm. Algebra* **26** (1998), *no.* 12, 4331–4341. (James K. Deveney) **99k:12006** 12F10

verduyn Lunel, S. M. *see* **Verduyn Lunel, S. M.**

Luneville, Eric (*with* Cutzach, Pierre-Marie) Diffraction d'ondes acoustiques par un guide semi-infini. (English and French summaries) [Acoustic wave scattering by a semi-infinite waveguide] *C. R. Acad. Sci. Paris Sér. I Math.* **326** (1998), *no.* 9, 1151–1154. 35J05 (76Q05)

Lunge, H. S. (*with* Khot, P. G.) Computational behaviour of improved methods of linear programming. (English summary) *J. Indian Soc. Statist. Oper. Res.* **17** (1996), *no.* 1-4, 37–42. 90C05

del Lungo, A. *see* **Del Lungo, A.**

Lungu, Nicolae On some Gronwall-type inequalities for monotonic operators. *Rev. Anal. Numér. Théor. Approx.* **25** (1996), *no.* 1-2, 121–125. (Roland Lemmert) **99a:47078** 47H07 (34A40)

— Bounded solutions and periodic solutions for certain systems of differential equations. *Studia Univ. Babeş-Bolyai Math.* **41** (1996), *no.* 4, 67–69. (Mauro Marini) **99f:34047** 34C11 (34C25)

Lunin, O. (*with* Antonuccio, F.; Pinsky, Stephen S.) On exact supersymmetry in DLCQ. (English summary) *Phys. Lett. B* **442** (1998), *no.* 1-4, 173–179. (Summary) **99h:81201** 81T60

— (*with* Antonuccio, F.; Pinsky, Stephen S.; Pauli, Hans-Christian; Tsujimaru, S.) DLCQ spectrum of $\mathcal{N} = (8, 8)$ super Yang-Mills theory. (English summary) *Phys. Rev. D* (3) **58** (1998), *no.* 10, 105024, 11 *pp.* (Summary) **99m:81234** 81T60 (81T13)

Lunn, A. D. (*with* Davies, Steve) A note on generating correlated binary variables. (English summary) *Biometrika* **85** (1998), *no.* 2, 487–490. (Friedrich Liese) **99i:62031** 62E25

Lunsford, M. Leigh Generalized variational and quasi-variational inequalities with discontinuous operators. (English summary) *J. Math. Anal. Appl.* **214** (1997), *no.* 1, 245–263. (George Isac) **99h:49013** 49J40 (47H19)

Lunt, John (*with* Lyons, Terry; Zhang, Tu Sheng) Integrability of functionals of Dirichlet processes, probabilistic representations of semigroups, and estimates of heat kernels. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 320–342. (Zhi Ming Ma) **99g:31012** 31C25 (47D07, 60G44, 60J25)

Lunter, G. A. (*with* Broer, Hendrik W.; Vegter, Gert) Equivariant singularity theory with distinguished parameters: two case studies of resonant Hamiltonian systems. (English summary) Time-reversal symmetry in dynamical systems (Coventry, 1996). *Phys. D* **112** (1998), *no.* 1-2, 64–80. (Peter Ashwin) **99b:58092** 58F05 (34C23, 34C25, 58F14, 70H33)

Lunze, J. (*with* Lichtenberg, Gerwald.) Observation of qualitative states by means of a qualitative model. (English summary) *Internat. J. Control* **66** (1997), *no.* 6, 885–903. 93B30 (93C55)

Luo, A. C. J. (*with* Han, R. P. S.) Resonant layers in nonlinear dynamics. (English summary) *Trans. ASME J. Appl. Mech.* **65** (1998), *no.* 3, 727–736. (Summary) **99h:70028** 70K30 (70H05)

Luo, C. L. *see* **Luo, Chun Lin**

Luo, Cheng Bounded classes that generate Banach spaces. (Chinese. English and Chinese summaries) *Neimenggu Daxue Xuebao Ziran Kexue* **28** (1997), *no.* 1, 13–18. (Ting Fu Wang) **99b:46016** 46B20

Luo, Cheng Zhong (*with* Yu, Fu Sheng) A mathematical model of fault diagnosis based on the theory of factor spaces and its application. (Chinese. English and Chinese summaries) *Mohu Xitong yu Shuxue* **13** (1999), *no.* 1, 47–53. 68T99

— *see also* **Liu, Xiao Hua**

Luo, Chun Lin Existence, uniqueness and iterative algorithms for solutions to general quasivariational inequalities with bilinear forms. (Chinese. English and Chinese summaries) *Sichuan Shifan Daxue Xuebao Ziran Kexue Ban* **20** (1997), *no.* 4, 20–25. 47H19 (49J40)

— (*with* Ding, Xie Ping) Existence and algorithm for solving some generalized mixed variational inequalities. (English summary) *Comput. Math. Appl.* **37** (1999), *no.* 3, 23–30. (Summary) **99j:49013** 49J40 (47H19, 90C33)

— (*with* Ding, Xie Ping) On parametric generalized quasi-variational inequalities. (English summary) *J. Optim. Theory Appl.* **100** (1999), *no.* 1, 195–205. (Igor' V. Konnov) **99m:47080** 47H19 (47H09, 49J40)

Luo, Congwen Stonean kernels of MS-algebras. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 4, 394–396. (Summary) **99k:06007** 06D30

Luo, Dang (*with* Liu, Fa Gui) The Cauchy problem for P systems with nonlinear dissipative terms. (Chinese. English and Chinese summaries) *J. Math. Study* **31** (1998), *no.* 1, 51–56, 63. 35L60

Luo, Dingjun Bifurcation diagrams of system $\dot{x} = -y + \delta x + lx^2 + ny^2$, $\dot{y} = x + ax^2$. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 254–261. (Summary) **99d:34045** 34C05 (34C23, 58F14, 58F21)

Luo, Donghan (*with* MacGregor, Thomas H.) Multipliers of fractional Cauchy transforms and smoothness conditions. (English summary) *Canad. J. Math.* **50** (1998), *no.* 3, 595–604. (David J. Hallenbeck) **99d:30040** 30E20 (30D50)

Luo, Erding (*with* Engquist, Björn) Convergence of a multigrid method for elliptic equations with highly oscillatory coefficients. (English summary) *SIAM J. Numer. Anal.* **34** (1997), *no.* 6, 2254–2273. (Charles I. Goldstein) **99e:65170** 65N55 (65N12)

— (*with* Kreiss, Heinz-Otto) Pseudospectral vs. finite difference methods for initial value problems with discontinuous coefficients. (English summary) *SIAM J. Sci. Comput.* **20** (1999), *no.* 1, 148–163 (*electronic*). (Rudolf Gorenflo) **99i:65113** 65M70 (65M06)

Luo, Fa Long (*with* Unbehauen, Rolf; Reif, Konrad; Li, Yan Da) Analog approach for the eigen-decomposition of positive definite matrices. (English summary) *Comput. Math. Appl.* **35** (1998), *no.* 11, 49–61. (Summary) **99b:15012** 15A18 (15A48, 68T05)

Luo, Feng[1] A presentation of the mapping class groups. (English summary) *Math. Res. Lett.* **4** (1997), *no.* 5, 735–739. (M. Paul Latiolais) **99b:57031** 57M50 (20F05, 57N05)

— Geodesic length functions and Teichmüller spaces. (English summary) *J. Differential Geom.* **48** (1998), *no.* 2, 275–317. (Athanase Papadopoulos) **99e:32031** 32G15 (30F60, 53C22)

— Simple loops on surfaces and their intersection numbers. (English summary) *Math. Res. Lett.* **5** (1998), *no.* 1-2, 47–56. (B. N. Apanasov) **99h:57028** 57M50 (57N05)

Luo, G.-W. (*with* Xie, Jian Hua) Hopf bifurcation of a two-degree-of-freedom vibro-impact system. (English summary) *J. Sound Vibration* **213** (1998), *no.* 3, 391–408. (Summary) **99b:70024** 70K50

Luo, Gong Liang (*with* Kou, Xin Min; Chai, Tian You) A robust back propagation algorithm for identification of dynamical systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 6, 929–932. 93B30 (93B36)

Luo, Gui Lie (*with* Liao, Min Li; Jiang, You Lin) Almost periodic solution of two-species patch-type nonautonomous diffusive Lotka-Volterra competitive models. (English summary) *Ann. Differential Equations* **12** (1996), *no.* 4, 441–445. (Summary) **99a:92028** 92D25 (34C27)

— (*with* Liao, Min Li) Properties of almost periodic solution for a kind of ecological systems with time delay. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 3, 534–545. (Summary) **99i:92023** 92D25 (34K15)

— (*with* Liao, Min Li; Jiang, You Lin) Almost periodic solutions to two-species nonautonomous Lotka-Volterra competition systems with diffusion. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **18** (1998), *no.* 2, 204–210. (Summary) **99f:92022** 92D25

Luo, Gui Ming Robustness of adaptive control for stochastic systems. (English summary) *Internat. J. Control* **64** (1996), *no.* 3, 463–482. 93E35 (93D21)

Luo, Hai Peng (*with* Su, Wen Long; Li, Qiao) New lower bounds of classical Ramsey numbers $R(6, 12)$, $R(6, 14)$ and $R(6, 15)$. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 10, 817–818. (Summary) **99f:05082** 05C55

— (*with* You, Zhi Shu; Su, Wen Long) A new lower bound for the Ramsey number $R_{10}(3)$. (Chinese. English and Chinese summaries) *J. Changsha Comm. Univ.* **14** (1998), *no.* 1, 1–3. 05C55

— (*with* Su, Wen Long; Li, Jing Wen) Lower bounds for the Ramsey numbers $R(7, 18)$, $R(7, 19)$, $R(7, 20)$ and $R(7, 21)$. (Chinese. English and Chinese summaries) *J. Lanzhou Railway Inst.* **17** (1998), *no.* 1, 106–108. 05C55

Luo, Hong (*with* Baum, Joseph D.; Löhner, Rainald) A fast, matrix-free implicit method for compressible flows on unstructured grids. (English summary) *J. Comput. Phys.* **146** (1998), *no.* 2, 664–690. (Summary) **99h:76074** 76M25 (76N15)

Luo, J. C. (*with* Lee, E. Bruce) Disturbance stress for stabilized second order control systems. (English summary) Special issue on Barrett Lectures in control theory (Knoxville, TN, 1997). *Math. Models Methods Appl. Sci.* **8** (1998), *no.* 7, 1155–1182. (Summary) **99i:93055** 93D15 (93C15)

Luo, J. S. *see* **Luo, Jian-san**

Luo, J. W. *see* **Luo, Jiao Wan**

Luo, Jian-san (*with* van den Bosch, P. P. J.; Weiland, Siep; Goldenberg, Andrew A.) Design of performance robustness for uncertain linear systems with state and control delays. (English summary) *IEEE Trans. Automat. Control* **43** (1998), *no.* 11, 1593–1596. (Summary) **99h:93061** 93C41 (93D09, 93D21)

Luo, Jian-shu (*with* Fang, Kui; Zhu, Guo-qing) C^k shape-preserving piecewise interpolating polynomials of degree $2k$. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 1–10. (Summary) **99c:65018** 65D07

Luo, Jiang Yun (*with* Li, Zun Xian; Ren, Fang Guo) A construction of Reed-Muller codes. (Chinese. English and Chinese summaries) *J. Shaanxi Normal Univ. Nat. Sci. Ed.* **26** (1998), *no.* 3, 5–6, 10. (Summary) **99k:94048** 94B05

Luo, Jiao Wan Oscillation theorems for a neutral delay difference equation. (English summary) *Ann. Differential Equations* **13** (1997), *no.* 4, 377–384. (Summary) **99b:39008** 39A10 (39A12)

— Asymptotic behavior of solutions of forced nonlinear delay differential equations. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 6, 28–30. (Summary) **99i:34113** 34K25

— (*with* He, Zhenting; Chen, Haibo) Oscillation criteria for second order neutral difference equations. (English summary) *Ann. Differential Equations* **14** (1998), *no.* 2, 262–266. (Summary) **99i:39010** 39A10

— (*with* Liu, Kai Yu; Yu, Jian She) Global attractivity and uniform stability for a perturbed nonautonomous linear differential equation with delay. (Chinese. English and Chinese summaries) *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *no.* 3, 257–266. (Jian Hong Wu) **99m:34174** 34K20

— (*with* Liu, Kai Yu) K-global asymptotic stability of solutions of systems of nonlinear difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 1, 43–46. (Summary) **99h:39018** 39A11

— (*with* Shen, Jian Hua) Lyapunov-Razumikhin methods for impulsive functional-differential equations. (English summary) *Commun. Appl. Anal.* **3** (1999), *no.* 2, 157–171. (Yuri V. Rogovchenko) **99m:34175** 34K20 (34A37, 34D20)

— (*with* Zeng, Wei Yao) Exponential dichotomies and Melnikov functions for singularly perturbed systems. *Nonlinear Anal.* **36** (1999), *no.* 4, *Ser. A: Theory Methods*, 401–422. (Mikhail B. Sevryuk) **99m:34094** 34C25 (34C11, 34C37, 34E15)

Luo, Jihao (*with* Tsiotras, Panagiotis) Exponentially convergent control laws for nonholonomic systems in power form. (English summary) *Systems Control Lett.* **35** (1998), *no.* 2, 87–95. (Summary) **99g:93032** 93B50 (70F25, 70Q05, 93C85)

Luo, Jiu Li (*with* Xu, Jiu Ping; Xu, Qi Wang) Dynamic analysis of a reaction-diffusion-like evolutionary equation for the growth of a single-bacillus population. (Chinese. English and Chinese summaries) *Sichuan Daxue Xuebao* **35** (1998), *no.* 6, 926–932. 35K57 (34C99, 92D25)

Luo, Jun A simple proof of a small conjecture on topological entropy. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Sunyatseni* **37** (1998), *no.* 2, 1–4. (Miaohua Jiang) **99m:54030** 54H20 (54C05, 54C70, 58F03)

Luo, Laihan (*with* Bona, Jerry L.) A generalized Korteweg-de Vries equation in a quarter plane. (English summary) *Applied analysis (Baton Rouge, LA, 1996)*, 59–125, *Contemp. Math.*, 221, *Amer. Math. Soc., Providence, RI*, 1999. (Sen Zhong Huang) **99m:35201** 35Q53 (76B15, 76B25)

Luo, Laixing (*with* Yuan, Jin Jiang) Treewidth, forward bandwidth and fill-in number of the composition of two graphs. (English summary) Dedicated to the memory of Paul Erdős (Riverdale, NY, 1996). *Graph Theory Notes N. Y.* **32** (1997), 6–9. (*see* **99k:05003**) 05C78

Luo, Li Bo Vaught's conjecture for unary relations. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 617–622. (Summary) **99g:03036** 03C50

Luo, Li Ping (*with* Ouyang, Zi Gen) Rough norms on Banach spaces. (Chinese. English and Chinese summaries) *J. Changsha Univ. Electr. Power Nat. Sci. Ed.* **13** (1998), *no.* 2, 129–131, 139. (Summary) **99h:46020** 46B20

Luo, Mao Cai (*with* Ma, Zhi En) Persistence of a two-species Lotka-Volterra model with separation and diffusion. (Chinese. English and Chinese summaries) *J. Biomath.* **12** (1997), *no.* 1, 52–59. (Summary) **99m:92035** 92D25 (34C99, 34D99)

Luo, Mao-kang (*with* Liu, Ying Ming) ★ Fuzzy topology. (English summary) Advances in Fuzzy Systems—Applications and Theory, 9. *World Scientific Publishing Co., Inc., River Edge, NJ*, 1997. *x*+353 *pp. ISBN* 981-02-2862-7 (Ivan L. Reilly) **99m:54005** 54A40

— (*with* He, Wei[1]) Zero-dimensionality in the category of locales. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 3, 539–544. 18B30 (54A05, 54B30, 54F45)

— (*with* Liu, Ying Ming; Liang, Ji-hua) On convergence classes in *L*-fuzzy topological spaces. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 316–331. (I. W. Alderton) **99i:54010** 54A40

— (*with* Liang, Ji-hua; Liu, Ying Ming) Accumulation point and C. T. Yang's theorem in *L*-fuzzy topological spaces. (English summary) *J. Math. Anal. Appl.* **231** (1999), *no.* 1, 266–277. 54A40

Luo, Ning Su The design of universal continuous linear controllers for generalized continuous stabilizable systems with delays. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **23** (1997), *no.* 6, 742–749. (Daoyi Xu) **99f:93118** 93D15 (93C30)

— (*with* de la Sen, Manuel) On the design of universal stabilizing continuous linear controllers for time-delay systems. I. Preliminary results. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 3, 401–424. (Jerzy Klamka) **99i:93057** 93D15 (34K35, 93C30)

— (*with* de la Sen, Manuel) On the design of universal stabilizing continuous linear controllers for time-delay systems. II. Universal controller and main stability results. (English and Lithuanian summaries) *Informatica (Vilnius)* **8** (1997), *no.* 4, 527–558. (Jerzy Klamka) **99i:93058** 93D15 (34K35, 93C30)

— (*with* de la Sen, Manuel; Rodellar, José) Composite adaptive SMC of nonlinear base isolated buildings with actuator dynamics. (English summary) Adaptive learning and control using sliding modes. *Appl. Math. Comput. Sci.* **8** (1998), *no.* 1, 183–197. (*see* **99a:93003**) 93C95

Luo, Ping The structure of *L*-combined sequence. (Chinese. English summary) *J. Numer. Methods Comput. Appl.* **19** (1998), *no.* 4, 299–309. 65C10

Luo, Qi Partial oscillation of *m*-dimensional logistic ecologic models. (English summary) *Wuhan Univ. J. Nat. Sci.* **3** (1998), *no.* 1, 5–10. (Summary) **99b:92058** 92D40 (92D25)

Luo, Qiao Lin A mathematical problem arising from time series. III. (Chinese. English and Chinese summaries) *Qufu Shifan Daxue Xuebao Ziran Kexue Ban* **24** (1998), *no.* 4, 1–3. (Summary) **99m:62140** 62M10

Luo, Qiu-Ming (*with* Qi, Feng) A simple proof of monotonicity for extended mean values. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 2, 356–359. 15A48

Luo, Qun Properties of positive operators and orthogonal projection operators on random inner product modules. (Chinese. English and Chinese summaries) *Gongcheng Shuxue Xuebao* **15** (1998), *no.* 2, 51–56. (Xue Rong Mao) **99k:47185** 47S50 (46S50, 60H25)

— Spectral family representation of a class of operators on complex random inner product modules. (Chinese. English and Chinese summaries) *Guizhou Shifan Daxue Xuebao Ziran Kexue Ban* **16** (1998), *no.* 1, 59–63. (Tong Shan Lu) **99d:47031** 47B80 (47S50, 60H25)

— Existence theorems for random Nash equilibrium points in noncooperative games. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 1, 117–121. (Summary) **99m:90167** 90D10 (90A14)

Luo, Rong (*with* Li, Jiong Sheng; Song, Zi-Xia) The Erdős-Jacobson-Lehel conjecture on potentially P_k-graphic sequence is true. (English summary) *Sci. China Ser. A* **41** (1998), *no.* 5, 510–520. (Jenő Lehel) **99j:05110** 05C35

Luo, Shao Kai The theory of relativistic analytical mechanics of the rotational systems. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 1, 45–57; *translated from Appl. Math. Mech.* **19** (1998), *no.* 1, 43–53 (*Chinese. English and Chinese summaries*). (A. Sumbatov) **99c:70027** 70H40 (70F20, 70F25, 70H30, 70H33, 83A05)

— (*with* Chen, Xiang Wei) Integration method for the dynamics equation of relative motion of variable mass nonlinear nonholonomic system. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 5, 479–488; *translated from Appl. Math. Mech.* **19** (1998), *no.* 5, 447–455 (*Chinese. English and Chinese summaries*). (Q. K. Ghori) **99h:70022** 70F25 (70P05)

Luo, Shao Ming (*with* Zhang, Xiang Wei) The wavelet analysis method of stationary random processes. *Appl. Math. Mech. (English Ed.)* **19** (1998), *no.* 10, 929–935; *translated from Appl. Math. Mech.* **19** (1998), *no.* 10, 859–864 (*Chinese. English and Chinese summaries*). (Summary) **99m:60061** 60G10 (42C15, 70L05)

Luo, Shun-Long Wick algebra of generalized operators involving quantum white noise. (English summary) *J. Operator Theory* **38** (1997), *no.* 2, 367–378. (Wolfgang Freudenberg) **99b:47063** 47D45 (47N50, 81S05)

— A harmonic oscillator on the Poincaré disc and hypercontractivity. (English summary) *J. Phys. A* **30** (1997), *no.* 14, 5133–5139. (Harald Upmeier) **99c:81125** 81S99 (81Q99)

— Discrete series of SU(1, 1) and Gaussian deformation. (English summary) *Lett. Math. Phys.* **42** (1997), *no.* 1, 1–10. (Albert Jeu-Liang Sheu) **99a:22026** 22E46 (22E30, 81R05, 81R30)

— On the Bargmann transform and the Wigner transform. (English summary) *Bull. London Math. Soc.* **30** (1998), *no.* 4, 413–418. (Brian C. Hall) **99e:81121** 81S30 (47B38, 81R30)

— (*with* Yan, Jia An) Generalized Fourier-Mehler transforms on white noise functional spaces. (English summary) *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1321–1325. (Isamu Dôku) **99m:60101** 60H99 (46F25, 47B38)

— (*with* Huang, Zhi Yuan) Quantum white noises and free fields. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 1, 69–82. (Kalyanapuram R. Parthasarathy) **99h:81127** 81T08 (46N50, 81S25)

— (*with* Huang, Zhi Yuan) Wick calculus of generalized operators and its applications to quantum stochastic calculus. (English summary) *Infin. Dimens. Anal. Quantum Probab. Relat. Top.* **1** (1998), *no.* 3, 455–466. (Wolfgang Freudenberg) **99f:81109** 81S25 (47D45)

— A nonlinear deformation of Wiener space. (English summary) *J. Theoret. Probab.* **11** (1998), *no.* 2, 331–350. (Hélène Airault) **99j:60076** 60H07 (28C20, 60B11)

Luo, Tao (*with* Xin, Zhouping) Nonlinear stability of shock fronts for a relaxation system in several space dimensions. (English summary) *J. Differential Equations* **139** (1997), *no.* 2, 365–408. (Fumioki Asakura) **99c:35155** 35L67 (35B35, 35B40)

— (*with* Xiao, Ling; Yang, Tong) Global BV solutions of compressible Euler equations with spherical symmetry and damping. (English summary) *J. Differential Equations* **146** (1998), *no.* 1, 203–225. (Roberto Natalini) **99g:35106** 35Q30 (76N10)

— (*with* Natalini, Roberto) BV solutions and relaxation limit for a model in viscoelasticity. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 775–795. (Michael Renardy) **99e:35218** 35Q72 (35L60, 73F15)

— (*with* Yang, Tong) Global weak solutions for elastic equations with damping and different end states. (English summary) *Proc. Roy. Soc. Edinburgh Sect. A* **128** (1998), *no.* 4, 797–807. (Akira Tsutsumi) **99g:35129** 35Q72 (35D05, 35L60, 73C50, 73D35)

— (*with* Xiao, Ling) Large-time behavior of solutions to the equations of one-dimensional nonlinear thermoviscoelasticity. *Quart. Appl. Math.* **56** (1998), *no.* 2, 201–219. (Jaime E. Muñoz Rivera) **99h:73039** 73F15 (35B40, 35Q72, 45K05, 73B30)

— (*with* Serre, Denis) Linear stability of shock profiles for a rate-type viscoelastic system with relaxation. (English summary) *Quart. Appl. Math.* **56** (1998), *no.* 3, 569–586. (Michael Renardy) **99e:35143** 35L67 (35Q72, 73F15)

Luo, Tie Divisorial extremal contractions of threefolds: divisor to point. (English summary) *Amer. J. Math.* **120** (1998), *no.* 2, 441–451. (Yuri G. Prokhorov) **99f:14051** 14J30 (14E05, 14E30)

Luo, Tiegeng (*with* Chen, Huo Wang; Wang, Bingshan; Wang, Ji; Gong, Zhenghu; Qi, Zhichang) Verifying automata specification of distributed probabilistic real-time systems. (English summary) Proceedings of the International Summer School and Workshop on Formal Models of Programming and their Applications (Beijing, 1997). *J. Comput. Sci. Tech.* **13** (1998), *no.* 6, 588–596. (Summary) **99m:68123** 68Q60

Luo, Wei[1] (*with* Tang, Heng Sheng; Ou, Chun Hua) Oscillation properties of the difference equation $x_{n+1} = F(x_n)$. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **17** (1997), *no.* 2, 70–73. (Summary) **99e:39043** 39A10

— (*with* Ou, Chun Hua; Tang, Heng Sheng) Boundedness, persistence and asymptotic stability on the delay difference equation $x_{n+1} = f(x_n, x_{n-1}, \cdots, x_{n-k})$. (English summary) *Ann. Differential Equations* **15** (1999), *no.* 1, 38–47. 39A11 (39A10)

Luo, Wenzhi (*with* Ramakrishnan, Dinakar) Determination of modular elliptic curves by Heegner points. Olga Taussky-Todd: in memoriam. *Pacific J. Math.* **1997**, *Special Issue*, 251–258. (M. Ram Murty) **99b:11069** 11G40 (11G05, 11G10, 11G18)

Luo, Xian Fa (*with* Xuan, Heng Nong; Liu, Shun Bao; Zhang, Ting Xuan) A uniform boundedness principle for a family of operators. (Chinese. English and Chinese summaries) *Hunan Jiaoyu Xueyuan Xuebao (Ziran Kexue)* **16** (1998), *no.* 2, 8–10. 47A05

— Necessary and sufficient conditions for a closed subspace of finite codimension in a real Banach space to be pseudo-semi-Chebyshev. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 51–55. (Summary) **99c:46012** 46B20

— Very extreme convexity and very extreme smoothness for Banach spaces. (Chinese. English and Chinese summaries) *J. Jishou Univ. Nat. Sci. Ed.* **19** (1998), *no.* 2, 33–35. (Summary) **99h:46015** 46B20

Luo, Xiao Rong (*with* Li, Xiao Ping) Existence of positive solutions for higher order neutral delay difference equations. (Chinese. English and Chinese summaries) *Hunan Ann. Math.* **18** (1998), *no.* 2, 82–87. (Summary) **99k:39026** 39A10

Luo, Xiaodong (*with* Bertsimas, Dimitris) A new algorithm for state-constrained separated continuous linear programs. (English summary) *SIAM J. Control Optim.* **37** (1999), *no.* 1, 177–210 (*electronic*). (Edward J. Anderson) **99e:90057** 90C08 (49M35, 90C48)

Luo, Xiaolong (*with* Boyett, James M.) Estimations of a threshold parameter in Cox regression. (English summary) *Comm. Statist. Theory Methods* **26** (1997), *no.* 10, 2329–2346. (Hung Trung Nguyen) **99b:62168** 62P99 (62F10)

Luo, Xiaonan (*with* Gao, Chengying; Wang, Jianmin; Guan, Lü Tai) Representation of practical recurrent curves. (English summary) *Advances in computational mathematics (Guangzhou, 1997)*, 413–422, *Lecture Notes in Pure and Appl. Math.*, 202, *Dekker, New York*, 1999. (Summary) **99h:65030** 65D17

Luo, Xin Mi Optimal solutions of a class of integer programming problems and the girth of circulant digraphs. (Chinese. English and Chinese summaries) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 1, 36–41. (Summary) **99b:90083** 90C10 (05C38)

— (*with* Meng, Ji-Xiang) Cayley graphs of abelian groups are edge-Hamiltonian. (English summary) *J. Xinjiang Univ. Natur. Sci.* **15** (1998), *no.* 3, 1–4. (Summary) **99j:05092**

05C25 (05C45)

Luo, Xu Guang (*with* Liu, Ding; Wan, Bai Wu) Adaptive fuzzy identification and its application to large-scale systems. (Chinese. English and Chinese summaries) *Control Theory Appl.* **15** (1998), *no.* 3, 352–357. 93B30 (93C42)

Luo, Xudong (*with* Zhang, Chengqi) LSLNCF: a hybrid uncertain reasoning model based on probability. (English summary) *Internat. J. Uncertain. Fuzziness Knowledge-Based Systems* **6** (1998), *no.* 4, 401–422. (Summary) **99i:68116** 68T35 (03B48, 03B70)

Luo, Xue Bo (*with* Niu, Peng Cheng) The spectrum of the sub-Laplacian operator on a two-step nilpotent Lie group. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **40** (1997), *no.* 5, 659–664. (T.-S. Wu) **99e:22018** 22E30 (22E25, 35H05, 47F05)

— Liouville's theorem for homogeneous differential operators. *Comm. Partial Differential Equations* **22** (1997), *no.* 11-12, 1837–1848. (Peter R. Popivanov) **99f:35022** 35H05 (35B05)

— (*with* Niu, Peng Cheng) Eigenvalue problems for operators that are sums of squares of vector fields. (Chinese. English and Chinese summaries) *Math. Appl.* **10** (1997), *no.* 4, 101–104. (Summary) **99c:35175** 35P05 (35H05)

Luo, Y. (*with* Chan, Shing Chow; Ho, K. L.) M-channel compactly supported biorthogonal cosine-modulated wavelet bases. (English summary) *IEEE Trans. Signal Process.* **46** (1998), *no.* 4, 1142–1151. (Summary) **99h:94005** 94A11 (42C15)

Luo, Yan (*with* Shao, Ming-Xue; Zhu, Zhong-Yuan) Diffeomorphism invariance of geometric descriptions of Palatini and Ashtekar gravity. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 37–39. (Summary) **99c:83005** 83C05 (83C45)

Luo, Yan Confidence interval estimation for parameters of exponential distributions from incomplete data. (Chinese. English and Chinese summaries) *Dianzi Keji Daxue Xuebao* **27** (1998), *no.* 4, 445–448. 62F25

Luo, Yan Feng Modular right inverse semigroups. (Chinese. English and Chinese summaries) *J. Math. (Wuhan)* **17** (1997), *no.* 3, 345–351. (Heng Wu Zheng) **99m:20145** 20M17 (20M19)

— Operator semigroups and networks of congruences for regular orthocryptogroups. (Chinese. English and Chinese summaries) *Acta Math. Sinica* **41** (1998), *no.* 5, 1101–1108. 20M10

Luo, Yan Lin (*with* Wang, Guo Zhao) Rational p-subdivision for geometric modeling. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 45–50. (*see* **99k:65006**) 65D17

— (*with* Chen, Ling Jun) Three-dimensional reconstruction of a constant-diameter pipe surface. (Chinese. English and Chinese summaries) Proceedings of the 1997 Conference on Geometric Design (GD '97) (Hangzhou, 1997). *Gaoxiao Yingyong Shuxue Xuebao Ser. A* **13** (1998), *suppl.*, 86–90. (*see* **99k:65006**) 65D17 (65Y25)

Luo, Yong[1] (*with* Yedlin, Matthew J.) Polynomial time-marching for nonreflecting boundary problems. (English summary) *J. Sci. Comput.* **12** (1997), *no.* 1, 31–50. (M. K. Kadalbajoo) **99b:65154** 65N35

Luo, Yong-Lun (*with* Luk, Kwai-Man; Shum, Siu-Ming) A novel exact two-point field equation (2PFE) for solving electromagnetic scattering problems. (English summary) *IEEE Trans. Antennas and Propagation* **46** (1998), *no.* 12, 1833–1841. (Summary) **99i:78004** 78–08 (78A45)

Luo, Yu Pin (*with* Wada, Koichi; Chen, Wei[3]; Kawaguchi, Kimio) Optimal fault-tolerant ATM-routings for biconnected graphs. (English summary) *Graph-theoretic concepts in computer science (Berlin, 1997)*, 354–367, *Lecture Notes in Comput. Sci.*, 1335, *Springer, Berlin*, 1997. (Summary) **99d:68026** 68M10 (68R10, 90C35)

— (*with* Hu, Dong Cheng; Yang, Liang Tu) Robustness analysis of k-order attractors in a discrete Hopfield associative memory. (Chinese. English and Chinese summaries) *J. Tsinghua Univ.* **38** (1998), *no.* 9, 55–58. 82C32

Luo, Yuan (*with* Fu, Fang Wei) Depth distributions of linear codes. (Chinese. Chinese summary) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 19, 2046–2049. 94B05

— (*with* Zhang, Zhaozhi) Neural network models for design of block cipher system. (English summary) *Systems Sci. Math. Sci.* **11** (1998), *no.* 2, 161–167. (Summary) **99a:94038** 94A60 (68P25)

Luo, Yue Hu (*with* Feng, De Xing) Asymptotic stability of C_0 semigroups. (Chinese. English and Chinese summaries) *Acta Math. Sci. (Chinese)* **17** (1997), *no.* 4, 396–402. (Ti Jun Xiao) **99a:47062** 47D06

— (*with* Yung, Siu Pang; Feng, De Xing) Stability of linear systems in Banach space. *Chinese Sci. Bull.* **43** (1998), *no.* 16, 1399–1401. 34G10 (34D99, 47D06)

— (*with* Feng, De Xing) On exponential stability of C_0 semigroups. (English summary) *J. Math. Anal. Appl.* **217** (1998), *no.* 2, 624–636. (Vũ Quốc Phóng) **99f:47047** 47D06

— (*with* Weng, Shao Peng; Feng, De Xing) Stability of linear systems in Banach spaces. (Chinese) *Kexue Tongbao (Chinese)* **43** (1998), *no.* 15, 1676–1677. 93D05 (93C25)

— (*with* Kandel, Abraham; Zhang, Yan-Qing) Stability analysis of fuzzy control systems. (English summary) *Fuzzy Sets and Systems* **105** (1999), *no.* 1, 33–48. 93D05 (93C42)

— (*with* Feng, De Xing) Perturbations of rank one and pole assignment for distributed parameter systems with a single unbounded input. (Chinese. English and Chinese summaries) *J. Systems Sci. Math. Sci.* **19** (1999), *no.* 2, 179–189. 93B55 (93C20)

Luo, Yun Feng (*with* Zhu, Shi Jing; Yue, Chao Yuan; Chen, Ting[1]) A study on the order-of-voting effect of binary voting procedures. (Chinese. English and Chinese summaries) *J. Syst. Eng.* **12** (1997), *no.* 4, 55–64. 90A28

— (*with* Zhu, Shi Jing; Wang, Shu Ning; Chen, Ting[1]) A class of robustly efficient solutions for multiobjective decision-making with uncertain parameters. (Chinese. English and Chinese summaries) *Acta Automat. Sinica* **24** (1998), *no.* 3, 395–399. 90C29 (90A05)

— (*with* Zhu, Ming Fu; Zhao, Yong; Yue, Chao Yuan) A comparative analysis of three rational choice functions and their revealed preference representations. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 49–52. 90A05

— (*with* Xiao, Ren Bin; Zhu, Ming Fu; Yue, Chao Yuan) An analysis of the constraints on the maximum size of a preference profile. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 7, 53–56. 90A05

— (*with* Yue, Chao Yuan) A non-oligarchy impossibility theorem with domain restriction. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 4–6. 90A08

— (*with* Yue, Chao Yuan) A revealed preference description for a class of rationalized choice functions. (Chinese. English and Chinese summaries) *J. Huazhong Univ. Sci. Tech.* **26** (1998), *no.* 10, 7–9. 90A08

Luo, Yun Ling (*with* Gao, Yin Zhi; Wang, Qun) The rate of L^1-convergence of Grünwald interpolatory operators. (Chinese. English and Chinese summaries) *Pure Appl. Math.* **14** (1998), *no.* 3, 55–59. 41A36

Luo, Z. *see* **Luo, Zu Hua**

Luo, Zhang Hua (*with* Chen, Zhi) A parametric iterative method for solving the matrix equation $AX - XB = E$. (Chinese. English and Chinese summaries) *J. Yiyang Teachers College* **14** (1997), *no.* 5, 10–14. 65F30 (65F10)

Luo, Zhaofu (*with* Wen, Guo Chun) Hyperbolic complex functions and hyperbolic pseudoregular functions. (English and Chinese summaries) *J. Ningxia Univ. Nat. Sci. Ed.* **19** (1998), *no.* 1, 12–18. (Vladimir Mityushev) **99e:30031** 30G20

Luo, Zhen Dong The mixed finite element method for nonstationary conduction-convection problems. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 1, 69–88. (Summary) **99c:76069** 76M10 (65M60, 65N30, 76D05)

— (*with* Wang, Lie Heng) Nonlinear Galerkin mixed element methods for nonstationary conduction-convection problems. I. The continuous-time case. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 3, 305–324. (Summary) **99m:65189** 65M60 (76M10, 76Rxx)

— (*with* Wang, Lie Heng) Nonlinear Galerkin mixed element methods for the nonstationary conduction-convection problems. II. The backward one-step Euler fully discrete format. (Chinese. English summary) *Math. Numer. Sin.* **20** (1998), *no.* 4, 431–448. (Summary) **99m:65190** 65M60 (76M10, 76Rxx)

— (*with* Liu, Ru Xun) Mixed finite element analysis and numerical solitary solution for the RLW equation. (English summary) *SIAM J. Numer. Anal.* **36** (1999), *no.* 1, 89–104 (*electronic*). (Ruxandra Stavre) **99j:65173** 65M60 (65N30, 76M10)

Luo, Zhen Jiang (*with* Shi, Zhong) A subclass of the class of starlike meromorphic functions of order λ. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 5, 8–11. 30C45

— Logical simplification on circular graphs. (Chinese. English and Chinese summaries) *Natur. Sci. J. Harbin Normal Univ.* **13** (1997), *no.* 6, 8–11. 03B05 (94C10)

Luo, Zhi Guo Complete space-like submanifolds of a pseudo-Riemannian space of constant curvature. (Chinese. English and Chinese summaries) *Acta Sci. Natur. Univ. Norm. Hunan.* **20** (1997), *no.* 3, 15–19. (Hui Li Liu) **99a:53080** 53C50 (53C40)

Luo, Zhi Ming A geometric interpretation of infinite symbolic dynamical systems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 1, 24–28. (Summary) **99e:58063** 58F03

— (*with* Zeng, Fan Ping; Xi, Hong Jian) A note on Hillam's iteration scheme. (English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 2, 125–127. 58F08 (26A18, 58F03)

Luo, Zhi-Quan (*with* Sturm, Jos F.; Zhang, Shuzhong) Superlinear convergence of a symmetric primal-dual path following algorithm for SDP. (English summary) *Advances in nonlinear programming (Beijing, 1996)*, 283–297, *Appl. Optim.*, 14, *Kluwer Acad. Publ., Dordrecht*, 1998. (*see* **99b:90004**) 90C30 (65K05)

— (*with* Pang, Jong-Shi; Ralph, Daniel) Piecewise sequential quadratic programming for mathematical programs with nonlinear complementarity constraints. (English summary) *Multilevel optimization: algorithms and applications*, 209–229, *Nonconvex Optim. Appl.*, 20, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99b:90139** 90C33 (90C20)

— (*with* Fukushima, Masao; Pang, Jong-Shi) A globally convergent sequential quadratic programming algorithm for mathematical programs with linear complementarity constraints. (English summary) *Comput. Optim. Appl.* **10** (1998), *no.* 1, 5–34. (S. R. Mohan) **99e:90088** 90C30 (90C33)

— (*with* Fu, Minyue; Ye, Yinyu) Approximation algorithms for quadratic programming. (English summary) Semidefinite programming and interior-point approaches for combinatorial optimization problems (Toronto, ON, 1996). *J. Comb. Optim.* **2** (1998), *no.* 1, 29–50. (Jos F. Sturm) **99f:90072** 90C20 (90C30)

— (*with* Sturm, Jos F.; Zhang, Shuzhong) Superlinear convergence of a symmetric primal-dual path following algorithm for semidefinite programming. (English summary) *SIAM J. Optim.* **8** (1998), *no.* 1, 59–81 (*electronic*). (Levent Tunçel) **99g:90127** 90C30 (65K05)

— (*with* Sun, Jie) An analytic center based column generation algorithm for convex quadratic feasibility problems. (English summary) *SIAM J. Optim.* **9** (1999), *no.* 1, 217–235 (*electronic*). (Florian Jarre) **99j:90056** 90C20 (90C25)

Luo, Zhijian (*with* Zhu, Jianyang) Dirac quantum field theory in Rindler spacetime. (English summary) *Internat. J. Theoret. Phys.* **38** (1999), *no.* 2, 575–584. (Summary) **99k:81203** 81T20

Luo, Zhixue (*with* Ma, Zhi En; Zong, Wengang) The thresholds of survival for an n-dimensional food chain model in a polluted environment. (English summary) *J. Math. Anal. Appl.* **210** (1997), *no.* 2, 440–458. (T. J. Mahar) **99e:92034** 92D40 (34C11)

Luo, Zhong Hua (*with* Li, She Huan) A practical method for solving low-order constrained optimization problems. (Chinese. English and Chinese summaries) *Natur. Sci. J. Xiangtan Univ.* **20** (1998), *no.* 4, 26–28. 90C30 (65K05)

Luo, Zhong Wei *see* **Lo, Zhongwei**

Luo, Zu Hua (*with* Levesley, Jeremy) On the conditioning of interpolation by strictly conditionally positive definite functions on spheres. (English summary) *Numer. Funct. Anal. Optim.* **19** (1998), *no.* 7-8, 849–871. (R. Franke) **99g:41002** 41A05 (65D15)

— (*with* Levesley, Jeremy; Sun, Xingping) Norm estimates of interpolation matrices and their inverses associated with strictly positive definite functions. (English summary) *Proc. Amer. Math. Soc.* **127** (1999), *no.* 7, 2127–2134. (A. Bultheel) **99j:41005** 41A05

Luong, Bruno (*with* Blum, Jacques; Verron, Jacques) Variational assimilation of altimeter data into a non-linear ocean model: temporal strategies. (English summary) *Control and partial differential equations (Marseille-Luminy, 1997)*, 21–57 (*electronic*), *ESAIM Proc.*, 4, *Soc. Math. Appl. Indust., Paris*, 1998. (Summary) **99j:86007** 86A05 (35Q35, 49N55, 86A22)

— (*with* Blum, Jacques; Verron, Jacques) A variational method for the resolution of a data assimilation problem in oceanography. (English summary) *Inverse Problems* **14** (1998), *no.* 4, 979–997. (Summary) **99e:86002** 86A05

— (*with* Santosa, Fadil) Quantitative imaging of corrosion in plates by eddy current methods. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1509–1531 (*electronic*). (Giovanni Crosta) **99e:78036** 78A55 (35R30)

phan Luong, V. *see* **Phan Luong, V.**

Luongo, A. (*with* Paolone, A.) Multiple scale analysis for divergence-Hopf bifurcation of imperfect symmetric systems. (English summary) *J. Sound Vibration* **218** (1998), *no.* 5, 527–539. (Summary) **99g:70032** 70L05 (70K50)

Luoshan, Xu *see* **Xu, Luo Shan**

Lupan, M. N. Types of the critical points for quadratic system with a center of symmetry. (English, Russian and Moldavian summaries) *Bul. Acad. Ştiinţe Repub. Mold. Mat.* **1998**, *no.* 1, 69–80, 151, 154. (Henryk Żołądek) **99k:34062** 34C05 (58F21)

Lupanov, O. B. (*with* Vinogradova, I. A.; Mel′nikov, I. I.; Potapov, M. K.; Sadovnichiĭ, V. A.; Sergeev, I. N.) In memory of Slav Nikolaevich Olekhnik [1945–1995]. (Russian) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 108–109. 01A70

Lupaş, Alexandru (*with* Mache, Detlef H.) Approximation by V_n-operators. (English summary) Dedicated to Professor Dragoslav S. Mitrinović (1908–1995) (Niš, 1996). *Facta Univ. Ser. Math. Inform. No.* 12 (1997), 203–216. (Octavian Agratini) **99j:41043** 41A36

— (*with* Mache, Detlef H.; Maier, Volker; Müller, Manfred Wolfgang) Linear combinations of gammaoperators in L_p-spaces. (English summary) Dedicated to Paul Leo Butzer. *Results Math.* **34** (1998), *no.* 1-2, 156–168. (Ha Huy Bang) **99g:41019** 41A25 (41A28, 41A36)

Lupaş, Luciana An identity for ultraspherical polynomials. *Rev. Anal. Numér. Théor. Approx.* **24** (1995), *no.* 1-2, 181–185. (H. S. P. Shrivastava) **99e:33013** 33C55 (33C45, 33C50, 33C70)

Lupiáñez, Francisco Gallego Fuzzy perfect maps and fuzzy paracompactness. (English summary) *Fuzzy Sets and Systems* **98** (1998), *no.* 1, 137–140. 54A40 (54C10, 54D20)

— Invariance of fuzzy properties. (English summary) *Mat. Vesnik* **50** (1998), *no.* 1-2, 11–16. 54A40

— On fuzzy relative paracompactness. (English summary) *Fuzzy Sets and Systems* **101** (1999), *no.* 3, 485–488. 54A40 (54D20)

— Proto-metrizable fuzzy topological spaces. (English summary) *Kybernetika (Prague)* **35** (1999), *no.* 2, 209–213. 54A40 (54E35)

Lupieri, Giancarlo (*with* Barchielli, Alberto) Photoemissive sources and quantum stochastic calculus. *Quantum probability (Gdańsk, 1997)*, 53–62, *Banach Center Publ.*, 43, *Polish Acad. Sci., Warsaw*, 1998. (John E. Gough) **99g:81109** 81S25 (81V80)

Lupini, Renzo Periodic oscillations in transmission lines with nonlinear terminations. (English summary) *Z. Angew. Math. Phys.* **49** (1998), *no.* 1, 86–112. (Xiao Qiang Zhao) **99a:34195** 34K15 (94A05)

Lupoli, C. (*with* Knops, R. J.) End effects for plane Stokes flow along a semi-infinite strip. (English summary) *Z. Angew. Math. Phys.* **48** (1997), *no.* 6, 905–920. (From the introduction) **99k:76044** 76D07 (35Q35, 76D10)

Lupşa, Liana (*with* Blaga, Lucia) Convexity space with respect to a given set. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 199–208, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90087** 90C26

Lupton, Gregory Variations on a conjecture of Halperin. (English summary) *Homotopy and geometry (Warsaw, 1997)*, 115–135, *Banach Center Publ.*, 45, *Polish Acad. Sci., Warsaw*, 1998. (Summary) **99m:55014** 55P62 (55T10)

Lupton, Robert (*with* Maley, F. Miller; Young, Neal E.) Data collection for the Sloan digital sky survey—a network-flow heuristic. (English summary) 7th Annual ACM-SIAM Symposium on Discrete Algorithms (Atlanta, GA, 1996). *J. Algorithms* **27** (1998), *no.* 2, 339–356. (Summary) **99a:68091** 68Q25 (90C27)

Lupu, Mircea (*with* Kohr-Ile, Mirela) The Vâlcovici-Birkhoff's model for the axisymmetric compressible and ideal flow. *Mathematica* **38(61)** (1996), *no.* 1-2, 75–88. (A. Pozzi) **99a:76127** 76N10

— L'étude de l'équation intégrale singuliére dans le cas de quelques problèmes inverses des jets fluides. (English summary) [Study of a singular integral equation in the case of some inverse problems of fluid jets] *Mem. Secţ. Ştiinţ. Acad. Română Ser. IV* **19** (1996), 223–229 (1998). 76B10 (45E05)

— (*with* Scheiber, Ernest) Study of some inverse limit problems in the case of incompressible fluid jets. (Romanian. English and Romanian summaries) *Stud. Cerc. Mat.* **49** (1997), *no.* 3-4, 197–209. (Adrian Carabineanu) **99k:76019** 76B10

— (*with* Marin, Marin) On harmonic vibrations in thermoelasticity of micropolar bodies. (English summary) *J. Vib. Control* **4** (1998), *no.* 5, 507–518. (Summary) **99e:73008** 73B25 (73B30, 73D30)

— (*with* Scheiber, Ernest) On the integral equation for airfoil design in the case of inverse fluid jet problem. (English summary) *Libertas Math.* **18** (1998), 107–118. (Summary) **99i:76011** 76B05 (45E05)

Luque, Rafael (*with* Galué, Leda) Evaluation of fractional integrals involving Fox's H-function. (Spanish. English and Spanish summaries) *Rev. Técn. Fac. Ingr. Univ. Zulia* **21** (1998), *no.* 1, 67–73. (Summary) **99g:33039** 33C60

Luque-Calvo, P.-L. (*with* Beato-Moreno, A.; Ruiz-Canales, P.; Blanquero-Bravo, R.) Multiobjective quadratic problem: characterization of the efficient points. (English summary) *Generalized convexity, generalized monotonicity: recent results (Luminy, 1996)*, 425–438, *Nonconvex Optim. Appl.*, 27, *Kluwer Acad. Publ., Dordrecht*, 1998. (Summary) **99g:90103** 90C29 (90C20)

Luquín Martínez, Francisco (*with* Besga, Concepción) Estimation of norms of multivariate polynomials with integral coefficients. (English summary) *J. Approx. Theory* **96** (1999), *no.* 2, 378–398. (David R. Hill) **99m:41003** 41A05 (26C05)

Lur, Yung-yih (*with* Shih, Mau-Hsiang; Pang, Chin-tzong) An inequality for the spectral radius of an interval matrix. (English summary) *Linear Algebra Appl.* **274** (1998), 27–36. (Zdeněk Dostál) **99c:15035** 15A45

Lurie, Jacob The effective content of surreal algebra. (English summary) *J. Symbolic Logic* **63** (1998), *no.* 2, 337–371. (Rodney G. Downey) **99m:03124** 03F65 (04A10)

Lurie, Konstantin A. The problem of effective parameters of a mixture of two isotropic dielectrics distributed in space-time and the conservation law for wave impedance in one-dimensional wave propagation. (English summary) *R. Soc. Lond. Proc. Ser. A Math. Phys. Eng. Sci.* **454** (1998), *no.* 1975, 1767–1779. (Summary) **99e:73011** 73B27 (73K20, 78A25)

Lusanna, Luca Dirac's observables for classical Yang-Mills theory. (English summary) *Constraint theory and quantization methods (Montepulciano, 1993)*, 219–274, *World Sci. Publishing, River Edge, NJ*, 1994. (Summary) **99f:81209** 81T70 (53C80, 58Z05, 81T13)

— The search of Dirac's observables: first reduce, then quantize. *Problems of quantum field theory (Alushta, 1996)*, 184–189, *Joint Inst. Nuclear Res., Dubna*, 1996. (*see* **99i:81005**) 81S30

— (*with* Valtancoli, Paolo) Dirac's observables for the Higgs model. I. The abelian case. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4769–4796. (Sergiu I. Vacaru) **99c:81134** 81T13

— (*with* Valtancoli, Paolo) Dirac's observables for the Higgs model. II. The non-abelian SU(2) case. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 26, 4797–4821. (Sergiu I. Vacaru) **99c:81135** 81T13

— (*with* Alba, David) The Liénard-Wiechert potential of charged scalar particles and their relation to scalar electrodynamics in the rest-frame instant form. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 16, 2791–2831. (C. A. Hurst) **99h:78015** 78A35 (70F10, 70H40, 81V10)

— (*with* Alba, David) The classical relativistic quark model in the rest frame Wigner-covariant Coulomb gauge. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 19, 3275–3346. (Summary) **99c:81264** 81V05 (81T13)

— (*with* Valtancoli, Paolo) Dirac's observables for the SU(3) × SU(2) × U(1) standard model. (English summary) *Internat. J. Modern Phys. A* **13** (1998), *no.* 27, 4605–4690. (Massimo Di Pierro) **99j:81205** 81V22 (81T13)

— (*with* Lucenti, A.; Pauri, Massimo) Dirac observables and spin bases for N relativistic particles. (English summary) *J. Phys. A* **31** (1998), *no.* 6, 1633–1656. (Ivailo M. Mladenov) **99e:81067** 81R05 (81V70)

— *see also* **Proceedings: Conference on General Relativity and Gravitation, 99g:83002**

Lüscher, Martin Topology and the axial anomaly in abelian lattice gauge theories. (English summary) *Nuclear Phys. B* **538** (1999), *no.* 1-2, 515–529. (Summary) **99i:81164** 81T25 (81T50)

Lushchakova, I. N. Two machine flow shop scheduling to minimize functions of the infeasibilities. (English summary) *Operations Research Proceedings 1997 (Jena)*, 440–445, *Springer, Berlin*, 1998. (*see* **99d:90008**) 90B35

Lusk, Ewing (*with* Overbeek, Ross) Wos and automated deduction at ANL: the ethos. *Automated reasoning and its applications*, 1–12, *MIT Press, Cambridge, MA*, 1997. (*see* **99a:68152**) 01A65 (01A70, 68T15)

Luskin, Mitchell On the computation of crystalline microstructure. (English summary) *Acta numerica, 1996*, 191–257, *Acta Numer.*, 5, *Cambridge Univ. Press, Cambridge*, 1996. (Pablo Pedregal) **99f:73030** 73C50 (73S10, 73V05)

— (*with* Li, Bo[1]) Finite element analysis of microstructure for the cubic to tetragonal transformation. (English summary) *SIAM J. Numer. Anal.* **35** (1998), *no.* 1, 376–392 (*electronic*). (Carsten Carstensen) **99b:73015** 73C50 (65N30, 73V05, 73V25)

Lusky, Wolfgang Three space properties and basis extensions. (English summary) *Israel J. Math.* **107** (1998), 17–27. (Jesús M. F. Castillo) **99m:46023** 46B15 (46B03, 46B20)

Luss, Hanan (*with* Kodialam, Muralidharan S.) Algorithms for separable nonlinear resource allocation problems. (English summary) *Oper. Res.* **46** (1998), *no.* 2, 272–284. 90C30 (90C90)

Lüst, Dieter (*with* de Wit, Bernard; Kaplunovsky, Vadim S.; Louis, Jan) Duality symmetries and perturbative vectormultiplet couplings in $N = 2$ heterotic string vacua. (English summary) *Strings '95 (Los Angeles, CA, 1995)*, 488–500, *World Sci. Publishing, River Edge, NJ*, 1996. (Summary) **99i:81206** 81T30

— (*with* Curio, Gottfried) A class of $N = 1$ dual string pairs and its modular superpotential. (English summary) *Internat. J. Modern Phys. A* **12** (1997), *no.* 32, 5847–5865. (Summary) **99b:81182** 81T30 (11Z05, 32J81)

— (*with* Behrndt, Klaus; Cardoso, Gabriel Lopes; de Wit, Bernard; Kallosh, Renata; Mohaupt, Thomas) Classical and quantum $N = 2$ supersymmetric black holes. (English summary) *Nuclear Phys. B* **488** (1997), *no.* 1-2, 236–260. (Summary) **99f:83060** 83E30 (32J81, 81T30, 83C57)

— (*with* Cardoso, Gabriel Lopes; Curio, Gottfried) Perturbative couplings and modular forms in $N = 2$ string models with a Wilson line. (English summary) *Nuclear Phys. B* **491** (1997), *no.* 1-2, 147–183. (Summary) **99f:81152** 81T30 (11F46, 11F55, 11Z05, 14J32, 32J81)

— (*with* Andreas, Björn; Curio, Gottfried) $N = 1$ dual string pairs and their massless spectra. (English summary) *Nuclear Phys. B* **507** (1997), *no.* 1-2, 175–196. (Summary) **99j:81131** 81T30 (14J32, 32G81, 32J81)

— (*with* Behrndt, Klaus; Gaida, Ingo; Mahapatra, Swapna; Mohaupt, Thomas) From type IIA black holes to T-dual type IIB D-instantons in $N = 2$, $D = 4$ supergravity. (English summary) *Nuclear Phys. B* **508** (1997), *no.* 3, 659–699. (Gianguido Dall'Agata) **99h:83051** 83E30 (81T30, 83C57, 83E50)

— (*with* Behrndt, Klaus; Sabra, Wafic A.) Stationary solutions of $N = 2$ supergravity. (English summary) *Nuclear Phys. B* **510** (1998), *no.* 1-2, 264–288. (Sergey Nikolaevich Roshchupkin) **99a:83068** 83E50 (32J81, 83C57)

— (*with* Karch, Andreas; Smith, Douglas J.) Equivalence of geometric engineering and Hanany-Witten via fractional branes. (English summary) *Nuclear Phys. B* **533** (1998), *no.* 1-3, 348–372. (Angel Maria Uranga) **99i:81191** 81T30 (81T60)

— Dual string vacua with $N = 2$ supersymmetry in four dimensions. (English summary) SUSY '97 (Philadelphia, PA, 1997). *Nuclear Phys. B Proc. Suppl.* **62** (1998), 375–403. (Angel Maria Uranga) **99g:81175** 81T30 (32J81, 83E30)

— $N = 1$ dual string pairs and their modular superpotentials. (English summary) Strings '97 (Amsterdam, 1997). *Nuclear Phys. B Proc. Suppl.* **68** (1998), 66–77. (Gerardo Marcelo Aldazabal) **99h:81174** 81T30 (14J32, 32J81, 83E30)

— (*with* Curio, Gottfried) New $N = 1$ supersymmetric 3-dimensional superstring vacua from U-manifolds. (English summary) *Phys. Lett. B* **428** (1998), *no.* 1-2, 95–104. (Gonzalo Violero) **99i:81176** 81T30 (14J32, 32J81, 83E30)

— (*with* Karch, Andreas; Zoupanos, George) Superconformal $N = 1$ gauge theories, β-function invariants and their behavior under Seiberg duality. (English summary) *Phys. Lett. B* **430** (1998), *no.* 3-4, 254–263. (Summary) **99d:81159** 81T60 (81T13, 81T17)

Lust, Kurt (*with* Luzyanina, Tatyana; Engelborghs, Koen; Roose, Dirk) Computation, continuation and bifurcation analysis of periodic solutions of delay differential equations. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2547–2560. (Summary) **99b:34117** 34K15 (34C23, 34C25, 65F30)

— (*with* Roose, Dirk; Spence, A.; Champneys, A. R.) An adaptive Newton-Picard algorithm with subspace iteration for computing periodic solutions. (English summary)

SIAM J. Sci. Comput. **19** (1998), *no.* 4, 1188–1209 (*electronic*). (Summary) **99b:65088** 65L07 (65N12)

Lusth, John C. (*with* Dixon, Brandon) A characterization of important algorithms for quantum-dot cellular automata. (English summary) *Inform. Sci.* **113** (1999), *no.* 3-4, 193–204. (Summary) **99j:68088** 68Q80 (81P99)

Lustig, Aviv (*with* Shmueli, Oded) Acyclic hypergraph projections. (English summary) *J. Algorithms* **30** (1999), *no.* 2, 400–422. (Summary) **99k:68144** 68R10 (05C65, 05C85)

Lustig, Martin (*with* Moriah, Yoav) On the complexity of the Heegaard structure of hyperbolic 3-manifolds. *Math. Z.* **226** (1997), *no.* 3, 349–358. (From the introduction) **99h:57037** 57N10 (57M50)

— (*with* Gaboriau, Damien; Jaeger, Andre; Levitt, Gilbert) An index for counting fixed points of automorphisms of free groups. *Duke Math. J.* **93** (1998), *no.* 3, 425–452. (Olympia Talelli) **99f:20051** 20E36 (20E05, 20E08, 57M07)

— (*with* Gaboriau, Damien; Levitt, Gilbert) A dendrological proof of the Scott conjecture for automorphisms of free groups. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 325–332. (Frédéric Paulin) **99d:20035** 20E05 (20E08, 20F28)

Lust-Piquard, Françoise Riesz transforms associated with the number operator on the Walsh system and the fermions. (English summary) *J. Funct. Anal.* **155** (1998), *no.* 1, 263–285. (Fumio Hiai) **99h:81096** 81S05 (42C10, 46N50, 47A30, 47N50)

Lusztig, George (*with* Fan, C. K.) Factorization of certain exponentials in Lie groups. (English summary) *Algebraic groups and Lie groups*, 215–218, *Austral. Math. Soc. Lect. Ser.*, 9, *Cambridge Univ. Press, Cambridge*, 1997. (Karl-Hermann Neeb) **99g:22006** 22E10 (22E46)

— Periodic W-graphs. *Represent. Theory* **1** (1997), 207–279 (*electronic*). (R. W. Carter) **99a:20042** 20G05 (17B10, 20F55)

— Introduction to total positivity. *Positivity in Lie theory: open problems*, 133–145, *de Gruyter Exp. Math.*, 26, *de Gruyter, Berlin*, 1998. (V. L. Popov) **99h:20077** 20G20 (14P99)

— Bases in equivariant K-theory. (English summary) *Represent. Theory* **2** (1998), 298–369 (*electronic*). (Toshiyuki Tanisaki) **99i:19005** 19L47 (20G05)

Lutchenko, L. N. (*with* Bisyarin, M. A.) Ray trajectories in the three-dimensional irregular anisotropic Earth-ionosphere waveguide. (Russian. Russian summary) *Problems in the diffraction and propagation of waves, No.* 27 (*Russian*), 37–45, 311, *Izdat. S.-Peterburg. Univ., St. Petersburg*, 1997. (*see* **99g:78002**) 78A50

Luterotti, Fabio (*with* Bernardi, Marco Luigi; Bonfanti, Giovanna) Abstract Schroedinger-type differential equations with variable domain. (English summary) *J. Math. Anal. Appl.* **211** (1997), *no.* 1, 84–105. (Piermarco Cannarsa) **99c:34124** 34G10 (35Q40, 47N20, 47N50)

— (*with* Bernardi, Marco Luigi) On some Schroedinger-type variational inequalities. *Rend. Sem. Mat. Univ. Padova* **98** (1997), 1–19. (Paolo Acquistapace) **99a:34164** 34G20 (35Q55, 47H19, 49J27, 49J40)

— (*with* Bonfanti, Giovanna) Regularity and convergence results for a phase-field model with memory. (English summary) *Math. Methods Appl. Sci.* **21** (1998), *no.* 12, 1085–1105. (Igor Bock) **99h:35212** 35Q99 (35K55, 73B30)

— (*with* Bonfanti, Giovanna; Colli, Pierluigi; Grasselli, Maurizio) Nonsmooth kernels in a phase relaxation problem with memory. *Nonlinear Anal.* **32** (1998), *no.* 4, 455–465. (Igor Bock) **99c:35128** 35K85 (35Q72, 45K05, 73B30, 80A22)

Lutfullin, Maxim Symmetry reduction of nonlinear equations of classical electrodynamics. (English summary) *Symmetry in nonlinear mathematical physics, Vol.* 1, 2 (*Kyiv*, 1997), 232–236, *Natl. Acad. Sci. Ukraine, Inst. Math., Kiev*, 1997. (Summary) **99c:78010** 78A25

— (*with* Zhdanov, Renat) On separable Schrödinger-Maxwell equations. (English summary) *J. Math. Phys.* **39** (1998), *no.* 12, 6454–6458. 35Q40 (81Q05)

Lutgen, Jeffrey Higher order flatness of immersed manifolds. (English summary) *Rocky Mountain J. Math.* **28** (1998), *no.* 2, 649–654. (Robert A. Wolak) **99k:57063** 57R42 (58A20)

Lüth, Christoph (*with* Ghani, Neil) Monads and modular term rewriting. (English summary) *Category theory and computer science* (*Santa Margherita Ligure*, 1997), 69–86, *Lecture Notes in Comput. Sci.*, 1290, *Springer, Berlin*, 1997. (*see* **99c:68004**) 68Q42

Luther, Uwe (*with* Capobianco, M. R.; Junghanns, Peter; Mastroianni, Giuseppe) Weighted uniform convergence of the quadrature method for Cauchy singular integral equations. (English summary) *Singular integral operators and related topics* (*Tel Aviv*, 1995), 153–181, *Oper. Theory Adv. Appl.*, 90, *Birkhäuser, Basel*, 1996. (From the introduction) **99e:45012** 45L05 (45E05, 65R20)

— (*with* Junghanns, Peter) Uniform convergence of a fast algorithm for Cauchy singular integral equations. (English summary) Proceedings of the Sixth Conference of the International Linear Algebra Society (Chemnitz, 1996). *Linear Algebra Appl.* **275/276** (1998), 327–347. (Jose Cuminato) **99g:65124** 65R20 (45E05, 45L05)

— (*with* Junghanns, Peter) Uniform convergence of the quadrature method for Cauchy singular integral equations with weakly singular perturbation kernels. (English summary) Proceedings of the Third International Conference on Functional Analysis and Approximation Theory, Vol. II (Acquafredda di Maratea, 1996). *Rend. Circ. Mat. Palermo* (2) *Suppl. No.* 52, *Vol. II* (1998), 551–566. (Ilya V. Boikov) **99h:65217** 65R20 (45L05)

Luther, Wolfram (*with* Otten, Werner) Approximation error and error accumulation for the Landen transform. (English summary) Proceedings of the International Conference on Interval Methods and Computer Aided Proofs in Science and Engineering—Interval '96 (Würzburg, 1996). *Reliab. Comput.* **3** (1997), *no.* 3, 249–258. (Summary) **99a:65186** 65R10 (65G10)

Lütkebohmert, Werner Étale coverings of p-adic discs. (English summary) *Proceedings of the 4th International Congress of Geometry* (*Thessaloniki*, 1996), 251–256, *Giachoudis-Giapoulis, Thessaloniki*, 1997. (Summary) **99b:14024** 14G20 (32P05)

Lütkepohl, Helmut (*with* Poskitt, Don S.) Consistent estimation of the number of cointegration relations in a vector autoregressive model. (English summary) *Econometrics in theory and practice*, 87–100, *Physica, Heidelberg*, 1998. (Summary) **99g:62142** 62M10 (62P20)

Lütolf, Christine (*with* Margot, François) A catalog of minimally nonideal matrices. (English summary) *Math. Methods Oper. Res.* **47** (1998), *no.* 2, 221–241. (R. J. Bumcrot) **99h:05019** 05B20 (05B25)

Lutovac, Tatjana (*with* Cvetković, Dragoš M.) A review of publication of the Faculty of Electrical Engineering, Series: Mathematics and Physics (1956–1982). (English summary) *Univ. Beograd. Publ. Elektrotehn. Fak. Ser. Mat.* **9** (1998), 3–6. 01A73

Lutsenko, V. I. (*with* Yulmukhametov, R. S.) On entire functions with given asymptotic behavior. (English summary) *Complex Variables Theory Appl.* **37** (1998), *no.* 1-4, 413–423. (Summary) **99m:30057** 30D15

Lutsishin, M. R. (*with* Skaskīv, O. B.) Asymptotic properties of a multiple Dirichlet series. (Ukrainian. English and Russian summaries) *Mat. Stud.* **3** (1994), 41–48, 120. 30B50

Lutton, J.-L. (*with* Chardaire, P.; Sutter, A.) Upper and lower bounds for the two-level simple plant location problem. (English summary) Advances in combinatorial optimization (London, 1996). *Ann. Oper. Res.* **86** (1999), 117–140. (Summary) **99m:90093** 90B80 (90C27)

Lutwak, E. Containment and circumscribing simplices. (English summary) *Discrete Comput. Geom.* **19** (1998), *no.* 2, 229–235. (Jane R. Sangwine-Yager) **99a:52009** 52A39 (52A20)

Luty, Markus A. (*with* Chacko, Zacharia; Pontón, Eduardo) Calculable dynamical supersymmetry breaking on deformed moduli spaces. (English summary) *J. High Energy Phys.* **1998**, *no.* 12, *Paper* 16, 8 *pp.* (*electronic*). (Summary) **99k:81294** 81T60 (81R40)

Lutz, D. A. (*with* Schäfke, Reinhard) On the reduction of a class of nonhomogeneous linear difference equations. (English summary) *J. Differ. Equations Appl.* **2** (1996), *no.* 4, 423–436. (E. Thandapani) **99e:39030** 39A10 (34A20)

Lutz, Jack H. The quantitative structure of exponential time. (English summary) *Complexity theory retrospective, II*, 225–260, *Springer, New York*, 1997. (*see* **99a:68078**) 68Q15 (03D15)

— Resource-bounded measure (preliminary version). (English summary) *Thirteenth Annual IEEE Conference on Computational Complexity* (*Buffalo, NY*, 1998), 236–248, *IEEE Computer Soc., Los Alamitos, CA*, 1998. (*see* **99h:68007**) 68Q15

Lutzer, David (*with* Bennett, Harold) Off-diagonal metrization theorems. (English summary) *Topology Proc.* **22** (1997), 37–58. (Summary) **99i:54043** 54F05 (54E35, 54G20)

— (*with* Bennett, Harold) Ordered spaces with special bases. (English summary) *Fund. Math.* **158** (1998), *no.* 3, 289–299. (Summary) **99i:54044** 54F05 (54D70, 54E35)

Lutzky, M. New derivation of a conserved quantity for Lagrangian systems. (English summary) *J. Phys. A* **31** (1998), *no.* 43, *L*721–*L*722. 58F05 (70H33, 70H35)

— Conserved quantities from non-Noether symmetries without alternative Lagrangians. (English summary) *Internat. J. Non-Linear Mech.* **34** (1999), *no.* 2, 387–390. (Mircea Crasmareanu) **99k:70021** 70H33 (58F35, 70H35)

đỗ văn Lu'u *see* **Đỗ Văn Lu'u**

Luu, D. V. *see* **Đỗ Văn Lu'u**

Luu, Dinh Quang *see* **Đinh Quang Lu'u**

Luukkainen, Jouni Assouad dimension: antifractal metrization, porous sets, and homogeneous measures. (English summary) *J. Korean Math. Soc.* **35** (1998), *no.* 1, 23–76. (Summary) **99m:54023** 54F45 (28A75)

— (*with* Saksman, Eero) Every complete doubling metric space carries a doubling measure. (English summary) *Proc. Amer. Math. Soc.* **126** (1998), *no.* 2, 531–534. (Guozhen Lu) **99c:28009** 28A12

Lux, Klaus (*with* Cooperman, Gene; Hiss, Gerhard; Müller, Jürgen[4]) The Brauer tree of the principal 19-block of the sporadic simple Thompson group. (English summary) *Experiment. Math.* **6** (1997), *no.* 4, 293–300. (Andrew Woldar) **99b:20026** 20C34 (20C20, 20C40)

— (*with* Wiegelmann, Markus) Condensing tensor product modules. (English summary) *The atlas of finite groups: ten years on* (*Birmingham*, 1995), 174–190, *London Math. Soc. Lecture Note Ser.*, 249, *Cambridge Univ. Press, Cambridge*, 1998. (Herbert Pahlings) **99i:20018** 20C40 (20C05, 20C34, 68Q40)

Luxemburg, W. A. J. (*with* Arens, Richard; Goldberg, Moshe) Stable seminorms revisited. (English summary) *Math. Inequal. Appl.* **1** (1998), *no.* 1, 31–40. (Makoto Takaguchi) **99c:15047** 15A60 (47A30)

Luxenburger, Michael Dependencies between many-valued attributes. (English summary) *Incomplete information: rough set analysis*, 316–343, *Stud. Fuzziness Soft Comput.*, 13, *Physica, Heidelberg*, 1998. (*see* **99d:04012**) 68P15 (03B70)

Luxhøj, James T. (*with* Shyur, Huan-Jyh; Elsayed, E. A.) A general model for accelerated life testing with time-dependent covariates. (English summary) *Naval Res. Logist.* **46** (1999), *no.* 3, 303–321. 90B25 (62N05)

Luyten, Patrick (*with* Deleersnijder, Eric; Beckers, Jean-Marie; Campin, Jean-Michel; El Mohajir, Mohammed; Fichefet, Thierry) Some mathematical problems associated with the development and use of marine models. *The mathematics of models for climatology and environment* (*Puerto de la Cruz*, 1995), 39–86, *NATO ASI Ser. Ser. I Glob. Environ. Change*, 48, *Springer, Berlin*, 1997. (*see* **99d:86001**) 86A05

Luz, Carlos J. (*with* Cardoso, Domingos M.) A generalization of the Hoffman-Lovász upper bound on the independence number of a regular graph. (English summary) Applied mathematical programming and modeling, III (APMOD95) (Uxbridge). *Ann. Oper. Res.* **81** (1998), 307–319. (*see* **99b:90006**) 90C35

da Luz, M. G. E. (*with* Heller, Eric J.; Cheng, Bin Kang) Exact form of Green functions for segmented potentials. (English summary) *J. Phys. A* **31** (1998), *no.* 13, 2975–2990. (Christian Grosche) **99b:81036** 81Q05 (81Q20)

Luzeaux, Dominique (*with* Beauzamy, Bernard) Stabilizing stationary linear discrete systems: minimal and balanced expansions in any real base. (English summary) *J. Math. Anal. Appl.* **224** (1998), *no.* 1, 117–130. (Emilia Petrisor) **99e:93045** 93C55 (93D15, 93D21)

Luzin, N. N. *see* **Ford, Charles E., 99g:01033**

Luzón, G. (*with* Asorey, M.; Falceto, F.) Unstable bundles in quantum field theory. (English summary) *Secondary calculus and cohomological physics* (*Moscow*, 1997), 1–16, *Contemp. Math.*, 219, *Amer. Math. Soc., Providence, RI*, 1998. (Martin Schlichenmaier) **99k:14053** 14H60 (14D20, 81T13, 81T40)

Luzuriaga, Javier (*with* Ceva, Horacio) Correlations in the sand pile model: from the log-normal distribution to self-organized criticality. (English summary) *Phys. Lett. A* **250** (1998), *no.* 4-6, 275–280. 82B27

Luzyanina, Tatyana (*with* Engelborghs, Koen; Lust, Kurt; Roose, Dirk) Computation, continuation and bifurcation analysis of periodic solutions of delay differential equations.

(English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **7** (1997), *no.* 11, 2547–2560. (Summary) **99b:34117** 34K15 (34C23, 34C25, 65F30)

— (*with* Engelborghs, Koen; Roose, Dirk) Bifurcation analysis of periodic solutions of neutral functional-differential equations: a case study. (English summary) *Internat. J. Bifur. Chaos Appl. Sci. Engrg.* **8** (1998), *no.* 10, 1889–1905. (Summary) **99j:34097** 34K15 (34C23, 34C25, 34K40, 65L99)

r.-grandjeán L.-Valcárcel, Alfredo *see* **R.-Grandjeán L.-Valcárcel, Alfredo**

L'vin, S. Ya. Approximation by analytic and harmonic functions, incompressible vector fields, and temperature distributions. (English summary) *J. Math. Anal. Appl.* **225** (1998), *no.* 2, 652–659. (Philip W. Schaefer) **99g:41030** 41A30 (30E10, 35J05)

— (*with* Gupta, Pushpa L.; Gupta, Ramesh C.) Numerical methods for the maximum likelihood estimation of Weibull parameters. (English summary) *J. Statist. Comput. Simulation* **62** (1998), *no.* 1-2, 1–7. (Summary) **99k:62041** 62F10

L'vov, Victor S. (*with* Belinicher, Victor I.; Pomyalov, Anna; Procaccia, Itamar) Computing the scaling exponents in fluid turbulence from first principles: demonstration of multiscaling. (English summary) *J. Statist. Phys.* **93** (1998), *no.* 3-4, 797–832. (Roland Schiestel) **99m:76069** 76F99 (76M35, 82C31, 82D15)

— (*with* Podivilov, Evgenii; Pomyalov, Anna; Procaccia, Itamar; Vandembroucq, Damien) Improved shell model of turbulence. (English summary) *Phys. Rev. E* (3) **58** (1998), *no.* 2, *part A*, 1811–1822. 76F99

L'vovskiĭ, S. M. On inflection points, monomial curves, and hypersurfaces containing projective curves. *Math. Ann.* **306** (1996), *no.* 4, 719–735. (J. M. Landsberg) **99e:14033** 14H10 (14H45, 14J70)

L'vovskii, Ya. M. Probability characteristics of random allocations of particles into cells in polynomial-type schemes. Statistical methods of estimation and testing of hypotheses. *J. Math. Sci. (New York)* **88** (1998), *no.* 6, 871–877. (*see* **99b:62004**) 60C05

L'vovsky, S. *see* **L'vovskiĭ, S. M.**

Lyaghfouri, A. (*with* Chipot, Michel) The dam problem for linear Darcy's law and nonlinear leaky boundary conditions. (English summary) *Adv. Differential Equations* **3** (1998), *no.* 1, 1–50. (Lisa Santos) **99a:35276** 35R35 (35Q35, 76S05)

— (*with* Carrillo, José A.) The dam problem for nonlinear Darcy's laws and Dirichlet boundary conditions. (English summary) *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* (4) **26** (1998), *no.* 3, 453–505. (Giovanni Leoni) **99f:35169** 35Q35 (76S05)

Lyakhov, A. I. (*with* Boguslavskiĭ, L. B.; Shevchik, K. S.) A search for optimal access strategies to a set of critical resources of multiprocessor systems. (Russian. Russian summary) *Avtomat. i Telemekh.* **1998**, *no.* 1, 78–91; *translation in Automat. Remote Control* **59** (1998), *no.* 1, *part* 2, 67–77. (Summary) **99b:68021** 68M20 (90B12)

Lyakhov, L. N. (*with* Kipriyanov, I. A.) Multipliers of the mixed Fourier-Bessel transform. (Russian) *Dokl. Akad. Nauk* **354** (1997), *no.* 4, 449–451. (Boris Petrovich Osilenker) **99b:44007** 44A15 (33C10, 42B15)

— Multipliers of the mixed Fourier-Bessel transform. (Russian) *Tr. Mat. Inst. Steklova* **214** (1997), *Issled. po Teor. Differ. Funkts. Mnogikh Perem. i ee Prilozh.* 17, 234–249. (S. I. Grozdev) **99f:42028** 42B15 (44A15)

Lyakhovich, S. L. (*with* Sharapov, A. A.; Shekhter, K. M.) $D = 6$ massive spinning particle. (English summary) *Proceedings of the Second International A. D. Sakharov Conference on Physics (Moscow, 1996)*, 474–478, *World Sci. Publishing, River Edge, NJ*, 1997. (Summary) **99k:81096** 81R20

— (*with* Gorbunov, I. V.) Geometric quantization of $N = 2$, $D = 3$ superanyon. (English summary) *Phys. Lett. B* **423** (1998), *no.* 3-4, 293–300. (Summary) **99b:81114** 81S10

— (*with* Sharapov, A. A.; Shekhter, K. M.) Massive spinning particle in any dimension. I. Integer spins. (English summary) *Nuclear Phys. B* **537** (1999), *no.* 1-3, 640–652. (Ivailo M. Mladenov) **99m:81077** 81R05 (81S10)

Lyakhovskiĭ, V. D. Group-like structures in quantum Lie algebras and the procedure of quantization. (English summary) *Quantum groups (Karpacz*, 1994), 93–102, *PWN, Warsaw*, 1995. (Michèle Irac-Astaud) **99f:17018** 17B37 (16W30)

— (*with* Tkach, V. I.) BRST algebra quantum double and quantization of the proper time cotangent bundle. (English summary) *J. Phys. A* **31** (1998), *no.* 12, 2869–2880. (Władysław Marcinek) **99e:81096** 81R50 (17B37, 81T60, 81T70)

Lyalinov, M. A. Explicit solvability of a class of Maliuzhinets' equations with matrix coefficients. (English summary) *J. Phys. A* **30** (1997), *no.* 23, *L*797–*L*802. (Summary) **99b:39030** 39B42 (30E25, 78A45)

— Diffraction by a highly contrast transparent wedge. (English summary) *J. Phys. A* **32** (1999), *no.* 11, 2183–2206. (Summary) **99k:78028** 78A45

Lyantse, V. É. (*with* Yavorskii, Yu. M.) A nonstandard difference Sturm-Liouville operator. (English summary) *Bull. Polish Acad. Sci. Math.* **46** (1998), *no.* 3, 285–290. (Summary) **99g:47074** 47B39 (03H05, 39A70, 47S20)

Lyapidevskiĭ, V. Yu. Shallow water equations with dispersion. A hyperbolic model. (Russian. Russian summary) *Prikl. Mekh. Tekhn. Fiz.* **39** (1998), *no.* 2, 40–46. (Summary) **99i:76016** 76B15 (35L60, 35Q35, 76B25)

Lyard, F. H. Data assimilation in a wave equation: a variational representer approach for the Grenoble tidal model. (English summary) *J. Comput. Phys.* **149** (1999), *no.* 1, 1–31. (Summary) **99i:86005** 86-08 (86A05)

Lyashenko, Andrei A. On the stability of the spectral Galerkin approximation. (English summary) Dynamical numerical analysis (Atlanta, GA, 1995). *Numer. Algorithms* **14** (1997), *no.* 1-3, 165–178. (Reinhard Scholz) **99b:65105** 65M12

— (*with* Friedlander, Susan J.) A sufficient condition for instability in the limit of vanishing dissipation. (English summary) *J. Math. Anal. Appl.* **221** (1998), *no.* 2, 544–558. (Alexander Lifschitz) **99g:76065** 76E99 (34G20, 35B35, 35Q35)

— (*with* Friedlander, Susan J.) Nonlinear instability of a precessing body with a cavity filled by an ideal fluid. (English summary) *SIAM J. Math. Anal.* **29** (1998), *no.* 3, 600–618 (*electronic*). (Alexander Lifschitz) **99f:76060** 76E30 (35Q72, 70E99, 76U05)

Lyashenko, O. Ĭ. The averaging and diffusion approximation of recurrent sequences for an urn scheme. (Ukrainian. Ukrainian summary) *Teor. Ĭmovīr. Mat. Stat. No.* 54 (1996), 92–98; *translation in Theory Probab. Math. Statist. No.* 54 (1997), 97–103. (Summary) **99d:60025** 60F05 (60G60)

Lyashko, A. D. (*with* Maĭorova, M. E.; Pavlova, M. F.) On the solvability of a variational inequality in the theory of nonlinear nonstationary filtration. (Russian. Russian summary) *Differ. Uravn.* **32** (1996), *no.* 7, 958–965, 1006; *translation in Differential Equations* **32** (1996), *no.* 7, 965–973 (1997). (Angela Pawell) **99a:76149** 76S05 (49J40, 76M30)

Lyashko, O. V. (*with* Arnol'd, Vladimir Igorevich; Goryunov, V. V.; Vassiliev, V. A.) ★ Singularity theory. I. Translated from the 1988 Russian original by A. Iacob. Reprint of the original English edition from the series Encyclopaedia of Mathematical Sciences [*Dynamical systems. VI*, Encyclopaedia Math. Sci., 6, Springer, Berlin, 1993; MR 94b:58018]. *Springer-Verlag, Berlin*, 1998. *iv*+245 *pp. ISBN* 3-540-63711-7 (Editors) **99f:58024** 58C27 (32Sxx)

Lyashko, S. A. (*with* Leonov, G. A.) The direct Lyapunov method in estimates for the fractal dimension of attractors. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 1, 68–74, 142; *translation in Differential Equations* **33** (1997), *no.* 1, 67–74. (B. V. Loginov) **99i:58099** 58F12 (34D45)

Lyashko, S. I. (*with* Klyushin, D. A.; Palienko, L. I.) Modeling and generalized optimization in pseudo-hyperbolic systems. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 78–87, 155. 49K20 (93C20)

Lyazrhi, Faouzi (*with* Caussinus, Henri) Choosing a linear model with a random number of change-points and outliers. (English summary) *Ann. Inst. Statist. Math.* **49** (1997), *no.* 4, 761–775. (Summary) **99a:62088** 62J05 (62F15)

Lybeck, Nancy J. (*with* Morlet, Anne C.; Bowers, Kenneth L.) The Schwarz alternating sinc domain decomposition method. (English summary) *Appl. Numer. Math.* **25** (1997), *no.* 4, 461–483. (Larisa V. Maslovskaya) **99c:65145** 65L10 (65N55)

— (*with* Morlet, Anne C.; Bowers, Kenneth L.) Convergence of the sinc overlapping domain decomposition method. (English summary) *Appl. Math. Comput.* **98** (1999), *no.* 2-3, 209–227. (Weimin Han) **99i:65142** 65N55 (65L10, 65N35)

Lychagin, V. Calculus and quantizations over Hopf algebras. (English summary) *Acta Appl. Math.* **51** (1998), *no.* 3, 303–352. (Tomasz Brzeziński) **99m:58025** 58B30 (16W30, 18D10)

Lychagina, O. V. The Hochschild homology of the algebra of H-differential operators. (Russian. Russian summary) *Vestnik Moskov. Univ. Ser. I Mat. Mekh.* **1995**, *no.* 4, 19–25, 111; *translation in Moscow Univ. Math. Bull.* **50** (1995), *no.* 4, 18–23. (Zbigniew Marciniak) **99g:19003** 19D55

Lychak, M. M. A set model of an uncertain process and its use in processing results of measurements. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 1-2, 184–191, 299. 93A30 (93E10)

— Set filtering. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1996**, *no.* 5, 63–76, 152–153. 93E11 (93E12)

— Stability criteria based on estimates of dissipativity. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 5, 61–68, 154. (Summary) **99e:93053** 93D05 (45M10)

Lyche, Tom (*with* Schumaker, Larry L.; Stanley, Sonya) Quasi-interpolants based on trigonometric splines. (English summary) *J. Approx. Theory* **95** (1998), *no.* 2, 280–309. (Kirill A. Kopotun) **99i:41001** 41A05 (42A15, 65D07)

— *see also* **Mathematical methods for curves and surfaces, 99d:65004**

Lygeros, John (*with* Pappas, George J.; Tilbury, Dawn; Sastry, S. Shankar) Exterior differential systems in control and robotics. *Essays on mathematical robotics (Minneapolis, MN*, 1993), 271–372, *IMA Vol. Math. Appl.*, 104, *Springer, New York*, 1998. (Irl Bivens) **99j:58012** 58A15 (58A17, 70B15, 70Q05, 93C85)

— (*with* Godbole, Datta N.; Sastry, S. Shankar) Verified hybrid controllers for automated vehicles. (English summary) Hybrid control systems. *IEEE Trans. Automat. Control* **43** (1998), *no.* 4, 522–539. (*see* **99a:93006**) 93C95 (93C10)

L'Yi, W. S. *see* **l'Yi, W. S.**

Lykken, Joseph (*with* Poppitz, Erich; Trivedi, Sandip P.) M(ore) on chiral gauge theories from D-branes. (English summary) *Nuclear Phys. B* **520** (1998), *no.* 1-2, 51–74. (Christophe Grojean) **99f:81203** 81T60 (81T13, 81T30)

Lykov, V. A. (*with* Nikolaev, V. G.) A direct method for solving radiative transfer equations in the P_1-approximation. (Russian. Russian summary) *Zh. Vychisl. Mat. Mat. Fiz.* **38** (1998), *no.* 11, 1907–1918; *translation in Comput. Math. Math. Phys.* **38** (1998), *no.* 11, 1830–1841. (Summary) **99j:85002** 85A25 (65M06, 82C70)

Lykova, Zinaida A. (*with* White, Michael C.) Excision in the cohomology of Banach algebras with coefficients in dual bimodules. (English summary) *Banach algebras '97 (Blaubeuren)*, 341–361, *de Gruyter, Berlin*, 1998. (John Duncan) **99m:46169** 46M20 (46H25)

— Examples of Banach algebras over commutative Banach algebras of given homological dimension. (English summary) *Comm. Algebra* **26** (1998), *no.* 6, 1779–1793. (Niels Grønbæk) **99g:46063** 46H05 (46M20)

— Excision in Banach simplicial and cyclic cohomology. (English summary) *Proc. Edinburgh Math. Soc.* (2) **41** (1998), *no.* 2, 411–427. (Jacek Brodzki) **99e:46092** 46L85 (16E40, 19D55, 46L87, 46M20)

— (*with* Bade, W. G.; Dales, H. Garth) Algebraic and strong splittings of extensions of Banach algebras. (English summary) *Mem. Amer. Math. Soc.* **137** (1999), *no.* 656, *viii*+113 *pp.* (Niels Grønbæk) **99g:46059** 46Hxx (16E40, 46J45, 46L35)

Lynch, Christopher The unification problem for one relation Thue systems. (English summary) *Artificial intelligence and symbolic computation (Plattsburgh, NY*, 1998), 195–208, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (Summary) **99m:03076** 03D03 (68Q42)

— (*with* Scharff, Christelle) Basic completion with E-cycle simplification. (English summary) *Artificial intelligence and symbolic computation (Plattsburgh, NY*, 1998), 209–221, *Lecture Notes in Comput. Sci.*, 1476, *Springer, Berlin*, 1998. (*see* **99k:68005**) 68T15 (03B35)

— (*with* Strogova, Polina) SOUR graphs for efficient completion. (English summary) *Discrete Math. Theor. Comput. Sci.* **2** (1998), 1–25. (Summary) **99i:68072** 68Q42 (68P05)

— Local simplification. (English summary) International Conference on Constraints in Computational Logics (Munich, 1994). *Inform. and Comput.* **142** (1998), *no.* 1, 102–126. (Alexander Leitsch) **99i:68110** 68T15 (03B35)

Lynch, James D. On conditions for mixtures of increasing failure rate distributions to have an increasing failure rate. (English summary) *Probab. Engrg. Inform. Sci.* **13** (1999), *no.* 1, 33–36. (Summary) **99h:62124** 62N05

Lynch, James F. Pebble games in model theory. (English summary) *Structures in logic and computer science*, 66–83, *Lecture Notes in Comput. Sci.*, 1261, *Springer, Berlin*, 1997. (Fuxing Shen) **99i:03033** 03C40 (03C13, 68Q99)

— Infinitary logics and very sparse random graphs. (English summary) *J. Symbolic Logic* **62** (1997), *no.* 2, 609–623. (Summary) **99e:03026** 03C75 (03C13, 03C65)

Lynch, Kevin M. Controllability of a planar body with unilateral thrusters. (English summary) *IEEE Trans. Automat. Control* **44** (1999), *no.* 6, 1206–1211. 93B05 (93C95)

Lynch, Mark A path having all of its subpaths of infinite length. (English summary) *Internat. J. Math. Ed. Sci. Tech.* **29** (1998), *no.* 5, 782–784. 26A30

Lynch, Nancy (*with* Segala, Roberto; Gawlick, Rainer; Søgaard-Andersen, Jørgen) Liveness in timed and untimed systems. (English summary) *Inform. and Comput.* **141** (1998), *no.* 2, 119–171. (Julian Padget) **99a:68069** 68Q10 (68Q60)

Lynch, P. M. (*with* Braithwaite, M.; Parker, I. B.; Jones, A. F.; Wilson, Simon David Redfern) Compressional heating of isolated gas bubbles in reactive media. (English summary) *Math. Engrg. Indust.* **7** (1999), *no.* 3, 361–387. (Summary) **99j:80009** 80A32 (76N99)

Lynch, S. Generalized quadratic Liénard equations. (English summary) *Appl. Math. Lett.* **11** (1998), *no.* 3, 7–10. (Summary) **99a:34086** 34C05

Lynch, Thomas W. (*with* Moore, J. Strother; Kaufmann, Matt) A mechanically checked proof of the AMD5_K86^{TM} floating-point division program. (English summary) *IEEE Trans. Comput.* **47** (1998), *no.* 9, 913–926. 68M07 (68T15)

Lynden-Bell, D. (*with* Katz, Joseph; Bičák, Jiří) Instantaneous inertial frames but retarded electromagnetism in rotating relativistic collapse. (English summary) *Classical Quantum Gravity* **15** (1998), *no.* 10, 3177–3194. (Summary) **99g:83045** 83C50 (83B05)

— (*with* Nouri-Zonoz, M.) Classical monopoles: Newton, NUT space, gravomagnetic lensing, and atomic spectra. (English summary) *Rev. Modern Phys.* **70** (1998), *no.* 2, 427–445. (Summary) **99c:83072** 83C99 (70G50, 78A35)

— (*with* Bičák, Jiří; Katz, Joseph) On accelerated inertial frames in gravity and electromagnetism. (English summary) *Ann. Physics* **271** (1999), *no.* 1, 1–22. (Jaume J. Carot) **99m:83087** 83C50 (78A40, 83A05)

Lyness, J. N. (*with* Verlinden, Pierre; Potts, D. M.) Error expansions for multidimensional trapezoidal rules with Sidi transformations. (English summary) *Numer. Algorithms* **16** (1997), *no.* 3-4, 321–347 (1998) (Alan M. Cohen) **99h:65039** 65D30

— (*with* Rüde, Ulrich) Cubature of integrands containing derivatives. (English summary) *Numer. Math.* **78** (1998), *no.* 3, 439–461. (G. A. Evans) **99c:65048** 65D32

— (*with* Monegato, G.) The Euler-Maclaurin expansion and finite-part integrals. (English summary) *Numer. Math.* **81** (1998), *no.* 2, 273–291. (Christian Coatmélec) **99m:65049** 65D32 (43A55, 65B15)

Lyngshansen, Per (*with* Alstrøm, Preben) Perturbation theory of parametrically driven capillary waves at low viscosity. (English summary) *J. Fluid Mech.* **351** (1997), 301–344. (Frédéric Dias) **99e:76011** 76B15 (35Q99, 58F39, 76B45, 76D33)

Lyngsø, Rune (*with* Pedersen, Christian N. S.; Hein, Jotun) Comparison of coding DNA. (English summary) *Combinatorial pattern matching* (*Piscataway, NJ*, 1998), 153–173, *Lecture Notes in Comput. Sci.*, 1448, *Springer, Berlin*, 1998. (Summary) **99m:92022** 92D20 (68Q20)

Lynn, Nicholas (*with* Singpurwalla, Nozer D.; Smith, Adrian F. M.) Bayesian assessment of network reliability. (English summary) *SIAM Rev.* **40** (1998), *no.* 2, 202–227 (*electronic*). (Summary) **99a:68022** 68M15 (68M10, 90B25)

Lyons, David W. Integral Weyl invariants and the Borel homomorphism for Spin(n). (English summary) *Comm. Algebra* **26** (1998), *no.* 7, 2221–2239. (Hideaki Ōshima) **99c:57071** 57T10 (55R40)

Lyons, Russell A bird's-eye view of uniform spanning trees and forests. (English summary) *Microsurveys in discrete probability* (*Princeton, NJ*, 1997), 135–162, *DIMACS Ser. Discrete Math. Theoret. Comput. Sci.*, 41, *Amer. Math. Soc., Providence, RI*, 1998. (Summary) **99e:60029** 60B99 (60D05)

— (*with* Zumbrun, Kevin) Normality of tree-growing search strategies. (English summary) *Ann. Appl. Probab.* **8** (1998), *no.* 1, 112–130. (István Ratkó) **99d:68057** 68P10 (60F10)

— (*with* Benjamini, Itai; Peres, Yuval; Schramm, Oded) Group-invariant percolation on graphs. (English summary) *Geom. Funct. Anal.* **9** (1999), *no.* 1, 29–66. (Olle Häggström) **99m:60149** 60K35 (60B99)

Lyons, Terry (*with* Qian, Zhongmin) Flow equations on spaces of rough paths. (English summary) *J. Funct. Anal.* **149** (1997), *no.* 1, 135–159. (Ana Bela Cruzeiro) **99b:58241** 58G32 (60H05)

— (*with* Hambly, B. M.) Stochastic area for Brownian motion on the Sierpinski gasket. (English summary) *Ann. Probab.* **26** (1998), *no.* 1, 132–148. (Volker Metz) **99f:60145** 60J65 (60H10)

— (*with* Lunt, John; Zhang, Tu Sheng) Integrability of functionals of Dirichlet processes, probabilistic representations of semigroups, and estimates of heat kernels. (English summary) *J. Funct. Anal.* **153** (1998), *no.* 2, 320–342. (Zhi Ming Ma) **99g:31012** 31C25 (47D07, 60G44, 60J25)

— (*with* Qian, Zhongmin) Flow of diffeomorphisms induced by a geometric multiplicative functional. (English summary) *Probab. Theory Related Fields* **112** (1998), *no.* 1, 91–119. (Ming Liao) **99k:60153** 60H10 (58G32)

— (*with* Crisan, Dan; Gaines, Jessica) Convergence of a branching particle method to the solution of the Zakai equation. (English summary) *SIAM J. Appl. Math.* **58** (1998), *no.* 5, 1568–1590 (*electronic*). (A. Ya. Olenko) **99e:60117** 60G57 (65U05, 93E11)

Lyre, Holger Quantum space-time and tetrads. (English summary) Proceedings of the International Quantum Structures Association 1996 (Berlin). *Internat. J. Theoret. Phys.* **37** (1998), *no.* 1, 393–400. (Summary) **99f:83057** 83C99

Lysak, T. M. (*with* Elenin, G. G.) Taking the detail balance relations into account in the construction of approximations of kinetic equations. (English summary) Problems of mathematical physics. *Comput. Math. Model.* **10** (1999), *no.* 1, 78–91. (Summary) **99m:82039** 82C40

Lysenko, S. A. On the functional equation $f(p(z)) = g(q(z))$, where f and g are meromorphic functions, and p and q are polynomials. (Russian. English, Russian and Ukrainian summaries) *Mat. Fiz. Anal. Geom.* **2** (1995), *no.* 1, 68–86. (Sergey V. Popënov) **99c:39033** 39B32 (30D05)

— (*with* Arinkin, D.) On the moduli of SL(2)-bundles with connections on $\mathbf{P}^1 \setminus \{x_1, \cdots, x_4\}$. *Internat. Math. Res. Notices* **1997**, *no.* 19, 983–999. (Nitin Nitsure) **99c:14013** 14D20 (14H60, 32G13)

Lysiansky, M. (*with* Caneschi, L.) Chiral quantization of the WZW SU(n) model. (English summary) *Nuclear Phys. B* **505** (1997), *no.* 3, 701–726. (Dileep P. Jatkar) **99b:81215** 81T40

Lyskova, A. S. On some properties of orthogonal polynomials of several variables. (Russian) *Uspekhi Mat. Nauk* **52** (1997), *no.* 4(316), 207–208; *translation in Russian Math. Surveys* **52** (1997), *no.* 4, 840–841. 33C50 (35A25)

Lysogor, V. N. (*with* Sokol, V. D.) An optimal rule for stopping the control of a stochastic process of variable structure. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1997**, *no.* 4, 80–88, 156–157. 93E05 (93E20)

— (*with* Sokol, V. D.) Modeling of the two-level control of a multistage dynamic technological process. (Russian. English, Russian and Ukrainian summaries) *Problemy Upravlen. Inform.* **1998**, *no.* 1, 99–106, 153. 90B30 (93A30)

kelly-Lyth, D. *see* **Kelly-Lyth, D.**

Lyth, David H. Non-renormalizable terms and M theory during inflation. (English summary) *Phys. Lett. B* **419** (1998), *no.* 1-4, 57–61. (Summary) **99a:83071** 83E50 (83E30, 83F05)

Lythe, G. D. (*with* Jansons, Kalvis M.) Stochastic calculus: application to dynamic bifurcations and threshold crossings. (English summary) *J. Statist. Phys.* **90** (1998), *no.* 1-2, 227–251. (Peter E. Kloeden) **99a:82065** 82C26 (60H10)

Lytova, A. Yu. (*with* Chudinovich, I. Yu.) Boundary equations in problems of nonstationary diffraction of electromagnetic waves. (Russian. Russian summary) *Differ. Uravn.* **33** (1997), *no.* 9, 1191–1198, 1294; *translation in Differential Equations* **33** (1997), *no.* 9, 1194–1202 (1998). (Youri G. Smirnov) **99f:35201** 35Q60 (78A45)

Lytvynov, Eugene W. *see* **Litvinov, E. V.**

Lyu, Seon Mi (*with* Baikoussis, Christos; Suh, Young Jin) Real hypersurfaces in complex space forms with η-parallel curvature tensor. (English summary) *Proceedings of the Second International Workshop on Differential Geometry* (*Taegu*, 1997), 67–76, *Kyungpook Natl. Univ., Taegu*, 1998. (Makoto Kimura) **99g:53055** 53C40

— (*with* Baikoussis, Christos; Suh, Young Jin) Real hypersurfaces in complex space forms with η-parallel curvature tensor. (English summary) *Bull. Greek Math. Soc.* **40** (1998), 49–55. (Jürgen Berndt) **99k:53106** 53C40

Lyubarskiĭ, Yurii I. (*with* Seip, Kristian) Sampling and interpolating sequences for multiband-limited functions and exponential bases on disconnected sets. (English summary) Dedicated to the memory of Richard J. Duffin. *J. Fourier Anal. Appl.* **3** (1997), *no.* 5, 597–615. (David F. Walnut) **99f:30007** 30B50 (30E05, 42C30, 94A12)

— (*with* Seip, Kristian) Complete interpolating sequences for Paley-Wiener spaces and Muckenhoupt's (A_p) condition. (English summary) *Rev. Mat. Iberoamericana* **13** (1997), *no.* 2, 361–376. (A. Bultheel) **99e:42004** 42A15 (30E05, 41A05, 44A15)

Lyubashenko, V. V. Squared Hopf algebras and reconstruction theorems. (English summary) *Quantum groups and quantum spaces* (*Warsaw*, 1995), 111–137, *Banach Center Publ.*, 40, *Polish Acad. Sci., Warsaw*, 1997. (Shlomo Gelaki) **99b:16061** 16W30 (18D10, 18D35)

— (*with* Sudbery, Anthony) Generalized Lie algebras of type A_n. (English summary) *J. Math. Phys.* **39** (1998), *no.* 6, 3487–3504. (Ludwig Pittner) **99f:17019** 17B37

Lyubetskiĭ, V. A. Transfer theorems and the algebra of modal operators. (Russian. Russian summary) *Algebra i Logika* **36** (1997), *no.* 3, 282–303, 358; *translation in Algebra and Logic* **36** (1997), *no.* 3, 169–181. (R. Gylys) **99a:03061** 03F55 (03B45, 03C90, 03F50, 06F25)

— Transfer theorems and intuitionistic set theory. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 2, 168–171. (Peter Vojtáš) **99j:03053** 03F55 (03E40, 03E70)

Lyubeznik, Gennady F-modules: applications to local cohomology and D-modules in characteristic $p > 0$. *J. Reine Angew. Math.* **491** (1997), 65–130. (Rodney Y. Sharp) **99c:13005** 13A35 (13D45)

Lyubich, Yu. I. The ultranormal case of the Bernstein problem. (Russian) *Funktsional. Anal. i Prilozhen.* **31** (1997), *no.* 1, 77–80; *translation in Funct. Anal. Appl.* **31** (1997), *no.* 1, 60–62. (K. Smitalová) **99h:92015** 92D10 (17D92, 92D25)

— (*with* Markus, Alexander) Connectivity of level sets of quadratic forms and Hausdorff-Toeplitz type theorems. (English summary) *Positivity* **1** (1997), *no.* 3, 239–254. (K. Chandrasekhara Rao) **99k:15044** 15A60 (15A63)

— (*with* Belitskiĭ, G. R.) On the normal solvability of cohomological equations on compact topological spaces. (English summary) *Recent progress in operator theory* (*Regensburg*, 1995), 75–87, *Oper. Theory Adv. Appl.*, 103, *Birkhäuser, Basel*, 1998. (Viorel Nițică) **99h:58103** 58F11 (28D99, 39B52, 54H20)

— (*with* Shatalova, O. A.) Almost Euclidean planes in l_p^n. (Russian) *Funktsional. Anal. i Prilozhen.* **32** (1998), *no.* 1, 76–78; *translation in Funct. Anal. Appl.* **32** (1998), *no.* 1, 59–61. (Mikhail Ostrovskiĭ) **99j:46014** 46B04 (52A21)

— (*with* Belitskiĭ, G. R.) The Abel equation and total solvability of linear functional equations. (English summary) *Studia Math.* **127** (1998), *no.* 1, 81–97. (R. A. Rosenbaum) **99e:39081** 39B22

Lyubimov, V. N. (*with* Darinskii, A. N.; Alshits, V. I.; Lothe, J.; Shuvalov, A. L.) An existence criterion for the branch of two-component surface waves in anisotropic elastic media. (English summary) *Wave Motion* **28** (1998), *no.* 3, 241–257. (Summary) **99e:73044** 73D20 (73B40)

Lyubimova, M. L. (*with* Aĭvazyan, A. V.) On the spectrum of stochastic motion in magnetic billiards that are close to circular. (Russian) *Dokl. Akad. Nauk* **357** (1997), *no.* 4, 467–471; *translation in Phys. Dokl.* **42** (1997), *no.* 12, 641–645. (András Krámli) **99e:58116** 58F11 (81Q50)

Lyudkovskiĭ, S. V. Embeddings of non-Archimedean Banach manifolds into non-Archimedean Banach spaces. (Russian) *Uspekhi Mat. Nauk* **53** (1998), *no.* 5(323), 241–242. 46S10 (58B99)

Lyzzaik, Abdallah Univalence criteria for harmonic mappings in multiply connected domains. (English summary) *J. London Math. Soc.* (2) **58** (1998), *no.* 1, 163–171. (Eugen I. Drăghici) **99m:30034** 30C55

— A note on the valency of harmonic maps. (English summary) *J. Math. Anal. Appl.* **218** (1998), *no.* 2, 611–620. (Summary) **99k:30029** 30C55 (31A05)